



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

June 14, 2022

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

RE: Exempt Modification Application
92 Knowlton Hill Road, Ashford, CT 06278
Latitude: 41.840777
Longitude: -72.207527
Site #: CT13614-A_CT11519D_SBA/T-Mobile

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing tower located at 92 (a/k/a 99) Knowlton Hill Road, Ashford, CT 06278. T-Mobile currently maintains nine (9) antennas at the 147-foot level of the existing 150-foot monopole tower. The property is owned by Thomas Knowlton, and the tower is owned by SBA. T-Mobile now intends to replace (6) antennas. The new antennas would be installed at the 147-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable.

T-Mobile Planned Modifications:

Remove:

(3) Coax – 1-5/8”

Remove and Replace:

(3) RFS APXV18-209104-C-A20 Antennas (REMOVE) - (3) COMMSCOPE VV-65A-R1 Antennas (REPLACE)

(3) RFS APXV18-209104-C-A20 Antennas (REMOVE) - (3) ERICSSON AIR6419 B41 Antennas (REPLACE)

Install New:

(3) ERICSSON 4460 B25+B66A RRU

(2) HCS Fiber Cable 1.9”

Existing to Remain:

(3) ERICSSON 4449 B71+B85 RRU

(1) HCS Fiber Cable 1-5/8”

(3) RFS APXVAALL24-43-U-NA20 Antennas *

(14) Coax – 1-5/8” *

(6) Twin TMAs – KRY 112 489/2 *

(3) Kathrein 782 11056 Bias-Ts *

*Equipment listed for entitlement purposed only



The facility was approved by the Connecticut Siting Council, Docket No. 291 on October 26, 2004. 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 Cathryn Silver-Smith, First Selectman and Michael D'Amato, Zoning Enforcement Officer for the Town of Ashford, 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: Cathryn Silver-Smith, First Selectman
Ashford Town Hall
5 Town Hall Rd.,
Warrenville, CT 06278

Michael D'Amato, Zoning Enforcement Officer
Ashford Town Hall
5 Town Hall Rd.,
Warrenville, CT 06278

Thomas E. Knowlton - Property Owner
317 Squaw Hollow Road
Ashford, CT 06278

SBA - Tower Owner

Exhibit A

Original Facility Approval

Connecticut Siting Council ^(/CSC)

[CT.gov Home](#) [\(/\)](#) [Connecticut Siting Council](#) [\(/CSC\)](#) DO 291 Ashford D&O

DOCKET NO. 291 - National Grid Communications, Inc. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at one of two sites located on Knowlton Hill Road, Ashford, Connecticut	}	Connecticut
	}	Siting
	}	Council
		October 26, 2004

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 Tower Ventures II, LLC, hereinafter referred to as the Certificate Holder, at Site A-1, located on parcel 43/E/4, Knowlton Hill Road, Ashford, Connecticut. The Council denies certification of Site A-2, located on parcel 43/E/4, Knowlton Hill Road, Ashford, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Omnipoint Communications and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level, including appurtenances. The tower and foundation shall be designed and constructed with the ability to be extended to 180 feet above ground level, with such extension subject to Council approval by petition for a declaratory ruling, pursuant to Sections 16-50j-38 through 16-50j-40 of the Regulations of Connecticut State Agencies.
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 Ashford, for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a. a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping; and
 - 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 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 electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

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 municipal antennas, provided such antennas are compatible with the structural integrity of the tower.
7. If the facility does not initially provide wireless services within one year of completion of construction or 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.
8. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.
9. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved. Any request for extension of this period shall be filed with the Council not later than sixty days prior to the expiration date of this Certificate and shall be served on all parties and intervenors and the Town of Ashford, as listed in the service list. Any proposed modifications to this Decision and Order shall likewise be so served.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the [Hartford Courant](#) and the [Willimantic Chronicle](#).

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

The parties and intervenors to this proceeding are:

<p><u>Applicant</u></p> <p>Tower Ventures II, LLC</p>	<p><u>Its Representative</u></p> <p>David Vivian Senior Vice President Tower Ventures II, LLC 733 Chapin Street, Suite 200F Ludlow, MA 01056</p> <p>Benjamin Proto, Esq. 2090 Cutspring Road Stratford, CT 06614</p> <p>Kenneth Ira Spigle, Esq. 170 Westminster Street, Suite 701 Providence, RI 02903</p>
<p><u>Intervenor</u></p> <p>Omnipoint Communications, Inc.</p>	<p><u>Its Representative</u></p> <p>Stephen J. Humes, Esq. McCarter & English, LLP CityPlace I 185 Asylum Street Hartford, CT 06103</p>

Exhibit B

Property Card

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2021. A plus sign (+) at the end of a Map Block Lot (e.g., 23 52 7+) means three or more lots have been merged.



Ashford, Connecticut

Information on the Property Records for the Municipality of Ashford was last updated on 6/14/2022.



Parcel Information

Location:	92 KNOWLTON HILL RD	Property Use:	Vacant Land	Primary Use:	Residential Vacant Land
Unique ID:	00107200	Map Block Lot:	43 E 4 +	Acres:	99.3000
490 Acres:	97.30	Zone:	RA	Volume / Page:	0175/0539
Developers Map / Lot:	8.1,4	Census:	8301000		

Value Information

	Appraised Value	Assessed Value
Land	260,700	72,170
Buildings	0	0
Detached Outbuildings	179,400	125,580
Total	440,100	197,750

Owner's Information

Owner's Data

KNOWLTON THOMAS E
317 SQUAW HOLLOW RD
ASHFORD, CT 06278

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
1 Sty CB Barn Barn	1966	0.00	0.00	320
1S Metal Barn	1975	0.00	0.00	361
Barn w/Loft with basement	1875	0.00	0.00	3,072
Pole Barn All Walls	1966	47.00	188.00	8,836
Stable	1966	50.00	28.00	1,400
Detached Garage	1983	36.00	32.00	1,152

Type:	Year Built:	Length:	Width:	Area:
Steel Garage Av	1950	0.00	0.00	2,100
Metal Shed	1969	50.00	20.00	1,000

Owner History - Sales

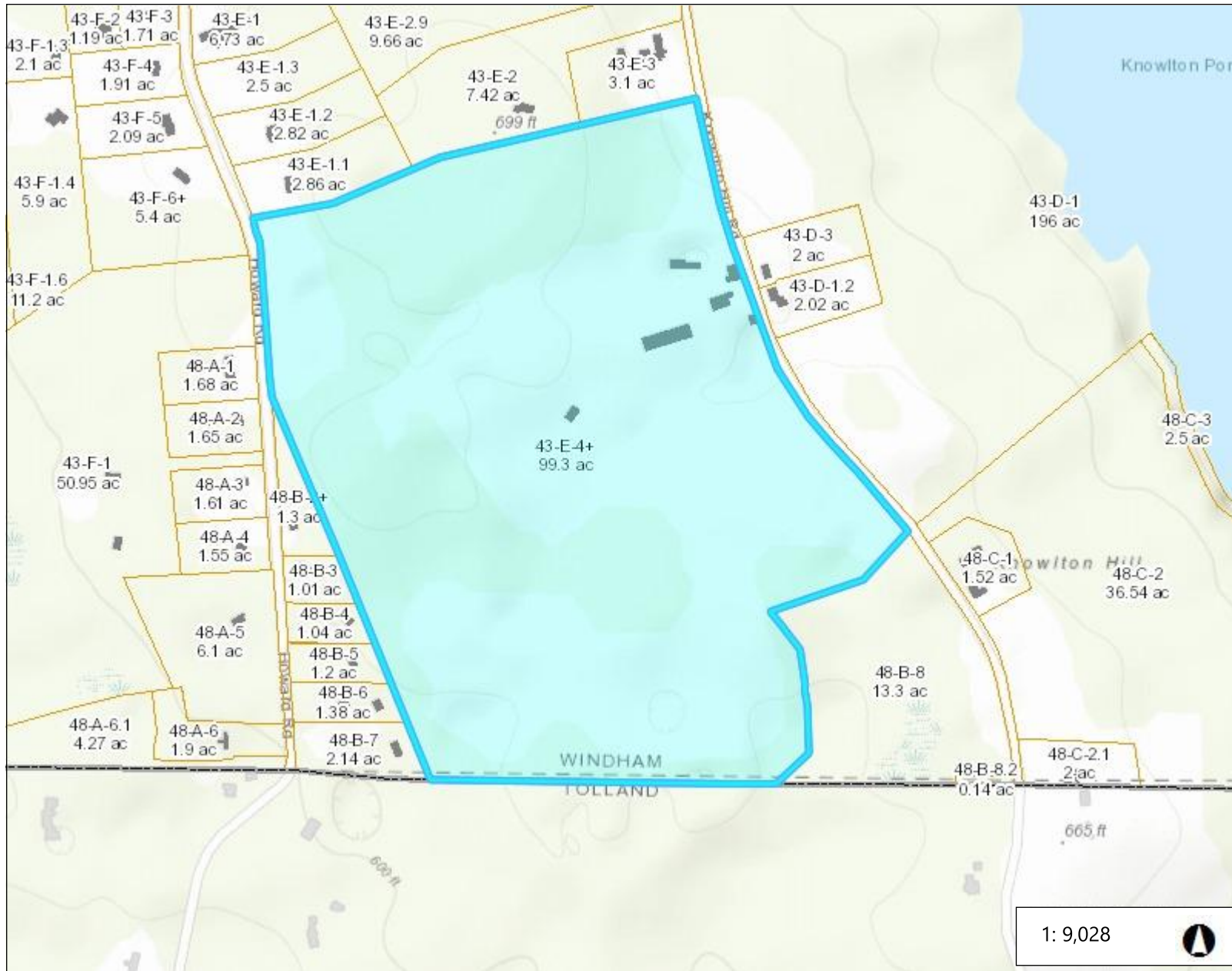
Owner Name	Volume	Page	Sale Date	Deed Type	Sale Price
KNOWLTON THOMAS E	0175	0539	10/24/2011		\$111,442
KNOWLTON ROYAL O EST OF ET AL	0105	0827	01/10/1995		\$0

Information Published With Permission From The Assessor



neccog

92 KNOWLTON HILL ROAD



Legend

- Town
- Buildings 2012
- Parcels

1: 9,028



0.3 0 0.14 0.3 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere
© Latitude Geographics Group Ltd.

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

Enter Map Description

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).

CT519/TVI ASHFORD PRIME

SCOPE OF WORK

REMOVE:

- 6 ANTENNAS
- 3 TMAs
- ALL COAX CABLES
- 1 100A-2P BREAKER

INSTALL:

- 6 ANTENNAS
- 3 RRUs
- 1 B160 BATTERY CABINET
- 1 6160 CABINET
- 1 SLACKBOX
- 2 HYBRID CABLES
- 2 125A-2P BREAKERS
- 1 25A-1P BREAKER

APPROVALS

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

99 KNOWLTON HILL ROAD
 ASHFORD, CT 06278
 WINDHAM COUNTY

SITE NO.: CT11519D

SITE TYPE: 150'± MONOPOLE

RF DESIGN GUIDELINE: 67D5D998E ODE+6160

SITE NOTES

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

T-MOBILE 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

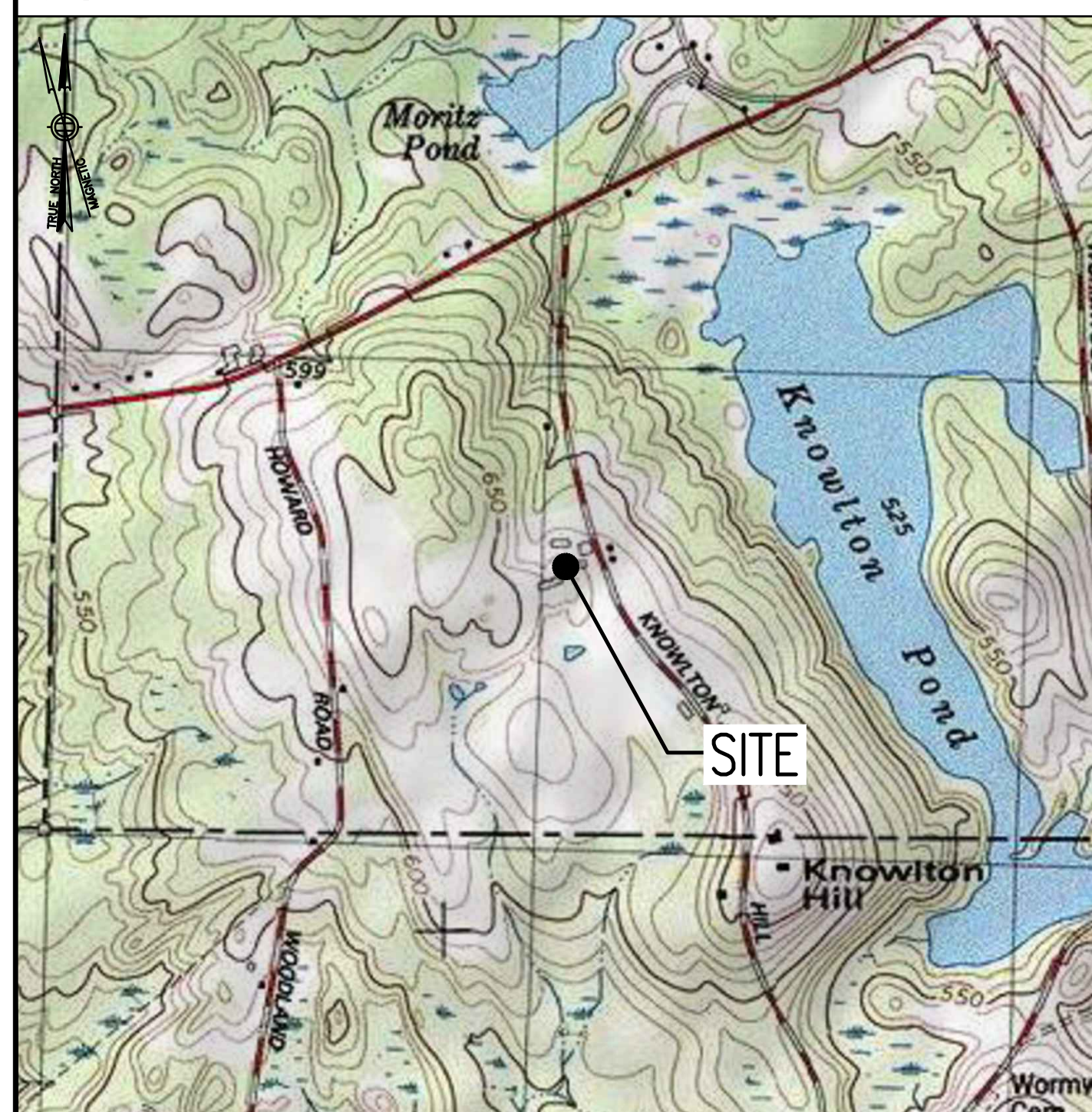
- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT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

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



VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

MERGE ONTO I-495 NORTH TOWARD MANSFIELD/MARLBORO. TAKE EXIT 33B TO MERGE ONTO I-95 SOUTH. TAKE EXIT 6 FOR I-295 SOUTH. TAKE EXIT 9C-A FOR US-6 WEST. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR JOHNSTON. CONTINUE STRAIGHT TO STAY ON US-6 WEST. CONTINUE STRAIGHT ONTO RI-101 WEST. CONTINUE ONTO CT-101 WEST. CONTINUE ONTO US-44 WEST. TURN LEFT ONTO KNOWLTON HILL ROAD. SITE IS LOCATED AT THE LEFT.

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:	CT11519D
SITE NAME:	CT519/TVI ASHFORD - PRIME
SBA SITE NUMBER:	CT13614-A
SBA SITE NAME:	KNOWLTON
SITE ADDRESS:	99 KNOWLTON HILL ROAD ASHFORD, CT 06278
PROPERTY OWNER:	KNOWLTON THOMAS E. 317 SQUAW HOLLOW ROAD ASHFORD, CT 06278
TOWER OWNER:	SBA TOWERS V, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	WINDHAM
ZONING DISTRICT:	N/A
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	150'±
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.41.840773° N41°50'26.78" LONGITUDE W.72.207521° W72°12'27.08"

SPECIAL ZONING NOTE:

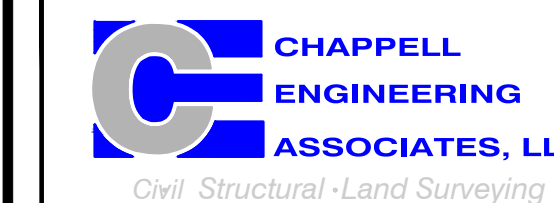
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE 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

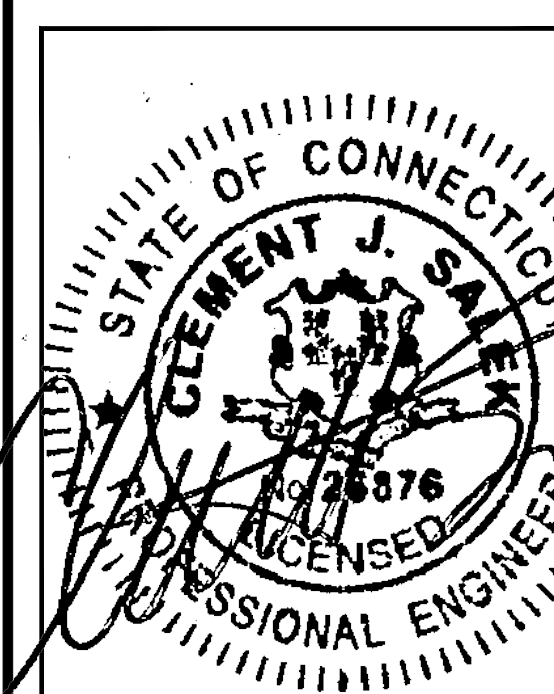
15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
 (508) 286-2700



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	03/30/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11519D

SITE ADDRESS:
 99 KNOWLTON HILL ROAD
 ASHFORD, CT 06278

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

GENERAL NOTES:

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

SITE WORK GENERAL NOTES:

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

CONCRETE AND REINFORCING STEEL NOTES:

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

STRUCTURAL STEEL NOTES:

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

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

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

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

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

ELECTRICAL INSTALLATION NOTES:

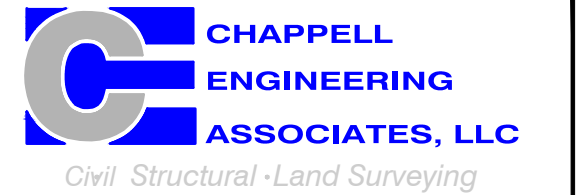
- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TERCORDIA.
- SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLE TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR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

