



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

November 12, 2020

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

**Notice of Exempt Modification**  
**220 Winthrop Rd., Deep River, CT 06417**  
**Latitude: 41.365872**  
**Longitude: -71.474849**  
**T-Mobile #: CT11408A\_L600**

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 158-foot level of the existing 180-foot Monopole Tower at 220 Winthrop Rd., Deep River, CT. The tower is SBA 2012 TC Assets, LLC. The property is owned by the Town of Deep River. T-Mobile now intends to remove three (3) 1900 MHz antennas and replace with three (3) L700/L600 antennas. The new antennas would be installed at the 125-foot level of the tower.

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

Planned Modifications:

TOWER

Remove:

- (3) Airtech PCS 1900 G3 TMA

Remove and Replace:

- (3) EMS RR90-17-02VDPL2/-R antenna (remove) – (3) RFS-APXVAARR24\_42-U-NA20 antenna (replace)
- (3) Airtech PCS 1900 G3 TMA (remove) – (3) Ericsson KRY 112 489/2 TMA (replace)



Install New:

- (3) Ericsson KRY 112 144/2 TMA
- (3) Ericsson Radio 4449 B71+B12 RRU
- (3) T-Arm reinforcement support kit
- (6) 1-5/8" Coax
- (1) 1-5/8" Fiber

Existing Equipment to Remain:

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

Entitlements:

- N/A

GROUND

Install New:

- Equipment inside existing 6201 cabinet

This facility was approved prior to the Council's jurisdiction. Building Permit 98-5-143 was issued on 8/24/98 for the tower's construction. Deep River Town property is exempt from zoning, so was not acted upon by the P&Z Commission at that time. The Town is unaware of any post construction stipulations. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Deep River's First Selectmen and representative for the Town as Property Owner, Angus L. McDonald, Jr., as well as to Mike D'Amato, Zoning Enforcement Officer for the Town. Separate notice is not being sent to tower owner, as it belongs to SBA.)

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

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



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

Sincerely,

Site Development Specialist II  
SBA COMMUNICATIONS CORPORATION  
134 Flanders Rd., Suite 125  
Westborough, MA 01581  
508.251.0720 x3804 + T  
508.366.2610 + F  
508.868.6000 + C  
[GShepherd@sbsite.com](mailto:GShepherd@sbsite.com)

Attachments

cc: Angus L. McDonald, Jr., First Selectman / with attachments  
*Town of Deep River, 174 Main Street, Deep River, CT 06417*  
Mike D'Amato, Zoning Enforcement Officer / with attachments  
*Town of Deep River, 174 Main Street, Deep River, CT 06417*

Exhibit List

Exhibit 1	Check Copy	To be invoiced at a later per Covid guidelines
Exhibit 2	Notification Receipts	X
Exhibit 3	Property Card	X
Exhibit 4	Property Map	X
Exhibit 5	Original Zoning Approval	Town of Deep River 8/24/98
Exhibit 6	Construction Drawings	Chappell Engineering 9/12/19
Exhibit 7	Mount Mod Drawings	TES 8/9/19
Exhibit 8	Structural Analysis	TES 10/30/20
Exhibit 9	Post Mod Analysis	TES 8/12/19
Exhibit 10	EME Report	Transcom Engineering 5/29/19

## EXHIBIT 1

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

# EXHIBIT 2

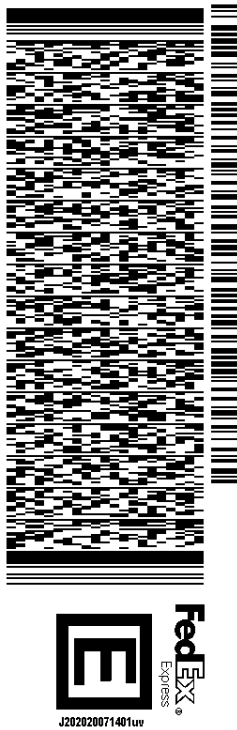
ORIGIN ID:BFBA (508) 614-0389  
 RICK WOODS  
 SBA COMMUNICATIONS CORPORATION  
 134 FLANDERS RD  
 SUITE 125  
 WESTBOROUGH, MA 01581  
 UNITED STATES US

SHIP DATE: 12NOV20  
 ACTWGT: 1.00 LB  
 CAD: 105843304/NET4280

BILL SENDER

TO **MELANIE A. BACHMAN EXEC. DIR**  
**CONNECTICUT SITING COUNCIL**  
**TEN FRANKLIN SQUARE**

**NEW BRITAIN CT 06051**  
 (508) 251-0720 X.3807  
 INV# REF: 105692009-6089  
 PO: DEPT:



TRK# 7720 6367 9963  
 0201  
 FRI - 13 NOV 10:30A  
 PRIORITY OVERNIGHT

**EBBDLA**  
 CT:US **BDL**  
 06051

A large barcode is positioned below the EBBDLA text.

56B,J5/BAB9/B766

**After printing this label:**

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

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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

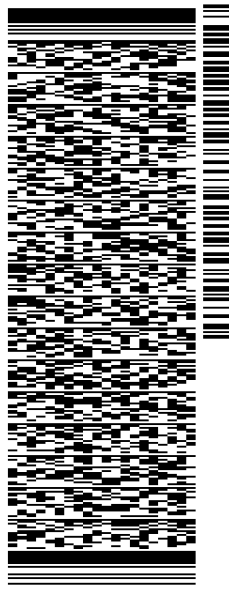
ORIGIN ID:BFBA (508) 614-0389  
RICK WOODS  
SBA COMMUNICATIONS CORPORATION  
134 FLANDERS RD  
SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

SHIP DATE: 12NOV20  
ACTWGT: 1.00 LB  
CAD: 105843304/NET14280  
BILL SENDER

TO  
**ANGUS L. McDONALD, JR. 1ST SELECTMA**  
**TOWN OF DEEP RIVER**  
**174 MAIN ST.**

**DEEP RIVER CT 06417**

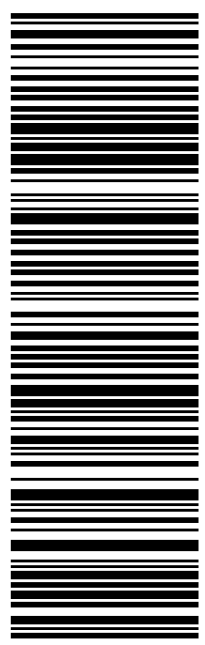
(508) 251-0720 X 3807 REF: 105692009-6089  
INV# DEPT:  
PO:



J2020071401uv

TRK# 7720 6379 0662  
0201  
FRI - 13 NOV 12:00P  
PRIORITY OVERNIGHT

**EB RSPA**  
06417  
CT:US BDL



56B,J5/BAB9/B766

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ORIGIN ID:BFBA (508) 614-0389  
RICK WOODS  
SBA COMMUNICATIONS CORPORATION  
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SUITE 125  
WESTBOROUGH, MA 01581  
UNITED STATES US

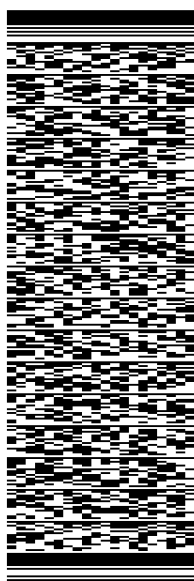
SHIP DATE: 12NOV20  
ACTWGT: 1.00 LB  
CAD: 105843304/NET4280

BILL SENDER

TO MIKE D'AMATO, ZONE ENF. OFFICER  
TOWN OF DEEP RIVER  
174 MAIN ST.

DEEP RIVER CT 06417

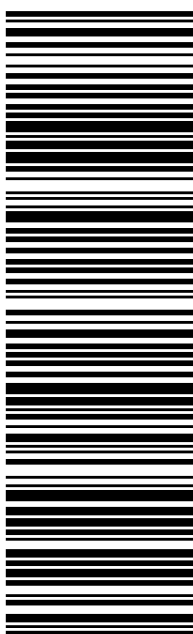
(508) 251-0720 X 3807 REF: 105692009-6089  
INV# PO: DEPT:



TRK# 7720 6381 4847 FRI - 13 NOV 12:00P  
0201 PRIORITY OVERNIGHT

EB RSPA

06417  
CT:US BDL



56B,J5/BAB9/B766

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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# EXHIBIT 3

# 220 WINTHROP RD

**Location** 220 WINTHROP RD

**Mblu** 33 / 1A /

**Acct#** 00047000

**Owner** TOWN OF DEEP RIVER

**Assessment** \$239,260

**Appraisal** \$341,800

**PID** 546

**Building Count** 1

## Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$185,000	\$156,800	\$341,800

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$129,500	\$109,760	\$239,260

## Owner of Record

**Owner** TOWN OF DEEP RIVER  
**Co-Owner**  
**Address** 174 MAIN ST  
DEEP RIVER, CT 06417

**Sale Price** \$0  
**Certificate**  
**Book & Page** 0093/0797  
**Sale Date** 12/27/1977

## Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
TOWN OF DEEP RIVER	\$0		0093/0797	12/27/1977

## Building Information

### Building 1 : Section 1

**Year Built:** 1979  
**Living Area:** 247

Building Attributes	
Field	Description
STYLE	Commercial
MODEL	Commercial
Stories:	1
Occupancy	1

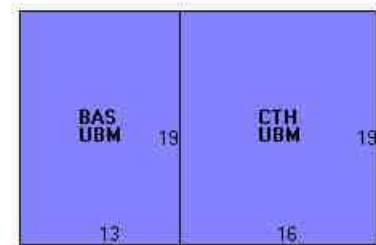
Exterior Wall 1	Aluminum Sidng
Exterior Wall 2	
Roof Structure	Gambrel
Roof Cover	Asph/F GlS/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Inlaid Sht Gds
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Electr Basebrd
AC Type	None
Bldg Use	MUNICIPAL MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	903I
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	LIGHT
Wall Height	9
% Comn Wall	0

### Building Photo



(<http://images.vgsi.com/photos/DeepRiverCTPhotos//\00\00\72/>)

### Building Layout



(<http://images.vgsi.com/photos/DeepRiverCTPhotos//Sketches/5>)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	247	247
CTH	Cath Ceiling	304	0
UBM	Basement, Unfinished	551	0
		1,102	247

### Extra Features

Extra Features
No Data for Extra Features

### Land

#### Land Use

Use Code 9030

#### Land Line Valuation

Size (Acres) 9.94

**Description** MUNICIPAL MDL-94  
**Neighborhood** 0002

**Depth**  
**Assessed Value** \$109,760  
**Appraised Value** \$156,800

**Outbuildings**

Outbuildings			<u>Legend</u>
Code	Description	Size	Bldg #
PAV1	PAVING-ASPHALT	30000 S.F.	1
PAV2	PAVING-CONC	1400 S.F.	1
SHD1	SHED FRAME	45 S.F.	1
SHD1	SHED FRAME	100 S.F.	1
FN3	FENCE-6' CHAIN	200 L.F.	1
	COMPACTOR	1	1

**Valuation History**

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$185,000	\$156,800	\$341,800

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$129,500	\$109,760	\$239,260

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# EXHIBIT 4

Google Maps 220 Winthrop Rd



Map data ©2019 Google 200 ft



## 220 Winthrop Rd

Deep River, CT 06417



Directions



Save



Nearby



Send to your phone



Share



9G8F+4P Deep River, CT

### At this location

## Deep River Transfer Station

5.0 ★★★★★ (4)

City government office · 220 Winthrop Rd

Open until 4:00 PM



# EXHIBIT 5



## Kri Pelletier

---

**From:** Cathie Jefferson <cjefferson@depriverct.us>  
**Sent:** Monday, November 6, 2017 11:36 AM  
**To:** Kri Pelletier  
**Subject:** RE: 220 Winthrop Rd, Deep River - Existing Cell Site

Kri,

Deep River Town property is exempt from zoning so it was not acted upon by the P&Z Commission. Other than that I am not aware of any documents.

Cathie S Jefferson  
Deep River ZEO  
860 526-6030

---

**From:** Kri Pelletier [mailto:KPelletier@sbsite.com]  
**Sent:** Monday, November 06, 2017 11:33 AM  
**To:** Cathie Jefferson  
**Subject:** RE: 220 Winthrop Rd, Deep River - Existing Cell Site

Hi Cathie,

We are just looking for the decision issued by the governing planning or zoning authority – generally a one or two page document. We are located just outside of Boston, making the trip for same a bit difficult.

Do you know if a decision / ruling was given when the tower went up? There is a possibility it does not exist – in which case we would simply inform the CSC of same.

Thank you,

**Kri Pelletier**  
*Prop Spec - Svcs*

508.251.0720 x3804 + **T**  
508.251.1755 + **F**  
203.446.7700 + **C**

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---

**From:** Kri Pelletier [<mailto:KPelletier@sbsite.com>]  
**Sent:** Wednesday, October 25, 2017 4:55 PM  
**To:** Cathie Jefferson  
**Subject:** 220 Winthrop Rd, Deep River - Existing Cell Site

Good Afternoon Cathie,

On behalf of Sprint, we are readying building permit application materials for minor upgrades to the existing cell site at 220 Winthrop Rd in Deep River. Prior to applying for a building permit, we must secure authorization from the CT Siting Council, which now requires information on the original planning decision to allow a telecommunication site.

- Could you please provide a scanned copy of the original approval for this existing telecommunication site from the Town, as it appears to pre-date the Siting Council's jurisdiction over same.

Thank you,

**Kri Pelletier**  
*Prop Spec - Svcs*



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

508.251.0720 x3804 + **T**  
508.251.1755 + **F**  
203.446.7700 + **C**  
[KPelletier@sbsite.com](mailto:KPelletier@sbsite.com)

***Your Signal Starts Here.***

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# BUILDING PERMIT

AMOUNT PAID

VALIDATION

APPLICANT Tim Bonanno DATE 8/24/98 19 98 PERMIT NO. 98-5-143  
 ADDRESS PO BOX 83, QUAKER HILL 59502  
(NO.) (STREET) (CONTR'S LICENSE)

PERMIT TO ERECT COMMUNICATIONS TOWER NO. 1 NUMBER OF DWELLING UNITS 0  
(TYPE OF IMPROVEMENT) (PROPOSED USE)

AT (LOCATION) 220 WINTHROP ROAD (TOWN TRANSFER STATION PROPRTY) ZONING DISTRICT \_\_\_\_\_  
(NO.) (STREET)  
 BETWEEN \_\_\_\_\_ AND \_\_\_\_\_  
(CROSS STREET) (CROSS STREET)

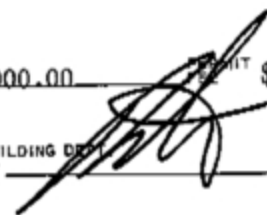
SUBDIVISION \_\_\_\_\_ LOT \_\_\_\_\_ BLOCK \_\_\_\_\_ LOT SIZE \_\_\_\_\_

BUILDING IS TO BE \_\_\_\_\_ FT. WIDE BY \_\_\_\_\_ FT. LONG BY \_\_\_\_\_ FT. IN HEIGHT AND SHALL CONFORM IN CONSTRUCTION

TO TYPE \_\_\_\_\_ USE GROUP \_\_\_\_\_ BASEMENT WALLS OR FOUNDATION \_\_\_\_\_ (TYPE)

REMARKS: PERMIT ISSUED FOR THE ERECTION OF COMMUNICATIONS TOWER. PERMIT INCLUDES ELECTRICAL WORK.

AREA OR VOLUME \_\_\_\_\_ ESTIMATED COST \$ 30,000.00 PERMIT \$ 310.00  
(CUBIC/SQUARE FEET)

OWNER TOWN OF DEEP RIVER BUILDING DEPT BY   
 ADDRESS 220 WINTHROP ROAD, DEEP RIVER

(Affidavit on reverse side of application to be completed by authorized agent of owner)

FORM NO. BOCA - BP 1994

# EXHIBIT 6

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

# DEEP RIVER WINTHROP ROAD

220 WINTHROP ROAD  
DEEP RIVER, CT 06417  
MIDDLESEX COUNTY

## SITE NO.: CT11408A

SITE TYPE: 180'± MONOPOLE

RF DESIGN GUIDELINE: CUSTOM

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

### T-MOBILE TECHNICIAN SITE SAFETY NOTES

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

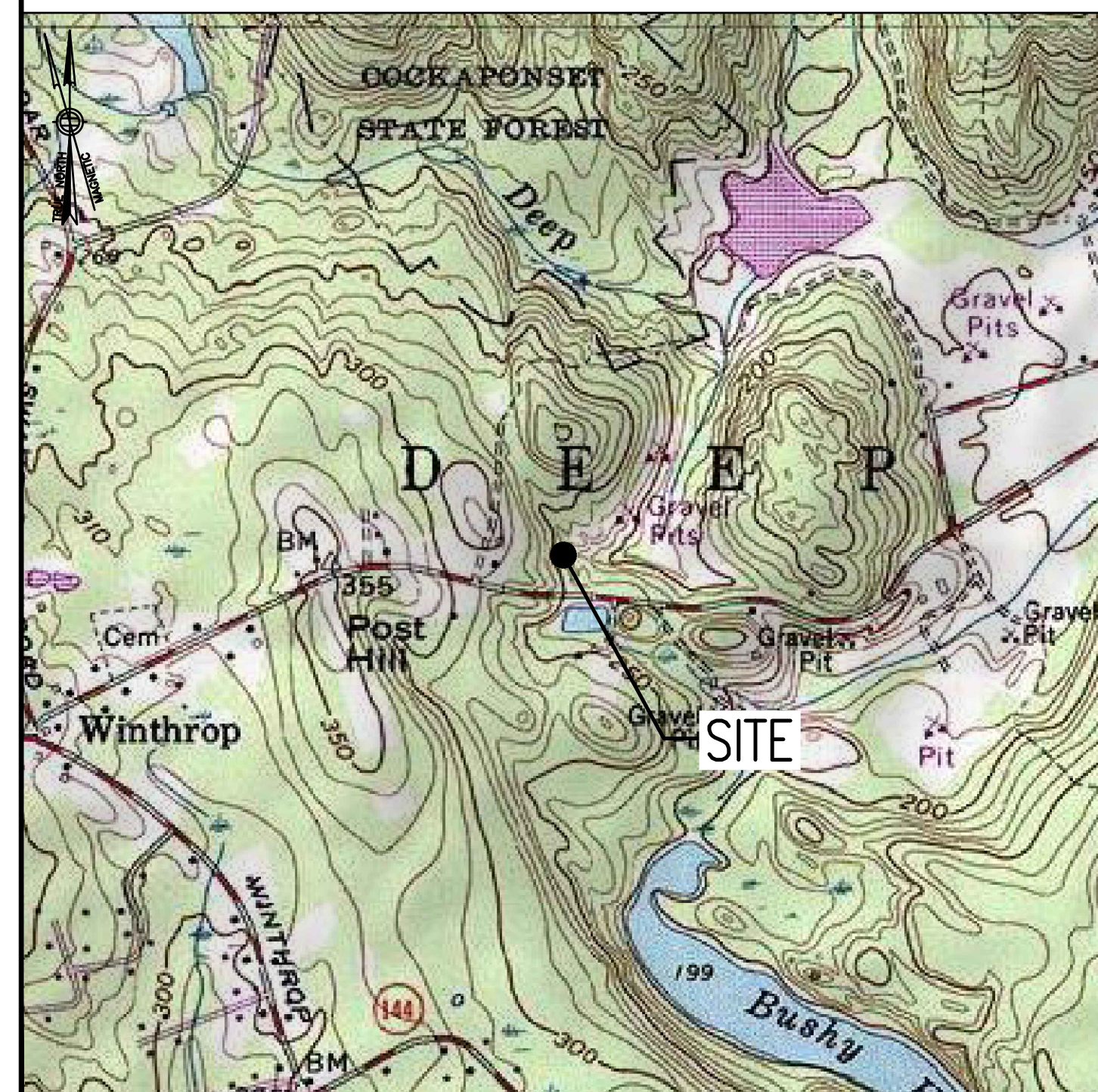
### GENERAL NOTES

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

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



### VICINITY MAP SCALE: 1" = 1000'-0"



### DO NOT SCALE DRAWINGS

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

### SITE NOTES

- THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
  - ADA COMPLIANCE NOT REQUIRED.
  - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
  - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
  - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
  - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
  - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

### SHEET INDEX

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

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

### PROJECT SUMMARY

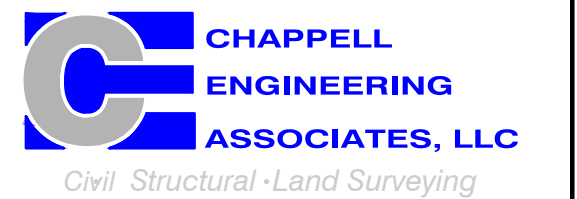
SITE NUMBER:	CT11408A
SBA SITE NUMBER:	CT46130-A
SBA SITE NAME:	DEEP RIVER WINTHROP ROAD
SITE ADDRESS:	220 WINTHROP ROAD DEEP RIVER, CT 06417
PROPERTY OWNER:	THE TOWN OF DEEP RIVER 174 MAIN STREET DEEP RIVER, CT 06417
TOWER OWNER:	SBA 2012 TC ASSETS, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	MIDDLESEX
ZONING DISTRICT:	R-80 (VERY LOW DENSITY RESIDENTIAL)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	180'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
SBA RSM:	STEPHEN ROTH PHONE: 860-539-4920 EMAIL: SROth@sbasite.com
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: 41.365818° N41°21'56.9448" LONGITUDE: -72.474929° W72°28'29.7444"

### T-MOBILE NORTHEAST LLC

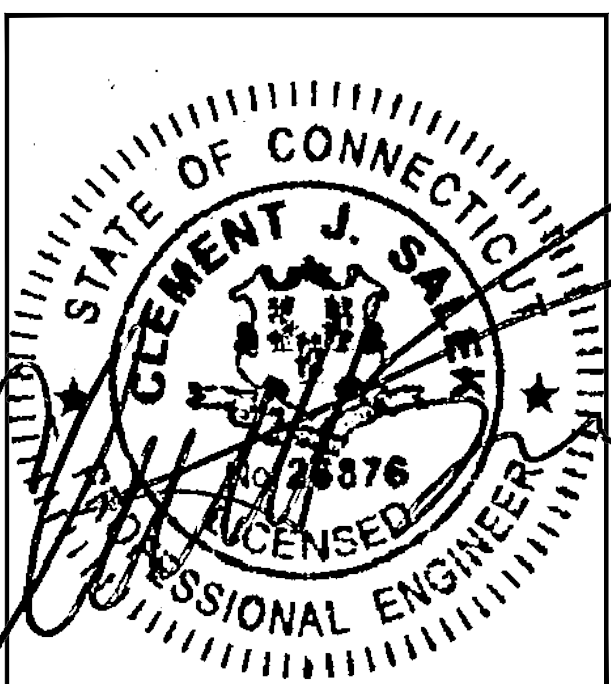
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766  
(508) 286-2700



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



R.K. EXECUTIVE CENTRE  
201 BOSTON POST ROAD WEST, SUITE 101  
MARLBOROUGH, MA 01752  
(508) 481-7400  
www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	09/12/19	ISSUED FOR CONSTRUCTION	CMC
0	05/14/19	ISSUED FOR REVIEW	MAM

SITE NUMBER:  
**CT11408A**

SITE ADDRESS:  
220 WINTHROP ROAD  
DEEP RIVER, CT 06417

SHEET TITLE

TITLE SHEET

SHEET NUMBER

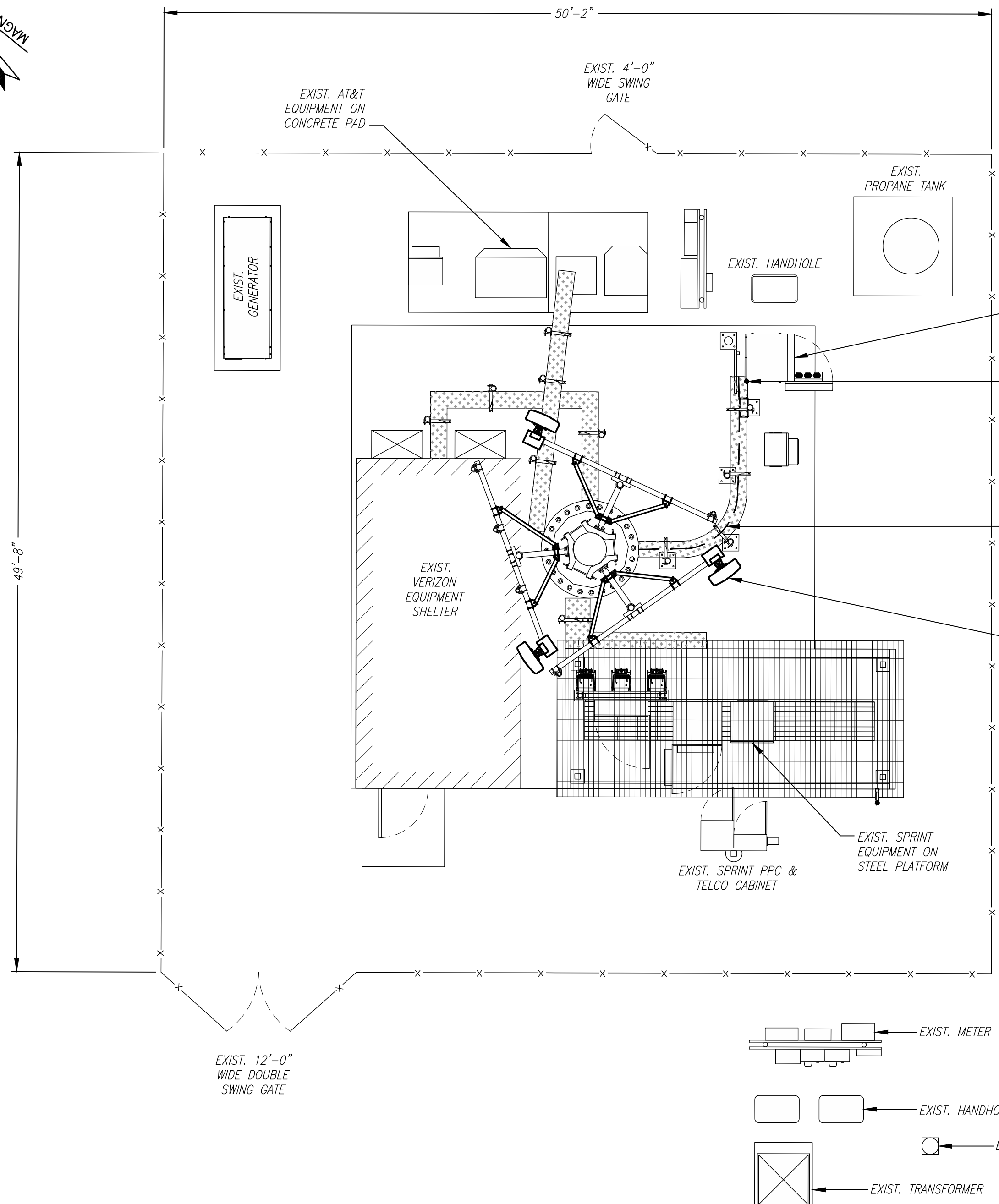
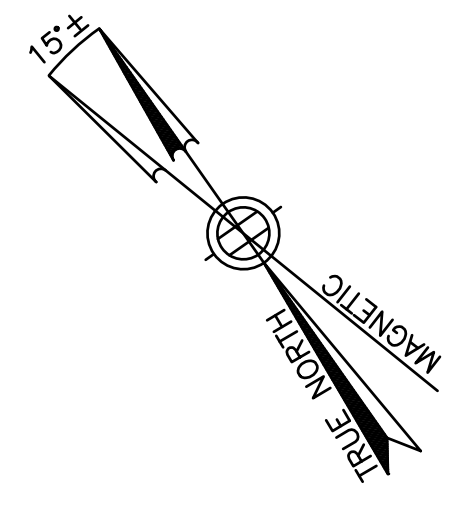
**T-1**



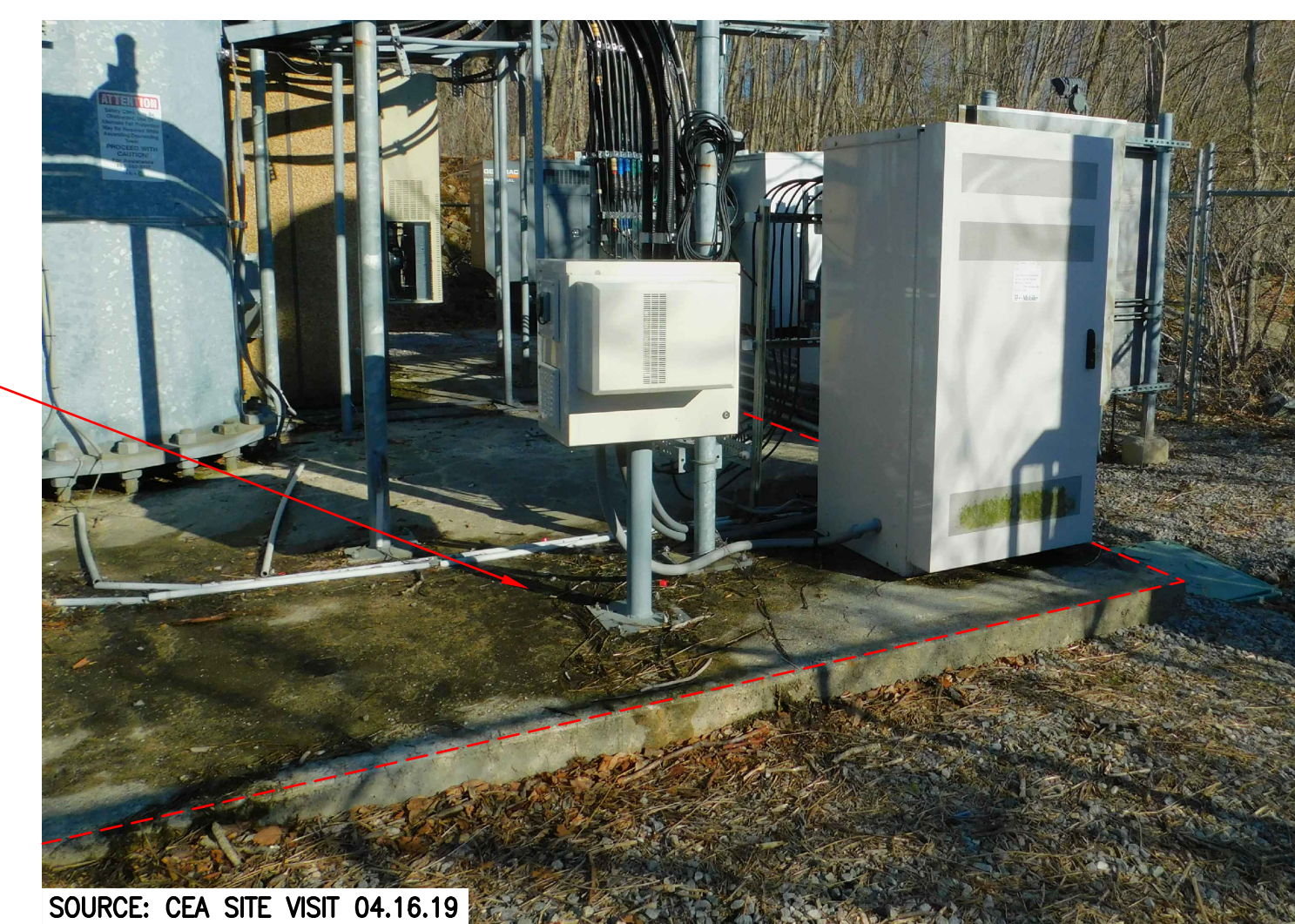
**SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):**  
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR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

FEEDLINE SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (6) 1-5/8" COAX CABLES	ROUTED PER TOWER STRUCTURAL ANALYSIS
B	PROPOSED: (6) 1-5/8" COAX CABLES (1) 1-3/8" HCS FIBER CABLE	

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

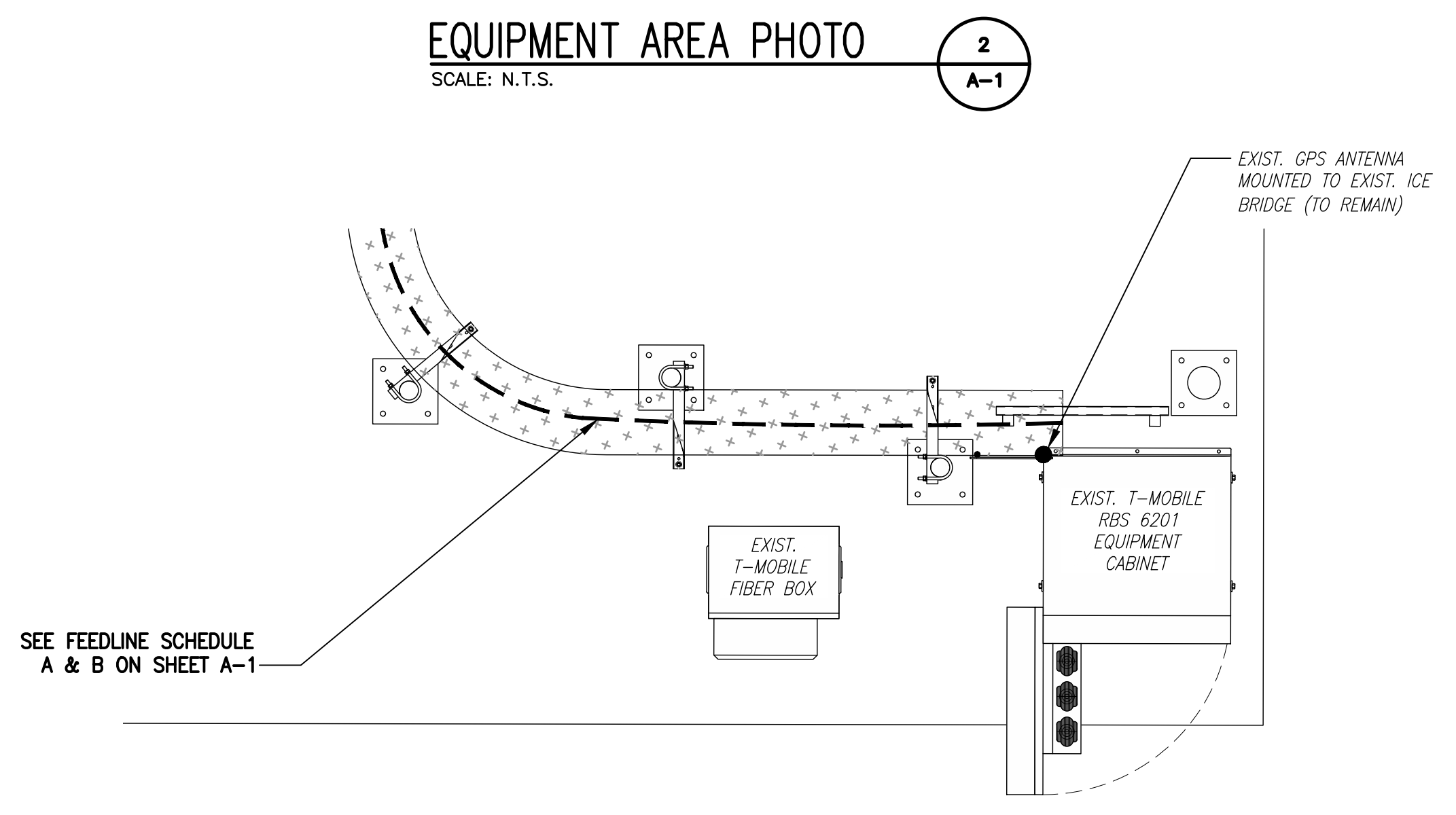


**COMPOUND PLAN** (1) A-1  
 SCALE: 3/16" = 1'-0"  
 0 2'-8" 5'-4" 10'-8" 16'-0"



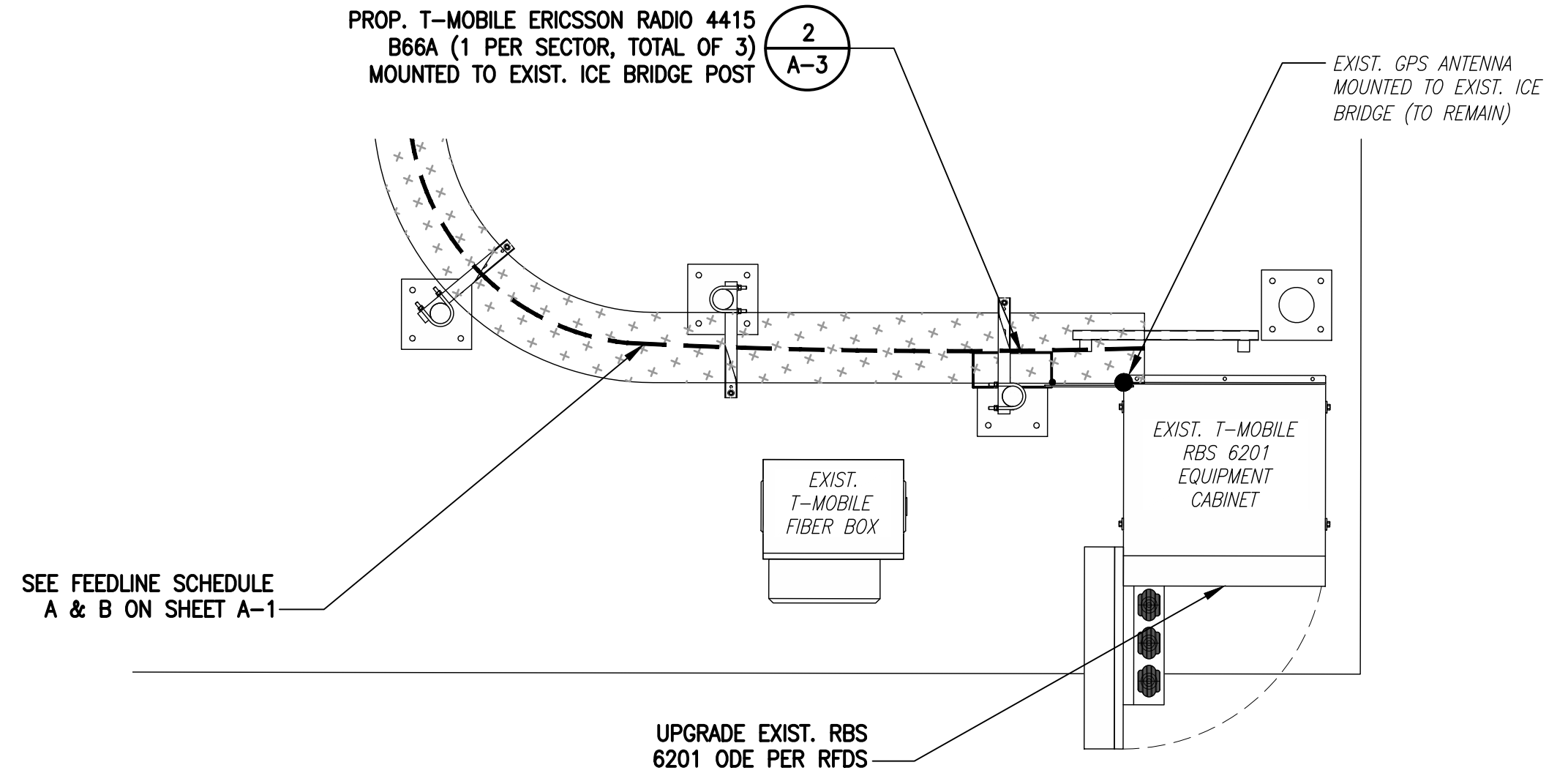
SOURCE: CEA SITE VISIT 04.16.19

EXIST. EQUIPMENT AREA (4) A-1



**EQUIPMENT AREA PHOTO** (2) A-1  
 SCALE: N.T.S.

**EXISTING EQUIPMENT PLAN** (3) A-1  
 SCALE: 1/2" = 1'-0"  
 0 2'-0" 4'-0" 6'-0"



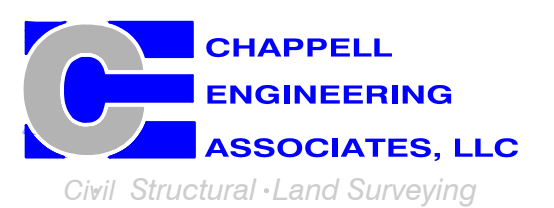
**PROPOSED EQUIPMENT PLAN** (4) A-1  
 SCALE: 1/2" = 1'-0"  
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**T-MOBILE NORTHEAST LLC**

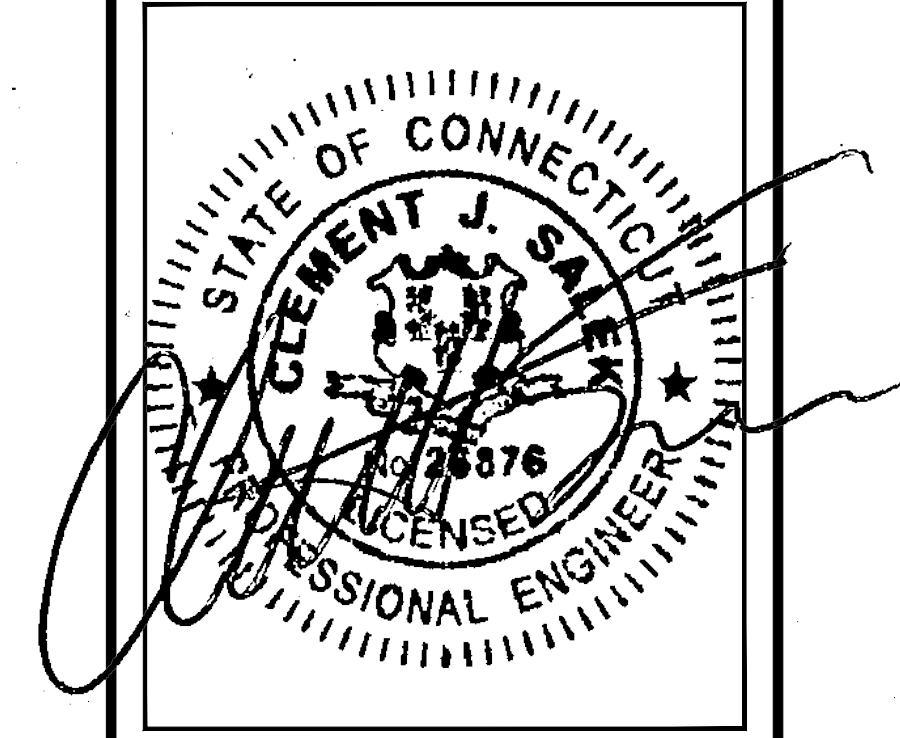
15 COMMERCE WAY, SUITE B  
 NORTON, MA 02766  
 (508) 286-2700



SBA COMMUNICATIONS CORP.  
 134 FLANDERS ROAD, SUITE 125  
 WESTBOROUGH, MA 01581  
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 MARLBOROUGH, MA 01752  
 (508) 481-7400  
 www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	09/12/19	ISSUED FOR CONSTRUCTION	CMC
0	05/14/19	ISSUED FOR REVIEW	MAM

SITE NUMBER:  
**CT11408A**

SITE ADDRESS:  
 220 WINTHROP ROAD  
 DEEP RIVER, CT 06417

SHEET TITLE  
**COMPOUND & EQUIPMENT PLAN**

SHEET NUMBER  
**A-1**

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

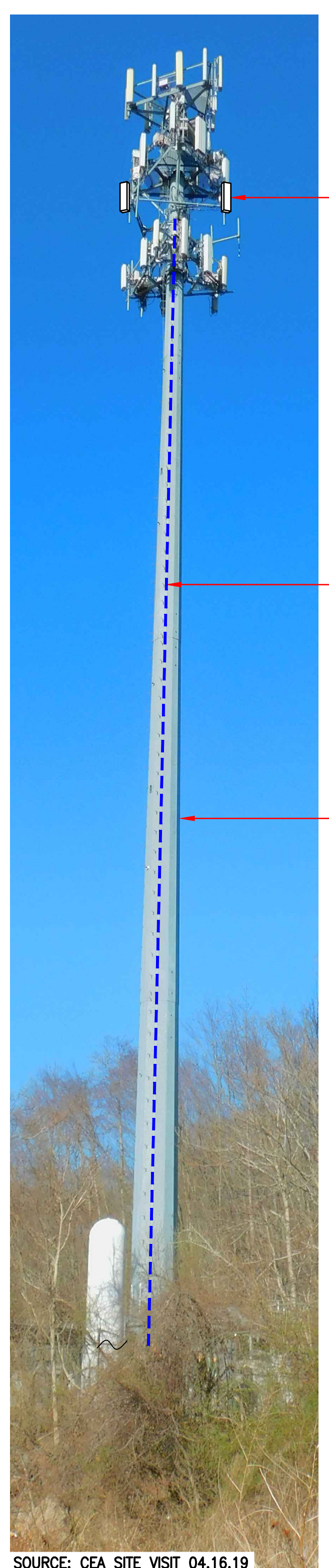
**SPECIAL TOWER TOP EQUIPMENT INSTALLATION WORK NOTE (SAFETY-CLIMB ALIGNMENT REQUIREMENTS):**  
 GENERAL CONTRACTOR SHALL ORIENT PROPOSED PLATFORM REINFORCEMENT KIT RING-MOUNTS SO THAT EXISTING SAFETY CLIMB CABLE IS NOT OBSTRUCTED/RE-ROUTED FROM VERTICAL ALIGNMENT AND IS NOT IN PHYSICAL CONTACT WITH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

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

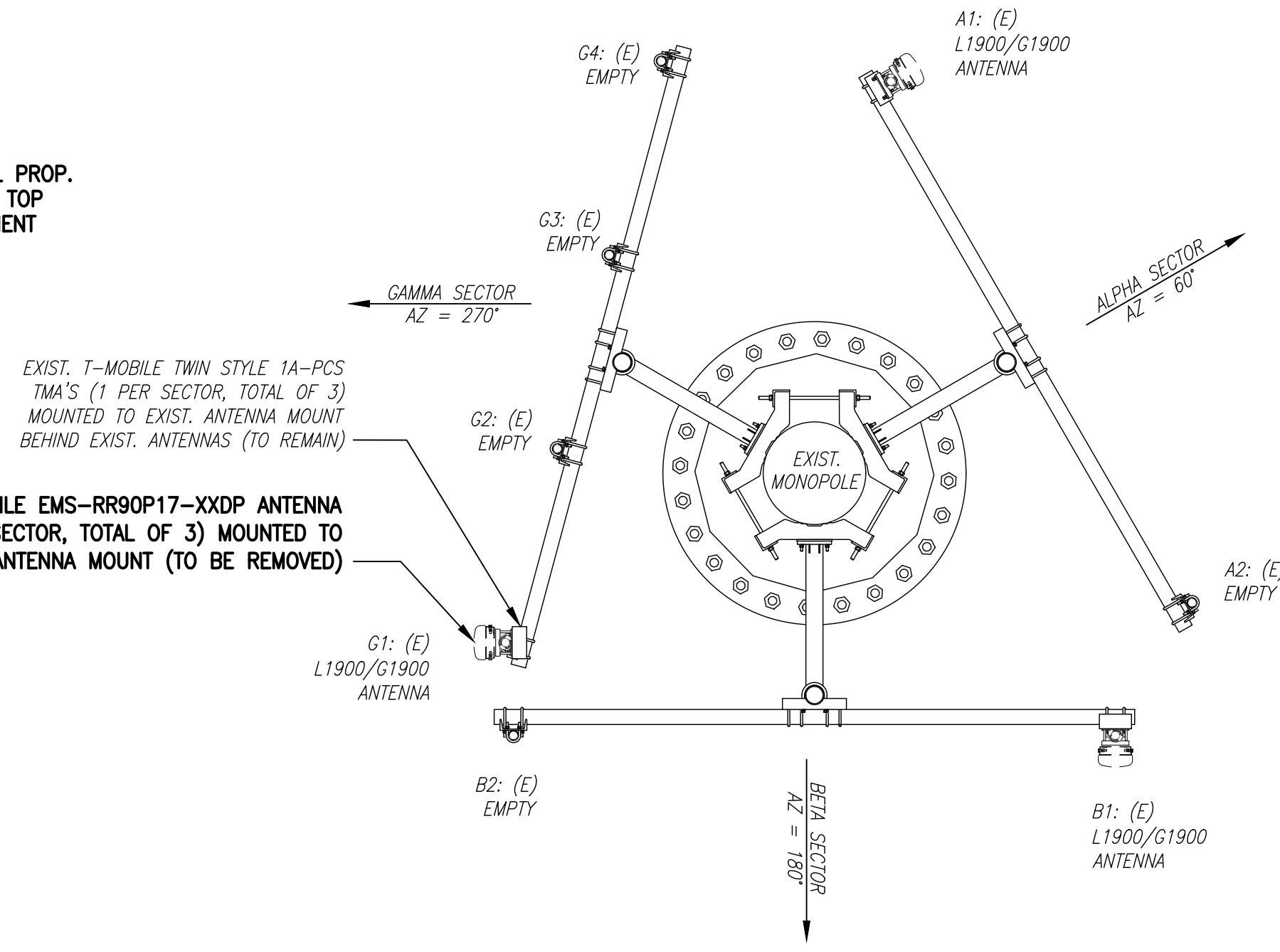
**RAD CENTER NOTE:**  
 T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED CO-LOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE T-MOBILE RFDS.

