



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

December 3, 2020

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

RE: Notice of Exempt Modification
96 Powder Mill Road, Canton, CT
Latitude: 41.834244
Longitude: -72.932669
T-Mobile Site #: CTHA529A_L600

Dear Ms. Bachman:

T-Mobile currently maintains three (3) antennas at the 167.5-foot level of the existing 180-foot Monopole Tower at 96 Powder Mill Road, Canton, CT. The 180-foot tower is owned by SBA Towers, LLC. The property is owned by Properties One, LLC. T-Mobile now intends to install three (3) new 600/700/1900 MHz antennas. The new antennas support 5G services and would be installed at the 167-foot level of the tower.

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

Planned Modifications:

TOWER

Remove:

- N/A

Remove and Replace:

- (3) Pipe Mounts / Chain ring mount (remove) - (1) Site Pro RMQP-4096-HK (replace)

Install New:

- (3) RFS APXVAARR24_43-U-NA20 – Panel 600/700 MHz
- (3) Ericsson Radio 4449 B71+B12 RRUs
- (1) 1-5/8" fiber

Existing Equipment to Remain:

- (3) RFS APXV18-206517S-C-A20 L1900 antenna
- (3) Pipe Mounts @ 167.5'
- (6) 1-5/8" lines

Entitlements:

- N/A

GROUND

Install New:

- Equipment inside existing RBS6201 cabinet

This facility was approved by the Town of Canton's Zoning Commission on September 7, 2000. Approval was given under Zoning File 20/Application 843 for a 180 foot tower. If more than five carriers were to be installed on the tower, the applicant was to submit for a site plan modification. Approval was to be renewed for additional five year periods upon submission of re-inspection reports and renewals of removal bond. There were no further post construction stipulations set. Please see attached.

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

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

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

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



Sincerely,

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

Attachments

- cc: Robert Bessel, First Selectman / with attachments
Town of Canton, 4 Market Street, Collinsville, CT 06022
Emily Kyle, Zoning Enforcement Officer / with attachments
Town of Canton, 4 Market Street, Collinsville, CT 06022
Properties One, L.L.C. / with attachments
54 Church Street Collinsville CT 06022-0125 (SBA Overnight address on file)
PO Box 125, Collinsville, CT 06022 (Town address on file)

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 Canton Zoning Commission 9/7/2000
Exhibit 6	Construction Drawings	Chappell Engineering 11/20/20
Exhibit 7	Structural Analysis	TES 10/15/20
Exhibit 8	Mount Analysis	Geo Structural 8/19/19
Exhibit 9	EME Report	Transcom 6/10/19

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

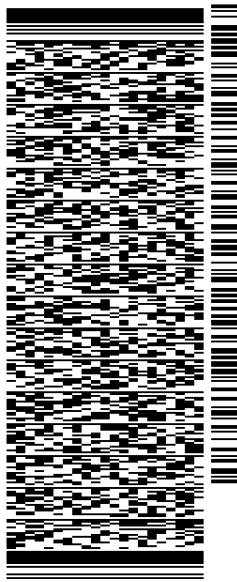
SHIP DATE: 03DEC20
ACTWGT: 1.00 LB
CAD: 105843304/NET4280

BILL SENDER

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

NEW BRITAIN CT 06051

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



TRK# 7722 5690 3240 FRI - 04 DEC 10:30A
0201 PRIORITY OVERNIGHT

EBBDLA 06051
CT-US BDL

56B.J2/9196/B766

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- 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

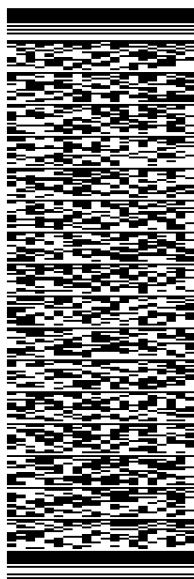
SHIP DATE: 03DEC20
ACTWG: 1.00 LB
CAD: 105843304/NET4280

BILL SENDER

TO
ROBERT BESSEL, FIRST SELECTMAN
TOWN OF CANTON
4 MARKET ST

COLLINSVILLE CT 06022

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

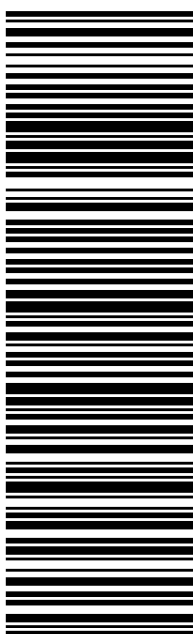


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TRK# 7722 5695 4251
0201
FRI - 04 DEC 10:30A
PRIORITY OVERNIGHT

EB EHTA

06022
CT:US BDL



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SUITE 125
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UNITED STATES US

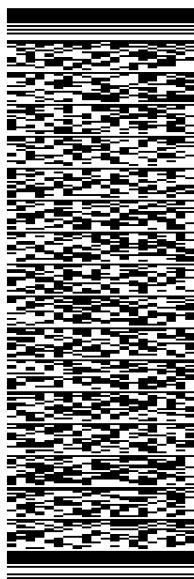
SHIP DATE: 03DEC20
ACTWGT: 1.00 LB
CAD: 105843304/NET4280

BILL SENDER

TO EMILY KYLE, ZONING ENF. OFFICER
TOWN OF CANTON
4 MARKET ST

COLLINSVILLE CT 06022

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

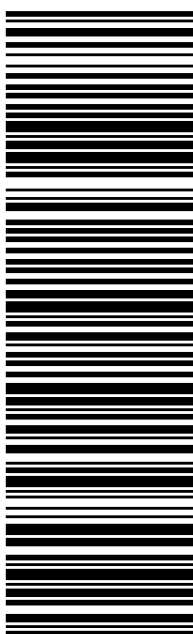


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TRK# 7722 5697 8259 FRI - 04 DEC 10:30A
0201 PRIORITY OVERNIGHT

EB EHTA

06022
CT:US BDL



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RICK WOODS
SBA COMMUNICATIONS CORPORATION
134 FLANDERS RD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 03DEC20
ACTWGT: 1.00 LB
CAD: 105843304/NET4280
BILL SENDER

TO

PROPERTIES ONE, LLC
54 CHURCH STREET

COLLINSVILLE CT 06022

(508) 251-0720 X 3807 REF: 1056920096089
INV.
PO. DEPT.

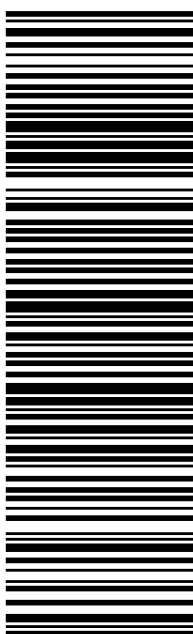


56B.J2/9196/B766

TRK# 7722 5701 7215 FRI - 04 DEC 10:30A
0201 PRIORITY OVERNIGHT

EB EHTA

06022
CT:US BDL



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EXHIBIT 3

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2018.



TOWN OF CANTON_{CT}

Information on the Property Records for the Municipality of Canton was last updated on 6/17/2019.

Parcel Information

Location:	96 POWDER MILL ROAD	Property Use:	Farms/Barns	Primary Use:	Storage Building
Unique ID:	4310096	Map Block Lot:	26/431/0096	Acres:	1.61
490 Acres:	0.00	Zone:	I	Volume / Page:	219 /467
Developers Map / Lot:		Census:			

Value Information

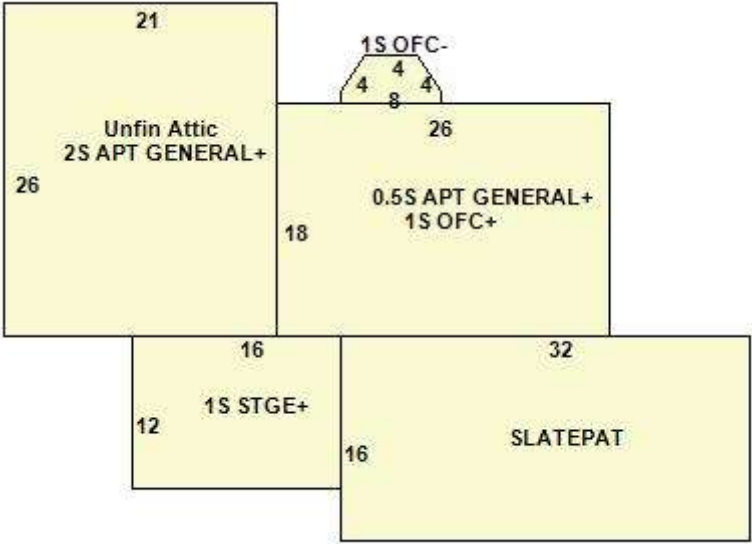
	Appraised Value	Assessed Value
Land	141,680	99,180
Buildings	286,850	200,790
Detached Outbuildings	0	0
Total	428,530	299,970

Owner's Information

Owner's Data

PROPERTIES ONE LLC
 P O BOX 125
 COLLINSVILLE, CT 06022

Building 1



Category:	Retail	Use:	Mixed Use - Retail / Apartment	GLA:	2,012
Stories:	2.00	Construction:	Wood Frame	Year Built:	1910

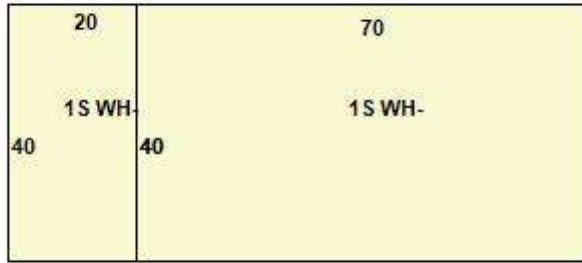
Heating:	FHA	Fuel:	Oil	Cooling Percent:	0
Siding:	Wood Frame	Roof Material:	Asphalt	Beds/Units:	0

Special Features

Attached Components

Type:	Year Built:	Area:
Unfinished Attic	1910	546
Stone Patio	1910	512

Building 2



Category:	Industrial	Use:	Warehouse	GLA:	3,600
Stories:	1.00	Construction:	Metal	Year Built:	1998
Heating:		Fuel:	UnKnown	Cooling Percent:	0
Siding:	Metal	Roof Material:	Tar and Gravel	Beds/Units:	0

Special Features

Overhead Doors	80
Overhead Doors	168

Attached Components

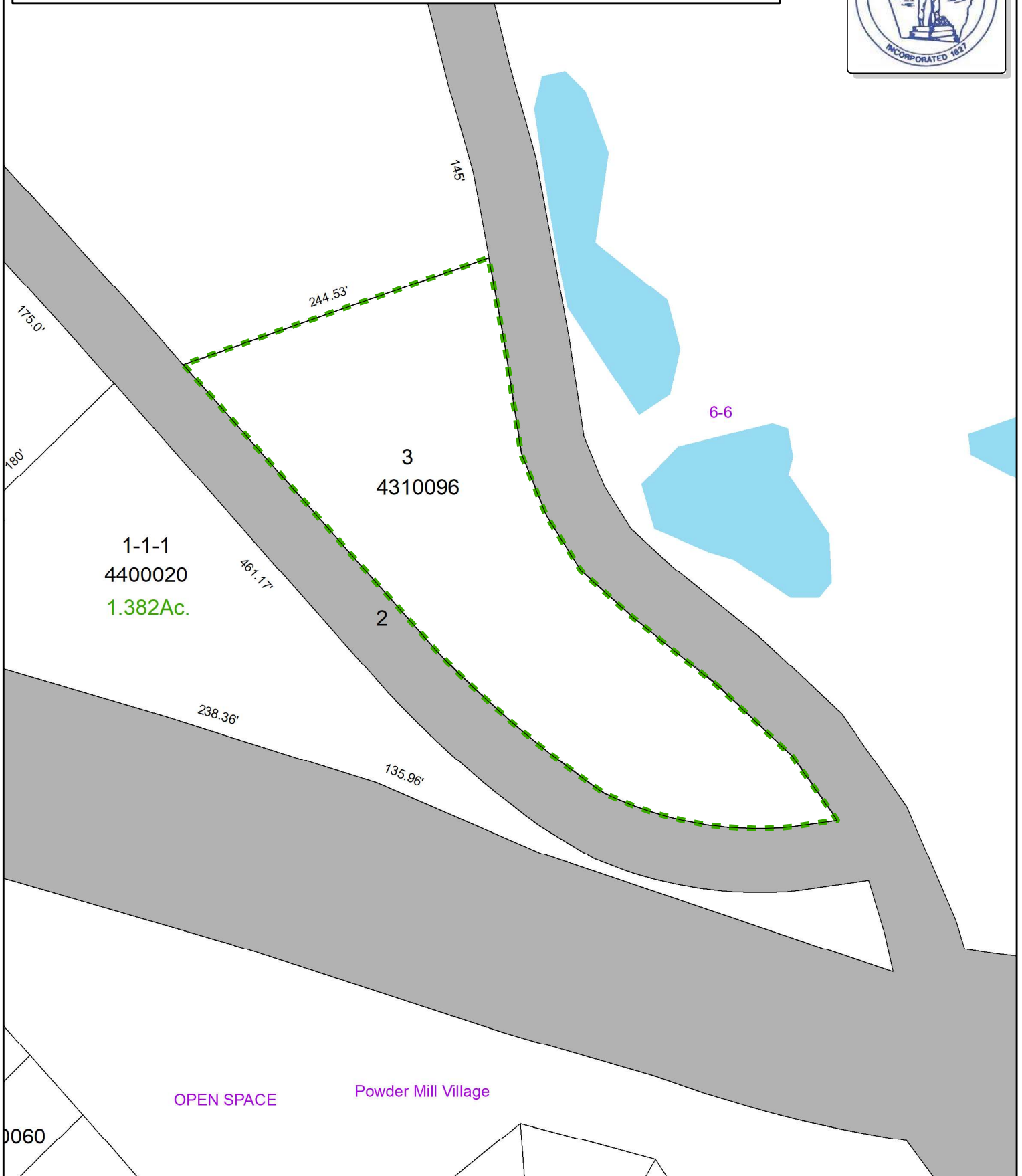
Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
PROPERTIES ONE LLC	0219	0467	04/17/1997		No	\$140,000

Information Published With Permission From The Assessor

EXHIBIT 4

Town of Canton, Connecticut - Assessment Parcel Map
Unique ID: 4310096 Address: 96 POWDER MILL ROAD



Approximate Scale:
 1 inch = 100 feet

Disclaimer:
 This map is for informational purposes only.
 All information is subject to verification by any user.
 The Town of Canton and its mapping contractors
 assume no legal responsibility for the information contained herein.

Map Produced
 June 2019

--- Sublot
 --- Easement
 4850007 Parcel ID
 89' Dimension

EXHIBIT 5

Zoning

CERTIFICATE OF ACTION

CANTON ZONING COMMISSION

OWNER OF RECORD:

Properties One, LLC
54 Church Street
Canton, CT

[
[
[
[
[

ZONING FILE 20

APPLICATION 843

District LI

Map 6-6 Lot 3

Location 96 Powder Mill Road

APPLICANT: SBA, Inc. and Sprint
Spectrum, LLC

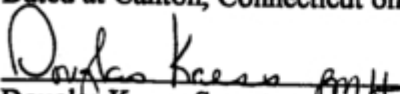
APPROVAL OF SPECIAL EXCEPTION AND SITE PLAN

As Secretary of the Canton Zoning Commission, I certify that at the regular meeting on July 19, 2000, following a public hearing, the Zoning Commission approved with conditions your request for a special exception and site plan approval. This approval is subject to the following conditions:

- 1) approval is for a five year period which may be renewed for additional five year periods upon successful submission of a re-inspection report and renewals of removal bond;
- 2) the height of the main tower shall be 180 feet and if more than five carriers are to be installed on the tower the applicant will submit for a site plan modification;
- 3) the re-inspection of the tower structure for structural integrity be done at five year intervals concurrent with the renewal of the removal bond;
- 4) removal bond be posted in the initial amount of \$50,000 and may be adjusted concurrent with the renewal dates to reflect the true cost of removing the tower;
- 5) the height and fall zone waivers as established in paragraph 67.4.14 of the regulations are granted in leu of the engineering report;
- 6) parking layout as shown and the landscaping as shown shall be adjusted as directed by staff.

In so approving, the Commission finds the proposal to be consistent with the adjacent uses and the Master Plan of Development. And further finds this application to be in conformance with Section 51 and Section 52 of the Canton Zoning Regulations.

Dated at Canton, Connecticut on September 7, 2000.


Douglas Kress, Secretary

CANTON ZONING COMMISSION

RECEIVED FOR RECORD AT CANTON, CT.

ON 9-13-00 AT 2:02 P.M.

ATTEST: SHIRLEY C. KROMPEGAL, TOWN CLERK

EXHIBIT 6

SBA CANTON POWDER MILL RD MONOPOLE

96 POWDER MILL ROAD
CANTON, CT 06019
HARTFORD COUNTY

SITE NO.: CTHA529A

SITE TYPE: 180'± MONOPOLE

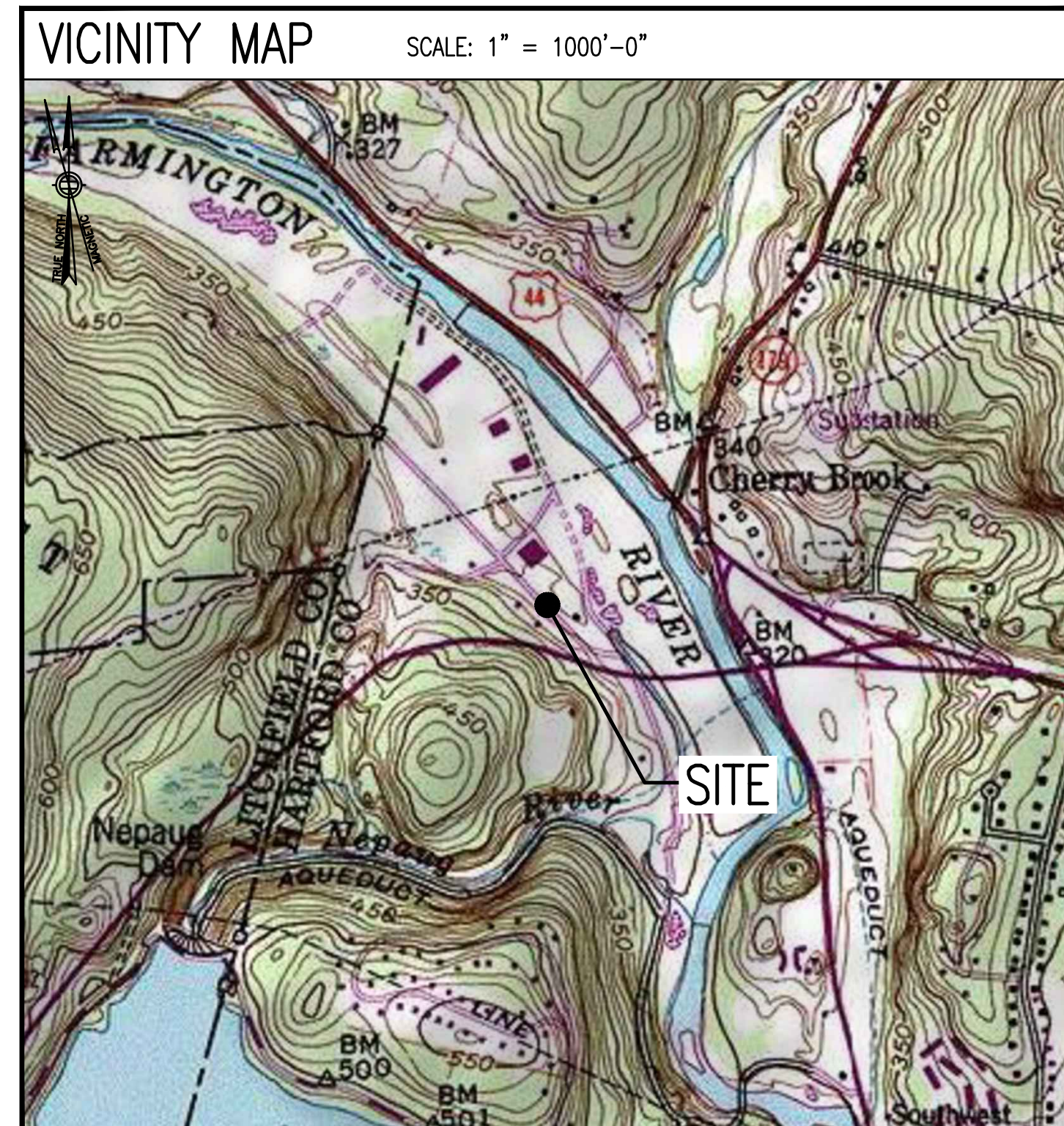
RF DESIGN GUIDELINE: 67D04G

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

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



DO NOT SCALE DRAWINGS

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

SHEET INDEX		
SHEET NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
A-1	COMPOUND & EQUIPMENT PLAN	0
A-2	TOWER ELEVATIONS & ANTENNA PLAN	0
A-3	SITE DETAILS	0
E-1	ELECTRIC & GROUNDING DETAILS	0

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).

- ### 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.

**T-MOBILE
NORTHEAST LLC**

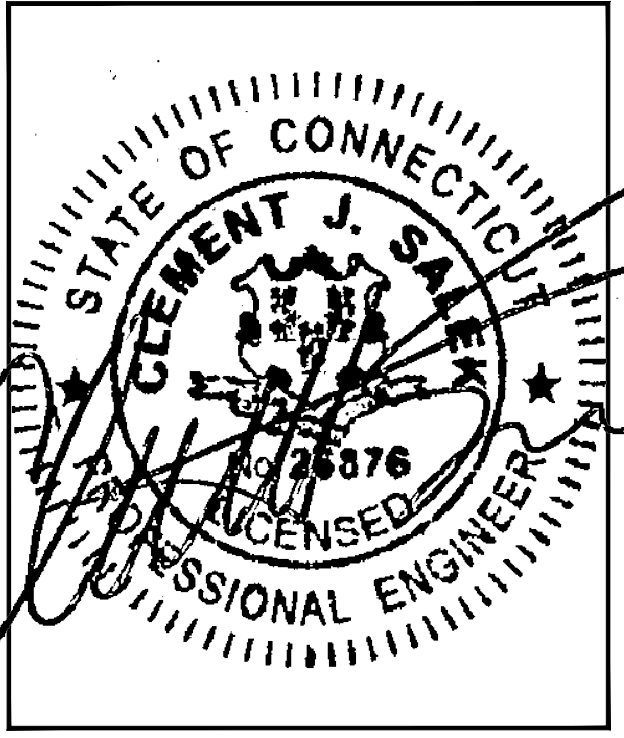
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

SBA

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

**CHAPPELL
ENGINEERING
ASSOCIATES, LLC**
Civil Structural Land Surveying

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



PROJECT SUMMARY	
SITE NUMBER:	CTHA529A
SBA SITE NUMBER:	CT01722-S
SBA SITE NAME:	SOUTH CANTON
SITE ADDRESS:	96 POWDER MILL ROAD CANTON, CT 06019
PROPERTY OWNER:	PROPERTIES ONE LLC PO BOX 125 COLLINSVILLE, CT 06022
TOWER OWNER:	SBA TOWERS, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	HARTFORD COUNTY
ZONING DISTRICT:	I (INDUSTRIAL)
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: N.41.834200° N41°50'03.12" LONGITUDE W.72.932700° W72°55'57.72"

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	11/20/20	ISSUED FOR CONSTRUCTION	JRV
0	06/14/19	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTHA529A

SITE ADDRESS:
96 POWDER MILL ROAD
CANTON, CT 06019

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – T-MOBILE
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – T-MOBILE
OEM – ORIGINAL EQUIPMENT MANUFACTURER
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.
- THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
- CONSTRUCTION SHALL COMPLY WITH ALL T-MOBILE STANDARDS AND SPECIFICATIONS.
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T-MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS½ IN.
- A CHAMFER ¼" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
- CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIER'S PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

- ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T-MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.
- NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ¾" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
- ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
- COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
- AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
- COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
- AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

- HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

- FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T-MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.
- COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
- CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

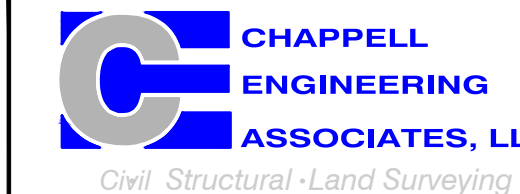
- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLEING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.
- POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE AND NEC.
- NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE AND NEC.
- CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

**T-MOBILE
NORTHEAST LLC**

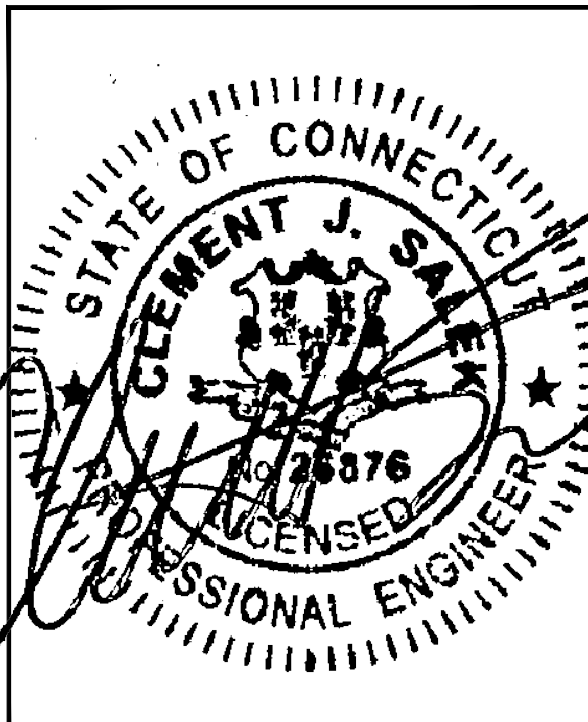
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SUBMITTALS			
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1	11/20/20	ISSUED FOR CONSTRUCTION	JRV
0	06/14/19	ISSUED FOR REVIEW	JRV

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CTHA529A

SITE ADDRESS:
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CANTON, CT 06019

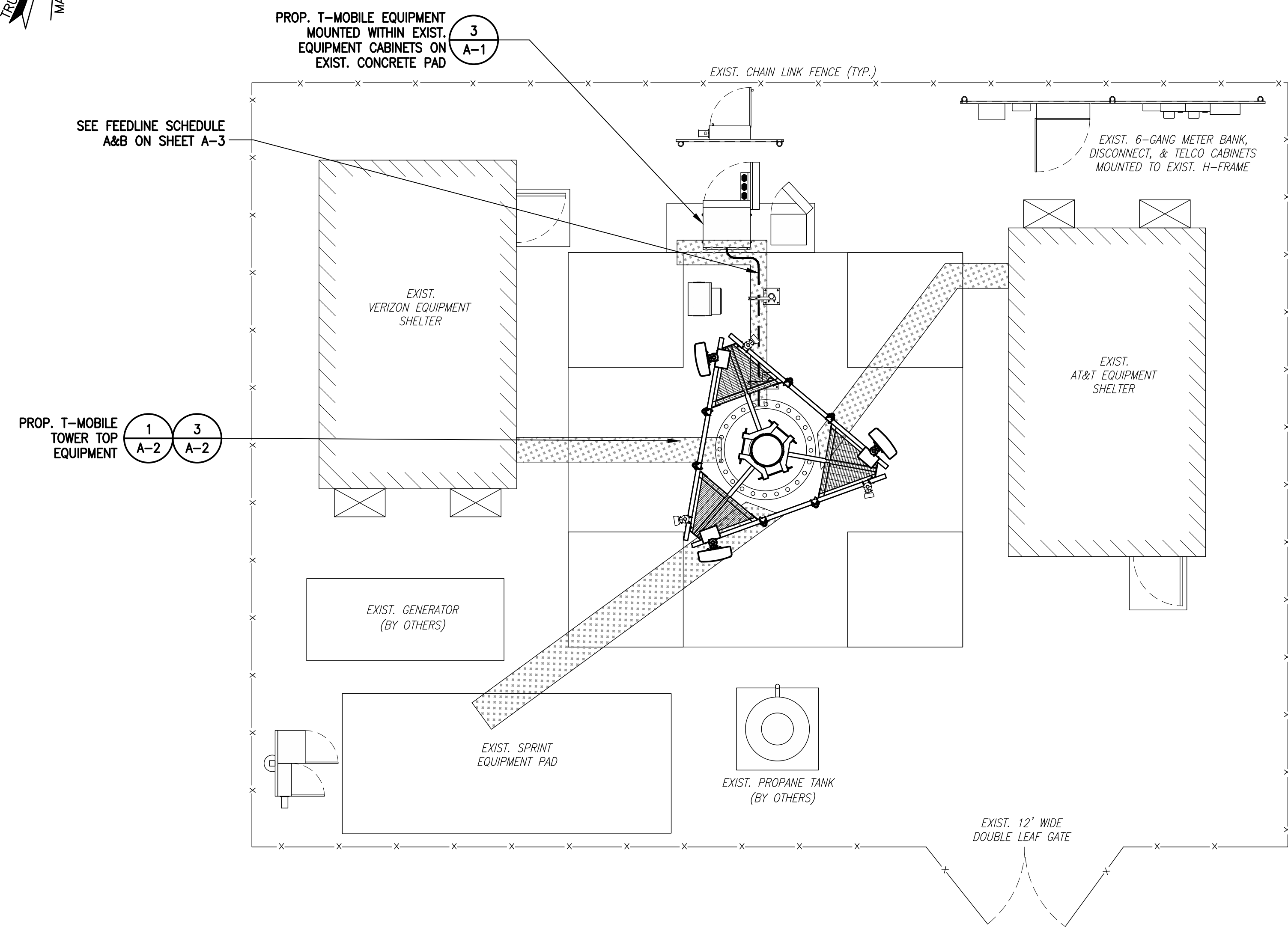
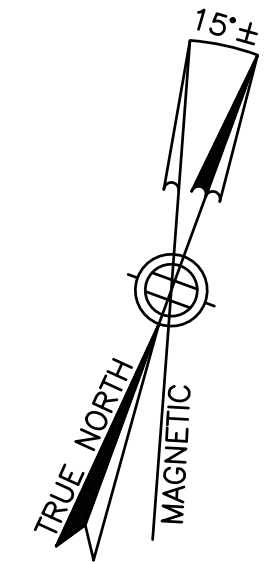
SHEET TITLE

GENERAL NOTES

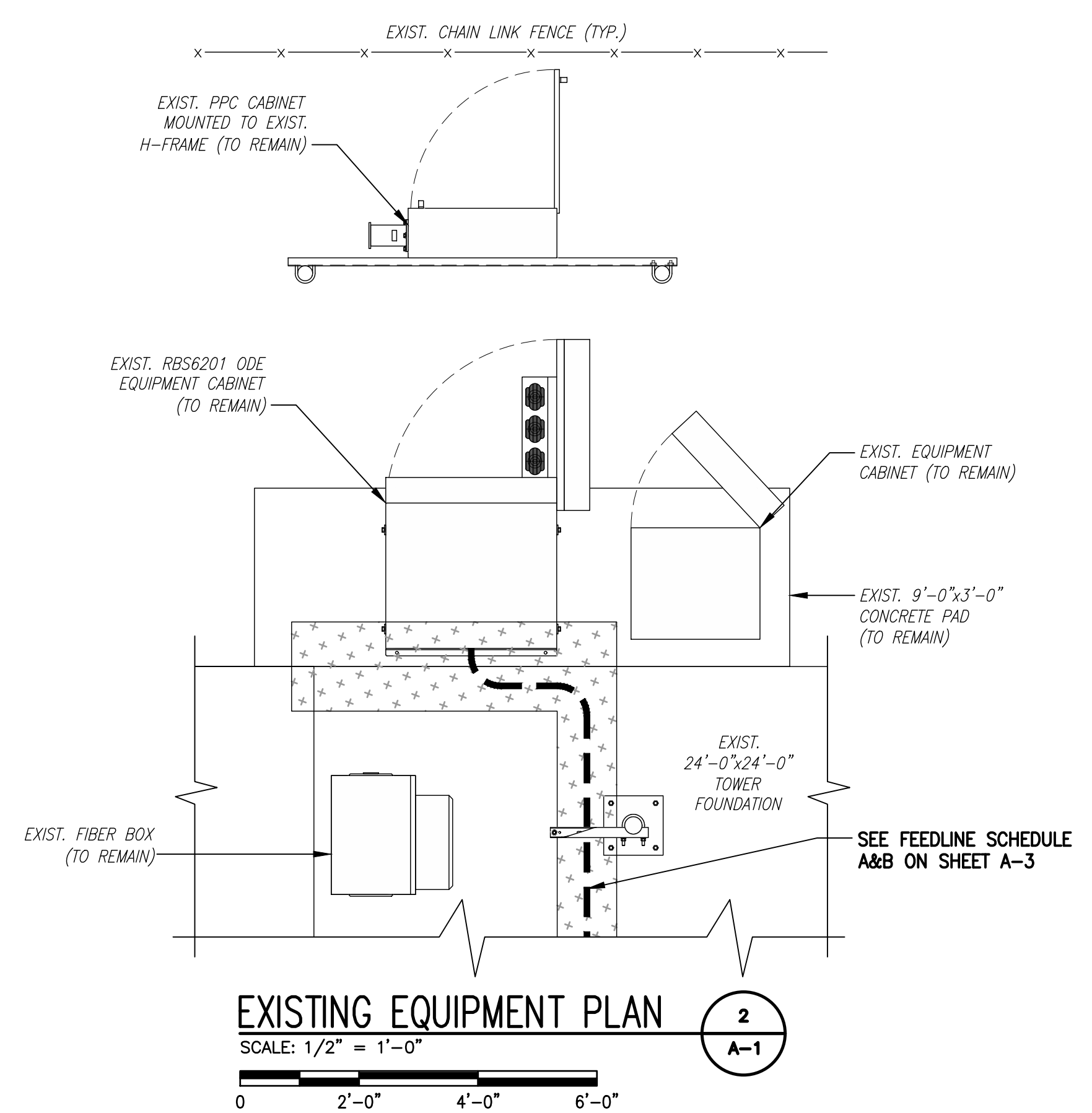
SHEET NUMBER

GN-1

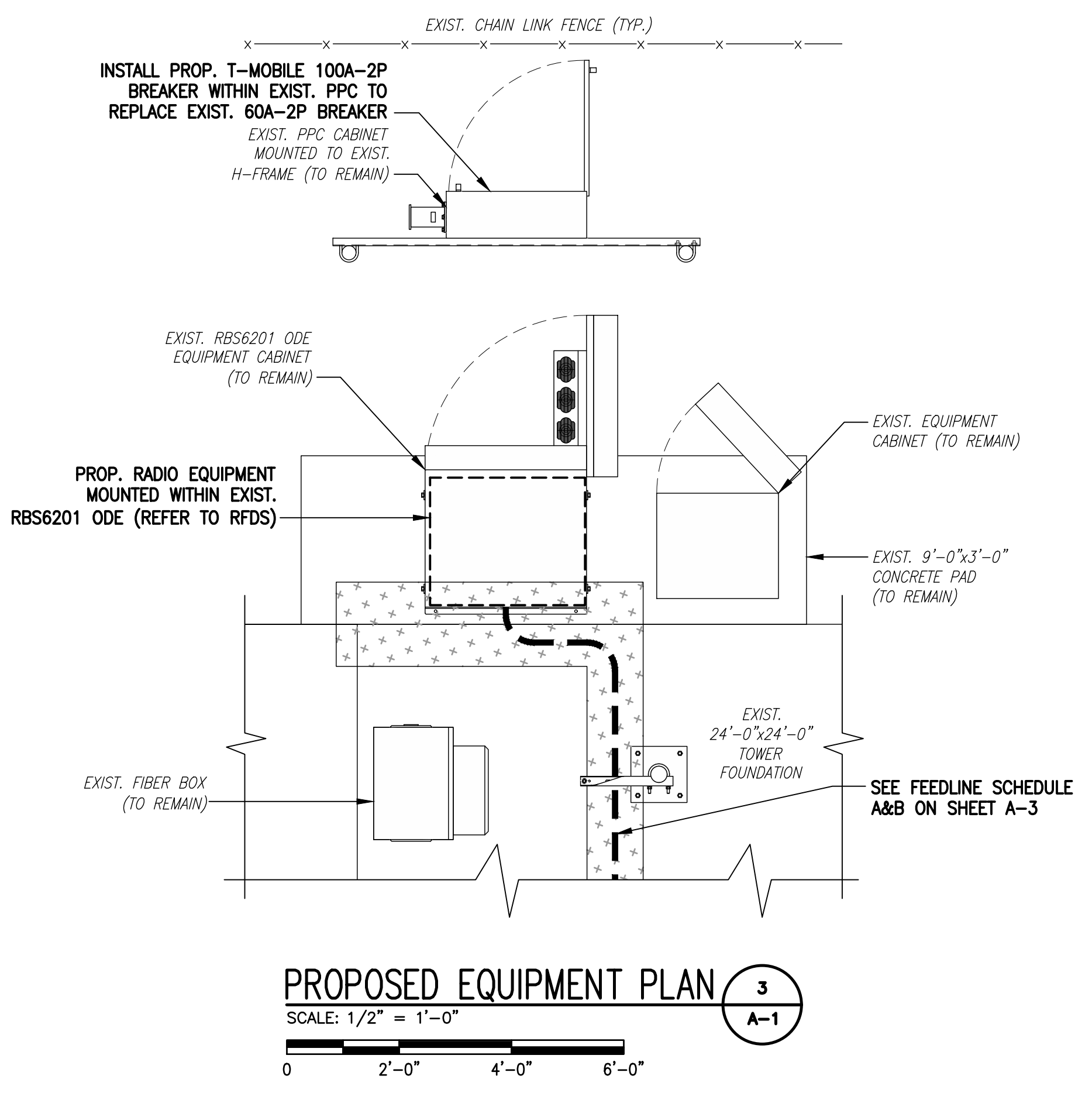
SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY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



