



Filed by:

Kri Pelletier, Property Specialist - SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3804 - kpelletier@sbsite.com

July 22, 2019

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

RE: Notice of Exempt Modification
52 Stadley Rough Road, Danbury, CT 06811
Latitude: 41.433102
Longitude: -73.431916
T-Mobile Site #: CT11796G_L600

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 137-foot level of the existing 139-foot Monopole Tower at 52 Stadley Rough Road, Danbury, CT. The 139-foot tower is owned by SBA Towers II LLC. The property is owned by Christ the Shepherd Church. T-Mobile now intends to replace (6) existing antennas with (6) new 600/700/1900/2100 MHz antennas. The new antennas would be installed at the 137-foot level of the tower.

Planned Modifications:

TOWER

Remove:

- (3) 1-5/8" lines

Remove and Replace:

- (3) AIR 21 B2A/B4P antennas (Remove) – (3) RFS APXVAARR18_43-U-NA20 600/700/2100 MHz antennas (Replace)
- (3) AIR 21 B4A/B12P antennas (Remove) – (3) Air 32 KRD901146_1_B66A_B2A 1900/2100 MHz (Replace)
- (3) Ericsson S11B12 RRU (Remove) – (3) Ericsson Radio 4449 B71+B12 RRU (Replace)

Install New:

- (3) 1-5/8" fiber

Existing Equipment to Remain (including Entitlements):

- (3) Ericsson KRY 112 144/1 TMA
- (3) T-Arms Sitepro UDS-NP
- (9) 1-5/8" lines
- (1) 1-5/8" fiber



GROUND

Install New:

- Equipment inside existing 6102 cabinet

Remove and Replace:

- (1) 100A-2 breaker (Remove) – 125A-2P breaker (Replace)

This facility was approved by the Council under Docket No 366 on April 23, 2009. The approval called for the construction of a 140' monopole with a vegetative buffer, architectural compound fence, and space for public safety services provided at no cost to the City. A recalculated power density report was to be provided when site conditions caused a change in power density levels. Upon the establishment of any new State or federal RF standards applicable to the facility, the site was to be brought into compliance. And any nonfunctioning antennas or associated equipment was to be removed within 60 days. The original approval also called for flush mounted antennas. In order to effectively address the need for increased speed and capacity while observing the site conditions, on February 29, 2016, Council approved T-Mobile's installation of a slight mount with an 8-inch standoff (EM-T-Mobile-034-160205) -- smaller than Verizon's and AT&T's existing mounts, which both use approximately 14-inch standoffs. 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 City of Danbury's Mayor, Mark D. Boughton, Director of Planning and Zoning, Sharon Calitro, and Deputy Planning Director, Jennifer Emminger, 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,

Kri Pelletier
Property Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3804 + T / 508.366.2610 + F
kpelletier@sbsite.com

Attachments

cc: The Honorable Mark D. Boughton, Mayor of the City of Danbury / with attachments
City of Danbury, 155 Deer Hill Ave., Danbury CT 06810
Sharon Calitro, ACIP, Director, Planning and Zoning and Jennifer Emminger, AICP, Deputy Planning Director,
Planning and Zoning / with attachments
City of Danbury, 155 Deer Hill Ave., 1st Floor, Danbury CT 06810
Christ the Shepherd Church / with attachments
52 Stadley Rough Road, Danbury CT 06811

EXHIBIT LIST

Exhibit 1	Check Copy	
Exhibit 2	Notification Receipts	
Exhibit 3	Property Card	
Exhibit 4	Property Map	
Exhibit 5	Original Zoning Approval	CSC Docket No. 366 dated 4/23/2009
Exhibit 6	Construction Drawings	Chappell dated 7/17/19
Exhibit 7	Structural Analysis	TES dated 6/28/19
Exhibit 8	Mount Analysis	TES dated 6/17/19
Exhibit 9	EME Report	Transcom dated 6/10/19

EXHIBIT 1

EXHIBIT 2

ORIGIN:ID:BBFA (508) 614-0389
RICK WOODS
SBA NETWORK SERVICES INC
134 FLANDERS ROAD
SUITE 125
WESTBOROUGH MA 01581
UNITED STATES US

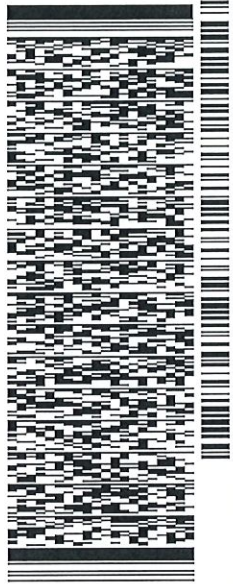
SHIP DATE: 19 JUL 19
ACT/MGT: 1.001LB
CAD: 105843304/NET4160

BILL SENDER

TO MARK D. BOUGHTON, MAYOR
CITY OF DANBURY
155 DEER HILL AVE.

DANBURY CT 06810
(508) 251-0720 X.3804 REF: 10-56-92009-6089
NV: DEPT:
PO:

567J2/A6F9.05A2



TRK# 7757 9107 3614
0201
MON - 22 JUL 10:30A
PRIORITY OVERNIGHT

SH DXRA

06810
SWF
CT-US



After printing this label:

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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:BBFA (508) 614-0389
RICK WOODS
SBA NETWORK SERVICES INC
134 FLANDERS ROAD
SUITE 125
WESTBOROUGH MA 01581
UNITED STATES US

SHIP DATE: 19 JUL 19
ACTWGT: 1.00 LB
CAD: 105843304/MET4160

BILL SENDER

TO SHARON CALITRO / JENNIFER EMMINGER

CITY OF DANBURY

PLANNING & ZONING DEPT.-1ST FLOOR

155 DEER HILL AVE

DANBURY CT 06810

(508) 251-0720 X-3804

REF: 10-56-92009-6089

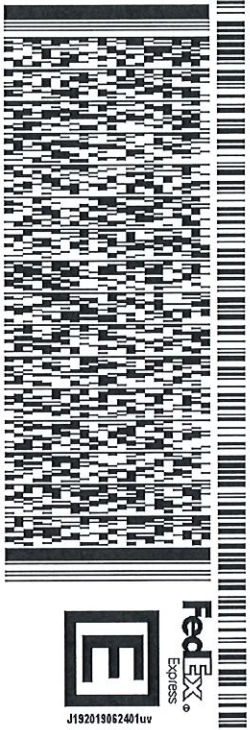
PO:

INV:

DEPT:

DEPT:

567J2/A6F9.05A2



TRK# 7757 9109 3112
0201

MON - 22 JUL 10:30A
PRIORITY OVERNIGHT

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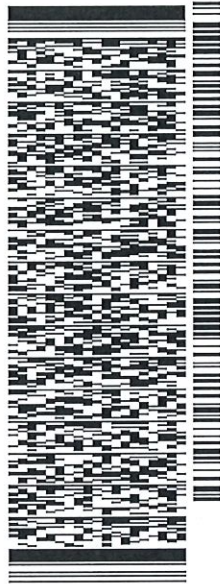
ORIGIN:ID:BBFA (508) 614-0389
RICK WOODS
SBA NETWORK SERVICES INC
134 FLANDERS ROAD
SUITE 125
WESTBOROUGH MA 01581
UNITED STATES US

SHIP DATE: 19 JUL 19
ACTWGT: 1.00 LB
CAD: 105843304/NET4/160
BILL SENDER

TO **MANAGER**
CHRIST THE SHEPHERD CHURCH
52 STADLEY ROUGH RD.

DANBURY CT 06811
(508) 251-0720 X 3804 REF: 10-56-92009-6089
INV. DEPT:
PO.

567 J2/A6F9.05A2



J192019052401uv

TRK# 7757 9110 9620
0201
MON - 22 JUL 10:30A
PRIORITY OVERNIGHT

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06811
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CT-US



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EXHIBIT 3

52 STADLEY ROUGH RD

Location 52 STADLEY ROUGH RD

Mblu K07/ / 19/ 1/

Acct# 1

Owner CHRIST THE SHEPHERD
CHURCH PCA

Assessment \$173,800

Appraisal \$248,300

PID 128447

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$232,200	\$16,100	\$248,300

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$162,500	\$11,300	\$173,800

Owner of Record

Owner CHRIST THE SHEPHERD CHURCH PCA
Co-Owner
Address 52 STADLEY ROUGH RD
DANBURY, CT 06811

Sale Price \$450,000
Book & Page 1948/ 939
Sale Date 07/25/2007
Instrument 25

Ownership History

Ownership History				
Owner	Sale Price	Book & Page	Instrument	Sale Date
CHRIST THE SHEPHERD CHURCH PCA	\$450,000	1948/ 939	25	07/25/2007

Building Information

Building 1 : Section 1

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

Building Attributes	
Field	Description

Style	Vacant Land
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fireplaces	
Whirlpool	
Addn'l Kitchen	
Bsm Gar	
Fin Bsm Area	
Fin Bsm Qual	
Nhbd	
MH Park	

Building Photo



(<http://images.vgsi.com/photos2/DanburyCTPhotos//default.jpg>)

Building Layout

(<http://images.vgsi.com/photos2/DanburyCTPhotos//Sketches/12>)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
UST	Unf. Storage	3,616	0
		3,616	0

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Land Line Valuation

Use Code 200V
Description Commercial MDL-00
Zone RA40
Neighborhood 3000
Alt Land Appr Category No

Size (Acres) 0
Frontage 0
Depth 0
Assessed Value \$11,300
Appraised Value \$16,100

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
	CELL TOWER AREA			3498	\$232,200	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$232,200	\$16,100	\$248,300
2016	\$232,200	\$16,100	\$248,300
2015	\$232,200	\$16,100	\$248,300

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$162,500	\$11,300	\$173,800
2016	\$162,500	\$11,300	\$173,800
2015	\$162,500	\$11,300	\$173,800

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EXHIBIT 4

Danbury CT - TaxMap

Tasks

Found 1 assessor records.
Found 2 parcels.

Selected

All

Clear

Parcel ID	Owner	Street Name
K070190000	CHRIST THE SHEPHERD CHURCH PCA	STADLEY ROUGH RD

NAVIGATE

ZOOM IN

FULL EXTENT

BACK

FORWARD

Parcel Details

Field	Value
OBJECTID	23124
D_GIS_PROP_ID	K07 19 1
D_GIS_BLDG_VAL	0
D_GIS_LAND_VAL	11300
D_GIS_OTHER_VAL	162500
D_GIS_TOTAL_VAL	173800
D_GIS_FY	2017
D_GIS_LOT_SIZE	0
D_GIS_LS_DATE	7/25/2007
D_GIS_LS_PRICE	450000
D_GIS_USE_CODE	200V
D_GIS_SITE_ADDR	52 STADLEY ROUGH RD
D_GIS_ADDR_NUM	52
D_GIS_FULL_STR	STADLEY ROUGH RD
D_GIS_LOCATION	
D_GIS_SITE_CITY	DANBURY
D_GIS_SITE_ZIP	6811
D_GIS_OWNER1	CHRIST THE SHEPHERD CHURCH PCA
D_GIS_OWNER2	
D_GIS_OWN_ADDR1	52 STADLEY ROUGH RD
D_GIS_OWN_ADDR2	
D_GIS_OWN_CITY	DANBURY
D_GIS_OWN_STATE	CT
D_GIS_OWN_ZIP	6811
D_GIS_OWN_CO	
D_GIS_LS_BOOK	1948
D_GIS_LS_PAGE	939
D_GIS_REG_ID	
D_GIS_ZONE	RA40
D_GIS_YEAR_BUILT	0
D_GIS_BLD_AREA	3616



EXHIBIT 5

DOCKET NO. 366 - Optasite Towers LLC and Omnipoint } Connecticut
Communications, Inc. application for a Certificate of }
Environmental Compatibility and Public Need for the } Siting
construction, maintenance and operation of a telecommunications }
facility located at 52 Stadley Rough Road in Danbury, } Council
Connecticut.

April 23, 2009

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Optasite Towers LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 52 Stadley Rough Road, Danbury, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Omnipoint Communications, Inc. and other entities, both public and private, but such tower shall not exceed a height of 140 feet above ground level. All antennas attached to the monopole shall be flush-mounted.
2. The Certificate Holder shall shift, to the extent feasible, the compound to the north and east to help retain the existing vegetative buffer.
3. The Certificate Holder shall incorporate an architectural treatment for the fence of the facility compound and any equipment shelters therein that is consistent with and amenable to adjacent land uses.
4. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the City of Danbury for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:

- a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping that will provide additional vegetative buffering for the adjacent properties; and
 - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
5. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
6. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
7. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
8. The Certificate Holder shall provide reasonable space on the tower for no compensation for any City of Danbury public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
9. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
10. Any request for extension of the time period referred to in Condition 9 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the City of Danbury. Any proposed modifications to this Decision and Order shall likewise be so served.
11. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

12. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
13. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

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

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

The parties and intervenors to this proceeding are:

APPLICANT

Optasite Towers LLC and
Omnipoint Communications, Inc.
One Research Drive, Suite 200C
Westborough, MA 01581

City of Danbury

ITS REPRESENTATIVE

Christopher B. Fisher, Esq.
Lucia Chiocchio, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, New York 10601

Laszlo L. Pinter, Esq.
Robin Edwards, Esq.
City of Danbury
155 Deer Hill Avenue
Danbury, CT 06810



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

February 29, 2016

Kri Pelletier
Property Specialist
SBA Communications Corporation
134 Flanders Road, Suite 125
Westborough, MA 01581

RE: **EM-T-MOBILE-034-160205** – T-Mobile notice of intent to modify an existing telecommunications facility located at 52 Stadley Rough Road, Danbury, Connecticut.

Dear Ms. Pelletier:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

1. Any deviation from the proposed modification as specified in this notice and supporting materials with the Council shall render this acknowledgement invalid;
2. Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
3. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
4. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by T-Mobile shall be removed within 60 days of the date the antenna ceased to function;
5. The validity of this action shall expire one year from the date of this letter; and
6. The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated February 4, 2016. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site by any dimension, increase noise levels at the tower site boundary by six decibels or more, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standards adopted by the Federal Communications Commission pursuant to Section 704 of the Telecommunications Act of 1996 and by the state Department of Energy and Environmental Protection pursuant to Connecticut General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below state and federal standards applicable to the frequencies now used on this tower.



CONNECTICUT SITING COUNCIL

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,



Melanie A. Bachman
Acting Executive Director

MAB/CH/lm

- c: The Honorable Mark D. Boughton, Mayor, City of Danbury
Sharon Calitro, Director of Planning & Zoning, City of Danbury
Christ the Shepard Church

EXHIBIT 6

CT796/OPTASITECANDLE_FT

52 STADLEY ROUGH ROAD
DANBURY, CT 06811
FAIRFIELD COUNTY

SITE NO.: CT11796G

SITE TYPE: 139'± MONOPOLE

RF DESIGN GUIDELINE: 67D92DBL

APPROVALS

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

T-MOBILE TECHNICIAN SITE SAFETY NOTES

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

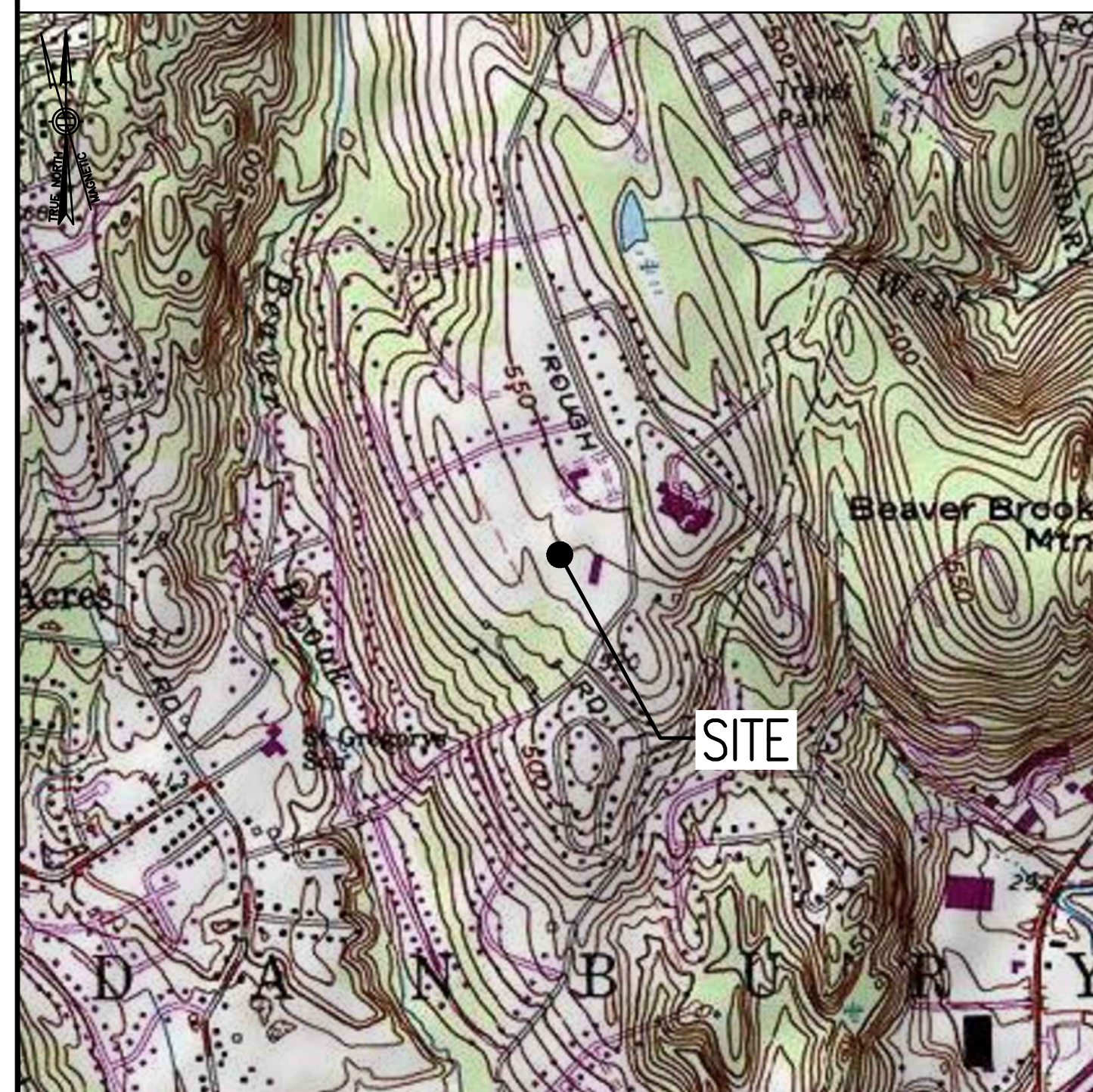
GENERAL NOTES

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

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



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



DO NOT SCALE DRAWINGS

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

SITE NOTES

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

SHEET INDEX

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A-1	COMPOUND & EQUIPMENT PLAN	1
A-2	TOWER ELEVATIONS & ANTENNA PLAN	1
A-3	SITE DETAILS	1
E-1	ELECTRIC & GROUNDING DETAILS	1

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

PROJECT SUMMARY

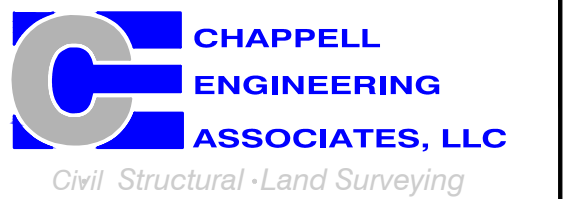
SITE NUMBER:	CT11796G
SBA SITE NUMBER:	CT13549-S
SBA SITE NAME:	DANBURY 1
SITE ADDRESS:	52 STADLEY ROUGH ROAD DANBURY, CT 06811
PROPERTY OWNER:	CHRIST THE SHEPHERD CHURCH PCA 52 STADLEY ROUGH ROAD DANBURY, CT 06811
TOWER OWNER:	SBA TOWERS II, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	FAIRFIELD COUNTY
ZONING DISTRICT:	RA-40 (SINGLE FAMILY RESIDENTIAL)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	139'
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.41.433102° (41°-25'-59.17") LONGITUDE W.73.431916° (73°-25'-54.90")

T-MOBILE NORTHEAST LLC

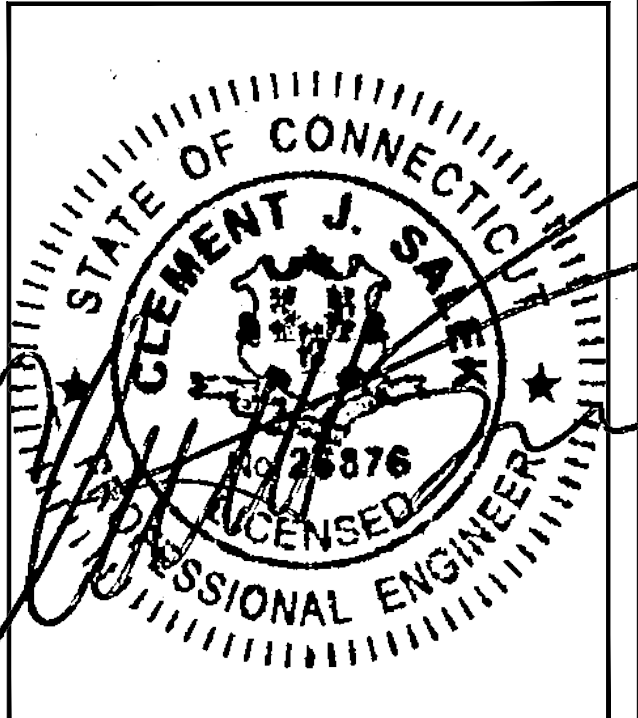
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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	07/17/19	ISSUED FOR CONSTRUCTION	CMC
0	06/04/19	ISSUED FOR REVIEW	NWC

SITE NUMBER:
CT11796G

SITE ADDRESS:
52 STADLEY ROUGH ROAD
DANBURY, CT 06811

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 (BC1905.6.2.3) 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:

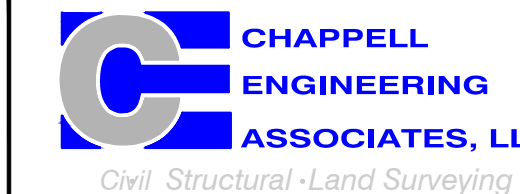
- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLEING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR 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**

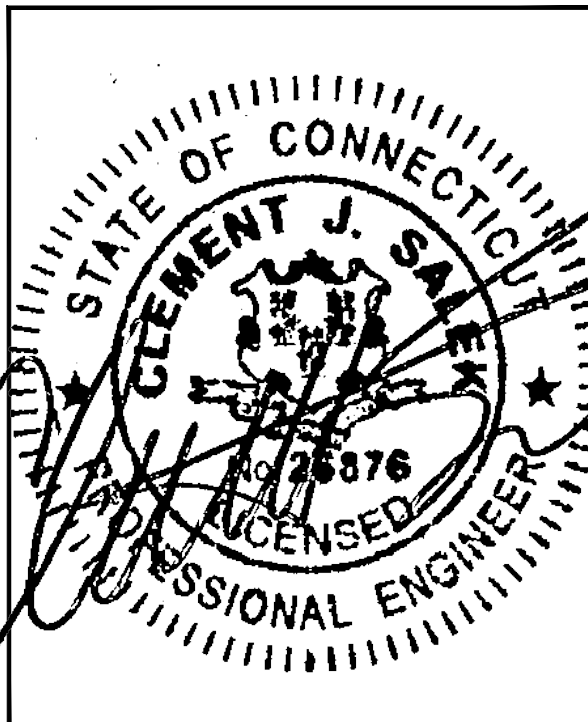
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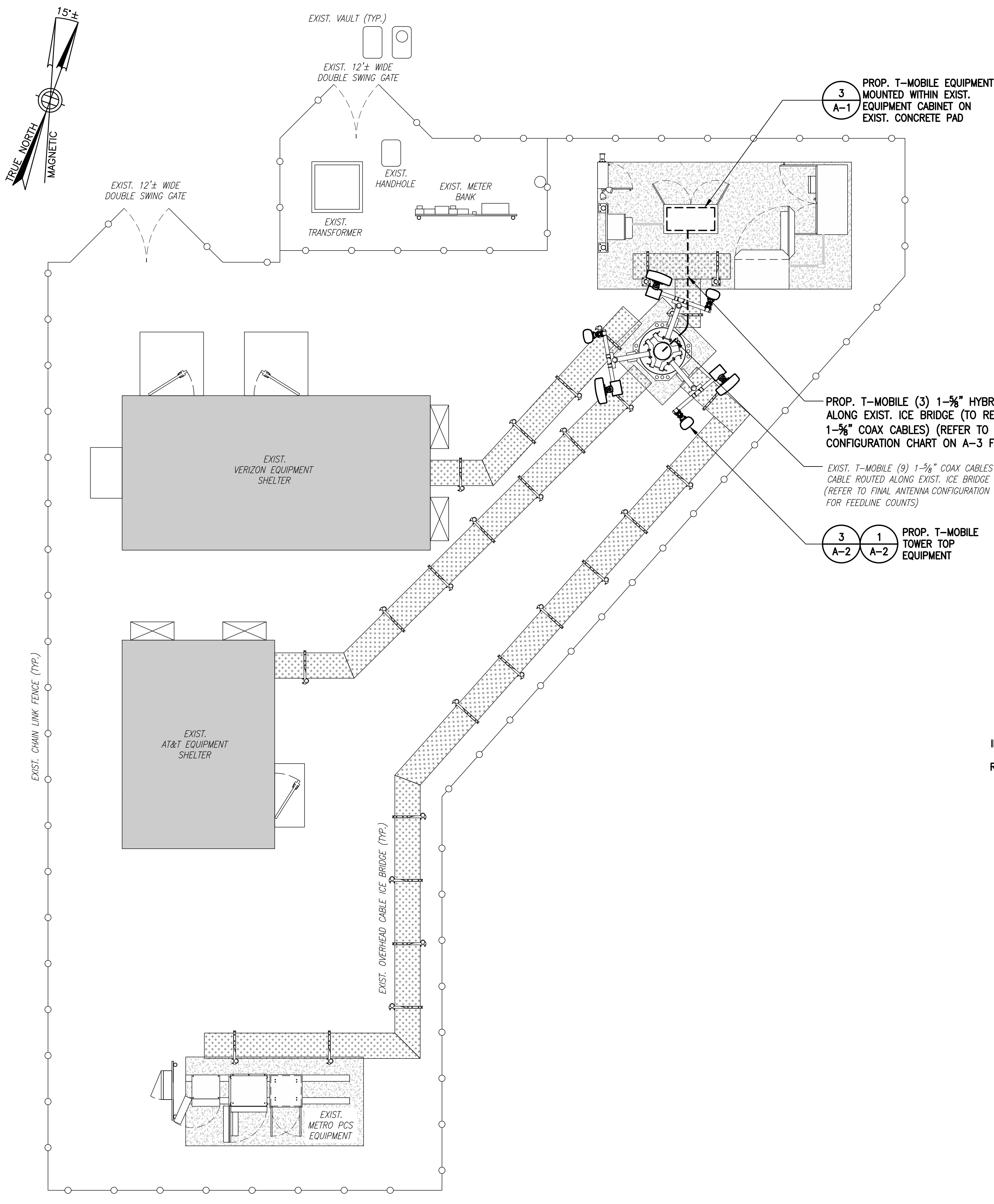
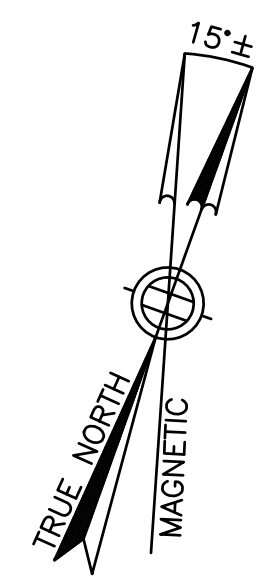
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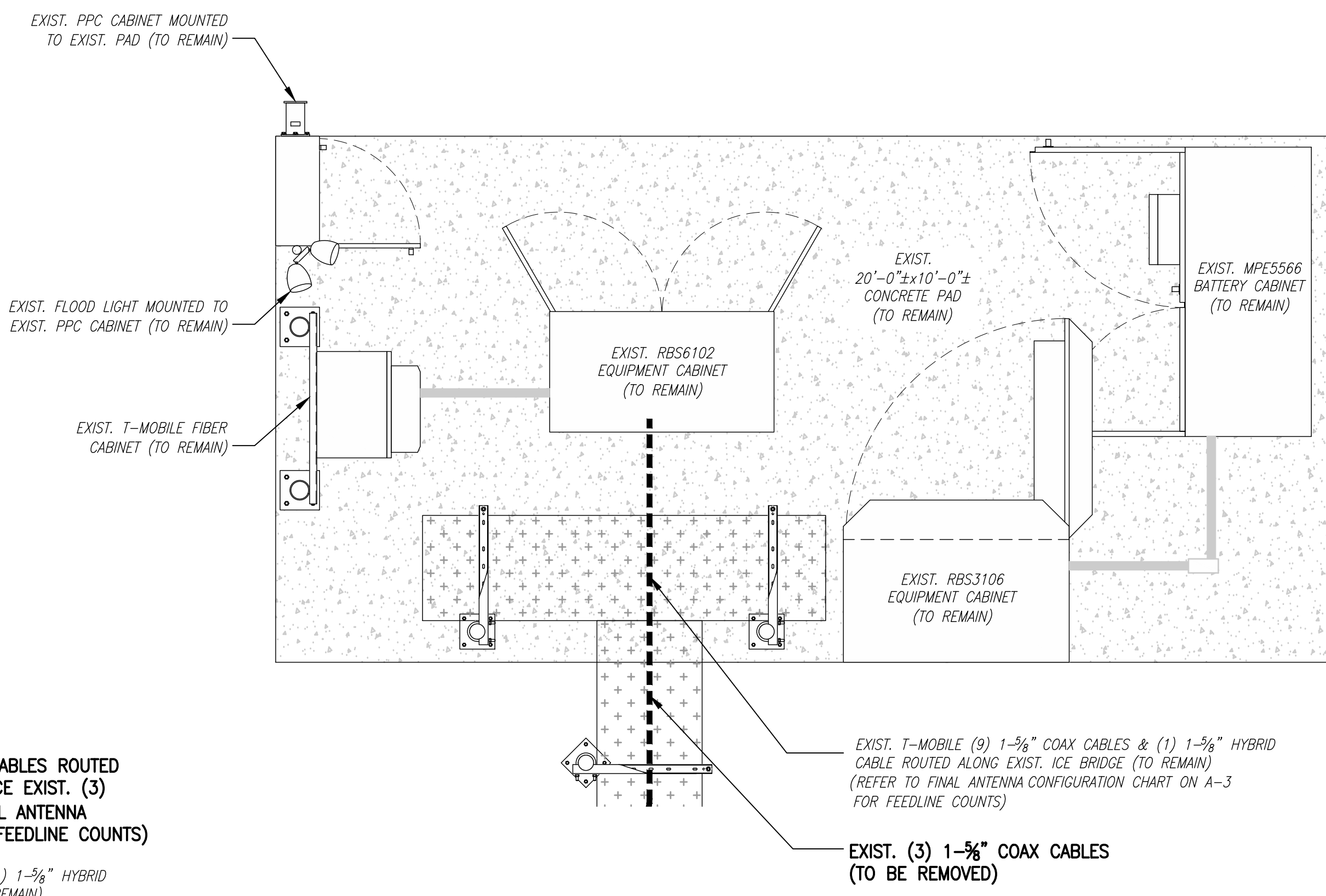
GENERAL NOTES

