



Northeast Site Solutions
Denise Sabo
4 Angela's Way, Burlington CT 06013
203-435-3640
denise@northeastsitesolutions.com

June 2, 2022

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Exempt Modification Application
38 Rich Road, Thompson, CT 06255
Latitude: 42.011500
Longitude: -71.852027
Site #: CT11559-A_CTNL191D_SBA/T-Mobile

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing tower located at 38 Rich Road, Thompson, CT 06255. T-Mobile currently maintains nine (9) antennas at the 149-foot level of the existing 149-foot monopole tower. The property is owned by the Town of Thompson, and the tower is owned by SBA. T-Mobile now intends to replace (6) antennas. The new antennas would be installed at the 149-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable.

T-Mobile Planned Modifications:

Remove:

- (2) Coax – 1-5/8"
- (1) HCS Fiber Cable 1-5/8"

Remove and Replace:

- (3) ERICSSON AIR21 B2A/B4P (REMOVE) - (3) COMMSCOPE VV-65A-R1 Antennas (REPLACE)
- (3) ERICSSON AIR21 B4A/B2P (REMOVE) - (3) ERICSSON AIR6419 B41 Antennas (REPLACE)

Install New:

- (2) HCS Fiber Cable 1.9"
- (3) ERICSSON 4460 B25+B66A RRU

Existing to Remain:

- (3) RFS APXVAARR24-43-U-NA20 Antennas
- (3) ERICSSON 4449 B71+B85 RRU
- (1) HCS Fiber Cable 1-5/8"
- (9) Coax – 1-5/8" *
- (3) Twin TMAs – KRY 112 144/1 *

*Equipment listed for entitlement purposed only



The facility was approved by the Connecticut Siting Council, Docket No. 344 on January 10, 2008. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-72(b)(2), 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 Amy St. Onge, First Selectman, and Tyra Penn-Gesek, Director of Planning & Development for the Town of Griswold, as well as the property owner and the tower owner.

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 modifications 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 modifications 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 telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Denise Sabo
Mobile: 203-435-3640
Fax: 413-521-0558
Office: 4 Angela's Way, Burlington CT 06013
Email: denise@northeastsitesolutions.com



NSS **NORTHEAST**
SITE SOLUTIONS
Turnkey Wireless Development

Attachments

Cc: Amy St. Onge, First Selectman & Property Owner
Town of Thompson
815 Riverside Drive
P.O. Box 899
North Grosvenordale, CT 06255

Tyra Penn-Gesek, Director of Planning & Development
Town of Thompson
815 Riverside Drive
P.O. Box 899
North Grosvenordale, CT 06255

SBA - Tower Owner

Exhibit A

Original Facility Approval

DOCKET NO. 344 - MCF Communications bg, Inc. and } Connecticut
Omnipoint 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 Rich Road, Thompson, Connecticut. } Council

January 10, 2008

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 MCF Communications bg, Inc. for the construction, maintenance and operation of a wireless telecommunications facility to be located on Rich Road in Thompson, 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 designed and constructed as a monopole no taller than 150 feet above ground level to provide telecommunications services to both public and private entities. Panel antennas to be installed on the tower shall be flush-mounted or attached to the tower using T-arm mounts.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Thompson 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, antenna mountings, equipment building, access road, and utility line;
 - b) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. 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 in the event other carriers locate at this facility or if circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
4. Upon the establishment of any new state or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Thompson public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed 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.
8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Thompson. Any proposed modifications to this Decision and Order shall likewise be so served.
9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of 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, we hereby direct 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 Norwich Bulletin and The Thompson Villager.

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 in this proceeding are:

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	MCF Communications bg, Inc. and Omnipoint Communications, Inc.	Julie Kohler, Esq. Carrie Larson, Esq. Cohen and Wolf, P.C 1115 Broad Street Bridgeport, CT 06604 Tel: 203-368-0211 Fax: 203-394-9901 JKohler@cohenandwolf.com Clarson@cohenandwolf.com
Intervenor Approved 08/29/07	Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8200

Exhibit B

Property Card

38 RICH RD

Location 38 RICH RD

Mblu 97/ 28/ 7/2 /

Acct# 005976

Owner THOMPSON TOWN OF

Assessment \$95,800

Appraisal \$136,900

PID 105141

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$136,900	\$0	\$136,900

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$95,800	\$0	\$95,800

Owner of Record

Owner THOMPSON TOWN OF
Co-Owner C/O SBA INFRASTRUCTURE LLC
Address TAX DEPT CT11559-A
8051 CONGRESS AVE
BOCA RATON, FL 33487

Sale Price \$0
Certificate
Book & Page 0789/0277
Sale Date 09/19/2012
Instrument 25

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
THOMPSON TOWN OF	\$0		0789/0277	25	09/19/2012
THOMPSON TOWN OF	\$0		0686/0268		11/29/2007

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	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Style:	
Kitchen Style:	

Building Photo



(<http://images.vgsi.com/photos/ThompsonCTPhotos//default.jpg>)

Building Layout

 Building Layout

(<http://images.vgsi.com/photos/ThompsonCTPhotos//Sketches/1>)

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

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 3030
Description COMM LAND
Zone
Neighborhood
Alt Land Appr Category No

Land Line Valuation

Size (Acres) 0
Frontage
Depth
Assessed Value \$0
Appraised Value \$0

Outbuildings

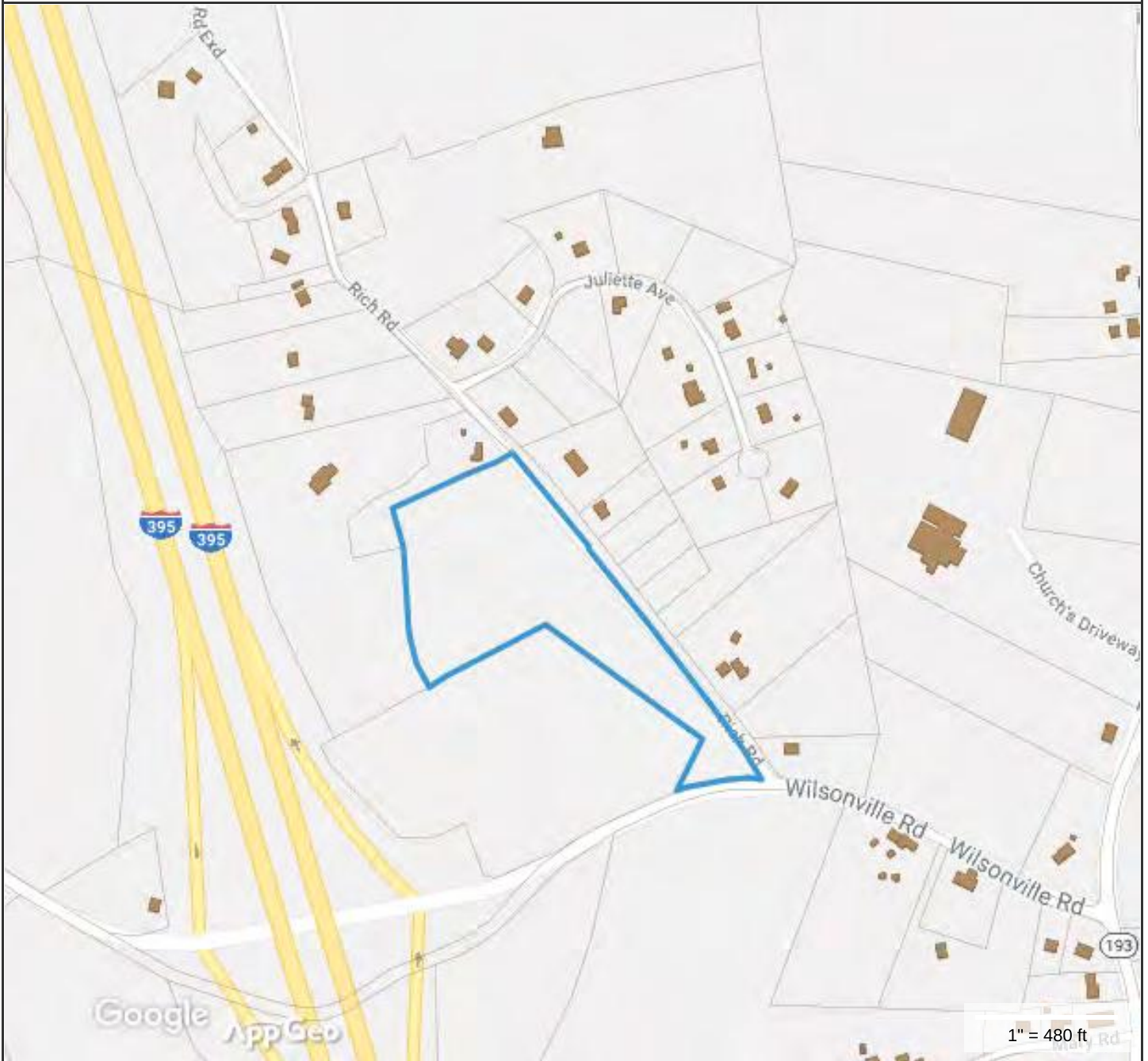
Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
TWR2	MONOPOLE			150 HEIGHT	\$128,300	1
FN3	FENCE-6' CHAIN			400 L.F.	\$8,600	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$136,900	\$0	\$136,900
2017	\$136,900	\$0	\$136,900
2016	\$246,700	\$0	\$246,700

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$95,800	\$0	\$95,800
2017	\$95,800	\$0	\$95,800
2016	\$172,600	\$0	\$172,600

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Property Information

Property ID 104423
Location 38 RICH RD
Owner TOWN OF THOMPSON



**MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT**

Town of Thompson, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated April 1, 2018
Data updated April 1, 2018

Exhibit C

Construction Drawings

SPECIAL CONSTRUCTION NOTE:
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

NL191/MCF_TOWN LOT_FT

39 RICH ROAD
 THOMPSON, CT 06255
 WINDHAM COUNTY

SITE NO.: CTNL191D

SITE TYPE: 152'± MONOPOLE

RF DESIGN GUIDELINE: 67D5D998E 6160

SCOPE OF WORK

- REMOVE:
- 6 ANTENNAS
 - 3 TMA's
 - 1 HYBRID CABLE
 - ALL COAX CABLES
 - 1 NORTEL CABINET
- INSTALL:
- 6 ANTENNAS
 - 3 RRU's
 - 1 B160 BATTERY CABINET
 - 1 6160 CABINET
 - 1 SLACKBOX
 - 1 FIBER CABINET
 - 2 HYBRID CABLE
 - 1 150A-2P BREAKER
 - 1 25A-2P BREAKER

SITE NOTES

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

APPROVALS

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

T-MOBILE TECHNICIAN SITE SAFETY NOTES

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

GENERAL NOTES

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

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



VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

HEAD NORTHEAST TOWARD COMMERCE WAY. TURN LEFT ONTO SOUTH WASHINGTON STREET. TURN RIGHT ONTO MA-123 EAST. TURN LEFT TO MERGE ONTO I-495 NORTH. TAKE EXIT 58 TOWARD I-90 WEST. TAKE EXIT 90 FOR I-395 SOUTH. TAKE EXIT 53 TOWARD WILSONVILLE ROAD. TURN LEFT ONTO WILSONVILLE ROAD. TURN LEFT ONTO RICH ROAD. SITE IS LOCATED ON THE LEFT SIDE.

SHEET INDEX

SHT. NO.	DESCRIPTION	VER.
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
A-1	COMPOUND & EQUIPMENT PLAN	0
A-2	TOWER ELEVATIONS & ANTENNA PLAN	0
A-3	SITE DETAILS	0
A-4	ANTENNA & FEEDLINE CHARTS	0
E-1	ELECTRIC & GROUNDING DETAILS	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.

PROJECT SUMMARY

SITE NUMBER:	CTNL191D
SITE NAME:	NL191/MCF_TOWN LOT_FT
SBA SITE NUMBER:	CT11559-A
SBA SITE NAME:	THOMPSON 1, CT
SITE ADDRESS:	39 RICH ROAD THOMPSON, CT 06255
PROPERTY OWNER:	TOWN OF THOMPSON PO BOX 899N GROSVENORDALE, CT 06255
TOWER OWNER:	SBA INFRASTRUCTURE, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	WINDHAM COUNTY
ZONING DISTRICT:	R40 (RESIDENTIAL)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	152'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
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.42.011550° W.71.851908° N42°00'41.58" W71°51'06.87"

SPECIAL ZONING NOTE:

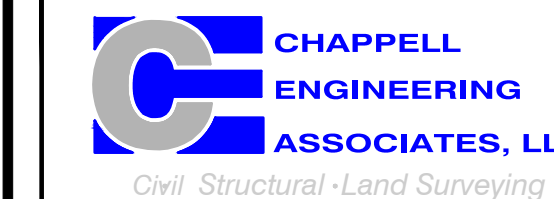
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE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

T-MOBILE NORTHEAST LLC

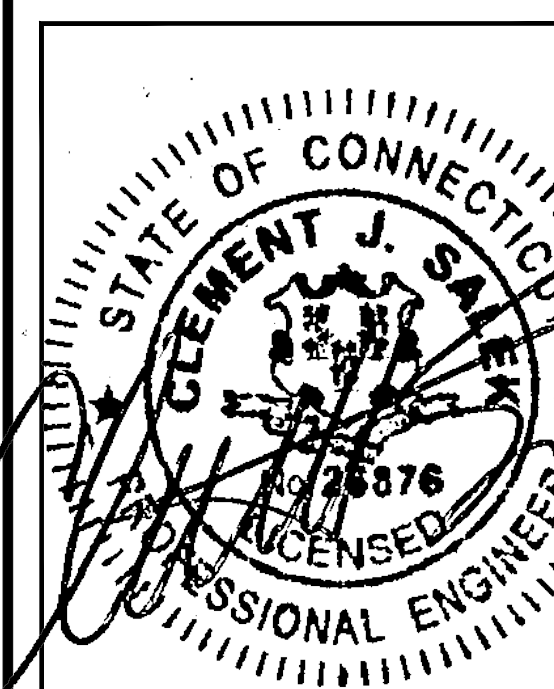
15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
 (508) 286-2700



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
0	04/12/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL191D

SITE ADDRESS:
 39 RICH ROAD
 THOMPSON, CT 06255

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 ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
- CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIER'S PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

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

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

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

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

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

ELECTRICAL INSTALLATION NOTES:

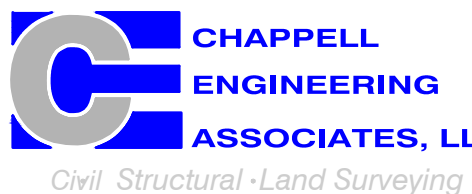
- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR 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-STYLED 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, 1/2 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-STYLED, 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, ANSII/IEEC 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, ANSII/IEEC 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**

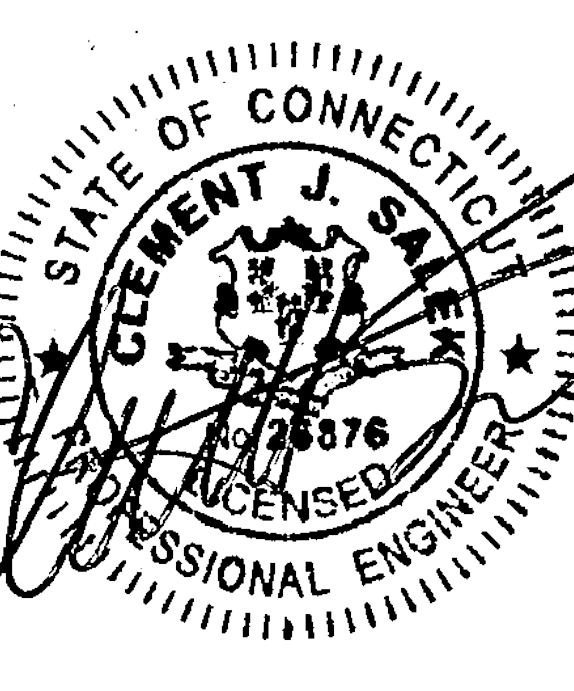
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
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SBA COMMUNICATIONS CORP.
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APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	04/12/22	ISSUED FOR REVIEW	JRV

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CTNL191D

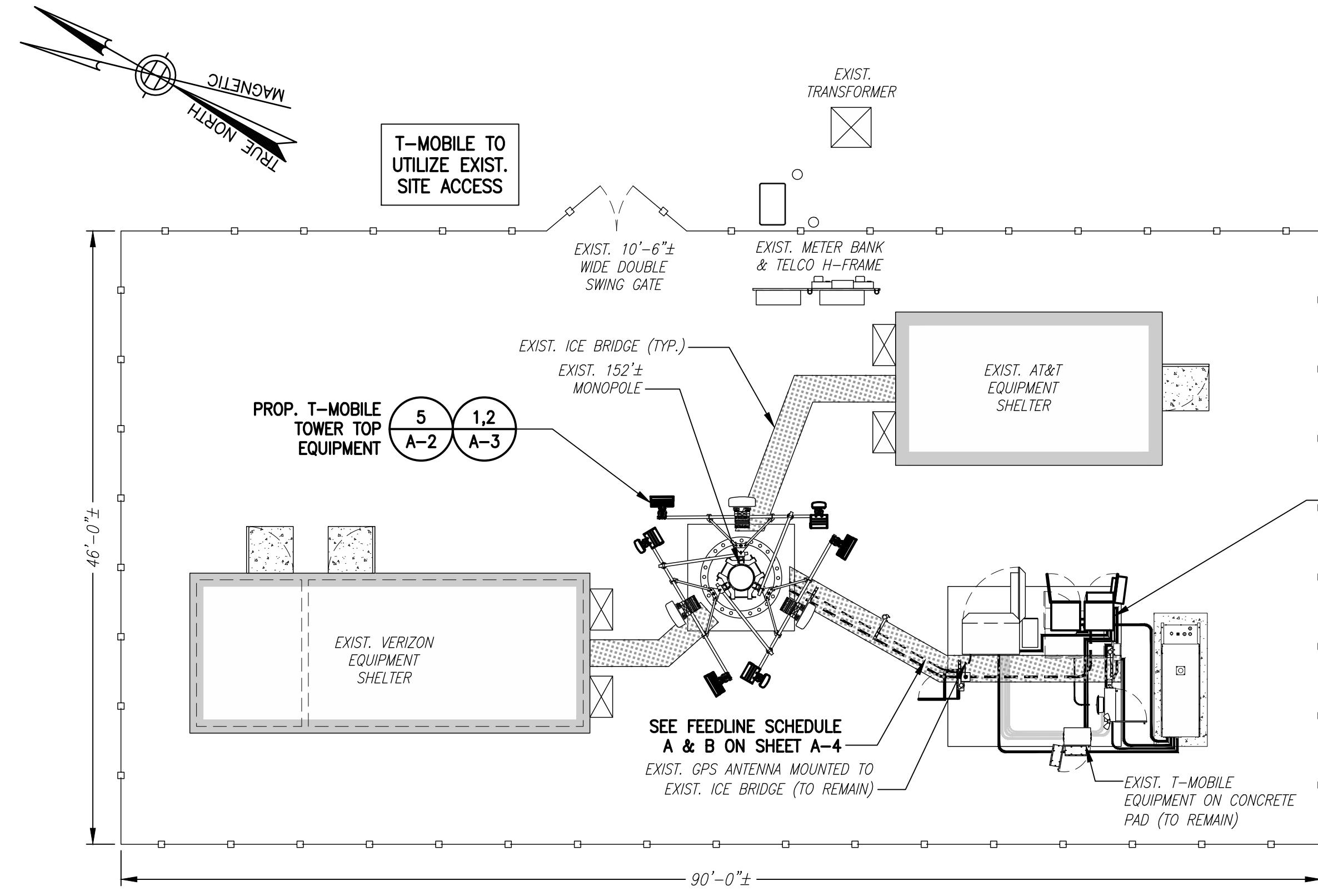
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THOMPSON, CT 06255

SHEET TITLE
GENERAL NOTES

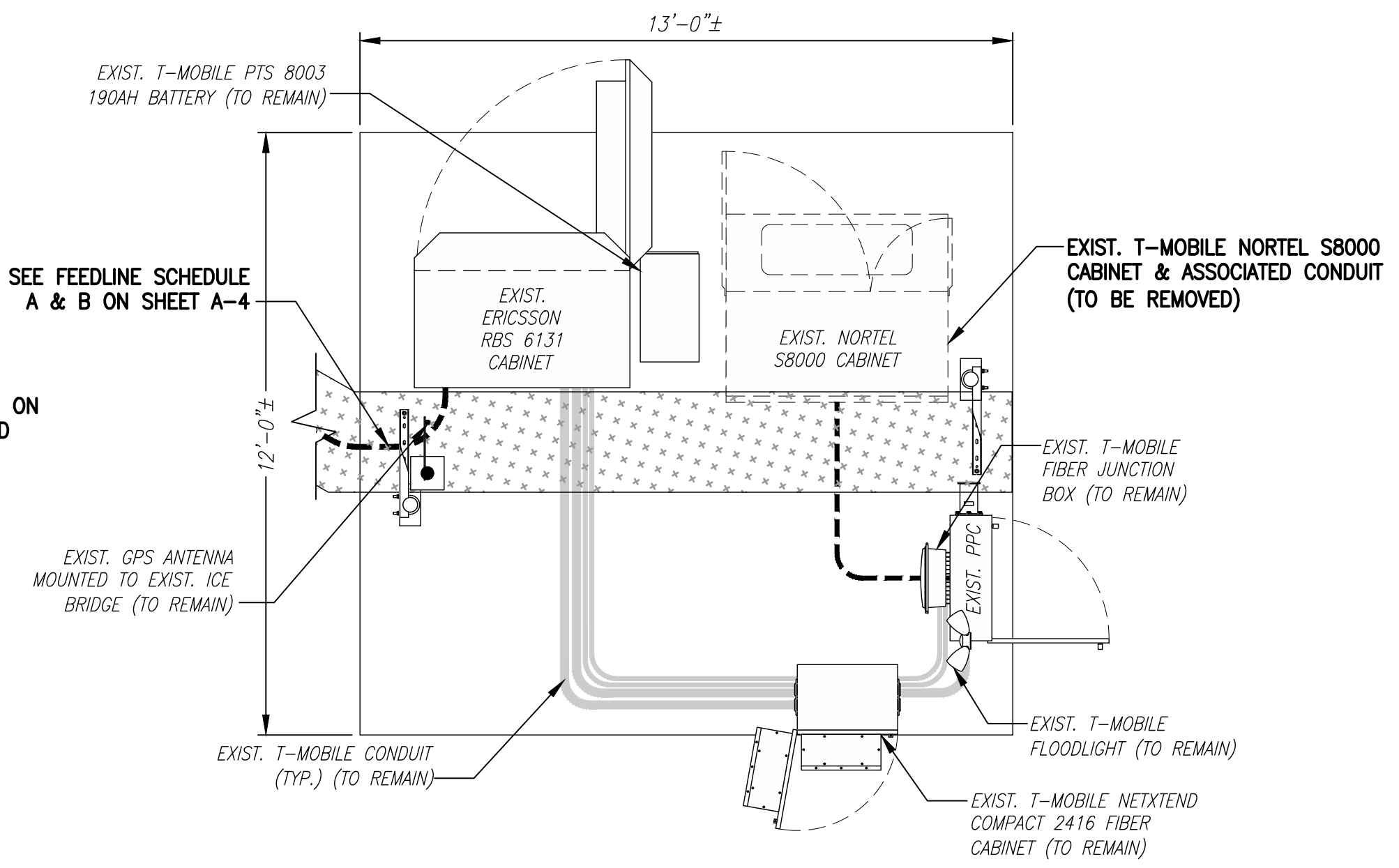
SHEET NUMBER
GN-1

SPECIAL CONSTRUCTION NOTE:
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

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



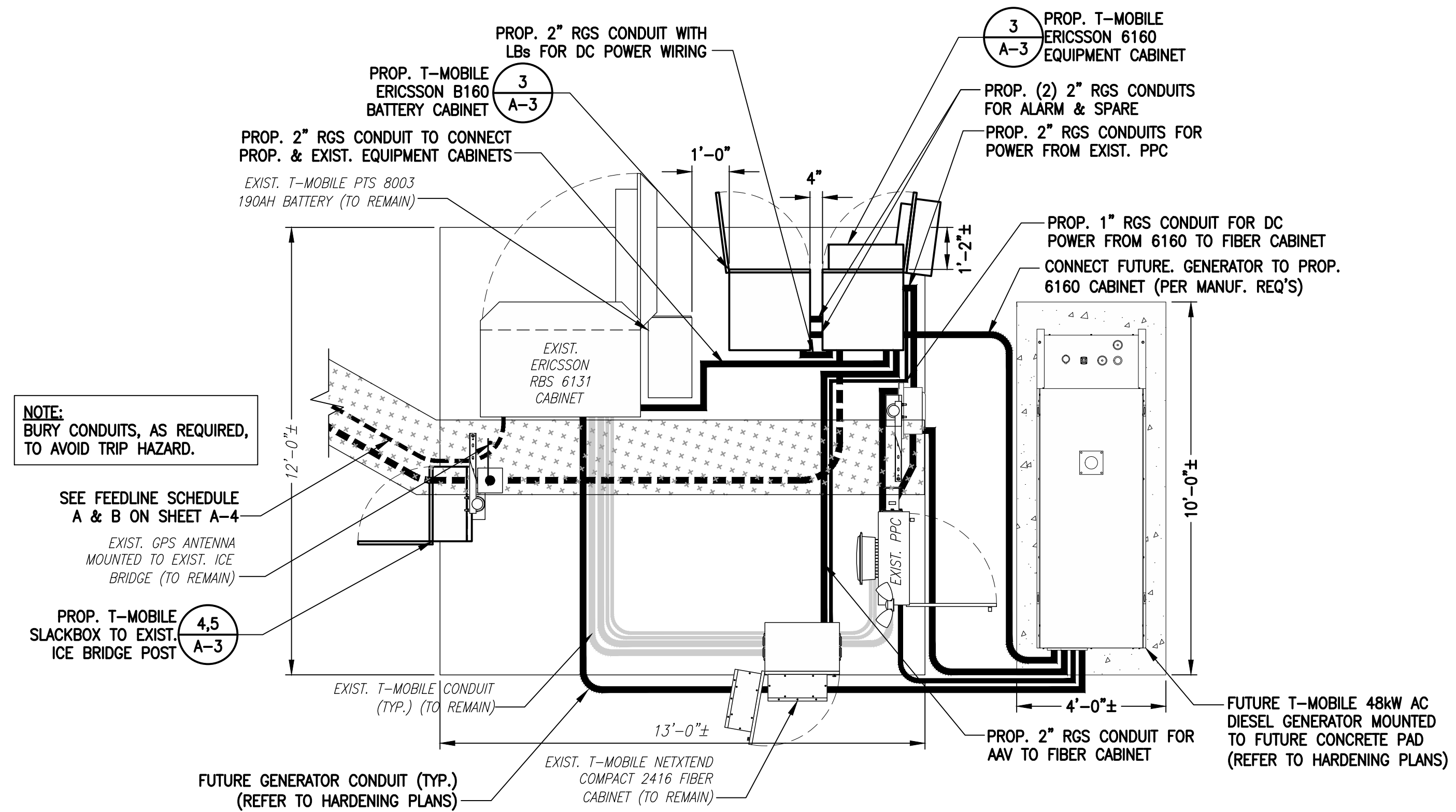
COMPOUND PLAN
 SCALE: 1/8" = 1'-0"
 0 8'-0" 16'-0" 24'-0"



EXISTING EQUIPMENT PLAN
 SCALE: 3/8" = 1'-0"
 0 2'-8" 5'-4" 8'-0"



EXISTING EQUIPMENT PHOTO
 SCALE: N.T.S.



PROPOSED EQUIPMENT PLAN
 SCALE: 3/8" = 1'-0"
 0 2'-8" 5'-4" 8'-0"

NOTE:
 BURY CONDUITS, AS REQUIRED, TO AVOID TRIP HAZARD.

SEE FEEDLINE SCHEDULE A & B ON SHEET A-4

EXIST. GPS ANTENNA MOUNTED TO EXIST. ICE BRIDGE (TO REMAIN)

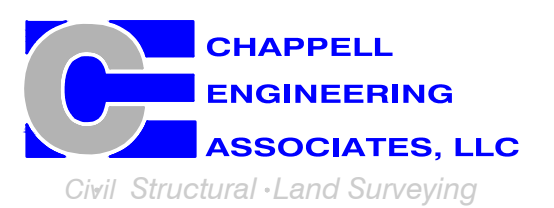
PROP. T-MOBILE SLACKBOX TO EXIST. ICE BRIDGE POST

T-MOBILE NORTHEAST LLC

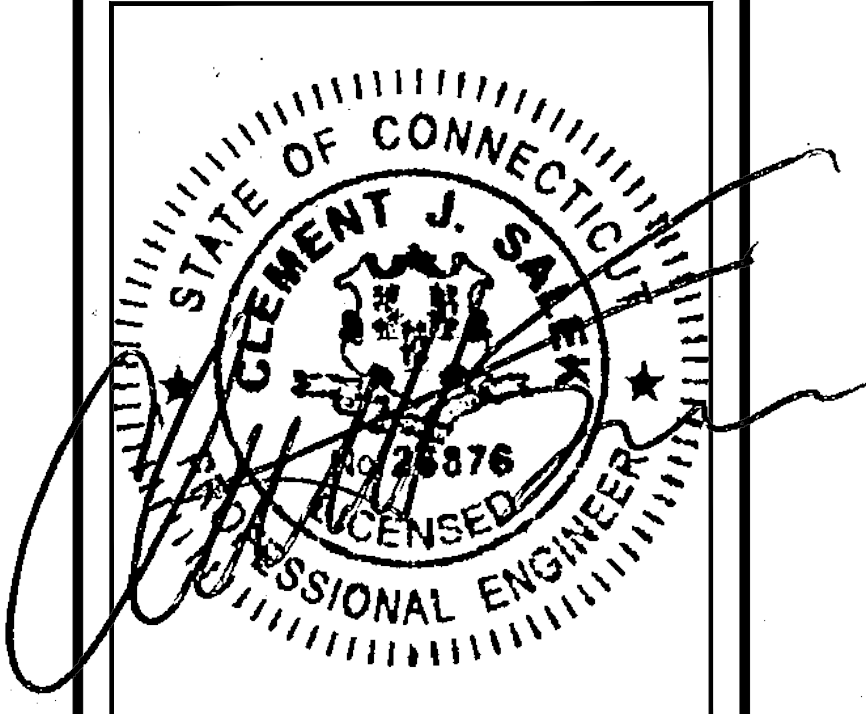
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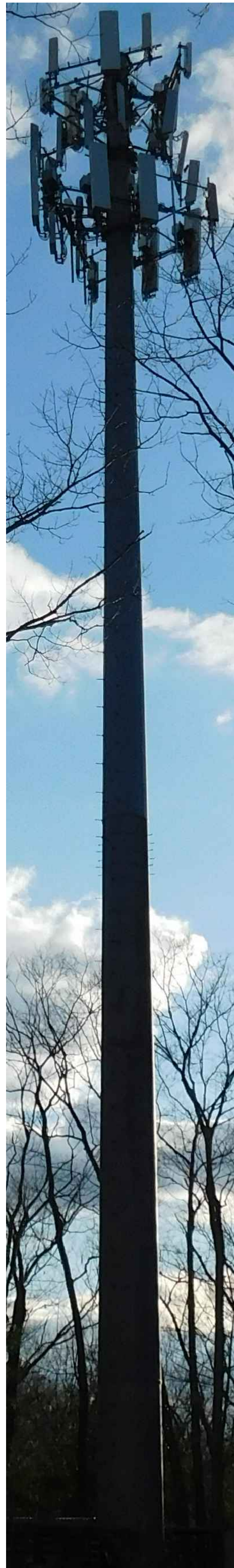
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SUBMITTALS			
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0	04/12/22	ISSUED FOR REVIEW	JRV

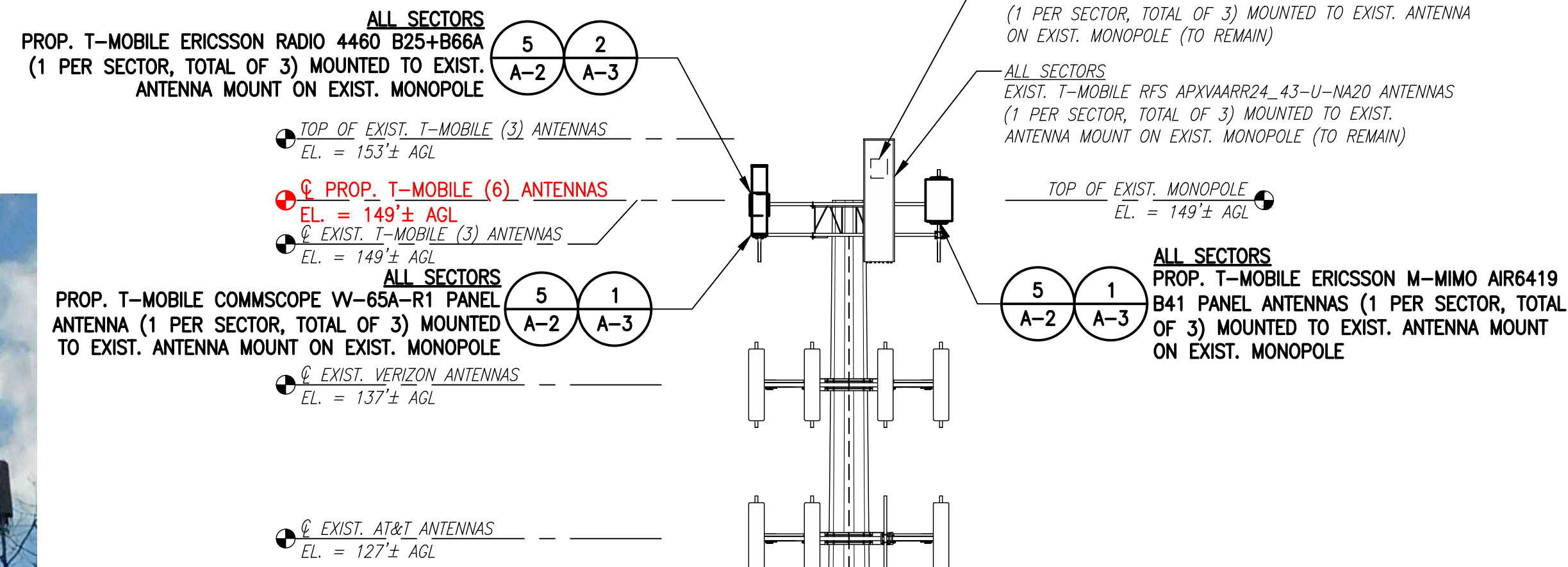
SITE NUMBER:
CTNL191D
 SITE ADDRESS:
 39 RICH ROAD
 THOMPSON, CT 06255

SHEET TITLE
COMPOUND & EQUIPMENT PLANS

SHEET NUMBER
A-1

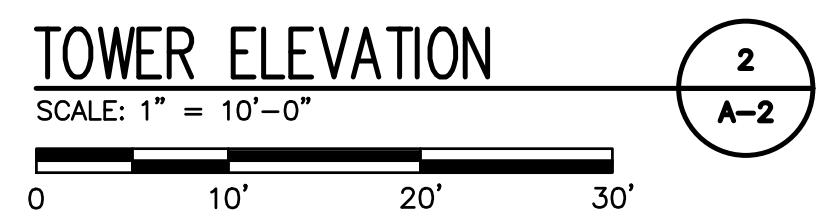


EXISTING TOWER PHOTO
SCALE: N.T.S.



NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

GROUND LEVEL
EL. = 0.0' AGL



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

SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

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.

ANTENNA STATUS LEGEND:

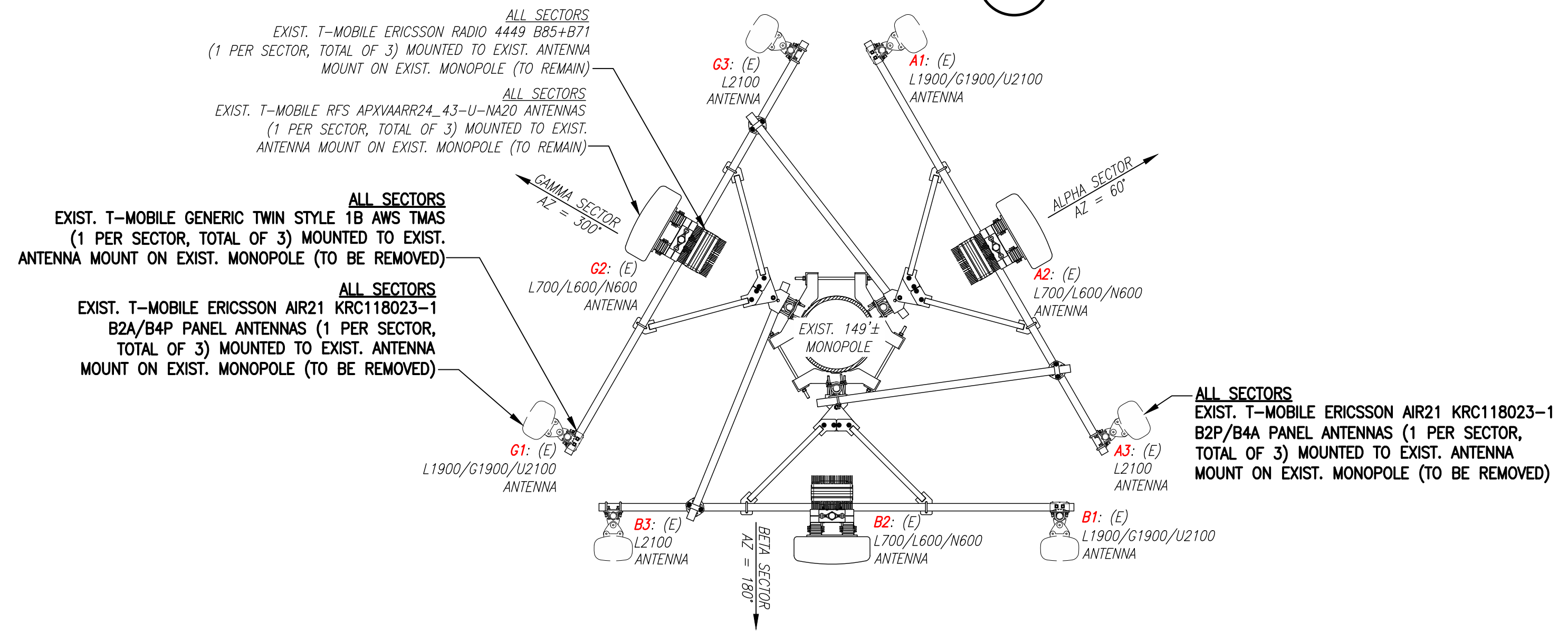
EMPTY - EMPTY PIPE

(E) - EXISTING
(P) - INSTALL
(F) - FUTURE

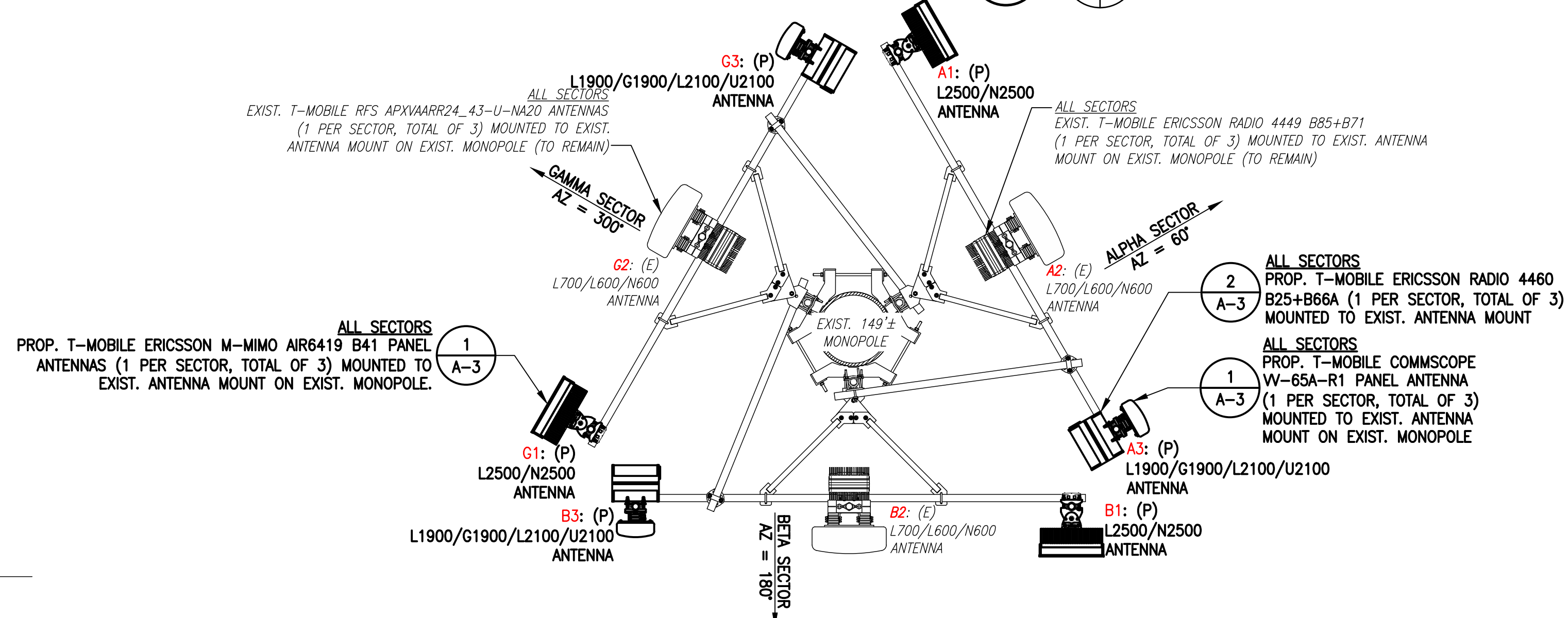
NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.



EXISTING ANTENNA PHOTO
SCALE: N.T.S.



EXISTING ANTENNA PLAN
SCALE: 3/8" = 1'-0"



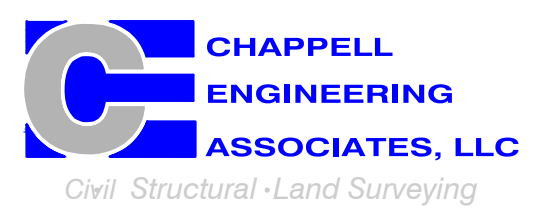
PROPOSED ANTENNA PLAN
SCALE: 3/8" = 1'-0"

T-MOBILE
NORTHEAST LLC

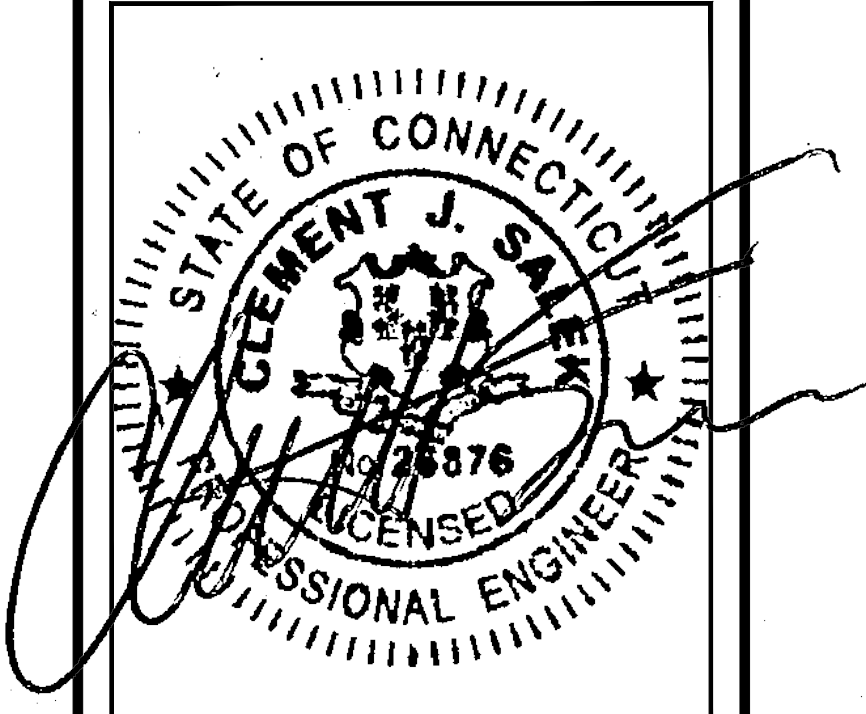
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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



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



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	04/12/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL191D

SITE ADDRESS:
39 RICH ROAD
THOMPSON, CT 06255

SHEET TITLE
TOWER ELEVATIONS &
ANTENNA PLAN

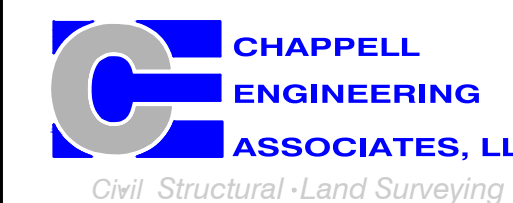
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A-2

**T-MOBILE
NORTHEAST LLC**

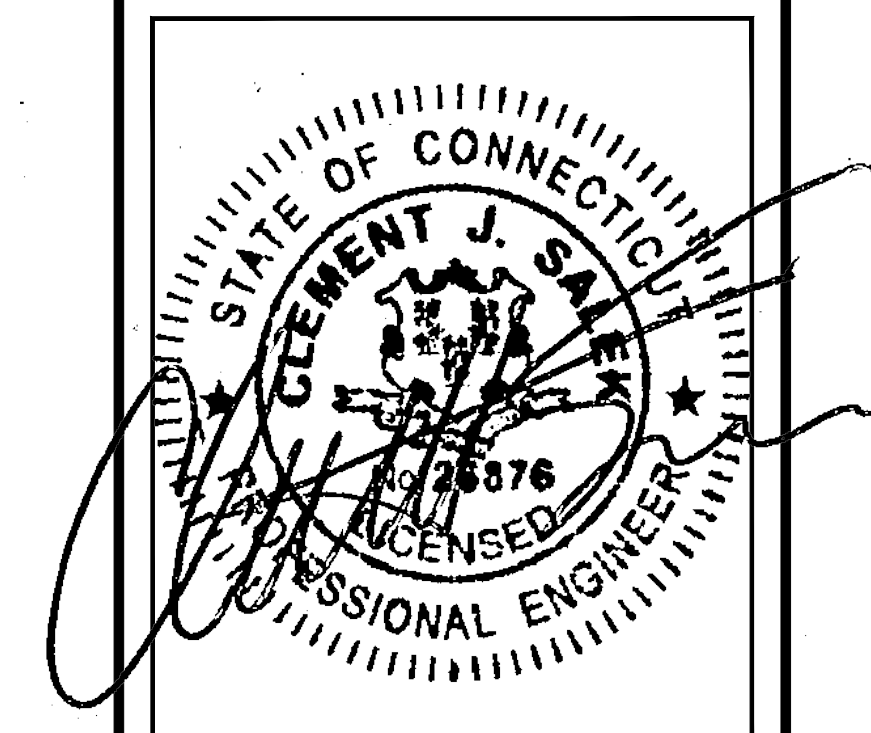
15 COMMERCE WAY, SUITE B
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SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	04/12/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
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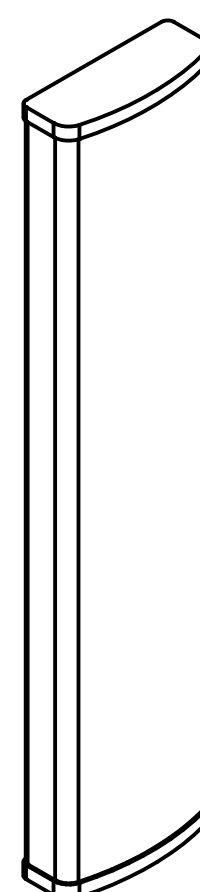
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39 RICH ROAD
THOMPSON, CT 06255

SHEET TITLE

SITE DETAILS

SHEET NUMBER

A-3



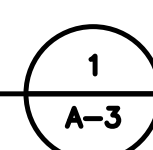
COMMSCOPE W-65A-R1 ANTENNA
DIMENSIONS: 54.7"H x 12.1"W x 4.6"D
WEIGHT: 23.8 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

\\11110.Specifications\Antenna\Cisco\AIR 6419 B41 - Image 2.jpg

ERICSSON M-MIMO AIR6419 B41 ANTENNA
DIMENSIONS: 36.3"H x 20.9"W x 9.0"D
WEIGHT: 83.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS

SCALE: N.T.S.

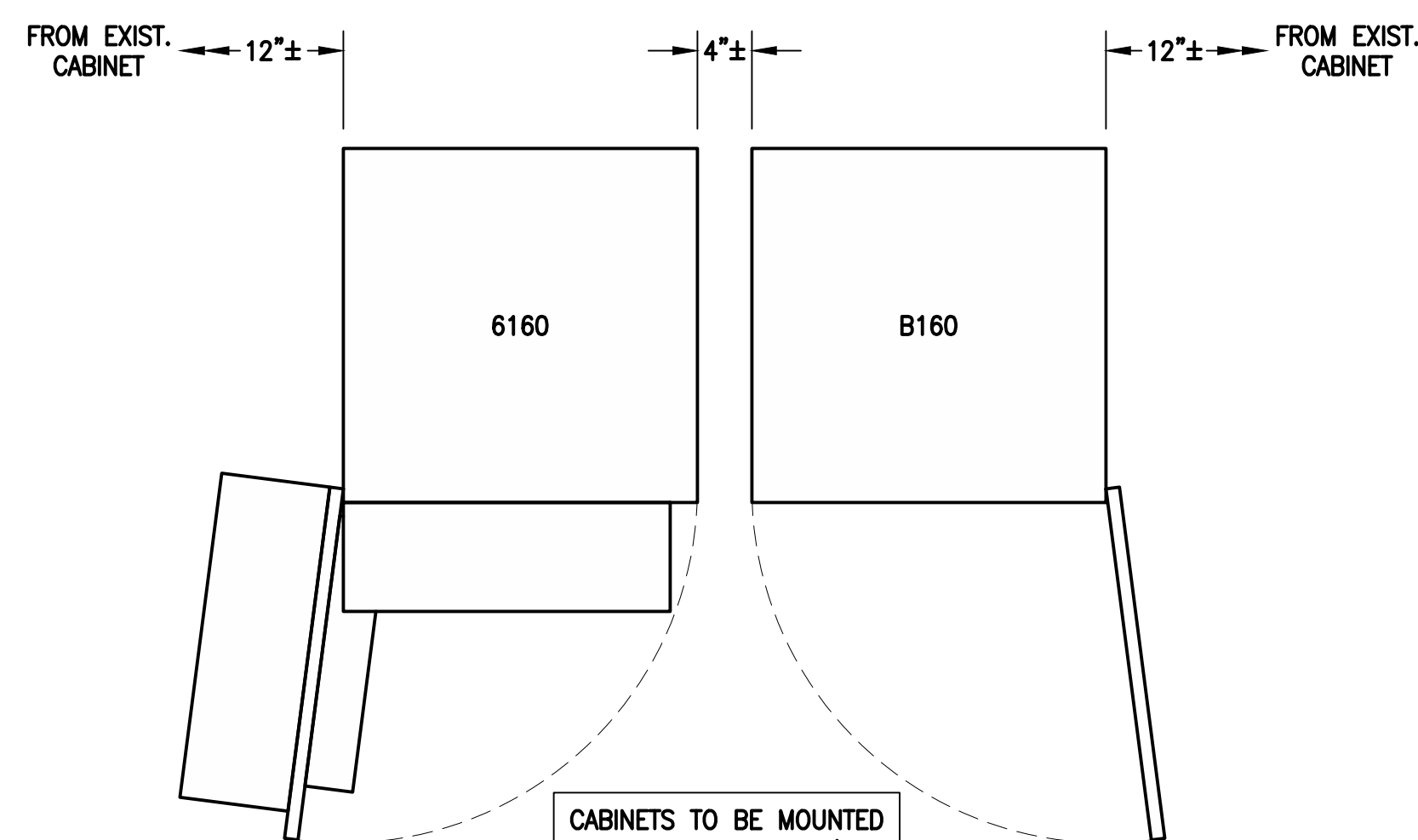
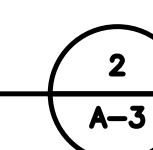


ERICSSON RADIO 4460 B25+B66

DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO DETAILS

SCALE: N.T.S.



**ERICSSON 6160 SITE
SUPPORT CABINET**

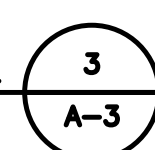
DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

**ERICSSON B160
BATTERY CABINET**

DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
WEIGHT: 1771.0 lbs
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL

SCALE: N.T.S.

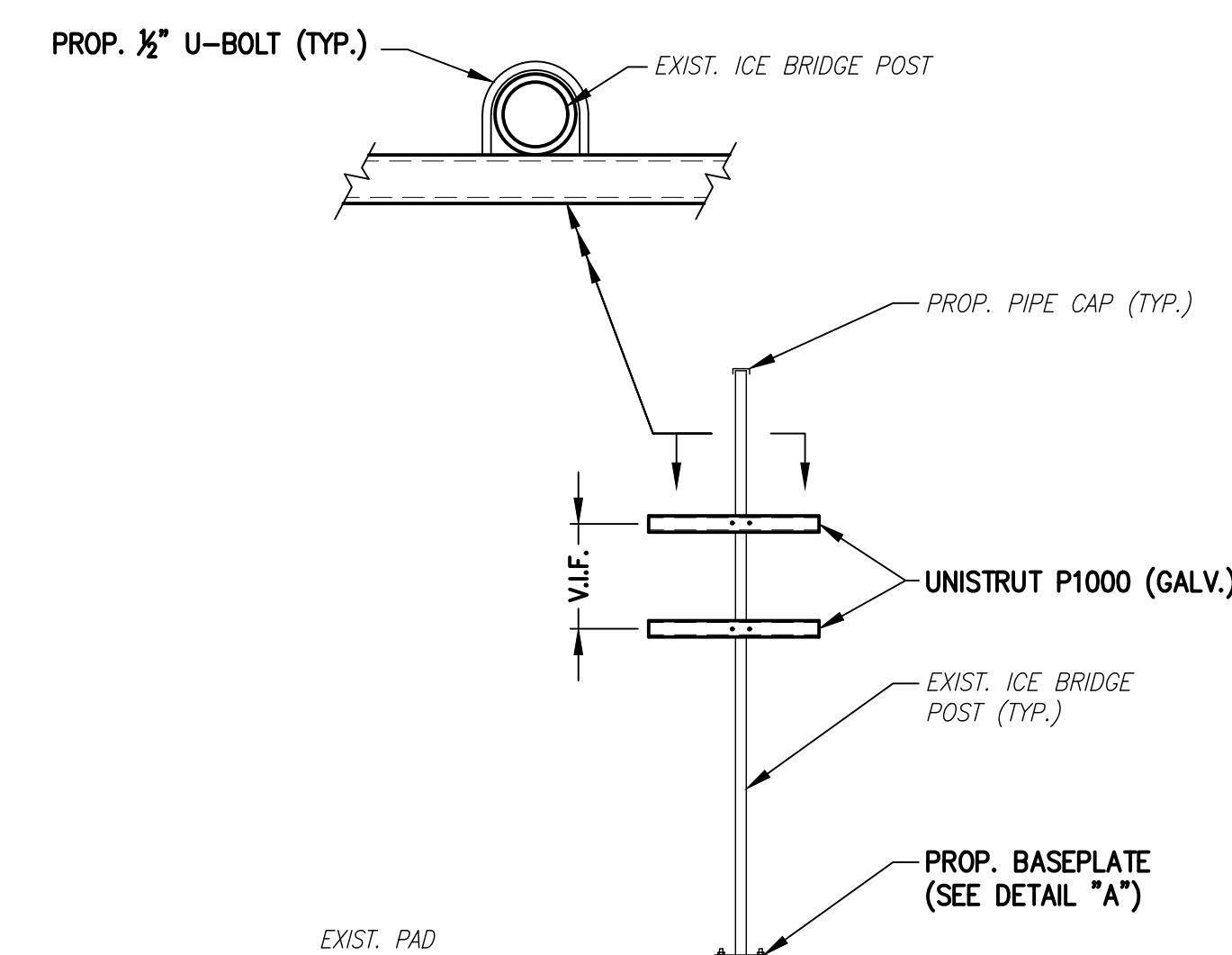
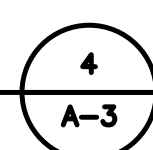


**SLACKBOX - HOFFMAN 32FH91
NEMA 3R ENCLOSURE**

DIMENSIONS: 24.0"H x 24.0"W x 12.0"D
QUANTITY: TOTAL OF 1

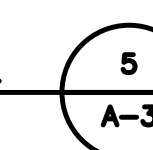
SSC DETAILS

SCALE: N.T.S.



H-FRAME DETAIL

SCALE: N.T.S.



FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1 ERICSSON M-MIMO AIR6419 B41	149'± AGL	60°	0°	2°	L2500/N2500	-	(1) 1-5/8" (6x12) HCS FIBER CABLE (2) 2" (6x24) HCS FIBER CABLES
	A2 RFS APXVAARR24_43-U-NA20	149'± AGL	60°	0°	2°	L700/L600/N600	RADIO 4449 B71+B85	
	A3 COMMSCOPE W-65A-R1	149'± AGL	60°	0°	2°	L1900/G1900/L2100/U2100	RADIO 4460 B25+B66	
BETA	B1 ERICSSON M-MIMO AIR6419 B41	149'± AGL	180°	0°	2°	L2500/N2500	-	
	B2 RFS APXVAARR24_43-U-NA20	149'± AGL	180°	0°	2°	L700/L600/N600	RADIO 4449 B71+B85	
	B3 COMMSCOPE W-65A-R1	149'± AGL	180°	0°	2°	L1900/G1900/L2100/U2100	RADIO 4460 B25+B66	
GAMMA	G1 ERICSSON M-MIMO AIR6419 B41	149'± AGL	300°	0°	2°	L2500/N2500	-	
	G2 RFS APXVAARR24_43-U-NA20	149'± AGL	300°	0°	2°	L700/L600/N600	RADIO 4449 B71+B85	
	G3 COMMSCOPE W-65A-R1	149'± AGL	300°	0°	2°	L1900/G1900/L2100/U2100	RADIO 4460 B25+B66	

CABLE NOTE: EXISTING (1) 1-5/8" (9x18) HCS FIBER CABLE & ALL EXISTING 1-5/8" COAX CABLES TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV5 - 03/08/22

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (1) 1/2" COAX CABLE FOR GPS ANTENNA (1) 1-5/8" (6x12) HCS FIBER CABLE EXISTING TO BE REMOVED: ALL 1-5/8" COAX CABLES (1) 1-5/8" (9x18) HCS FIBER CABLE	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (2) 2" (6x24) HCS FIBER CABLES	

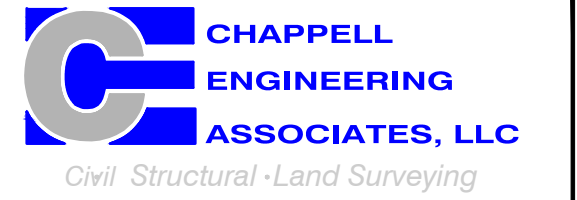
NOTE: EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

T-MOBILE NORTHEAST LLC

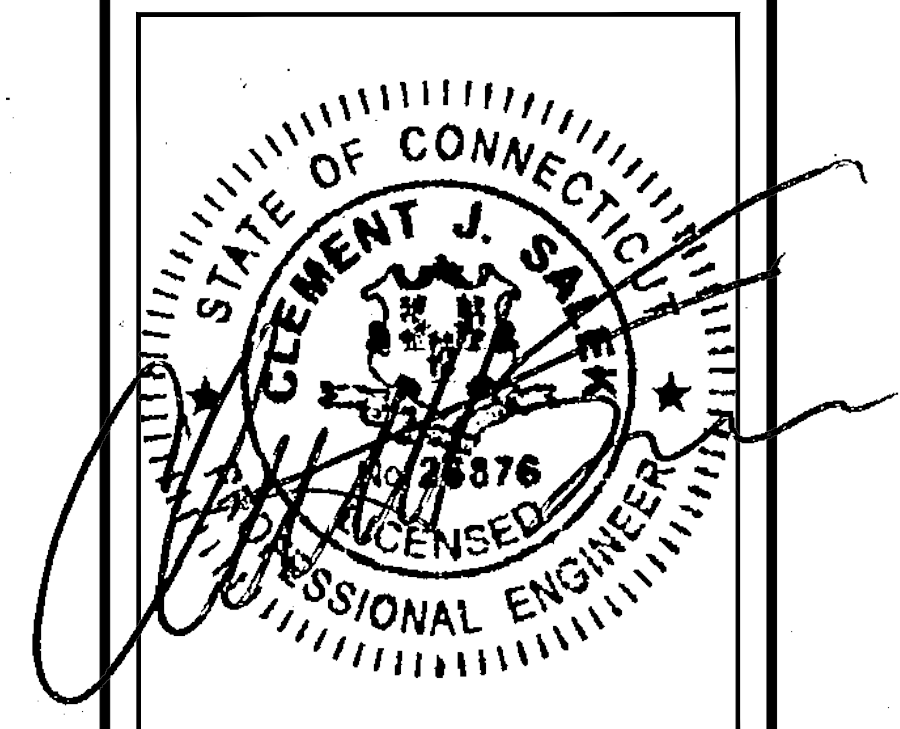
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
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SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	04/12/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL191D

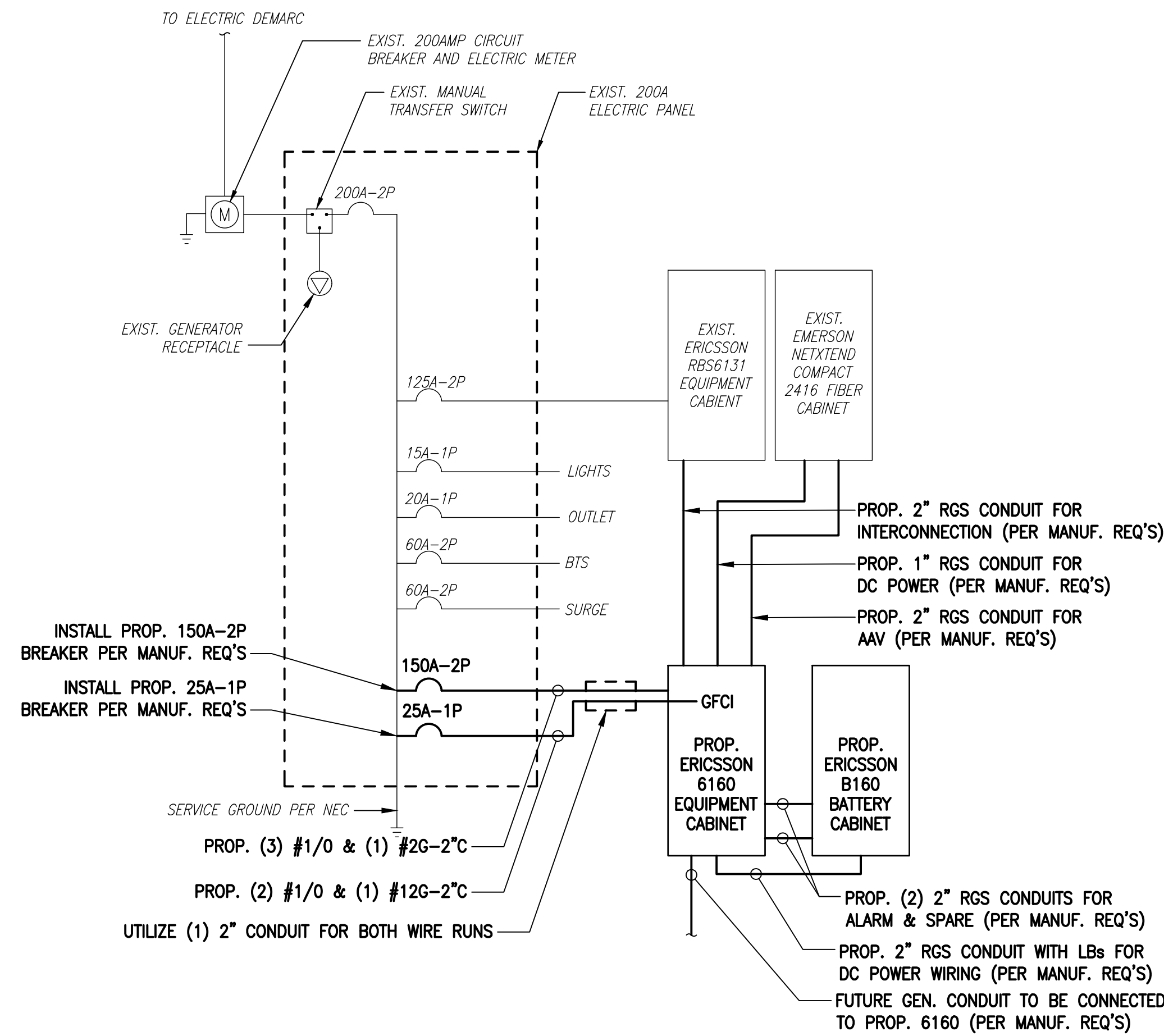
SITE ADDRESS:
39 RICH ROAD
THOMPSON, CT 06255