**T-MOBILE
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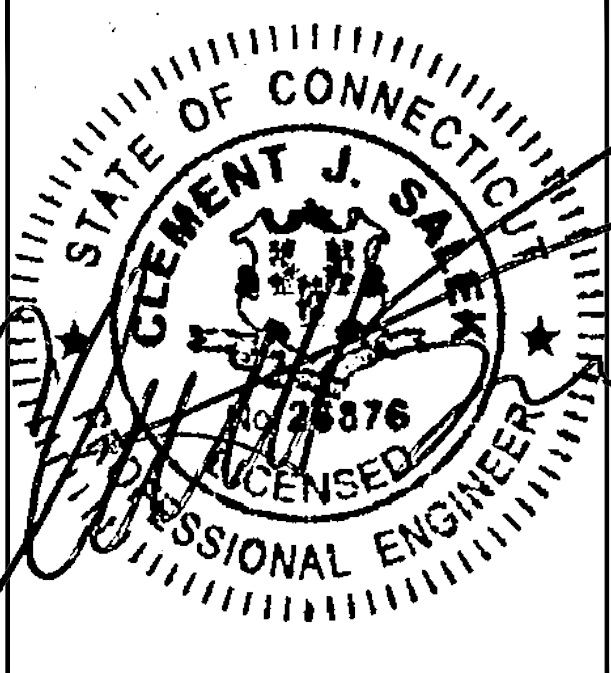
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SITE NUMBER:
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SITE ADDRESS:
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ASHFORD, CT 06278

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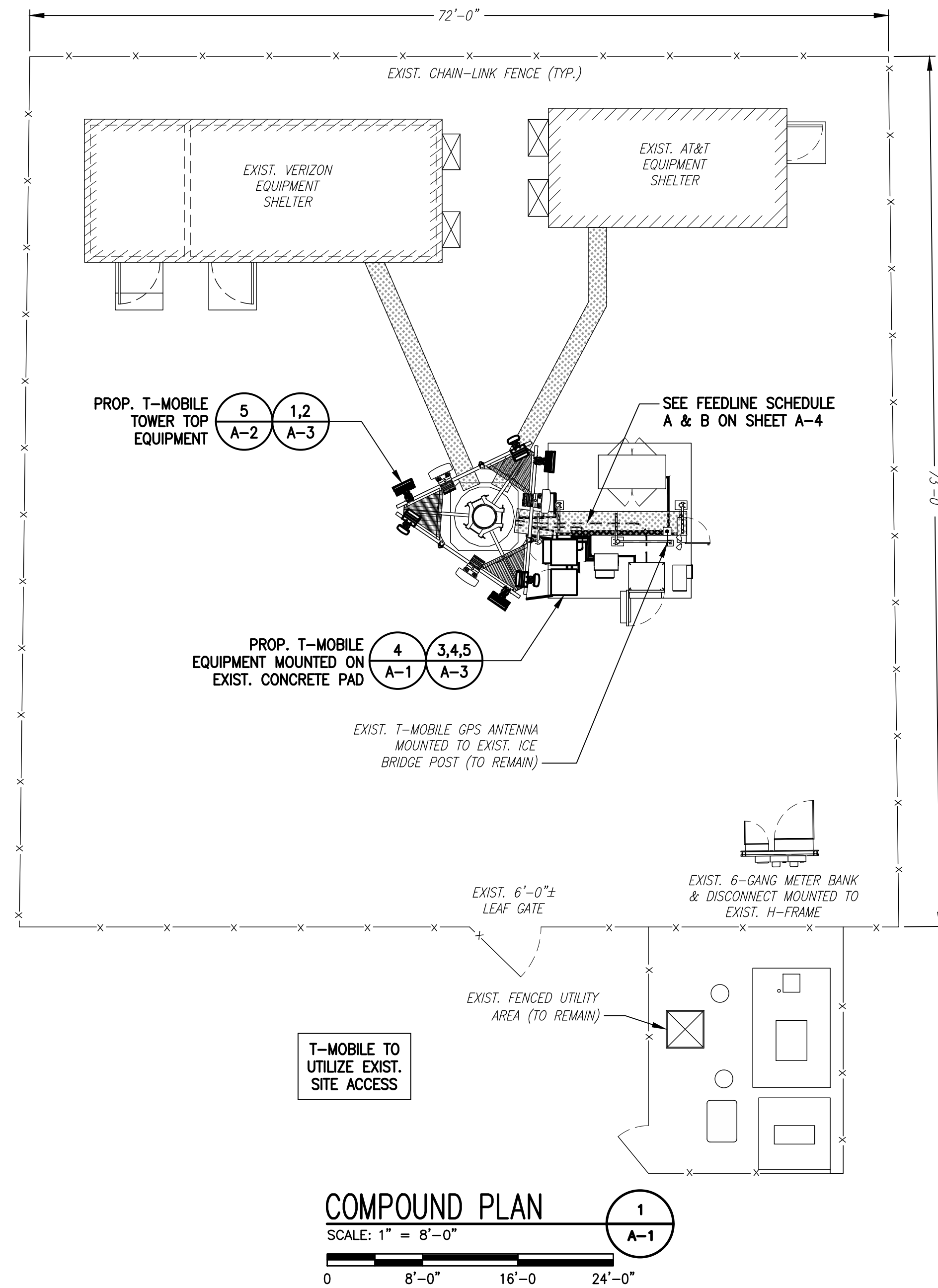
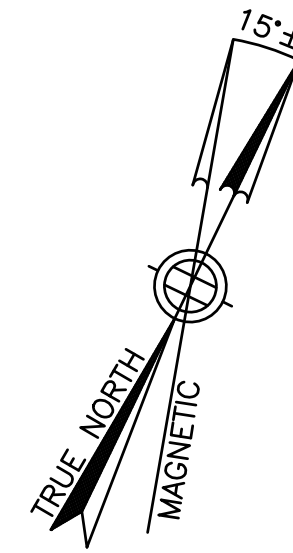
GENERAL NOTES

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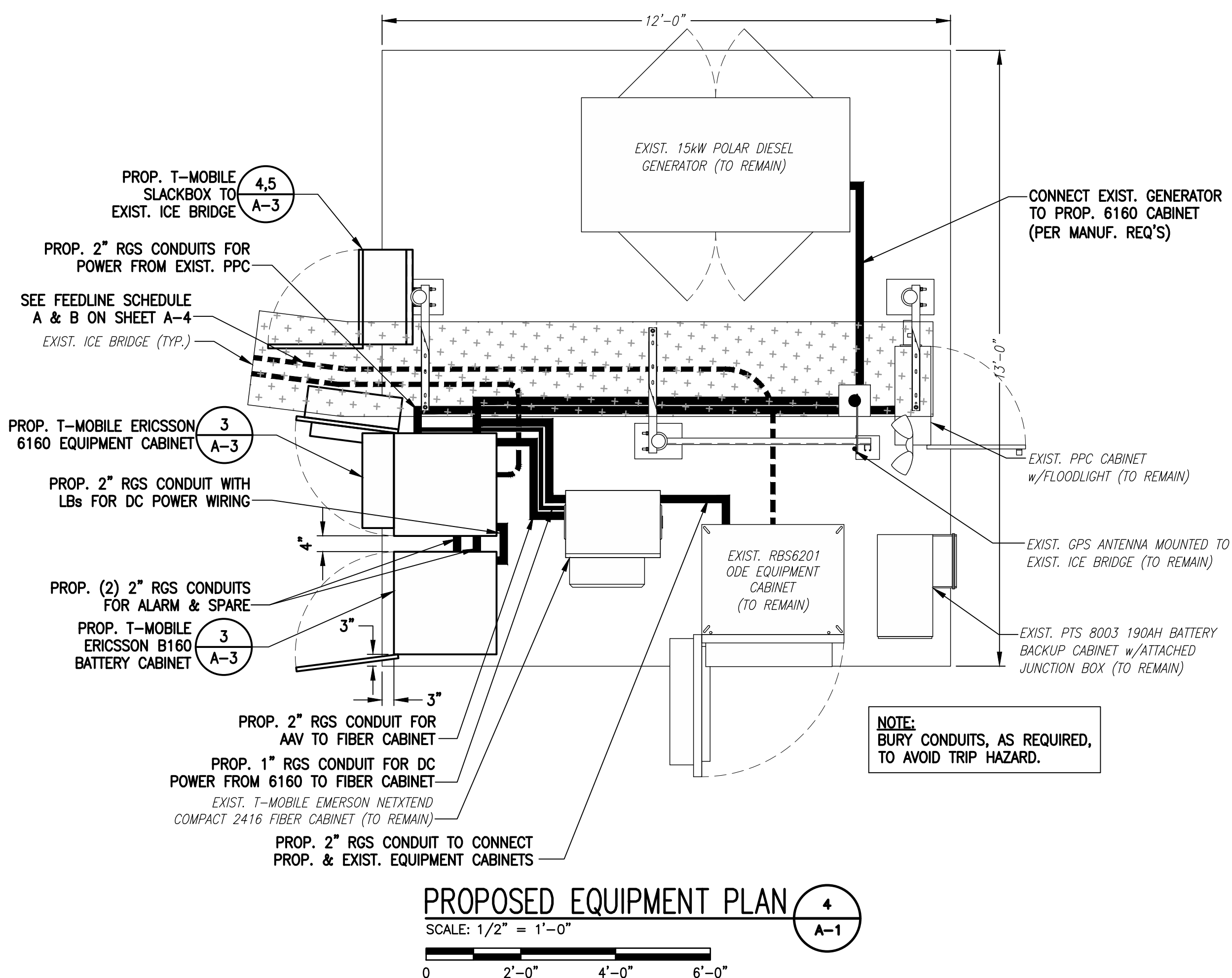
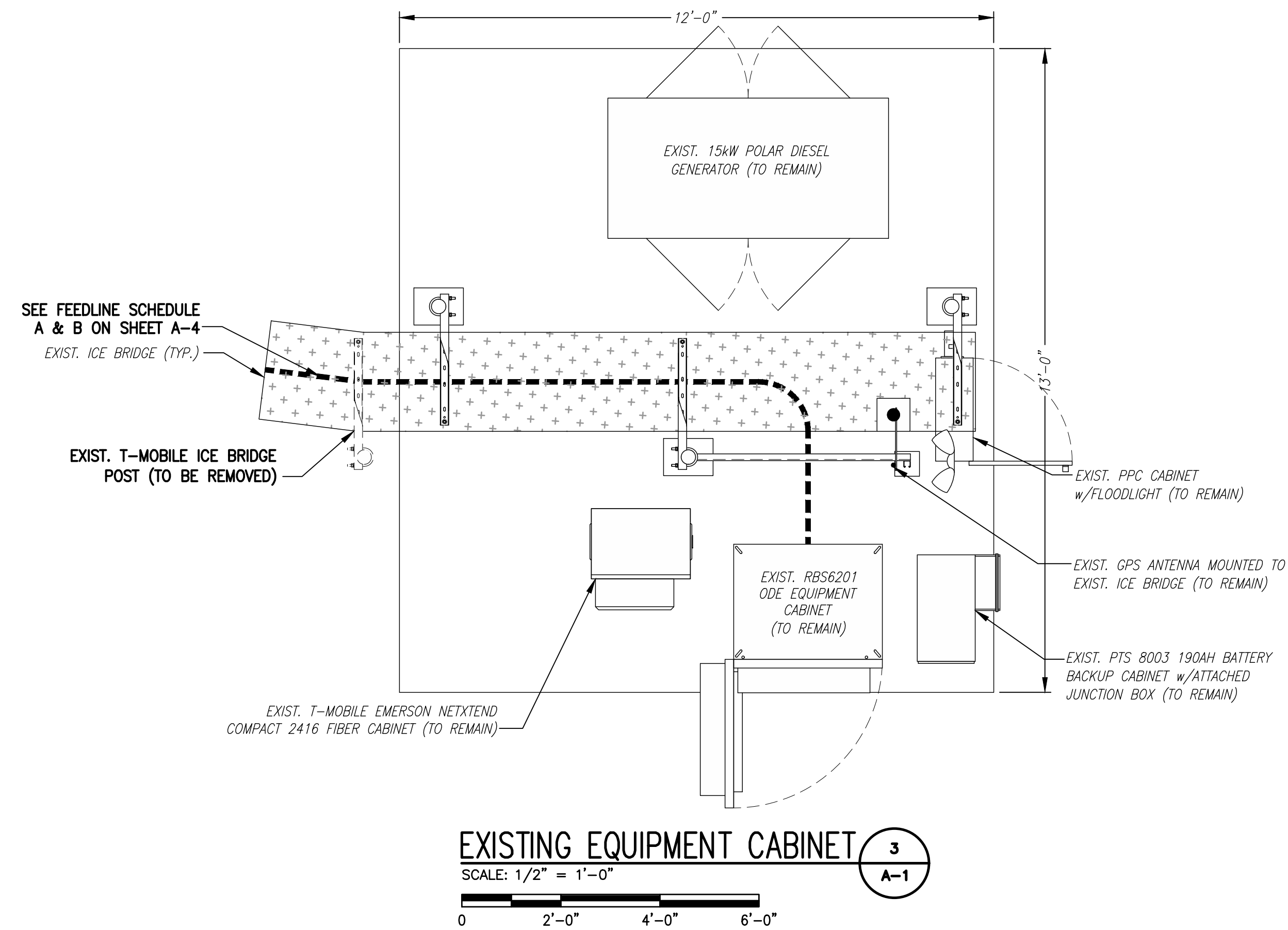
GN-1

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.



EXISTING EQUIPMENT PHOTO
 SCALE: N.T.S.



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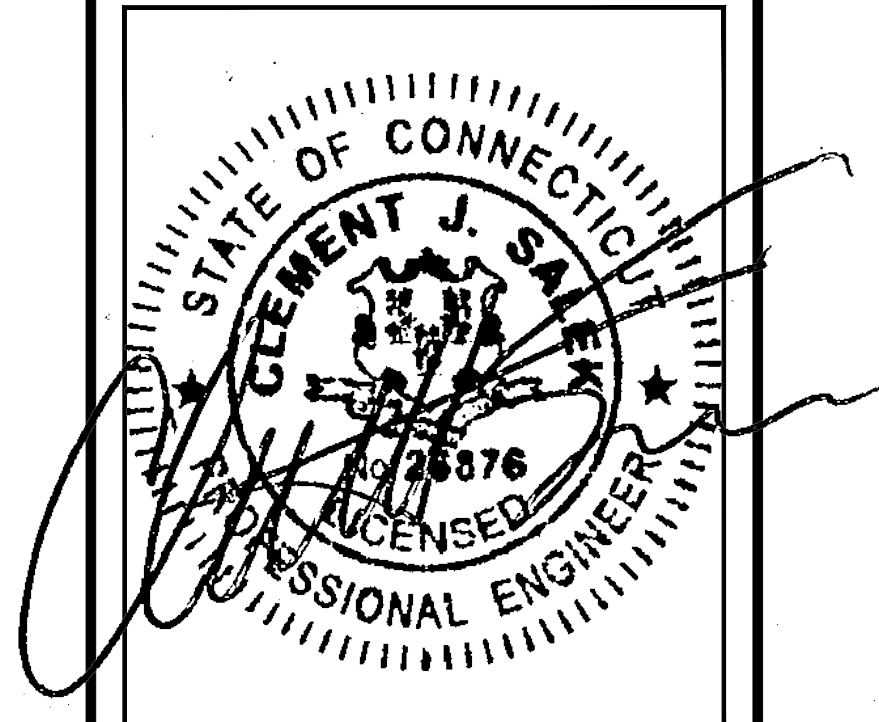
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SHEET TITLE
**COMPOUND &
 EQUIPMENT PLANS**

SHEET NUMBER
A-1

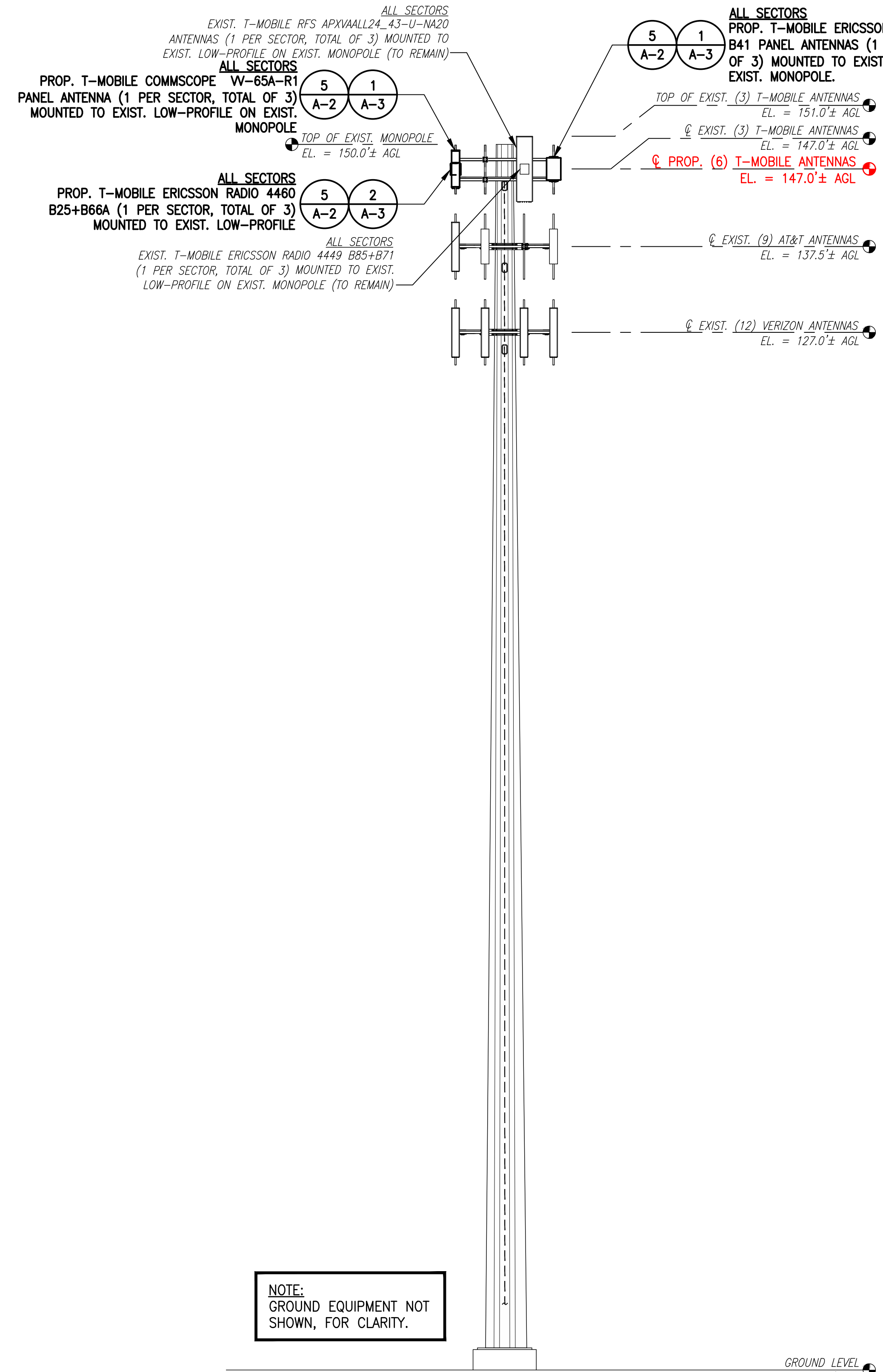
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SPECIAL CONSTRUCTION NOTE:
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RAD CENTER NOTE:
 T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED CO-LOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA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



EXISTING TOWER PHOTO
 SCALE: N.T.S.