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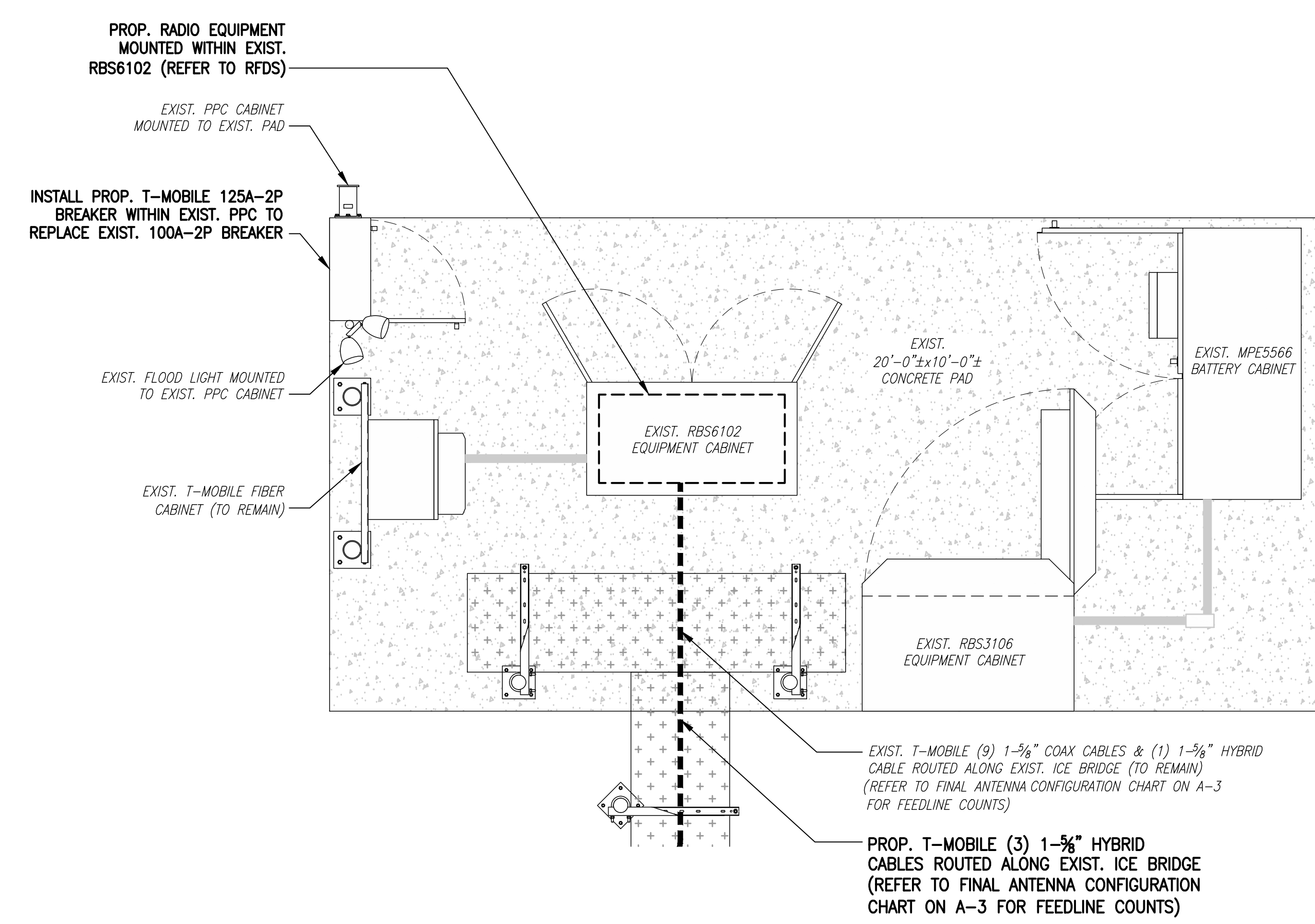
GN-1



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



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



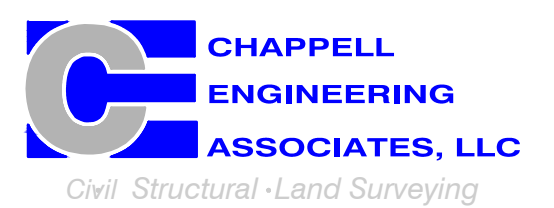
PROPOSED EQUIPMENT PLAN 3
SCALE: 1/2" = 1'-0"
0 2'-0" 4'-0" 6'-0"

**T-MOBILE
NORTHEAST LLC**

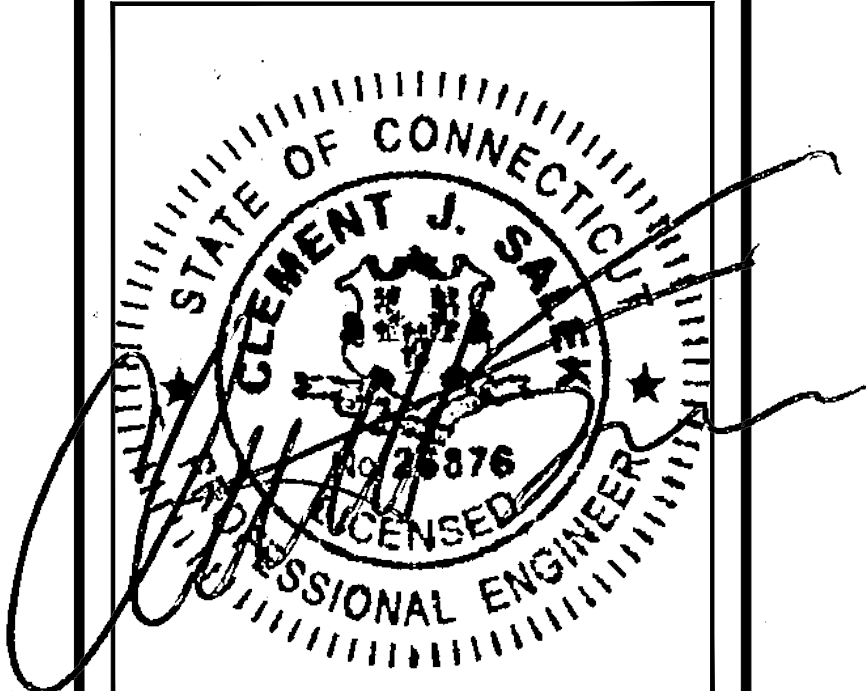
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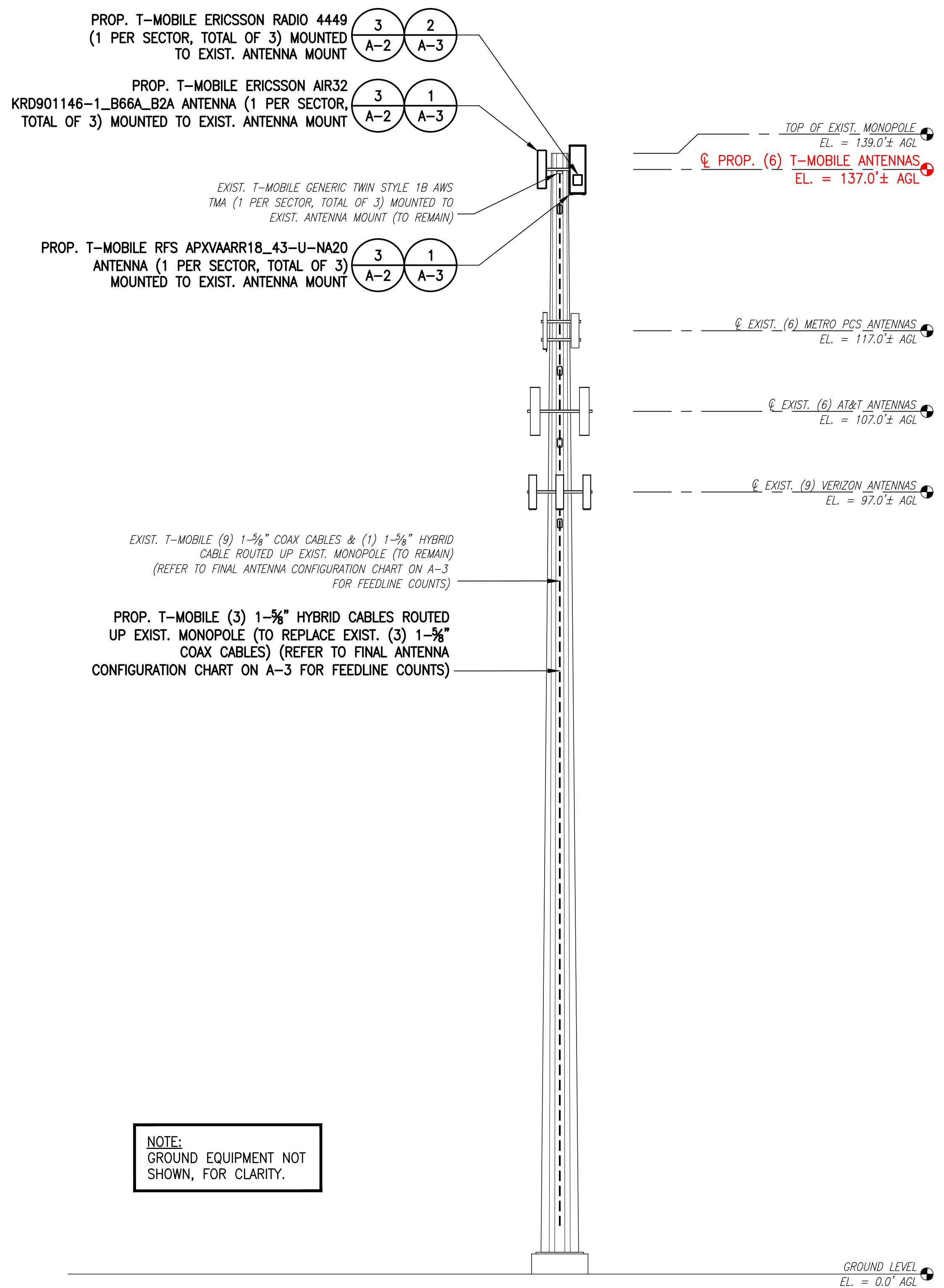
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**COMPOUND &
EQUIPMENT PLAN**

SHEET NUMBER
A-1

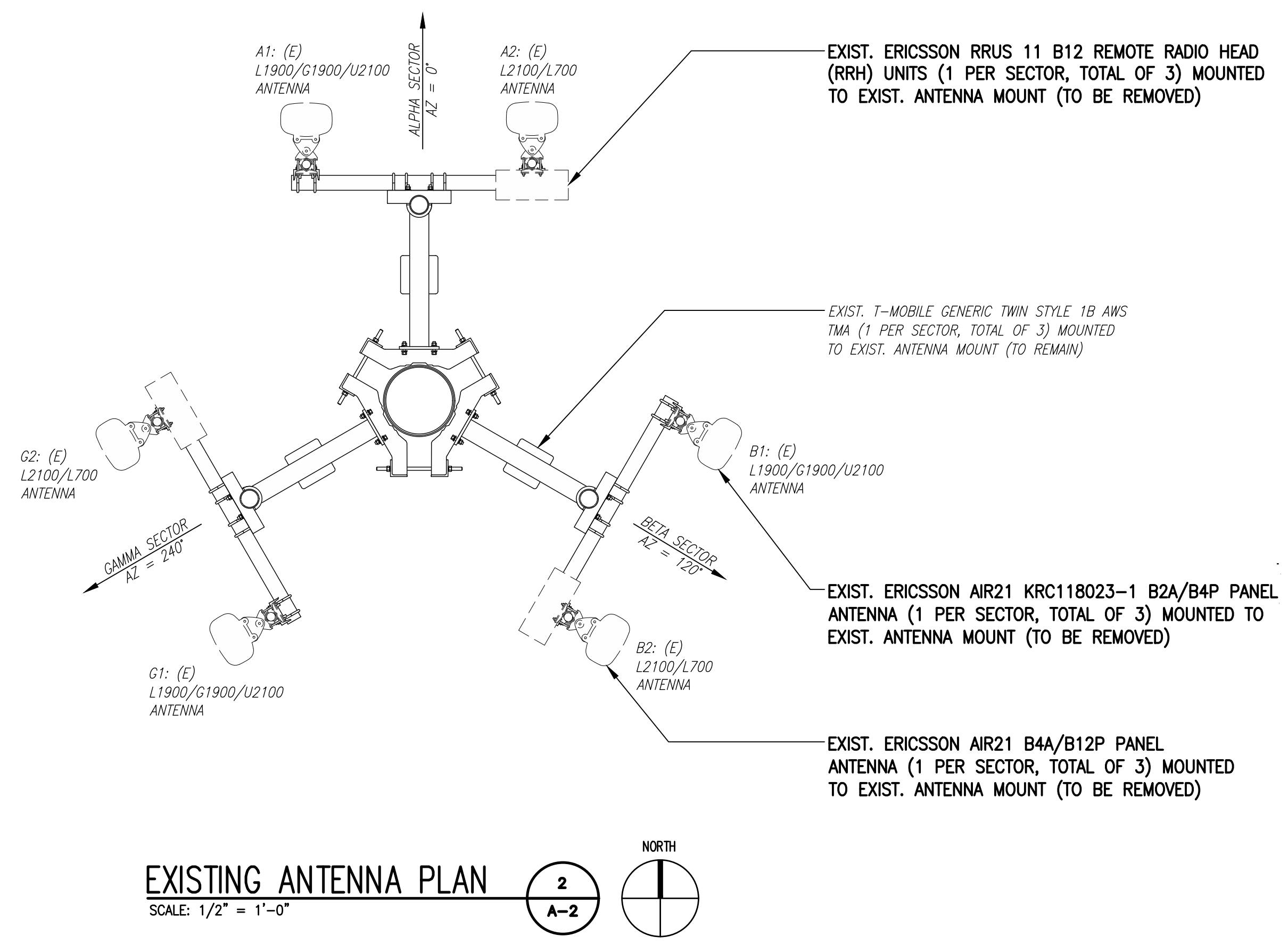
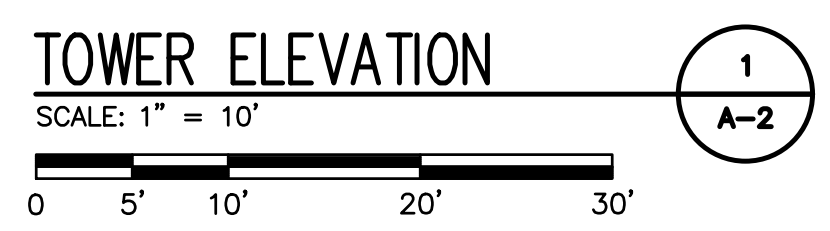
SPECIAL CONSTRUCTION WORK NOTE (PAINT-TO-MATCH REQUIRED):
 PAINT-TO-MATCH ##### (PANTONE REFERENCE COLOR #####, OR EQUIVALENT) ALL PROPOSED AND EXPOSED EQUIPMENT <AS REQUIRED, "INCLUDING EXISTING UN-PAINTED LEGACY EQUIPMENT"> CONSISTING OF ANTENNA RADOMES, ANTENNA BACKPLANES, RRU SOLAR SHIELD, COMBINERS, TMA, DIPLEXERS, BIAS-T AND ASSOCIATED MOUNTING HARDWARE (PIPES, BRACKETS, HANGERS), VERTICAL CABLE TRAYS, AND EXPOSED HYBRID CABLES, COAX JUMPERS, FIBER JUMPERS, AND DC CABLES. ANTENNA RADOME PAINT SHALL CONTAIN <5% METALLIC PIGMENTS/EMULSIONS AND EQUIVALENT TO SHERMAN-WILLIAMS COROTHANE II (AND/OR OTHERWISE APPROVED BY ANTENNA MANUFACTURER/RF ENGINEER).

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.

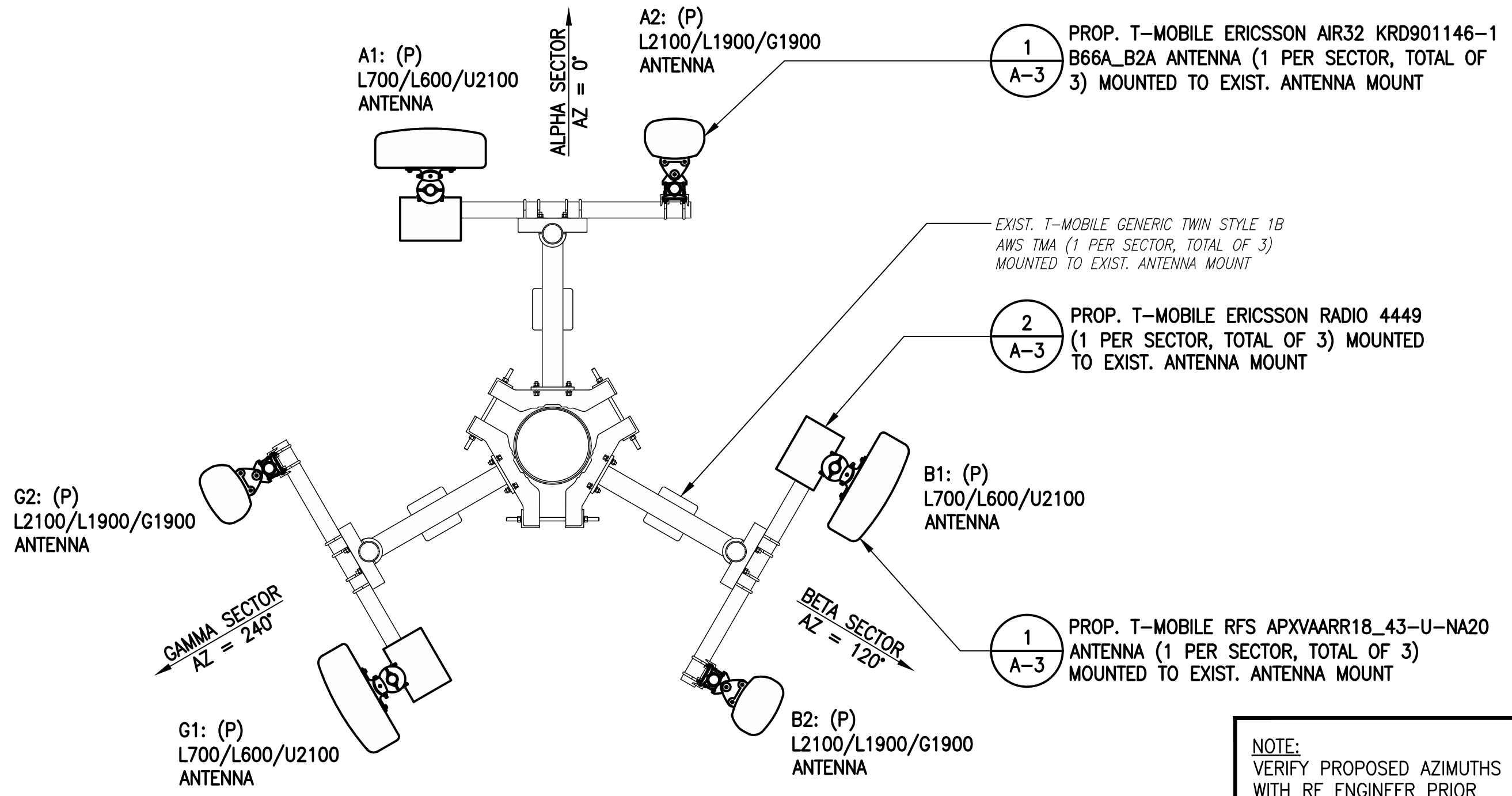
SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY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



NOTE:
 GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.



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



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

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

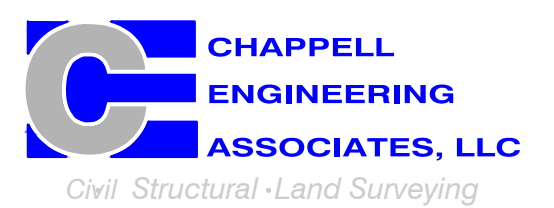
ANTENNA STATUS LEGEND:
 EMPTY - EMPTY PIPE
 (E) - EXISTING
 (P) - INSTALL
 (F) - FUTURE

**T-MOBILE
 NORTHEAST LLC**

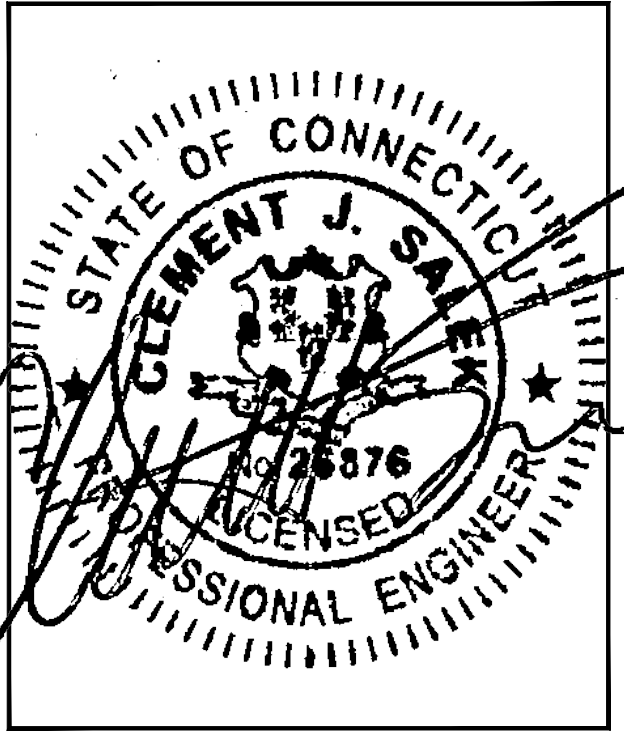
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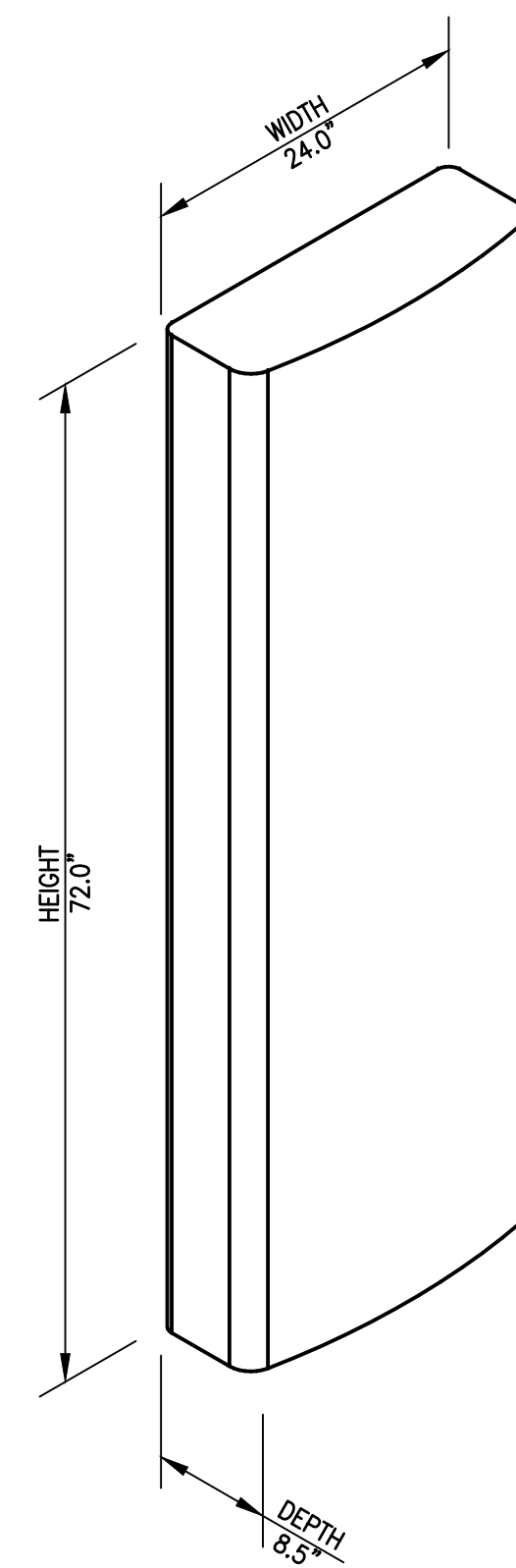
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SHEET TITLE
**TOWER ELEVATIONS &
 ANTENNA PLAN**

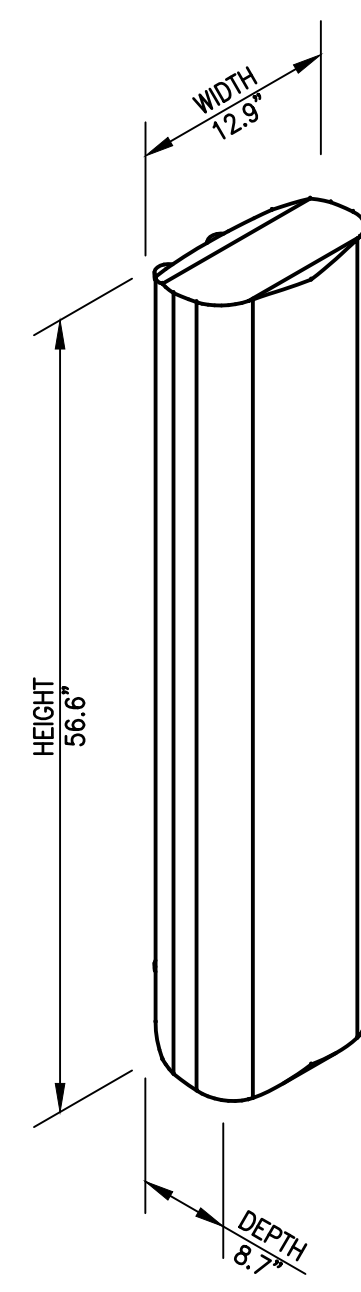
SHEET NUMBER
A-2

FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	RADIOS/TMAS	CABLES
ALPHA	RFS APXVAARR18_43-U-NA20	137'± AGL	0°	0°	6°	L700/L600	RADIO 4449 B71+B12	(1) 1-5/8" HYBRID CABLE
					6°	U2100	GENERIC TWIN STYLE 1B-AWS TMA	(3) 1-5/8" COAX CABLES
	ERICSSON AIR32 KRD901146-1_B66A_B2A	137'± AGL	0°	0°	6°	L2100	-	(1) 1-5/8" HYBRID CABLE (SHARED)
					6°	L1900/G1900		
BETA	RFS APXVAARR18_43-U-NA20	137'± AGL	120°	0°	2°	L700/L600	RADIO 4449 B71+B12	(1) 1-5/8" HYBRID CABLE
					8°	U2100	GENERIC TWIN STYLE 1B-AWS TMA	(3) 1-5/8" COAX CABLES
	ERICSSON AIR32 KRD901146-1_B66A_B2A	137'± AGL	120°	0°	2°	L2100	-	(1) 1-5/8" HYBRID CABLE (SHARED)
					8°	L1900/G1900		
GAMMA	RFS APXVAARR18_43-U-NA20	137'± AGL	240°	0°	6°	L700/L600	RADIO 4449 B71+B12	(1) 1-5/8" HYBRID CABLE
					6°	U2100	GENERIC TWIN STYLE 1B-AWS TMA	(3) 1-5/8" COAX CABLES
	ERICSSON AIR32 KRD901146-1_B66A_B2A	137'± AGL	240°	0°	2°	L2100	-	(1) 1-5/8" HYBRID CABLE (SHARED)
					6°	L1900/G1900		

NOTE: EXISTING (3) 1-5/8" COAX CABLES TO BE REMOVED



RFS APXVAARR18_43-U-NA20 PANEL ANTENNA
DIMENSIONS: 72.0"H x 24.0"W x 8.5"D
WEIGHT: 106.0 LBS
1 PER SECTOR, TOTAL OF 3



ERICSSON AIR32 KRD901146-1_B66A/B2A ANTENNA
DIMENSIONS: 56.6"H x 12.9"W x 8.7"D
WEIGHT: 132.2 LBS
1 PER SECTOR, TOTAL OF 3



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

ANTENNA DETAILS
SCALE: N.T.S.

1
A-3

RRUS DETAILS
SCALE: N.T.S.