SHEET TITLE
**ANTENNA &
FEEDLINE CHARTS**

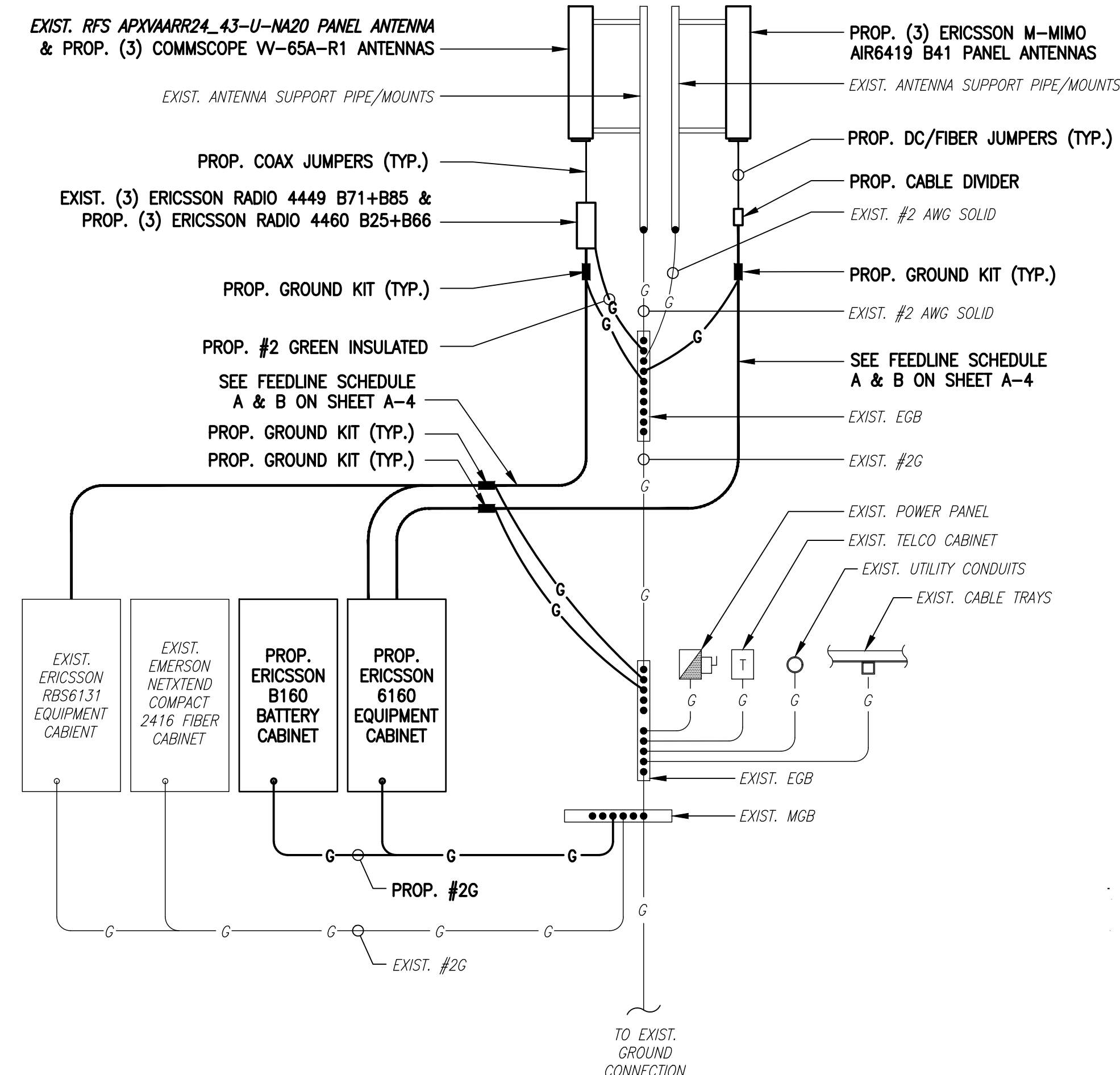
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A-4



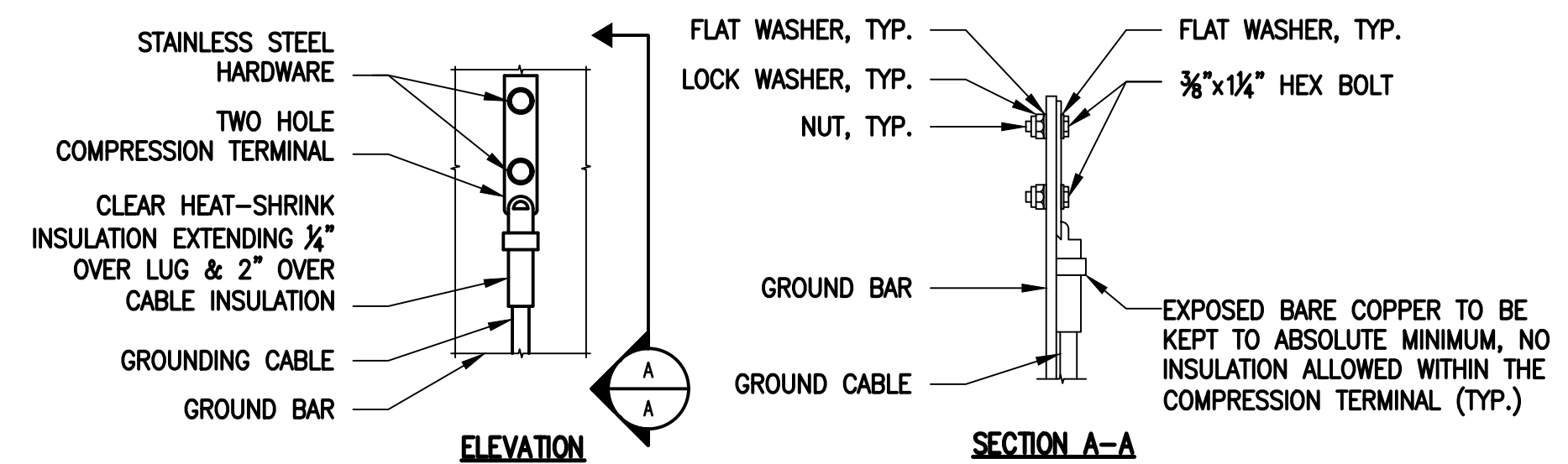
EXISTING POWER PANEL PHOTOS 1
SCALE: NOT TO SCALE E-1



ONE LINE DIAGRAM 2
SCALE: NOT TO SCALE E-1

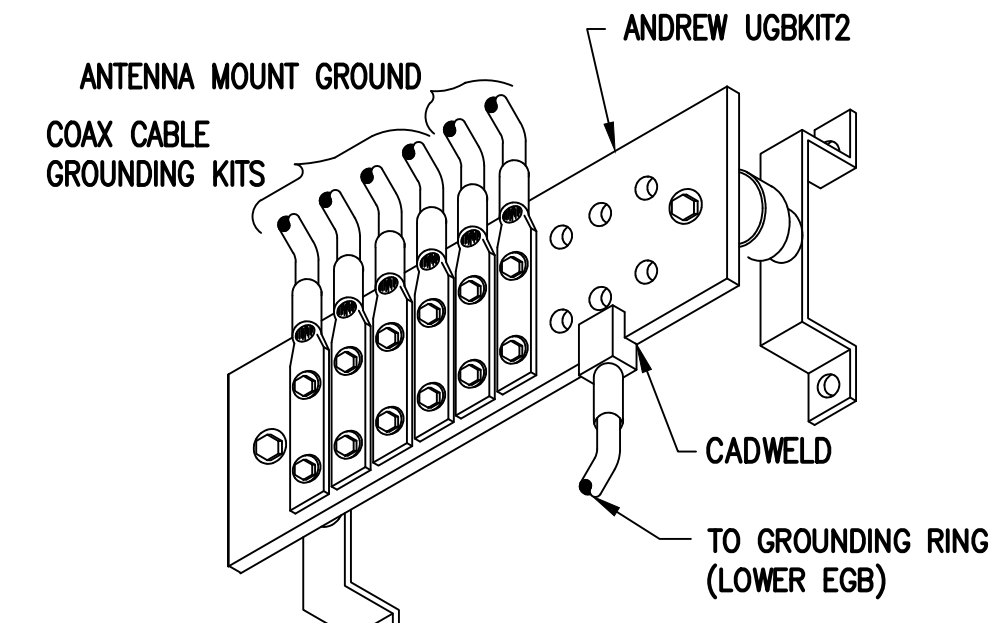


GROUNDING RISER DIAGRAM 3
SCALE: NOT TO SCALE E-1

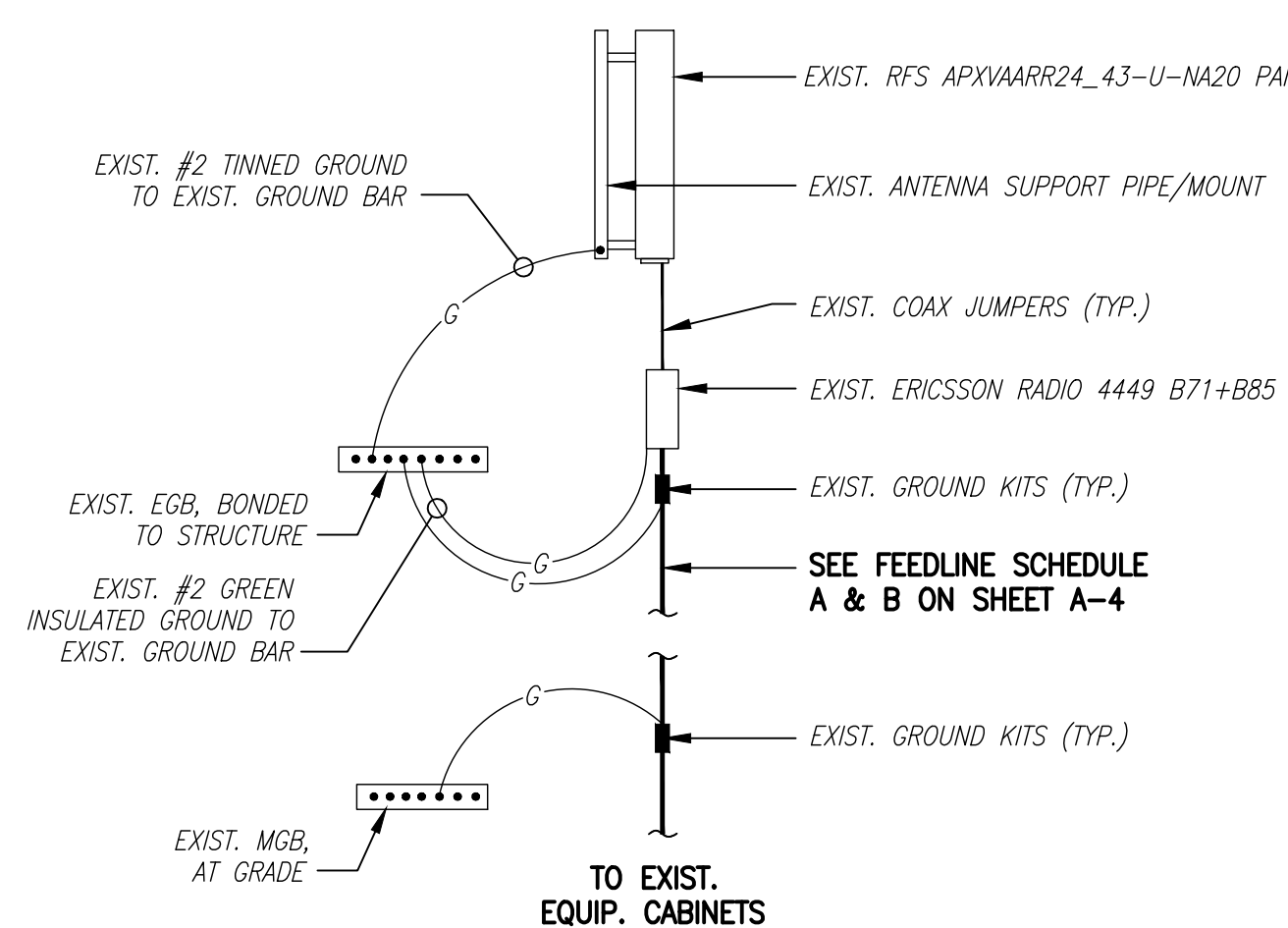


- NOTES:**
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
 - CADWELL DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

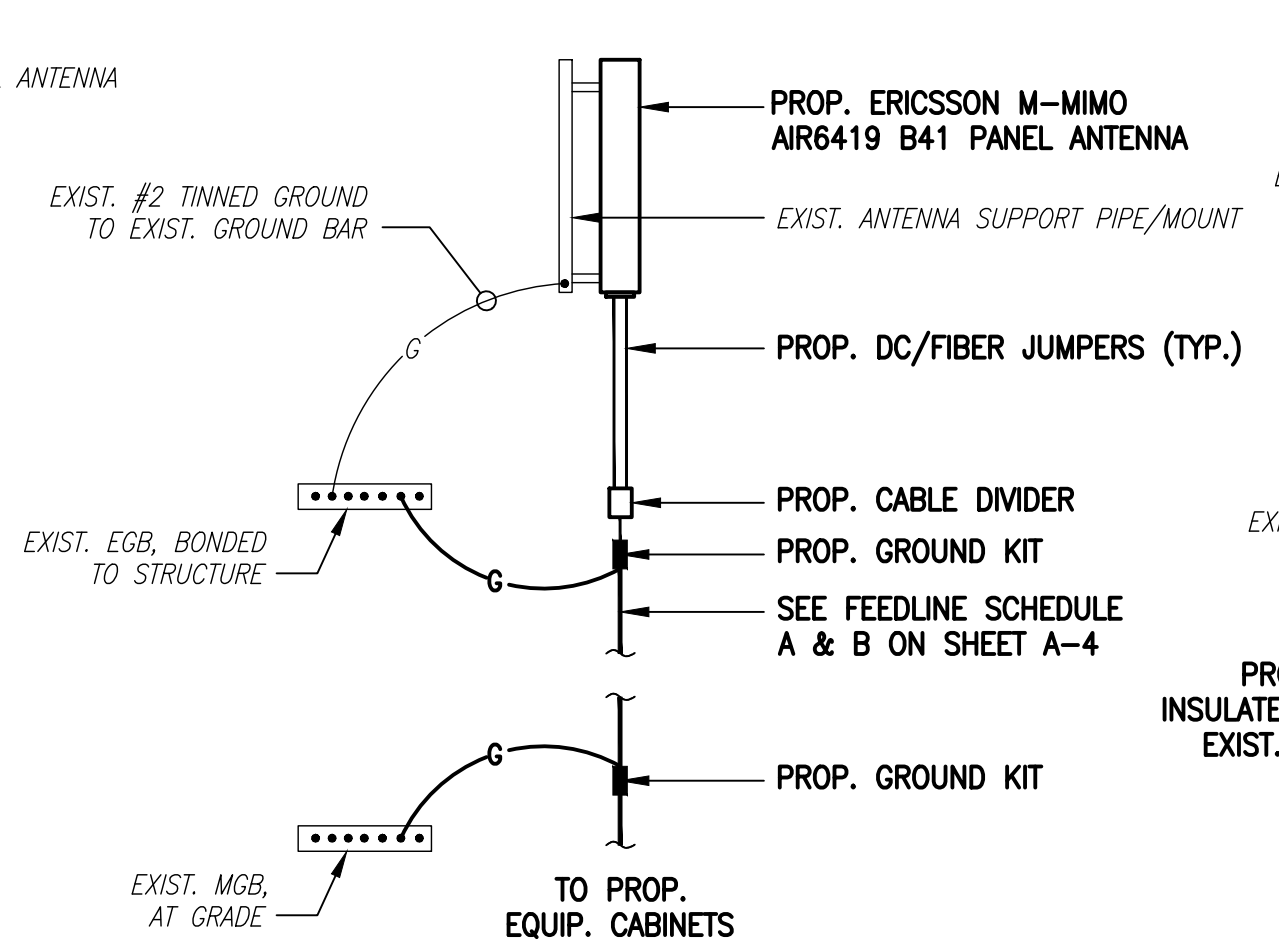
TYPICAL GROUND BAR CONNECTIONS DETAIL 4
SCALE: NOT TO SCALE E-1



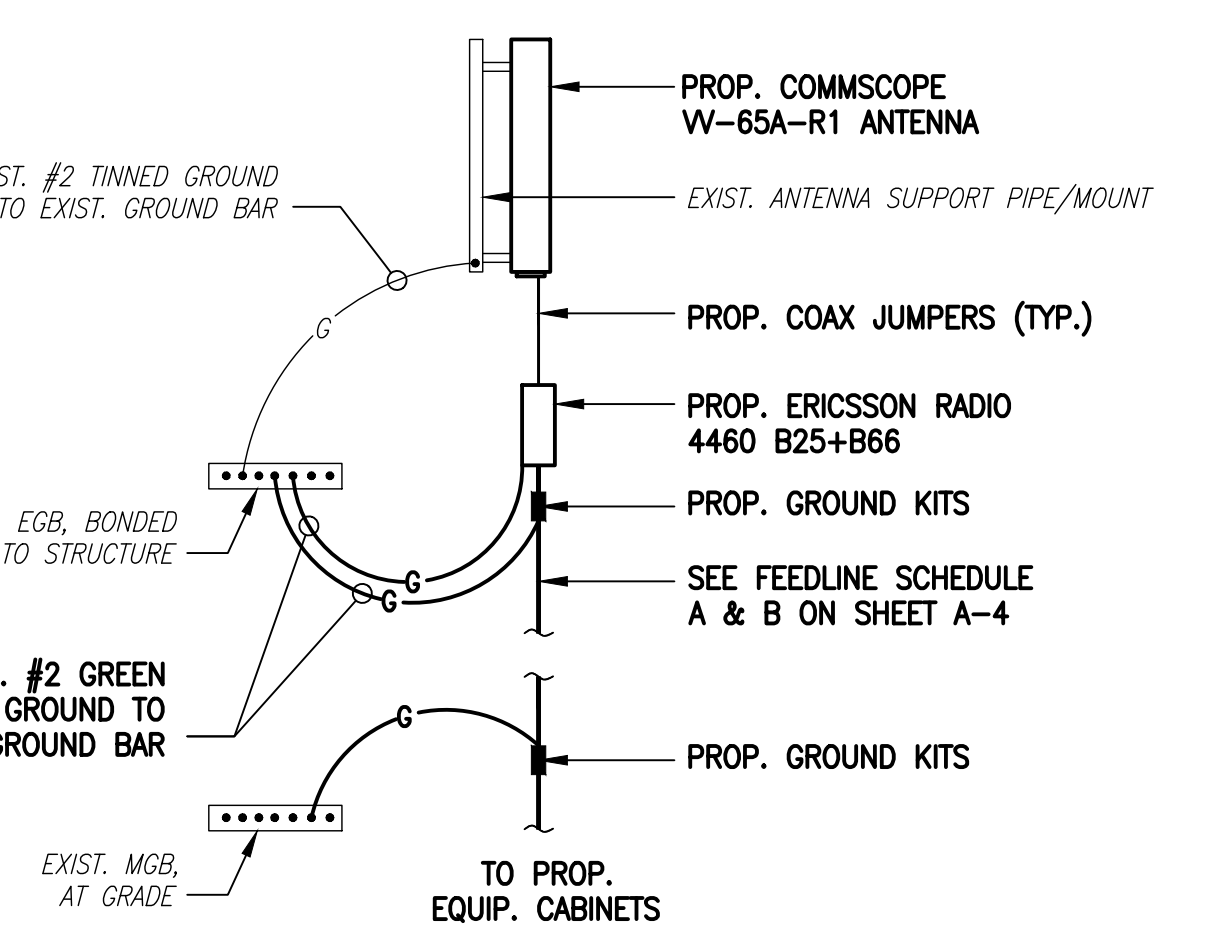
GROUND BAR (EGB) 5
SCALE: NOT TO SCALE E-1



L700/L600/N600 ANTENNA



L2500/N2500 ANTENNA



L1900/G1900/L2100/U2100 ANTENNA



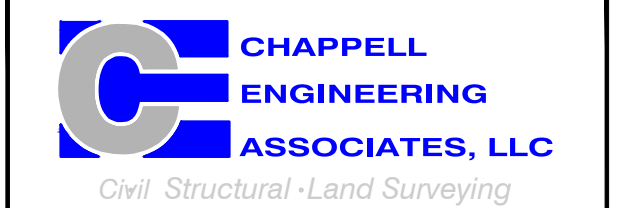
COAX CABLE CONNECTION AND GROUNDING DETAIL 6
SCALE: NOT TO SCALE E-1

- 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 THININSULATION.
 - 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 HYGROND 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.

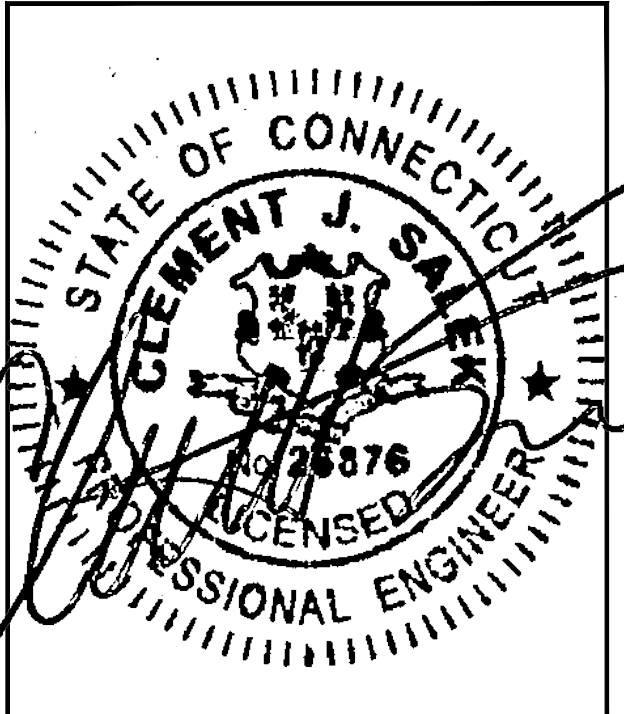
T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
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CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	04/12/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNL191D

SITE ADDRESS:
39 RICH ROAD
THOMPSON, CT 06255

SHEET TITLE
ELECTRIC & GROUNDING DETAILS

SHEET NUMBER
E-1

Exhibit D

Structural Analysis Report



Tower Engineering Solutions

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

Structural Analysis Report

Existing 149 ft Nudd Corporation Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT11559-A
Customer Site Name: Thompson 1, CT
Carrier Name: T-Mobile (App#: 193378-1)
Carrier Site ID / Name: CTNL191D / Thompson CT
Site Location: 39 Rich Road
North Grosvenordale, Connecticut
Windham County
Latitude: 42.011550
Longitude: -71.851908

Analysis Result:

Max Structural Usage: 63.0% [Pass]

Max Foundation Usage: 68.0% [Pass]

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



Report Prepared By : Tawfeeq Alajaj



Tower Engineering Solutions

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

Structural Analysis Report

Existing 149 ft Nudd Corporation Monopole

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Customer Site Number: CT11559-A

Customer Site Name: Thompson 1, CT

Carrier Name: T-Mobile (App#: 193378-1)

Carrier Site ID / Name: CTNL191D / Thompson CT

Site Location: 39 Rich Road

North Grosvenordale, Connecticut

Windham County

Latitude: 42.011550

Longitude: -71.851908

Analysis Result:

Max Structural Usage: 63.0% [Pass]

Max Foundation Usage: 68.0% [Pass]

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

Report Prepared By : Tawfeeq Alajaj

Introduction

The purpose of this report is to summarize the analysis results on the 149 ft Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Fred A. Nudd Corporation (Project No. 308-13019) original design drawings dated April 25, 2008.
Foundation Drawing	Fred A. Nudd Corporation (Project No. 308-13019) original design drawings dated April 25, 2008.
Geotechnical Report	N/A
Modification Drawings	N/A
Mount Analysis	Verizon MA by Maser Consulting Connecticut Project #: 21777328A (REV 1), dated 07/02/2021. T-Mobile MA by TES# 128646. Dated 05/03/2022.

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 130.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 101.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.173$, $S_1 = 0.063$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	148.0	3	Ericsson Air 21 B2A/B4P	(3)T-Arms w/ (1) Metrosite Heavy Collar Mount Assembly: MS-H1436 (1) Metrosite Support rail kit: MS-HR35-2375 (3) V-braces: L2.5"x2.5"x1/4"	(11) 1 5/8" (2) 1 5/8" Fiber	T-Mobile
2		3	Ericsson Air 21 B4A/B2P			
3		3	RFS APXVAARR24_43-U-NA20			
4		3	Ericsson KRY 112 144/1			
5		3	Ericsson Radio 4449 B71+B12			
6	137.0	6	JMA Wireless MX06FRO660-03 - Panel	(3) Modified T-Arms W/ (3) JMA Wireless 91900314 (Mount Bracket)	(11) 1 5/8" (1) 1 5/8" Hybrid	Verizon
7		3	Samsung MT6407-77A - Panel			
8		3	Samsung RFV01U-D1A RRU			
9		3	Samsung RFV01U-D2A RRU			
10		3	CommScope CHB626-43-2X-Combiner			
11		1	Raycap RCMDC-6627-PF-48-OVP			
12	127.0	6	Powerwave 7770- Panel	(3) Modified T-Arms W/ (3) 2.38" Horizontal Pipe, (3) 2.38" Pipe Brace & (6) 2.88" Antenna Pipes	(6) 1 5/8" (1) 1/2" RET (3) 3/8" RET (1) 3" Conduit ¹ (2) 3" Conduit ²	AT&T
13		3	Cci OPA65R-BU8DA- Panel			
14		3	Cci DMP65R-BU8DA- Panel			
15		12	Powerwave LGP21401 TMA			
16		6	Powerwave LGP13519 Diplexer			
17		12	Powerwave 860 10025			
18		3	Ericsson RRUS 4478 B14			
19		3	Ericsson RRUS 4449 B5/B12			
20		3	Ericsson RRUS 8843 B2 B66A			
21		1	Raycap DC6-48-60-18-8F			
22		1	Raycap DC9-48-60-24-8C-EV			
23		3	Powerwave 1001983- Bias T			

1- (Housing (2) 3/4" DC & (1) 7/16" fiber cables)

2- (Housing (1) 7/16" fiber, & (3) 1" DC power cables)

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	149.0	3	RFS - APXVAARR24_43-U-NA20 - Panel	(3)T-Arms w/ (1) Metrosite Heavy Collar Mount Assembly: MS-H1436 (1) Metrosite Support rail kit: MS-HR35-2375 (3) V-braces: L2.5"x2.5"x1/4"	(9) 1 5/8" (1) 1 5/8" Fiber (2) 1.9" Fiber	T-Mobile
2		3	Ericsson - AIR6419 B41 - Panel			
3		3	CommScope - VV-65A-R1 - Panel			
4		3	Ericsson KRY 112 144/1			
5		3	Ericsson 4449 B71 + B85			
6		3	Ericsson 4460 B25 + B66			

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:	62.7%	63.0%	38.7%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	4056.0	36.0
Analysis Reactions	3698.9	34.4
Factored Reactions*	5475.6	48.6
% of Design Reactions	67.6%	70.8%

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

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.9703 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

Usage Diagram - Max Ratio 62.69% at 25.0ft

Structure: CT11559-A-SBA
Site Name: Thompson 1, CT
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

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

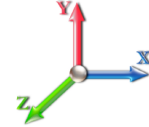
5/6/2022



Page: 1

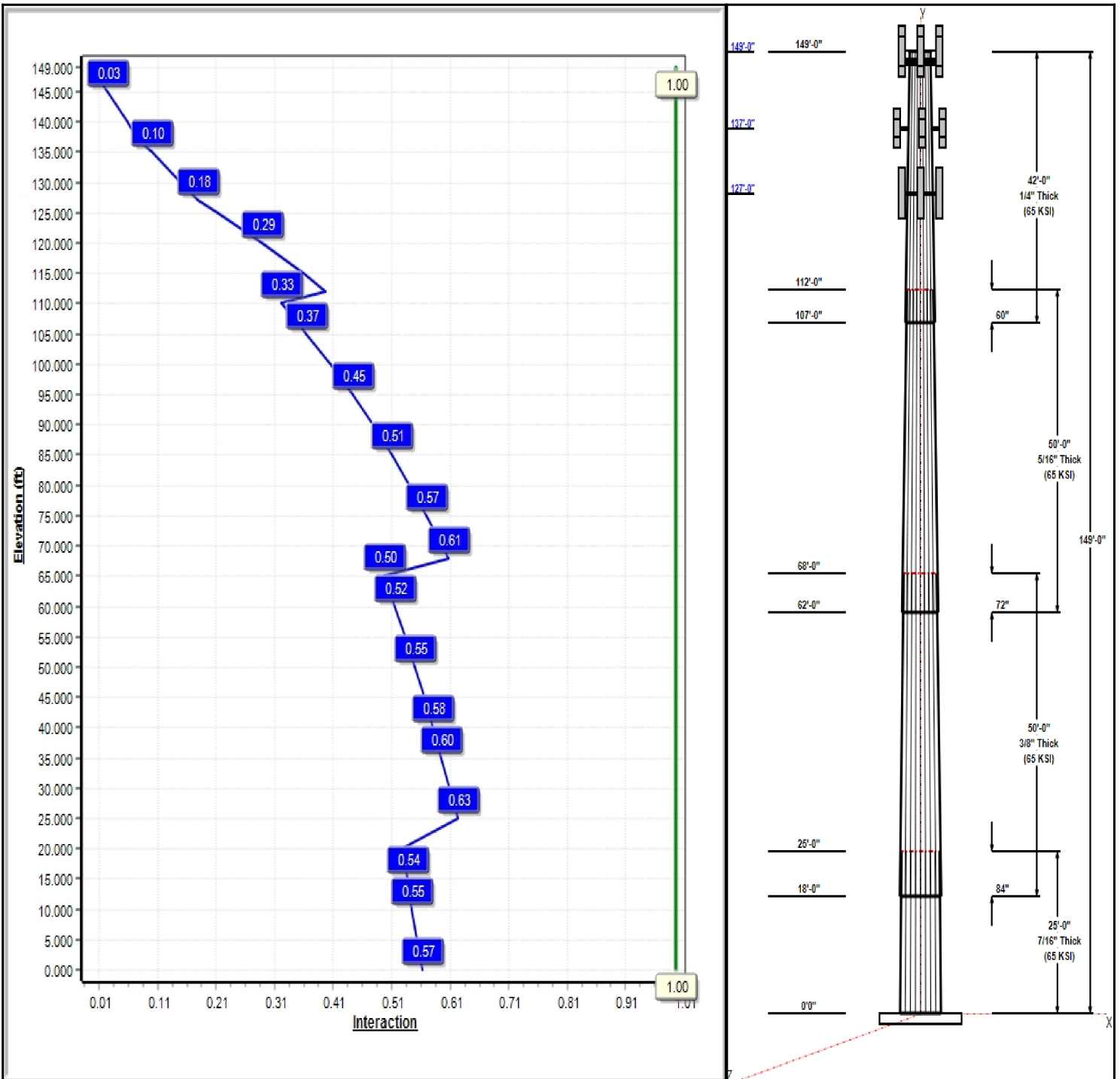
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 101 mph Wind



Iterations: 22

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Structure: CT11559-A-SBA

Type: Tapered
Site Name: Thompson 1, CT
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23532

5/6/2022

Page: 2



Shaft Properties

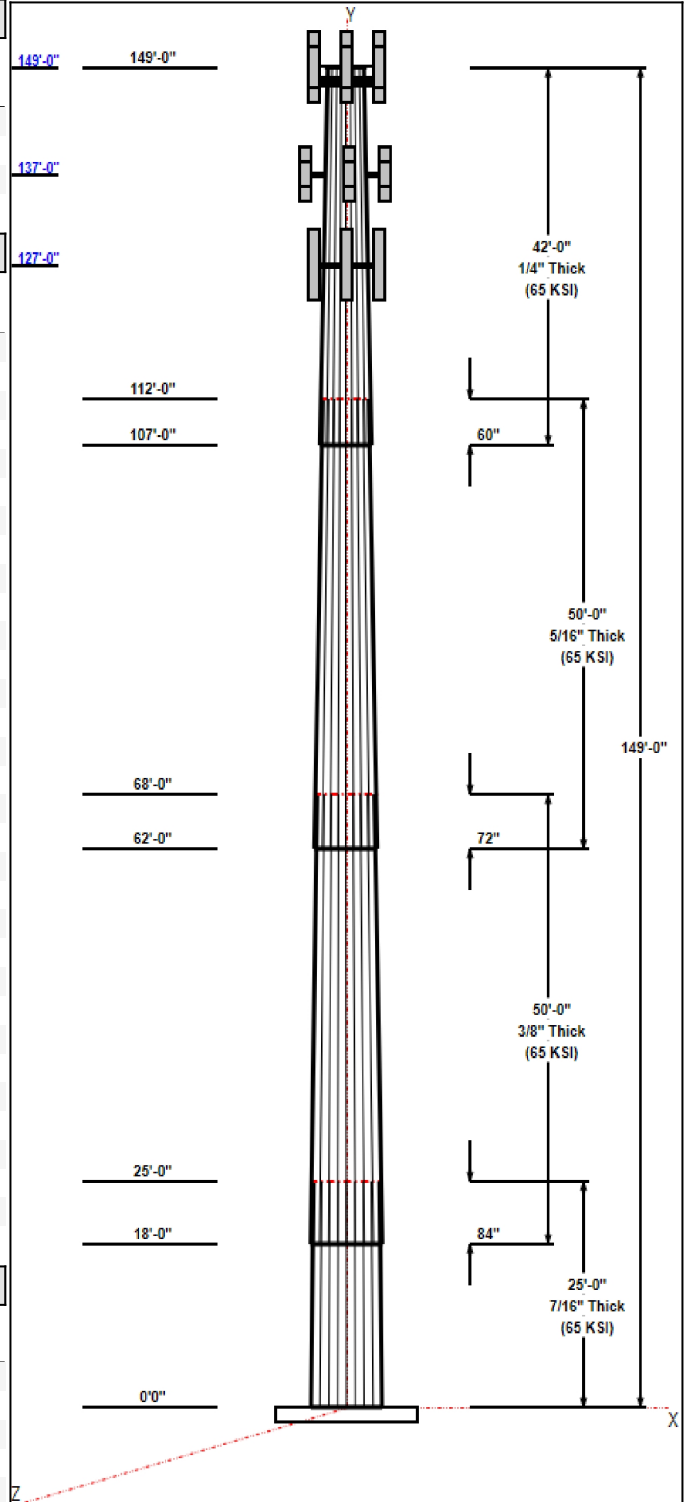
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	25.00	53.18	59.06	0.438		0.23532	65
2	50.00	43.81	55.58	0.375	Slip	0.23532	65
3	50.00	34.08	45.85	0.313	Slip	0.23532	65
4	42.00	25.88	35.76	0.250	Slip	0.23532	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
149.00	149.00	1	HRK12 (Handrail Kit)	T-Mobile
149.00	149.00	1	(3) Stabilizer Kit (4' FW)	T-Mobile
149.00	149.00	3	APXVAARR24_43-U-NA20	T-Mobile
149.00	149.00	3	AIR6419 B41	T-Mobile
149.00	149.00	3	VV-65A-R1	T-Mobile
149.00	149.00	3	Ericsson KRY 112 144/1	T-Mobile
149.00	149.00	3	Ericsson 4449 B71 + B85	T-Mobile
149.00	149.00	3	Ericsson 4460 B25 + B66	T-Mobile
149.00	149.00	1	T-Arms	T-Mobile
137.00	137.00	3	T-Arms	Verizon
137.00	137.00	6	JMA Wireless	Verizon
137.00	137.00	3	Samsung MT6407-77A	Verizon
137.00	137.00	3	91900314	Verizon
137.00	137.00	3	Samsung RFV01U-D1A	Verizon
137.00	137.00	3	Samsung RFV01U-D2A	Verizon
137.00	137.00	3	Commscope	Verizon
137.00	137.00	1	RCMDC-6627-PF-48	Verizon
127.00	127.00	6	7770.00	AT&T
127.00	127.00	12	Powerwave LGP21401	AT&T
127.00	127.00	12	Kathrein 860 10025 RET	AT&T
127.00	127.00	6	Powerwave LGP13519	AT&T
127.00	127.00	1	Raycap DC6-48-60-18-8F	AT&T
127.00	127.00	3	Powerwave 1001983 Bias	AT&T
127.00	127.00	3	OPA65R-BU8DA	AT&T
127.00	127.00	3	DMP65R-BU8DA	AT&T
127.00	127.00	3	Horizontal Pipe	AT&T
127.00	127.00	3	RRUS 4478 B14	AT&T
127.00	127.00	3	4449 B5/B12	AT&T
127.00	127.00	3	RRUS 8843 B2 B66A	AT&T
127.00	127.00	1	DC9-48-60-24-8C-EV	AT&T
127.00	127.00	1	(3) Stabilizer Kit	AT&T
127.00	127.00	3	T-Arms	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	149.00	Inside	1 5/8" Coax	T-Mobile
0.00	149.00	Inside	1 5/8" Fiber	T-Mobile
0.00	149.00	Inside	1.9" Fiber	T-Mobile
0.00	137.00	Inside	1 5/8" Coax	Verizon
0.00	137.00	Inside	1 5/8" Hybrid	Verizon
0.00	127.00	Inside	1 5/8" Coax	AT&T
0.00	127.00	Inside	1" DC	AT&T
0.00	127.00	Inside	1/2" RET	AT&T
0.00	127.00	Inside	3" flex Conduit	AT&T
0.00	127.00	Inside	3/4" DC	AT&T