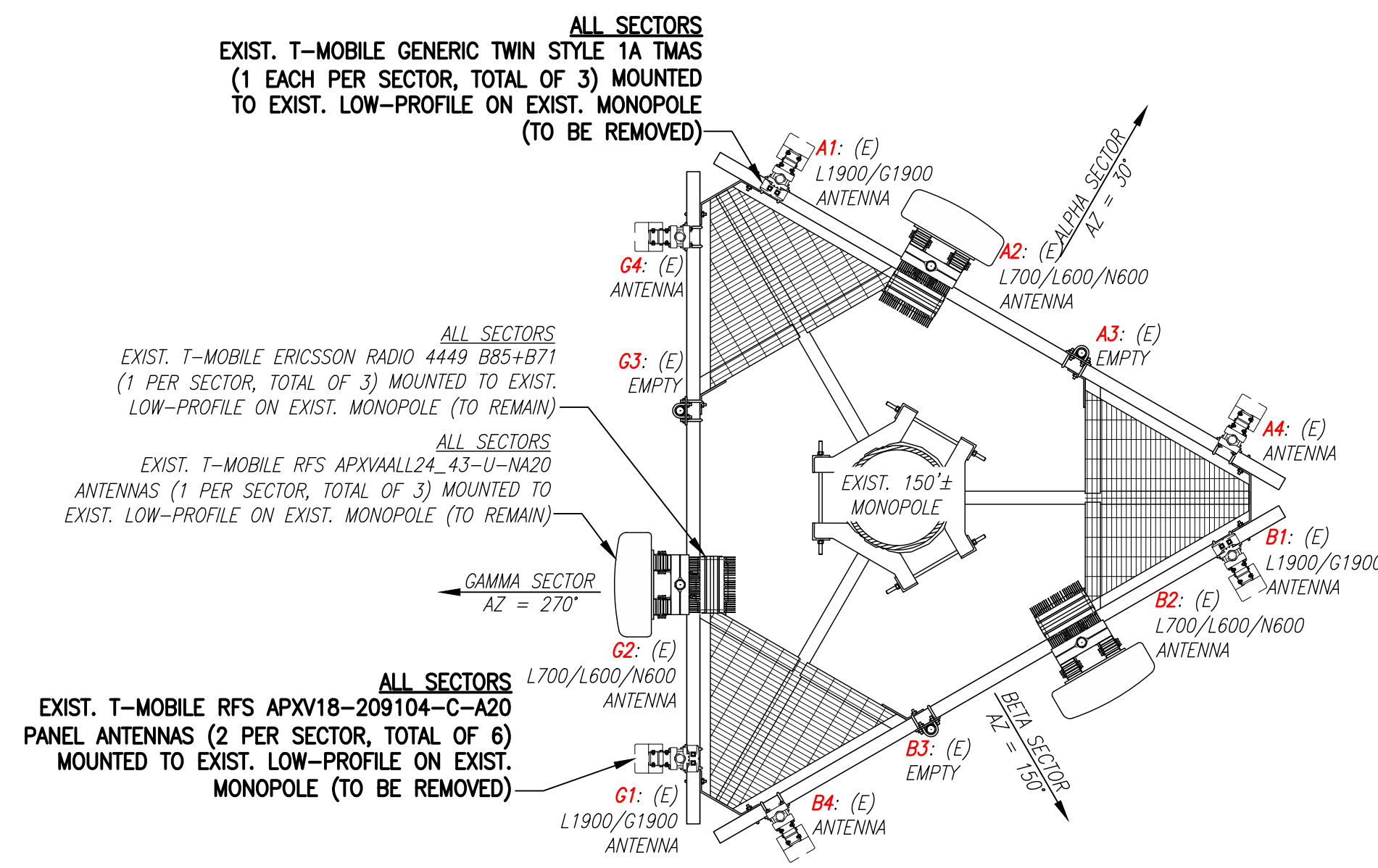


NOTE:
 GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

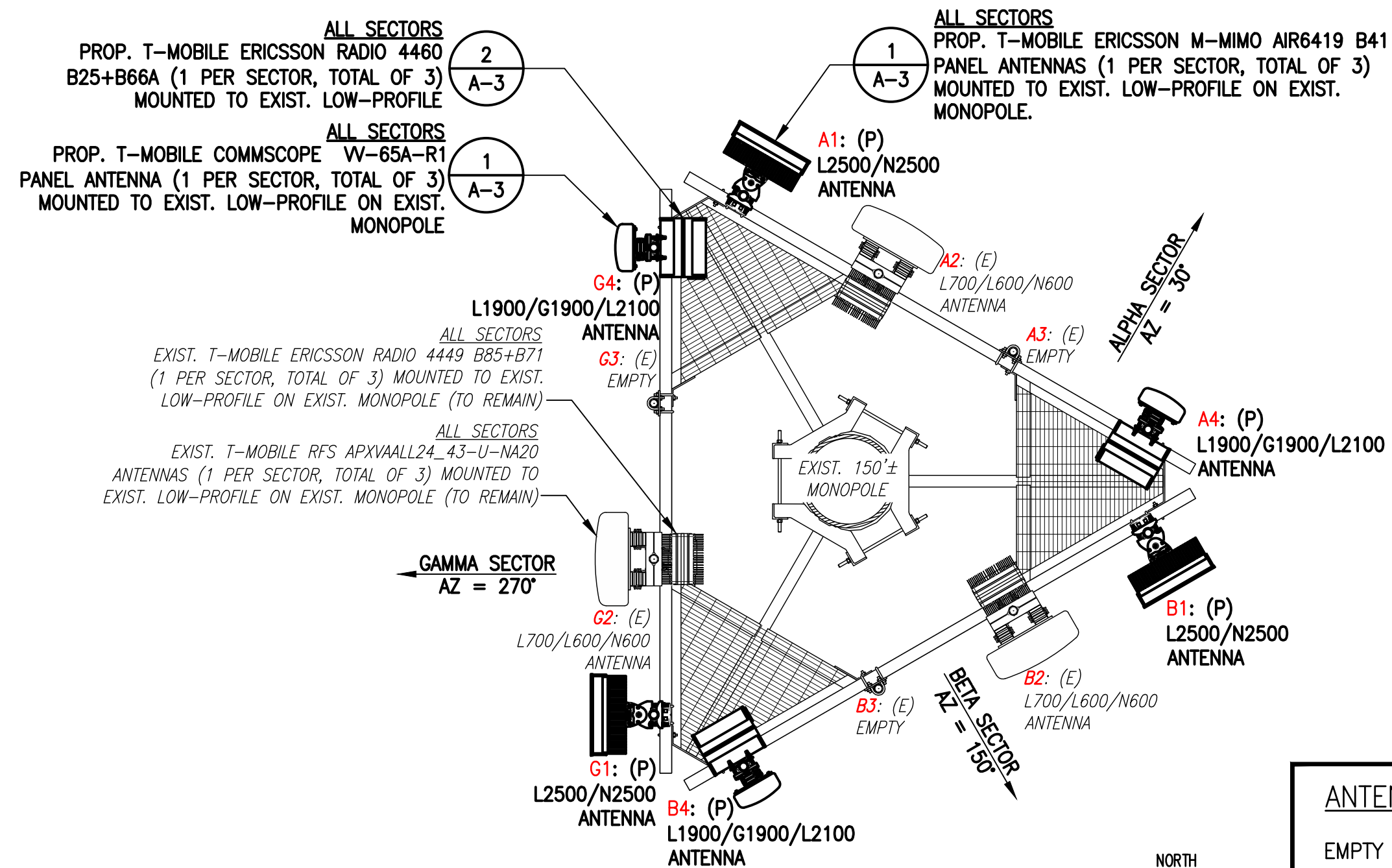
TOWER ELEVATION
 SCALE: 1" = 10'-0"



EXISTING ANTENNA PHOTO
 SCALE: N.T.S.



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



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

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

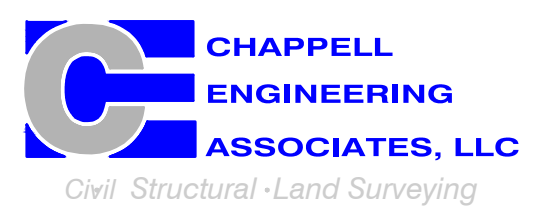
PROPOSED ANTENNA PLAN
 SCALE: 3/8" = 1'-0"

T-MOBILE NORTHEAST LLC

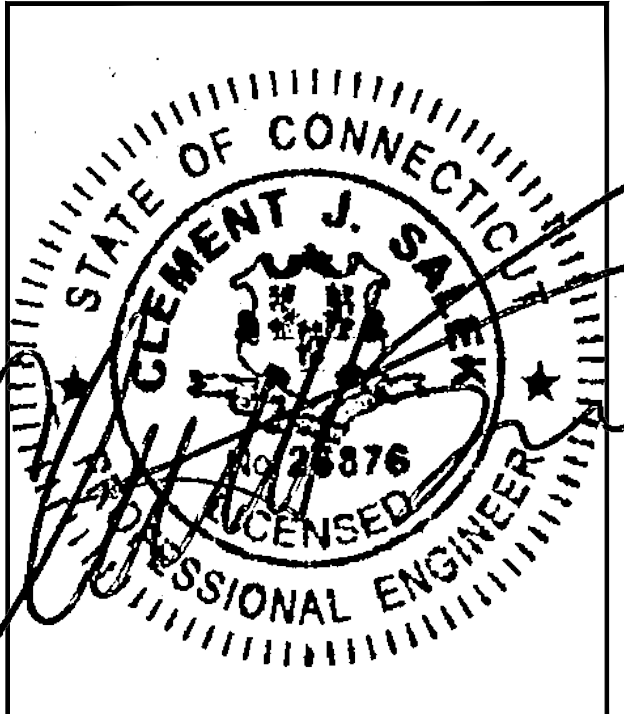
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TOWER ELEVATIONS & ANTENNA PLAN

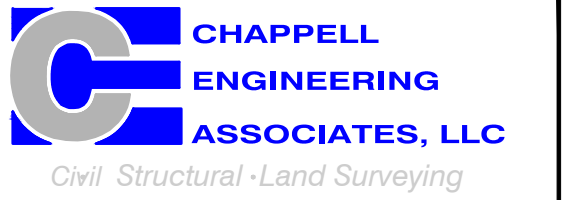
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A-2

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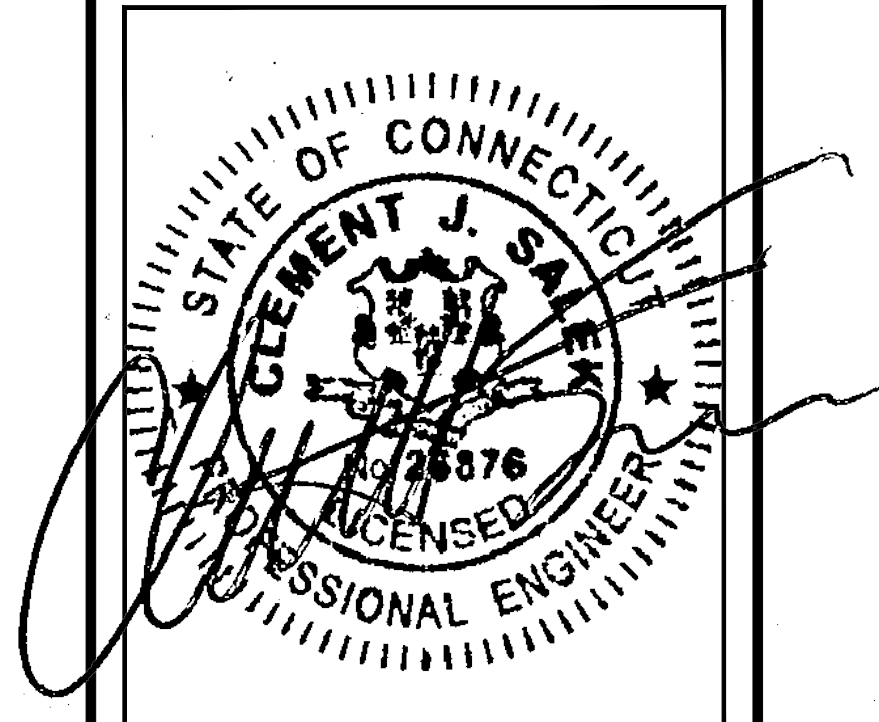
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



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



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SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	03/30/22	ISSUED FOR REVIEW	JRV

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CT11519D

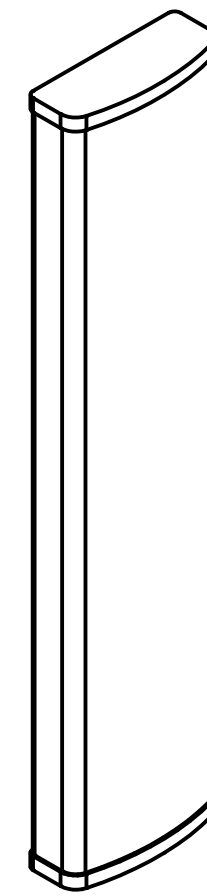
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ASHFORD, CT 06278

SHEET TITLE

SITE DETAILS

SHEET NUMBER

A-3



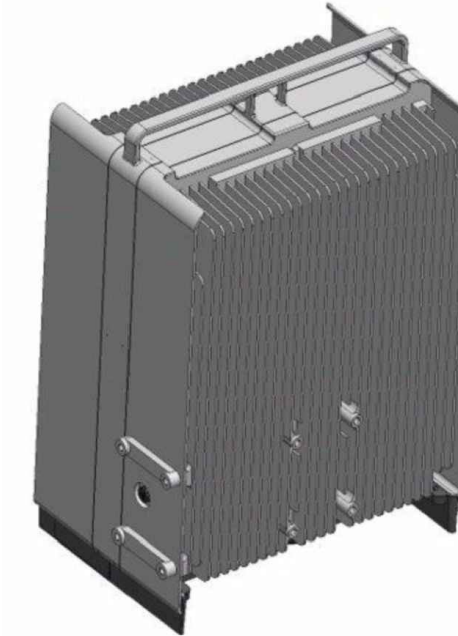
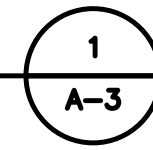
COMMSCOPE W-65A-R1 ANTENNA
DIMENSIONS: 54.7"H x 12.1"W x 4.6"D
WEIGHT: 23.8 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3



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

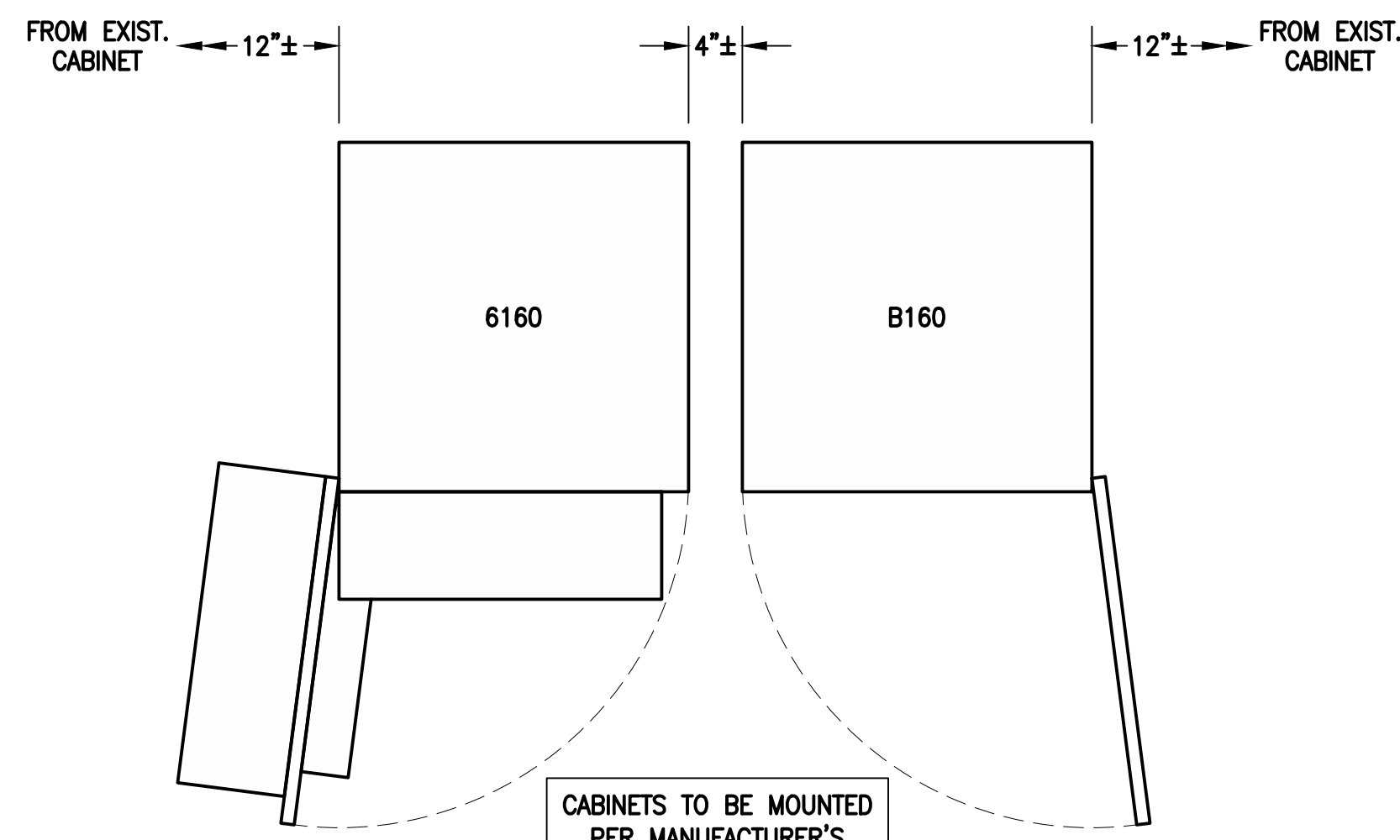
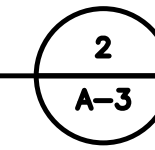
SCALE: N.T.S.



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.