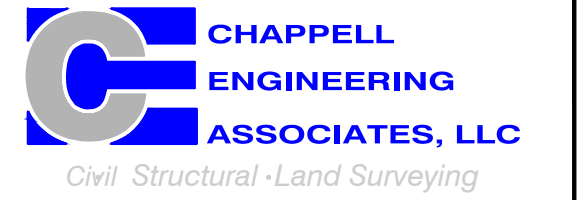
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A-3

T-MOBILE
NORTHEAST LLC

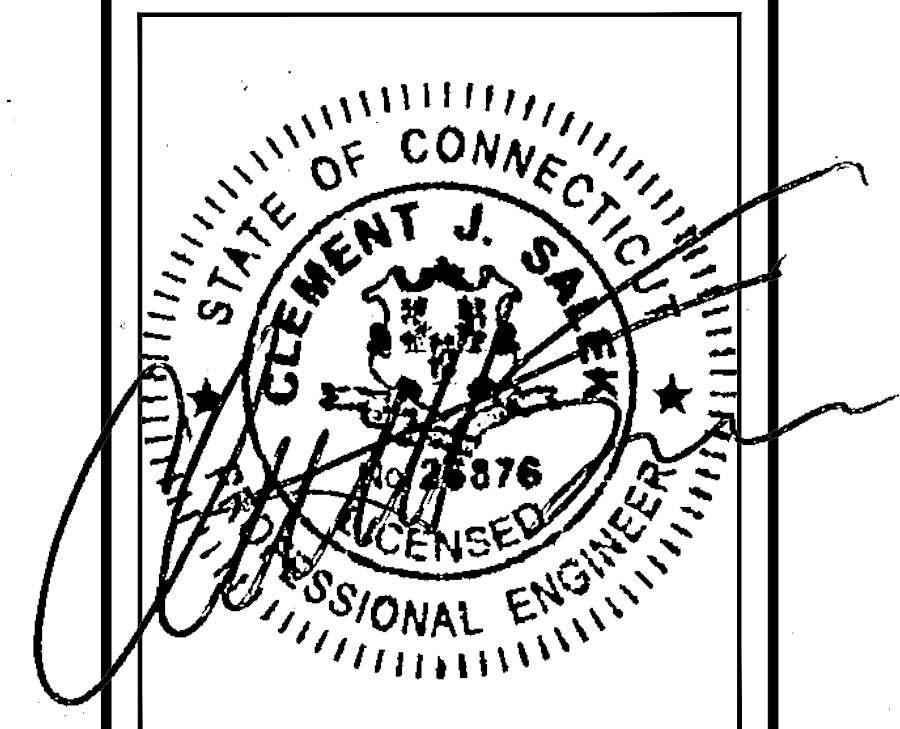
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SITE DETAILS

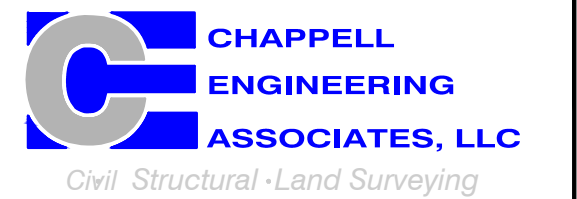
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A-3

T-MOBILE NORTHEAST LLC

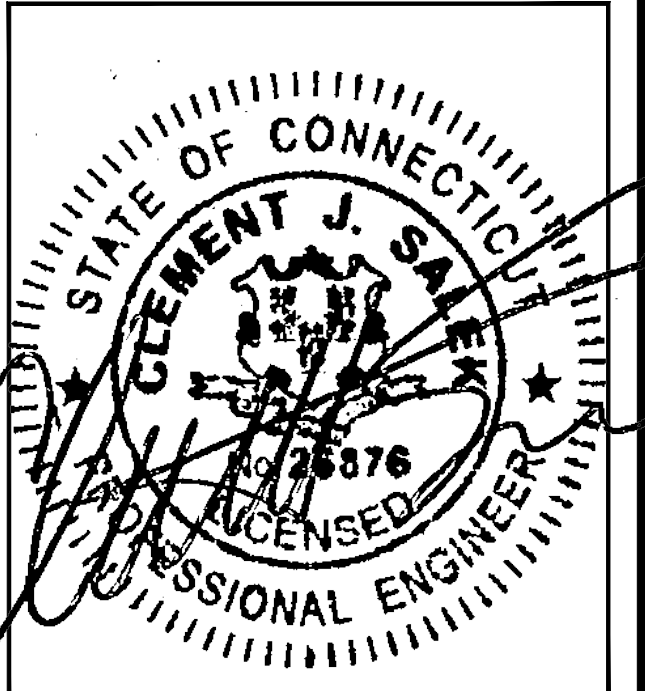
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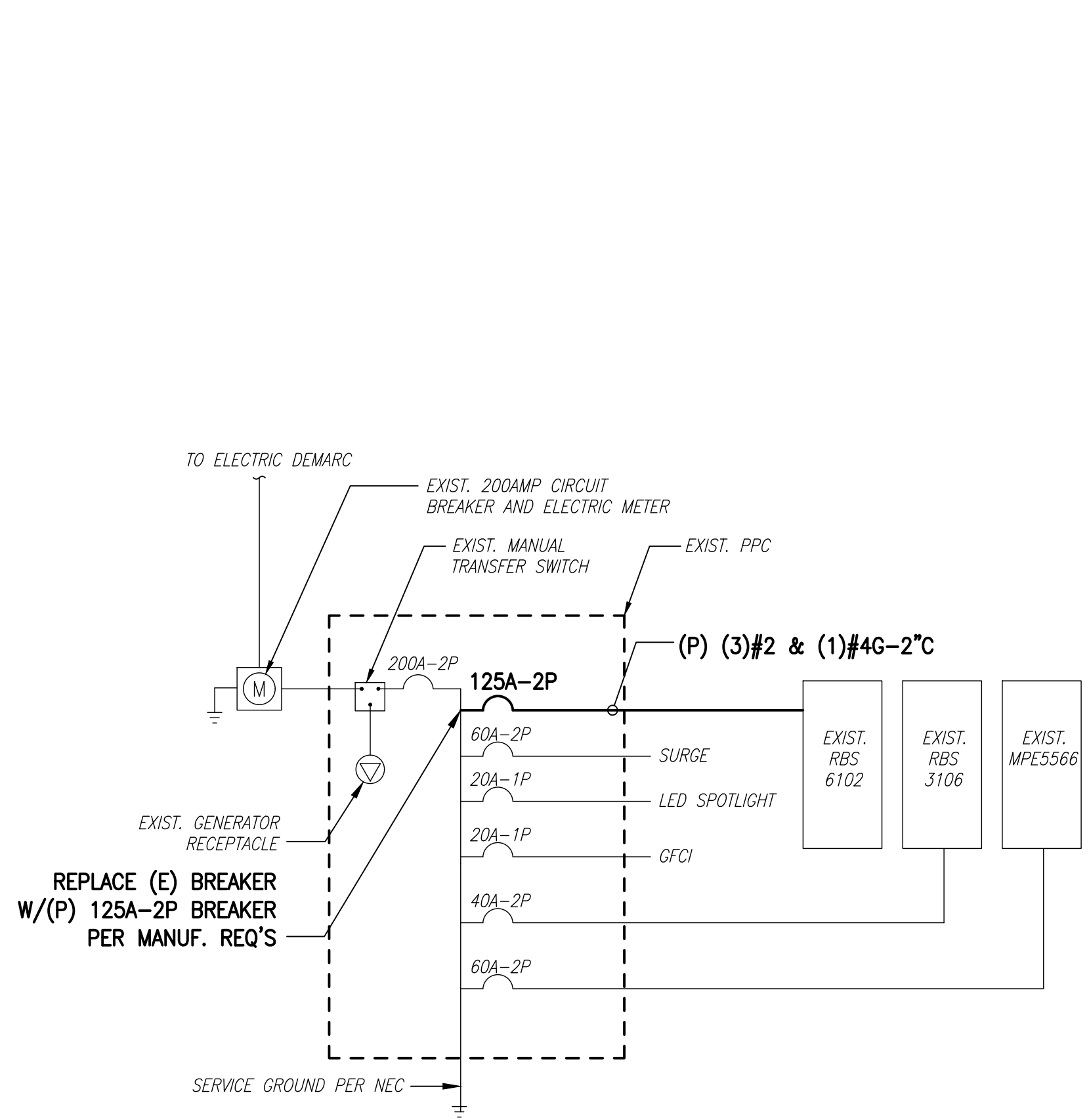
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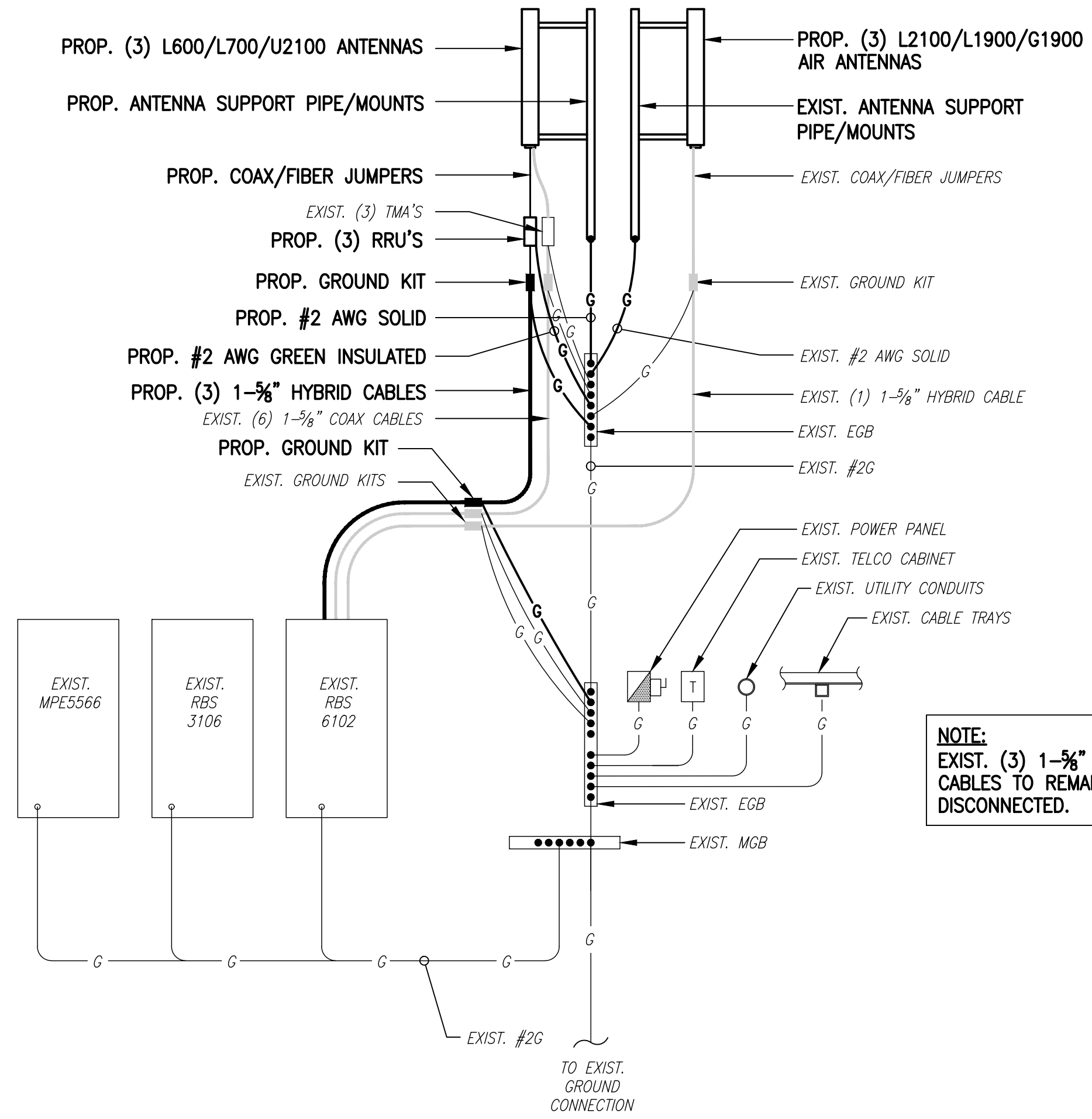
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SHEET TITLE
**ELECTRIC & GROUNDING
DETAILS**

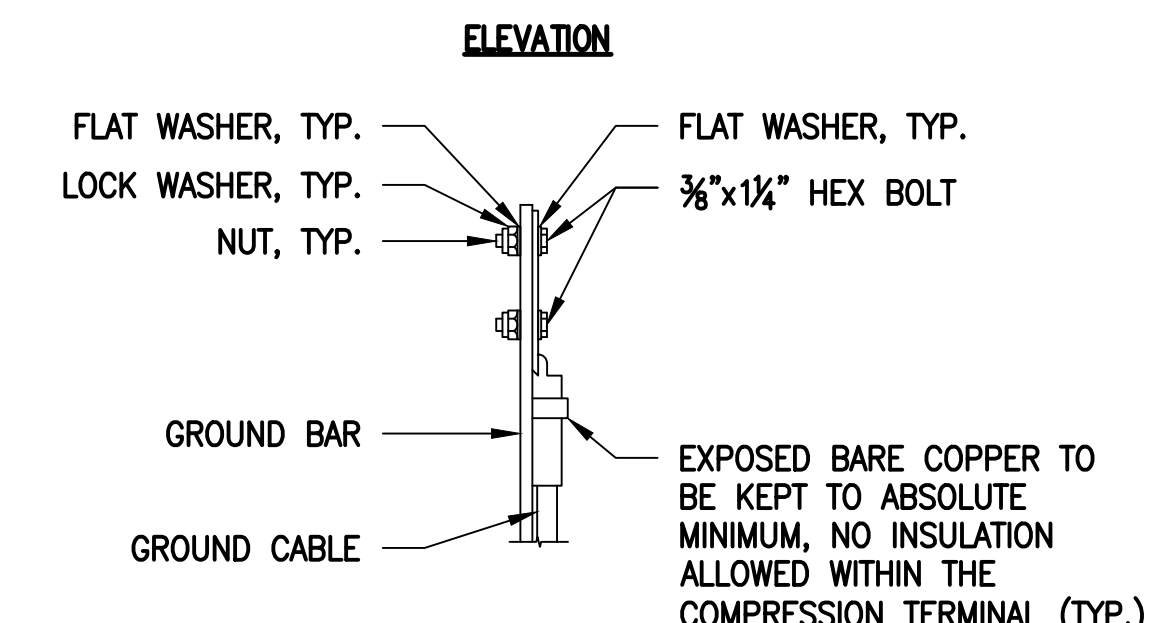
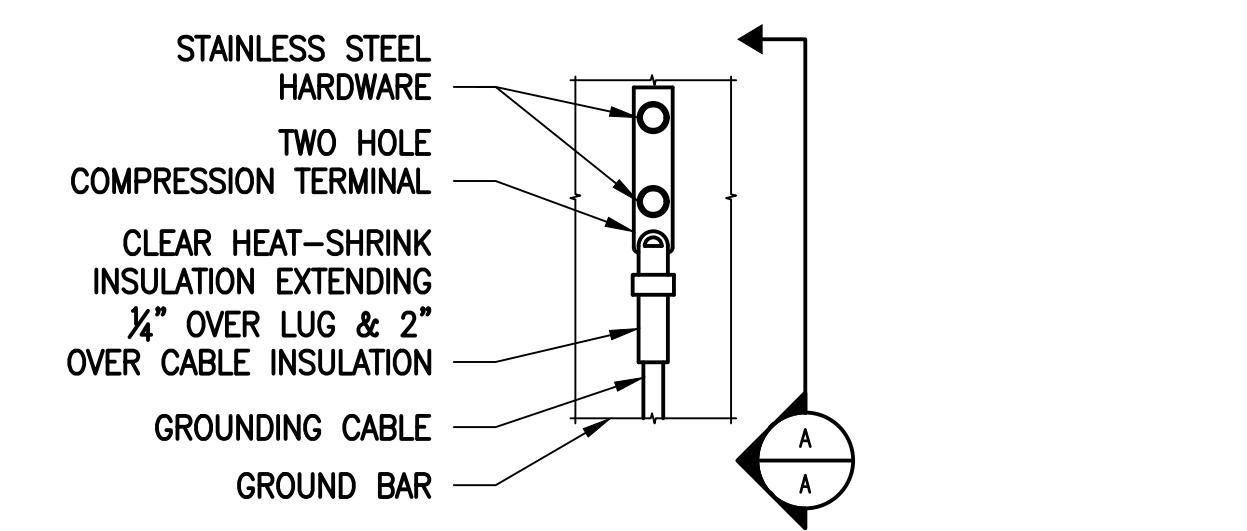
SHEET NUMBER
E-1



ONE LINE DIAGRAM
SCALE: NOT TO SCALE

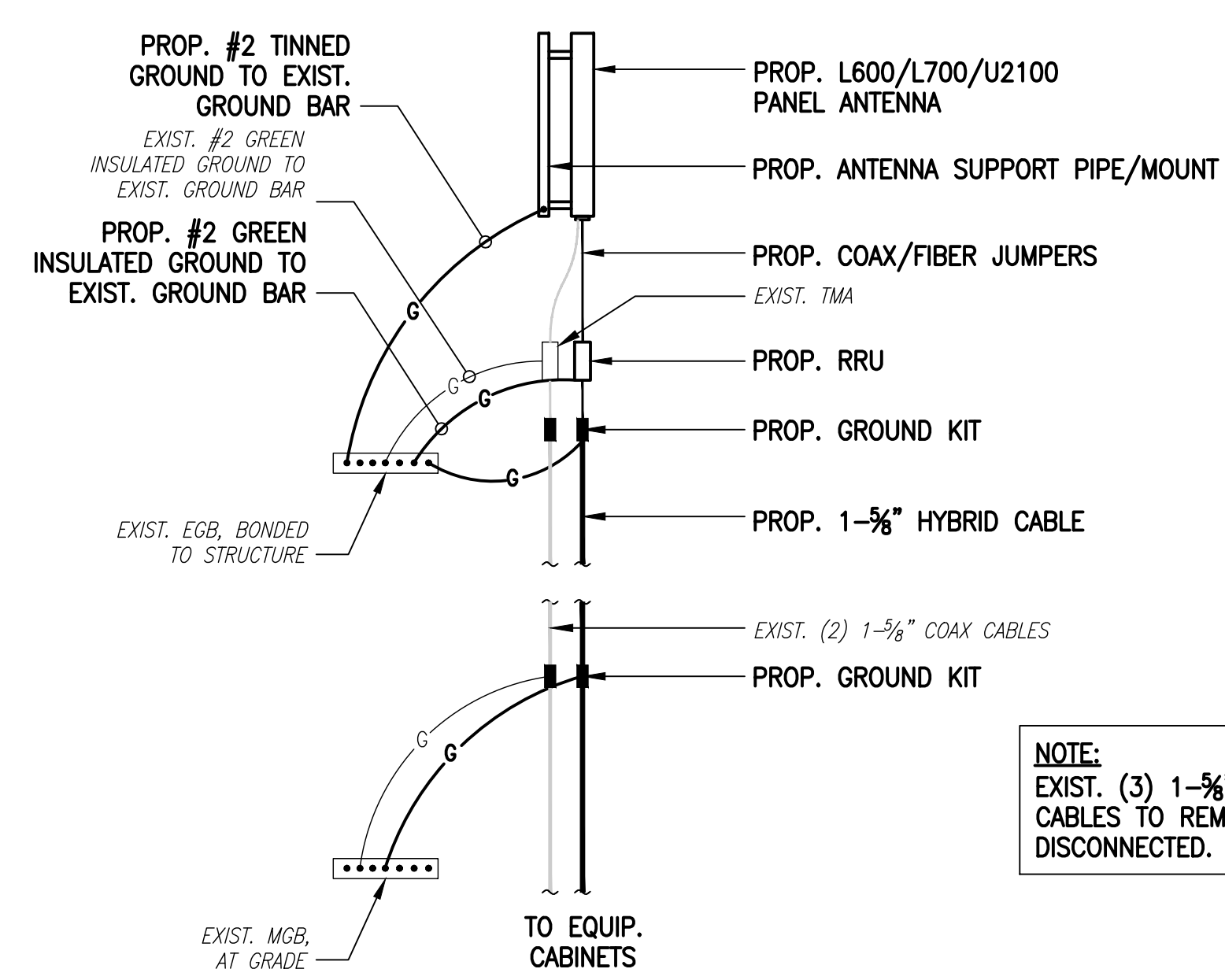


GROUNDING RISER DIAGRAM
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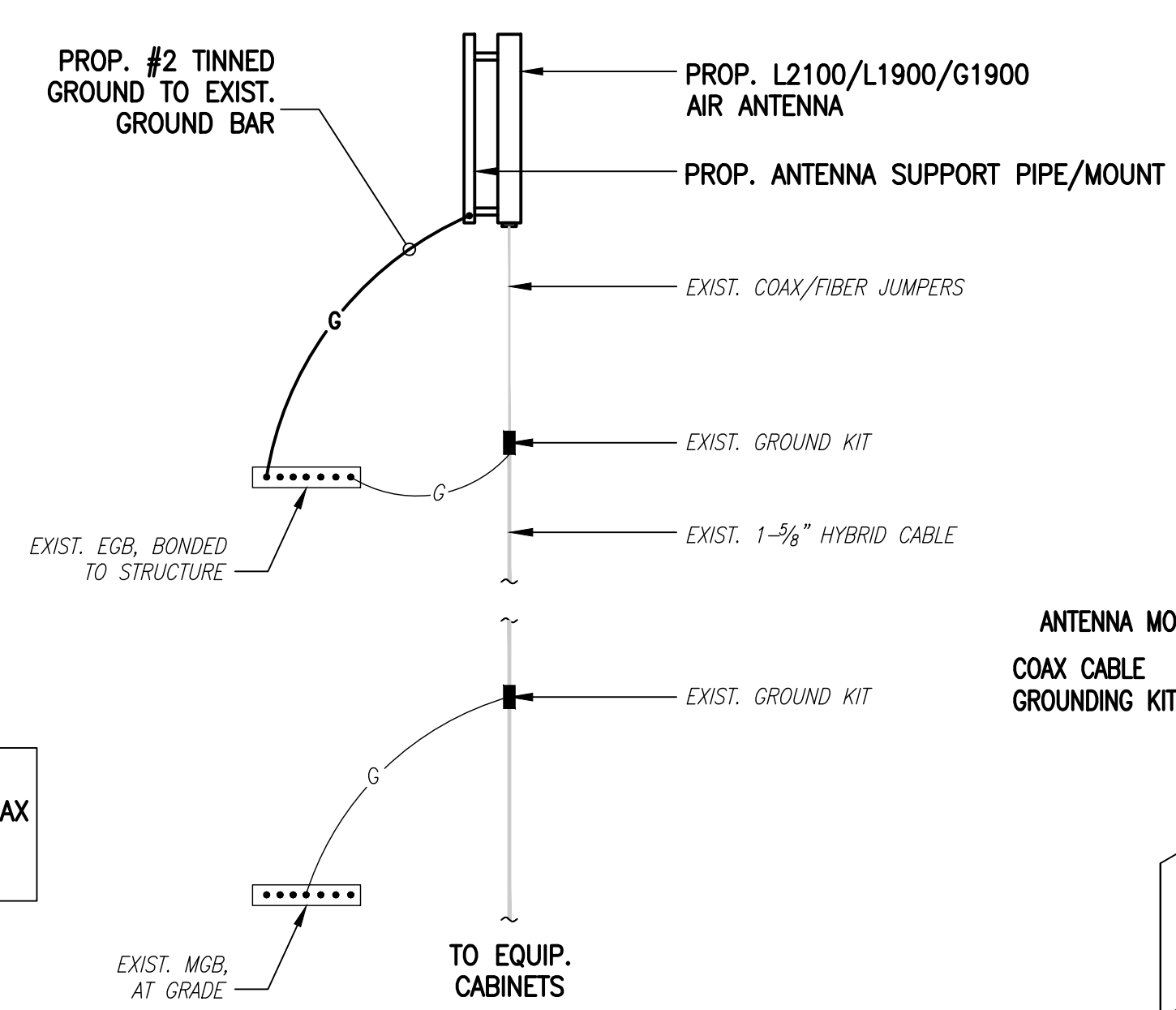


- NOTES:
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
 - CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

TYPICAL GROUND BAR CONNECTIONS DETAIL
SCALE: NOT TO SCALE

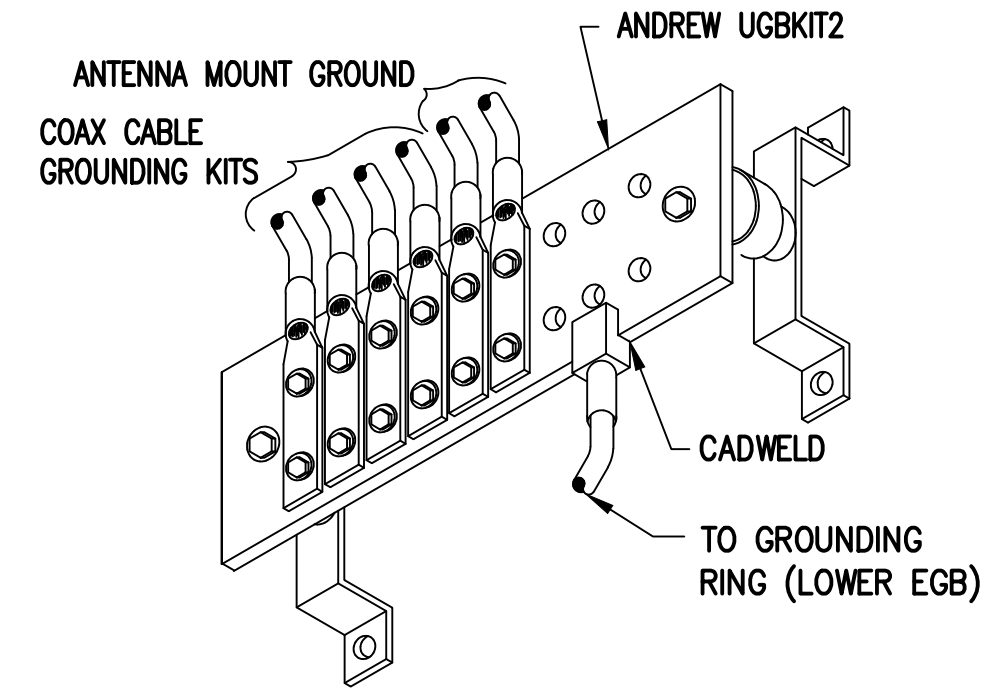


L600/L700/U2100



L2100/L1900/G1900

NOTE:
EXIST. (3) 1-3/8" COAX CABLES TO REMAIN DISCONNECTED.