Structure: CT11559-A-SBA

Type: Tapered
Site Name: Thompson 1, CT
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23532

5/6/2022

Page: 3



0.00 127.00 Inside 7/16" Fiber AT&T

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
18	2.00" F1554 105	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	72.0	50.0	Round

Reactions

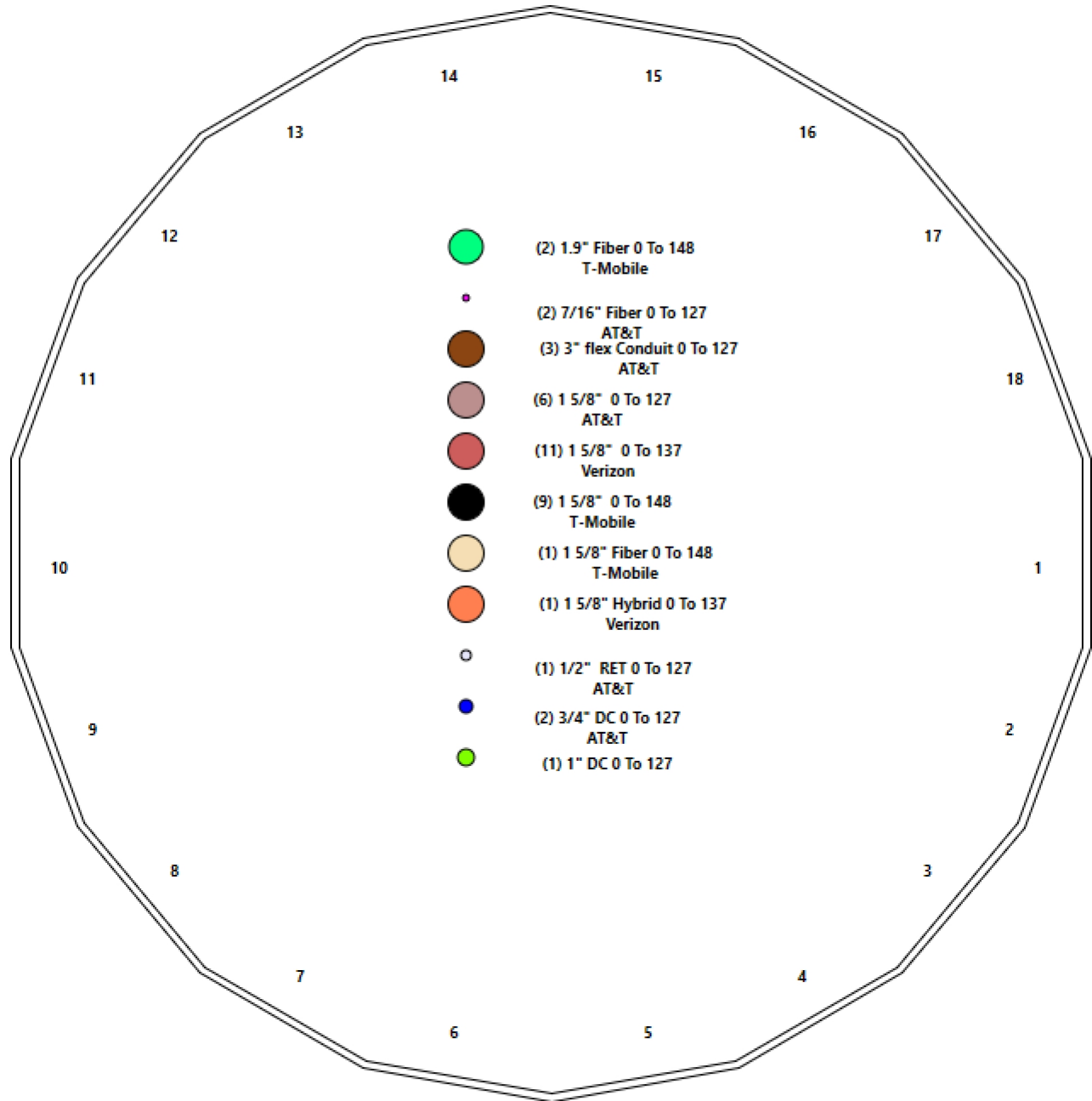
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	3698.9	34.4	47.2
0.9D + 1.6W 101 mph Wind	3671.6	34.4	35.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	982.5	9.3	78.2
1.2D + 1.0E	202.5	1.8	47.3
0.9D + 1.0E	200.9	1.7	35.5
1.0D + 1.0W 60 mph Wind	812.5	7.6	39.4

Structure: CT11559-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Thompson 1, CT
Height: 149.00 (ft)

5/6/2022

Page: 4



Shaft Properties

Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	25.000	0.4375	65		0.00	6,578
2	18	50.000	0.3750	65	Slip	84.00	9,987
3	18	50.000	0.3125	65	Slip	72.00	6,691
4	18	42.000	0.2500	65	Slip	60.00	3,466
Total Shaft Weight:							26,722

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	59.06	0.00	81.41	35348.50	22.39	135.00	53.18	25.00	73.24	25739.0	20.02	121.5	0.235319
2	55.58	18.00	65.70	25294.99	24.72	148.20	43.81	68.00	51.70	12323.0	19.19	116.8	0.235319
3	45.85	62.00	45.16	11831.43	24.46	146.71	34.08	112.00	33.49	4825.70	17.82	109.0	0.235319
4	35.76	107.0	28.17	4488.25	23.81	143.03	25.88	149.00	20.33	1686.85	16.84	103.5	0.235319

Load Summary

Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 6

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	149.00	HRK12 (Handrail Kit)	1	261.72	6.75	0.75	675.57	15.540	0.75	0.00	0.00
2	149.00	(3) Stabilizer Kit (4' FW)	1	140.00	3.70	0.75	374.40	8.862	0.75	0.00	0.00
3	149.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	708.63	22.803	0.70	0.00	0.00
4	149.00	AIR6419 B41	3	83.30	6.32	0.73	244.85	8.084	0.74	0.00	0.00
5	149.00	VV-65A-R1	3	23.81	5.92	0.76	223.49	7.391	0.78	0.00	0.00
6	149.00	Ericsson KRY 112 144/1	3	11.00	0.41	0.70	25.37	1.043	0.70	0.00	0.00
7	149.00	Ericsson 4449 B71 + B85	3	73.20	1.97	0.67	150.14	2.729	0.67	0.00	0.00
8	149.00	Ericsson 4460 B25 + B66	3	109.00	2.85	0.67	204.81	3.749	0.67	0.00	0.00
9	149.00	T-Arms	1	500.00	15.00	0.75	1197.62	41.044	0.75	0.00	0.00
10	137.00	T-Arms	3	350.00	8.00	0.75	672.83	17.224	0.75	0.00	0.00
11	137.00	JMA Wireless MX06FRO660-03	6	60.00	9.87	0.87	433.08	11.720	0.87	0.00	0.00
12	137.00	Samsung MT6407-77A	3	87.10	4.69	0.70	255.91	5.960	0.70	0.00	0.00
13	137.00	91900314	3	28.00	0.00	1.00	53.83	0.000	1.00	0.00	0.00
14	137.00	Samsung RFV01U-D1A RRU	3	84.40	1.88	0.67	152.13	2.608	0.67	0.00	0.00
15	137.00	Samsung RFV01U-D2A RRU	3	70.30	1.88	0.67	134.56	2.608	0.67	0.00	0.00
16	137.00	Commscope CHB626-43-2X	3	19.40	1.33	0.50	59.82	2.471	0.50	0.00	0.00
17	137.00	RCMDC-6627-PF-48	1	32.00	4.06	1.00	182.53	5.146	1.00	0.00	0.00
18	127.00	7770.00	6	35.00	5.50	0.73	225.00	6.925	0.73	0.00	0.00
19	127.00	Powerwave LGP21401 TMAs	12	14.10	1.29	1.00	46.88	2.386	1.00	0.00	0.00
20	127.00	Kathrein 860 10025 RET	12	1.10	0.14	1.00	7.02	0.561	1.00	0.00	0.00
21	127.00	Powerwave LGP13519 Diplexer	6	5.30	0.34	1.00	17.75	0.935	1.00	0.00	0.00
22	127.00	Raycap DC6-48-60-18-8F	1	31.80	0.92	1.00	112.87	1.494	1.00	0.00	0.00
23	127.00	Powerwave 1001983 Bias T	3	4.40	0.21	1.00	11.69	0.684	1.00	0.00	0.00
24	127.00	OPA65R-BU8DA	3	76.50	18.09	0.73	462.99	21.617	0.74	0.00	0.00
25	127.00	DMP65R-BU8DA	3	95.70	17.87	0.73	561.24	20.569	0.75	0.00	0.00
26	127.00	Horizontal Pipe	3	45.75	2.97	0.75	104.38	7.861	0.75	0.00	0.00
27	127.00	RRUS 4478 B14	3	59.40	1.65	0.67	113.78	2.330	0.67	0.00	0.00
28	127.00	4449 B5/B12	3	71.00	1.97	0.67	141.00	2.688	0.67	0.00	0.00
29	127.00	RRUS 8843 B2 B66A	3	72.00	1.64	0.67	133.43	2.292	0.67	0.00	0.00
30	127.00	DC9-48-60-24-8C-EV	1	26.20	1.14	1.00	165.19	3.221	1.00	0.00	0.00
31	127.00	(3) Stabilizer Kit	1	180.00	6.10	0.75	476.60	14.476	0.75	0.00	0.00
32	127.00	T-Arms	3	350.00	8.00	0.75	670.40	17.154	0.75	0.00	0.00
Totals:			109	7,482.70			23,142.41				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	149.00	(9) 1 5/8" Coax	0.00	Inside
0.00	149.00	(1) 1 5/8" Fiber	0.00	Inside
0.00	149.00	(2) 1.9" Fiber	0.00	Inside
0.00	137.00	(11) 1 5/8" Coax	0.00	Inside
0.00	137.00	(1) 1 5/8" Hybrid	0.00	Inside
0.00	127.00	(6) 1 5/8" Coax	0.00	Inside
0.00	127.00	(1) 1" DC	0.00	Inside
0.00	127.00	(1) 1/2" RET	0.00	Inside
0.00	127.00	(3) 3" flex Conduit	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	127.00	(2) 3/4" DC		0.00		Inside					
0.00	127.00	(2) 7/16" Fiber		0.00		Inside					

Shaft Section Properties

Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 8

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.4375	59.063	81.405	35348.5	22.39	135.00	75.1	1178.	0.0
5.00		0.4375	57.886	79.771	33262.6	21.92	132.31	75.6	1131.	1371.1
10.00		0.4375	56.709	78.138	31260.4	21.45	129.62	76.2	1085.	1343.3
15.00		0.4375	55.533	76.504	29340.3	20.97	126.93	76.7	1040.	1315.5
18.00	Bot - Section 2	0.4375	54.827	75.524	28226.8	20.69	125.32	77.1	1014.	776.0
20.00		0.4375	54.356	74.870	27500.4	20.50	124.24	77.3	996.5	957.0
25.00	Top - Section 1	0.3750	53.930	63.741	23097.5	23.95	143.81	0.0	0.0	2356.3
30.00		0.3750	52.753	62.341	21608.3	23.39	140.67	73.9	806.8	1072.6
35.00		0.3750	51.576	60.940	20184.6	22.84	137.54	74.5	770.8	1048.7
40.00		0.3750	50.400	59.540	18824.8	22.29	134.40	75.2	735.7	1024.9
45.00		0.3750	49.223	58.139	17527.5	21.73	131.26	75.8	701.3	1001.1
50.00		0.3750	48.047	56.739	16291.2	21.18	128.12	76.5	667.8	977.3
55.00		0.3750	46.870	55.339	15114.5	20.63	124.99	77.1	635.2	953.4
60.00		0.3750	45.693	53.938	13995.8	20.07	121.85	77.8	603.3	929.6
62.00	Bot - Section 3	0.3750	45.223	53.378	13564.3	19.85	120.59	78.0	590.8	365.2
65.00		0.3750	44.517	52.538	12933.8	19.52	118.71	78.4	572.2	998.1
68.00	Top - Section 2	0.3125	44.436	43.763	10764.6	23.66	142.19	0.0	0.0	982.4
70.00		0.3125	43.965	43.296	10423.8	23.40	140.69	73.9	467.0	296.2
75.00		0.3125	42.789	42.129	9603.5	22.73	136.92	74.7	442.1	726.7
80.00		0.3125	41.612	40.962	8827.3	22.07	133.16	75.4	417.8	706.9
85.00		0.3125	40.435	39.795	8094.2	21.40	129.39	76.2	394.3	687.0
90.00		0.3125	39.259	38.628	7402.8	20.74	125.63	77.0	371.4	667.1
95.00		0.3125	38.082	37.461	6751.9	20.08	121.86	77.8	349.2	647.3
100.00		0.3125	36.906	36.294	6140.3	19.41	118.10	78.6	327.7	627.4
105.00		0.3125	35.729	35.128	5566.9	18.75	114.33	79.3	306.9	607.6
107.00	Bot - Section 4	0.3125	35.258	34.661	5347.9	18.48	112.83	79.7	298.7	237.5
110.00		0.3125	34.552	33.961	5030.3	18.09	110.57	80.1	286.7	635.0
112.00	Top - Section 3	0.2500	34.582	27.241	4056.7	22.98	138.33	0.0	0.0	416.2
115.00		0.2500	33.876	26.681	3811.6	22.48	135.50	75.0	221.6	275.2
120.00		0.2500	32.699	25.748	3425.3	21.65	130.80	75.9	206.3	446.0
125.00		0.2500	31.523	24.814	3066.0	20.82	126.09	76.9	191.6	430.1
127.00		0.2500	31.052	24.441	2929.7	20.49	124.21	77.3	185.8	167.6
130.00		0.2500	30.346	23.880	2732.8	19.99	121.38	77.9	177.4	246.6
135.00		0.2500	29.169	22.947	2424.7	19.16	116.68	78.9	163.7	398.4
137.00		0.2500	28.699	22.573	2308.2	18.83	114.80	79.3	158.4	154.9
140.00		0.2500	27.993	22.013	2140.6	18.33	111.97	79.8	150.6	227.6
145.00		0.2500	26.816	21.080	1879.6	17.50	107.27	80.8	138.1	366.6
149.00		0.2500	25.875	20.333	1686.8	16.84	103.50	81.6	128.4	281.8

26722.3

Wind Loading - Shaft

Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 9
	Struct Class: II	

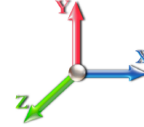


Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 22

Dead Load Factor 1.20

Wind Load Factor 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	465.38	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	456.11	0.650	0.000	5.00	24.740	16.08	596.8	0.0	1645.3
10.00		1.00	0.85	21.088	23.20	446.84	0.650	0.000	5.00	24.242	15.76	584.8	0.0	1612.0
15.00		1.00	0.85	21.088	23.20	437.57	0.650	0.000	5.00	23.744	15.43	572.8	0.0	1578.6
18.00	Bot - Section 2	1.00	0.88	21.884	24.07	440.09	0.650	0.000	3.00	14.008	9.11	350.7	0.0	931.2
20.00		1.00	0.90	22.375	24.61	441.18	0.650	0.000	2.00	9.366	6.09	239.7	0.0	1148.4
25.00	Top - Section 1	1.00	0.95	23.451	25.80	441.89	0.650	0.000	5.00	23.066	14.99	618.8	0.0	2827.6
30.00		1.00	0.98	24.369	26.81	446.83	0.650	0.000	5.00	22.568	14.67	629.2	0.0	1287.1
35.00		1.00	1.01	25.172	27.69	444.02	0.650	0.000	5.00	22.071	14.35	635.6	0.0	1258.5
40.00		1.00	1.04	25.890	28.48	440.03	0.650	0.000	5.00	21.573	14.02	638.9	0.0	1229.9
45.00		1.00	1.07	26.540	29.19	435.12	0.650	0.000	5.00	21.075	13.70	639.9	0.0	1201.3
50.00		1.00	1.09	27.135	29.85	429.45	0.650	0.000	5.00	20.577	13.38	638.8	0.0	1172.7
55.00		1.00	1.12	27.685	30.45	423.16	0.650	0.000	5.00	20.079	13.05	636.0	0.0	1144.1
60.00		1.00	1.14	28.197	31.02	416.33	0.650	0.000	5.00	19.582	12.73	631.7	0.0	1115.5
62.00	Bot - Section 3	1.00	1.14	28.392	31.23	413.47	0.650	0.000	2.00	7.693	5.00	249.9	0.0	438.2
65.00		1.00	1.16	28.676	31.54	409.04	0.650	0.000	3.00	11.549	7.51	378.9	0.0	1197.7
68.00	Top - Section 2	1.00	1.17	28.950	31.84	404.47	0.650	0.000	3.00	11.370	7.39	376.6	0.0	1178.8
70.00		1.00	1.17	29.127	32.04	407.14	0.650	0.000	2.00	7.480	4.86	249.3	0.0	355.5
75.00		1.00	1.19	29.553	32.51	399.13	0.650	0.000	5.00	18.353	11.93	620.5	0.0	872.1
80.00		1.00	1.21	29.958	32.95	390.80	0.650	0.000	5.00	17.855	11.61	611.9	0.0	848.2
85.00		1.00	1.22	30.342	33.38	382.18	0.650	0.000	5.00	17.357	11.28	602.5	0.0	824.4
90.00		1.00	1.24	30.710	33.78	373.30	0.650	0.000	5.00	16.859	10.96	592.3	0.0	800.6
95.00		1.00	1.25	31.061	34.17	364.18	0.650	0.000	5.00	16.361	10.63	581.4	0.0	776.8
100.00		1.00	1.27	31.399	34.54	354.84	0.650	0.000	5.00	15.863	10.31	569.8	0.0	752.9
105.00		1.00	1.28	31.723	34.89	345.30	0.650	0.000	5.00	15.366	9.99	557.6	0.0	729.1
107.00	Bot - Section 4	1.00	1.28	31.849	35.03	341.43	0.650	0.000	2.00	6.007	3.90	218.9	0.0	285.0
110.00		1.00	1.29	32.035	35.24	335.56	0.650	0.000	3.00	8.988	5.84	329.4	0.0	762.0
112.00	Top - Section 3	1.00	1.30	32.157	35.37	331.62	0.650	0.000	2.00	5.892	3.83	216.8	0.0	499.4
115.00		1.00	1.30	32.336	35.57	330.54	0.650	0.000	3.00	8.689	5.65	321.4	0.0	330.3
120.00		1.00	1.32	32.627	35.89	320.49	0.650	0.000	5.00	14.084	9.15	525.7	0.0	535.2
125.00		1.00	1.33	32.909	36.20	310.29	0.650	0.000	5.00	13.586	8.83	511.5	0.0	516.1
127.00	Appurtenance(s)	1.00	1.33	33.019	36.32	306.17	0.650	0.000	2.00	5.295	3.44	200.0	0.0	201.1
130.00		1.00	1.34	33.182	36.50	299.94	0.650	0.000	3.00	7.793	5.07	295.8	0.0	296.0
135.00		1.00	1.35	33.446	36.79	289.46	0.650	0.000	5.00	12.590	8.18	481.7	0.0	478.0
137.00	Appurtenance(s)	1.00	1.35	33.550	36.90	285.23	0.650	0.000	2.00	4.897	3.18	187.9	0.0	185.9
140.00		1.00	1.36	33.703	37.07	278.85	0.650	0.000	3.00	7.196	4.68	277.4	0.0	273.1
145.00		1.00	1.37	33.953	37.35	268.12	0.650	0.000	5.00	11.595	7.54	450.4	0.0	439.9
149.00	Appurtenance(s)	1.00	1.38	34.148	37.56	259.45	0.650	0.000	4.00	8.917	5.80	348.4	0.0	338.2
Totals:									149.00			17,169.5		32,066.8

Discrete Appurtenance Forces

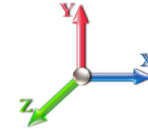
Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 10

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	
1	149.00	AIR6419 B41	3	34.148	37.563	0.66	0.90	12.46	299.88	0.000	0.000	748.66	0.00	0.00	
2	149.00	HRK12 (Handrail Kit)	1	34.148	37.563	0.56	0.75	3.80	314.06	0.000	0.000	228.20	0.00	0.00	
3	149.00	(3) Stabilizer Kit (4' FW)	1	34.148	37.563	0.56	0.75	2.08	168.00	0.000	0.000	125.09	0.00	0.00	
4	149.00	APXVAARR24_43-U-NA2	3	34.148	37.563	0.63	0.90	38.25	460.80	0.000	0.000	2299.08	0.00	0.00	
5	149.00	T-Arms	1	34.148	37.563	0.56	0.75	8.44	600.00	0.000	0.000	507.10	0.00	0.00	
6	149.00	Ericsson KRY 112 144/1	3	34.148	37.563	0.63	0.90	0.77	39.60	0.000	0.000	46.57	0.00	0.00	
7	149.00	Ericsson 4449 B71 + B85	3	34.148	37.563	0.60	0.90	3.56	263.52	0.000	0.000	214.18	0.00	0.00	
8	149.00	Ericsson 4460 B25 + B66	3	34.148	37.563	0.60	0.90	5.16	392.40	0.000	0.000	309.86	0.00	0.00	
9	149.00	VV-65A-R1	3	34.148	37.563	0.68	0.90	12.15	85.72	0.000	0.000	730.10	0.00	0.00	
10	137.00	JMA Wireless	6	33.550	36.905	0.70	0.80	41.22	432.00	0.000	0.000	2433.79	0.00	0.00	
11	137.00	Commscope	3	33.550	36.905	0.40	0.80	1.60	69.84	0.000	0.000	94.24	0.00	0.00	
12	137.00	RCMDC-6627-PF-48	1	33.550	36.905	1.00	1.00	4.06	38.40	0.000	0.000	239.73	0.00	0.00	
13	137.00	Samsung RFV01U-D1A	3	33.550	36.905	0.54	0.80	3.02	303.84	0.000	0.000	178.50	0.00	0.00	
14	137.00	Samsung MT6407-77A	3	33.550	36.905	0.56	0.80	7.88	313.56	0.000	0.000	465.25	0.00	0.00	
15	137.00	91900314	3	33.550	36.905	1.00	1.00	0.00	100.80	0.000	0.000	0.00	0.00	0.00	
16	137.00	Samsung RFV01U-D2A	3	33.550	36.905	0.54	0.80	3.02	253.08	0.000	0.000	178.50	0.00	0.00	
17	137.00	T-Arms	3	33.550	36.905	0.56	0.75	13.50	1260.00	0.000	0.000	797.15	0.00	0.00	
18	127.00	DC9-48-60-24-8C-EV	1	33.019	36.321	1.00	1.00	1.14	31.44	0.000	0.000	66.25	0.00	0.00	
19	127.00	OPA65R-BU8DA	3	33.019	36.321	0.58	0.80	31.56	275.40	0.000	0.000	1834.25	0.00	0.00	
20	127.00	DMP65R-BU8DA	3	33.019	36.321	0.58	0.80	31.18	344.52	0.000	0.000	1811.95	0.00	0.00	
21	127.00	Horizontal Pipe	3	33.019	36.321	0.56	0.75	5.01	164.70	0.000	0.000	291.14	0.00	0.00	
22	127.00	RRUS 4478 B14	3	33.019	36.321	0.54	0.80	2.65	213.84	0.000	0.000	154.19	0.00	0.00	
23	127.00	4449 B5/B12	3	33.019	36.321	0.54	0.80	3.17	255.60	0.000	0.000	184.09	0.00	0.00	
24	127.00	RRUS 8843 B2 B66A	3	33.019	36.321	0.54	0.80	2.64	259.20	0.000	0.000	153.25	0.00	0.00	
25	127.00	T-Arms	3	33.019	36.321	0.56	0.75	13.50	1260.00	0.000	0.000	784.53	0.00	0.00	
26	127.00	(3) Stabilizer Kit	1	33.019	36.321	0.56	0.75	3.43	216.00	0.000	0.000	199.40	0.00	0.00	
27	127.00	7770.00	6	33.019	36.321	0.58	0.80	19.27	252.00	0.000	0.000	1119.96	0.00	0.00	
28	127.00	Powerwave LGP21401	12	33.019	36.321	0.80	0.80	12.38	203.04	0.000	0.000	719.67	0.00	0.00	
29	127.00	Kathrein 860 10025 RET	12	33.019	36.321	0.80	0.80	1.34	15.84	0.000	0.000	78.10	0.00	0.00	
30	127.00	Powerwave LGP13519	6	33.019	36.321	0.80	0.80	1.63	38.16	0.000	0.000	94.84	0.00	0.00	
31	127.00	Raycap DC6-48-60-18-8F	1	33.019	36.321	1.00	1.00	0.92	38.16	0.000	0.000	53.46	0.00	0.00	
32	127.00	Powerwave 1001983 Bias	3	33.019	36.321	0.80	0.80	0.50	15.84	0.000	0.000	29.29	0.00	0.00	
Totals:									8,979.24						17,170.39

Total Applied Force Summary

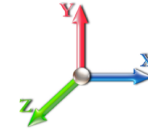
Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 11

Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		596.83	1872.08	0.00	0.00
10.00		584.82	1838.73	0.00	0.00
15.00		572.81	1805.37	0.00	0.00
18.00		350.69	1067.21	0.00	0.00
20.00		239.73	1239.08	0.00	0.00
25.00		618.82	3054.33	0.00	0.00
30.00		629.15	1513.82	0.00	0.00
35.00		635.57	1485.23	0.00	0.00
40.00		638.95	1456.64	0.00	0.00
45.00		639.87	1428.05	0.00	0.00
50.00		638.77	1399.46	0.00	0.00
55.00		635.95	1370.87	0.00	0.00
60.00		631.65	1342.27	0.00	0.00
62.00		249.88	528.90	0.00	0.00
65.00		378.88	1333.75	0.00	0.00
68.00		376.56	1314.87	0.00	0.00
70.00		249.26	446.19	0.00	0.00
75.00		620.48	1098.80	0.00	0.00
80.00		611.91	1074.97	0.00	0.00
85.00		602.49	1051.14	0.00	0.00
90.00		592.29	1027.32	0.00	0.00
95.00		581.38	1003.49	0.00	0.00
100.00		569.81	979.67	0.00	0.00
105.00		557.63	955.84	0.00	0.00
107.00		218.86	375.66	0.00	0.00
110.00		329.39	898.06	0.00	0.00
112.00		216.76	590.13	0.00	0.00
115.00		321.44	466.32	0.00	0.00
120.00		525.68	761.95	0.00	0.00
125.00		511.48	742.89	0.00	0.00
127.00	(63) attachments	7774.39	3875.56	0.00	0.00
130.00		295.83	386.69	0.00	0.00
135.00		481.74	629.23	0.00	0.00
137.00	(25) attachments	4575.11	3017.87	0.00	0.00
140.00		277.45	318.67	0.00	0.00
145.00		450.37	515.87	0.00	0.00
149.00	(21) attachments	5557.21	3007.76	0.00	0.00
Totals:		34,339.89	47,274.73	0.00	0.00

Calculated Forces

Structure: CT11559-A-SBA
Site Name: Thompson 1, CT
Height: 149.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

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

5/6/2022
 Page: 12



Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 22

Dead Load Factor 1.20
Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-47.23	-34.40	0.00	-3698.9	0.00	3698.90	5499.39	2749.69	13252.7	6636.23	0.00	0.000	0.000	0.566
5.00	-45.27	-33.92	0.00	-3526.9	0.00	3526.90	5429.06	2714.53	12818.7	6418.90	0.08	-0.145	0.000	0.558
10.00	-43.35	-33.44	0.00	-3357.3	0.00	3357.31	5357.09	2678.54	12387.8	6203.11	0.31	-0.293	0.000	0.549
15.00	-41.48	-32.94	0.00	-3190.1	0.00	3190.13	5283.48	2641.74	11960.1	5988.97	0.70	-0.442	0.000	0.541
18.00	-40.37	-32.63	0.00	-3091.3	0.00	3091.31	5238.53	2619.26	11705.2	5861.33	1.00	-0.533	0.000	0.535
20.00	-39.07	-32.46	0.00	-3026.0	0.00	3026.04	5208.23	2604.11	11536.0	5776.60	1.24	-0.595	0.000	0.532
25.00	-35.94	-31.90	0.00	-2863.7	0.00	2863.77	4201.23	2100.61	9252.96	4633.35	1.95	-0.747	0.000	0.627
30.00	-34.35	-31.34	0.00	-2704.2	0.00	2704.28	4145.44	2072.72	8928.09	4470.68	2.81	-0.901	0.000	0.613
35.00	-32.78	-30.78	0.00	-2547.5	0.00	2547.56	4088.00	2044.00	8605.21	4309.00	3.85	-1.074	0.000	0.599
40.00	-31.25	-30.21	0.00	-2393.6	0.00	2393.65	4028.93	2014.47	8284.56	4148.44	5.07	-1.248	0.000	0.585
45.00	-29.74	-29.63	0.00	-2242.6	0.00	2242.60	3968.22	1984.11	7966.37	3989.11	6.47	-1.423	0.000	0.570
50.00	-28.27	-29.04	0.00	-2094.4	0.00	2094.46	3905.86	1952.93	7650.88	3831.13	8.05	-1.599	0.000	0.554
55.00	-26.83	-28.45	0.00	-1949.2	0.00	1949.27	3841.87	1920.93	7338.34	3674.63	9.82	-1.775	0.000	0.538
60.00	-25.45	-27.83	0.00	-1807.0	0.00	1807.04	3776.23	1888.12	7028.98	3519.72	11.78	-1.952	0.000	0.520
62.00	-24.89	-27.60	0.00	-1751.3	0.00	1751.38	3749.52	1874.76	6906.19	3458.23	12.61	-2.025	0.000	0.513
65.00	-23.52	-27.21	0.00	-1668.5	0.00	1668.59	3708.96	1854.48	6723.05	3366.52	13.92	-2.132	0.000	0.502
68.00	-22.18	-26.82	0.00	-1586.9	0.00	1586.95	2897.69	1448.84	5257.67	2632.74	15.29	-2.240	0.000	0.611
70.00	-21.68	-26.61	0.00	-1533.3	0.00	1533.30	2878.95	1439.48	5167.56	2587.62	16.25	-2.312	0.000	0.600
75.00	-20.51	-26.01	0.00	-1400.2	0.00	1400.26	2830.96	1415.48	4943.48	2475.42	18.78	-2.512	0.000	0.573
80.00	-19.38	-25.42	0.00	-1270.2	0.00	1270.20	2781.33	1390.66	4721.30	2364.16	21.51	-2.710	0.000	0.545
85.00	-18.28	-24.83	0.00	-1143.1	0.00	1143.10	2730.06	1365.03	4501.25	2253.97	24.46	-2.904	0.000	0.514
90.00	-17.20	-24.24	0.00	-1018.9	0.00	1018.96	2677.14	1338.57	4283.57	2144.97	27.60	-3.094	0.000	0.482
95.00	-16.16	-23.65	0.00	-897.77	0.00	897.77	2622.59	1311.30	4068.50	2037.27	30.94	-3.278	0.000	0.447
100.00	-15.15	-23.07	0.00	-779.50	0.00	779.50	2566.40	1283.20	3856.28	1931.01	34.47	-3.455	0.000	0.410
105.00	-14.18	-22.49	0.00	-664.14	0.00	664.14	2508.57	1254.28	3647.16	1826.29	38.17	-3.622	0.000	0.370
107.00	-13.79	-22.26	0.00	-619.17	0.00	619.17	2484.97	1242.49	3564.43	1784.86	39.71	-3.688	0.000	0.353
110.00	-12.89	-21.89	0.00	-552.38	0.00	552.38	2449.09	1224.55	3441.37	1723.24	42.05	-3.781	0.000	0.326
112.00	-12.28	-21.65	0.00	-508.59	0.00	508.59	1823.39	911.69	2573.73	1288.78	43.65	-3.841	0.000	0.402
115.00	-11.80	-21.32	0.00	-443.64	0.00	443.64	1799.96	899.98	2488.04	1245.87	46.09	-3.925	0.000	0.363
120.00	-11.02	-20.77	0.00	-337.01	0.00	337.01	1759.59	879.80	2346.51	1175.00	50.28	-4.071	0.000	0.294
125.00	-10.29	-20.22	0.00	-233.15	0.00	233.15	1717.59	858.79	2206.80	1105.04	54.61	-4.189	0.000	0.218
127.00	-6.99	-12.19	0.00	-192.71	0.00	192.71	1700.33	850.16	2151.49	1077.34	56.37	-4.229	0.000	0.183
130.00	-6.61	-11.87	0.00	-156.14	0.00	156.14	1673.94	836.97	2069.17	1036.12	59.04	-4.280	0.000	0.155
135.00	-6.02	-11.35	0.00	-96.77	0.00	96.77	1628.66	814.33	1933.84	968.36	63.56	-4.346	0.000	0.104
137.00	-3.35	-6.56	0.00	-74.07	0.00	74.07	1610.09	805.04	1880.41	941.60	65.38	-4.366	0.000	0.081
140.00	-3.05	-6.26	0.00	-54.39	0.00	54.39	1581.73	790.87	1801.05	901.87	68.13	-4.389	0.000	0.062
145.00	-2.57	-5.77	0.00	-23.09	0.00	23.09	1533.17	766.58	1671.06	836.77	72.74	-4.415	0.000	0.029
149.00	0.00	-5.56	0.00	0.00	0.00	0.00	1493.13	746.57	1569.22	785.78	76.44	-4.422	0.000	0.000