- ⊕ EXIST. VERIZON ANTENNAS  
EL. = 178'± AGL (432'± AMSL)
- ⊕ EXIST. SPRINT ANTENNAS  
EL. = 166'± AGL (420'± AMSL)
- ⊕ TOP OF PROP. T-MOBILE (3) ANTENNAS  
EL. = 162'± AGL (416'± AMSL)
- ⊕ PROP. T-MOBILE (3) ANTENNAS  
EL. = 158'± AGL (412'± AMSL)
- ⊕ EXIST. AT&T ANTENNAS  
EL. = 150'± AGL (404'± AMSL)

- ⊕ PROP. T-MOBILE RFS APXVAARR24\_43-U-NA20 PANEL ANTENNAS (1 PER SECTOR, TOTAL OF 3) MOUNTED TO PROP. PIPES ON EXIST. ANTENNA MOUNTS TO REPLACE EXIST. PANEL ANTENNAS
- ⊕ PROP. T-MOBILE ERICSSON RADIO 4449 B71+B12'S (1 PER SECTOR, TOTAL OF 3) MOUNTED TO PROP. PIPES ON EXIST. ANTEI MOUNT BEHIND PROP. PANEL ANTENNA
- ⊕ EXIST. T-MOBILE TWIN STYLE 1A-PCS TMA'S (1 PER SECTOR, TOTAL OF 3) MOUNTED TO EXIST. ANTENNA MOUNT BEHIND PROP. ANTENNAS (TO REMAIN) (RELOCATE TO PROP. PIPES)
- ⊕ PROP. T-MOBILE TWIN STYLE 1B-AWS TMA'S (1 PER SECTOR, TOTAL OF 3) MOUNTED TO PROP. PIPES ON EXIST. ANTENNA MOUNT BEHIND PROP. ANTENNAS
- ⊕ INSTALL SUPPORT RAIL KIT (METROSITE P/N MS-HR35-2875) & CUSTOM V-BRACING



- ⊕ INSTALL PROP. TOWER TOP EQUIPMENT



**EXISTING ANTENNA PLAN**  
 SCALE: N.T.S.

- ⊕ PROP. T-MOBILE ERICSSON RADIO 4449 B71+B12'S (1 PER SECTOR, TOTAL OF 3) MOUNTED TO PROP. PIPES ON EXIST. ANTENNA MOUNT BEHIND PROP. PANEL ANTENNA

**NOTE:**  
 EXIST. T-ARM MOUNTS TO BE REINFORCED PER SBA STRUCTURAL ANALYSIS.

- ⊕ PROP. T-MOBILE TWIN STYLE 1B-AWS TMA'S (1 PER SECTOR, TOTAL OF 3) MOUNTED TO PROP. PIPES ON EXIST. ANTENNA MOUNT BEHIND PROP. ANTENNAS

**NOTE:**  
 INSTALL SUPPORT RAIL KIT (METROSITE P/N MS-HR35-2875) & CUSTOM V-BRACING

- ⊕ EXIST. T-MOBILE TWIN STYLE 1A-PCS TMA'S (1 PER SECTOR, TOTAL OF 3) MOUNTED TO EXIST. ANTENNA MOUNT BEHIND PROP. ANTENNAS (TO REMAIN) (RELOCATE TO PROP. PIPES)

- ⊕ PROP. T-MOBILE RFS APXVAARR24\_43-U-NA20 PANEL ANTENNAS (1 PER SECTOR, TOTAL OF 3) MOUNTED TO PROP. PIPES ON EXIST. ANTENNA MOUNT TO REPLACE EXIST. PANEL ANTENNAS

**ANTENNA STATUS LEGEND:**  
 EMPTY - EMPTY PIPE  
 (E) - EXISTING  
 (P) - INSTALL  
 (F) - FUTURE

**PROPOSED ANTENNA PLAN**  
 SCALE: N.T.S.

SEE FEEDLINE SCHEDULE A & B ON SHEET A-1

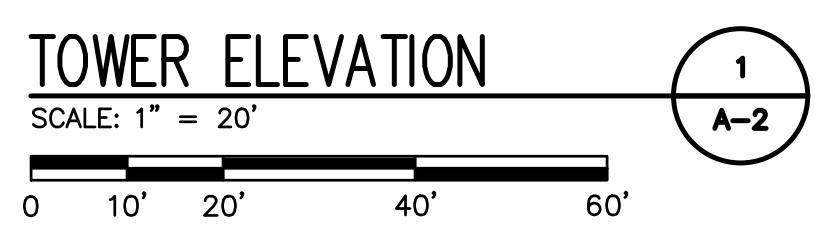
EXIST. 180'± MONOPOLE

**NOTE:**  
 GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

**NOTE:**  
 PROPOSED T-MOBILE RRH'S NOT SHOWN, FOR CLARITY.

**NOTE:** ONE SECTOR SHOWN FOR CLARITY

GROUND LEVEL  
 EL. = 0' AGL (254'± AMSL)



**TOWER PHOTO**  
 SCALE: N.T.S.

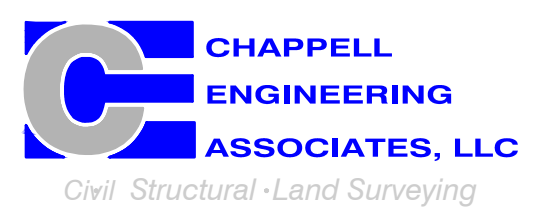
**NOTE:**  
 VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

**T-MOBILE NORTHEAST LLC**

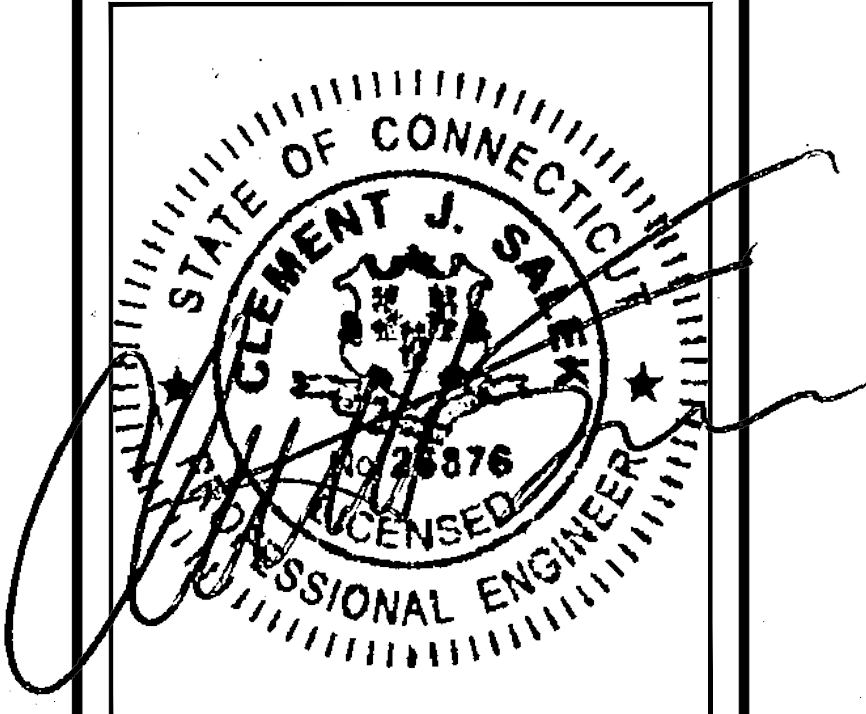
15 COMMERCE WAY, SUITE B  
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 (508) 286-2700



SBA COMMUNICATIONS CORP.  
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 MARLBOROUGH, MA 01752  
 (508) 481-7400  
 www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	09/12/19	ISSUED FOR CONSTRUCTION	CMC
0	05/14/19	ISSUED FOR REVIEW	MAM

**SITE NUMBER:**  
 CT11408A

**SITE ADDRESS:**  
 220 WINTHROP ROAD  
 DEEP RIVER, CT 06417

**SHEET TITLE**  
 TOWER ELEVATIONS & ANTENNA PLAN

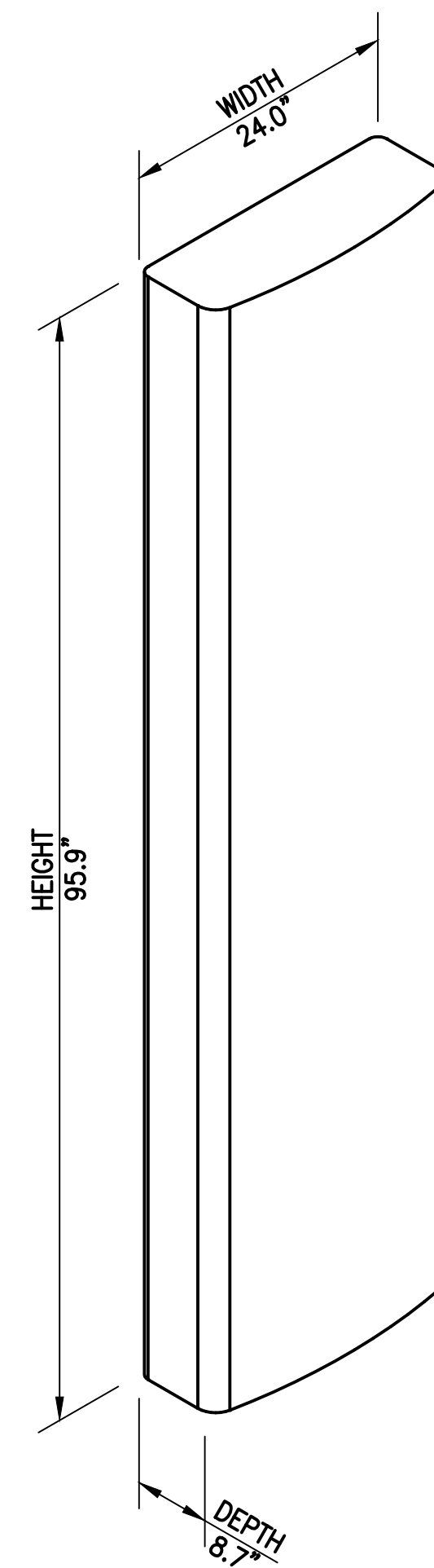
**SHEET NUMBER**  
 A-2



FINAL ANTENNA CONFIGURATION

SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	RADIOS/TMAS	CABLES
ALPHA	RFS APXVAARR24_43-U-NA20	158'± AGL	60°	2'	2'	L2100	GENERIC TWIN STYLE 1B-AWS TMA ERICSSON RADIO 4415 B66A (AT CABINET)	(2) (P) 1-5/8" COAX CABLES
					2'	L1900/G1900	GENERIC TWIN STYLE 1A-PCS TMA	(2) (E) 1-5/8" COAX CABLES
					2'	L600/L700	ERICSSON RADIO 4449 B71+B12	(1) (P) 6x12 (1-5/8") HCS FIBER CABLE (SHARED)
BETA	RFS APXVAARR24_43-U-NA20	158'± AGL	180°	2'	2'	L2100	GENERIC TWIN STYLE 1B-AWS TMA ERICSSON RADIO 4415 B66A (AT CABINET)	(2) (P) 1-5/8" COAX CABLES
					2'	L1900/G1900	GENERIC TWIN STYLE 1A-PCS TMA	(2) (E) 1-5/8" COAX CABLES
					2'	L600/L700	ERICSSON RADIO 4449 B71+B12	(1) (P) 6x12 (1-5/8") HCS FIBER CABLE (SHARED)
GAMMA	RFS APXVAARR24_43-U-NA20	158'± AGL	270°	2'	2'	L2100	GENERIC TWIN STYLE 1B-AWS TMA ERICSSON RADIO 4415 B66A (AT CABINET)	(2) (P) 1-5/8" COAX CABLES
					2'	L1900/G1900	GENERIC TWIN STYLE 1A-PCS TMA	(2) (E) 1-5/8" COAX CABLES
					2'	L600/L700	ERICSSON RADIO 4449 B71+B12	(1) (P) 6x12 (1-5/8") HCS FIBER CABLE (SHARED)

NOTE: RFDS REV2.1 - 04/25/19



RFS APXVAARR24\_43-U-NA20 PANEL ANTENNA  
DIMENSIONS: 95.9"H x 24.0"W x 8.7"D  
WEIGHT: 128.0 LBS  
1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS  
SCALE: N.T.S.

1  
A-3



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

RRU DETAILS  
SCALE: N.T.S.



ERICSSON RRUS 4415 B66A  
DIMENSIONS: 16.5"H x 13.4"W x 5.9"D  
WEIGHT: 46 LBS  
(1 PER SECTOR, TOTAL OF 3)

2  
A-3



ERICSSON KRY 112 144/2 DOUBLE TMA  
DIMENSIONS: 3.1"H x 8.6"W x 6.6"D  
WEIGHT: 9.7 LBS  
1 PER SECTOR, TOTAL OF 3

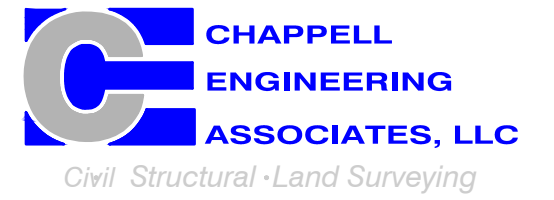
TMA DETAIL  
SCALE: N.T.S.

3  
A-3

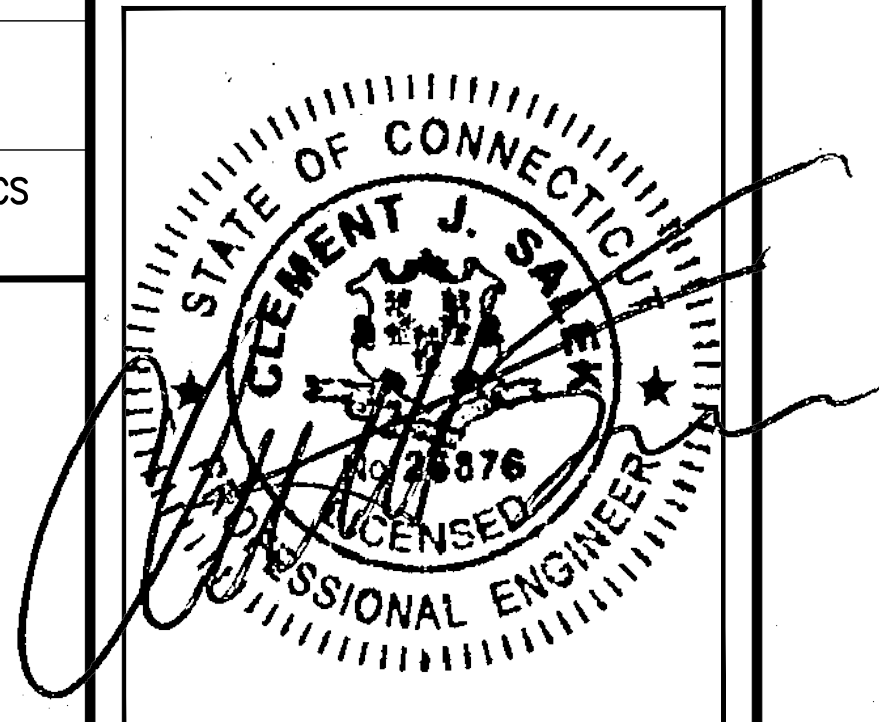
**T-MOBILE  
NORTHEAST LLC**  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766  
(508) 286-2700



SBA COMMUNICATIONS CORP.  
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APPROVED BY: JMT

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SITE NUMBER:  
**CT11408A**  
SITE ADDRESS:  
220 WINTHROP ROAD  
DEEP RIVER, CT 06417

SHEET TITLE  
**SITE DETAILS**

SHEET NUMBER  
**A-3**

# EXHIBIT 7

# MODIFICATION AND DESIGN DRAWINGS FOR EXISTING ANTENNA MOUNTS EXISTING MONOPOLE TOWER

PROPOSED CARRIER: T-MOBILE

TOWER OWNER: SBA / TOWER OWNER SITE #: CT46130-A

CARRIER SITE #/NAME: CT11408A / DEEP RIVER

COORDINATES (LATITUDE: 41.365872°, LONGITUDE: -72.474849°)

PLEASE NOTE THIS SET OF DRAWINGS ARE FOR INSTALLATION AND ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
CN-1	GENERAL NOTES	0
A-1	ANTENNA MOUNT MODIFICATION DETAILS	0
A-2	ANTENNA MOUNT PHOTOS	0
D-1	STANDARD DETAILS	0
D-2	STANDARD DETAILS	0
MS-H1436	METROSITE HEAVY COLLAR MOUNT PLATE ASSEMBLY DETAIL	
MPHW-1	METROSITE HEAVY COLLAR MOUNT PLATE WELDMENT DETAIL	
MS-HR35-2875	METROSITE SUPPORT RAIL KIT	
MS-TAW35-350R0	METROSITE ROTATABLE T-ARM KIT	
MS-HRCP-35-2875	METROSITE SUPPORT RAIL CENTER PIPE KIT	

**NOTE:**

1. THE MODIFICATION DRAWINGS ARE BASED ON THE TES PROJECT NO. 78651, DATED 06/27/2019.



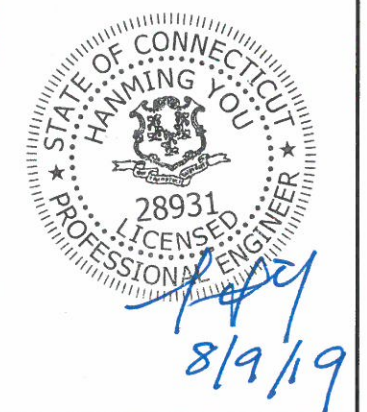
**Tower Engineering Solutions**  
1320 GREENWAY DRIVE, SUITE 600  
IRVING, TX 75038  
PH: (972) 483-0607



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BOCA RATON, FL 33487  
(800)-487-SITE

TES JOB NO:  
81715

CUSTOMER SITE NO:  
CT46130-A-SBA  
CUSTOMER SITE NAME:  
DEEP RIVER-WINTHROP RD  
220 WINTHROP RD  
DEEP RIVER, CT 06417



DRAWN BY: SP      CHECKED BY: LK/HMA

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△ 1	FIRST ISSUE	SP	08/09/19
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SHEET NUMBER: T-1      REV #: 0



**GENERAL NOTES**

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, 2018 CONNECTICUT STATE BUILDING CODE AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.
7. IT IS THE RESPONSIBILITY OF THE GC TO VERIFY THAT THERE IS NO INTERFERENCES (WITH SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC.) PRIOR TO MOBILIZATION AND INSTALLATION OF THESE MODIFICATIONS.
8. PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-[TESCONSTRUCTION@TESTOWER.US](mailto:TESCONSTRUCTION@TESTOWER.US)

**FABRICATION**

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

**WELDING**

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

**BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS**

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

**VERIFICATION AND INSPECTION**

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 FOR STEEL CONSTRUCTION AND TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING<sup>a,b</sup>

BOLT LENGTH <sup>f</sup>	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 <sup>d</sup>	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS <sup>d</sup>
NOT MORE THAN 4d <sub>b</sub>	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN 4d <sub>b</sub> BUT NOT MORE THAN 8d <sub>b</sub>	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN 8d <sub>b</sub> BUT NOT MORE THAN 12d <sub>b</sub>	2/3 TURN	5/6 TURN	1 TURN

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

<sup>b</sup> APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

<sup>c</sup> WHEN THE BOLT LENGTH EXCEEDS 12d<sub>b</sub>, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

<sup>d</sup> BEVELED WASHER NOT USED.

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

**INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:**

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

**FIELD HOT WORK PLAN NOTES:**

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

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



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220 WINTHROP RD  
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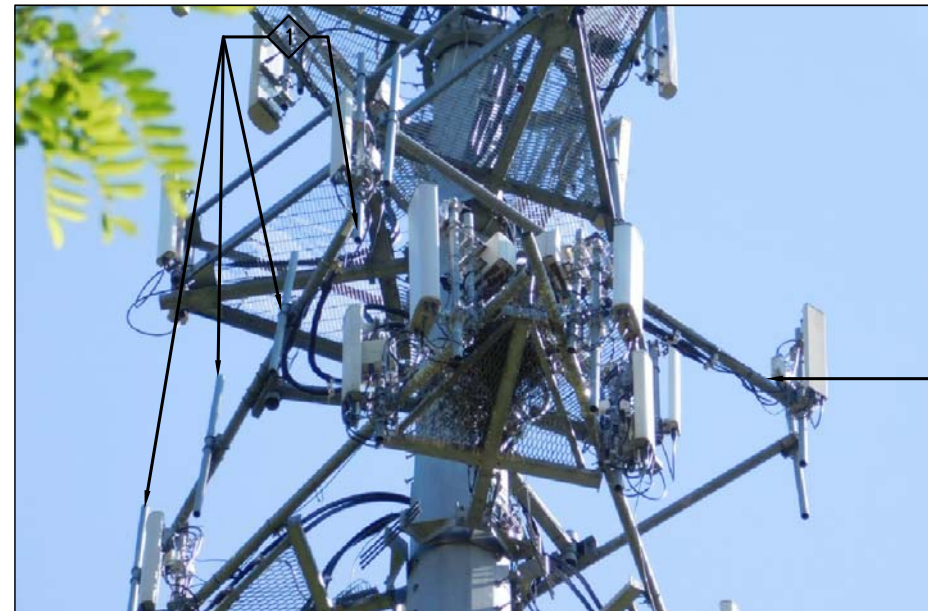
GN-1

REV #:

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**SCOPE OF WORK**

- 1 REPLACE ALL EXISTING ANTENNA MOUNT PIPES WITH NEW 2.5" PST PIPES (8'-0" LONG) (4) ON ONE SECTOR & (2) ON TWO SECTORS. THEN RELOCATE EXISTING ANTENNAS TO NEW MOUNT PIPES (TYP). EXISTING ANTENNA RAD CENTER TO BE MAINTAINED.
- 2 INSTALL NEW SUPPORT RAIL CENTER PIPE KIT, SEE SHEET MS-HRCP-35-2875 FOR DETAILS.
- 3 INSTALL NEW HEAVY COLLAR MOUNT (NOT SHOWN FOR CLARITY). SEE SHEET MS-H1436 FOR DETAILS.
- 4 INSTALL NEW SUPPORT RAIL KIT. SEE SHEET MS-HR35-2875 FOR DETAILS.
- 5 INSTALL NEW ROTATABLE T-ARM KIT. SEE SHEET MS-TAW35-350RO FOR DETAILS.
- 6 INSTALL NEW V-BRACING. SEE SHEET D-1 FOR DETAILS.
- 7 REPLACE RUSTED U-BOLTS WITH NEW U-BOLTS AT EXISTING T-ARM CONNECTION. SEE PHOTO 2 AND DETAIL A ON SHEET D-1.
- 8 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.



EXISTING ANTENNA MOUNT @ 158' ELEV

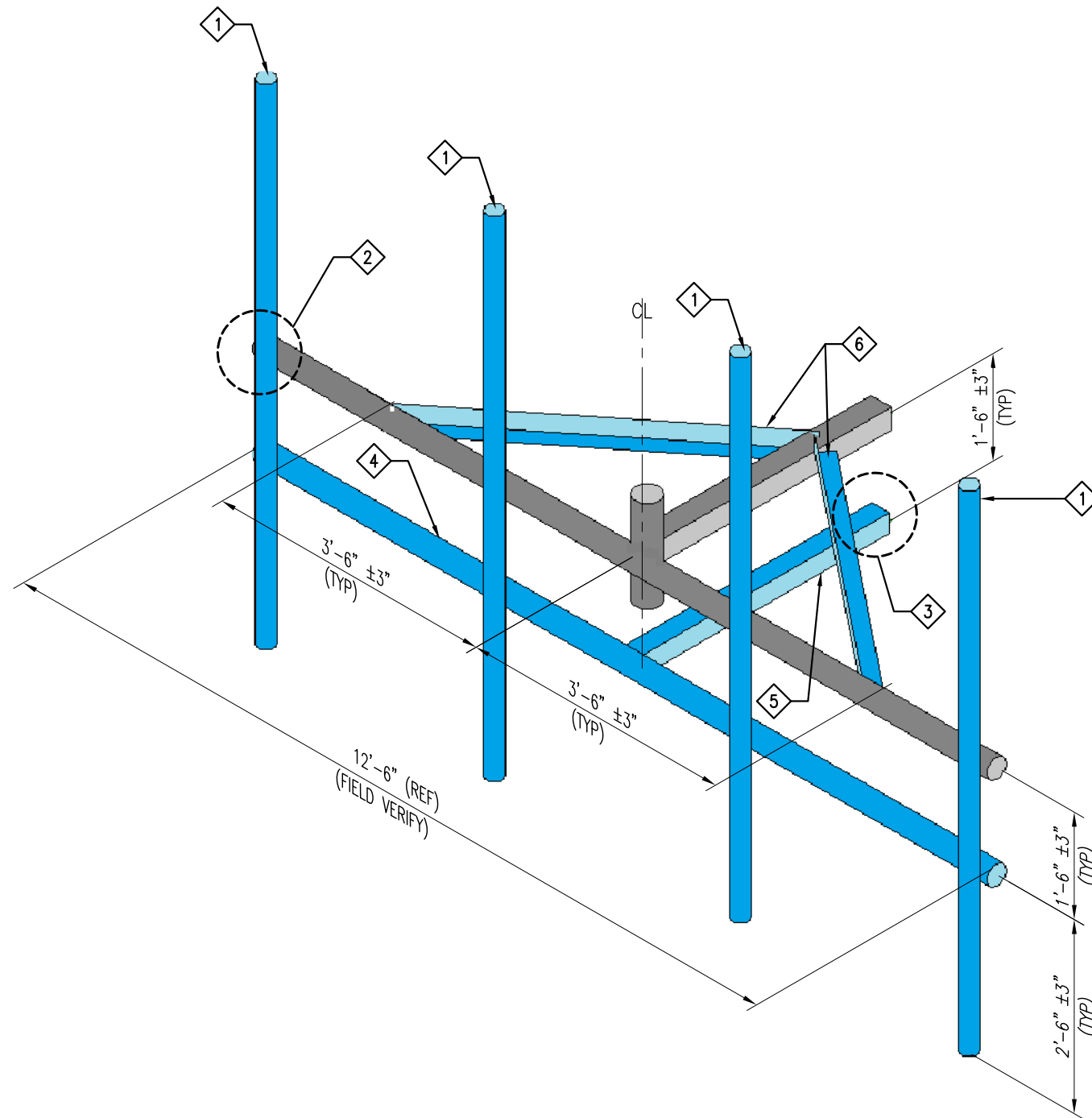


PHOTO 2

**GC NOTE:**

1. IT IS THE RESPONSIBILITY OF THE GC TO VERIFY THAT THERE IS NO INTERFERENCES WITH (PORT HOLES, SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC.) PRIOR TO MOBILIZATION AND INSTALLATION OF THESE MODIFICATIONS.
2. PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-[TESCONSTRUCTION@TESTOWER.US](mailto:TESCONSTRUCTION@TESTOWER.US)

**NOTES:**

1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE LEGS AND/OR ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.
2. WHEN FIELD CUTTING AND DRILLING ANGLES, USE SAME GAGE LINES AND EDGE DISTANCES AS INDICATED ON SHOP CUT AND DRILLED ENDS.
3. APPLY (2) COATS OF ZINC RICH GALVANIZING COMPOUND AS PER THE MANUFACTURER'S SPECIFICATIONS TO ALL FIELD CUT AND DRILLED AREAS.
4. MEMBERS IN BLUE COLOR ARE NEW REINFORCEMENTS.

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	8	PST2875-8	2.5" PST (2.875" O.D. X 0.203" THICKNESS) X 8'-0" A53 G
2	8	MS-HRCP-35-2875	METROSITE SUPPORT RAIL CENTER PIPE KIT
3	1	MS-H1436	METROSITE HEAVY COLLAR MOUNT ASSEMBLY
4	1	MS-HR35-2875	METROSITE SUPPORT RAIL KIT
5	1	MS-TAW35-350RO	METROSITE ROTATABLE T-ARM KIT



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TES JOB NO:  
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CUSTOMER SITE NO:  
CT46130-A-SBA  
CUSTOMER SITE NAME:  
DEEP RIVER-WINTHROP RD  
220 WINTHROP RD  
DEEP RIVER, CT 06417

DRAWN BY: SP CHECKED BY: LK/HMA

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1	FIRST ISSUE	SP	08/09/19

SHEET TITLE:

ANTENNA MOUNT  
MODIFICATION DETAILS

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SHEET NUMBER: REV #:

A-1 0



REPLACE RUSTED U-BOLTS WITH NEW U-BOLTS AT EXISTING T-ARM CONNECTION.

04.26.2019 10:57

PHOTO 1



04.26.2019 10:57

PHOTO 2



REPLACE ALL EXISTING ANTENNA MOUNT PIPES WITH NEW 2.5" PST PIPES (8'-0" LONG) THEN RELOCATE EXISTING ANTENNAS TO NEW MOUNT PIPES (TYP). EXISTING ANTENNA RAD CENTER TO BE MAINTAINED.

04.26.2019 10:55

PHOTO 3



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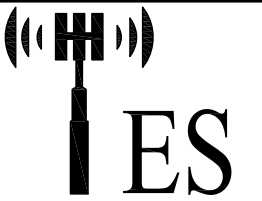
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	SP	08/09/19

SHEET TITLE:

ANTENNA MOUNT  
 PHOTOS

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SHEET NUMBER: A-2 REV #: 0



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1	FIRST ISSUE	SP	08/09/19

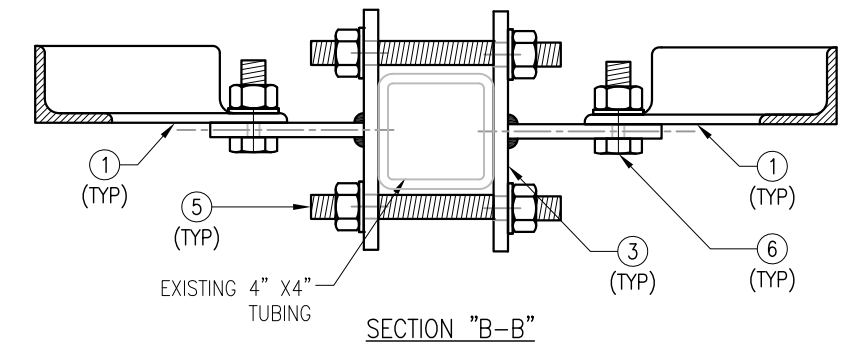
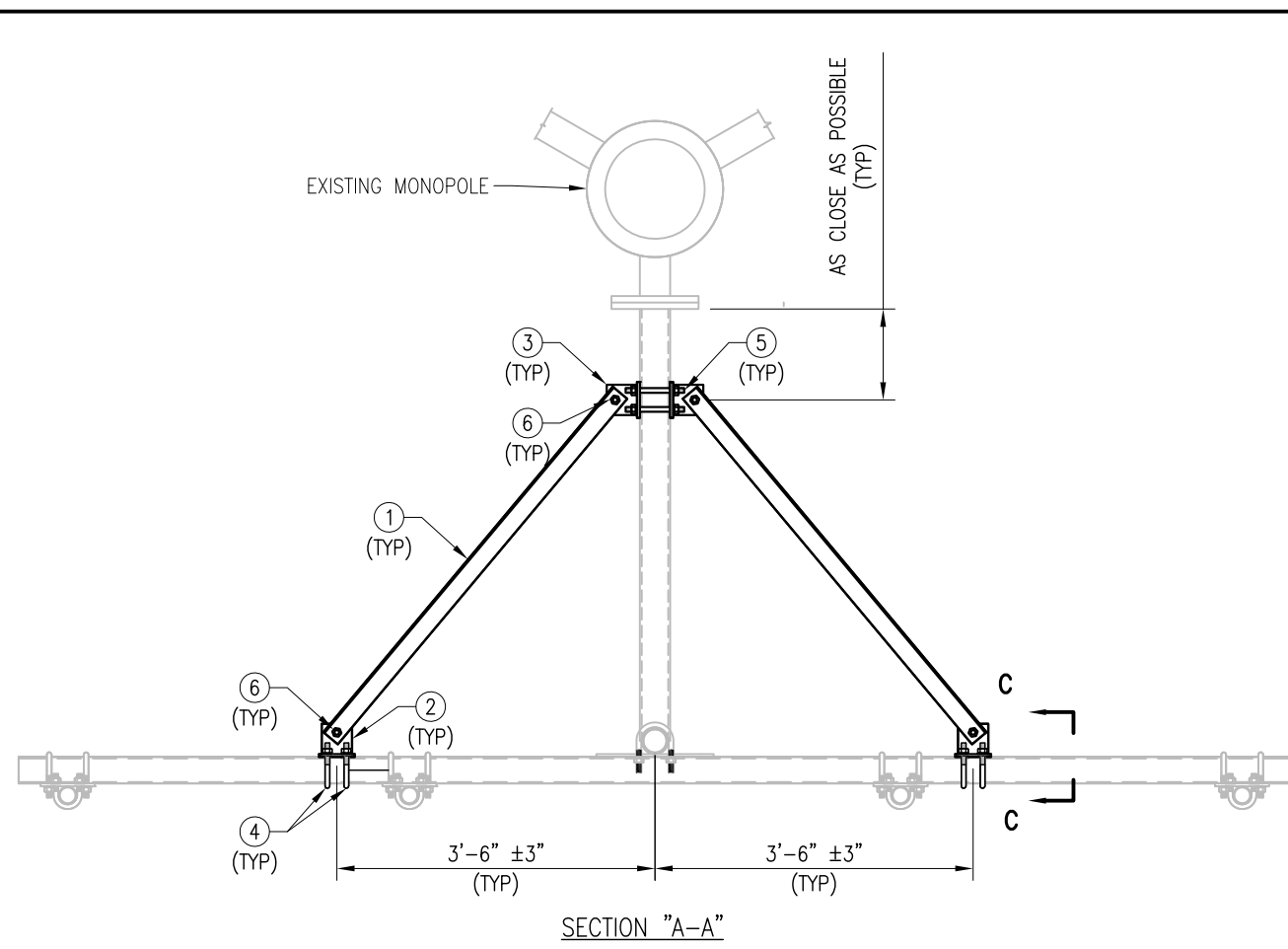
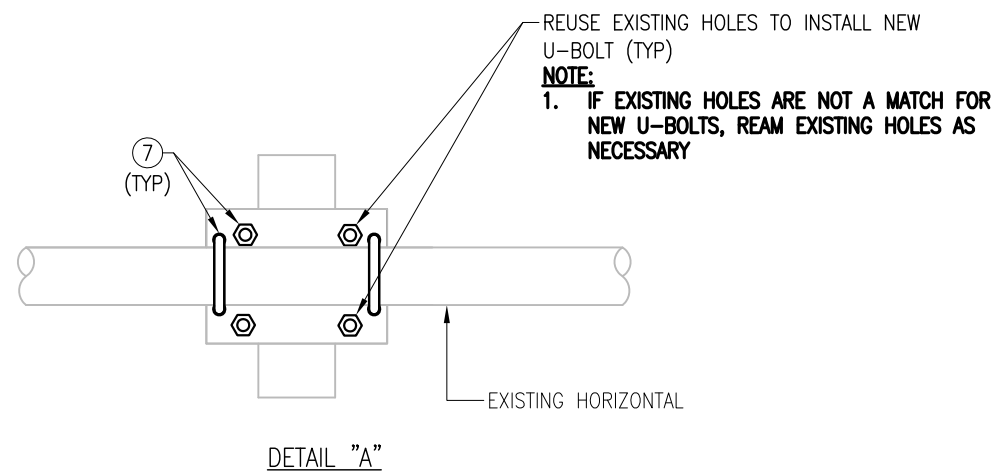
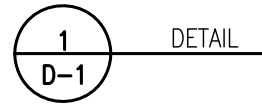
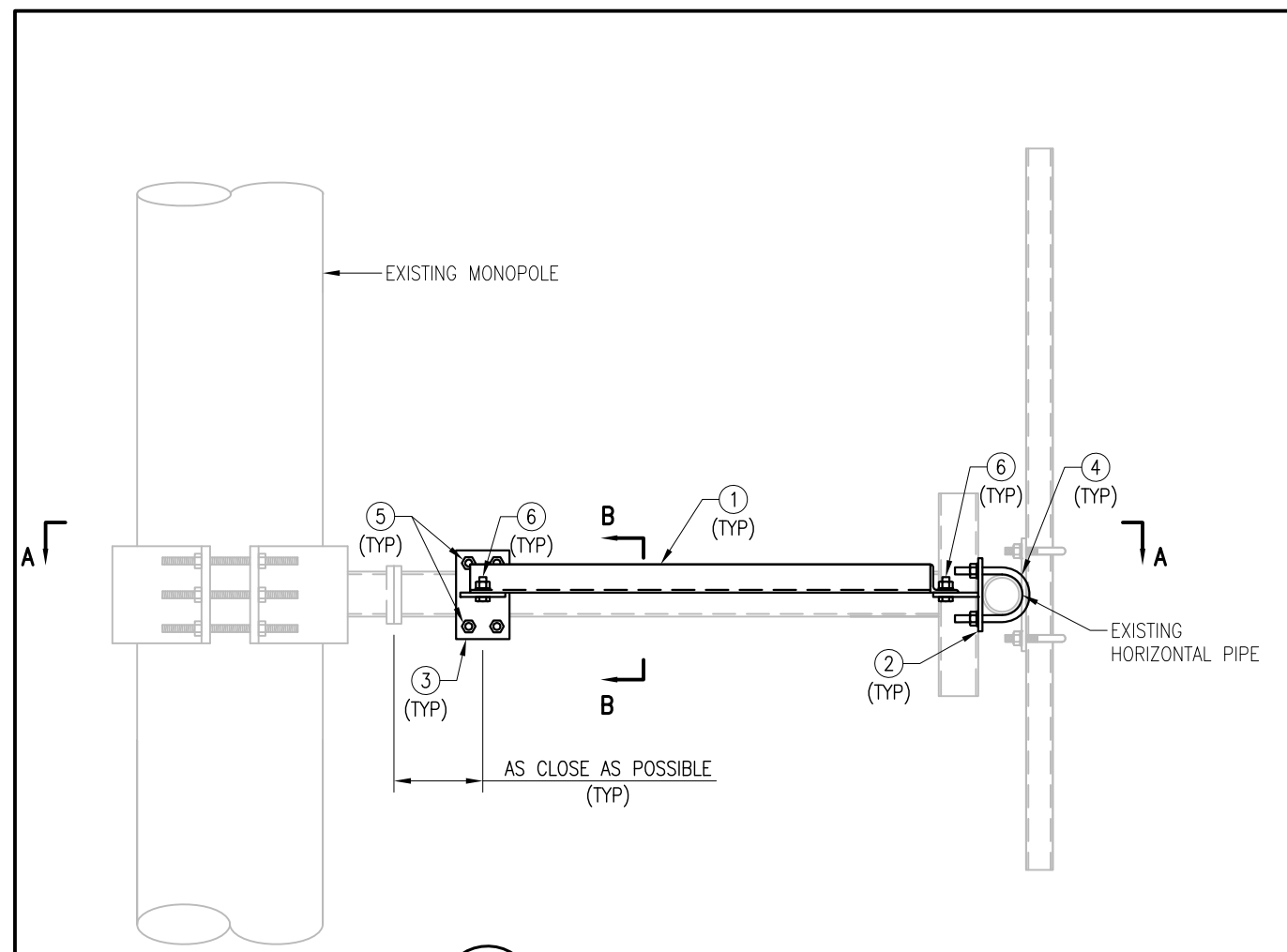
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SHEET NUMBER: | REV #:

D-1 | 0



ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	6	L252525-8	L 2 1/2" X 2 1/2" X 1/4" X 8'-0" A36
2	6	BRKW-3S	WELDMENT BRACKET
3	6	BRKW-5VB	WELDMENT BRACKET
4	12	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)
5	12	--	THREADED ROD 5/8" X 8" A36
6	12	--	BOLT 5/8" X 2" A325
7	6	MS02-500-4625-700	RU-BOLT 1/2" X 4 5/8" I.W. X 7" I.L. A36 (OR EQUIV.)

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NOTES:  
1. HOT-DIPPED GALVANIZED PER ASTM A123.  
2. ALL HOLES ARE 11/16" DIA. U.N.O





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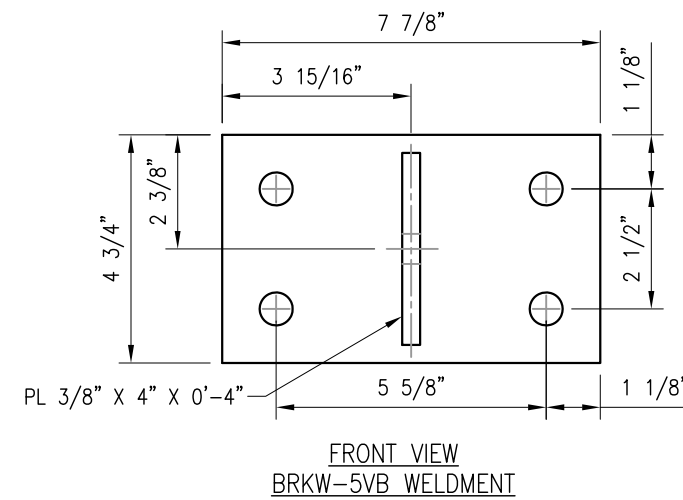
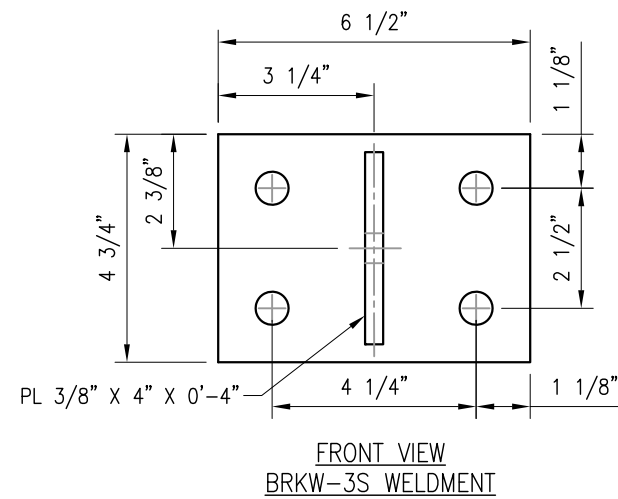
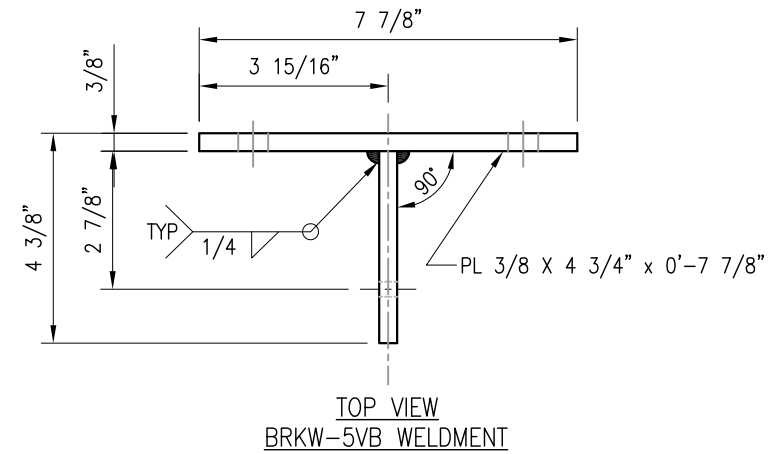
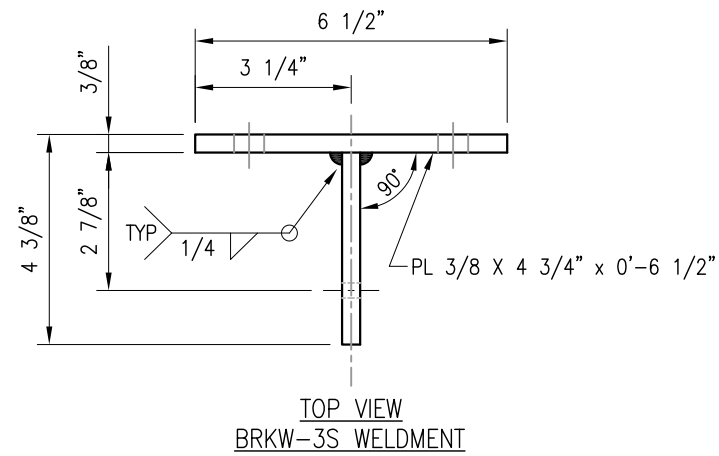
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D-2 0

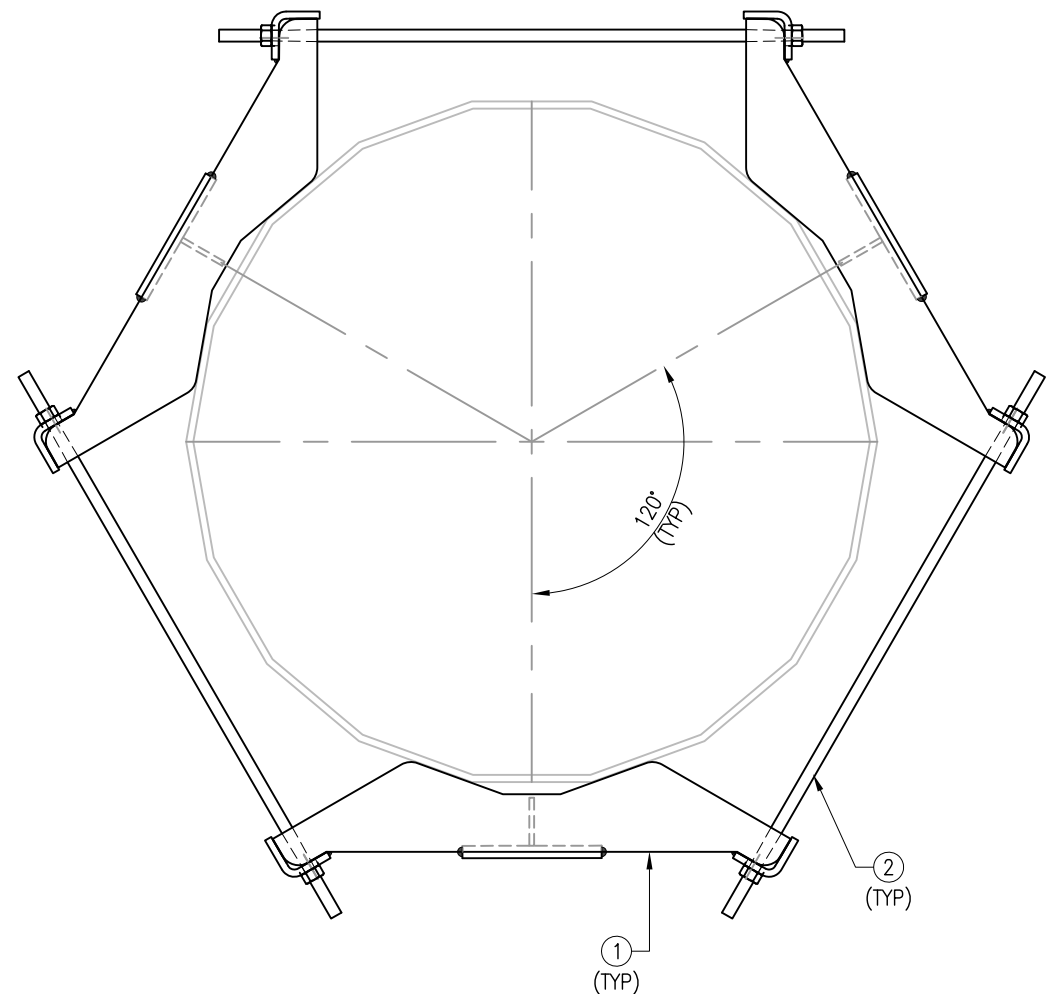
- NOTES:
- HOT-DIPPED GALVANIZED PER ASTM A123.
  - ALL HOLES ARE 11/16" DIA. U.N.O

THE FOLLOWING DRAWINGS ARE INCLUDED FOR REFERENCE ONLY  
PLEASE REFER TO THE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION DETAILS

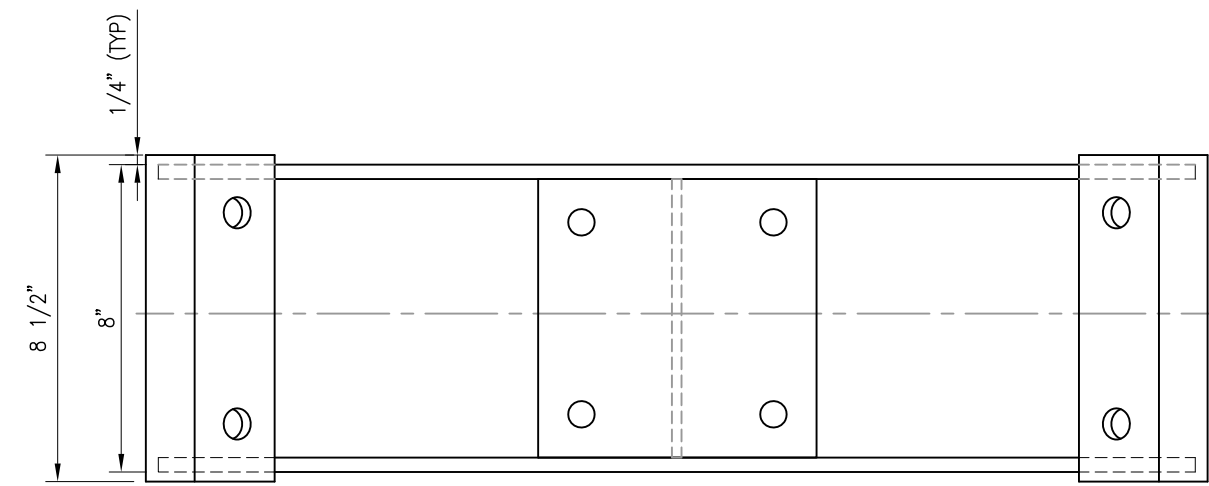
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	3	MPHW-1	MOUNT PLATE WELDMENT A36
2	6	---	THREADED ROD 3/4" X 2'-4 3/4" W/ 2 HHN & LW EA A36

GALVANIZED WEIGHT: 136.7 LBS

NOTE:  
1) FITS 12" DIA TO 32" DIA.



TOP VIEW

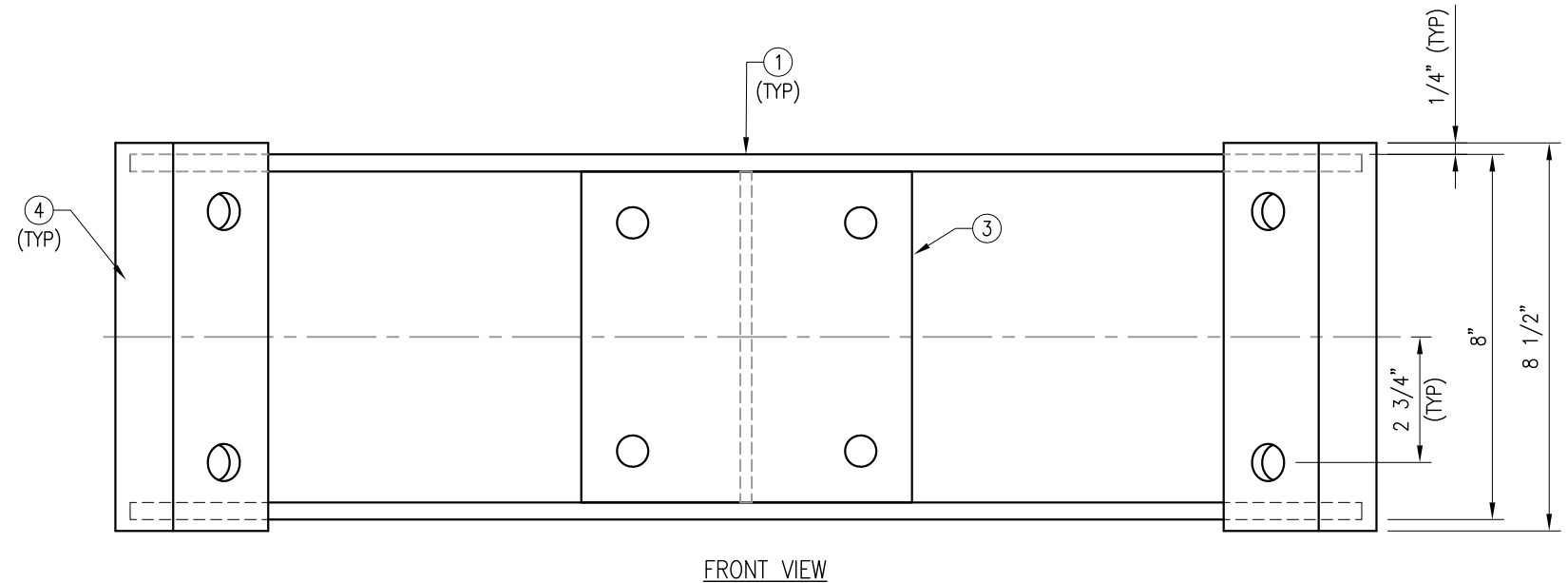
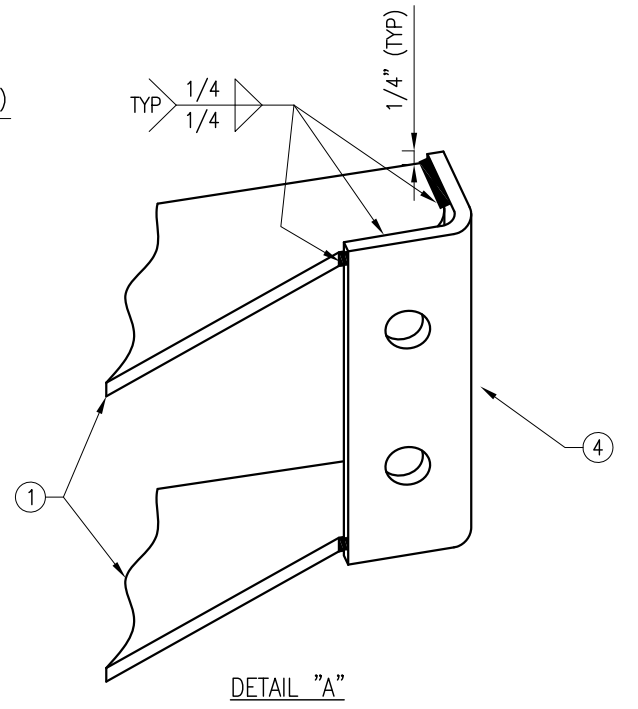
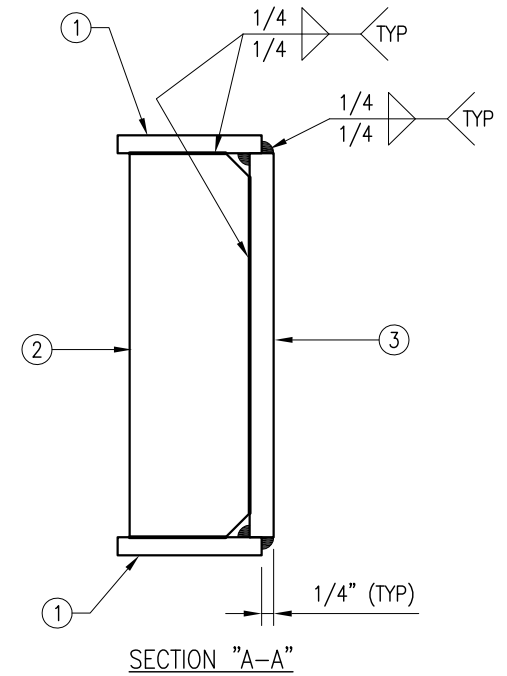
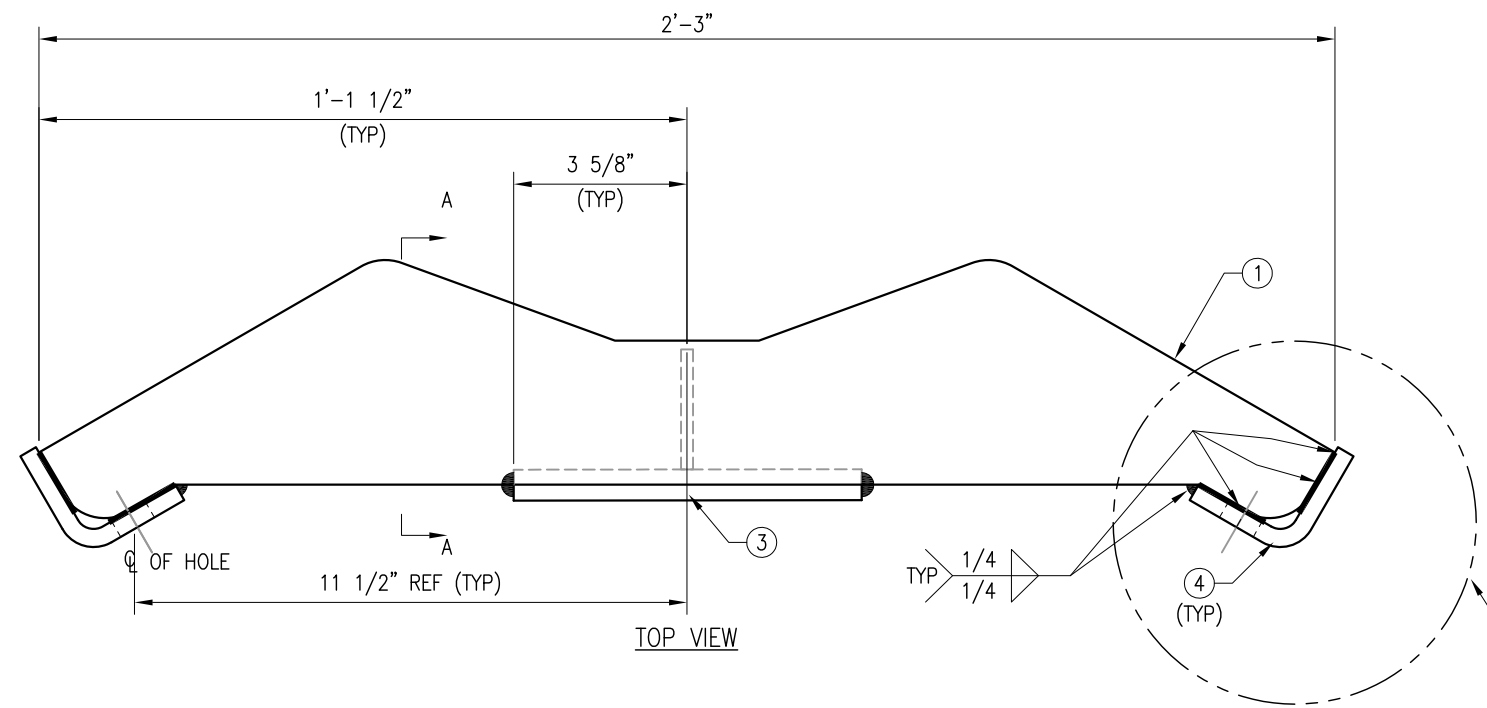


FRONT VIEW

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH		THIRD ANGLE PROJECTION 				METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529	
STANDARD SHEET TOLERANCES DECIMALS .X ± 0.1 .XX ± 0.02 .XXX ± 0.005		ANGLES ± 1° FRACTIONS ± 1/32		CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC		TITLE <b>HEAVY COLLAR MOUNT PLATE          ASSEMBLY DETAIL MS-H1436</b>	
APPROVAL / SIGNATURES DRAWN BY: XXX REVIEWED: XXX APPROVED: XXX		DATE 05/12/17 - -		SIZE/DWG NO <b>B MS-H1436</b>		REV <b>1</b>	
SCALE -		SHEET 1 OF 1					

- NOTES:  
 1. HOT-DIPPED GALVANIZED PER ASTM A123.  
 2. WELD TYPE: E70XX.