GROUND BAR (EGB)
SCALE: NOT TO SCALE

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 THINSULATION.
- 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

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 139 ft SABRE Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT13549-S
Customer Site Name: Danbury 1
Carrier Name: T-Mobile (App#: 117029, v2)
Carrier Site ID / Name: CT11796G / Danbury
Site Location: 52 Stadley Rough Road
Danbury, Connecticut
Fairfield County
Latitude: 41.433102
Longitude: -73.431916

Analysis Result:

Max Structural Usage: 79.7% [Pass]

Max Foundation Usage: 72.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Vishnu Paidimarri



Introduction

The purpose of this report is to summarize the analysis results on the 139 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawings prepared by Sabre Towers and Poles, Job # 10-01206 Dated 01/28/2010
Foundation Drawing	Foundation Drawings prepared by Sabre Towers and Poles, Job # 10-01206 Dated 01/28/2010
Geotechnical Report	Geotechnical Report prepared by Tower Engineering Professionals Project # 091184.01 Dated 05/13/2009
Modification Drawings	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 125.0$ mph (3-Sec. Gust) Nominal Design Wind Speed $V_{asd} = 97.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_5 = 0.215$, $S_1 = 0.056$

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
-	137.0	3	AIR 21 B2A/B4P - Panel	(3) T-Arms (SitePro-UDS-NP)	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
-		3	AIR 21 B4A/B12P - Panel			
-		3	Ericsson - KRY 112 144/1 - TMA			
-		3	Ericsson - S11B12 - RRU			
5	117.0	3	Kathrein - 800 10504 - Panel	(1) Stand off	(12) 1 5/8"	Metro PCS
6		3	Kathrein - 742 351 - Panel			
7	107.0	3	CCI OPA-65R-LCUU-H6	(1) Commscope MC- HPM1250-B (1) Commscope RR- RM1560	(6) 3/4" DC Power (2) 3/8" Fiber (6) 7/8" Coax	AT&T
8		3	KMW EPBQ-652L8H6-L2			
9		3	CCI DTMAPB7819VG12A TMA			
10		3	Ericsson RRUS-11 700MHz			
11		3	Ericsson RRUS-12			
12		3	Ericsson RRUS-32			
13		3	Ericsson RRUS 4449 B5/B12			
14		3	Ericsson RRUS 4426 B66			
15		3	Ericsson RRUS-A2			
16		3	Kaelus DBC2055F1V1			
17	3	Raycap DC6-48-60-18-8F				
18	97.0	3	Antel - BXA-70063/6CF - Panel	(3) Stand off	(12) 1 5/8" (1) 1 5/8" Fiber	Verizon
19		3	Antel - BXA-171063/12CF - Panel			
20		3	Andrew - DBXNH-6565A-VTM - Panel			
21		3	Alcatel - RRH2x40-AWS - RRH			
22		6	RFS - FD9R6004/2C-3L - Diplexer			
23		1	RFS - DB-T1-6Z-8AB-OZ - Junction Box			
24	87.0	3	Comba OD12-065R18K-GQ	(3)Standoff Sector frame Commscope SF-SU7-2-96	(1) 1 1/4" Hybrid	Dish Network
25		2	Ericsson 4415			
26		3	Ericsson 0208			

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
1	137.0	3	RFS APXVAARR18_43-U-NA20 - Panel	(3) T-Arms Sitepro UDS-NP	(9) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
2		3	Air 32 KRD901146_1_B66A_B2A - Panel			
3		3	Ericsson KRY 112 144/1 TMA			
4		3	Ericsson Radio 4449 B71+B12 RRU			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	79.7%	67.2%	63.7%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	2230.4	23.7	48.0

The foundation has been analyzed using the supplied documents 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 ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.5776 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G 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 79.68% at 53.3ft

Structure: CT13549-S-SBA
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.000 (ft)

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

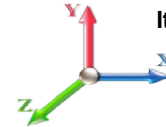
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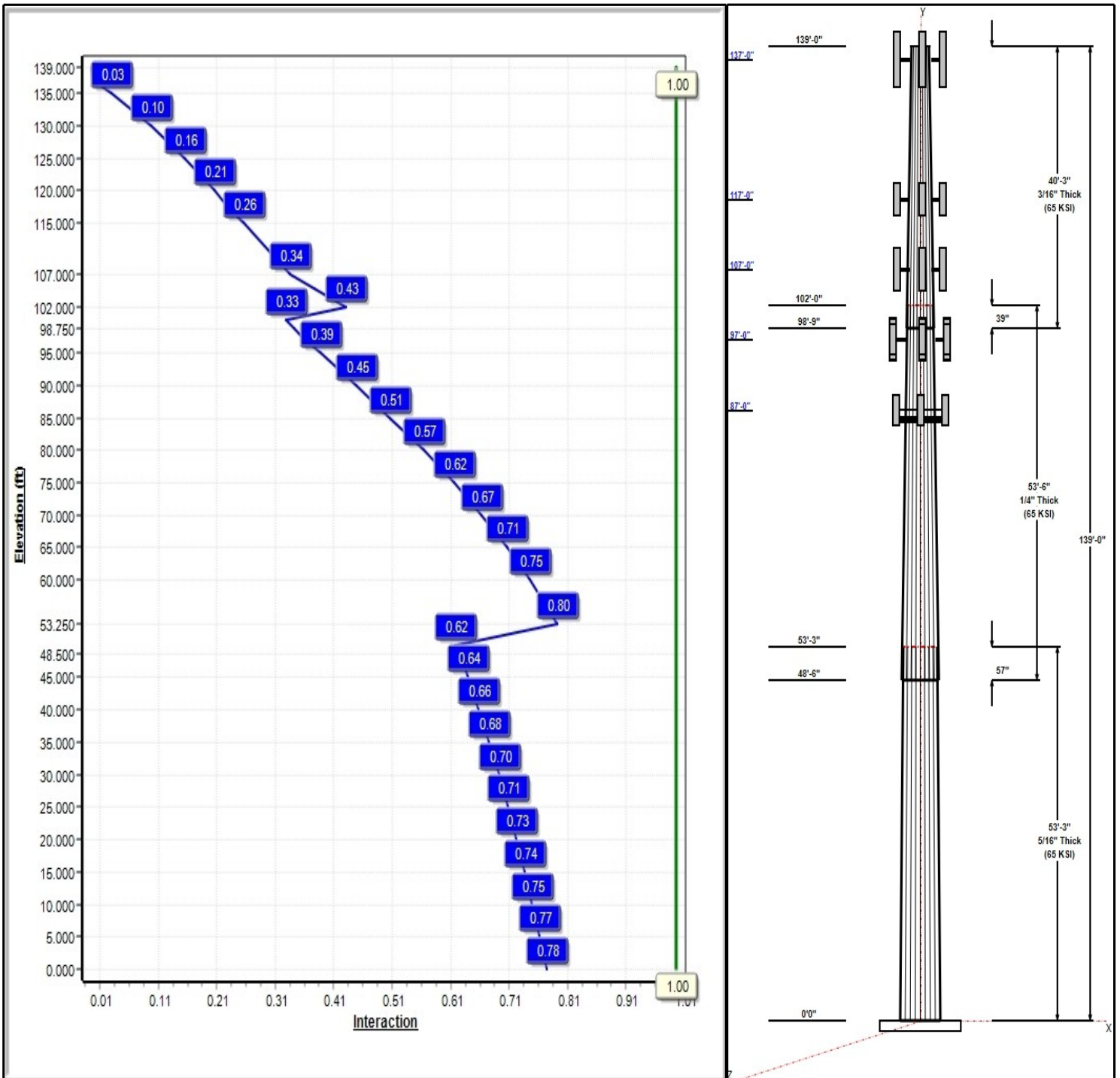
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 97 mph Wind



Iterations: 26

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Structure: CT13549-S-SBA

Type: Tapered
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23097

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Shaft Properties

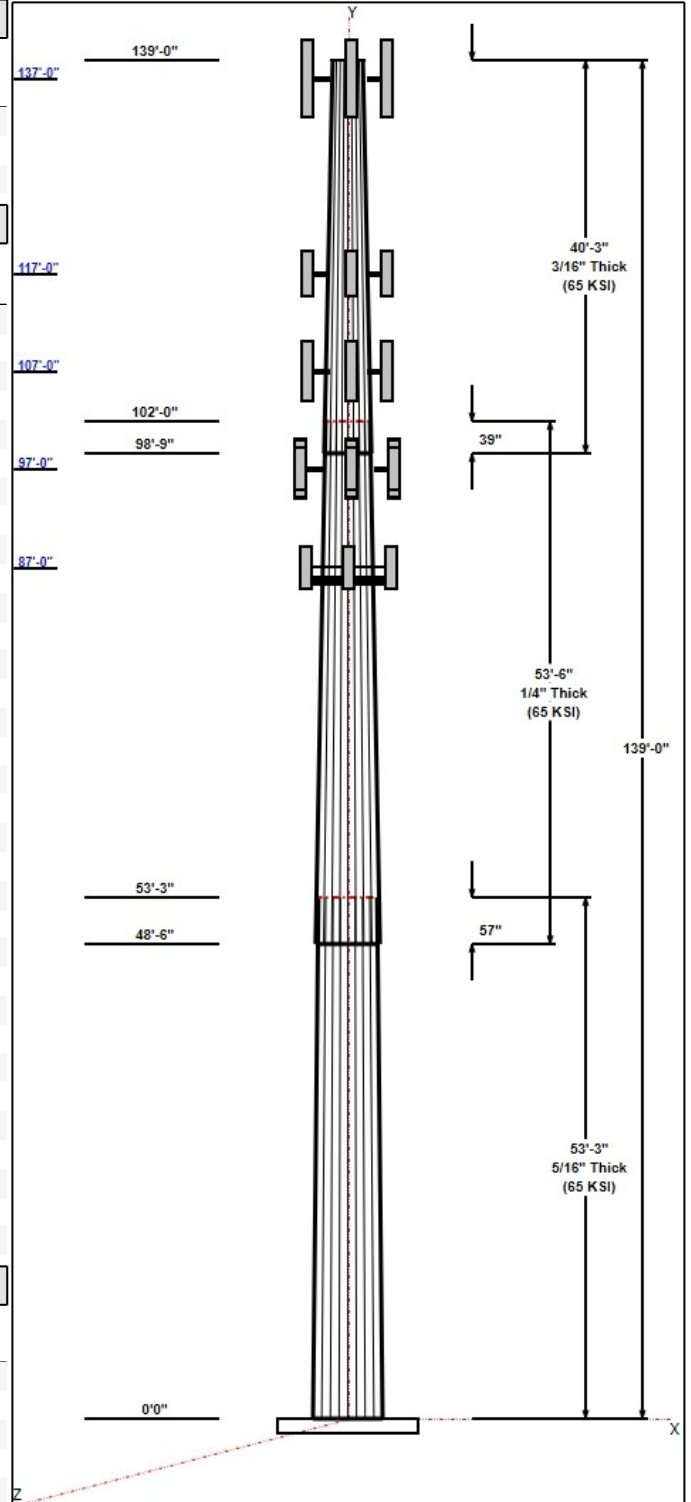
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	34.93	47.23	0.313		0.23097	65
2	53.50	24.17	36.53	0.250	Slip	0.23097	65
3	40.25	16.00	25.30	0.188	Slip	0.23097	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
139.00	139.00	1	6' Lightning rod	T-Mobile
137.00	137.00	3	T-Arms	T-Mobile
137.00	137.00	3	KRY 112 144/1	T-Mobile
137.00	137.00	3	RFS	T-Mobile
137.00	137.00	3	Air 32	T-Mobile
137.00	137.00	3	Radio 4449 B71+B12	T-Mobile
117.00	117.00	3	3 ft Standoff	Metro PCS
117.00	117.00	3	800 10504	Metro PCS
117.00	117.00	3	742 351	Metro PCS
107.00	107.00	3	RRUS-11 700MHz	AT&T
107.00	107.00	3	RRUS 12	AT&T
107.00	107.00	3	RRUS A2	AT&T
107.00	107.00	3	RRUS-32	AT&T
107.00	107.00	3	DC6-48-60-18-8F	AT&T
107.00	107.00	3	OPA-65R-LCUU-H6	AT&T
107.00	107.00	3	EPBQ-652L8H6-L2	AT&T
107.00	107.00	3	DBC20056F1V1	AT&T
107.00	107.00	3	DTMABP7819VG12A	AT&T
107.00	107.00	3	RRUS-E2	AT&T
107.00	107.00	1	Collar Mount Commscope	AT&T
107.00	107.00	3	T-Arm Commscope	AT&T
107.00	107.00	3	RRUS 4449 B5/B12	AT&T
97.00	97.00	3	BXA-70063/6CF	Verizon
97.00	97.00	3	BXA-171063/12CF	Verizon
97.00	97.00	3	DBXNH-6565A-VTM	Verizon
97.00	97.00	3	RRH2x40-AWS	Verizon
97.00	97.00	6	FD9R6004/2C-3L (3.1 lbs)	Verizon
97.00	97.00	1	DB-T1-6Z-8AB-OZ	Verizon
97.00	97.00	3	3 ft Standoff	Verizon
87.00	87.00	3	ODI2-065R18K-GQ	Dish Network
87.00	87.00	3	SF-SU7-2-96	Dish Network
87.00	87.00	2	4415	Dish Network
87.00	87.00	3	0208	Dish Network

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	137.00	Inside	1 5/8" Coax	T-Mobile
0.00	137.00	Inside	1 5/8" Hybrid	T-Mobile
0.00	117.00	Inside	1 5/8" Coax	Metro PCS
0.00	107.00	Inside	3/4" DC	AT&T
0.00	107.00	Inside	3/8" Fiber	AT&T
0.00	107.00	Inside	7/8" Coax	AT&T
0.00	97.00	Inside	1 5/8" Coax	Verizon
0.00	97.00	Inside	1 5/8" Hybrid	Verizon
0.00	87.00	Inside	1 1/4" Coax	Dish Network



Structure: CT13549-S-SBA

Type: Tapered
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23097

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Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	51.5	50.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	2230.4	23.7	30.3
0.9D + 1.6W 97 mph Wind	2206.1	23.7	22.7
1.2D + 1.0Di + 1.0Wi 50 mph Wind	656.8	7.0	48.0
1.2D + 1.0E	113.5	1.1	30.3
0.9D + 1.0E	112.0	1.1	22.7
1.0D + 1.0W 60 mph Wind	530.3	5.7	25.3

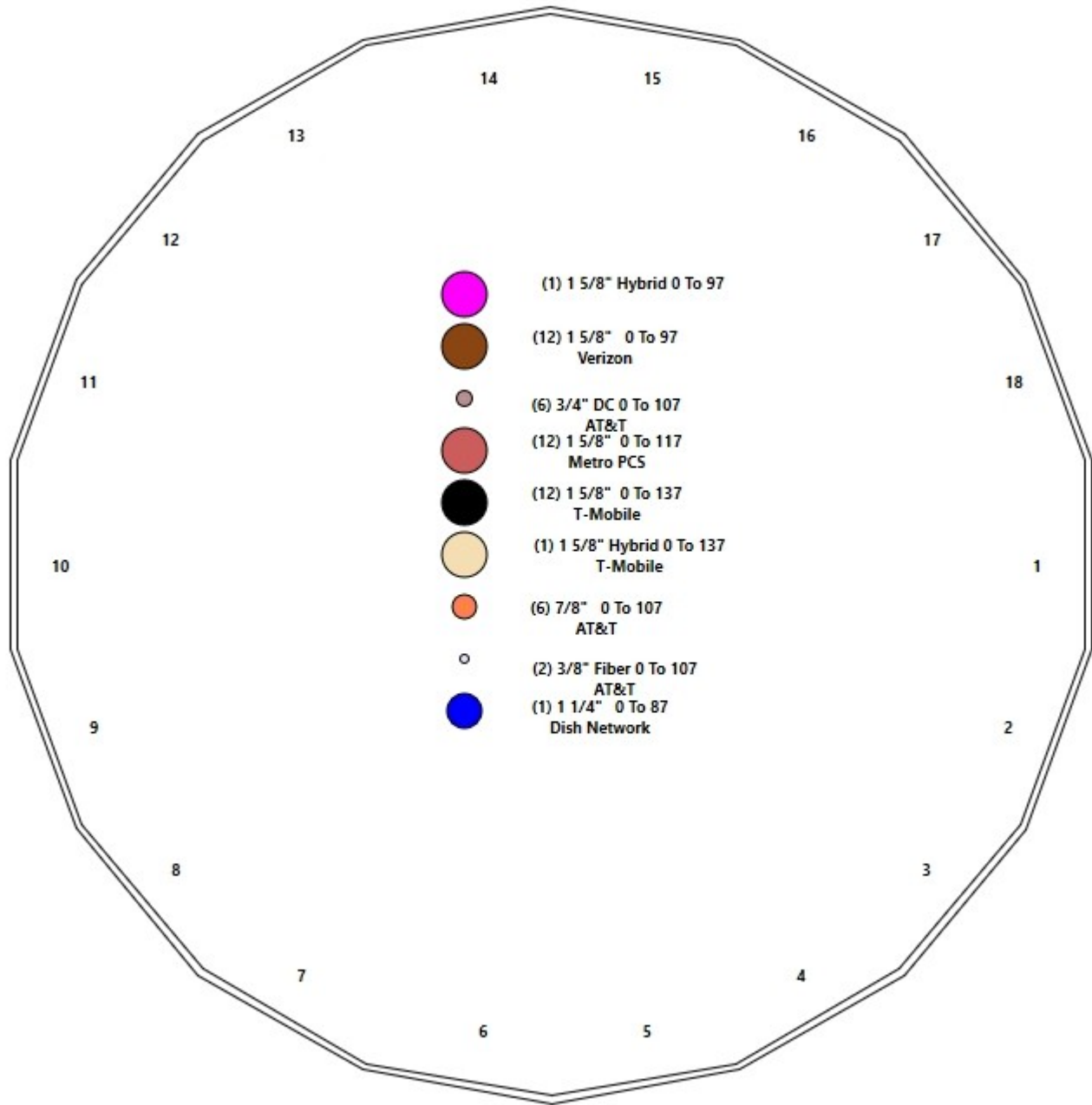
Structure: CT13549-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Danbury 1
Height: 139.00 (ft)

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Shaft Properties

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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	18	53.250	0.3125	65		0.00	7,327
2	18	53.500	0.2500	65	Slip	57.00	4,348
3	18	40.250	0.1875	65	Slip	39.00	1,668
Total Shaft Weight:							13,342

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	47.23	0.00	46.53	12941.93	25.24	151.14	34.93	53.25	34.34	5198.89	18.30	111.7	0.230971
2	36.53	48.50	28.79	4786.42	24.35	146.11	24.17	102.00	18.98	1372.20	15.64	96.68	0.230971
3	25.30	98.75	14.94	1190.25	22.38	134.92	16.00	139.00	9.41	297.27	13.64	85.33	0.230971

Load Summary

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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	139.00	6' Lightning rod	1	6.50	0.38	1.00	42.53	1.459	1.00	0.00	0.00
2	137.00	T-Arms	3	350.00	8.00	0.50	592.13	14.918	0.50	0.00	0.00
3	137.00	KRY 112 144/1	3	11.00	0.41	0.70	21.68	0.881	0.70	0.00	0.00
4	137.00	RFS APXVAARR18_43-U-NA20	3	128.00	20.24	0.70	541.69	22.122	0.70	0.00	0.00
5	137.00	Air 32 KRD901146_1_B66A_B2A	3	132.20	6.51	0.87	314.61	7.679	0.87	0.00	0.00
6	137.00	Radio 4449 B71+B12	3	70.00	1.65	0.67	137.47	2.182	0.67	0.00	0.00
7	117.00	3 ft Standoff	3	40.00	2.63	0.75	118.31	8.452	0.75	0.00	0.00
8	117.00	800 10504	3	17.60	3.34	0.72	78.99	5.109	0.72	0.00	0.00
9	117.00	742 351	3	29.80	5.38	0.61	122.76	7.318	0.61	0.00	0.00
10	107.00	RRUS-11 700MHz	3	50.70	2.52	0.76	136.29	3.148	0.76	0.00	0.00
11	107.00	RRUS 12	3	58.00	3.15	0.70	149.55	3.838	0.70	0.00	0.00
12	107.00	RRUS A2	3	21.20	1.86	0.62	56.11	2.801	0.62	0.00	0.00
13	107.00	RRUS-32	3	77.00	3.87	0.87	186.06	4.078	0.87	0.00	0.00
14	107.00	DC6-48-60-18-8F	3	31.80	1.47	1.00	91.57	2.147	1.00	0.00	0.00
15	107.00	OPA-65R-LCUU-H6	3	80.00	9.66	0.79	302.78	10.978	0.79	0.00	0.00
16	107.00	EPBQ-652L8H6-L2	3	72.80	9.66	0.85	343.47	14.704	0.85	0.00	0.00
17	107.00	DBC20056F1V1	3	6.60	0.41	0.80	19.83	0.720	0.80	0.00	0.00
18	107.00	DTMABP7819VG12A	3	19.20	1.14	0.67	43.87	1.884	0.67	0.00	0.00
19	107.00	RRUS-E2	3	77.00	1.65	0.70	123.37	2.209	0.70	0.00	0.00
20	107.00	Collar Mount Commscope	1	122.40	5.00	1.00	411.53	13.436	1.00	0.00	0.00
21	107.00	T-Arm Commscope MC-HPM1250-B	3	178.00	10.00	0.75	298.13	18.436	0.75	0.00	0.00
22	107.00	RRUS 4449 B5/B12	3	85.00	1.65	0.70	198.76	4.261	0.70	0.00	0.00
23	97.00	BXA-70063/6CF	3	17.00	7.57	0.70	152.66	10.216	0.70	0.00	0.00
24	97.00	BXA-171063/12CF	3	15.00	4.78	0.84	106.74	7.038	0.84	0.00	0.00
25	97.00	DBXNH-6565A-VTM	3	34.20	5.37	0.80	155.54	7.261	0.80	0.00	0.00
26	97.00	RRH2x40-AWS	3	44.00	2.52	0.82	102.13	3.691	0.82	0.00	0.00
27	97.00	FD9R6004/2C-3L (3.1 lbs)	6	3.10	0.36	1.00	10.78	0.784	1.00	0.00	0.00
28	97.00	DB-T1-6Z-8AB-OZ	1	18.90	4.80	0.71	155.45	5.634	0.71	0.00	0.00
29	97.00	3 ft Standoff	3	40.00	2.63	0.75	116.86	8.344	0.75	0.00	0.00
30	87.00	ODI2-065R18K-GQ	3	25.10	4.85	0.70	125.99	5.780	0.70	0.00	0.00
31	87.00	SF-SU7-2-96	3	395.00	15.10	0.75	760.58	33.068	0.75	0.00	0.00
32	87.00	4415	2	44.10	1.86	0.69	89.03	2.402	0.69	0.00	0.00
33	87.00	0208	3	19.80	1.37	0.65	52.89	1.842	0.65	0.00	0.00
Totals:			95	6,632.60			17,204.67				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	137.00	(12) 1 5/8" Coax	0.00	Inside
0.00	137.00	(1) 1 5/8" Hybrid	0.00	Inside
0.00	117.00	(12) 1 5/8" Coax	0.00	Inside
0.00	107.00	(6) 3/4" DC	0.00	Inside
0.00	107.00	(2) 3/8" Fiber	0.00	Inside
0.00	107.00	(6) 7/8" Coax	0.00	Inside
0.00	97.00	(12) 1 5/8" Coax	0.00	Inside
0.00	97.00	(1) 1 5/8" Hybrid	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	87.00	(1) 1 1/4" Coax		0.00		Inside					

Shaft Section Properties

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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		0.3125	47.230	46.535	12941.9	25.24	151.14	71.7	539.7	0.0
5.00		0.3125	46.075	45.389	12009.6	24.59	147.44	72.5	513.4	782.0
10.00		0.3125	44.920	44.244	11123.1	23.94	143.74	73.2	487.7	762.5
15.00		0.3125	43.765	43.098	10281.4	23.28	140.05	74.0	462.7	743.0
20.00		0.3125	42.611	41.953	9483.2	22.63	136.35	74.8	438.3	723.5
25.00		0.3125	41.456	40.807	8727.5	21.98	132.66	75.5	414.7	704.0
30.00		0.3125	40.301	39.662	8013.0	21.33	128.96	76.3	391.6	684.5
35.00		0.3125	39.146	38.517	7338.6	20.68	125.27	77.1	369.2	665.1
40.00		0.3125	37.991	37.371	6703.2	20.03	121.57	77.8	347.5	645.6
45.00		0.3125	36.836	36.226	6105.5	19.37	117.88	78.6	326.5	626.1
48.50	Bot - Section 2	0.3125	36.028	35.424	5709.0	18.92	115.29	79.1	312.1	426.7
50.00		0.3125	35.681	35.080	5544.5	18.72	114.18	79.4	306.1	326.2
53.25	Top - Section 1	0.2500	35.431	27.915	4365.2	23.58	141.72	0.0	0.0	695.8
55.00		0.2500	35.027	27.594	4216.4	23.29	140.11	74.0	237.1	165.3
60.00		0.2500	33.872	26.678	3810.2	22.48	135.49	75.0	221.6	461.7
65.00		0.2500	32.717	25.762	3430.9	21.66	130.87	75.9	206.5	446.1
70.00		0.2500	31.562	24.845	3077.6	20.85	126.25	76.9	192.1	430.5
75.00		0.2500	30.407	23.929	2749.5	20.04	121.63	77.8	178.1	414.9
80.00		0.2500	29.252	23.012	2445.6	19.22	117.01	78.8	164.7	399.3
85.00		0.2500	28.097	22.096	2164.9	18.41	112.39	79.8	151.8	383.7
87.00		0.2500	27.636	21.730	2059.0	18.08	110.54	80.1	146.7	149.1
90.00		0.2500	26.943	21.180	1906.6	17.59	107.77	80.7	139.4	219.0
95.00		0.2500	25.788	20.263	1669.7	16.78	103.15	81.7	127.5	352.6
97.00		0.2500	25.326	19.897	1580.7	16.45	101.30	82.1	122.9	136.7
98.75	Bot - Section 3	0.2500	24.922	19.576	1505.5	16.17	99.69	82.4	119.0	117.5
100.00		0.2500	24.633	19.347	1453.2	15.96	98.53	82.5	116.2	146.0
102.00	Top - Section 2	0.1875	24.546	14.496	1086.7	21.67	130.91	0.0	0.0	230.0
105.00		0.1875	23.853	14.083	996.5	21.02	127.22	76.7	82.3	145.9
107.00		0.1875	23.391	13.809	939.3	20.59	124.75	77.2	79.1	94.9
110.00		0.1875	22.698	13.396	857.7	19.93	121.06	78.0	74.4	138.9
115.00		0.1875	21.543	12.709	732.3	18.85	114.90	79.2	67.0	222.1
117.00		0.1875	21.081	12.434	685.8	18.41	112.43	79.7	64.1	85.6
120.00		0.1875	20.388	12.022	619.8	17.76	108.74	80.5	59.9	124.8
125.00		0.1875	19.234	11.334	519.5	16.68	102.58	81.8	53.2	198.7
130.00		0.1875	18.079	10.647	430.6	15.59	96.42	82.5	46.9	187.0
135.00		0.1875	16.924	9.960	352.5	14.50	90.26	82.5	41.0	175.3
137.00		0.1875	16.462	9.685	324.1	14.07	87.80	82.5	38.8	66.8
139.00		0.1875	16.000	9.410	297.3	13.64	85.33	82.5	36.6	65.0

13342.3

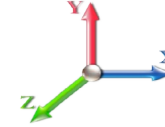
Wind Loading - Shaft

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 26

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	19.450	21.40	357.41	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	348.67	0.650	0.000	5.00	19.738	12.83	439.2	0.0	938.4
10.00		1.00	0.85	19.450	21.40	339.93	0.650	0.000	5.00	19.250	12.51	428.3	0.0	915.0
15.00		1.00	0.85	19.450	21.40	331.19	0.650	0.000	5.00	18.761	12.19	417.5	0.0	891.6
20.00		1.00	0.90	20.638	22.70	332.15	0.650	0.000	5.00	18.273	11.88	431.4	0.0	868.2
25.00		1.00	0.95	21.630	23.79	330.83	0.650	0.000	5.00	17.784	11.56	440.1	0.0	844.8
30.00		1.00	0.98	22.477	24.72	327.84	0.650	0.000	5.00	17.295	11.24	444.7	0.0	821.5
35.00		1.00	1.01	23.218	25.54	323.66	0.650	0.000	5.00	16.807	10.92	446.4	0.0	798.1
40.00		1.00	1.04	23.880	26.27	318.56	0.650	0.000	5.00	16.318	10.61	445.8	0.0	774.7
45.00		1.00	1.07	24.479	26.93	312.72	0.650	0.000	5.00	15.830	10.29	443.3	0.0	751.3
48.50	Bot - Section 2	1.00	1.09	24.869	27.36	308.28	0.650	0.000	3.50	10.790	7.01	307.0	0.0	512.0
50.00		1.00	1.09	25.029	27.53	306.30	0.650	0.000	1.50	4.614	3.00	132.1	0.0	391.4
53.25	Top - Section 1	1.00	1.11	25.363	27.90	301.85	0.650	0.000	3.25	9.847	6.40	285.7	0.0	835.0
55.00		1.00	1.12	25.536	28.09	303.71	0.650	0.000	1.75	5.217	3.39	152.4	0.0	198.3
60.00		1.00	1.14	26.008	28.61	296.40	0.650	0.000	5.00	14.575	9.47	433.7	0.0	554.0
65.00		1.00	1.16	26.450	29.09	288.71	0.650	0.000	5.00	14.087	9.16	426.2	0.0	535.3
70.00		1.00	1.17	26.866	29.55	280.70	0.650	0.000	5.00	13.598	8.84	417.9	0.0	516.6
75.00		1.00	1.19	27.259	29.98	272.40	0.650	0.000	5.00	13.109	8.52	408.8	0.0	497.9
80.00		1.00	1.21	27.632	30.39	263.85	0.650	0.000	5.00	12.621	8.20	399.0	0.0	479.2
85.00		1.00	1.22	27.987	30.79	255.05	0.650	0.000	5.00	12.132	7.89	388.4	0.0	460.5
87.00	Appurtenance(s)	1.00	1.23	28.124	30.94	251.47	0.650	0.000	2.00	4.716	3.07	151.7	0.0	179.0
90.00		1.00	1.24	28.325	31.16	246.04	0.650	0.000	3.00	6.928	4.50	224.5	0.0	262.8
95.00		1.00	1.25	28.650	31.51	236.84	0.650	0.000	5.00	11.155	7.25	365.6	0.0	423.1
97.00	Appurtenance(s)	1.00	1.26	28.776	31.65	233.11	0.650	0.000	2.00	4.325	2.81	142.4	0.0	164.0
98.75	Bot - Section 3	1.00	1.26	28.884	31.77	229.82	0.650	0.000	1.75	3.720	2.42	122.9	0.0	141.0
100.00		1.00	1.27	28.961	31.86	227.46	0.650	0.000	1.25	2.660	1.73	88.1	0.0	175.2
102.00	Top - Section 2	1.00	1.27	29.082	31.99	223.66	0.650	0.000	2.00	4.193	2.73	139.5	0.0	276.0
105.00		1.00	1.28	29.260	32.19	221.39	0.650	0.000	3.00	6.143	3.99	205.6	0.0	175.0
107.00	Appurtenance(s)	1.00	1.28	29.376	32.31	217.54	0.650	0.000	2.00	3.998	2.60	134.3	0.0	113.9
110.00		1.00	1.29	29.548	32.50	211.71	0.650	0.000	3.00	5.850	3.80	197.7	0.0	166.6
115.00		1.00	1.30	29.826	32.81	201.88	0.650	0.000	5.00	9.359	6.08	319.3	0.0	266.5
117.00	Appurtenance(s)	1.00	1.31	29.934	32.93	197.91	0.650	0.000	2.00	3.607	2.34	123.5	0.0	102.7
120.00		1.00	1.32	30.094	33.10	191.92	0.650	0.000	3.00	5.264	3.42	181.2	0.0	149.8
125.00		1.00	1.33	30.354	33.39	181.82	0.650	0.000	5.00	8.382	5.45	291.1	0.0	238.4
130.00		1.00	1.34	30.605	33.67	171.61	0.650	0.000	5.00	7.893	5.13	276.4	0.0	224.4
135.00		1.00	1.35	30.850	33.93	161.29	0.650	0.000	5.00	7.405	4.81	261.3	0.0	210.4
137.00	Appurtenance(s)	1.00	1.35	30.945	34.04	157.13	0.650	0.000	2.00	2.825	1.84	100.0	0.0	80.2
139.00	Appurtenance(s)	1.00	1.36	31.040	34.14	152.96	0.650	0.000	2.00	2.747	1.79	97.5	0.0	78.0
Totals:									139.00			10,710.8		16,010.8

Discrete Appurtenance Forces

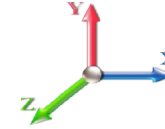
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 26