Wind Loading - Shaft

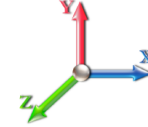
Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 13

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	465.38	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	456.11	0.650	0.000	5.00	24.740	16.08	596.8	0.0	1234.0
10.00		1.00	0.85	21.088	23.20	446.84	0.650	0.000	5.00	24.242	15.76	584.8	0.0	1209.0
15.00		1.00	0.85	21.088	23.20	437.57	0.650	0.000	5.00	23.744	15.43	572.8	0.0	1184.0
18.00	Bot - Section 2	1.00	0.88	21.884	24.07	440.09	0.650	0.000	3.00	14.008	9.11	350.7	0.0	698.4
20.00		1.00	0.90	22.375	24.61	441.18	0.650	0.000	2.00	9.366	6.09	239.7	0.0	861.3
25.00	Top - Section 1	1.00	0.95	23.451	25.80	441.89	0.650	0.000	5.00	23.066	14.99	618.8	0.0	2120.7
30.00		1.00	0.98	24.369	26.81	446.83	0.650	0.000	5.00	22.568	14.67	629.2	0.0	965.3
35.00		1.00	1.01	25.172	27.69	444.02	0.650	0.000	5.00	22.071	14.35	635.6	0.0	943.9
40.00		1.00	1.04	25.890	28.48	440.03	0.650	0.000	5.00	21.573	14.02	638.9	0.0	922.4
45.00		1.00	1.07	26.540	29.19	435.12	0.650	0.000	5.00	21.075	13.70	639.9	0.0	901.0
50.00		1.00	1.09	27.135	29.85	429.45	0.650	0.000	5.00	20.577	13.38	638.8	0.0	879.5
55.00		1.00	1.12	27.685	30.45	423.16	0.650	0.000	5.00	20.079	13.05	636.0	0.0	858.1
60.00		1.00	1.14	28.197	31.02	416.33	0.650	0.000	5.00	19.582	12.73	631.7	0.0	836.7
62.00	Bot - Section 3	1.00	1.14	28.392	31.23	413.47	0.650	0.000	2.00	7.693	5.00	249.9	0.0	328.7
65.00		1.00	1.16	28.676	31.54	409.04	0.650	0.000	3.00	11.549	7.51	378.9	0.0	898.3
68.00	Top - Section 2	1.00	1.17	28.950	31.84	404.47	0.650	0.000	3.00	11.370	7.39	376.6	0.0	884.1
70.00		1.00	1.17	29.127	32.04	407.14	0.650	0.000	2.00	7.480	4.86	249.3	0.0	266.6
75.00		1.00	1.19	29.553	32.51	399.13	0.650	0.000	5.00	18.353	11.93	620.5	0.0	654.0
80.00		1.00	1.21	29.958	32.95	390.80	0.650	0.000	5.00	17.855	11.61	611.9	0.0	636.2
85.00		1.00	1.22	30.342	33.38	382.18	0.650	0.000	5.00	17.357	11.28	602.5	0.0	618.3
90.00		1.00	1.24	30.710	33.78	373.30	0.650	0.000	5.00	16.859	10.96	592.3	0.0	600.4
95.00		1.00	1.25	31.061	34.17	364.18	0.650	0.000	5.00	16.361	10.63	581.4	0.0	582.6
100.00		1.00	1.27	31.399	34.54	354.84	0.650	0.000	5.00	15.863	10.31	569.8	0.0	564.7
105.00		1.00	1.28	31.723	34.89	345.30	0.650	0.000	5.00	15.366	9.99	557.6	0.0	546.8
107.00	Bot - Section 4	1.00	1.28	31.849	35.03	341.43	0.650	0.000	2.00	6.007	3.90	218.9	0.0	213.7
110.00		1.00	1.29	32.035	35.24	335.56	0.650	0.000	3.00	8.988	5.84	329.4	0.0	571.5
112.00	Top - Section 3	1.00	1.30	32.157	35.37	331.62	0.650	0.000	2.00	5.892	3.83	216.8	0.0	374.6
115.00		1.00	1.30	32.336	35.57	330.54	0.650	0.000	3.00	8.689	5.65	321.4	0.0	247.7
120.00		1.00	1.32	32.627	35.89	320.49	0.650	0.000	5.00	14.084	9.15	525.7	0.0	401.4
125.00		1.00	1.33	32.909	36.20	310.29	0.650	0.000	5.00	13.586	8.83	511.5	0.0	387.1
127.00	Appurtenance(s)	1.00	1.33	33.019	36.32	306.17	0.650	0.000	2.00	5.295	3.44	200.0	0.0	150.8
130.00		1.00	1.34	33.182	36.50	299.94	0.650	0.000	3.00	7.793	5.07	295.8	0.0	222.0
135.00		1.00	1.35	33.446	36.79	289.46	0.650	0.000	5.00	12.590	8.18	481.7	0.0	358.5
137.00	Appurtenance(s)	1.00	1.35	33.550	36.90	285.23	0.650	0.000	2.00	4.897	3.18	187.9	0.0	139.4
140.00		1.00	1.36	33.703	37.07	278.85	0.650	0.000	3.00	7.196	4.68	277.4	0.0	204.8
145.00		1.00	1.37	33.953	37.35	268.12	0.650	0.000	5.00	11.595	7.54	450.4	0.0	329.9
149.00	Appurtenance(s)	1.00	1.38	34.148	37.56	259.45	0.650	0.000	4.00	8.917	5.80	348.4	0.0	253.7
Totals:									149.00			17,169.5		24,050.1

Discrete Appurtenance Forces

Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 14

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	149.00	AIR6419 B41	3	34.148	37.563	0.66	0.90	12.46	224.91	0.000	0.000	748.66	0.00	0.00
2	149.00	HRK12 (Handrail Kit)	1	34.148	37.563	0.56	0.75	3.80	235.55	0.000	0.000	228.20	0.00	0.00
3	149.00	(3) Stabilizer Kit (4' FW)	1	34.148	37.563	0.56	0.75	2.08	126.00	0.000	0.000	125.09	0.00	0.00
4	149.00	APXVAARR24_43-U-NA2	3	34.148	37.563	0.63	0.90	38.25	345.60	0.000	0.000	2299.08	0.00	0.00
5	149.00	T-Arms	1	34.148	37.563	0.56	0.75	8.44	450.00	0.000	0.000	507.10	0.00	0.00
6	149.00	Ericsson KRY 112 144/1	3	34.148	37.563	0.63	0.90	0.77	29.70	0.000	0.000	46.57	0.00	0.00
7	149.00	Ericsson 4449 B71 + B85	3	34.148	37.563	0.60	0.90	3.56	197.64	0.000	0.000	214.18	0.00	0.00
8	149.00	Ericsson 4460 B25 + B66	3	34.148	37.563	0.60	0.90	5.16	294.30	0.000	0.000	309.86	0.00	0.00
9	149.00	VV-65A-R1	3	34.148	37.563	0.68	0.90	12.15	64.29	0.000	0.000	730.10	0.00	0.00
10	137.00	JMA Wireless	6	33.550	36.905	0.70	0.80	41.22	324.00	0.000	0.000	2433.79	0.00	0.00
11	137.00	Commscope	3	33.550	36.905	0.40	0.80	1.60	52.38	0.000	0.000	94.24	0.00	0.00
12	137.00	RCMDC-6627-PF-48	1	33.550	36.905	1.00	1.00	4.06	28.80	0.000	0.000	239.73	0.00	0.00
13	137.00	Samsung RFV01U-D1A	3	33.550	36.905	0.54	0.80	3.02	227.88	0.000	0.000	178.50	0.00	0.00
14	137.00	Samsung MT6407-77A	3	33.550	36.905	0.56	0.80	7.88	235.17	0.000	0.000	465.25	0.00	0.00
15	137.00	91900314	3	33.550	36.905	1.00	1.00	0.00	75.60	0.000	0.000	0.00	0.00	0.00
16	137.00	Samsung RFV01U-D2A	3	33.550	36.905	0.54	0.80	3.02	189.81	0.000	0.000	178.50	0.00	0.00
17	137.00	T-Arms	3	33.550	36.905	0.56	0.75	13.50	945.00	0.000	0.000	797.15	0.00	0.00
18	127.00	DC9-48-60-24-8C-EV	1	33.019	36.321	1.00	1.00	1.14	23.58	0.000	0.000	66.25	0.00	0.00
19	127.00	OPA65R-BU8DA	3	33.019	36.321	0.58	0.80	31.56	206.55	0.000	0.000	1834.25	0.00	0.00
20	127.00	DMP65R-BU8DA	3	33.019	36.321	0.58	0.80	31.18	258.39	0.000	0.000	1811.95	0.00	0.00
21	127.00	Horizontal Pipe	3	33.019	36.321	0.56	0.75	5.01	123.53	0.000	0.000	291.14	0.00	0.00
22	127.00	RRUS 4478 B14	3	33.019	36.321	0.54	0.80	2.65	160.38	0.000	0.000	154.19	0.00	0.00
23	127.00	4449 B5/B12	3	33.019	36.321	0.54	0.80	3.17	191.70	0.000	0.000	184.09	0.00	0.00
24	127.00	RRUS 8843 B2 B66A	3	33.019	36.321	0.54	0.80	2.64	194.40	0.000	0.000	153.25	0.00	0.00
25	127.00	T-Arms	3	33.019	36.321	0.56	0.75	13.50	945.00	0.000	0.000	784.53	0.00	0.00
26	127.00	(3) Stabilizer Kit	1	33.019	36.321	0.56	0.75	3.43	162.00	0.000	0.000	199.40	0.00	0.00
27	127.00	7770.00	6	33.019	36.321	0.58	0.80	19.27	189.00	0.000	0.000	1119.96	0.00	0.00
28	127.00	Powerwave LGP21401	12	33.019	36.321	0.80	0.80	12.38	152.28	0.000	0.000	719.67	0.00	0.00
29	127.00	Kathrein 860 10025 RET	12	33.019	36.321	0.80	0.80	1.34	11.88	0.000	0.000	78.10	0.00	0.00
30	127.00	Powerwave LGP13519	6	33.019	36.321	0.80	0.80	1.63	28.62	0.000	0.000	94.84	0.00	0.00
31	127.00	Raycap DC6-48-60-18-8F	1	33.019	36.321	1.00	1.00	0.92	28.62	0.000	0.000	53.46	0.00	0.00
32	127.00	Powerwave 1001983 Bias	3	33.019	36.321	0.80	0.80	0.50	11.88	0.000	0.000	29.29	0.00	0.00
Totals:									6,734.43			17,170.39		

Total Applied Force Summary

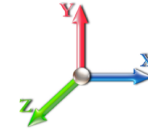
Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 15

Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		596.83	1404.06	0.00	0.00
10.00		584.82	1379.05	0.00	0.00
15.00		572.81	1354.03	0.00	0.00
18.00		350.69	800.41	0.00	0.00
20.00		239.73	929.31	0.00	0.00
25.00		618.82	2290.75	0.00	0.00
30.00		629.15	1135.37	0.00	0.00
35.00		635.57	1113.92	0.00	0.00
40.00		638.95	1092.48	0.00	0.00
45.00		639.87	1071.04	0.00	0.00
50.00		638.77	1049.59	0.00	0.00
55.00		635.95	1028.15	0.00	0.00
60.00		631.65	1006.71	0.00	0.00
62.00		249.88	396.68	0.00	0.00
65.00		378.88	1000.31	0.00	0.00
68.00		376.56	986.16	0.00	0.00
70.00		249.26	334.64	0.00	0.00
75.00		620.48	824.10	0.00	0.00
80.00		611.91	806.23	0.00	0.00
85.00		602.49	788.36	0.00	0.00
90.00		592.29	770.49	0.00	0.00
95.00		581.38	752.62	0.00	0.00
100.00		569.81	734.75	0.00	0.00
105.00		557.63	716.88	0.00	0.00
107.00		218.86	281.75	0.00	0.00
110.00		329.39	673.55	0.00	0.00
112.00		216.76	442.60	0.00	0.00
115.00		321.44	349.74	0.00	0.00
120.00		525.68	571.46	0.00	0.00
125.00		511.48	557.17	0.00	0.00
127.00	(63) attachments	7774.39	2906.67	0.00	0.00
130.00		295.83	290.01	0.00	0.00
135.00		481.74	471.92	0.00	0.00
137.00	(25) attachments	4575.11	2263.41	0.00	0.00
140.00		277.45	239.00	0.00	0.00
145.00		450.37	386.90	0.00	0.00
149.00	(21) attachments	5557.21	2255.82	0.00	0.00
	Totals:	34,339.89	35,456.05	0.00	0.00

Calculated Forces

Structure: CT11559-A-SBA
Site Name: Thompson 1, CT
Height: 149.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

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

5/6/2022
 Page: 16



Load Case: 0.9D + 1.6W 101 mph Wind

Iterations 22

Dead Load Factor 0.90
Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-35.41	-34.39	0.00	-3671.6	0.00	3671.65	5499.39	2749.69	13252.7	6636.23	0.00	0.000	0.000	0.560
5.00	-33.92	-33.87	0.00	-3499.7	0.00	3499.72	5429.06	2714.53	12818.7	6418.90	0.08	-0.144	0.000	0.552
10.00	-32.46	-33.37	0.00	-3330.3	0.00	3330.36	5357.09	2678.54	12387.8	6203.11	0.31	-0.290	0.000	0.543
15.00	-31.04	-32.85	0.00	-3163.5	0.00	3163.53	5283.48	2641.74	11960.1	5988.97	0.69	-0.438	0.000	0.534
18.00	-30.20	-32.53	0.00	-3064.9	0.00	3064.99	5238.53	2619.26	11705.2	5861.33	1.00	-0.529	0.000	0.529
20.00	-29.21	-32.34	0.00	-2999.9	0.00	2999.93	5208.23	2604.11	11536.0	5776.60	1.23	-0.590	0.000	0.525
25.00	-26.85	-31.76	0.00	-2838.2	0.00	2838.24	4201.23	2100.61	9252.96	4633.35	1.93	-0.741	0.000	0.619
30.00	-25.63	-31.19	0.00	-2679.4	0.00	2679.43	4145.44	2072.72	8928.09	4470.68	2.79	-0.893	0.000	0.606
35.00	-24.44	-30.61	0.00	-2523.4	0.00	2523.48	4088.00	2044.00	8605.21	4309.00	3.82	-1.065	0.000	0.592
40.00	-23.27	-30.02	0.00	-2370.4	0.00	2370.44	4028.93	2014.47	8284.56	4148.44	5.03	-1.237	0.000	0.577
45.00	-22.12	-29.42	0.00	-2220.3	0.00	2220.35	3968.22	1984.11	7966.37	3989.11	6.41	-1.410	0.000	0.562
50.00	-21.00	-28.82	0.00	-2073.2	0.00	2073.24	3905.86	1952.93	7650.88	3831.13	7.99	-1.585	0.000	0.547
55.00	-19.91	-28.21	0.00	-1929.1	0.00	1929.14	3841.87	1920.93	7338.34	3674.63	9.74	-1.759	0.000	0.530
60.00	-18.86	-27.59	0.00	-1788.0	0.00	1788.07	3776.23	1888.12	7028.98	3519.72	11.68	-1.934	0.000	0.513
62.00	-18.43	-27.36	0.00	-1732.8	0.00	1732.89	3749.52	1874.76	6906.19	3458.23	12.50	-2.006	0.000	0.506
65.00	-17.40	-26.97	0.00	-1650.8	0.00	1650.82	3708.96	1854.48	6723.05	3366.52	13.80	-2.112	0.000	0.495
68.00	-16.38	-26.59	0.00	-1569.9	0.00	1569.90	2897.69	1448.84	5257.67	2632.74	15.16	-2.219	0.000	0.602
70.00	-16.00	-26.36	0.00	-1516.7	0.00	1516.73	2878.95	1439.48	5167.56	2587.62	16.10	-2.290	0.000	0.592
75.00	-15.11	-25.76	0.00	-1384.9	0.00	1384.92	2830.96	1415.48	4943.48	2475.42	18.61	-2.488	0.000	0.565
80.00	-14.25	-25.16	0.00	-1256.1	0.00	1256.12	2781.33	1390.66	4721.30	2364.16	21.32	-2.684	0.000	0.537
85.00	-13.41	-24.57	0.00	-1130.3	0.00	1130.32	2730.06	1365.03	4501.25	2253.97	24.23	-2.876	0.000	0.507
90.00	-12.59	-23.97	0.00	-1007.4	0.00	1007.49	2677.14	1338.57	4283.57	2144.97	27.35	-3.064	0.000	0.475
95.00	-11.80	-23.39	0.00	-887.62	0.00	887.62	2622.59	1311.30	4068.50	2037.27	30.65	-3.246	0.000	0.441
100.00	-11.03	-22.81	0.00	-770.68	0.00	770.68	2566.40	1283.20	3856.28	1931.01	34.15	-3.420	0.000	0.404
105.00	-10.31	-22.23	0.00	-656.63	0.00	656.63	2508.57	1254.28	3647.16	1826.29	37.82	-3.586	0.000	0.364
107.00	-10.01	-22.01	0.00	-612.16	0.00	612.16	2484.97	1242.49	3564.43	1784.86	39.33	-3.651	0.000	0.347
110.00	-9.33	-21.65	0.00	-546.14	0.00	546.14	2449.09	1224.55	3441.37	1723.24	41.66	-3.743	0.000	0.321
112.00	-8.88	-21.41	0.00	-502.84	0.00	502.84	1823.39	911.69	2573.73	1288.78	43.24	-3.802	0.000	0.396
115.00	-8.50	-21.09	0.00	-438.60	0.00	438.60	1799.96	899.98	2488.04	1245.87	45.65	-3.886	0.000	0.357
120.00	-7.92	-20.54	0.00	-333.17	0.00	333.17	1759.59	879.80	2346.51	1175.00	49.80	-4.030	0.000	0.289
125.00	-7.38	-20.00	0.00	-230.46	0.00	230.46	1717.59	858.79	2206.80	1105.04	54.08	-4.147	0.000	0.213
127.00	-5.04	-12.04	0.00	-190.46	0.00	190.46	1700.33	850.16	2151.49	1077.34	55.83	-4.186	0.000	0.180
130.00	-4.76	-11.73	0.00	-154.34	0.00	154.34	1673.94	836.97	2069.17	1036.12	58.47	-4.236	0.000	0.152
135.00	-4.31	-11.22	0.00	-95.69	0.00	95.69	1628.66	814.33	1933.84	968.36	62.95	-4.301	0.000	0.102
137.00	-2.40	-6.48	0.00	-73.26	0.00	73.26	1610.09	805.04	1880.41	941.60	64.75	-4.321	0.000	0.079
140.00	-2.18	-6.19	0.00	-53.81	0.00	53.81	1581.73	790.87	1801.05	901.87	67.47	-4.344	0.000	0.061
145.00	-1.83	-5.71	0.00	-22.85	0.00	22.85	1533.17	766.58	1671.06	836.77	72.03	-4.370	0.000	0.029
149.00	0.00	-5.56	0.00	0.00	0.00	0.00	1493.13	746.57	1569.22	785.78	75.69	-4.377	0.000	0.000

Wind Loading - Shaft

Structure: CT11559-A-SBA
Site Name: Thompson 1, CT
Height: 149.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

5/6/2022

Page: 17



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 21

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	5.00	26.120	31.34	178.2	617.7	2263.0
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	25.721	30.87	175.5	650.2	2262.2
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	25.285	30.34	172.5	664.3	2243.0
18.00	Bot - Section 2	1.00	0.88	5.363	5.90	0.00	1.200	1.882	3.00	14.949	17.94	105.8	401.2	1332.3
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	2.00	10.000	12.00	72.4	271.7	1420.1
25.00	Top - Section 1	1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	24.687	29.62	187.3	680.8	3508.4
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	24.219	29.06	190.9	679.1	1966.2
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	5.00	23.747	28.50	193.4	675.2	1933.7
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	5.00	23.272	27.93	194.9	669.6	1899.5
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	5.00	22.794	27.35	195.7	662.6	1863.9
50.00		1.00	1.09	6.650	7.32	0.00	1.200	2.085	5.00	22.315	26.78	195.9	654.6	1827.3
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	5.00	21.833	26.20	195.5	645.6	1789.7
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	21.351	25.62	194.8	635.8	1751.3
62.00	Bot - Section 3	1.00	1.14	6.958	7.65	0.00	1.200	2.130	2.00	8.403	10.08	77.2	252.7	690.9
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	3.00	12.619	15.14	117.1	380.2	1577.9
68.00	Top - Section 2	1.00	1.17	7.095	7.80	0.00	1.200	2.150	3.00	12.445	14.93	116.5	376.3	1555.2
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	2.00	8.199	9.84	77.3	249.1	604.6
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	20.162	24.19	192.8	611.3	1483.3
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	5.00	19.676	23.61	190.7	599.3	1447.5
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	5.00	19.189	23.03	188.4	586.9	1411.3
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	5.00	18.702	22.44	185.8	574.1	1374.7
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	5.00	18.214	21.86	183.0	561.0	1337.8
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	5.00	17.726	21.27	180.0	547.6	1300.5
105.00		1.00	1.28	7.774	8.55	0.00	1.200	2.245	5.00	17.237	20.68	176.9	533.9	1263.0
107.00	Bot - Section 4	1.00	1.28	7.805	8.59	0.00	1.200	2.250	2.00	6.757	8.11	69.6	211.3	496.3
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	3.00	10.116	12.14	104.8	316.2	1078.2
112.00	Top - Section 3	1.00	1.30	7.881	8.67	0.00	1.200	2.260	2.00	6.646	7.97	69.1	208.5	707.9
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	3.00	9.822	11.79	102.7	307.6	637.9
120.00		1.00	1.32	7.996	8.80	0.00	1.200	2.276	5.00	15.980	19.18	168.7	498.3	1033.5
125.00		1.00	1.33	8.065	8.87	0.00	1.200	2.285	5.00	15.490	18.59	164.9	483.6	999.7
127.00	Appurtenance(s)	1.00	1.33	8.092	8.90	0.00	1.200	2.289	2.00	6.058	7.27	64.7	191.1	392.2
130.00		1.00	1.34	8.132	8.95	0.00	1.200	2.294	3.00	8.940	10.73	96.0	281.2	577.2
135.00		1.00	1.35	8.197	9.02	0.00	1.200	2.303	5.00	14.509	17.41	157.0	453.6	931.6
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	2.306	2.00	5.665	6.80	61.5	179.0	364.9
140.00		1.00	1.36	8.260	9.09	0.00	1.200	2.311	3.00	8.351	10.02	91.1	263.0	536.1
145.00		1.00	1.37	8.321	9.15	0.00	1.200	2.319	5.00	13.527	16.23	148.6	422.9	862.8
149.00	Appurtenance(s)	1.00	1.38	8.369	9.21	0.00	1.200	2.325	4.00	10.468	12.56	115.6	328.3	666.5
Totals:									149.00			5,352.6	49,392.2	

Discrete Appurtenance Forces

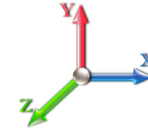
Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 18

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 21

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	149.00	AIR6419 B41	3	8.369	9.206	0.67	0.90	16.15	768.03	0.000	0.000	148.68	0.00	0.00
2	149.00	HRK12 (Handrail Kit)	1	8.369	9.206	0.56	0.75	8.74	314.34	0.000	0.000	80.47	0.00	0.00
3	149.00	(3) Stabilizer Kit (4' FW)	1	8.369	9.206	0.56	0.75	4.99	342.40	0.000	0.000	45.89	0.00	0.00
4	149.00	APXVAARR24_43-U-NA2	3	8.369	9.206	0.63	0.90	43.10	2202.68	0.000	0.000	396.75	0.00	0.00
5	149.00	T-Arms	1	8.369	9.206	0.56	0.75	23.09	1147.62	0.000	0.000	212.54	0.00	0.00
6	149.00	Ericsson KRY 112 144/1	3	8.369	9.206	0.63	0.90	1.97	73.40	0.000	0.000	18.15	0.00	0.00
7	149.00	Ericsson 4449 B71 + B85	3	8.369	9.206	0.60	0.90	4.94	319.14	0.000	0.000	45.44	0.00	0.00
8	149.00	Ericsson 4460 B25 + B66	3	8.369	9.206	0.60	0.90	6.78	628.83	0.000	0.000	62.43	0.00	0.00
9	149.00	VV-65A-R1	3	8.369	9.206	0.70	0.90	15.57	684.76	0.000	0.000	143.30	0.00	0.00
10	137.00	JMA Wireless	6	8.222	9.044	0.70	0.80	48.94	2670.47	0.000	0.000	442.65	0.00	0.00
11	137.00	Commscope	3	8.222	9.044	0.40	0.80	2.97	153.61	0.000	0.000	26.82	0.00	0.00
12	137.00	RCMDC-6627-PF-48	1	8.222	9.044	1.00	1.00	5.15	163.73	0.000	0.000	46.54	0.00	0.00
13	137.00	Samsung RFV01U-D1A	3	8.222	9.044	0.54	0.80	4.19	401.43	0.000	0.000	37.93	0.00	0.00
14	137.00	Samsung MT6407-77A	3	8.222	9.044	0.56	0.80	10.01	819.99	0.000	0.000	90.57	0.00	0.00
15	137.00	91900314	3	8.222	9.044	1.00	1.00	0.00	182.78	0.000	0.000	0.00	0.00	0.00
16	137.00	Samsung RFV01U-D2A	3	8.222	9.044	0.54	0.80	4.19	411.06	0.000	0.000	37.93	0.00	0.00
17	137.00	T-Arms	3	8.222	9.044	0.56	0.75	29.07	2018.50	0.000	0.000	262.88	0.00	0.00
18	127.00	DC9-48-60-24-8C-EV	1	8.092	8.901	1.00	1.00	3.22	153.33	0.000	0.000	28.67	0.00	0.00
19	127.00	OPA65R-BU8DA	3	8.092	8.901	0.60	0.80	38.65	1439.68	0.000	0.000	344.05	0.00	0.00
20	127.00	DMP65R-BU8DA	3	8.092	8.901	0.60	0.80	36.83	1588.13	0.000	0.000	327.81	0.00	0.00
21	127.00	Horizontal Pipe	3	8.092	8.901	0.56	0.75	13.26	297.85	0.000	0.000	118.07	0.00	0.00
22	127.00	RRUS 4478 B14	3	8.092	8.901	0.54	0.80	3.75	348.77	0.000	0.000	33.35	0.00	0.00
23	127.00	4449 B5/B12	3	8.092	8.901	0.54	0.80	4.32	424.80	0.000	0.000	38.47	0.00	0.00
24	127.00	RRUS 8843 B2 B66A	3	8.092	8.901	0.54	0.80	3.68	407.48	0.000	0.000	32.80	0.00	0.00
25	127.00	T-Arms	3	8.092	8.901	0.56	0.75	28.95	2011.19	0.000	0.000	257.67	0.00	0.00
26	127.00	(3) Stabilizer Kit	1	8.092	8.901	0.56	0.75	8.14	442.60	0.000	0.000	72.48	0.00	0.00
27	127.00	7770.00	6	8.092	8.901	0.58	0.80	24.27	1392.01	0.000	0.000	216.00	0.00	0.00
28	127.00	Powerwave LGP21401	12	8.092	8.901	0.80	0.80	22.90	511.26	0.000	0.000	203.88	0.00	0.00
29	127.00	Kathrein 860 10025 RET	12	8.092	8.901	0.80	0.80	5.38	70.03	0.000	0.000	47.93	0.00	0.00
30	127.00	Powerwave LGP13519	6	8.092	8.901	0.80	0.80	4.49	96.69	0.000	0.000	39.97	0.00	0.00
31	127.00	Raycap DC6-48-60-18-8F	1	8.092	8.901	1.00	1.00	1.49	101.53	0.000	0.000	13.30	0.00	0.00
32	127.00	Powerwave 1001983 Bias	3	8.092	8.901	0.80	0.80	1.64	33.22	0.000	0.000	14.61	0.00	0.00
Totals:									22,621.33			3,888.03		

Total Applied Force Summary

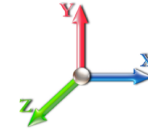
Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 19

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 21

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		178.19	2489.75	0.00	0.00
10.00		175.47	2488.94	0.00	0.00
15.00		172.49	2469.69	0.00	0.00
18.00		105.83	1468.38	0.00	0.00
20.00		72.38	1510.78	0.00	0.00
25.00		187.29	3735.09	0.00	0.00
30.00		190.92	2192.94	0.00	0.00
35.00		193.38	2160.45	0.00	0.00
40.00		194.91	2126.24	0.00	0.00
45.00		195.70	2090.68	0.00	0.00
50.00		195.88	2054.01	0.00	0.00
55.00		195.54	2016.43	0.00	0.00
60.00		194.76	1978.07	0.00	0.00
62.00		77.18	781.58	0.00	0.00
65.00		117.07	1713.98	0.00	0.00
68.00		116.55	1691.20	0.00	0.00
70.00		77.26	695.29	0.00	0.00
75.00		192.76	1710.05	0.00	0.00
80.00		190.68	1674.26	0.00	0.00
85.00		188.35	1638.05	0.00	0.00
90.00		185.79	1601.46	0.00	0.00
95.00		183.02	1564.52	0.00	0.00
100.00		180.04	1527.26	0.00	0.00
105.00		176.89	1489.71	0.00	0.00
107.00		69.62	586.98	0.00	0.00
110.00		104.83	1214.22	0.00	0.00
112.00		69.13	798.64	0.00	0.00
115.00		102.75	773.95	0.00	0.00
120.00		168.67	1260.21	0.00	0.00
125.00		164.91	1226.47	0.00	0.00
127.00	(63) attachments	1853.77	9801.42	0.00	0.00
130.00		95.96	667.90	0.00	0.00
135.00		156.99	1082.84	0.00	0.00
137.00	(25) attachments	1006.81	7246.94	0.00	0.00
140.00		91.05	581.68	0.00	0.00
145.00		148.58	938.77	0.00	0.00
149.00	(21) attachments	1269.29	7193.33	0.00	0.00
	Totals:	9,240.66	78,242.20	0.00	0.00

Calculated Forces

Structure: CT11559-A-SBA
Site Name: Thompson 1, CT
Height: 149.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