CABINETS TO BE MOUNTED
PER MANUFACTURER'S
SPECIFICATIONS

**ERICSSON 6160 SITE
SUPPORT CABINET**

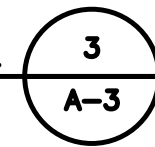
DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

**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.

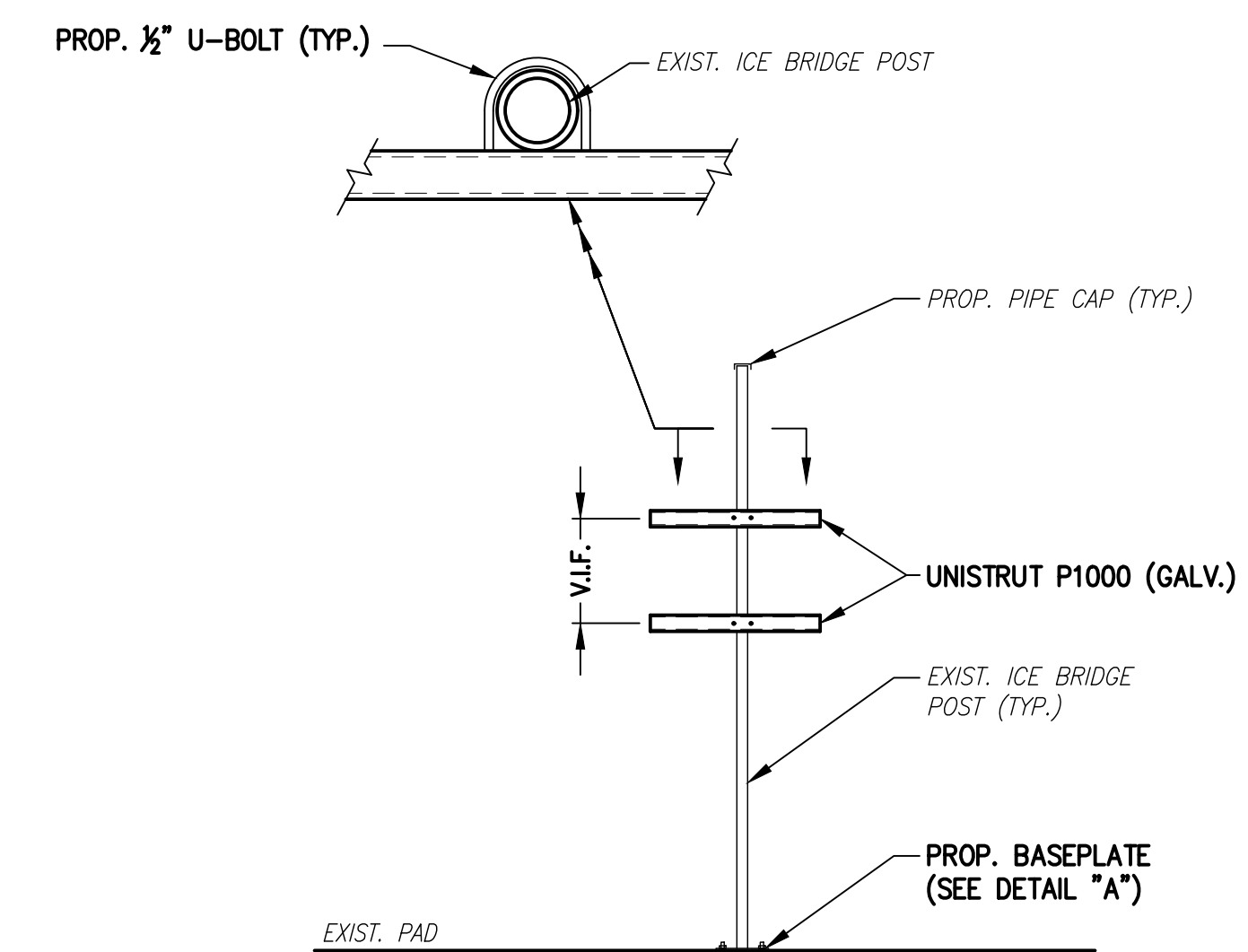
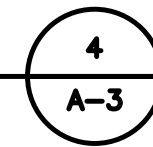


**SLACKBOX -- HOFFMAN 32FH91
NEMA 3R ENCLOSURE**

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

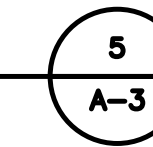
SSC DETAILS

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	147'± AGL	30°	0°	0°	L2500/N2500	-
	A2	RFS APXVAALL24_43-U-NA20	147'± AGL	30°	0°	0°	L700/L600/N600	RADIO 4449 B71+B85
	A3	EMPTY PIPE	-	-	-	-	-	-
	A4	COMMSCOPE W-65A-R1	147'± AGL	30°	0°	0°	L1900/G1900/L2100	RADIO 4460 B25+B66
BETA	B1	ERICSSON M-MIMO AIR6419 B41	147'± AGL	150°	0°	0°	L2500/N2500	-
	B2	RFS APXVAALL24_43-U-NA20	147'± AGL	150°	0°	0°	L700/L600/N600	RADIO 4449 B71+B85
	B3	EMPTY PIPE	-	-	-	-	-	-
	B4	COMMSCOPE W-65A-R1	147'± AGL	150°	0°	0°	L1900/G1900/L2100	RADIO 4460 B25+B66
GAMMA	G1	ERICSSON M-MIMO AIR6419 B41	147'± AGL	270°	0°	0°	L2500/N2500	-
	G2	RFS APXVAALL24_43-U-NA20	147'± AGL	270°	0°	0°	L700/L600/N600	RADIO 4449 B71+B85
	G3	EMPTY PIPE	-	-	-	-	-	-
	G4	COMMSCOPE W-65A-R1	147'± AGL	270°	0°	0°	L1900/G1900/L2100	RADIO 4460 B25+B66

(1) 1-3/8" (6x12) HCS FIBER CABLE
(2) 2" (6x24) HCS FIBER CABLES

CABLE NOTE: ALL EXISTING 1-3/8" COAX CABLES TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV4 - 03/01/22

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (1) 1/2" COAX CABLE FOR GPS ANTENNA (1) 1-3/8" (6x12) HCS FIBER CABLE EXISTING TO BE REMOVED: ALL 1-3/8" COAX CABLES	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (2) 2" (6x24) HCS FIBER CABLES	

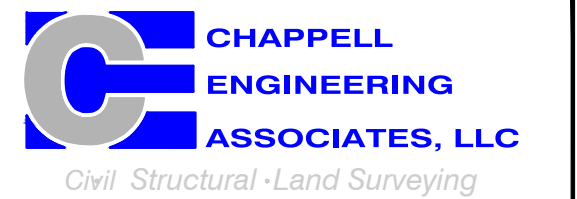
NOTE: EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

T-MOBILE NORTHEAST LLC

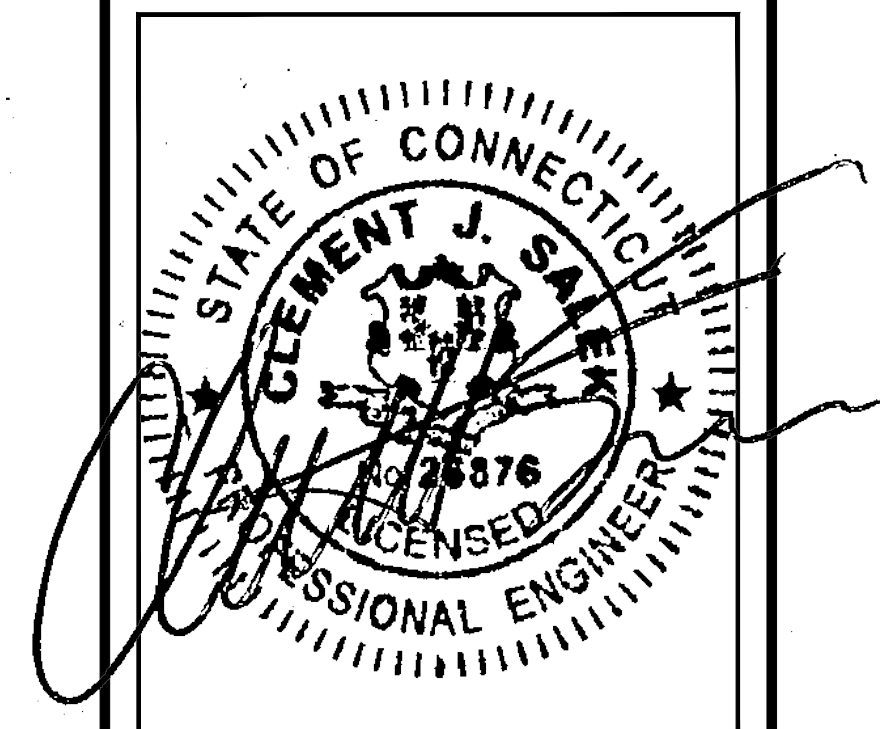
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SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	03/30/22	ISSUED FOR REVIEW	JRV

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CT11519D

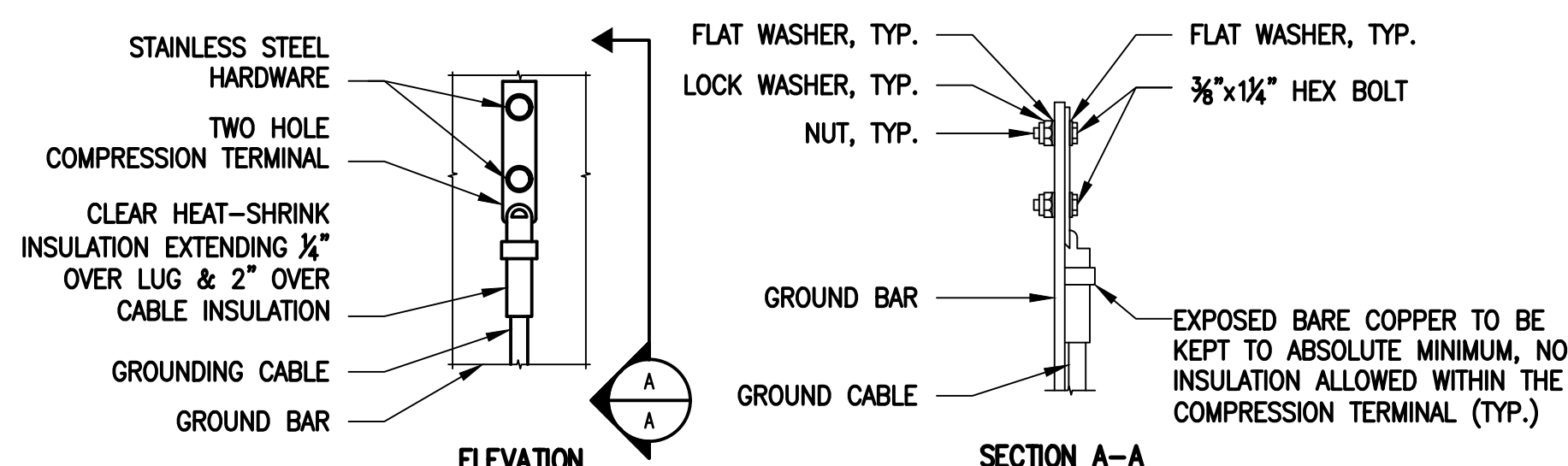
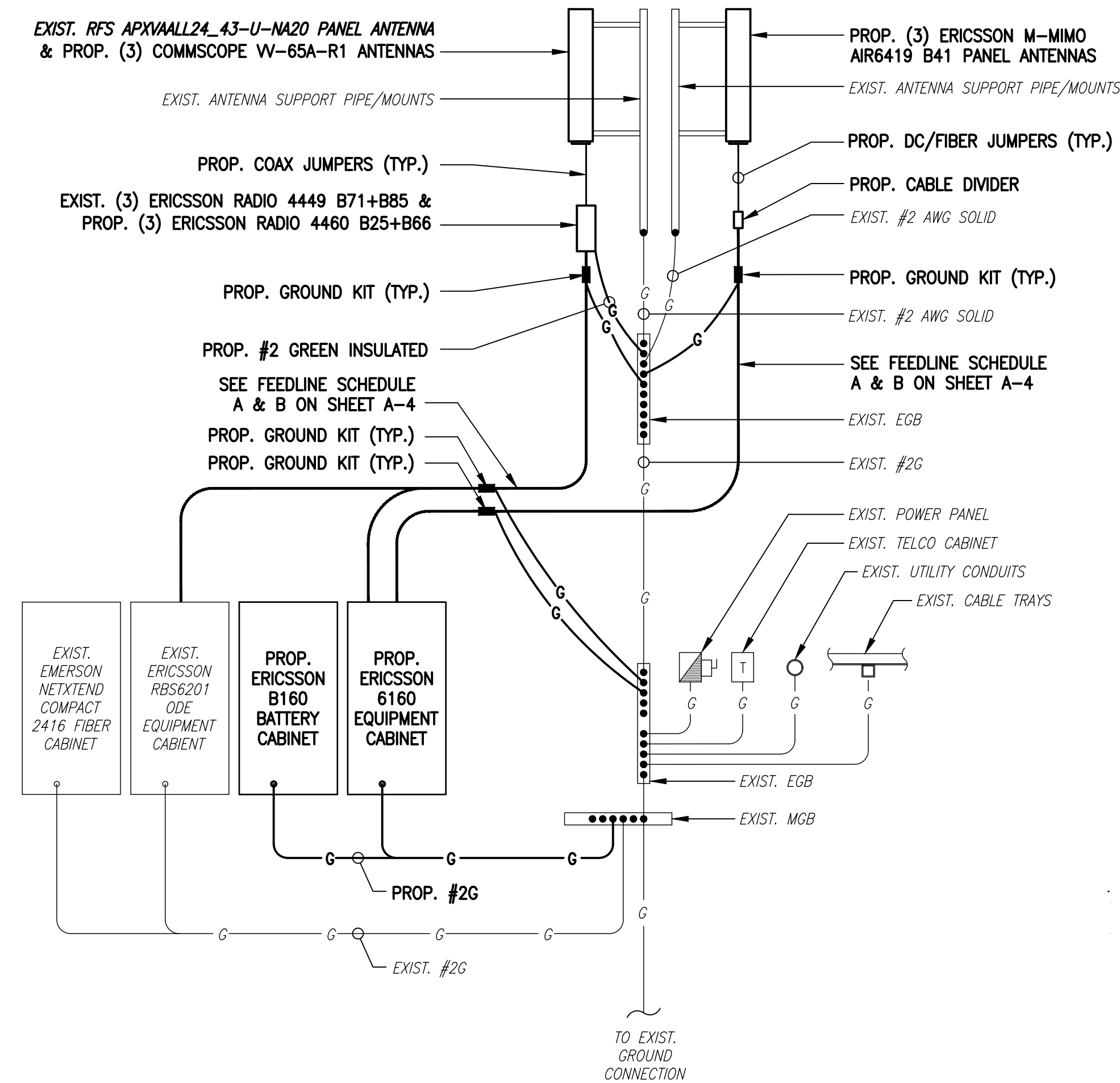
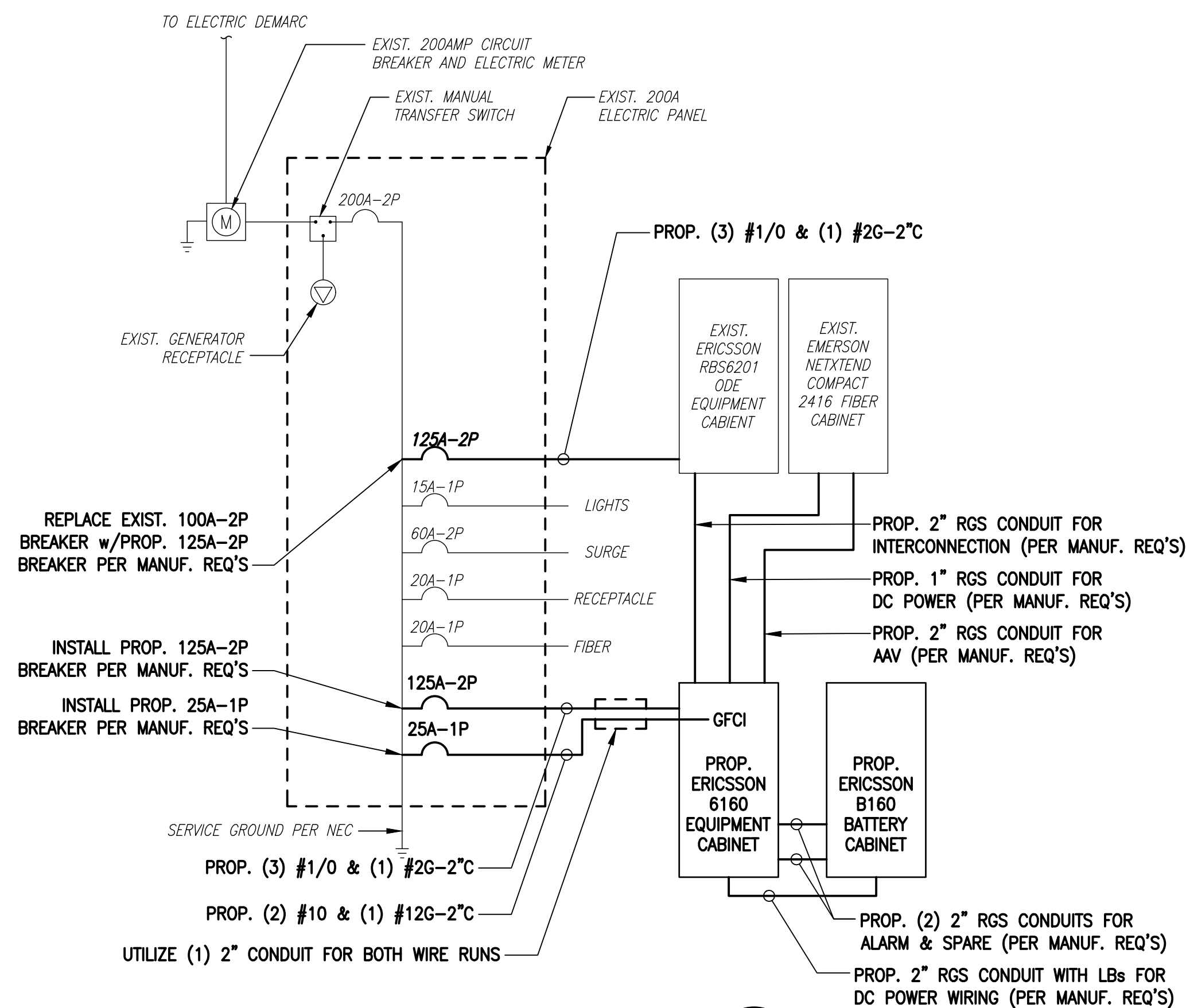
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99 KNOWLTON HILL ROAD
ASHFORD, CT 06278