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	139.00	6' Lightning rod	1	31.040	34.144	1.00	1.00	0.38	7.80	0.000	0.000	20.76	0.00	0.00
2	137.00	Radio 4449 B71+B12	3	30.945	34.040	0.50	0.75	2.49	252.00	0.000	0.000	135.47	0.00	0.00
3	137.00	Air 32	3	30.945	34.040	0.70	0.80	13.59	475.92	0.000	0.000	740.32	0.00	0.00
4	137.00	RFS	3	30.945	34.040	0.56	0.80	34.00	460.80	0.000	0.000	1851.93	0.00	0.00
5	137.00	KRY 112 144/1	3	30.945	34.040	0.52	0.75	0.65	39.60	0.000	0.000	35.17	0.00	0.00
6	137.00	T-Arms	3	30.945	34.040	0.45	0.90	10.80	1260.00	0.000	0.000	588.21	0.00	0.00
7	117.00	3 ft Standoff	3	29.934	32.927	0.56	0.75	4.44	144.00	0.000	0.000	233.82	0.00	0.00
8	117.00	800 10504	3	29.934	32.927	0.54	0.75	5.41	63.36	0.000	0.000	285.06	0.00	0.00
9	117.00	742 351	3	29.934	32.927	0.46	0.75	7.38	107.28	0.000	0.000	389.02	0.00	0.00
10	107.00	T-Arm Commscope	3	29.376	32.314	0.56	0.75	16.88	640.80	0.000	0.000	872.47	0.00	0.00
11	107.00	Collar Mount Commscope	1	29.376	32.314	1.00	1.00	5.00	146.88	0.000	0.000	258.51	0.00	0.00
12	107.00	RRUS-E2	3	29.376	32.314	0.52	0.75	2.60	277.20	0.000	0.000	134.36	0.00	0.00
13	107.00	DTMABP7819VG12A	3	29.376	32.314	0.50	0.75	1.72	69.12	0.000	0.000	88.85	0.00	0.00
14	107.00	DBC20056F1V1	3	29.376	32.314	0.60	0.75	0.74	23.76	0.000	0.000	38.16	0.00	0.00
15	107.00	EPBQ-652L8H6-L2	3	29.376	32.314	0.64	0.75	18.47	262.08	0.000	0.000	955.18	0.00	0.00
16	107.00	OPA-65R-LCUU-H6	3	29.376	32.314	0.59	0.75	17.17	288.00	0.000	0.000	887.76	0.00	0.00
17	107.00	DC6-48-60-18-8F	3	29.376	32.314	0.67	0.67	2.95	114.48	0.000	0.000	152.76	0.00	0.00
18	107.00	RRUS A2	3	29.376	32.314	0.46	0.75	2.59	76.32	0.000	0.000	134.15	0.00	0.00
19	107.00	RRUS 12	3	29.376	32.314	0.52	0.75	4.96	208.80	0.000	0.000	256.51	0.00	0.00
20	107.00	RRUS-11 700MHz	3	29.376	32.314	0.57	0.75	4.31	182.52	0.000	0.000	222.79	0.00	0.00
21	107.00	RRUS 4449 B5/B12	3	29.376	32.314	0.52	0.75	2.60	306.00	0.000	0.000	134.36	0.00	0.00
22	107.00	RRUS-32	3	29.376	32.314	0.65	0.75	7.58	277.20	0.000	0.000	391.67	0.00	0.00
23	97.00	BXA-171063/12CF	3	28.776	31.653	0.63	0.75	9.03	54.00	0.000	0.000	457.54	0.00	0.00
24	97.00	3 ft Standoff	3	28.776	31.653	0.56	0.75	4.44	144.00	0.000	0.000	224.77	0.00	0.00
25	97.00	BXA-70063/6CF	3	28.776	31.653	0.52	0.75	11.92	61.20	0.000	0.000	603.83	0.00	0.00
26	97.00	RRH2x40-AWS	3	28.776	31.653	0.61	0.75	4.65	158.40	0.000	0.000	235.47	0.00	0.00
27	97.00	DBXNH-6565A-VTM	3	28.776	31.653	0.60	0.75	9.67	123.12	0.000	0.000	489.54	0.00	0.00
28	97.00	FD9R6004/2C-3L (3.1 lbs)	6	28.776	31.653	0.75	0.75	1.62	22.32	0.000	0.000	82.05	0.00	0.00
29	97.00	DB-T1-6Z-8AB-0Z	1	28.776	31.653	0.71	1.00	3.41	22.68	0.000	0.000	172.60	0.00	0.00
30	87.00	0208	3	28.124	30.936	0.52	0.80	2.14	71.28	0.000	0.000	105.79	0.00	0.00
31	87.00	4415	2	28.124	30.936	0.55	0.80	2.05	105.84	0.000	0.000	101.64	0.00	0.00
32	87.00	SF-SU7-2-96	3	28.124	30.936	0.56	0.75	25.48	1422.00	0.000	0.000	1261.28	0.00	0.00
33	87.00	ODI2-065R18K-GQ	3	28.124	30.936	0.56	0.80	8.15	90.36	0.000	0.000	403.31	0.00	0.00
Totals:									7,959.12			12,945.11		

Total Applied Force Summary

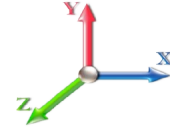
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 26

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		439.20	1214.03	0.00	0.00
10.00		428.33	1190.64	0.00	0.00
15.00		417.46	1167.26	0.00	0.00
20.00		431.40	1143.87	0.00	0.00
25.00		440.06	1120.49	0.00	0.00
30.00		444.72	1097.10	0.00	0.00
35.00		446.41	1073.71	0.00	0.00
40.00		445.79	1050.33	0.00	0.00
45.00		443.30	1026.94	0.00	0.00
48.50		306.97	704.94	0.00	0.00
50.00		132.12	474.08	0.00	0.00
53.25		285.71	1014.18	0.00	0.00
55.00		152.40	294.80	0.00	0.00
60.00		433.66	829.67	0.00	0.00
65.00		426.24	810.96	0.00	0.00
70.00		417.93	792.25	0.00	0.00
75.00		408.80	773.54	0.00	0.00
80.00		398.95	754.83	0.00	0.00
85.00		388.43	736.12	0.00	0.00
87.00	(11) attachments	2023.75	1978.69	0.00	0.00
90.00		224.48	425.83	0.00	0.00
95.00		365.61	694.75	0.00	0.00
97.00	(22) attachments	2408.17	858.38	0.00	0.00
98.75		122.93	207.60	0.00	0.00
100.00		88.14	222.72	0.00	0.00
102.00		139.51	352.09	0.00	0.00
105.00		205.63	289.17	0.00	0.00
107.00	(37) attachments	4661.90	3063.13	0.00	0.00
110.00		197.75	260.44	0.00	0.00
115.00		319.34	422.85	0.00	0.00
117.00	(9) attachments	1031.41	479.85	0.00	0.00
120.00		181.22	198.68	0.00	0.00
125.00		291.06	319.91	0.00	0.00
130.00		276.37	305.87	0.00	0.00
135.00		261.33	291.84	0.00	0.00
137.00	(15) attachments	3451.11	2601.13	0.00	0.00
139.00	(1) attachments	118.30	85.77	0.00	0.00
	Totals:	23,655.89	30,328.45	0.00	0.00

Calculated Forces

Structure: CT13549-S-SBA
Site Name: Danbury 1
Height: 139.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: EIA/TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

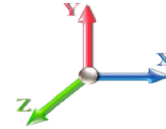
6/28/2019



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Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 26

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	-30.28	-23.72	0.00	-2230.4	0.00	2230.41	3003.53	1501.76	5797.25	2902.93	0.00	0.000	0.000	0.779
5.00	-28.97	-23.40	0.00	-2111.8	0.00	2111.82	2960.91	1480.45	5573.38	2790.83	0.13	-0.239	0.000	0.767
10.00	-27.68	-23.08	0.00	-1994.8	0.00	1994.82	2916.70	1458.35	5350.68	2679.32	0.51	-0.482	0.000	0.754
15.00	-26.42	-22.77	0.00	-1879.4	0.00	1879.41	2870.92	1435.46	5129.40	2568.51	1.15	-0.730	0.000	0.741
20.00	-25.18	-22.43	0.00	-1765.5	0.00	1765.57	2823.56	1411.78	4909.74	2458.52	2.05	-0.982	0.000	0.727
25.00	-23.97	-22.08	0.00	-1653.4	0.00	1653.41	2774.61	1387.31	4691.94	2349.46	3.21	-1.238	0.000	0.713
30.00	-22.78	-21.71	0.00	-1543.0	0.00	1543.02	2724.09	1362.04	4476.23	2241.44	4.65	-1.499	0.000	0.697
35.00	-21.63	-21.34	0.00	-1434.4	0.00	1434.46	2671.99	1335.99	4262.83	2134.58	6.36	-1.763	0.000	0.680
40.00	-20.49	-20.95	0.00	-1327.7	0.00	1327.78	2618.30	1309.15	4051.97	2029.00	8.35	-2.031	0.000	0.662
45.00	-19.40	-20.55	0.00	-1223.0	0.00	1223.03	2563.04	1281.52	3843.87	1924.79	10.62	-2.301	0.000	0.643
48.50	-18.66	-20.26	0.00	-1151.1	0.00	1151.11	2523.41	1261.71	3699.97	1852.74	12.38	-2.495	0.000	0.629
50.00	-18.14	-20.15	0.00	-1120.7	0.00	1120.72	2506.19	1253.10	3638.77	1822.09	13.18	-2.580	0.000	0.623
53.25	-17.10	-19.86	0.00	-1055.2	0.00	1055.24	1850.79	925.39	2677.47	1340.72	15.00	-2.761	0.000	0.797
55.00	-16.74	-19.75	0.00	-1020.4	0.00	1020.49	1837.85	918.92	2627.99	1315.95	16.03	-2.861	0.000	0.785
60.00	-15.82	-19.37	0.00	-921.73	0.00	921.73	1799.82	899.91	2487.54	1245.62	19.20	-3.188	0.000	0.749
65.00	-14.93	-18.98	0.00	-824.90	0.00	824.90	1760.21	880.10	2348.61	1176.05	22.71	-3.514	0.000	0.710
70.00	-14.06	-18.59	0.00	-730.00	0.00	730.00	1719.02	859.51	2211.45	1107.37	26.57	-3.837	0.000	0.668
75.00	-13.22	-18.20	0.00	-637.06	0.00	637.06	1676.25	838.13	2076.26	1039.67	30.75	-4.153	0.000	0.621
80.00	-12.40	-17.81	0.00	-546.06	0.00	546.06	1631.90	815.95	1943.29	973.09	35.27	-4.459	0.000	0.569
85.00	-11.64	-17.40	0.00	-457.01	0.00	457.01	1585.97	792.99	1812.75	907.72	40.09	-4.750	0.000	0.511
87.00	-9.80	-15.25	0.00	-422.20	0.00	422.20	1567.16	783.58	1761.26	881.94	42.10	-4.866	0.000	0.485
90.00	-9.34	-15.02	0.00	-376.46	0.00	376.46	1538.46	769.23	1684.87	843.69	45.21	-5.032	0.000	0.453
95.00	-8.64	-14.62	0.00	-301.36	0.00	301.36	1489.37	744.69	1559.88	781.10	50.61	-5.284	0.000	0.392
97.00	-7.99	-12.16	0.00	-272.12	0.00	272.12	1469.29	734.65	1510.75	756.50	52.85	-5.382	0.000	0.365
98.75	-7.78	-12.02	0.00	-250.85	0.00	250.85	1451.52	725.76	1468.18	735.18	54.83	-5.464	0.000	0.347
100.00	-7.55	-11.92	0.00	-235.82	0.00	235.82	1437.39	718.70	1436.71	719.42	56.27	-5.522	0.000	0.333
102.00	-7.19	-11.76	0.00	-211.98	0.00	211.98	990.34	495.17	991.38	496.43	58.60	-5.610	0.000	0.435
105.00	-6.90	-11.54	0.00	-176.69	0.00	176.69	971.88	485.94	945.01	473.21	62.16	-5.730	0.000	0.381
107.00	-4.31	-6.60	0.00	-153.60	0.00	153.60	959.26	479.63	914.39	457.88	64.57	-5.825	0.000	0.340
110.00	-4.05	-6.39	0.00	-133.79	0.00	133.79	939.85	469.93	868.93	435.11	68.27	-5.955	0.000	0.312
115.00	-3.65	-6.04	0.00	-101.82	0.00	101.82	906.24	453.12	794.52	397.85	74.60	-6.151	0.000	0.260
117.00	-3.28	-4.97	0.00	-89.74	0.00	89.74	892.36	446.18	765.27	383.21	77.19	-6.225	0.000	0.238
120.00	-3.09	-4.77	0.00	-74.84	0.00	74.84	871.06	435.53	722.01	361.54	81.13	-6.328	0.000	0.211
125.00	-2.80	-4.45	0.00	-50.98	0.00	50.98	834.29	417.15	651.64	326.30	87.82	-6.472	0.000	0.160
130.00	-2.52	-4.15	0.00	-28.71	0.00	28.71	791.03	395.51	580.02	290.44	94.65	-6.581	0.000	0.102
135.00	-2.26	-3.86	0.00	-7.97	0.00	7.97	739.97	369.98	507.20	253.97	101.57	-6.642	0.000	0.035
137.00	-0.07	-0.13	0.00	-0.25	0.00	0.25	719.55	359.77	479.43	240.07	104.34	-6.648	0.000	0.001
139.00	0.00	-0.12	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	107.12	-6.648	0.000	0.000

Wind Loading - Shaft

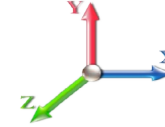
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 26

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	19.450	21.40	357.41	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	348.67	0.650	0.000	5.00	19.738	12.83	439.2	0.0	703.8
10.00		1.00	0.85	19.450	21.40	339.93	0.650	0.000	5.00	19.250	12.51	428.3	0.0	686.3
15.00		1.00	0.85	19.450	21.40	331.19	0.650	0.000	5.00	18.761	12.19	417.5	0.0	668.7
20.00		1.00	0.90	20.638	22.70	332.15	0.650	0.000	5.00	18.273	11.88	431.4	0.0	651.2
25.00		1.00	0.95	21.630	23.79	330.83	0.650	0.000	5.00	17.784	11.56	440.1	0.0	633.6
30.00		1.00	0.98	22.477	24.72	327.84	0.650	0.000	5.00	17.295	11.24	444.7	0.0	616.1
35.00		1.00	1.01	23.218	25.54	323.66	0.650	0.000	5.00	16.807	10.92	446.4	0.0	598.6
40.00		1.00	1.04	23.880	26.27	318.56	0.650	0.000	5.00	16.318	10.61	445.8	0.0	581.0
45.00		1.00	1.07	24.479	26.93	312.72	0.650	0.000	5.00	15.830	10.29	443.3	0.0	563.5
48.50	Bot - Section 2	1.00	1.09	24.869	27.36	308.28	0.650	0.000	3.50	10.790	7.01	307.0	0.0	384.0
50.00		1.00	1.09	25.029	27.53	306.30	0.650	0.000	1.50	4.614	3.00	132.1	0.0	293.5
53.25	Top - Section 1	1.00	1.11	25.363	27.90	301.85	0.650	0.000	3.25	9.847	6.40	285.7	0.0	626.3
55.00		1.00	1.12	25.536	28.09	303.71	0.650	0.000	1.75	5.217	3.39	152.4	0.0	148.7
60.00		1.00	1.14	26.008	28.61	296.40	0.650	0.000	5.00	14.575	9.47	433.7	0.0	415.5
65.00		1.00	1.16	26.450	29.09	288.71	0.650	0.000	5.00	14.087	9.16	426.2	0.0	401.5
70.00		1.00	1.17	26.866	29.55	280.70	0.650	0.000	5.00	13.598	8.84	417.9	0.0	387.5
75.00		1.00	1.19	27.259	29.98	272.40	0.650	0.000	5.00	13.109	8.52	408.8	0.0	373.4
80.00		1.00	1.21	27.632	30.39	263.85	0.650	0.000	5.00	12.621	8.20	399.0	0.0	359.4
85.00		1.00	1.22	27.987	30.79	255.05	0.650	0.000	5.00	12.132	7.89	388.4	0.0	345.4
87.00	Appurtenance(s)	1.00	1.23	28.124	30.94	251.47	0.650	0.000	2.00	4.716	3.07	151.7	0.0	134.2
90.00		1.00	1.24	28.325	31.16	246.04	0.650	0.000	3.00	6.928	4.50	224.5	0.0	197.1
95.00		1.00	1.25	28.650	31.51	236.84	0.650	0.000	5.00	11.155	7.25	365.6	0.0	317.3
97.00	Appurtenance(s)	1.00	1.26	28.776	31.65	233.11	0.650	0.000	2.00	4.325	2.81	142.4	0.0	123.0
98.75	Bot - Section 3	1.00	1.26	28.884	31.77	229.82	0.650	0.000	1.75	3.720	2.42	122.9	0.0	105.8
100.00		1.00	1.27	28.961	31.86	227.46	0.650	0.000	1.25	2.660	1.73	88.1	0.0	131.4
102.00	Top - Section 2	1.00	1.27	29.082	31.99	223.66	0.650	0.000	2.00	4.193	2.73	139.5	0.0	207.0
105.00		1.00	1.28	29.260	32.19	221.39	0.650	0.000	3.00	6.143	3.99	205.6	0.0	131.3
107.00	Appurtenance(s)	1.00	1.28	29.376	32.31	217.54	0.650	0.000	2.00	3.998	2.60	134.3	0.0	85.4
110.00		1.00	1.29	29.548	32.50	211.71	0.650	0.000	3.00	5.850	3.80	197.7	0.0	125.0
115.00		1.00	1.30	29.826	32.81	201.88	0.650	0.000	5.00	9.359	6.08	319.3	0.0	199.9
117.00	Appurtenance(s)	1.00	1.31	29.934	32.93	197.91	0.650	0.000	2.00	3.607	2.34	123.5	0.0	77.0
120.00		1.00	1.32	30.094	33.10	191.92	0.650	0.000	3.00	5.264	3.42	181.2	0.0	112.3
125.00		1.00	1.33	30.354	33.39	181.82	0.650	0.000	5.00	8.382	5.45	291.1	0.0	178.8
130.00		1.00	1.34	30.605	33.67	171.61	0.650	0.000	5.00	7.893	5.13	276.4	0.0	168.3
135.00		1.00	1.35	30.850	33.93	161.29	0.650	0.000	5.00	7.405	4.81	261.3	0.0	157.8
137.00	Appurtenance(s)	1.00	1.35	30.945	34.04	157.13	0.650	0.000	2.00	2.825	1.84	100.0	0.0	60.2
139.00	Appurtenance(s)	1.00	1.36	31.040	34.14	152.96	0.650	0.000	2.00	2.747	1.79	97.5	0.0	58.5
Totals:									139.00			10,710.8		12,008.1

Discrete Appurtenance Forces

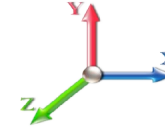
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 26

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	139.00	6' Lightning rod	1	31.040	34.144	1.00	1.00	0.38	5.85	0.000	0.000	20.76	0.00	0.00
2	137.00	Radio 4449 B71+B12	3	30.945	34.040	0.50	0.75	2.49	189.00	0.000	0.000	135.47	0.00	0.00
3	137.00	Air 32	3	30.945	34.040	0.70	0.80	13.59	356.94	0.000	0.000	740.32	0.00	0.00
4	137.00	RFS	3	30.945	34.040	0.56	0.80	34.00	345.60	0.000	0.000	1851.93	0.00	0.00
5	137.00	KRY 112 144/1	3	30.945	34.040	0.52	0.75	0.65	29.70	0.000	0.000	35.17	0.00	0.00
6	137.00	T-Arms	3	30.945	34.040	0.45	0.90	10.80	945.00	0.000	0.000	588.21	0.00	0.00
7	117.00	3 ft Standoff	3	29.934	32.927	0.56	0.75	4.44	108.00	0.000	0.000	233.82	0.00	0.00
8	117.00	800 10504	3	29.934	32.927	0.54	0.75	5.41	47.52	0.000	0.000	285.06	0.00	0.00
9	117.00	742 351	3	29.934	32.927	0.46	0.75	7.38	80.46	0.000	0.000	389.02	0.00	0.00
10	107.00	T-Arm Commscope	3	29.376	32.314	0.56	0.75	16.88	480.60	0.000	0.000	872.47	0.00	0.00
11	107.00	Collar Mount Commscope	1	29.376	32.314	1.00	1.00	5.00	110.16	0.000	0.000	258.51	0.00	0.00
12	107.00	RRUS-E2	3	29.376	32.314	0.52	0.75	2.60	207.90	0.000	0.000	134.36	0.00	0.00
13	107.00	DTMABP7819VG12A	3	29.376	32.314	0.50	0.75	1.72	51.84	0.000	0.000	88.85	0.00	0.00
14	107.00	DBC20056F1V1	3	29.376	32.314	0.60	0.75	0.74	17.82	0.000	0.000	38.16	0.00	0.00
15	107.00	EPBQ-652L8H6-L2	3	29.376	32.314	0.64	0.75	18.47	196.56	0.000	0.000	955.18	0.00	0.00
16	107.00	OPA-65R-LCUU-H6	3	29.376	32.314	0.59	0.75	17.17	216.00	0.000	0.000	887.76	0.00	0.00
17	107.00	DC6-48-60-18-8F	3	29.376	32.314	0.67	0.67	2.95	85.86	0.000	0.000	152.76	0.00	0.00
18	107.00	RRUS A2	3	29.376	32.314	0.46	0.75	2.59	57.24	0.000	0.000	134.15	0.00	0.00
19	107.00	RRUS 12	3	29.376	32.314	0.52	0.75	4.96	156.60	0.000	0.000	256.51	0.00	0.00
20	107.00	RRUS-11 700MHz	3	29.376	32.314	0.57	0.75	4.31	136.89	0.000	0.000	222.79	0.00	0.00
21	107.00	RRUS 4449 B5/B12	3	29.376	32.314	0.52	0.75	2.60	229.50	0.000	0.000	134.36	0.00	0.00
22	107.00	RRUS-32	3	29.376	32.314	0.65	0.75	7.58	207.90	0.000	0.000	391.67	0.00	0.00
23	97.00	BXA-171063/12CF	3	28.776	31.653	0.63	0.75	9.03	40.50	0.000	0.000	457.54	0.00	0.00
24	97.00	3 ft Standoff	3	28.776	31.653	0.56	0.75	4.44	108.00	0.000	0.000	224.77	0.00	0.00
25	97.00	BXA-70063/6CF	3	28.776	31.653	0.52	0.75	11.92	45.90	0.000	0.000	603.83	0.00	0.00
26	97.00	RRH2x40-AWS	3	28.776	31.653	0.61	0.75	4.65	118.80	0.000	0.000	235.47	0.00	0.00
27	97.00	DBXNH-6565A-VTM	3	28.776	31.653	0.60	0.75	9.67	92.34	0.000	0.000	489.54	0.00	0.00
28	97.00	FD9R6004/2C-3L (3.1 lbs)	6	28.776	31.653	0.75	0.75	1.62	16.74	0.000	0.000	82.05	0.00	0.00
29	97.00	DB-T1-6Z-8AB-0Z	1	28.776	31.653	0.71	1.00	3.41	17.01	0.000	0.000	172.60	0.00	0.00
30	87.00	0208	3	28.124	30.936	0.52	0.80	2.14	53.46	0.000	0.000	105.79	0.00	0.00
31	87.00	4415	2	28.124	30.936	0.55	0.80	2.05	79.38	0.000	0.000	101.64	0.00	0.00
32	87.00	SF-SU7-2-96	3	28.124	30.936	0.56	0.75	25.48	1066.50	0.000	0.000	1261.28	0.00	0.00
33	87.00	ODI2-065R18K-GQ	3	28.124	30.936	0.56	0.80	8.15	67.77	0.000	0.000	403.31	0.00	0.00
Totals:									5,969.34			12,945.11		

Total Applied Force Summary

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

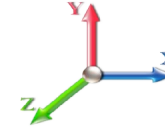


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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 26

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		439.20	910.52	0.00	0.00
10.00		428.33	892.98	0.00	0.00
15.00		417.46	875.44	0.00	0.00
20.00		431.40	857.90	0.00	0.00
25.00		440.06	840.36	0.00	0.00
30.00		444.72	822.82	0.00	0.00
35.00		446.41	805.29	0.00	0.00
40.00		445.79	787.75	0.00	0.00
45.00		443.30	770.21	0.00	0.00
48.50		306.97	528.71	0.00	0.00
50.00		132.12	355.56	0.00	0.00
53.25		285.71	760.63	0.00	0.00
55.00		152.40	221.10	0.00	0.00
60.00		433.66	622.25	0.00	0.00
65.00		426.24	608.22	0.00	0.00
70.00		417.93	594.19	0.00	0.00
75.00		408.80	580.16	0.00	0.00
80.00		398.95	566.12	0.00	0.00
85.00		388.43	552.09	0.00	0.00
87.00	(11) attachments	2023.75	1484.02	0.00	0.00
90.00		224.48	319.37	0.00	0.00
95.00		365.61	521.06	0.00	0.00
97.00	(22) attachments	2408.17	643.79	0.00	0.00
98.75		122.93	155.70	0.00	0.00
100.00		88.14	167.04	0.00	0.00
102.00		139.51	264.07	0.00	0.00
105.00		205.63	216.88	0.00	0.00
107.00	(37) attachments	4661.90	2297.35	0.00	0.00
110.00		197.75	195.33	0.00	0.00
115.00		319.34	317.14	0.00	0.00
117.00	(9) attachments	1031.41	359.89	0.00	0.00
120.00		181.22	149.01	0.00	0.00
125.00		291.06	239.93	0.00	0.00
130.00		276.37	229.41	0.00	0.00
135.00		261.33	218.88	0.00	0.00
137.00	(15) attachments	3451.11	1950.85	0.00	0.00
139.00	(1) attachments	118.30	64.33	0.00	0.00
Totals:		23,655.89	22,746.34	0.00	0.00

Calculated Forces

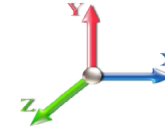
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 26

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	-22.70	-23.70	0.00	-2206.1	0.00	2206.14	3003.53	1501.76	5797.25	2902.93	0.00	0.000	0.000	0.768
5.00	-21.69	-23.35	0.00	-2087.6	0.00	2087.63	2960.91	1480.45	5573.38	2790.83	0.13	-0.236	0.000	0.756
10.00	-20.70	-23.01	0.00	-1970.8	0.00	1970.87	2916.70	1458.35	5350.68	2679.32	0.50	-0.476	0.000	0.743
15.00	-19.73	-22.66	0.00	-1855.8	0.00	1855.84	2870.92	1435.46	5129.40	2568.51	1.13	-0.721	0.000	0.730
20.00	-18.78	-22.30	0.00	-1742.5	0.00	1742.52	2823.56	1411.78	4909.74	2458.52	2.02	-0.970	0.000	0.716
25.00	-17.86	-21.93	0.00	-1631.0	0.00	1631.00	2774.61	1387.31	4691.94	2349.46	3.17	-1.223	0.000	0.701
30.00	-16.95	-21.54	0.00	-1521.3	0.00	1521.37	2724.09	1362.04	4476.23	2241.44	4.59	-1.480	0.000	0.685
35.00	-16.06	-21.14	0.00	-1413.6	0.00	1413.68	2671.99	1335.99	4262.83	2134.58	6.28	-1.740	0.000	0.669
40.00	-15.19	-20.74	0.00	-1307.9	0.00	1307.96	2618.30	1309.15	4051.97	2029.00	8.25	-2.004	0.000	0.651
45.00	-14.35	-20.33	0.00	-1204.2	0.00	1204.24	2563.04	1281.52	3843.87	1924.79	10.49	-2.271	0.000	0.631
48.50	-13.79	-20.03	0.00	-1133.0	0.00	1133.09	2523.41	1261.71	3699.97	1852.74	12.23	-2.461	0.000	0.617
50.00	-13.40	-19.92	0.00	-1103.0	0.00	1103.04	2506.19	1253.10	3638.77	1822.09	13.01	-2.545	0.000	0.611
53.25	-12.60	-19.63	0.00	-1038.3	0.00	1038.31	1850.79	925.39	2677.47	1340.72	14.81	-2.723	0.000	0.782
55.00	-12.32	-19.51	0.00	-1003.9	0.00	1003.96	1837.85	918.92	2627.99	1315.95	15.82	-2.821	0.000	0.770
60.00	-11.61	-19.11	0.00	-906.42	0.00	906.42	1799.82	899.91	2487.54	1245.62	18.95	-3.144	0.000	0.735
65.00	-10.92	-18.71	0.00	-810.87	0.00	810.87	1760.21	880.10	2348.61	1176.05	22.41	-3.464	0.000	0.696
70.00	-10.26	-18.31	0.00	-717.32	0.00	717.32	1719.02	859.51	2211.45	1107.37	26.21	-3.781	0.000	0.654
75.00	-9.61	-17.92	0.00	-625.76	0.00	625.76	1676.25	838.13	2076.26	1039.67	30.34	-4.091	0.000	0.608
80.00	-8.99	-17.52	0.00	-536.19	0.00	536.19	1631.90	815.95	1943.29	973.09	34.78	-4.392	0.000	0.557
85.00	-8.41	-17.12	0.00	-448.58	0.00	448.58	1585.97	792.99	1812.75	907.72	39.53	-4.678	0.000	0.500
87.00	-7.06	-15.00	0.00	-414.34	0.00	414.34	1567.16	783.58	1761.26	881.94	41.52	-4.792	0.000	0.475
90.00	-6.71	-14.77	0.00	-369.34	0.00	369.34	1538.46	769.23	1684.87	843.69	44.58	-4.954	0.000	0.443
95.00	-6.18	-14.38	0.00	-295.49	0.00	295.49	1489.37	744.69	1559.88	781.10	49.90	-5.202	0.000	0.383
97.00	-5.74	-11.93	0.00	-266.73	0.00	266.73	1469.29	734.65	1510.75	756.50	52.09	-5.298	0.000	0.357
98.75	-5.58	-11.80	0.00	-245.85	0.00	245.85	1451.52	725.76	1468.18	735.18	54.05	-5.379	0.000	0.339
100.00	-5.41	-11.70	0.00	-231.10	0.00	231.10	1437.39	718.70	1436.71	719.42	55.46	-5.435	0.000	0.325
102.00	-5.14	-11.55	0.00	-207.69	0.00	207.69	990.34	495.17	991.38	496.43	57.75	-5.521	0.000	0.424
105.00	-4.92	-11.33	0.00	-173.04	0.00	173.04	971.88	485.94	945.01	473.21	61.26	-5.639	0.000	0.371
107.00	-3.09	-6.47	0.00	-150.37	0.00	150.37	959.26	479.63	914.39	457.88	63.64	-5.732	0.000	0.332
110.00	-2.89	-6.26	0.00	-130.96	0.00	130.96	939.85	469.93	868.93	435.11	67.27	-5.859	0.000	0.304
115.00	-2.60	-5.92	0.00	-99.64	0.00	99.64	906.24	453.12	794.52	397.85	73.51	-6.051	0.000	0.253
117.00	-2.34	-4.86	0.00	-87.80	0.00	87.80	892.36	446.18	765.27	383.21	76.05	-6.124	0.000	0.232
120.00	-2.20	-4.67	0.00	-73.22	0.00	73.22	871.06	435.53	722.01	361.54	79.93	-6.224	0.000	0.205
125.00	-1.99	-4.36	0.00	-49.88	0.00	49.88	834.29	417.15	651.64	326.30	86.51	-6.365	0.000	0.155
130.00	-1.79	-4.06	0.00	-28.10	0.00	28.10	791.03	395.51	580.02	290.44	93.22	-6.472	0.000	0.099
135.00	-1.60	-3.78	0.00	-7.80	0.00	7.80	739.97	369.98	507.20	253.97	100.02	-6.531	0.000	0.033
137.00	-0.05	-0.12	0.00	-0.25	0.00	0.25	719.55	359.77	479.43	240.07	102.76	-6.538	0.000	0.001
139.00	0.00	-0.12	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	105.49	-6.538	0.000	0.000