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

5/6/2022
 Page: 20



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

Dead Load Factor 1.20
Wind Load Factor 1.00

Iterations 21

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	-78.24	-9.27	0.00	-982.52	0.00	982.52	5499.39	2749.69	13252.7	6636.23	0.00	0.000	0.000	0.162
5.00	-75.74	-9.14	0.00	-936.19	0.00	936.19	5429.06	2714.53	12818.7	6418.90	0.02	-0.039	0.000	0.160
10.00	-73.25	-9.01	0.00	-890.49	0.00	890.49	5357.09	2678.54	12387.8	6203.11	0.08	-0.078	0.000	0.157
15.00	-70.77	-8.87	0.00	-845.44	0.00	845.44	5283.48	2641.74	11960.1	5988.97	0.19	-0.117	0.000	0.155
18.00	-69.30	-8.79	0.00	-818.82	0.00	818.82	5238.53	2619.26	11705.2	5861.33	0.27	-0.141	0.000	0.153
20.00	-67.79	-8.75	0.00	-801.24	0.00	801.24	5208.23	2604.11	11536.0	5776.60	0.33	-0.158	0.000	0.152
25.00	-64.05	-8.59	0.00	-757.50	0.00	757.50	4201.23	2100.61	9252.96	4633.35	0.52	-0.198	0.000	0.179
30.00	-61.85	-8.44	0.00	-714.54	0.00	714.54	4145.44	2072.72	8928.09	4470.68	0.75	-0.239	0.000	0.175
35.00	-59.68	-8.29	0.00	-672.34	0.00	672.34	4088.00	2044.00	8605.21	4309.00	1.02	-0.284	0.000	0.171
40.00	-57.55	-8.12	0.00	-630.91	0.00	630.91	4028.93	2014.47	8284.56	4148.44	1.34	-0.330	0.000	0.166
45.00	-55.45	-7.96	0.00	-590.29	0.00	590.29	3968.22	1984.11	7966.37	3989.11	1.71	-0.376	0.000	0.162
50.00	-53.40	-7.79	0.00	-550.49	0.00	550.49	3905.86	1952.93	7650.88	3831.13	2.13	-0.423	0.000	0.157
55.00	-51.38	-7.62	0.00	-511.52	0.00	511.52	3841.87	1920.93	7338.34	3674.63	2.60	-0.469	0.000	0.153
60.00	-49.39	-7.44	0.00	-473.40	0.00	473.40	3776.23	1888.12	7028.98	3519.72	3.12	-0.515	0.000	0.148
62.00	-48.61	-7.38	0.00	-458.52	0.00	458.52	3749.52	1874.76	6906.19	3458.23	3.34	-0.534	0.000	0.146
65.00	-46.89	-7.27	0.00	-436.39	0.00	436.39	3708.96	1854.48	6723.05	3366.52	3.68	-0.563	0.000	0.142
68.00	-45.20	-7.15	0.00	-414.59	0.00	414.59	2897.69	1448.84	5257.67	2632.74	4.04	-0.591	0.000	0.173
70.00	-44.50	-7.09	0.00	-400.29	0.00	400.29	2878.95	1439.48	5167.56	2587.62	4.30	-0.609	0.000	0.170
75.00	-42.79	-6.92	0.00	-364.82	0.00	364.82	2830.96	1415.48	4943.48	2475.42	4.96	-0.662	0.000	0.163
80.00	-41.11	-6.75	0.00	-330.22	0.00	330.22	2781.33	1390.66	4721.30	2364.16	5.68	-0.713	0.000	0.154
85.00	-39.47	-6.57	0.00	-296.48	0.00	296.48	2730.06	1365.03	4501.25	2253.97	6.46	-0.764	0.000	0.146
90.00	-37.87	-6.40	0.00	-263.63	0.00	263.63	2677.14	1338.57	4283.57	2144.97	7.28	-0.813	0.000	0.137
95.00	-36.30	-6.22	0.00	-231.65	0.00	231.65	2622.59	1311.30	4068.50	2037.27	8.16	-0.860	0.000	0.128
100.00	-34.77	-6.04	0.00	-200.55	0.00	200.55	2566.40	1283.20	3856.28	1931.01	9.09	-0.906	0.000	0.117
105.00	-33.28	-5.86	0.00	-170.34	0.00	170.34	2508.57	1254.28	3647.16	1826.29	10.06	-0.949	0.000	0.107
107.00	-32.69	-5.79	0.00	-158.62	0.00	158.62	2484.97	1242.49	3564.43	1784.86	10.46	-0.966	0.000	0.102
110.00	-31.48	-5.68	0.00	-141.24	0.00	141.24	2449.09	1224.55	3441.37	1723.24	11.08	-0.990	0.000	0.095
112.00	-30.68	-5.60	0.00	-129.89	0.00	129.89	1823.39	911.69	2573.73	1288.78	11.49	-1.005	0.000	0.118
115.00	-29.90	-5.50	0.00	-113.08	0.00	113.08	1799.96	899.98	2488.04	1245.87	12.13	-1.026	0.000	0.107
120.00	-28.64	-5.33	0.00	-85.57	0.00	85.57	1759.59	879.80	2346.51	1175.00	13.23	-1.064	0.000	0.089
125.00	-27.42	-5.15	0.00	-58.93	0.00	58.93	1717.59	858.79	2206.80	1105.04	14.36	-1.094	0.000	0.069
127.00	-17.65	-3.11	0.00	-48.63	0.00	48.63	1700.33	850.16	2151.49	1077.34	14.82	-1.103	0.000	0.056
130.00	-16.99	-3.01	0.00	-39.30	0.00	39.30	1673.94	836.97	2069.17	1036.12	15.52	-1.116	0.000	0.048
135.00	-15.91	-2.83	0.00	-24.26	0.00	24.26	1628.66	814.33	1933.84	968.36	16.70	-1.133	0.000	0.035
137.00	-8.68	-1.68	0.00	-18.60	0.00	18.60	1610.09	805.04	1880.41	941.60	17.17	-1.138	0.000	0.025
140.00	-8.10	-1.58	0.00	-13.56	0.00	13.56	1581.73	790.87	1801.05	901.87	17.89	-1.144	0.000	0.020
145.00	-7.17	-1.41	0.00	-5.65	0.00	5.65	1533.17	766.58	1671.06	836.77	19.09	-1.150	0.000	0.011
149.00	0.00	-1.27	0.00	0.00	0.00	0.00	1493.13	746.57	1569.22	785.78	20.06	-1.152	0.000	0.000

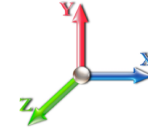
Seismic Segment Forces (Factored)

Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 21

Load Case: 1.2D + 1.0E						Iterations 20
Gust Response Factor	1.10			Sds	0.18	Ss 0.17
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.45	SA	0.04	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		1371.1	0.00	0.03	0.02	19.93	
10.00		1343.3	0.01	0.05	0.03	29.28	
15.00		1315.5	0.02	0.06	0.04	33.65	
18.00	Bot - Section 2	775.97	0.03	0.07	0.04	20.90	
20.00		956.99	0.03	0.07	0.04	26.42	
25.00	Top - Section 1	2356.3	0.05	0.07	0.04	67.94	
30.00		1072.5	0.08	0.07	0.04	31.90	
35.00		1048.7	0.10	0.07	0.04	32.06	
40.00		1024.9	0.14	0.07	0.03	32.12	
45.00		1001.0	0.17	0.07	0.03	31.91	
50.00		977.26	0.21	0.06	0.02	31.17	
55.00		953.44	0.26	0.05	0.02	29.53	
60.00		929.61	0.31	0.04	0.01	26.60	
62.00	Bot - Section 3	365.17	0.33	0.04	0.01	9.92	
65.00		998.08	0.36	0.03	0.01	24.32	
68.00	Top - Section 2	982.36	0.39	0.02	0.01	20.42	
70.00		296.24	0.42	0.01	0.01	5.32	
75.00		726.71	0.48	-0.01	0.01	6.94	
80.00		706.86	0.54	-0.03	0.01	-0.10	
85.00		687.00	0.62	-0.06	0.02	-6.73	
90.00		667.15	0.69	-0.08	0.03	-11.88	
95.00		647.29	0.77	-0.11	0.05	-14.71	
100.00		627.44	0.85	-0.12	0.07	-14.77	
105.00		607.58	0.94	-0.12	0.10	-11.95	
107.00	Bot - Section 4	237.47	0.97	-0.12	0.12	-3.98	
110.00		635.01	1.03	-0.10	0.15	-6.89	
112.00	Top - Section 3	416.19	1.07	-0.09	0.17	-2.46	
115.00		275.23	1.13	-0.05	0.20	0.83	
120.00		446.01	1.23	0.03	0.27	9.80	
125.00		430.12	1.33	0.16	0.36	19.81	
127.00	Appurtenance(s)	3154.0	1.37	0.23	0.40	180.20	
130.00		246.64	1.44	0.36	0.47	18.57	
135.00		398.36	1.55	0.64	0.61	43.74	
137.00	Appurtenance(s)	2464.4	1.60	0.77	0.67	308.26	
140.00		227.58	1.67	1.01	0.77	34.05	
145.00		366.59	1.79	1.49	0.96	71.43	
149.00	Appurtenance(s)	2468.4	1.89	1.98	1.14	580.14	
Totals:		34,205.0				1,673.7	Total Wind: 34,339.9

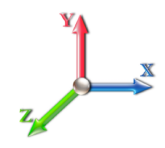
Calculated Forces

Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 22

Load Case: 1.2D + 1.0E								Iterations 20
Gust Response Factor 1.10				Sds 0.18		Ss 0.17		
Dead Load Factor 1.20		Seismic Load Factor 1.00		Sd1 0.10		S1 0.06		
Wind Load Factor 0.00		Structure Frequency (f1) 0.45		SA 0.04		Seismic Importance Factor 1.00		



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-47.27	-1.75	0.00	-202.47	0.00	202.47	5499.39	2749.69	13252.7	6636.23	0.00	0.00	0.00	0.039
5.00	-45.40	-1.74	0.00	-193.72	0.00	193.72	5429.06	2714.53	12818.7	6418.90	0.00	-0.01	0.039	
10.00	-43.56	-1.71	0.00	-185.04	0.00	185.04	5357.09	2678.54	12387.8	6203.11	0.02	-0.02	0.038	
15.00	-41.76	-1.68	0.00	-176.48	0.00	176.48	5283.48	2641.74	11960.1	5988.97	0.04	-0.02	0.037	
18.00	-40.69	-1.67	0.00	-171.43	0.00	171.43	5238.53	2619.26	11705.2	5861.33	0.06	-0.03	0.037	
20.00	-39.45	-1.64	0.00	-168.10	0.00	168.10	5208.23	2604.11	11536.0	5776.60	0.07	-0.03	0.037	
25.00	-36.40	-1.58	0.00	-159.89	0.00	159.89	4201.23	2100.61	9252.96	4633.35	0.11	-0.04	0.043	
30.00	-34.88	-1.55	0.00	-152.00	0.00	152.00	4145.44	2072.72	8928.09	4470.68	0.15	-0.05	0.042	
35.00	-33.40	-1.52	0.00	-144.25	0.00	144.25	4088.00	2044.00	8605.21	4309.00	0.21	-0.06	0.042	
40.00	-31.94	-1.49	0.00	-136.64	0.00	136.64	4028.93	2014.47	8284.56	4148.44	0.28	-0.07	0.041	
45.00	-30.51	-1.47	0.00	-129.17	0.00	129.17	3968.22	1984.11	7966.37	3989.11	0.36	-0.08	0.040	
50.00	-29.11	-1.44	0.00	-121.84	0.00	121.84	3905.86	1952.93	7650.88	3831.13	0.45	-0.09	0.039	
55.00	-27.74	-1.41	0.00	-114.65	0.00	114.65	3841.87	1920.93	7338.34	3674.63	0.55	-0.10	0.038	
60.00	-26.40	-1.39	0.00	-107.60	0.00	107.60	3776.23	1888.12	7028.98	3519.72	0.66	-0.11	0.038	
62.00	-25.87	-1.38	0.00	-104.83	0.00	104.83	3749.52	1874.76	6906.19	3458.23	0.70	-0.11	0.037	
65.00	-24.54	-1.35	0.00	-100.70	0.00	100.70	3708.96	1854.48	6723.05	3366.52	0.78	-0.12	0.037	
68.00	-23.22	-1.33	0.00	-96.64	0.00	96.64	2897.69	1448.84	5257.67	2632.74	0.86	-0.13	0.045	
70.00	-22.77	-1.33	0.00	-93.98	0.00	93.98	2878.95	1439.48	5167.56	2587.62	0.91	-0.13	0.044	
75.00	-21.68	-1.32	0.00	-87.33	0.00	87.33	2830.96	1415.48	4943.48	2475.42	1.06	-0.14	0.043	
80.00	-20.60	-1.33	0.00	-80.72	0.00	80.72	2781.33	1390.66	4721.30	2364.16	1.22	-0.16	0.042	
85.00	-19.55	-1.33	0.00	-74.09	0.00	74.09	2730.06	1365.03	4501.25	2253.97	1.39	-0.17	0.040	
90.00	-18.52	-1.33	0.00	-67.46	0.00	67.46	2677.14	1338.57	4283.57	2144.97	1.57	-0.18	0.038	
95.00	-17.52	-1.33	0.00	-60.82	0.00	60.82	2622.59	1311.30	4068.50	2037.27	1.77	-0.19	0.037	
100.00	-16.54	-1.33	0.00	-54.18	0.00	54.18	2566.40	1283.20	3856.28	1931.01	1.98	-0.21	0.035	
105.00	-15.58	-1.33	0.00	-47.54	0.00	47.54	2508.57	1254.28	3647.16	1826.29	2.20	-0.22	0.032	
107.00	-15.21	-1.33	0.00	-44.89	0.00	44.89	2484.97	1242.49	3564.43	1784.86	2.29	-0.22	0.031	
110.00	-14.31	-1.32	0.00	-40.91	0.00	40.91	2449.09	1224.55	3441.37	1723.24	2.44	-0.23	0.030	
112.00	-13.72	-1.32	0.00	-38.26	0.00	38.26	1823.39	911.69	2573.73	1288.78	2.53	-0.23	0.037	
115.00	-13.25	-1.32	0.00	-34.29	0.00	34.29	1799.96	899.98	2488.04	1245.87	2.68	-0.24	0.035	
120.00	-12.49	-1.31	0.00	-27.68	0.00	27.68	1759.59	879.80	2346.51	1175.00	2.94	-0.25	0.031	
125.00	-11.75	-1.29	0.00	-21.12	0.00	21.12	1717.59	858.79	2206.80	1105.04	3.21	-0.26	0.026	
127.00	-7.87	-1.09	0.00	-18.54	0.00	18.54	1700.33	850.16	2151.49	1077.34	3.32	-0.27	0.022	
130.00	-7.48	-1.07	0.00	-15.26	0.00	15.26	1673.94	836.97	2069.17	1036.12	3.49	-0.27	0.019	
135.00	-6.86	-1.03	0.00	-9.89	0.00	9.89	1628.66	814.33	1933.84	968.36	3.78	-0.28	0.014	
137.00	-3.84	-0.70	0.00	-7.84	0.00	7.84	1610.09	805.04	1880.41	941.60	3.89	-0.28	0.011	
140.00	-3.52	-0.67	0.00	-5.72	0.00	5.72	1581.73	790.87	1801.05	901.87	4.07	-0.28	0.009	
145.00	-3.00	-0.60	0.00	-2.38	0.00	2.38	1533.17	766.58	1671.06	836.77	4.37	-0.28	0.005	
149.00	0.00	-0.58	0.00	0.00	0.00	0.00	1493.13	746.57	1569.22	785.78	4.61	-0.29	0.000	

Seismic Segment Forces (Factored)

Structure: CT11559-A-SBA
Site Name: Thompson 1, CT
Height: 149.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

5/6/2022



Page: 23

Load Case: 0.9D + 1.0E

Iterations 20

Gust Response Factor 1.10

Sds 0.18

Ss 0.17

Dead Load Factor 0.90 **Seismic Load Factor** 1.00

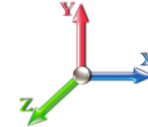
Sd1 0.10

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.45

SA 0.04

Seismic Importance Factor 1.00



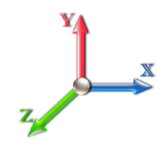
Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1371.1	0.00	0.03	0.02	19.93	
10.00		1343.3	0.01	0.05	0.03	29.28	
15.00		1315.5	0.02	0.06	0.04	33.65	
18.00	Bot - Section 2	775.97	0.03	0.07	0.04	20.90	
20.00		956.99	0.03	0.07	0.04	26.42	
25.00	Top - Section 1	2356.3	0.05	0.07	0.04	67.94	
30.00		1072.5	0.08	0.07	0.04	31.90	
35.00		1048.7	0.10	0.07	0.04	32.06	
40.00		1024.9	0.14	0.07	0.03	32.12	
45.00		1001.0	0.17	0.07	0.03	31.91	
50.00		977.26	0.21	0.06	0.02	31.17	
55.00		953.44	0.26	0.05	0.02	29.53	
60.00		929.61	0.31	0.04	0.01	26.60	
62.00	Bot - Section 3	365.17	0.33	0.04	0.01	9.92	
65.00		998.08	0.36	0.03	0.01	24.32	
68.00	Top - Section 2	982.36	0.39	0.02	0.01	20.42	
70.00		296.24	0.42	0.01	0.01	5.32	
75.00		726.71	0.48	-0.01	0.01	6.94	
80.00		706.86	0.54	-0.03	0.01	-0.10	
85.00		687.00	0.62	-0.06	0.02	-6.73	
90.00		667.15	0.69	-0.08	0.03	-11.88	
95.00		647.29	0.77	-0.11	0.05	-14.71	
100.00		627.44	0.85	-0.12	0.07	-14.77	
105.00		607.58	0.94	-0.12	0.10	-11.95	
107.00	Bot - Section 4	237.47	0.97	-0.12	0.12	-3.98	
110.00		635.01	1.03	-0.10	0.15	-6.89	
112.00	Top - Section 3	416.19	1.07	-0.09	0.17	-2.46	
115.00		275.23	1.13	-0.05	0.20	0.83	
120.00		446.01	1.23	0.03	0.27	9.80	
125.00		430.12	1.33	0.16	0.36	19.81	
127.00	Appurtenance(s)	3154.0	1.37	0.23	0.40	180.20	
130.00		246.64	1.44	0.36	0.47	18.57	
135.00		398.36	1.55	0.64	0.61	43.74	
137.00	Appurtenance(s)	2464.4	1.60	0.77	0.67	308.26	
140.00		227.58	1.67	1.01	0.77	34.05	
145.00		366.59	1.79	1.49	0.96	71.43	
149.00	Appurtenance(s)	2468.4	1.89	1.98	1.14	580.14	
Totals:		34,205.0				1,673.7	Total Wind: 34,339.9

Calculated Forces

Structure: CT11559-A-SBA **Code:** TIA-222-G **5/6/2022**
Site Name: Thompson 1, CT **Exposure:** C
Height: 149.00 (ft) **Crest Height:** 0.00
Base Elev: 0.000 (ft) **Site Class:** D - Stiff Soil
Gh: 1.1 **Topography:** 1 **Struct Class:** II **Page:** 24



Load Case: 0.9D + 1.0E						Iterations 20
Gust Response Factor 1.10				Sds 0.18	Ss 0.17	
Dead Load Factor 0.90		Seismic Load Factor 1.00		Sd1 0.10	S1 0.06	
Wind Load Factor 0.00		Structure Frequency (f1) 0.45		SA 0.04	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	-35.46	-1.75	0.00	-200.87	0.00	200.87	5499.39	2749.69	13252.7	6636.23	0.00	0.00	0.00	0.037
5.00	-34.05	-1.73	0.00	-192.13	0.00	192.13	5429.06	2714.53	12818.7	6418.90	0.00	-0.01	0.036	
10.00	-32.67	-1.71	0.00	-183.46	0.00	183.46	5357.09	2678.54	12387.8	6203.11	0.02	-0.02	0.036	
15.00	-31.32	-1.68	0.00	-174.91	0.00	174.91	5283.48	2641.74	11960.1	5988.97	0.04	-0.02	0.035	
18.00	-30.52	-1.66	0.00	-169.88	0.00	169.88	5238.53	2619.26	11705.2	5861.33	0.05	-0.03	0.035	
20.00	-29.59	-1.64	0.00	-166.56	0.00	166.56	5208.23	2604.11	11536.0	5776.60	0.07	-0.03	0.035	
25.00	-27.30	-1.57	0.00	-158.38	0.00	158.38	4201.23	2100.61	9252.96	4633.35	0.11	-0.04	0.041	
30.00	-26.16	-1.54	0.00	-150.53	0.00	150.53	4145.44	2072.72	8928.09	4470.68	0.15	-0.05	0.040	
35.00	-25.05	-1.51	0.00	-142.83	0.00	142.83	4088.00	2044.00	8605.21	4309.00	0.21	-0.06	0.039	
40.00	-23.95	-1.48	0.00	-135.26	0.00	135.26	4028.93	2014.47	8284.56	4148.44	0.28	-0.07	0.039	
45.00	-22.88	-1.45	0.00	-127.85	0.00	127.85	3968.22	1984.11	7966.37	3989.11	0.36	-0.08	0.038	
50.00	-21.83	-1.43	0.00	-120.57	0.00	120.57	3905.86	1952.93	7650.88	3831.13	0.44	-0.09	0.037	
55.00	-20.81	-1.40	0.00	-113.45	0.00	113.45	3841.87	1920.93	7338.34	3674.63	0.54	-0.10	0.036	
60.00	-19.80	-1.37	0.00	-106.46	0.00	106.46	3776.23	1888.12	7028.98	3519.72	0.65	-0.11	0.035	
62.00	-19.40	-1.36	0.00	-103.72	0.00	103.72	3749.52	1874.76	6906.19	3458.23	0.70	-0.11	0.035	
65.00	-18.40	-1.34	0.00	-99.63	0.00	99.63	3708.96	1854.48	6723.05	3366.52	0.77	-0.12	0.035	
68.00	-17.42	-1.32	0.00	-95.61	0.00	95.61	2897.69	1448.84	5257.67	2632.74	0.85	-0.13	0.042	
70.00	-17.08	-1.31	0.00	-92.97	0.00	92.97	2878.95	1439.48	5167.56	2587.62	0.90	-0.13	0.042	
75.00	-16.26	-1.31	0.00	-86.40	0.00	86.40	2830.96	1415.48	4943.48	2475.42	1.05	-0.14	0.041	
80.00	-15.45	-1.31	0.00	-79.86	0.00	79.86	2781.33	1390.66	4721.30	2364.16	1.20	-0.16	0.039	
85.00	-14.66	-1.31	0.00	-73.31	0.00	73.31	2730.06	1365.03	4501.25	2253.97	1.37	-0.17	0.038	
90.00	-13.89	-1.31	0.00	-66.75	0.00	66.75	2677.14	1338.57	4283.57	2144.97	1.56	-0.18	0.036	
95.00	-13.14	-1.31	0.00	-60.20	0.00	60.20	2622.59	1311.30	4068.50	2037.27	1.75	-0.19	0.035	
100.00	-12.40	-1.31	0.00	-53.64	0.00	53.64	2566.40	1283.20	3856.28	1931.01	1.96	-0.20	0.033	
105.00	-11.69	-1.31	0.00	-47.08	0.00	47.08	2508.57	1254.28	3647.16	1826.29	2.18	-0.22	0.030	
107.00	-11.40	-1.31	0.00	-44.45	0.00	44.45	2484.97	1242.49	3564.43	1784.86	2.27	-0.22	0.029	
110.00	-10.73	-1.31	0.00	-40.52	0.00	40.52	2449.09	1224.55	3441.37	1723.24	2.41	-0.23	0.028	
112.00	-10.29	-1.31	0.00	-37.90	0.00	37.90	1823.39	911.69	2573.73	1288.78	2.51	-0.23	0.035	
115.00	-9.94	-1.31	0.00	-33.98	0.00	33.98	1799.96	899.98	2488.04	1245.87	2.66	-0.24	0.033	
120.00	-9.37	-1.30	0.00	-27.43	0.00	27.43	1759.59	879.80	2346.51	1175.00	2.91	-0.25	0.029	
125.00	-8.81	-1.28	0.00	-20.95	0.00	20.95	1717.59	858.79	2206.80	1105.04	3.18	-0.26	0.024	
127.00	-5.90	-1.08	0.00	-18.39	0.00	18.39	1700.33	850.16	2151.49	1077.34	3.29	-0.26	0.021	
130.00	-5.61	-1.06	0.00	-15.14	0.00	15.14	1673.94	836.97	2069.17	1036.12	3.46	-0.27	0.018	
135.00	-5.14	-1.02	0.00	-9.82	0.00	9.82	1628.66	814.33	1933.84	968.36	3.74	-0.27	0.013	
137.00	-2.88	-0.70	0.00	-7.79	0.00	7.79	1610.09	805.04	1880.41	941.60	3.86	-0.28	0.010	
140.00	-2.64	-0.66	0.00	-5.69	0.00	5.69	1581.73	790.87	1801.05	901.87	4.03	-0.28	0.008	
145.00	-2.25	-0.59	0.00	-2.36	0.00	2.36	1533.17	766.58	1671.06	836.77	4.33	-0.28	0.004	
149.00	0.00	-0.58	0.00	0.00	0.00	0.00	1493.13	746.57	1569.22	785.78	4.56	-0.28	0.000	

Wind Loading - Shaft

Structure: CT11559-A-SBA
Site Name: Thompson 1, CT
Height: 149.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

5/6/2022

Page: 25



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 21



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	276.46	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	270.96	0.650	0.000	5.00	24.740	16.08	131.6	0.0	1371.1
10.00		1.00	0.85	7.442	8.19	265.45	0.650	0.000	5.00	24.242	15.76	129.0	0.0	1343.3
15.00		1.00	0.85	7.442	8.19	259.94	0.650	0.000	5.00	23.744	15.43	126.3	0.0	1315.5
18.00	Bot - Section 2	1.00	0.88	7.723	8.50	261.44	0.650	0.000	3.00	14.008	9.11	77.3	0.0	776.0
20.00		1.00	0.90	7.896	8.69	262.09	0.650	0.000	2.00	9.366	6.09	52.9	0.0	957.0
25.00	Top - Section 1	1.00	0.95	8.276	9.10	262.51	0.650	0.000	5.00	23.066	14.99	136.5	0.0	2356.3
30.00		1.00	0.98	8.600	9.46	265.45	0.650	0.000	5.00	22.568	14.67	138.8	0.0	1072.6
35.00		1.00	1.01	8.883	9.77	263.77	0.650	0.000	5.00	22.071	14.35	140.2	0.0	1048.7
40.00		1.00	1.04	9.137	10.05	261.40	0.650	0.000	5.00	21.573	14.02	140.9	0.0	1024.9
45.00		1.00	1.07	9.366	10.30	258.49	0.650	0.000	5.00	21.075	13.70	141.1	0.0	1001.1
50.00		1.00	1.09	9.576	10.53	255.12	0.650	0.000	5.00	20.577	13.38	140.9	0.0	977.3
55.00		1.00	1.12	9.770	10.75	251.38	0.650	0.000	5.00	20.079	13.05	140.3	0.0	953.4
60.00		1.00	1.14	9.951	10.95	247.33	0.650	0.000	5.00	19.582	12.73	139.3	0.0	929.6
62.00	Bot - Section 3	1.00	1.14	10.020	11.02	245.63	0.650	0.000	2.00	7.693	5.00	55.1	0.0	365.2
65.00		1.00	1.16	10.120	11.13	243.00	0.650	0.000	3.00	11.549	7.51	83.6	0.0	998.1
68.00	Top - Section 2	1.00	1.17	10.217	11.24	240.28	0.650	0.000	3.00	11.370	7.39	83.1	0.0	982.4
70.00		1.00	1.17	10.279	11.31	241.87	0.650	0.000	2.00	7.480	4.86	55.0	0.0	296.2
75.00		1.00	1.19	10.430	11.47	237.11	0.650	0.000	5.00	18.353	11.93	136.9	0.0	726.7
80.00		1.00	1.21	10.572	11.63	232.16	0.650	0.000	5.00	17.855	11.61	135.0	0.0	706.9
85.00		1.00	1.22	10.708	11.78	227.04	0.650	0.000	5.00	17.357	11.28	132.9	0.0	687.0
90.00		1.00	1.24	10.838	11.92	221.76	0.650	0.000	5.00	16.859	10.96	130.6	0.0	667.1
95.00		1.00	1.25	10.962	12.06	216.35	0.650	0.000	5.00	16.361	10.63	128.2	0.0	647.3
100.00		1.00	1.27	11.081	12.19	210.80	0.650	0.000	5.00	15.863	10.31	125.7	0.0	627.4
105.00		1.00	1.28	11.195	12.31	205.13	0.650	0.000	5.00	15.366	9.99	123.0	0.0	607.6
107.00	Bot - Section 4	1.00	1.28	11.240	12.36	202.83	0.650	0.000	2.00	6.007	3.90	48.3	0.0	237.5
110.00		1.00	1.29	11.305	12.44	199.35	0.650	0.000	3.00	8.988	5.84	72.7	0.0	635.0
112.00	Top - Section 3	1.00	1.30	11.348	12.48	197.00	0.650	0.000	2.00	5.892	3.83	47.8	0.0	416.2
115.00		1.00	1.30	11.412	12.55	196.36	0.650	0.000	3.00	8.689	5.65	70.9	0.0	275.2
120.00		1.00	1.32	11.514	12.67	190.39	0.650	0.000	5.00	14.084	9.15	115.9	0.0	446.0
125.00		1.00	1.33	11.614	12.78	184.33	0.650	0.000	5.00	13.586	8.83	112.8	0.0	430.1
127.00	Appurtenance(s)	1.00	1.33	11.653	12.82	181.88	0.650	0.000	2.00	5.295	3.44	44.1	0.0	167.6
130.00		1.00	1.34	11.710	12.88	178.18	0.650	0.000	3.00	7.793	5.07	65.2	0.0	246.6
135.00		1.00	1.35	11.803	12.98	171.96	0.650	0.000	5.00	12.590	8.18	106.3	0.0	398.4
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	169.44	0.650	0.000	2.00	4.897	3.18	41.5	0.0	154.9
140.00		1.00	1.36	11.894	13.08	165.65	0.650	0.000	3.00	7.196	4.68	61.2	0.0	227.6
145.00		1.00	1.37	11.982	13.18	159.28	0.650	0.000	5.00	11.595	7.54	99.3	0.0	366.6
149.00	Appurtenance(s)	1.00	1.38	12.051	13.26	154.13	0.650	0.000	4.00	8.917	5.80	76.8	0.0	281.8
Totals:									149.00			3,787.0		26,722.3

Discrete Appurtenance Forces

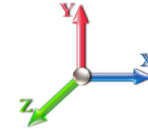
Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 26

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 21

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	149.00	AIR6419 B41	3	12.051	13.256	0.66	0.90	12.46	249.90	0.000	0.000	165.13	0.00	0.00	
2	149.00	HRK12 (Handrail Kit)	1	12.051	13.256	0.56	0.75	3.80	261.72	0.000	0.000	50.33	0.00	0.00	
3	149.00	(3) Stabilizer Kit (4' FW)	1	12.051	13.256	0.56	0.75	2.08	140.00	0.000	0.000	27.59	0.00	0.00	
4	149.00	APXVAARR24_43-U-NA2	3	12.051	13.256	0.63	0.90	38.25	384.00	0.000	0.000	507.10	0.00	0.00	
5	149.00	T-Arms	1	12.051	13.256	0.56	0.75	8.44	500.00	0.000	0.000	111.85	0.00	0.00	
6	149.00	Ericsson KRY 112 144/1	3	12.051	13.256	0.63	0.90	0.77	33.00	0.000	0.000	10.27	0.00	0.00	
7	149.00	Ericsson 4449 B71 + B85	3	12.051	13.256	0.60	0.90	3.56	219.60	0.000	0.000	47.24	0.00	0.00	
8	149.00	Ericsson 4460 B25 + B66	3	12.051	13.256	0.60	0.90	5.16	327.00	0.000	0.000	68.34	0.00	0.00	
9	149.00	VV-65A-R1	3	12.051	13.256	0.68	0.90	12.15	71.43	0.000	0.000	161.04	0.00	0.00	
10	137.00	JMA Wireless	6	11.840	13.024	0.70	0.80	41.22	360.00	0.000	0.000	536.81	0.00	0.00	
11	137.00	Commscope	3	11.840	13.024	0.40	0.80	1.60	58.20	0.000	0.000	20.79	0.00	0.00	
12	137.00	RCMDC-6627-PF-48	1	11.840	13.024	1.00	1.00	4.06	32.00	0.000	0.000	52.88	0.00	0.00	
13	137.00	Samsung RFV01U-D1A	3	11.840	13.024	0.54	0.80	3.02	253.20	0.000	0.000	39.37	0.00	0.00	
14	137.00	Samsung MT6407-77A	3	11.840	13.024	0.56	0.80	7.88	261.30	0.000	0.000	102.62	0.00	0.00	
15	137.00	91900314	3	11.840	13.024	1.00	1.00	0.00	84.00	0.000	0.000	0.00	0.00	0.00	
16	137.00	Samsung RFV01U-D2A	3	11.840	13.024	0.54	0.80	3.02	210.90	0.000	0.000	39.37	0.00	0.00	
17	137.00	T-Arms	3	11.840	13.024	0.56	0.75	13.50	1050.00	0.000	0.000	175.82	0.00	0.00	
18	127.00	DC9-48-60-24-8C-EV	1	11.653	12.818	1.00	1.00	1.14	26.20	0.000	0.000	14.61	0.00	0.00	
19	127.00	OPA65R-BU8DA	3	11.653	12.818	0.58	0.80	31.56	229.50	0.000	0.000	404.58	0.00	0.00	
20	127.00	DMP65R-BU8DA	3	11.653	12.818	0.58	0.80	31.18	287.10	0.000	0.000	399.66	0.00	0.00	
21	127.00	Horizontal Pipe	3	11.653	12.818	0.56	0.75	5.01	137.25	0.000	0.000	64.22	0.00	0.00	
22	127.00	RRUS 4478 B14	3	11.653	12.818	0.54	0.80	2.65	178.20	0.000	0.000	34.01	0.00	0.00	
23	127.00	4449 B5/B12	3	11.653	12.818	0.54	0.80	3.17	213.00	0.000	0.000	40.60	0.00	0.00	
24	127.00	RRUS 8843 B2 B66A	3	11.653	12.818	0.54	0.80	2.64	216.00	0.000	0.000	33.80	0.00	0.00	
25	127.00	T-Arms	3	11.653	12.818	0.56	0.75	13.50	1050.00	0.000	0.000	173.04	0.00	0.00	
26	127.00	(3) Stabilizer Kit	1	11.653	12.818	0.56	0.75	3.43	180.00	0.000	0.000	43.98	0.00	0.00	
27	127.00	7770.00	6	11.653	12.818	0.58	0.80	19.27	210.00	0.000	0.000	247.03	0.00	0.00	
28	127.00	Powerwave LGP21401	12	11.653	12.818	0.80	0.80	12.38	169.20	0.000	0.000	158.74	0.00	0.00	
29	127.00	Kathrein 860 10025 RET	12	11.653	12.818	0.80	0.80	1.34	13.20	0.000	0.000	17.23	0.00	0.00	
30	127.00	Powerwave LGP13519	6	11.653	12.818	0.80	0.80	1.63	31.80	0.000	0.000	20.92	0.00	0.00	
31	127.00	Raycap DC6-48-60-18-8F	1	11.653	12.818	1.00	1.00	0.92	31.80	0.000	0.000	11.79	0.00	0.00	
32	127.00	Powerwave 1001983 Bias	3	11.653	12.818	0.80	0.80	0.50	13.20	0.000	0.000	6.46	0.00	0.00	
Totals:									7,482.70						3,787.22