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



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



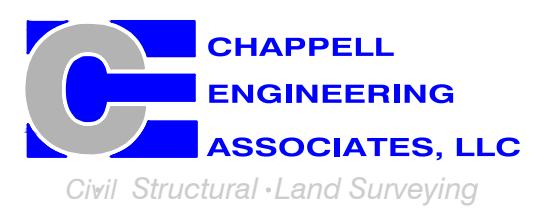
PROPOSED EQUIPMENT PLAN
 SCALE: 1/2" = 1'-0"
 0 2'-0" 4'-0" 6'-0"

**T-MOBILE
 NORTHEAST LLC**

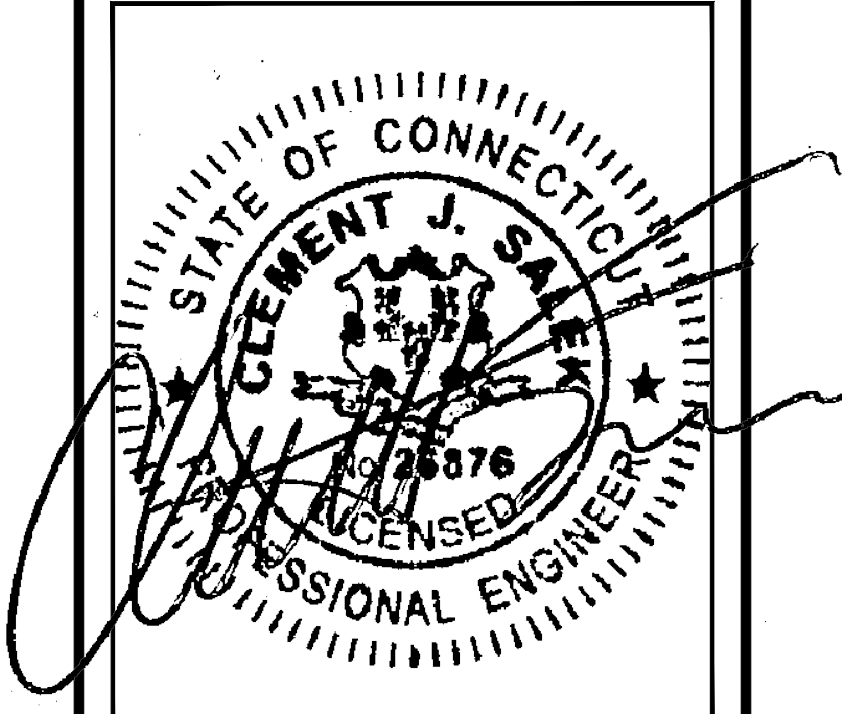
15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
 (508) 286-2700



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	11/20/20	ISSUED FOR CONSTRUCTION	JRV
0	06/14/19	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTHA529A

SITE ADDRESS:
 96 POWDER MILL ROAD
 CANTON, CT 06019

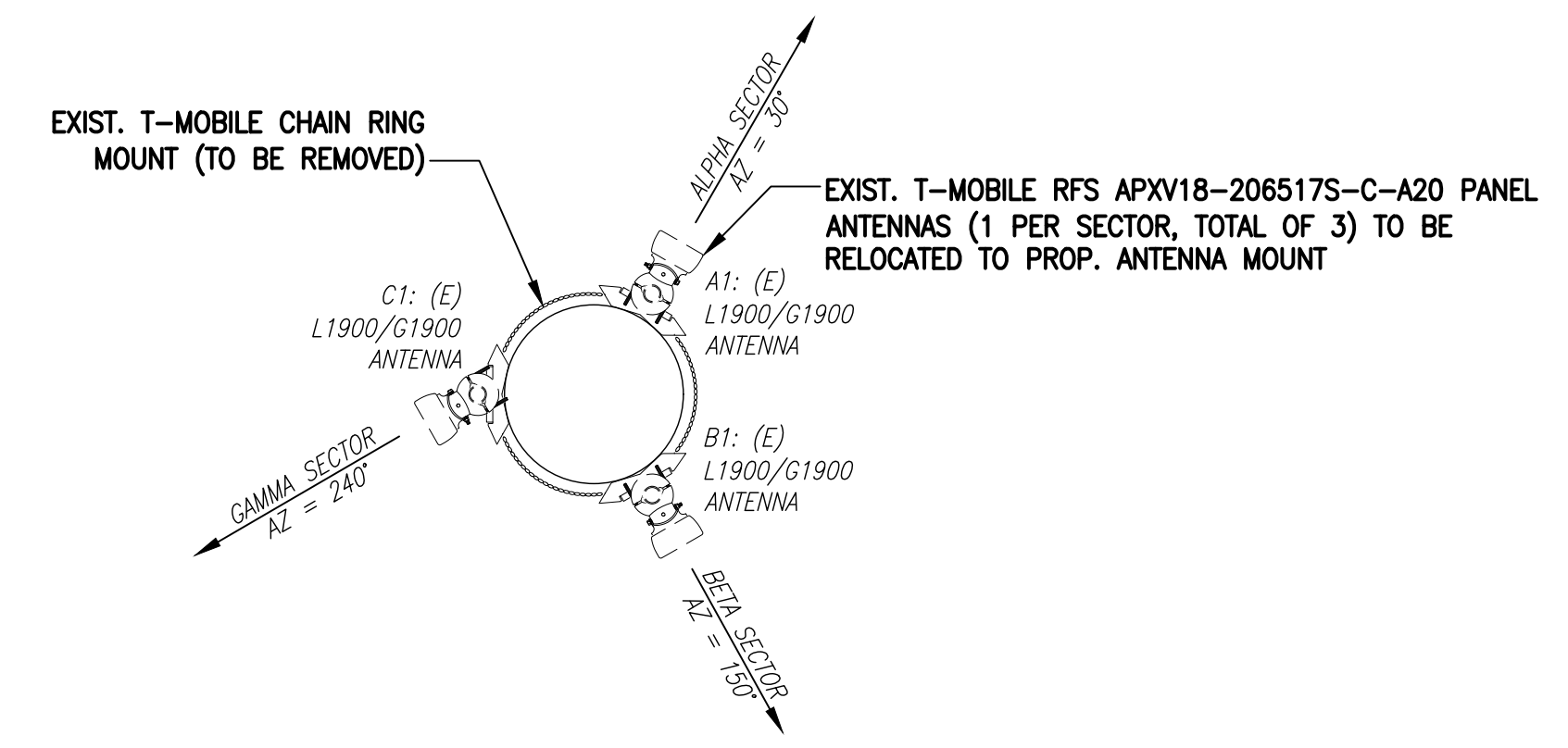
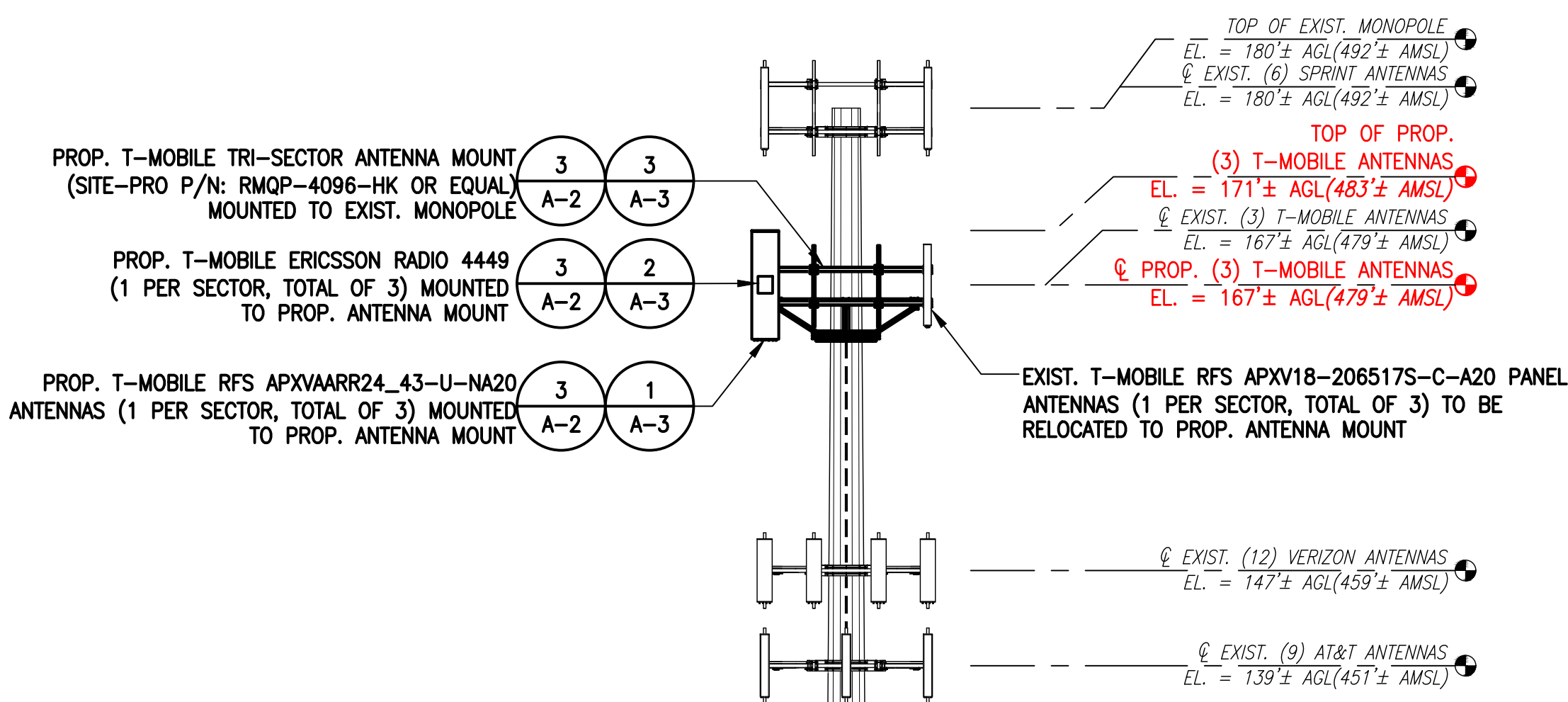
SHEET TITLE
**COMPOUND &
 EQUIPMENT PLAN**

SHEET NUMBER
A-1

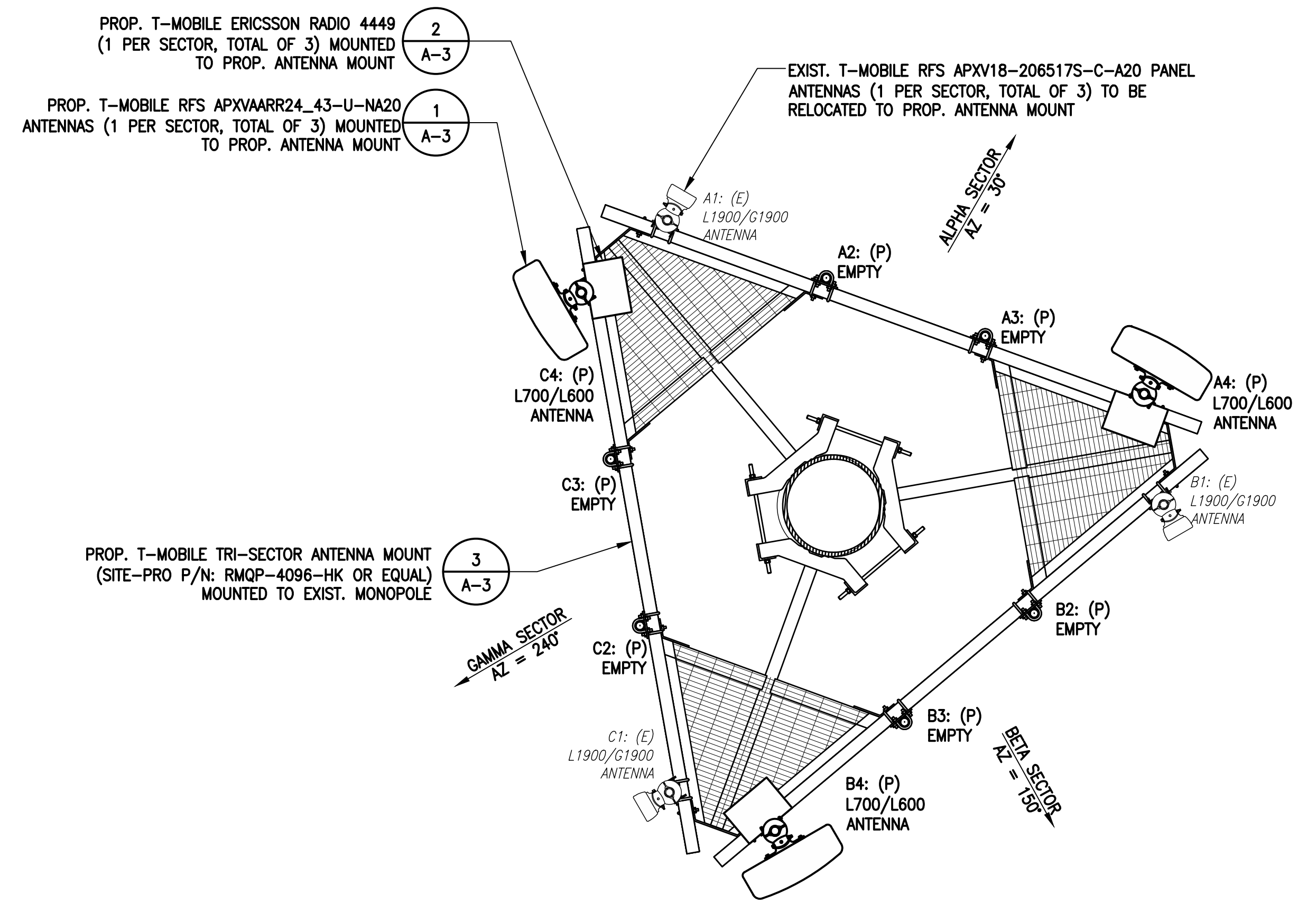
SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY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

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.

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



EXISTING ANTENNA PLAN
 SCALE: 1/2" = 1'-0"
 NORTH
 2
 A-2

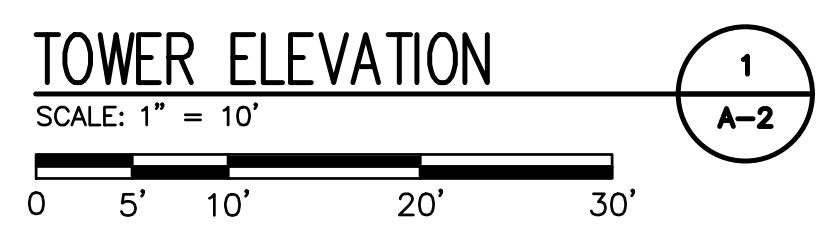


PROPOSED ANTENNA PLAN
 SCALE: 1/2" = 1'-0"
 NORTH
 3
 A-2

NOTE:
 GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

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

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

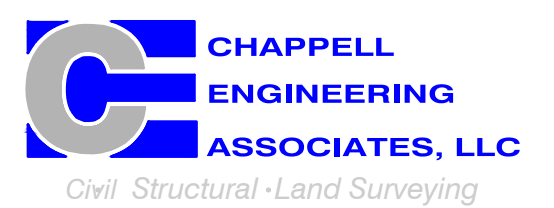


T-MOBILE NORTHEAST LLC

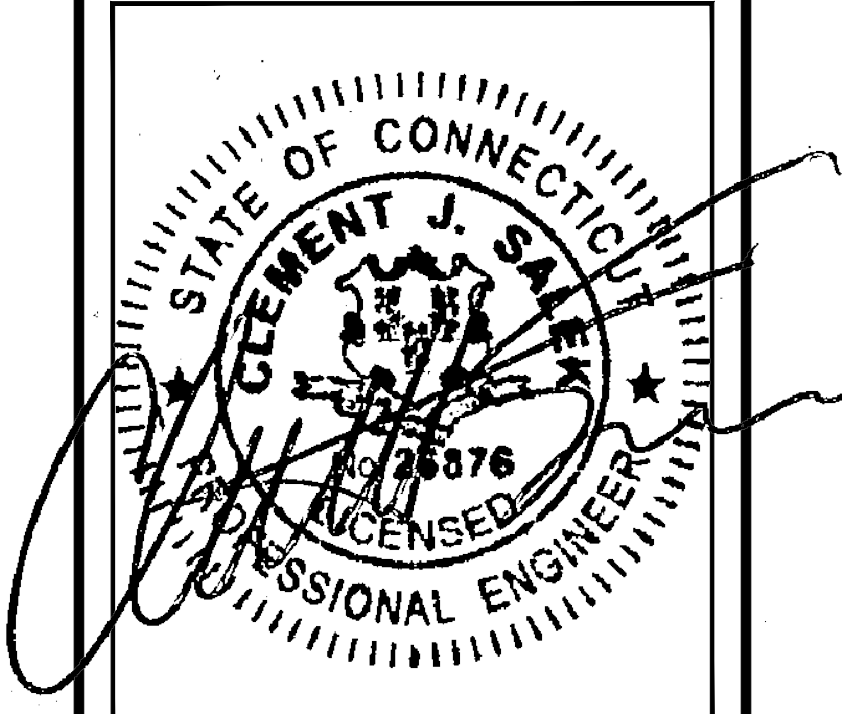
15 COMMERCE WAY, SUITE B
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APPROVED BY: JMT

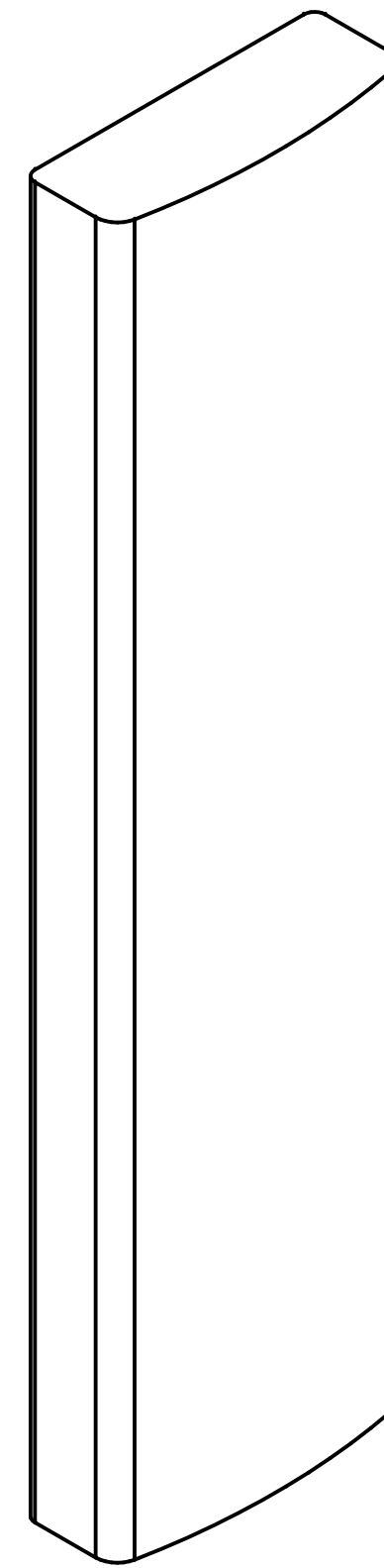
SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
1	11/20/20	ISSUED FOR CONSTRUCTION	JRV
0	06/14/19	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTHA529A

SITE ADDRESS:
 96 POWDER MILL ROAD
 CANTON, CT 06019

SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLAN

SHEET NUMBER
A-2

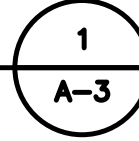


RFS APXVAARR24_43-U-NA20 ANTENNA

DIMENSIONS: 95.9"H x 24.0"W x 8.7"D
 WEIGHT: 128.0 lbs
 QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS

SCALE: N.T.S.

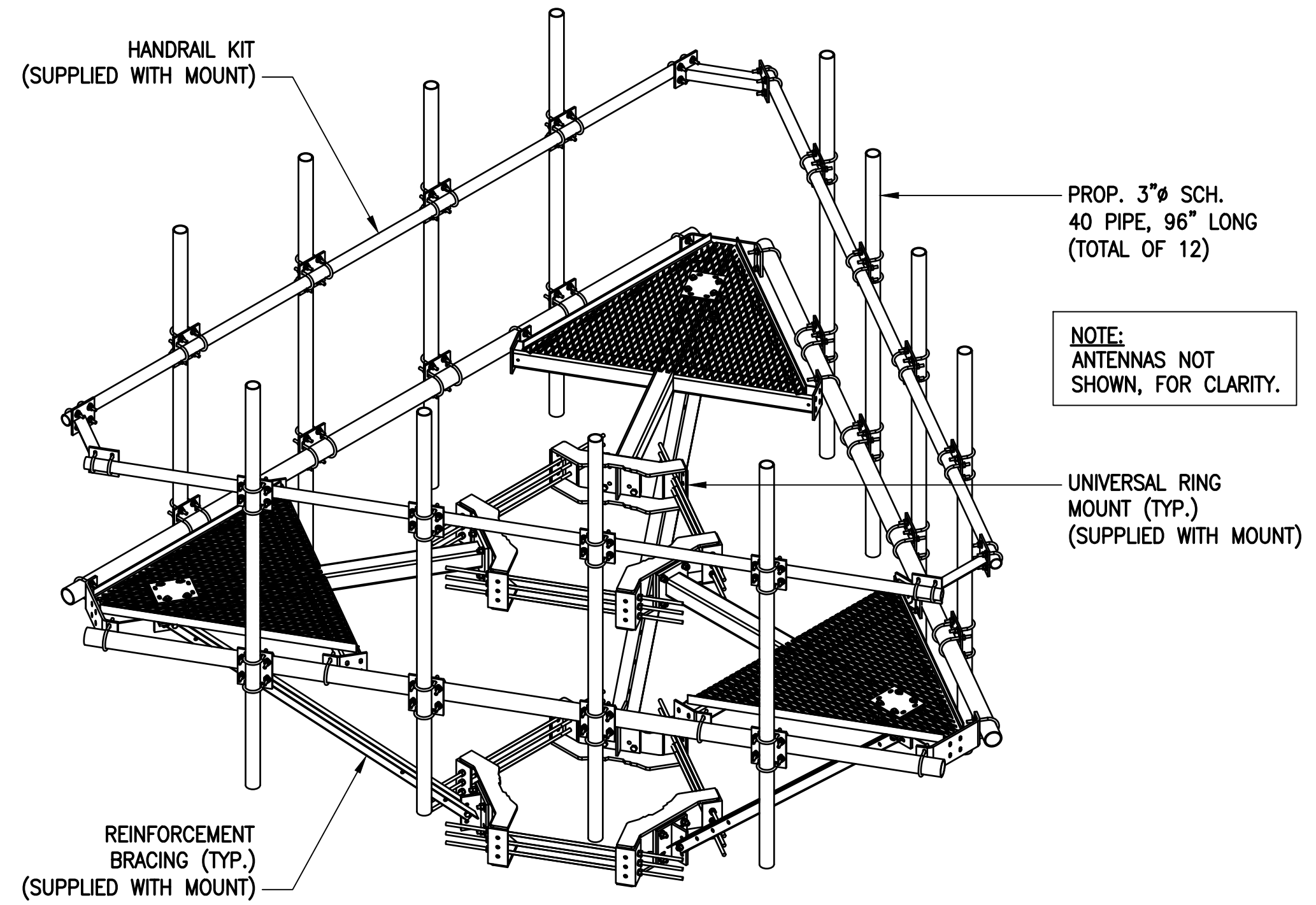
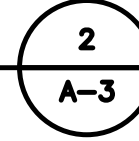


ERICSSON RADIO 4449 B71+B85

DIMENSIONS: 14.9"H x 13.2"W x 9.3"D
 WEIGHT: 74.0 lbs
 QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO DETAILS

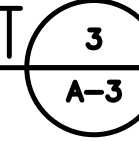
SCALE: N.T.S.



SITE-PRO 1 12'-6" LOW-PROFILE CO-LOCATION PLATFORM W/HANDRAIL KIT
 PART NUMBERS: RMQP-4096-HK
 (TOTAL OF 1 REQUIRED)

TYPICAL SITE PRO 1 12'-6" PLATFORM MOUNT

SCALE: N.T.S.



FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	RFS APXV18-206517S-C-A20	167'± AGL	30°	0°	2°	L1900/G1900	-	(6) 1-5/8" COAX CABLES (1) 1-5/8" (6x12) HCS FIBER CABLES
	RFS APXVAARR24_43-U-NA20	167'± AGL	30°	0°	2°	L700/L600	RADIO 4449 B71+B85	
BETA	RFS APXV18-206517S-C-A20	167'± AGL	150°	0°	2°	L1900/G1900	-	
	RFS APXVAARR24_43-U-NA20	167'± AGL	150°	0°	2°	L700/L600	RADIO 4449 B71+B85	
GAMMA	RFS APXV18-206517S-C-A20	167'± AGL	240°	0°	2°	L1900/G1900	-	
	RFS APXVAARR24_43-U-NA20	167'± AGL	240°	0°	2°	L700/L600	RADIO 4449 B71+B85	

CABLE NOTE: SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV2.1 - 04/12/19

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (6) 1-5/8" COAX CABLES (1) 1/2" COAX CABLE FOR GPS ANTENNA EXISTING TO BE REMOVED: NONE	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (1) 1-5/8" (6x12) HCS FIBER CABLES	

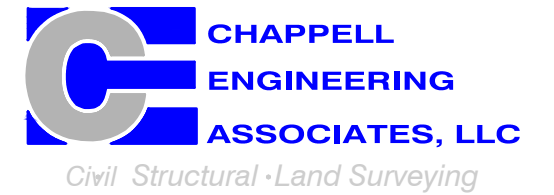
NOTE: EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

T-MOBILE NORTHEAST LLC

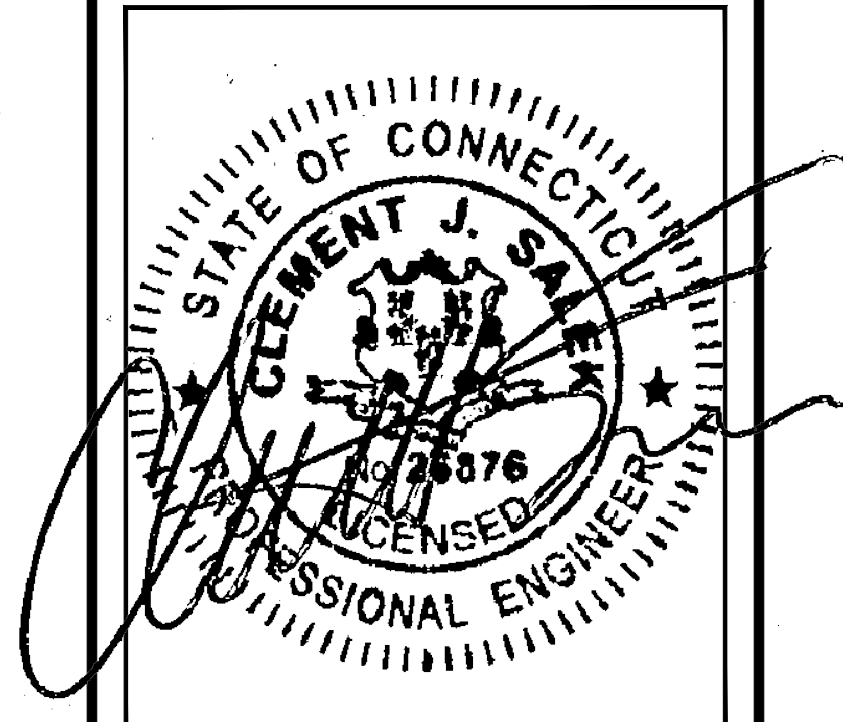
15 COMMERCE WAY, SUITE B
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APPROVED BY: JMT

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1	11/20/20	ISSUED FOR CONSTRUCTION	JRV
0	06/14/19	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTHA529A

SITE ADDRESS:
 96 POWDER MILL ROAD
 CANTON, CT 06019

SHEET TITLE
SITE DETAILS

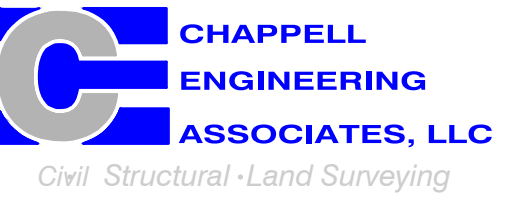
SHEET NUMBER
A-3

T-MOBILE
NORTHEAST LLC

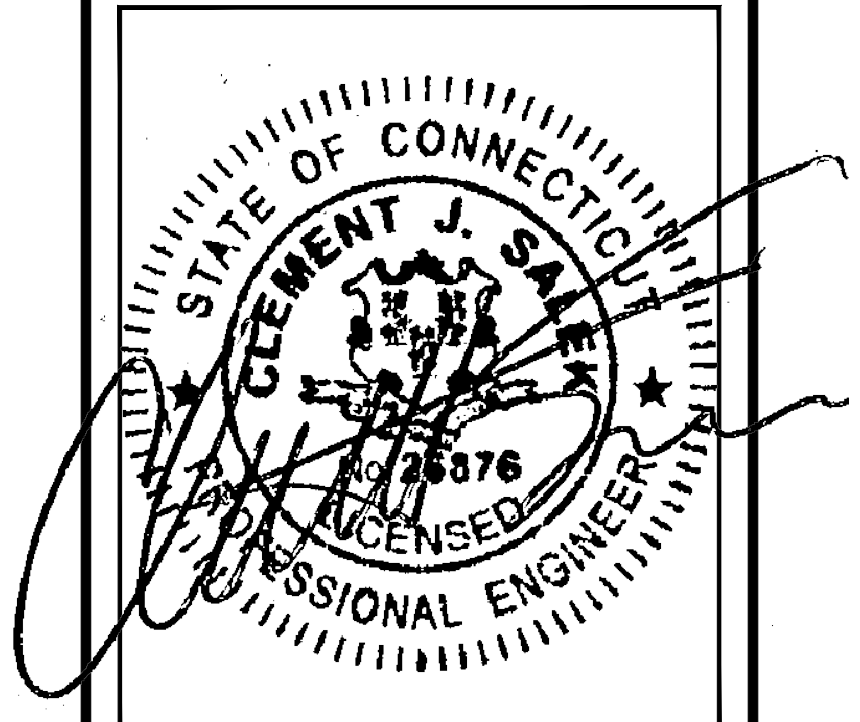
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SUBMITTALS

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1	11/20/20	ISSUED FOR CONSTRUCTION	JRV
0	06/14/19	ISSUED FOR REVIEW	JRV

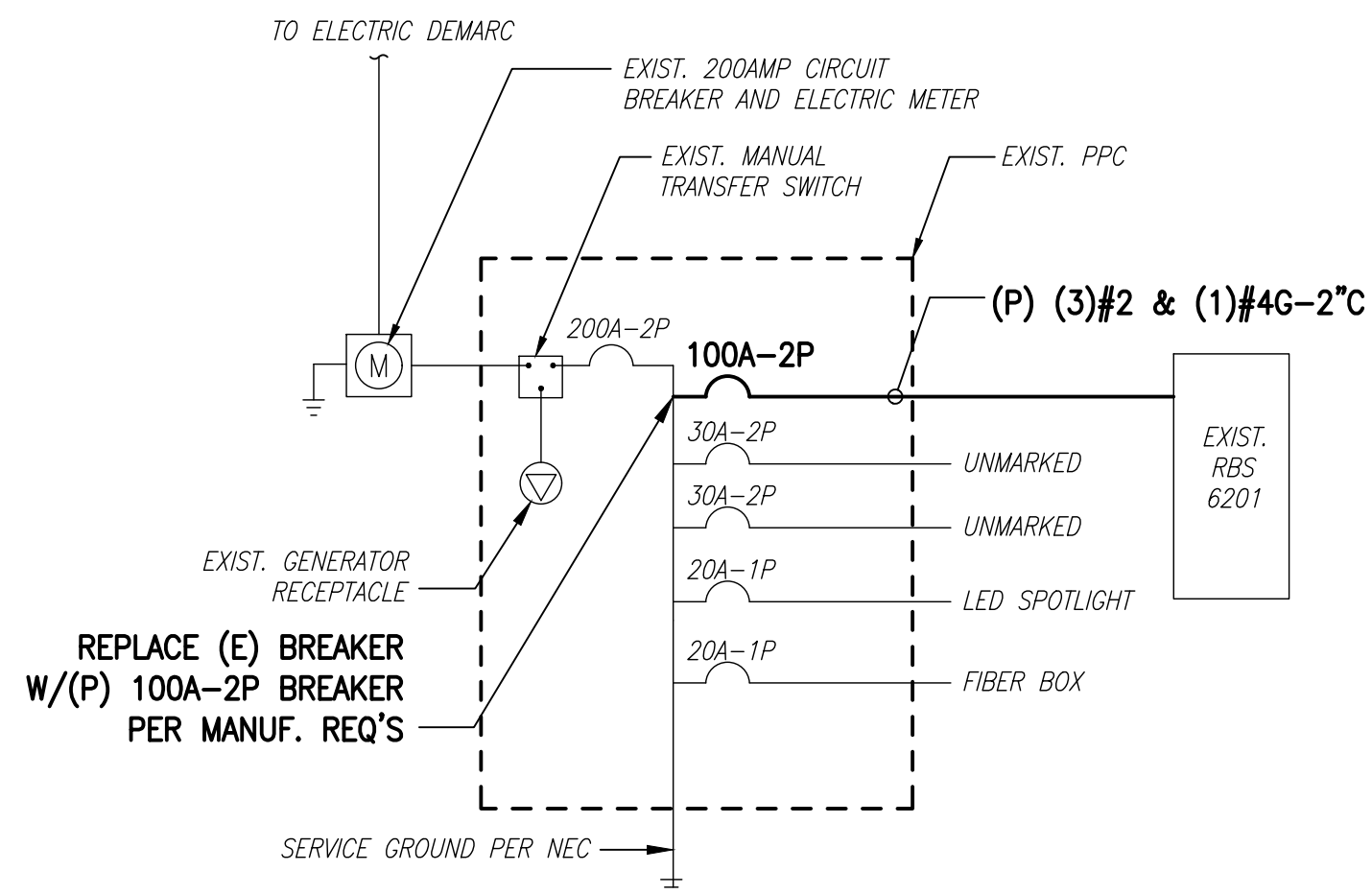
SITE NUMBER:
CTHA529A

SITE ADDRESS:
96 POWDER MILL ROAD
CANTON, CT 06019

SHEET TITLE
**ELECTRIC & GROUNDING
DETAILS**

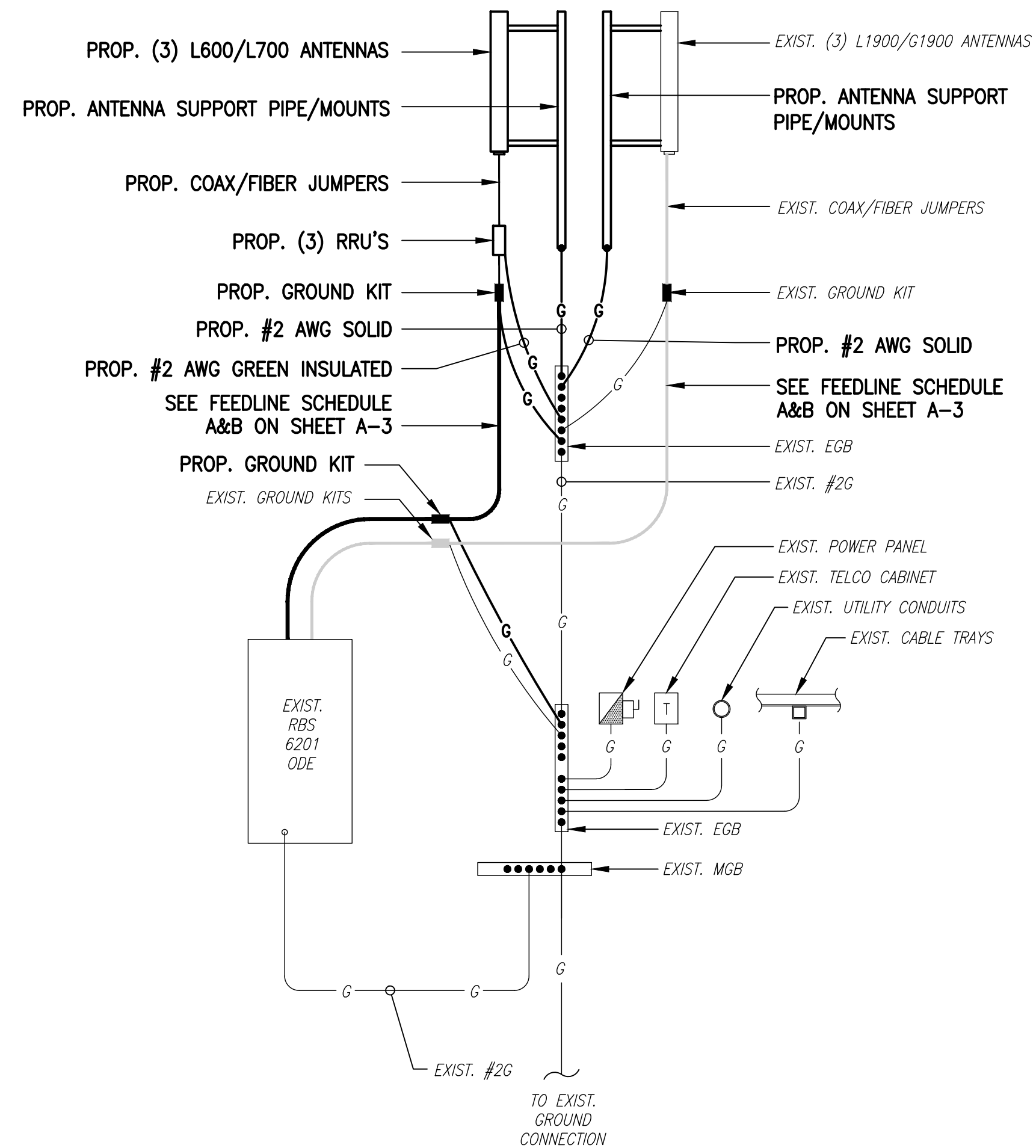
SHEET NUMBER

E-1



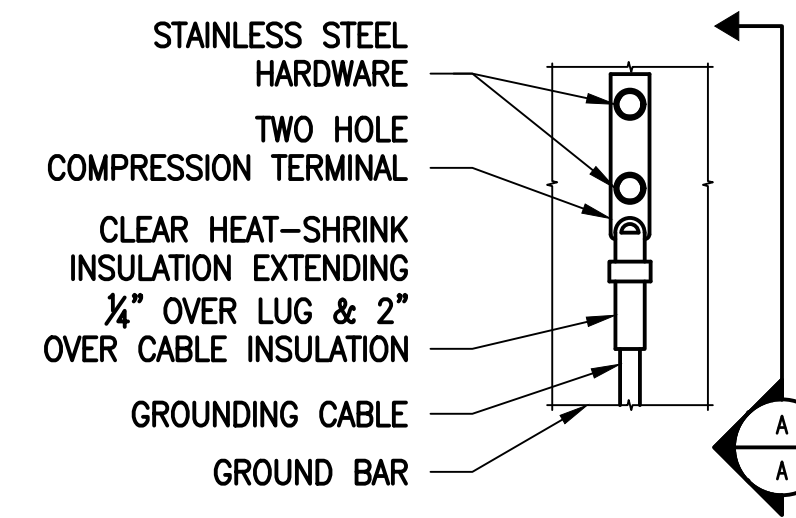
ONE LINE DIAGRAM
SCALE: NOT TO SCALE

1
E-1



GROUNDING RISER DIAGRAM
SCALE: NOT TO SCALE

2
E-1



ELEVATION

FLAT WASHER, TYP.
LOCK WASHER, TYP.
NUT, TYP.