Wind Loading - Shaft

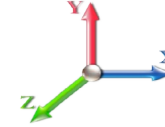
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	20.773	24.93	141.7	368.1	1306.5
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	20.359	24.43	138.9	385.7	1300.7
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	19.916	23.90	135.9	392.1	1283.7
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	19.462	23.35	140.9	393.5	1261.8
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	19.000	22.80	144.1	392.1	1237.0
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	18.534	22.24	146.1	388.9	1210.3
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	18.064	21.68	147.1	384.2	1182.3
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	17.592	21.11	147.3	378.5	1153.2
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	17.119	20.54	147.0	371.9	1123.2
48.50	Bot - Section 2	1.00	1.09	6.608	7.27	0.00	1.200	1.559	3.50	11.699	14.04	102.0	256.9	768.9
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	1.50	5.005	6.01	43.9	110.9	502.3
53.25	Top - Section 1	1.00	1.11	6.739	7.41	0.00	1.200	1.574	3.25	10.699	12.84	95.2	237.0	1072.0
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	1.75	5.677	6.81	50.8	126.7	325.0
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	15.902	19.08	145.1	353.7	907.7
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	15.424	18.51	143.1	345.0	880.3
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	14.946	17.93	140.8	336.0	852.6
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	14.466	17.36	138.3	326.6	824.5
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	13.987	16.78	135.5	317.0	796.2
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	13.506	16.21	132.6	307.1	767.6
87.00	Appurtenance(s)	1.00	1.23	7.473	8.22	0.00	1.200	1.653	2.00	5.267	6.32	52.0	121.2	300.2
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	3.00	7.757	9.31	77.1	178.2	441.0
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	12.544	15.05	126.0	286.6	709.7
97.00	Appurtenance(s)	1.00	1.26	7.646	8.41	0.00	1.200	1.671	2.00	4.882	5.86	49.3	113.0	276.9
98.75	Bot - Section 3	1.00	1.26	7.675	8.44	0.00	1.200	1.674	1.75	4.209	5.05	42.6	97.5	238.6
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	1.25	3.010	3.61	30.6	70.0	245.2
102.00	Top - Section 2	1.00	1.27	7.727	8.50	0.00	1.200	1.679	2.00	4.753	5.70	48.5	110.3	386.3
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	3.00	6.985	8.38	71.7	161.5	336.6
107.00	Appurtenance(s)	1.00	1.28	7.805	8.59	0.00	1.200	1.687	2.00	4.560	5.47	47.0	106.0	219.8
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	3.00	6.696	8.04	69.4	155.0	321.6
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	10.775	12.93	112.7	247.3	513.7
117.00	Appurtenance(s)	1.00	1.31	7.954	8.75	0.00	1.200	1.702	2.00	4.174	5.01	43.8	97.1	199.8
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	3.00	6.117	7.34	64.6	141.6	291.4
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	9.810	11.77	104.4	224.7	463.1
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	5.00	9.327	11.19	100.1	213.2	437.6
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	8.844	10.61	95.7	201.6	411.9
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	1.729	2.00	3.402	4.08	36.9	78.7	159.0
139.00	Appurtenance(s)	1.00	1.36	8.247	9.07	0.00	1.200	1.732	2.00	3.324	3.99	36.2	76.9	154.8
Totals:									139.00			3,624.9		24,863.0

Discrete Appurtenance Forces

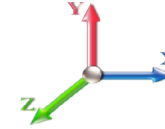
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 26

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	139.00	6' Lightning rod	1	8.247	9.072	1.00	1.00	1.46	38.53	0.000	0.000	13.24	0.00	0.00
2	137.00	Radio 4449 B71+B12	3	8.222	9.044	0.50	0.75	3.29	454.42	0.000	0.000	29.75	0.00	0.00
3	137.00	Air 32	3	8.222	9.044	0.70	0.80	16.03	1023.15	0.000	0.000	145.02	0.00	0.00
4	137.00	RFS	3	8.222	9.044	0.56	0.80	37.17	1701.86	0.000	0.000	336.14	0.00	0.00
5	137.00	KRY 112 144/1	3	8.222	9.044	0.52	0.75	1.39	62.35	0.000	0.000	12.55	0.00	0.00
6	137.00	T-Arms	3	8.222	9.044	0.45	0.90	20.14	1776.38	0.000	0.000	182.15	0.00	0.00
7	117.00	3 ft Standoff	3	7.954	8.749	0.56	0.75	14.26	309.93	0.000	0.000	124.79	0.00	0.00
8	117.00	800 10504	3	7.954	8.749	0.54	0.75	8.28	193.22	0.000	0.000	72.42	0.00	0.00
9	117.00	742 351	3	7.954	8.749	0.46	0.75	10.04	304.26	0.000	0.000	87.87	0.00	0.00
10	107.00	T-Arm Commscope	3	7.805	8.586	0.56	0.75	31.11	875.20	0.000	0.000	267.12	0.00	0.00
11	107.00	Collar Mount Commscope	1	7.805	8.586	1.00	1.00	13.44	398.01	0.000	0.000	115.36	0.00	0.00
12	107.00	RRUS-E2	3	7.805	8.586	0.52	0.75	3.48	416.30	0.000	0.000	29.87	0.00	0.00
13	107.00	DTMABP7819VG12A	3	7.805	8.586	0.50	0.75	2.84	121.24	0.000	0.000	24.38	0.00	0.00
14	107.00	DBC20056F1V1	3	7.805	8.586	0.60	0.75	1.30	55.05	0.000	0.000	11.13	0.00	0.00
15	107.00	EPBQ-652L8H6-L2	3	7.805	8.586	0.64	0.75	28.12	1074.08	0.000	0.000	241.45	0.00	0.00
16	107.00	OPA-65R-LCUU-H6	3	7.805	8.586	0.59	0.75	19.51	956.35	0.000	0.000	167.54	0.00	0.00
17	107.00	DC6-48-60-18-8F	3	7.805	8.586	0.67	0.67	4.31	240.69	0.000	0.000	37.05	0.00	0.00
18	107.00	RRUS A2	3	7.805	8.586	0.46	0.75	3.91	150.45	0.000	0.000	33.55	0.00	0.00
19	107.00	RRUS 12	3	7.805	8.586	0.52	0.75	6.05	483.44	0.000	0.000	51.91	0.00	0.00
20	107.00	RRUS-11 700MHz	3	7.805	8.586	0.57	0.75	5.38	439.28	0.000	0.000	46.22	0.00	0.00
21	107.00	RRUS 4449 B5/B12	3	7.805	8.586	0.52	0.75	6.71	647.28	0.000	0.000	57.62	0.00	0.00
22	107.00	RRUS-32	3	7.805	8.586	0.65	0.75	7.98	604.39	0.000	0.000	68.54	0.00	0.00
23	97.00	BXA-171063/12CF	3	7.646	8.410	0.63	0.75	13.30	247.01	0.000	0.000	111.88	0.00	0.00
24	97.00	3 ft Standoff	3	7.646	8.410	0.56	0.75	14.08	305.57	0.000	0.000	118.42	0.00	0.00
25	97.00	BXA-70063/6CF	3	7.646	8.410	0.52	0.75	16.09	346.39	0.000	0.000	135.32	0.00	0.00
26	97.00	RRH2x40-AWS	3	7.646	8.410	0.61	0.75	6.81	280.60	0.000	0.000	57.27	0.00	0.00
27	97.00	DBXNH-6565A-VTM	3	7.646	8.410	0.60	0.75	13.07	378.25	0.000	0.000	109.93	0.00	0.00
28	97.00	FD9R6004/2C-3L (3.1 lbs)	6	7.646	8.410	0.75	0.75	3.53	54.62	0.000	0.000	29.69	0.00	0.00
29	97.00	DB-T1-6Z-8AB-0Z	1	7.646	8.410	0.71	1.00	4.00	159.23	0.000	0.000	33.64	0.00	0.00
30	87.00	0208	3	7.473	8.220	0.52	0.80	2.87	148.65	0.000	0.000	23.62	0.00	0.00
31	87.00	4415	2	7.473	8.220	0.55	0.80	2.65	175.29	0.000	0.000	21.80	0.00	0.00
32	87.00	SF-SU7-2-96	3	7.473	8.220	0.56	0.75	55.80	2053.73	0.000	0.000	458.69	0.00	0.00
33	87.00	ODI2-065R18K-GQ	3	7.473	8.220	0.56	0.80	9.71	327.02	0.000	0.000	79.82	0.00	0.00

Totals: 16,802.19

3,335.73

Total Applied Force Summary

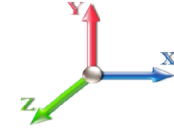
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 26

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		141.71	1582.17	0.00	0.00
10.00		138.89	1576.31	0.00	0.00
15.00		135.87	1559.32	0.00	0.00
20.00		140.87	1537.41	0.00	0.00
25.00		144.14	1512.63	0.00	0.00
30.00		146.10	1485.96	0.00	0.00
35.00		147.10	1457.91	0.00	0.00
40.00		147.34	1428.81	0.00	0.00
45.00		146.98	1398.88	0.00	0.00
48.50		102.04	961.81	0.00	0.00
50.00		43.94	584.97	0.00	0.00
53.25		95.18	1251.20	0.00	0.00
55.00		50.85	421.46	0.00	0.00
60.00		145.06	1183.33	0.00	0.00
65.00		143.09	1155.97	0.00	0.00
70.00		140.83	1128.24	0.00	0.00
75.00		138.30	1100.19	0.00	0.00
80.00		135.55	1071.84	0.00	0.00
85.00		132.57	1043.23	0.00	0.00
87.00	(11) attachments	635.88	3115.12	0.00	0.00
90.00		77.06	604.00	0.00	0.00
95.00		126.05	981.34	0.00	0.00
97.00	(22) attachments	645.42	2157.29	0.00	0.00
98.75		42.63	305.15	0.00	0.00
100.00		30.57	292.71	0.00	0.00
102.00		48.48	462.37	0.00	0.00
105.00		71.68	450.71	0.00	0.00
107.00	(37) attachments	1198.71	6757.67	0.00	0.00
110.00		69.39	415.44	0.00	0.00
115.00		112.72	670.11	0.00	0.00
117.00	(9) attachments	328.90	1069.73	0.00	0.00
120.00		64.56	340.30	0.00	0.00
125.00		104.44	544.58	0.00	0.00
130.00		100.12	519.05	0.00	0.00
135.00		95.69	493.40	0.00	0.00
137.00	(15) attachments	742.53	5209.71	0.00	0.00
139.00	(1) attachments	49.43	193.37	0.00	0.00
	Totals:	6,960.64	48,023.69	0.00	0.00

Calculated Forces

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

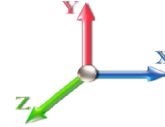


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 26

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	-48.02	-6.99	0.00	-656.81	0.00	656.81	3003.53	1501.76	5797.25	2902.93	0.00	0.000	0.000	0.242
5.00	-46.43	-6.91	0.00	-621.86	0.00	621.86	2960.91	1480.45	5573.38	2790.83	0.04	-0.070	0.000	0.239
10.00	-44.84	-6.82	0.00	-587.34	0.00	587.34	2916.70	1458.35	5350.68	2679.32	0.15	-0.142	0.000	0.235
15.00	-43.28	-6.73	0.00	-553.24	0.00	553.24	2870.92	1435.46	5129.40	2568.51	0.34	-0.215	0.000	0.230
20.00	-41.73	-6.64	0.00	-519.56	0.00	519.56	2823.56	1411.78	4909.74	2458.52	0.60	-0.289	0.000	0.226
25.00	-40.21	-6.54	0.00	-486.36	0.00	486.36	2774.61	1387.31	4691.94	2349.46	0.95	-0.364	0.000	0.222
30.00	-38.72	-6.44	0.00	-453.64	0.00	453.64	2724.09	1362.04	4476.23	2241.44	1.37	-0.441	0.000	0.217
35.00	-37.25	-6.33	0.00	-421.46	0.00	421.46	2671.99	1335.99	4262.83	2134.58	1.87	-0.519	0.000	0.211
40.00	-35.82	-6.22	0.00	-389.81	0.00	389.81	2618.30	1309.15	4051.97	2029.00	2.46	-0.597	0.000	0.206
45.00	-34.41	-6.10	0.00	-358.72	0.00	358.72	2563.04	1281.52	3843.87	1924.79	3.13	-0.677	0.000	0.200
48.50	-33.45	-6.01	0.00	-337.39	0.00	337.39	2523.41	1261.71	3699.97	1852.74	3.64	-0.734	0.000	0.195
50.00	-32.86	-5.98	0.00	-328.38	0.00	328.38	2506.19	1253.10	3638.77	1822.09	3.88	-0.758	0.000	0.193
53.25	-31.60	-5.89	0.00	-308.96	0.00	308.96	1850.79	925.39	2677.47	1340.72	4.41	-0.812	0.000	0.248
55.00	-31.18	-5.86	0.00	-298.66	0.00	298.66	1837.85	918.92	2627.99	1315.95	4.72	-0.841	0.000	0.244
60.00	-29.99	-5.75	0.00	-269.33	0.00	269.33	1799.82	899.91	2487.54	1245.62	5.65	-0.937	0.000	0.233
65.00	-28.82	-5.64	0.00	-240.58	0.00	240.58	1760.21	880.10	2348.61	1176.05	6.68	-1.032	0.000	0.221
70.00	-27.69	-5.52	0.00	-212.40	0.00	212.40	1719.02	859.51	2211.45	1107.37	7.81	-1.126	0.000	0.208
75.00	-26.58	-5.40	0.00	-184.81	0.00	184.81	1676.25	838.13	2076.26	1039.67	9.04	-1.217	0.000	0.194
80.00	-25.51	-5.28	0.00	-157.81	0.00	157.81	1631.90	815.95	1943.29	973.09	10.36	-1.306	0.000	0.178
85.00	-24.46	-5.15	0.00	-131.42	0.00	131.42	1585.97	792.99	1812.75	907.72	11.78	-1.390	0.000	0.160
87.00	-21.36	-4.45	0.00	-121.13	0.00	121.13	1567.16	783.58	1761.26	881.94	12.37	-1.423	0.000	0.151
90.00	-20.75	-4.38	0.00	-107.78	0.00	107.78	1538.46	769.23	1684.87	843.69	13.28	-1.471	0.000	0.141
95.00	-19.77	-4.24	0.00	-85.89	0.00	85.89	1489.37	744.69	1559.88	781.10	14.86	-1.543	0.000	0.123
97.00	-17.63	-3.55	0.00	-77.40	0.00	77.40	1469.29	734.65	1510.75	756.50	15.51	-1.571	0.000	0.114
98.75	-17.33	-3.50	0.00	-71.19	0.00	71.19	1451.52	725.76	1468.18	735.18	16.09	-1.594	0.000	0.109
100.00	-17.03	-3.47	0.00	-66.81	0.00	66.81	1437.39	718.70	1436.71	719.42	16.51	-1.611	0.000	0.105
102.00	-16.57	-3.42	0.00	-59.87	0.00	59.87	990.34	495.17	991.38	496.43	17.19	-1.635	0.000	0.137
105.00	-16.12	-3.34	0.00	-49.62	0.00	49.62	971.88	485.94	945.01	473.21	18.23	-1.669	0.000	0.121
107.00	-9.40	-1.95	0.00	-42.93	0.00	42.93	959.26	479.63	914.39	457.88	18.93	-1.696	0.000	0.104
110.00	-8.99	-1.88	0.00	-37.08	0.00	37.08	939.85	469.93	868.93	435.11	20.01	-1.732	0.000	0.095
115.00	-8.32	-1.75	0.00	-27.71	0.00	27.71	906.24	453.12	794.52	397.85	21.86	-1.786	0.000	0.079
117.00	-7.26	-1.39	0.00	-24.21	0.00	24.21	892.36	446.18	765.27	383.21	22.61	-1.806	0.000	0.071
120.00	-6.92	-1.32	0.00	-20.05	0.00	20.05	871.06	435.53	722.01	361.54	23.75	-1.834	0.000	0.063
125.00	-6.38	-1.20	0.00	-13.47	0.00	13.47	834.29	417.15	651.64	326.30	25.69	-1.872	0.000	0.049
130.00	-5.86	-1.08	0.00	-7.47	0.00	7.47	791.03	395.51	580.02	290.44	27.67	-1.901	0.000	0.033
135.00	-5.37	-0.97	0.00	-2.06	0.00	2.06	739.97	369.98	507.20	253.97	29.67	-1.917	0.000	0.015
137.00	-0.19	-0.06	0.00	-0.11	0.00	0.11	719.55	359.77	479.43	240.07	30.47	-1.918	0.000	0.001
139.00	0.00	-0.05	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	31.28	-1.918	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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 24

Gust Response Factor 1.10	Sds 0.23	Ss 0.21	
Dead Load Factor 1.20	Seismic Load Factor 1.00	Sd1 0.09	
Wind Load Factor 0.00	Structure Frequency (f1) 0.37	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		781.99	0.00	0.03	0.02	20.60	
10.00		762.50	0.01	0.05	0.03	27.81	
15.00		743.01	0.02	0.07	0.04	30.49	
20.00		723.53	0.04	0.07	0.04	31.29	
25.00		704.04	0.06	0.07	0.04	31.40	
30.00		684.55	0.09	0.07	0.04	31.34	
35.00		665.06	0.12	0.07	0.03	31.27	
40.00		645.57	0.16	0.07	0.03	31.08	
45.00		626.08	0.20	0.06	0.02	30.46	
48.50	Bot - Section 2	426.66	0.23	0.06	0.02	20.55	
50.00		326.16	0.24	0.06	0.02	15.53	
53.25	Top - Section 1	695.84	0.28	0.05	0.01	31.64	
55.00		165.27	0.30	0.05	0.01	7.22	
60.00		461.69	0.35	0.03	0.01	16.24	
65.00		446.10	0.41	0.01	0.01	9.32	
70.00		430.51	0.48	-0.01	0.01	0.58	
75.00		414.92	0.55	-0.03	0.01	-8.27	
80.00		399.33	0.63	-0.06	0.02	-15.18	
85.00		383.74	0.71	-0.09	0.03	-18.97	
87.00	Appurtenance(s)	1557.0	0.74	-0.10	0.04	-80.69	
90.00		219.02	0.79	-0.11	0.05	-11.63	
95.00		352.56	0.88	-0.12	0.08	-17.34	
97.00	Appurtenance(s)	624.76	0.92	-0.12	0.10	-28.48	
98.75	Bot - Section 3	117.53	0.95	-0.12	0.11	-4.88	
100.00		145.97	0.98	-0.11	0.12	-5.56	
102.00	Top - Section 2	230.01	1.02	-0.11	0.14	-7.31	
105.00		145.87	1.08	-0.08	0.17	-2.95	
107.00	Appurtenance(s)	2489.2	1.12	-0.06	0.20	-27.80	
110.00		138.86	1.18	-0.01	0.24	0.62	
115.00		222.07	1.29	0.11	0.33	7.97	
117.00	Appurtenance(s)	347.76	1.34	0.18	0.37	17.53	
120.00		124.83	1.41	0.30	0.44	9.27	
125.00		198.69	1.53	0.57	0.58	23.80	
130.00		187.00	1.65	0.95	0.74	32.26	
135.00		175.30	1.78	1.46	0.95	40.82	
137.00	Appurtenance(s)	2140.4	1.84	1.71	1.04	554.57	
139.00	Appurtenance(s)	71.48	1.89	1.98	1.14	20.49	
Totals:		19,974.9				845.1	Total Wind: 23,655.9

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

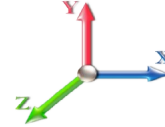
Calculated Forces

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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 24
Gust Response Factor	1.10			Sds	0.23	Ss 0.21
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.09	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.37	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	-30.33	-1.08	0.00	-113.48	0.00	113.48	3003.53	1501.76	5797.25	2902.93	0.00	0.00	0.00	0.049
5.00	-29.11	-1.06	0.00	-108.09	0.00	108.09	2960.91	1480.45	5573.38	2790.83	0.01	-0.01	0.049	
10.00	-27.92	-1.04	0.00	-102.78	0.00	102.78	2916.70	1458.35	5350.68	2679.32	0.03	-0.02	0.048	
15.00	-26.76	-1.02	0.00	-97.58	0.00	97.58	2870.92	1435.46	5129.40	2568.51	0.06	-0.04	0.047	
20.00	-25.61	-0.99	0.00	-92.50	0.00	92.50	2823.56	1411.78	4909.74	2458.52	0.10	-0.05	0.047	
25.00	-24.49	-0.96	0.00	-87.56	0.00	87.56	2774.61	1387.31	4691.94	2349.46	0.17	-0.06	0.046	
30.00	-23.39	-0.94	0.00	-82.74	0.00	82.74	2724.09	1362.04	4476.23	2241.44	0.24	-0.08	0.046	
35.00	-22.32	-0.91	0.00	-78.07	0.00	78.07	2671.99	1335.99	4262.83	2134.58	0.33	-0.09	0.045	
40.00	-21.27	-0.88	0.00	-73.53	0.00	73.53	2618.30	1309.15	4051.97	2029.00	0.43	-0.11	0.044	
45.00	-20.24	-0.85	0.00	-69.12	0.00	69.12	2563.04	1281.52	3843.87	1924.79	0.55	-0.12	0.044	
48.50	-19.54	-0.83	0.00	-66.14	0.00	66.14	2523.41	1261.71	3699.97	1852.74	0.65	-0.13	0.043	
50.00	-19.06	-0.82	0.00	-64.89	0.00	64.89	2506.19	1253.10	3638.77	1822.09	0.69	-0.14	0.043	
53.25	-18.05	-0.79	0.00	-62.22	0.00	62.22	1850.79	925.39	2677.47	1340.72	0.79	-0.15	0.056	
55.00	-17.75	-0.78	0.00	-60.84	0.00	60.84	1837.85	918.92	2627.99	1315.95	0.84	-0.15	0.056	
60.00	-16.92	-0.77	0.00	-56.92	0.00	56.92	1799.82	899.91	2487.54	1245.62	1.02	-0.17	0.055	
65.00	-16.11	-0.77	0.00	-53.07	0.00	53.07	1760.21	880.10	2348.61	1176.05	1.21	-0.19	0.054	
70.00	-15.32	-0.77	0.00	-49.24	0.00	49.24	1719.02	859.51	2211.45	1107.37	1.42	-0.22	0.053	
75.00	-14.55	-0.77	0.00	-45.40	0.00	45.40	1676.25	838.13	2076.26	1039.67	1.66	-0.24	0.052	
80.00	-13.79	-0.77	0.00	-41.55	0.00	41.55	1631.90	815.95	1943.29	973.09	1.92	-0.26	0.051	
85.00	-13.05	-0.77	0.00	-37.69	0.00	37.69	1585.97	792.99	1812.75	907.72	2.21	-0.28	0.050	
87.00	-11.08	-0.77	0.00	-36.15	0.00	36.15	1567.16	783.58	1761.26	881.94	2.33	-0.29	0.048	
90.00	-10.65	-0.77	0.00	-33.85	0.00	33.85	1538.46	769.23	1684.87	843.69	2.52	-0.31	0.047	
95.00	-9.96	-0.77	0.00	-30.02	0.00	30.02	1489.37	744.69	1559.88	781.10	2.85	-0.33	0.045	
97.00	-9.10	-0.76	0.00	-28.49	0.00	28.49	1469.29	734.65	1510.75	756.50	3.00	-0.34	0.044	
98.75	-8.89	-0.76	0.00	-27.16	0.00	27.16	1451.52	725.76	1468.18	735.18	3.12	-0.35	0.043	
100.00	-8.67	-0.76	0.00	-26.20	0.00	26.20	1437.39	718.70	1436.71	719.42	3.21	-0.36	0.042	
102.00	-8.31	-0.76	0.00	-24.68	0.00	24.68	990.34	495.17	991.38	496.43	3.37	-0.37	0.058	
105.00	-8.02	-0.76	0.00	-22.40	0.00	22.40	971.88	485.94	945.01	473.21	3.60	-0.38	0.056	
107.00	-4.96	-0.74	0.00	-20.87	0.00	20.87	959.26	479.63	914.39	457.88	3.76	-0.39	0.051	
110.00	-4.70	-0.74	0.00	-18.65	0.00	18.65	939.85	469.93	868.93	435.11	4.02	-0.41	0.048	
115.00	-4.28	-0.73	0.00	-14.94	0.00	14.94	906.24	453.12	794.52	397.85	4.46	-0.44	0.042	
117.00	-3.80	-0.71	0.00	-13.48	0.00	13.48	892.36	446.18	765.27	383.21	4.65	-0.45	0.039	
120.00	-3.60	-0.70	0.00	-11.34	0.00	11.34	871.06	435.53	722.01	361.54	4.94	-0.47	0.036	
125.00	-3.28	-0.68	0.00	-7.83	0.00	7.83	834.29	417.15	651.64	326.30	5.44	-0.49	0.028	
130.00	-2.97	-0.64	0.00	-4.45	0.00	4.45	791.03	395.51	580.02	290.44	5.96	-0.50	0.019	
135.00	-2.68	-0.60	0.00	-1.24	0.00	1.24	739.97	369.98	507.20	253.97	6.49	-0.51	0.009	
137.00	-0.09	-0.02	0.00	-0.04	0.00	0.04	719.55	359.77	479.43	240.07	6.71	-0.52	0.000	
139.00	0.00	-0.02	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	6.93	-0.52	0.000	

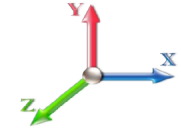
Seismic Segment Forces (Factored)

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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 24
Gust Response Factor	1.10	Sds	0.23	Ss 0.21
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.37	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		781.99	0.00	0.03	0.02	20.60	
10.00		762.50	0.01	0.05	0.03	27.81	
15.00		743.01	0.02	0.07	0.04	30.49	
20.00		723.53	0.04	0.07	0.04	31.29	
25.00		704.04	0.06	0.07	0.04	31.40	
30.00		684.55	0.09	0.07	0.04	31.34	
35.00		665.06	0.12	0.07	0.03	31.27	
40.00		645.57	0.16	0.07	0.03	31.08	
45.00		626.08	0.20	0.06	0.02	30.46	
48.50	Bot - Section 2	426.66	0.23	0.06	0.02	20.55	
50.00		326.16	0.24	0.06	0.02	15.53	
53.25	Top - Section 1	695.84	0.28	0.05	0.01	31.64	
55.00		165.27	0.30	0.05	0.01	7.22	
60.00		461.69	0.35	0.03	0.01	16.24	
65.00		446.10	0.41	0.01	0.01	9.32	
70.00		430.51	0.48	-0.01	0.01	0.58	
75.00		414.92	0.55	-0.03	0.01	-8.27	
80.00		399.33	0.63	-0.06	0.02	-15.18	
85.00		383.74	0.71	-0.09	0.03	-18.97	
87.00	Appurtenance(s)	1557.0	0.74	-0.10	0.04	-80.69	
90.00		219.02	0.79	-0.11	0.05	-11.63	
95.00		352.56	0.88	-0.12	0.08	-17.34	
97.00	Appurtenance(s)	624.76	0.92	-0.12	0.10	-28.48	
98.75	Bot - Section 3	117.53	0.95	-0.12	0.11	-4.88	
100.00		145.97	0.98	-0.11	0.12	-5.56	
102.00	Top - Section 2	230.01	1.02	-0.11	0.14	-7.31	
105.00		145.87	1.08	-0.08	0.17	-2.95	
107.00	Appurtenance(s)	2489.2	1.12	-0.06	0.20	-27.80	
110.00		138.86	1.18	-0.01	0.24	0.62	
115.00		222.07	1.29	0.11	0.33	7.97	
117.00	Appurtenance(s)	347.76	1.34	0.18	0.37	17.53	
120.00		124.83	1.41	0.30	0.44	9.27	
125.00		198.69	1.53	0.57	0.58	23.80	
130.00		187.00	1.65	0.95	0.74	32.26	
135.00		175.30	1.78	1.46	0.95	40.82	
137.00	Appurtenance(s)	2140.4	1.84	1.71	1.04	554.57	
139.00	Appurtenance(s)	71.48	1.89	1.98	1.14	20.49	
Totals:		19,974.9				845.1	Total Wind: 23,655.9