Total Applied Force Summary

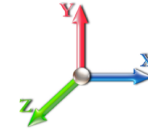
Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 27

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 21

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		131.64	1560.07	0.00	0.00
10.00		128.99	1532.27	0.00	0.00
15.00		126.34	1504.48	0.00	0.00
18.00		77.35	889.34	0.00	0.00
20.00		52.88	1032.57	0.00	0.00
25.00		136.49	2545.28	0.00	0.00
30.00		138.77	1261.52	0.00	0.00
35.00		140.19	1237.69	0.00	0.00
40.00		140.93	1213.87	0.00	0.00
45.00		141.13	1190.04	0.00	0.00
50.00		140.89	1166.21	0.00	0.00
55.00		140.27	1142.39	0.00	0.00
60.00		139.32	1118.56	0.00	0.00
62.00		55.12	440.75	0.00	0.00
65.00		83.57	1111.45	0.00	0.00
68.00		83.06	1095.73	0.00	0.00
70.00		54.98	371.82	0.00	0.00
75.00		136.86	915.66	0.00	0.00
80.00		134.97	895.81	0.00	0.00
85.00		132.89	875.95	0.00	0.00
90.00		130.64	856.10	0.00	0.00
95.00		128.23	836.24	0.00	0.00
100.00		125.68	816.39	0.00	0.00
105.00		122.99	796.53	0.00	0.00
107.00		48.27	313.05	0.00	0.00
110.00		72.65	748.38	0.00	0.00
112.00		47.81	491.77	0.00	0.00
115.00		70.90	388.60	0.00	0.00
120.00		115.95	634.96	0.00	0.00
125.00		112.82	619.07	0.00	0.00
127.00	(63) attachments	1714.77	3229.63	0.00	0.00
130.00		65.25	322.24	0.00	0.00
135.00		106.26	524.36	0.00	0.00
137.00	(25) attachments	1009.12	2514.89	0.00	0.00
140.00		61.20	265.56	0.00	0.00
145.00		99.34	429.89	0.00	0.00
149.00	(21) attachments	1225.73	2506.46	0.00	0.00
	Totals:	7,574.23	39,395.61	0.00	0.00

Calculated Forces

Structure: CT11559-A-SBA
Site Name: Thompson 1, CT
Height: 149.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

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

5/6/2022
 Page: 28



Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 21

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	-39.39	-7.59	0.00	-812.50	0.00	812.50	5499.39	2749.69	13252.7	6636.23	0.00	0.000	0.000	0.130
5.00	-37.83	-7.47	0.00	-774.57	0.00	774.57	5429.06	2714.53	12818.7	6418.90	0.02	-0.032	0.000	0.128
10.00	-36.29	-7.36	0.00	-737.20	0.00	737.20	5357.09	2678.54	12387.8	6203.11	0.07	-0.064	0.000	0.126
15.00	-34.79	-7.25	0.00	-700.38	0.00	700.38	5283.48	2641.74	11960.1	5988.97	0.15	-0.097	0.000	0.124
18.00	-33.89	-7.18	0.00	-678.63	0.00	678.63	5238.53	2619.26	11705.2	5861.33	0.22	-0.117	0.000	0.122
20.00	-32.86	-7.14	0.00	-664.26	0.00	664.26	5208.23	2604.11	11536.0	5776.60	0.27	-0.131	0.000	0.121
25.00	-30.31	-7.02	0.00	-628.55	0.00	628.55	4201.23	2100.61	9252.96	4633.35	0.43	-0.164	0.000	0.143
30.00	-29.04	-6.89	0.00	-593.47	0.00	593.47	4145.44	2072.72	8928.09	4470.68	0.62	-0.198	0.000	0.140
35.00	-27.80	-6.77	0.00	-559.02	0.00	559.02	4088.00	2044.00	8605.21	4309.00	0.84	-0.236	0.000	0.137
40.00	-26.58	-6.64	0.00	-525.19	0.00	525.19	4028.93	2014.47	8284.56	4148.44	1.11	-0.274	0.000	0.133
45.00	-25.39	-6.51	0.00	-492.01	0.00	492.01	3968.22	1984.11	7966.37	3989.11	1.42	-0.312	0.000	0.130
50.00	-24.22	-6.38	0.00	-459.48	0.00	459.48	3905.86	1952.93	7650.88	3831.13	1.77	-0.351	0.000	0.126
55.00	-23.08	-6.24	0.00	-427.60	0.00	427.60	3841.87	1920.93	7338.34	3674.63	2.16	-0.390	0.000	0.122
60.00	-21.96	-6.11	0.00	-396.39	0.00	396.39	3776.23	1888.12	7028.98	3519.72	2.59	-0.428	0.000	0.118
62.00	-21.51	-6.06	0.00	-384.18	0.00	384.18	3749.52	1874.76	6906.19	3458.23	2.77	-0.444	0.000	0.117
65.00	-20.40	-5.97	0.00	-366.01	0.00	366.01	3708.96	1854.48	6723.05	3366.52	3.06	-0.468	0.000	0.114
68.00	-19.30	-5.89	0.00	-348.10	0.00	348.10	2897.69	1448.84	5257.67	2632.74	3.36	-0.491	0.000	0.139
70.00	-18.93	-5.84	0.00	-336.33	0.00	336.33	2878.95	1439.48	5167.56	2587.62	3.57	-0.507	0.000	0.137
75.00	-18.01	-5.71	0.00	-307.14	0.00	307.14	2830.96	1415.48	4943.48	2475.42	4.12	-0.551	0.000	0.130
80.00	-17.11	-5.57	0.00	-278.61	0.00	278.61	2781.33	1390.66	4721.30	2364.16	4.72	-0.595	0.000	0.124
85.00	-16.23	-5.44	0.00	-250.74	0.00	250.74	2730.06	1365.03	4501.25	2253.97	5.37	-0.637	0.000	0.117
90.00	-15.37	-5.31	0.00	-223.52	0.00	223.52	2677.14	1338.57	4283.57	2144.97	6.06	-0.679	0.000	0.110
95.00	-14.54	-5.19	0.00	-196.94	0.00	196.94	2622.59	1311.30	4068.50	2037.27	6.79	-0.719	0.000	0.102
100.00	-13.72	-5.06	0.00	-171.01	0.00	171.01	2566.40	1283.20	3856.28	1931.01	7.57	-0.758	0.000	0.094
105.00	-12.92	-4.93	0.00	-145.72	0.00	145.72	2508.57	1254.28	3647.16	1826.29	8.38	-0.795	0.000	0.085
107.00	-12.61	-4.88	0.00	-135.85	0.00	135.85	2484.97	1242.49	3564.43	1784.86	8.72	-0.809	0.000	0.081
110.00	-11.86	-4.80	0.00	-121.21	0.00	121.21	2449.09	1224.55	3441.37	1723.24	9.23	-0.830	0.000	0.075
112.00	-11.37	-4.75	0.00	-111.60	0.00	111.60	1823.39	911.69	2573.73	1288.78	9.58	-0.843	0.000	0.093
115.00	-10.98	-4.68	0.00	-97.35	0.00	97.35	1799.96	899.98	2488.04	1245.87	10.12	-0.861	0.000	0.084
120.00	-10.34	-4.56	0.00	-73.96	0.00	73.96	1759.59	879.80	2346.51	1175.00	11.04	-0.893	0.000	0.069
125.00	-9.72	-4.44	0.00	-51.16	0.00	51.16	1717.59	858.79	2206.80	1105.04	11.99	-0.919	0.000	0.052
127.00	-6.52	-2.67	0.00	-42.28	0.00	42.28	1700.33	850.16	2151.49	1077.34	12.38	-0.928	0.000	0.043
130.00	-6.20	-2.60	0.00	-34.26	0.00	34.26	1673.94	836.97	2069.17	1036.12	12.96	-0.939	0.000	0.037
135.00	-5.68	-2.49	0.00	-21.24	0.00	21.24	1628.66	814.33	1933.84	968.36	13.95	-0.954	0.000	0.025
137.00	-3.18	-1.44	0.00	-16.26	0.00	16.26	1610.09	805.04	1880.41	941.60	14.36	-0.958	0.000	0.019
140.00	-2.91	-1.37	0.00	-11.94	0.00	11.94	1581.73	790.87	1801.05	901.87	14.96	-0.963	0.000	0.015
145.00	-2.49	-1.27	0.00	-5.07	0.00	5.07	1533.17	766.58	1671.06	836.77	15.97	-0.969	0.000	0.008
149.00	0.00	-1.23	0.00	0.00	0.00	0.00	1493.13	746.57	1569.22	785.78	16.78	-0.970	0.000	0.000

Final Analysis Summary

Structure: CT11559-A-SBA	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 29

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 101 mph Wind	34.4	0.00	47.23	0.00	0.00	3698.90
0.9D + 1.6W 101 mph Wind	34.4	0.00	35.41	0.00	0.00	3671.65
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.3	0.00	78.24	0.00	0.00	982.52
1.2D + 1.0E	1.8	0.00	47.27	0.00	0.00	202.47
0.9D + 1.0E	1.7	0.00	35.46	0.00	0.00	200.87
1.0D + 1.0W 60 mph Wind	7.6	0.00	39.39	0.00	0.00	812.50

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 101 mph Wind	-35.94	-31.90	0.00	-2863.7	0.00	-2863.7	4201.23	2100.6	9252.96	4633.35	25.00	0.627
0.9D + 1.6W 101 mph Wind	-26.85	-31.76	0.00	-2838.2	0.00	-2838.2	4201.23	2100.6	9252.96	4633.35	25.00	0.619
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-64.05	-8.59	0.00	-757.50	0.00	-757.50	4201.23	2100.6	9252.96	4633.35	25.00	0.179
1.2D + 1.0E	-23.22	-1.33	0.00	-96.64	0.00	-96.64	2897.69	1448.8	5257.67	2632.74	68.00	0.045
0.9D + 1.0E	-17.42	-1.32	0.00	-95.61	0.00	-95.61	2897.69	1448.8	5257.67	2632.74	68.00	0.042
1.0D + 1.0W 60 mph Wind	-30.31	-7.02	0.00	-628.55	0.00	-628.55	4201.23	2100.6	9252.96	4633.35	25.00	0.143

Base Plate Summary

Structure: CT11559-A-SB	Code: TIA-222-G	5/6/2022
Site Name: Thompson 1, CT	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 30

Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 66.00
Moment (kip-ft): 4056.00	Width (in): 72.00	Number Bolts: 18.00
Axial (kip): 38.00	Style: Round	Bolt Type: 2.00" F1554 105
Shear (kip): 36.00	Polygon Sides: 0.00	Bolt Diameter (in): 2.00
Analysis (1.2D + 1.6W)	Clip Length (in): 0.00	Yield (ksi): 105.00
Moment (kip-ft): 3698.90	Effective Len (in): 16.22	Ultimate (ksi): 125.00
Axial (kip): 47.23	Moment (kip-in): 533.48	Arrangement: Radial
Shear (kip): 34.40	Allow Stress (ksi): 67.50	Cluster Dist (in): 0.00
	Applied Stress (ksi): 26.32	Start Angle (deg): 0.00
	Stress Ratio: 0.39	Compression
		Force (kip): 153.80
		Allowable (kip): 250.00
		Ratio: 0.63
		Tension
		Force (kip): 145.10
		Allowable (kip): 250.00
		Ratio: 0.60



Monopole Mat Foundation Design

Date

5/6/2022

Customer Name:	T-Mobile	TIA Standard:	TIA-222-G
Site Name:		Structure Height (Ft.):	149
Site Number:	CT11559-A-SBA	Engineer Name:	H. You
Engr. Number:	128783	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	47.2	Shear Force (Kips):	34.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3698.9

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	4.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.50
Length of Pad (ft.):	31	Width of Pad (ft.):	31
Final Length of pad (ft)	31.0	Final width of pad (ft):	31.0

Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	56	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

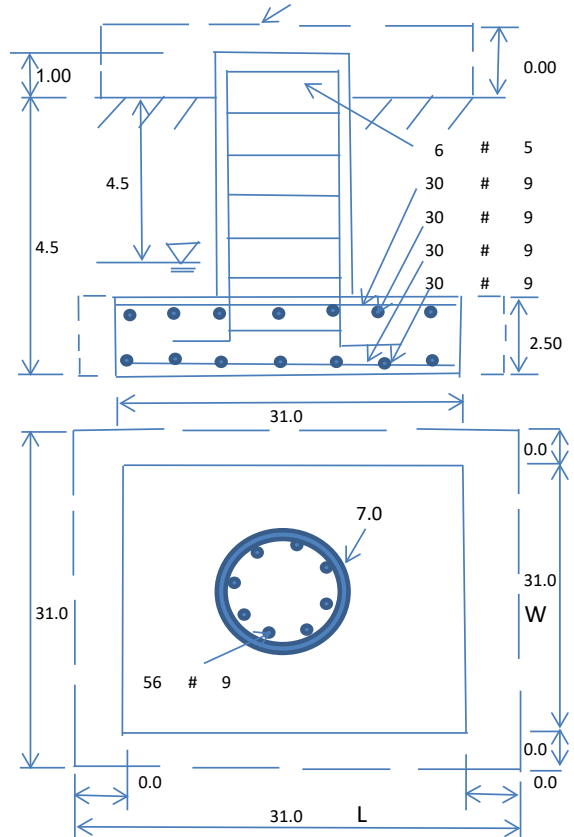
Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	4.5	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	10400	Ultimate Skin Friction:	175	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	1845.03	Total Dry Soil Weight (Kips):	221.40
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	221.40	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2517.95	Total Dry Concrete Weight (Kips):	377.69
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	377.69	Total Vertical Load on Base (Kips):	646.30

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	1781	<	Allowable Factored Soil Bearing (psf):	7800	0.23	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	9089.0	>	Design Factored Momont (kips-ft):	3888	0.43	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.34					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):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	8863.4	> Design Factored Moment (Mu, Kips-F	3802.1	0.43	OK!
Calculated Shear Capacity (Kips):	663.6	> Design Factored Shear (Kips):	34.4	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	3024.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7274.1	> Design Factored Axial Load (Pu Kips):	47.2	0.01	OK!
Moment & Axial Strength Combination:	0.43	OK! Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.010	Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:					
One-Way Design Shear Capacity (L-Direction, Kips):	808.0	> One-Way Factored Shear (L-D. Kips):	339.4	0.42	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	808.0	> One-Way Factored Shear (W-D., Kips)	339.4	0.42	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	845.4	> One-Way Factored Shear (C-C, Kips):	326.3	0.39	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0031	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0031		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3441.0	> Moment at Bottom (L-Dir. K-Ft):	2330.1	0.68	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3441.0	> Moment at Bottom (W-Dir. K-Ft):	2330.1	0.68	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4831.9	> Moment at Bottom (C-C Dir. K-Ft):	3295.3	0.68	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0031	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0031		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	3441.0	> Moment at the top (L-Dir K-Ft):	704.6	0.20	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	3441.0	> Moment at the top (W-Dir K-Ft):	704.6	0.20	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4831.9	> Moment at the top (C-C Dir. K-Ft):	657.7	0.14	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:					
Moment transferred by punching shear:	1479.6	k-ft. Max. factored shear stress $v_{u,CD}$:		4.3	Psi
Max. factored shear stress $v_{u,AB}$:	12.6	Psi Factored shear Strength ϕv_n :		164.3	Psi
Max. factored shear stress v_u :	12.6	Psi Check Usage of Punching Shear Capacity:		0.08	OK!

Exhibit E

Mount Analysis



Tower Engineering Solutions

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

Antenna Mount Analysis Report

Existing Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT11559-A-SBA

Customer Site Name: Thompson 1, CT

Carrier Name: T-Mobile (App#: 193378, v1)

Carrier Site ID / Name: CTNL191D / Thompson CT

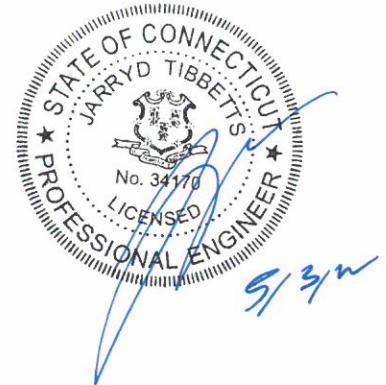
Site Location: 39 Rich Road

North Grosvenordale, Connecticut

Windham County

Latitude: 42.011550

Longitude: -71.851908



Analysis Result:

Max Structural Usage: 43.2% [Pass]

Report Prepared By : Andrew Weissenberger

Introduction

The purpose of this report is to summarize the analysis results on the (3) Modified T-Arm at 149.00' 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 Mapping	Mount mapping by SkyTower, LLC dated 5/1/2019
Mount Photos	Provided by SBA
Antenna Loading	SBA Application # 193378, v1, dated 05/03/2022
Modification Drawings	TES Project #: 81814, dated 07/30/2019

Analysis Criteria

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

Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1" radial ice concurrent

Operational Wind Speed: 30 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 IBC Table 1604.5. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

Mount Information

(3) Modified T-Arm at 149.00' elevation

Final Antenna Configuration

- 3 Ericsson AIR6419 B41
- 3 Commscope VV-65A-R1
- 3 RFS APXVAARR24_43-U-NA20
- 3 Ericsson KRY 112 144/1
- 3 Ericsson 4449 B71+ B85
- 3 Ericsson 4460 B25 + B66

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 43.2%, 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.



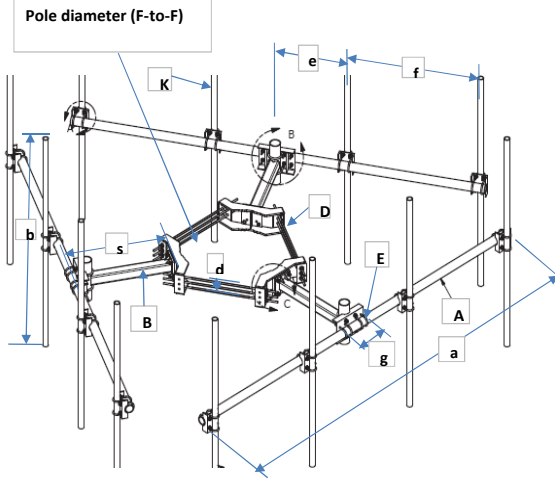
Antenna Mount Type "MT-Z" Mapping Form (PATENT PENDING)



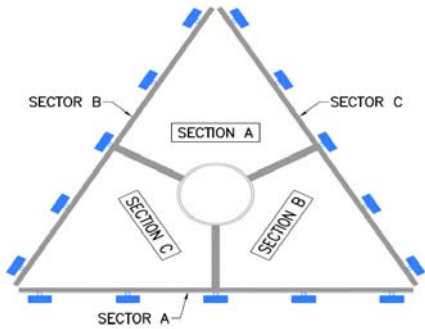
Tower Owner:	SBA Corp.	Mapping Date:	5/1/19
Site Name:	Thompson 1, CT	Structure Type:	Monopole
Site Number or ID:	CT11559	Structure Height (Ft.):	150
Mapping Contractor:	SkyTower LLC	Mount Height (Ft.):	146

FCC #
1261046

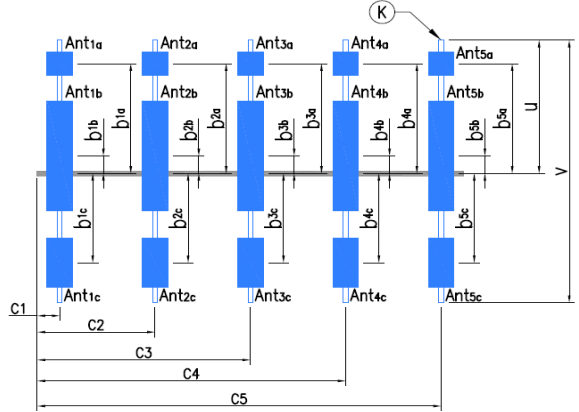
This antenna mapping form is the property of TES and under **PATENT PENDING**. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is 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	150	e	60	j		o		s	34
b	108	f	15	k		p		t	27
c		g	15	m		q		u *	38
d	5	h		n		r		v *	108
Members/Bolts (Unit: inches) * - See Ant. Layout for "u", "v" and member "K" (pipe)									
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	3.5 OD x 0.216 Pipe	3.5	3.068	0.216	F				
B	Tubing 4x4x1/4	4	4	0.25	G				
C					H				
D	5/8" Bolt				J				
E	1/2" Bolt				K* (pipe)	2.875 OD x 0.203 Pipe	2.875	2.469	0.203
Please enter the information below if members can't be found from the drop down lists									
Carrier below is 7" away									
Kicker kit installed under mount. Angle iron is 2.5x2.5x53									
mounting plate for kicker kit is 8.5x7 connected using 4 pieces of 1/2" all-thread									



Climbing ladder is, at 180 Degree Azimuth



Antenna Layout

		Enter antenna model. If not labled, 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}	Ericsson AS1180231	11.5	8	55		15	6	15	226-236	
Ant _{1b}	TMA	6	3	7		11				
Ant _{1c}										
Ant _{2a}	LNX-6516DS-A1M	12	7.5	96		7	2.5	85	237-241	
Ant _{2b}	Ericsson AS1612412	16	7	17			2			
Ant _{2c}										
Ant _{3a}	Kathrein AS1180461	11.5	8	55		14	5	135	242-251	
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:	5	Deg	
Sector B:	125	Deg	
Sector C:	245	Deg	
Climbing	180	Deg	
Climbing Facility	Corrosion Type:	Good condition	
	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

Structure: CT11559-A-SBA - Thompson 1, CT

Sector: **A**

5/3/2022

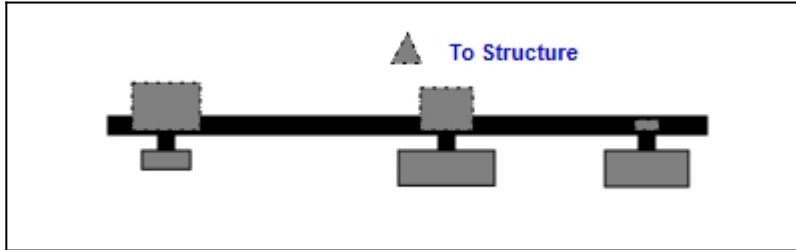
Structure Type: Monopole



Mount Elev: 148.00

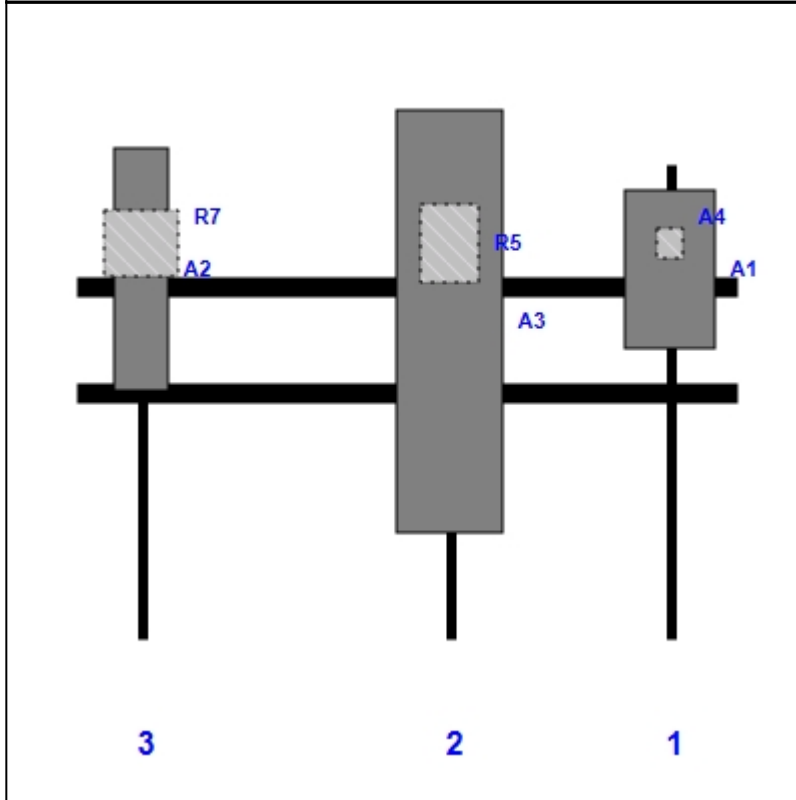
Page: 1

Plan View



Front View

Looking Toward Structure



Ref	Model	Height (in)	Width (in)	H Dist Left	Pipe	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6419 B41	36.30	20.90	135.00	1	a	Front	24.00		Added	
A4	KRY 112 144/1	6.90	6.10	135.00	1	a	Behind	18.00		Retained	
A3	APXVAARR24_43-U-NA20	95.90	24.00	85.00	2	a	Front	36.00		Retained	
R5	4449 B71+ B85	17.90	13.10	85.00	2	a	Behind	18.00		Added	
A2	VV-65A-R1	54.72	12.08	15.00	3	a	Front	24.00		Added	
R7	4460 B25 + B66	15.10	17.00	15.00	3	a	Behind	18.00		Added	

Structure: CT11559-A-SBA - Thompson 1, CT

Sector: **B**

5/3/2022

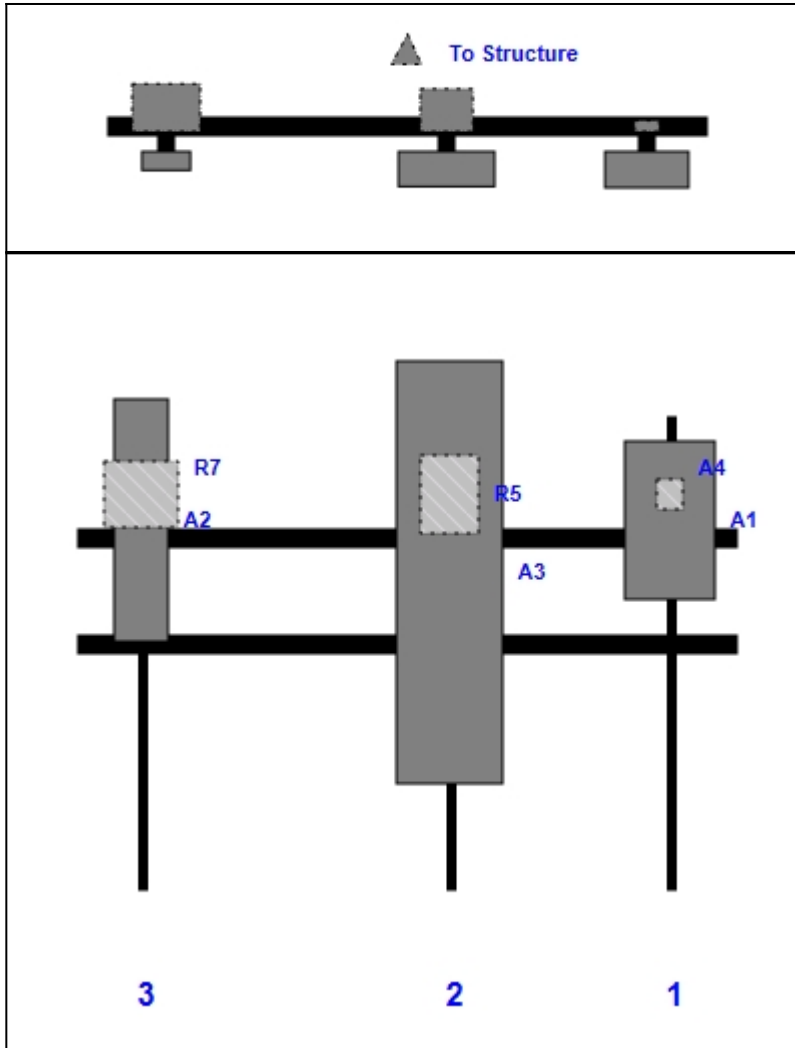
Structure Type: Monopole

Mount Elev: 148.00

Page: 2



Plan View



Front View
Looking Toward Structure

Ref	Model	Height (in)	Width (in)	H Dist Left	Pipe	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6419 B41	36.30	20.90	135.00	1	a	Front	24.00		Added	
A4	KRY 112 144/1	6.90	6.10	135.00	1	a	Behind	18.00		Retained	
A3	APXVAARR24_43-U-NA20	95.90	24.00	85.00	2	a	Front	36.00		Retained	
R5	4449 B71+ B85	17.90	13.10	85.00	2	a	Behind	18.00		Added	
A2	VV-65A-R1	54.72	12.08	15.00	3	a	Front	24.00		Added	
R7	4460 B25 + B66	15.10	17.00	15.00	3	a	Behind	18.00		Added	

Structure: CT11559-A-SBA - Thompson 1, CT

Sector: **C**

5/3/2022

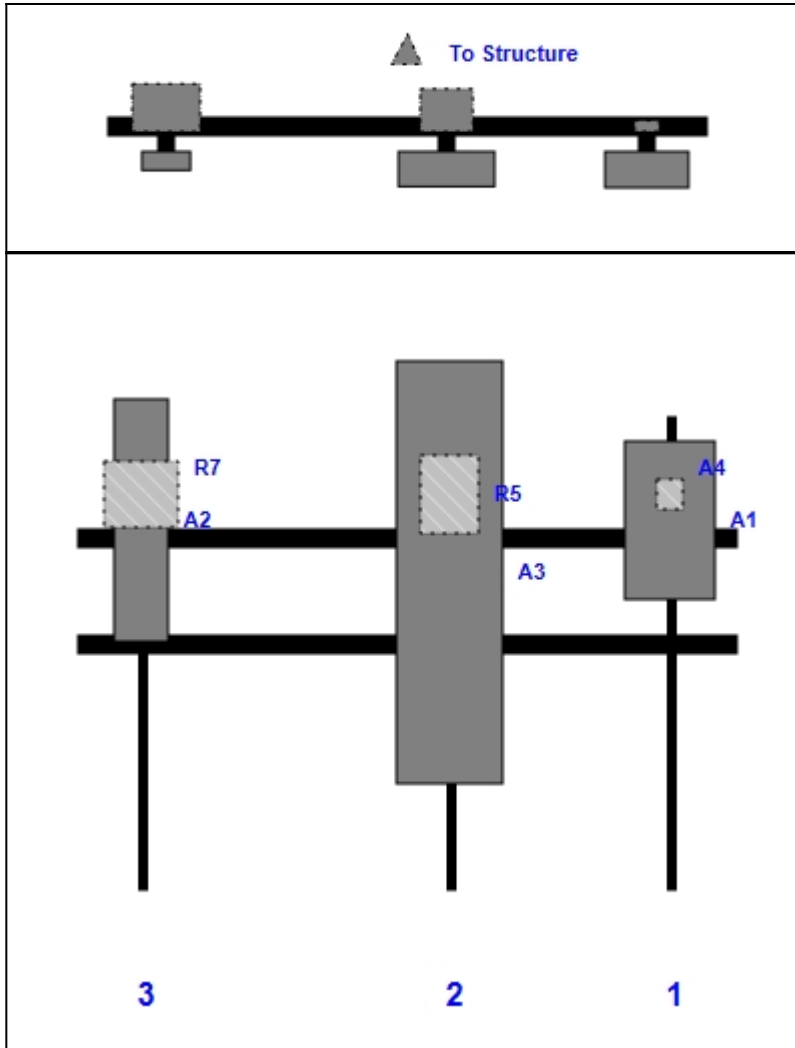
Structure Type: Monopole

Mount Elev: 148.00

Page: 3



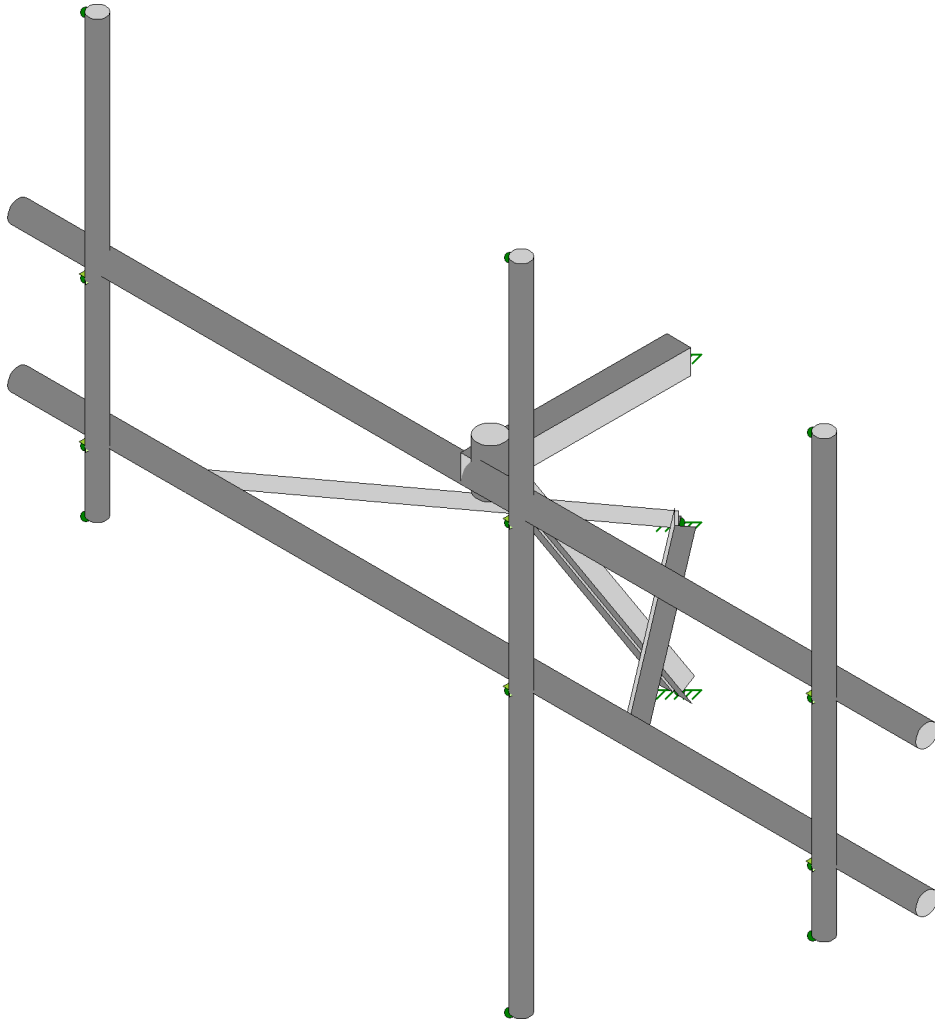
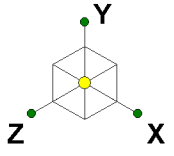
Plan View



Front View

Looking Toward Structure

Ref	Model	Height (in)	Width (in)	H Dist Left	Pipe	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6419 B41	36.30	20.90	135.00	1	a	Front	24.00		Added	
A4	KRY 112 144/1	6.90	6.10	135.00	1	a	Behind	18.00		Retained	
A3	APXVAARR24_43-U-NA20	95.90	24.00	85.00	2	a	Front	36.00		Retained	
R5	4449 B71+ B85	17.90	13.10	85.00	2	a	Behind	18.00		Added	
A2	VV-65A-R1	54.72	12.08	15.00	3	a	Front	24.00		Added	
R7	4460 B25 + B66	15.10	17.00	15.00	3	a	Behind	18.00		Added	



Tower Engineering Solutio...