SHEET TITLE
**ANTENNA &
FEEDLINE CHARTS**

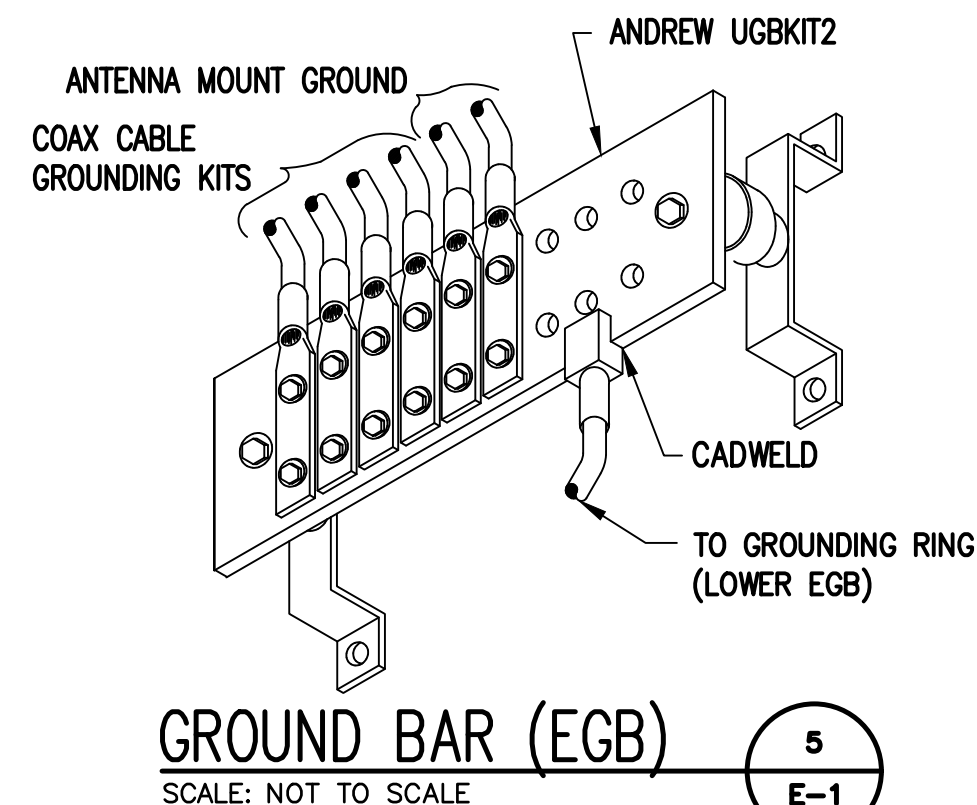
SHEET NUMBER
A-4



EXISTING POWER PANEL PHOTOS
SCALE: NOT TO SCALE

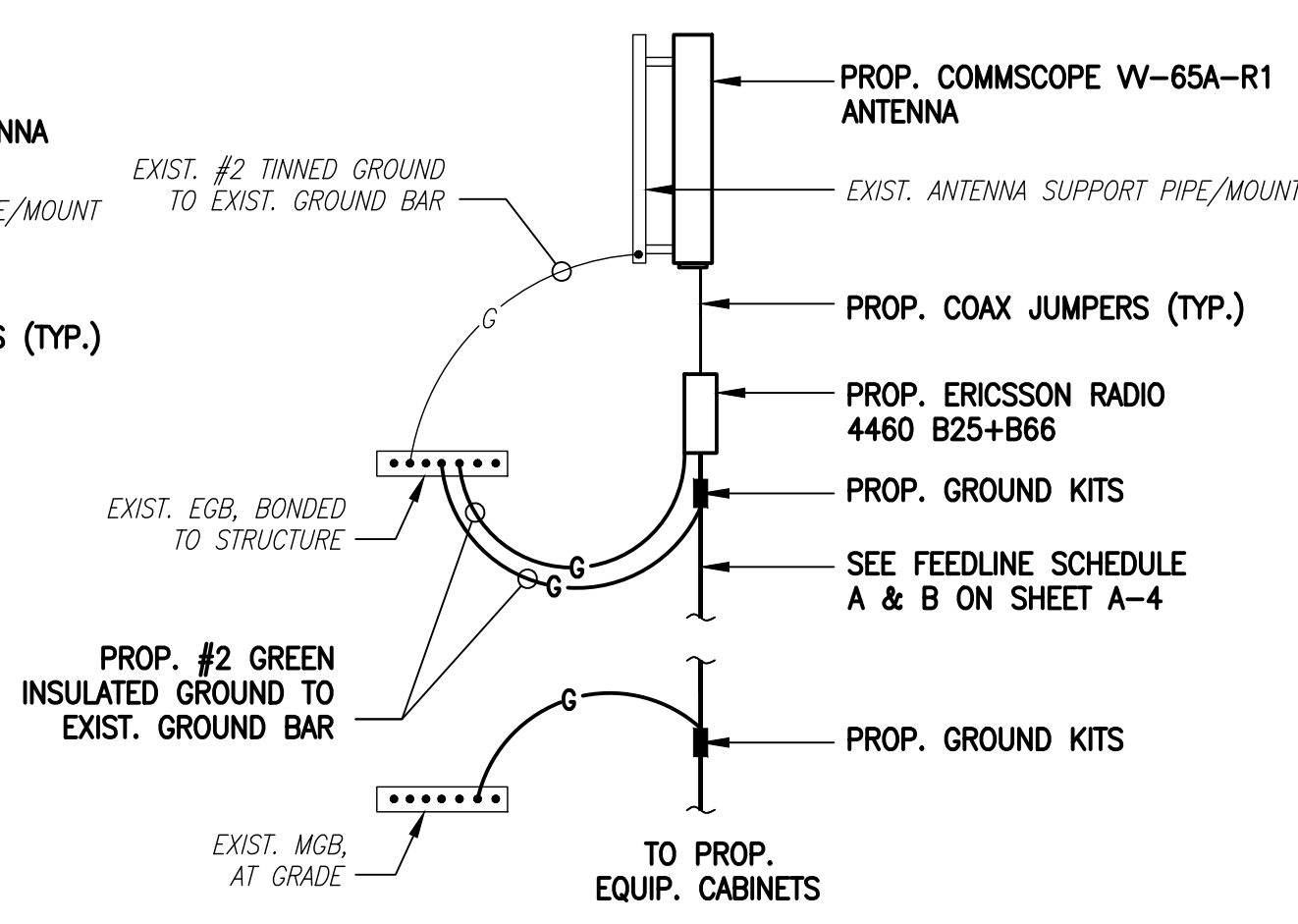
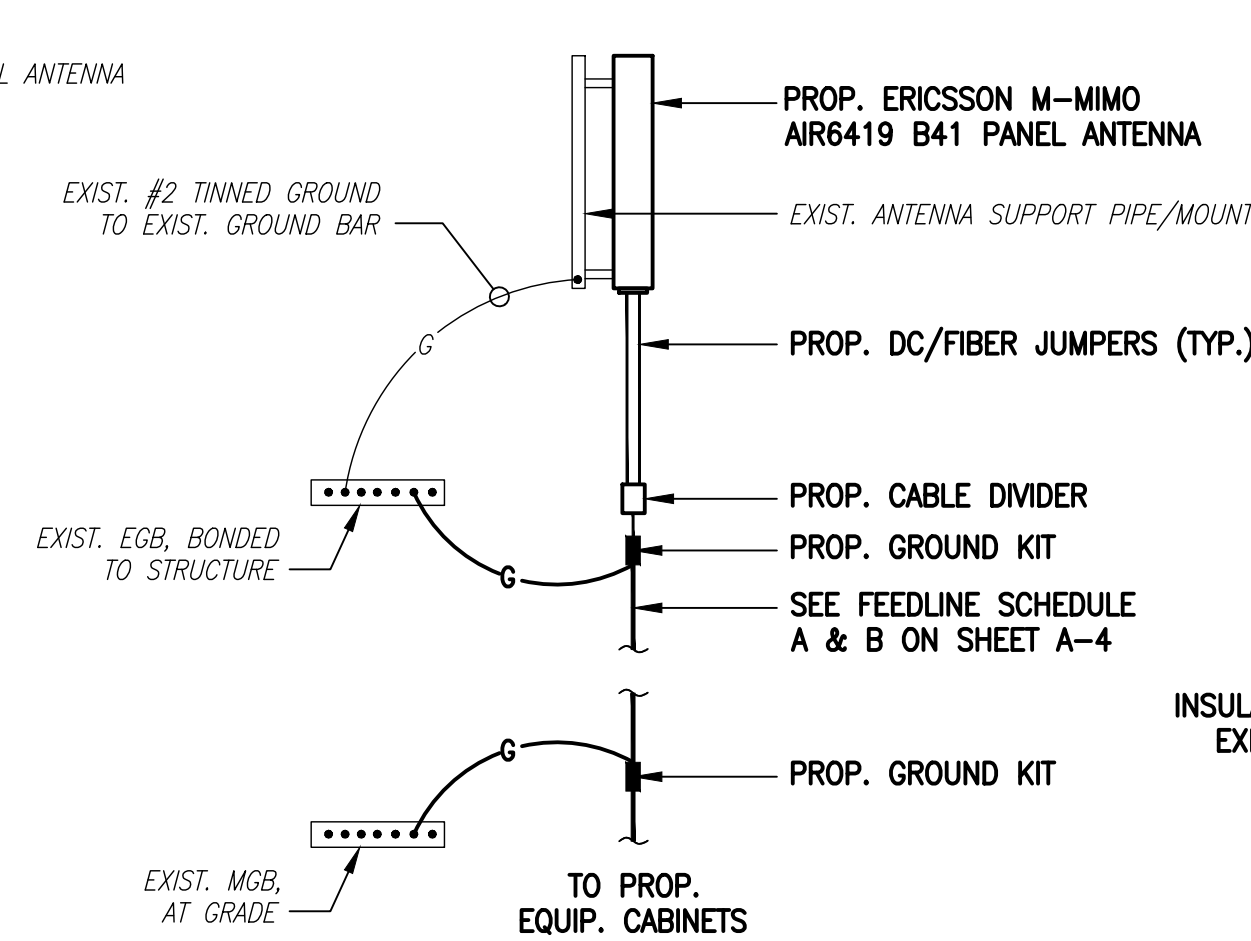
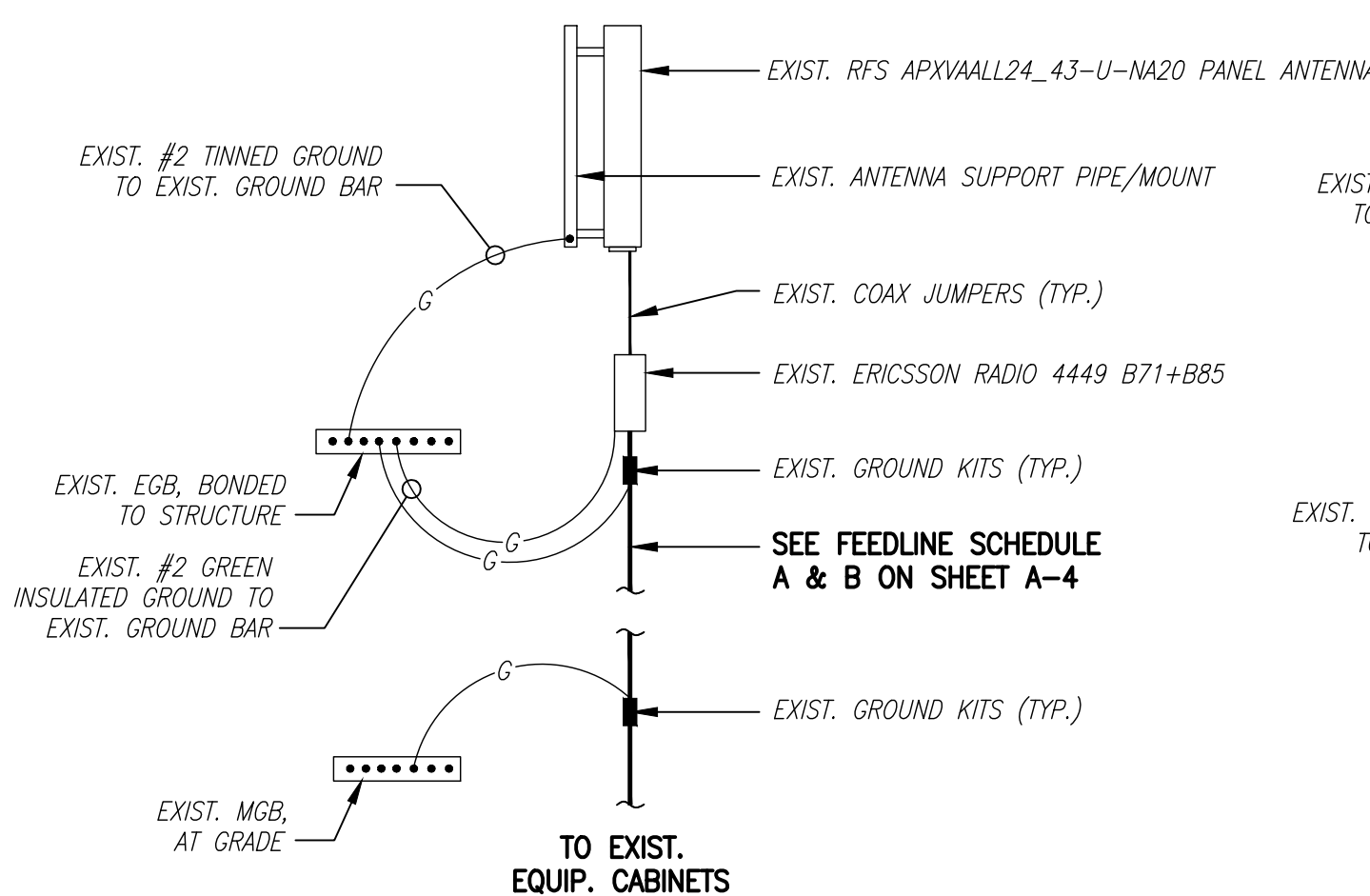


- NOTES:**
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
 - CADWELL DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.



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 HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
- CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
- CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE-OUT.

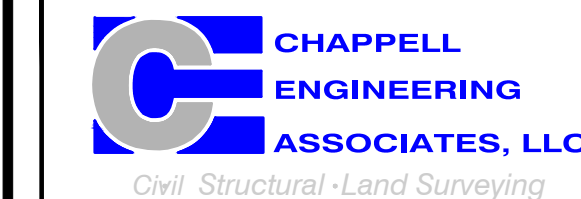


**T-MOBILE
NORTHEAST LLC**

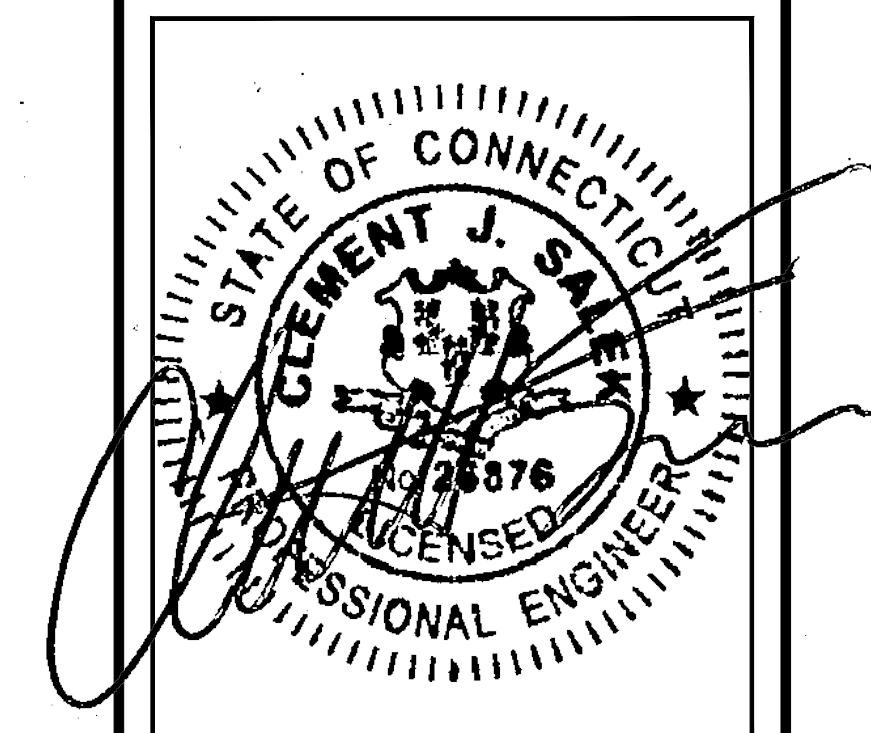
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SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	03/30/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11519D

SITE ADDRESS:
99 KNOWLTON HILL ROAD
ASHFORD, CT 06278

SHEET TITLE
**ELECTRIC & GROUNDING
DETAILS**

SHEET NUMBER

E-1

Exhibit D

Structural Analysis Report

SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

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F + 561 995 7626

sbsite.com



Structural Analysis Report

Client: T-Mobile

Client Site ID / Name: CT11519D / Knowlton
Application #: 193738, v1

SBA Site ID / Name: CT13614-A / Knowlton

150 ft Monopole

99 Knowlton Hill Rd
Ashford, Connecticut 06278
Lat: 41.840778, Long: -72.207528

Project number: CT13614-TMO-041122

Analysis Results

Tower	59.4%	Pass
Foundation	56.0%	Pass

Change in tower stress due to mount modification / replacement	N/A
--	-----

Prepared by:

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Reviewed by:

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April 12, 2022



04/12/22

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Analysis Criteria 3

Appurtenance Loading 4

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 Proposed Loading: 4

Analysis Results 5

 Tower 5

 Foundation..... 5

Conclusions 6

Installation Requirements 6

Assumptions and Limitations 7

 Assumptions 7

 Limitations..... 7

Appendix 8

 Tower Geometry.....

 Coax Layout.....

 TESPole Report.....

 Foundation Analysis Report.....



Introduction

The purpose of this report is to summarize the analysis results on the 150 ft Monopole to support the proposed antennas and transmissions lines in addition to those currently installed.

Table 1 List of Documents Used

Item	Document
Tower design/drawings	Sabre, Job No. 06-06307, dated on June 29, 2005
Foundation drawings	Sabre, Job No. 06-06307, dated on June 29, 2005
Geotechnical report	JGI Eastern, Inc.: Project No. 05360G, dated on June 28, 2005
Mount Analysis	GeoStructural, Project No. L600 Project, dated on June 12, 2019
Latest SA	TES, Project No. 111818, dated on July 28, 2021

Analysis Criteria

Table 2 Code Related Data

Jurisdiction (State/County/City)	Connecticut/Windham/Ashford
Governing Codes	ANSI/TIA/EIA 222-G, 2015 IBC, 2018 Connecticut State Building Code
Basic Wind Speed (3-Sec gust)	101.0 mph (Ultimate Wind Speed: 130 mph)
Wind Speed with Ice (3-Sec gust)	50 mph
Service Wind Speed (3-Sec gust)	60 mph
Ice Thickness	1.00"
Structural Class*	II
Exposure Category	C
Topographic Category	1
Crest Height	0 ft
Ground Elevation	660.19 ft.
Seismic Parameter S_s**	0.174
Seismic Parameter S_1	0.063

*This structural analysis is based upon the tower being classified as a structural 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.