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

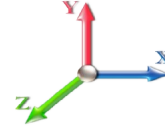
Calculated Forces

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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 24
Gust Response Factor	1.10			Sds	0.23	Ss 0.21
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.09	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.37	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	-22.75	-1.08	0.00	-112.04	0.00	112.04	3003.53	1501.76	5797.25	2902.93	0.00	0.00	0.00	0.046
5.00	-21.84	-1.06	0.00	-106.66	0.00	106.66	2960.91	1480.45	5573.38	2790.83	0.01	-0.01	0.046	
10.00	-20.94	-1.04	0.00	-101.36	0.00	101.36	2916.70	1458.35	5350.68	2679.32	0.03	-0.02	0.045	
15.00	-20.07	-1.01	0.00	-96.18	0.00	96.18	2870.92	1435.46	5129.40	2568.51	0.06	-0.04	0.044	
20.00	-19.21	-0.98	0.00	-91.13	0.00	91.13	2823.56	1411.78	4909.74	2458.52	0.10	-0.05	0.044	
25.00	-18.37	-0.95	0.00	-86.22	0.00	86.22	2774.61	1387.31	4691.94	2349.46	0.16	-0.06	0.043	
30.00	-17.54	-0.93	0.00	-81.44	0.00	81.44	2724.09	1362.04	4476.23	2241.44	0.24	-0.08	0.043	
35.00	-16.74	-0.90	0.00	-76.81	0.00	76.81	2671.99	1335.99	4262.83	2134.58	0.32	-0.09	0.042	
40.00	-15.95	-0.87	0.00	-72.32	0.00	72.32	2618.30	1309.15	4051.97	2029.00	0.43	-0.11	0.042	
45.00	-15.18	-0.84	0.00	-67.97	0.00	67.97	2563.04	1281.52	3843.87	1924.79	0.55	-0.12	0.041	
48.50	-14.65	-0.82	0.00	-65.03	0.00	65.03	2523.41	1261.71	3699.97	1852.74	0.64	-0.13	0.041	
50.00	-14.30	-0.81	0.00	-63.79	0.00	63.79	2506.19	1253.10	3638.77	1822.09	0.68	-0.14	0.041	
53.25	-13.54	-0.78	0.00	-61.17	0.00	61.17	1850.79	925.39	2677.47	1340.72	0.78	-0.15	0.053	
55.00	-13.31	-0.77	0.00	-59.82	0.00	59.82	1837.85	918.92	2627.99	1315.95	0.83	-0.15	0.053	
60.00	-12.69	-0.76	0.00	-55.96	0.00	55.96	1799.82	899.91	2487.54	1245.62	1.00	-0.17	0.052	
65.00	-12.08	-0.75	0.00	-52.18	0.00	52.18	1760.21	880.10	2348.61	1176.05	1.19	-0.19	0.051	
70.00	-11.49	-0.75	0.00	-48.43	0.00	48.43	1719.02	859.51	2211.45	1107.37	1.40	-0.21	0.050	
75.00	-10.91	-0.75	0.00	-44.67	0.00	44.67	1676.25	838.13	2076.26	1039.67	1.64	-0.23	0.049	
80.00	-10.34	-0.76	0.00	-40.90	0.00	40.90	1631.90	815.95	1943.29	973.09	1.89	-0.26	0.048	
85.00	-9.79	-0.76	0.00	-37.12	0.00	37.12	1585.97	792.99	1812.75	907.72	2.18	-0.28	0.047	
87.00	-8.31	-0.75	0.00	-35.61	0.00	35.61	1567.16	783.58	1761.26	881.94	2.29	-0.29	0.046	
90.00	-7.99	-0.75	0.00	-33.36	0.00	33.36	1538.46	769.23	1684.87	843.69	2.48	-0.30	0.045	
95.00	-7.47	-0.75	0.00	-29.61	0.00	29.61	1489.37	744.69	1559.88	781.10	2.81	-0.33	0.043	
97.00	-6.82	-0.75	0.00	-28.11	0.00	28.11	1469.29	734.65	1510.75	756.50	2.95	-0.34	0.042	
98.75	-6.67	-0.75	0.00	-26.80	0.00	26.80	1451.52	725.76	1468.18	735.18	3.07	-0.34	0.041	
100.00	-6.50	-0.75	0.00	-25.87	0.00	25.87	1437.39	718.70	1436.71	719.42	3.17	-0.35	0.040	
102.00	-6.23	-0.75	0.00	-24.37	0.00	24.37	990.34	495.17	991.38	496.43	3.31	-0.36	0.055	
105.00	-6.02	-0.75	0.00	-22.13	0.00	22.13	971.88	485.94	945.01	473.21	3.55	-0.38	0.053	
107.00	-3.72	-0.73	0.00	-20.64	0.00	20.64	959.26	479.63	914.39	457.88	3.71	-0.39	0.049	
110.00	-3.52	-0.73	0.00	-18.44	0.00	18.44	939.85	469.93	868.93	435.11	3.96	-0.41	0.046	
115.00	-3.21	-0.72	0.00	-14.78	0.00	14.78	906.24	453.12	794.52	397.85	4.40	-0.43	0.041	
117.00	-2.85	-0.70	0.00	-13.33	0.00	13.33	892.36	446.18	765.27	383.21	4.58	-0.44	0.038	
120.00	-2.70	-0.69	0.00	-11.22	0.00	11.22	871.06	435.53	722.01	361.54	4.86	-0.46	0.034	
125.00	-2.46	-0.67	0.00	-7.75	0.00	7.75	834.29	417.15	651.64	326.30	5.36	-0.48	0.027	
130.00	-2.23	-0.64	0.00	-4.40	0.00	4.40	791.03	395.51	580.02	290.44	5.87	-0.50	0.018	
135.00	-2.01	-0.59	0.00	-1.23	0.00	1.23	739.97	369.98	507.20	253.97	6.40	-0.51	0.008	
137.00	-0.06	-0.02	0.00	-0.04	0.00	0.04	719.55	359.77	479.43	240.07	6.61	-0.51	0.000	
139.00	0.00	-0.02	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	6.82	-0.51	0.000	

Wind Loading - Shaft

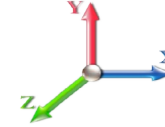
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	221.08	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	215.67	0.650	0.000	5.00	19.738	12.83	105.0	0.0	782.0
10.00		1.00	0.85	7.442	8.19	210.27	0.650	0.000	5.00	19.250	12.51	102.4	0.0	762.5
15.00		1.00	0.85	7.442	8.19	204.86	0.650	0.000	5.00	18.761	12.19	99.8	0.0	743.0
20.00		1.00	0.90	7.896	8.69	205.45	0.650	0.000	5.00	18.273	11.88	103.2	0.0	723.5
25.00		1.00	0.95	8.276	9.10	204.63	0.650	0.000	5.00	17.784	11.56	105.2	0.0	704.0
30.00		1.00	0.98	8.600	9.46	202.79	0.650	0.000	5.00	17.295	11.24	106.3	0.0	684.5
35.00		1.00	1.01	8.883	9.77	200.20	0.650	0.000	5.00	16.807	10.92	106.8	0.0	665.1
40.00		1.00	1.04	9.137	10.05	197.04	0.650	0.000	5.00	16.318	10.61	106.6	0.0	645.6
45.00		1.00	1.07	9.366	10.30	193.44	0.650	0.000	5.00	15.830	10.29	106.0	0.0	626.1
48.50	Bot - Section 2	1.00	1.09	9.515	10.47	190.69	0.650	0.000	3.50	10.790	7.01	73.4	0.0	426.7
50.00		1.00	1.09	9.576	10.53	189.46	0.650	0.000	1.50	4.614	3.00	31.6	0.0	326.2
53.25	Top - Section 1	1.00	1.11	9.704	10.67	186.71	0.650	0.000	3.25	9.847	6.40	68.3	0.0	695.8
55.00		1.00	1.12	9.770	10.75	187.86	0.650	0.000	1.75	5.217	3.39	36.4	0.0	165.3
60.00		1.00	1.14	9.951	10.95	183.34	0.650	0.000	5.00	14.575	9.47	103.7	0.0	461.7
65.00		1.00	1.16	10.120	11.13	178.59	0.650	0.000	5.00	14.087	9.16	101.9	0.0	446.1
70.00		1.00	1.17	10.279	11.31	173.63	0.650	0.000	5.00	13.598	8.84	99.9	0.0	430.5
75.00		1.00	1.19	10.430	11.47	168.50	0.650	0.000	5.00	13.109	8.52	97.8	0.0	414.9
80.00		1.00	1.21	10.572	11.63	163.20	0.650	0.000	5.00	12.621	8.20	95.4	0.0	399.3
85.00		1.00	1.22	10.708	11.78	157.76	0.650	0.000	5.00	12.132	7.89	92.9	0.0	383.7
87.00	Appurtenance(s)	1.00	1.23	10.761	11.84	155.55	0.650	0.000	2.00	4.716	3.07	36.3	0.0	149.1
90.00		1.00	1.24	10.838	11.92	152.19	0.650	0.000	3.00	6.928	4.50	53.7	0.0	219.0
95.00		1.00	1.25	10.962	12.06	146.50	0.650	0.000	5.00	11.155	7.25	87.4	0.0	352.6
97.00	Appurtenance(s)	1.00	1.26	11.010	12.11	144.19	0.650	0.000	2.00	4.325	2.81	34.0	0.0	136.7
98.75	Bot - Section 3	1.00	1.26	11.051	12.16	142.16	0.650	0.000	1.75	3.720	2.42	29.4	0.0	117.5
100.00		1.00	1.27	11.081	12.19	140.70	0.650	0.000	1.25	2.660	1.73	21.1	0.0	146.0
102.00	Top - Section 2	1.00	1.27	11.127	12.24	138.35	0.650	0.000	2.00	4.193	2.73	33.4	0.0	230.0
105.00		1.00	1.28	11.195	12.31	136.94	0.650	0.000	3.00	6.143	3.99	49.2	0.0	145.9
107.00	Appurtenance(s)	1.00	1.28	11.240	12.36	134.56	0.650	0.000	2.00	3.998	2.60	32.1	0.0	94.9
110.00		1.00	1.29	11.305	12.44	130.95	0.650	0.000	3.00	5.850	3.80	47.3	0.0	138.9
115.00		1.00	1.30	11.412	12.55	124.87	0.650	0.000	5.00	9.359	6.08	76.4	0.0	222.1
117.00	Appurtenance(s)	1.00	1.31	11.453	12.60	122.42	0.650	0.000	2.00	3.607	2.34	29.5	0.0	85.6
120.00		1.00	1.32	11.514	12.67	118.71	0.650	0.000	3.00	5.264	3.42	43.3	0.0	124.8
125.00		1.00	1.33	11.614	12.78	112.47	0.650	0.000	5.00	8.382	5.45	69.6	0.0	198.7
130.00		1.00	1.34	11.710	12.88	106.15	0.650	0.000	5.00	7.893	5.13	66.1	0.0	187.0
135.00		1.00	1.35	11.803	12.98	99.77	0.650	0.000	5.00	7.405	4.81	62.5	0.0	175.3
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	97.19	0.650	0.000	2.00	2.825	1.84	23.9	0.0	66.8
139.00	Appurtenance(s)	1.00	1.36	11.876	13.06	94.61	0.650	0.000	2.00	2.747	1.79	23.3	0.0	65.0
Totals:									139.00			2,561.3		13,342.3

Discrete Appurtenance Forces

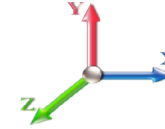
Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 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	139.00	6' Lightning rod	1	11.876	13.064	1.00	1.00	0.38	6.50	0.000	0.000	4.96	0.00	0.00	
2	137.00	Radio 4449 B71+B12	3	11.840	13.024	0.50	0.75	2.49	210.00	0.000	0.000	32.40	0.00	0.00	
3	137.00	Air 32	3	11.840	13.024	0.70	0.80	13.59	396.60	0.000	0.000	177.03	0.00	0.00	
4	137.00	RFS	3	11.840	13.024	0.56	0.80	34.00	384.00	0.000	0.000	442.86	0.00	0.00	
5	137.00	KRY 112 144/1	3	11.840	13.024	0.52	0.75	0.65	33.00	0.000	0.000	8.41	0.00	0.00	
6	137.00	T-Arms	3	11.840	13.024	0.45	0.90	10.80	1050.00	0.000	0.000	140.66	0.00	0.00	
7	117.00	3 ft Standoff	3	11.453	12.598	0.56	0.75	4.44	120.00	0.000	0.000	55.91	0.00	0.00	
8	117.00	800 10504	3	11.453	12.598	0.54	0.75	5.41	52.80	0.000	0.000	68.17	0.00	0.00	
9	117.00	742 351	3	11.453	12.598	0.46	0.75	7.38	89.40	0.000	0.000	93.03	0.00	0.00	
10	107.00	T-Arm Commscope	3	11.240	12.364	0.56	0.75	16.88	534.00	0.000	0.000	208.64	0.00	0.00	
11	107.00	Collar Mount Commscope	1	11.240	12.364	1.00	1.00	5.00	122.40	0.000	0.000	61.82	0.00	0.00	
12	107.00	RRUS-E2	3	11.240	12.364	0.52	0.75	2.60	231.00	0.000	0.000	32.13	0.00	0.00	
13	107.00	DTMABP7819VG12A	3	11.240	12.364	0.50	0.75	1.72	57.60	0.000	0.000	21.25	0.00	0.00	
14	107.00	DBC20056F1V1	3	11.240	12.364	0.60	0.75	0.74	19.80	0.000	0.000	9.12	0.00	0.00	
15	107.00	EPBQ-652L8H6-L2	3	11.240	12.364	0.64	0.75	18.47	218.40	0.000	0.000	228.42	0.00	0.00	
16	107.00	OPA-65R-LCUU-H6	3	11.240	12.364	0.59	0.75	17.17	240.00	0.000	0.000	212.29	0.00	0.00	
17	107.00	DC6-48-60-18-8F	3	11.240	12.364	0.67	0.67	2.95	95.40	0.000	0.000	36.53	0.00	0.00	
18	107.00	RRUS A2	3	11.240	12.364	0.46	0.75	2.59	63.60	0.000	0.000	32.08	0.00	0.00	
19	107.00	RRUS 12	3	11.240	12.364	0.52	0.75	4.96	174.00	0.000	0.000	61.34	0.00	0.00	
20	107.00	RRUS-11 700MHz	3	11.240	12.364	0.57	0.75	4.31	152.10	0.000	0.000	53.28	0.00	0.00	
21	107.00	RRUS 4449 B5/B12	3	11.240	12.364	0.52	0.75	2.60	255.00	0.000	0.000	32.13	0.00	0.00	
22	107.00	RRUS-32	3	11.240	12.364	0.65	0.75	7.58	231.00	0.000	0.000	93.66	0.00	0.00	
23	97.00	BXA-171063/12CF	3	11.010	12.111	0.63	0.75	9.03	45.00	0.000	0.000	109.41	0.00	0.00	
24	97.00	3 ft Standoff	3	11.010	12.111	0.56	0.75	4.44	120.00	0.000	0.000	53.75	0.00	0.00	
25	97.00	BXA-70063/6CF	3	11.010	12.111	0.52	0.75	11.92	51.00	0.000	0.000	144.40	0.00	0.00	
26	97.00	RRH2x40-AWS	3	11.010	12.111	0.61	0.75	4.65	132.00	0.000	0.000	56.31	0.00	0.00	
27	97.00	DBXNH-6565A-VTM	3	11.010	12.111	0.60	0.75	9.67	102.60	0.000	0.000	117.06	0.00	0.00	
28	97.00	FD9R6004/2C-3L (3.1 lbs)	6	11.010	12.111	0.75	0.75	1.62	18.60	0.000	0.000	19.62	0.00	0.00	
29	97.00	DB-T1-6Z-8AB-0Z	1	11.010	12.111	0.71	1.00	3.41	18.90	0.000	0.000	41.27	0.00	0.00	
30	87.00	0208	3	10.761	11.837	0.52	0.80	2.14	59.40	0.000	0.000	25.30	0.00	0.00	
31	87.00	4415	2	10.761	11.837	0.55	0.80	2.05	88.20	0.000	0.000	24.31	0.00	0.00	
32	87.00	SF-SU7-2-96	3	10.761	11.837	0.56	0.75	25.48	1185.00	0.000	0.000	301.61	0.00	0.00	
33	87.00	ODI2-065R18K-GQ	3	10.761	11.837	0.56	0.80	8.15	75.30	0.000	0.000	96.45	0.00	0.00	
Totals:									6,632.60						3,095.60

Total Applied Force Summary

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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 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		105.03	1011.69	0.00	0.00
10.00		102.43	992.20	0.00	0.00
15.00		99.83	972.71	0.00	0.00
20.00		103.16	953.23	0.00	0.00
25.00		105.23	933.74	0.00	0.00
30.00		106.35	914.25	0.00	0.00
35.00		106.75	894.76	0.00	0.00
40.00		106.60	875.27	0.00	0.00
45.00		106.01	855.78	0.00	0.00
48.50		73.41	587.45	0.00	0.00
50.00		31.60	395.07	0.00	0.00
53.25		68.32	845.15	0.00	0.00
55.00		36.44	245.67	0.00	0.00
60.00		103.70	691.39	0.00	0.00
65.00		101.93	675.80	0.00	0.00
70.00		99.94	660.21	0.00	0.00
75.00		97.76	644.62	0.00	0.00
80.00		95.40	629.03	0.00	0.00
85.00		92.89	613.44	0.00	0.00
87.00	(11) attachments	483.95	1648.91	0.00	0.00
90.00		53.68	354.86	0.00	0.00
95.00		87.43	578.96	0.00	0.00
97.00	(22) attachments	575.87	715.32	0.00	0.00
98.75		29.40	173.00	0.00	0.00
100.00		21.08	185.60	0.00	0.00
102.00		33.36	293.41	0.00	0.00
105.00		49.17	240.97	0.00	0.00
107.00	(37) attachments	1114.81	2552.61	0.00	0.00
110.00		47.29	217.04	0.00	0.00
115.00		76.36	352.37	0.00	0.00
117.00	(9) attachments	246.64	399.88	0.00	0.00
120.00		43.33	165.57	0.00	0.00
125.00		69.60	266.59	0.00	0.00
130.00		66.09	254.90	0.00	0.00
135.00		62.49	243.20	0.00	0.00
137.00	(15) attachments	825.27	2167.61	0.00	0.00
139.00	(1) attachments	28.29	71.48	0.00	0.00
Totals:		5,656.90	25,273.71	0.00	0.00

Calculated Forces

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

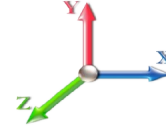


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 25

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	-25.27	-5.67	0.00	-530.30	0.00	530.30	3003.53	1501.76	5797.25	2902.93	0.00	0.000	0.000	0.191
5.00	-24.25	-5.59	0.00	-501.96	0.00	501.96	2960.91	1480.45	5573.38	2790.83	0.03	-0.057	0.000	0.188
10.00	-23.26	-5.51	0.00	-474.02	0.00	474.02	2916.70	1458.35	5350.68	2679.32	0.12	-0.115	0.000	0.185
15.00	-22.28	-5.43	0.00	-446.48	0.00	446.48	2870.92	1435.46	5129.40	2568.51	0.27	-0.173	0.000	0.182
20.00	-21.32	-5.34	0.00	-419.34	0.00	419.34	2823.56	1411.78	4909.74	2458.52	0.49	-0.233	0.000	0.178
25.00	-20.38	-5.26	0.00	-392.62	0.00	392.62	2774.61	1387.31	4691.94	2349.46	0.76	-0.294	0.000	0.174
30.00	-19.46	-5.17	0.00	-366.34	0.00	366.34	2724.09	1362.04	4476.23	2241.44	1.10	-0.356	0.000	0.171
35.00	-18.56	-5.07	0.00	-340.51	0.00	340.51	2671.99	1335.99	4262.83	2134.58	1.51	-0.419	0.000	0.166
40.00	-17.68	-4.98	0.00	-315.14	0.00	315.14	2618.30	1309.15	4051.97	2029.00	1.98	-0.482	0.000	0.162
45.00	-16.82	-4.88	0.00	-290.24	0.00	290.24	2563.04	1281.52	3843.87	1924.79	2.52	-0.547	0.000	0.157
48.50	-16.23	-4.81	0.00	-273.15	0.00	273.15	2523.41	1261.71	3699.97	1852.74	2.94	-0.593	0.000	0.154
50.00	-15.84	-4.79	0.00	-265.94	0.00	265.94	2506.19	1253.10	3638.77	1822.09	3.13	-0.613	0.000	0.152
53.25	-14.99	-4.72	0.00	-250.38	0.00	250.38	1850.79	925.39	2677.47	1340.72	3.56	-0.656	0.000	0.195
55.00	-14.74	-4.69	0.00	-242.13	0.00	242.13	1837.85	918.92	2627.99	1315.95	3.81	-0.679	0.000	0.192
60.00	-14.04	-4.60	0.00	-218.68	0.00	218.68	1799.82	899.91	2487.54	1245.62	4.56	-0.757	0.000	0.183
65.00	-13.36	-4.50	0.00	-195.69	0.00	195.69	1760.21	880.10	2348.61	1176.05	5.40	-0.834	0.000	0.174
70.00	-12.70	-4.41	0.00	-173.17	0.00	173.17	1719.02	859.51	2211.45	1107.37	6.31	-0.911	0.000	0.164
75.00	-12.05	-4.32	0.00	-151.12	0.00	151.12	1676.25	838.13	2076.26	1039.67	7.31	-0.986	0.000	0.153
80.00	-11.42	-4.23	0.00	-129.53	0.00	129.53	1631.90	815.95	1943.29	973.09	8.38	-1.058	0.000	0.140
85.00	-10.80	-4.13	0.00	-108.41	0.00	108.41	1585.97	792.99	1812.75	907.72	9.52	-1.128	0.000	0.126
87.00	-9.16	-3.62	0.00	-100.15	0.00	100.15	1567.16	783.58	1761.26	881.94	10.00	-1.155	0.000	0.119
90.00	-8.80	-3.57	0.00	-89.29	0.00	89.29	1538.46	769.23	1684.87	843.69	10.74	-1.194	0.000	0.112
95.00	-8.22	-3.47	0.00	-71.47	0.00	71.47	1489.37	744.69	1559.88	781.10	12.03	-1.254	0.000	0.097
97.00	-7.52	-2.88	0.00	-64.53	0.00	64.53	1469.29	734.65	1510.75	756.50	12.56	-1.277	0.000	0.090
98.75	-7.35	-2.85	0.00	-59.48	0.00	59.48	1451.52	725.76	1468.18	735.18	13.03	-1.297	0.000	0.086
100.00	-7.16	-2.83	0.00	-55.92	0.00	55.92	1437.39	718.70	1436.71	719.42	13.37	-1.311	0.000	0.083
102.00	-6.87	-2.79	0.00	-50.26	0.00	50.26	990.34	495.17	991.38	496.43	13.92	-1.331	0.000	0.108
105.00	-6.63	-2.74	0.00	-41.89	0.00	41.89	971.88	485.94	945.01	473.21	14.77	-1.360	0.000	0.095
107.00	-4.10	-1.57	0.00	-36.41	0.00	36.41	959.26	479.63	914.39	457.88	15.34	-1.382	0.000	0.084
110.00	-3.88	-1.52	0.00	-31.71	0.00	31.71	939.85	469.93	868.93	435.11	16.22	-1.413	0.000	0.077
115.00	-3.53	-1.43	0.00	-24.14	0.00	24.14	906.24	453.12	794.52	397.85	17.73	-1.460	0.000	0.065
117.00	-3.14	-1.18	0.00	-21.27	0.00	21.27	892.36	446.18	765.27	383.21	18.34	-1.477	0.000	0.059
120.00	-2.97	-1.13	0.00	-17.74	0.00	17.74	871.06	435.53	722.01	361.54	19.28	-1.502	0.000	0.052
125.00	-2.71	-1.06	0.00	-12.09	0.00	12.09	834.29	417.15	651.64	326.30	20.87	-1.536	0.000	0.040
130.00	-2.46	-0.98	0.00	-6.81	0.00	6.81	791.03	395.51	580.02	290.44	22.49	-1.562	0.000	0.027
135.00	-2.21	-0.91	0.00	-1.89	0.00	1.89	739.97	369.98	507.20	253.97	24.14	-1.576	0.000	0.010
137.00	-0.07	-0.03	0.00	-0.06	0.00	0.06	719.55	359.77	479.43	240.07	24.80	-1.578	0.000	0.000
139.00	0.00	-0.03	0.00	0.00	0.00	0.00	699.12	349.56	452.45	226.56	25.46	-1.578	0.000	0.000

Final Analysis Summary

Structure: CT13549-S-SBA	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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 97 mph Wind	23.7	0.00	30.28	0.00	0.00	2230.41
0.9D + 1.6W 97 mph Wind	23.7	0.00	22.70	0.00	0.00	2206.14
1.2D + 1.0Di + 1.0Wi 50 mph Wind	7.0	0.00	48.02	0.00	0.00	656.81
1.2D + 1.0E	1.1	0.00	30.33	0.00	0.00	113.48
0.9D + 1.0E	1.1	0.00	22.75	0.00	0.00	112.04
1.0D + 1.0W 60 mph Wind	5.7	0.00	25.27	0.00	0.00	530.30

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 97 mph Wind	-17.10	-19.86	0.00	-1055.2	0.00	-1055.2	1850.79	925.39	2677.47	1340.72	53.25	0.797
0.9D + 1.6W 97 mph Wind	-12.60	-19.63	0.00	-1038.3	0.00	-1038.3	1850.79	925.39	2677.47	1340.72	53.25	0.782
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-31.60	-5.89	0.00	-308.96	0.00	-308.96	1850.79	925.39	2677.47	1340.72	53.25	0.248
1.2D + 1.0E	-8.31	-0.76	0.00	-24.68	0.00	-24.68	990.34	495.17	991.38	496.43	102.00	0.058
0.9D + 1.0E	-6.23	-0.75	0.00	-24.37	0.00	-24.37	990.34	495.17	991.38	496.43	102.00	0.055
1.0D + 1.0W 60 mph Wind	-14.99	-4.72	0.00	-250.38	0.00	-250.38	1850.79	925.39	2677.47	1340.72	53.25	0.195

Base Plate Summary

Structure: CT13549-S-SB	Code: EIA/TIA-222-G	6/28/2019
Site Name: Danbury 1	Exposure: C	
Height: 139.00 (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	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 53.50
Moment (kip-ft): 2074.00	Width (in): 51.50	Number Bolts: 12.00
Axial (kip): 21.70	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 20.70	Polygon Sides: 4.00	Bolt Diameter (in): 2.25
Analysis	Clip Length (in): 9.00	Yield (ksi): 75.00
Moment (kip-ft): 2230.41	Effective Len (in): 9.88	Ultimate (ksi): 100.00
Axial (kip): 48.02	Moment (kip-in): 535.34	Arrangement: Clustered
Shear (kip): 23.72	Allow Stress (ksi): 67.50	Cluster Dist (in): 6.00
	Applied Stress (ksi): 0.00	Start Angle (deg): 45.00
Moment Design %: 107.54	Stress Ratio: 0.64	Compression
		Force (kip): 170.76
		Allowable (kip): 260.00
		Ratio: 0.67
		Tension
		Force (kip): 162.76
		Allowable (kip): 260.00
		Ratio: 0.64



Monopole Mat Foundation Design

Date

6/27/2019

Customer Name:	T-Mobile	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	139
Site Number:	CT13549-S-SBA	Engineer Name:	J. Chen
Engr. Number:	78525	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

Axial Load (Kips):	48.6	Shear Force (Kips):	23.7
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2227.3

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	5.5	Depth of Base BG (ft.):	6.5
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	5.00
Length of Pad (ft.):	19	Width of Pad (ft.):	19
Final Length of pad (ft)	19.0	Final width of pad (ft):	19.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	24	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30	

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

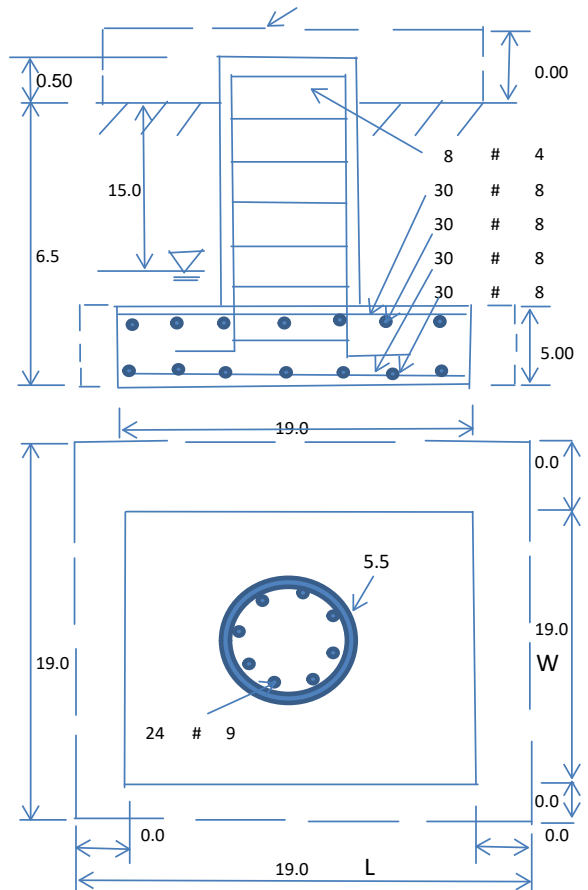
Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	15.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	8600	Ultimate Skin Friction:	0	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm of Pad:	25	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	505.86	Total Dry Soil Weight (Kips):	58.17
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	58.17	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1852.52	Total Dry Concrete Weight (Kips):	277.88
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	277.88	Total Vertical Load on Base (Kips):	384.65

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	3661	<	Allowable Factored Soil Bearing (psf):	6450	0.57	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	3334.9	>	Design Factored Momont (kips-ft):	2208	0.66	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.51					OK!



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

Load/
Capacity
Ratio**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	3146.1	> Design Factored Moment (Mu, Kips-Ft):	2274.7	0.72	OK!
Calculated Shear Capacity (Kips):	430.2	> Design Factored Shear (Kips):	23.7	0.06	OK!
Calculated Tension Capacity (Tn, Kips):	1296.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	6006.2	> Design Factored Axial Load (Pu Kips):	48.6	0.01	OK!
Moment & Axial Strength Combination:	0.72	OK! Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.007	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1222.1	> One-Way Factored Shear (L-D. Kips):	92.5	0.08	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1222.1	> One-Way Factored Shear (W-D., Kips)	92.5	0.08	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	768.9	> One-Way Factored Shear (C-C, Kips):	98.4	0.13	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0018		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	5927.9	> Moment at Bottom (L-Dir. K-Ft):	736.4	0.12	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	5927.9	> Moment at Bottom (W-Dir. K-Ft):	736.4	0.12	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	8347.7	> Moment at Bottom (C-C Dir. K-Ft):	1041.4	0.12	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	5927.9	> Moment at the top (L-Dir K-Ft):	317.3	0.05	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	5927.9	> Moment at the top (W-Dir K-Ft):	317.3	0.05	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	8347.7	> Moment at the top (C-C Dir. K-Ft):	298.0	0.04	OK!

(3).Check Punching Shear Capacity due to Moment in the Pier:

Moment transferred by punching shear:	890.9	k-ft.	Max. factored shear stress $v_{u,CD}$:	2.2	Psi
Max. factored shear stress $v_{u,AB}$:	5.3	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	5.3	Psi	Check Usage of Punching Shear Capacity:	0.03	OK!