FLAT WASHER, TYP.
3/8"x1/4" HEX BOLT
GROUND BAR
GROUND CABLE
EXPOSED BARE COPPER TO BE KEPT TO ABSOLUTE MINIMUM, NO INSULATION ALLOWED WITHIN THE COMPRESSION TERMINAL (TYP.)

SECTION A-A

TYPICAL GROUND BAR
CONNECTIONS DETAIL
SCALE: NOT TO SCALE

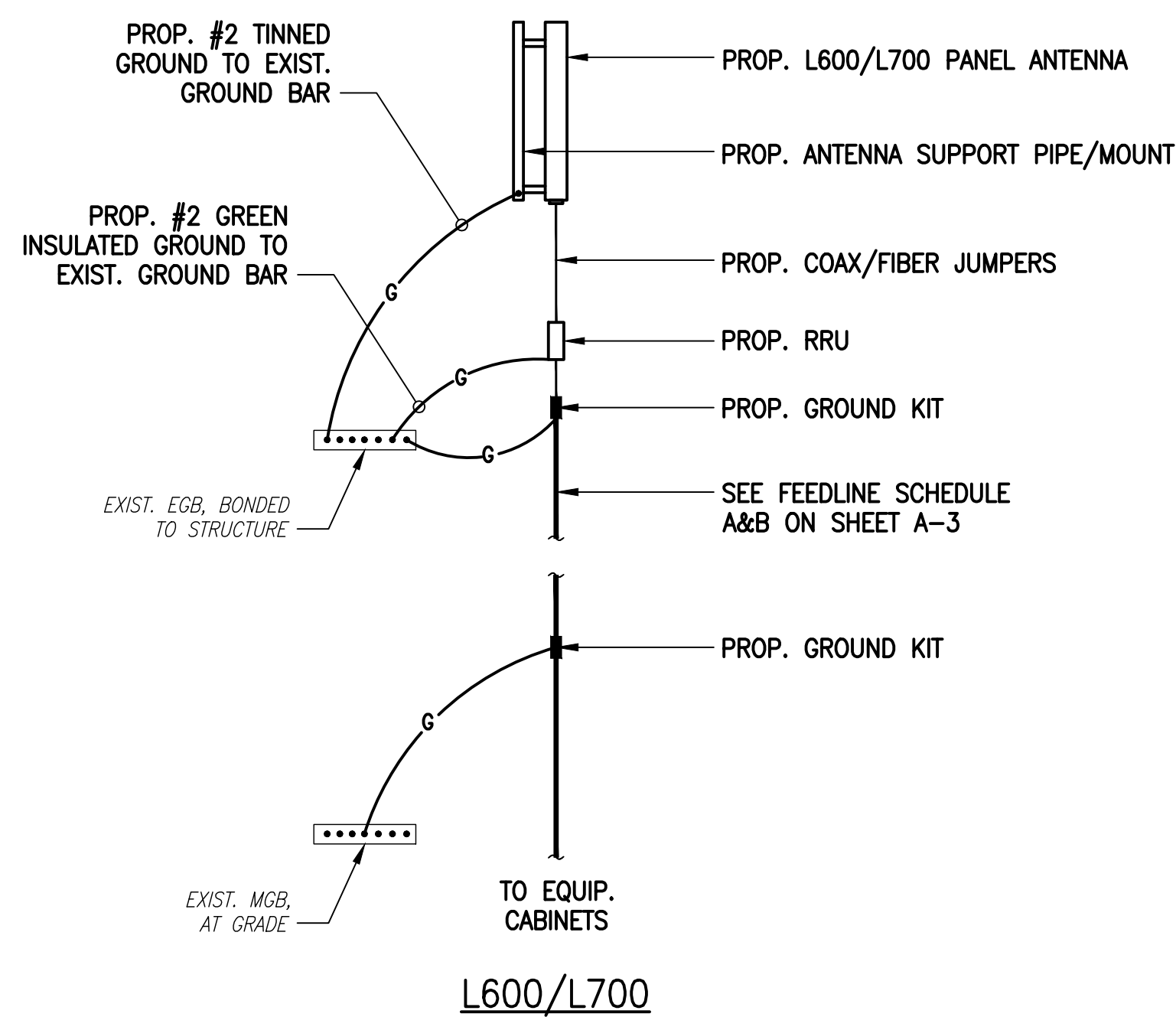
3
E-1

NOTES:

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

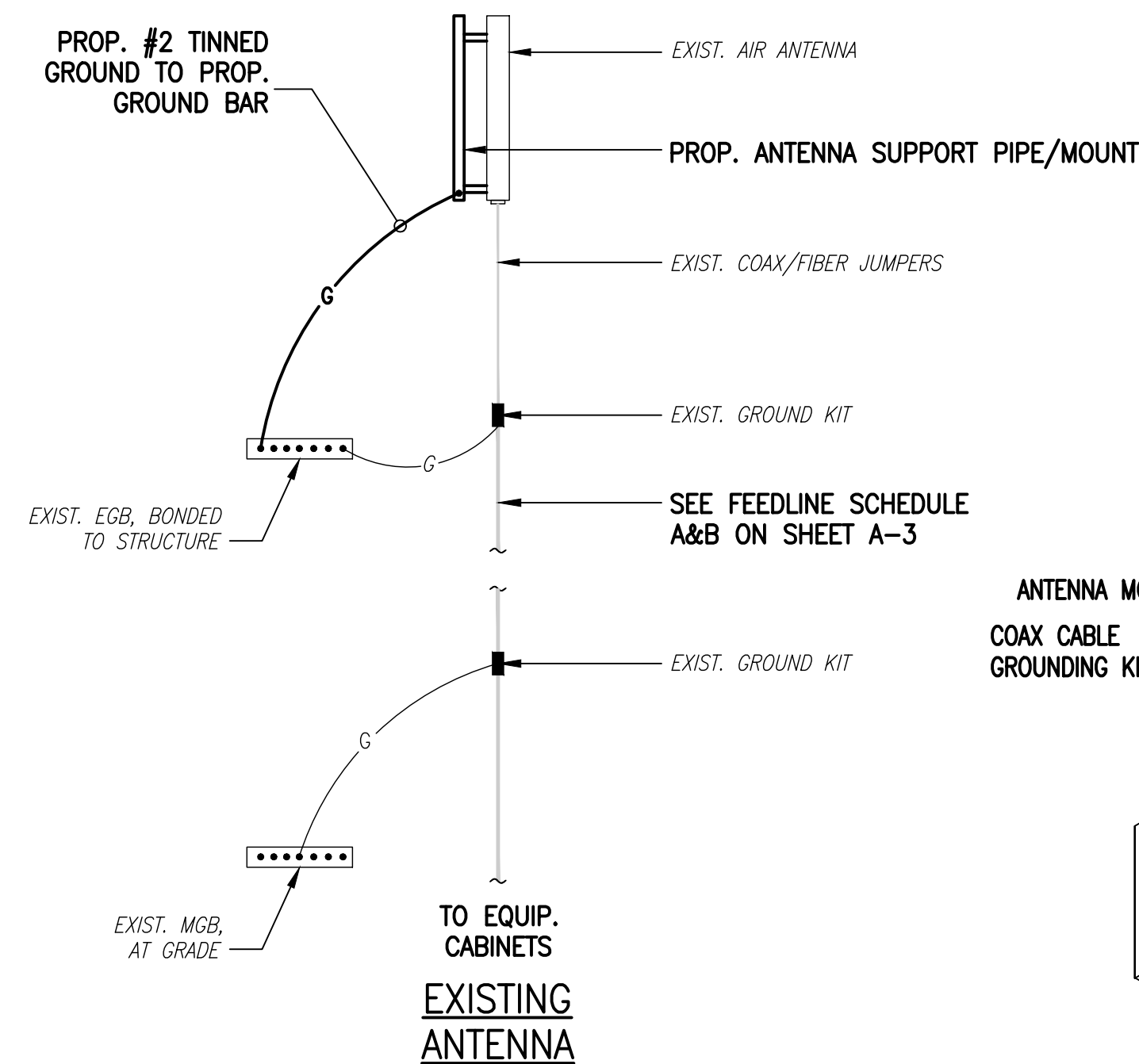
ELECTRICAL AND GROUNDING NOTES

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN/INSULATION.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
- CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
- CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.



COAX CABLE CONNECTION
AND GROUNDING DETAIL
SCALE: NOT TO SCALE

4
E-1



GROUND BAR (EGB)
SCALE: NOT TO SCALE

5
E-1

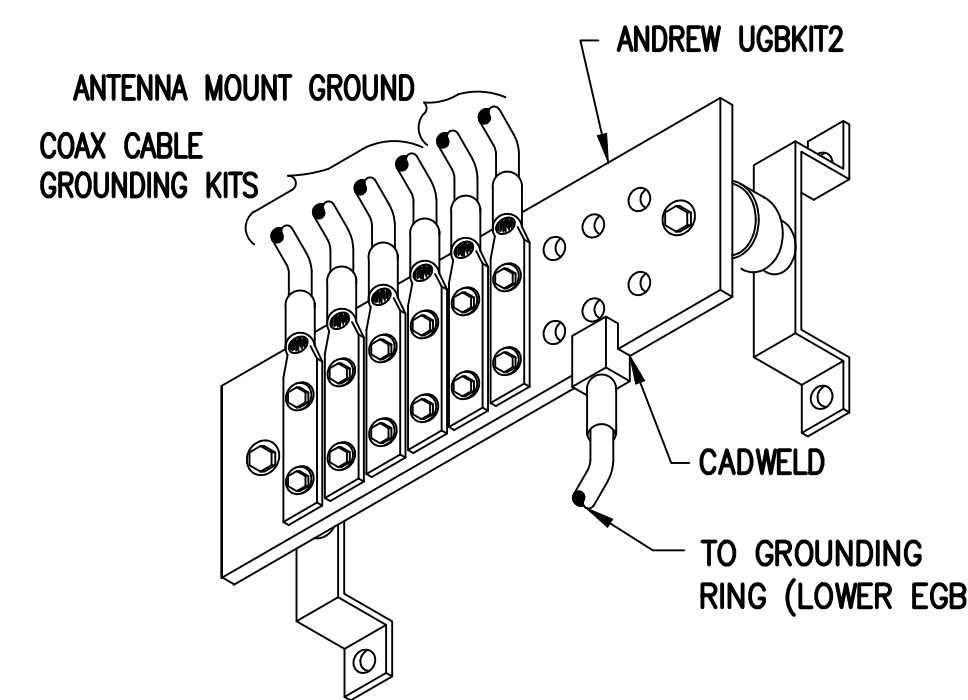


EXHIBIT 7



Tower Engineering Solutions

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

Structural Analysis Report

Existing 180 ft. Valmont Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT01722-S
Customer Site Name: South Canton
Carrier Name: T-Mobile (App#: 117040, V2)
Carrier Site ID / Name: CTHA529A / Canton
Site Location: 96 Powder Mill Road
Canton, Connecticut
Hartford County
Latitude: 41.834244
Longitude: -72.932669

Analysis Result:

Max Structural Usage: 79.6% [Pass]
Max Foundation Usage: 81.0% [Pass]
Additional Usage Caused by New Mount: +7.4%



Report Prepared By : Delu Zhou

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

Tower Drawings	Valmont Design Calculations, Order #12156-00, 8/03/2000 Valmont Record Drawings, Order #12156-00, 8/03/2000
Foundation Drawing	FDH Nondestructive Testing Report, Project #1206272EN1, 8/01/2012
Geotechnical Report	FDH Geotechnical Evaluation, Project #1206272EG1, 8/06/2012
Modification Drawings	FDH Modification Inspection Report, Project #1301891700, 8/08/2013
Mount Analysis	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 120.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft.
Seismic Parameters:	$S_S = 0.18$, $S_1 = 0.065$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	177.0	3	ALU 1900 MHz	(1) Platform w/ Hand Rails & Sitepro PRK-1245L	(4) 1-1/4" Fiber	Sprint Nextel
2		6	ALU 800 MHz			
3		3	ALU TD-RRH8x20-25			
4		3	RFS APXVTM14-C-I20			
5		3	Commscope NNVV-65B-R4			
-	167.5	3	Kathrein 742 351	(3) Pipe Mounts	(6) 1 5/8"	T-Mobile
7	147.0	3	Antel BXA-70063/6CF	(1) Low Profile Platform	(12) 1 5/8"	Verizon
8	146.5	4	Antel LPA-80080/4CF-EDIN			
9		2	Antel BXA-171085-8CF-2			
10		1	Antel BXA-171063/8CF-2			
11		2	Antel LPA-80063/4CF			
12	146.0	6	RFS FD9R6004/2C-3	(3) Modified T-Arms with (3) Pipe Masts, (3) Horizontal Face Pipe and (6) Pipe Masts	(6) 1 5/8" (4) 3/4" DC* (2) 7/16" Fiber* (3) 3/8" RET	AT&T
14	137.0	6	Powerwave Allgon - 7770 - Panel			
15		1	CCI - OPA65R-BU6DA- Panel			
16		2	CCI - OPA65R-BU8DA- Panel			
17		1	CCI - DMP65R-BU6DA- Panel			
18		2	CCI - DMP65R-BU8DA- Panel			
19		6	Powerwave LGP21401 TMA			
20		6	Powerwave 21903 Diplexer			
21		3	Ericsson 4449 B5/B12			
22		3	Ericsson RRUS 8843 B2 B66A			
23		1	Raycap DC6-48-60-18-8F			
24		1	Raycap DC6-48-60-0-8C-EV			
25		3	Andrew ABT-DF-DMADBH BIAS-T			
26	50.0	1	GPS	(1) Stand Off	(1) 1/2"	Sprint Nextel

3" (Housing (4) 3/4" DC power & (2) 7//16" Fiber cables)

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
6	167.0	3	RFS APXV18-206517S-C-A20 Panel	Low Profile Mount w/HRK Sitepro RMQP-4096-HK	(6) 1-5/8" (1) 1-5/8" Fiber	T-Mobile
7		3	RFS APXVAARR24_43-U-NA20 Panel			
8		3	Ericsson Radio 4449 B71+B12			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	79.6%	52.8%	48.5%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	4923.8	38.7
Analysis Reactions	5225.8	41.6
Factored Reactions*	6647.1	52.2
% of Design Reactions	78.6%	79.7%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.5334 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 79.59% at 98.0ft

Structure: CT01722-S-SBA
Site Name: South Canton
Height: 180.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: C
Gh: 1.1

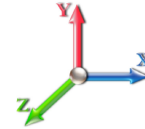
10/15/2020



Page: 1

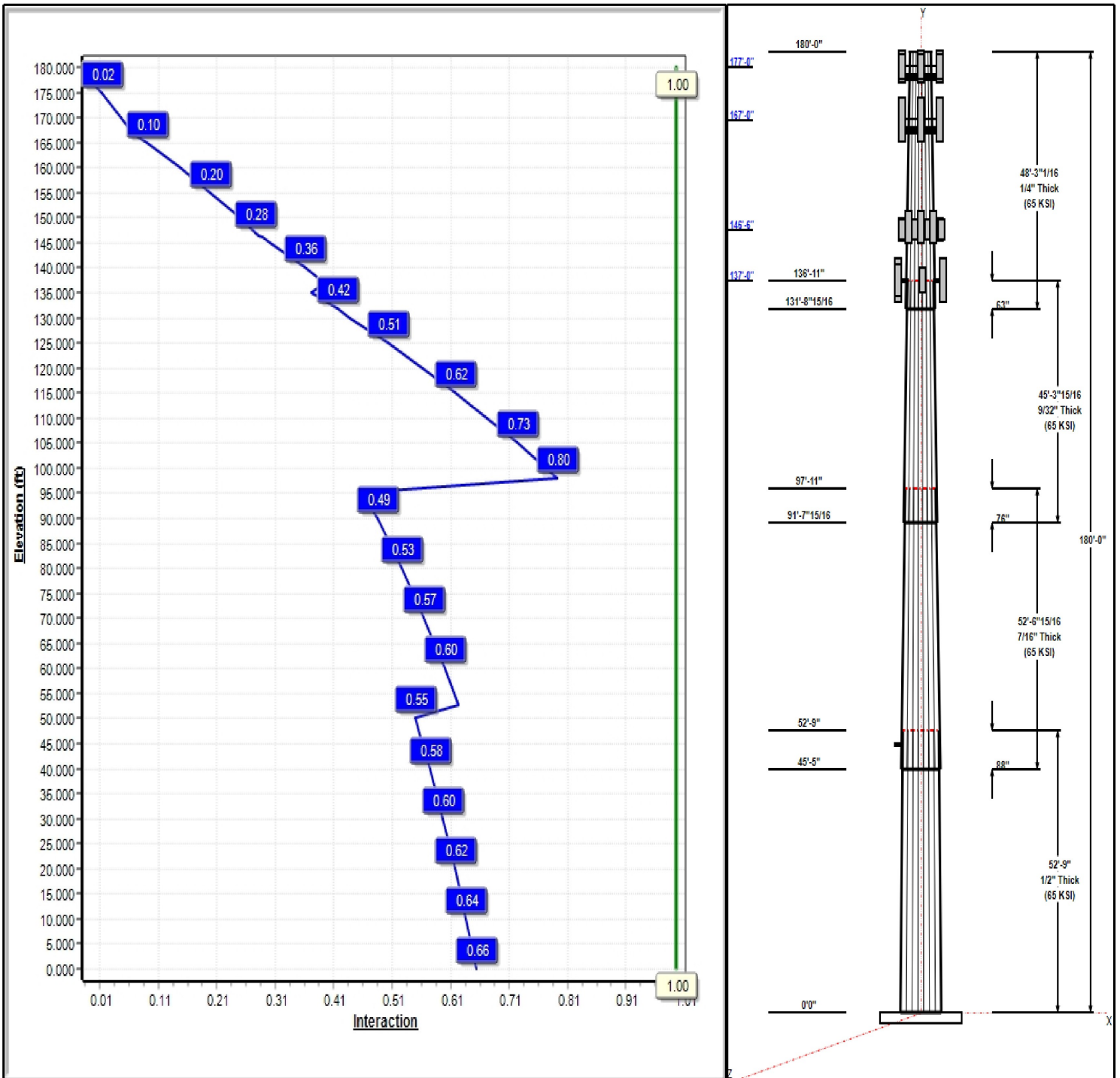
Dead Load Factor: 1.20
 Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 25

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Structure: CT01722-S-SBA

Type: Tapered
Site Name: South Canton
Height: 180.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 16 Sided
Taper: 0.19501

10/15/2020

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Shaft Properties

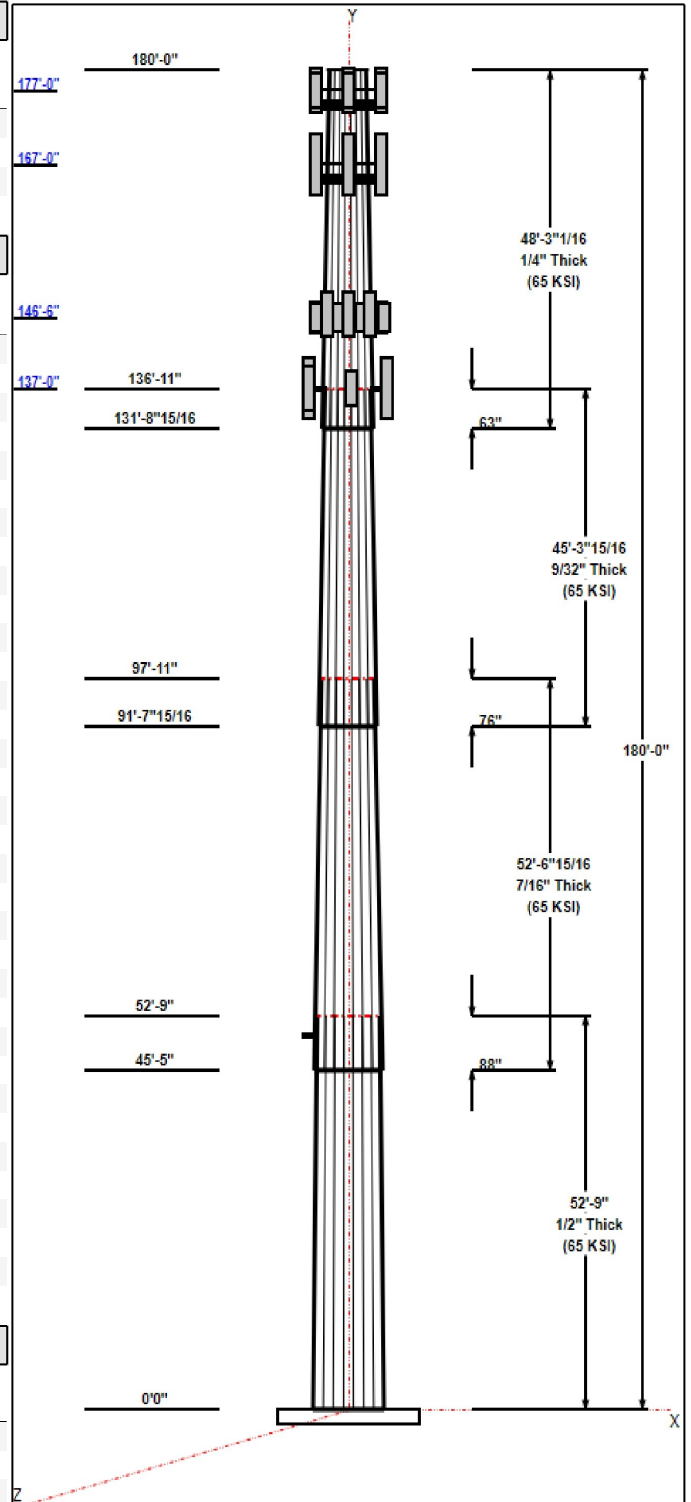
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	52.75	49.71	60.00	0.500		0.19501	65
2	52.58	41.77	52.02	0.438	Slip	0.19501	65
3	45.33	34.72	43.56	0.281	Slip	0.19501	65
4	48.26	26.84	36.25	0.250	Slip	0.19501	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
177.00	177.00	3	RFS APXVTM14-C-I20	Sprint Nextel
177.00	177.00	3	Commscope	Sprint Nextel
177.00	177.00	1	Sitepro PRK-1245L	Sprint Nextel
177.00	177.00	3	ALU 1900 MHz	Sprint Nextel
177.00	177.00	6	ALU 800 MHz	Sprint Nextel
177.00	177.00	3	ALU TD-RRH8x20-25	Sprint Nextel
177.00	177.00	1	Platform w/ Hand Rails	Sprint Nextel
167.00	167.00	3	RFS	T-Mobile
167.00	167.00	3	RFS	T-Mobile
167.00	167.00	1	Sitepro RMQP-4096-HK	T-Mobile
167.00	167.00	3	Ericsson Radio 4449	T-Mobile
147.00	147.00	3	Antel BXA-70063/6CF	Verizon
146.50	146.50	4	Antel	Verizon
146.50	146.50	2	Antel BXA-171085-8CF-2	Verizon
146.50	146.50	1	Antel BXA-171063/8CF-2	Verizon
146.50	146.50	2	Antel LPA-80063/4CF	Verizon
146.50	146.50	1	Low Profile Platform	Verizon
146.00	146.00	6	RFS FD9R6004/2C-3	Verizon
137.00	137.00	3	T-Arms	AT&T
137.00	137.00	6	7770	AT&T
137.00	137.00	1	OPA65R-KE6D	AT&T
137.00	137.00	2	OPA65R-BU8DA	AT&T
137.00	137.00	1	DMP65R-BU6DA	AT&T
137.00	137.00	2	DMP65R-BU8DA	AT&T
137.00	137.00	6	Powerwave LGP21401	AT&T
137.00	137.00	6	2Powerwave 1903	AT&T
137.00	137.00	3	4449 B5/B12	AT&T
137.00	137.00	3	RRUS 8843 B2 B66A	AT&T
137.00	137.00	1	Raycap DC6-48-60-18-8F	AT&T
137.00	137.00	1	Raycap	AT&T
137.00	137.00	3	Andrew ABT-DF-DMADBH	AT&T
137.00	137.00	1	(3) T-Arm Kit	AT&T
50.00	50.00	1	GPS	Sprint Nextel
50.00	50.00	1	Stand Off	Sprint Nextel

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	177.00	Inside	1-1/4" Fiber	Sprint Nextel
0.00	167.00	Inside	1-5/8" Coax	T-Mobile
0.00	167.00	Inside	1-5/8" Fiber	T-Mobile
0.00	146.50	Inside	1 5/8" Coax	Verizon
0.00	139.00	Inside	1 5/8" Coax	AT&T
0.00	139.00	Inside	3" Conduit	AT&T
0.00	139.00	Inside	3/4" DC	AT&T
0.00	139.00	Inside	3/8" RET	AT&T



Structure: CT01722-S-SBA

Type: Tapered	Base Shape: 16 Sided	10/15/2020
Site Name: South Canton	Taper: 0.19501	
Height: 180.00 (ft)		
Base Elev: 0.00 (ft)		Page: 3



0.00	139.00	Inside	7/16 Fiber	AT&T
0.00	50.00	Outside	1/2" Coax	Sprint Nextel

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
28	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	74.6	60.0	Polygon

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	5225.8	41.6	63.7
0.9D + 1.6W 93 mph Wind	5167.6	41.6	47.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1641.3	12.6	105.9
1.2D + 1.0E	317.8	2.4	63.8
0.9D + 1.0E	313.9	2.4	47.9
1.0D + 1.0W 60 mph Wind	1351.2	10.8	53.2

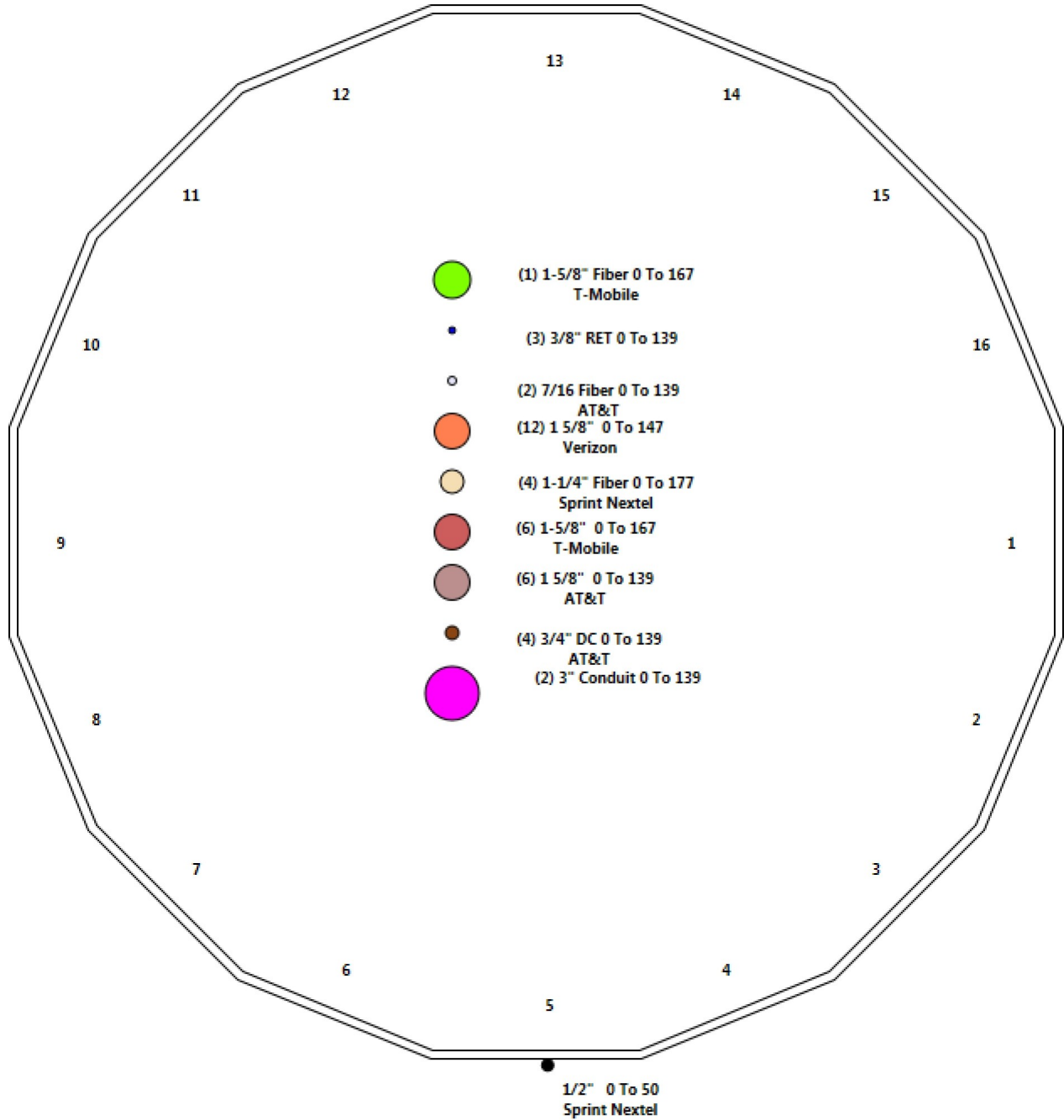
Structure: CT01722-S-SBA - Coax Line Placement

Type: Monopole
Site Name: South Canton
Height: 180.00 (ft)

10/15/2020



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Shaft Properties

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	16	52.750	0.5000	65		0.00	15,562
2	16	52.580	0.4380	65	Slip	88.00	11,613
3	16	45.330	0.2813	65	Slip	76.00	5,378
4	16	48.257	0.2500	65	Slip	63.00	4,098
Total Shaft Weight:							36,651

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper
1	60.00	0.00	94.90	42444.94	22.28	120.00	49.71	52.75	78.50	24017.2	18.19	99.43	0.195008
2	52.02	45.42	72.07	24224.67	22.03	118.77	41.77	98.00	57.74	12459.6	17.38	95.36	0.195008
3	43.56	91.66	38.83	9190.17	29.22	154.89	34.72	136.99	30.90	4631.04	22.97	123.4	0.195008
4	36.25	131.7	28.71	4699.59	27.25	144.99	26.84	180.00	21.20	1893.45	19.76	107.3	0.195008

Load Summary

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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	177.00	RFS APXVTM14-C-I20	3	56.00	6.34	0.79	289.33	7.884	0.79	0.00	0.00
2	177.00	Commscope NNVV-65B-R4	3	77.40	12.27	0.74	464.50	14.244	0.74	0.00	0.00
3	177.00	Sitepro PRK-1245L	1	464.91	9.50	1.00	904.86	22.985	1.00	0.00	0.00
4	177.00	ALU 1900 MHz	3	60.00	3.80	0.67	261.79	5.684	0.67	0.00	0.00
5	177.00	ALU 800 MHz	6	53.00	2.49	0.67	153.26	4.040	0.67	0.00	0.00
6	177.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.67	231.09	5.183	0.67	0.00	0.00
7	177.00	Platform w/ Hand Rails	1	2000.00	35.00	1.00	4838.95	59.841	1.00	0.00	0.00
8	167.00	RFS APXV18-206517S-C-A20	3	32.50	5.17	0.74	186.55	8.371	0.74	0.00	0.00
9	167.00	RFS APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	733.50	22.834	0.70	0.00	0.00
10	167.00	Sitepro RMQP-4096-HK	1	2280.00	46.00	1.00	5497.63	89.278	1.00	0.00	0.00
11	167.00	Ericsson Radio 4449 B71+B12	3	74.00	1.65	0.67	173.08	2.374	0.67	0.00	0.00
12	147.00	Antel BXA-70063/6CF	3	17.00	7.57	0.70	205.56	11.248	0.70	0.00	0.00
13	146.50	Antel LPA-80080/4CF-EDIN	4	12.00	2.61	1.70	165.80	3.805	1.70	0.00	0.00
14	146.50	Antel BXA-171085-8CF-2	2	10.50	2.94	0.84	97.69	5.146	0.84	0.00	0.00
15	146.50	Antel BXA-171063/8CF-2	1	10.50	2.94	0.84	97.69	5.146	0.84	0.00	0.00
16	146.50	Antel LPA-80063/4CF	2	20.00	6.15	0.93	263.35	8.668	0.93	0.00	0.00
17	146.50	Low Profile Platform	1	1500.00	22.00	1.00	3241.10	45.493	1.00	0.00	0.00
18	146.00	RFS FD9R6004/2C-3	6	3.10	0.36	0.67	13.77	0.950	0.67	0.00	0.00
19	137.00	T-Arms	3	350.00	8.00	0.75	672.83	17.224	0.75	0.00	0.00
20	137.00	7770	6	35.00	5.51	0.73	226.86	6.937	0.73	0.00	0.00
21	137.00	OPA65R-KE6D	1	60.20	12.87	1.00	463.27	14.874	1.00	0.00	0.00
22	137.00	OPA65R-BU8DA	2	76.50	18.09	0.86	603.41	20.539	0.87	0.00	0.00
23	137.00	DMP65R-BU6DA	1	79.40	12.71	1.00	477.28	14.705	1.00	0.00	0.00
24	137.00	DMP65R-BU8DA	2	95.70	17.87	0.86	615.94	20.312	0.87	0.00	0.00
25	137.00	Powerwave LGP21401 TMA	6	14.10	1.29	1.00	47.13	2.394	1.00	0.00	0.00
26	137.00	2Powerwave 1903 Diplexer	6	5.50	0.27	0.84	16.64	0.795	0.84	0.00	0.00
27	137.00	4449 B5/B12	3	71.00	1.97	0.67	141.53	2.693	0.67	0.00	0.00
28	137.00	RRUS 8843 B2 B66A	3	72.00	1.64	0.67	133.90	2.296	0.67	0.00	0.00
29	137.00	Raycap DC6-48-60-18-8F	1	31.80	0.92	1.00	113.49	1.499	1.00	0.00	0.00
30	137.00	Raycap DC6-48-60-0-8C-EV	1	16.00	4.78	1.00	179.49	5.948	1.00	0.00	0.00
31	137.00	Andrew ABT-DF-DMADBH	3	1.10	0.05	0.98	4.05	0.304	0.98	0.00	0.00
32	137.00	(3) T-Arm Kit	1	500.00	16.50	1.00	1284.02	37.807	1.00	0.00	0.00
33	50.00	GPS	1	10.00	1.00	1.00	45.03	1.851	1.00	0.00	0.00
34	50.00	Stand Off	1	40.00	2.63	1.00	135.90	9.760	1.00	0.00	0.00
Totals:			90	11,137.41			34,341.75				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	177.00	(4) 1-1/4" Fiber	0.00	Inside
0.00	167.00	(6) 1-5/8" Coax	0.00	Inside
0.00	167.00	(1) 1-5/8" Fiber	0.00	Inside
0.00	146.50	(12) 1 5/8" Coax	0.00	Inside
0.00	139.00	(6) 1 5/8" Coax	0.00	Inside
0.00	139.00	(2) 3" Conduit	0.00	Inside
0.00	139.00	(4) 3/4" DC	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		
0.00	139.00	(3) 3/8" RET		0.00							
0.00	139.00	(2) 7/16 Fiber		0.00							
0.00	50.00	(1) 1/2" Coax		0.65							