MPHW-1 WELDMENT						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	2	PL-4	PL 3/8" X 5 3/8" X 2'-3"	A36	F-2	18.8
2	1	PL-5	PL 3/8" X 2 1/2" X 0'-7 1/4"	A36	F-2	1.9
3	1	PL-6	PL 1/2" X 7 1/4" X 0'-7 1/4"	A36	F-2	7.5
4	2	PL-7	PL 3/8" X 4 3/8" X 8 1/2"	A36	F-2	7.8
BLACK WT						36
GALVANIZED WT						38

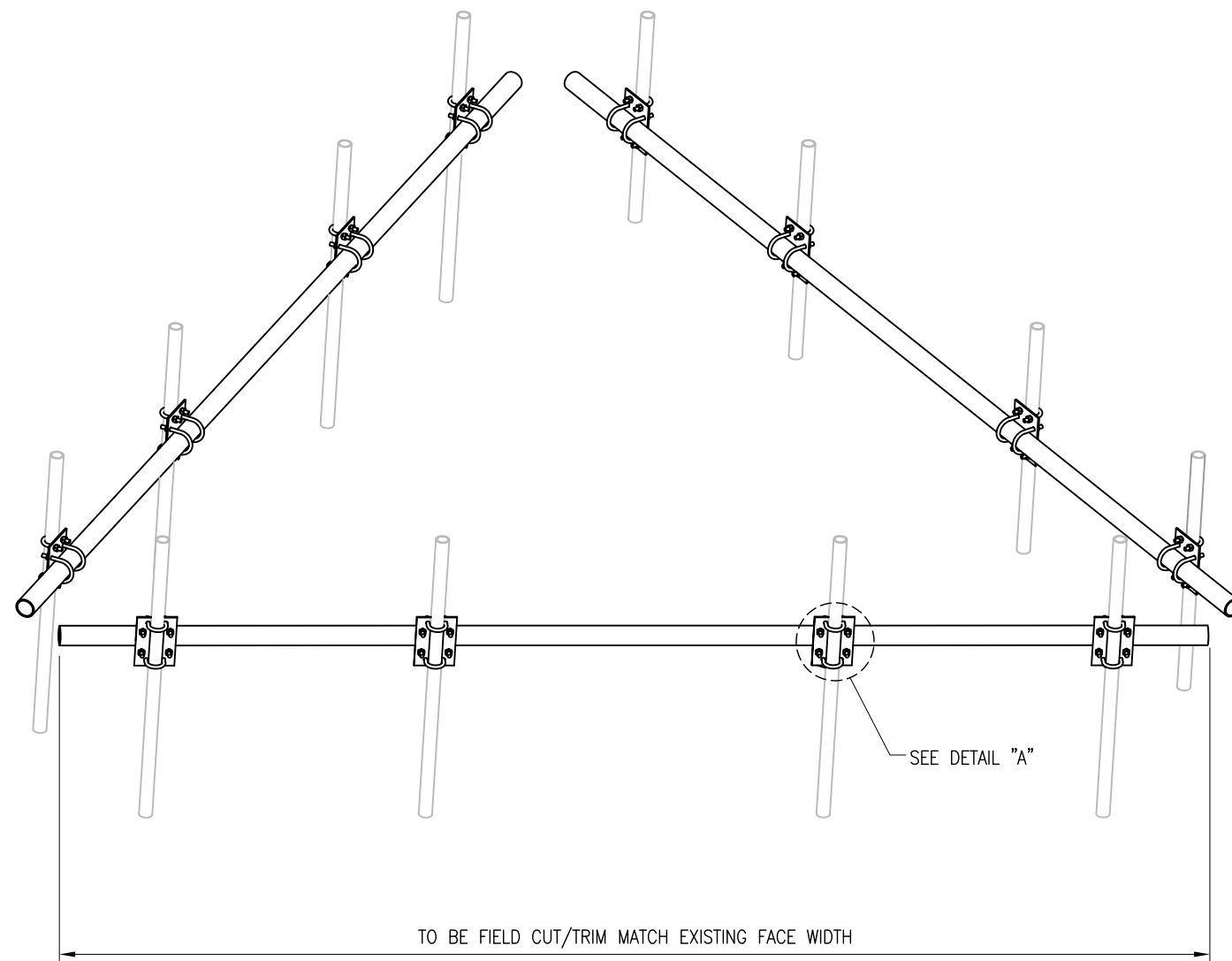


FRONT VIEW  
 MPW-1 WELDMENT

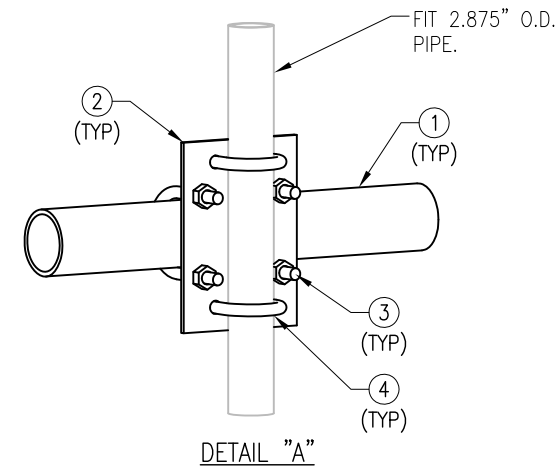
THIRD ANGLE PROJECTION						METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH				CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC			
STANDARD SHEET TOLERANCES DECIMALS .X ± 0.1 .XX ± 0.02 .XXX ± 0.005				ANGLES ± 1° FRACTIONS ± 1/32		APPROVAL / SIGNATURES DRAWN BY: XXX REVIEWED: XXX APPROVED: XXX	
				DATE 05/12/17		TITLE <b>HEAVY COLLAR MOUNT PLATE WELDMENT DETAIL</b>	
				SIZE/DWG NO <b>B MPHW-1</b>		REV 0	
				SCALE -		SHEET 1 OF 1	

MS-HR35-2875

ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	3	3PST-216	3" PST (3.50" O.D X .216" THICK) X 18'-0"	A53 GR-B	HR35-18	430.2
2	12	PL350-2875	PL 3/8" X 7 1/8" X 10"	A36	TAF-2	92.4
3	24	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
4	24	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
GALVANIZED WT						523



ELEVATION VIEW



DETAIL "A"

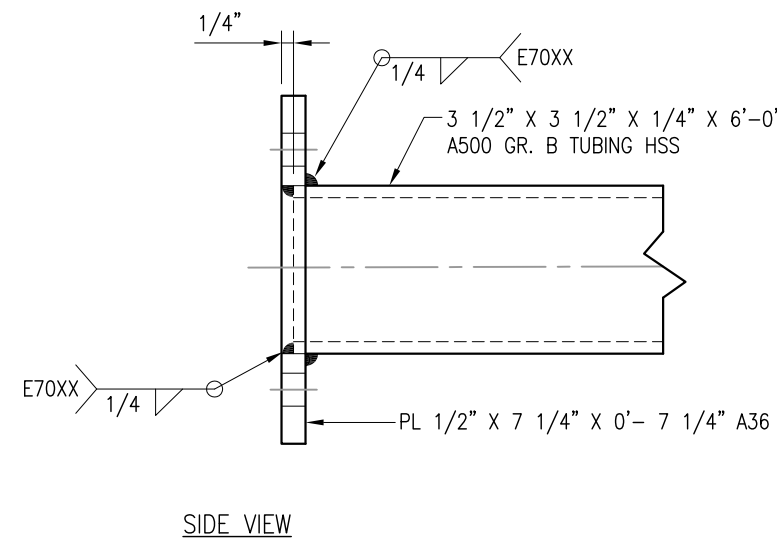
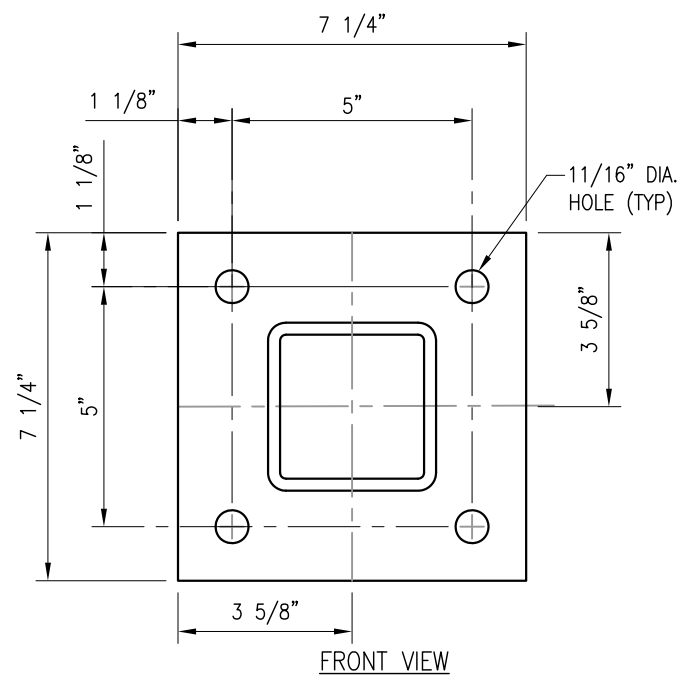
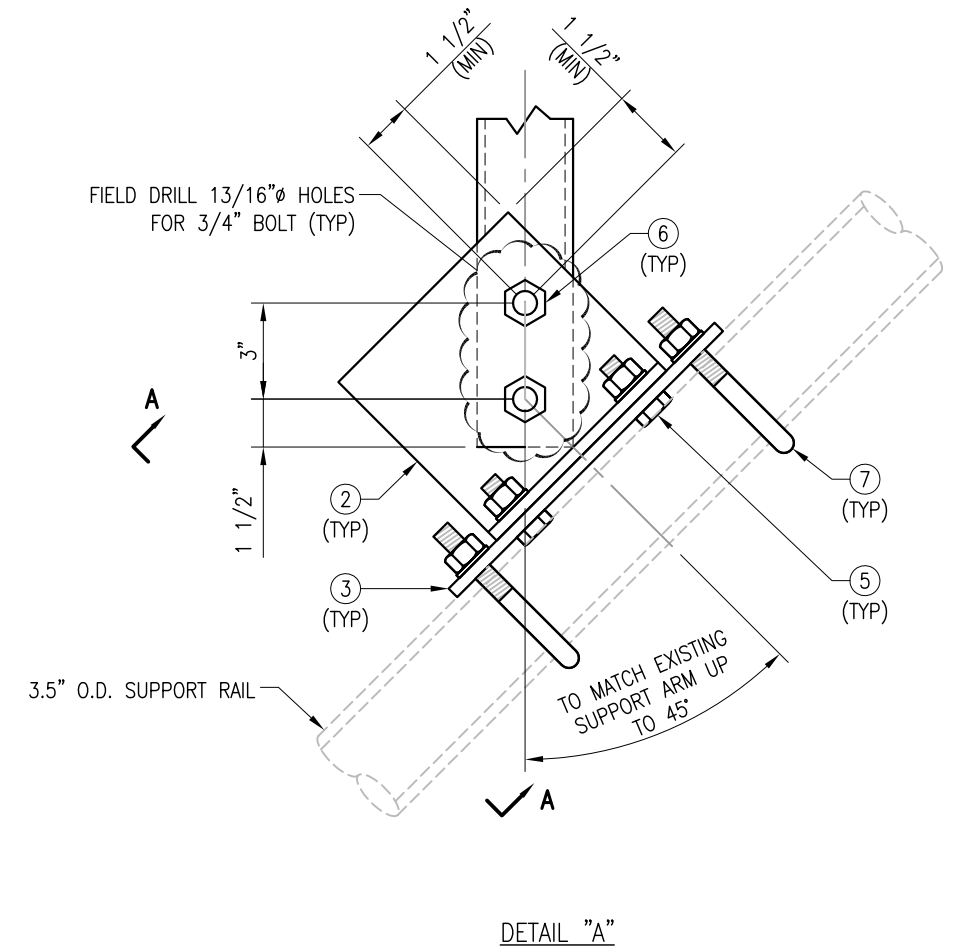
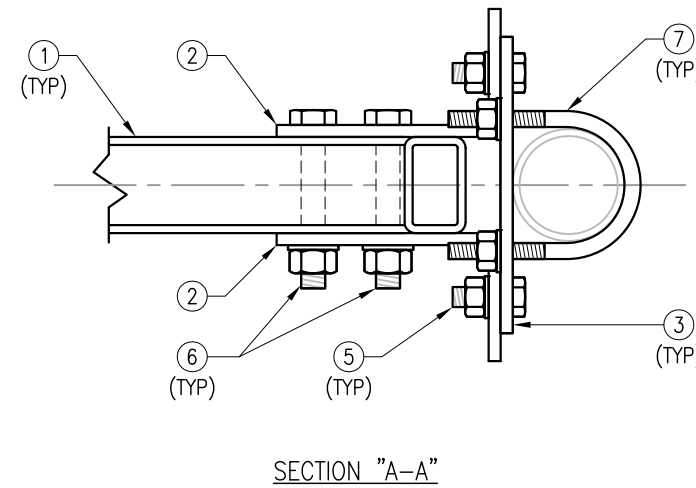
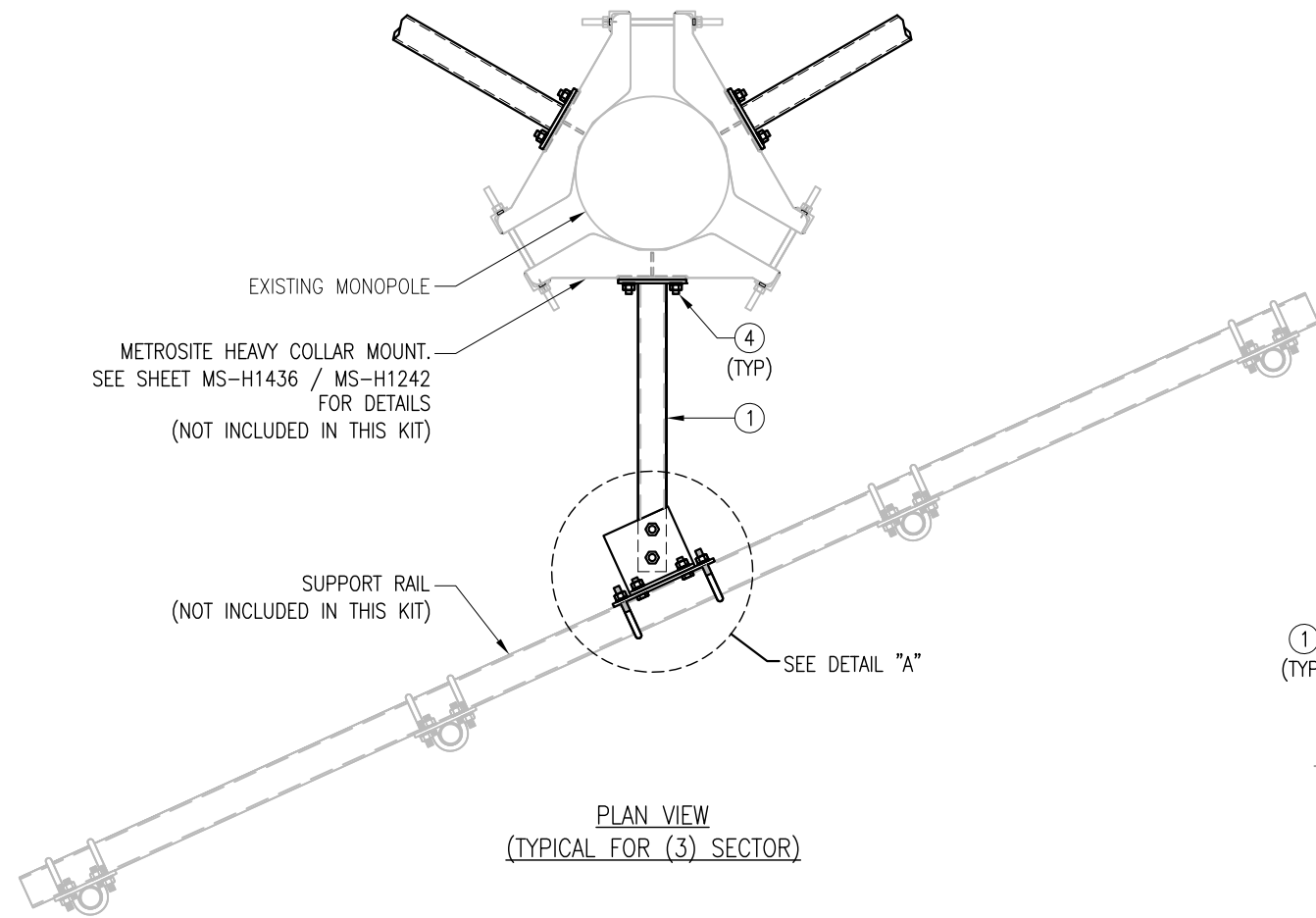
NOTES:

1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT-DIPPED GALVANIZED PER ASTM A123.

THIRD ANGLE PROJECTION			METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH		CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC		
STANDARD SHEET TOLERANCES		APPROVAL / SIGNATURES		DATE
DECIMALS	ANGLES	DRAWN BY: XXX	REVIEWED: XXX	05/12/17
.X ± 0.1	± 1°			
.XX ± 0.02	FRACTIONS			
.XXX ± 0.005	± 1/32	APPROVED: XXX		
		<b>MS-HR35-2875</b> <b>SUPPORT RAIL KIT</b>		TITLE <b>B MS-HR35-2875</b>
		SCALE: -		SHEET 1 OF 1

REV 0

ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	3	TAW35-6	T-ARM WELDMENT	A36	TAW35-6	300
2	6	TARM-CPL-750	PL 3/8" X 7 1/2" X 9 7/16" A36 BENT PLATE	A36	BK-5	47.4
3	3	TARM-CPL-1175-35	PL 3/8" X 9 1/4" X 11 3/4"	A36	BK-5	37.1
4	12	---	BOLT 5/8" X 2 1/4" A325 W/ HHN & LKW EA.	A325	---	---
5	12	---	BOLT 5/8" X 2" A325 W/ HHN & LKW EA.	A325	---	---
6	6	---	BOLT 3/4" X 5 1/2" A325 W/ HHN & LKW EA.	A325	---	---
7	6	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	---	RBC-1	8.7
GALVANIZED WT						39.3



- NOTES:
- HOT-DIPPED GALVANIZED PER ASTM A123.
  - ALL HOLES ARE 11/16" DIA. U.N.O

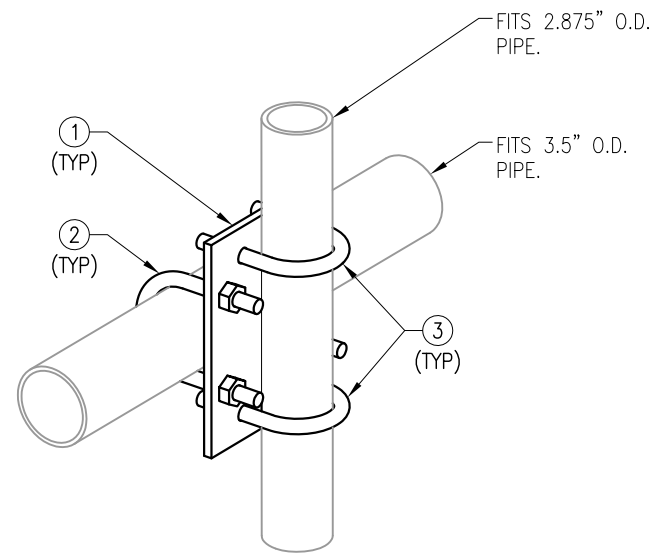
THIRD ANGLE PROJECTION			METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529	
			TITLE <b>ROTATABLE T-ARM KIT</b>	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH		CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC		SIZE DWG NO <b>B MS-TAW35-350RO</b>
STANDARD SHEET TOLERANCES DECIMALS .X ± 0.1 .XX ± 0.02 .XXX ± 0.005		APPROVAL / SIGNATURES DRAWN BY: XXX REVIEWED: XXX APPROVED: XXX		DATE 11/19/18 - -
ANGLES ± 1° FRACTIONS ± 1/32		SCALE -		REV 1
			SHEET 1 OF 1	

**NOTES:**

1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT-DIPPED GALVANIZED PER ASTM A123.

MS-HRCP-35-2875

ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	1	PL350-2875	PL 3/8" X 7 1/8" X 10"	A36	TAF-2	7.7
2	2	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	A36	RBC-1	1.5
3	2	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	A36	RBC-1	1.4
					GALVANIZED WT	11



MS-HRCP-35-2875

<p>THIRD ANGLE PROJECTION</p>			<p>METROSITE FABRICATORS LLC 180 INDUSTRIAL PARK BLVD. COMMERCE GA 30529</p>									
<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH</p>			<p>CONFIDENTIAL ALL INFORMATION ON THIS DOCUMENT IS PROPERTY OF METROSITE FABRICATORS LLC</p>									
<p>STANDARD SHEET TOLERANCES</p> <table border="1"> <tr> <td>DECIMALS</td> <td>ANGLES</td> </tr> <tr> <td>.X ± 0.1</td> <td>± 1°</td> </tr> <tr> <td>.XX ± 0.02</td> <td>FRACTIONS</td> </tr> <tr> <td>.XXX ± 0.005</td> <td>± 1/32</td> </tr> </table>		DECIMALS	ANGLES	.X ± 0.1	± 1°	.XX ± 0.02	FRACTIONS	.XXX ± 0.005	± 1/32	<p>APPROVAL / SIGNATURES</p> <p>DRAWN BY: XXX</p> <p>REVIEWED: XXX</p> <p>APPROVED: XXX</p>	<p>DATE</p> <p>05/12/17</p> <p>-</p> <p>-</p>	<p>TITLE</p> <p><b>MS-HRCP-35-2875</b> <b>SUPPORT RAIL CENTER PIPE KIT</b></p>
DECIMALS	ANGLES											
.X ± 0.1	± 1°											
.XX ± 0.02	FRACTIONS											
.XXX ± 0.005	± 1/32											
		<p>SIZE/DWG NO</p> <p><b>B MS-HRCP-35-2875</b></p>	<p>SCALE</p> <p>-</p>	<p>REV</p> <p>0</p>								
				<p>SHEET 1 OF 1</p>								

# EXHIBIT 8





**Tower Engineering Solutions**

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

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## Structural Analysis Report

**Existing 180 ft Valmont Monopole**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT46130-A**

**Customer Site Name: Deep River-winthrop Rd**

**Carrier Name: T-Mobile (App#: 116674-3, V#3)**

**Carrier Site ID / Name: CT11408A / Deep River**

**Site Location: 220 Winthrop Rd**

**Deep River, Connecticut**

**Middlesex County**

**Latitude: 41.365872**

**Longitude: -72.474849**

### Analysis Result:

**Max Structural Usage: 92.3% [Pass]**

**Max Foundation Usage: 81.9% [Pass]**

**Additional Usage Caused by Mount Modification: +2.62%**



**Report Prepared By: Mukunda Pokharel**

## Introduction

The purpose of this report is to summarize the analysis results on the 180 ft Valmont Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

## Sources of Information

<b>Tower Drawings</b>	Original structural design report & permit drawings prepared by Valmont. Dated 10-27-2000. Order No 17593-98. CT750 Deep River Site. Project No F082. Previous structural report prepared by FDH Engineering, Inc. Dated 11-04-2013. Project No 13SFRX1400.
<b>Foundation Drawing</b>	Original foundation drawings prepared by Valmont Industries, Inc. Dated 08-11-1998. Project No 2633. Order No 17593-98. Drawing No 2633-F.
<b>Geotechnical Report</b>	Geotechnical report prepared by TECTONIC Engineering Consultants, P.C. Dated 07-13-1998. Work Order No 1170.C750.
<b>Previous SA</b>	TES. Dated 12/05/2019. Project No 90244.
<b>Modification Drawings</b>	N/A
<b>Mount Analysis</b>	TES. Dated 08/12/2019. Project No 81715.

## Analysis Criteria

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

<b>Wind Speed Used in the Analysis:</b>	123.0 mph (3-Sec. Gust) (Ultimate wind speed)
<b>Wind Speed with Ice:</b>	50 mph (3-Sec. Gust) with 1" radial ice concurrent
<b>Service Load Wind Speed:</b>	60 mph + 0" Radial ice
<b>Standard/Codes:</b>	TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
<b>Exposure Category:</b>	C
<b>Risk Category:</b>	II
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Seismic Parameters:</b>	$S_5 = 0.21$ , $S_1 = 0.054$

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

## Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	178.0	6	JMA MX06FRO660-03 - Panel	Platform w/ Handrails (3) 91900314	(2) 1 5/8" Hybrid	Verizon
2		3	Samsung B5/B13 RRH BR04C			
3		3	Samsung B2/B66A RRH BR049			
4		1	Raycap RRFDS-6627-PF48			
5	166.0	3	RFS APXVTM14-C-I20 - Panel	Platform w/Handrails + Sitepro PRK-1245L + handrail kit + Sitepro PRK-SFS-H-L]	(4) 1-1/4" Hybrid	Sprint Nextel
6		3	Commscope NNVV-65B-R4 - Panel			
7		3	ALU 1900 Mhz			
8		6	ALU 800 Mhz			
9		3	ALU TD-RRH8x20-25			
-	158.0	6	EMS RR90-17-02DP - Panel	(3) T-Arms	(6) 1 5/8"	T-Mobile
-		6	Airtech PCS 1900 G3 TMAs			
15	150.0	2	Cci HPA-65R-BUU-H6- Panel	Low Profile Platform w/ Handrail kit HRK-12	(12) 1 1/4"; [(1) 10 mm & (2) 19.7 mm inside (1) 3" Innerduct]	AT&T
16		1	Commscope SBNHH-1D65A- Panel			
17		3	Ericsson RRUS-32- RRU			
18		2	KMW AM-X-CD-16-65-00T-RET Panel			
19		3	Powerwave 7770 - Panel			
20		1	KMW AM-X-CD-14-65-00T- Panel			
21		6	Powerwave LGP21401 TMA			
22		3	Ericsson RRUS-11- RRU			
23		1	Raycap DC6-48-60-18-8F Surge			

## 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
10	160.0	3	EMS - RR90-17-02VDPL2/-R - Panel	(3) T-Arms w/ Reinforcements	(12) 1 5/8" Coax (1) 1 5/8" Fiber	T-Mobile
11		3	RFS - APXVAARR24_43-U-NA20 - Panel			
12		3	Ericsson - KRY 112 489/2 - TMA			
13		3	Ericsson - KRY 112 144/2 - TMA			
14		3	Ericsson - Radio 4449 B71+B12 - RRU			

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

## **Analysis Results**

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	<b>92.3%</b>	<b>80.0%</b>	<b>61.1%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## **Foundations**

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	5857.2	47.8	59.6

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

## **Service Load Condition (Rigidity):**

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.7436 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 92.28% at 0.0ft

**Structure:** CT46130-A-SBA  
**Site Name:** Deep River-winthrop Rd  
**Height:** 180.00 (ft)  
**Base Elev:** 0.000 (ft)

**Code:** EIA/TIA-222-H  
**Exposure:** C  
**Gh:** 1.1

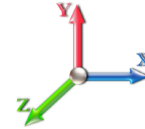
10/30/2020



Page: 1

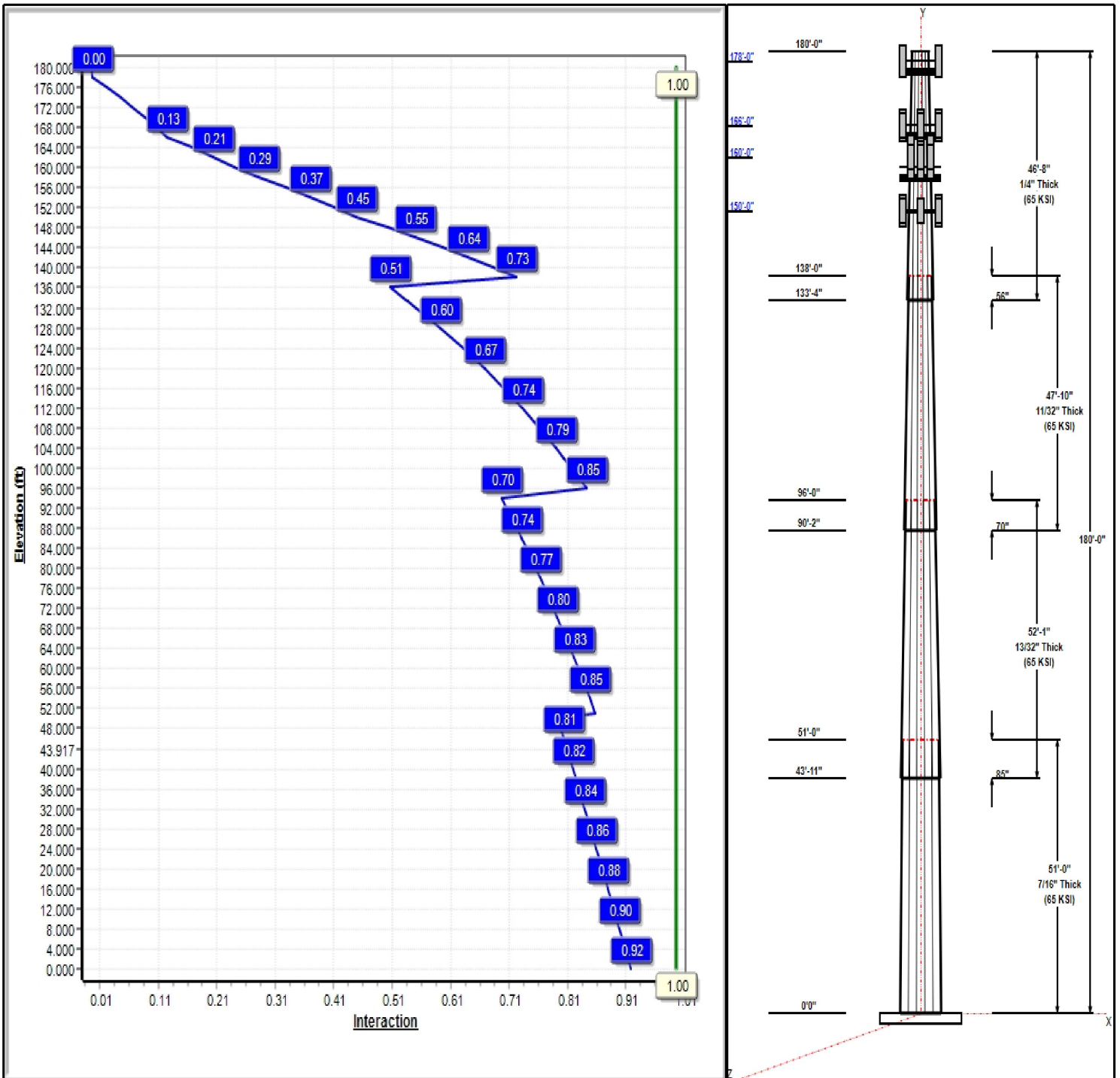
**Dead Load Factor:** 1.20  
**Wind Load Factor:** 1.00

**Load Case : 1.2D + 1.0W 123 mph Wind**



**Iterations:** 29

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## Structure: CT46130-A-SBA

**Type:** Tapered  
**Site Name:** Deep River-winthrop Rd  
**Height:** 180.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 12 Sided  
**Taper:** 0.24800

10/30/2020



Page: 2

### Shaft Properties

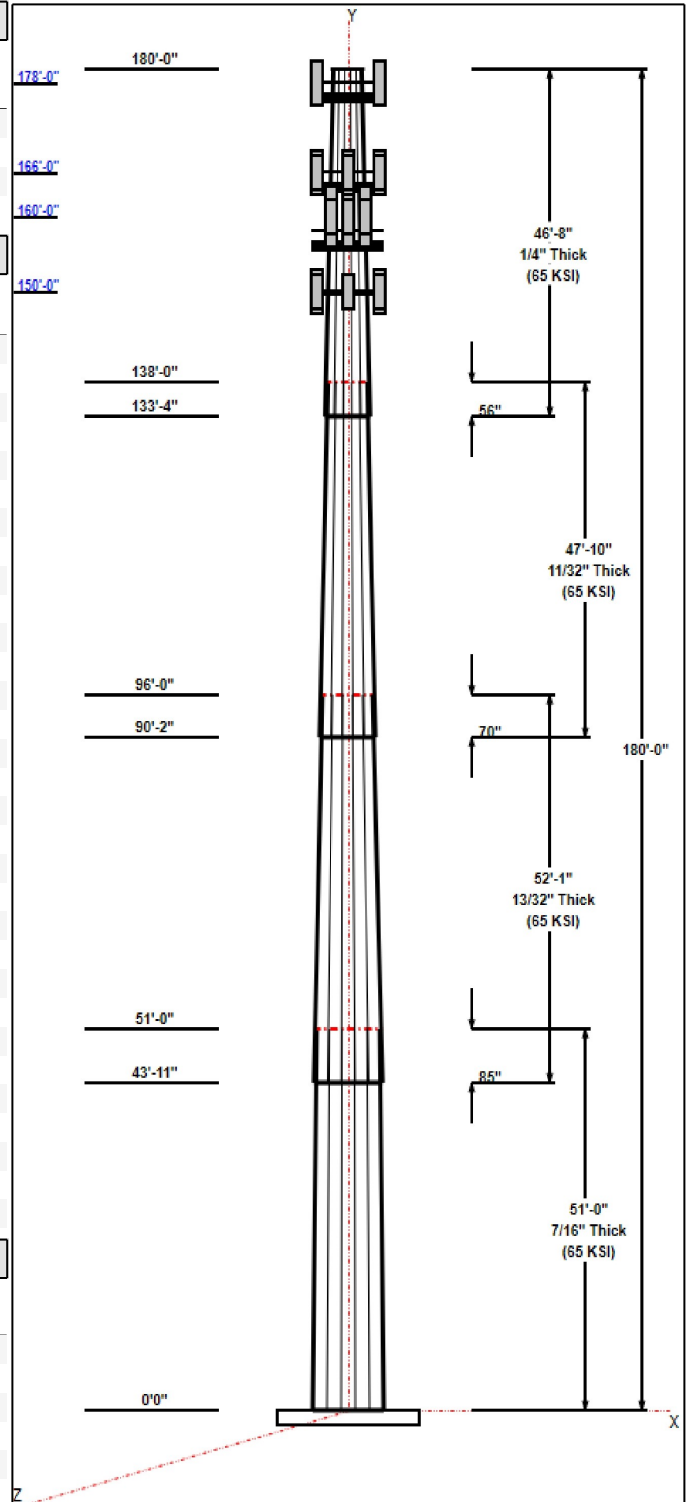
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	51.00	49.35	62.00	0.438		0.24800	65
2	52.08	39.00	51.92	0.406	Slip	0.24800	65
3	47.83	29.28	41.14	0.344	Slip	0.24800	65
4	46.67	19.36	30.93	0.250	Slip	0.24800	65

### Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
178.00	178.00	6	JMA MX06FRO660-03	Verizon
178.00	178.00	3	Samsung B2/B66A RRH	Verizon
178.00	178.00	3	Samsung B5/B13 RRH	Verizon
178.00	178.00	1	Raycap	Verizon
178.00	178.00	1	Platform w/ Handrails w/	Verizon
166.00	166.00	3	RFS APXVTM14-C-I20	Sprint Nextel
166.00	166.00	3	Commscope	Sprint Nextel
166.00	166.00	3	ALU 1900 Mhz	Sprint Nextel
166.00	166.00	6	ALU 800 Mhz	Sprint Nextel
166.00	166.00	3	ALU TD-RRH8x20-25	Sprint Nextel
166.00	166.00	1	Sitepro	Sprint Nextel
166.00	166.00	1	Sitepro	Sprint Nextel
166.00	166.00	1	Platform w/ Hand Rails	Sprint Nextel
160.00	160.00	3	APXVAARR24_43-U-NA20	T-Mobile
160.00	160.00	3	KRY 112 489/2	T-Mobile
160.00	160.00	3	KRY 112 144/2	T-Mobile
160.00	160.00	3	4449 B71+B12	T-Mobile
160.00	160.00	3	RR90-17-00VDPL2/-R	T-Mobile
158.00	158.00	3	T-Arms	T-Mobile
158.00	158.00	1	T-Arm Kit	T-Mobile
158.00	158.00	1	V-Brace	T-Mobile
150.00	150.00	2	KMW AM-X-CD-16-65-00T	AT&T
150.00	150.00	3	Powerwave 7770	AT&T
150.00	150.00	1	KMW AM-X-CD-14-65-00T	AT&T
150.00	150.00	6	Powerwave LGP21401	AT&T
150.00	150.00	3	Ericsson RRUS-11	AT&T
150.00	150.00	1	Raycap DC6-48-60-18-8F	AT&T
150.00	150.00	1	Platform w/ Hand Rail	AT&T
150.00	150.00	2	Cci HPA-65R-BUU-H6	AT&T
150.00	150.00	1	SBNHH-1D65A	AT&T
150.00	150.00	3	RRUS-32	AT&T

### Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	180.00	Outside	Safety Cable	
0.00	180.00	Outside	Step bolts (ladder)	
3.00	178.00	Inside	1 5/8" Hybrid	Verizon
3.00	166.00	Inside	1-1/4" Hybrid	Sprint Nextel
3.00	160.00	Inside	1 5/8" Coax	T-Mobile
3.00	160.00	Inside	1 5/8" Fiber	T-Mobile
3.00	150.00	Inside	1 1/4" Coax	AT&T
3.00	150.00	Inside	10 mm Fiber	AT&T
3.00	150.00	Inside	19.7 mm DC	AT&T
3.00	150.00	Inside	3" Innerduct	AT&T







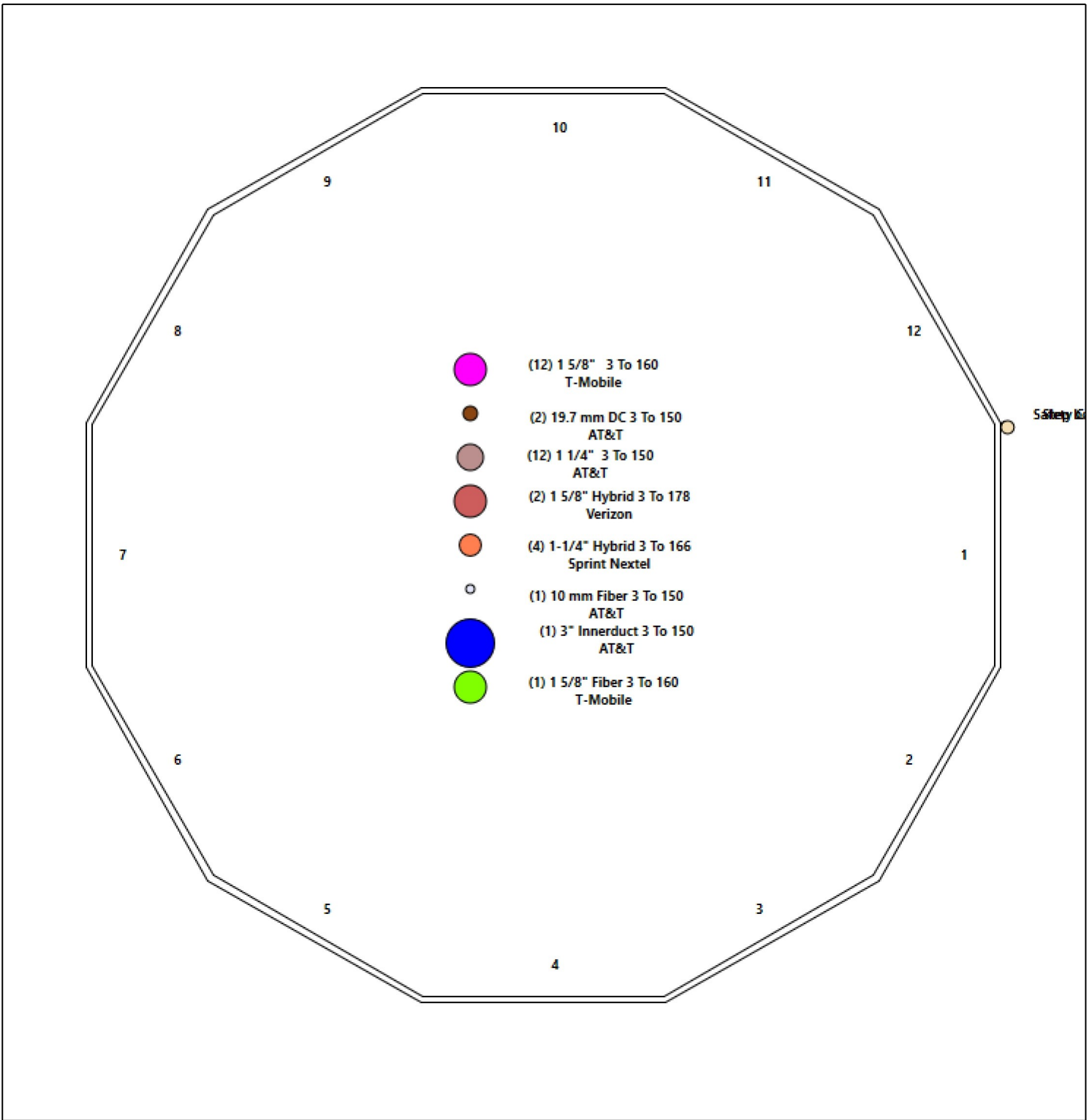
# Structure: CT46130-A-SBA - Coax Line Placement

**Type:** Monopole  
**Site Name:** Deep River-winthrop Rd  
**Height:** 180.00 (ft)

10/30/2020



Page: 4



## Shaft Properties

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	12	51.000	0.4375	65		0.00	13,505
2	12	52.083	0.4063	65	Slip	85.00	10,446
3	12	47.833	0.3438	65	Slip	70.00	6,281
4	12	46.667	0.2500	65	Slip	56.00	3,183
<b>Total Shaft Weight:</b>							<b>33,414</b>

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	62.00	0.00	86.73	41953.54	35.83	141.71	49.35	51.00	68.91	21044.2	28.08	112.8	0.248000
2	51.92	43.92	67.39	22826.23	32.10	127.81	39.00	96.00	50.49	9601.48	23.58	96.01	0.248000
3	41.14	90.17	45.15	9591.86	29.92	119.68	29.28	138.00	32.02	3421.62	20.68	85.17	0.248000
4	30.93	133.3	24.70	2968.17	31.01	123.73	19.36	180.00	15.38	717.07	18.61	77.44	0.248000

## Load Summary

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



Page: 6

### Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	178.00	JMA MX06FRO660-03	6	60.00	9.87	0.82	232.86	10.736	0.82	0.00	0.00
2	178.00	Samsung B2/B66A RRH BR049	3	84.40	1.88	0.67	168.63	2.475	0.67	0.00	0.00
3	178.00	Samsung B5/B13 RRH BR04C	3	70.30	2.22	0.67	109.57	2.640	0.67	0.00	0.00
4	178.00	Raycap RRFDS-6627-PF48	1	32.00	2.61	1.00	82.34	3.046	1.00	0.00	0.00
5	178.00	Platform w/ Handrails w/ 91900314	1	2202.20	40.00	1.00	3766.06	54.203	1.00	0.00	0.00
6	166.00	RFS APXVTM14-C-I20	3	56.20	6.34	0.77	157.19	7.074	0.77	0.00	0.00
7	166.00	Commscope NNVV-65B-R4	3	77.40	12.27	0.74	269.71	13.251	0.74	0.00	0.00
8	166.00	ALU 1900 Mhz	3	44.00	3.80	0.67	117.52	4.736	0.67	0.00	0.00
9	166.00	ALU 800 Mhz	6	53.00	2.49	0.50	102.81	3.260	0.50	0.00	0.00
10	166.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.67	139.42	4.583	0.67	0.00	0.00
11	166.00	Sitepro	1	230.00	6.70	1.00	446.26	11.425	1.00	0.00	0.00
12	166.00	Sitepro	1	406.61	7.00	1.00	731.58	11.607	1.00	0.00	0.00
13	166.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	3410.39	54.104	1.00	0.00	0.00
14	160.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	396.79	21.499	0.70	0.00	0.00
15	160.00	KRY 112 489/2	3	15.40	0.65	0.67	27.22	1.061	0.67	0.00	0.00
16	160.00	KRY 112 144/2	3	15.40	0.65	0.67	27.22	1.061	0.67	0.00	0.00
17	160.00	4449 B71+B12	3	70.00	1.65	0.67	112.02	1.998	0.67	0.00	0.00
18	160.00	RR90-17-00VDPL2-R	3	13.50	4.36	0.68	73.39	4.998	0.68	0.00	0.00
19	158.00	T-Arms	3	350.00	8.00	0.75	513.74	12.678	0.75	0.00	0.00
20	158.00	T-Arm Kit	1	500.00	16.50	1.00	897.64	27.306	1.00	0.00	0.00
21	158.00	V-Brace	1	197.00	6.30	1.00	381.32	10.721	1.00	0.00	0.00
22	150.00	KMW AM-X-CD-16-65-00T	2	48.50	8.02	0.75	156.69	9.883	0.75	0.00	0.00
23	150.00	Powerwave 7770	3	35.00	5.51	0.73	118.38	6.195	0.73	0.00	0.00
24	150.00	KMW AM-X-CD-14-65-00T	1	36.40	7.05	1.00	110.75	8.812	1.00	0.00	0.00
25	150.00	Powerwave LGP21401 TMA's	6	14.10	1.22	0.50	30.77	1.747	0.50	0.00	0.00
26	150.00	Ericsson RRUS-11	3	50.70	2.52	0.67	100.19	2.942	0.67	0.00	0.00
27	150.00	Raycap DC6-48-60-18-8F	1	31.80	1.81	0.67	73.02	2.385	0.67	0.00	0.00
28	150.00	Platform w/ Hand Rail	1	1600.00	35.00	1.00	2999.90	55.361	1.00	0.00	0.00
29	150.00	Cci HPA-65R-BUU-H6	2	51.00	9.66	0.85	207.49	10.552	0.85	0.00	0.00
30	150.00	SBNHH-1D65A	1	33.50	5.88	1.00	132.07	6.584	1.00	0.00	0.00
31	150.00	RRUS-32	3	77.00	3.87	0.67	147.59	3.829	0.67	0.00	0.00
<b>Totals:</b>			<b>78</b>	<b>11,703.01</b>			<b>23,394.04</b>				

### Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	180.00	(1) Safety Cable	0.00	Outside
0.00	180.00	(1) Step bolts (ladder)	0.00	Outside
3.00	178.00	(2) 1 5/8" Hybrid	0.00	Inside
3.00	166.00	(4) 1-1/4" Hybrid	0.00	Inside
3.00	160.00	(12) 1 5/8" Coax	0.00	Inside
3.00	160.00	(1) 1 5/8" Fiber	0.00	Inside
3.00	150.00	(12) 1 1/4" Coax	0.00	Inside
3.00	150.00	(1) 10 mm Fiber	0.00	Inside
3.00	150.00	(2) 19.7 mm DC	0.00	Inside
3.00	150.00	(1) 3" Innerduct	0.00	Inside

## Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		

## Shaft Section Properties

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Increment Length:** 2 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in <sup>3</sup> )	Weight (lb)
0.00		0.4375	62.000	86.726	41953.5	35.83	141.71	65.6	1307.	0.0
2.00		0.4375	61.504	86.027	40947.6	35.52	140.58	66.0	1286.	587.8
4.00		0.4375	61.008	85.329	39958.0	35.22	139.45	66.3	1265.	583.1
6.00		0.4375	60.512	84.630	38984.4	34.92	138.31	66.6	1244.	578.3
8.00		0.4375	60.016	83.931	38026.7	34.61	137.18	67.0	1224.	573.6
10.00		0.4375	59.520	83.232	37084.8	34.31	136.05	67.3	1203.	568.8
12.00		0.4375	59.024	82.534	36158.7	34.01	134.91	67.6	1183.	564.1
14.00		0.4375	58.528	81.835	35248.1	33.70	133.78	68.0	1163.	559.3
16.00		0.4375	58.032	81.136	34352.9	33.40	132.64	68.3	1143.	554.6
18.00		0.4375	57.536	80.438	33472.9	33.09	131.51	68.6	1123.	549.8
20.00		0.4375	57.040	79.739	32608.2	32.79	130.38	69.0	1104.	545.0
22.00		0.4375	56.544	79.040	31758.5	32.49	129.24	69.3	1085.	540.3
24.00		0.4375	56.048	78.341	30923.6	32.18	128.11	69.6	1065.	535.5
26.00		0.4375	55.552	77.643	30103.5	31.88	126.98	69.9	1046.	530.8
28.00		0.4375	55.056	76.944	29298.1	31.58	125.84	70.3	1028.	526.0
30.00		0.4375	54.560	76.245	28507.1	31.27	124.71	70.6	1009.	521.3
32.00		0.4375	54.064	75.546	27730.5	30.97	123.57	70.9	990.9	516.5
34.00		0.4375	53.568	74.848	26968.2	30.66	122.44	71.3	972.6	511.8
36.00		0.4375	53.072	74.149	26219.9	30.36	121.31	71.6	954.4	507.0
38.00		0.4375	52.576	73.450	25485.6	30.06	120.17	71.9	936.4	502.2
40.00		0.4375	52.080	72.751	24765.2	29.75	119.04	72.3	918.6	497.5
42.00		0.4375	51.584	72.053	24058.4	29.45	117.91	72.6	901.0	492.7
43.92	Bot - Section 2	0.4375	51.109	71.383	23393.9	29.16	116.82	72.9	884.3	467.7
44.00		0.4375	51.088	71.354	23365.3	29.15	116.77	72.9	883.5	39.3
46.00		0.4375	50.592	70.655	22685.6	28.84	115.64	73.3	866.2	939.4
48.00		0.4375	50.096	69.956	22019.2	28.54	114.51	73.6	849.1	930.3
50.00		0.4375	49.600	69.258	21365.9	28.23	113.37	73.9	832.2	921.1
51.00	Top - Section 1	0.4063	50.165	65.090	20569.8	30.94	123.48	0.0	0.0	457.1
52.00		0.4063	49.917	64.766	20263.8	30.78	122.87	71.1	784.2	220.9
54.00		0.4063	49.421	64.117	19660.8	30.45	121.65	71.5	768.5	438.6
56.00		0.4063	48.925	63.468	19070.0	30.13	120.43	71.9	753.0	434.1
58.00		0.4063	48.429	62.819	18491.1	29.80	119.21	72.2	737.6	429.7
60.00		0.4063	47.933	62.170	17924.0	29.47	117.99	72.6	722.4	425.3
62.00		0.4063	47.437	61.521	17368.7	29.14	116.77	72.9	707.3	420.9
64.00		0.4063	46.941	60.873	16824.9	28.82	115.55	73.3	692.4	416.5
66.00		0.4063	46.445	60.224	16292.6	28.49	114.32	73.6	677.7	412.1
68.00		0.4063	45.949	59.575	15771.7	28.16	113.10	74.0	663.1	407.6
70.00		0.4063	45.453	58.926	15262.0	27.84	111.88	74.4	648.7	403.2
72.00		0.4063	44.957	58.277	14763.4	27.51	110.66	74.7	634.4	398.8
74.00		0.4063	44.461	57.628	14275.7	27.18	109.44	75.1	620.3	394.4
76.00		0.4063	43.965	56.980	13799.0	26.85	108.22	75.4	606.3	390.0
78.00		0.4063	43.469	56.331	13332.9	26.53	107.00	75.8	592.5	385.6
80.00		0.4063	42.973	55.682	12877.5	26.20	105.78	76.1	578.9	381.2
82.00		0.4063	42.477	55.033	12432.6	25.87	104.56	76.5	565.4	376.7
84.00		0.4063	41.981	54.384	11998.0	25.55	103.34	76.9	552.1	372.3
86.00		0.4063	41.485	53.735	11573.7	25.22	102.12	77.2	539.0	367.9
88.00		0.4063	40.989	53.087	11159.5	24.89	100.89	77.6	526.0	363.5
90.00		0.4063	40.493	52.438	10755.3	24.56	99.67	77.9	513.1	359.1
90.17	Bot - Section 3	0.4063	40.451	52.384	10722.0	24.54	99.57	78.0	512.1	29.7
92.00		0.4063	39.997	51.789	10361.0	24.24	98.45	78.3	500.4	605.1

Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
94.00		0.4063	39.501	51.140	9976.4	23.91	97.23	78.6	487.9	652.3
96.00	Top - Section 2	0.3438	39.692	43.554	8607.2	28.80	115.47	0.0	0.0	644.1
98.00		0.3438	39.196	43.005	8285.8	28.41	114.02	73.7	408.4	294.5
100.00		0.3438	38.700	42.456	7972.5	28.02	112.58	74.2	398.0	290.8
102.00		0.3438	38.204	41.907	7667.2	27.64	111.14	74.6	387.7	287.1
104.00		0.3438	37.708	41.358	7369.8	27.25	109.70	75.0	377.6	283.3
106.00		0.3438	37.212	40.809	7080.1	26.86	108.25	75.4	367.6	279.6
108.00		0.3438	36.716	40.260	6798.2	26.48	106.81	75.8	357.7	275.9
110.00		0.3438	36.220	39.711	6523.9	26.09	105.37	76.3	348.0	272.1
112.00		0.3438	35.724	39.162	6257.0	25.70	103.92	76.7	338.4	268.4
114.00		0.3438	35.228	38.613	5997.5	25.32	102.48	77.1	328.9	264.6
116.00		0.3438	34.732	38.063	5745.3	24.93	101.04	77.5	319.6	260.9
118.00		0.3438	34.236	37.514	5500.3	24.54	99.60	77.9	310.4	257.2
120.00		0.3438	33.740	36.965	5262.3	24.16	98.15	78.4	301.3	253.4
122.00		0.3438	33.244	36.416	5031.3	23.77	96.71	78.8	292.4	249.7
124.00		0.3438	32.748	35.867	4807.2	23.38	95.27	79.2	283.6	246.0
126.00		0.3438	32.252	35.318	4589.8	23.00	93.82	79.6	274.9	242.2
128.00		0.3438	31.756	34.769	4379.1	22.61	92.38	80.1	266.4	238.5
130.00		0.3438	31.260	34.220	4174.9	22.22	90.94	80.5	258.0	234.8
132.00		0.3438	30.764	33.671	3977.2	21.84	89.50	80.9	249.7	231.0
133.33	Bot - Section 4	0.3438	30.433	33.305	3848.9	21.58	88.53	81.2	244.3	151.9
134.00		0.3438	30.268	33.122	3785.8	21.45	88.05	81.3	241.6	131.2
136.00		0.3438	29.772	32.573	3600.6	21.06	86.61	81.7	233.6	389.4
138.00	Top - Section 3	0.2500	29.776	23.768	2644.8	29.77	119.10	0.0	0.0	382.9
140.00		0.2500	29.280	23.369	2513.8	29.24	117.12	72.8	165.9	160.4
142.00		0.2500	28.784	22.970	2387.1	28.71	115.14	73.4	160.2	157.7
144.00		0.2500	28.288	22.571	2264.8	28.18	113.15	74.0	154.7	155.0
146.00		0.2500	27.792	22.171	2146.7	27.64	111.17	74.6	149.2	152.2
148.00		0.2500	27.296	21.772	2032.8	27.11	109.18	75.1	143.9	149.5
150.00		0.2500	26.800	21.373	1923.0	26.58	107.20	75.7	138.6	146.8
152.00		0.2500	26.304	20.973	1817.2	26.05	105.22	76.3	133.5	144.1
154.00		0.2500	25.808	20.574	1715.4	25.52	103.23	76.9	128.4	141.4
156.00		0.2500	25.312	20.175	1617.4	24.99	101.25	77.5	123.4	138.7
158.00		0.2500	24.816	19.776	1523.3	24.45	99.26	78.0	118.6	135.9
160.00		0.2500	24.320	19.376	1432.9	23.92	97.28	78.6	113.8	133.2
162.00		0.2500	23.824	18.977	1346.1	23.39	95.30	79.2	109.2	130.5
164.00		0.2500	23.328	18.578	1262.9	22.86	93.31	79.8	104.6	127.8
166.00		0.2500	22.832	18.179	1183.2	22.33	91.33	80.4	100.1	125.1
168.00		0.2500	22.336	17.779	1107.0	21.80	89.34	80.9	95.7	122.4
170.00		0.2500	21.840	17.380	1034.0	21.26	87.36	81.5	91.5	119.6
172.00		0.2500	21.344	16.981	964.4	20.73	85.38	81.9	87.3	116.9
174.00		0.2500	20.848	16.581	898.0	20.20	83.39	81.9	83.2	114.2
176.00		0.2500	20.352	16.182	834.6	19.67	81.41	81.9	79.2	111.5
178.00		0.2500	19.856	15.783	774.4	19.14	79.42	81.9	75.3	108.8
180.00		0.2500	19.360	15.384	717.1	18.61	77.44	81.9	71.6	106.1

33413.9

## Wind Loading - Shaft

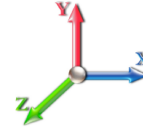
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 1.2D + 1.0W 123 mph Wind

**Iterations** 29

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



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	31.009	34.11	603.99	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	31.009	34.11	599.16	0.950	0.000	2.00	10.655	10.12	345.3	0.0	705.4
4.00		1.00	0.85	31.009	34.11	594.33	0.950	0.000	2.00	10.569	10.04	342.5	0.0	699.7
6.00		1.00	0.85	31.009	34.11	589.49	0.950	0.000	2.00	10.484	9.96	339.7	0.0	694.0
8.00		1.00	0.85	31.009	34.11	584.66	0.950	0.000	2.00	10.398	9.88	337.0	0.0	688.3
10.00		1.00	0.85	31.009	34.11	579.83	0.950	0.000	2.00	10.313	9.80	334.2	0.0	682.6
12.00		1.00	0.85	31.009	34.11	575.00	0.950	0.000	2.00	10.227	9.72	331.4	0.0	676.9
14.00		1.00	0.85	31.009	34.11	570.17	0.950	0.000	2.00	10.142	9.63	328.6	0.0	671.2
16.00		1.00	0.86	31.392	34.53	568.81	0.950	0.000	2.00	10.056	9.55	329.9	0.0	665.5
18.00		1.00	0.88	32.180	35.40	570.99	0.950	0.000	2.00	9.970	9.47	335.3	0.0	659.8
20.00		1.00	0.90	32.902	36.19	572.38	0.950	0.000	2.00	9.885	9.39	339.9	0.0	654.1
22.00		1.00	0.92	33.569	36.93	573.12	0.950	0.000	2.00	9.799	9.31	343.8	0.0	648.3
24.00		1.00	0.94	34.189	37.61	573.32	0.950	0.000	2.00	9.714	9.23	347.0	0.0	642.6
26.00		1.00	0.95	34.770	38.25	573.06	0.950	0.000	2.00	9.628	9.15	349.8	0.0	636.9
28.00		1.00	0.97	35.317	38.85	572.39	0.950	0.000	2.00	9.542	9.07	352.2	0.0	631.2
30.00		1.00	0.98	35.834	39.42	571.37	0.950	0.000	2.00	9.457	8.98	354.1	0.0	625.5
32.00		1.00	1.00	36.324	39.96	570.03	0.950	0.000	2.00	9.371	8.90	355.7	0.0	619.8
34.00		1.00	1.01	36.791	40.47	568.42	0.950	0.000	2.00	9.286	8.82	357.0	0.0	614.1
36.00		1.00	1.02	37.236	40.96	566.55	0.950	0.000	2.00	9.200	8.74	358.0	0.0	608.4
38.00		1.00	1.03	37.662	41.43	564.46	0.950	0.000	2.00	9.115	8.66	358.7	0.0	602.7
40.00		1.00	1.04	38.071	41.88	562.16	0.950	0.000	2.00	9.029	8.58	359.2	0.0	597.0
42.00		1.00	1.05	38.464	42.31	559.68	0.950	0.000	2.00	8.943	8.50	359.5	0.0	591.3
43.92	Bot - Section 2	1.00	1.06	38.827	42.71	557.13	0.950	0.000	1.92	8.490	8.07	344.5	0.0	561.3
44.00		1.00	1.06	38.843	42.73	557.02	0.950	0.000	0.08	0.373	0.35	15.1	0.0	47.2
46.00		1.00	1.07	39.208	43.13	554.19	0.950	0.000	2.00	8.912	8.47	365.2	0.0	1127.3
48.00		1.00	1.08	39.561	43.52	551.23	0.950	0.000	2.00	8.827	8.39	364.9	0.0	1116.3
50.00		1.00	1.09	39.902	43.89	548.12	0.950	0.000	2.00	8.741	8.30	364.5	0.0	1105.3
51.00	Top - Section 1	1.00	1.10	40.069	44.08	546.52	0.950	0.000	1.00	4.339	4.12	181.7	0.0	548.5
52.00		1.00	1.10	40.233	44.26	553.90	0.950	0.000	1.00	4.317	4.10	181.5	0.0	265.1
54.00		1.00	1.11	40.554	44.61	550.58	0.950	0.000	2.00	8.570	8.14	363.2	0.0	526.3
56.00		1.00	1.12	40.866	44.95	547.14	0.950	0.000	2.00	8.485	8.06	362.3	0.0	521.0
58.00		1.00	1.13	41.169	45.29	543.60	0.950	0.000	2.00	8.399	7.98	361.3	0.0	515.7
60.00		1.00	1.14	41.464	45.61	539.95	0.950	0.000	2.00	8.313	7.90	360.2	0.0	510.4
62.00		1.00	1.14	41.751	45.93	536.21	0.950	0.000	2.00	8.228	7.82	359.0	0.0	505.1
64.00		1.00	1.15	42.031	46.23	532.38	0.950	0.000	2.00	8.142	7.74	357.6	0.0	499.8
66.00		1.00	1.16	42.304	46.53	528.47	0.950	0.000	2.00	8.057	7.65	356.2	0.0	494.5
68.00		1.00	1.17	42.571	46.83	524.47	0.950	0.000	2.00	7.971	7.57	354.6	0.0	489.2
70.00		1.00	1.17	42.831	47.11	520.39	0.950	0.000	2.00	7.885	7.49	352.9	0.0	483.9
72.00		1.00	1.18	43.086	47.39	516.24	0.950	0.000	2.00	7.800	7.41	351.2	0.0	478.6
74.00		1.00	1.19	43.335	47.67	512.02	0.950	0.000	2.00	7.714	7.33	349.3	0.0	473.3
76.00		1.00	1.19	43.579	47.94	507.73	0.950	0.000	2.00	7.629	7.25	347.4	0.0	468.0
78.00		1.00	1.20	43.818	48.20	503.38	0.950	0.000	2.00	7.543	7.17	345.4	0.0	462.7
80.00		1.00	1.21	44.053	48.46	498.96	0.950	0.000	2.00	7.458	7.08	343.3	0.0	457.4
82.00		1.00	1.21	44.282	48.71	494.49	0.950	0.000	2.00	7.372	7.00	341.1	0.0	452.1
84.00		1.00	1.22	44.507	48.96	489.96	0.950	0.000	2.00	7.286	6.92	338.9	0.0	446.8
86.00		1.00	1.23	44.728	49.20	485.37	0.950	0.000	2.00	7.201	6.84	336.6	0.0	441.5
88.00		1.00	1.23	44.945	49.44	480.73	0.950	0.000	2.00	7.115	6.76	334.2	0.0	436.2

## Wind Loading - Shaft

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	1.00	1.24	45.159	49.67	476.03	0.950	0.000	2.00	7.030	6.68	331.7	0.0	430.9
90.17 Bot - Section 3	1.00	1.24	45.176	49.69	475.64	0.950	0.000	0.17	0.582	0.55	27.5	0.0	35.7
92.00	1.00	1.24	45.368	49.90	471.29	0.950	0.000	1.83	6.471	6.15	306.8	0.0	726.1
94.00	1.00	1.25	45.574	50.13	466.50	0.950	0.000	2.00	6.977	6.63	332.3	0.0	782.7
96.00 Top - Section 2	1.00	1.25	45.776	50.35	461.67	0.950	0.000	2.00	6.891	6.55	329.7	0.0	772.9
98.00	1.00	1.26	45.975	50.57	464.94	0.950	0.000	2.00	6.806	6.47	327.0	0.0	353.4
100.00	1.00	1.27	46.171	50.79	460.03	0.950	0.000	2.00	6.720	6.38	324.2	0.0	349.0
102.00	1.00	1.27	46.364	51.00	455.09	0.950	0.000	2.00	6.635	6.30	321.5	0.0	344.5
104.00	1.00	1.28	46.554	51.21	450.10	0.950	0.000	2.00	6.549	6.22	318.6	0.0	340.0
106.00	1.00	1.28	46.741	51.42	445.07	0.950	0.000	2.00	6.464	6.14	315.7	0.0	335.5
108.00	1.00	1.29	46.926	51.62	440.00	0.950	0.000	2.00	6.378	6.06	312.8	0.0	331.0
110.00	1.00	1.29	47.107	51.82	434.90	0.950	0.000	2.00	6.292	5.98	309.8	0.0	326.5
112.00	1.00	1.30	47.286	52.01	429.75	0.950	0.000	2.00	6.207	5.90	306.7	0.0	322.1
114.00	1.00	1.30	47.463	52.21	424.58	0.950	0.000	2.00	6.121	5.82	303.6	0.0	317.6
116.00	1.00	1.31	47.637	52.40	419.37	0.950	0.000	2.00	6.036	5.73	300.5	0.0	313.1
118.00	1.00	1.31	47.809	52.59	414.12	0.950	0.000	2.00	5.950	5.65	297.3	0.0	308.6
120.00	1.00	1.32	47.978	52.78	408.85	0.950	0.000	2.00	5.864	5.57	294.0	0.0	304.1
122.00	1.00	1.32	48.145	52.96	403.54	0.950	0.000	2.00	5.779	5.49	290.7	0.0	299.6
124.00	1.00	1.32	48.310	53.14	398.20	0.950	0.000	2.00	5.693	5.41	287.4	0.0	295.2
126.00	1.00	1.33	48.473	53.32	392.83	0.950	0.000	2.00	5.608	5.33	284.1	0.0	290.7
128.00	1.00	1.33	48.634	53.50	387.43	0.950	0.000	2.00	5.522	5.25	280.7	0.0	286.2
130.00	1.00	1.34	48.793	53.67	382.00	0.950	0.000	2.00	5.437	5.16	277.2	0.0	281.7
132.00	1.00	1.34	48.950	53.85	376.54	0.950	0.000	2.00	5.351	5.08	273.7	0.0	277.2
133.33 Bot - Section 4	1.00	1.34	49.054	53.96	372.89	0.950	0.000	1.33	3.520	3.34	180.4	0.0	182.3
134.00	1.00	1.35	49.106	54.02	371.06	0.950	0.000	0.67	1.774	1.69	91.1	0.0	157.5
136.00	1.00	1.35	49.259	54.19	365.55	0.950	0.000	2.00	5.266	5.00	271.1	0.0	467.3
138.00 Top - Section 3	1.00	1.35	49.411	54.35	360.01	0.950	0.000	2.00	5.181	4.92	267.5	0.0	459.5
140.00	1.00	1.36	49.561	54.52	360.61	0.950	0.000	2.00	5.095	4.84	263.9	0.0	192.5
142.00	1.00	1.36	49.709	54.68	355.03	0.950	0.000	2.00	5.009	4.76	260.2	0.0	189.2
144.00	1.00	1.37	49.855	54.84	349.42	0.950	0.000	2.00	4.924	4.68	256.5	0.0	186.0
146.00	1.00	1.37	50.000	55.00	343.80	0.950	0.000	2.00	4.838	4.60	252.8	0.0	182.7
148.00	1.00	1.37	50.144	55.16	338.14	0.950	0.000	2.00	4.753	4.51	249.0	0.0	179.4
150.00 Appurtenance(s)	1.00	1.38	50.286	55.31	332.47	0.950	0.000	2.00	4.667	4.43	245.2	0.0	176.2
152.00	1.00	1.38	50.426	55.47	326.77	0.950	0.000	2.00	4.581	4.35	241.4	0.0	172.9
154.00	1.00	1.39	50.565	55.62	321.05	0.950	0.000	2.00	4.496	4.27	237.6	0.0	169.7
156.00	1.00	1.39	50.703	55.77	315.31	0.950	0.000	2.00	4.410	4.19	233.7	0.0	166.4
158.00 Appurtenance(s)	1.00	1.39	50.839	55.92	309.54	0.950	0.000	2.00	4.325	4.11	229.8	0.0	163.1
160.00 Appurtenance(s)	1.00	1.40	50.974	56.07	303.76	0.950	0.000	2.00	4.239	4.03	225.8	0.0	159.9
162.00	1.00	1.40	51.107	56.22	297.95	0.950	0.000	2.00	4.154	3.95	221.8	0.0	156.6
164.00	1.00	1.40	51.239	56.36	292.13	0.950	0.000	2.00	4.068	3.86	217.8	0.0	153.3
166.00 Appurtenance(s)	1.00	1.41	51.370	56.51	286.28	0.950	0.000	2.00	3.982	3.78	213.8	0.0	150.1
168.00	1.00	1.41	51.500	56.65	280.42	0.950	0.000	2.00	3.897	3.70	209.7	0.0	146.8
170.00	1.00	1.42	51.628	56.79	274.53	0.950	0.000	2.00	3.811	3.62	205.6	0.0	143.6
172.00	1.00	1.42	51.756	56.93	268.63	0.950	0.000	2.00	3.726	3.54	201.5	0.0	140.3
174.00	1.00	1.42	51.882	57.07	262.70	0.950	0.000	2.00	3.640	3.46	197.3	0.0	137.0
176.00	1.00	1.43	52.007	57.21	256.76	0.950	0.000	2.00	3.554	3.38	193.2	0.0	133.8
178.00 Appurtenance(s)	1.00	1.43	52.131	57.34	250.80	0.950	0.000	2.00	3.469	3.30	189.0	0.0	130.5
180.00	1.00	1.43	52.253	57.48	244.83	0.950	0.000	2.00	3.383	3.21	184.7	0.0	127.3
<b>Totals:</b>								<b>180.00</b>			<b>27,684.8</b>		<b>40,096.7</b>



## Discrete Appurtenance Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 29

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	178.00	Raycap	1	52.131	57.344	1.00	1.00	2.61	38.40	0.000	0.000	149.67	0.00	0.00
2	178.00	Samsung B5/B13 RRH	3	52.131	57.344	0.50	0.75	3.35	253.08	0.000	0.000	191.91	0.00	0.00
3	178.00	Samsung B2/B66A RRH	3	52.131	57.344	0.50	0.75	2.83	303.84	0.000	0.000	162.52	0.00	0.00
4	178.00	JMA MX06FRO660-03	6	52.131	57.344	0.61	0.75	36.42	432.00	0.000	0.000	2088.48	0.00	0.00
5	178.00	Platform w/ Handrails w/	1	52.131	57.344	1.00	1.00	40.00	2642.64	0.000	0.000	2293.75	0.00	0.00
6	166.00	ALU 800 Mhz	6	51.370	56.507	0.38	0.75	5.60	381.60	0.000	0.000	316.58	0.00	0.00
7	166.00	RFS APXVTM14-C-I20	3	51.370	56.507	0.58	0.75	10.98	202.32	0.000	0.000	620.68	0.00	0.00
8	166.00	Commscope	3	51.370	56.507	0.55	0.75	20.43	278.64	0.000	0.000	1154.42	0.00	0.00
9	166.00	ALU 1900 Mhz	3	51.370	56.507	0.50	0.75	5.73	158.40	0.000	0.000	323.70	0.00	0.00
10	166.00	Sitepro	1	51.370	56.507	1.00	1.00	6.70	276.00	0.000	0.000	378.60	0.00	0.00
11	166.00	ALU TD-RRH8x20-25	3	51.370	56.507	0.50	0.75	6.11	252.00	0.000	0.000	345.00	0.00	0.00
12	166.00	Sitepro	1	51.370	56.507	1.00	1.00	7.00	487.93	0.000	0.000	395.55	0.00	0.00
13	166.00	Platform w/ Hand Rails	1	51.370	56.507	1.00	1.00	40.00	2400.00	0.000	0.000	2260.29	0.00	0.00
14	160.00	RR90-17-00VDPL2/-R	3	50.974	56.071	0.54	0.80	7.12	48.60	0.000	0.000	398.97	0.00	0.00
15	160.00	4449 B71+B12	3	50.974	56.071	0.54	0.80	2.65	252.00	0.000	0.000	148.77	0.00	0.00
16	160.00	KRY 112 144/2	3	50.974	56.071	0.54	0.80	1.05	55.44	0.000	0.000	58.61	0.00	0.00
17	160.00	APXVAARR24_43-U-NA2	3	50.974	56.071	0.56	0.80	34.00	460.80	0.000	0.000	1906.59	0.00	0.00
18	160.00	KRY 112 489/2	3	50.974	56.071	0.54	0.80	1.05	55.44	0.000	0.000	58.61	0.00	0.00
19	158.00	V-Brace	1	50.839	55.923	0.75	0.75	4.72	236.40	0.000	0.000	264.23	0.00	0.00
20	158.00	T-Arm Kit	1	50.839	55.923	0.75	0.75	12.38	600.00	0.000	0.000	692.04	0.00	0.00
21	158.00	T-Arms	3	50.839	55.923	0.56	0.75	13.50	1260.00	0.000	0.000	754.96	0.00	0.00
22	150.00	Ericsson RRUS-11	3	50.286	55.314	0.50	0.75	3.80	182.52	0.000	0.000	210.13	0.00	0.00
23	150.00	KMW AM-X-CD-16-65-00T	2	50.286	55.314	0.56	0.75	9.02	116.40	0.000	0.000	499.07	0.00	0.00
24	150.00	Powerwave 7770	3	50.286	55.314	0.55	0.75	9.05	126.00	0.000	0.000	500.60	0.00	0.00
25	150.00	KMW AM-X-CD-14-65-00T	1	50.286	55.314	0.75	0.75	5.29	43.68	0.000	0.000	292.47	0.00	0.00
26	150.00	Powerwave LGP21401	6	50.286	55.314	0.38	0.75	2.75	101.52	0.000	0.000	151.84	0.00	0.00
27	150.00	Cci HPA-65R-BUU-H6	2	50.286	55.314	0.77	0.90	14.78	122.40	0.000	0.000	817.53	0.00	0.00
28	150.00	Raycap DC6-48-60-18-8F	1	50.286	55.314	0.67	1.00	1.21	38.16	0.000	0.000	67.08	0.00	0.00
29	150.00	Platform w/ Hand Rail	1	50.286	55.314	1.00	1.00	35.00	1920.00	0.000	0.000	1936.00	0.00	0.00
30	150.00	SBNHH-1D65A	1	50.286	55.314	1.00	1.00	5.88	40.20	0.000	0.000	325.25	0.00	0.00
31	150.00	RRUS-32	3	50.286	55.314	0.50	0.75	5.83	277.20	0.000	0.000	322.71	0.00	0.00

**Totals:** **14,043.61** **20,086.61**

## Total Applied Force Summary

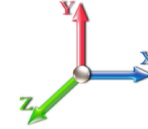
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 29

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		345.27	708.56	0.00	0.00
4.00		342.50	736.17	0.00	0.00
6.00		339.73	763.79	0.00	0.00
8.00		336.95	758.08	0.00	0.00
10.00		334.18	752.37	0.00	0.00
12.00		331.41	746.67	0.00	0.00
14.00		328.63	740.96	0.00	0.00
16.00		329.88	735.26	0.00	0.00
18.00		335.29	729.55	0.00	0.00
20.00		339.86	723.84	0.00	0.00
22.00		343.75	718.14	0.00	0.00
24.00		347.05	712.43	0.00	0.00
26.00		349.84	706.72	0.00	0.00
28.00		352.18	701.02	0.00	0.00
30.00		354.13	695.31	0.00	0.00
32.00		355.72	689.60	0.00	0.00
34.00		357.00	683.90	0.00	0.00
36.00		357.99	678.19	0.00	0.00
38.00		358.72	672.49	0.00	0.00
40.00		359.21	666.78	0.00	0.00
42.00		359.48	661.07	0.00	0.00
43.92		344.50	628.17	0.00	0.00
44.00		15.15	50.12	0.00	0.00
46.00		365.16	1197.12	0.00	0.00
48.00		364.91	1186.12	0.00	0.00
50.00		364.49	1175.11	0.00	0.00
51.00		181.66	583.43	0.00	0.00
52.00		181.51	300.02	0.00	0.00
54.00		363.19	596.06	0.00	0.00
56.00		362.33	590.76	0.00	0.00
58.00		361.33	585.46	0.00	0.00
60.00		360.21	580.16	0.00	0.00
62.00		358.98	574.86	0.00	0.00
64.00		357.62	569.57	0.00	0.00
66.00		356.16	564.27	0.00	0.00
68.00		354.60	558.97	0.00	0.00
70.00		352.94	553.67	0.00	0.00
72.00		351.19	548.37	0.00	0.00
74.00		349.34	543.07	0.00	0.00
76.00		347.41	537.77	0.00	0.00
78.00		345.40	532.47	0.00	0.00
80.00		343.31	527.18	0.00	0.00
82.00		341.14	521.88	0.00	0.00
84.00		338.89	516.58	0.00	0.00
86.00		336.57	511.28	0.00	0.00
88.00		334.19	505.98	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	331.73	500.68	0.00	0.00
90.17	27.47	41.48	0.00	0.00
92.00	306.78	790.05	0.00	0.00
94.00	332.28	852.50	0.00	0.00
96.00	329.66	842.71	0.00	0.00
98.00	326.99	423.24	0.00	0.00
100.00	324.25	418.75	0.00	0.00
102.00	321.46	414.27	0.00	0.00
104.00	318.61	409.78	0.00	0.00
106.00	315.71	405.30	0.00	0.00
108.00	312.76	400.82	0.00	0.00
110.00	309.76	396.33	0.00	0.00
112.00	306.70	391.85	0.00	0.00
114.00	303.61	387.37	0.00	0.00
116.00	300.46	382.88	0.00	0.00
118.00	297.27	378.40	0.00	0.00
120.00	294.03	373.92	0.00	0.00
122.00	290.75	369.43	0.00	0.00
124.00	287.42	364.95	0.00	0.00
126.00	284.06	360.47	0.00	0.00
128.00	280.65	355.98	0.00	0.00
130.00	277.21	351.50	0.00	0.00
132.00	273.72	347.01	0.00	0.00
133.33	180.43	228.85	0.00	0.00
134.00	91.05	180.74	0.00	0.00
136.00	271.08	537.05	0.00	0.00
138.00	267.49	529.30	0.00	0.00
140.00	263.87	262.27	0.00	0.00
142.00	260.21	259.01	0.00	0.00
144.00	256.52	255.75	0.00	0.00
146.00	252.80	252.49	0.00	0.00
148.00	249.04	249.22	0.00	0.00
150.00	(23) attachments	5367.94	3214.04	0.00
152.00		241.42	222.66	0.00
154.00		237.56	219.40	0.00
156.00		233.68	216.14	0.00
158.00	(5) attachments	1940.99	2309.28	0.00
160.00	(15) attachments	2797.35	1081.90	0.00
162.00		221.83	173.91	0.00
164.00		217.82	170.65	0.00
166.00	(21) attachments	6008.60	4604.28	0.00
168.00		209.71	154.97	0.00
170.00		205.62	151.71	0.00
172.00		201.50	148.45	0.00
174.00		197.35	145.19	0.00
176.00		193.17	141.93	0.00
178.00	(14) attachments	5075.29	3808.63	0.00
180.00		184.74	130.41	0.00
<b>Totals:</b>		<b>47,771.39</b>	<b>59,627.27</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 123 mph Wind

**Iterations** 29

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.66
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	2.50
4.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.66
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	2.50
6.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.66
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	2.50
8.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.66
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	2.50
10.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.66
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	2.50
12.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.66
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	2.50
14.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.66
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	2.50
16.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.392	0.00	0.66
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.392	0.00	2.50
18.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	32.180	0.00	0.66
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	32.180	0.00	2.50
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	32.902	0.00	0.66
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	32.902	0.00	2.50
22.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	33.569	0.00	0.66
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	33.569	0.00	2.50
24.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.189	0.00	0.66
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.189	0.00	2.50
26.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.770	0.00	0.66
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.770	0.00	2.50
28.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	35.317	0.00	0.66
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	35.317	0.00	2.50
30.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	35.834	0.00	0.66
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	35.834	0.00	2.50
32.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	36.324	0.00	0.66
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	36.324	0.00	2.50
34.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	36.791	0.00	0.66
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	36.791	0.00	2.50
36.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	37.236	0.00	0.66
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	37.236	0.00	2.50
38.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	37.662	0.00	0.66
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	37.662	0.00	2.50
40.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	38.071	0.00	0.66
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	38.071	0.00	2.50
42.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	38.464	0.00	0.66
42.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	38.464	0.00	2.50
43.92	Safety Cable	Yes	1.92	0.000	0.00	0.00	0.00	0.000	0.000	38.827	0.00	0.63
43.92	Step bolts (ladder)	Yes	1.92	0.000	0.00	0.00	0.00	0.000	0.000	38.827	0.00	2.39
44.00	Safety Cable	Yes	0.08	0.000	0.00	0.00	0.00	0.000	0.000	38.843	0.00	0.03
44.00	Step bolts (ladder)	Yes	0.08	0.000	0.00	0.00	0.00	0.000	0.000	38.843	0.00	0.10
46.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.208	0.00	0.66

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.208	0.00	2.50
48.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.561	0.00	0.66
48.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.561	0.00	2.50
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.902	0.00	0.66
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.902	0.00	2.50
51.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	40.069	0.00	0.33
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	40.069	0.00	1.25
52.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	40.233	0.00	0.33
52.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	40.233	0.00	1.25
54.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	40.554	0.00	0.66
54.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	40.554	0.00	2.50
56.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	40.866	0.00	0.66
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	40.866	0.00	2.50
58.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.169	0.00	0.66
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.169	0.00	2.50
60.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.464	0.00	0.66
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.464	0.00	2.50
62.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.751	0.00	0.66
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.751	0.00	2.50
64.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.031	0.00	0.66
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.031	0.00	2.50
66.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.304	0.00	0.66
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.304	0.00	2.50
68.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.571	0.00	0.66
68.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.571	0.00	2.50
70.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.831	0.00	0.66
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.831	0.00	2.50
72.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.086	0.00	0.66
72.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.086	0.00	2.50
74.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.335	0.00	0.66
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.335	0.00	2.50
76.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.579	0.00	0.66
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.579	0.00	2.50
78.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.818	0.00	0.66
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.818	0.00	2.50
80.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.053	0.00	0.66
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.053	0.00	2.50
82.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.282	0.00	0.66
82.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.282	0.00	2.50
84.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.507	0.00	0.66
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.507	0.00	2.50
86.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.728	0.00	0.66
86.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.728	0.00	2.50
88.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.945	0.00	0.66
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.945	0.00	2.50
90.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.159	0.00	0.66
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.159	0.00	2.50

## Linear Appurtenance Segment Forces (Factored)

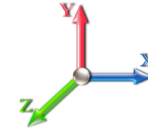
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
90.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	45.176	0.00	0.05
90.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	45.176	0.00	0.21
92.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	45.368	0.00	0.60
92.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	45.368	0.00	2.29
94.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.574	0.00	0.66
94.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.574	0.00	2.50
96.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.776	0.00	0.66
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.776	0.00	2.50
98.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.975	0.00	0.66
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.975	0.00	2.50
100.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.171	0.00	0.66
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.171	0.00	2.50
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.364	0.00	0.66
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.364	0.00	2.50
104.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.554	0.00	0.66
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.554	0.00	2.50
106.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.741	0.00	0.66
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.741	0.00	2.50
108.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.926	0.00	0.66
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.926	0.00	2.50
110.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.107	0.00	0.66
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.107	0.00	2.50
112.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.286	0.00	0.66
112.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.286	0.00	2.50
114.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.463	0.00	0.66
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.463	0.00	2.50
116.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.637	0.00	0.66
116.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.637	0.00	2.50
118.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.809	0.00	0.66
118.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.809	0.00	2.50
120.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.978	0.00	0.66
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.978	0.00	2.50
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.145	0.00	0.66
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.145	0.00	2.50
124.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.310	0.00	0.66
124.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.310	0.00	2.50
126.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.473	0.00	0.66
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.473	0.00	2.50
128.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.634	0.00	0.66
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.634	0.00	2.50
130.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.793	0.00	0.66
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.793	0.00	2.50
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.950	0.00	0.66
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.950	0.00	2.50
133.33	Safety Cable	Yes	1.33	0.000	0.00	0.00	0.00	0.000	0.000	49.054	0.00	0.44
133.33	Step bolts (ladder)	Yes	1.33	0.000	0.00	0.00	0.00	0.000	0.000	49.054	0.00	1.66
134.00	Safety Cable	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	49.106	0.00	0.22

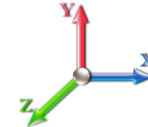
## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
134.00	Step bolts (ladder)	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	49.106	0.00	0.83
136.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.259	0.00	0.66
136.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.259	0.00	2.50
138.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.411	0.00	0.66
138.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.411	0.00	2.50
140.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.561	0.00	0.66
140.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.561	0.00	2.50
142.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.709	0.00	0.66
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.709	0.00	2.50
144.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.855	0.00	0.66
144.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.855	0.00	2.50
146.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.000	0.00	0.66
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.000	0.00	2.50
148.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.144	0.00	0.66
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.144	0.00	2.50
150.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.286	0.00	0.66
150.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.286	0.00	2.50
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.426	0.00	0.66
152.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.426	0.00	2.50
154.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.565	0.00	0.66
154.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.565	0.00	2.50
156.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.703	0.00	0.66
156.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.703	0.00	2.50
158.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.839	0.00	0.66
158.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.839	0.00	2.50
160.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.974	0.00	0.66
160.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.974	0.00	2.50
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.107	0.00	0.66
162.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.107	0.00	2.50
164.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.239	0.00	0.66
164.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.239	0.00	2.50
166.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.370	0.00	0.66
166.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.370	0.00	2.50
168.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.500	0.00	0.66
168.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.500	0.00	2.50
170.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.628	0.00	0.66
170.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.628	0.00	2.50
172.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.756	0.00	0.66
172.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.756	0.00	2.50
174.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.882	0.00	0.66
174.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.882	0.00	2.50
176.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.007	0.00	0.66
176.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.007	0.00	2.50
178.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.131	0.00	0.66
178.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.131	0.00	2.50
180.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.253	0.00	0.66
180.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.253	0.00	2.50

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

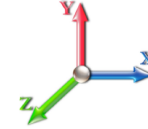


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**Load Case:** 1.2D + 1.0W 123 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
<b>Totals:</b>											<b>0.0</b>	<b>283.6</b>



## Calculated Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 123 mph Wind

**Iterations** 29

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-59.59	-47.81	0.00	-5857.2	0.00	5857.22	5123.29	1522.04	7808.40	6435.29	0.00	0.000	0.000	0.923
2.00	-58.82	-47.55	0.00	-5761.6	0.00	5761.60	5107.67	1509.78	7683.09	6363.61	0.02	-0.079	0.000	0.918
4.00	-58.02	-47.29	0.00	-5666.5	0.00	5666.50	5091.62	1497.52	7558.79	6291.73	0.07	-0.158	0.000	0.913
6.00	-57.19	-47.02	0.00	-5571.9	0.00	5571.93	5075.16	1485.26	7435.50	6219.67	0.15	-0.238	0.000	0.908
8.00	-56.37	-46.76	0.00	-5477.8	0.00	5477.89	5058.29	1472.99	7313.22	6147.44	0.27	-0.319	0.000	0.903
10.00	-55.55	-46.50	0.00	-5384.3	0.00	5384.37	5041.00	1460.73	7191.96	6075.05	0.42	-0.400	0.000	0.898
12.00	-54.74	-46.24	0.00	-5291.3	0.00	5291.36	5023.29	1448.47	7071.72	6002.51	0.61	-0.482	0.000	0.893
14.00	-53.94	-45.99	0.00	-5198.8	0.00	5198.88	5005.16	1436.20	6952.48	5929.84	0.83	-0.565	0.000	0.889
16.00	-53.14	-45.73	0.00	-5106.9	0.00	5106.91	4986.62	1423.94	6834.27	5857.05	1.08	-0.648	0.000	0.884
18.00	-52.34	-45.46	0.00	-5015.4	0.00	5015.45	4967.66	1411.68	6717.06	5784.16	1.37	-0.732	0.000	0.879
20.00	-51.56	-45.19	0.00	-4924.5	0.00	4924.54	4948.29	1399.42	6600.87	5711.17	1.70	-0.816	0.000	0.874
22.00	-50.78	-44.91	0.00	-4834.1	0.00	4834.17	4928.49	1387.15	6485.69	5638.10	2.06	-0.901	0.000	0.869
24.00	-50.01	-44.62	0.00	-4744.3	0.00	4744.35	4908.28	1374.89	6371.53	5564.95	2.45	-0.987	0.000	0.864
26.00	-49.24	-44.34	0.00	-4655.1	0.00	4655.11	4887.66	1362.63	6258.37	5491.76	2.89	-1.073	0.000	0.859
28.00	-48.48	-44.04	0.00	-4566.4	0.00	4566.44	4866.62	1350.36	6146.24	5418.52	3.36	-1.161	0.000	0.854
30.00	-47.72	-43.75	0.00	-4478.3	0.00	4478.35	4845.16	1338.10	6035.11	5345.24	3.86	-1.248	0.000	0.849
32.00	-46.97	-43.45	0.00	-4390.8	0.00	4390.85	4823.28	1325.84	5925.00	5271.95	4.40	-1.337	0.000	0.844
34.00	-46.23	-43.15	0.00	-4303.9	0.00	4303.95	4800.99	1313.58	5815.91	5198.66	4.98	-1.426	0.000	0.839
36.00	-45.49	-42.85	0.00	-4217.6	0.00	4217.66	4778.28	1301.31	5707.83	5125.37	5.60	-1.516	0.000	0.834
38.00	-44.76	-42.54	0.00	-4131.9	0.00	4131.97	4755.15	1289.05	5600.76	5052.10	6.26	-1.607	0.000	0.828
40.00	-44.04	-42.23	0.00	-4046.8	0.00	4046.89	4731.61	1276.79	5494.70	4978.87	6.95	-1.698	0.000	0.823
42.00	-43.32	-41.92	0.00	-3962.4	0.00	3962.42	4707.65	1264.52	5389.66	4905.68	7.68	-1.790	0.000	0.818
43.92	-42.67	-41.59	0.00	-3882.0	0.00	3882.08	4684.30	1252.77	5289.95	4835.60	8.42	-1.879	0.000	0.813
44.00	-42.59	-41.61	0.00	-3878.6	0.00	3878.61	4683.27	1252.26	5285.64	4832.55	8.45	-1.883	0.000	0.813
46.00	-41.34	-41.27	0.00	-3795.3	0.00	3795.39	4658.48	1240.00	5182.62	4759.49	9.26	-1.976	0.000	0.807
48.00	-40.10	-40.93	0.00	-3712.8	0.00	3712.84	4633.27	1227.74	5080.62	4686.52	10.11	-2.070	0.000	0.802
50.00	-38.89	-40.57	0.00	-3630.9	0.00	3630.98	4607.64	1215.47	4979.64	4613.64	11.00	-2.165	0.000	0.797
51.00	-38.28	-40.40	0.00	-3590.4	0.00	3590.41	4157.28	1142.33	4736.69	4216.21	11.45	-2.213	0.000	0.862
52.00	-37.93	-40.26	0.00	-3550.0	0.00	3550.00	4146.96	1136.64	4689.60	4184.61	11.92	-2.262	0.000	0.859
54.00	-37.28	-39.94	0.00	-3469.4	0.00	3469.49	4126.01	1125.25	4596.10	4121.41	12.89	-2.360	0.000	0.852
56.00	-36.64	-39.61	0.00	-3389.6	0.00	3389.62	4104.64	1113.86	4503.55	4058.23	13.90	-2.459	0.000	0.845
58.00	-36.00	-39.29	0.00	-3310.4	0.00	3310.40	4082.85	1102.48	4411.95	3995.08	14.95	-2.559	0.000	0.839
60.00	-35.37	-38.97	0.00	-3231.8	0.00	3231.82	4060.64	1091.09	4321.28	3931.97	16.05	-2.660	0.000	0.832
62.00	-34.74	-38.64	0.00	-3153.8	0.00	3153.89	4038.02	1079.70	4231.55	3868.91	17.18	-2.761	0.000	0.825
64.00	-34.12	-38.32	0.00	-3076.6	0.00	3076.61	4014.98	1068.31	4142.77	3805.92	18.36	-2.864	0.000	0.818
66.00	-33.51	-37.99	0.00	-2999.9	0.00	2999.98	3991.52	1056.93	4054.92	3743.01	19.58	-2.966	0.000	0.811
68.00	-32.90	-37.67	0.00	-2924.0	0.00	2924.00	3967.65	1045.54	3968.02	3680.19	20.85	-3.070	0.000	0.804
70.00	-32.30	-37.35	0.00	-2848.6	0.00	2848.66	3943.36	1034.15	3882.06	3617.47	22.16	-3.174	0.000	0.797
72.00	-31.70	-37.02	0.00	-2773.9	0.00	2773.97	3918.66	1022.77	3797.04	3554.87	23.51	-3.279	0.000	0.790
74.00	-31.12	-36.70	0.00	-2699.9	0.00	2699.93	3893.54	1011.38	3712.96	3492.40	24.90	-3.384	0.000	0.782
76.00	-30.53	-36.38	0.00	-2626.5	0.00	2626.53	3868.00	999.99	3629.83	3430.07	26.34	-3.490	0.000	0.775
78.00	-29.95	-36.06	0.00	-2553.7	0.00	2553.78	3842.04	988.61	3547.63	3367.90	27.83	-3.597	0.000	0.767
80.00	-29.38	-35.73	0.00	-2481.6	0.00	2481.67	3815.67	977.22	3466.38	3305.90	29.36	-3.705	0.000	0.760
82.00	-28.82	-35.41	0.00	-2410.2	0.00	2410.20	3788.88	965.83	3386.07	3244.07	30.93	-3.813	0.000	0.752
84.00	-28.26	-35.10	0.00	-2339.3	0.00	2339.37	3761.67	954.44	3306.69	3182.44	32.55	-3.921	0.000	0.744
86.00	-27.70	-34.78	0.00	-2269.1	0.00	2269.18	3734.05	943.06	3228.26	3121.02	34.22	-4.031	0.000	0.736
88.00	-27.16	-34.46	0.00	-2199.6	0.00	2199.63	3706.01	931.67	3150.77	3059.82	35.93	-4.140	0.000	0.728
90.00	-26.65	-34.12	0.00	-2130.7	0.00	2130.71	3677.55	920.28	3074.23	2998.84	37.69	-4.251	0.000	0.719

## Calculated Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.17	-26.57	-34.12	0.00	-2125.0	0.00	2125.03	3675.16	919.33	3067.89	2993.77	37.83	-4.260	0.000	0.718
92.00	-25.75	-33.80	0.00	-2062.4	0.00	2062.48	3648.68	908.90	2998.62	2938.12	39.49	-4.362	0.000	0.710
94.00	-24.86	-33.45	0.00	-1994.8	0.00	1994.89	3619.39	897.51	2923.96	2877.64	41.34	-4.473	0.000	0.701
96.00	-23.98	-33.10	0.00	-1927.9	0.00	1927.99	2873.56	764.37	2506.37	2303.28	43.24	-4.585	0.000	0.847
98.00	-23.52	-32.79	0.00	-1861.7	0.00	1861.78	2853.66	754.73	2443.58	2258.25	45.18	-4.698	0.000	0.835
100.00	-23.05	-32.48	0.00	-1796.2	0.00	1796.20	2833.34	745.10	2381.59	2213.29	47.17	-4.823	0.000	0.822
102.00	-22.60	-32.18	0.00	-1731.2	0.00	1731.24	2812.61	735.46	2320.39	2168.43	49.22	-4.949	0.000	0.808
104.00	-22.15	-31.87	0.00	-1666.8	0.00	1666.88	2791.46	725.83	2259.99	2123.68	51.32	-5.075	0.000	0.795
106.00	-21.70	-31.57	0.00	-1603.1	0.00	1603.14	2769.89	716.19	2200.39	2079.04	53.47	-5.201	0.000	0.781
108.00	-21.26	-31.27	0.00	-1540.0	0.00	1540.00	2747.90	706.55	2141.58	2034.53	55.67	-5.328	0.000	0.767
110.00	-20.83	-30.97	0.00	-1477.4	0.00	1477.46	2725.50	696.92	2083.57	1990.17	57.93	-5.454	0.000	0.752
112.00	-20.40	-30.67	0.00	-1415.5	0.00	1415.53	2702.68	687.28	2026.36	1945.97	60.24	-5.580	0.000	0.737
114.00	-19.98	-30.38	0.00	-1354.1	0.00	1354.18	2679.45	677.65	1969.94	1901.93	62.60	-5.706	0.000	0.721
116.00	-19.56	-30.08	0.00	-1293.4	0.00	1293.43	2655.79	668.01	1914.32	1858.08	65.01	-5.832	0.000	0.706
118.00	-19.15	-29.79	0.00	-1233.2	0.00	1233.27	2631.73	658.38	1859.50	1814.42	67.48	-5.957	0.000	0.689
120.00	-18.75	-29.50	0.00	-1173.7	0.00	1173.70	2607.24	648.74	1805.47	1770.96	70.00	-6.081	0.000	0.672
122.00	-18.35	-29.21	0.00	-1114.7	0.00	1114.71	2582.34	639.11	1752.24	1727.73	72.57	-6.205	0.000	0.654
124.00	-17.95	-28.92	0.00	-1056.2	0.00	1056.29	2557.02	629.47	1699.80	1684.74	75.19	-6.328	0.000	0.636
126.00	-17.57	-28.64	0.00	-998.45	0.00	998.45	2531.28	619.84	1648.16	1641.98	77.86	-6.449	0.000	0.617
128.00	-17.19	-28.35	0.00	-941.18	0.00	941.18	2505.13	610.20	1597.32	1599.49	80.58	-6.570	0.000	0.597
130.00	-16.81	-28.07	0.00	-884.48	0.00	884.48	2478.56	600.57	1547.28	1557.27	83.35	-6.688	0.000	0.577
132.00	-16.45	-27.79	0.00	-828.34	0.00	828.34	2451.58	590.93	1498.03	1515.33	86.17	-6.805	0.000	0.556
133.33	-16.22	-27.60	0.00	-791.29	0.00	791.29	2433.35	584.51	1465.64	1487.53	88.08	-6.882	0.000	0.541
134.00	-16.01	-27.51	0.00	-772.89	0.00	772.89	2424.17	581.30	1449.58	1473.69	89.04	-6.921	0.000	0.533
136.00	-15.46	-27.20	0.00	-717.88	0.00	717.88	2396.35	571.66	1401.92	1432.35	91.96	-7.033	0.000	0.510
138.00	-14.92	-26.90	0.00	-663.48	0.00	663.48	2368.56	562.03	1354.24	1385.04	94.92	-7.142	0.000	0.487
140.00	-14.64	-26.63	0.00	-609.69	0.00	609.69	2340.81	552.40	1306.57	1337.16	97.93	-7.248	0.000	0.464
142.00	-14.35	-26.38	0.00	-556.42	0.00	556.42	2313.10	542.77	1258.90	1290.08	100.99	-7.350	0.000	0.441
144.00	-14.08	-26.12	0.00	-503.67	0.00	503.67	2285.43	533.14	1211.23	1243.00	104.10	-7.450	0.000	0.418
146.00	-13.81	-25.86	0.00	-451.44	0.00	451.44	2257.80	523.51	1163.56	1195.92	107.26	-7.548	0.000	0.395
148.00	-13.54	-25.61	0.00	-399.71	0.00	399.71	2230.21	513.88	1115.89	1148.84	110.47	-7.644	0.000	0.372
150.00	-11.05	-19.87	0.00	-348.50	0.00	348.50	2202.66	504.25	1067.92	1101.76	113.73	-7.739	0.000	0.349
152.00	-10.83	-19.62	0.00	-308.75	0.00	308.75	2175.15	494.62	1019.95	1054.68	117.03	-7.832	0.000	0.326
154.00	-10.62	-19.37	0.00	-269.51	0.00	269.51	2147.68	484.99	971.98	1007.64	120.36	-7.924	0.000	0.303
156.00	-10.41	-19.12	0.00	-230.77	0.00	230.77	2120.25	475.36	924.01	960.60	123.73	-8.015	0.000	0.280
158.00	-8.38	-16.89	0.00	-192.52	0.00	192.52	2092.86	465.73	876.04	913.56	127.14	-8.106	0.000	0.257
160.00	-7.70	-13.97	0.00	-158.75	0.00	158.75	2065.51	456.10	828.07	866.51	130.57	-8.196	0.000	0.234
162.00	-7.54	-13.73	0.00	-130.81	0.00	130.81	2038.20	446.47	780.10	819.46	134.03	-8.285	0.000	0.211
164.00	-7.40	-13.50	0.00	-103.34	0.00	103.34	2010.93	436.84	732.13	772.41	137.51	-8.373	0.000	0.188
166.00	-3.71	-6.89	0.00	-76.34	0.00	76.34	1983.70	427.21	684.16	725.36	141.01	-8.460	0.000	0.165
168.00	-3.59	-6.66	0.00	-62.57	0.00	62.57	1956.51	417.58	635.59	678.31	144.53	-8.546	0.000	0.142
170.00	-3.46	-6.43	0.00	-49.26	0.00	49.26	1929.36	407.95	587.02	631.26	148.06	-8.631	0.000	0.119
172.00	-3.34	-6.21	0.00	-36.39	0.00	36.39	1902.25	398.32	538.65	584.21	151.59	-8.715	0.000	0.096
174.00	-3.23	-6.00	0.00	-23.97	0.00	23.97	1875.18	388.69	491.28	537.26	155.14	-8.798	0.000	0.073
176.00	-3.12	-5.79	0.00	-11.97	0.00	11.97	1848.15	379.06	444.91	490.31	158.69	-8.880	0.000	0.050
178.00	-0.10	-0.20	0.00	-0.40	0.00	0.40	1821.16	369.43	398.54	445.36	162.25	-8.961	0.000	0.027
180.00	0.00	-0.18	0.00	0.00	0.00	0.00	1794.21	359.80	352.17	400.81	165.81	-9.041	0.000	0.004

## Wind Loading - Shaft

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

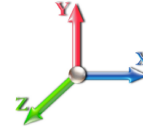


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**Load Case:** 0.9D + 1.0W 123 mph Wind