**Earthquake effects were ignored as per section 2.7.3 of the TIA-222-G code provisions for $S_s < 1.0$.

Appurtenance Loading

Existing Loading:

Table 3 Existing Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	147.0	6	RFS APXV18-209014-02 - Panel	Low Profile Platform w/ Handrails [SitePro HRK12-U] + Platform Reinforcement Kit [SitePro PRK-1245L]	(17) 1-5/8" (1) 1-5/8" Fiber	T-Mobile
2		3	RFS APXVAARR24_43-U-NA20 - Panel			
3		3	Ericsson KRY 112 489/2			
4		6	Ericsson Radio 4449 B71+B12			
5		3	Kathrein 782 11056			
6	137.0	6	Powerwave 7770 - Panel	Low Profile Platform	(12) 1-5/8" (2) 3/4" DC (1) 7/16" Fiber	AT&T
7		3	KMW AM-X-CD-17-65-00T - Panel			
8		6	Powerwave LGP21401			
9		6	Powerwave LGP21903			
10		6	Ericsson RRUS11			
11		1	Raycap DC2-48-60-18-8F			
12	129.0	3	Antel BXA-70063/6CF __ 2° - Panel	Low Profile Platform w/ Handrails + (3) Kicker Kit [JMA 91900314-02] + (1) P2.0 STD Mount Pipe	(10) 1-5/8" (2) 1-5/8" Hybrid	Verizon
13	127.0	6	JMA Wireless MX06FRO660-03 - Panel			
14		3	Samsung MT6407-77A - Panel			
15		3	Samsung B2/B66A - RRU			
16		3	Samsung B5/B13 - RRU			
17		1	Raycap RVZDC-3315-PF-48 - OVP			

Note: AT&T loading includes FirstNET equipment

Proposed Loading:

Information pertaining to proposed antennas and transmission lines were based upon the Application #: 193738, v1 from T-Mobile and is listed in Table 4.

Table 4 Proposed Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	147.0	3	Ericsson AIR6419 B41 - Panel	Low Profile Platform w/ Handrails [SitePro HRK12-U] + Platform Reinforcement Kit [SitePro PRK-1245L]	(14) 1-5/8" (1) 1-5/8" Fiber (2) 1.9" Fiber	T-Mobile
2		3	RFS APXVAALL24_43-U-NA20 - Panel			
3		3	Commscope VV-65A-R1 - Panel			
4		6	Ericsson KRY 112 489/2			
5		3	Ericsson 4449 B71 + B85			
6		3	Ericsson 4460 B25 + B66			
7		3	Kathrein 782 11056			

Analysis Results

Tower

The results of the structural analysis are shown below in table 5. Additional information for the tower analysis is provided within the Appendix.

Table 5 Tower Analysis Summary

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	59.4%	58.1%	48.4%
Pass/Fail	Pass	Pass	Pass

Foundation

The results of the foundation analysis are shown below in table 6. Additional information for the foundation analysis is provided within the Appendix.

Table 6 Foundation Analysis Summary

Structural Component	Max Usage (%)	Analysis Result
Foundation	56.0%	Pass

Conclusions

Based on the analysis results, the existing tower and foundation were found to be **sufficient** to safely support the equipment listed in this analysis. No modification to the tower and foundation is needed at this time.

Installation Requirements

This analysis was performed under the assumption that the carrier will place the proposed equipment and feed lines at the installation height listed in Table 4 and in accordance with the coax layout shown. TMAs and RRUs are to be installed on existing mounts behind tenant's antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met the carrier must notify SBA Communications Corporation engineers for approval of an alternative placement.

Assumptions and Limitations

Assumptions

This analysis was completed based on the following assumptions:

- Tower and foundation were built in accordance to manufacturer specifications.
- Tower and foundation has been properly maintained in accordance with the manufacturer's specifications
- All existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion
- Welds and bolts are assumed able to carry their intended original design loads.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Table 3 and 4.
- This analysis may be affected if any assumptions are not valid or have been made in error. SBA should be notified to determine the effect on the structural integrity of the tower.

Limitations

The computer generated analysis performed by the tower software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection.

SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

Appendix

Usage Diagram - Max Ratio 59.36% at 0.0ft

Structure: CT13614-A
Site Name: Knowlton
Height: 149.00 (ft)
Base Elev: 1.000 (ft)

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

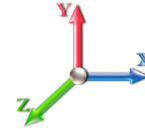
4/12/2022



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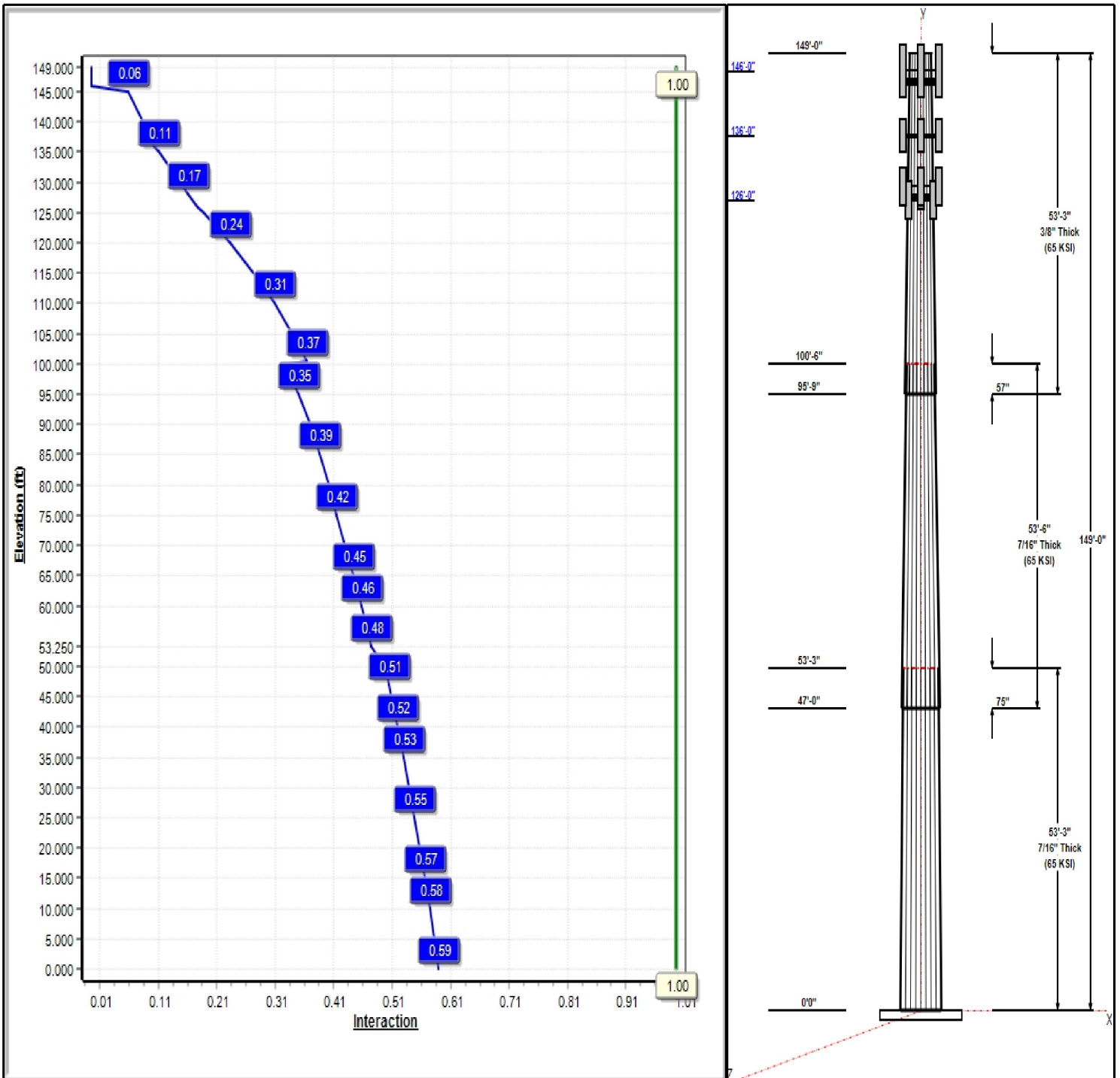
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 101 mph Wind



Iterations: 23

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Structure: CT13614-A

Type: Tapered
Site Name: Knowlton
Height: 149.00 (ft)
Base Elev: 1.00 (ft)

Base Shape: 18 Sided
Taper: 0.24419

4/12/2022

Page: 2



Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	47.46	60.46	0.438		0.24419	65
2	53.50	36.79	49.86	0.438	Slip	0.24419	65
3	53.25	25.70	38.70	0.375	Slip	0.24419	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
146.00	146.00	6	Ericsson KRY 112 489/4	T-Mobile
146.00	146.00	1	Low Profile Platform w/	T-Mobile
146.00	229.30	3	Ericsson AIR6419 B41	T-Mobile
146.00	146.00	3	RFS	T-Mobile
146.00	146.00	3	Commscope VV-65A-R1	T-Mobile
146.00	146.00	3	Ericsson 4449 B71 + B85	T-Mobile
146.00	146.00	3	Ericsson 4460 B25 + B66	T-Mobile
146.00	146.00	3	Empty Pipe Mounts	T-Mobile
146.00	146.00	3	Kathrein 782 10662	T-Mobile
136.00	136.00	6	7770	AT&T
136.00	136.00	3	AM-X-CD-17-65-00T-RET	AT&T
136.00	136.00	6	LGP21401	AT&T
136.00	136.00	6	LGP21903	AT&T
136.00	136.00	6	RRUS-11	AT&T
136.00	136.00	1	DC2-48-60-18-8F	AT&T
136.00	136.00	1	Low Profile Platform w/	AT&T
128.00	128.00	3	BXA-70063/6CF __ 2°	Verizon
128.00	128.00	1	Low Profile Platform w/	Verizon
126.00	126.00	6	MX06FRO660-03	Verizon
126.00	126.00	3	MT6407-77A	Verizon
126.00	126.00	3	B2/B66A	Verizon
126.00	126.00	3	B5/B13	Verizon
126.00	126.00	1	Raycap	Verizon

Linear Appurtenances

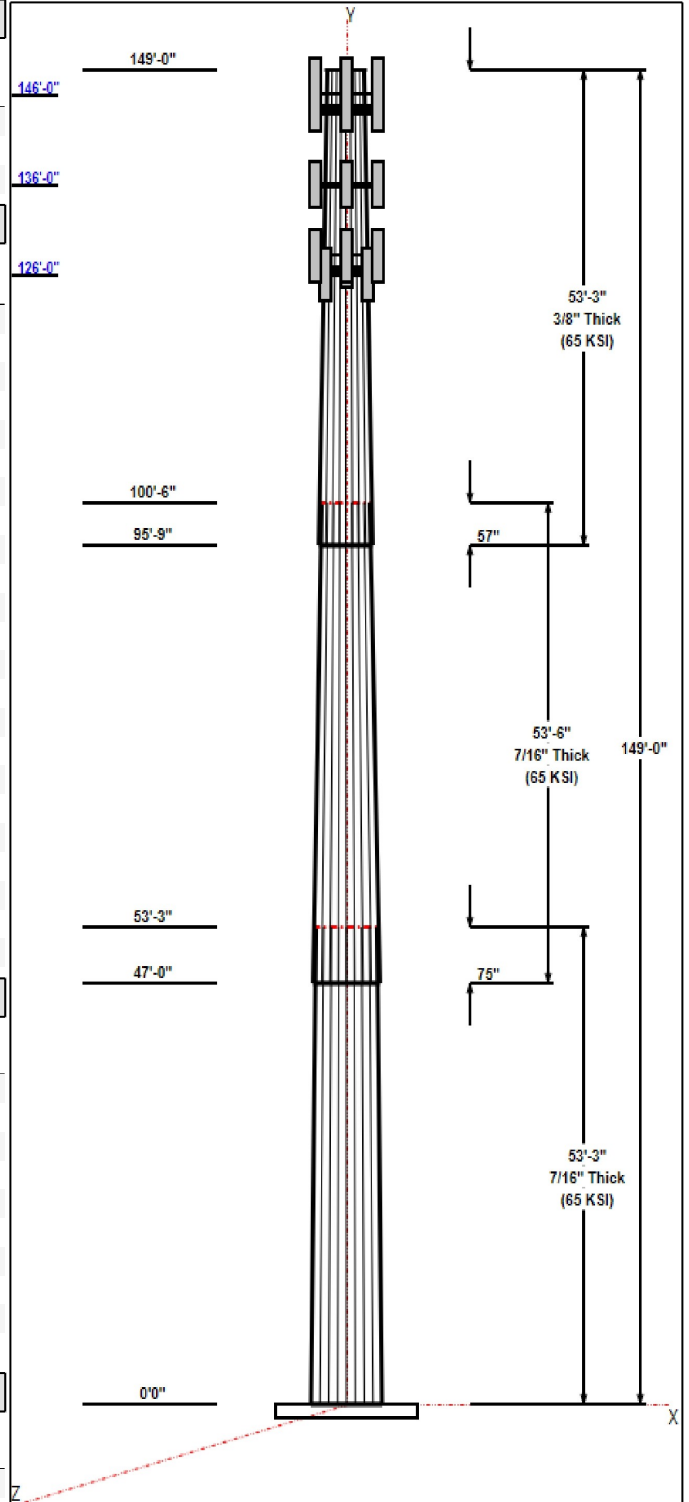
Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	149.00	Outside	Safety Cable	
0.00	149.00	Outside	Step bolts (ladder)	
0.00	146.00	Inside	1 5/8" Coax	T-Mobile
0.00	146.00	Inside	1 5/8" Fiber	T-Mobile
0.00	146.00	Inside	1.9" Fiber	T-Mobile
0.00	136.00	Inside	1 5/8" Coax	AT&T
0.00	136.00	Inside	3/4" DC	AT&T
0.00	136.00	Inside	7/16" Fiber	AT&T
0.00	128.00	Inside	1 5/8" Coax	Verizon
0.00	128.00	Inside	1 5/8" Hybrid	Verizon

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry



Structure: CT13614-A

Type: Tapered
Site Name: Knowlton
Height: 149.00 (ft)
Base Elev: 1.00 (ft)

Base Shape: 18 Sided
Taper: 0.24419

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3.0000 68.0 60.0 Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	4023.7	36.2	55.6
0.9D + 1.6W 101 mph Wind	3990.6	36.2	41.7
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1109.2	10.0	93.6
1.2D + 1.0E	263.1	2.2	55.6
0.9D + 1.0E	260.8	2.2	41.7
1.0D + 1.0W 60 mph Wind	883.2	8.0	46.4

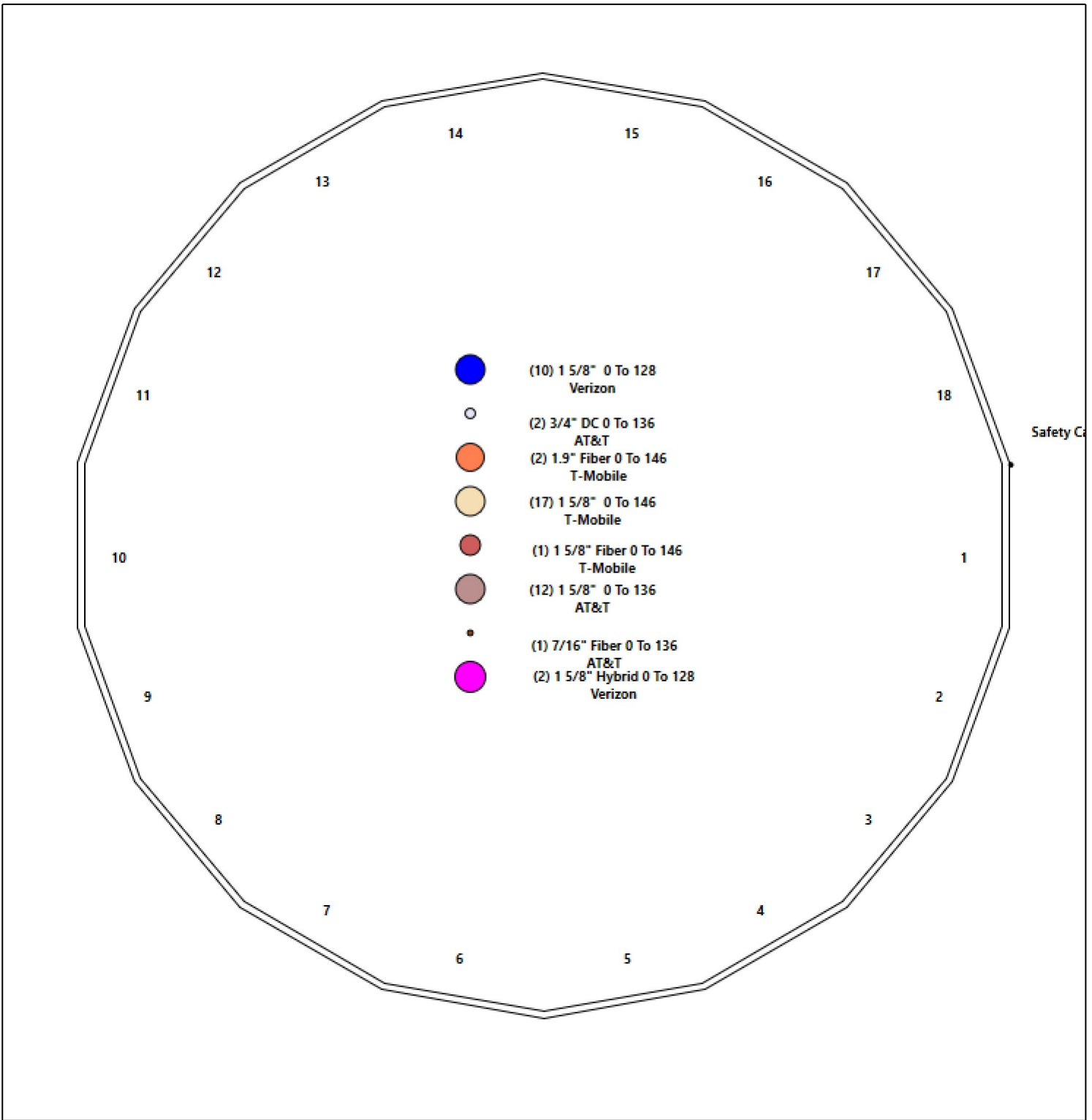
Structure: CT13614-A - Coax Line Placement

Type: Monopole
Site Name: Knowlton
Height: 149.00 (ft)