Shaft Section Properties

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.5000	60.000	94.903	42444.9	22.28	120.00	77.4	1387.	0.0
5.00		0.5000	59.025	93.347	40392.3	21.89	118.05	77.8	1342.	1601.4
10.00		0.5000	58.050	91.792	38406.9	21.50	116.10	78.2	1297.	1575.0
15.00		0.5000	57.075	90.237	36487.6	21.11	114.15	78.7	1254.	1548.5
20.00		0.5000	56.100	88.682	34633.4	20.73	112.20	79.1	1211.	1522.1
25.00		0.5000	55.125	87.127	32843.1	20.34	110.25	79.6	1168.	1495.6
30.00		0.5000	54.150	85.571	31115.6	19.95	108.30	80.0	1127.	1469.1
35.00		0.5000	53.175	84.016	29449.7	19.56	106.35	80.4	1086.	1442.7
40.00		0.5000	52.200	82.461	27844.4	19.18	104.40	80.9	1046.	1416.2
45.00		0.5000	51.225	80.906	26298.5	18.79	102.45	81.3	1007.	1389.8
45.42	Bot - Section 2	0.5000	51.143	80.776	26172.4	18.75	102.29	81.3	1003.	114.6
50.00		0.5000	50.250	79.351	24811.0	18.40	100.50	81.8	968.5	2363.0
52.75	Top - Section 1	0.4380	50.589	70.072	22265.2	21.38	115.50	0.0	0.0	1397.8
55.00		0.4380	50.151	69.459	21685.9	21.18	114.50	78.6	848.2	534.1
60.00		0.4380	49.176	68.097	20434.7	20.74	112.27	79.1	815.1	1170.2
65.00		0.4380	48.200	66.735	19232.7	20.30	110.05	79.6	782.7	1147.0
70.00		0.4380	47.225	65.372	18078.7	19.86	107.82	80.1	750.9	1123.8
75.00		0.4380	46.250	64.010	16971.8	19.41	105.59	80.6	719.8	1100.6
80.00		0.4380	45.275	62.648	15911.0	18.97	103.37	81.1	689.4	1077.5
85.00		0.4380	44.300	61.285	14895.4	18.53	101.14	81.6	659.6	1054.3
90.00		0.4380	43.325	59.923	13924.0	18.08	98.92	82.1	630.4	1031.1
91.66	Bot - Section 3	0.4380	43.001	59.470	13610.4	17.94	98.18	82.3	620.9	337.9
95.00		0.4380	42.350	58.561	12995.7	17.64	96.69	82.5	601.9	1107.6
98.00	Top - Section 2	0.2813	42.328	37.724	8425.7	28.35	150.50	0.0	0.0	980.3
100.00		0.2813	41.938	37.374	8193.0	28.07	149.11	70.8	383.2	256.0
105.00		0.2813	40.963	36.499	7631.1	27.38	145.64	71.6	365.4	628.4
110.00		0.2813	39.988	35.624	7095.4	26.69	142.18	72.4	348.1	613.5
115.00		0.2813	39.013	34.749	6585.4	26.00	138.71	73.2	331.1	598.7
120.00		0.2813	38.038	33.874	6100.5	25.31	135.24	73.9	314.6	583.8
125.00		0.2813	37.062	33.000	5640.0	24.62	131.78	74.7	298.5	568.9
130.00		0.2813	36.087	32.125	5203.2	23.93	128.31	75.5	282.8	554.0
131.74	Bot - Section 4	0.2813	35.747	31.820	5056.4	23.69	127.10	75.8	277.5	189.7
135.00		0.2813	35.112	31.250	4789.6	23.24	124.84	76.3	267.6	664.8
136.99	Top - Section 3	0.2500	35.224	27.891	4309.9	26.43	140.89	0.0	0.0	401.0
137.00		0.2500	35.222	27.890	4309.4	26.43	140.89	72.7	240.0	0.6
140.00		0.2500	34.637	27.424	4096.8	25.97	138.55	73.2	232.0	282.3
145.00		0.2500	33.662	26.646	3758.1	25.19	134.65	74.1	219.0	460.0
146.00		0.2500	33.467	26.491	3692.6	25.04	133.87	74.2	216.4	90.4
146.50		0.2500	33.370	26.413	3660.2	24.96	133.48	74.3	215.2	45.0
147.00		0.2500	33.272	26.335	3628.0	24.88	133.09	74.4	213.9	44.9
150.00		0.2500	32.687	25.869	3438.6	24.42	130.75	74.9	206.3	266.5
155.00		0.2500	31.712	25.091	3137.7	23.64	126.85	75.8	194.1	433.5
160.00		0.2500	30.737	24.314	2854.9	22.86	122.95	76.7	182.2	420.3
165.00		0.2500	29.762	23.536	2589.7	22.09	119.05	77.6	170.7	407.1
167.00		0.2500	29.372	23.225	2488.4	21.78	117.49	77.9	166.2	159.1
170.00		0.2500	28.787	22.758	2341.4	21.31	115.15	78.5	159.5	234.7
175.00		0.2500	27.812	21.981	2109.5	20.54	111.25	79.3	148.8	380.6
177.00		0.2500	27.422	21.670	2021.2	20.23	109.69	79.7	144.6	148.5
180.00		0.2500	26.837	21.203	1893.4	19.76	107.35	80.2	138.4	218.8

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
										36651.2

Wind Loading - Shaft

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



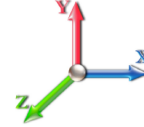
Page: 10

Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



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	17.879	19.67	437.11	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	430.00	0.750	0.000	5.00	25.283	18.96	596.7	0.0	1921.7
10.00		1.00	0.85	17.879	19.67	422.90	0.750	0.000	5.00	24.868	18.65	586.9	0.0	1890.0
15.00		1.00	0.85	17.879	19.67	415.80	0.750	0.000	5.00	24.454	18.34	577.1	0.0	1858.2
20.00		1.00	0.90	18.971	20.87	420.98	0.750	0.000	5.00	24.040	18.03	602.0	0.0	1826.5
25.00		1.00	0.95	19.883	21.87	423.50	0.750	0.000	5.00	23.626	17.72	620.1	0.0	1794.7
30.00		1.00	0.98	20.661	22.73	424.07	0.750	0.000	5.00	23.212	17.41	633.0	0.0	1763.0
35.00		1.00	1.01	21.343	23.48	423.24	0.750	0.000	5.00	22.797	17.10	642.3	0.0	1731.2
40.00		1.00	1.04	21.951	24.15	421.37	0.750	0.000	5.00	22.383	16.79	648.6	0.0	1699.5
45.00		1.00	1.07	22.502	24.75	418.65	0.750	0.000	5.00	21.969	16.48	652.5	0.0	1667.7
45.42	Bot - Section 2	1.00	1.07	22.546	24.80	418.39	0.750	0.000	0.42	1.812	1.36	53.9	0.0	137.5
50.00	Appurtenance(s)	1.00	1.09	23.007	25.31	415.26	0.750	0.000	4.58	20.084	15.06	609.9	0.0	2835.5
52.75	Top - Section 1	1.00	1.11	23.268	25.59	413.15	0.750	0.000	2.75	11.883	8.91	365.0	0.0	1677.3
55.00		1.00	1.12	23.473	25.82	418.62	0.750	0.000	2.25	9.629	7.22	298.4	0.0	641.0
60.00		1.00	1.14	23.907	26.30	414.26	0.750	0.000	5.00	21.098	15.82	665.8	0.0	1404.2
65.00		1.00	1.16	24.313	26.74	409.48	0.750	0.000	5.00	20.684	15.51	663.8	0.0	1376.4
70.00		1.00	1.17	24.696	27.17	404.34	0.750	0.000	5.00	20.270	15.20	660.8	0.0	1348.6
75.00		1.00	1.19	25.057	27.56	398.88	0.750	0.000	5.00	19.856	14.89	656.7	0.0	1320.8
80.00		1.00	1.21	25.400	27.94	393.13	0.750	0.000	5.00	19.441	14.58	651.8	0.0	1293.0
85.00		1.00	1.22	25.726	28.30	387.13	0.750	0.000	5.00	19.027	14.27	646.1	0.0	1265.1
90.00		1.00	1.24	26.037	28.64	380.89	0.750	0.000	5.00	18.613	13.96	639.7	0.0	1237.3
91.66	Bot - Section 3	1.00	1.24	26.138	28.75	378.77	0.750	0.000	1.66	6.100	4.58	210.5	0.0	405.5
95.00		1.00	1.25	26.336	28.97	374.45	0.750	0.000	3.34	12.258	9.19	426.1	0.0	1329.2
98.00	Top - Section 2	1.00	1.26	26.508	29.16	370.49	0.750	0.000	3.00	10.852	8.14	379.7	0.0	1176.4
100.00		1.00	1.27	26.621	29.28	372.81	0.750	0.000	2.00	7.172	5.38	252.0	0.0	307.2
105.00		1.00	1.28	26.896	29.59	366.01	0.750	0.000	5.00	17.609	13.21	625.2	0.0	754.1
110.00		1.00	1.29	27.161	29.88	359.06	0.750	0.000	5.00	17.195	12.90	616.5	0.0	736.3
115.00		1.00	1.30	27.416	30.16	351.94	0.750	0.000	5.00	16.781	12.59	607.3	0.0	718.4
120.00		1.00	1.32	27.663	30.43	344.69	0.750	0.000	5.00	16.367	12.27	597.6	0.0	700.5
125.00		1.00	1.33	27.902	30.69	337.30	0.750	0.000	5.00	15.952	11.96	587.5	0.0	682.7
130.00		1.00	1.34	28.133	30.95	329.78	0.750	0.000	5.00	15.538	11.65	577.0	0.0	664.8
131.74	Bot - Section 4	1.00	1.34	28.212	31.03	327.14	0.750	0.000	1.74	5.320	3.99	198.1	0.0	227.6
135.00		1.00	1.35	28.358	31.19	322.15	0.750	0.000	3.26	9.942	7.46	372.2	0.0	797.7
136.99	Top - Section 3	1.00	1.35	28.445	31.29	319.08	0.750	0.000	1.99	5.999	4.50	225.2	0.0	481.2
137.00	Appurtenance(s)	1.00	1.35	28.446	31.29	323.66	0.750	0.000	0.01	0.020	0.01	0.7	0.0	0.8
140.00		1.00	1.36	28.576	31.43	319.01	0.750	0.000	3.00	8.904	6.68	335.8	0.0	338.8
145.00		1.00	1.37	28.788	31.67	311.18	0.750	0.000	5.00	14.508	10.88	551.3	0.0	552.0
146.00	Appurtenance(s)	1.00	1.37	28.829	31.71	309.60	0.750	0.000	1.00	2.852	2.14	108.5	0.0	108.5
146.50	Appurtenance(s)	1.00	1.37	28.850	31.73	308.81	0.750	0.000	0.50	1.420	1.06	54.1	0.0	54.0
147.00	Appurtenance(s)	1.00	1.37	28.871	31.76	308.02	0.750	0.000	0.50	1.416	1.06	53.9	0.0	53.8
150.00		1.00	1.38	28.994	31.89	303.24	0.750	0.000	3.00	8.406	6.30	321.7	0.0	319.7
155.00		1.00	1.39	29.195	32.11	295.22	0.750	0.000	5.00	13.679	10.26	527.2	0.0	520.2
160.00		1.00	1.40	29.390	32.33	287.10	0.750	0.000	5.00	13.265	9.95	514.6	0.0	504.3
165.00		1.00	1.41	29.581	32.54	278.89	0.750	0.000	5.00	12.851	9.64	501.8	0.0	488.5
167.00	Appurtenance(s)	1.00	1.41	29.657	32.62	275.59	0.750	0.000	2.00	5.024	3.77	196.7	0.0	190.9
170.00		1.00	1.42	29.768	32.74	270.60	0.750	0.000	3.00	7.412	5.56	291.3	0.0	281.6
175.00		1.00	1.42	29.950	32.95	262.24	0.750	0.000	5.00	12.022	9.02	475.3	0.0	456.7

Wind Loading - Shaft

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 11



177.00 Appurtenance(s)	1.00	1.43	30.022	33.02	258.87	0.750	0.000	2.00	4.693	3.52	186.0	0.0	178.2
180.00	1.00	1.43	30.128	33.14	253.80	0.750	0.000	3.00	6.915	5.19	275.0	0.0	262.6
Totals:								180.00			21,540.1		43,981.5

Discrete Appurtenance Forces

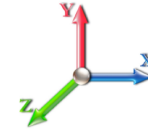
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	177.00	Commscope	3	30.022	33.024	0.55	0.75	20.43	278.64	0.000	0.000	1079.47	0.00	0.00
2	177.00	RFS APXVTM14-C-I20	3	30.022	33.024	0.59	0.75	11.27	201.60	0.000	0.000	595.45	0.00	0.00
3	177.00	Platform w/ Hand Rails	1	30.022	33.024	1.00	1.00	35.00	2400.00	0.000	0.000	1849.35	0.00	0.00
4	177.00	ALU TD-RRH8x20-25	3	30.022	33.024	0.50	0.75	6.11	252.00	0.000	0.000	322.60	0.00	0.00
5	177.00	ALU 800 MHz	6	30.022	33.024	0.50	0.75	7.51	381.60	0.000	0.000	396.68	0.00	0.00
6	177.00	ALU 1900 MHz	3	30.022	33.024	0.50	0.75	5.73	216.00	0.000	0.000	302.68	0.00	0.00
7	177.00	Sitepro PRK-1245L	1	30.022	33.024	1.00	1.00	9.50	557.89	0.000	0.000	501.97	0.00	0.00
8	167.00	Sitepro RMQP-4096-HK	1	29.657	32.622	1.00	1.00	46.00	2736.00	0.000	0.000	2400.99	0.00	0.00
9	167.00	RFS	3	29.657	32.622	0.52	0.75	31.88	460.80	0.000	0.000	1663.89	0.00	0.00
10	167.00	Ericsson Radio 4449	3	29.657	32.622	0.50	0.75	2.49	266.40	0.000	0.000	129.83	0.00	0.00
11	167.00	RFS	3	29.657	32.622	0.55	0.75	8.61	117.00	0.000	0.000	449.30	0.00	0.00
12	147.00	Antel BXA-70063/6CF	3	28.871	31.758	0.56	0.80	12.72	61.20	0.000	0.000	646.21	0.00	0.00
13	146.50	Low Profile Platform	1	28.850	31.735	1.00	1.00	22.00	1800.00	0.000	0.000	1117.07	0.00	0.00
14	146.50	Antel LPA-80063/4CF	2	28.850	31.735	0.74	0.80	9.15	48.00	0.000	0.000	464.66	0.00	0.00
15	146.50	Antel BXA-171063/8CF-2	1	28.850	31.735	0.67	0.80	1.98	12.60	0.000	0.000	100.32	0.00	0.00
16	146.50	Antel BXA-171085-8CF-2	2	28.850	31.735	0.67	0.80	3.95	25.20	0.000	0.000	200.63	0.00	0.00
17	146.50	Antel	4	28.850	31.735	1.36	0.80	14.20	57.60	0.000	0.000	720.94	0.00	0.00
18	146.00	RFS FD9R6004/2C-3	6	28.829	31.712	0.54	0.80	1.16	22.32	0.000	0.000	58.74	0.00	0.00
19	137.00	Powerwave LGP21401	6	28.446	31.290	0.80	0.80	6.19	101.52	0.000	0.000	310.00	0.00	0.00
20	137.00	T-Arms	3	28.446	31.290	0.56	0.75	13.50	1260.00	0.000	0.000	675.87	0.00	0.00
21	137.00	7770	6	28.446	31.290	0.58	0.80	19.31	252.00	0.000	0.000	966.59	0.00	0.00
22	137.00	OPA65R-KE6D	1	28.446	31.290	0.80	0.80	10.30	72.24	0.000	0.000	515.46	0.00	0.00
23	137.00	OPA65R-BU8DA	2	28.446	31.290	0.69	0.80	24.89	183.60	0.000	0.000	1246.19	0.00	0.00
24	137.00	DMP65R-BU6DA	1	28.446	31.290	0.80	0.80	10.17	95.28	0.000	0.000	509.05	0.00	0.00
25	137.00	DMP65R-BU8DA	2	28.446	31.290	0.69	0.80	24.59	229.68	0.000	0.000	1231.04	0.00	0.00
26	137.00	(3) T-Arm Kit	1	28.446	31.290	1.00	1.00	16.50	600.00	0.000	0.000	826.06	0.00	0.00
27	137.00	2Powerwave 1903	6	28.446	31.290	0.67	0.80	1.09	39.60	0.000	0.000	54.50	0.00	0.00
28	137.00	4449 B5/B12	3	28.446	31.290	0.54	0.80	3.17	255.60	0.000	0.000	158.59	0.00	0.00
29	137.00	RRUS 8843 B2 B66A	3	28.446	31.290	0.54	0.80	2.64	259.20	0.000	0.000	132.03	0.00	0.00
30	137.00	Raycap DC6-48-60-18-8F	1	28.446	31.290	0.80	0.80	0.74	38.16	0.000	0.000	36.85	0.00	0.00
31	137.00	Raycap	1	28.446	31.290	0.80	0.80	3.82	19.20	0.000	0.000	191.45	0.00	0.00
32	137.00	Andrew ABT-DF-DMADBH	3	28.446	31.290	0.78	0.80	0.12	3.96	0.000	0.000	5.89	0.00	0.00
33	50.00	Stand Off	1	23.007	25.308	1.00	1.00	2.63	48.00	0.000	0.000	106.49	0.00	0.00
34	50.00	GPS	1	23.007	25.308	1.00	1.00	1.00	12.00	0.000	0.000	40.49	0.00	0.00
Totals:									13,364.89			20,007.33		

Total Applied Force Summary

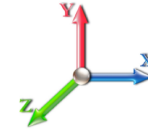
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		596.69	2135.77	0.00	0.00
10.00		586.91	2104.02	0.00	0.00
15.00		577.13	2072.27	0.00	0.00
20.00		601.99	2040.52	0.00	0.00
25.00		620.07	2008.77	0.00	0.00
30.00		633.04	1977.01	0.00	0.00
35.00		642.25	1945.26	0.00	0.00
40.00		648.56	1913.51	0.00	0.00
45.00		652.54	1881.76	0.00	0.00
45.42		53.93	155.38	0.00	0.00
50.00	(2) attachments	756.91	3091.76	0.00	0.00
52.75		364.97	1794.50	0.00	0.00
55.00		298.36	736.87	0.00	0.00
60.00		665.81	1617.32	0.00	0.00
65.00		663.83	1589.50	0.00	0.00
70.00		660.76	1561.69	0.00	0.00
75.00		656.73	1533.87	0.00	0.00
80.00		651.83	1506.06	0.00	0.00
85.00		646.13	1478.24	0.00	0.00
90.00		639.72	1450.43	0.00	0.00
91.66		210.47	476.34	0.00	0.00
95.00		426.13	1471.37	0.00	0.00
98.00		379.72	1304.10	0.00	0.00
100.00		252.02	392.54	0.00	0.00
105.00		625.18	967.21	0.00	0.00
110.00		616.49	949.35	0.00	0.00
115.00		607.29	931.49	0.00	0.00
120.00		597.63	913.63	0.00	0.00
125.00		587.53	895.77	0.00	0.00
130.00		577.02	877.91	0.00	0.00
131.74		198.13	301.90	0.00	0.00
135.00		372.15	936.54	0.00	0.00
136.99		225.23	566.18	0.00	0.00
137.00	(39) attachments	6860.32	3411.08	0.00	0.00
140.00		335.84	452.40	0.00	0.00
145.00		551.29	693.78	0.00	0.00
146.00	(6) attachments	167.27	159.17	0.00	0.00
146.50	(10) attachments	2657.69	2011.59	0.00	0.00
147.00	(3) attachments	700.16	121.74	0.00	0.00
150.00		321.73	359.91	0.00	0.00
155.00		527.16	587.15	0.00	0.00
160.00		514.63	571.27	0.00	0.00
165.00		501.80	555.40	0.00	0.00
167.00	(10) attachments	4840.70	3797.91	0.00	0.00
170.00		291.26	295.38	0.00	0.00
175.00		475.30	479.61	0.00	0.00

Total Applied Force Summary

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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177.00	(20) attachments	5234.17	4475.13	0.00	0.00
180.00		275.01	262.60	0.00	0.00
Totals:		41,547.46	63,812.98	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

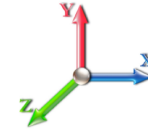
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	17.879	0.00	0.96
10.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	17.879	0.00	0.96
15.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	17.879	0.00	0.96
20.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	18.971	0.00	0.96
25.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	19.883	0.00	0.96
30.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	20.661	0.00	0.96
35.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	21.343	0.00	0.96
40.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	21.951	0.00	0.96
45.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	22.502	0.00	0.96
45.42	1/2" Coax	Yes	0.42	0.000	0.65	0.02	0.00	0.012	0.000	22.546	0.00	0.08
50.00	1/2" Coax	Yes	4.58	0.000	0.65	0.25	0.00	0.013	0.000	23.007	0.00	0.88
Totals:											0.0	9.6

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 1.20
Wind Load Factor 1.60



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	-63.75	-41.64	0.00	-5225.8	0.00	5225.85	6607.78	3303.89	16218.3	8051.48	0.00	0.000	0.000	0.659
5.00	-61.49	-41.23	0.00	-5017.6	0.00	5017.63	6536.37	3268.19	15777.9	7832.86	0.09	-0.172	0.000	0.650
10.00	-59.27	-40.81	0.00	-4811.4	0.00	4811.49	6463.73	3231.87	15340.5	7615.67	0.37	-0.345	0.000	0.641
15.00	-57.07	-40.39	0.00	-4607.4	0.00	4607.43	6389.86	3194.93	14906.0	7399.99	0.82	-0.519	0.000	0.632
20.00	-54.92	-39.94	0.00	-4405.4	0.00	4405.46	6314.77	3157.38	14474.7	7185.88	1.46	-0.695	0.000	0.622
25.00	-52.80	-39.46	0.00	-4205.7	0.00	4205.77	6238.44	3119.22	14046.7	6973.42	2.28	-0.872	0.000	0.612
30.00	-50.71	-38.95	0.00	-4008.4	0.00	4008.49	6160.89	3080.44	13622.3	6762.68	3.29	-1.050	0.000	0.601
35.00	-48.66	-38.42	0.00	-3813.7	0.00	3813.75	6082.10	3041.05	13201.4	6553.75	4.48	-1.228	0.000	0.590
40.00	-46.64	-37.87	0.00	-3621.6	0.00	3621.66	6002.09	3001.05	12784.3	6346.69	5.87	-1.408	0.000	0.579
45.00	-44.71	-37.25	0.00	-3432.2	0.00	3432.29	5920.85	2960.42	12371.1	6141.58	7.44	-1.588	0.000	0.567
45.42	-44.50	-37.26	0.00	-3416.7	0.00	3416.77	5914.02	2957.01	12336.9	6124.58	7.58	-1.604	0.000	0.566
50.00	-41.35	-36.51	0.00	-3246.0	0.00	3246.00	5838.38	2919.19	11962.1	5938.49	9.20	-1.770	0.000	0.554
52.75	-39.51	-36.15	0.00	-3145.6	0.00	3145.60	4942.80	2471.40	10222.2	5074.76	10.25	-1.870	0.000	0.628
55.00	-38.69	-35.92	0.00	-3064.2	0.00	3064.26	4913.65	2456.82	10072.3	5000.32	11.15	-1.953	0.000	0.621
60.00	-36.98	-35.33	0.00	-2884.6	0.00	2884.66	4847.98	2423.99	9741.07	4835.88	13.30	-2.148	0.000	0.604
65.00	-35.30	-34.72	0.00	-2708.0	0.00	2708.04	4781.08	2390.54	9412.76	4672.89	15.65	-2.343	0.000	0.587
70.00	-33.65	-34.11	0.00	-2534.4	0.00	2534.44	4712.96	2356.48	9087.49	4511.41	18.21	-2.537	0.000	0.569
75.00	-32.04	-33.49	0.00	-2363.9	0.00	2363.91	4643.60	2321.80	8765.44	4351.53	20.97	-2.729	0.000	0.550
80.00	-30.46	-32.86	0.00	-2196.4	0.00	2196.48	4573.02	2286.51	8446.74	4193.32	23.93	-2.921	0.000	0.531
85.00	-28.91	-32.24	0.00	-2032.1	0.00	2032.17	4501.21	2250.60	8131.55	4036.84	27.09	-3.110	0.000	0.510
90.00	-27.43	-31.57	0.00	-1871.0	0.00	1871.00	4428.17	2214.08	7820.02	3882.19	30.45	-3.296	0.000	0.488
91.66	-26.92	-31.38	0.00	-1818.4	0.00	1818.48	4403.60	2201.80	7717.21	3831.15	31.61	-3.359	0.000	0.481
95.00	-25.41	-30.92	0.00	-1713.7	0.00	1713.77	4350.76	2175.38	7506.87	3726.73	34.00	-3.482	0.000	0.466
98.00	-24.08	-30.50	0.00	-1621.1	0.00	1621.12	2393.56	1196.78	4158.66	2064.53	36.22	-3.591	0.000	0.796
100.00	-23.62	-30.29	0.00	-1560.0	0.00	1560.02	2381.84	1190.92	4099.59	2035.21	37.74	-3.664	0.000	0.777
105.00	-22.56	-29.70	0.00	-1408.5	0.00	1408.57	2351.72	1175.86	3952.36	1962.12	41.71	-3.922	0.000	0.728
110.00	-21.54	-29.11	0.00	-1260.0	0.00	1260.06	2320.37	1160.18	3805.57	1889.24	45.95	-4.170	0.000	0.677
115.00	-20.54	-28.52	0.00	-1114.5	0.00	1114.50	2287.79	1143.89	3659.35	1816.65	50.45	-4.408	0.000	0.623
120.00	-19.57	-27.93	0.00	-971.90	0.00	971.90	2253.98	1126.99	3513.86	1744.43	55.18	-4.634	0.000	0.566
125.00	-18.63	-27.33	0.00	-832.26	0.00	832.26	2218.95	1109.47	3369.25	1672.64	60.14	-4.844	0.000	0.507
130.00	-17.75	-26.72	0.00	-695.60	0.00	695.60	2182.68	1091.34	3225.66	1601.35	65.32	-5.037	0.000	0.443
131.74	-17.42	-26.53	0.00	-649.01	0.00	649.01	2169.75	1084.87	3175.87	1576.63	67.17	-5.101	0.000	0.420
135.00	-16.48	-26.10	0.00	-562.63	0.00	562.63	2145.19	1072.59	3083.25	1530.65	70.68	-5.212	0.000	0.376
136.99	-15.93	-25.83	0.00	-510.61	0.00	510.61	1823.96	911.98	2634.70	1307.98	72.87	-5.275	0.000	0.400
137.00	-13.14	-18.69	0.00	-510.44	0.00	510.44	1823.92	911.96	2634.55	1307.90	72.88	-5.276	0.000	0.398
140.00	-12.69	-18.34	0.00	-454.36	0.00	454.36	1806.41	903.20	2565.29	1273.52	76.22	-5.371	0.000	0.364
145.00	-12.02	-17.75	0.00	-362.64	0.00	362.64	1776.24	888.12	2450.41	1216.49	81.92	-5.513	0.000	0.305
146.00	-11.87	-17.57	0.00	-344.89	0.00	344.89	1770.06	885.03	2427.52	1205.13	83.07	-5.540	0.000	0.293
146.50	-10.13	-14.73	0.00	-336.11	0.00	336.11	1766.95	883.47	2416.09	1199.45	83.65	-5.553	0.000	0.286
147.00	-10.06	-14.03	0.00	-328.74	0.00	328.74	1763.83	881.91	2404.67	1193.78	84.23	-5.566	0.000	0.281
150.00	-9.71	-13.69	0.00	-286.65	0.00	286.65	1744.84	872.42	2336.33	1159.85	87.75	-5.638	0.000	0.253
155.00	-9.16	-13.12	0.00	-218.20	0.00	218.20	1712.21	856.11	2223.20	1103.69	93.70	-5.743	0.000	0.203
160.00	-8.63	-12.56	0.00	-152.58	0.00	152.58	1678.36	839.18	2111.17	1048.07	99.76	-5.827	0.000	0.151
165.00	-8.12	-12.01	0.00	-89.76	0.00	89.76	1643.27	821.64	2000.39	993.08	105.88	-5.887	0.000	0.096
167.00	-4.84	-6.81	0.00	-65.73	0.00	65.73	1628.90	814.45	1956.47	971.27	108.35	-5.904	0.000	0.071
170.00	-4.57	-6.49	0.00	-45.30	0.00	45.30	1606.96	803.48	1891.02	938.78	112.06	-5.923	0.000	0.051
175.00	-4.14	-5.97	0.00	-12.84	0.00	12.84	1569.42	784.71	1783.19	885.25	118.26	-5.941	0.000	0.017
177.00	-0.23	-0.30	0.00	-0.90	0.00	0.90	1554.06	777.03	1740.53	864.07	120.75	-5.943	0.000	0.001

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 17
Struct Class: II		



180.00	0.00	-0.27	0.00	0.00	0.00	0.00	0.00	1530.65	765.32	1677.06	832.56	124.48	-5.943	0.000	0.000
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Wind Loading - Shaft

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



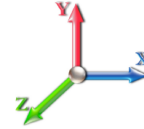
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 0.90

Wind Load Factor 1.60



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	17.879	19.67	437.11	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	430.00	0.750	0.000	5.00	25.283	18.96	596.7	0.0	1441.3
10.00		1.00	0.85	17.879	19.67	422.90	0.750	0.000	5.00	24.868	18.65	586.9	0.0	1417.5
15.00		1.00	0.85	17.879	19.67	415.80	0.750	0.000	5.00	24.454	18.34	577.1	0.0	1393.7
20.00		1.00	0.90	18.971	20.87	420.98	0.750	0.000	5.00	24.040	18.03	602.0	0.0	1369.8
25.00		1.00	0.95	19.883	21.87	423.50	0.750	0.000	5.00	23.626	17.72	620.1	0.0	1346.0
30.00		1.00	0.98	20.661	22.73	424.07	0.750	0.000	5.00	23.212	17.41	633.0	0.0	1322.2
35.00		1.00	1.01	21.343	23.48	423.24	0.750	0.000	5.00	22.797	17.10	642.3	0.0	1298.4
40.00		1.00	1.04	21.951	24.15	421.37	0.750	0.000	5.00	22.383	16.79	648.6	0.0	1274.6
45.00		1.00	1.07	22.502	24.75	418.65	0.750	0.000	5.00	21.969	16.48	652.5	0.0	1250.8
45.42	Bot - Section 2	1.00	1.07	22.546	24.80	418.39	0.750	0.000	0.42	1.812	1.36	53.9	0.0	103.2
50.00	Appurtenance(s)	1.00	1.09	23.007	25.31	415.26	0.750	0.000	4.58	20.084	15.06	609.9	0.0	2126.7
52.75	Top - Section 1	1.00	1.11	23.268	25.59	413.15	0.750	0.000	2.75	11.883	8.91	365.0	0.0	1258.0
55.00		1.00	1.12	23.473	25.82	418.62	0.750	0.000	2.25	9.629	7.22	298.4	0.0	480.7
60.00		1.00	1.14	23.907	26.30	414.26	0.750	0.000	5.00	21.098	15.82	665.8	0.0	1053.2
65.00		1.00	1.16	24.313	26.74	409.48	0.750	0.000	5.00	20.684	15.51	663.8	0.0	1032.3
70.00		1.00	1.17	24.696	27.17	404.34	0.750	0.000	5.00	20.270	15.20	660.8	0.0	1011.4
75.00		1.00	1.19	25.057	27.56	398.88	0.750	0.000	5.00	19.856	14.89	656.7	0.0	990.6
80.00		1.00	1.21	25.400	27.94	393.13	0.750	0.000	5.00	19.441	14.58	651.8	0.0	969.7
85.00		1.00	1.22	25.726	28.30	387.13	0.750	0.000	5.00	19.027	14.27	646.1	0.0	948.9
90.00		1.00	1.24	26.037	28.64	380.89	0.750	0.000	5.00	18.613	13.96	639.7	0.0	928.0
91.66	Bot - Section 3	1.00	1.24	26.138	28.75	378.77	0.750	0.000	1.66	6.100	4.58	210.5	0.0	304.1
95.00		1.00	1.25	26.336	28.97	374.45	0.750	0.000	3.34	12.258	9.19	426.1	0.0	996.9
98.00	Top - Section 2	1.00	1.26	26.508	29.16	370.49	0.750	0.000	3.00	10.852	8.14	379.7	0.0	882.3
100.00		1.00	1.27	26.621	29.28	372.81	0.750	0.000	2.00	7.172	5.38	252.0	0.0	230.4
105.00		1.00	1.28	26.896	29.59	366.01	0.750	0.000	5.00	17.609	13.21	625.2	0.0	565.6
110.00		1.00	1.29	27.161	29.88	359.06	0.750	0.000	5.00	17.195	12.90	616.5	0.0	552.2
115.00		1.00	1.30	27.416	30.16	351.94	0.750	0.000	5.00	16.781	12.59	607.3	0.0	538.8
120.00		1.00	1.32	27.663	30.43	344.69	0.750	0.000	5.00	16.367	12.27	597.6	0.0	525.4
125.00		1.00	1.33	27.902	30.69	337.30	0.750	0.000	5.00	15.952	11.96	587.5	0.0	512.0
130.00		1.00	1.34	28.133	30.95	329.78	0.750	0.000	5.00	15.538	11.65	577.0	0.0	498.6
131.74	Bot - Section 4	1.00	1.34	28.212	31.03	327.14	0.750	0.000	1.74	5.320	3.99	198.1	0.0	170.7
135.00		1.00	1.35	28.358	31.19	322.15	0.750	0.000	3.26	9.942	7.46	372.2	0.0	598.3
136.99	Top - Section 3	1.00	1.35	28.445	31.29	319.08	0.750	0.000	1.99	5.999	4.50	225.2	0.0	360.9
137.00	Appurtenance(s)	1.00	1.35	28.446	31.29	323.66	0.750	0.000	0.01	0.020	0.01	0.7	0.0	0.6
140.00		1.00	1.36	28.576	31.43	319.01	0.750	0.000	3.00	8.904	6.68	335.8	0.0	254.1
145.00		1.00	1.37	28.788	31.67	311.18	0.750	0.000	5.00	14.508	10.88	551.3	0.0	414.0
146.00	Appurtenance(s)	1.00	1.37	28.829	31.71	309.60	0.750	0.000	1.00	2.852	2.14	108.5	0.0	81.4
146.50	Appurtenance(s)	1.00	1.37	28.850	31.73	308.81	0.750	0.000	0.50	1.420	1.06	54.1	0.0	40.5
147.00	Appurtenance(s)	1.00	1.37	28.871	31.76	308.02	0.750	0.000	0.50	1.416	1.06	53.9	0.0	40.4
150.00		1.00	1.38	28.994	31.89	303.24	0.750	0.000	3.00	8.406	6.30	321.7	0.0	239.8
155.00		1.00	1.39	29.195	32.11	295.22	0.750	0.000	5.00	13.679	10.26	527.2	0.0	390.2
160.00		1.00	1.40	29.390	32.33	287.10	0.750	0.000	5.00	13.265	9.95	514.6	0.0	378.3
165.00		1.00	1.41	29.581	32.54	278.89	0.750	0.000	5.00	12.851	9.64	501.8	0.0	366.3
167.00	Appurtenance(s)	1.00	1.41	29.657	32.62	275.59	0.750	0.000	2.00	5.024	3.77	196.7	0.0	143.2
170.00		1.00	1.42	29.768	32.74	270.60	0.750	0.000	3.00	7.412	5.56	291.3	0.0	211.2
175.00		1.00	1.42	29.950	32.95	262.24	0.750	0.000	5.00	12.022	9.02	475.3	0.0	342.5

Wind Loading - Shaft

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 19
	Struct Class: II	



177.00 Appurtenance(s)	1.00	1.43	30.022	33.02	258.87	0.750	0.000	2.00	4.693	3.52	186.0	0.0	133.7
180.00	1.00	1.43	30.128	33.14	253.80	0.750	0.000	3.00	6.915	5.19	275.0	0.0	196.9
Totals:								180.00			21,540.1		32,986.1

Discrete Appurtenance Forces

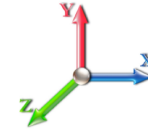
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	
1	177.00	Commscope	3	30.022	33.024	0.55	0.75	20.43	208.98	0.000	0.000	1079.47	0.00	0.00	
2	177.00	RFS APXVTM14-C-I20	3	30.022	33.024	0.59	0.75	11.27	151.20	0.000	0.000	595.45	0.00	0.00	
3	177.00	Platform w/ Hand Rails	1	30.022	33.024	1.00	1.00	35.00	1800.00	0.000	0.000	1849.35	0.00	0.00	
4	177.00	ALU TD-RRH8x20-25	3	30.022	33.024	0.50	0.75	6.11	189.00	0.000	0.000	322.60	0.00	0.00	
5	177.00	ALU 800 MHz	6	30.022	33.024	0.50	0.75	7.51	286.20	0.000	0.000	396.68	0.00	0.00	
6	177.00	ALU 1900 MHz	3	30.022	33.024	0.50	0.75	5.73	162.00	0.000	0.000	302.68	0.00	0.00	
7	177.00	Sitepro PRK-1245L	1	30.022	33.024	1.00	1.00	9.50	418.42	0.000	0.000	501.97	0.00	0.00	
8	167.00	Sitepro RMQP-4096-HK	1	29.657	32.622	1.00	1.00	46.00	2052.00	0.000	0.000	2400.99	0.00	0.00	
9	167.00	RFS	3	29.657	32.622	0.52	0.75	31.88	345.60	0.000	0.000	1663.89	0.00	0.00	
10	167.00	Ericsson Radio 4449	3	29.657	32.622	0.50	0.75	2.49	199.80	0.000	0.000	129.83	0.00	0.00	
11	167.00	RFS	3	29.657	32.622	0.55	0.75	8.61	87.75	0.000	0.000	449.30	0.00	0.00	
12	147.00	Antel BXA-70063/6CF	3	28.871	31.758	0.56	0.80	12.72	45.90	0.000	0.000	646.21	0.00	0.00	
13	146.50	Low Profile Platform	1	28.850	31.735	1.00	1.00	22.00	1350.00	0.000	0.000	1117.07	0.00	0.00	
14	146.50	Antel LPA-80063/4CF	2	28.850	31.735	0.74	0.80	9.15	36.00	0.000	0.000	464.66	0.00	0.00	
15	146.50	Antel BXA-171063/8CF-2	1	28.850	31.735	0.67	0.80	1.98	9.45	0.000	0.000	100.32	0.00	0.00	
16	146.50	Antel BXA-171085-8CF-2	2	28.850	31.735	0.67	0.80	3.95	18.90	0.000	0.000	200.63	0.00	0.00	
17	146.50	Antel	4	28.850	31.735	1.36	0.80	14.20	43.20	0.000	0.000	720.94	0.00	0.00	
18	146.00	RFS FD9R6004/2C-3	6	28.829	31.712	0.54	0.80	1.16	16.74	0.000	0.000	58.74	0.00	0.00	
19	137.00	Powerwave LGP21401	6	28.446	31.290	0.80	0.80	6.19	76.14	0.000	0.000	310.00	0.00	0.00	
20	137.00	T-Arms	3	28.446	31.290	0.56	0.75	13.50	945.00	0.000	0.000	675.87	0.00	0.00	
21	137.00	7770	6	28.446	31.290	0.58	0.80	19.31	189.00	0.000	0.000	966.59	0.00	0.00	
22	137.00	OPA65R-KE6D	1	28.446	31.290	0.80	0.80	10.30	54.18	0.000	0.000	515.46	0.00	0.00	
23	137.00	OPA65R-BU8DA	2	28.446	31.290	0.69	0.80	24.89	137.70	0.000	0.000	1246.19	0.00	0.00	
24	137.00	DMP65R-BU6DA	1	28.446	31.290	0.80	0.80	10.17	71.46	0.000	0.000	509.05	0.00	0.00	
25	137.00	DMP65R-BU8DA	2	28.446	31.290	0.69	0.80	24.59	172.26	0.000	0.000	1231.04	0.00	0.00	
26	137.00	(3) T-Arm Kit	1	28.446	31.290	1.00	1.00	16.50	450.00	0.000	0.000	826.06	0.00	0.00	
27	137.00	2Powerwave 1903	6	28.446	31.290	0.67	0.80	1.09	29.70	0.000	0.000	54.50	0.00	0.00	
28	137.00	4449 B5/B12	3	28.446	31.290	0.54	0.80	3.17	191.70	0.000	0.000	158.59	0.00	0.00	
29	137.00	RRUS 8843 B2 B66A	3	28.446	31.290	0.54	0.80	2.64	194.40	0.000	0.000	132.03	0.00	0.00	
30	137.00	Raycap DC6-48-60-18-8F	1	28.446	31.290	0.80	0.80	0.74	28.62	0.000	0.000	36.85	0.00	0.00	
31	137.00	Raycap	1	28.446	31.290	0.80	0.80	3.82	14.40	0.000	0.000	191.45	0.00	0.00	
32	137.00	Andrew ABT-DF-DMADBH	3	28.446	31.290	0.78	0.80	0.12	2.97	0.000	0.000	5.89	0.00	0.00	
33	50.00	Stand Off	1	23.007	25.308	1.00	1.00	2.63	36.00	0.000	0.000	106.49	0.00	0.00	
34	50.00	GPS	1	23.007	25.308	1.00	1.00	1.00	9.00	0.000	0.000	40.49	0.00	0.00	
Totals:									10,023.67						20,007.33