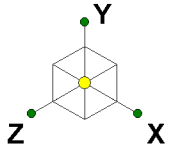
TES Project No. 128646

CT11559-A-SBA_MT_LOT_Loads Only_Sector A_G

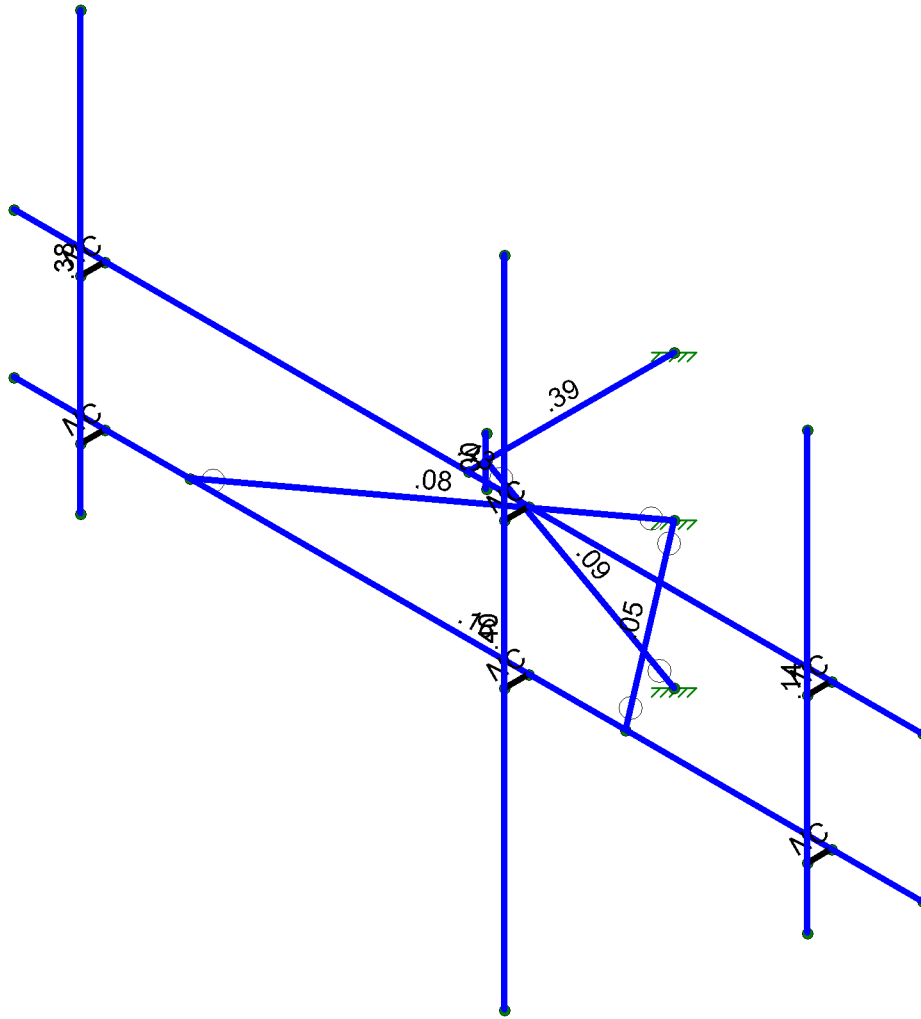
SK - 4

May 3, 2022 at 2:57 PM

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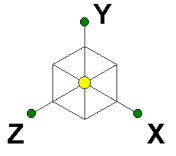


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Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0.-.50



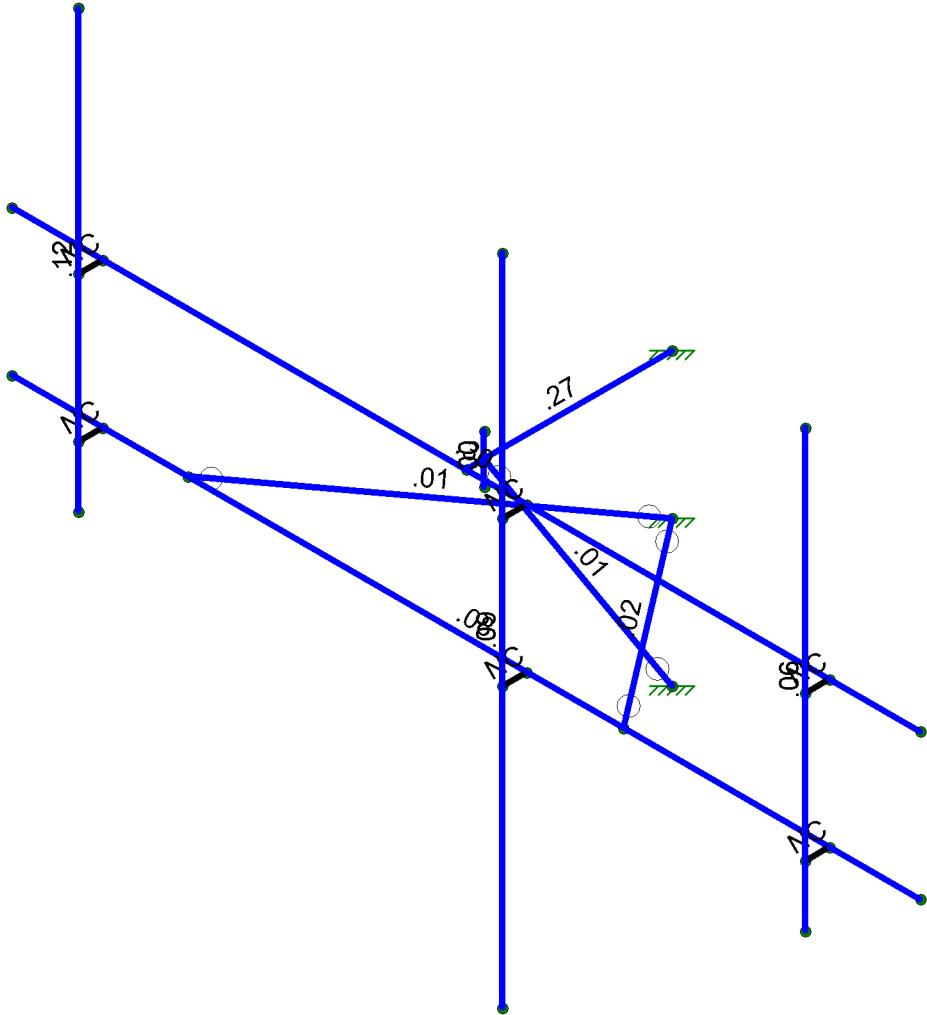
Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.6W (Front)

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TES Project No. 128646		May 3, 2022 at 2:58 PM
		CT11559-A-SBA_128646_G_RISA_...



Shear Check
(Env)

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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)

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A Ya Vyf'DfJa Ufm8 UU'f7 cbhbi YXL

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Ì	TÌ	ÞFÌ	ÞGH		XÉ[]æ^	Óæ	Þ[]^	QÍ GÓ:É € V']ææ	
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A Ya Vyf'5 Xj Ub WX'8 UH

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F	TF					ÿ^.			Þ[]^
G	TG					ÿ^.			Þ[]^
H	TUF€					ÿ^.	É		Þ[]^
I	TUG€					ÿ^.	É		Þ[]^
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Î	TÌ	Ó}Ú[]	Ó}Ú[]			ÿ^.			Þ[]^
Ï	TÌ					ÿ^.			Þ[]^
Ë	TÌ	Ó}Ú[]	Ó}Ú[]			ÿ^.			Þ[]^
J	TJ	Ó}Ú[]	Ó}Ú[]			ÿ^.			Þ[]^
F€	TF€					ÿ^.			Þ[]^
FF	TFE					ÿ^.			Þ[]^
FG	TFG					ÿ^.			Þ[]^
FH	TFH					ÿ^.			Þ[]^
FI	TFI					ÿ^.			Þ[]^
FÍ	TFÍ					ÿ^.			Þ[]^
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>c]bh6 ci bXUf m7 cbX[h]cbg

Rãc	YÁc	YÁc	ZÁc	YÁU[]ÉÉcá	YÁU[]ÉÉcá	ZÁU[]ÉÉcá
F	ÞF	Ü^æc }	Ü^æc }	Ü^æc }	Ü^æc }	Ü^æc }
G	ÞFF	Ü^æc }	Ü^æc }	Ü^æc }	Ü^æc }	Ü^æc }
H	ÞFÍ	Ü^æc }	Ü^æc }	Ü^æc }	Ü^æc }	Ü^æc }

9bj YcdY>c]bhFYUM]cbg


Rãc	YÁc	SÓ	YÁc	SÓ	ZÁc	SÓ	TÝÁÉcá	SÓ	TÝÁÉcá	SÓ	TZÁÉcá	SÓ
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G		{ ä ÉJÍÉÉI } H ÉFHÉGH	G	ÉHÍÉHÉÍ	G	ÉÉF	F	ÉÉG	H	ÉÉH	J	
H	ÞFF	{ æ IÍÉG } I HJFIÉH	Í	GÍÍÉÍF	Í	€	FF	ÉÉG	I	ÉÉF	I	
I		{ ä ÉÍÉÍH } H ÉÉÉÉ	F	ÉÍÉÍ	F	€	F	ÉÉH	J	ÉÉG	J	
Í	ÞFÍ	{ æ GGG€EH } H ÍÉHÍ	Í	FÉFFÉ	F	ÉÉF	F	€	FF	€	Ì	
Ë		{ ä ÉÉFÉÉÍ } J ÉÉF	J	ÉGÉHÍ	G	ÉÉF	G	€	F	ÉÉH	J	
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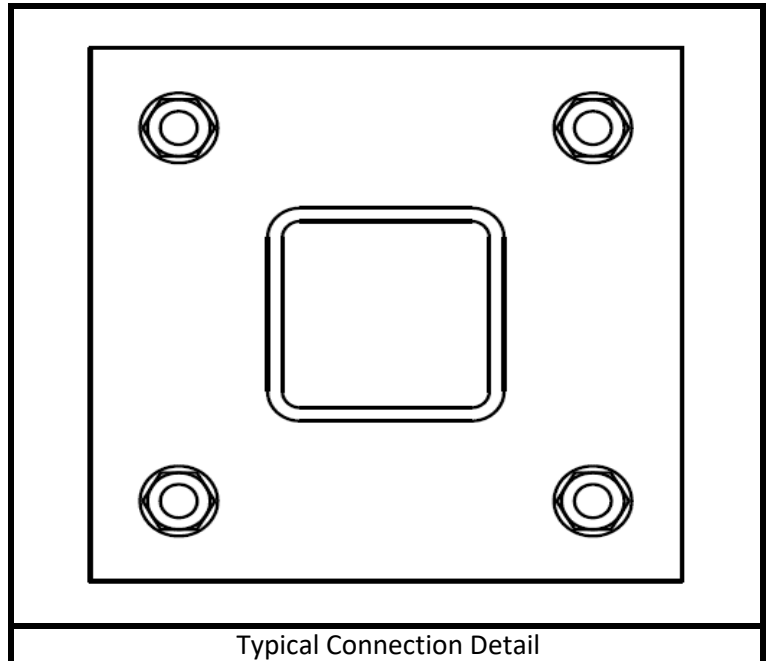
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I			{ a Æ Í J Æ Í	J	Æ Í Æ Í	J	Æ Í J Æ G	F	Æ H G	F	Æ G	F	Æ F H	Í
Í		H	{ æ J H Æ Í	I	G H Æ J	Ì	F Æ Æ G	F	F Æ Í G	F	G Æ J	G	G Æ U F	J
Ì			{ a Æ Í G Æ Í	H	Í Æ Æ J	H	Æ Í G Æ H	G	Æ Æ Í G	G	Æ H G	F	Æ U	I
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J		Í	{ æ €	FF	€	FF	€	FF	€	FF	€	FF	€	FF
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FJ		Í	{ æ G Ì Æ J	F	G Ì Æ J	Ì	F J Æ F	H	Æ Í	Ì	Æ H	G	G Æ G	G
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GG			{ a €	Ì	Æ Í	Ì	Æ H	G	€	J	€	J	€	F
GH		G	{ æ G F Æ J	Ì	F Æ Í	Ì	G Æ Í	F	€	Ì	Æ F	F	Æ H	H
G			{ a Ì Æ U	G	Æ F Æ Í	H	Æ G Æ J	G	€	J	Æ F	G	Æ H	I
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G			{ a F H Æ G	G	Æ G Æ H	H	Æ Í Æ J G	G	€	J	Æ J	G	Æ G	I
G		I	{ æ H H Æ J H	Ì	Ì Æ H	Ì	F J Æ H G	F	Æ Í	G	Æ Í	F	Æ F	I
G			{ a Æ Í Æ G	I	F Æ G	I	Æ H Æ F	J	Æ G	F	Æ F	G	Æ J	Ì
GJ		Í	{ æ €	FF	Æ G	Ì	Æ F	G	€	J	€	FF	€	FF
H€			{ a €	F	Æ G	J	Æ F	F	€	Ì	€	J	€	F
HF	T Û CE	F	{ æ H Ì Æ G	Ì	G Æ Í	Ì	Ì Æ H	F	€	Ì	€	F	€	FF
HG			{ a Ì Æ	G	Æ Í Æ H	Æ U Æ Í	G	€	J	€	G	€	F	
HH		G	{ æ Í H Æ F	Ì	Ì Æ Í	Ì	Ì Æ G	F	€	Ì	F Æ Í	F	Æ F	H
H			{ a F Æ J G	G	Æ Æ Í	H	Æ Æ U	G	€	J	Æ F	G	Æ F	I
H		H	{ æ Æ Í Æ G	Ì	Ì Æ G	H	Ì J Æ G	G	Æ U	J	Æ Í	F	Æ Í	J
H			{ a Æ H Æ G	Ì	Æ J Æ G	Ì	Æ G Æ Í	F	Æ J	F	Æ G	Ì	Æ F	I
H		I	{ æ Æ Í J G	G	H Æ G	H	H Æ Í	G	€	J	Æ Í	F	Æ H	H
H			{ a Æ Í Æ G	Ì	Æ Í Æ G	Ì	Æ Í J	F	€	Ì	Æ Í	G	Æ H	I
HU		Í	{ æ €	FF	Æ G	Ì	Æ H	J	€	J	€	FF	€	FF
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IG			{ a F Æ Í	J	Æ G Æ Í	H	Æ Í Æ J	G	€	J	€	G	€	F
IH		G	{ æ G Ì Æ Í	Ì	F Æ U	Ì	G Æ Í	F	€	H	Æ Í	F	Æ Í	H
II			{ a Ì Æ H	J	Æ F Æ U	H	Æ G	G	€	J	Æ Í	G	Æ F	I
Í		H	{ æ I H Æ U	Ì	G Æ U	Ì	H Æ G	F	€	H	Æ Í	F	Æ Í	H
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FG		G	{ æ F G I E I	F O I E G	I I J E I I	H E I	H E I F	I F E G F G
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FG		H	{ æ F G I E I	F O I E G	I I J E I I	H E I	H E I I	F F E G G
FG			{ a E H H E I I	G I I H G I	I E I J E I	I E H H	I E E I	J E F E G F
FG		I	{ æ F G I E I	F O I E G	I I J E I I	H E I	H E I J	F F E I I G
FG			{ a E H H E I I	G I I H G I	I E I J E I	I E H H	I E E J	J E F E I I F
FG		I	{ æ F G I E I	F O I E G	I I J E I I	H E I	H E J H	F F E F G
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FF			{ a E H J E H G	E J E F H G	J E G I E I G	I E F I	I E G F	I E I G F
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FF			{ a E H J E H G	E J E F H G	J E G I E I G	I E F I	I E G	G E I I F
FF		H	{ æ G J E J I	F F J I E J	I I J E I I	I E H F	J E I F	F E I I G
FF			{ a E H J E H G	E J E F H G	J E G I E I G	I E F I	I E H H	G E I J F
FF		I	{ æ G J E J I	F F J I E J	I I J E I I	I E H F	J E I I	F E I F G
FF			{ a E H J E H G	E J E F H G	J E G I E I G	I E F I	I E G F	G E I H F
FF		I	{ æ G J E J I	F F J I E J	I I J E I I	I E H F	J E J G	F E I I G
FI			{ a E H J E H G	E J E F H G	J E G I E I G	I E F I	I E E J J	G E I I F
FI	TFI	F	{ æ G I E I I	F H I E E G	I E I E U I	I E E G	I E G	I E I G
FI			{ a E F I E J H G	E E E H	I E I I E I H	I E G G	I E H F	F E I G F
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FI		H	{ æ G I E I I	F H I E E G	I E I E U I	I E E G	I E H G	G E I J G
FI			{ a E F I E J H G	E E E H	I E I I E I H	I E G G	I E E F	F E I G F
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FI			{ a E F I E J H G	E E E H	I E I I E I H	I E G G	I E E J G	F E I J F
FI	TFI	F	{ æ € F F	E F I J	E E G F	€ F F	€ F F	€ F F
FI			{ a € F	E E I I	I E E I	I € F	€ F	€ F
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	Standoff Arm Flange Connection Check			Date
				5/3/2022
	Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
	Carrier:	T Mobile	Mount Elev. [ft]:	149
	Site Name:	Thompson 1	Engineer Name:	A. Weissenberger
Site Number:	CT1159-A-01	Project #:	128646	
<p><i>NOTE: The calculations shown below are for a single representative load combination for example purposes. The results for all load combinations are presented in the Results Summary Table.</i></p>				


RISA Member Label =	M2	
I or J End?	J	
Load Combination # =	1	
Plate Width, Wp =	8	[In]
Plate Height, Hp =	8	[In]
Plate Thickness, tp =	0.75	[In]
Plate Fy =	36	[KSI]
Bolt Diameter, db =	0.625	[In]
Bolt Fu =	120	[KSI]
Bolt Horizontal Spacing, Sbh =	5	[In]
Bolt Vertical Spacing, Sbv =	5	[In]
Standoff Member Shape =	Rect Tube	
Member Width, Wm =	4	[In]
Member Depth, Dm =	4	[In]
Member Thickness, tm =	0.25	[In]
Standoff Weld Size =	0.1875	[In]
# Standoff Welds =	2	
Length of Stiffener, Ls =		[In]
Width of Stiffener, Ws =		[In]
Width of Notch, Wn =		[In]
Stiffener Dim 1, ds1 =		[In]
Stiffener Dim 2, ds2 =		[In]
Stiffener Fy =		[KSI]
Stiffener Weld Size =		[In]
# Stiffener Welds =		



NOTES
Standoff and Stiffener welds are assumed 0.1875 in.

Capacity Checks:

Max Bolt Shear =	0.232	[Kips]
Bolt Shear Capacity =	13.81	[Kips]
Max Bolt Shear Usage =	1.7%	PASS
Max Bolt Tension =	2.95	[Kips]
Bolt Tension Capacity =	20.34	[Kips]
Max Bolt Tension Usage =	14.5%	PASS
Max Bolt Interaction =	14.6%	PASS
Max Plate Bending Moment =	2.78	[Kip-In]
Length of Yield Line =	4.80	[In]
Plate Moment Capacity =	21.88	[Kip-In]
Max Plate Usage =	12.7%	PASS
Max Weld Usage =	22.9%	PASS

	Standoff Arm Flange Connection Check			Date
				5/3/2022
	Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
	Carrier:	T Mobile	Mount Elev. [ft]:	149
	Site Name:	Thompson 1	Engineer Name:	A. Weissenberger
Site Number:	CT1159-A-01	Project #:	128646	

Results Summary Table

Member Label	Member End	Load Combo #	Max Bolt Shear [K]	Max Bolt Tension [K]	Bolt Shear Check	Bolt Tension Check	Bolt Interaction Check	Plate Bending Check	Weld Check
M2	J	1	0.2318	2.9541	1.7%	14.5%	14.6%	12.7%	22.9%
M2	J	2	0.2329	4.3442	1.7%	21.4%	21.4%	18.7%	24.7%
M2	J	3	0.5489	0.3028	4.0%	1.5%	4.0%	1.3%	3.7%
M2	J	4	0.5872	0.4219	4.3%	2.1%	4.3%	1.8%	3.5%
M2	J	5	0.8970	0.1313	6.5%	0.6%	6.5%	0.6%	5.4%
M2	J	6	0.8803	1.6241	6.4%	8.0%	10.2%	7.0%	10.6%
M2	J	7	0.8695	0.7382	6.3%	3.6%	7.3%	3.2%	6.6%
M2	J	8	0.9506	0.7422	6.9%	3.6%	7.6%	3.2%	7.0%
M2	J	9	2.6186	3.8581	19.0%	19.0%	26.8%	16.6%	25.1%
M2	J	10	0.4197	0.2361	3.0%	1.2%	3.1%	1.0%	3.0%
M2	J	11	0.2731	0.1887	2.0%	0.9%	2.2%	0.8%	2.0%

Exhibit F

Power Density/RF Emissions Report

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL
TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CTNLI91D

NLI91/MCF_Town Lot_FT
38 Rich Road
Thompson, Connecticut 06255

May 25, 2022

EBI Project Number: 6222003375

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	26.96%

May 25, 2022

T-Mobile

Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CTNLI91D - NLI91/MCF_Town Lot_FT

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **38 Rich Road in Thompson, Connecticut** 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.

Public 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 and 700 MHz frequency 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), 2100 MHz (AWS) and 11 GHz frequency 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.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 38 Rich Road in Thompson, Connecticut 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 manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, 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.

For all calculations, all equipment was calculated using the following assumptions:

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 6) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

- 7) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 8) 1 LTE Traffic channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.
- 9) 1 LTE Broadcast channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.
- 10) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 11) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 12) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. 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. This is rarely the case, and if so, is never continuous.
- 13) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 14) The antennas used in this modeling are the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope VV-65A-RI for the 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope VV-65A-RI for the 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope VV-65A-RI for the 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and

associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, 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.

- 15) The antenna mounting height centerline of the proposed antennas is 149 feet above ground level (AGL).
- 16) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 17) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd
Height (AGL):	149 feet	Height (AGL):	149 feet	Height (AGL):	149 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts
ERP (W):	31,011.95	ERP (W):	31,011.95	ERP (W):	31,011.95
Antenna A1 MPE %:	5.45%	Antenna B1 MPE %:	5.45%	Antenna C1 MPE %:	5.45%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd
Height (AGL):	149 feet	Height (AGL):	149 feet	Height (AGL):	149 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts
ERP (W):	4,059.02	ERP (W):	4,059.02	ERP (W):	4,059.02
Antenna A2 MPE %:	1.70%	Antenna B2 MPE %:	1.70%	Antenna C2 MPE %:	1.70%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope VV-65A-RI	Make / Model:	Commscope VV-65A-RI	Make / Model:	Commscope VV-65A-RI
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz
Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd / 16.05 dBd
Height (AGL):	149 feet	Height (AGL):	149 feet	Height (AGL):	149 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	540.00 Watts	Total TX Power (W):	540.00 Watts	Total TX Power (W):	540.00 Watts
ERP (W):	20,695.64	ERP (W):	20,695.64	ERP (W):	20,695.64
Antenna A3 MPE %:	3.64%	Antenna B3 MPE %:	3.64%	Antenna C3 MPE %:	3.64%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	10.79%
Verizon	10.1%
AT&T	6.07%
Site Total MPE % :	26.96%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	10.79%
T-Mobile Sector B Total:	10.79%
T-Mobile Sector C Total:	10.79%
Site Total MPE % :	26.96%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# 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 2500 MHz LTE IC & 2C Traffic	1	9619.47	149.0	16.91	2500 MHz LTE IC & 2C Traffic	1000	1.69%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	717.84	149.0	1.26	2500 MHz LTE IC & 2C Broadcast	1000	0.13%
T-Mobile 2500 MHz NR Traffic	1	19238.94	149.0	33.82	2500 MHz NR Traffic	1000	3.38%
T-Mobile 2500 MHz NR Broadcast	1	1435.69	149.0	2.52	2500 MHz NR Broadcast	1000	0.25%
T-Mobile 600 MHz LTE	2	591.73	149.0	2.08	600 MHz LTE	400	0.52%
T-Mobile 600 MHz NR	1	1577.94	149.0	2.77	600 MHz NR	400	0.69%
T-Mobile 700 MHz LTE	2	648.82	149.0	2.28	700 MHz LTE	467	0.49%
T-Mobile 1900 MHz GSM	4	1076.77	149.0	7.57	1900 MHz GSM	1000	0.76%
T-Mobile 1900 MHz LTE	2	2153.53	149.0	7.57	1900 MHz LTE	1000	0.76%
T-Mobile 2100 MHz UMTS	2	1208.15	149.0	4.25	2100 MHz UMTS	1000	0.42%
T-Mobile 2100 MHz LTE	4	2416.30	149.0	16.99	2100 MHz LTE	1000	1.70%
						Total:	10.79%

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

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:	10.79%
Sector B:	10.79%
Sector C:	10.79%
T-Mobile Maximum MPE % (Sector A):	10.79%
Site Total:	26.96%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **26.96%** 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.

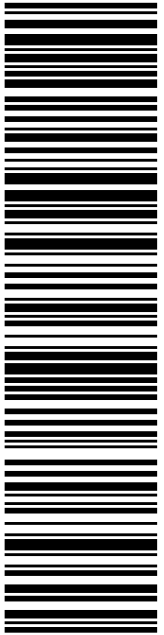
Exhibit G

Recipient Mailings



SBA COMMUNICATIONS CORPORATION
13 FLANDERS RD
STE 125
WESTBOROUGH MA 01581

USPS TRACKING #



9405 5036 9930 0264 2236 95

P

06/02/2022

Expected Delivery Date: 06/04/22
Ref#: SBCT-NL191

0006


R005

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

PRIORITY MAIL 1-DAY™

usps.com 9405 5036 9930 0264 2236 95 0089 5000 0010 1581
\$8.95
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click-n-ship®

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Click-N-Ship®

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Cut on dotted line.

Instructions


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2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
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Click-N-Ship® Label Record

USPS TRACKING # :	
9405 5036 9930 0264 2236 95	
Trans. #: 564814314	Priority Mail® Postage: \$8.95
Print Date: 06/02/2022	Total: \$8.95
Ship Date: 06/02/2022	
Expected Delivery Date: 06/04/2022	
<hr/>	
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	Ref#: SBCT-NL191
<hr/>	
To: SBA COMMUNICATIONS CORPORATION 13 FLANDERS RD STE 125 WESTBOROUGH MA 01581	
<p>* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.</p>	

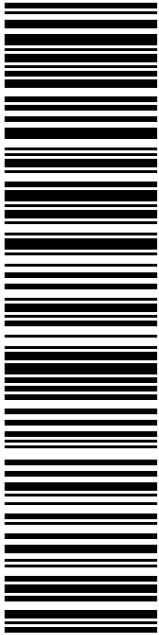


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Check the status of your shipment on the USPS Tracking® page at usps.com



TYRA PENN-GESEK
DIRECTOR OF PLANNING & DEVELOPEMNT
PO BOX 899
N GROSVENORDL CT 06255-0899

USPS TRACKING #



9405 5036 9930 0264 2237 18

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

B009

06/02/2022

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Expected Delivery Date: 06/06/22
Ref#: SBCT-NL191
0006

Electronic Rate Approved #038555749



PRIORITY MAIL 2-DAY™

UNITED STATES
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Click-N-Ship® Label Record

USPS TRACKING # :	
9405 5036 9930 0264 2237 18	
Trans. #:	564814314
Print Date:	06/02/2022
Ship Date:	06/02/2022
Expected Delivery Date:	06/06/2022
Priority Mail® Postage:	\$8.95
Total:	\$8.95
From:	DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359
To:	TYRA PENN-GESEK DIRECTOR OF PLANNING & DEVELOPEMNT PO BOX 899 N GROSVENORDL CT 06255-0899
	Ref#: SBCT-NL191
* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.	

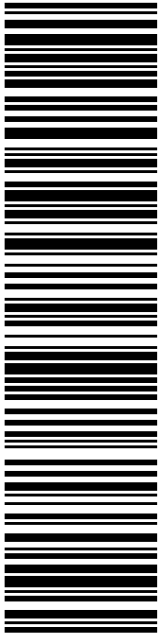


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AMY ST. ONGE
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Expected Delivery Date: 06/06/22
Ref#: SBCT-NL191
0006

B009

Electronic Rate Approved #038555749



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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0264 2237 25


Trans. #: 564814314	Priority Mail® Postage: \$8.95
Print Date: 06/02/2022	Total: \$8.95
Ship Date: 06/02/2022	
Expected Delivery Date: 06/06/2022	

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: SBCT-NL191

To: AMY ST. ONGE
FIRST SELECTMAN
PO BOX 899
N GROSVENORDL CT 06255-0899

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CTDC MID SBA Fmo



FARMINGTON
210 MAIN ST
FARMINGTON, CT 06032-9998
(800)275-8777

06/07/2022

08:50 AM

Product	Qty	Unit Price	Price
Prepaid Mail Westborough, MA 01581 Weight: 0 lb 2.00 oz Acceptance Date: Tue 06/07/2022 Tracking #: 9405 5036 9930 0264 2236 95	1		\$0.00
Prepaid Mail North Grosvenordale, CT 06255 Weight: 0 lb 9.30 oz Acceptance Date: Tue 06/07/2022 Tracking #: 9405 5036 9930 0264 2237 18	1		\$0.00
Prepaid Mail North Grosvenordale, CT 06255 Weight: 0 lb 9.40 oz Acceptance Date: Tue 06/07/2022 Tracking #: 9405 5036 9930 0264 2237 25	1		\$0.00
Grand Total:			\$0.00

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 of 8 free test kits.
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 Track your Packages
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All sales final on stamps and postage.
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 Thank you for your business.

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 Go to: <https://postalexperience.com/Pos>
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or call 1-800-410-7420.