4/12/2022



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Shaft Properties

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.4375	65		0.00	13,466
2	18	53.500	0.4375	65	Slip	75.00	10,842
3	18	53.250	0.3750	65	Slip	57.00	6,864
Total Shaft Weight:							31,172

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	60.46	0.00	83.35	37937.15	22.96	138.19	47.46	53.25	65.29	18236.7	17.72	108.4	0.244195
2	49.86	47.00	68.62	21175.81	18.68	113.96	36.79	100.50	50.48	8430.41	13.42	84.10	0.244195
3	38.70	95.75	45.62	8467.14	16.79	103.21	25.70	149.00	30.14	2442.44	10.67	68.53	0.244195

Load Summary

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	146.00	Ericsson KRY 112 489/4	6	15.40	0.56	0.83	36.89	0.992	0.85	0.00	0.00
2	146.00	Low Profile Platform w/ Handrails +	1	2289.00	34.54	1.00	6116.27	74.645	1.00	0.00	0.00
3	146.00	Ericsson AIR6419 B41	3	83.00	6.32	0.73	286.16	7.659	0.74	9.00	83.30
4	146.00	RFS APXVAALL24_43-U-NA20	3	122.80	20.24	0.72	722.80	22.722	0.73	0.00	0.00
5	146.00	Commscope VV-65A-R1	3	23.81	5.92	0.73	204.18	7.311	0.75	0.00	0.00
6	146.00	Ericsson 4449 B71 + B85	3	75.00	1.95	0.90	150.52	2.693	0.91	0.00	0.00
7	146.00	Ericsson 4460 B25 + B66	3	104.00	2.14	0.85	181.67	2.909	0.86	0.00	0.00
8	146.00	Empty Pipe Mounts	3	60.00	1.92	1.00	160.32	4.149	1.00	0.00	0.00
9	146.00	Kathrein 782 10662	3	1.80	0.15	0.79	7.87	0.397	0.84	0.00	0.00
10	136.00	7770	6	35.00	5.51	0.77	203.94	6.862	0.78	0.00	0.00
11	136.00	AM-X-CD-17-65-00T-RET (96")	3	59.50	6.40	0.79	257.73	7.852	0.80	0.00	0.00
12	136.00	LGP21401	6	14.10	1.05	0.66	48.27	1.611	0.70	0.00	0.00
13	136.00	LGP21903	6	5.50	0.23	0.74	13.74	0.513	0.78	0.00	0.00
14	136.00	RRUS-11	6	51.00	3.79	0.69	170.72	4.804	0.71	0.00	0.00
15	136.00	DC2-48-60-18-8F	1	14.50	0.92	0.79	47.04	1.435	0.81	0.00	0.00
16	136.00	Low Profile Platform w/ Mount Pipes	1	1500.00	43.29	1.00	3990.43	93.202	1.00	0.00	0.00
17	128.00	BXA-70063/6CF __ 2°	3	17.00	7.57	0.75	233.56	9.173	0.76	0.00	0.00
18	128.00	Low Profile Platform w/ Handrails +	1	1863.50	35.03	1.00	4938.88	75.177	1.00	0.00	0.00
19	126.00	MX06FRO660-03	6	60.00	9.87	0.87	388.12	11.623	0.88	0.00	0.00
20	126.00	MT6407-77A	3	87.10	4.70	0.70	234.21	5.883	0.71	0.00	0.00
21	126.00	B2/B66A	3	84.40	1.88	0.83	164.21	2.594	0.85	0.00	0.00
22	126.00	B5/B13	3	70.30	1.88	0.83	136.78	2.594	0.85	0.00	0.00
23	126.00	Raycap RVZDC-3315-PF-48	1	21.00	2.51	0.83	109.37	3.330	0.84	0.00	0.00
Totals:			77	9,140.13			28,592.05				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	149.00	(1) Safety Cable	0.38	Outside
0.00	149.00	(1) Step bolts (ladder)	0.63	Outside
0.00	146.00	(14) 1 5/8" Coax	0.00	Inside
0.00	146.00	(1) 1 5/8" Fiber	0.00	Inside
0.00	146.00	(2) 1.9" Fiber	0.00	Inside
0.00	136.00	(12) 1 5/8" Coax	0.00	Inside
0.00	136.00	(2) 3/4" DC	0.00	Inside
0.00	136.00	(1) 7/16" Fiber	0.00	Inside
0.00	128.00	(10) 1 5/8" Coax	0.00	Inside
0.00	128.00	(2) 1 5/8" Hybrid	0.00	Inside

Shaft Section Properties

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.4375	60.460	83.346	37937.1	22.96	138.19	74.4	1235.	0.0
5.00		0.4375	59.239	81.650	35668.8	22.46	135.40	75.0	1185.	1403.6
10.00		0.4375	58.018	79.955	33492.7	21.97	132.61	75.6	1137.	1374.8
15.00		0.4375	56.797	78.260	31406.9	21.48	129.82	76.1	1089.	1345.9
20.00		0.4375	55.576	76.564	29409.6	20.99	127.03	76.7	1042.	1317.1
25.00		0.4375	54.355	74.869	27498.9	20.50	124.24	77.3	996.5	1288.2
30.00		0.4375	53.134	73.173	25672.7	20.00	121.45	77.9	951.7	1259.4
35.00		0.4375	51.913	71.478	23929.2	19.51	118.66	78.5	907.9	1230.5
40.00		0.4375	50.692	69.782	22266.5	19.02	115.87	79.0	865.2	1201.7
45.00		0.4375	49.471	68.087	20682.7	18.53	113.08	79.6	823.4	1172.8
47.00	Bot - Section 2	0.4375	48.983	67.409	20070.8	18.33	111.96	79.8	807.1	461.1
50.00		0.4375	48.250	66.392	19175.8	18.04	110.29	80.2	782.8	1378.3
53.25	Top - Section 1	0.4375	48.332	66.505	19273.9	18.07	110.47	0.0	0.0	1469.7
55.00		0.4375	47.904	65.911	18762.6	17.90	109.50	80.4	771.4	394.3
60.00		0.4375	46.683	64.216	17351.6	17.40	106.70	80.9	732.1	1107.0
65.00		0.4375	45.462	62.520	16013.2	16.91	103.91	81.5	693.8	1078.1
70.00		0.4375	44.241	60.825	14745.5	16.42	101.12	82.1	656.5	1049.3
75.00		0.4375	43.020	59.130	13546.5	15.93	98.33	82.5	620.2	1020.4
80.00		0.4375	41.799	57.434	12414.4	15.44	95.54	82.5	585.0	991.6
85.00		0.4375	40.578	55.739	11347.1	14.94	92.75	82.5	550.8	962.8
90.00		0.4375	39.357	54.043	10342.9	14.45	89.96	82.5	517.6	933.9
95.00		0.4375	38.137	52.348	9399.7	13.96	87.17	82.5	485.5	905.1
95.75	Bot - Section 3	0.4375	37.953	52.094	9263.3	13.89	86.75	82.5	480.7	133.3
100.00		0.4375	36.916	50.652	8515.6	13.47	84.38	82.5	454.3	1393.7
100.50	Top - Section 2	0.3750	37.543	44.238	7721.4	16.24	100.12	0.0	0.0	161.4
105.00		0.3750	36.445	42.930	7056.6	15.73	97.19	82.5	381.4	667.4
110.00		0.3750	35.224	41.477	6364.0	15.15	93.93	82.5	355.9	718.0
115.00		0.3750	34.003	40.024	5718.3	14.58	90.67	82.5	331.2	693.3
120.00		0.3750	32.782	38.571	5117.7	14.00	87.42	82.5	307.5	668.6
125.00		0.3750	31.561	37.117	4560.8	13.43	84.16	82.5	284.6	643.9
126.00		0.3750	31.316	36.827	4454.5	13.31	83.51	82.5	280.2	125.8
128.00		0.3750	30.828	36.245	4246.9	13.08	82.21	82.5	271.3	248.6
130.00		0.3750	30.340	35.664	4045.8	12.86	80.91	82.5	262.6	244.7
135.00		0.3750	29.119	34.211	3571.1	12.28	77.65	82.5	241.6	594.4
136.00		0.3750	28.875	33.920	3480.9	12.17	77.00	82.5	237.4	115.9
140.00		0.3750	27.898	32.758	3135.1	11.71	74.39	82.5	221.3	453.8
145.00		0.3750	26.677	31.305	2736.1	11.13	71.14	82.5	202.0	545.0
146.00		0.3750	26.433	31.014	2660.6	11.02	70.49	82.5	198.3	106.0
149.00		0.3750	25.700	30.142	2442.4	10.67	68.53	82.5	187.2	312.1

31171.7

Wind Loading - Shaft

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 8

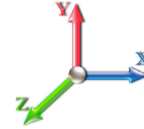


Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 23

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	476.39	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	466.77	0.650	0.000	5.00	25.322	16.46	610.9	0.0	1684.3	
10.00		1.00	0.85	21.088	23.20	457.15	0.650	0.000	5.00	24.805	16.12	598.4	0.0	1649.7	
15.00		1.00	0.86	21.348	23.48	450.29	0.650	0.000	5.00	24.289	15.79	593.2	0.0	1615.1	
20.00		1.00	0.91	22.606	24.87	453.40	0.650	0.000	5.00	23.772	15.45	614.8	0.0	1580.5	
25.00		1.00	0.95	23.645	26.01	453.52	0.650	0.000	5.00	23.256	15.12	629.1	0.0	1545.9	
30.00		1.00	0.99	24.537	26.99	451.62	0.650	0.000	5.00	22.739	14.78	638.3	0.0	1511.3	
35.00		1.00	1.02	25.322	27.85	448.24	0.650	0.000	5.00	22.222	14.44	643.8	0.0	1476.6	
40.00		1.00	1.05	26.025	28.63	443.73	0.650	0.000	5.00	21.706	14.11	646.2	0.0	1442.0	
45.00		1.00	1.07	26.663	29.33	438.32	0.650	0.000	5.00	21.189	13.77	646.3	0.0	1407.4	
47.00	Bot - Section 2	1.00	1.08	26.903	29.59	435.94	0.650	0.000	2.00	8.331	5.42	256.4	0.0	553.3	
50.00		1.00	1.10	27.249	29.97	432.17	0.650	0.000	3.00	12.564	8.17	391.6	0.0	1653.9	
53.25	Top - Section 1	1.00	1.11	27.605	30.37	427.84	0.650	0.000	3.25	13.401	8.71	423.2	0.0	1763.6	
55.00		1.00	1.12	27.790	30.57	433.32	0.650	0.000	1.75	7.125	4.63	226.5	0.0	473.1	
60.00		1.00	1.14	28.295	31.12	426.09	0.650	0.000	5.00	20.010	13.01	647.7	0.0	1328.4	
65.00		1.00	1.16	28.769	31.65	418.40	0.650	0.000	5.00	19.493	12.67	641.5	0.0	1293.8	
70.00		1.00	1.18	29.214	32.14	410.31	0.650	0.000	5.00	18.977	12.33	634.2	0.0	1259.2	
75.00		1.00	1.19	29.636	32.60	401.85	0.650	0.000	5.00	18.460	12.00	625.9	0.0	1224.5	
80.00		1.00	1.21	30.036	33.04	393.08	0.650	0.000	5.00	17.943	11.66	616.6	0.0	1189.9	
85.00		1.00	1.23	30.417	33.46	384.01	0.650	0.000	5.00	17.427	11.33	606.4	0.0	1155.3	
90.00		1.00	1.24	30.781	33.86	374.68	0.650	0.000	5.00	16.910	10.99	595.5	0.0	1120.7	
95.00		1.00	1.25	31.130	34.24	365.10	0.650	0.000	5.00	16.394	10.66	583.8	0.0	1086.1	
95.75	Bot - Section 3	1.00	1.26	31.181	34.30	363.65	0.650	0.000	0.75	2.414	1.57	86.1	0.0	159.9	
100.00		1.00	1.27	31.464	34.61	355.31	0.650	0.000	4.25	13.732	8.93	494.3	0.0	1672.5	
100.50	Top - Section 2	1.00	1.27	31.497	34.65	354.32	0.650	0.000	0.50	1.591	1.03	57.3	0.0	193.7	
105.00		1.00	1.28	31.786	34.96	352.56	0.650	0.000	4.50	14.087	9.16	512.2	0.0	800.9	
110.00		1.00	1.29	32.096	35.31	342.41	0.650	0.000	5.00	15.161	9.85	556.7	0.0	861.7	
115.00		1.00	1.31	32.395	35.63	332.08	0.650	0.000	5.00	14.645	9.52	542.7	0.0	832.0	
120.00		1.00	1.32	32.684	35.95	321.58	0.650	0.000	5.00	14.128	9.18	528.3	0.0	802.3	
125.00		1.00	1.33	32.964	36.26	310.92	0.650	0.000	5.00	13.611	8.85	513.3	0.0	772.6	
126.00	Appurtenance(s)	1.00	1.33	33.019	36.32	308.77	0.650	0.000	1.00	2.660	1.73	100.5	0.0	151.0	
128.00	Appurtenance(s)	1.00	1.34	33.128	36.44	304.46	0.650	0.000	2.00	5.259	3.42	199.3	0.0	298.4	
130.00		1.00	1.34	33.235	36.56	300.12	0.650	0.000	2.00	5.176	3.36	196.8	0.0	293.6	
135.00		1.00	1.35	33.498	36.85	289.18	0.650	0.000	5.00	12.578	8.18	482.0	0.0	713.3	
136.00	Appurtenance(s)	1.00	1.35	33.550	36.90	286.98	0.650	0.000	1.00	2.454	1.59	94.2	0.0	139.1	
140.00		1.00	1.36	33.754	37.13	278.11	0.650	0.000	4.00	9.608	6.25	371.0	0.0	544.5	
145.00		1.00	1.37	34.002	37.40	266.92	0.650	0.000	5.00	11.545	7.50	449.1	0.0	654.0	
146.00	Appurtenance(s)	1.00	1.37	34.051	37.46	264.66	0.650	0.000	1.00	2.247	1.46	87.5	0.0	127.2	
149.00		1.00	1.38	34.196	37.62	257.87	0.650	0.000	3.00	6.617	4.30	258.9	0.0	374.6	
								Totals:		149.00			17,400.5	37,406.0	

Discrete Appurtenance Forces

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



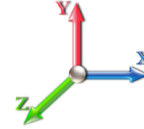
Page: 9

Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 23

Dead Load Factor 1.20

Wind Load Factor 1.60



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	146.00	RFS	3	34.051	37.456	0.65	0.90	39.35	442.08	0.000	0.000	2358.05	0.00	0.00	
2	146.00	Ericsson KRY 112 489/4	6	34.051	37.456	0.75	0.90	2.51	110.88	0.000	0.000	150.42	0.00	0.00	
3	146.00	Low Profile Platform w/	1	34.051	37.456	1.00	1.00	34.54	2746.80	0.000	0.000	2069.99	0.00	0.00	
4	146.00	Ericsson AIR6419 B41	3	37.427	41.169	0.66	0.90	12.46	298.80	10.118	83.300	820.54	5189.0	68350.70	
5	146.00	Kathrein 782 10662	3	34.051	37.456	0.71	0.90	0.32	6.48	0.000	0.000	19.17	0.00	0.00	
6	146.00	Commscope VV-65A-R1	3	34.051	37.456	0.66	0.90	11.67	85.72	0.000	0.000	699.29	0.00	0.00	
7	146.00	Ericsson 4449 B71 + B85	3	34.051	37.456	0.81	0.90	4.74	270.00	0.000	0.000	283.98	0.00	0.00	
8	146.00	Ericsson 4460 B25 + B66	3	34.051	37.456	0.77	0.90	4.91	374.40	0.000	0.000	294.34	0.00	0.00	
9	146.00	Empty Pipe Mounts	3	34.051	37.456	0.90	0.90	5.18	216.00	0.000	0.000	310.68	0.00	0.00	
10	136.00	Low Profile Platform w/	1	33.550	36.905	1.00	1.00	43.29	1800.00	0.000	0.000	2556.19	0.00	0.00	
11	136.00	DC2-48-60-18-8F	1	33.550	36.905	0.63	0.80	0.58	17.40	0.000	0.000	34.33	0.00	0.00	
12	136.00	RRUS-11	6	33.550	36.905	0.55	0.80	12.55	367.20	0.000	0.000	741.20	0.00	0.00	
13	136.00	LGP21903	6	33.550	36.905	0.59	0.80	0.82	39.60	0.000	0.000	48.24	0.00	0.00	
14	136.00	LGP21401	6	33.550	36.905	0.53	0.80	3.33	101.52	0.000	0.000	196.42	0.00	0.00	
15	136.00	AM-X-CD-17-65-00T-RET	3	33.550	36.905	0.63	0.80	12.13	214.20	0.000	0.000	716.51	0.00	0.00	
16	136.00	7770	6	33.550	36.905	0.62	0.80	20.36	252.00	0.000	0.000	1202.51	0.00	0.00	
17	128.00	BXA-70063/6CF __ 2°	3	33.128	36.440	0.60	0.80	13.63	61.20	0.000	0.000	794.46	0.00	0.00	
18	128.00	Low Profile Platform w/	1	33.128	36.440	1.00	1.00	35.03	2236.20	0.000	0.000	2042.42	0.00	0.00	
19	126.00	Raycap	1	33.019	36.321	0.66	0.80	1.67	25.20	0.000	0.000	96.85	0.00	0.00	
20	126.00	B5/B13	3	33.019	36.321	0.66	0.80	3.74	253.08	0.000	0.000	217.63	0.00	0.00	
21	126.00	B2/B66A	3	33.019	36.321	0.66	0.80	3.74	303.84	0.000	0.000	217.63	0.00	0.00	
22	126.00	MT6407-77A	3	33.019	36.321	0.56	0.80	7.90	313.56	0.000	0.000	458.86	0.00	0.00	
23	126.00	MX06FRO660-03	6	33.019	36.321	0.70	0.80	41.22	432.00	0.000	0.000	2395.26	0.00	0.00	
Totals:									10,968.16						18,724.97