Total Applied Force Summary

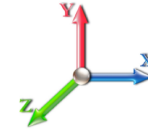
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		596.69	1601.83	0.00	0.00
10.00		586.91	1578.02	0.00	0.00
15.00		577.13	1554.20	0.00	0.00
20.00		601.99	1530.39	0.00	0.00
25.00		620.07	1506.57	0.00	0.00
30.00		633.04	1482.76	0.00	0.00
35.00		642.25	1458.95	0.00	0.00
40.00		648.56	1435.13	0.00	0.00
45.00		652.54	1411.32	0.00	0.00
45.42		53.93	116.53	0.00	0.00
50.00	(2) attachments	756.91	2318.82	0.00	0.00
52.75		364.97	1345.88	0.00	0.00
55.00		298.36	552.65	0.00	0.00
60.00		665.81	1212.99	0.00	0.00
65.00		663.83	1192.13	0.00	0.00
70.00		660.76	1171.27	0.00	0.00
75.00		656.73	1150.41	0.00	0.00
80.00		651.83	1129.54	0.00	0.00
85.00		646.13	1108.68	0.00	0.00
90.00		639.72	1087.82	0.00	0.00
91.66		210.47	357.26	0.00	0.00
95.00		426.13	1103.53	0.00	0.00
98.00		379.72	978.08	0.00	0.00
100.00		252.02	294.41	0.00	0.00
105.00		625.18	725.41	0.00	0.00
110.00		616.49	712.01	0.00	0.00
115.00		607.29	698.62	0.00	0.00
120.00		597.63	685.22	0.00	0.00
125.00		587.53	671.83	0.00	0.00
130.00		577.02	658.43	0.00	0.00
131.74		198.13	226.42	0.00	0.00
135.00		372.15	702.41	0.00	0.00
136.99		225.23	424.63	0.00	0.00
137.00	(39) attachments	6860.32	2558.31	0.00	0.00
140.00		335.84	339.30	0.00	0.00
145.00		551.29	520.34	0.00	0.00
146.00	(6) attachments	167.27	119.38	0.00	0.00
146.50	(10) attachments	2657.69	1508.69	0.00	0.00
147.00	(3) attachments	700.16	91.31	0.00	0.00
150.00		321.73	269.93	0.00	0.00
155.00		527.16	440.36	0.00	0.00
160.00		514.63	428.46	0.00	0.00
165.00		501.80	416.55	0.00	0.00
167.00	(10) attachments	4840.70	2848.44	0.00	0.00
170.00		291.26	221.54	0.00	0.00
175.00		475.30	359.71	0.00	0.00

Total Applied Force Summary

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 22



177.00	(20) attachments	5234.17	3356.35	0.00	0.00
180.00		275.01	196.95	0.00	0.00
	Totals:	41,547.46	47,859.74	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

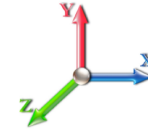
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	17.879	0.00	0.72
10.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	17.879	0.00	0.72
15.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	17.879	0.00	0.72
20.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	18.971	0.00	0.72
25.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	19.883	0.00	0.72
30.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	20.661	0.00	0.72
35.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	21.343	0.00	0.72
40.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	21.951	0.00	0.72
45.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	22.502	0.00	0.72
45.42	1/2" Coax	Yes	0.42	0.000	0.65	0.02	0.00	0.012	0.000	22.546	0.00	0.06
50.00	1/2" Coax	Yes	4.58	0.000	0.65	0.25	0.00	0.013	0.000	23.007	0.00	0.66
Totals:											0.0	7.2

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



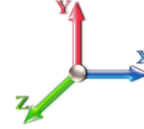
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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 25

Dead Load Factor 0.90

Wind Load Factor 1.60



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	-47.80	-41.62	0.00	-5167.6	0.00	5167.64	6607.78	3303.89	16218.3	8051.48	0.00	0.000	0.000	0.649
5.00	-46.07	-41.16	0.00	-4959.5	0.00	4959.55	6536.37	3268.19	15777.9	7832.86	0.09	-0.170	0.000	0.640
10.00	-44.38	-40.70	0.00	-4753.7	0.00	4753.77	6463.73	3231.87	15340.5	7615.67	0.36	-0.341	0.000	0.631
15.00	-42.71	-40.24	0.00	-4550.3	0.00	4550.30	6389.86	3194.93	14906.0	7399.99	0.81	-0.513	0.000	0.622
20.00	-41.06	-39.74	0.00	-4349.1	0.00	4349.12	6314.77	3157.38	14474.7	7185.88	1.44	-0.687	0.000	0.612
25.00	-39.44	-39.22	0.00	-4150.4	0.00	4150.40	6238.44	3119.22	14046.7	6973.42	2.25	-0.861	0.000	0.602
30.00	-37.85	-38.68	0.00	-3954.2	0.00	3954.29	6160.89	3080.44	13622.3	6762.68	3.25	-1.037	0.000	0.591
35.00	-36.29	-38.12	0.00	-3760.8	0.00	3760.88	6082.10	3041.05	13201.4	6553.75	4.43	-1.213	0.000	0.580
40.00	-34.75	-37.55	0.00	-3570.2	0.00	3570.26	6002.09	3001.05	12784.3	6346.69	5.80	-1.390	0.000	0.568
45.00	-33.30	-36.92	0.00	-3382.5	0.00	3382.51	5920.85	2960.42	12371.1	6141.58	7.35	-1.568	0.000	0.557
45.42	-33.12	-36.91	0.00	-3367.1	0.00	3367.13	5914.02	2957.01	12336.9	6124.58	7.48	-1.583	0.000	0.556
50.00	-30.75	-36.16	0.00	-3197.9	0.00	3197.95	5838.38	2919.19	11962.1	5938.49	9.08	-1.746	0.000	0.544
52.75	-29.36	-35.80	0.00	-3098.5	0.00	3098.52	4942.80	2471.40	10222.2	5074.76	10.12	-1.846	0.000	0.617
55.00	-28.73	-35.55	0.00	-3017.9	0.00	3017.97	4913.65	2456.82	10072.3	5000.32	11.01	-1.927	0.000	0.610
60.00	-27.42	-34.93	0.00	-2840.2	0.00	2840.22	4847.98	2423.99	9741.07	4835.88	13.13	-2.119	0.000	0.593
65.00	-26.14	-34.31	0.00	-2665.5	0.00	2665.55	4781.08	2390.54	9412.76	4672.89	15.45	-2.311	0.000	0.576
70.00	-24.89	-33.69	0.00	-2493.9	0.00	2493.99	4712.96	2356.48	9087.49	4511.41	17.98	-2.502	0.000	0.558
75.00	-23.66	-33.06	0.00	-2325.5	0.00	2325.57	4643.60	2321.80	8765.44	4351.53	20.70	-2.691	0.000	0.540
80.00	-22.46	-32.42	0.00	-2160.2	0.00	2160.29	4573.02	2286.51	8446.74	4193.32	23.62	-2.879	0.000	0.520
85.00	-21.28	-31.79	0.00	-1998.1	0.00	1998.17	4501.21	2250.60	8131.55	4036.84	26.73	-3.065	0.000	0.500
90.00	-20.16	-31.13	0.00	-1839.2	0.00	1839.23	4428.17	2214.08	7820.02	3882.19	30.04	-3.248	0.000	0.479
91.66	-19.77	-30.93	0.00	-1787.4	0.00	1787.44	4403.60	2201.80	7717.21	3831.15	31.18	-3.310	0.000	0.471
95.00	-18.63	-30.48	0.00	-1684.2	0.00	1684.23	4350.76	2175.38	7506.87	3726.73	33.54	-3.431	0.000	0.456
98.00	-17.63	-30.07	0.00	-1592.8	0.00	1592.89	2393.56	1196.78	4158.66	2064.53	35.72	-3.539	0.000	0.780
100.00	-17.27	-29.85	0.00	-1532.6	0.00	1532.65	2381.84	1190.92	4099.59	2035.21	37.22	-3.610	0.000	0.761
105.00	-16.46	-29.25	0.00	-1383.4	0.00	1383.40	2351.72	1175.86	3952.36	1962.12	41.14	-3.863	0.000	0.713
110.00	-15.67	-28.65	0.00	-1237.1	0.00	1237.14	2320.37	1160.18	3805.57	1889.24	45.32	-4.108	0.000	0.662
115.00	-14.91	-28.05	0.00	-1093.8	0.00	1093.88	2287.79	1143.89	3659.35	1816.65	49.74	-4.341	0.000	0.609
120.00	-14.17	-27.46	0.00	-953.61	0.00	953.61	2253.98	1126.99	3513.86	1744.43	54.40	-4.562	0.000	0.554
125.00	-13.46	-26.86	0.00	-816.32	0.00	816.32	2218.95	1109.47	3369.25	1672.64	59.29	-4.769	0.000	0.495
130.00	-12.79	-26.26	0.00	-682.00	0.00	682.00	2182.68	1091.34	3225.66	1601.35	64.38	-4.958	0.000	0.432
131.74	-12.54	-26.06	0.00	-636.22	0.00	636.22	2169.75	1084.87	3175.87	1576.63	66.20	-5.021	0.000	0.410
135.00	-11.84	-25.65	0.00	-551.34	0.00	551.34	2145.19	1072.59	3083.25	1530.65	69.66	-5.129	0.000	0.366
136.99	-11.42	-25.39	0.00	-500.21	0.00	500.21	1823.96	911.98	2634.70	1307.98	71.82	-5.192	0.000	0.389
137.00	-9.48	-18.34	0.00	-500.04	0.00	500.04	1823.92	911.96	2634.55	1307.90	71.82	-5.192	0.000	0.388
140.00	-9.14	-17.99	0.00	-445.04	0.00	445.04	1806.41	903.20	2565.29	1273.52	75.11	-5.285	0.000	0.355
145.00	-8.65	-17.40	0.00	-355.09	0.00	355.09	1776.24	888.12	2450.41	1216.49	80.72	-5.424	0.000	0.297
146.00	-8.54	-17.23	0.00	-337.68	0.00	337.68	1770.06	885.03	2427.52	1205.13	81.86	-5.450	0.000	0.285
146.50	-7.29	-14.44	0.00	-329.07	0.00	329.07	1766.95	883.47	2416.09	1199.45	82.43	-5.463	0.000	0.279
147.00	-7.25	-13.74	0.00	-321.85	0.00	321.85	1763.83	881.91	2404.67	1193.78	83.00	-5.476	0.000	0.274
150.00	-6.99	-13.41	0.00	-280.62	0.00	280.62	1744.84	872.42	2336.33	1159.85	86.46	-5.547	0.000	0.246
155.00	-6.59	-12.85	0.00	-213.59	0.00	213.59	1712.21	856.11	2223.20	1103.69	92.32	-5.649	0.000	0.198
160.00	-6.20	-12.30	0.00	-149.35	0.00	149.35	1678.36	839.18	2111.17	1048.07	98.27	-5.731	0.000	0.146
165.00	-5.82	-11.76	0.00	-87.84	0.00	87.84	1643.27	821.64	2000.39	993.08	104.30	-5.790	0.000	0.092
167.00	-3.48	-6.66	0.00	-64.31	0.00	64.31	1628.90	814.45	1956.47	971.27	106.72	-5.807	0.000	0.068
170.00	-3.28	-6.35	0.00	-44.32	0.00	44.32	1606.96	803.48	1891.02	938.78	110.37	-5.826	0.000	0.049
175.00	-2.97	-5.84	0.00	-12.57	0.00	12.57	1569.42	784.71	1783.19	885.25	116.47	-5.843	0.000	0.016
177.00	-0.17	-0.29	0.00	-0.88	0.00	0.88	1554.06	777.03	1740.53	864.07	118.92	-5.845	0.000	0.001

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 25



180.00	0.00	-0.27	0.00	0.00	0.00	0.00	0.00	1530.65	765.32	1677.06	832.56	122.58	-5.845	0.000	0.000
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Wind Loading - Shaft

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



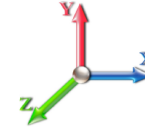
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

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	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	5.00	26.663	32.00	181.9	635.2	2556.9
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	26.348	31.62	179.7	671.2	2561.1
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	25.995	31.19	177.3	688.4	2546.6
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	5.00	25.625	30.75	185.5	697.4	2523.8
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	25.247	30.30	191.5	701.6	2496.3
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	24.862	29.83	196.0	702.8	2465.7
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	5.00	24.474	29.37	199.3	701.7	2432.9
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	5.00	24.082	28.90	201.7	698.9	2398.3
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	5.00	23.688	28.43	203.4	694.7	2362.4
45.42	Bot - Section 2	1.00	1.07	6.517	7.17	0.00	1.200	2.065	0.42	1.955	2.35	16.8	57.9	195.4
50.00	Appurtenance(s)	1.00	1.09	6.650	7.32	0.00	1.200	2.085	4.58	21.676	26.01	190.3	642.6	3478.2
52.75	Top - Section 1	1.00	1.11	6.726	7.40	0.00	1.200	2.096	2.75	12.844	15.41	114.0	383.8	2061.1
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	2.25	10.419	12.50	93.3	312.8	953.8
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	22.868	27.44	208.6	688.3	2092.5
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	5.00	22.468	26.96	208.4	680.8	2057.2
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	5.00	22.067	26.48	207.9	672.8	2021.4
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	21.665	26.00	207.1	664.3	1985.1
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	5.00	21.262	25.51	206.1	655.3	1948.3
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	5.00	20.859	25.03	204.7	645.9	1911.1
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	5.00	20.456	24.55	203.2	636.2	1873.5
91.66	Bot - Section 3	1.00	1.24	7.555	8.31	0.00	1.200	2.215	1.66	6.714	8.06	67.0	210.5	616.0
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	3.34	13.494	16.19	135.6	423.1	1752.2
98.00	Top - Section 2	1.00	1.26	7.662	8.43	0.00	1.200	2.230	3.00	11.966	14.36	121.0	376.3	1552.7
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	2.00	7.918	9.50	80.4	249.9	557.0
105.00		1.00	1.28	7.774	8.55	0.00	1.200	2.245	5.00	19.480	23.38	199.9	613.0	1367.1
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	5.00	19.075	22.89	197.7	602.1	1338.3
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	5.00	18.669	22.40	195.3	590.9	1309.3
120.00		1.00	1.32	7.996	8.80	0.00	1.200	2.276	5.00	18.263	21.92	192.8	579.5	1280.1
125.00		1.00	1.33	8.065	8.87	0.00	1.200	2.285	5.00	17.856	21.43	190.1	568.0	1250.6
130.00		1.00	1.34	8.132	8.95	0.00	1.200	2.294	5.00	17.450	20.94	187.3	556.2	1221.0
131.74	Bot - Section 4	1.00	1.34	8.155	8.97	0.00	1.200	2.297	1.74	5.988	7.19	64.5	192.5	420.1
135.00		1.00	1.35	8.197	9.02	0.00	1.200	2.303	3.26	11.192	13.43	121.1	359.2	1156.9
136.99	Top - Section 3	1.00	1.35	8.222	9.04	0.00	1.200	2.306	1.99	6.765	8.12	73.4	217.9	699.2
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	2.306	0.01	0.023	0.03	0.2	0.7	1.5
140.00		1.00	1.36	8.260	9.09	0.00	1.200	2.311	3.00	10.059	12.07	109.7	323.6	662.4
145.00		1.00	1.37	8.321	9.15	0.00	1.200	2.319	5.00	16.440	19.73	180.6	527.1	1079.0
146.00	Appurtenance(s)	1.00	1.37	8.333	9.17	0.00	1.200	2.321	1.00	3.239	3.89	35.6	104.9	213.4
146.50	Appurtenance(s)	1.00	1.37	8.339	9.17	0.00	1.200	2.321	0.50	1.613	1.94	17.8	52.3	106.3
147.00	Appurtenance(s)	1.00	1.37	8.345	9.18	0.00	1.200	2.322	0.50	1.609	1.93	17.7	52.2	106.1
150.00		1.00	1.38	8.381	9.22	0.00	1.200	2.327	3.00	9.570	11.48	105.9	308.8	628.5
155.00		1.00	1.39	8.439	9.28	0.00	1.200	2.335	5.00	15.625	18.75	174.0	502.0	1022.2
160.00		1.00	1.40	8.495	9.34	0.00	1.200	2.342	5.00	15.217	18.26	170.6	489.3	993.6
165.00		1.00	1.41	8.551	9.41	0.00	1.200	2.349	5.00	14.809	17.77	167.1	476.4	964.9
167.00	Appurtenance(s)	1.00	1.41	8.572	9.43	0.00	1.200	2.352	2.00	5.808	6.97	65.7	188.5	379.4
170.00		1.00	1.42	8.604	9.46	0.00	1.200	2.356	3.00	8.590	10.31	97.6	278.0	559.7
175.00		1.00	1.42	8.657	9.52	0.00	1.200	2.363	5.00	13.992	16.79	159.9	450.3	907.0

Wind Loading - Shaft

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 27



177.00 Appurtenance(s)	1.00	1.43	8.678	9.55	0.00	1.200	2.366	2.00	5.482	6.58	62.8	178.0	356.2
180.00	1.00	1.43	8.709	9.58	0.00	1.200	2.370	3.00	8.100	9.72	93.1	262.2	524.8
Totals:								180.00			6,861.2		65,947.3

Discrete Appurtenance Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

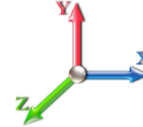


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

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	177.00	Commscope	3	8.678	9.546	0.55	0.75	23.72	1242.54	0.000	0.000	226.39	0.00	0.00
2	177.00	RFS APXVTM14-C-I20	3	8.678	9.546	0.59	0.75	14.01	901.58	0.000	0.000	133.76	0.00	0.00
3	177.00	Platform w/ Hand Rails	1	8.678	9.546	1.00	1.00	59.84	4638.95	0.000	0.000	571.22	0.00	0.00
4	177.00	ALU TD-RRH8x20-25	3	8.678	9.546	0.50	0.75	7.81	735.26	0.000	0.000	74.58	0.00	0.00
5	177.00	ALU 800 MHz	6	8.678	9.546	0.50	0.75	12.18	856.56	0.000	0.000	116.28	0.00	0.00
6	177.00	ALU 1900 MHz	3	8.678	9.546	0.50	0.75	8.57	775.78	0.000	0.000	81.80	0.00	0.00
7	177.00	Sitepro PRK-1245L	1	8.678	9.546	1.00	1.00	22.98	902.75	0.000	0.000	219.41	0.00	0.00
8	167.00	Sitepro RMQP-4096-HK	1	8.572	9.429	1.00	1.00	89.28	4994.63	0.000	0.000	841.84	0.00	0.00
9	167.00	RFS	3	8.572	9.429	0.52	0.75	35.96	2277.30	0.000	0.000	339.12	0.00	0.00
10	167.00	Ericsson Radio 4449	3	8.572	9.429	0.50	0.75	3.58	563.64	0.000	0.000	33.75	0.00	0.00
11	167.00	RFS	3	8.572	9.429	0.55	0.75	13.94	517.64	0.000	0.000	131.42	0.00	0.00
12	147.00	Antel BXA-70063/6CF	3	8.345	9.180	0.56	0.80	18.90	505.09	0.000	0.000	173.46	0.00	0.00
13	146.50	Low Profile Platform	1	8.339	9.173	1.00	1.00	45.49	3241.10	0.000	0.000	417.31	0.00	0.00
14	146.50	Antel LPA-80063/4CF	2	8.339	9.173	0.74	0.80	12.90	429.89	0.000	0.000	118.32	0.00	0.00
15	146.50	Antel BXA-171063/8CF-2	1	8.339	9.173	0.67	0.80	3.46	80.99	0.000	0.000	31.72	0.00	0.00
16	146.50	Antel BXA-171085-8CF-2	2	8.339	9.173	0.67	0.80	6.92	162.17	0.000	0.000	63.44	0.00	0.00
17	146.50	Antel	4	8.339	9.173	1.36	0.80	20.70	540.38	0.000	0.000	189.87	0.00	0.00
18	146.00	RFS FD9R6004/2C-3	6	8.333	9.166	0.54	0.80	3.05	72.56	0.000	0.000	27.99	0.00	0.00
19	137.00	Powerwave LGP21401	6	8.222	9.044	0.80	0.80	11.49	257.13	0.000	0.000	103.94	0.00	0.00
20	137.00	T-Arms	3	8.222	9.044	0.56	0.75	29.07	2018.50	0.000	0.000	262.88	0.00	0.00
21	137.00	7770	6	8.222	9.044	0.58	0.80	24.31	1403.18	0.000	0.000	219.85	0.00	0.00
22	137.00	OPA65R-KE6D	1	8.222	9.044	0.80	0.80	11.90	475.31	0.000	0.000	107.62	0.00	0.00
23	137.00	OPA65R-BU8DA	2	8.222	9.044	0.70	0.80	28.59	1237.42	0.000	0.000	258.58	0.00	0.00
24	137.00	DMP65R-BU6DA	1	8.222	9.044	0.80	0.80	11.76	493.16	0.000	0.000	106.40	0.00	0.00
25	137.00	DMP65R-BU8DA	2	8.222	9.044	0.70	0.80	28.27	1270.15	0.000	0.000	255.72	0.00	0.00
26	137.00	(3) T-Arm Kit	1	8.222	9.044	1.00	1.00	37.81	1234.02	0.000	0.000	341.94	0.00	0.00
27	137.00	2Powerwave 1903	6	8.222	9.044	0.67	0.80	3.21	92.01	0.000	0.000	29.01	0.00	0.00
28	137.00	4449 B5/B12	3	8.222	9.044	0.54	0.80	4.33	426.40	0.000	0.000	39.17	0.00	0.00
29	137.00	RRUS 8843 B2 B66A	3	8.222	9.044	0.54	0.80	3.69	408.89	0.000	0.000	33.40	0.00	0.00
30	137.00	Raycap DC6-48-60-18-8F	1	8.222	9.044	0.80	0.80	1.20	102.15	0.000	0.000	10.84	0.00	0.00
31	137.00	Raycap	1	8.222	9.044	0.80	0.80	4.76	152.89	0.000	0.000	43.04	0.00	0.00
32	137.00	Andrew ABT-DF-DMADBH	3	8.222	9.044	0.78	0.80	0.72	10.70	0.000	0.000	6.48	0.00	0.00
33	50.00	Stand Off	1	6.650	7.315	1.00	1.00	9.76	120.90	0.000	0.000	71.40	0.00	0.00
34	50.00	GPS	1	6.650	7.315	1.00	1.00	1.85	39.03	0.000	0.000	13.54	0.00	0.00

Totals: 33,180.64

5,695.48

Total Applied Force Summary

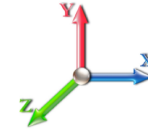
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		181.89	2792.09	0.00	0.00
10.00		179.74	2799.09	0.00	0.00
15.00		177.33	2786.36	0.00	0.00
20.00		185.48	2764.98	0.00	0.00
25.00		191.53	2738.60	0.00	0.00
30.00		195.99	2708.93	0.00	0.00
35.00		199.29	2676.91	0.00	0.00
40.00		201.70	2643.09	0.00	0.00
45.00		203.38	2607.88	0.00	0.00
45.42		16.82	215.86	0.00	0.00
50.00	(2) attachments	275.21	3863.66	0.00	0.00
52.75		114.02	2178.33	0.00	0.00
55.00		93.31	1049.64	0.00	0.00
60.00		208.59	2305.60	0.00	0.00
65.00		208.43	2270.35	0.00	0.00
70.00		207.93	2234.51	0.00	0.00
75.00		207.13	2198.17	0.00	0.00
80.00		206.06	2161.37	0.00	0.00
85.00		204.75	2124.17	0.00	0.00
90.00		203.22	2086.59	0.00	0.00
91.66		66.96	686.87	0.00	0.00
95.00		135.60	1894.45	0.00	0.00
98.00		121.02	1680.37	0.00	0.00
100.00		80.42	642.40	0.00	0.00
105.00		199.91	1580.18	0.00	0.00
110.00		197.68	1551.42	0.00	0.00
115.00		195.29	1522.41	0.00	0.00
120.00		192.76	1493.17	0.00	0.00
125.00		190.10	1463.72	0.00	0.00
130.00		187.31	1434.08	0.00	0.00
131.74		64.45	494.37	0.00	0.00
135.00		121.09	1295.74	0.00	0.00
136.99		73.42	784.11	0.00	0.00
137.00	(39) attachments	1819.12	9583.68	0.00	0.00
140.00		109.67	776.02	0.00	0.00
145.00		180.58	1220.85	0.00	0.00
146.00	(6) attachments	63.61	314.33	0.00	0.00
146.50	(10) attachments	838.42	4575.06	0.00	0.00
147.00	(3) attachments	191.18	617.85	0.00	0.00
150.00		105.87	668.68	0.00	0.00
155.00		174.05	1089.18	0.00	0.00
160.00		170.64	1060.57	0.00	0.00
165.00		167.14	1031.82	0.00	0.00
167.00	(10) attachments	1411.86	8759.41	0.00	0.00
170.00		97.57	573.43	0.00	0.00
175.00		159.89	929.89	0.00	0.00

Total Applied Force Summary

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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177.00	(20) attachments	1486.22	10418.81	0.00	0.00
180.00		93.11	524.82	0.00	0.00
Totals:		12,556.73	105,873.86	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

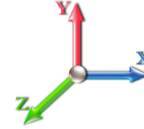


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

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)
5.00	1/2" Coax	Yes	5.00	0.000	0.65	1.65	0.00	0.011	0.000	5.168	0.00	22.08
10.00	1/2" Coax	Yes	5.00	0.000	0.65	1.75	0.00	0.011	0.000	5.168	0.00	24.87
15.00	1/2" Coax	Yes	5.00	0.000	0.65	1.81	0.00	0.011	0.000	5.168	0.00	26.68
20.00	1/2" Coax	Yes	5.00	0.000	0.65	1.86	0.00	0.011	0.000	5.483	0.00	28.05
25.00	1/2" Coax	Yes	5.00	0.000	0.65	1.89	0.00	0.011	0.000	5.747	0.00	29.17
30.00	1/2" Coax	Yes	5.00	0.000	0.65	1.92	0.00	0.012	0.000	5.972	0.00	30.12
35.00	1/2" Coax	Yes	5.00	0.000	0.65	1.95	0.00	0.012	0.000	6.169	0.00	30.95
40.00	1/2" Coax	Yes	5.00	0.000	0.65	1.97	0.00	0.012	0.000	6.345	0.00	31.68
45.00	1/2" Coax	Yes	5.00	0.000	0.65	1.99	0.00	0.012	0.000	6.504	0.00	32.35
45.42	1/2" Coax	Yes	0.42	0.000	0.65	0.17	0.00	0.012	0.000	6.517	0.00	2.70
50.00	1/2" Coax	Yes	4.58	0.000	0.65	1.84	0.00	0.013	0.000	6.650	0.00	30.21
Totals:											0.0	288.8

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Iterations 25

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	-105.8	-12.61	0.00	-1641.3	0.00	1641.33	6607.78	3303.89	16218.3	8051.48	0.00	0.000	0.000	0.220
5.00	-103.0	-12.52	0.00	-1578.2	0.00	1578.29	6536.37	3268.19	15777.9	7832.86	0.03	-0.054	0.000	0.217
10.00	-100.2	-12.43	0.00	-1515.6	0.00	1515.69	6463.73	3231.87	15340.5	7615.67	0.11	-0.108	0.000	0.215
15.00	-97.46	-12.34	0.00	-1453.5	0.00	1453.52	6389.86	3194.93	14906.0	7399.99	0.26	-0.163	0.000	0.212
20.00	-94.68	-12.24	0.00	-1391.8	0.00	1391.81	6314.77	3157.38	14474.7	7185.88	0.46	-0.219	0.000	0.209
25.00	-91.93	-12.13	0.00	-1330.6	0.00	1330.61	6238.44	3119.22	14046.7	6973.42	0.72	-0.275	0.000	0.206
30.00	-89.21	-12.01	0.00	-1269.9	0.00	1269.97	6160.89	3080.44	13622.3	6762.68	1.04	-0.331	0.000	0.202
35.00	-86.52	-11.88	0.00	-1209.9	0.00	1209.95	6082.10	3041.05	13201.4	6553.75	1.41	-0.388	0.000	0.199
40.00	-83.87	-11.74	0.00	-1150.5	0.00	1150.57	6002.09	3001.05	12784.3	6346.69	1.85	-0.445	0.000	0.195
45.00	-81.26	-11.56	0.00	-1091.8	0.00	1091.89	5920.85	2960.42	12371.1	6141.58	2.35	-0.502	0.000	0.192
45.42	-81.04	-11.58	0.00	-1087.0	0.00	1087.07	5914.02	2957.01	12336.9	6124.58	2.39	-0.507	0.000	0.191
50.00	-77.17	-11.32	0.00	-1034.0	0.00	1034.00	5838.38	2919.19	11962.1	5938.49	2.90	-0.560	0.000	0.187
52.75	-74.98	-11.23	0.00	-1002.8	0.00	1002.86	4942.80	2471.40	10222.2	5074.76	3.24	-0.592	0.000	0.213
55.00	-73.93	-11.18	0.00	-977.60	0.00	977.60	4913.65	2456.82	10072.3	5000.32	3.52	-0.618	0.000	0.211
60.00	-71.61	-11.02	0.00	-921.70	0.00	921.70	4847.98	2423.99	9741.07	4835.88	4.20	-0.681	0.000	0.205
65.00	-69.33	-10.86	0.00	-866.59	0.00	866.59	4781.08	2390.54	9412.76	4672.89	4.95	-0.743	0.000	0.200
70.00	-67.09	-10.70	0.00	-812.28	0.00	812.28	4712.96	2356.48	9087.49	4511.41	5.76	-0.805	0.000	0.194
75.00	-64.88	-10.53	0.00	-758.80	0.00	758.80	4643.60	2321.80	8765.44	4351.53	6.64	-0.867	0.000	0.188
80.00	-62.71	-10.35	0.00	-706.16	0.00	706.16	4573.02	2286.51	8446.74	4193.32	7.58	-0.928	0.000	0.182
85.00	-60.58	-10.18	0.00	-654.40	0.00	654.40	4501.21	2250.60	8131.55	4036.84	8.58	-0.989	0.000	0.176
90.00	-58.49	-9.98	0.00	-603.51	0.00	603.51	4428.17	2214.08	7820.02	3882.19	9.65	-1.049	0.000	0.169
91.66	-57.80	-9.93	0.00	-586.91	0.00	586.91	4403.60	2201.80	7717.21	3831.15	10.02	-1.069	0.000	0.166
95.00	-55.90	-9.79	0.00	-553.79	0.00	553.79	4350.76	2175.38	7506.87	3726.73	10.78	-1.109	0.000	0.161
98.00	-54.22	-9.67	0.00	-524.44	0.00	524.44	2393.56	1196.78	4158.66	2064.53	11.49	-1.144	0.000	0.277
100.00	-53.57	-9.63	0.00	-505.07	0.00	505.07	2381.84	1190.92	4099.59	2035.21	11.97	-1.168	0.000	0.271
105.00	-51.98	-9.47	0.00	-456.95	0.00	456.95	2351.72	1175.86	3952.36	1962.12	13.24	-1.252	0.000	0.255
110.00	-50.42	-9.30	0.00	-409.62	0.00	409.62	2320.37	1160.18	3805.57	1889.24	14.60	-1.332	0.000	0.239
115.00	-48.89	-9.14	0.00	-363.10	0.00	363.10	2287.79	1143.89	3659.35	1816.65	16.03	-1.410	0.000	0.221
120.00	-47.40	-8.96	0.00	-317.42	0.00	317.42	2253.98	1126.99	3513.86	1744.43	17.55	-1.483	0.000	0.203
125.00	-45.93	-8.79	0.00	-272.60	0.00	272.60	2218.95	1109.47	3369.25	1672.64	19.14	-1.552	0.000	0.184
130.00	-44.49	-8.59	0.00	-228.66	0.00	228.66	2182.68	1091.34	3225.66	1601.35	20.80	-1.615	0.000	0.163
131.74	-44.00	-8.54	0.00	-213.68	0.00	213.68	2169.75	1084.87	3175.87	1576.63	21.40	-1.636	0.000	0.156
135.00	-42.70	-8.40	0.00	-185.87	0.00	185.87	2145.19	1072.59	3083.25	1530.65	22.53	-1.673	0.000	0.141
136.99	-41.92	-8.31	0.00	-169.13	0.00	169.13	1823.96	911.98	2634.70	1307.98	23.23	-1.694	0.000	0.152
137.00	-32.39	-6.22	0.00	-169.07	0.00	169.07	1823.92	911.96	2634.55	1307.90	23.23	-1.694	0.000	0.147
140.00	-31.61	-6.11	0.00	-150.42	0.00	150.42	1806.41	903.20	2565.29	1273.52	24.31	-1.726	0.000	0.136
145.00	-30.40	-5.91	0.00	-119.88	0.00	119.88	1776.24	888.12	2450.41	1216.49	26.14	-1.773	0.000	0.116
146.00	-30.08	-5.84	0.00	-113.97	0.00	113.97	1770.06	885.03	2427.52	1205.13	26.51	-1.781	0.000	0.112
146.50	-25.54	-4.86	0.00	-111.05	0.00	111.05	1766.95	883.47	2416.09	1199.45	26.70	-1.786	0.000	0.107
147.00	-24.92	-4.65	0.00	-108.63	0.00	108.63	1763.83	881.91	2404.67	1193.78	26.89	-1.790	0.000	0.105
150.00	-24.26	-4.54	0.00	-94.67	0.00	94.67	1744.84	872.42	2336.33	1159.85	28.02	-1.814	0.000	0.096
155.00	-23.17	-4.34	0.00	-71.98	0.00	71.98	1712.21	856.11	2223.20	1103.69	29.94	-1.848	0.000	0.079
160.00	-22.11	-4.15	0.00	-50.27	0.00	50.27	1678.36	839.18	2111.17	1048.07	31.89	-1.876	0.000	0.061
165.00	-21.09	-3.95	0.00	-29.54	0.00	29.54	1643.27	821.64	2000.39	993.08	33.86	-1.896	0.000	0.043
167.00	-12.38	-2.25	0.00	-21.64	0.00	21.64	1628.90	814.45	1956.47	971.27	34.66	-1.902	0.000	0.030
170.00	-11.81	-2.13	0.00	-14.89	0.00	14.89	1606.96	803.48	1891.02	938.78	35.86	-1.908	0.000	0.023
175.00	-10.88	-1.94	0.00	-4.22	0.00	4.22	1569.42	784.71	1783.19	885.25	37.86	-1.914	0.000	0.012
177.00	-0.52	-0.11	0.00	-0.33	0.00	0.33	1554.06	777.03	1740.53	864.07	38.66	-1.914	0.000	0.001

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 33
Struct Class: II		



180.00	0.00	-0.09	0.00	0.00	0.00	0.00	0.00	1530.65	765.32	1677.06	832.56	39.86	-1.914	0.000	0.000
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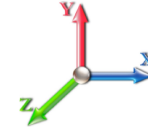
Seismic Segment Forces (Factored)