**Iterations** 29

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



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	31.009	34.11	603.99	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	31.009	34.11	599.16	0.950	0.000	2.00	10.655	10.12	345.3	0.0	529.1
4.00		1.00	0.85	31.009	34.11	594.33	0.950	0.000	2.00	10.569	10.04	342.5	0.0	524.8
6.00		1.00	0.85	31.009	34.11	589.49	0.950	0.000	2.00	10.484	9.96	339.7	0.0	520.5
8.00		1.00	0.85	31.009	34.11	584.66	0.950	0.000	2.00	10.398	9.88	337.0	0.0	516.2
10.00		1.00	0.85	31.009	34.11	579.83	0.950	0.000	2.00	10.313	9.80	334.2	0.0	511.9
12.00		1.00	0.85	31.009	34.11	575.00	0.950	0.000	2.00	10.227	9.72	331.4	0.0	507.7
14.00		1.00	0.85	31.009	34.11	570.17	0.950	0.000	2.00	10.142	9.63	328.6	0.0	503.4
16.00		1.00	0.86	31.392	34.53	568.81	0.950	0.000	2.00	10.056	9.55	329.9	0.0	499.1
18.00		1.00	0.88	32.180	35.40	570.99	0.950	0.000	2.00	9.970	9.47	335.3	0.0	494.8
20.00		1.00	0.90	32.902	36.19	572.38	0.950	0.000	2.00	9.885	9.39	339.9	0.0	490.5
22.00		1.00	0.92	33.569	36.93	573.12	0.950	0.000	2.00	9.799	9.31	343.8	0.0	486.3
24.00		1.00	0.94	34.189	37.61	573.32	0.950	0.000	2.00	9.714	9.23	347.0	0.0	482.0
26.00		1.00	0.95	34.770	38.25	573.06	0.950	0.000	2.00	9.628	9.15	349.8	0.0	477.7
28.00		1.00	0.97	35.317	38.85	572.39	0.950	0.000	2.00	9.542	9.07	352.2	0.0	473.4
30.00		1.00	0.98	35.834	39.42	571.37	0.950	0.000	2.00	9.457	8.98	354.1	0.0	469.1
32.00		1.00	1.00	36.324	39.96	570.03	0.950	0.000	2.00	9.371	8.90	355.7	0.0	464.9
34.00		1.00	1.01	36.791	40.47	568.42	0.950	0.000	2.00	9.286	8.82	357.0	0.0	460.6
36.00		1.00	1.02	37.236	40.96	566.55	0.950	0.000	2.00	9.200	8.74	358.0	0.0	456.3
38.00		1.00	1.03	37.662	41.43	564.46	0.950	0.000	2.00	9.115	8.66	358.7	0.0	452.0
40.00		1.00	1.04	38.071	41.88	562.16	0.950	0.000	2.00	9.029	8.58	359.2	0.0	447.7
42.00		1.00	1.05	38.464	42.31	559.68	0.950	0.000	2.00	8.943	8.50	359.5	0.0	443.5
43.92	Bot - Section 2	1.00	1.06	38.827	42.71	557.13	0.950	0.000	1.92	8.490	8.07	344.5	0.0	421.0
44.00		1.00	1.06	38.843	42.73	557.02	0.950	0.000	0.08	0.373	0.35	15.1	0.0	35.4
46.00		1.00	1.07	39.208	43.13	554.19	0.950	0.000	2.00	8.912	8.47	365.2	0.0	845.5
48.00		1.00	1.08	39.561	43.52	551.23	0.950	0.000	2.00	8.827	8.39	364.9	0.0	837.2
50.00		1.00	1.09	39.902	43.89	548.12	0.950	0.000	2.00	8.741	8.30	364.5	0.0	829.0
51.00	Top - Section 1	1.00	1.10	40.069	44.08	546.52	0.950	0.000	1.00	4.339	4.12	181.7	0.0	411.4
52.00		1.00	1.10	40.233	44.26	553.90	0.950	0.000	1.00	4.317	4.10	181.5	0.0	198.8
54.00		1.00	1.11	40.554	44.61	550.58	0.950	0.000	2.00	8.570	8.14	363.2	0.0	394.7
56.00		1.00	1.12	40.866	44.95	547.14	0.950	0.000	2.00	8.485	8.06	362.3	0.0	390.7
58.00		1.00	1.13	41.169	45.29	543.60	0.950	0.000	2.00	8.399	7.98	361.3	0.0	386.8
60.00		1.00	1.14	41.464	45.61	539.95	0.950	0.000	2.00	8.313	7.90	360.2	0.0	382.8
62.00		1.00	1.14	41.751	45.93	536.21	0.950	0.000	2.00	8.228	7.82	359.0	0.0	378.8
64.00		1.00	1.15	42.031	46.23	532.38	0.950	0.000	2.00	8.142	7.74	357.6	0.0	374.8
66.00		1.00	1.16	42.304	46.53	528.47	0.950	0.000	2.00	8.057	7.65	356.2	0.0	370.9
68.00		1.00	1.17	42.571	46.83	524.47	0.950	0.000	2.00	7.971	7.57	354.6	0.0	366.9
70.00		1.00	1.17	42.831	47.11	520.39	0.950	0.000	2.00	7.885	7.49	352.9	0.0	362.9
72.00		1.00	1.18	43.086	47.39	516.24	0.950	0.000	2.00	7.800	7.41	351.2	0.0	358.9
74.00		1.00	1.19	43.335	47.67	512.02	0.950	0.000	2.00	7.714	7.33	349.3	0.0	355.0
76.00		1.00	1.19	43.579	47.94	507.73	0.950	0.000	2.00	7.629	7.25	347.4	0.0	351.0
78.00		1.00	1.20	43.818	48.20	503.38	0.950	0.000	2.00	7.543	7.17	345.4	0.0	347.0
80.00		1.00	1.21	44.053	48.46	498.96	0.950	0.000	2.00	7.458	7.08	343.3	0.0	343.0
82.00		1.00	1.21	44.282	48.71	494.49	0.950	0.000	2.00	7.372	7.00	341.1	0.0	339.1
84.00		1.00	1.22	44.507	48.96	489.96	0.950	0.000	2.00	7.286	6.92	338.9	0.0	335.1
86.00		1.00	1.23	44.728	49.20	485.37	0.950	0.000	2.00	7.201	6.84	336.6	0.0	331.1
88.00		1.00	1.23	44.945	49.44	480.73	0.950	0.000	2.00	7.115	6.76	334.2	0.0	327.1

## Wind Loading - Shaft

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	1.00	1.24	45.159	49.67	476.03	0.950	0.000	2.00	7.030	6.68	331.7	0.0	323.2
90.17 Bot - Section 3	1.00	1.24	45.176	49.69	475.64	0.950	0.000	0.17	0.582	0.55	27.5	0.0	26.8
92.00	1.00	1.24	45.368	49.90	471.29	0.950	0.000	1.83	6.471	6.15	306.8	0.0	544.6
94.00	1.00	1.25	45.574	50.13	466.50	0.950	0.000	2.00	6.977	6.63	332.3	0.0	587.0
96.00 Top - Section 2	1.00	1.25	45.776	50.35	461.67	0.950	0.000	2.00	6.891	6.55	329.7	0.0	579.7
98.00	1.00	1.26	45.975	50.57	464.94	0.950	0.000	2.00	6.806	6.47	327.0	0.0	265.1
100.00	1.00	1.27	46.171	50.79	460.03	0.950	0.000	2.00	6.720	6.38	324.2	0.0	261.7
102.00	1.00	1.27	46.364	51.00	455.09	0.950	0.000	2.00	6.635	6.30	321.5	0.0	258.4
104.00	1.00	1.28	46.554	51.21	450.10	0.950	0.000	2.00	6.549	6.22	318.6	0.0	255.0
106.00	1.00	1.28	46.741	51.42	445.07	0.950	0.000	2.00	6.464	6.14	315.7	0.0	251.6
108.00	1.00	1.29	46.926	51.62	440.00	0.950	0.000	2.00	6.378	6.06	312.8	0.0	248.3
110.00	1.00	1.29	47.107	51.82	434.90	0.950	0.000	2.00	6.292	5.98	309.8	0.0	244.9
112.00	1.00	1.30	47.286	52.01	429.75	0.950	0.000	2.00	6.207	5.90	306.7	0.0	241.5
114.00	1.00	1.30	47.463	52.21	424.58	0.950	0.000	2.00	6.121	5.82	303.6	0.0	238.2
116.00	1.00	1.31	47.637	52.40	419.37	0.950	0.000	2.00	6.036	5.73	300.5	0.0	234.8
118.00	1.00	1.31	47.809	52.59	414.12	0.950	0.000	2.00	5.950	5.65	297.3	0.0	231.5
120.00	1.00	1.32	47.978	52.78	408.85	0.950	0.000	2.00	5.864	5.57	294.0	0.0	228.1
122.00	1.00	1.32	48.145	52.96	403.54	0.950	0.000	2.00	5.779	5.49	290.7	0.0	224.7
124.00	1.00	1.32	48.310	53.14	398.20	0.950	0.000	2.00	5.693	5.41	287.4	0.0	221.4
126.00	1.00	1.33	48.473	53.32	392.83	0.950	0.000	2.00	5.608	5.33	284.1	0.0	218.0
128.00	1.00	1.33	48.634	53.50	387.43	0.950	0.000	2.00	5.522	5.25	280.7	0.0	214.6
130.00	1.00	1.34	48.793	53.67	382.00	0.950	0.000	2.00	5.437	5.16	277.2	0.0	211.3
132.00	1.00	1.34	48.950	53.85	376.54	0.950	0.000	2.00	5.351	5.08	273.7	0.0	207.9
133.33 Bot - Section 4	1.00	1.34	49.054	53.96	372.89	0.950	0.000	1.33	3.520	3.34	180.4	0.0	136.7
134.00	1.00	1.35	49.106	54.02	371.06	0.950	0.000	0.67	1.774	1.69	91.1	0.0	118.1
136.00	1.00	1.35	49.259	54.19	365.55	0.950	0.000	2.00	5.266	5.00	271.1	0.0	350.4
138.00 Top - Section 3	1.00	1.35	49.411	54.35	360.01	0.950	0.000	2.00	5.181	4.92	267.5	0.0	344.6
140.00	1.00	1.36	49.561	54.52	360.61	0.950	0.000	2.00	5.095	4.84	263.9	0.0	144.4
142.00	1.00	1.36	49.709	54.68	355.03	0.950	0.000	2.00	5.009	4.76	260.2	0.0	141.9
144.00	1.00	1.37	49.855	54.84	349.42	0.950	0.000	2.00	4.924	4.68	256.5	0.0	139.5
146.00	1.00	1.37	50.000	55.00	343.80	0.950	0.000	2.00	4.838	4.60	252.8	0.0	137.0
148.00	1.00	1.37	50.144	55.16	338.14	0.950	0.000	2.00	4.753	4.51	249.0	0.0	134.6
150.00 Appurtenance(s)	1.00	1.38	50.286	55.31	332.47	0.950	0.000	2.00	4.667	4.43	245.2	0.0	132.1
152.00	1.00	1.38	50.426	55.47	326.77	0.950	0.000	2.00	4.581	4.35	241.4	0.0	129.7
154.00	1.00	1.39	50.565	55.62	321.05	0.950	0.000	2.00	4.496	4.27	237.6	0.0	127.2
156.00	1.00	1.39	50.703	55.77	315.31	0.950	0.000	2.00	4.410	4.19	233.7	0.0	124.8
158.00 Appurtenance(s)	1.00	1.39	50.839	55.92	309.54	0.950	0.000	2.00	4.325	4.11	229.8	0.0	122.3
160.00 Appurtenance(s)	1.00	1.40	50.974	56.07	303.76	0.950	0.000	2.00	4.239	4.03	225.8	0.0	119.9
162.00	1.00	1.40	51.107	56.22	297.95	0.950	0.000	2.00	4.154	3.95	221.8	0.0	117.5
164.00	1.00	1.40	51.239	56.36	292.13	0.950	0.000	2.00	4.068	3.86	217.8	0.0	115.0
166.00 Appurtenance(s)	1.00	1.41	51.370	56.51	286.28	0.950	0.000	2.00	3.982	3.78	213.8	0.0	112.6
168.00	1.00	1.41	51.500	56.65	280.42	0.950	0.000	2.00	3.897	3.70	209.7	0.0	110.1
170.00	1.00	1.42	51.628	56.79	274.53	0.950	0.000	2.00	3.811	3.62	205.6	0.0	107.7
172.00	1.00	1.42	51.756	56.93	268.63	0.950	0.000	2.00	3.726	3.54	201.5	0.0	105.2
174.00	1.00	1.42	51.882	57.07	262.70	0.950	0.000	2.00	3.640	3.46	197.3	0.0	102.8
176.00	1.00	1.43	52.007	57.21	256.76	0.950	0.000	2.00	3.554	3.38	193.2	0.0	100.3
178.00 Appurtenance(s)	1.00	1.43	52.131	57.34	250.80	0.950	0.000	2.00	3.469	3.30	189.0	0.0	97.9
180.00	1.00	1.43	52.253	57.48	244.83	0.950	0.000	2.00	3.383	3.21	184.7	0.0	95.4
<b>Totals:</b>								<b>180.00</b>			<b>27,684.8</b>		<b>30,072.5</b>

## Discrete Appurtenance Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 29

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	178.00	Raycap	1	52.131	57.344	1.00	1.00	2.61	28.80	0.000	0.000	149.67	0.00	0.00
2	178.00	Samsung B5/B13 RRH	3	52.131	57.344	0.50	0.75	3.35	189.81	0.000	0.000	191.91	0.00	0.00
3	178.00	Samsung B2/B66A RRH	3	52.131	57.344	0.50	0.75	2.83	227.88	0.000	0.000	162.52	0.00	0.00
4	178.00	JMA MX06FRO660-03	6	52.131	57.344	0.61	0.75	36.42	324.00	0.000	0.000	2088.48	0.00	0.00
5	178.00	Platform w/ Handrails w/	1	52.131	57.344	1.00	1.00	40.00	1981.98	0.000	0.000	2293.75	0.00	0.00
6	166.00	ALU 800 Mhz	6	51.370	56.507	0.38	0.75	5.60	286.20	0.000	0.000	316.58	0.00	0.00
7	166.00	RFS APXVTM14-C-I20	3	51.370	56.507	0.58	0.75	10.98	151.74	0.000	0.000	620.68	0.00	0.00
8	166.00	Commscope	3	51.370	56.507	0.55	0.75	20.43	208.98	0.000	0.000	1154.42	0.00	0.00
9	166.00	ALU 1900 Mhz	3	51.370	56.507	0.50	0.75	5.73	118.80	0.000	0.000	323.70	0.00	0.00
10	166.00	Sitepro	1	51.370	56.507	1.00	1.00	6.70	207.00	0.000	0.000	378.60	0.00	0.00
11	166.00	ALU TD-RRH8x20-25	3	51.370	56.507	0.50	0.75	6.11	189.00	0.000	0.000	345.00	0.00	0.00
12	166.00	Sitepro	1	51.370	56.507	1.00	1.00	7.00	365.95	0.000	0.000	395.55	0.00	0.00
13	166.00	Platform w/ Hand Rails	1	51.370	56.507	1.00	1.00	40.00	1800.00	0.000	0.000	2260.29	0.00	0.00
14	160.00	RR90-17-00VDPL2/-R	3	50.974	56.071	0.54	0.80	7.12	36.45	0.000	0.000	398.97	0.00	0.00
15	160.00	4449 B71+B12	3	50.974	56.071	0.54	0.80	2.65	189.00	0.000	0.000	148.77	0.00	0.00
16	160.00	KRY 112 144/2	3	50.974	56.071	0.54	0.80	1.05	41.58	0.000	0.000	58.61	0.00	0.00
17	160.00	APXVAARR24_43-U-NA2	3	50.974	56.071	0.56	0.80	34.00	345.60	0.000	0.000	1906.59	0.00	0.00
18	160.00	KRY 112 489/2	3	50.974	56.071	0.54	0.80	1.05	41.58	0.000	0.000	58.61	0.00	0.00
19	158.00	V-Brace	1	50.839	55.923	0.75	0.75	4.72	177.30	0.000	0.000	264.23	0.00	0.00
20	158.00	T-Arm Kit	1	50.839	55.923	0.75	0.75	12.38	450.00	0.000	0.000	692.04	0.00	0.00
21	158.00	T-Arms	3	50.839	55.923	0.56	0.75	13.50	945.00	0.000	0.000	754.96	0.00	0.00
22	150.00	Ericsson RRUS-11	3	50.286	55.314	0.50	0.75	3.80	136.89	0.000	0.000	210.13	0.00	0.00
23	150.00	KMW AM-X-CD-16-65-00T	2	50.286	55.314	0.56	0.75	9.02	87.30	0.000	0.000	499.07	0.00	0.00
24	150.00	Powerwave 7770	3	50.286	55.314	0.55	0.75	9.05	94.50	0.000	0.000	500.60	0.00	0.00
25	150.00	KMW AM-X-CD-14-65-00T	1	50.286	55.314	0.75	0.75	5.29	32.76	0.000	0.000	292.47	0.00	0.00
26	150.00	Powerwave LGP21401	6	50.286	55.314	0.38	0.75	2.75	76.14	0.000	0.000	151.84	0.00	0.00
27	150.00	Cci HPA-65R-BUU-H6	2	50.286	55.314	0.77	0.90	14.78	91.80	0.000	0.000	817.53	0.00	0.00
28	150.00	Raycap DC6-48-60-18-8F	1	50.286	55.314	0.67	1.00	1.21	28.62	0.000	0.000	67.08	0.00	0.00
29	150.00	Platform w/ Hand Rail	1	50.286	55.314	1.00	1.00	35.00	1440.00	0.000	0.000	1936.00	0.00	0.00
30	150.00	SBNHH-1D65A	1	50.286	55.314	1.00	1.00	5.88	30.15	0.000	0.000	325.25	0.00	0.00
31	150.00	RRUS-32	3	50.286	55.314	0.50	0.75	5.83	207.90	0.000	0.000	322.71	0.00	0.00

**Totals: 10,532.71 20,086.61**

## Total Applied Force Summary

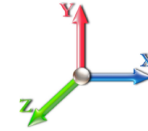
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 29

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		345.27	531.42	0.00	0.00
4.00		342.50	552.13	0.00	0.00
6.00		339.73	572.84	0.00	0.00
8.00		336.95	568.56	0.00	0.00
10.00		334.18	564.28	0.00	0.00
12.00		331.41	560.00	0.00	0.00
14.00		328.63	555.72	0.00	0.00
16.00		329.88	551.44	0.00	0.00
18.00		335.29	547.16	0.00	0.00
20.00		339.86	542.88	0.00	0.00
22.00		343.75	538.60	0.00	0.00
24.00		347.05	534.32	0.00	0.00
26.00		349.84	530.04	0.00	0.00
28.00		352.18	525.76	0.00	0.00
30.00		354.13	521.48	0.00	0.00
32.00		355.72	517.20	0.00	0.00
34.00		357.00	512.92	0.00	0.00
36.00		357.99	508.64	0.00	0.00
38.00		358.72	504.36	0.00	0.00
40.00		359.21	500.08	0.00	0.00
42.00		359.48	495.80	0.00	0.00
43.92		344.50	471.13	0.00	0.00
44.00		15.15	37.59	0.00	0.00
46.00		365.16	897.84	0.00	0.00
48.00		364.91	889.59	0.00	0.00
50.00		364.49	881.34	0.00	0.00
51.00		181.66	437.57	0.00	0.00
52.00		181.51	225.01	0.00	0.00
54.00		363.19	447.04	0.00	0.00
56.00		362.33	443.07	0.00	0.00
58.00		361.33	439.10	0.00	0.00
60.00		360.21	435.12	0.00	0.00
62.00		358.98	431.15	0.00	0.00
64.00		357.62	427.17	0.00	0.00
66.00		356.16	423.20	0.00	0.00
68.00		354.60	419.23	0.00	0.00
70.00		352.94	415.25	0.00	0.00
72.00		351.19	411.28	0.00	0.00
74.00		349.34	407.30	0.00	0.00
76.00		347.41	403.33	0.00	0.00
78.00		345.40	399.36	0.00	0.00
80.00		343.31	395.38	0.00	0.00
82.00		341.14	391.41	0.00	0.00
84.00		338.89	387.43	0.00	0.00
86.00		336.57	383.46	0.00	0.00
88.00		334.19	379.49	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00		331.73	375.51	0.00	0.00
90.17		27.47	31.11	0.00	0.00
92.00		306.78	592.54	0.00	0.00
94.00		332.28	639.37	0.00	0.00
96.00		329.66	632.04	0.00	0.00
98.00		326.99	317.43	0.00	0.00
100.00		324.25	314.06	0.00	0.00
102.00		321.46	310.70	0.00	0.00
104.00		318.61	307.34	0.00	0.00
106.00		315.71	303.98	0.00	0.00
108.00		312.76	300.61	0.00	0.00
110.00		309.76	297.25	0.00	0.00
112.00		306.70	293.89	0.00	0.00
114.00		303.61	290.53	0.00	0.00
116.00		300.46	287.16	0.00	0.00
118.00		297.27	283.80	0.00	0.00
120.00		294.03	280.44	0.00	0.00
122.00		290.75	277.07	0.00	0.00
124.00		287.42	273.71	0.00	0.00
126.00		284.06	270.35	0.00	0.00
128.00		280.65	266.99	0.00	0.00
130.00		277.21	263.62	0.00	0.00
132.00		273.72	260.26	0.00	0.00
133.33		180.43	171.64	0.00	0.00
134.00		91.05	135.55	0.00	0.00
136.00		271.08	402.79	0.00	0.00
138.00		267.49	396.98	0.00	0.00
140.00		263.87	196.70	0.00	0.00
142.00		260.21	194.26	0.00	0.00
144.00		256.52	191.81	0.00	0.00
146.00		252.80	189.36	0.00	0.00
148.00		249.04	186.92	0.00	0.00
150.00	(23) attachments	5367.94	2410.53	0.00	0.00
152.00		241.42	167.00	0.00	0.00
154.00		237.56	164.55	0.00	0.00
156.00		233.68	162.11	0.00	0.00
158.00	(5) attachments	1940.99	1731.96	0.00	0.00
160.00	(15) attachments	2797.35	811.43	0.00	0.00
162.00		221.83	130.43	0.00	0.00
164.00		217.82	127.99	0.00	0.00
166.00	(21) attachments	6008.60	3453.21	0.00	0.00
168.00		209.71	116.23	0.00	0.00
170.00		205.62	113.78	0.00	0.00
172.00		201.50	111.34	0.00	0.00
174.00		197.35	108.89	0.00	0.00
176.00		193.17	106.45	0.00	0.00
178.00	(14) attachments	5075.29	2856.47	0.00	0.00
180.00		184.74	97.81	0.00	0.00
<b>Totals:</b>		<b>47,771.39</b>	<b>44,720.45</b>	<b>0.00</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

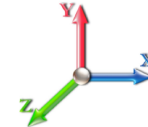
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.49
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	1.87
4.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.49
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	1.87
6.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.49
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	1.87
8.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.49
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	1.87
10.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.49
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	1.87
12.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.49
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	1.87
14.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	0.49
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.009	0.00	1.87
16.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.392	0.00	0.49
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.392	0.00	1.87
18.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	32.180	0.00	0.49
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	32.180	0.00	1.87
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	32.902	0.00	0.49
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	32.902	0.00	1.87
22.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	33.569	0.00	0.49
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	33.569	0.00	1.87
24.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.189	0.00	0.49
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.189	0.00	1.87
26.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.770	0.00	0.49
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	34.770	0.00	1.87
28.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	35.317	0.00	0.49
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	35.317	0.00	1.87
30.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	35.834	0.00	0.49
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	35.834	0.00	1.87
32.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	36.324	0.00	0.49
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	36.324	0.00	1.87
34.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	36.791	0.00	0.49
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	36.791	0.00	1.87
36.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	37.236	0.00	0.49
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	37.236	0.00	1.87
38.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	37.662	0.00	0.49
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	37.662	0.00	1.87
40.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	38.071	0.00	0.49
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	38.071	0.00	1.87
42.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	38.464	0.00	0.49
42.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	38.464	0.00	1.87
43.92	Safety Cable	Yes	1.92	0.000	0.00	0.00	0.00	0.000	0.000	38.827	0.00	0.47
43.92	Step bolts (ladder)	Yes	1.92	0.000	0.00	0.00	0.00	0.000	0.000	38.827	0.00	1.79
44.00	Safety Cable	Yes	0.08	0.000	0.00	0.00	0.00	0.000	0.000	38.843	0.00	0.02
44.00	Step bolts (ladder)	Yes	0.08	0.000	0.00	0.00	0.00	0.000	0.000	38.843	0.00	0.08
46.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.208	0.00	0.49



## Linear Appurtenance Segment Forces (Factored)

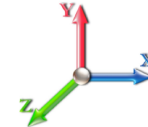
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.208	0.00	1.87
48.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.561	0.00	0.49
48.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.561	0.00	1.87
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.902	0.00	0.49
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	39.902	0.00	1.87
51.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	40.069	0.00	0.25
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	40.069	0.00	0.94
52.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	40.233	0.00	0.25
52.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	40.233	0.00	0.94
54.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	40.554	0.00	0.49
54.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	40.554	0.00	1.87
56.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	40.866	0.00	0.49
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	40.866	0.00	1.87
58.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.169	0.00	0.49
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.169	0.00	1.87
60.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.464	0.00	0.49
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.464	0.00	1.87
62.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.751	0.00	0.49
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	41.751	0.00	1.87
64.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.031	0.00	0.49
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.031	0.00	1.87
66.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.304	0.00	0.49
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.304	0.00	1.87
68.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.571	0.00	0.49
68.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.571	0.00	1.87
70.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.831	0.00	0.49
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	42.831	0.00	1.87
72.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.086	0.00	0.49
72.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.086	0.00	1.87
74.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.335	0.00	0.49
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.335	0.00	1.87
76.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.579	0.00	0.49
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.579	0.00	1.87
78.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.818	0.00	0.49
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	43.818	0.00	1.87
80.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.053	0.00	0.49
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.053	0.00	1.87
82.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.282	0.00	0.49
82.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.282	0.00	1.87
84.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.507	0.00	0.49
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.507	0.00	1.87
86.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.728	0.00	0.49
86.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.728	0.00	1.87
88.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.945	0.00	0.49
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	44.945	0.00	1.87
90.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.159	0.00	0.49
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.159	0.00	1.87

## Linear Appurtenance Segment Forces (Factored)

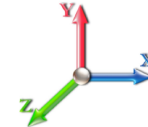
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
90.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	45.176	0.00	0.04
90.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	45.176	0.00	0.16
92.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	45.368	0.00	0.45
92.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	45.368	0.00	1.72
94.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.574	0.00	0.49
94.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.574	0.00	1.87
96.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.776	0.00	0.49
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.776	0.00	1.87
98.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.975	0.00	0.49
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	45.975	0.00	1.87
100.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.171	0.00	0.49
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.171	0.00	1.87
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.364	0.00	0.49
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.364	0.00	1.87
104.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.554	0.00	0.49
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.554	0.00	1.87
106.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.741	0.00	0.49
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.741	0.00	1.87
108.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.926	0.00	0.49
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.926	0.00	1.87
110.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.107	0.00	0.49
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.107	0.00	1.87
112.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.286	0.00	0.49
112.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.286	0.00	1.87
114.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.463	0.00	0.49
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.463	0.00	1.87
116.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.637	0.00	0.49
116.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.637	0.00	1.87
118.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.809	0.00	0.49
118.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.809	0.00	1.87
120.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.978	0.00	0.49
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.978	0.00	1.87
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.145	0.00	0.49
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.145	0.00	1.87
124.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.310	0.00	0.49
124.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.310	0.00	1.87
126.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.473	0.00	0.49
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.473	0.00	1.87
128.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.634	0.00	0.49
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.634	0.00	1.87
130.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.793	0.00	0.49
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.793	0.00	1.87
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.950	0.00	0.49
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.950	0.00	1.87
133.33	Safety Cable	Yes	1.33	0.000	0.00	0.00	0.00	0.000	0.000	49.054	0.00	0.33
133.33	Step bolts (ladder)	Yes	1.33	0.000	0.00	0.00	0.00	0.000	0.000	49.054	0.00	1.25
134.00	Safety Cable	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	49.106	0.00	0.16

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

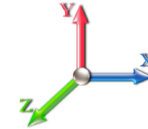


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**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations** 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
134.00	Step bolts (ladder)	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	49.106	0.00	0.62
136.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.259	0.00	0.49
136.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.259	0.00	1.87
138.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.411	0.00	0.49
138.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.411	0.00	1.87
140.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.561	0.00	0.49
140.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.561	0.00	1.87
142.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.709	0.00	0.49
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.709	0.00	1.87
144.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.855	0.00	0.49
144.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	49.855	0.00	1.87
146.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.000	0.00	0.49
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.000	0.00	1.87
148.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.144	0.00	0.49
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.144	0.00	1.87
150.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.286	0.00	0.49
150.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.286	0.00	1.87
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.426	0.00	0.49
152.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.426	0.00	1.87
154.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.565	0.00	0.49
154.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.565	0.00	1.87
156.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.703	0.00	0.49
156.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.703	0.00	1.87
158.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.839	0.00	0.49
158.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.839	0.00	1.87
160.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.974	0.00	0.49
160.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	50.974	0.00	1.87
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.107	0.00	0.49
162.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.107	0.00	1.87
164.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.239	0.00	0.49
164.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.239	0.00	1.87
166.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.370	0.00	0.49
166.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.370	0.00	1.87
168.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.500	0.00	0.49
168.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.500	0.00	1.87
170.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.628	0.00	0.49
170.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.628	0.00	1.87
172.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.756	0.00	0.49
172.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.756	0.00	1.87
174.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.882	0.00	0.49
174.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	51.882	0.00	1.87
176.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.007	0.00	0.49
176.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.007	0.00	1.87
178.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.131	0.00	0.49
178.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.131	0.00	1.87
180.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.253	0.00	0.49
180.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	52.253	0.00	1.87

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

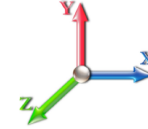


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**Load Case:** 0.9D + 1.0W 123 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations** 29

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
<b>Totals:</b>											<b>0.0</b>	<b>212.7</b>

## Calculated Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



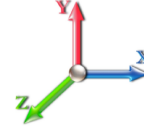
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**Load Case:** 0.9D + 1.0W 123 mph Wind

**Iterations** 29

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-44.69	-47.80	0.00	-5781.4	0.00	5781.46	5123.29	1522.04	7808.40	6435.29	0.00	0.000	0.000	0.908
2.00	-44.09	-47.52	0.00	-5685.8	0.00	5685.86	5107.67	1509.78	7683.09	6363.61	0.02	-0.078	0.000	0.903
4.00	-43.47	-47.23	0.00	-5590.8	0.00	5590.82	5091.62	1497.52	7558.79	6291.73	0.07	-0.156	0.000	0.898
6.00	-42.84	-46.95	0.00	-5496.3	0.00	5496.36	5075.16	1485.26	7435.50	6219.67	0.15	-0.235	0.000	0.893
8.00	-42.21	-46.67	0.00	-5402.4	0.00	5402.46	5058.29	1472.99	7313.22	6147.44	0.27	-0.315	0.000	0.888
10.00	-41.58	-46.39	0.00	-5309.1	0.00	5309.12	5041.00	1460.73	7191.96	6075.05	0.42	-0.395	0.000	0.883
12.00	-40.96	-46.11	0.00	-5216.3	0.00	5216.34	5023.29	1448.47	7071.72	6002.51	0.60	-0.475	0.000	0.878
14.00	-40.34	-45.84	0.00	-5124.1	0.00	5124.12	5005.16	1436.20	6952.48	5929.84	0.82	-0.557	0.000	0.873
16.00	-39.72	-45.56	0.00	-5032.4	0.00	5032.45	4986.62	1423.94	6834.27	5857.05	1.07	-0.639	0.000	0.868
18.00	-39.12	-45.27	0.00	-4941.3	0.00	4941.33	4967.66	1411.68	6717.06	5784.16	1.35	-0.721	0.000	0.863
20.00	-38.51	-44.98	0.00	-4850.7	0.00	4850.79	4948.29	1399.42	6600.87	5711.17	1.67	-0.805	0.000	0.858
22.00	-37.91	-44.69	0.00	-4760.8	0.00	4760.83	4928.49	1387.15	6485.69	5638.10	2.03	-0.889	0.000	0.853
24.00	-37.32	-44.39	0.00	-4671.4	0.00	4671.46	4908.28	1374.89	6371.53	5564.95	2.42	-0.973	0.000	0.848
26.00	-36.73	-44.08	0.00	-4582.6	0.00	4582.69	4887.66	1362.63	6258.37	5491.76	2.85	-1.058	0.000	0.843
28.00	-36.14	-43.77	0.00	-4494.5	0.00	4494.52	4866.62	1350.36	6146.24	5418.52	3.31	-1.144	0.000	0.838
30.00	-35.56	-43.46	0.00	-4406.9	0.00	4406.98	4845.16	1338.10	6035.11	5345.24	3.81	-1.230	0.000	0.833
32.00	-34.99	-43.15	0.00	-4320.0	0.00	4320.06	4823.28	1325.84	5925.00	5271.95	4.34	-1.317	0.000	0.828
34.00	-34.42	-42.83	0.00	-4233.7	0.00	4233.76	4800.99	1313.58	5815.91	5198.66	4.91	-1.405	0.000	0.823
36.00	-33.85	-42.51	0.00	-4148.1	0.00	4148.10	4778.28	1301.31	5707.83	5125.37	5.52	-1.494	0.000	0.817
38.00	-33.29	-42.19	0.00	-4063.0	0.00	4063.07	4755.15	1289.05	5600.76	5052.10	6.17	-1.583	0.000	0.812
40.00	-32.74	-41.87	0.00	-3978.6	0.00	3978.68	4731.61	1276.79	5494.70	4978.87	6.85	-1.673	0.000	0.807
42.00	-32.19	-41.55	0.00	-3894.9	0.00	3894.94	4707.65	1264.52	5389.66	4905.68	7.57	-1.763	0.000	0.802
43.92	-31.70	-41.21	0.00	-3815.3	0.00	3815.30	4684.30	1252.77	5289.95	4835.60	8.30	-1.850	0.000	0.797
44.00	-31.62	-41.22	0.00	-3811.8	0.00	3811.87	4683.27	1252.26	5285.64	4832.55	8.33	-1.854	0.000	0.797
46.00	-30.67	-40.88	0.00	-3729.4	0.00	3729.42	4658.48	1240.00	5182.62	4759.49	9.12	-1.946	0.000	0.791
48.00	-29.73	-40.53	0.00	-3647.6	0.00	3647.66	4633.27	1227.74	5080.62	4686.52	9.96	-2.039	0.000	0.786
50.00	-28.82	-40.17	0.00	-3566.6	0.00	3566.60	4607.64	1215.47	4979.64	4613.64	10.83	-2.132	0.000	0.780
51.00	-28.35	-40.00	0.00	-3526.4	0.00	3526.43	4157.28	1142.33	4736.69	4216.21	11.29	-2.179	0.000	0.844
52.00	-28.08	-39.84	0.00	-3486.4	0.00	3486.44	4146.96	1136.64	4689.60	4184.61	11.75	-2.226	0.000	0.841
54.00	-27.58	-39.51	0.00	-3406.7	0.00	3406.75	4126.01	1125.25	4596.10	4121.41	12.70	-2.323	0.000	0.835
56.00	-27.09	-39.17	0.00	-3327.7	0.00	3327.74	4104.64	1113.86	4503.55	4058.23	13.70	-2.421	0.000	0.828
58.00	-26.60	-38.84	0.00	-3249.3	0.00	3249.39	4082.85	1102.48	4411.95	3995.08	14.73	-2.519	0.000	0.821
60.00	-26.12	-38.51	0.00	-3171.7	0.00	3171.72	4060.64	1091.09	4321.28	3931.97	15.81	-2.618	0.000	0.814
62.00	-25.63	-38.17	0.00	-3094.7	0.00	3094.71	4038.02	1079.70	4231.55	3868.91	16.93	-2.717	0.000	0.807
64.00	-25.16	-37.84	0.00	-3018.3	0.00	3018.37	4014.98	1068.31	4142.77	3805.92	18.09	-2.817	0.000	0.801
66.00	-24.69	-37.50	0.00	-2942.6	0.00	2942.69	3991.52	1056.93	4054.92	3743.01	19.29	-2.918	0.000	0.794
68.00	-24.22	-37.17	0.00	-2867.6	0.00	2867.68	3967.65	1045.54	3968.02	3680.19	20.53	-3.019	0.000	0.787
70.00	-23.76	-36.84	0.00	-2793.3	0.00	2793.34	3943.36	1034.15	3882.06	3617.47	21.82	-3.122	0.000	0.779
72.00	-23.30	-36.51	0.00	-2719.6	0.00	2719.66	3918.66	1022.77	3797.04	3554.87	23.15	-3.224	0.000	0.772
74.00	-22.85	-36.18	0.00	-2646.6	0.00	2646.65	3893.54	1011.38	3712.96	3492.40	24.52	-3.328	0.000	0.765
76.00	-22.40	-35.85	0.00	-2574.2	0.00	2574.29	3868.00	999.99	3629.83	3430.07	25.94	-3.432	0.000	0.758
78.00	-21.96	-35.52	0.00	-2502.6	0.00	2502.60	3842.04	988.61	3547.63	3367.90	27.40	-3.536	0.000	0.750
80.00	-21.52	-35.19	0.00	-2431.5	0.00	2431.56	3815.67	977.22	3466.38	3305.90	28.90	-3.642	0.000	0.742
82.00	-21.09	-34.86	0.00	-2361.1	0.00	2361.18	3788.88	965.83	3386.07	3244.07	30.45	-3.748	0.000	0.735
84.00	-20.66	-34.54	0.00	-2291.4	0.00	2291.45	3761.67	954.44	3306.69	3182.44	32.04	-3.854	0.000	0.727
86.00	-20.24	-34.22	0.00	-2222.3	0.00	2222.37	3734.05	943.06	3228.26	3121.02	33.68	-3.961	0.000	0.719
88.00	-19.82	-33.89	0.00	-2153.9	0.00	2153.94	3706.01	931.67	3150.77	3059.82	35.36	-4.069	0.000	0.711
90.00	-19.43	-33.56	0.00	-2086.1	0.00	2086.16	3677.55	920.28	3074.23	2998.84	37.08	-4.177	0.000	0.702

## Calculated Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.17	-19.37	-33.54	0.00	-2080.5	0.00	2080.56	3675.16	919.33	3067.89	2993.77	37.23	-4.186	0.000	0.702
92.00	-18.74	-33.23	0.00	-2019.0	0.00	2019.07	3648.68	908.90	2998.62	2938.12	38.86	-4.286	0.000	0.694
94.00	-18.07	-32.88	0.00	-1952.6	0.00	1952.61	3619.39	897.51	2923.96	2877.64	40.67	-4.395	0.000	0.685
96.00	-17.40	-32.54	0.00	-1886.8	0.00	1886.85	2873.56	764.37	2506.37	2303.28	42.54	-4.504	0.000	0.827
98.00	-17.05	-32.22	0.00	-1821.7	0.00	1821.77	2853.66	754.73	2443.58	2258.25	44.44	-4.614	0.000	0.815
100.00	-16.69	-31.91	0.00	-1757.3	0.00	1757.33	2833.34	745.10	2381.59	2213.29	46.40	-4.737	0.000	0.802
102.00	-16.34	-31.60	0.00	-1693.5	0.00	1693.51	2812.61	735.46	2320.39	2168.43	48.41	-4.860	0.000	0.789
104.00	-15.99	-31.29	0.00	-1630.3	0.00	1630.31	2791.46	725.83	2259.99	2123.68	50.47	-4.984	0.000	0.775
106.00	-15.65	-30.98	0.00	-1567.7	0.00	1567.73	2769.89	716.19	2200.39	2079.04	52.58	-5.107	0.000	0.762
108.00	-15.32	-30.68	0.00	-1505.7	0.00	1505.77	2747.90	706.55	2141.58	2034.53	54.75	-5.230	0.000	0.748
110.00	-14.98	-30.37	0.00	-1444.4	0.00	1444.42	2725.50	696.92	2083.57	1990.17	56.96	-5.354	0.000	0.733
112.00	-14.65	-30.07	0.00	-1383.6	0.00	1383.68	2702.68	687.28	2026.36	1945.97	59.23	-5.477	0.000	0.718
114.00	-14.33	-29.77	0.00	-1323.5	0.00	1323.53	2679.45	677.65	1969.94	1901.93	61.55	-5.600	0.000	0.703
116.00	-14.01	-29.47	0.00	-1263.9	0.00	1263.99	2655.79	668.01	1914.32	1858.08	63.92	-5.723	0.000	0.687
118.00	-13.70	-29.18	0.00	-1205.0	0.00	1205.04	2631.73	658.38	1859.50	1814.42	66.34	-5.845	0.000	0.671
120.00	-13.39	-28.89	0.00	-1146.6	0.00	1146.68	2607.24	648.74	1805.47	1770.96	68.81	-5.967	0.000	0.655
122.00	-13.08	-28.60	0.00	-1088.9	0.00	1088.91	2582.34	639.11	1752.24	1727.73	71.33	-6.088	0.000	0.637
124.00	-12.78	-28.31	0.00	-1031.7	0.00	1031.72	2557.02	629.47	1699.80	1684.74	73.90	-6.208	0.000	0.619
126.00	-12.49	-28.02	0.00	-975.11	0.00	975.11	2531.28	619.84	1648.16	1641.98	76.52	-6.327	0.000	0.601
128.00	-12.20	-27.74	0.00	-919.06	0.00	919.06	2505.13	610.20	1597.32	1599.49	79.19	-6.444	0.000	0.582
130.00	-11.91	-27.46	0.00	-863.59	0.00	863.59	2478.56	600.57	1547.28	1557.27	81.91	-6.560	0.000	0.561
132.00	-11.64	-27.17	0.00	-808.68	0.00	808.68	2451.58	590.93	1498.03	1515.33	84.68	-6.674	0.000	0.541
133.33	-11.46	-26.99	0.00	-772.45	0.00	772.45	2433.35	584.51	1465.64	1487.53	86.55	-6.749	0.000	0.526
134.00	-11.30	-26.89	0.00	-754.46	0.00	754.46	2424.17	581.30	1449.58	1473.69	87.49	-6.787	0.000	0.519
136.00	-10.89	-26.60	0.00	-700.67	0.00	700.67	2396.35	571.66	1401.92	1432.35	90.35	-6.896	0.000	0.496
138.00	-10.48	-26.30	0.00	-647.47	0.00	647.47	2367.24	561.99	1354.81	1385.24	93.26	-7.003	0.000	0.470
140.00	-10.26	-26.04	0.00	-594.87	0.00	594.87	2337.81	552.32	1307.70	1338.13	96.21	-7.106	0.000	0.442
142.00	-10.04	-25.78	0.00	-542.79	0.00	542.79	2308.06	542.65	1260.69	1291.02	99.21	-7.235	0.000	0.412
144.00	-9.83	-25.52	0.00	-491.24	0.00	491.24	2278.00	533.08	1213.78	1243.91	102.26	-7.358	0.000	0.380
146.00	-9.63	-25.26	0.00	-440.20	0.00	440.20	2247.63	523.51	1166.96	1196.80	105.36	-7.475	0.000	0.346
148.00	-9.43	-25.01	0.00	-389.67	0.00	389.67	2217.06	513.94	1120.24	1149.69	108.50	-7.585	0.000	0.310
150.00	-7.72	-19.38	0.00	-339.65	0.00	339.65	2186.29	504.37	1073.83	1102.58	111.70	-7.687	0.000	0.272
152.00	-7.56	-19.13	0.00	-300.89	0.00	300.89	2155.32	494.80	1027.02	1055.47	114.93	-7.782	0.000	0.233
154.00	-7.40	-18.89	0.00	-262.63	0.00	262.63	2124.15	485.23	980.21	1008.36	118.20	-7.870	0.000	0.193
156.00	-7.24	-18.64	0.00	-224.85	0.00	224.85	2092.78	475.66	933.40	960.25	121.50	-7.951	0.000	0.152
158.00	-5.78	-16.49	0.00	-187.57	0.00	187.57	2061.21	466.09	886.59	911.14	124.84	-8.023	0.000	0.110
160.00	-5.35	-13.61	0.00	-154.60	0.00	154.60	2029.44	456.52	840.00	862.09	128.20	-8.087	0.000	0.067
162.00	-5.24	-13.37	0.00	-127.38	0.00	127.38	1997.47	446.95	793.81	813.04	131.59	-8.143	0.000	0.022
164.00	-5.14	-13.14	0.00	-100.63	0.00	100.63	1965.30	437.38	747.62	764.09	135.00	-8.191	0.000	0.026
166.00	-2.58	-6.71	0.00	-74.35	0.00	74.35	1932.93	427.81	701.43	715.24	138.43	-8.231	0.000	0.126
168.00	-2.49	-6.48	0.00	-60.93	0.00	60.93	1899.56	418.24	655.24	666.39	141.88	-8.263	0.000	0.107
170.00	-2.40	-6.26	0.00	-47.97	0.00	47.97	1866.19	408.67	609.05	617.54	145.33	-8.291	0.000	0.088
172.00	-2.32	-6.05	0.00	-35.44	0.00	35.44	1832.82	400.10	562.86	568.69	148.80	-8.314	0.000	0.068
174.00	-2.24	-5.84	0.00	-23.34	0.00	23.34	1799.45	391.53	516.67	520.04	152.27	-8.332	0.000	0.048
176.00	-2.16	-5.63	0.00	-11.66	0.00	11.66	1766.08	382.96	470.48	471.49	155.76	-8.343	0.000	0.026
178.00	-0.07	-0.20	0.00	-0.39	0.00	0.39	1732.71	374.39	424.29	422.94	159.24	-8.347	0.000	0.001
180.00	0.00	-0.18	0.00	0.00	0.00	0.00	1700.00	365.82	378.10	374.39	162.72	-8.347	0.000	0.000

## Wind Loading - Shaft

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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

**Iterations** 28

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



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	5.124	5.64	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	5.124	5.64	0.00	1.200	0.756	2.00	10.907	13.09	73.8	121.9	827.3
4.00		1.00	0.85	5.124	5.64	0.00	1.200	0.810	2.00	10.839	13.01	73.3	129.7	829.4
6.00		1.00	0.85	5.124	5.64	0.00	1.200	0.843	2.00	10.765	12.92	72.8	134.1	828.1
8.00		1.00	0.85	5.124	5.64	0.00	1.200	0.868	2.00	10.688	12.83	72.3	136.9	825.2
10.00		1.00	0.85	5.124	5.64	0.00	1.200	0.887	2.00	10.609	12.73	71.8	138.9	821.5
12.00		1.00	0.85	5.124	5.64	0.00	1.200	0.904	2.00	10.528	12.63	71.2	140.4	817.2
14.00		1.00	0.85	5.124	5.64	0.00	1.200	0.918	2.00	10.448	12.54	70.7	141.4	812.6
16.00		1.00	0.86	5.187	5.71	0.00	1.200	0.930	2.00	10.366	12.44	71.0	142.1	807.6
18.00		1.00	0.88	5.318	5.85	0.00	1.200	0.941	2.00	10.284	12.34	72.2	142.6	802.4
20.00		1.00	0.90	5.437	5.98	0.00	1.200	0.951	2.00	10.202	12.24	73.2	142.9	797.0
22.00		1.00	0.92	5.547	6.10	0.00	1.200	0.960	2.00	10.119	12.14	74.1	143.1	791.4
24.00		1.00	0.94	5.650	6.21	0.00	1.200	0.969	2.00	10.037	12.04	74.8	143.1	785.8
26.00		1.00	0.95	5.746	6.32	0.00	1.200	0.976	2.00	9.954	11.94	75.5	143.0	780.0
28.00		1.00	0.97	5.836	6.42	0.00	1.200	0.984	2.00	9.870	11.84	76.0	142.8	774.1
30.00		1.00	0.98	5.921	6.51	0.00	1.200	0.991	2.00	9.787	11.74	76.5	142.6	768.1
32.00		1.00	1.00	6.002	6.60	0.00	1.200	0.997	2.00	9.704	11.64	76.9	142.2	762.0
34.00		1.00	1.01	6.079	6.69	0.00	1.200	1.003	2.00	9.620	11.54	77.2	141.8	755.9
36.00		1.00	1.02	6.153	6.77	0.00	1.200	1.009	2.00	9.536	11.44	77.5	141.4	749.8
38.00		1.00	1.03	6.224	6.85	0.00	1.200	1.014	2.00	9.453	11.34	77.7	140.8	743.5
40.00		1.00	1.04	6.291	6.92	0.00	1.200	1.019	2.00	9.369	11.24	77.8	140.3	737.2
42.00		1.00	1.05	6.356	6.99	0.00	1.200	1.024	2.00	9.285	11.14	77.9	139.6	730.9
43.92	Bot - Section 2	1.00	1.06	6.416	7.06	0.00	1.200	1.029	1.92	8.819	10.58	74.7	133.2	694.5
44.00		1.00	1.06	6.419	7.06	0.00	1.200	1.029	0.08	0.388	0.47	3.3	5.9	53.1
46.00		1.00	1.07	6.479	7.13	0.00	1.200	1.034	2.00	9.257	11.11	79.2	140.5	1267.8
48.00		1.00	1.08	6.537	7.19	0.00	1.200	1.038	2.00	9.173	11.01	79.2	139.7	1256.1
50.00		1.00	1.09	6.594	7.25	0.00	1.200	1.042	2.00	9.089	10.91	79.1	139.0	1244.3
51.00	Top - Section 1	1.00	1.10	6.621	7.28	0.00	1.200	1.044	1.00	4.513	5.42	39.4	69.3	617.8
52.00		1.00	1.10	6.648	7.31	0.00	1.200	1.047	1.00	4.492	5.39	39.4	69.1	334.2
54.00		1.00	1.11	6.701	7.37	0.00	1.200	1.050	2.00	8.920	10.70	78.9	137.4	663.6
56.00		1.00	1.12	6.753	7.43	0.00	1.200	1.054	2.00	8.836	10.60	78.8	136.5	657.5
58.00		1.00	1.13	6.803	7.48	0.00	1.200	1.058	2.00	8.752	10.50	78.6	135.7	651.3
60.00		1.00	1.14	6.852	7.54	0.00	1.200	1.062	2.00	8.667	10.40	78.4	134.8	645.1
62.00		1.00	1.14	6.899	7.59	0.00	1.200	1.065	2.00	8.583	10.30	78.2	133.8	638.9
64.00		1.00	1.15	6.945	7.64	0.00	1.200	1.068	2.00	8.498	10.20	77.9	132.9	632.7
66.00		1.00	1.16	6.991	7.69	0.00	1.200	1.072	2.00	8.414	10.10	77.6	131.9	626.4
68.00		1.00	1.17	7.035	7.74	0.00	1.200	1.075	2.00	8.329	10.00	77.3	131.0	620.1
70.00		1.00	1.17	7.078	7.79	0.00	1.200	1.078	2.00	8.245	9.89	77.0	130.0	613.8
72.00		1.00	1.18	7.120	7.83	0.00	1.200	1.081	2.00	8.160	9.79	76.7	128.9	607.5
74.00		1.00	1.19	7.161	7.88	0.00	1.200	1.084	2.00	8.076	9.69	76.3	127.9	601.2
76.00		1.00	1.19	7.201	7.92	0.00	1.200	1.087	2.00	7.991	9.59	76.0	126.9	594.9
78.00		1.00	1.20	7.241	7.96	0.00	1.200	1.090	2.00	7.906	9.49	75.6	125.8	588.5
80.00		1.00	1.21	7.279	8.01	0.00	1.200	1.093	2.00	7.822	9.39	75.2	124.7	582.1
82.00		1.00	1.21	7.317	8.05	0.00	1.200	1.095	2.00	7.737	9.28	74.7	123.6	575.7
84.00		1.00	1.22	7.355	8.09	0.00	1.200	1.098	2.00	7.652	9.18	74.3	122.5	569.3
86.00		1.00	1.23	7.391	8.13	0.00	1.200	1.101	2.00	7.568	9.08	73.8	121.4	562.9
88.00		1.00	1.23	7.427	8.17	0.00	1.200	1.103	2.00	7.483	8.98	73.4	120.3	556.5