EXHIBIT 8



Tower Engineering Solutions

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

Antenna Mount Analysis Report

Existing 140-Ft Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT13549-S-SBA / Danbury 1

Customer Site Name: Danbury 1

Carrier Name: T-Mobile (App#: 117029, V2)

Carrier Site ID / Name: CT11796G / Danbury

Site Location: 52 Stadley Rough Road

Danbury, Connecticut

Fairfield County

Latitude: 41.433102

Longitude: -73.431916

Exp.01/31/2020



Analysis Result:

Max Structural Usage: 44.3% [Pass]

06/17/2019

Report Prepared By: Vishnu Paidimarri

Introduction

The purpose of this report is to summarize the analysis results on the (3) T-arms at 137.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	Mapping By Full Metal Tower Services, Date: 4/25/2019
Antenna Loading	Provided by SBA
Modification Drawings	N/A

Analysis Criteria

Basic Wind Speed Used in the Analysis: $V_{ULT} = 125$ mph (3-Sec. Gust) / Equivalent to
 $V_{ASD} = 97$ mph (3-Sec. Gust)

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

Operational Wind Speed: 60 mph +0" Radial ice

Standard/Codes: ANSI/TIA/EIA 222-G/ 2015 IBC

Exposure Category: C

Structure Class: II

Topographic Category: 1

Crest Height (Ft): 0

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

Mount Information

(3) T-arms at 137.00' elevation

Final Antenna Configuration

- 3 RFS APXVAARR18_43-U-NA20
- 3 Ericsson Air 32 KRD901146_1_B66A_B2A
- 3 Ericsson KRY 112 144/1
- 3 Ericsson Radio 4449 B71+B12

Any proposed antennas not currently installed should be mounted such that the centers of the antennas do not exceed 0.5 ft vertically from the center of the (3) T-arms.

In addition to the proposed equipment loading, a 500 lb serviceability load was also considered in this analysis in accordance with TIA requirements.

Analysis Results

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 44.3%, which occurs in the face horizontal. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

Attachments

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

Standard Conditions

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



Structure: CT13549-S-SBA - Danbury 1

Sector: A

6/14/2019

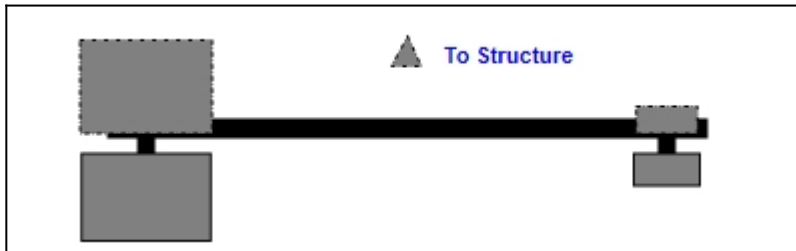
Structure Type: Monopole

Mount Elev: 137.00

Page: 1

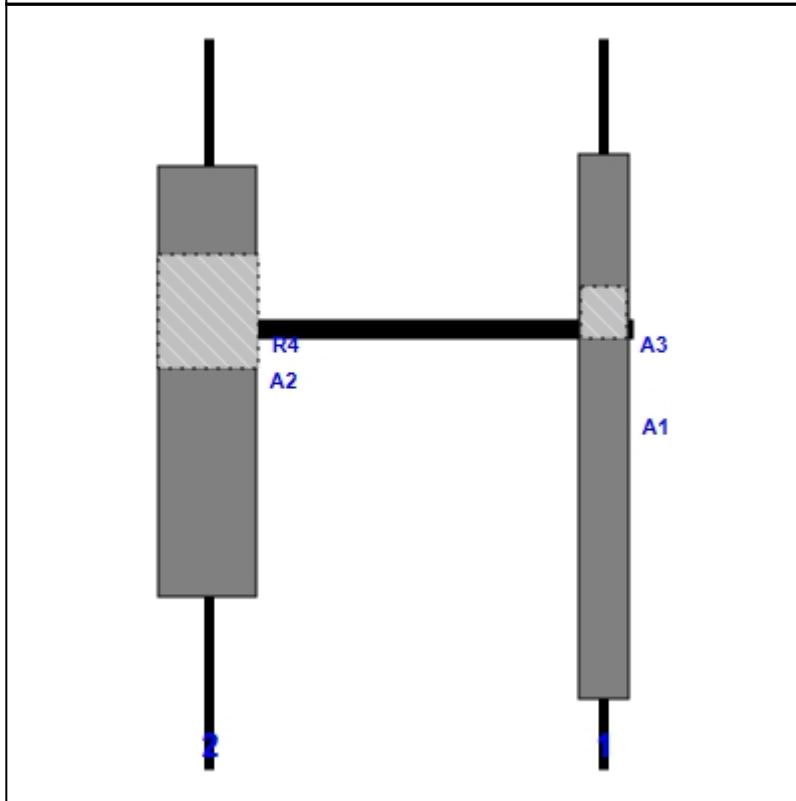


Plan View



Front View

Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist From Left	Pipe	Pipe Pos V	Antenna Pos	Center Ant From Top	Antenna H Offset
A1	RFS	71.70	6.60	56.00	1	a	Front	51.00	0.00
A3	Ericsson KRY 112 144/1	6.90	6.10	56.00	1	a	Behind	36.00	0.00
R4	Ericsson Radio 4449 B71+B12	15.00	13.20	4.00	2	a	Behind	36.00	0.00
A2	Ericsson Air 32	56.60	12.90	4.00	2	b	Front	45.00	0.00

Structure: CT13549-S-SBA - Danbury 1

Sector: B

6/14/2019

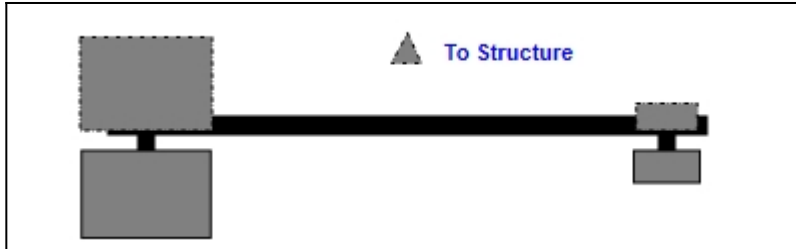
Structure Type: Monopole

Mount Elev: 137.00

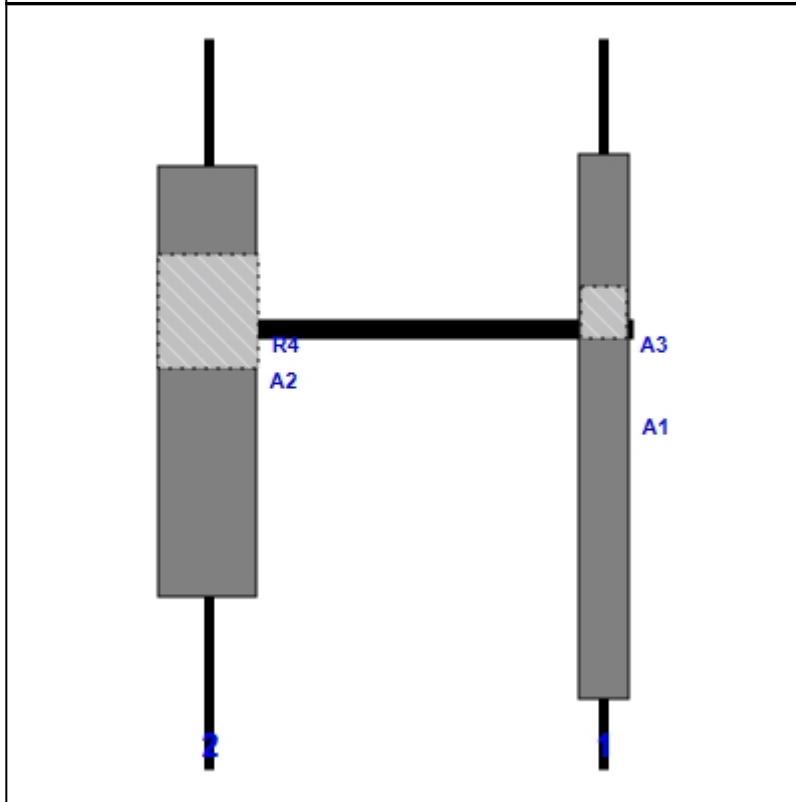
Page: 2



Plan View



Front View
Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist From Left	Pipe	Pipe Pos V	Antenna Pos	Center Ant From Top	Antenna H Offset
A1	RFS	71.70	6.60	56.00	1	a	Front	51.00	0.00
A3	Ericsson KRY 112 144/1	6.90	6.10	56.00	1	a	Behind	36.00	0.00
R4	Ericsson Radio 4449 B71+B12	15.00	13.20	4.00	2	a	Behind	36.00	0.00
A2	Ericsson Air 32	56.60	12.90	4.00	2	b	Front	45.00	0.00

Structure: CT13549-S-SBA - Danbury 1

Sector: C

6/14/2019

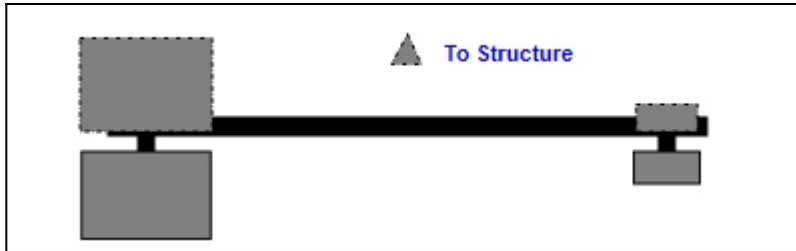
Structure Type: Monopole

Mount Elev: 137.00

Page: 3

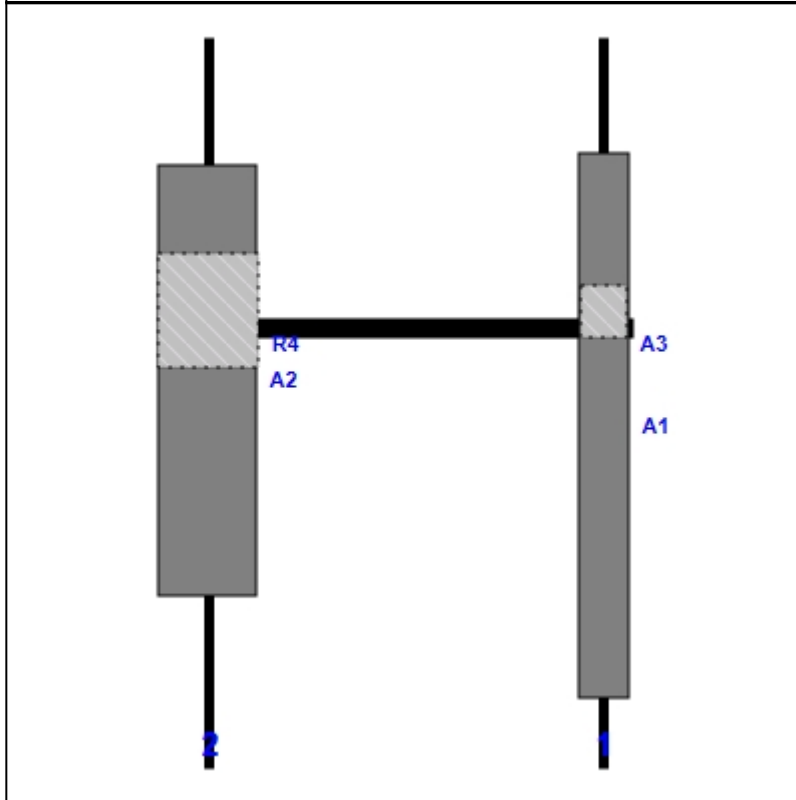


Plan View



Front View

Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist From Left	Pipe	Pipe Pos V	Antenna Pos	Center Ant From Top	Antenna H Offset
A1	RFS	71.70	6.60	56.00	1	a	Front	51.00	0.00
A3	Ericsson KRY 112 144/1	6.90	6.10	56.00	1	a	Behind	36.00	0.00
R4	Ericsson Radio 4449 B71+B12	15.00	13.20	4.00	2	a	Behind	36.00	0.00
A2	Ericsson Air 32	56.60	12.90	4.00	2	b	Front	45.00	0.00

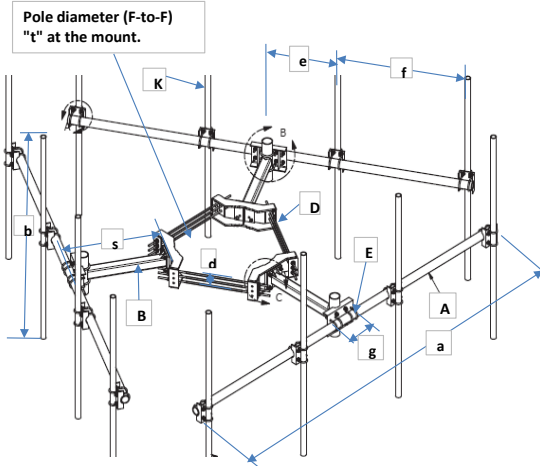


Antenna Mount Type "MT-Z" Mapping Form (PATENT PENDING)

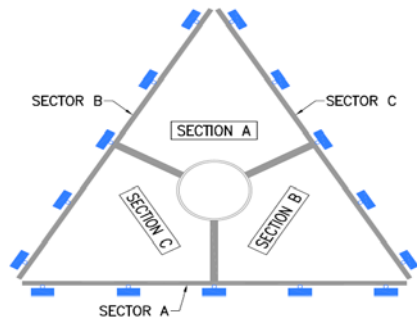
FCC #
1263107

Tower Owner:	SBA Communications	Mapping Date:	4/25/19
Site Name:	Danbury 1	Structure Type:	Monopole
Site Number or ID:	CT13549-S-SBA	Structure Height (Ft.):	140
Mapping Contractor:	Full Metal Tower Services	Mount Height (Ft.):	137.3

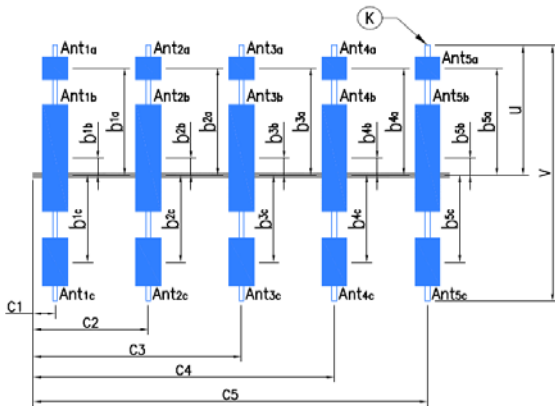
This antenna mapping form is the property of TES and under **PATENT PENDING**. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is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



Geometries (Unit: inches)									
a	60	e	26	j		o		s	26
b	96	f		k		p		t	16
c	N/A	g	8	m		q		u*	38
d	6	h		n		r		v*	96
Members/Bolts (Unit: inches) * - See Ant. Layout for "u", "v" and member "K" (pipe)									
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	3.5 OD x 0.216 Pipe	3.5	3.068	0.216	F				
B	Tubing 4x4x3/16	4	4	0.1875	G				
C					H				
D	5/8" Bolt		20		J				
E	1/2" Bolt		U-Bolt		K* (pipe)	2.875 OD x 0.203 Pipe	2.875	2.469	0.203
Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)									
Distance from top of main platform member to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)									
Please enter the information below if members can't be found from the drop down lists									
(3) TMA's (7"x3"x10") mounted to bottom of Member B.									



Climbing ladder is Located at Section C, at 325° Degree Azimuth

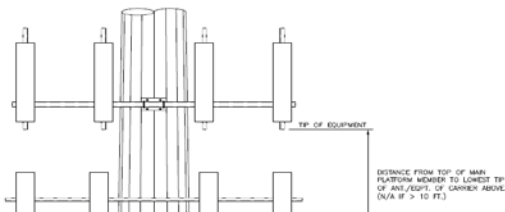


Antenna Layout

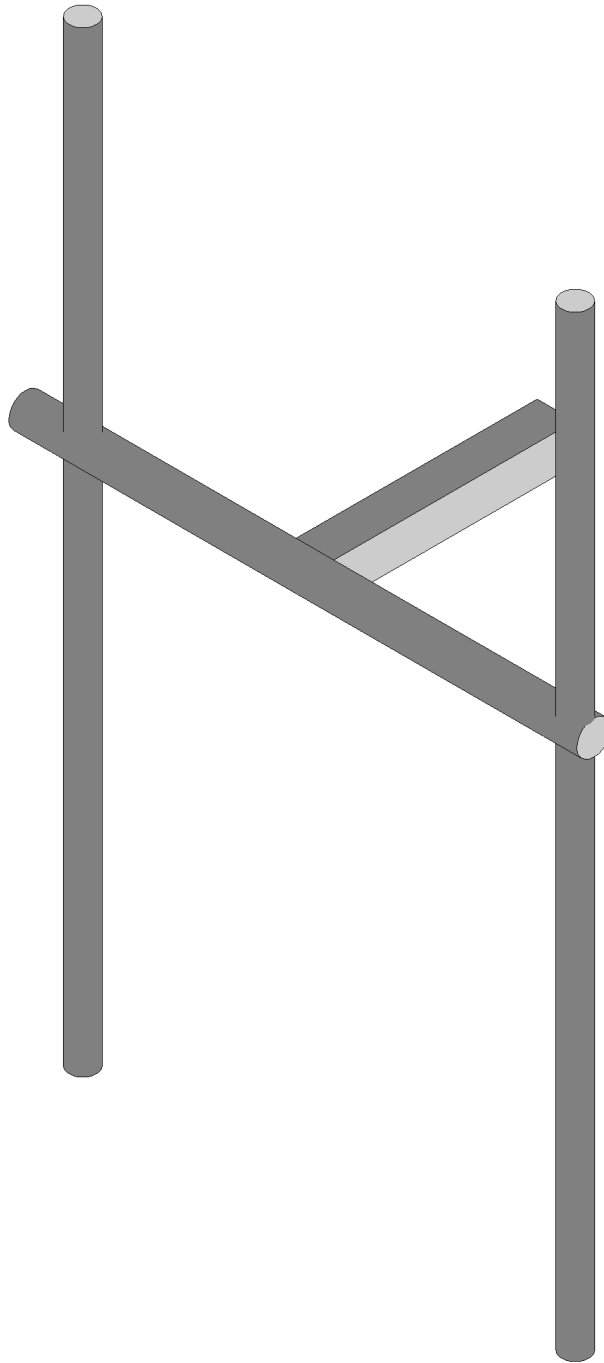
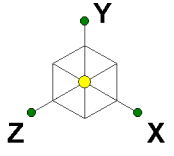
Enter antenna model. If not labeled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.						Mounting Locations (Unit: inches)			Photos of antennas	
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances "b _{1a} ", b _{2a} , b _{3a} , b _{1b} ..." (In.)	Horiz. offset (Use "-" if Ant. is inside)	Horiz. offset "C ₁ , C ₂ , C ₃ , C ₄ , C ₅ " (in.)	Photo Numbers	
										Sector A
Ant _{1a}										
Ant _{1b}	Antenna A	12	8	56	1/2" (2)	+2"	7	4		
Ant _{1c}										
Ant _{2a}										
Ant _{2b}	Antenna B	14.5	9	77	1/2" (2)	+3"	8	56		
Ant _{2c}	RRH A	17	7	20	1/2" (2)	+30"	N/A	56		
Ant _{3a}										
Ant _{3b}										
Ant _{3c}										
Ant _{4a}										
Ant _{4b}										
Ant _{4c}										
Ant _{5a}										
Ant _{5b}										
Ant _{5c}										
Are Ant same as sector A?		Yes		Antennas on Sector B are the same as Sector A						

Azimuth (Degree) of Each Sector and Climbing Information		
Sector A:	30°	Deg
Sector B:	150°	Deg
Sector C:	280°	Deg
Climbing	325°	Deg Located at Section C
Climbing Facility	Corrosion Type:	No corrosion observed
	Access:	Climbing path was unobstructed.
	Condition:	N/A

Are Ant same as sector A/B? Same As A Antennas on Sector C are the same as Sector A



DISTANCE FROM TOP OF MAIN PLATFORM MEMBER TO LOWEST TIP OF ANT./EQPT. OF CARRIER ABOVE. (N/A IF > 10 FT.)



Tower Engineering Solutio...

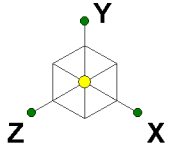
CT13549-S-SBA_MT-Z_Loads Only_Sector A_G

SK - 1

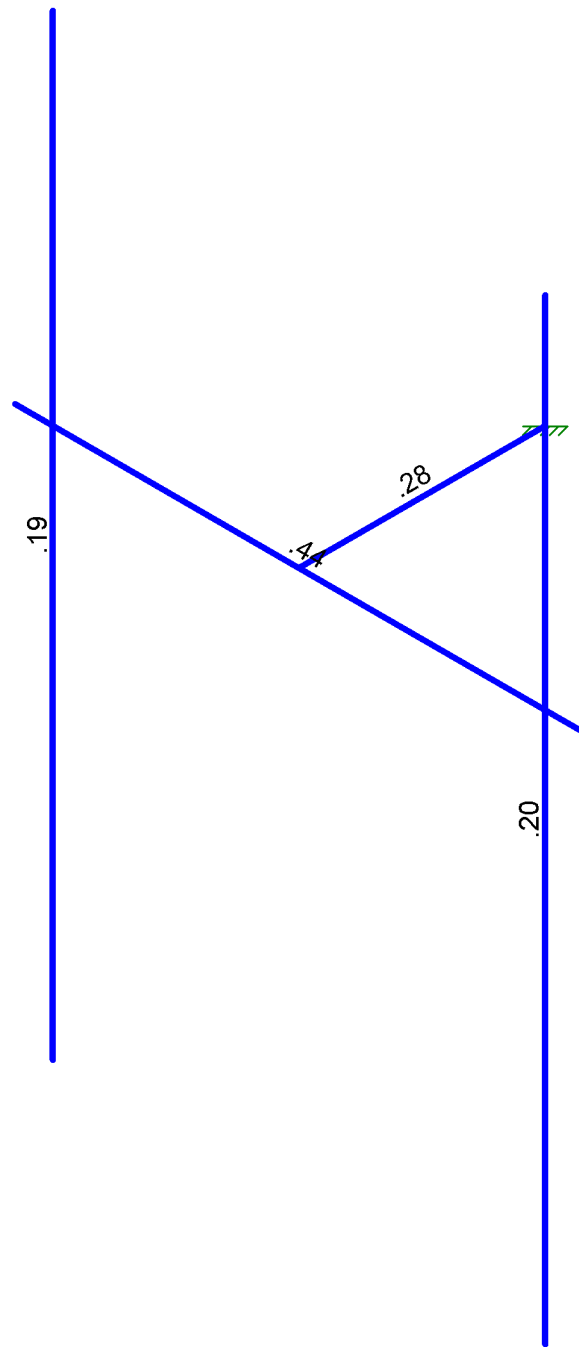
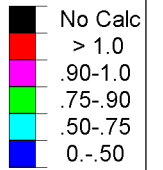
June 14, 2019 at 11:04 AM

TES Project No. 78340

CT13549-S-SBA_78340_G_RISA_L...

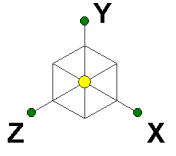


Code Check
(Env)



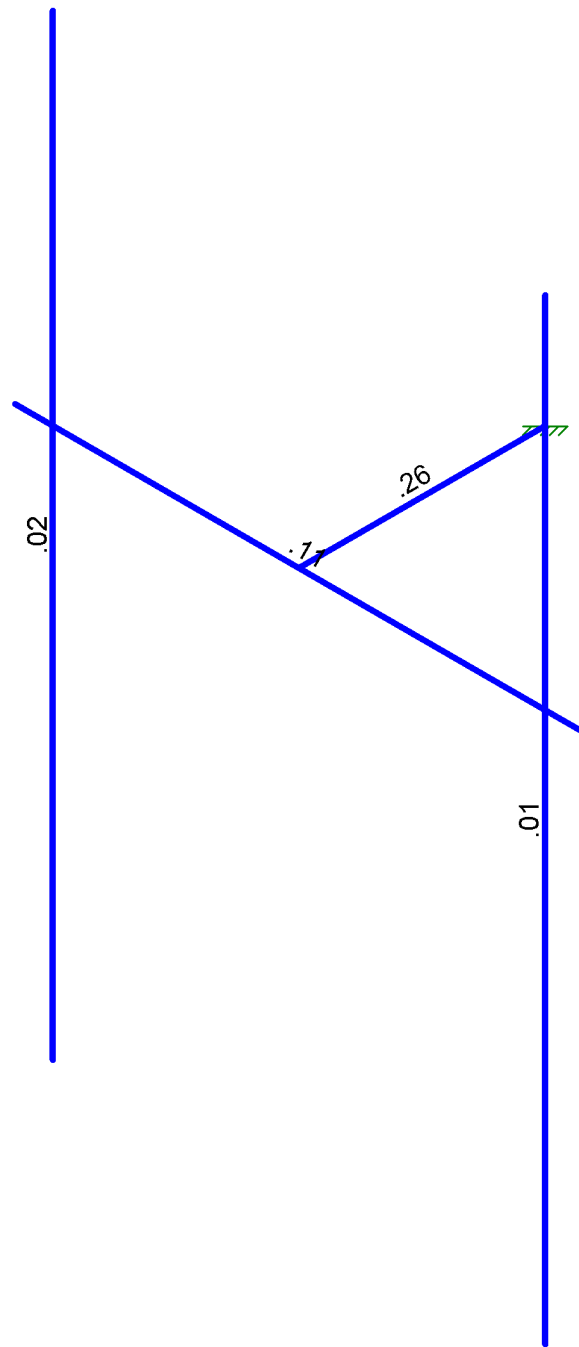
Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.6W (Front)

Tower Engineering Solutio...	CT13549-S-SBA_MT-Z_Loads Only_Sector A_G	SK - 2
TES Project No. 78340		June 14, 2019 at 11:04 AM
		CT13549-S-SBA_78340_G_RISA_L...



Shear Check
(Env)

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



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

Tower Engineering Solutio...	CT13549-S-SBA_MT-Z_Loads Only_Sector A_G	SK - 3
TES Project No. 78340		June 14, 2019 at 11:04 AM
		CT13549-S-SBA_78340_G_RISA_L...



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G	TG					Ÿ^•			p [] ^
H	T Ú F C E					Ÿ^•	E		p [] ^
I	T Ú G C E					Ÿ^•	E		p [] ^

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H	T Ú F C E	ÚQJÓ GEE	Í			Ša ^ ^			Ó : a e a e
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EXHIBIT 9

Transcom Engineering, Inc.

Wireless Network Design and Deployment

Radio Frequency Emissions Analysis Report

T-MOBILE Existing Facility

Site ID: CT11796G

CT796/OptasiteCandle_FT
52 Stadley Rough Road
Danbury, CT 06811

June 10, 2019

Transcom Engineering Project Number: 737001-0087

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	21.31 %

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: **CT11796G – CT796/OptasiteCandle_FT**

Transcom Engineering, Inc (“Transcom”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **52 Stadley Rough Road, Danbury, 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.

Transcom Engineering, Inc.

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 **52 Stadley Rough Road, Danbury, 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
LTE	2100 MHz (AWS)	2	60
GSM	1900 MHz (PCS)	1	15
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20
UMTS	2100 MHz (AWS)	1	40

Table 1: Channel Data Table

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

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Ericsson AIR32 B66A / B2A	137
A	2	RFS APXVAARR18_43-C-NA20	137
B	1	Ericsson AIR32 B66A / B2A	137
B	2	RFS APXVAARR18_43-C-NA20	137
C	1	Ericsson AIR32 B66A / B2A	137
C	2	RFS APXVAARR18_43-C-NA20	137

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 **2100 MHz (AWS) UMTS** radios are ground mounted the following cable loss values were used. For each ground mounted **2100 MHz (AWS) UMTS** radio there was **1.70 dB** of cable loss calculated into the system gains / losses for this site. These values were calculated based upon the manufacturers specifications for **160 feet** of **1-5/8"** 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	Ericsson AIR32 B66A / B2A	1900 MHz (PCS) / 2100 MHz (AWS)	15.85 / 15.85	7	295	11,345.46	2.38
Antenna A2	RFS APXVAARR18_43-C-NA20	600 MHz / 700 MHz / 2100 MHz (AWS)	12.85 / 13.55 / 17.15	5	160	3,850.89	1.51
Sector A Composite MPE%							3.89
Antenna B1	Ericsson AIR32 B66A / B2A	1900 MHz (PCS) / 2100 MHz (AWS)	15.85 / 15.85	7	295	11,345.46	2.38
Antenna B2	RFS APXVAARR18_43-C-NA20	600 MHz / 700 MHz / 2100 MHz (AWS)	12.85 / 13.55 / 17.15	5	160	3,850.89	1.51
Sector B Composite MPE%							3.89
Antenna C1	Ericsson AIR32 B66A / B2A	1900 MHz (PCS) / 2100 MHz (AWS)	15.85 / 15.85	7	295	11,345.46	2.38
Antenna C2	RFS APXVAARR18_43-C-NA20	600 MHz / 700 MHz / 2100 MHz (AWS)	12.85 / 13.55 / 17.15	5	160	3,850.89	1.51
Sector C Composite MPE%							3.89

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	3.89 %
AT&T	7.90 %
DISH	3.22 %
Clearwire	0.18 %
MetroPCS	0.39 %
Verizon Wireless	5.73 %
Site Total MPE %:	21.31 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	3.89 %
T-MOBILE Sector B Total:	3.89 %
T-MOBILE Sector C Total:	3.89 %
Site Total:	21.31 %

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	1,538.37	137	12.89	1900 MHz (PCS)	1000	1.29%
T-Mobile 2100 MHz (AWS) LTE	2	2,307.55	137	9.67	2100 MHz (AWS)	1000	0.97%
T-Mobile 1900 MHz (PCS) GSM	1	576.89	137	1.21	1900 MHz (PCS)	1000	0.12%
T-Mobile 600 MHz LTE / 5G NR	2	771.01	137	3.23	600 MHz	400	0.81%
T-Mobile 700 MHz LTE	2	452.93	137	1.90	700 MHz	467	0.41%
T-Mobile 2100 MHz (AWS) UMTS	1	1,403.01	137	2.94	2100 MHz (AWS)	1000	0.29%
						Total:	3.89%

Table 6: T-MOBILE Maximum Sector MPE Power Values

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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:	3.89 %
Sector B:	3.89 %
Sector C:	3.89 %
T-MOBILE Maximum Total (per sector):	3.89 %
Site Total:	21.31 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **21.31 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



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