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E						Iterations 23
Gust Response Factor	1.10			Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.31	SA	0.03	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1601.4	0.00	0.03	0.02	27.85	
10.00		1574.9	0.01	0.05	0.03	40.70	
15.00		1548.5	0.01	0.06	0.03	47.06	
20.00		1522.0	0.02	0.07	0.04	50.11	
25.00		1495.5	0.04	0.07	0.04	51.44	
30.00		1469.1	0.05	0.07	0.04	51.95	
35.00		1442.6	0.07	0.07	0.04	52.12	
40.00		1416.2	0.09	0.07	0.04	52.20	
45.00		1389.7	0.12	0.07	0.03	52.25	
45.42	Bot - Section 2	114.62	0.12	0.07	0.03	4.32	
50.00	Appurtenance(s)	2412.9	0.15	0.07	0.03	92.37	
52.75	Top - Section 1	1397.7	0.16	0.07	0.03	53.92	
55.00		534.15	0.18	0.07	0.03	20.69	
60.00		1170.1	0.21	0.06	0.02	45.28	
65.00		1147.0	0.25	0.06	0.02	43.33	
70.00		1123.8	0.29	0.05	0.01	39.92	
75.00		1100.6	0.33	0.04	0.01	34.55	
80.00		1077.4	0.37	0.03	0.01	26.86	
85.00		1054.2	0.42	0.01	0.01	16.80	
90.00		1031.1	0.47	-0.01	0.01	4.89	
91.66	Bot - Section 3	337.88	0.49	-0.01	0.01	0.23	
95.00		1107.6	0.53	-0.03	0.01	-8.43	
98.00	Top - Section 2	980.32	0.56	-0.04	0.01	-14.63	
100.00		255.97	0.58	-0.05	0.01	-5.01	
105.00		628.43	0.64	-0.07	0.02	-18.58	
110.00		613.55	0.71	-0.09	0.03	-22.42	
115.00		598.66	0.77	-0.11	0.05	-23.91	
120.00		583.78	0.84	-0.12	0.07	-23.14	
125.00		568.89	0.91	-0.12	0.09	-20.31	
130.00		554.01	0.99	-0.11	0.12	-15.62	
131.74	Bot - Section 4	189.67	1.01	-0.11	0.14	-4.69	
135.00		664.79	1.06	-0.09	0.17	-11.43	
136.99	Top - Section 3	401.02	1.09	-0.07	0.18	-4.75	
137.00	Appurtenance(s)	2842.3	1.09	-0.07	0.18	-33.62	
140.00		282.33	1.14	-0.04	0.21	-0.78	
145.00		459.97	1.23	0.03	0.27	6.96	
146.00	Appurtenance(s)	109.01	1.24	0.05	0.29	2.08	
146.50	Appurtenance(s)	1664.5	1.25	0.06	0.30	35.23	
147.00	Appurtenance(s)	95.87	1.26	0.07	0.30	2.23	
150.00		266.46	1.31	0.14	0.35	9.72	
155.00		433.51	1.40	0.29	0.43	26.59	
160.00		420.28	1.49	0.48	0.53	37.74	
165.00		407.05	1.59	0.74	0.65	49.61	
167.00	Appurtenance(s)	3142.6	1.63	0.86	0.71	426.58	
170.00		234.71	1.69	1.07	0.79	37.01	

Seismic Segment Forces (Factored)

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020	
Site Name: South Canton	Exposure: C		
Height: 180.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 35



175.00		380.59	1.79	1.48	0.95	75.08
177.00	Appurtenance(s)	3721.6	1.83	1.67	1.03	797.12
180.00		218.83	1.89	1.98	1.14	52.68
Totals:		47,788.6				2,160.1
						Total Wind: 41,547.5

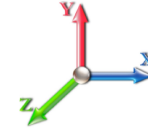
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0E		Iterations 23
Gust Response Factor 1.10	Sds 0.19	Ss 0.18
Dead Load Factor 1.20	Seismic Load Factor 1.00	S1 0.07
Wind Load Factor 0.00	Structure Frequency (f1) 0.31	SA 0.03
	Seismic Importance Factor 1.00	



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-63.81	-2.37	0.00	-317.81	0.00	317.81	6607.78	3303.89	16218.3	8051.48	0.00	0.00	0.00	0.049
5.00	-61.68	-2.36	0.00	-305.95	0.00	305.95	6536.37	3268.19	15777.9	7832.86	0.01	-0.01	0.048	
10.00	-59.57	-2.33	0.00	-294.17	0.00	294.17	6463.73	3231.87	15340.5	7615.67	0.02	-0.02	0.048	
15.00	-57.50	-2.29	0.00	-282.55	0.00	282.55	6389.86	3194.93	14906.0	7399.99	0.05	-0.03	0.047	
20.00	-55.46	-2.25	0.00	-271.11	0.00	271.11	6314.77	3157.38	14474.7	7185.88	0.09	-0.04	0.047	
25.00	-53.45	-2.20	0.00	-259.87	0.00	259.87	6238.44	3119.22	14046.7	6973.42	0.14	-0.05	0.046	
30.00	-51.47	-2.16	0.00	-248.85	0.00	248.85	6160.89	3080.44	13622.3	6762.68	0.20	-0.06	0.045	
35.00	-49.53	-2.12	0.00	-238.05	0.00	238.05	6082.10	3041.05	13201.4	6553.75	0.27	-0.08	0.044	
40.00	-47.61	-2.07	0.00	-227.47	0.00	227.47	6002.09	3001.05	12784.3	6346.69	0.36	-0.09	0.044	
45.00	-45.73	-2.02	0.00	-217.12	0.00	217.12	5920.85	2960.42	12371.1	6141.58	0.46	-0.10	0.043	
45.42	-45.58	-2.02	0.00	-216.28	0.00	216.28	5914.02	2957.01	12336.9	6124.58	0.47	-0.10	0.043	
50.00	-42.48	-1.93	0.00	-207.02	0.00	207.02	5838.38	2919.19	11962.1	5938.49	0.57	-0.11	0.042	
52.75	-40.69	-1.87	0.00	-201.72	0.00	201.72	4942.80	2471.40	10222.2	5074.76	0.63	-0.12	0.048	
55.00	-39.95	-1.86	0.00	-197.50	0.00	197.50	4913.65	2456.82	10072.3	5000.32	0.69	-0.12	0.048	
60.00	-38.33	-1.82	0.00	-188.21	0.00	188.21	4847.98	2423.99	9741.07	4835.88	0.82	-0.13	0.047	
65.00	-36.74	-1.78	0.00	-179.12	0.00	179.12	4781.08	2390.54	9412.76	4672.89	0.97	-0.15	0.046	
70.00	-35.18	-1.74	0.00	-170.22	0.00	170.22	4712.96	2356.48	9087.49	4511.41	1.13	-0.16	0.045	
75.00	-33.65	-1.71	0.00	-161.51	0.00	161.51	4643.60	2321.80	8765.44	4351.53	1.30	-0.17	0.044	
80.00	-32.14	-1.69	0.00	-152.95	0.00	152.95	4573.02	2286.51	8446.74	4193.32	1.49	-0.19	0.044	
85.00	-30.66	-1.67	0.00	-144.51	0.00	144.51	4501.21	2250.60	8131.55	4036.84	1.69	-0.20	0.043	
90.00	-29.21	-1.67	0.00	-136.14	0.00	136.14	4428.17	2214.08	7820.02	3882.19	1.91	-0.21	0.042	
91.66	-28.74	-1.67	0.00	-133.37	0.00	133.37	4403.60	2201.80	7717.21	3831.15	1.98	-0.22	0.041	
95.00	-27.26	-1.67	0.00	-127.80	0.00	127.80	4350.76	2175.38	7506.87	3726.73	2.14	-0.23	0.041	
98.00	-25.96	-1.67	0.00	-122.80	0.00	122.80	2393.56	1196.78	4158.66	2064.53	2.28	-0.23	0.070	
100.00	-25.57	-1.67	0.00	-119.47	0.00	119.47	2381.84	1190.92	4099.59	2035.21	2.38	-0.24	0.069	
105.00	-24.60	-1.67	0.00	-111.12	0.00	111.12	2351.72	1175.86	3952.36	1962.12	2.65	-0.26	0.067	
110.00	-23.65	-1.68	0.00	-102.75	0.00	102.75	2320.37	1160.18	3805.57	1889.24	2.93	-0.28	0.065	
115.00	-22.72	-1.68	0.00	-94.36	0.00	94.36	2287.79	1143.89	3659.35	1816.65	3.23	-0.30	0.062	
120.00	-21.80	-1.68	0.00	-85.96	0.00	85.96	2253.98	1126.99	3513.86	1744.43	3.56	-0.32	0.059	
125.00	-20.91	-1.68	0.00	-77.54	0.00	77.54	2218.95	1109.47	3369.25	1672.64	3.90	-0.34	0.056	
130.00	-20.03	-1.68	0.00	-69.12	0.00	69.12	2182.68	1091.34	3225.66	1601.35	4.27	-0.36	0.052	
131.74	-19.73	-1.69	0.00	-66.18	0.00	66.18	2169.75	1084.87	3175.87	1576.63	4.40	-0.36	0.051	
135.00	-18.79	-1.68	0.00	-60.70	0.00	60.70	2145.19	1072.59	3083.25	1530.65	4.65	-0.37	0.048	
136.99	-18.22	-1.68	0.00	-57.34	0.00	57.34	1823.96	911.98	2634.70	1307.98	4.81	-0.38	0.054	
137.00	-14.81	-1.66	0.00	-57.33	0.00	57.33	1823.92	911.96	2634.55	1307.90	4.81	-0.38	0.052	
140.00	-14.36	-1.66	0.00	-52.36	0.00	52.36	1806.41	903.20	2565.29	1273.52	5.05	-0.39	0.049	
145.00	-13.67	-1.65	0.00	-44.06	0.00	44.06	1776.24	888.12	2450.41	1216.49	5.47	-0.41	0.044	
146.00	-13.51	-1.65	0.00	-42.41	0.00	42.41	1770.06	885.03	2427.52	1205.13	5.56	-0.41	0.043	
146.50	-11.49	-1.60	0.00	-41.59	0.00	41.59	1766.95	883.47	2416.09	1199.45	5.60	-0.41	0.041	
147.00	-11.37	-1.60	0.00	-40.79	0.00	40.79	1763.83	881.91	2404.67	1193.78	5.65	-0.42	0.041	
150.00	-11.01	-1.59	0.00	-36.01	0.00	36.01	1744.84	872.42	2336.33	1159.85	5.91	-0.43	0.037	
155.00	-10.43	-1.56	0.00	-28.08	0.00	28.08	1712.21	856.11	2223.20	1103.69	6.36	-0.44	0.032	
160.00	-9.85	-1.52	0.00	-20.30	0.00	20.30	1678.36	839.18	2111.17	1048.07	6.83	-0.45	0.025	
165.00	-9.30	-1.46	0.00	-12.72	0.00	12.72	1643.27	821.64	2000.39	993.08	7.30	-0.46	0.018	
167.00	-5.50	-1.01	0.00	-9.79	0.00	9.79	1628.90	814.45	1956.47	971.27	7.50	-0.46	0.013	
170.00	-5.21	-0.97	0.00	-6.78	0.00	6.78	1606.96	803.48	1891.02	938.78	7.79	-0.46	0.010	
175.00	-4.73	-0.89	0.00	-1.94	0.00	1.94	1569.42	784.71	1783.19	885.25	8.27	-0.47	0.005	

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 37
	Struct Class: II	



177.00	-0.26	-0.05	0.00	-0.16	0.00	0.16	1554.06	777.03	1740.53	864.07	8.47	-0.47	0.000
180.00	0.00	-0.05	0.00	0.00	0.00	0.00	1530.65	765.32	1677.06	832.56	8.76	-0.47	0.000

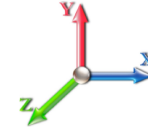
Seismic Segment Forces (Factored)

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E				Iterations 23
Gust Response Factor	1.10	Sds	0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.07
Wind Load Factor	0.00	Structure Frequency (f1)	0.31	SA 0.03
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1601.4	0.00	0.03	0.02	27.85	
10.00		1574.9	0.01	0.05	0.03	40.70	
15.00		1548.5	0.01	0.06	0.03	47.06	
20.00		1522.0	0.02	0.07	0.04	50.11	
25.00		1495.5	0.04	0.07	0.04	51.44	
30.00		1469.1	0.05	0.07	0.04	51.95	
35.00		1442.6	0.07	0.07	0.04	52.12	
40.00		1416.2	0.09	0.07	0.04	52.20	
45.00		1389.7	0.12	0.07	0.03	52.25	
45.42	Bot - Section 2	114.62	0.12	0.07	0.03	4.32	
50.00	Appurtenance(s)	2412.9	0.15	0.07	0.03	92.37	
52.75	Top - Section 1	1397.7	0.16	0.07	0.03	53.92	
55.00		534.15	0.18	0.07	0.03	20.69	
60.00		1170.1	0.21	0.06	0.02	45.28	
65.00		1147.0	0.25	0.06	0.02	43.33	
70.00		1123.8	0.29	0.05	0.01	39.92	
75.00		1100.6	0.33	0.04	0.01	34.55	
80.00		1077.4	0.37	0.03	0.01	26.86	
85.00		1054.2	0.42	0.01	0.01	16.80	
90.00		1031.1	0.47	-0.01	0.01	4.89	
91.66	Bot - Section 3	337.88	0.49	-0.01	0.01	0.23	
95.00		1107.6	0.53	-0.03	0.01	-8.43	
98.00	Top - Section 2	980.32	0.56	-0.04	0.01	-14.63	
100.00		255.97	0.58	-0.05	0.01	-5.01	
105.00		628.43	0.64	-0.07	0.02	-18.58	
110.00		613.55	0.71	-0.09	0.03	-22.42	
115.00		598.66	0.77	-0.11	0.05	-23.91	
120.00		583.78	0.84	-0.12	0.07	-23.14	
125.00		568.89	0.91	-0.12	0.09	-20.31	
130.00		554.01	0.99	-0.11	0.12	-15.62	
131.74	Bot - Section 4	189.67	1.01	-0.11	0.14	-4.69	
135.00		664.79	1.06	-0.09	0.17	-11.43	
136.99	Top - Section 3	401.02	1.09	-0.07	0.18	-4.75	
137.00	Appurtenance(s)	2842.3	1.09	-0.07	0.18	-33.62	
140.00		282.33	1.14	-0.04	0.21	-0.78	
145.00		459.97	1.23	0.03	0.27	6.96	
146.00	Appurtenance(s)	109.01	1.24	0.05	0.29	2.08	
146.50	Appurtenance(s)	1664.5	1.25	0.06	0.30	35.23	
147.00	Appurtenance(s)	95.87	1.26	0.07	0.30	2.23	
150.00		266.46	1.31	0.14	0.35	9.72	
155.00		433.51	1.40	0.29	0.43	26.59	
160.00		420.28	1.49	0.48	0.53	37.74	
165.00		407.05	1.59	0.74	0.65	49.61	
167.00	Appurtenance(s)	3142.6	1.63	0.86	0.71	426.58	
170.00		234.71	1.69	1.07	0.79	37.01	

Seismic Segment Forces (Factored)

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020	
Site Name: South Canton	Exposure: C		
Height: 180.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 39



175.00	380.59	1.79	1.48	0.95	75.08
177.00 Appurtenance(s)	3721.6	1.83	1.67	1.03	797.12
180.00	218.83	1.89	1.98	1.14	52.68
Totals:	47,788.6				2,160.1
					Total Wind: 41,547.5

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

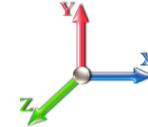
Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E		Iterations 23
Gust Response Factor 1.10	Sds 0.19	Ss 0.18
Dead Load Factor 0.90	Seismic Load Factor 1.00	S1 0.07
Wind Load Factor 0.00	Structure Frequency (f1) 0.31	SA 0.03
	Seismic Importance Factor 1.00	



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-47.86	-2.37	0.00	-313.91	0.00	313.91	6607.78	3303.89	16218.3	8051.48	0.00	0.00	0.00	0.046
5.00	-46.26	-2.35	0.00	-302.05	0.00	302.05	6536.37	3268.19	15777.9	7832.86	0.01	-0.01	0.046	
10.00	-44.68	-2.32	0.00	-290.30	0.00	290.30	6463.73	3231.87	15340.5	7615.67	0.02	-0.02	0.045	
15.00	-43.12	-2.28	0.00	-278.70	0.00	278.70	6389.86	3194.93	14906.0	7399.99	0.05	-0.03	0.044	
20.00	-41.59	-2.24	0.00	-267.31	0.00	267.31	6314.77	3157.38	14474.7	7185.88	0.09	-0.04	0.044	
25.00	-40.09	-2.19	0.00	-256.14	0.00	256.14	6238.44	3119.22	14046.7	6973.42	0.14	-0.05	0.043	
30.00	-38.60	-2.14	0.00	-245.19	0.00	245.19	6160.89	3080.44	13622.3	6762.68	0.20	-0.06	0.043	
35.00	-37.14	-2.10	0.00	-234.47	0.00	234.47	6082.10	3041.05	13201.4	6553.75	0.27	-0.07	0.042	
40.00	-35.71	-2.05	0.00	-223.98	0.00	223.98	6002.09	3001.05	12784.3	6346.69	0.35	-0.09	0.041	
45.00	-34.30	-2.00	0.00	-213.73	0.00	213.73	5920.85	2960.42	12371.1	6141.58	0.45	-0.10	0.041	
45.42	-34.18	-2.00	0.00	-212.90	0.00	212.90	5914.02	2957.01	12336.9	6124.58	0.46	-0.10	0.041	
50.00	-31.86	-1.91	0.00	-203.74	0.00	203.74	5838.38	2919.19	11962.1	5938.49	0.56	-0.11	0.040	
52.75	-30.52	-1.85	0.00	-198.50	0.00	198.50	4942.80	2471.40	10222.2	5074.76	0.62	-0.11	0.045	
55.00	-29.96	-1.84	0.00	-194.33	0.00	194.33	4913.65	2456.82	10072.3	5000.32	0.68	-0.12	0.045	
60.00	-28.75	-1.79	0.00	-185.15	0.00	185.15	4847.98	2423.99	9741.07	4835.88	0.81	-0.13	0.044	
65.00	-27.56	-1.75	0.00	-176.18	0.00	176.18	4781.08	2390.54	9412.76	4672.89	0.95	-0.14	0.043	
70.00	-26.39	-1.72	0.00	-167.41	0.00	167.41	4712.96	2356.48	9087.49	4511.41	1.11	-0.16	0.043	
75.00	-25.23	-1.68	0.00	-158.83	0.00	158.83	4643.60	2321.80	8765.44	4351.53	1.28	-0.17	0.042	
80.00	-24.10	-1.66	0.00	-150.41	0.00	150.41	4573.02	2286.51	8446.74	4193.32	1.47	-0.18	0.041	
85.00	-23.00	-1.64	0.00	-142.11	0.00	142.11	4501.21	2250.60	8131.55	4036.84	1.67	-0.20	0.040	
90.00	-21.91	-1.64	0.00	-133.89	0.00	133.89	4428.17	2214.08	7820.02	3882.19	1.88	-0.21	0.039	
91.66	-21.55	-1.64	0.00	-131.16	0.00	131.16	4403.60	2201.80	7717.21	3831.15	1.95	-0.21	0.039	
95.00	-20.45	-1.64	0.00	-125.69	0.00	125.69	4350.76	2175.38	7506.87	3726.73	2.11	-0.22	0.038	
98.00	-19.47	-1.64	0.00	-120.78	0.00	120.78	2393.56	1196.78	4158.66	2064.53	2.25	-0.23	0.067	
100.00	-19.17	-1.64	0.00	-117.50	0.00	117.50	2381.84	1190.92	4099.59	2035.21	2.35	-0.24	0.066	
105.00	-18.45	-1.64	0.00	-109.30	0.00	109.30	2351.72	1175.86	3952.36	1962.12	2.61	-0.26	0.064	
110.00	-17.74	-1.65	0.00	-101.08	0.00	101.08	2320.37	1160.18	3805.57	1889.24	2.89	-0.28	0.061	
115.00	-17.04	-1.65	0.00	-92.85	0.00	92.85	2287.79	1143.89	3659.35	1816.65	3.18	-0.30	0.059	
120.00	-16.35	-1.65	0.00	-84.61	0.00	84.61	2253.98	1126.99	3513.86	1744.43	3.50	-0.31	0.056	
125.00	-15.68	-1.65	0.00	-76.36	0.00	76.36	2218.95	1109.47	3369.25	1672.64	3.84	-0.33	0.053	
130.00	-15.02	-1.65	0.00	-68.10	0.00	68.10	2182.68	1091.34	3225.66	1601.35	4.20	-0.35	0.049	
131.74	-14.79	-1.65	0.00	-65.22	0.00	65.22	2169.75	1084.87	3175.87	1576.63	4.33	-0.36	0.048	
135.00	-14.09	-1.65	0.00	-59.84	0.00	59.84	2145.19	1072.59	3083.25	1530.65	4.58	-0.37	0.046	
136.99	-13.67	-1.65	0.00	-56.55	0.00	56.55	1823.96	911.98	2634.70	1307.98	4.74	-0.38	0.051	
137.00	-11.11	-1.63	0.00	-56.54	0.00	56.54	1823.92	911.96	2634.55	1307.90	4.74	-0.38	0.049	
140.00	-10.77	-1.63	0.00	-51.64	0.00	51.64	1806.41	903.20	2565.29	1273.52	4.98	-0.39	0.047	
145.00	-10.25	-1.62	0.00	-43.48	0.00	43.48	1776.24	888.12	2450.41	1216.49	5.39	-0.40	0.042	
146.00	-10.13	-1.62	0.00	-41.86	0.00	41.86	1770.06	885.03	2427.52	1205.13	5.47	-0.41	0.040	
146.50	-8.62	-1.58	0.00	-41.05	0.00	41.05	1766.95	883.47	2416.09	1199.45	5.52	-0.41	0.039	
147.00	-8.53	-1.57	0.00	-40.26	0.00	40.26	1763.83	881.91	2404.67	1193.78	5.56	-0.41	0.039	
150.00	-8.26	-1.56	0.00	-35.54	0.00	35.54	1744.84	872.42	2336.33	1159.85	5.82	-0.42	0.035	
155.00	-7.82	-1.54	0.00	-27.72	0.00	27.72	1712.21	856.11	2223.20	1103.69	6.27	-0.43	0.030	
160.00	-7.39	-1.50	0.00	-20.05	0.00	20.05	1678.36	839.18	2111.17	1048.07	6.72	-0.44	0.024	
165.00	-6.97	-1.44	0.00	-12.57	0.00	12.57	1643.27	821.64	2000.39	993.08	7.19	-0.45	0.017	
167.00	-4.13	-0.99	0.00	-9.68	0.00	9.68	1628.90	814.45	1956.47	971.27	7.38	-0.45	0.013	
170.00	-3.91	-0.96	0.00	-6.70	0.00	6.70	1606.96	803.48	1891.02	938.78	7.67	-0.46	0.010	
175.00	-3.55	-0.88	0.00	-1.92	0.00	1.92	1569.42	784.71	1783.19	885.25	8.15	-0.46	0.004	

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 41
Struct Class: II		



177.00	-0.20	-0.05	0.00	-0.16	0.00	0.16	1554.06	777.03	1740.53	864.07	8.34	-0.46	0.000
180.00	0.00	-0.05	0.00	0.00	0.00	0.00	1530.65	765.32	1677.06	832.56	8.63	-0.46	0.000

Wind Loading - Shaft

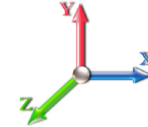
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	282.00	0.750	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	277.42	0.750	0.000	5.00	25.283	18.96	155.2	0.0	1601.4
10.00		1.00	0.85	7.442	8.19	272.84	0.750	0.000	5.00	24.868	18.65	152.7	0.0	1575.0
15.00		1.00	0.85	7.442	8.19	268.26	0.750	0.000	5.00	24.454	18.34	150.1	0.0	1548.5
20.00		1.00	0.90	7.896	8.69	271.60	0.750	0.000	5.00	24.040	18.03	156.6	0.0	1522.1
25.00		1.00	0.95	8.276	9.10	273.22	0.750	0.000	5.00	23.626	17.72	161.3	0.0	1495.6
30.00		1.00	0.98	8.600	9.46	273.59	0.750	0.000	5.00	23.212	17.41	164.7	0.0	1469.1
35.00		1.00	1.01	8.883	9.77	273.06	0.750	0.000	5.00	22.797	17.10	167.1	0.0	1442.7
40.00		1.00	1.04	9.137	10.05	271.85	0.750	0.000	5.00	22.383	16.79	168.7	0.0	1416.2
45.00		1.00	1.07	9.366	10.30	270.10	0.750	0.000	5.00	21.969	16.48	169.8	0.0	1389.8
45.42	Bot - Section 2	1.00	1.07	9.384	10.32	269.93	0.750	0.000	0.42	1.812	1.36	14.0	0.0	114.6
50.00	Appurtenance(s)	1.00	1.09	9.576	10.53	267.91	0.750	0.000	4.58	20.084	15.06	158.7	0.0	2363.0
52.75	Top - Section 1	1.00	1.11	9.685	10.65	266.55	0.750	0.000	2.75	11.883	8.91	94.9	0.0	1397.8
55.00		1.00	1.12	9.770	10.75	270.08	0.750	0.000	2.25	9.629	7.22	77.6	0.0	534.1
60.00		1.00	1.14	9.951	10.95	267.27	0.750	0.000	5.00	21.098	15.82	173.2	0.0	1170.2
65.00		1.00	1.16	10.120	11.13	264.18	0.750	0.000	5.00	20.684	15.51	172.7	0.0	1147.0
70.00		1.00	1.17	10.279	11.31	260.87	0.750	0.000	5.00	20.270	15.20	171.9	0.0	1123.8
75.00		1.00	1.19	10.430	11.47	257.34	0.750	0.000	5.00	19.856	14.89	170.8	0.0	1100.6
80.00		1.00	1.21	10.572	11.63	253.63	0.750	0.000	5.00	19.441	14.58	169.6	0.0	1077.5
85.00		1.00	1.22	10.708	11.78	249.76	0.750	0.000	5.00	19.027	14.27	168.1	0.0	1054.3
90.00		1.00	1.24	10.838	11.92	245.74	0.750	0.000	5.00	18.613	13.96	166.4	0.0	1031.1
91.66	Bot - Section 3	1.00	1.24	10.880	11.97	244.37	0.750	0.000	1.66	6.100	4.58	54.8	0.0	337.9
95.00		1.00	1.25	10.962	12.06	241.58	0.750	0.000	3.34	12.258	9.19	110.9	0.0	1107.6
98.00	Top - Section 2	1.00	1.26	11.034	12.14	239.03	0.750	0.000	3.00	10.852	8.14	98.8	0.0	980.3
100.00		1.00	1.27	11.081	12.19	240.52	0.750	0.000	2.00	7.172	5.38	65.6	0.0	256.0
105.00		1.00	1.28	11.195	12.31	236.14	0.750	0.000	5.00	17.609	13.21	162.6	0.0	628.4
110.00		1.00	1.29	11.305	12.44	231.65	0.750	0.000	5.00	17.195	12.90	160.4	0.0	613.5
115.00		1.00	1.30	11.412	12.55	227.06	0.750	0.000	5.00	16.781	12.59	158.0	0.0	598.7
120.00		1.00	1.32	11.514	12.67	222.38	0.750	0.000	5.00	16.367	12.27	155.5	0.0	583.8
125.00		1.00	1.33	11.614	12.78	217.61	0.750	0.000	5.00	15.952	11.96	152.8	0.0	568.9
130.00		1.00	1.34	11.710	12.88	212.76	0.750	0.000	5.00	15.538	11.65	150.1	0.0	554.0
131.74	Bot - Section 4	1.00	1.34	11.743	12.92	211.05	0.750	0.000	1.74	5.320	3.99	51.5	0.0	189.7
135.00		1.00	1.35	11.803	12.98	207.84	0.750	0.000	3.26	9.942	7.46	96.8	0.0	664.8
136.99	Top - Section 3	1.00	1.35	11.840	13.02	205.86	0.750	0.000	1.99	5.999	4.50	58.6	0.0	401.0
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	208.81	0.750	0.000	0.01	0.020	0.01	0.2	0.0	0.6
140.00		1.00	1.36	11.894	13.08	205.81	0.750	0.000	3.00	8.904	6.68	87.4	0.0	282.3
145.00		1.00	1.37	11.982	13.18	200.76	0.750	0.000	5.00	14.508	10.88	143.4	0.0	460.0
146.00	Appurtenance(s)	1.00	1.37	12.000	13.20	199.74	0.750	0.000	1.00	2.852	2.14	28.2	0.0	90.4
146.50	Appurtenance(s)	1.00	1.37	12.008	13.21	199.23	0.750	0.000	0.50	1.420	1.06	14.1	0.0	45.0
147.00	Appurtenance(s)	1.00	1.37	12.017	13.22	198.72	0.750	0.000	0.50	1.416	1.06	14.0	0.0	44.9
150.00		1.00	1.38	12.068	13.27	195.64	0.750	0.000	3.00	8.406	6.30	83.7	0.0	266.5
155.00		1.00	1.39	12.152	13.37	190.46	0.750	0.000	5.00	13.679	10.26	137.1	0.0	433.5
160.00		1.00	1.40	12.233	13.46	185.22	0.750	0.000	5.00	13.265	9.95	133.9	0.0	420.3
165.00		1.00	1.41	12.313	13.54	179.93	0.750	0.000	5.00	12.851	9.64	130.5	0.0	407.1
167.00	Appurtenance(s)	1.00	1.41	12.344	13.58	177.80	0.750	0.000	2.00	5.024	3.77	51.2	0.0	159.1
170.00		1.00	1.42	12.390	13.63	174.58	0.750	0.000	3.00	7.412	5.56	75.8	0.0	234.7
175.00		1.00	1.42	12.466	13.71	169.19	0.750	0.000	5.00	12.022	9.02	123.6	0.0	380.6

Wind Loading - Shaft

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 43



177.00 Appurtenance(s)	1.00	1.43	12.496	13.75	167.01	0.750	0.000	2.00	4.693	3.52	48.4	0.0	148.5
180.00	1.00	1.43	12.540	13.79	163.74	0.750	0.000	3.00	6.915	5.19	71.5	0.0	218.8
Totals:								180.00			5,603.6		36,651.2

Discrete Appurtenance Forces

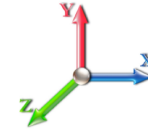
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor	x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	177.00	Commscope	3	12.496	13.746	0.55	0.75	20.43	232.20	0.000	0.000	280.82	0.00	0.00	
2	177.00	RFS APXVTM14-C-I20	3	12.496	13.746	0.59	0.75	11.27	168.00	0.000	0.000	154.90	0.00	0.00	
3	177.00	Platform w/ Hand Rails	1	12.496	13.746	1.00	1.00	35.00	2000.00	0.000	0.000	481.10	0.00	0.00	
4	177.00	ALU TD-RRH8x20-25	3	12.496	13.746	0.50	0.75	6.11	210.00	0.000	0.000	83.92	0.00	0.00	
5	177.00	ALU 800 MHz	6	12.496	13.746	0.50	0.75	7.51	318.00	0.000	0.000	103.19	0.00	0.00	
6	177.00	ALU 1900 MHz	3	12.496	13.746	0.50	0.75	5.73	180.00	0.000	0.000	78.74	0.00	0.00	
7	177.00	Sitepro PRK-1245L	1	12.496	13.746	1.00	1.00	9.50	464.91	0.000	0.000	130.58	0.00	0.00	
8	167.00	Sitepro RMQP-4096-HK	1	12.344	13.578	1.00	1.00	46.00	2280.00	0.000	0.000	624.61	0.00	0.00	
9	167.00	RFS	3	12.344	13.578	0.52	0.75	31.88	384.00	0.000	0.000	432.85	0.00	0.00	
10	167.00	Ericsson Radio 4449	3	12.344	13.578	0.50	0.75	2.49	222.00	0.000	0.000	33.77	0.00	0.00	
11	167.00	RFS	3	12.344	13.578	0.55	0.75	8.61	97.50	0.000	0.000	116.88	0.00	0.00	
12	147.00	Antel BXA-70063/6CF	3	12.017	13.219	0.56	0.80	12.72	51.00	0.000	0.000	168.11	0.00	0.00	
13	146.50	Low Profile Platform	1	12.008	13.209	1.00	1.00	22.00	1500.00	0.000	0.000	290.60	0.00	0.00	
14	146.50	Antel LPA-80063/4CF	2	12.008	13.209	0.74	0.80	9.15	40.00	0.000	0.000	120.88	0.00	0.00	
15	146.50	Antel BXA-171063/8CF-2	1	12.008	13.209	0.67	0.80	1.98	10.50	0.000	0.000	26.10	0.00	0.00	
16	146.50	Antel BXA-171085-8CF-2	2	12.008	13.209	0.67	0.80	3.95	21.00	0.000	0.000	52.19	0.00	0.00	
17	146.50	Antel	4	12.008	13.209	1.36	0.80	14.20	48.00	0.000	0.000	187.55	0.00	0.00	
18	146.00	RFS FD9R6004/2C-3	6	12.000	13.200	0.54	0.80	1.16	18.60	0.000	0.000	15.28	0.00	0.00	
19	137.00	Powerwave LGP21401	6	11.840	13.024	0.80	0.80	6.19	84.60	0.000	0.000	80.64	0.00	0.00	
20	137.00	T-Arms	3	11.840	13.024	0.56	0.75	13.50	1050.00	0.000	0.000	175.82	0.00	0.00	
21	137.00	7770	6	11.840	13.024	0.58	0.80	19.31	210.00	0.000	0.000	251.46	0.00	0.00	
22	137.00	OPA65R-KE6D	1	11.840	13.024	0.80	0.80	10.30	60.20	0.000	0.000	134.10	0.00	0.00	
23	137.00	OPA65R-BU8DA	2	11.840	13.024	0.69	0.80	24.89	153.00	0.000	0.000	324.19	0.00	0.00	
24	137.00	DMP65R-BU6DA	1	11.840	13.024	0.80	0.80	10.17	79.40	0.000	0.000	132.43	0.00	0.00	
25	137.00	DMP65R-BU8DA	2	11.840	13.024	0.69	0.80	24.59	191.40	0.000	0.000	320.25	0.00	0.00	
26	137.00	(3) T-Arm Kit	1	11.840	13.024	1.00	1.00	16.50	500.00	0.000	0.000	214.90	0.00	0.00	
27	137.00	2Powerwave 1903	6	11.840	13.024	0.67	0.80	1.09	33.00	0.000	0.000	14.18	0.00	0.00	
28	137.00	4449 B5/B12	3	11.840	13.024	0.54	0.80	3.17	213.00	0.000	0.000	41.26	0.00	0.00	
29	137.00	RRUS 8843 B2 B66A	3	11.840	13.024	0.54	0.80	2.64	216.00	0.000	0.000	34.35	0.00	0.00	
30	137.00	Raycap DC6-48-60-18-8F	1	11.840	13.024	0.80	0.80	0.74	31.80	0.000	0.000	9.59	0.00	0.00	
31	137.00	Raycap	1	11.840	13.024	0.80	0.80	3.82	16.00	0.000	0.000	49.80	0.00	0.00	
32	137.00	Andrew ABT-DF-DMADBH	3	11.840	13.024	0.78	0.80	0.12	3.30	0.000	0.000	1.53	0.00	0.00	
33	50.00	Stand Off	1	9.576	10.534	1.00	1.00	2.63	40.00	0.000	0.000	27.70	0.00	0.00	
34	50.00	GPS	1	9.576	10.534	1.00	1.00	1.00	10.00	0.000	0.000	10.53	0.00	0.00	

Totals: 11,137.41

5,204.82

Total Applied Force Summary

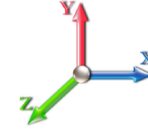
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		155.23	1779.81	0.00	0.00
10.00		152.68	1753.35	0.00	0.00
15.00		150.14	1726.89	0.00	0.00
20.00		156.60	1700.43	0.00	0.00
25.00		161.31	1673.97	0.00	0.00
30.00		164.68	1647.51	0.00	0.00
35.00		167.08	1621.05	0.00	0.00
40.00		168.72	1594.59	0.00	0.00
45.00		169.75	1568.13	0.00	0.00
45.42		14.03	129.48	0.00	0.00
50.00	(2) attachments	196.91	2576.47	0.00	0.00
52.75		94.95	1495.42	0.00	0.00
55.00		77.62	614.06	0.00	0.00
60.00		173.21	1347.76	0.00	0.00
65.00		172.69	1324.59	0.00	0.00
70.00		171.89	1301.41	0.00	0.00
75.00		170.85	1278.23	0.00	0.00
80.00		169.57	1255.05	0.00	0.00
85.00		168.09	1231.87	0.00	0.00
90.00		166.42	1208.69	0.00	0.00
91.66		54.75	396.95	0.00	0.00
95.00		110.86	1226.14	0.00	0.00
98.00		98.78	1086.75	0.00	0.00
100.00		65.56	327.12	0.00	0.00
105.00		162.64	806.01	0.00	0.00
110.00		160.38	791.13	0.00	0.00
115.00		157.98	776.24	0.00	0.00
120.00		155.47	761.36	0.00	0.00
125.00		152.84	746.47	0.00	0.00
130.00		150.11	731.59	0.00	0.00
131.74		51.54	251.58	0.00	0.00
135.00		96.81	780.45	0.00	0.00
136.99		58.59	471.81	0.00	0.00
137.00	(39) attachments	1784.68	2842.57	0.00	0.00
140.00		87.37	377.00	0.00	0.00
145.00		143.42	578.15	0.00	0.00
146.00	(6) attachments	43.51	132.64	0.00	0.00
146.50	(10) attachments	691.39	1676.32	0.00	0.00
147.00	(3) attachments	182.14	101.45	0.00	0.00
150.00		83.70	299.93	0.00	0.00
155.00		137.14	489.29	0.00	0.00
160.00		133.88	476.06	0.00	0.00
165.00		130.54	462.83	0.00	0.00
167.00	(10) attachments	1259.29	3164.93	0.00	0.00
170.00		75.77	246.15	0.00	0.00
175.00		123.65	399.67	0.00	0.00

Total Applied Force Summary

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 46



177.00	(20) attachments	1361.65	3729.27	0.00	0.00
180.00		71.54	218.83	0.00	0.00
	Totals:	10,808.39	53,177.49	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

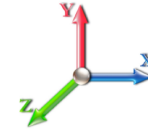
Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	7.442	0.00	0.80
10.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	7.442	0.00	0.80
15.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	7.442	0.00	0.80
20.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	7.896	0.00	0.80
25.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.011	0.000	8.276	0.00	0.80
30.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	8.600	0.00	0.80
35.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	8.883	0.00	0.80
40.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	9.137	0.00	0.80
45.00	1/2" Coax	Yes	5.00	0.000	0.65	0.27	0.00	0.012	0.000	9.366	0.00	0.80
45.42	1/2" Coax	Yes	0.42	0.000	0.65	0.02	0.00	0.012	0.000	9.384	0.00	0.07
50.00	1/2" Coax	Yes	4.58	0.000	0.65	0.25	0.00	0.013	0.000	9.576	0.00	0.73
Totals:											0.0	8.0