## Wind Loading - Shaft

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	1.00	1.24	7.462	8.21	0.00	1.200	1.106	2.00	7.398	8.88	72.9	119.1	550.0
90.17 Bot - Section 3	1.00	1.24	7.465	8.21	0.00	1.200	1.106	0.17	0.613	0.74	6.0	9.9	45.6
92.00	1.00	1.24	7.497	8.25	0.00	1.200	1.108	1.83	6.809	8.17	67.4	110.0	836.0
94.00	1.00	1.25	7.531	8.28	0.00	1.200	1.110	2.00	7.347	8.82	73.0	118.8	901.5
96.00 Top - Section 2	1.00	1.25	7.564	8.32	0.00	1.200	1.113	2.00	7.262	8.71	72.5	117.6	890.5
98.00	1.00	1.26	7.597	8.36	0.00	1.200	1.115	2.00	7.178	8.61	72.0	116.4	469.9
100.00	1.00	1.27	7.630	8.39	0.00	1.200	1.117	2.00	7.093	8.51	71.4	115.2	464.2
102.00	1.00	1.27	7.661	8.43	0.00	1.200	1.119	2.00	7.008	8.41	70.9	114.0	458.5
104.00	1.00	1.28	7.693	8.46	0.00	1.200	1.122	2.00	6.923	8.31	70.3	112.8	452.8
106.00	1.00	1.28	7.724	8.50	0.00	1.200	1.124	2.00	6.838	8.21	69.7	111.6	447.1
108.00	1.00	1.29	7.754	8.53	0.00	1.200	1.126	2.00	6.753	8.10	69.1	110.4	441.4
110.00	1.00	1.29	7.784	8.56	0.00	1.200	1.128	2.00	6.668	8.00	68.5	109.1	435.7
112.00	1.00	1.30	7.814	8.60	0.00	1.200	1.130	2.00	6.583	7.90	67.9	107.9	429.9
114.00	1.00	1.30	7.843	8.63	0.00	1.200	1.132	2.00	6.499	7.80	67.3	106.6	424.2
116.00	1.00	1.31	7.872	8.66	0.00	1.200	1.134	2.00	6.414	7.70	66.6	105.3	418.4
118.00	1.00	1.31	7.900	8.69	0.00	1.200	1.136	2.00	6.329	7.59	66.0	104.1	412.7
120.00	1.00	1.32	7.928	8.72	0.00	1.200	1.138	2.00	6.244	7.49	65.3	102.8	406.9
122.00	1.00	1.32	7.956	8.75	0.00	1.200	1.140	2.00	6.159	7.39	64.7	101.5	401.1
124.00	1.00	1.32	7.983	8.78	0.00	1.200	1.142	2.00	6.074	7.29	64.0	100.2	395.3
126.00	1.00	1.33	8.010	8.81	0.00	1.200	1.143	2.00	5.989	7.19	63.3	98.9	389.6
128.00	1.00	1.33	8.037	8.84	0.00	1.200	1.145	2.00	5.904	7.08	62.6	97.6	383.8
130.00	1.00	1.34	8.063	8.87	0.00	1.200	1.147	2.00	5.819	6.98	61.9	96.3	378.0
132.00	1.00	1.34	8.089	8.90	0.00	1.200	1.149	2.00	5.734	6.88	61.2	94.9	372.2
133.33 Bot - Section 4	1.00	1.34	8.106	8.92	0.00	1.200	1.150	1.33	3.775	4.53	40.4	62.7	245.0
134.00	1.00	1.35	8.115	8.93	0.00	1.200	1.150	0.67	1.902	2.28	20.4	31.7	189.2
136.00	1.00	1.35	8.140	8.95	0.00	1.200	1.152	2.00	5.650	6.78	60.7	93.8	561.0
138.00 Top - Section 3	1.00	1.35	8.165	8.98	0.00	1.200	1.154	2.00	5.565	6.68	60.0	92.4	551.9
140.00	1.00	1.36	8.190	9.01	0.00	1.200	1.155	2.00	5.480	6.58	59.2	91.1	283.5
142.00	1.00	1.36	8.214	9.04	0.00	1.200	1.157	2.00	5.395	6.47	58.5	89.7	278.9
144.00	1.00	1.37	8.238	9.06	0.00	1.200	1.159	2.00	5.310	6.37	57.7	88.4	274.3
146.00	1.00	1.37	8.262	9.09	0.00	1.200	1.160	2.00	5.225	6.27	57.0	87.0	269.7
148.00	1.00	1.37	8.286	9.11	0.00	1.200	1.162	2.00	5.140	6.17	56.2	85.6	265.0
150.00 Appurtenance(s)	1.00	1.38	8.309	9.14	0.00	1.200	1.163	2.00	5.055	6.07	55.4	84.2	260.4
152.00	1.00	1.38	8.333	9.17	0.00	1.200	1.165	2.00	4.970	5.96	54.7	82.9	255.8
154.00	1.00	1.39	8.356	9.19	0.00	1.200	1.167	2.00	4.885	5.86	53.9	81.5	251.1
156.00	1.00	1.39	8.378	9.22	0.00	1.200	1.168	2.00	4.800	5.76	53.1	80.1	246.5
158.00 Appurtenance(s)	1.00	1.39	8.401	9.24	0.00	1.200	1.170	2.00	4.715	5.66	52.3	78.7	241.8
160.00 Appurtenance(s)	1.00	1.40	8.423	9.27	0.00	1.200	1.171	2.00	4.629	5.56	51.5	77.3	237.1
162.00	1.00	1.40	8.445	9.29	0.00	1.200	1.172	2.00	4.544	5.45	50.7	75.9	232.5
164.00	1.00	1.40	8.467	9.31	0.00	1.200	1.174	2.00	4.459	5.35	49.8	74.5	227.8
166.00 Appurtenance(s)	1.00	1.41	8.489	9.34	0.00	1.200	1.175	2.00	4.374	5.25	49.0	73.0	223.1
168.00	1.00	1.41	8.510	9.36	0.00	1.200	1.177	2.00	4.289	5.15	48.2	71.6	218.4
170.00	1.00	1.42	8.531	9.38	0.00	1.200	1.178	2.00	4.204	5.04	47.3	70.2	213.8
172.00	1.00	1.42	8.552	9.41	0.00	1.200	1.180	2.00	4.119	4.94	46.5	68.8	209.1
174.00	1.00	1.42	8.573	9.43	0.00	1.200	1.181	2.00	4.034	4.84	45.6	67.3	204.4
176.00	1.00	1.43	8.594	9.45	0.00	1.200	1.182	2.00	3.949	4.74	44.8	65.9	199.7
178.00 Appurtenance(s)	1.00	1.43	8.614	9.48	0.00	1.200	1.184	2.00	3.863	4.64	43.9	64.4	195.0
180.00	1.00	1.43	8.635	9.50	0.00	1.200	1.185	2.00	3.778	4.53	43.1	63.0	190.3
<b>Totals:</b>									<b>180.00</b>		<b>6,091.7</b>		<b>50,333.6</b>



## Discrete Appurtenance Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

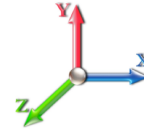


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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 28

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



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	178.00	Raycap	1	8.614	9.476	1.00	1.00	3.05	70.34	0.000	0.000	28.86	0.00	0.00	
2	178.00	Samsung B5/B13 RRH	3	8.614	9.476	0.50	0.75	3.98	319.30	0.000	0.000	37.72	0.00	0.00	
3	178.00	Samsung B2/B66A RRH	3	8.614	9.476	0.50	0.75	3.73	596.43	0.000	0.000	35.36	0.00	0.00	
4	178.00	JMA MX06FRO660-03	6	8.614	9.476	0.61	0.75	39.62	1469.15	0.000	0.000	375.38	0.00	0.00	
5	178.00	Platform w/ Handrails w/	1	8.614	9.476	1.00	1.00	54.20	3808.70	0.000	0.000	513.61	0.00	0.00	
6	166.00	ALU 800 Mhz	6	8.489	9.338	0.38	0.75	7.34	553.85	0.000	0.000	68.50	0.00	0.00	
7	166.00	RFS APXVTM14-C-I20	3	8.489	9.338	0.58	0.75	12.26	505.30	0.000	0.000	114.44	0.00	0.00	
8	166.00	Commscope	3	8.489	9.338	0.55	0.75	22.06	658.17	0.000	0.000	206.01	0.00	0.00	
9	166.00	ALU 1900 Mhz	3	8.489	9.338	0.50	0.75	7.14	285.35	0.000	0.000	66.67	0.00	0.00	
10	166.00	Sitepro	1	8.489	9.338	1.00	1.00	11.42	391.26	0.000	0.000	106.68	0.00	0.00	
11	166.00	ALU TD-RRH8x20-25	3	8.489	9.338	0.50	0.75	6.91	460.26	0.000	0.000	64.51	0.00	0.00	
12	166.00	Sitepro	1	8.489	9.338	1.00	1.00	11.61	1219.51	0.000	0.000	108.38	0.00	0.00	
13	166.00	Platform w/ Hand Rails	1	8.489	9.338	1.00	1.00	54.10	3210.39	0.000	0.000	505.20	0.00	0.00	
14	160.00	RR90-17-00VDPL2/-R	3	8.423	9.265	0.54	0.80	8.16	228.28	0.000	0.000	75.58	0.00	0.00	
15	160.00	4449 B71+B12	3	8.423	9.265	0.54	0.80	3.21	378.05	0.000	0.000	29.76	0.00	0.00	
16	160.00	KRY 112 144/2	3	8.423	9.265	0.54	0.80	1.71	75.91	0.000	0.000	15.80	0.00	0.00	
17	160.00	APXVAARR24_43-U-NA2	3	8.423	9.265	0.56	0.80	36.12	1267.16	0.000	0.000	334.66	0.00	0.00	
18	160.00	KRY 112 489/2	3	8.423	9.265	0.54	0.80	1.71	75.91	0.000	0.000	15.80	0.00	0.00	
19	158.00	V-Brace	1	8.401	9.241	0.75	0.75	8.04	333.72	0.000	0.000	74.30	0.00	0.00	
20	158.00	T-Arm Kit	1	8.401	9.241	0.75	0.75	20.48	847.64	0.000	0.000	189.25	0.00	0.00	
21	158.00	T-Arms	3	8.401	9.241	0.56	0.75	21.39	1541.21	0.000	0.000	197.71	0.00	0.00	
22	150.00	Ericsson RRUS-11	3	8.309	9.140	0.50	0.75	4.43	331.00	0.000	0.000	40.53	0.00	0.00	
23	150.00	KMW AM-X-CD-16-65-00T	2	8.309	9.140	0.56	0.75	11.12	239.77	0.000	0.000	101.62	0.00	0.00	
24	150.00	Powerwave 7770	3	8.309	9.140	0.55	0.75	10.18	376.13	0.000	0.000	93.01	0.00	0.00	
25	150.00	KMW AM-X-CD-14-65-00T	1	8.309	9.140	0.75	0.75	6.61	86.13	0.000	0.000	60.41	0.00	0.00	
26	150.00	Powerwave LGP21401	6	8.309	9.140	0.38	0.75	3.93	158.93	0.000	0.000	35.93	0.00	0.00	
27	150.00	Cci HPA-65R-BUU-H6	2	8.309	9.140	0.77	0.90	16.14	435.37	0.000	0.000	147.57	0.00	0.00	
28	150.00	Raycap DC6-48-60-18-8F	1	8.309	9.140	0.67	1.00	1.60	61.68	0.000	0.000	14.60	0.00	0.00	
29	150.00	Platform w/ Hand Rail	1	8.309	9.140	1.00	1.00	55.36	2719.90	0.000	0.000	506.02	0.00	0.00	
30	150.00	SBNHH-1D65A	1	8.309	9.140	1.00	1.00	6.58	138.77	0.000	0.000	60.18	0.00	0.00	
31	150.00	RRUS-32	3	8.309	9.140	0.50	0.75	5.77	488.98	0.000	0.000	52.76	0.00	0.00	
<b>Totals:</b>									<b>23,332.55</b>						<b>4,276.84</b>

## Total Applied Force Summary

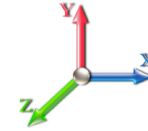
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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

**Dead Load Factor**    1.20  
**Wind Load Factor**    1.00



**Iterations**    28

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		73.77	834.53	0.00	0.00
4.00		73.32	870.46	0.00	0.00
6.00		72.81	902.75	0.00	0.00
8.00		72.29	900.14	0.00	0.00
10.00		71.75	896.62	0.00	0.00
12.00		71.21	892.51	0.00	0.00
14.00		70.67	887.99	0.00	0.00
16.00		70.98	883.14	0.00	0.00
18.00		72.19	878.05	0.00	0.00
20.00		73.22	872.77	0.00	0.00
22.00		74.10	867.32	0.00	0.00
24.00		74.85	861.73	0.00	0.00
26.00		75.49	856.02	0.00	0.00
28.00		76.04	850.21	0.00	0.00
30.00		76.50	844.31	0.00	0.00
32.00		76.88	838.34	0.00	0.00
34.00		77.20	832.29	0.00	0.00
36.00		77.46	826.18	0.00	0.00
38.00		77.65	820.01	0.00	0.00
40.00		77.80	813.79	0.00	0.00
42.00		77.90	807.52	0.00	0.00
43.92		74.69	767.97	0.00	0.00
44.00		3.28	56.29	0.00	0.00
46.00		79.17	1344.50	0.00	0.00
48.00		79.15	1332.82	0.00	0.00
50.00		79.11	1321.11	0.00	0.00
51.00		39.44	656.25	0.00	0.00
52.00		39.42	372.64	0.00	0.00
54.00		78.91	740.54	0.00	0.00
56.00		78.76	734.45	0.00	0.00
58.00		78.59	728.32	0.00	0.00
60.00		78.39	722.17	0.00	0.00
62.00		78.16	715.99	0.00	0.00
64.00		77.91	709.80	0.00	0.00
66.00		77.64	703.58	0.00	0.00
68.00		77.34	697.34	0.00	0.00
70.00		77.03	691.08	0.00	0.00
72.00		76.69	684.80	0.00	0.00
74.00		76.34	678.51	0.00	0.00
76.00		75.96	672.19	0.00	0.00
78.00		75.57	665.87	0.00	0.00
80.00		75.16	659.52	0.00	0.00
82.00		74.73	653.16	0.00	0.00
84.00		74.29	646.79	0.00	0.00
86.00		73.83	640.40	0.00	0.00
88.00		73.36	634.00	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00		72.87	627.59	0.00	0.00
90.17		6.04	52.05	0.00	0.00
92.00		67.38	907.16	0.00	0.00
94.00		73.04	979.12	0.00	0.00
96.00		72.51	968.20	0.00	0.00
98.00		71.98	547.56	0.00	0.00
100.00		71.43	541.91	0.00	0.00
102.00		70.87	536.25	0.00	0.00
104.00		70.30	530.58	0.00	0.00
106.00		69.72	524.90	0.00	0.00
108.00		69.12	519.21	0.00	0.00
110.00		68.52	513.51	0.00	0.00
112.00		67.90	507.80	0.00	0.00
114.00		67.28	502.08	0.00	0.00
116.00		66.64	496.36	0.00	0.00
118.00		66.00	490.62	0.00	0.00
120.00		65.34	484.88	0.00	0.00
122.00		64.68	479.13	0.00	0.00
124.00		64.00	473.37	0.00	0.00
126.00		63.32	467.61	0.00	0.00
128.00		62.63	461.83	0.00	0.00
130.00		61.93	456.05	0.00	0.00
132.00		61.22	450.27	0.00	0.00
133.33		40.40	297.11	0.00	0.00
134.00		20.37	215.22	0.00	0.00
136.00		60.71	639.17	0.00	0.00
138.00		59.98	630.10	0.00	0.00
140.00		59.24	361.74	0.00	0.00
142.00		58.50	357.15	0.00	0.00
144.00		57.74	352.55	0.00	0.00
146.00		56.99	347.94	0.00	0.00
148.00		56.22	343.33	0.00	0.00
150.00	(23) attachments	1168.08	5375.36	0.00	0.00
152.00		54.66	314.05	0.00	0.00
154.00		53.88	309.42	0.00	0.00
156.00		53.08	304.79	0.00	0.00
158.00	(5) attachments	513.54	3022.72	0.00	0.00
160.00	(15) attachments	523.08	2320.81	0.00	0.00
162.00		50.66	258.41	0.00	0.00
164.00		49.84	253.75	0.00	0.00
166.00	(21) attachments	1289.40	7533.21	0.00	0.00
168.00		48.18	235.27	0.00	0.00
170.00		47.34	230.60	0.00	0.00
172.00		46.50	225.93	0.00	0.00
174.00		45.65	221.25	0.00	0.00
176.00		44.79	216.57	0.00	0.00
178.00	(14) attachments	1034.87	6475.80	0.00	0.00
180.00		43.06	202.20	0.00	0.00
<b>Totals:</b>		<b>10,368.50</b>	<b>79,829.26</b>	<b>0.00</b>	<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



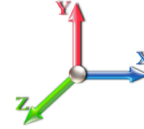
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 28

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	2.51
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	4.69
4.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	2.75
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	4.95
6.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	2.91
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	5.12
8.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	3.03
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	5.25
10.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	3.12
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	5.35
12.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	3.20
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	5.44
14.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	3.27
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.124	0.00	5.51
16.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.187	0.00	3.34
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.187	0.00	5.58
18.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.318	0.00	3.39
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.318	0.00	5.64
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.437	0.00	3.44
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.437	0.00	5.70
22.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.547	0.00	3.49
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.547	0.00	5.75
24.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.650	0.00	3.54
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.650	0.00	5.80
26.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.746	0.00	3.58
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.746	0.00	5.84
28.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.836	0.00	3.62
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.836	0.00	5.88
30.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	3.65
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	5.92
32.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.002	0.00	3.69
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.002	0.00	5.96
34.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.079	0.00	3.72
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.079	0.00	5.99
36.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.153	0.00	3.75
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.153	0.00	6.03
38.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.224	0.00	3.78
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.224	0.00	6.06
40.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.291	0.00	3.81
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.291	0.00	6.09
42.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.356	0.00	3.84
42.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.356	0.00	6.12
43.92	Safety Cable	Yes	1.92	0.000	0.00	0.00	0.00	0.000	0.000	6.416	0.00	3.71
43.92	Step bolts (ladder)	Yes	1.92	0.000	0.00	0.00	0.00	0.000	0.000	6.416	0.00	5.89
44.00	Safety Cable	Yes	0.08	0.000	0.00	0.00	0.00	0.000	0.000	6.419	0.00	0.16
44.00	Step bolts (ladder)	Yes	0.08	0.000	0.00	0.00	0.00	0.000	0.000	6.419	0.00	0.26
46.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.479	0.00	3.89

## Linear Appurtenance Segment Forces (Factored)

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<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



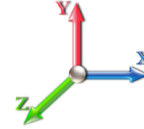
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 28

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



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)
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.479	0.00	6.18
48.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.537	0.00	3.92
48.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.537	0.00	6.20
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	3.94
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.594	0.00	6.23
51.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.621	0.00	1.98
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.621	0.00	3.12
52.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.648	0.00	1.98
52.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.648	0.00	3.13
54.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.701	0.00	3.99
54.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.701	0.00	6.28
56.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.753	0.00	4.01
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.753	0.00	6.30
58.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.803	0.00	4.03
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.803	0.00	6.33
60.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.852	0.00	4.05
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.852	0.00	6.35
62.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.899	0.00	4.07
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.899	0.00	6.37
64.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.945	0.00	4.09
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.945	0.00	6.39
66.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.991	0.00	4.11
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.991	0.00	6.41
68.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.035	0.00	4.13
68.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.035	0.00	6.43
70.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.078	0.00	4.15
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.078	0.00	6.45
72.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.120	0.00	4.17
72.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.120	0.00	6.47
74.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.161	0.00	4.18
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.161	0.00	6.49
76.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.201	0.00	4.20
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.201	0.00	6.51
78.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.241	0.00	4.22
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.241	0.00	6.52
80.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.279	0.00	4.23
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.279	0.00	6.54
82.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.317	0.00	4.25
82.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.317	0.00	6.56
84.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.355	0.00	4.26
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.355	0.00	6.57
86.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.391	0.00	4.28
86.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.391	0.00	6.59
88.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.427	0.00	4.30
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.427	0.00	6.61
90.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.462	0.00	4.31
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.462	0.00	6.62

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



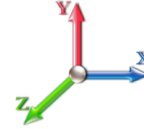
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 28

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



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)
90.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	7.465	0.00	0.36
90.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	7.465	0.00	0.55
92.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	7.497	0.00	3.96
92.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	7.497	0.00	6.08
94.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.531	0.00	4.34
94.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.531	0.00	6.65
96.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.564	0.00	4.35
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.564	0.00	6.67
98.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.597	0.00	4.37
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.597	0.00	6.68
100.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.630	0.00	4.38
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.630	0.00	6.70
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.661	0.00	4.39
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.661	0.00	6.71
104.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.693	0.00	4.41
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.693	0.00	6.73
106.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.724	0.00	4.42
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.724	0.00	6.74
108.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.754	0.00	4.43
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.754	0.00	6.75
110.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.784	0.00	4.45
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.784	0.00	6.77
112.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	4.46
112.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	6.78
114.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.843	0.00	4.47
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.843	0.00	6.79
116.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.872	0.00	4.48
116.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.872	0.00	6.81
118.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.900	0.00	4.49
118.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.900	0.00	6.82
120.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.928	0.00	4.51
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.928	0.00	6.83
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.956	0.00	4.52
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.956	0.00	6.84
124.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.983	0.00	4.53
124.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.983	0.00	6.86
126.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.010	0.00	4.54
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.010	0.00	6.87
128.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.037	0.00	4.55
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.037	0.00	6.88
130.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.063	0.00	4.56
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.063	0.00	6.89
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.089	0.00	4.57
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.089	0.00	6.90
133.33	Safety Cable	Yes	1.33	0.000	0.00	0.00	0.00	0.000	0.000	8.106	0.00	3.05
133.33	Step bolts (ladder)	Yes	1.33	0.000	0.00	0.00	0.00	0.000	0.000	8.106	0.00	4.61
134.00	Safety Cable	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	8.115	0.00	1.53

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



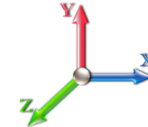
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 28

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



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)
134.00	Step bolts (ladder)	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	8.115	0.00	2.30
136.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.140	0.00	4.59
136.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.140	0.00	6.92
138.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.165	0.00	4.60
138.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.165	0.00	6.94
140.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.190	0.00	4.62
140.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.190	0.00	6.95
142.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.214	0.00	4.63
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.214	0.00	6.96
144.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.238	0.00	4.64
144.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.238	0.00	6.97
146.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.262	0.00	4.65
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.262	0.00	6.98
148.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.286	0.00	4.66
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.286	0.00	6.99
150.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.309	0.00	4.67
150.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.309	0.00	7.00
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.333	0.00	4.67
152.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.333	0.00	7.01
154.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.356	0.00	4.68
154.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.356	0.00	7.02
156.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.378	0.00	4.69
156.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.378	0.00	7.03
158.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.401	0.00	4.70
158.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.401	0.00	7.04
160.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.423	0.00	4.71
160.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.423	0.00	7.05
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.445	0.00	4.72
162.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.445	0.00	7.06
164.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.467	0.00	4.73
164.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.467	0.00	7.07
166.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.489	0.00	4.74
166.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.489	0.00	7.08
168.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.510	0.00	4.75
168.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.510	0.00	7.09
170.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.531	0.00	4.76
170.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.531	0.00	7.10
172.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.552	0.00	4.77
172.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.552	0.00	7.11
174.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.573	0.00	4.77
174.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.573	0.00	7.12
176.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.594	0.00	4.78
176.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.594	0.00	7.13
178.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.614	0.00	4.79
178.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.614	0.00	7.13
180.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.635	0.00	4.80
180.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.635	0.00	7.14

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

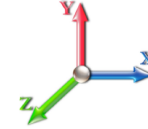


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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 28

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)
<b>Totals:</b>											<b>0.0</b>	<b>959.8</b>



## Calculated Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	<b>10/30/2020</b>
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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

**Iterations** 28

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-79.83	-10.38	0.00	-1308.5	0.00	1308.57	5123.29	1522.04	7808.40	6435.29	0.00	0.000	0.000	0.219
2.00	-78.99	-10.33	0.00	-1287.8	0.00	1287.81	5107.67	1509.78	7683.09	6363.61	0.00	-0.018	0.000	0.218
4.00	-78.12	-10.28	0.00	-1267.1	0.00	1267.15	5091.62	1497.52	7558.79	6291.73	0.02	-0.035	0.000	0.217
6.00	-77.21	-10.23	0.00	-1246.5	0.00	1246.58	5075.16	1485.26	7435.50	6219.67	0.03	-0.053	0.000	0.216
8.00	-76.31	-10.18	0.00	-1226.1	0.00	1226.12	5058.29	1472.99	7313.22	6147.44	0.06	-0.071	0.000	0.215
10.00	-75.41	-10.13	0.00	-1205.7	0.00	1205.75	5041.00	1460.73	7191.96	6075.05	0.09	-0.089	0.000	0.213
12.00	-74.51	-10.09	0.00	-1185.4	0.00	1185.49	5023.29	1448.47	7071.72	6002.51	0.14	-0.108	0.000	0.212
14.00	-73.62	-10.04	0.00	-1165.3	0.00	1165.32	5005.16	1436.20	6952.48	5929.84	0.18	-0.126	0.000	0.211
16.00	-72.73	-9.99	0.00	-1145.2	0.00	1145.25	4986.62	1423.94	6834.27	5857.05	0.24	-0.145	0.000	0.210
18.00	-71.85	-9.94	0.00	-1125.2	0.00	1125.27	4967.66	1411.68	6717.06	5784.16	0.31	-0.164	0.000	0.209
20.00	-70.98	-9.88	0.00	-1105.4	0.00	1105.40	4948.29	1399.42	6600.87	5711.17	0.38	-0.183	0.000	0.208
22.00	-70.11	-9.83	0.00	-1085.6	0.00	1085.63	4928.49	1387.15	6485.69	5638.10	0.46	-0.202	0.000	0.207
24.00	-69.24	-9.78	0.00	-1065.9	0.00	1065.97	4908.28	1374.89	6371.53	5564.95	0.55	-0.221	0.000	0.206
26.00	-68.38	-9.72	0.00	-1046.4	0.00	1046.42	4887.66	1362.63	6258.37	5491.76	0.65	-0.241	0.000	0.205
28.00	-67.53	-9.66	0.00	-1026.9	0.00	1026.98	4866.62	1350.36	6146.24	5418.52	0.75	-0.260	0.000	0.203
30.00	-66.68	-9.61	0.00	-1007.6	0.00	1007.65	4845.16	1338.10	6035.11	5345.24	0.86	-0.280	0.000	0.202
32.00	-65.84	-9.55	0.00	-988.44	0.00	988.44	4823.28	1325.84	5925.00	5271.95	0.99	-0.300	0.000	0.201
34.00	-65.01	-9.49	0.00	-969.34	0.00	969.34	4800.99	1313.58	5815.91	5198.66	1.12	-0.320	0.000	0.200
36.00	-64.18	-9.43	0.00	-950.37	0.00	950.37	4778.28	1301.31	5707.83	5125.37	1.25	-0.340	0.000	0.199
38.00	-63.35	-9.37	0.00	-931.51	0.00	931.51	4755.15	1289.05	5600.76	5052.10	1.40	-0.361	0.000	0.198
40.00	-62.54	-9.31	0.00	-912.77	0.00	912.77	4731.61	1276.79	5494.70	4978.87	1.56	-0.381	0.000	0.197
42.00	-61.73	-9.25	0.00	-894.15	0.00	894.15	4707.65	1264.52	5389.66	4905.68	1.72	-0.402	0.000	0.195
43.92	-60.96	-9.18	0.00	-876.42	0.00	876.42	4684.30	1252.77	5289.95	4835.60	1.89	-0.422	0.000	0.194
44.00	-60.90	-9.19	0.00	-875.66	0.00	875.66	4683.27	1252.26	5285.64	4832.55	1.89	-0.423	0.000	0.194
46.00	-59.55	-9.12	0.00	-857.29	0.00	857.29	4658.48	1240.00	5182.62	4759.49	2.08	-0.444	0.000	0.193
48.00	-58.22	-9.05	0.00	-839.05	0.00	839.05	4633.27	1227.74	5080.62	4686.52	2.27	-0.465	0.000	0.192
50.00	-56.89	-8.98	0.00	-820.94	0.00	820.94	4607.64	1215.47	4979.64	4613.64	2.47	-0.487	0.000	0.190
51.00	-56.24	-8.94	0.00	-811.97	0.00	811.97	4157.28	1142.33	4736.69	4216.21	2.57	-0.498	0.000	0.206
52.00	-55.86	-8.92	0.00	-803.02	0.00	803.02	4146.96	1136.64	4689.60	4184.61	2.68	-0.509	0.000	0.205
54.00	-55.12	-8.85	0.00	-785.19	0.00	785.19	4126.01	1125.25	4596.10	4121.41	2.89	-0.531	0.000	0.204
56.00	-54.38	-8.79	0.00	-767.49	0.00	767.49	4104.64	1113.86	4503.55	4058.23	3.12	-0.553	0.000	0.202
58.00	-53.65	-8.72	0.00	-749.91	0.00	749.91	4082.85	1102.48	4411.95	3995.08	3.36	-0.576	0.000	0.201
60.00	-52.93	-8.66	0.00	-732.46	0.00	732.46	4060.64	1091.09	4321.28	3931.97	3.60	-0.599	0.000	0.199
62.00	-52.21	-8.59	0.00	-715.15	0.00	715.15	4038.02	1079.70	4231.55	3868.91	3.86	-0.622	0.000	0.198
64.00	-51.50	-8.53	0.00	-697.96	0.00	697.96	4014.98	1068.31	4142.77	3805.92	4.12	-0.645	0.000	0.196
66.00	-50.79	-8.46	0.00	-680.90	0.00	680.90	3991.52	1056.93	4054.92	3743.01	4.40	-0.668	0.000	0.195
68.00	-50.09	-8.40	0.00	-663.97	0.00	663.97	3967.65	1045.54	3968.02	3680.19	4.69	-0.692	0.000	0.193
70.00	-49.40	-8.33	0.00	-647.17	0.00	647.17	3943.36	1034.15	3882.06	3617.47	4.98	-0.715	0.000	0.191
72.00	-48.71	-8.27	0.00	-630.50	0.00	630.50	3918.66	1022.77	3797.04	3554.87	5.28	-0.739	0.000	0.190
74.00	-48.03	-8.20	0.00	-613.96	0.00	613.96	3893.54	1011.38	3712.96	3492.40	5.60	-0.763	0.000	0.188
76.00	-47.35	-8.14	0.00	-597.56	0.00	597.56	3868.00	999.99	3629.83	3430.07	5.92	-0.787	0.000	0.187
78.00	-46.68	-8.07	0.00	-581.28	0.00	581.28	3842.04	988.61	3547.63	3367.90	6.26	-0.812	0.000	0.185
80.00	-46.02	-8.01	0.00	-565.13	0.00	565.13	3815.67	977.22	3466.38	3305.90	6.61	-0.836	0.000	0.183
82.00	-45.37	-7.94	0.00	-549.11	0.00	549.11	3788.88	965.83	3386.07	3244.07	6.96	-0.861	0.000	0.181
84.00	-44.72	-7.88	0.00	-533.22	0.00	533.22	3761.67	954.44	3306.69	3182.44	7.33	-0.885	0.000	0.180
86.00	-44.08	-7.82	0.00	-517.46	0.00	517.46	3734.05	943.06	3228.26	3121.02	7.70	-0.910	0.000	0.178
88.00	-43.44	-7.75	0.00	-501.83	0.00	501.83	3706.01	931.67	3150.77	3059.82	8.09	-0.935	0.000	0.176
90.00	-42.81	-7.68	0.00	-486.33	0.00	486.33	3677.55	920.28	3074.23	2998.84	8.49	-0.961	0.000	0.174

## Calculated Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	<b>10/30/2020</b>
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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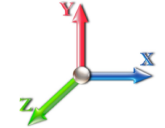
90.17	-42.76	-7.68	0.00	-485.05	0.00	485.05	3675.16	919.33	3067.89	2993.77	8.52	-0.963	0.000	0.174
92.00	-41.85	-7.62	0.00	-470.97	0.00	470.97	3648.68	908.90	2998.62	2938.12	8.89	-0.986	0.000	0.172
94.00	-40.87	-7.54	0.00	-455.74	0.00	455.74	3619.39	897.51	2923.96	2877.64	9.31	-1.011	0.000	0.170
96.00	-39.90	-7.47	0.00	-440.65	0.00	440.65	2873.56	764.37	2506.37	2303.28	9.74	-1.037	0.000	0.205
98.00	-39.35	-7.41	0.00	-425.71	0.00	425.71	2853.66	754.73	2443.58	2258.25	10.18	-1.063	0.000	0.202
100.00	-38.80	-7.35	0.00	-410.90	0.00	410.90	2833.34	745.10	2381.59	2213.29	10.63	-1.091	0.000	0.199
102.00	-38.27	-7.28	0.00	-396.20	0.00	396.20	2812.61	735.46	2320.39	2168.43	11.10	-1.120	0.000	0.196
104.00	-37.73	-7.22	0.00	-381.64	0.00	381.64	2791.46	725.83	2259.99	2123.68	11.57	-1.149	0.000	0.193
106.00	-37.21	-7.16	0.00	-367.19	0.00	367.19	2769.89	716.19	2200.39	2079.04	12.06	-1.178	0.000	0.190
108.00	-36.68	-7.10	0.00	-352.87	0.00	352.87	2747.90	706.55	2141.58	2034.53	12.56	-1.207	0.000	0.187
110.00	-36.17	-7.04	0.00	-338.67	0.00	338.67	2725.50	696.92	2083.57	1990.17	13.07	-1.236	0.000	0.184
112.00	-35.66	-6.98	0.00	-324.60	0.00	324.60	2702.68	687.28	2026.36	1945.97	13.60	-1.265	0.000	0.180
114.00	-35.16	-6.92	0.00	-310.64	0.00	310.64	2679.45	677.65	1969.94	1901.93	14.13	-1.294	0.000	0.177
116.00	-34.66	-6.86	0.00	-296.81	0.00	296.81	2655.79	668.01	1914.32	1858.08	14.68	-1.322	0.000	0.173
118.00	-34.17	-6.80	0.00	-283.10	0.00	283.10	2631.73	658.38	1859.50	1814.42	15.24	-1.351	0.000	0.169
120.00	-33.68	-6.74	0.00	-269.51	0.00	269.51	2607.24	648.74	1805.47	1770.96	15.81	-1.380	0.000	0.165
122.00	-33.20	-6.68	0.00	-256.04	0.00	256.04	2582.34	639.11	1752.24	1727.73	16.40	-1.408	0.000	0.161
124.00	-32.72	-6.62	0.00	-242.69	0.00	242.69	2557.02	629.47	1699.80	1684.74	16.99	-1.436	0.000	0.157
126.00	-32.25	-6.56	0.00	-229.45	0.00	229.45	2531.28	619.84	1648.16	1641.98	17.60	-1.464	0.000	0.153
128.00	-31.79	-6.50	0.00	-216.34	0.00	216.34	2505.13	610.20	1597.32	1599.49	18.22	-1.492	0.000	0.148
130.00	-31.33	-6.44	0.00	-203.35	0.00	203.35	2478.56	600.57	1547.28	1557.27	18.85	-1.519	0.000	0.143
132.00	-30.88	-6.38	0.00	-190.47	0.00	190.47	2451.58	590.93	1498.03	1515.33	19.49	-1.546	0.000	0.138
133.33	-30.59	-6.34	0.00	-181.97	0.00	181.97	2433.35	584.51	1465.64	1487.53	19.93	-1.564	0.000	0.135
134.00	-30.37	-6.32	0.00	-177.75	0.00	177.75	2424.17	581.30	1449.58	1473.69	20.15	-1.573	0.000	0.133
136.00	-29.73	-6.25	0.00	-165.11	0.00	165.11	2396.35	571.66	1401.92	1432.35	20.81	-1.598	0.000	0.128
138.00	-29.10	-6.19	0.00	-152.60	0.00	152.60	2369.35	562.02	1354.28	1381.01	21.49	-1.624	0.000	0.123
140.00	-28.74	-6.13	0.00	-140.23	0.00	140.23	2342.17	552.38	1306.64	1329.10	22.17	-1.648	0.000	0.118
142.00	-28.38	-6.08	0.00	-127.96	0.00	127.96	2314.85	542.74	1257.00	1277.19	22.87	-1.678	0.000	0.113
144.00	-28.02	-6.02	0.00	-115.80	0.00	115.80	2287.53	533.10	1207.36	1225.28	23.58	-1.707	0.000	0.108
146.00	-27.67	-5.97	0.00	-103.76	0.00	103.76	2260.21	523.46	1157.72	1173.37	24.30	-1.735	0.000	0.103
148.00	-27.33	-5.92	0.00	-91.82	0.00	91.82	2232.90	513.82	1108.08	1121.46	25.03	-1.761	0.000	0.098
150.00	-21.99	-4.59	0.00	-79.99	0.00	79.99	2205.58	504.18	1058.44	1071.55	25.78	-1.785	0.000	0.093
152.00	-21.68	-4.53	0.00	-70.81	0.00	70.81	2178.26	494.54	1008.80	1021.64	26.53	-1.807	0.000	0.088
154.00	-21.37	-4.48	0.00	-61.74	0.00	61.74	2150.94	484.90	959.16	971.73	27.29	-1.828	0.000	0.083
156.00	-21.06	-4.42	0.00	-52.79	0.00	52.79	2123.62	475.26	909.52	921.82	28.06	-1.847	0.000	0.078
158.00	-18.06	-3.82	0.00	-43.94	0.00	43.94	2096.30	465.62	859.88	871.91	28.84	-1.864	0.000	0.073
160.00	-15.76	-3.22	0.00	-36.31	0.00	36.31	2068.98	455.98	810.24	822.00	29.62	-1.879	0.000	0.068
162.00	-15.50	-3.16	0.00	-29.87	0.00	29.87	2041.66	446.34	760.58	772.09	30.41	-1.892	0.000	0.063
164.00	-15.25	-3.11	0.00	-23.54	0.00	23.54	2014.34	436.70	711.02	722.18	31.21	-1.903	0.000	0.058
166.00	-7.76	-1.57	0.00	-17.33	0.00	17.33	1987.02	427.06	661.46	672.27	32.01	-1.913	0.000	0.053
168.00	-7.53	-1.52	0.00	-14.19	0.00	14.19	1959.70	417.42	611.90	622.36	32.81	-1.920	0.000	0.048
170.00	-7.30	-1.46	0.00	-11.15	0.00	11.15	1932.38	407.78	562.34	572.45	33.61	-1.927	0.000	0.043
172.00	-7.07	-1.41	0.00	-8.23	0.00	8.23	1905.06	398.14	512.82	522.54	34.42	-1.932	0.000	0.038
174.00	-6.85	-1.36	0.00	-5.42	0.00	5.42	1877.74	388.50	463.30	472.63	35.23	-1.936	0.000	0.033
176.00	-6.64	-1.30	0.00	-2.71	0.00	2.71	1850.42	378.86	413.76	422.72	36.04	-1.939	0.000	0.028
178.00	-0.20	-0.05	0.00	-0.10	0.00	0.10	1823.10	369.22	364.22	372.81	36.86	-1.940	0.000	0.023
180.00	0.00	-0.04	0.00	0.00	0.00	0.00	1795.78	359.58	314.68	322.90	37.67	-1.940	0.000	0.018

## Seismic Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.2D + 1.0Ev + 1.0Eh					<b>Iterations</b> 25
<b>Gust Response Factor</b>	1.10	<b>Sds</b>	0.22	<b>Ss</b>	0.21
<b>Dead Load Factor</b>	1.20	<b>Seismic Load Factor</b>	1.00	<b>Sd1</b>	0.09
<b>Wind Load Factor</b>	0.00	<b>Structure Frequency (f1)</b>	0.30	<b>SA</b>	0.03
				<b>Seismic Importance Factor</b>	1.00

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
2.00		590.99	1.00	26.48	0.00	
4.00		619.56	3.00	27.76	0.00	
6.00		648.12	5.00	29.04	0.01	
8.00		643.37	7.00	28.82	0.01	
10.00		638.61	9.00	28.61	0.02	
12.00		633.86	11.00	28.40	0.04	
14.00		629.10	13.00	28.18	0.05	
16.00		624.34	15.00	27.97	0.06	
18.00		619.59	17.00	27.76	0.08	
20.00		614.83	19.00	27.54	0.10	
22.00		610.08	21.00	27.33	0.12	
24.00		605.32	23.00	27.12	0.14	
26.00		600.57	25.00	26.91	0.16	
28.00		595.81	27.00	26.69	0.19	
30.00		591.06	29.00	26.48	0.21	
32.00		586.30	31.00	26.27	0.24	
34.00		581.55	33.00	26.05	0.27	
36.00		576.79	35.00	25.84	0.30	
38.00		572.04	37.00	25.63	0.33	
40.00		567.28	39.00	25.41	0.36	
42.00		562.53	41.00	25.20	0.39	
43.92	Bot - Section 2	534.62	42.96	23.95	0.38	
44.00		42.25	43.96	1.89	0.00	
46.00		1009.2	45.00	45.21	1.50	
48.00		1000.0	47.00	44.80	1.61	
50.00		990.89	49.00	44.39	1.72	
51.00	Top - Section 1	492.01	50.50	22.04	0.45	
52.00		255.83	51.50	11.46	0.13	
54.00		508.35	53.00	22.77	0.53	
56.00		503.93	55.00	22.58	0.56	
58.00		499.52	57.00	22.38	0.59	
60.00		495.10	59.00	22.18	0.62	
62.00		490.69	61.00	21.98	0.65	
64.00		486.27	63.00	21.78	0.68	
66.00		481.85	65.00	21.59	0.71	
68.00		477.44	67.00	21.39	0.74	
70.00		473.02	69.00	21.19	0.78	
72.00		468.61	71.00	20.99	0.81	
74.00		464.19	73.00	20.80	0.84	
76.00		459.78	75.00	20.60	0.87	
78.00		455.36	77.00	20.40	0.89	
80.00		450.94	79.00	20.20	0.92	
82.00		446.53	81.00	20.00	0.95	
84.00		442.11	83.00	19.81	0.98	
86.00		437.70	85.00	19.61	1.01	

## Seismic Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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88.00		433.28	87.00	19.41	1.03
90.00		428.87	89.00	19.21	1.06
90.17	Bot - Section 3	35.54	90.08	1.59	0.01
92.00		669.04	91.08	29.97	2.70
94.00		722.05	93.00	32.35	3.28
96.00	Top - Section 2	713.89	95.00	31.98	3.35
98.00		364.33	97.00	16.32	0.91
100.00		360.59	99.00	16.15	0.93
102.00		356.86	101.00	15.99	0.95
104.00		353.12	103.00	15.82	0.96
106.00		349.38	105.00	15.65	0.98
108.00		345.65	107.00	15.48	1.00
110.00		341.91	109.00	15.32	1.01
112.00		338.17	111.00	15.15	1.03
114.00		334.44	113.00	14.98	1.04
116.00		330.70	115.00	14.82	1.05
118.00		326.96	117.00	14.65	1.07
120.00		323.23	119.00	14.48	1.08
122.00		319.49	121.00	14.31	1.09
124.00		315.76	123.00	14.15	1.10
126.00		312.02	125.00	13.98	1.11
128.00		308.28	127.00	13.81	1.12
130.00		304.55	129.00	13.64	1.12
132.00		300.81	131.00	13.48	1.13
133.33	Bot - Section 4	198.46	132.67	8.89	0.50
134.00		154.49	133.67	6.92	0.31
136.00		459.17	135.00	20.57	2.80
138.00	Top - Section 3	452.72	137.00	20.28	2.80
140.00		230.19	139.00	10.31	0.75
142.00		227.47	141.00	10.19	0.75
144.00		224.75	143.00	10.07	0.75
146.00		222.04	145.00	9.95	0.75
148.00		219.32	147.00	9.83	0.76
150.00	Appurtenance(s)	2690.0	149.00	120.51	116.92
152.00		193.84	151.00	8.68	0.62
154.00		191.13	153.00	8.56	0.62
156.00		188.41	155.00	8.44	0.62
158.00	Appurtenance(s)	1932.6	157.00	86.58	67.01
160.00	Appurtenance(s)	909.88	159.00	40.76	15.23
162.00		147.81	161.00	6.62	0.41
164.00		145.09	163.00	6.50	0.41
166.00	Appurtenance(s)	3839.7	165.00	172.02	292.14
168.00		130.50	167.00	5.85	0.35
170.00		127.78	169.00	5.72	0.34
172.00		125.06	171.00	5.60	0.33
174.00		122.35	173.00	5.48	0.33
176.00		119.63	175.00	5.36	0.32
178.00	Appurtenance(s)	3175.2	177.00	142.25	229.88
180.00		109.20	179.00	4.89	0.28
<b>Totals:</b>		<b>50,603.9</b>		<b>2,267.1</b>	<b>788.0</b>
				<b>Total Wind:</b>	<b>47,771.4</b>

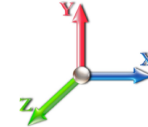
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

## Calculated Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



<b>Load Case:</b> 1.2D + 1.0Ev + 1.0Eh		<b>Iterations</b> 25
<b>Gust Response Factor</b> 1.10	<b>Sds</b> 0.22	<b>Ss</b> 0.21
<b>Dead Load Factor</b> 1.20	<b>Seismic Load Factor</b> 1.00	<b>S1</b> 0.05
<b>Wind Load Factor</b> 0.00	<b>Structure Frequency (f1)</b> 0.30	<b>SA</b> 0.03
	<b>Seismic Importance Factor</b> 1.00	



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-61.89	-0.79	0.00	-134.39	0.00	134.39	5123.29	1522.04	7808.40	6435.29	0.00	0.00	0.00	0.033
2.00	-61.16	-0.79	0.00	-132.82	0.00	132.82	5107.67	1509.78	7683.09	6363.61	0.00	0.00	0.00	0.033
4.00	-60.40	-0.79	0.00	-131.24	0.00	131.24	5091.62	1497.52	7558.79	6291.73	0.00	0.00	0.00	0.033
6.00	-59.60	-0.79	0.00	-129.66	0.00	129.66	5075.16	1485.26	7435.50	6219.67	0.00	-0.01	0.00	0.033
8.00	-58.82	-0.79	0.00	-128.07	0.00	128.07	5058.29	1472.99	7313.22	6147.44	0.01	-0.01	0.00	0.032
10.00	-58.03	-0.80	0.00	-126.48	0.00	126.48	5041.00	1460.73	7191.96	6075.05	0.01	-0.01	0.00	0.032
12.00	-57.26	-0.80	0.00	-124.89	0.00	124.89	5023.29	1448.47	7071.72	6002.51	0.01	-0.01	0.00	0.032
14.00	-56.49	-0.80	0.00	-123.29	0.00	123.29	5005.16	1436.20	6952.48	5929.84	0.02	-0.01	0.00	0.032
16.00	-55.73	-0.80	0.00	-121.69	0.00	121.69	4986.62	1423.94	6834.27	5857.05	0.03	-0.02	0.00	0.032
18.00	-54.97	-0.80	0.00	-120.09	0.00	120.09	4967.66	1411.68	6717.06	5784.16	0.03	-0.02	0.00	0.032
20.00	-54.22	-0.81	0.00	-118.48	0.00	118.48	4948.29	1399.42	6600.87	5711.17	0.04	-0.02	0.00	0.032
22.00	-53.47	-0.81	0.00	-116.87	0.00	116.87	4928.49	1387.15	6485.69	5638.10	0.05	-0.02	0.00	0.032
24.00	-52.73	-0.81	0.00	-115.26	0.00	115.26	4908.28	1374.89	6371.53	5564.95	0.06	-0.02	0.00	0.031
26.00	-52.00	-0.81	0.00	-113.64	0.00	113.64	4887.66	1362.63	6258.37	5491.76	0.07	-0.03	0.00	0.031
28.00	-51.27	-0.81	0.00	-112.02	0.00	112.02	4866.62	1350.36	6146.24	5418.52	0.08	-0.03	0.00	0.031
30.00	-50.55	-0.81	0.00	-110.40	0.00	110.40	4845.16	1338.10	6035.11	5345.24	0.09	-0.03	0.00	0.031
32.00	-49.83	-0.81	0.00	-108.77	0.00	108.77	4823.28	1325.84	5925.00	5271.95	0.10	-0.03	0.00	0.031
34.00	-49.12	-0.81	0.00	-107.15	0.00	107.15	4800.99	1313.58	5815.91	5198.66	0.12	-0.03	0.00	0.031
36.00	-48.42	-0.82	0.00	-105.52	0.00	105.52	4778.28	1301.31	5707.83	5125.37	0.13	-0.04	0.00	0.031
38.00	-47.72	-0.82	0.00	-103.89	0.00	103.89	4755.15	1289.05	5600.76	5052.10	0.15	-0.04	0.00	0.031
40.00	-47.03	-0.82	0.00	-102.25	0.00	102.25	4731.61	1276.79	5494.70	4978.87	0.16	-0.04	0.00	0.030
42.00	-46.34	-0.82	0.00	-100.62	0.00	100.62	4707.65	1264.52	5389.66	4905.68	0.18	-0.04	0.00	0.030
43.92	-45.69	-0.82	0.00	-99.05	0.00	99.05	4684.30	1252.77	5289.95	4835.60	0.20	-0.05	0.00	0.030
44.00	-45.64	-0.82	0.00	-98.98	0.00	98.98	4683.27	1252.26	5285.64	4832.55	0.20	-0.05	0.00	0.030
46.00	-44.40	-0.82	0.00	-97.34	0.00	97.34	4658.48	1240.00	5182.62	4759.49	0.22	-0.05	0.00	0.030
48.00	-43.17	-0.82	0.00	-95.70	0.00	95.70	4633.27	1227.74	5080.62	4686.52	0.24	-0.05	0.00	0.030
50.00	-41.95	-0.82	0.00	-94.06	0.00	94.06	4607.64	1215.47	4979.64	4613.64	0.26	-0.05	0.00	0.029
51.00	-41.34	-0.82	0.00	-93.24	0.00	93.24	4157.28	1142.33	4736.69	4216.21	0.27	-0.05	0.00	0.032
52.00	-41.03	-0.82	0.00	-92.43	0.00	92.43	4146.96	1136.64	4689.60	4184.61	0.29	-0.06	0.00	0.032
54.00	-40.41	-0.82	0.00	-90.79	0.00	90.79	4126.01	1125.25	4596.10	4121.41	0.31	-0.06	0.00	0.032
56.00	-39.80	-0.82	0.00	-89.15	0.00	89.15	4104.64	1113.86	4503.55	4058.23	0.33	-0.06	0.00	0.032
58.00	-39.19	-0.82	0.00	-87.51	0.00	87.51	4082.85	1102.48	4411.95	3995.08	0.36	-0.06	0.00	0.032
60.00	-38.59	-0.82	0.00	-85.87	0.00	85.87	4060.64	1091.09	4321.28	3931.97	0.39	-0.07	0.00	0.031
62.00	-37.99	-0.82	0.00	-84.23	0.00	84.23	4038.02	1079.70	4231.55	3868.91	0.42	-0.07	0.00	0.031
64.00	-37.40	-0.82	0.00	-82.59	0.00	82.59	4014.98	1068.31	4142.77	3805.92	0.44	-0.07	0.00	0.031
66.00	-36.81	-0.82	0.00	-80.95	0.00	80.95	3991.52	1056.93	4054.92	3743.01	0.48	-0.07	0.00	0.031
68.00	-36.23	-0.82	0.00	-79.31	0.00	79.31	3967.65	1045.54	3968.02	3680.19	0.51	-0.08	0.00	0.031
70.00	-35.66	-0.82	0.00	-77.66	0.00	77.66	3943.36	1034.15	3882.06	3617.47	0.54	-0.08	0.00	0.031
72.00	-35.09	-0.82	0.00	-76.02	0.00	76.02	3918.66	1022.77	3797.04	3554.87	0.57	-0.08	0.00	0.030
74.00	-34.52	-0.82	0.00	-74.37	0.00	74.37	3893.54	1011.38	3712.96	3492.40	0.61	-0.09	0.00	0.030
76.00	-33.97	-0.82	0.00	-72.73	0.00	72.73	3868.00	999.99	3629.83	3430.07	0.65	-0.09	0.00	0.030
78.00	-33.41	-0.82	0.00	-71.08	0.00	71.08	3842.04	988.61	3547.63	3367.90	0.68	-0.09	0.00	0.030
80.00	-32.87	-0.82	0.00	-69.44	0.00	69.44	3815.67	977.22	3466.38	3305.90	0.72	-0.09	0.00	0.030
82.00	-32.32	-0.82	0.00	-67.79	0.00	67.79	3788.88	965.83	3386.07	3244.07	0.76	-0.10	0.00	0.029
84.00	-31.79	-0.82	0.00	-66.15	0.00	66.15	3761.67	954.44	3306.69	3182.44	0.80	-0.10	0.00	0.029
86.00	-31.26	-0.82	0.00	-64.50	0.00	64.50	3734.05	943.06	3228.26	3121.02	0.85	-0.10	0.00	0.029
88.00	-30.73	-0.82	0.00	-62.86	0.00	62.86	3706.01	931.67	3150.77	3059.82	0.89	-0.11	0.00	0.029