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.0D + 1.0W 60 mph Wind	Iterations 24
Dead Load Factor 1.00	
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	-53.17	-10.83	0.00	-1351.1	0.00	1351.15	6607.78	3303.89	16218.3	8051.48	0.00	0.000	0.000	0.176
5.00	-51.39	-10.71	0.00	-1297.0	0.00	1297.01	6536.37	3268.19	15777.9	7832.86	0.02	-0.044	0.000	0.173
10.00	-49.62	-10.60	0.00	-1243.4	0.00	1243.45	6463.73	3231.87	15340.5	7615.67	0.09	-0.089	0.000	0.171
15.00	-47.89	-10.48	0.00	-1190.4	0.00	1190.47	6389.86	3194.93	14906.0	7399.99	0.21	-0.134	0.000	0.168
20.00	-46.18	-10.36	0.00	-1138.0	0.00	1138.07	6314.77	3157.38	14474.7	7185.88	0.38	-0.180	0.000	0.166
25.00	-44.50	-10.22	0.00	-1086.2	0.00	1086.29	6238.44	3119.22	14046.7	6973.42	0.59	-0.225	0.000	0.163
30.00	-42.84	-10.09	0.00	-1035.1	0.00	1035.17	6160.89	3080.44	13622.3	6762.68	0.85	-0.271	0.000	0.160
35.00	-41.22	-9.95	0.00	-984.73	0.00	984.73	6082.10	3041.05	13201.4	6553.75	1.16	-0.317	0.000	0.157
40.00	-39.61	-9.80	0.00	-935.01	0.00	935.01	6002.09	3001.05	12784.3	6346.69	1.52	-0.364	0.000	0.154
45.00	-38.04	-9.64	0.00	-886.01	0.00	886.01	5920.85	2960.42	12371.1	6141.58	1.92	-0.410	0.000	0.151
45.42	-37.91	-9.64	0.00	-882.00	0.00	882.00	5914.02	2957.01	12336.9	6124.58	1.96	-0.414	0.000	0.150
50.00	-35.33	-9.44	0.00	-837.83	0.00	837.83	5838.38	2919.19	11962.1	5938.49	2.38	-0.457	0.000	0.147
52.75	-33.83	-9.35	0.00	-811.87	0.00	811.87	4942.80	2471.40	10222.2	5074.76	2.65	-0.483	0.000	0.167
55.00	-33.21	-9.29	0.00	-790.84	0.00	790.84	4913.65	2456.82	10072.3	5000.32	2.88	-0.504	0.000	0.165
60.00	-31.86	-9.13	0.00	-744.41	0.00	744.41	4847.98	2423.99	9741.07	4835.88	3.44	-0.555	0.000	0.161
65.00	-30.53	-8.97	0.00	-698.78	0.00	698.78	4781.08	2390.54	9412.76	4672.89	4.04	-0.605	0.000	0.156
70.00	-29.22	-8.81	0.00	-653.94	0.00	653.94	4712.96	2356.48	9087.49	4511.41	4.71	-0.655	0.000	0.151
75.00	-27.94	-8.65	0.00	-609.90	0.00	609.90	4643.60	2321.80	8765.44	4351.53	5.42	-0.705	0.000	0.146
80.00	-26.68	-8.48	0.00	-566.67	0.00	566.67	4573.02	2286.51	8446.74	4193.32	6.18	-0.754	0.000	0.141
85.00	-25.44	-8.32	0.00	-524.26	0.00	524.26	4501.21	2250.60	8131.55	4036.84	7.00	-0.803	0.000	0.136
90.00	-24.23	-8.15	0.00	-482.66	0.00	482.66	4428.17	2214.08	7820.02	3882.19	7.87	-0.851	0.000	0.130
91.66	-23.83	-8.10	0.00	-469.10	0.00	469.10	4403.60	2201.80	7717.21	3831.15	8.17	-0.867	0.000	0.128
95.00	-22.60	-7.98	0.00	-442.08	0.00	442.08	4350.76	2175.38	7506.87	3726.73	8.78	-0.899	0.000	0.124
98.00	-21.51	-7.87	0.00	-418.17	0.00	418.17	2393.56	1196.78	4158.66	2064.53	9.36	-0.927	0.000	0.212
100.00	-21.18	-7.82	0.00	-402.39	0.00	402.39	2381.84	1190.92	4099.59	2035.21	9.75	-0.946	0.000	0.207
105.00	-20.37	-7.67	0.00	-363.30	0.00	363.30	2351.72	1175.86	3952.36	1962.12	10.78	-1.012	0.000	0.194
110.00	-19.57	-7.51	0.00	-324.98	0.00	324.98	2320.37	1160.18	3805.57	1889.24	11.87	-1.076	0.000	0.180
115.00	-18.79	-7.36	0.00	-287.42	0.00	287.42	2287.79	1143.89	3659.35	1816.65	13.03	-1.138	0.000	0.166
120.00	-18.03	-7.21	0.00	-250.62	0.00	250.62	2253.98	1126.99	3513.86	1744.43	14.26	-1.196	0.000	0.152
125.00	-17.28	-7.05	0.00	-214.59	0.00	214.59	2218.95	1109.47	3369.25	1672.64	15.54	-1.250	0.000	0.136
130.00	-16.55	-6.90	0.00	-179.33	0.00	179.33	2182.68	1091.34	3225.66	1601.35	16.87	-1.300	0.000	0.120
131.74	-16.29	-6.84	0.00	-167.31	0.00	167.31	2169.75	1084.87	3175.87	1576.63	17.35	-1.316	0.000	0.114
135.00	-15.51	-6.74	0.00	-145.02	0.00	145.02	2145.19	1072.59	3083.25	1530.65	18.26	-1.345	0.000	0.102
136.99	-15.04	-6.67	0.00	-131.59	0.00	131.59	1823.96	911.98	2634.70	1307.98	18.83	-1.361	0.000	0.109
137.00	-12.24	-4.82	0.00	-131.55	0.00	131.55	1823.92	911.96	2634.55	1307.90	18.83	-1.361	0.000	0.107
140.00	-11.86	-4.73	0.00	-117.09	0.00	117.09	1806.41	903.20	2565.29	1273.52	19.69	-1.386	0.000	0.099
145.00	-11.29	-4.58	0.00	-93.45	0.00	93.45	1776.24	888.12	2450.41	1216.49	21.16	-1.423	0.000	0.083
146.00	-11.16	-4.53	0.00	-88.87	0.00	88.87	1770.06	885.03	2427.52	1205.13	21.46	-1.430	0.000	0.080
146.50	-9.50	-3.80	0.00	-86.60	0.00	86.60	1766.95	883.47	2416.09	1199.45	21.61	-1.433	0.000	0.078
147.00	-9.40	-3.62	0.00	-84.71	0.00	84.71	1763.83	881.91	2404.67	1193.78	21.76	-1.436	0.000	0.076
150.00	-9.10	-3.53	0.00	-73.86	0.00	73.86	1744.84	872.42	2336.33	1159.85	22.67	-1.455	0.000	0.069
155.00	-8.61	-3.38	0.00	-56.22	0.00	56.22	1712.21	856.11	2223.20	1103.69	24.21	-1.482	0.000	0.056
160.00	-8.14	-3.24	0.00	-39.32	0.00	39.32	1678.36	839.18	2111.17	1048.07	25.77	-1.503	0.000	0.042
165.00	-7.68	-3.10	0.00	-23.13	0.00	23.13	1643.27	821.64	2000.39	993.08	27.36	-1.519	0.000	0.028
167.00	-4.55	-1.75	0.00	-16.93	0.00	16.93	1628.90	814.45	1956.47	971.27	28.00	-1.523	0.000	0.020
170.00	-4.30	-1.67	0.00	-11.67	0.00	11.67	1606.96	803.48	1891.02	938.78	28.95	-1.528	0.000	0.015
175.00	-3.91	-1.54	0.00	-3.31	0.00	3.31	1569.42	784.71	1783.19	885.25	30.56	-1.533	0.000	0.006
177.00	-0.22	-0.08	0.00	-0.23	0.00	0.23	1554.06	777.03	1740.53	864.07	31.20	-1.533	0.000	0.000

Calculated Forces

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 49
Struct Class: II		



180.00	0.00	-0.07	0.00	0.00	0.00	0.00	0.00	1530.65	765.32	1677.06	832.56	32.16	-1.533	0.000	0.000
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Final Analysis Summary

Structure: CT01722-S-SBA	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: 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 + 1.6W 93 mph Wind	41.6	0.00	63.75	0.00	0.00	5225.85
0.9D + 1.6W 93 mph Wind	41.6	0.00	47.80	0.00	0.00	5167.64
1.2D + 1.0Di + 1.0Wi 50 mph Wind	12.6	0.00	105.87	0.00	0.00	1641.33
1.2D + 1.0E	2.4	0.00	63.81	0.00	0.00	317.81
0.9D + 1.0E	2.4	0.00	47.86	0.00	0.00	313.91
1.0D + 1.0W 60 mph Wind	10.8	0.00	53.17	0.00	0.00	1351.15

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 93 mph Wind	-24.08	-30.50	0.00	-1621.1	0.00	-1621.1	2393.56	1196.7	4158.66	2064.53	98.00	0.796
0.9D + 1.6W 93 mph Wind	-17.63	-30.07	0.00	-1592.8	0.00	-1592.8	2393.56	1196.7	4158.66	2064.53	98.00	0.780
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-54.22	-9.67	0.00	-524.44	0.00	-524.44	2393.56	1196.7	4158.66	2064.53	98.00	0.277
1.2D + 1.0E	-25.96	-1.67	0.00	-122.80	0.00	-122.80	2393.56	1196.7	4158.66	2064.53	98.00	0.070
0.9D + 1.0E	-19.47	-1.64	0.00	-120.78	0.00	-120.78	2393.56	1196.7	4158.66	2064.53	98.00	0.067
1.0D + 1.0W 60 mph Wind	-21.51	-7.87	0.00	-418.17	0.00	-418.17	2393.56	1196.7	4158.66	2064.53	98.00	0.212

Base Plate Summary

Structure: CT01722-S-SB	Code: EIA/TIA-222-G	10/15/2020
Site Name: South Canton	Exposure: C	
Height: 180.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 51



Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 60.00	Bolt Circle: 68.62
Moment (kip-ft): 4923.80	Width (in): 74.62	Number Bolts: 28.00
Axial (kip): 53.10	Style: Polygon	Bolt Type: 2.25" 18J
Shear (kip): 38.70	Polygon Sides: 16.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 0.00	Yield (ksi): 75.00
Moment (kip-ft): 5225.85	Effective Len (in): 11.70	Ultimate (ksi): 100.00
Axial (kip): 63.75	Moment (kip-in): 578.98	Arrangement: Radial
Shear (kip): 41.64	Allow Stress (ksi): 81.00	Cluster Dist (in): 0.00
	Applied Stress (ksi): 38.88	Start Angle (deg): 0.00
	Stress Ratio: 0.48	Compression
		Force (kip): 134.33
		Allowable (kip): 260.00
		Ratio: 0.53
		Tension
		Force (kip): 126.77
		Allowable (kip): 260.00
		Ratio: 0.50



Monopole Mat Foundation Design

Date
10/15/2020

Customer Name:	T-Mobile	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	180
Site Number:	CT01722-S-SBA	Engineer Name:	D. Zhou
Engr. Number:	98773	Manager Login Req'd:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

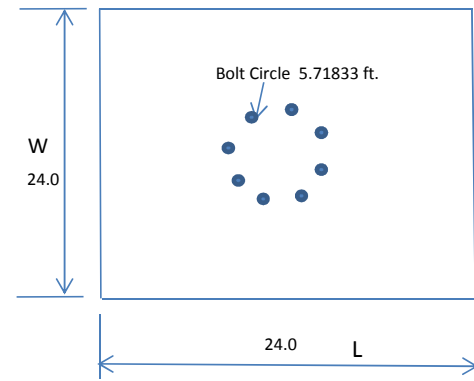
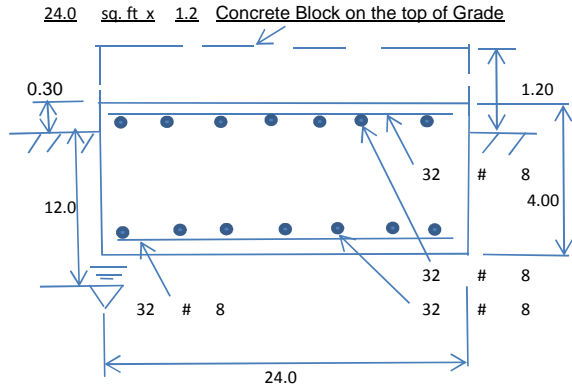
Base Reactions (Factored):

Axial Load (Kips):	63.7	Shear Force (Kips):	41.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5225.8

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	Yes
Anchor Bolt Circle (ft.):	5.72	Depth of Base BG (ft.):	3.70
Thickness of Pad (ft):	4.00		
Length of Pad (ft.):	24	Width of Pad (ft.):	24
Add Concrete Width & Length (ft.)	24	Add Concrete Thick. (ft)	1.2
Final Length of pad (ft)	24.0	Final width of pad (ft):	24.0



Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Pad Rebar Yield (Ksi):	60	Tie Spacing (in):	12.0	
Pad Steel Rebar Size (#):	8			
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32	

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

Water Table B.G.S. (ft):	12.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	13000	Ultimate Skin Friction:	0	Psf	Angle from Botm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Botm 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):	99.06
Total Dry Concrete Volume (cu. Ft.):	2964.38	Total Dry Concrete Weight (Kips):	444.66
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	444.66	Total Vertical Load on Base (Kips):	508.36

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	5924	<	Allowable Factored Soil Bearing (psf):	9750	0.61	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6636.5	>	Design Factored Momont (kips-ft):	5394	0.81	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.23					OK!

Load/
Capacity
Ratio

Check the capacities of Reinforcing Concrete:

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

Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1052.9	>	One-Way Factored Shear (L-D. Kips):	382.9	0.36	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1052.9	>	One-Way Factored Shear (W-D., Kips):	382.9	0.36	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1216.3	>	One-Way Factored Shear (C-C, Kips):	824.5	0.68	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0020	OK!	Lower Steel Pad Reinf. Ratio (W-Direct.):	0.0020		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	4944.8	>	Moment at Bottom (L-Direct. K-Ft):	992.2	0.20	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	4944.8	>	Moment at Bottom (W-Direct. K-Ft):	992.2	0.20	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	6955.8	>	Moment at Bottom (C-C Dir. K-Ft):	1403.1	0.20	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0020	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0020		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	4944.8	>	Moment at the top (L-Dir Kips-Ft):	449.7	0.09	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	4944.8	>	Moment at the top (W-Dir Kips-Ft):	449.7	0.09	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	6955.8	>	Moment at the top (C-C Direc. K-Ft):	671.2	0.10	OK!

EXHIBIT 8

Antenna Mount Structural Analysis



Source: Sitepro1 Date: 08.01.2019

SBA Site: CT01722-S South Canton
T-Mobile Site Number: CTHA529A
Project: L600 Project

Prepared For: T-Mobile

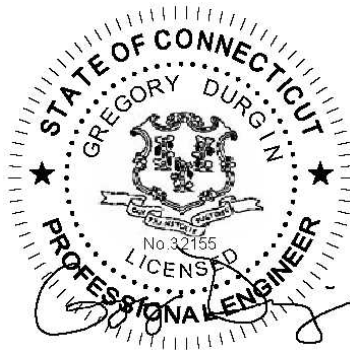
Mount Description: (1) Platform w/ Handrail and Kicker
Sitepro1 RMQP-4096-HK

Site Location: 96 Powder Mill Road, Canton, CT
Hartford County
41.8342°, -72.9327°

Design Codes: ANSI/TIA-222-G
IBC 2015 w/ 2018 CT Building Code

Analysis Load Case: T-Mobile Final Configuration

Analysis Result: **Adequate @ 60% - Once Replaced**
See Conclusion



Revision 0
August 19, 2019

CTHA529A_A and E_Structural_L600 08.19.19 - Pass with Replacement

1.0 Introduction

An antenna mount structural analysis has been performed on T-Mobile's **replacement** mount assembly located at the CT01722-S South Canton communications site in Hartford County, CT considering the final equipment loading configuration listed in Section 3.0.

2.0 Analysis Criteria

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

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

Wind w/o ice = 120 mph (3-sec gust Ultimate Wind Speed)
Wind w/o ice = 93 mph (3-sec gust Basic Wind Speed)
Wind w/ ice = 50 mph (3-sec gust Basic) with 1" Design Ice, Escalated with Height
Topographic Category 1; Exposure Category C; Structure Class (Risk Category) II
Gust Effect Factor = 1.0; Directionality Factor = 0.95
Site Class D "Stiff Soil"; $F_a = 1.6$; $F_v = 2.4$; $S_{DS} = 0.192$
Maintenance Loads**:
$L_m = 500$ lb @ Worst Case Mount Pipe (Concurrent with 30 mph Wind Speed)
$L_v = 250$ lb @ Worst Case Member Location (Center Span or Cantilever)
** The mount face horizontal boom rails of T-Arm mount assemblies are not rated for rigging, hoisting or maintenance loading.

The following documents were provided:

- Colo Application
SBA 2.5 L600, App # 119279 v2.
- RFDS
T-Mobile L600 Project, v2.1, CTHA529A, 5/14/19.

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

3.0 Appurtenance Information

Table 3.1 – T-Mobile Final Configuration^{1,2,3}

COR	(Quantity) Appurtenance Make/Model	Mount Description
167.0'±	(3) RFS APXV18206517S-C-A20	(1) Platform w/ Handrail and Kicker • Sitepro1 RMQP-4096-HK
	(3) RFS APXVAARR24_43-U-NA20	
	(3) ERICSSON 4449 B71+B12 RRH	

1. Refer to antenna installation Construction Drawings (by others, when applicable) for additional information regarding final antenna and equipment orientations.
2. Panel antennas to be installed as follows:
 - 2.1. APXV18 panels to be installed on mount pipes in Position 1.
 - 2.2. AARR panels to be installed on mount pipe in Position 2.
3. RRH/TMA units to be installed as follows:
 - 3.1. 4449 RRHs to be installed on mount pipe behind panel in Position 2.

4.0 Analysis Results

Table 4.1 – Replacement Mount Capacity

Load Case	Governing Mount Component ¹	% Capacity ²	Result
Final T-Mobile Configuration	Standoff	24%	Adequate Once Replaced³
	Bottom Rail	13%	
	Bracing	28%	
	Pipe2.5STD Mount Pipe	33%	
	PRK Double Angles	45%	
	Handrail	60%	
	Connection Plates	40%	

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

Table 4.2 – Structural Component Material Strengths

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

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

5.0 Conclusion & Recommendations

Based on T-Mobile's final equipment loading configuration, the **replacement** mount assembly has sufficient capacity to support the loading considered in this analysis pursuant to the listed standards.

- Install **Replacement Platform Assembly**; attach to monopole shaft per manufacturer's specifications.
 - Sitepro1 RMQP-4096-HK, (1) total.
 - Sitepro1 RMQP + PRK1245 + HRK12.
 - 12'-6" Low Pro-Platform with Twelve 2-7/8" Antenna Mounting Pipes and Handrail.
 - Replacement mount to be installed in accordance with manufacturer's specifications and applicable Construction Drawings.

Installation Requirements:

- Antennas and equipment shall be installed centered vertically between the mount front face rails (limit vertical installation eccentricity) with a maximum vertical eccentricity of 12" for panels and 20" for RRHs. If this assumption is incorrect, the results of this analysis will be inaccurate and not valid.
- Panel antennas to be installed as follows:
 - APXV18 panels to be installed on mount pipes in Position 1.
 - AARR panels to be installed on mount pipe in Position 2.
- RRH/TMA units to be installed as follows:
 - 4449 RRHs to be installed on mount pipe behind panel in Position 2.

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

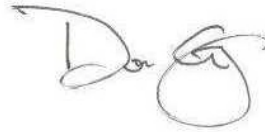
This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If any of the existing or proposed conditions (appurtenance loading, member sizes, etc.) reported in this analysis are not properly represented,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

Prepared by:



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

Reviewed and Approved by:



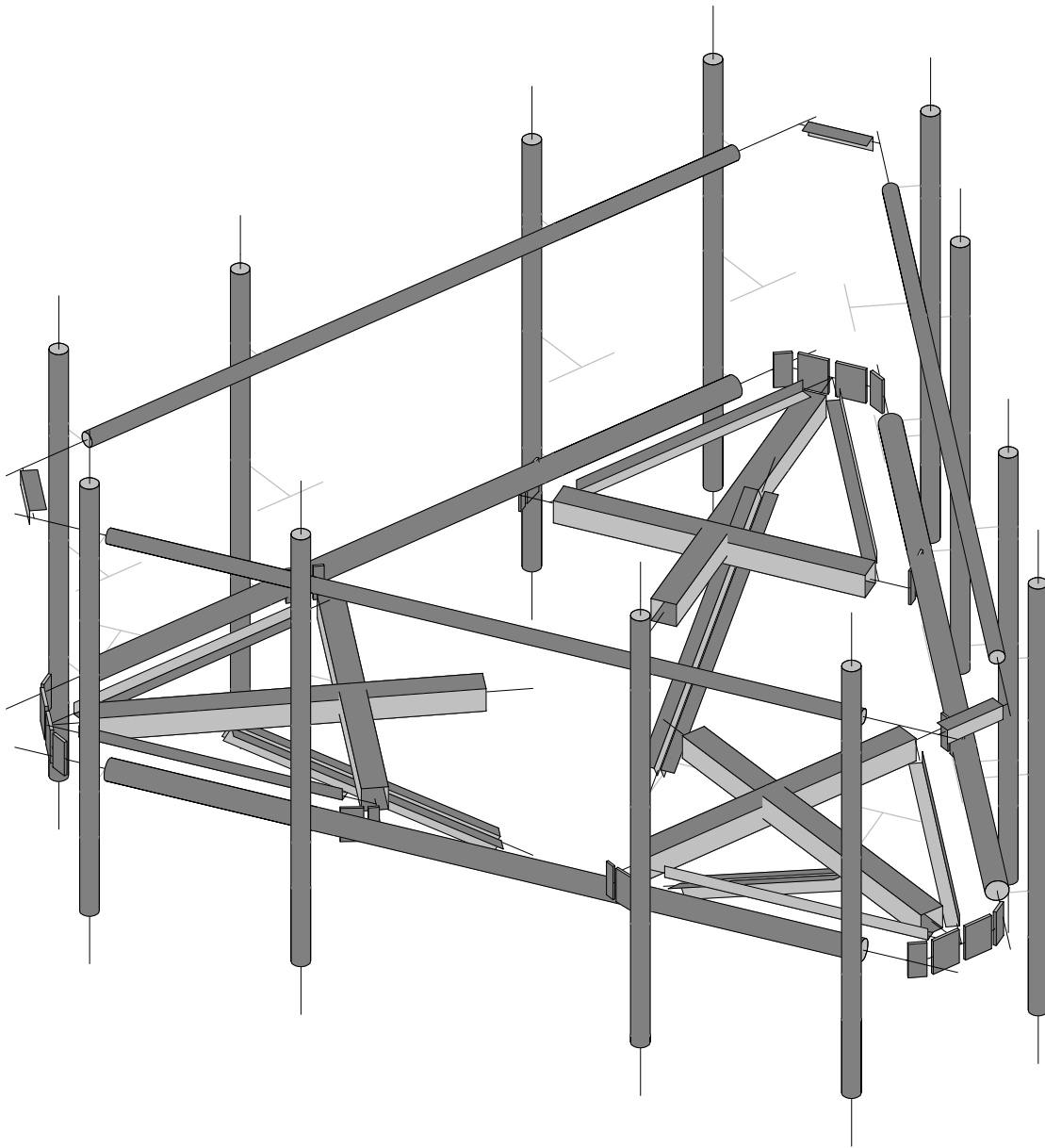
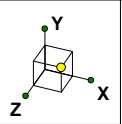
Don George, PE, SE, MLSE
208.602.6569
don.george@geostructural.com

6.0 Standard Conditions

- All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study to verify existing conditions and the results of this analysis are based solely on the information provided. It has been assumed that the tower, antenna support structure and foundation have been constructed according to the provided existing drawings, previous structural analysis reports, mapping documents, etc.
- The default Structure Classification is Class II in accordance with ANSI/TIA-222-G §A.2.2 & §A.15.3 and has been assumed for this analysis. The owner shall verify this classification conforms with original or desired reliability criteria.
- This analysis assumes that the structure has been properly installed and maintained in accordance with ANSI/TIA-222-G §15.5 and that no physical deterioration has occurred in any of the components of the structure. Damaged, missing, or rusted members were not considered.
- This analysis verifies the adequacy of the main components of the structure. Not all connections, welds, bolts, plates, etc. were individually detailed and analyzed. Where not specifically analyzed, the existing connection plates, welds, bolts, etc. were assumed adequate to develop the full capacity of the main structural members.
- No consideration has been made for unusual or extreme wind events, rime/in-cloud ice loadings, harmonic or nodal vibration, vortex shedding or other similar conditions.
- It is the owner's responsibility to determine the appropriate design wind speed and amount of ice accumulation beyond code minimum values that should be considered in the analysis.
- This analysis report does not constitute a maintenance and condition assessment. No certifications regarding maintenance and condition are expressed or implied. If desired, GeoStructural can provide these services under a subsequent contract.
- This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If desired, GeoStructural can provide these services under a subsequent contract.

7.0 Calculations & Software Output

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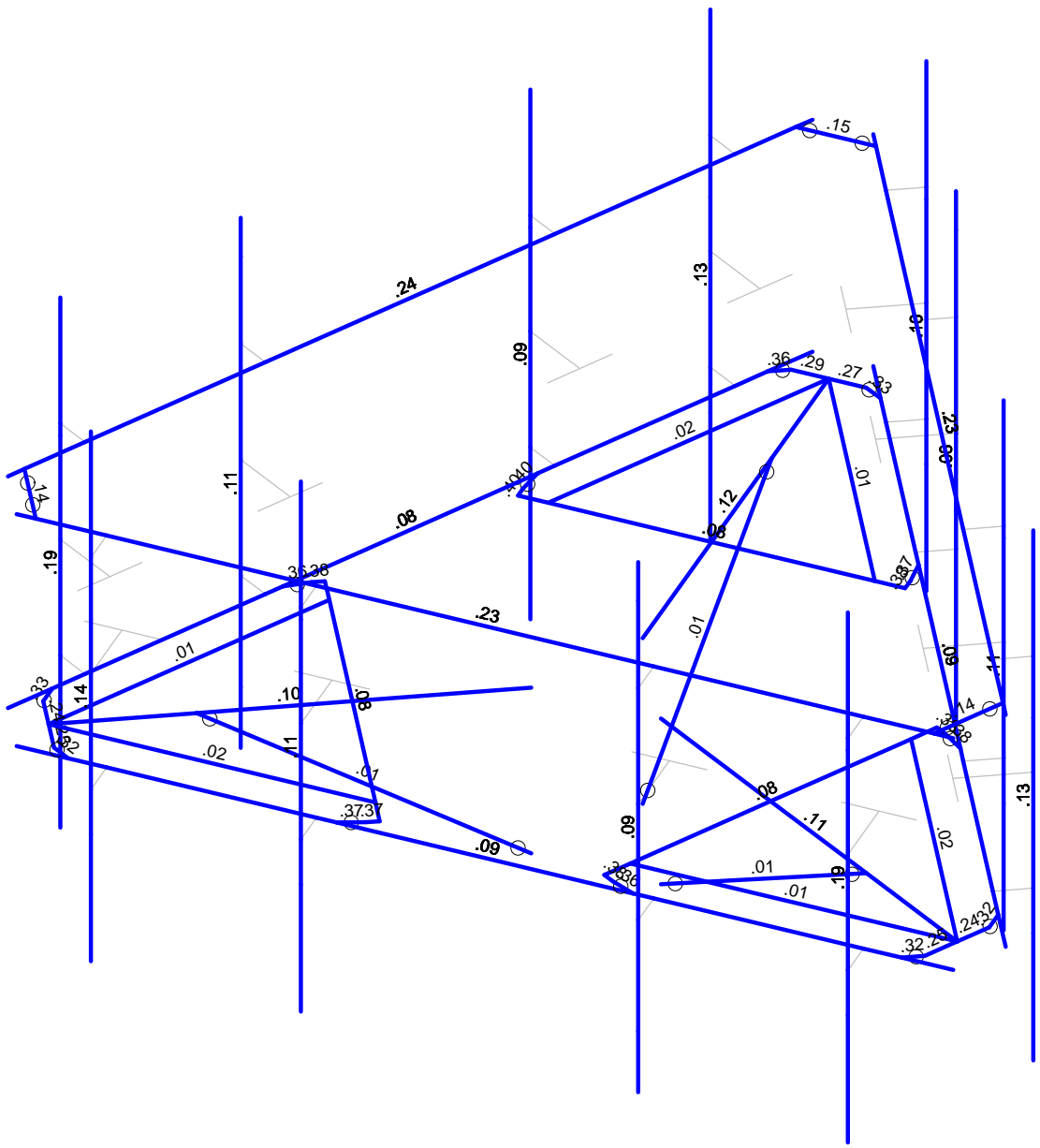
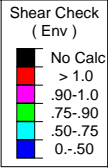
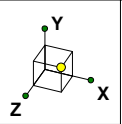
Jesse Drennen, PE

CTHA529A

SK - 1

Aug 19, 2019 at 9:15 AM

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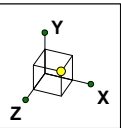


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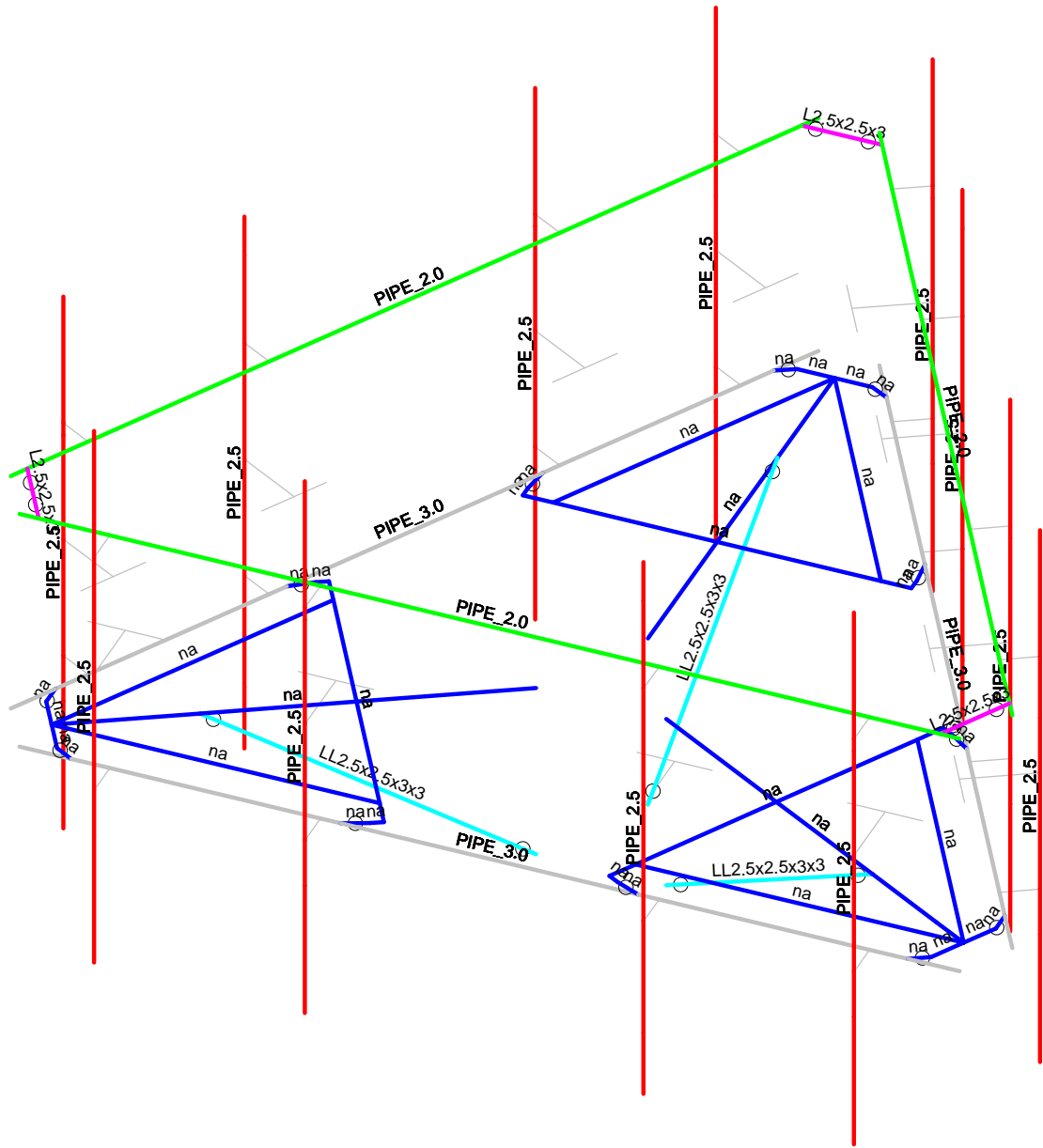
GeoStructural, LLC
Jesse Drennen, PE

CTHA529A

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CTHA529A_Mount Analysis_R0 19...



Section Sets	
na	na
PIPE_2.0	PIPE_2.0
PIPE_2.5	PIPE_2.5
PIPE_3.0	PIPE_3.0
L2.5x2.5x3	L2.5x2.5x3
LL2.5x2.5x3x3	LL2.5x2.5x3x3
RIGID	RIGID



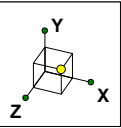
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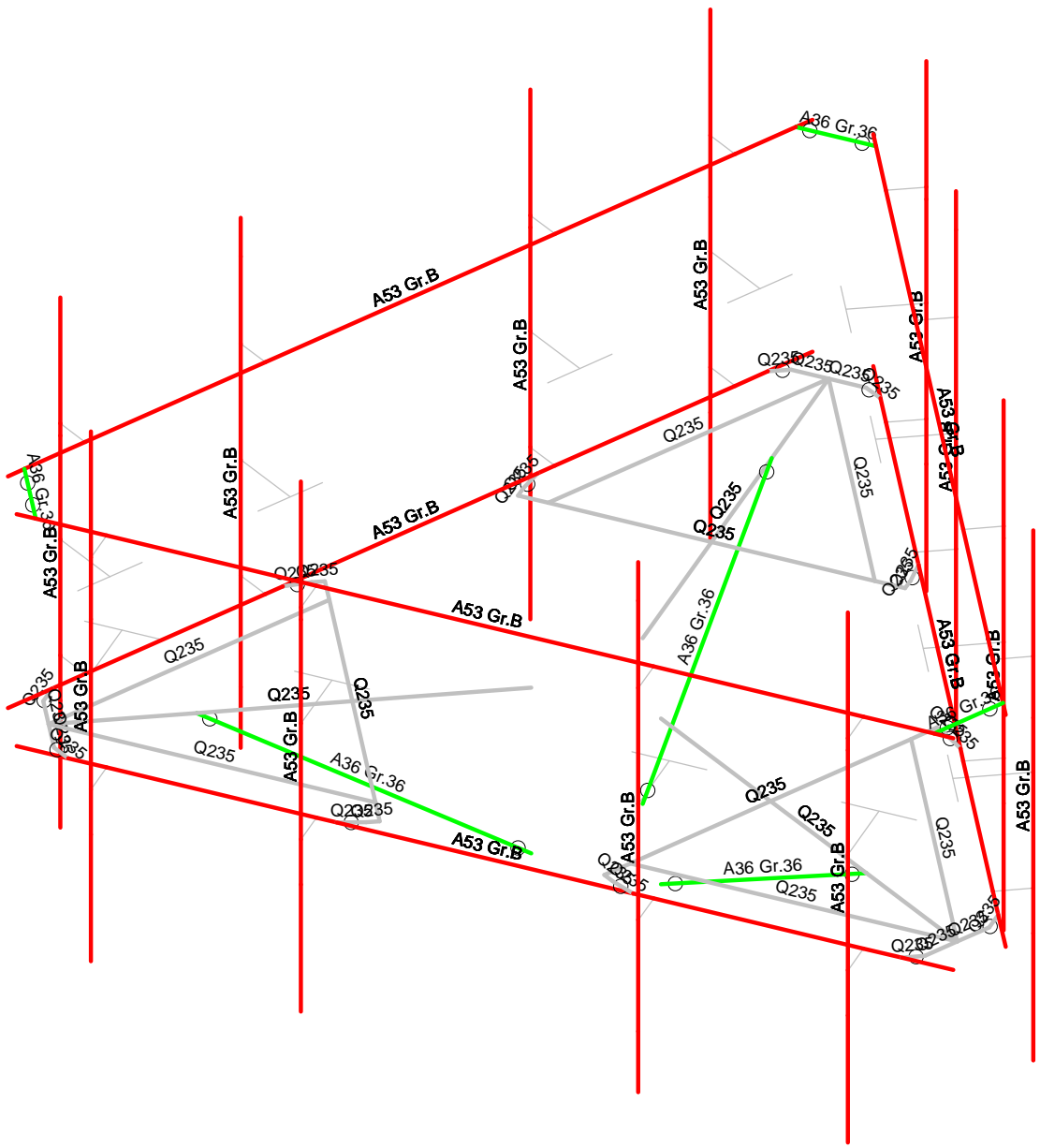
CTHA529A

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Material Sets	
■	RIGID
■	A36 Gr.36
■	A53 Gr.B
■	Q235

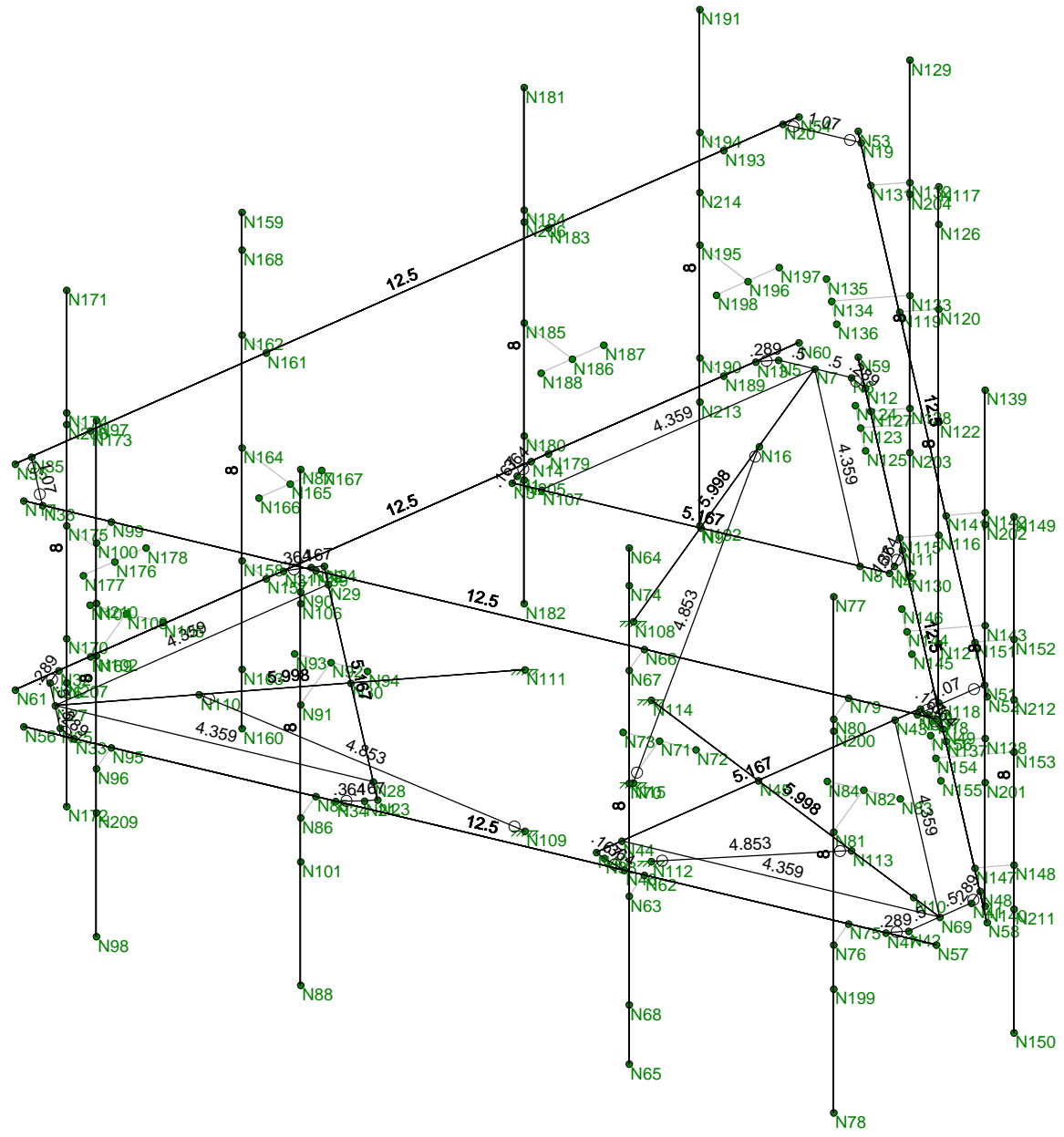
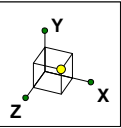


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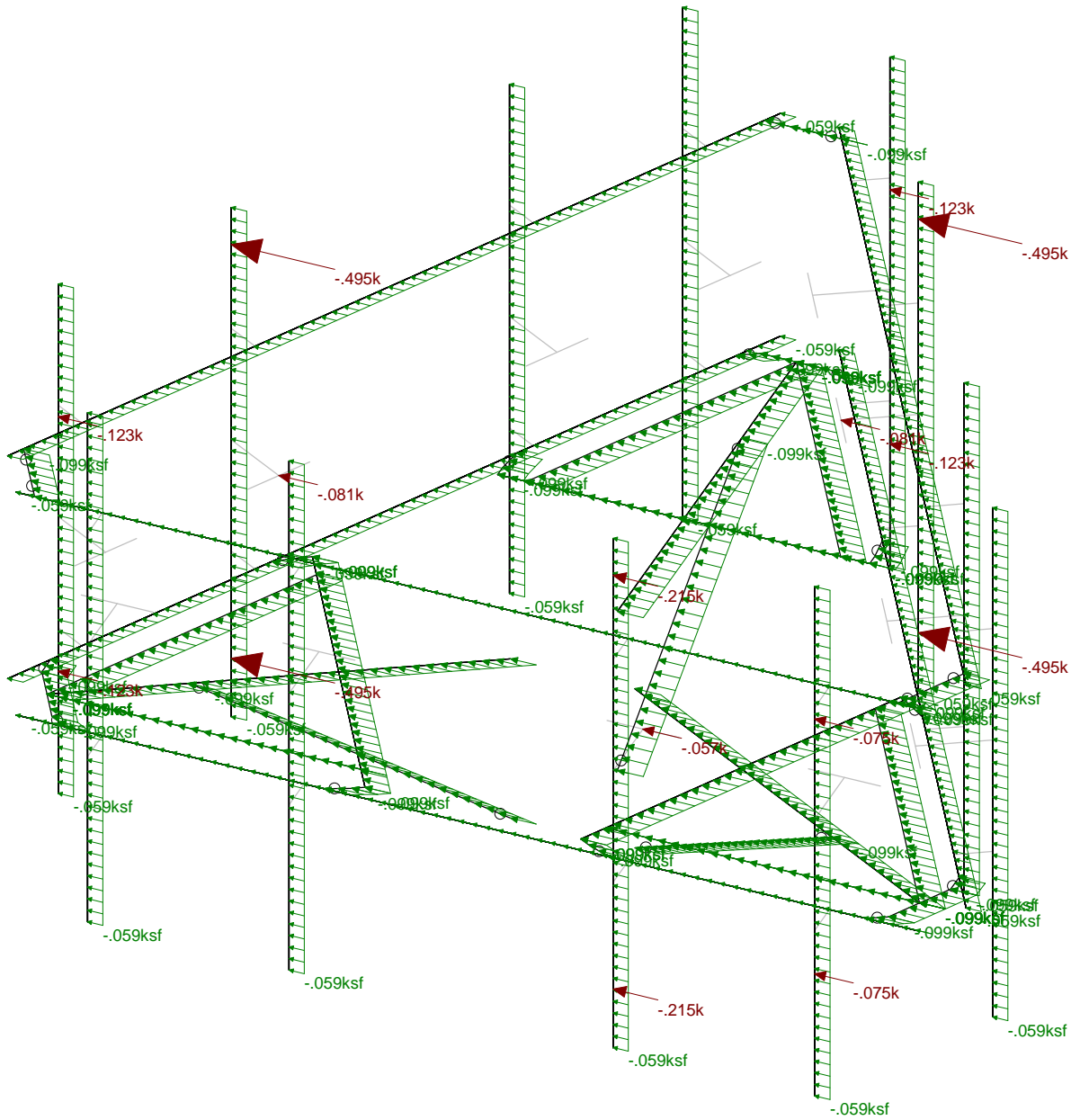
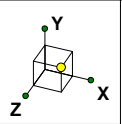


Member Length (ft) Displayed
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Loads: BLC 6, Wox
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CTHA529A

SK - 10

Aug 19, 2019 at 9:16 AM

CTHA529A_Mount Analysis_R0 19...



Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	D	DL		-1		16		9		
2	Di	SL				16		63		
3	Lm [500]	LL				1				
4	Lv [250]	LL				2				
5	Woz	WL				16		60		
6	Wox	WL				16		60		
7	Wiz	WL				16		60		
8	Wix	WL				16		60		
9	Ez	EL				16				
10	Ex	EL				16				

Load Combination Design

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



Load Combination Design (Continued)

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

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
3	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.49	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.49	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A500 Gr.B RND_1	29000	11154	.3	.65	.527	42	1.4	58	1.3
8	A500 Gr.B Rect 1	29000	11154	.3	.65	.527	46	1.4	58	1.3
9	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3
10	A500 Gr.42	29000	11154	.3	.65	.49	42	1.3	58	1.1
11	A500 Gr.46	29000	11154	.3	.65	.49	46	1.2	58	1.1
12	Q235	29000	11154	.3	.65	.49	34	1.5	58	1.2



Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	PIPE 1.5	PIPE 1.5	Beam	None	A53 Gr.B	Typical	.749	.293	.293	.586
2	PIPE 2.0	PIPE 2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	PIPE 2.5	PIPE 2.5	Beam	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	PIPE 3.0	PIPE 3.0	Beam	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5	PIPE 3.5	PIPE 3.5	Beam	None	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
6	PIPE 4.0	PIPE 4.0	Beam	None	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
7	PIPE 2.0X	PIPE 2.0X	Beam	None	A53 Gr.B	Typical	1.4	.827	.827	1.65
8	HSS2x2x3	HSS2x2x3	Beam	None	A500 Gr.B Rect	Typical	1.19	.641	.641	1.09
9	HSS3x3x3	HSS3x3x3	Beam	None	A500 Gr.B Rect	Typical	1.89	2.46	2.46	4.03
10	HSS4x4x3	HSS4x4x3	Beam	None	A500 Gr.B Rect	Typical	2.58	6.21	6.21	10
11	HSS4x4x4	HSS4x4x4	Beam	None	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
12	HSS5x5x4	HSS5x5x4	Beam	None	A500 Gr.B Rect	Typical	4.3	16	16	25.8
13	C3x3.5	C3x3.5	Beam	None	A36 Gr.36	Typical	1.09	.169	1.57	.023
14	C4x4.5	C4X4.5 HRA	Beam	None	A36 Gr.36	Typical	1.38	.289	3.65	.032
15	C5x6.7	C5x6.7	Beam	None	A36 Gr.36	Typical	1.97	.47	7.48	.055
16	L2.5x2.5x3	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical	.901	.535	.535	.011
17	L2.5x2.5x4	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	.692	.692	.026
18	L3x3x3	L3x3x3	Beam	None	A36 Gr.36	Typical	1.09	.948	.948	.014
19	L3x3x4	L3x3x4	Beam	None	A36 Gr.36	Typical	1.44	1.23	1.23	.031
20	L3x3x6	L3x3x6	Beam	None	A36 Gr.36	Typical	2.11	1.75	1.75	.101
21	L3.5x3.5x4	L3.5x3.5x4	Beam	None	A36 Gr.36	Typical	1.7	2	2	.039
22	L4x4x4	L4x4x4	Beam	None	A36 Gr.36	Typical	1.93	3	3	.044
23	LL2.5x2.5x3x3	LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical	1.8	2.46	1.07	.023

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N15	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N16						
3	N108	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N109	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N110						
6	N111	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
7	N112	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
8	N113						
9	N114	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N3	N1		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
2	M2	N1	N14		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
3	M3	N4	N2		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
4	M4	N2	N11		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
5	M5	N4	N3			HSS4x4x4	Beam	None	Q235	Typical_APP
6	M6	N16	N15			LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
7	M7	N17	N18			PIPE 2.0	Beam	None	A53 Gr.B	Typical
8	M8	N27	N25		90	1/2 x 6	Beam	None	Q235	Typical_APP
9	M9	N27	N26		90	1/2 x 6	Beam	None	Q235	Typical_APP
10	M10	N23	N21		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
11	M11	N21	N34		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
12	M12	N24	N22		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
13	M13	N22	N31		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
14	M14	N27	N29			L2x2x4	Beam	None	Q235	Typical_APP
15	M15	N27	N28		270	L2x2x4	Beam	None	Q235	Typical_APP
16	M16	N25	N33		90	1/2 x 6	Beam	None	Q235	Typical_APP



Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
17	M17	N26	N32		90	1/2 x 6	Beam	None	Q235	Typical_APP
18	M18	N24	N23			HSS4x4x4	Beam	None	Q235	Typical_APP
19	M19	N39	N37		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
20	M20	N37	N49		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
21	M21	N40	N38		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
22	M22	N38	N46		90	3/8x6 HRA	Beam	None	Q235	Typical_APP
23	M23	N40	N39			HSS4x4x4	Beam	None	Q235	Typical_APP
24	M24	N50	N51		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
25	M25	N52	N53			PIPE 2.0	Beam	None	A53 Gr.B	Typical
26	M26	N54	N55			PIPE 2.0	Beam	None	A53 Gr.B	Typical
27	M27	N56	N57			PIPE 3.0	Beam	None	A53 Gr.B	Typical
28	M28	N58	N59			PIPE 3.0	Beam	None	A53 Gr.B	Typical
29	M29	N60	N61			PIPE 3.0	Beam	None	A53 Gr.B	Typical
30	M30	N62	N63			RIGID	None	None	RIGID	Typical
31	M31	N65	N64			PIPE 2.5	Beam	None	A53 Gr.B	Typical
32	M32	N66	N67			RIGID	None	None	RIGID	Typical
33	M33	N69	N41		90	1/2 x 6	Beam	None	Q235	Typical_APP
34	M34	N69	N42		90	1/2 x 6	Beam	None	Q235	Typical_APP
35	M35	N41	N48		90	1/2 x 6	Beam	None	Q235	Typical_APP
36	M36	N42	N47		90	1/2 x 6	Beam	None	Q235	Typical_APP
37	M37	N7	N5		90	1/2 x 6	Beam	None	Q235	Typical_APP
38	M38	N7	N6		90	1/2 x 6	Beam	None	Q235	Typical_APP
39	M39	N5	N13		90	1/2 x 6	Beam	None	Q235	Typical_APP
40	M40	N6	N12		90	1/2 x 6	Beam	None	Q235	Typical_APP
41	M41	N69	N44			L2x2x4	Beam	None	Q235	Typical_APP
42	M42	N69	N43		270	L2x2x4	Beam	None	Q235	Typical_APP
43	M43	N7	N8			L2x2x4	Beam	None	Q235	Typical_APP
44	M44	N7	N108			HSS4x4x4	Beam	None	Q235	Typical_APP
45	M45	N19	N20		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
46	M46	N35	N36		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
47	M47	N70	N71			RIGID	None	None	RIGID	Typical
48	M48	N73	N72			RIGID	None	None	RIGID	Typical
49	M49	N75	N76			RIGID	None	None	RIGID	Typical
50	M50	N78	N77			PIPE 2.5	Beam	None	A53 Gr.B	Typical
51	M51	N79	N80			RIGID	None	None	RIGID	Typical
52	M52	N81	N82			RIGID	None	None	RIGID	Typical
53	M53	N84	N83			RIGID	None	None	RIGID	Typical
54	M54	N85	N86			RIGID	None	None	RIGID	Typical
55	M55	N88	N87			PIPE 2.5	Beam	None	A53 Gr.B	Typical
56	M56	N89	N90			RIGID	None	None	RIGID	Typical
57	M57	N91	N92			RIGID	None	None	RIGID	Typical
58	M58	N94	N93			RIGID	None	None	RIGID	Typical
59	M59	N95	N96			RIGID	None	None	RIGID	Typical
60	M60	N98	N97			PIPE 2.5	Beam	None	A53 Gr.B	Typical
61	M61	N99	N100			RIGID	None	None	RIGID	Typical
62	M62	N102	N103			RIGID	None	None	RIGID	Typical
63	M63	N105	N104			RIGID	None	None	RIGID	Typical
64	M64	N7	N107		270	L2x2x4	Beam	None	Q235	Typical_APP
65	M65	N110	N109			LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
66	M66	N27	N111			HSS4x4x4	Beam	None	Q235	Typical_APP
67	M67	N113	N112			LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical
68	M68	N69	N114			HSS4x4x4	Beam	None	Q235	Typical_APP
69	M69	N115	N116			RIGID	None	None	RIGID	Typical
70	M70	N118	N117			PIPE 2.5	Beam	None	A53 Gr.B	Typical
71	M71	N119	N120			RIGID	None	None	RIGID	Typical
72	M72	N122	N123			RIGID	None	None	RIGID	Typical
73	M73	N125	N124			RIGID	None	None	RIGID	Typical



Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
74	M74	N127	N128			RIGID	None	None	RIGID	Typical
75	M75	N130	N129			PIPE 2.5	Beam	None	A53 Gr.B	Typical
76	M76	N131	N132			RIGID	None	None	RIGID	Typical
77	M77	N133	N134			RIGID	None	None	RIGID	Typical
78	M78	N136	N135			RIGID	None	None	RIGID	Typical
79	M79	N137	N138			RIGID	None	None	RIGID	Typical
80	M80	N140	N139			PIPE 2.5	Beam	None	A53 Gr.B	Typical
81	M81	N141	N142			RIGID	None	None	RIGID	Typical
82	M82	N143	N144			RIGID	None	None	RIGID	Typical
83	M83	N146	N145			RIGID	None	None	RIGID	Typical
84	M84	N147	N148			RIGID	None	None	RIGID	Typical
85	M85	N150	N149			PIPE 2.5	Beam	None	A53 Gr.B	Typical
86	M86	N151	N152			RIGID	None	None	RIGID	Typical
87	M87	N153	N154			RIGID	None	None	RIGID	Typical
88	M88	N156	N155			RIGID	None	None	RIGID	Typical
89	M89	N157	N158			RIGID	None	None	RIGID	Typical
90	M90	N160	N159			PIPE 2.5	Beam	None	A53 Gr.B	Typical
91	M91	N161	N162			RIGID	None	None	RIGID	Typical
92	M92	N164	N165			RIGID	None	None	RIGID	Typical
93	M93	N167	N166			RIGID	None	None	RIGID	Typical
94	M94	N169	N170			RIGID	None	None	RIGID	Typical
95	M95	N172	N171			PIPE 2.5	Beam	None	A53 Gr.B	Typical
96	M96	N173	N174			RIGID	None	None	RIGID	Typical
97	M97	N175	N176			RIGID	None	None	RIGID	Typical
98	M98	N178	N177			RIGID	None	None	RIGID	Typical
99	M99	N179	N180			RIGID	None	None	RIGID	Typical
100	M100	N182	N181			PIPE 2.5	Beam	None	A53 Gr.B	Typical
101	M101	N183	N184			RIGID	None	None	RIGID	Typical
102	M102	N185	N186			RIGID	None	None	RIGID	Typical
103	M103	N188	N187			RIGID	None	None	RIGID	Typical
104	M104	N189	N190			RIGID	None	None	RIGID	Typical
105	M105	N192	N191			PIPE 2.5	Beam	None	A53 Gr.B	Typical
106	M106	N193	N194			RIGID	None	None	RIGID	Typical
107	M107	N195	N196			RIGID	None	None	RIGID	Typical
108	M108	N198	N197			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes				None
2	M2		BenPIN				Yes				None
3	M3						Yes				None
4	M4		BenPIN				Yes				None
5	M5						Yes				None
6	M6	BenPIN	BenPIN				Yes				None
7	M7						Yes				None
8	M8						Yes				None
9	M9						Yes				None
10	M10						Yes				None
11	M11		BenPIN				Yes				None
12	M12						Yes				None
13	M13		BenPIN				Yes				None
14	M14						Yes				None
15	M15						Yes				None
16	M16		BenPIN				Yes				None
17	M17		BenPIN				Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
18	M18						Yes				None
19	M19						Yes				None
20	M20		BenPIN				Yes				None
21	M21						Yes				None
22	M22		BenPIN				Yes				None
23	M23						Yes				None
24	M24	BenPIN	OOOOXX				Yes	Default			None
25	M25						Yes				None
26	M26						Yes				None
27	M27						Yes				None
28	M28						Yes				None
29	M29						Yes				None
30	M30						Yes	** NA **			None
31	M31						Yes				None
32	M32						Yes	** NA **			None
33	M33						Yes				None
34	M34						Yes				None
35	M35		BenPIN				Yes				None
36	M36		BenPIN				Yes				None
37	M37						Yes				None
38	M38						Yes				None
39	M39		BenPIN				Yes				None
40	M40		BenPIN				Yes				None
41	M41						Yes				None
42	M42						Yes				None
43	M43						Yes				None
44	M44						Yes				None
45	M45	BenPIN	OOOOXX				Yes				None
46	M46	BenPIN	OOOOXX				Yes				None
47	M47						Yes	** NA **			None
48	M48						Yes	** NA **			None
49	M49						Yes	** NA **			None
50	M50						Yes				None
51	M51						Yes	** NA **			None
52	M52						Yes	** NA **			None
53	M53						Yes	** NA **			None
54	M54						Yes	** NA **			None
55	M55						Yes				None
56	M56						Yes	** NA **			None
57	M57						Yes	** NA **			None
58	M58						Yes	** NA **			None
59	M59						Yes	** NA **			None
60	M60						Yes				None
61	M61						Yes	** NA **			None
62	M62						Yes	** NA **			None
63	M63						Yes	** NA **			None
64	M64						Yes				None
65	M65	BenPIN	BenPIN				Yes				None
66	M66						Yes				None
67	M67	BenPIN	BenPIN				Yes				None
68	M68						Yes				None
69	M69						Yes	** NA **			None
70	M70						Yes				None
71	M71						Yes	** NA **			None
72	M72						Yes	** NA **			None
73	M73						Yes	** NA **			None
74	M74						Yes	** NA **			None



Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
75	M75						Yes				None
76	M76						Yes	** NA **			None
77	M77						Yes	** NA **			None
78	M78						Yes	** NA **			None
79	M79						Yes	** NA **			None
80	M80						Yes				None
81	M81						Yes	** NA **			None
82	M82						Yes	** NA **			None
83	M83						Yes	** NA **			None
84	M84						Yes	** NA **			None
85	M85						Yes				None
86	M86						Yes	** NA **			None
87	M87						Yes	** NA **			None
88	M88						Yes	** NA **			None
89	M89						Yes	** NA **			None
90	M90						Yes				None
91	M91						Yes	** NA **			None
92	M92						Yes	** NA **			None
93	M93						Yes	** NA **			None
94	M94						Yes	** NA **			None
95	M95						Yes				None
96	M96						Yes	** NA **			None
97	M97						Yes	** NA **			None
98	M98						Yes	** NA **			None
99	M99						Yes	** NA **			None
100	M100						Yes				None
101	M101						Yes	** NA **			None
102	M102						Yes	** NA **			None
103	M103						Yes	** NA **			None
104	M104						Yes	** NA **			None
105	M105						Yes				None
106	M106						Yes	** NA **			None
107	M107						Yes	** NA **			None
108	M108						Yes	** NA **			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	3/8x6_HRA	.167			Lbyy						Lateral
2	M2	3/8x6_HRA	.364			Lbyy						Lateral
3	M3	3/8x6_HRA	.167			Lbyy						Lateral
4	M4	3/8x6_HRA	.364			Lbyy						Lateral
5	M5	HSS4x4x4	5.167			Lbyy						Lateral
6	M6	LL2.5x2.5x3...	4.853			Lbyy						Lateral
7	M7	PIPE 2.0	12.5			Lbyy						Lateral
8	M8	1/2 x 6	.5			Lbyy						Lateral
9	M9	1/2 x 6	.5			Lbyy						Lateral
10	M10	3/8x6_HRA	.167			Lbyy						Lateral
11	M11	3/8x6_HRA	.364			Lbyy						Lateral
12	M12	3/8x6_HRA	.167			Lbyy						Lateral
13	M13	3/8x6_HRA	.364			Lbyy						Lateral
14	M14	L2x2x4	4.359			Lbyy						Lateral
15	M15	L2x2x4	4.359			Lbyy						Lateral
16	M16	1/2 x 6	.289			Lbyy						Lateral
17	M17	1/2 x 6	.289			Lbyy						Lateral
18	M18	HSS4x4x4	5.167			Lbyy						Lateral



Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
19	M19	3/8x6_HRA	.167			Lbyy						Lateral
20	M20	3/8x6_HRA	.364			Lbyy						Lateral
21	M21	3/8x6_HRA	.167			Lbyy						Lateral
22	M22	3/8x6_HRA	.364			Lbyy						Lateral
23	M23	HSS4x4x4	5.167			Lbyy						Lateral
24	M24	L2.5x2.5x3	1.07			Lbyy						Lateral
25	M25	PIPE 2.0	12.5			Lbyy						Lateral
26	M26	PIPE 2.0	12.5			Lbyy						Lateral
27	M27	PIPE 3.0	12.5	4	4	Lbyy						Lateral
28	M28	PIPE 3.0	12.5	4	4	Lbyy						Lateral
29	M29	PIPE 3.0	12.5	4	4	Lbyy						Lateral
30	M31	PIPE 2.5	8			Lbyy						Lateral
31	M33	1/2 x 6	.5			Lbyy						Lateral
32	M34	1/2 x 6	.5			Lbyy						Lateral
33	M35	1/2 x 6	.289			Lbyy						Lateral
34	M36	1/2 x 6	.289			Lbyy						Lateral
35	M37	1/2 x 6	.5			Lbyy						Lateral
36	M38	1/2 x 6	.5			Lbyy						Lateral
37	M39	1/2 x 6	.289			Lbyy						Lateral
38	M40	1/2 x 6	.289			Lbyy						Lateral
39	M41	L2x2x4	4.359			Lbyy						Lateral
40	M42	L2x2x4	4.359			Lbyy						Lateral
41	M43	L2x2x4	4.359			Lbyy						Lateral
42	M44	HSS4x4x4	5.998			Lbyy						Lateral
43	M45	L2.5x2.5x3	1.07			Lbyy						Lateral
44	M46	L2.5x2.5x3	1.07			Lbyy						Lateral
45	M50	PIPE 2.5	8			Lbyy						Lateral
46	M55	PIPE 2.5	8			Lbyy						Lateral
47	M60	PIPE 2.5	8			Lbyy						Lateral
48	M64	L2x2x4	4.359			Lbyy						Lateral
49	M65	LL2.5x2.5x3...	4.853			Lbyy						Lateral
50	M66	HSS4x4x4	5.998			Lbyy						Lateral
51	M67	LL2.5x2.5x3...	4.853			Lbyy						Lateral
52	M68	HSS4x4x4	5.998			Lbyy						Lateral
53	M70	PIPE 2.5	8			Lbyy						Lateral
54	M75	PIPE 2.5	8			Lbyy						Lateral
55	M80	PIPE 2.5	8			Lbyy						Lateral
56	M85	PIPE 2.5	8			Lbyy						Lateral
57	M90	PIPE 2.5	8			Lbyy						Lateral
58	M95	PIPE 2.5	8			Lbyy						Lateral
59	M100	PIPE 2.5	8			Lbyy						Lateral
60	M105	PIPE 2.5	8			Lbyy						Lateral

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N15	max	.049	17	3.014	26	.364	20	0	74	0	18	0	36
2		min	-.048	23	-.237	20	-4.842	26	0	1	0	36	0	18
3	N108	max	1.491	17	.553	32	5.341	2	.847	32	2.515	23	.639	11
4		min	-1.5	11	-.085	14	-2.918	20	.02	14	-2.505	17	-.443	17
5	N109	max	.441	24	3.029	30	2.434	30	0	4	0	22	0	22
6		min	-4.214	30	-.334	24	-.254	24	0	22	0	4	0	4
7	N111	max	5.655	6	.559	36	1.95	25	.503	16	.637	25	0	20
8		min	-3.559	24	-.12	18	-3.161	7	-.598	10	-.632	7	-.942	26
9	N112	max	4.215	34	3.03	34	2.435	34	0	25	0	25	0	25
10		min	-.451	16	-.341	16	-.26	16	0	7	0	7	0	7



Envelope Joint Reactions (Continued)

Joint	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
11	N114	max	3.154	16	.561	28	2.655	15	.245	25	.581	27
12		min	-5.236	10	-.129	22	-3.882	9	-.838	31	-.228	21
13	Totals:	max	6.858	17	9.9	32	6.31	14				
14		min	-6.858	11	2.274	63	-6.31	8				

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

Member	Shape	Code ...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M46	L2.5x2.5x3	.601	1.07	10	.140	1.07	z	10	27.66	29.192	.873	1.972	1... H2-1
2	M24	L2.5x2.5x3	.591	1.07	13	.143	0	z	13	27.66	29.192	.873	1.972	1... H2-1
3	M45	L2.5x2.5x3	.581	1.07	5	.147	1.07	y	5	27.66	29.192	.873	1.972	1... H2-1
4	M3	3/8x6 HRA	.396	0	11	.384	0	y	6	67.691	68.85	8.606	.538	1... H1-1b
5	M25	PIPE 2.0	.350	1.172	13	.227	1.172		13	6.295	32.13	1.872	1.872	4... H1-1b
6	M26	PIPE 2.0	.349	1.172	5	.237	11.198		5	6.295	32.13	1.872	1.872	3... H1-1b
7	M7	PIPE 2.0	.345	1.172	9	.229	1.172		10	6.295	32.13	1.872	1.872	3... H1-1b
8	M90	PIPE 2.5	.332	2.667	11	.105	4.416		6	30.04	50.715	3.596	3.596	1... H1-1b
9	M31	PIPE 2.5	.331	2.667	2	.091	4.416		9	30.04	50.715	3.596	3.596	2... H1-1b
10	M21	3/8x6 HRA	.329	0	9	.378	0	y	2	67.691	68.85	8.606	.538	1... H1-1b
11	M70	PIPE 2.5	.315	2.667	5	.077	4.416		2	30.04	50.715	3.596	3.596	1... H1-1b
12	M4	3/8x6 HRA	.290	0	11	.370	0	y	6	63.5	68.85	8.606	.538	1... H1-1b
13	M1	3/8x6 HRA	.283	0	5	.400	0	y	11	67.691	68.85	8.606	.538	1... H1-1b
14	M41	L2x2x4	.281	4.359	9	.012	0	y	26	11.646	28.886	.653	1.489	1... H2-1
15	M14	L2x2x4	.273	4.359	5	.012	0	y	34	11.646	28.886	.653	1.489	2... H2-1
16	M15	L2x2x4	.272	0	6	.018	0	z	28	11.646	28.886	.653	1.489	2... H2-1
17	M22	3/8x6 HRA	.266	0	9	.364	0	y	2	63.5	68.85	8.606	.538	1... H1-1b
18	M42	L2x2x4	.252	0	10	.018	0	z	31	11.646	28.886	.653	1.489	2... H2-1
19	M44	HSS4x4x4	.243	5.998	5	.116	5.998	z	11	92.262	103.122	11.96	11.96	2... H1-1b
20	M64	L2x2x4	.228	0	26	.018	0	z	35	11.646	28.886	.653	1.489	2... H2-1
21	M100	PIPE 2.5	.222	2.667	12	.087	2.667		4	30.04	50.715	3.596	3.596	2... H1-1b
22	M95	PIPE 2.5	.217	2.667	6	.189	6.083		5	30.04	50.715	3.596	3.596	2... H1-1b
23	M80	PIPE 2.5	.216	2.667	9	.106	2.667		11	30.04	50.715	3.596	3.596	2... H1-1b
24	M68	HSS4x4x4	.211	5.998	3	.106	5.998	z	8	92.262	103.122	11.96	11.96	1... H1-1b
25	M43	L2x2x4	.211	4.359	13	.012	0	y	30	11.646	28.886	.653	1.489	2... H2-1
26	M18	HSS4x4x4	.207	2.583	29	.078	.377	z	5	94.949	103.122	11.96	11.96	1... H1-1b
27	M2	3/8x6 HRA	.204	0	5	.401	0	y	4	63.5	68.85	8.606	.538	1... H1-1b
28	M23	HSS4x4x4	.202	2.583	35	.078	.377	z	9	94.949	103.122	11.96	11.96	1... H1-1b
29	M5	HSS4x4x4	.201	2.583	37	.076	2.583	y	26	94.949	103.122	11.96	11.96	1... H1-1b
30	M55	PIPE 2.5	.198	2.667	5	.105	2.667		7	30.04	50.715	3.596	3.596	2... H1-1b
31	M75	PIPE 2.5	.192	2.667	3	.156	6.083		12	30.04	50.715	3.596	3.596	2... H1-1b
32	M66	HSS4x4x4	.190	1.874	30	.096	5.998	z	4	92.262	103.122	11.96	11.96	2... H1-1b
33	M50	PIPE 2.5	.187	2.667	10	.188	6.083		9	30.04	50.715	3.596	3.596	2... H1-1b
34	M85	PIPE 2.5	.180	6.083	2	.134	6.083		11	30.04	50.715	3.596	3.596	1... H1-1b
35	M60	PIPE 2.5	.178	6.083	10	.141	6.083		8	30.04	50.715	3.596	3.596	2... H1-1b
36	M38	1/2 x 6	.176	0	11	.274	0	y	5	84.3	91.8	11.475	.956	1... H1-1b
37	M105	PIPE 2.5	.175	6.083	6	.129	2.667		4	30.04	50.715	3.596	3.596	2... H1-1b
38	M19	3/8x6 HRA	.175	0	3	.376	.167	y	6	67.691	68.85	8.606	.538	1... H1-1b
39	M12	3/8x6 HRA	.169	0	4	.378	0	y	10	67.691	68.85	8.606	.538	1... H1-1b
40	M13	3/8x6 HRA	.150	0	4	.364	0	y	10	63.5	68.85	8.606	.538	1... H1-1b
41	M33	1/2 x 6	.147	0	10	.241	.5	y	7	84.3	91.8	11.475	.956	1... H1-1b
42	M67	LL2.5x2.5x3x3	.134	4.853	34	.008	0	z	7	42.67	58.32	3.954	2.55	1... H1-1b*
43	M65	LL2.5x2.5x3x3	.134	4.853	30	.009	0	z	4	42.67	58.32	3.954	2.55	1... H1-1b*
44	M6	LL2.5x2.5x3x3	.134	4.853	26	.007	0	y	37	42.67	58.32	3.954	2.55	1 H1-1b*
45	M37	1/2 x 6	.127	0	6	.292	0	y	11	84.3	91.8	11.475	.956	1... H1-1b
46	M28	PIPE 3.0	.126	4.297	10	.093	8.333		11	59.853	65.205	5.749	5.749	2... H1-1b
47	M27	PIPE 3.0	.125	4.167	5	.087	8.333		7	59.853	65.205	5.749	5.749	2... H1-1b
48	M29	PIPE 3.0	.118	4.036	13	.085	4.167		11	59.853	65.205	5.749	5.749	2... H1-1b



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

Member	Shape	Code ...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y...	phi*Mn z...	Cb	Eqn
49	M34		.113	0	7	.247	.5	y	2	84.3	91.8	11.475	.956	1... H1-1b
50	M20	3/8x6 HRA	.103	0	3	.375	0	y	12	63.5	68.85	8.606	.538	1... H1-1b
51	M9	1/2 x 6	.101	0	7	.237	.5	y	10	84.3	91.8	11.475	.956	1... H1-1b
52	M10	3/8x6 HRA	.095	.167	7	.374	.167	y	2	67.691	68.85	8.606	.538	1... H1-1b
53	M11	3/8x6 HRA	.093	0	7	.375	0	y	8	63.5	68.85	8.606	.538	1... H1-1b
54	M8	1/2 x 6	.077	0	6	.246	0	y	3	84.3	91.8	11.475	.956	1.3 H1-1b
55	M36	1/2 x 6	.053	0	10	.323	.289	y	8	89.215	91.8	11.475	.956	1... H1-1b
56	M16	1/2 x 6	.041	0	6	.320	0	y	9	89.215	91.8	11.475	.956	1... H1-1b
57	M17	1/2 x 6	.039	0	7	.331	0	y	4	89.215	91.8	11.475	.956	1... H1-1b
58	M40	1/2 x 6	.036	0	26	.331	.289	y	12	89.215	91.8	11.475	.956	1... H1-1b
59	M39	1/2 x 6	.033	0	3	.355	.289	y	5	89.215	91.8	11.475	.956	1... H1-1b
60	M35	1/2 x 6	.024	0	10	.325	.289	y	12	89.215	91.8	11.475	.956	1... H1-1b

Envelope Plate/Shell Principal Stresses

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

EXHIBIT 9

Transcom Engineering, Inc.

Wireless Network Design and Deployment

Radio Frequency Emissions Analysis Report

T-MOBILE Existing Facility

Site ID: CTHA529A

SBA Canton Powder Mill Rd Monopole
96 Powder Mill Road
Canton, CT 06019

June 10, 2019

Transcom Engineering Project Number: 737001-0085

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	6.74 %

Transcom Engineering, Inc.

Wireless Network Design and Deployment

June 10, 2019

T-MOBILE

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

Emissions Analysis for Site: **CTHA529A – SBA Canton Powder Mill Rd Monopole**

Transcom Engineering, Inc (“Transcom”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **96 Powder Mill Road, Canton, 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 MHz & 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.

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Wireless Network Design and Deployment

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.

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CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **96 Powder Mill Road, Canton, 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 / 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 MHz, 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXV18-206517S-C-A20	167
A	2	RFS APXVAARR24_43-U-NA20	167
B	1	RFS APXV18-206517S-C-A20	167
B	2	RFS APXVAARR24_43-U-NA20	167
C	1	RFS APXV18-206517S-C-A20	167
C	2	RFS APXVAARR24_43-U-NA20	167

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)** radios are ground mounted the following cable loss values were used. For each ground mounted **1900 MHz (PCS)** radio there was **4.2 dB** of cable loss calculated into the system gains / losses for this site. These values were calculated based upon the manufacturers specifications for **250 feet** of **7/8"** 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 APXV18-206517S-C-A20	1900 MHz (PCS)	16.65	5	175	3,076.37	0.43
Antenna A2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.81
Sector A Composite MPE%							1.24
Antenna B1	RFS APXV18-206517S-C-A20	1900 MHz (PCS)	16.65	5	175	3,076.37	0.43
Antenna B2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.81
Sector B Composite MPE%							1.24
Antenna C1	RFS APXV18-206517S-C-A20	1900 MHz (PCS)	16.65	5	175	3,076.37	0.43
Antenna C2	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.81
Sector C Composite MPE%							1.24

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	1.24 %
Sprint	1.89 %
Verizon Wireless	1.61 %
AT&T	2.00 %
Site Total MPE %:	6.74 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	1.24 %
T-MOBILE Sector B Total:	1.24 %
T-MOBILE Sector C Total:	1.24 %
Site Total:	6.74 %

Table 5: Site MPE Summary

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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	703.17	167	3.90	1900 MHz (PCS)	1000	0.39%
T-Mobile 1900 MHz (PCS) GSM	1	263.69	167	0.37	1900 MHz (PCS)	1000	0.04%
T-Mobile 600 MHz LTE / 5G NR	2	788.97	167	2.19	600 MHz	400	0.55%
T-Mobile 700 MHz LTE	2	432.54	167	1.20	700 MHz	467	0.26%
						Total:	1.24%

Table 6: T-MOBILE Maximum Sector MPE Power Values

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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:	1.24 %
Sector B:	1.24 %
Sector C:	1.24 %
T-MOBILE Maximum Total (per sector):	1.24 %
Site Total:	6.74 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **6.74 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



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