## Calculated Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	-30.21	-0.82	0.00	-61.22	0.00	61.22	3677.55	920.28	3074.23	2998.84	0.94	-0.11	0.029
90.17	-30.17	-0.82	0.00	-61.08	0.00	61.08	3675.16	919.33	3067.89	2993.77	0.94	-0.11	0.029
92.00	-29.35	-0.82	0.00	-59.58	0.00	59.58	3648.68	908.90	2998.62	2938.12	0.98	-0.11	0.028
94.00	-28.46	-0.82	0.00	-57.94	0.00	57.94	3619.39	897.51	2923.96	2877.64	1.03	-0.12	0.028
96.00	-27.59	-0.81	0.00	-56.31	0.00	56.31	2873.56	764.37	2506.37	2303.28	1.08	-0.12	0.034
98.00	-27.15	-0.81	0.00	-54.69	0.00	54.69	2853.66	754.73	2443.58	2258.25	1.13	-0.12	0.034
100.00	-26.71	-0.81	0.00	-53.06	0.00	53.06	2833.34	745.10	2381.59	2213.29	1.18	-0.13	0.033
102.00	-26.28	-0.81	0.00	-51.44	0.00	51.44	2812.61	735.46	2320.39	2168.43	1.24	-0.13	0.033
104.00	-25.86	-0.81	0.00	-49.82	0.00	49.82	2791.46	725.83	2259.99	2123.68	1.29	-0.13	0.033
106.00	-25.44	-0.81	0.00	-48.20	0.00	48.20	2769.89	716.19	2200.39	2079.04	1.35	-0.14	0.032
108.00	-25.02	-0.81	0.00	-46.58	0.00	46.58	2747.90	706.55	2141.58	2034.53	1.41	-0.14	0.032
110.00	-24.61	-0.81	0.00	-44.96	0.00	44.96	2725.50	696.92	2083.57	1990.17	1.47	-0.15	0.032
112.00	-24.20	-0.81	0.00	-43.34	0.00	43.34	2702.68	687.28	2026.36	1945.97	1.53	-0.15	0.031
114.00	-23.80	-0.81	0.00	-41.72	0.00	41.72	2679.45	677.65	1969.94	1901.93	1.59	-0.15	0.031
116.00	-23.40	-0.81	0.00	-40.10	0.00	40.10	2655.79	668.01	1914.32	1858.08	1.66	-0.16	0.030
118.00	-23.01	-0.81	0.00	-38.48	0.00	38.48	2631.73	658.38	1859.50	1814.42	1.72	-0.16	0.030
120.00	-22.62	-0.81	0.00	-36.87	0.00	36.87	2607.24	648.74	1805.47	1770.96	1.79	-0.16	0.029
122.00	-22.24	-0.81	0.00	-35.25	0.00	35.25	2582.34	639.11	1752.24	1727.73	1.86	-0.17	0.029
124.00	-21.86	-0.81	0.00	-33.64	0.00	33.64	2557.02	629.47	1699.80	1684.74	1.93	-0.17	0.029
126.00	-21.48	-0.81	0.00	-32.03	0.00	32.03	2531.28	619.84	1648.16	1641.98	2.01	-0.18	0.028
128.00	-21.11	-0.80	0.00	-30.42	0.00	30.42	2505.13	610.20	1597.32	1599.49	2.08	-0.18	0.027
130.00	-20.75	-0.80	0.00	-28.81	0.00	28.81	2478.56	600.57	1547.28	1557.27	2.16	-0.18	0.027
132.00	-20.39	-0.80	0.00	-27.20	0.00	27.20	2451.58	590.93	1498.03	1515.33	2.24	-0.19	0.026
133.33	-20.15	-0.80	0.00	-26.13	0.00	26.13	2433.35	584.51	1465.64	1487.53	2.29	-0.19	0.026
134.00	-19.96	-0.80	0.00	-25.60	0.00	25.60	2424.17	581.30	1449.58	1473.69	2.32	-0.19	0.026
136.00	-19.40	-0.80	0.00	-23.99	0.00	23.99	2396.35	571.66	1401.92	1432.35	2.40	-0.20	0.025
138.00	-18.85	-0.79	0.00	-22.40	0.00	22.40	1545.45	417.14	1026.36	929.77	2.48	-0.20	0.036
140.00	-18.58	-0.79	0.00	-20.81	0.00	20.81	1531.69	410.13	992.17	905.88	2.56	-0.20	0.035
142.00	-18.31	-0.79	0.00	-19.22	0.00	19.22	1517.50	403.12	958.56	882.03	2.65	-0.21	0.034
144.00	-18.05	-0.79	0.00	-17.63	0.00	17.63	1502.90	396.11	925.52	858.22	2.74	-0.21	0.033
146.00	-17.78	-0.79	0.00	-16.04	0.00	16.04	1487.88	389.11	893.06	834.49	2.83	-0.22	0.031
148.00	-17.52	-0.79	0.00	-14.46	0.00	14.46	1472.45	382.10	861.19	810.82	2.92	-0.22	0.030
150.00	-14.19	-0.66	0.00	-12.87	0.00	12.87	1456.60	375.09	829.89	787.25	3.01	-0.22	0.026
152.00	-13.96	-0.66	0.00	-11.54	0.00	11.54	1440.33	368.08	799.17	763.78	3.11	-0.23	0.025
154.00	-13.73	-0.66	0.00	-10.22	0.00	10.22	1423.65	361.08	769.03	740.42	3.20	-0.23	0.023
156.00	-13.51	-0.66	0.00	-8.89	0.00	8.89	1406.55	354.07	739.47	717.20	3.30	-0.23	0.022
158.00	-11.11	-0.59	0.00	-7.57	0.00	7.57	1389.03	347.06	710.49	694.11	3.40	-0.24	0.019
160.00	-9.99	-0.57	0.00	-6.40	0.00	6.40	1371.10	340.05	682.09	671.17	3.50	-0.24	0.017
162.00	-9.81	-0.57	0.00	-5.26	0.00	5.26	1352.75	333.05	654.27	648.41	3.60	-0.24	0.015
164.00	-9.63	-0.56	0.00	-4.13	0.00	4.13	1333.98	326.04	627.03	625.81	3.70	-0.24	0.014
166.00	-4.86	-0.25	0.00	-3.00	0.00	3.00	1314.79	319.03	600.37	603.42	3.80	-0.25	0.009
168.00	-4.69	-0.25	0.00	-2.50	0.00	2.50	1295.19	312.03	574.28	581.22	3.91	-0.25	0.008
170.00	-4.54	-0.25	0.00	-2.00	0.00	2.00	1275.17	305.02	548.78	559.24	4.01	-0.25	0.007
172.00	-4.38	-0.25	0.00	-1.49	0.00	1.49	1251.65	298.01	523.85	536.17	4.11	-0.25	0.006
174.00	-4.23	-0.25	0.00	-0.99	0.00	0.99	1222.21	291.00	499.51	511.11	4.22	-0.25	0.005
176.00	-4.09	-0.25	0.00	-0.50	0.00	0.50	1192.78	284.00	475.74	486.64	4.32	-0.25	0.004
178.00	-0.14	0.00	0.00	0.00	0.00	0.00	1163.35	276.99	452.55	462.78	4.43	-0.25	0.000
180.00	0.00	0.00	0.00	0.00	0.00	0.00	1133.92	269.98	429.95	439.52	4.53	-0.25	0.000

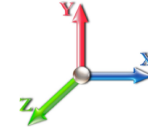
## Seismic Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 0.9D + 1.0Ev + 1.0Eh						<b>Iterations</b> 25
<b>Gust Response Factor</b>	1.10			<b>Sds</b>	0.22	<b>Ss</b> 0.21
<b>Dead Load Factor</b>	0.90	<b>Seismic Load Factor</b>	1.00	<b>Sd1</b>	0.09	<b>S1</b> 0.05
<b>Wind Load Factor</b>	0.00	<b>Structure Frequency (f1)</b>	0.30	<b>SA</b>	0.03	<b>Seismic Importance Factor</b> 1.00



Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
2.00		590.21	1.00	26.44	0.00	
4.00		610.44	3.00	27.35	0.00	
6.00		630.67	5.00	28.25	0.01	
8.00		625.92	7.00	28.04	0.01	
10.00		621.16	9.00	27.83	0.02	
12.00		616.41	11.00	27.62	0.03	
14.00		611.65	13.00	27.40	0.05	
16.00		606.90	15.00	27.19	0.06	
18.00		602.14	17.00	26.98	0.08	
20.00		597.39	19.00	26.76	0.09	
22.00		592.63	21.00	26.55	0.11	
24.00		587.88	23.00	26.34	0.13	
26.00		583.12	25.00	26.12	0.16	
28.00		578.37	27.00	25.91	0.18	
30.00		573.61	29.00	25.70	0.20	
32.00		568.85	31.00	25.48	0.23	
34.00		564.10	33.00	25.27	0.26	
36.00		559.34	35.00	25.06	0.28	
38.00		554.59	37.00	24.85	0.31	
40.00		549.83	39.00	24.63	0.34	
42.00		545.08	41.00	24.42	0.37	
43.92	Bot - Section 2	517.90	42.96	23.20	0.36	
44.00		41.52	43.96	1.86	0.00	
46.00		991.79	45.00	44.43	1.47	
48.00		982.62	47.00	44.02	1.57	
50.00		973.45	49.00	43.61	1.68	
51.00	Top - Section 1	483.28	50.50	21.65	0.44	
52.00		247.11	51.50	11.07	0.12	
54.00		490.90	53.00	21.99	0.50	
56.00		486.48	55.00	21.79	0.53	
58.00		482.07	57.00	21.60	0.56	
60.00		477.65	59.00	21.40	0.58	
62.00		473.24	61.00	21.20	0.61	
64.00		468.82	63.00	21.00	0.64	
66.00		464.41	65.00	20.81	0.67	
68.00		459.99	67.00	20.61	0.70	
70.00		455.58	69.00	20.41	0.73	
72.00		451.16	71.00	20.21	0.76	
74.00		446.74	73.00	20.01	0.78	
76.00		442.33	75.00	19.82	0.81	
78.00		437.91	77.00	19.62	0.84	
80.00		433.50	79.00	19.42	0.86	
82.00		429.08	81.00	19.22	0.89	
84.00		424.67	83.00	19.03	0.91	
86.00		420.25	85.00	18.83	0.94	

## Seismic Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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88.00		415.83	87.00	18.63	0.96
90.00		411.42	89.00	18.43	0.99
90.17	Bot - Section 3	34.09	90.08	1.53	0.01
92.00		653.04	91.08	29.26	2.60
94.00		704.60	93.00	31.57	3.16
96.00	Top - Section 2	696.45	95.00	31.20	3.22
98.00		346.88	97.00	15.54	0.83
100.00		343.14	99.00	15.37	0.85
102.00		339.41	101.00	15.21	0.87
104.00		335.67	103.00	15.04	0.88
106.00		331.94	105.00	14.87	0.89
108.00		328.20	107.00	14.70	0.91
110.00		324.46	109.00	14.54	0.92
112.00		320.73	111.00	14.37	0.93
114.00		316.99	113.00	14.20	0.94
116.00		313.25	115.00	14.03	0.96
118.00		309.52	117.00	13.87	0.97
120.00		305.78	119.00	13.70	0.97
122.00		302.04	121.00	13.53	0.98
124.00		298.31	123.00	13.36	0.99
126.00		294.57	125.00	13.20	1.00
128.00		290.84	127.00	13.03	1.00
130.00		287.10	129.00	12.86	1.01
132.00		283.36	131.00	12.69	1.01
133.33	Bot - Section 4	186.83	132.67	8.37	0.45
134.00		148.68	133.67	6.66	0.29
136.00		441.72	135.00	19.79	2.62
138.00	Top - Section 3	435.27	137.00	19.50	2.62
140.00		212.74	139.00	9.53	0.64
142.00		210.02	141.00	9.41	0.65
144.00		207.31	143.00	9.29	0.65
146.00		204.59	145.00	9.17	0.65
148.00		201.87	147.00	9.04	0.65
150.00	Appurtenance(s)	2672.5	149.00	119.73	116.74
152.00		181.41	151.00	8.13	0.55
154.00		178.69	153.00	8.01	0.55
156.00		175.97	155.00	7.88	0.55
158.00	Appurtenance(s)	1920.2	157.00	86.03	66.91
160.00	Appurtenance(s)	897.44	159.00	40.21	14.99
162.00		143.48	161.00	6.43	0.39
164.00		140.77	163.00	6.31	0.39
166.00	Appurtenance(s)	3835.4	165.00	171.83	294.86
168.00		128.46	167.00	5.76	0.34
170.00		125.75	169.00	5.63	0.33
172.00		123.03	171.00	5.51	0.33
174.00		120.31	173.00	5.39	0.32
176.00		117.59	175.00	5.27	0.31
178.00	Appurtenance(s)	3173.1	177.00	142.16	232.24
180.00		108.42	179.00	4.86	0.28
<b>Totals:</b>		<b>49,232.1</b>		<b>2,205.6</b>	<b>788.0</b>

**Total Wind: 47,771.4**

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



### Calculated Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	<b>10/30/2020</b>
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 0.9D + 1.0Ev + 1.0Eh	<b>Iterations:</b> 25		
<b>Gust Response Factor:</b> 1.10	<b>Sds:</b> 0.22		<b>Ss:</b> 0.21
<b>Dead Load Factor:</b> 0.90	<b>Seismic Load Factor:</b> 1.00	<b>Sd1:</b> 0.09	<b>S1:</b> 0.05
<b>Wind Load Factor:</b> 0.00	<b>Structure Frequency (f1):</b> 0.30	<b>SA:</b> 0.03	<b>Seismic Importance Factor:</b> 1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-46.93	-0.79	0.00	-132.69	0.00	132.69	5123.29	1522.04	7808.40	6435.29	0.00	0.00	0.00	0.030
2.00	-46.37	-0.79	0.00	-131.12	0.00	131.12	5107.67	1509.78	7683.09	6363.61	0.00	0.00	0.00	0.030
4.00	-45.79	-0.79	0.00	-129.54	0.00	129.54	5091.62	1497.52	7558.79	6291.73	0.00	0.00	0.00	0.030
6.00	-45.19	-0.79	0.00	-127.96	0.00	127.96	5075.16	1485.26	7435.50	6219.67	0.00	0.00	-0.01	0.029
8.00	-44.59	-0.79	0.00	-126.38	0.00	126.38	5058.29	1472.99	7313.22	6147.44	0.01	0.00	-0.01	0.029
10.00	-44.00	-0.79	0.00	-124.79	0.00	124.79	5041.00	1460.73	7191.96	6075.05	0.01	0.00	-0.01	0.029
12.00	-43.41	-0.80	0.00	-123.21	0.00	123.21	5023.29	1448.47	7071.72	6002.51	0.01	0.00	-0.01	0.029
14.00	-42.83	-0.80	0.00	-121.61	0.00	121.61	5005.16	1436.20	6952.48	5929.84	0.02	0.00	-0.01	0.029
16.00	-42.25	-0.80	0.00	-120.02	0.00	120.02	4986.62	1423.94	6834.27	5857.05	0.02	0.00	-0.01	0.029
18.00	-41.68	-0.80	0.00	-118.43	0.00	118.43	4967.66	1411.68	6717.06	5784.16	0.03	0.00	-0.02	0.029
20.00	-41.11	-0.80	0.00	-116.83	0.00	116.83	4948.29	1399.42	6600.87	5711.17	0.04	0.00	-0.02	0.029
22.00	-40.54	-0.80	0.00	-115.23	0.00	115.23	4928.49	1387.15	6485.69	5638.10	0.05	0.00	-0.02	0.029
24.00	-39.98	-0.80	0.00	-113.62	0.00	113.62	4908.28	1374.89	6371.53	5564.95	0.06	0.00	-0.02	0.029
26.00	-39.42	-0.80	0.00	-112.02	0.00	112.02	4887.66	1362.63	6258.37	5491.76	0.07	0.00	-0.03	0.028
28.00	-38.87	-0.80	0.00	-110.41	0.00	110.41	4866.62	1350.36	6146.24	5418.52	0.08	0.00	-0.03	0.028
30.00	-38.32	-0.81	0.00	-108.80	0.00	108.80	4845.16	1338.10	6035.11	5345.24	0.09	0.00	-0.03	0.028
32.00	-37.78	-0.81	0.00	-107.19	0.00	107.19	4823.28	1325.84	5925.00	5271.95	0.10	0.00	-0.03	0.028
34.00	-37.24	-0.81	0.00	-105.58	0.00	105.58	4800.99	1313.58	5815.91	5198.66	0.12	0.00	-0.03	0.028
36.00	-36.71	-0.81	0.00	-103.96	0.00	103.96	4778.28	1301.31	5707.83	5125.37	0.13	0.00	-0.04	0.028
38.00	-36.18	-0.81	0.00	-102.35	0.00	102.35	4755.15	1289.05	5600.76	5052.10	0.15	0.00	-0.04	0.028
40.00	-35.66	-0.81	0.00	-100.73	0.00	100.73	4731.61	1276.79	5494.70	4978.87	0.16	0.00	-0.04	0.028
42.00	-35.14	-0.81	0.00	-99.11	0.00	99.11	4707.65	1264.52	5389.66	4905.68	0.18	0.00	-0.04	0.028
43.92	-34.64	-0.81	0.00	-97.56	0.00	97.56	4684.30	1252.77	5289.95	4835.60	0.20	0.00	-0.04	0.028
44.00	-34.60	-0.81	0.00	-97.49	0.00	97.49	4683.27	1252.26	5285.64	4832.55	0.20	0.00	-0.04	0.028
46.00	-33.66	-0.81	0.00	-95.87	0.00	95.87	4658.48	1240.00	5182.62	4759.49	0.22	0.00	-0.05	0.027
48.00	-32.73	-0.81	0.00	-94.25	0.00	94.25	4633.27	1227.74	5080.62	4686.52	0.24	0.00	-0.05	0.027
50.00	-31.80	-0.81	0.00	-92.63	0.00	92.63	4607.64	1215.47	4979.64	4613.64	0.26	0.00	-0.05	0.027
51.00	-31.34	-0.81	0.00	-91.82	0.00	91.82	4157.28	1142.33	4736.69	4216.21	0.27	0.00	-0.05	0.029
52.00	-31.11	-0.81	0.00	-91.01	0.00	91.01	4146.96	1136.64	4689.60	4184.61	0.28	0.00	-0.05	0.029
54.00	-30.64	-0.81	0.00	-89.40	0.00	89.40	4126.01	1125.25	4596.10	4121.41	0.31	0.00	-0.06	0.029
56.00	-30.17	-0.81	0.00	-87.78	0.00	87.78	4104.64	1113.86	4503.55	4058.23	0.33	0.00	-0.06	0.029
58.00	-29.71	-0.81	0.00	-86.16	0.00	86.16	4082.85	1102.48	4411.95	3995.08	0.36	0.00	-0.06	0.029
60.00	-29.25	-0.81	0.00	-84.54	0.00	84.54	4060.64	1091.09	4321.28	3931.97	0.38	0.00	-0.06	0.029
62.00	-28.80	-0.81	0.00	-82.92	0.00	82.92	4038.02	1079.70	4231.55	3868.91	0.41	0.00	-0.07	0.029
64.00	-28.35	-0.81	0.00	-81.30	0.00	81.30	4014.98	1068.31	4142.77	3805.92	0.44	0.00	-0.07	0.028
66.00	-27.91	-0.81	0.00	-79.68	0.00	79.68	3991.52	1056.93	4054.92	3743.01	0.47	0.00	-0.07	0.028
68.00	-27.47	-0.81	0.00	-78.06	0.00	78.06	3967.65	1045.54	3968.02	3680.19	0.50	0.00	-0.08	0.028
70.00	-27.03	-0.81	0.00	-76.44	0.00	76.44	3943.36	1034.15	3882.06	3617.47	0.53	0.00	-0.08	0.028
72.00	-26.60	-0.81	0.00	-74.82	0.00	74.82	3918.66	1022.77	3797.04	3554.87	0.57	0.00	-0.08	0.028
74.00	-26.18	-0.81	0.00	-73.20	0.00	73.20	3893.54	1011.38	3712.96	3492.40	0.60	0.00	-0.08	0.028
76.00	-25.75	-0.81	0.00	-71.58	0.00	71.58	3868.00	999.99	3629.83	3430.07	0.64	0.00	-0.09	0.028
78.00	-25.33	-0.81	0.00	-69.96	0.00	69.96	3842.04	988.61	3547.63	3367.90	0.67	0.00	-0.09	0.027
80.00	-24.92	-0.81	0.00	-68.35	0.00	68.35	3815.67	977.22	3466.38	3305.90	0.71	0.00	-0.09	0.027
82.00	-24.51	-0.81	0.00	-66.73	0.00	66.73	3788.88	965.83	3386.07	3244.07	0.75	0.00	-0.10	0.027
84.00	-24.10	-0.81	0.00	-65.11	0.00	65.11	3761.67	954.44	3306.69	3182.44	0.79	0.00	-0.10	0.027
86.00	-23.70	-0.81	0.00	-63.49	0.00	63.49	3734.05	943.06	3228.26	3121.02	0.83	0.00	-0.10	0.027
88.00	-23.30	-0.81	0.00	-61.87	0.00	61.87	3706.01	931.67	3150.77	3059.82	0.88	0.00	-0.11	0.027

## Calculated Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	-22.91	-0.81	0.00	-60.26	0.00	60.26	3677.55	920.28	3074.23	2998.84	0.92	-0.11	0.026
90.17	-22.87	-0.81	0.00	-60.12	0.00	60.12	3675.16	919.33	3067.89	2993.77	0.93	-0.11	0.026
92.00	-22.25	-0.81	0.00	-58.64	0.00	58.64	3648.68	908.90	2998.62	2938.12	0.97	-0.11	0.026
94.00	-21.58	-0.80	0.00	-57.03	0.00	57.03	3619.39	897.51	2923.96	2877.64	1.02	-0.11	0.026
96.00	-20.92	-0.80	0.00	-55.43	0.00	55.43	2873.56	764.37	2506.37	2303.28	1.06	-0.12	0.031
98.00	-20.58	-0.80	0.00	-53.83	0.00	53.83	2853.66	754.73	2443.58	2258.25	1.11	-0.12	0.031
100.00	-20.26	-0.80	0.00	-52.24	0.00	52.24	2833.34	745.10	2381.59	2213.29	1.17	-0.12	0.031
102.00	-19.93	-0.80	0.00	-50.64	0.00	50.64	2812.61	735.46	2320.39	2168.43	1.22	-0.13	0.030
104.00	-19.61	-0.80	0.00	-49.04	0.00	49.04	2791.46	725.83	2259.99	2123.68	1.27	-0.13	0.030
106.00	-19.29	-0.80	0.00	-47.45	0.00	47.45	2769.89	716.19	2200.39	2079.04	1.33	-0.14	0.030
108.00	-18.97	-0.80	0.00	-45.86	0.00	45.86	2747.90	706.55	2141.58	2034.53	1.39	-0.14	0.029
110.00	-18.66	-0.80	0.00	-44.26	0.00	44.26	2725.50	696.92	2083.57	1990.17	1.45	-0.14	0.029
112.00	-18.35	-0.80	0.00	-42.67	0.00	42.67	2702.68	687.28	2026.36	1945.97	1.51	-0.15	0.029
114.00	-18.05	-0.80	0.00	-41.08	0.00	41.08	2679.45	677.65	1969.94	1901.93	1.57	-0.15	0.028
116.00	-17.75	-0.79	0.00	-39.49	0.00	39.49	2655.79	668.01	1914.32	1858.08	1.63	-0.15	0.028
118.00	-17.45	-0.79	0.00	-37.90	0.00	37.90	2631.73	658.38	1859.50	1814.42	1.70	-0.16	0.028
120.00	-17.15	-0.79	0.00	-36.31	0.00	36.31	2607.24	648.74	1805.47	1770.96	1.77	-0.16	0.027
122.00	-16.86	-0.79	0.00	-34.73	0.00	34.73	2582.34	639.11	1752.24	1727.73	1.84	-0.17	0.027
124.00	-16.58	-0.79	0.00	-33.14	0.00	33.14	2557.02	629.47	1699.80	1684.74	1.91	-0.17	0.026
126.00	-16.29	-0.79	0.00	-31.56	0.00	31.56	2531.28	619.84	1648.16	1641.98	1.98	-0.17	0.026
128.00	-16.01	-0.79	0.00	-29.97	0.00	29.97	2505.13	610.20	1597.32	1599.49	2.05	-0.18	0.025
130.00	-15.74	-0.79	0.00	-28.39	0.00	28.39	2478.56	600.57	1547.28	1557.27	2.13	-0.18	0.025
132.00	-15.46	-0.79	0.00	-26.81	0.00	26.81	2451.58	590.93	1498.03	1515.33	2.20	-0.19	0.024
133.33	-15.28	-0.79	0.00	-25.76	0.00	25.76	2433.35	584.51	1465.64	1487.53	2.26	-0.19	0.024
134.00	-15.14	-0.79	0.00	-25.24	0.00	25.24	2424.17	581.30	1449.58	1473.69	2.28	-0.19	0.023
136.00	-14.72	-0.79	0.00	-23.66	0.00	23.66	2396.35	571.66	1401.92	1432.35	2.36	-0.19	0.023
138.00	-14.30	-0.78	0.00	-22.09	0.00	22.09	1545.45	417.14	1026.36	929.77	2.44	-0.20	0.033
140.00	-14.10	-0.78	0.00	-20.53	0.00	20.53	1531.69	410.13	992.17	905.88	2.53	-0.20	0.032
142.00	-13.89	-0.78	0.00	-18.96	0.00	18.96	1517.50	403.12	958.56	882.03	2.61	-0.20	0.031
144.00	-13.69	-0.78	0.00	-17.40	0.00	17.40	1502.90	396.11	925.52	858.22	2.70	-0.21	0.029
146.00	-13.49	-0.78	0.00	-15.84	0.00	15.84	1487.88	389.11	893.06	834.49	2.79	-0.21	0.028
148.00	-13.30	-0.78	0.00	-14.28	0.00	14.28	1472.45	382.10	861.19	810.82	2.88	-0.22	0.027
150.00	-10.77	-0.65	0.00	-12.72	0.00	12.72	1456.60	375.09	829.89	787.25	2.97	-0.22	0.024
152.00	-10.59	-0.65	0.00	-11.41	0.00	11.41	1440.33	368.08	799.17	763.78	3.06	-0.22	0.022
154.00	-10.42	-0.65	0.00	-10.10	0.00	10.10	1423.65	361.08	769.03	740.42	3.16	-0.23	0.021
156.00	-10.25	-0.65	0.00	-8.80	0.00	8.80	1406.55	354.07	739.47	717.20	3.25	-0.23	0.020
158.00	-8.43	-0.58	0.00	-7.49	0.00	7.49	1389.03	347.06	710.49	694.11	3.35	-0.23	0.017
160.00	-7.58	-0.56	0.00	-6.33	0.00	6.33	1371.10	340.05	682.09	671.17	3.45	-0.24	0.015
162.00	-7.44	-0.56	0.00	-5.21	0.00	5.21	1352.75	333.05	654.27	648.41	3.55	-0.24	0.014
164.00	-7.31	-0.56	0.00	-4.09	0.00	4.09	1333.98	326.04	627.03	625.81	3.65	-0.24	0.012
166.00	-3.68	-0.25	0.00	-2.97	0.00	2.97	1314.79	319.03	600.37	603.42	3.75	-0.24	0.008
168.00	-3.56	-0.25	0.00	-2.47	0.00	2.47	1295.19	312.03	574.28	581.22	3.85	-0.24	0.007
170.00	-3.44	-0.25	0.00	-1.98	0.00	1.98	1275.17	305.02	548.78	559.24	3.95	-0.24	0.006
172.00	-3.33	-0.25	0.00	-1.48	0.00	1.48	1251.65	298.01	523.85	536.17	4.05	-0.25	0.005
174.00	-3.21	-0.25	0.00	-0.99	0.00	0.99	1222.21	291.00	499.51	511.11	4.16	-0.25	0.005
176.00	-3.10	-0.25	0.00	-0.49	0.00	0.49	1192.78	284.00	475.74	486.64	4.26	-0.25	0.004
178.00	-0.10	0.00	0.00	0.00	0.00	0.00	1163.35	276.99	452.55	462.78	4.36	-0.25	0.000
180.00	0.00	0.00	0.00	0.00	0.00	0.00	1133.92	269.98	429.95	439.52	4.47	-0.25	0.000

## Wind Loading - Shaft

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

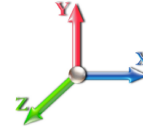


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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Iterations** 27

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



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	6.602	7.26	294.63	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	6.602	7.26	292.27	0.950	0.000	2.00	10.655	10.12	73.5	0.0	587.8
4.00		1.00	0.85	6.602	7.26	289.91	0.950	0.000	2.00	10.569	10.04	72.9	0.0	583.1
6.00		1.00	0.85	6.602	7.26	287.56	0.950	0.000	2.00	10.484	9.96	72.3	0.0	578.3
8.00		1.00	0.85	6.602	7.26	285.20	0.950	0.000	2.00	10.398	9.88	71.7	0.0	573.6
10.00		1.00	0.85	6.602	7.26	282.84	0.950	0.000	2.00	10.313	9.80	71.1	0.0	568.8
12.00		1.00	0.85	6.602	7.26	280.49	0.950	0.000	2.00	10.227	9.72	70.6	0.0	564.1
14.00		1.00	0.85	6.602	7.26	278.13	0.950	0.000	2.00	10.142	9.63	70.0	0.0	559.3
16.00		1.00	0.86	6.684	7.35	277.47	0.950	0.000	2.00	10.056	9.55	70.2	0.0	554.6
18.00		1.00	0.88	6.851	7.54	278.53	0.950	0.000	2.00	9.970	9.47	71.4	0.0	549.8
20.00		1.00	0.90	7.005	7.71	279.21	0.950	0.000	2.00	9.885	9.39	72.4	0.0	545.0
22.00		1.00	0.92	7.147	7.86	279.57	0.950	0.000	2.00	9.799	9.31	73.2	0.0	540.3
24.00		1.00	0.94	7.279	8.01	279.67	0.950	0.000	2.00	9.714	9.23	73.9	0.0	535.5
26.00		1.00	0.95	7.403	8.14	279.54	0.950	0.000	2.00	9.628	9.15	74.5	0.0	530.8
28.00		1.00	0.97	7.519	8.27	279.21	0.950	0.000	2.00	9.542	9.07	75.0	0.0	526.0
30.00		1.00	0.98	7.629	8.39	278.72	0.950	0.000	2.00	9.457	8.98	75.4	0.0	521.3
32.00		1.00	1.00	7.734	8.51	278.06	0.950	0.000	2.00	9.371	8.90	75.7	0.0	516.5
34.00		1.00	1.01	7.833	8.62	277.28	0.950	0.000	2.00	9.286	8.82	76.0	0.0	511.8
36.00		1.00	1.02	7.928	8.72	276.37	0.950	0.000	2.00	9.200	8.74	76.2	0.0	507.0
38.00		1.00	1.03	8.019	8.82	275.35	0.950	0.000	2.00	9.115	8.66	76.4	0.0	502.2
40.00		1.00	1.04	8.106	8.92	274.23	0.950	0.000	2.00	9.029	8.58	76.5	0.0	497.5
42.00		1.00	1.05	8.189	9.01	273.01	0.950	0.000	2.00	8.943	8.50	76.5	0.0	492.7
43.92	Bot - Section 2	1.00	1.06	8.267	9.09	271.77	0.950	0.000	1.92	8.490	8.07	73.3	0.0	467.7
44.00		1.00	1.06	8.270	9.10	271.71	0.950	0.000	0.08	0.373	0.35	3.2	0.0	39.3
46.00		1.00	1.07	8.348	9.18	270.34	0.950	0.000	2.00	8.912	8.47	77.7	0.0	939.4
48.00		1.00	1.08	8.423	9.27	268.89	0.950	0.000	2.00	8.827	8.39	77.7	0.0	930.3
50.00		1.00	1.09	8.495	9.34	267.37	0.950	0.000	2.00	8.741	8.30	77.6	0.0	921.1
51.00	Top - Section 1	1.00	1.10	8.531	9.38	266.59	0.950	0.000	1.00	4.339	4.12	38.7	0.0	457.1
52.00		1.00	1.10	8.566	9.42	270.19	0.950	0.000	1.00	4.317	4.10	38.6	0.0	220.9
54.00		1.00	1.11	8.634	9.50	268.57	0.950	0.000	2.00	8.570	8.14	77.3	0.0	438.6
56.00		1.00	1.12	8.701	9.57	266.90	0.950	0.000	2.00	8.485	8.06	77.1	0.0	434.1
58.00		1.00	1.13	8.765	9.64	265.17	0.950	0.000	2.00	8.399	7.98	76.9	0.0	429.7
60.00		1.00	1.14	8.828	9.71	263.39	0.950	0.000	2.00	8.313	7.90	76.7	0.0	425.3
62.00		1.00	1.14	8.889	9.78	261.57	0.950	0.000	2.00	8.228	7.82	76.4	0.0	420.9
64.00		1.00	1.15	8.949	9.84	259.70	0.950	0.000	2.00	8.142	7.74	76.1	0.0	416.5
66.00		1.00	1.16	9.007	9.91	257.79	0.950	0.000	2.00	8.057	7.65	75.8	0.0	412.1
68.00		1.00	1.17	9.064	9.97	255.84	0.950	0.000	2.00	7.971	7.57	75.5	0.0	407.6
70.00		1.00	1.17	9.119	10.03	253.85	0.950	0.000	2.00	7.885	7.49	75.1	0.0	403.2
72.00		1.00	1.18	9.173	10.09	251.83	0.950	0.000	2.00	7.800	7.41	74.8	0.0	398.8
74.00		1.00	1.19	9.226	10.15	249.77	0.950	0.000	2.00	7.714	7.33	74.4	0.0	394.4
76.00		1.00	1.19	9.278	10.21	247.67	0.950	0.000	2.00	7.629	7.25	74.0	0.0	390.0
78.00		1.00	1.20	9.329	10.26	245.55	0.950	0.000	2.00	7.543	7.17	73.5	0.0	385.6
80.00		1.00	1.21	9.379	10.32	243.40	0.950	0.000	2.00	7.458	7.08	73.1	0.0	381.2
82.00		1.00	1.21	9.428	10.37	241.21	0.950	0.000	2.00	7.372	7.00	72.6	0.0	376.7
84.00		1.00	1.22	9.476	10.42	239.00	0.950	0.000	2.00	7.286	6.92	72.2	0.0	372.3
86.00		1.00	1.23	9.523	10.48	236.76	0.950	0.000	2.00	7.201	6.84	71.7	0.0	367.9
88.00		1.00	1.23	9.569	10.53	234.50	0.950	0.000	2.00	7.115	6.76	71.2	0.0	363.5

## Wind Loading - Shaft

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	1.00	1.24	9.615	10.58	232.21	0.950	0.000	2.00	7.030	6.68	70.6	0.0	359.1	
90.17 Bot - Section 3	1.00	1.24	9.618	10.58	232.02	0.950	0.000	0.17	0.582	0.55	5.8	0.0	29.7	
92.00	1.00	1.24	9.659	10.63	229.90	0.950	0.000	1.83	6.471	6.15	65.3	0.0	605.1	
94.00	1.00	1.25	9.703	10.67	227.56	0.950	0.000	2.00	6.977	6.63	70.7	0.0	652.3	
96.00 Top - Section 2	1.00	1.25	9.746	10.72	225.20	0.950	0.000	2.00	6.891	6.55	70.2	0.0	644.1	
98.00	1.00	1.26	9.788	10.77	226.80	0.950	0.000	2.00	6.806	6.47	69.6	0.0	294.5	
100.00	1.00	1.27	9.830	10.81	224.41	0.950	0.000	2.00	6.720	6.38	69.0	0.0	290.8	
102.00	1.00	1.27	9.871	10.86	221.99	0.950	0.000	2.00	6.635	6.30	68.4	0.0	287.1	
104.00	1.00	1.28	9.912	10.90	219.56	0.950	0.000	2.00	6.549	6.22	67.8	0.0	283.3	
106.00	1.00	1.28	9.951	10.95	217.11	0.950	0.000	2.00	6.464	6.14	67.2	0.0	279.6	
108.00	1.00	1.29	9.991	10.99	214.63	0.950	0.000	2.00	6.378	6.06	66.6	0.0	275.9	
110.00	1.00	1.29	10.029	11.03	212.14	0.950	0.000	2.00	6.292	5.98	65.9	0.0	272.1	
112.00	1.00	1.30	10.068	11.07	209.64	0.950	0.000	2.00	6.207	5.90	65.3	0.0	268.4	
114.00	1.00	1.30	10.105	11.12	207.11	0.950	0.000	2.00	6.121	5.82	64.6	0.0	264.6	
116.00	1.00	1.31	10.142	11.16	204.57	0.950	0.000	2.00	6.036	5.73	64.0	0.0	260.9	
118.00	1.00	1.31	10.179	11.20	202.01	0.950	0.000	2.00	5.950	5.65	63.3	0.0	257.2	
120.00	1.00	1.32	10.215	11.24	199.44	0.950	0.000	2.00	5.864	5.57	62.6	0.0	253.4	
122.00	1.00	1.32	10.250	11.28	196.85	0.950	0.000	2.00	5.779	5.49	61.9	0.0	249.7	
124.00	1.00	1.32	10.286	11.31	194.24	0.950	0.000	2.00	5.693	5.41	61.2	0.0	246.0	
126.00	1.00	1.33	10.320	11.35	191.62	0.950	0.000	2.00	5.608	5.33	60.5	0.0	242.2	
128.00	1.00	1.33	10.355	11.39	188.99	0.950	0.000	2.00	5.522	5.25	59.8	0.0	238.5	
130.00	1.00	1.34	10.388	11.43	186.34	0.950	0.000	2.00	5.437	5.16	59.0	0.0	234.8	
132.00	1.00	1.34	10.422	11.46	183.68	0.950	0.000	2.00	5.351	5.08	58.3	0.0	231.0	
133.33 Bot - Section 4	1.00	1.34	10.444	11.49	181.90	0.950	0.000	1.33	3.520	3.34	38.4	0.0	151.9	
134.00	1.00	1.35	10.455	11.50	181.00	0.950	0.000	0.67	1.774	1.69	19.4	0.0	131.2	
136.00	1.00	1.35	10.488	11.54	178.32	0.950	0.000	2.00	5.266	5.00	57.7	0.0	389.4	
138.00 Top - Section 3	1.00	1.35	10.520	11.57	175.62	0.950	0.000	2.00	5.181	4.92	57.0	0.0	382.9	
140.00	1.00	1.36	10.552	11.61	175.91	0.950	0.000	2.00	5.095	4.84	56.2	0.0	160.4	
142.00	1.00	1.36	10.583	11.64	173.18	0.950	0.000	2.00	5.009	4.76	55.4	0.0	157.7	
144.00	1.00	1.37	10.615	11.68	170.45	0.950	0.000	2.00	4.924	4.68	54.6	0.0	155.0	
146.00	1.00	1.37	10.645	11.71	167.70	0.950	0.000	2.00	4.838	4.60	53.8	0.0	152.2	
148.00	1.00	1.37	10.676	11.74	164.95	0.950	0.000	2.00	4.753	4.51	53.0	0.0	149.5	
150.00 Appurtenance(s)	1.00	1.38	10.706	11.78	162.18	0.950	0.000	2.00	4.667	4.43	52.2	0.0	146.8	
152.00	1.00	1.38	10.736	11.81	159.40	0.950	0.000	2.00	4.581	4.35	51.4	0.0	144.1	
154.00	1.00	1.39	10.766	11.84	156.61	0.950	0.000	2.00	4.496	4.27	50.6	0.0	141.4	
156.00	1.00	1.39	10.795	11.87	153.81	0.950	0.000	2.00	4.410	4.19	49.8	0.0	138.7	
158.00 Appurtenance(s)	1.00	1.39	10.824	11.91	151.00	0.950	0.000	2.00	4.325	4.11	48.9	0.0	135.9	
160.00 Appurtenance(s)	1.00	1.40	10.853	11.94	148.18	0.950	0.000	2.00	4.239	4.03	48.1	0.0	133.2	
162.00	1.00	1.40	10.881	11.97	145.34	0.950	0.000	2.00	4.154	3.95	47.2	0.0	130.5	
164.00	1.00	1.40	10.909	12.00	142.50	0.950	0.000	2.00	4.068	3.86	46.4	0.0	127.8	
166.00 Appurtenance(s)	1.00	1.41	10.937	12.03	139.65	0.950	0.000	2.00	3.982	3.78	45.5	0.0	125.1	
168.00	1.00	1.41	10.965	12.06	136.79	0.950	0.000	2.00	3.897	3.70	44.6	0.0	122.4	
170.00	1.00	1.42	10.992	12.09	133.92	0.950	0.000	2.00	3.811	3.62	43.8	0.0	119.6	
172.00	1.00	1.42	11.019	12.12	131.04	0.950	0.000	2.00	3.726	3.54	42.9	0.0	116.9	
174.00	1.00	1.42	11.046	12.15	128.15	0.950	0.000	2.00	3.640	3.46	42.0	0.0	114.2	
176.00	1.00	1.43	11.073	12.18	125.25	0.950	0.000	2.00	3.554	3.38	41.1	0.0	111.5	
178.00 Appurtenance(s)	1.00	1.43	11.099	12.21	122.34	0.950	0.000	2.00	3.469	3.30	40.2	0.0	108.8	
180.00	1.00	1.43	11.125	12.24	119.43	0.950	0.000	2.00	3.383	3.21	39.3	0.0	106.1	
<b>Totals:</b>								<b>180.00</b>			<b>5,894.3</b>			<b>33,413.9</b>

## Discrete Appurtenance Forces

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 27

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	178.00	Raycap	1	11.099	12.209	1.00	1.00	2.61	32.00	0.000	0.000	31.86	0.00	0.00	
2	178.00	Samsung B5/B13 RRH	3	11.099	12.209	0.50	0.75	3.35	210.90	0.000	0.000	40.86	0.00	0.00	
3	178.00	Samsung B2/B66A RRH	3	11.099	12.209	0.50	0.75	2.83	253.20	0.000	0.000	34.60	0.00	0.00	
4	178.00	JMA MX06FRO660-03	6	11.099	12.209	0.61	0.75	36.42	360.00	0.000	0.000	444.65	0.00	0.00	
5	178.00	Platform w/ Handrails w/	1	11.099	12.209	1.00	1.00	40.00	2202.20	0.000	0.000	488.35	0.00	0.00	
6	166.00	ALU 800 Mhz	6	10.937	12.031	0.38	0.75	5.60	318.00	0.000	0.000	67.40	0.00	0.00	
7	166.00	RFS APXVTM14-C-I20	3	10.937	12.031	0.58	0.75	10.98	168.60	0.000	0.000	132.15	0.00	0.00	
8	166.00	Commscope	3	10.937	12.031	0.55	0.75	20.43	232.20	0.000	0.000	245.78	0.00	0.00	
9	166.00	ALU 1900 Mhz	3	10.937	12.031	0.50	0.75	5.73	132.00	0.000	0.000	68.92	0.00	0.00	
10	166.00	Sitepro	1	10.937	12.031	1.00	1.00	6.70	230.00	0.000	0.000	80.61	0.00	0.00	
11	166.00	ALU TD-RRH8x20-25	3	10.937	12.031	0.50	0.75	6.11	210.00	0.000	0.000	73.45	0.00	0.00	
12	166.00	Sitepro	1	10.937	12.031	1.00	1.00	7.00	406.61	0.000	0.000	84.22	0.00	0.00	
13	166.00	Platform w/ Hand Rails	1	10.937	12.031	1.00	1.00	40.00	2000.00	0.000	0.000	481.23	0.00	0.00	
14	160.00	RR90-17-00VDPL2/-R	3	10.853	11.938	0.54	0.80	7.12	40.50	0.000	0.000	84.94	0.00	0.00	
15	160.00	4449 B71+B12	3	10.853	11.938	0.54	0.80	2.65	210.00	0.000	0.000	31.67	0.00	0.00	
16	160.00	KRY 112 144/2	3	10.853	11.938	0.54	0.80	1.05	46.20	0.000	0.000	12.48	0.00	0.00	
17	160.00	APXVAARR24_43-U-NA2	3	10.853	11.938	0.56	0.80	34.00	384.00	0.000	0.000	405.93	0.00	0.00	
18	160.00	KRY 112 489/2	3	10.853	11.938	0.54	0.80	1.05	46.20	0.000	0.000	12.48	0.00	0.00	
19	158.00	V-Brace	1	10.824	11.906	0.75	0.75	4.72	197.00	0.000	0.000	56.26	0.00	0.00	
20	158.00	T-Arm Kit	1	10.824	11.906	0.75	0.75	12.38	500.00	0.000	0.000	147.34	0.00	0.00	
21	158.00	T-Arms	3	10.824	11.906	0.56	0.75	13.50	1050.00	0.000	0.000	160.73	0.00	0.00	
22	150.00	Ericsson RRUS-11	3	10.706	11.777	0.50	0.75	3.80	152.10	0.000	0.000	44.74	0.00	0.00	
23	150.00	KMW AM-X-CD-16-65-00T	2	10.706	11.777	0.56	0.75	9.02	97.00	0.000	0.000	106.26	0.00	0.00	
24	150.00	Powerwave 7770	3	10.706	11.777	0.55	0.75	9.05	105.00	0.000	0.000	106.58	0.00	0.00	
25	150.00	KMW AM-X-CD-14-65-00T	1	10.706	11.777	0.75	0.75	5.29	36.40	0.000	0.000	62.27	0.00	0.00	
26	150.00	Powerwave LGP21401	6	10.706	11.777	0.38	0.75	2.75	84.60	0.000	0.000	32.33	0.00	0.00	
27	150.00	Cci HPA-65R-BUU-H6	2	10.706	11.777	0.77	0.90	14.78	102.00	0.000	0.000	174.06	0.00	0.00	
28	150.00	Raycap DC6-48-60-18-8F	1	10.706	11.777	0.67	1.00	1.21	31.80	0.000	0.000	14.28	0.00	0.00	
29	150.00	Platform w/ Hand Rail	1	10.706	11.777	1.00	1.00	35.00	1600.00	0.000	0.000	412.19	0.00	0.00	
30	150.00	SBNHH-1D65A	1	10.706	11.777	1.00	1.00	5.88	33.50	0.000	0.000	69.25	0.00	0.00	
31	150.00	RRUS-32	3	10.706	11.777	0.50	0.75	5.83	231.00	0.000	0.000	68.71	0.00	0.00	
<b>Totals:</b>									<b>11,703.01</b>						<b>4,276.56</b>

## Total Applied Force Summary

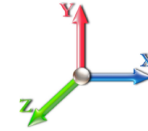
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		73.51	590.47	0.00	0.00
4.00		72.92	613.48	0.00	0.00
6.00		72.33	636.49	0.00	0.00
8.00		71.74	631.73	0.00	0.00
10.00		71.15	626.98	0.00	0.00
12.00		70.56	622.22	0.00	0.00
14.00		69.97	617.47	0.00	0.00
16.00		70.23	612.71	0.00	0.00
18.00		71.38	607.96	0.00	0.00
20.00		72.36	603.20	0.00	0.00
22.00		73.19	598.45	0.00	0.00
24.00		73.89	593.69	0.00	0.00
26.00		74.48	588.94	0.00	0.00
28.00		74.98	584.18	0.00	0.00
30.00		75.40	579.43	0.00	0.00
32.00		75.74	574.67	0.00	0.00
34.00		76.01	569.92	0.00	0.00
36.00		76.22	565.16	0.00	0.00
38.00		76.37	560.40	0.00	0.00
40.00		76.48	555.65	0.00	0.00
42.00		76.54	550.89	0.00	0.00
43.92		73.35	523.48	0.00	0.00
44.00		3.23	41.77	0.00	0.00
46.00		77.75	997.60	0.00	0.00
48.00		77.69	988.43	0.00	0.00
50.00		77.60	979.26	0.00	0.00
51.00		38.68	486.19	0.00	0.00
52.00		38.64	250.01	0.00	0.00
54.00		77.33	496.72	0.00	0.00
56.00		77.14	492.30	0.00	0.00
58.00		76.93	487.88	0.00	0.00
60.00		76.69	483.47	0.00	0.00
62.00		76.43	479.05	0.00	0.00
64.00		76.14	474.64	0.00	0.00
66.00		75.83	470.22	0.00	0.00
68.00		75.50	465.81	0.00	0.00
70.00		75.14	461.39	0.00	0.00
72.00		74.77	456.98	0.00	0.00
74.00		74.38	452.56	0.00	0.00
76.00		73.97	448.14	0.00	0.00
78.00		73.54	443.73	0.00	0.00
80.00		73.09	439.31	0.00	0.00
82.00		72.63	434.90	0.00	0.00
84.00		72.15	430.48	0.00	0.00
86.00		71.66	426.07	0.00	0.00
88.00		71.15	421.65	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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90.00	70.63	417.23	0.00	0.00
90.17	5.85	34.57	0.00	0.00
92.00	65.32	658.37	0.00	0.00
94.00	70.74	710.41	0.00	0.00
96.00	70.19	702.26	0.00	0.00
98.00	69.62	352.70	0.00	0.00
100.00	69.03	348.96	0.00	0.00
102.00	68.44	345.22	0.00	0.00
104.00	67.83	341.49	0.00	0.00
106.00	67.22	337.75	0.00	0.00
108.00	66.59	334.01	0.00	0.00
110.00	65.95	330.28	0.00	0.00
112.00	65.30	326.54	0.00	0.00
114.00	64.64	322.81	0.00	0.00
116.00	63.97	319.07	0.00	0.00
118.00	63.29	315.33	0.00	0.00
120.00	62.60	311.60	0.00	0.00
122.00	61.90	307.86	0.00	0.00
124.00	61.19	304.12	0.00	0.00
126.00	60.48	300.39	0.00	0.00
128.00	59.75	296.65	0.00	0.00
130.00	59.02	292.92	0.00	0.00
132.00	58.28	289.18	0.00	0.00
133.33	38.41	190.71	0.00	0.00
134.00	19.39	150.61	0.00	0.00
136.00	57.71	447.54	0.00	0.00
138.00	56.95	441.09	0.00	0.00
140.00	56.18	218.56	0.00	0.00
142.00	55.40	215.84	0.00	0.00
144.00	54.62	213.12	0.00	0.00
146.00	53.82	210.40	0.00	0.00
148.00	53.02	207.69	0.00	0.00
150.00	(23) attachments	1142.87	2678.37	0.00
152.00		51.40	185.55	0.00
154.00		50.58	182.84	0.00
156.00		49.75	180.12	0.00
158.00	(5) attachments	413.25	1924.40	0.00
160.00	(15) attachments	595.57	901.58	0.00
162.00		47.23	144.93	0.00
164.00		46.37	142.21	0.00
166.00	(21) attachments	1279.27	3836.90	0.00
168.00		44.65	129.14	0.00
170.00		43.78	126.42	0.00
172.00		42.90	123.71	0.00
174.00		42.02	120.99	0.00
176.00		41.13	118.27	0.00
178.00	(14) attachments	1080.56	3173.86	0.00
180.00		39.33	108.68	0.00
<b>Totals:</b>		<b>10,170.81</b>	<b>49,689.39</b>	<b>0.00</b>
				<b>0.00</b>

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	0.55
2.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	2.08
4.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	0.55
4.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	2.08
6.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	0.55
6.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	2.08
8.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	0.55
8.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	2.08
10.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	0.55
10.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	2.08
12.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	0.55
12.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	2.08
14.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	0.55
14.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.602	0.00	2.08
16.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.684	0.00	0.55
16.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.684	0.00	2.08
18.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.851	0.00	0.55
18.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.851	0.00	2.08
20.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.005	0.00	0.55
20.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.005	0.00	2.08
22.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.147	0.00	0.55
22.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.147	0.00	2.08
24.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.279	0.00	0.55
24.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.279	0.00	2.08
26.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.403	0.00	0.55
26.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.403	0.00	2.08
28.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.519	0.00	0.55
28.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.519	0.00	2.08
30.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.629	0.00	0.55
30.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.629	0.00	2.08
32.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.734	0.00	0.55
32.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.734	0.00	2.08
34.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.833	0.00	0.55
34.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.833	0.00	2.08
36.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.928	0.00	0.55
36.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.928	0.00	2.08
38.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.019	0.00	0.55
38.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.019	0.00	2.08
40.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.106	0.00	0.55
40.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.106	0.00	2.08
42.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.189	0.00	0.55
42.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.189	0.00	2.08
43.92	Safety Cable	Yes	1.92	0.000	0.00	0.00	0.00	0.000	0.000	8.267	0.00	0.52
43.92	Step bolts (ladder)	Yes	1.92	0.000	0.00	0.00	0.00	0.000	0.000	8.267	0.00	1.99
44.00	Safety Cable	Yes	0.08	0.000	0.00	0.00	0.00	0.000	0.000	8.270	0.00	0.02
44.00	Step bolts (ladder)	Yes	0.08	0.000	0.00	0.00	0.00	0.000	0.000	8.270	0.00	0.09
46.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.348	0.00	0.55



## Linear Appurtenance Segment Forces (Factored)

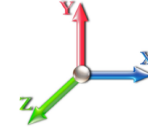
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 27

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)
46.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.348	0.00	2.08
48.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.423	0.00	0.55
48.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.423	0.00	2.08
50.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.495	0.00	0.55
50.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.495	0.00	2.08
51.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.531	0.00	0.27
51.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.531	0.00	1.04
52.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.566	0.00	0.27
52.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.566	0.00	1.04
54.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.634	0.00	0.55
54.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.634	0.00	2.08
56.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.701	0.00	0.55
56.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.701	0.00	2.08
58.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.765	0.00	0.55
58.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.765	0.00	2.08
60.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.828	0.00	0.55
60.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.828	0.00	2.08
62.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.889	0.00	0.55
62.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.889	0.00	2.08
64.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.949	0.00	0.55
64.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.949	0.00	2.08
66.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.007	0.00	0.55
66.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.007	0.00	2.08
68.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.064	0.00	0.55
68.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.064	0.00	2.08
70.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.119	0.00	0.55
70.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.119	0.00	2.08
72.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.173	0.00	0.55
72.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.173	0.00	2.08
74.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.226	0.00	0.55
74.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.226	0.00	2.08
76.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.278	0.00	0.55
76.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.278	0.00	2.08
78.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.329	0.00	0.55
78.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.329	0.00	2.08
80.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.379	0.00	0.55
80.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.379	0.00	2.08
82.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.428	0.00	0.55
82.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.428	0.00	2.08
84.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.476	0.00	0.55
84.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.476	0.00	2.08
86.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.523	0.00	0.55
86.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.523	0.00	2.08
88.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.569	0.00	0.55
88.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.569	0.00	2.08
90.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.615	0.00	0.55
90.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.615	0.00	2.08

## Linear Appurtenance Segment Forces (Factored)

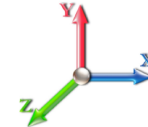
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 27

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)
90.17	Safety Cable	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	9.618	0.00	0.05
90.17	Step bolts (ladder)	Yes	0.17	0.000	0.00	0.00	0.00	0.000	0.000	9.618	0.00	0.17
92.00	Safety Cable	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	9.659	0.00	0.50
92.00	Step bolts (ladder)	Yes	1.83	0.000	0.00	0.00	0.00	0.000	0.000	9.659	0.00	1.91
94.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.703	0.00	0.55
94.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.703	0.00	2.08
96.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.746	0.00	0.55
96.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.746	0.00	2.08
98.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.788	0.00	0.55
98.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.788	0.00	2.08
100.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.830	0.00	0.55
100.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.830	0.00	2.08
102.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.871	0.00	0.55
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.871	0.00	2.08
104.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.912	0.00	0.55
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.912	0.00	2.08
106.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	0.55
106.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	2.08
108.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.991	0.00	0.55
108.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	9.991	0.00	2.08
110.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.029	0.00	0.55
110.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.029	0.00	2.08
112.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.068	0.00	0.55
112.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.068	0.00	2.08
114.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.105	0.00	0.55
114.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.105	0.00	2.08
116.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.142	0.00	0.55
116.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.142	0.00	2.08
118.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.179	0.00	0.55
118.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.179	0.00	2.08
120.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.215	0.00	0.55
120.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.215	0.00	2.08
122.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.250	0.00	0.55
122.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.250	0.00	2.08
124.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.286	0.00	0.55
124.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.286	0.00	2.08
126.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.320	0.00	0.55
126.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.320	0.00	2.08
128.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.355	0.00	0.55
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.355	0.00	2.08
130.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.388	0.00	0.55
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.388	0.00	2.08
132.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.422	0.00	0.55
132.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.422	0.00	2.08
133.33	Safety Cable	Yes	1.33	0.000	0.00	0.00	0.00	0.000	0.000	10.444	0.00	0.36
133.33	Step bolts (ladder)	Yes	1.33	0.000	0.00	0.00	0.00	0.000	0.000	10.444	0.00	1.39
134.00	Safety Cable	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	10.455	0.00	0.18

## Linear Appurtenance Segment Forces (Factored)

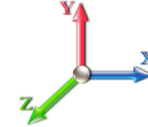
<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 27

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)
134.00	Step bolts (ladder)	Yes	0.67	0.000	0.00	0.00	0.00	0.000	0.000	10.455	0.00	0.69
136.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.488	0.00	0.55
136.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.488	0.00	2.08
138.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.520	0.00	0.55
138.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.520	0.00	2.08
140.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.552	0.00	0.55
140.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.552	0.00	2.08
142.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.583	0.00	0.55
142.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.583	0.00	2.08
144.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.615	0.00	0.55
144.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.615	0.00	2.08
146.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.645	0.00	0.55
146.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.645	0.00	2.08
148.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.676	0.00	0.55
148.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.676	0.00	2.08
150.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.706	0.00	0.55
150.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.706	0.00	2.08
152.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.736	0.00	0.55
152.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.736	0.00	2.08
154.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.766	0.00	0.55
154.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.766	0.00	2.08
156.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.795	0.00	0.55
156.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.795	0.00	2.08
158.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.824	0.00	0.55
158.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.824	0.00	2.08
160.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.853	0.00	0.55
160.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.853	0.00	2.08
162.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.881	0.00	0.55
162.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.881	0.00	2.08
164.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.909	0.00	0.55
164.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.909	0.00	2.08
166.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.937	0.00	0.55
166.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.937	0.00	2.08
168.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.965	0.00	0.55
168.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.965	0.00	2.08
170.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.992	0.00	0.55
170.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.992	0.00	2.08
172.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.019	0.00	0.55
172.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.019	0.00	2.08
174.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.046	0.00	0.55
174.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.046	0.00	2.08
176.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.073	0.00	0.55
176.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.073	0.00	2.08
178.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.099	0.00	0.55
178.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.099	0.00	2.08
180.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.125	0.00	0.55
180.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.125	0.00	2.08

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

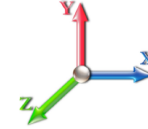


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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations** 27

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)
<b>Totals:</b>											<b>0.0</b>	<b>236.3</b>





## Final Analysis Summary

<b>Structure:</b> CT46130-A-SBA	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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### Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 123 mph Wind	47.8	0.00	59.59	0.00	0.00	5857.22
0.9D + 1.0W 123 mph Wind	47.8	0.00	44.69	0.00	0.00	5781.46
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.4	0.00	79.83	0.00	0.00	1308.57
1.2D + 1.0Ev + 1.0Eh	0.8	0.00	61.89	0.00	0.00	134.39
0.9D + 1.0Ev + 1.0Eh	0.8	0.00	46.93	0.00	0.00	132.69
1.0D + 1.0W 60 mph Wind	10.2	0.00	49.69	0.00	0.00	1239.28

### Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 123 mph Wind	-59.59	-47.81	0.00	-5857.2	0.00	-5857.2	5123.29	1522.0	7808.40	6435.29	0.00	0.923
0.9D + 1.0W 123 mph Wind	-44.69	-47.80	0.00	-5781.4	0.00	-5781.4	5123.29	1522.0	7808.40	6435.29	0.00	0.908
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-79.83	-10.38	0.00	-1308.5	0.00	-1308.5	5123.29	1522.0	7808.40	6435.29	0.00	0.219
1.2D + 1.0Ev + 1.0Eh	-18.85	-0.79	0.00	-22.40	0.00	-22.40	1545.45	417.14	1026.36	929.77	138.00	0.036
0.9D + 1.0Ev + 1.0Eh	-14.30	-0.78	0.00	-22.09	0.00	-22.09	1545.45	417.14	1026.36	929.77	138.00	0.033
1.0D + 1.0W 60 mph Wind	-49.69	-10.18	0.00	-1239.2	0.00	-1239.2	5123.29	1522.0	7808.40	6435.29	0.00	0.202

## Base Plate Summary

<b>Structure:</b> CT46130-A-SB	<b>Code:</b> EIA/TIA-222-H	10/30/2020
<b>Site Name:</b> Deep River-winthrop Rd	<b>Exposure:</b> C	
<b>Height:</b> 180.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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Reactions	Base Plate	Anchor Bolts
Original Design	<b>Yield (ksi):</b> 60.00	<b>Bolt Circle:</b> 70.69
<b>Moment (kip-ft):</b> 5076.00	<b>Width (in):</b> 76.69	<b>Number Bolts:</b> 20.00
<b>Axial (kip):</b> 59.10	<b>Style:</b> Polygon	<b>Bolt Type:</b> 2.25" 18J
<b>Shear (kip):</b> 41.70	<b>Polygon Sides:</b> 12.00	<b>Bolt Diameter (in):</b> 2.25
Analysis (1.2D + 1.0W)	<b>Clip Length (in):</b> 0.00	<b>Yield (ksi):</b> 75.00
<b>Moment (kip-ft):</b> 5857.22	<b>Effective Len (in):</b> 14.14	<b>Ultimate (ksi):</b> 100.00
<b>Axial (kip):</b> 59.59	<b>Moment (kip-in):</b> 881.38	<b>Arrangement:</b> Radial
<b>Shear (kip):</b> 47.81	<b>Allow Stress (ksi):</b> 81.00	<b>Cluster Dist (in):</b> 0.00
	<b>Applied Stress (ksi):</b> 49.41	<b>Start Angle (deg):</b> 0.00
	<b>Stress Ratio:</b> 0.61	Compression
		<b>Force (kip):</b> 202.85
		<b>Allowable (kip):</b> 268.39
		<b>Ratio:</b> 0.76
		Tension
		<b>Force (kip):</b> 194.87
		<b>Allowable (kip):</b> 243.75
		<b>Ratio:</b> 0.80





# Monopole Mat Foundation Design

Date

12/5/2019

<b>Customer Name:</b>	SBA Communcations Corp	<b>EIA/TIA Standard:</b>	EIA-222-H
<b>Site Name:</b>	Deep River-winthrop Rd	<b>Structure Height (Ft.):</b>	180
<b>Site Number:</b>	CT46130-A-SBA	<b>Engineer Name:</b>	D. Zhou
<b>Engr. Number:</b>	90244	<b>Manager Login Req'd:</b>	

**Foundation Info Obtained from:**

Drawings/Calculations

**Structure Type:**

Monopole

**Analysis or Design?**

Analysis

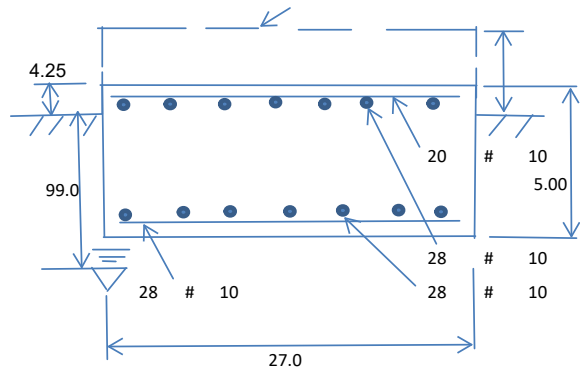
**Base Reactions (Factored):**

Axial Load (Kips):	59.6	Shear Force (Kips):	47.8
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5857.2

Allowable overstress %: 5.0%

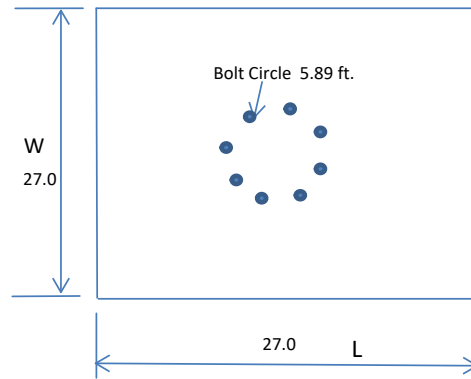
**Foundation Geometries:**

Anchor Bolt Circle (ft.):	5.89	Depth of Base BG (ft.):	0.75
Thickness of Pad (ft.):	5.00	Width of Pad (ft.):	27
Length of Pad (ft.):	27	Final Length of pad (ft)	27.0
		Final width of pad (ft):	27.0



**Material Properties and Reabr Info:**

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Pad Rebar Yield (Ksi):	60	Tie Spacing (in):	12.0	
Pad Steel Rebar Size (#):	10	Unit Weight of Concrete:	150.0	pcf
Concrete Cover (in.):	3			
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	20	Qty. of Rebar in Pad (W):	20	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28	



Apply 1.35 factor for e/w Per G: 1.35

**Soil Design Parameters:**

Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	120000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

**Foundation Analysis and Design:**

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	0.00	Total Dry Soil Weight (Kips):	0.00
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	0.00	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3645.00	Total Dry Concrete Weight (Kips):	546.75
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	546.75	Total Vertical Load on Base (Kips):	606.35

**Check Soil Capacities:**

Calculated Maxium Net Soil Pressure under the base (psf):	4236	<	Allowable Factored Soil Bearing (psf):	90000	0.05	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7447.6	>	Design Factored Momont (kips-ft):	6099	0.82	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.22					OK!

Load/  
Capacity  
Ratio

**Check the capacities of Reinforceing Concrete:**

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

**Concrete Pad:**

One-Way Design Shear Capacity (L-Direction, Kips):	1732.8	>	One-Way Factored Shear (L-D. Kips):	361.1	0.21	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1732.8	>	One-Way Factored Shear (W-D., Kips)	361.1	0.21	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	2040.5	>	One-Way Factored Shear (C-C, Kips):	815.6	0.40	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct. ):	0.0014	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0014		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	6364.6	>	Moment at Bottom ( L-Direct. K-Ft):	1012.4	0.16	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	6364.6	>	Moment at Bottom ( W-Direct. K-Ft):	1012.4	0.16	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	8978.4	>	Moment at Bottom ( C-C Dir. K-Ft):	1431.8	0.16	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct. ):	0.0019	OK!	Upper Steel Reinf. Ratio (W-Direct. ):	0.0019		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	8866.2	>	Moment at the top (L-Dir Kips-Ft):	50.6	0.01	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	8866.2	>	Moment at the top (W-Dir Kips-Ft):	50.6	0.01	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	12494.6	>	Moment at the top (C-C Direc. K-Ft):	822.6	0.07	OK!

# EXHIBIT 9



**Tower Engineering Solutions**

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

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## Post-Mod Antenna Mount Analysis Report

**Existing 180-Ft Monopole Tower**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT46130-A-SBA**

**Customer Site Name: Deep River-winthrop Rd**

**Carrier Name: T-Mobile (App#: 116674, V2)**

**Carrier Site ID / Name: CT11408A / Deep River**

**Site Location: 220 Winthrop Rd**

**Deep River, Connecticut**

**Middlesex County**

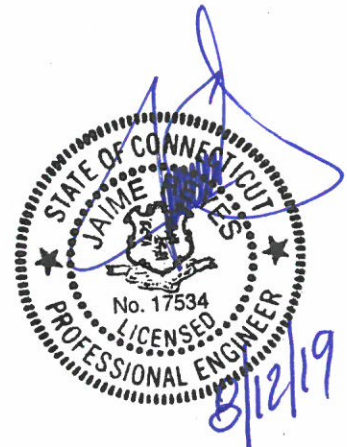
**Latitude: 41.365872**

**Longitude: -72.474849**

### Analysis Result:

**Max Structural Usage: 57% [Pass]**

**Report Prepared By: Leonardo Klem**



## **Introduction**

The purpose of this report is to summarize the analysis results on the (3) T-Arm at 158.00' elevation including the proposed modifications to support the proposed antenna configuration. Any existing modification listed under Sources of Information was assumed completed and was included in this analysis.

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

## **Sources of Information**

Mount Drawings	Mount mapping by Full Metal Tower Services dated 4/26/19.
Antenna Loading	SBA Application #: 116674, v2 dated 5/29/19.
Existing Modification	N/A
Proposed Modification	TES Project No. 81715

## **Analysis Criteria**

Basic Wind Speed Used in the Analysis:  $V_{ULT} = 130$  mph (3-Sec. Gust) / Equivalent to  
 $V_{ASD} = 101$  mph (3-Sec. Gust)

Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 0.75" radial ice concurrent

Operational Wind Speed: 60 mph +0" Radial ice

Standard/Codes: ANSI/TIA/EIA 222-G

Exposure Category: C

Structure Class: II

Topographic Category: 1

Crest Height (Ft): 0

The site is a Risk Category II structure per IBC Table 1604.5. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

## **Mount Information**

(3) T-Arm at 158.00' elevation

## **Proposed Modification**

(1) Collar mount (MS-H1436)

(8) 2.5" PST (PST2875-8)

(1) Support Rail Kit (MS-HR35-2875)

(6) V-bracing (L252525-8)

(1) T-Arm Kit (MS-TAW35-350RO)

## **Final Antenna Configuration**

- 3 EMS RR90-17-02VDPL2/-R
- 3 RFS APXVAARR24\_43-U-NA20
- 3 Ericsson KRY 112 489/2
- 3 Ericsson KRY 112 144/2
- 3 Ericsson Radio 4449 B71+B12

Any proposed antennas not currently installed should be mounted such that the centers of the antennas do not exceed 0.5 ft vertically from the center of the T-Arm.

## **Analysis Results**

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration after the proposed modification is successfully completed. The maximum structural usage is 57%, which occurs in the mount pipe. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

## **Attachments**

1. Mount Photos Before Modification
2. Antenna Placement Diagram
3. Mount Mapping Information
4. Analysis Calculations

## Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.
2. The analysis is based on the presumption that the antenna mount members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.
4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.
5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.
6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.
7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.
8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.
9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.





Structure: CT46130-A-SBA - Deep River-winthrop Rd

Sector: **A**

6/27/2019

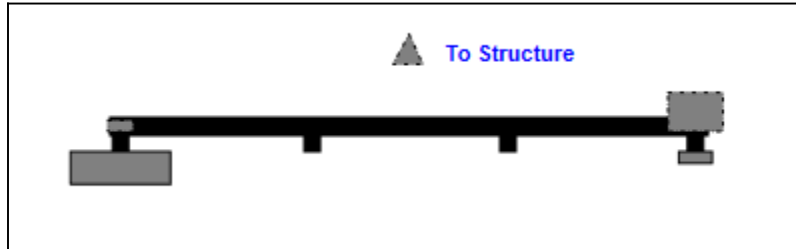
Structure Type: Monopole

Mount Elev: 158.00

Page: 1

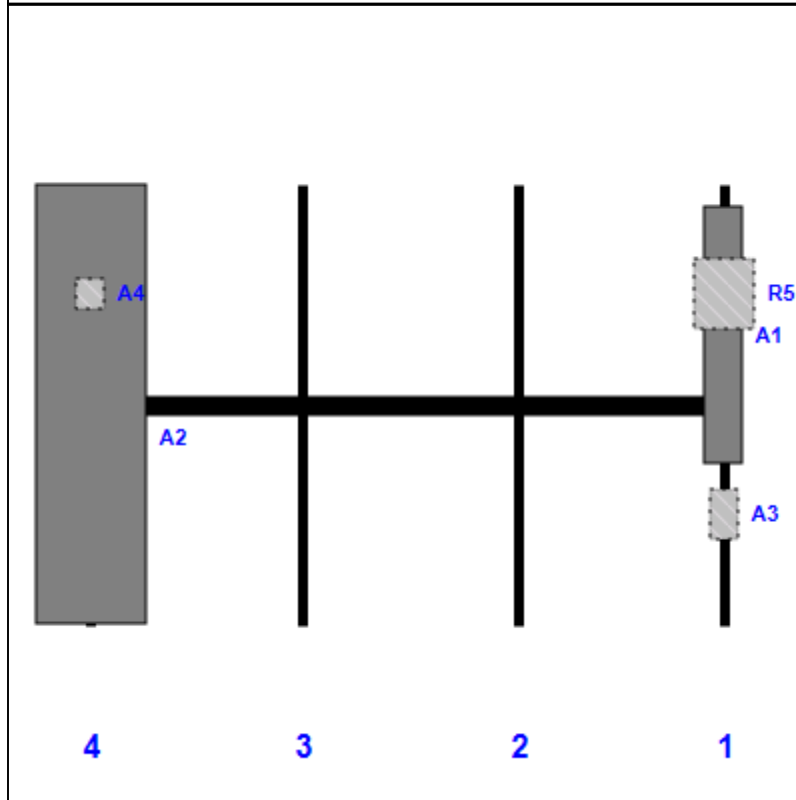


Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist From Left	Pipe #	Pipe Pos V	Antenna Pos	Center Ant From Top	Antenna H Offset
A1	EMS RR90-17-02VDPL2/-R	56.00	8.00	141.00	1	a	Front	33.00	0.00
A3	Ericsson KRY 112 489/2	11.00	6.10	141.00	1	a	Behind	72.00	0.00
R5	Ericsson Radio 4449 B71+B12	15.00	13.20	141.00	1	a	Behind	24.00	0.00
A2	RFS	95.90	24.00	3.00	4	a	Front	48.00	0.00
A4	Ericsson KRY 112 144/2	6.90	6.10	3.00	4	a	Behind	24.00	0.00

# Structure: CT46130-A-SBA - Deep River-winthrop Rd

**Sector: B**

6/27/2019

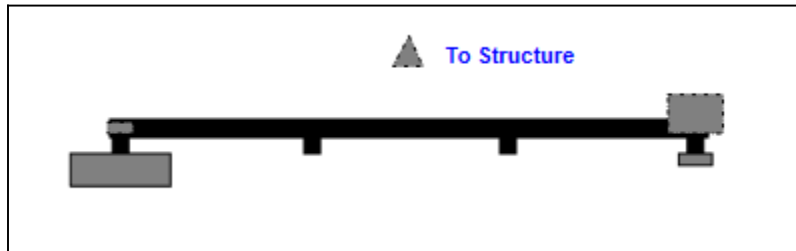
**Structure Type:** Monopole

Page: 2

**Mount Elev:** 158.00

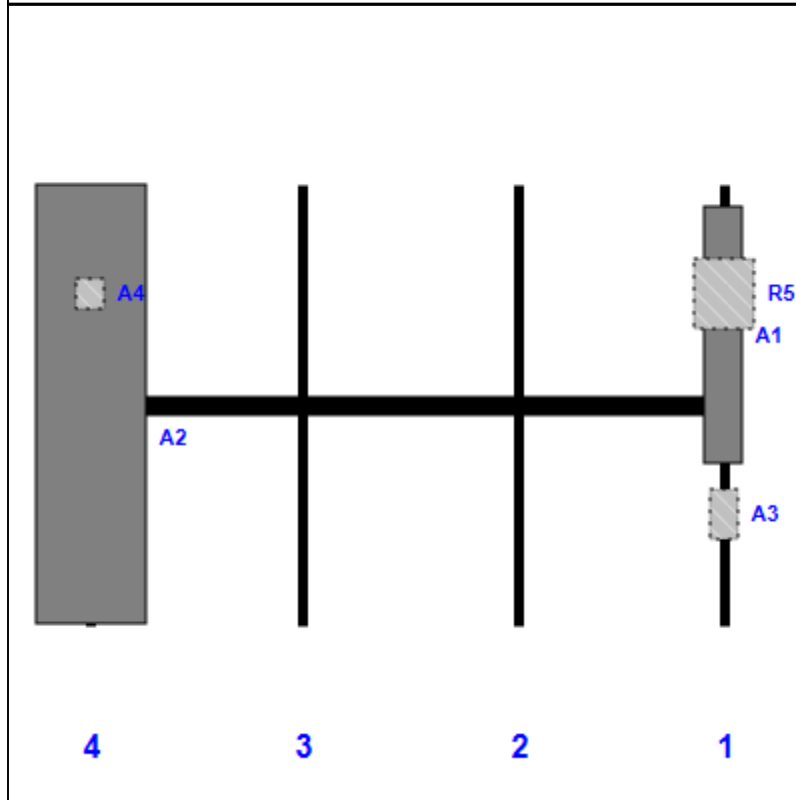


**Plan View**



**Front View**

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist From Left	Pipe #	Pipe Pos V	Antenna Pos	Center Ant From Top	Antenna H Offset
A1	EMS RR90-17-02VDPL2/-R	56.00	8.00	141.00	1	a	Front	33.00	0.00
A3	Ericsson KRY 112 489/2	11.00	6.10	141.00	1	a	Behind	72.00	0.00
R5	Ericsson Radio 4449 B71+B12	15.00	13.20	141.00	1	a	Behind	24.00	0.00
A2	RFS	95.90	24.00	3.00	4	a	Front	48.00	0.00
A4	Ericsson KRY 112 144/2	6.90	6.10	3.00	4	a	Behind	24.00	0.00

# Structure: CT46130-A-SBA - Deep River-winthrop Rd

Sector: **C**

6/27/2019

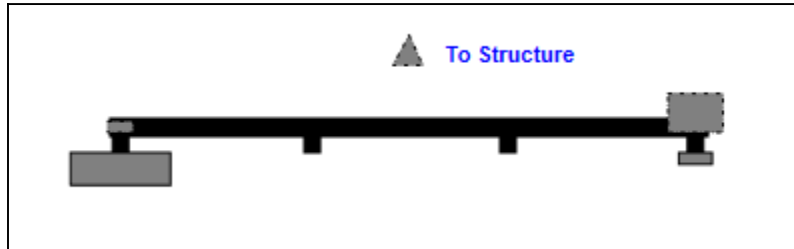
Structure Type: Monopole

Mount Elev: 158.00

Page: 3

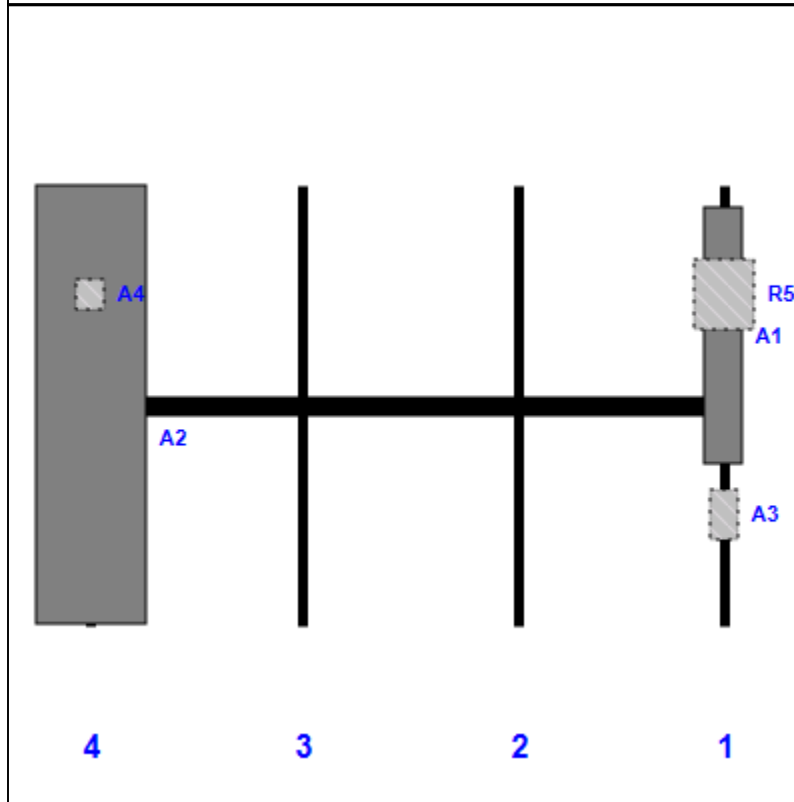


**Plan View**



**Front View**

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist From Left	Pipe #	Pipe Pos V	Antenna Pos	Center Ant From Top	Antenna H Offset
A1	EMS RR90-17-02VDPL2/-R	56.00	8.00	141.00	1	a	Front	33.00	0.00
A3	Ericsson KRY 112 489/2	11.00	6.10	141.00	1	a	Behind	72.00	0.00
R5	Ericsson Radio 4449 B71+B12	15.00	13.20	141.00	1	a	Behind	24.00	0.00
A2	RFS	95.90	24.00	3.00	4	a	Front	48.00	0.00
A4	Ericsson KRY 112 144/2	6.90	6.10	3.00	4	a	Behind	24.00	0.00

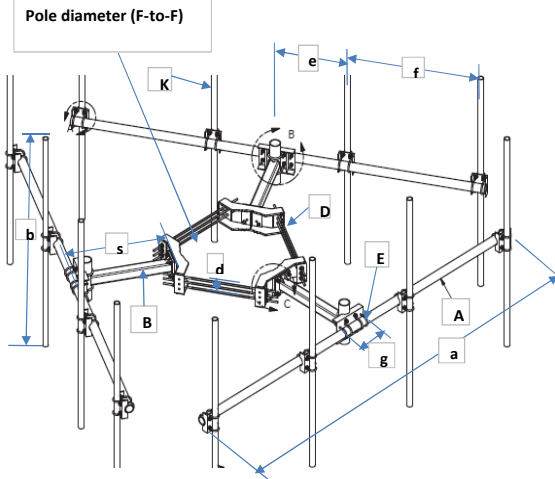
# Antenna Mount Type "MT-Z" Mapping Form (PATENT PENDING)



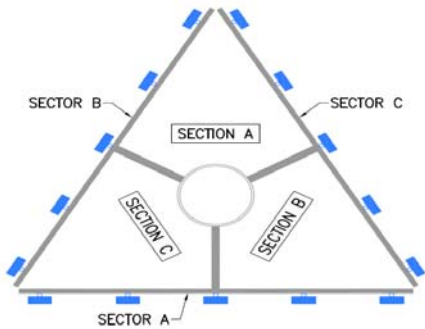
Tower Owner:	SBA Communications	Mapping Date:	4/26/19
Site Name:	Deep River/winthrop Rd	Structure Type:	Monopole
Site Number or ID:	CT46130-A-SBA	Structure Height (Ft.):	180
Mapping Contractor:	Full Metal Tower Services	Mount Height (Ft.):	157.6

FCC #  
Not Posted

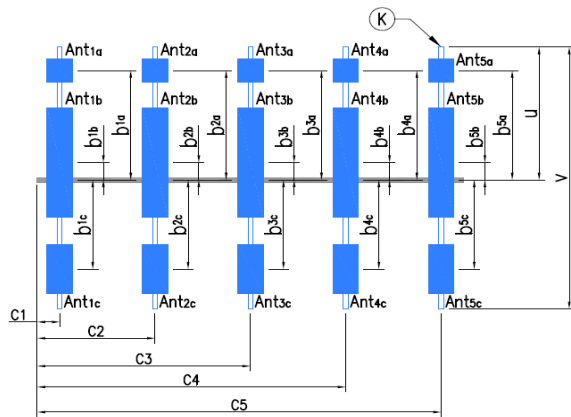
This antenna mapping form is the property of TES and under **PATENT PENDING**. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is prohibited except by express written permission of TES. All means and methods are the responsibility of the contractor and the work shall be compliant with ANSI/ASSE A 10.48, OSHA, FCC, FAA and other safety requirements that may apply. TES is not warranting the usability of the safety climb as it must be assessed prior to each use in compliance with OSHA requirements.



Geometries (Unit: inches)									
a	144	e	23	j	N/A	o	N/A	s	46
b	96	f	46	k	N/A	p	N/A	t	18
c	N/A	g	15	m	N/A	q	N/A	u*	48
d	6	h	N/A	n	N/A	r	N/A	v*	96
Members/Bolts (Unit: inches) * - See Ant. Layout for "u", "v" and member "K" (pipe)									
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	3.5 OD x 0.216 Pipe	3.5	3.068	0.216	F				
B	Tubing 4x4x1/4	4	4	0.25	G				
C					H				
D	5/8" Bolt			12	J				
E	5/8" Bolt			U-Bolt	K* (pipe)	2.375 OD x 0.154 Pipe	2.375	2.067	0.154
Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)									7.5'
Distance from top of main platform member to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)									5.5'
Please enter the information below if members can't be found from the drop down lists									



Climbing ladder is Located at Section B, at 150° Degree Azimuth



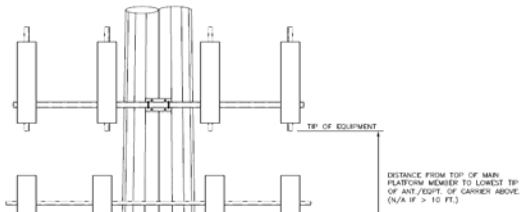
**Antenna Layout**

**Azimuth (Degree) of Each Sector and Climbing Information**

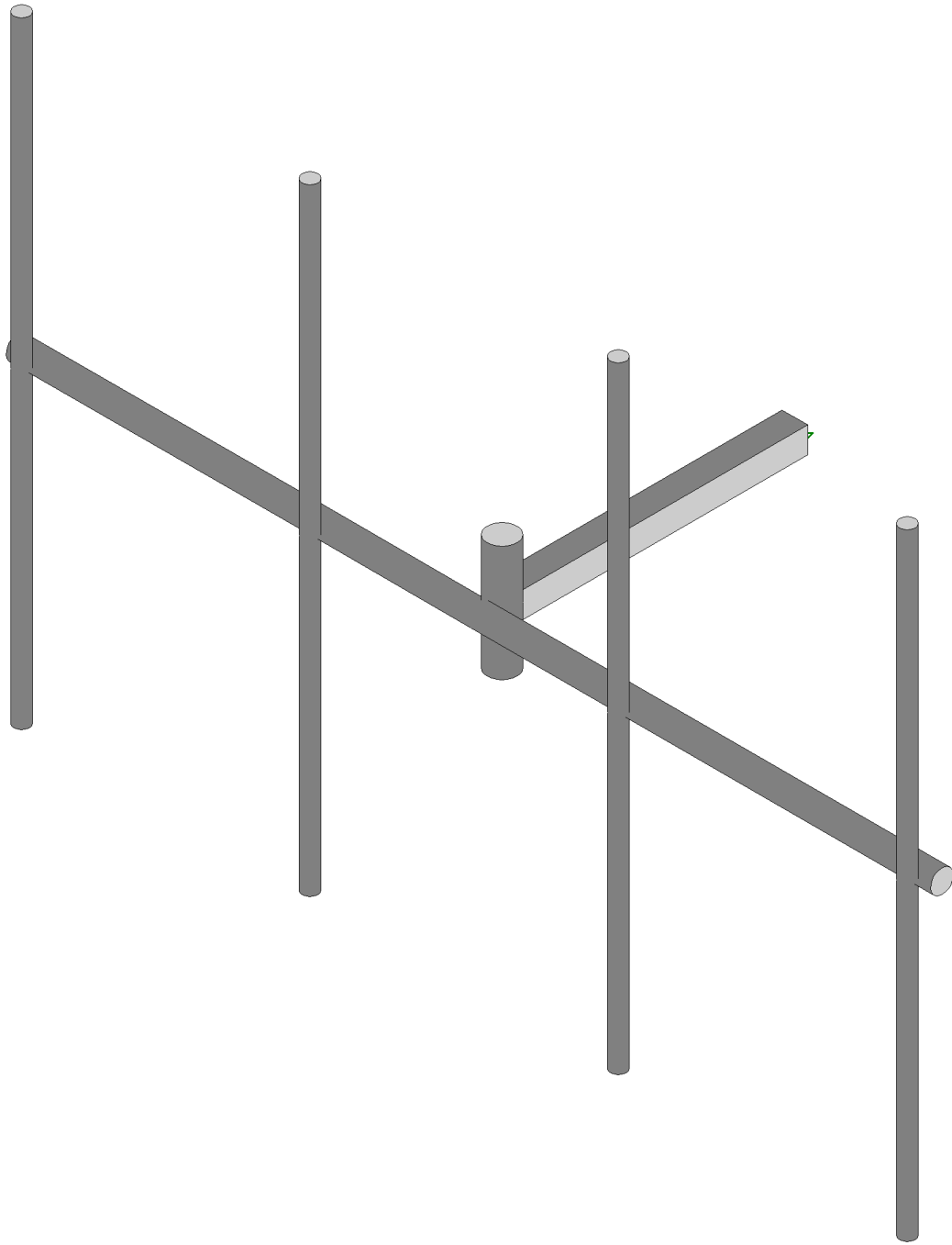
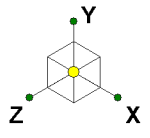
Sector A:	90°	Deg	
Sector B:	210°	Deg	
Sector C:	300°	Deg	
Climbing:	150°	Deg	Located at Section B
Climbing Facility	Corrosion Type:	Minor corrosion observed	
	Access:	Climbing path was unobstructed.	
	Condition:	N/A	

		Enter antenna model. If not labeled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.					Mounting Locations (Unit: inches)			Photos of antennas
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances "b <sub>1a</sub> , b <sub>2a</sub> , b <sub>3a</sub> , b <sub>1b</sub> ..." (in.)	Horiz. offset (Use "-" if Ant. is inside)	Horiz. offset "C <sub>1</sub> , C <sub>2</sub> , C <sub>3</sub> , C <sub>4</sub> , C <sub>5</sub> " (in.)	Photo Numbers	
<b>Sector A</b>										
Ant <sub>1a</sub>										
Ant <sub>1b</sub>	Antenna A	7	3.5	53	1/2" (2)	+16"	6	3		
Ant <sub>1c</sub>	TMA A	6	3.5	12	1/2" (2)	+12"	N/A	3		
Ant <sub>2a</sub>										
Ant <sub>2b</sub>	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	49		
Ant <sub>2c</sub>										
Ant <sub>3a</sub>										
Ant <sub>3b</sub>	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	95		
Ant <sub>3c</sub>										
Ant <sub>4a</sub>										
Ant <sub>4b</sub>	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	141		
Ant <sub>4c</sub>										
Ant <sub>5a</sub>										
Ant <sub>5b</sub>										
Ant <sub>5c</sub>										
Are Ant same as sector A?		Yes		Antennas on Sector B are the same as Sector A						

		No	Sector C							
Ant <sub>1a</sub>										
Ant <sub>1b</sub>	Antenna A	7	3.5	53	1/2" (2)	+16"	6	3		
Ant <sub>1c</sub>	TMA A	6	3.5	12	1/2" (2)	+12"	N/A	3		
Ant <sub>2a</sub>										
Ant <sub>2b</sub>	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	141		
Ant <sub>2c</sub>										
Ant <sub>3a</sub>										







Tower Engineering Solutio...

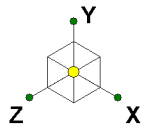
CT46130-A-SBA\_MT\_LOT\_Loads Only\_Sector A\_G

SK - 1

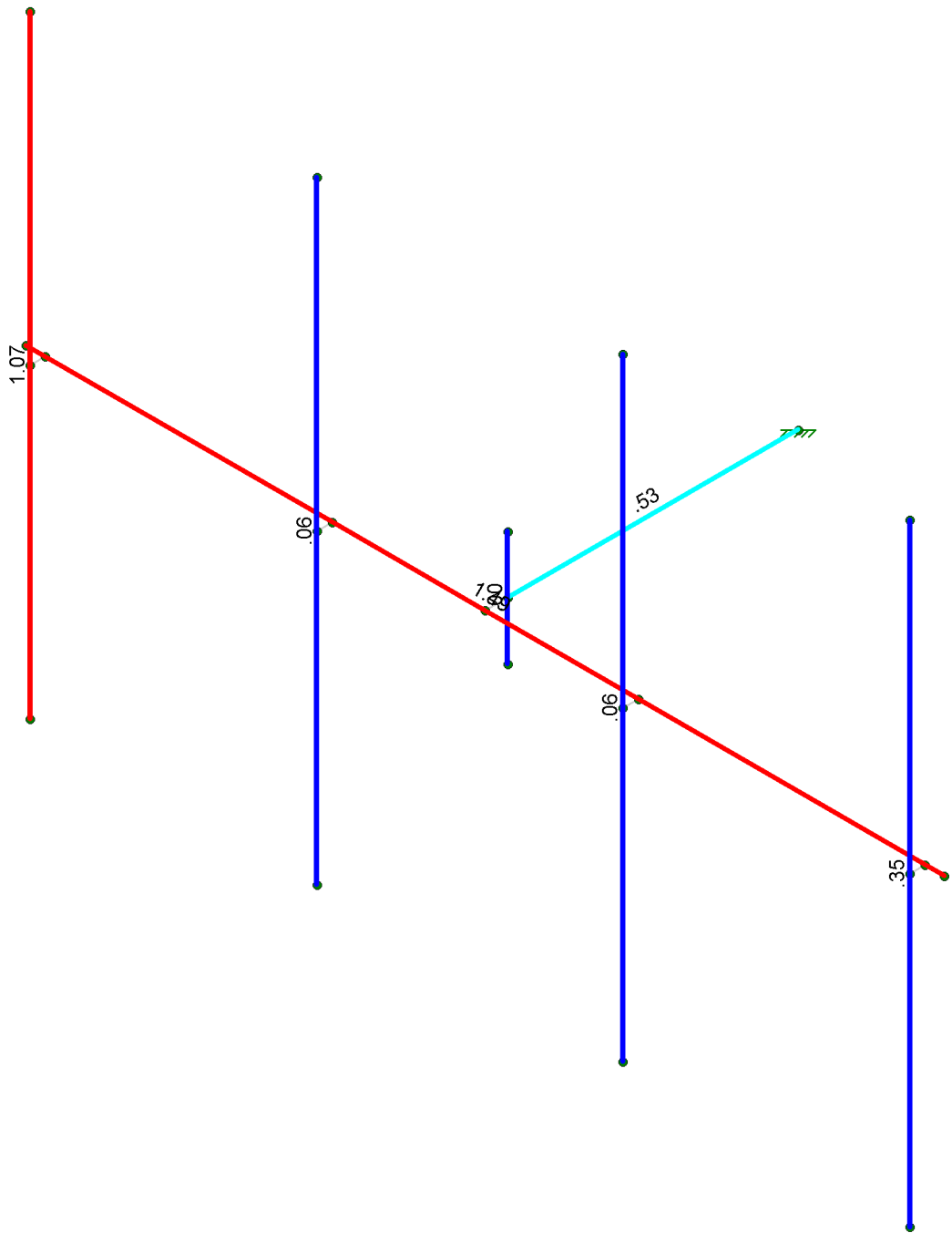
June 27, 2019 at 2:04 PM

TES Project No. 78651

CT46130-A-SBA\_78651\_G\_RISA\_L...

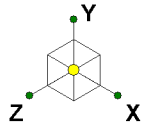


Code Check (Env)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50



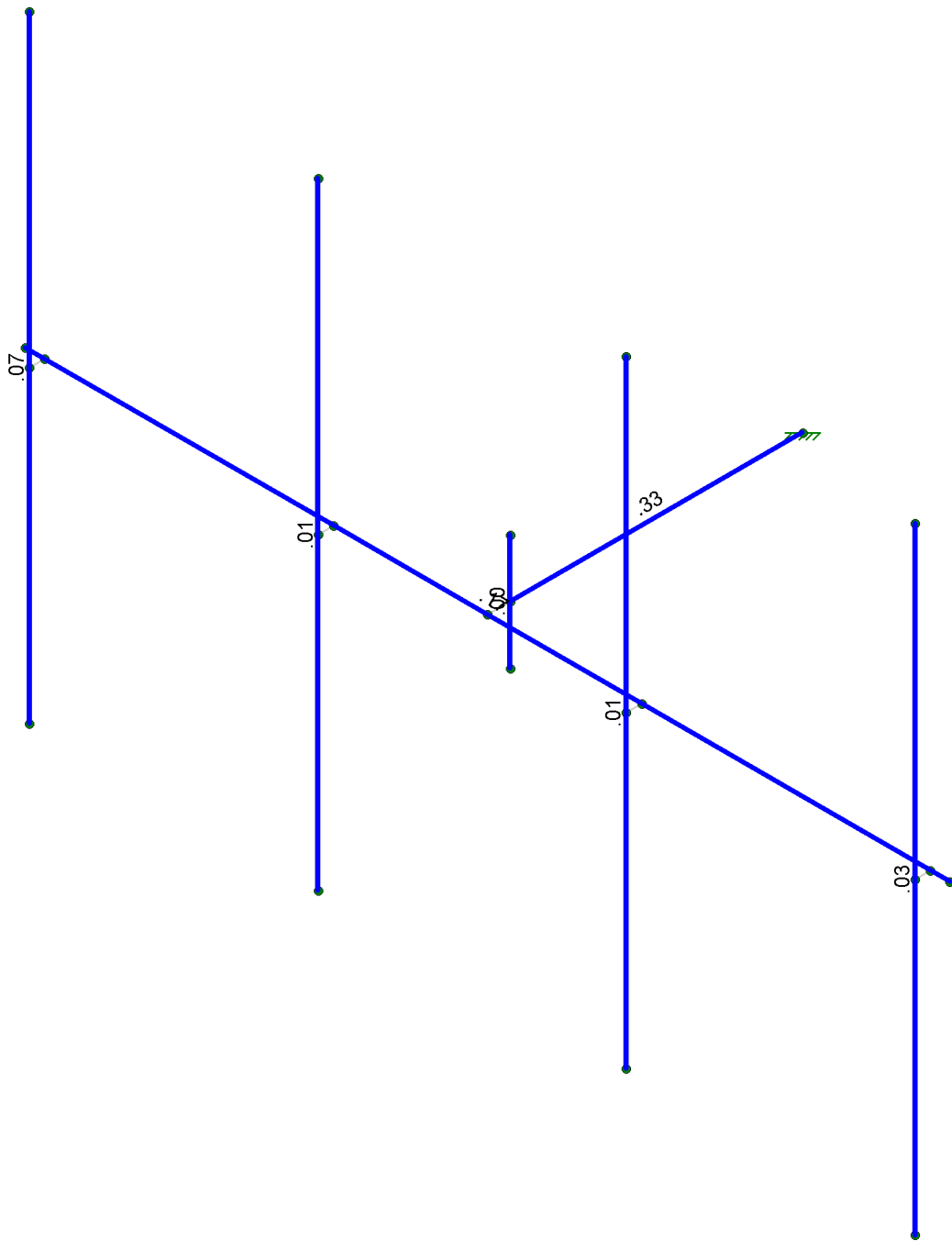
Member Code Checks Displayed (Enveloped)  
Results for LC 1, 1.2D+1.6W (Front)

Tower Engineering Solutio...	CT46130-A-SBA_MT_LOT_Loads Only_Sector A_G	SK - 2
TES Project No. 78651		June 27, 2019 at 2:04 PM
		CT46130-A-SBA_78651_G_RISA_L...



Shear Check (Env)

Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50



Member Shear Checks Displayed (Enveloped)  
Results for LC 1, 1.2D+1.6W (Front)

Tower Engineering Solutio...	CT46130-A-SBA_MT_LOT_Loads Only_Sector A_G	SK - 3
		June 27, 2019 at 2:05 PM
TES Project No. 78651		CT46130-A-SBA_78651_G_RISA_L...















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R' } ^ÁGÍ ÉÓÉFJ  
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**A Ya Vyf'8 jgfvjvi hyx' @ UXg'f6 @ '%. 'Gfi Wí fy'K' : fcbh'f7 cbh'ji YXL**

	T^{ a^/Áæ^}	Öá^&ç)	ÚçéóÁ æ} æ á^ ŽáDçÉÉ) áÁ æ} æ á^ ŽáDçÉÉ	ÚçéóÁ æ} æ á^ ŽáDçÉÉ	ÚçéóÁ æ} æ á^ ŽáDçÉÉ	ŽéÁ á	Ò) áÁŠ &ç) ŽéÁ á
I	T ÚI OE	ÚZ	ÉÉHG	ÉÉHG	€	Á FEE	
Í	T ÚHOE	ÚZ	ÉÉHG	ÉÉHG	€	Á FEE	
Î	T ÚGOE	ÚZ	ÉÉHG	ÉÉHG	€	Á FEE	
Ï	T ÚFOE	ÚZ	ÉÉHG	ÉÉHG	€	Á FEE	

**A Ya Vyf'8 jgfvjvi hyx' @ UXg'f6 @ '%. 'Gfi Wí fy'K] : fcbh'**

	T^{ a^/Áæ^}	Öá^&ç)	ÚçéóÁ æ} æ á^ ŽáDçÉÉ) áÁ æ} æ á^ ŽáDçÉÉ	ÚçéóÁ æ} æ á^ ŽáDçÉÉ	ÚçéóÁ æ} æ á^ ŽáDçÉÉ	ŽéÁ á	Ò) áÁŠ &ç) ŽéÁ á
F	TF	ÚZ	ÉÉIH	ÉÉIH	€	Á FEE	
G	TG	ÚZ	ÉÉII	ÉÉII	€	Á FEE	
H	TI	ÚZ	ÉÉHG	ÉÉHG	€	Á FEE	
I	T ÚI OE	ÚZ	ÉÉII	ÉÉII	€	Á FEE	
Í	T ÚHOE	ÚZ	ÉÉII	ÉÉII	€	Á FEE	
Î	T ÚGOE	ÚZ	ÉÉII	ÉÉII	€	Á FEE	
Ï	T ÚFOE	ÚZ	ÉÉII	ÉÉII	€	Á FEE	

**A Ya Vyf'8 jgfvjvi hyx' @ UXg'f6 @ '% : 'Gfi Wí fy'K' GJXYL**

	T^{ a^/Áæ^}	Öá^&ç)	ÚçéóÁ æ} æ á^ ŽáDçÉÉ) áÁ æ} æ á^ ŽáDçÉÉ	ÚçéóÁ æ} æ á^ ŽáDçÉÉ	ÚçéóÁ æ} æ á^ ŽáDçÉÉ	ŽéÁ á	Ò) áÁŠ &ç) ŽéÁ á
F	TF	ÚY	GÉIH	GÉIH	€	Á FEE	
G	TG	ÚY	FÍÉFH	FÍÉFH	€	Á FEE	
H	TI	ÚY	FHÉF	FHÉF	€	Á FEE	
I	T ÚI OE	ÚY	JÉHG	JÉHG	€	Á FEE	
Í	T ÚHOE	ÚY	JÉHG	JÉHG	€	Á FEE	
Î	T ÚGOE	ÚY	JÉHG	JÉHG	€	Á FEE	
Ï	T ÚFOE	ÚY	JÉHG	JÉHG	€	Á FEE	

**A Ya Vyf'8 jgfvjvi hyx' @ UXg'f6 @ '% : 'Gfi Wí fy'K] GJXYL**

	T^{ a^/Áæ^}	Öá^&ç)	ÚçéóÁ æ} æ á^ ŽáDçÉÉ) áÁ æ} æ á^ ŽáDçÉÉ	ÚçéóÁ æ} æ á^ ŽáDçÉÉ	ÚçéóÁ æ} æ á^ ŽáDçÉÉ	ŽéÁ á	Ò) áÁŠ &ç) ŽéÁ á
F	TF	ÚY	JÉIH	JÉIH	€	Á FEE	
G	TG	ÚY	ÍÉII	ÍÉII	€	Á FEE	
H	TI	ÚY	ÎÉHG	ÎÉHG	€	Á FEE	
I	T ÚI OE	ÚY	ÍÉII	ÍÉII	€	Á FEE	
Í	T ÚHOE	ÚY	ÍÉII	ÍÉII	€	Á FEE	
Î	T ÚGOE	ÚY	ÍÉII	ÍÉII	€	Á FEE	
Ï	T ÚFOE	ÚY	ÍÉII	ÍÉII	€	Á FEE	

**A Ya Vyf'5 fYU @ UXg'**

R á oÉ	R á oÓ	R á oÓ	R á oÓ	Öá^&ç)	Öá d a' ç)	T æ} æ á^ Š • á
P[ ÁóáÁ ÁUá áÉÉ						

**>c]bh6 ci bXUf m7 cbX]hcbg**

R á oÉ	Ý Á ç á	Ý Á ç á	Z Á ç á	Ý ÁU{ } ç É ó á á	Ý ÁU{ } ç É ó á á	Z ÁU{ } ç É ó á á
F	PF	Ü^æç)	Ü^æç)	Ü^æç)	Ü^æç)	Ü^æç)











# EXHIBIT 10

# Transcom Engineering, Inc.

Wireless Network Design and Deployment

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## Radio Frequency Emissions Analysis Report

**T-MOBILE** Existing Facility

**Site ID: CT11408A**

Deep River / Winthrop Rd  
220 Winthrop Road  
Deep River, CT 06417

May 29, 2019

**Transcom Engineering Project Number: 737001-0066**

Site Compliance Summary	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general population allowable limit:	<b>7.07 %</b>

# Transcom Engineering, Inc.

Wireless Network Design and Deployment

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May 29, 2019

T-MOBILE

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

## Emissions Analysis for Site: **CT11408A – Deep River / Winthrop Rd**

Transcom Engineering, Inc (“Transcom”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **220 Winthrop Road, Deep River, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE Antenna Installation located on this property are within specified federal limits.

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

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The general population exposure limits for the 600 & 700 MHz bands are approximately  $400 \mu\text{W}/\text{cm}^2$  and  $467 \mu\text{W}/\text{cm}^2$  respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is  $1000 \mu\text{W}/\text{cm}^2$ . Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

# Transcom Engineering, Inc.

Wireless Network Design and Deployment

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Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

# Transcom Engineering, Inc.

Wireless Network Design and Deployment

## CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **220 Winthrop Road, Deep River, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-MOBILE is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

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

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE	1900 MHz (PCS)	4	40
GSM	1900 MHz (PCS)	1	15
LTE	2100 MHz (AWS)	2	60
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20

*Table 1: Channel Data Table*

# Transcom Engineering, Inc.

Wireless Network Design and Deployment

The following antennas listed in *Table 2* were used in the modeling for transmission in the 600, 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAARR24_43-U-NA20	160
B	1	RFS APXVAARR24_43-U-NA20	160
C	1	RFS APXVAARR24_43-U-NA20	160

*Table 2: Antenna Data*

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

Cable losses were factored in the calculations for this site. Since all **1900 MHz (PCS) & 2100 MHz (AWS)** radios are ground mounted the following cable loss values were used. For each ground mounted **1900 MHz (PCS)** radio there was **1.95 dB** of cable loss calculated into the system gains / losses for this site. For each ground mounted **2100 MHz (AWS)** radio there was **2.06 dB** of cable loss calculated into the system gains / losses for this site. These values were calculated based upon the manufacturers specifications for **160 feet of 1-1/4" coax**.



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## RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	RFS APXVAARR24_43-U-NA20	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz	15.65 / 16.35 / 12.95 / 13.35	11	415	9,767.84	1.99
Sector A Composite MPE%							<b>1.99</b>
Antenna B1	RFS APXVAARR24_43-U-NA20	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz	15.65 / 16.35 / 12.95 / 13.35	11	415	9,767.84	1.99
Sector B Composite MPE%							<b>1.99</b>
Antenna C1	RFS APXVAARR24_43-U-NA20	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz	15.65 / 16.35 / 12.95 / 13.35	11	415	9,767.84	1.99
Sector C Composite MPE%							<b>1.99</b>

*Table 3: T-MOBILE Emissions Levels*

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

Site Composite MPE%	
Carrier	MPE%
T-MOBILE – Max Per Sector Value	<b>1.99 %</b>
AT&T	1.68 %
Verizon Wireless	1.63 %
Sprint	1.77 %
<b>Site Total MPE %:</b>	<b>7.07 %</b>

*Table 4: All Carrier MPE Contributions*

T-MOBILE Sector A Total:	1.99 %
T-MOBILE Sector B Total:	1.99 %
T-MOBILE Sector C Total:	1.99 %
Site Total:	7.07 %

*Table 5: Site MPE Summary*

# Transcom Engineering, Inc.

Wireless Network Design and Deployment

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

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ( $\mu\text{W}/\text{cm}^2$ )	Frequency (MHz)	Allowable MPE ( $\mu\text{W}/\text{cm}^2$ )	Calculated % MPE
T-Mobile 1900 MHz (PCS) LTE	4	937.69	160	5.69	1900 MHz (PCS)	1000	0.57%
T-Mobile 1900 MHz (PCS) GSM	1	351.63	160	0.53	1900 MHz (PCS)	1000	0.05%
T-Mobile 2100 MHz (AWS) LTE	2	1,611.21	160	4.88	2100 MHz (AWS)	1000	0.49%
T-Mobile 600 MHz LTE / 5G NR	2	788.97	160	2.39	600 MHz	400	0.60%
T-Mobile 700 MHz LTE	2	432.54	160	1.31	700 MHz	467	0.28%
						<b>Total:</b>	<b>1.99%</b>

*Table 6: T-MOBILE Maximum Sector MPE Power Values*

# Transcom Engineering, Inc.

Wireless Network Design and Deployment

## Summary

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

The anticipated maximum composite contributions from the T-MOBILE facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

T-MOBILE Sector	Power Density Value (%)
Sector A:	1.99 %
Sector B:	1.99 %
Sector C:	1.99 %
T-MOBILE Maximum Total (per sector):	1.99 %
Site Total:	7.07 %
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite MPE value for this site assuming all carriers present is **7.07 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



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