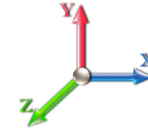
Total Applied Force Summary

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (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 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		610.87	1947.93	0.00	0.00
10.00		598.41	1913.32	0.00	0.00
15.00		593.18	1878.70	0.00	0.00
20.00		614.77	1844.09	0.00	0.00
25.00		629.07	1809.47	0.00	0.00
30.00		638.30	1774.86	0.00	0.00
35.00		643.75	1740.24	0.00	0.00
40.00		646.24	1705.63	0.00	0.00
45.00		646.33	1671.02	0.00	0.00
47.00		256.41	658.71	0.00	0.00
50.00		391.64	1812.10	0.00	0.00
53.25		423.21	1934.98	0.00	0.00
55.00		226.53	565.37	0.00	0.00
60.00		647.71	1591.98	0.00	0.00
65.00		641.54	1557.36	0.00	0.00
70.00		634.22	1522.75	0.00	0.00
75.00		625.86	1488.13	0.00	0.00
80.00		616.56	1453.52	0.00	0.00
85.00		606.41	1418.90	0.00	0.00
90.00		595.47	1384.29	0.00	0.00
95.00		583.82	1349.68	0.00	0.00
95.75		86.13	199.47	0.00	0.00
100.00		494.30	1896.55	0.00	0.00
100.50		57.33	220.07	0.00	0.00
105.00		512.24	1038.10	0.00	0.00
110.00		556.69	1125.26	0.00	0.00
115.00		542.73	1095.59	0.00	0.00
120.00		528.26	1065.92	0.00	0.00
125.00		513.30	1036.25	0.00	0.00
126.00	(16) attachments	3486.73	1531.37	0.00	0.00
128.00	(4) attachments	3036.17	2701.22	0.00	0.00
130.00		196.79	368.83	0.00	0.00
135.00		482.02	901.31	0.00	0.00
136.00	(29) attachments	5589.57	2968.62	0.00	0.00
140.00		371.01	630.23	0.00	0.00
145.00		449.09	761.09	0.00	0.00
146.00	(28) attachments	7093.99	4699.81	5189.05	68350.70
149.00		258.87	379.31	0.00	0.00
Totals:		36,125.51	55,642.02	5,189.05	68,350.70

Linear Appurtenance Segment Forces (Factored)

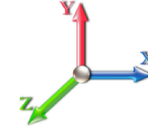
Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 11



Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	21.088	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.088	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	21.088	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.088	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	21.348	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.348	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	22.606	0.00	1.64
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	22.606	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	23.645	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	23.645	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	24.537	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	24.537	0.00	6.24
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	25.322	0.00	1.64
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	25.322	0.00	6.24
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	26.025	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	26.025	0.00	6.24
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	26.663	0.00	1.64
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	26.663	0.00	6.24
47.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	26.903	0.00	0.66
47.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	26.903	0.00	2.50
50.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.020	0.000	27.249	0.00	0.98
50.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.020	0.000	27.249	0.00	3.74
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.021	0.000	27.605	0.00	1.06
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	0.17	0.00	0.021	0.000	27.605	0.00	4.06
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.021	0.000	27.790	0.00	0.57
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.09	0.00	0.021	0.000	27.790	0.00	2.18
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	28.295	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	28.295	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	28.769	0.00	1.64
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	28.769	0.00	6.24
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	29.214	0.00	1.64
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	29.214	0.00	6.24
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	29.636	0.00	1.64
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	29.636	0.00	6.24
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	30.036	0.00	1.64
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	30.036	0.00	6.24
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	30.417	0.00	1.64
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	30.417	0.00	6.24
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	30.781	0.00	1.64
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	30.781	0.00	6.24
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	31.130	0.00	1.64
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	31.130	0.00	6.24
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.026	0.000	31.181	0.00	0.25
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.026	0.000	31.181	0.00	0.94
100.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.027	0.000	31.464	0.00	1.39
100.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.027	0.000	31.464	0.00	5.30
100.50	Safety Cable	Yes	0.50	0.000	0.38	0.02	0.00	0.027	0.000	31.497	0.00	0.16

Linear Appurtenance Segment Forces (Factored)

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



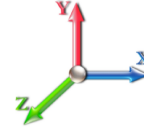
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Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 23

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.50	Step bolts (ladder)	Yes	0.50	0.000	0.63	0.03	0.00	0.027	0.000	31.497	0.00	0.62
105.00	Safety Cable	Yes	4.50	0.000	0.38	0.14	0.00	0.027	0.000	31.786	0.00	1.47
105.00	Step bolts (ladder)	Yes	4.50	0.000	0.63	0.24	0.00	0.027	0.000	31.786	0.00	5.62
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	32.096	0.00	1.64
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	32.096	0.00	6.24
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	32.395	0.00	1.64
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	32.395	0.00	6.24
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	32.684	0.00	1.64
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	32.684	0.00	6.24
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	32.964	0.00	1.64
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	32.964	0.00	6.24
126.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.032	0.000	33.019	0.00	0.33
126.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.032	0.000	33.019	0.00	1.25
128.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.032	0.000	33.128	0.00	0.66
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.032	0.000	33.128	0.00	2.50
130.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	33.235	0.00	0.66
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	33.235	0.00	2.50
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	33.498	0.00	1.64
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	33.498	0.00	6.24
136.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.034	0.000	33.550	0.00	0.33
136.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.034	0.000	33.550	0.00	1.25
140.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.035	0.000	33.754	0.00	1.31
140.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.035	0.000	33.754	0.00	4.99
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.036	0.000	34.002	0.00	1.64
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.036	0.000	34.002	0.00	6.24
146.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	34.051	0.00	0.33
146.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	34.051	0.00	1.25
149.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.038	0.000	34.196	0.00	0.98
149.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.038	0.000	34.196	0.00	3.74
Totals:											0.0	234.8

Calculated Forces

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 13

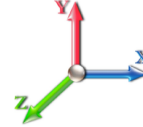


Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 23

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	-55.59	-36.20	-5.14	-4023.7	-0.05	4023.73	5580.79	2790.40	13771.9	6896.19	0.00	0.000	0.000	0.594
5.00	-53.55	-35.72	-5.14	-3842.7	-0.05	3842.74	5509.80	2754.90	13318.1	6668.96	0.08	-0.147	0.000	0.586
10.00	-51.55	-35.25	-5.14	-3664.1	-0.05	3664.12	5437.04	2718.52	12867.3	6443.24	0.31	-0.297	0.000	0.578
15.00	-49.58	-34.78	-5.14	-3487.8	-0.05	3487.85	5362.51	2681.26	12419.8	6219.15	0.71	-0.449	-0.001	0.570
20.00	-47.65	-34.28	-5.14	-3313.9	-0.06	3313.94	5286.22	2643.11	11975.8	5996.84	1.26	-0.603	-0.001	0.562
25.00	-45.76	-33.75	-5.14	-3142.5	-0.06	3142.55	5208.16	2604.08	11535.7	5776.42	1.98	-0.759	-0.001	0.553
30.00	-43.90	-33.21	-5.14	-2973.7	-0.06	2973.78	5128.34	2564.17	11099.6	5558.05	2.86	-0.917	-0.001	0.544
35.00	-42.08	-32.66	-5.14	-2807.7	-0.07	2807.73	5046.75	2523.38	10667.8	5341.85	3.91	-1.078	-0.002	0.534
40.00	-40.30	-32.09	-5.14	-2644.4	-0.07	2644.45	4963.39	2481.70	10240.6	5127.96	5.12	-1.240	-0.002	0.524
45.00	-38.58	-31.48	-5.14	-2484.0	-0.07	2484.00	4878.27	2439.14	9818.41	4916.50	6.51	-1.403	-0.002	0.513
47.00	-37.88	-31.27	-5.14	-2421.0	-0.08	2421.03	4843.73	2421.86	9650.93	4832.64	7.11	-1.471	-0.002	0.509
50.00	-36.02	-30.89	-5.14	-2327.2	-0.08	2327.23	4791.38	2395.69	9401.28	4707.63	8.07	-1.572	-0.003	0.502
53.25	-34.06	-30.47	-5.14	-2226.8	-0.08	2226.83	4797.23	2398.61	9428.91	4721.46	9.18	-1.682	-0.003	0.479
55.00	-33.44	-30.29	-5.15	-2173.5	-0.09	2173.52	4766.44	2383.22	9284.05	4648.93	9.80	-1.742	-0.003	0.475
60.00	-31.79	-29.68	-5.15	-2022.0	-0.10	2022.09	4677.28	2338.64	8873.91	4443.55	11.71	-1.901	-0.003	0.462
65.00	-30.17	-29.07	-5.15	-1873.7	-0.11	1873.71	4586.36	2293.18	8469.53	4241.06	13.79	-2.061	-0.004	0.449
70.00	-28.59	-28.46	-5.15	-1728.3	-0.12	1728.38	4493.67	2246.84	8071.16	4041.58	16.03	-2.221	-0.004	0.434
75.00	-27.05	-27.85	-5.15	-1586.1	-0.13	1586.11	4393.03	2196.52	7668.29	3839.84	18.45	-2.380	-0.005	0.419
80.00	-25.55	-27.24	-5.15	-1446.8	-0.14	1446.88	4267.07	2133.53	7232.68	3621.71	21.02	-2.540	-0.005	0.406
85.00	-24.09	-26.63	-5.16	-1310.6	-0.15	1310.69	4141.11	2070.55	6809.81	3409.96	23.77	-2.698	-0.006	0.390
90.00	-22.67	-26.03	-5.16	-1177.5	-0.16	1177.52	4015.15	2007.57	6399.67	3204.59	26.68	-2.854	-0.007	0.373
95.00	-21.31	-25.41	-5.16	-1047.3	-0.17	1047.36	3889.19	1944.59	6002.28	3005.60	29.75	-3.007	-0.007	0.354
95.75	-21.08	-25.34	-5.16	-1028.3	-0.17	1028.30	3870.29	1935.15	5943.77	2976.30	30.22	-3.030	-0.007	0.351
100.00	-19.18	-24.77	-5.16	-920.59	-0.18	920.59	3763.23	1881.61	5617.62	2812.98	32.98	-3.157	-0.008	0.333
100.50	-18.94	-24.73	-5.16	-908.20	-0.19	908.20	3276.58	1638.29	4993.13	2500.28	33.31	-3.173	-0.008	0.369
105.00	-17.87	-24.20	-5.17	-796.93	-0.20	796.93	3189.50	1594.75	4715.31	2361.16	36.36	-3.302	-0.009	0.343
110.00	-16.72	-23.62	-5.17	-675.93	-0.22	675.93	3081.54	1540.77	4399.90	2203.22	39.90	-3.451	-0.010	0.312
115.00	-15.61	-23.05	-5.17	-557.82	-0.24	557.82	2973.57	1486.79	4095.40	2050.74	43.59	-3.588	-0.011	0.278
120.00	-14.53	-22.48	-5.18	-442.59	-0.26	442.59	2865.60	1432.80	3801.82	1903.74	47.41	-3.713	-0.012	0.238
125.00	-13.51	-21.92	-5.18	-330.18	-0.28	330.18	2757.64	1378.82	3519.16	1762.20	51.36	-3.820	-0.014	0.193
126.00	-12.20	-18.34	-5.18	-308.26	-0.28	308.26	2736.04	1368.02	3463.94	1734.55	52.16	-3.840	-0.014	0.182
128.00	-9.70	-15.14	-5.18	-271.58	-0.29	271.58	2692.86	1346.43	3354.81	1679.90	53.78	-3.877	-0.015	0.165
130.00	-9.33	-14.92	-5.18	-241.31	-0.30	241.31	2649.67	1324.84	3247.42	1626.12	55.41	-3.912	-0.016	0.152
135.00	-8.46	-14.39	-5.18	-166.70	-0.32	166.70	2541.71	1270.85	2986.60	1495.52	59.54	-3.983	-0.017	0.115
136.00	-5.88	-8.61	-5.18	-152.31	-0.32	152.31	2520.11	1260.06	2935.75	1470.06	60.38	-3.996	-0.018	0.106
140.00	-5.27	-8.20	-5.18	-117.88	-0.33	117.88	2433.74	1216.87	2736.70	1370.38	63.74	-4.040	-0.020	0.088
145.00	-4.54	-7.70	-5.18	-76.90	-0.34	76.90	2325.77	1162.89	2497.71	1250.71	68.00	-4.084	-0.022	0.064
146.00	-0.36	-0.29	0.00	-0.86	0.00	0.86	2304.18	1152.09	2451.22	1227.43	68.85	-4.092	-0.022	0.001
149.00	0.00	-0.26	0.00	0.00	0.00	0.00	2239.40	1119.70	2314.38	1158.91	71.42	-4.092	-0.022	0.000

Wind Loading - Shaft

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 14

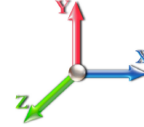


Load Case: 0.9D + 1.6W 101 mph Wind

Iterations 23

Dead Load Factor 0.90

Wind Load Factor 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	476.39	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	466.77	0.650	0.000	5.00	25.322	16.46	610.9	0.0	1263.3
10.00		1.00	0.85	21.088	23.20	457.15	0.650	0.000	5.00	24.805	16.12	598.4	0.0	1237.3
15.00		1.00	0.86	21.348	23.48	450.29	0.650	0.000	5.00	24.289	15.79	593.2	0.0	1211.3
20.00		1.00	0.91	22.606	24.87	453.40	0.650	0.000	5.00	23.772	15.45	614.8	0.0	1185.4
25.00		1.00	0.95	23.645	26.01	453.52	0.650	0.000	5.00	23.256	15.12	629.1	0.0	1159.4
30.00		1.00	0.99	24.537	26.99	451.62	0.650	0.000	5.00	22.739	14.78	638.3	0.0	1133.4
35.00		1.00	1.02	25.322	27.85	448.24	0.650	0.000	5.00	22.222	14.44	643.8	0.0	1107.5
40.00		1.00	1.05	26.025	28.63	443.73	0.650	0.000	5.00	21.706	14.11	646.2	0.0	1081.5
45.00		1.00	1.07	26.663	29.33	438.32	0.650	0.000	5.00	21.189	13.77	646.3	0.0	1055.6
47.00	Bot - Section 2	1.00	1.08	26.903	29.59	435.94	0.650	0.000	2.00	8.331	5.42	256.4	0.0	415.0
50.00		1.00	1.10	27.249	29.97	432.17	0.650	0.000	3.00	12.564	8.17	391.6	0.0	1240.5
53.25	Top - Section 1	1.00	1.11	27.605	30.37	427.84	0.650	0.000	3.25	13.401	8.71	423.2	0.0	1322.7
55.00		1.00	1.12	27.790	30.57	433.32	0.650	0.000	1.75	7.125	4.63	226.5	0.0	354.8
60.00		1.00	1.14	28.295	31.12	426.09	0.650	0.000	5.00	20.010	13.01	647.7	0.0	996.3
65.00		1.00	1.16	28.769	31.65	418.40	0.650	0.000	5.00	19.493	12.67	641.5	0.0	970.3
70.00		1.00	1.18	29.214	32.14	410.31	0.650	0.000	5.00	18.977	12.33	634.2	0.0	944.4
75.00		1.00	1.19	29.636	32.60	401.85	0.650	0.000	5.00	18.460	12.00	625.9	0.0	918.4
80.00		1.00	1.21	30.036	33.04	393.08	0.650	0.000	5.00	17.943	11.66	616.6	0.0	892.4
85.00		1.00	1.23	30.417	33.46	384.01	0.650	0.000	5.00	17.427	11.33	606.4	0.0	866.5
90.00		1.00	1.24	30.781	33.86	374.68	0.650	0.000	5.00	16.910	10.99	595.5	0.0	840.5
95.00		1.00	1.25	31.130	34.24	365.10	0.650	0.000	5.00	16.394	10.66	583.8	0.0	814.6
95.75	Bot - Section 3	1.00	1.26	31.181	34.30	363.65	0.650	0.000	0.75	2.414	1.57	86.1	0.0	119.9
100.00		1.00	1.27	31.464	34.61	355.31	0.650	0.000	4.25	13.732	8.93	494.3	0.0	1254.4
100.50	Top - Section 2	1.00	1.27	31.497	34.65	354.32	0.650	0.000	0.50	1.591	1.03	57.3	0.0	145.3
105.00		1.00	1.28	31.786	34.96	352.56	0.650	0.000	4.50	14.087	9.16	512.2	0.0	600.6
110.00		1.00	1.29	32.096	35.31	342.41	0.650	0.000	5.00	15.161	9.85	556.7	0.0	646.2
115.00		1.00	1.31	32.395	35.63	332.08	0.650	0.000	5.00	14.645	9.52	542.7	0.0	624.0
120.00		1.00	1.32	32.684	35.95	321.58	0.650	0.000	5.00	14.128	9.18	528.3	0.0	601.7
125.00		1.00	1.33	32.964	36.26	310.92	0.650	0.000	5.00	13.611	8.85	513.3	0.0	579.5
126.00	Appurtenance(s)	1.00	1.33	33.019	36.32	308.77	0.650	0.000	1.00	2.660	1.73	100.5	0.0	113.2
128.00	Appurtenance(s)	1.00	1.34	33.128	36.44	304.46	0.650	0.000	2.00	5.259	3.42	199.3	0.0	223.8
130.00		1.00	1.34	33.235	36.56	300.12	0.650	0.000	2.00	5.176	3.36	196.8	0.0	220.2
135.00		1.00	1.35	33.498	36.85	289.18	0.650	0.000	5.00	12.578	8.18	482.0	0.0	535.0
136.00	Appurtenance(s)	1.00	1.35	33.550	36.90	286.98	0.650	0.000	1.00	2.454	1.59	94.2	0.0	104.3
140.00		1.00	1.36	33.754	37.13	278.11	0.650	0.000	4.00	9.608	6.25	371.0	0.0	408.4
145.00		1.00	1.37	34.002	37.40	266.92	0.650	0.000	5.00	11.545	7.50	449.1	0.0	490.5
146.00	Appurtenance(s)	1.00	1.37	34.051	37.46	264.66	0.650	0.000	1.00	2.247	1.46	87.5	0.0	95.4
149.00		1.00	1.38	34.196	37.62	257.87	0.650	0.000	3.00	6.617	4.30	258.9	0.0	280.9
Totals:									149.00			17,400.5		28,054.5

Discrete Appurtenance Forces

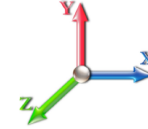
Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 15



Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	
1	146.00	RFS	3	34.051	37.456	0.65	0.90	39.35	331.56	0.000	0.000	2358.05	0.00	0.00	
2	146.00	Ericsson KRY 112 489/4	6	34.051	37.456	0.75	0.90	2.51	83.16	0.000	0.000	150.42	0.00	0.00	
3	146.00	Low Profile Platform w/	1	34.051	37.456	1.00	1.00	34.54	2060.10	0.000	0.000	2069.99	0.00	0.00	
4	146.00	Ericsson AIR6419 B41	3	37.427	41.169	0.66	0.90	12.46	224.10	10.118	83.300	820.54	5189.0	68350.70	
5	146.00	Kathrein 782 10662	3	34.051	37.456	0.71	0.90	0.32	4.86	0.000	0.000	19.17	0.00	0.00	
6	146.00	Commscope VV-65A-R1	3	34.051	37.456	0.66	0.90	11.67	64.29	0.000	0.000	699.29	0.00	0.00	
7	146.00	Ericsson 4449 B71 + B85	3	34.051	37.456	0.81	0.90	4.74	202.50	0.000	0.000	283.98	0.00	0.00	
8	146.00	Ericsson 4460 B25 + B66	3	34.051	37.456	0.77	0.90	4.91	280.80	0.000	0.000	294.34	0.00	0.00	
9	146.00	Empty Pipe Mounts	3	34.051	37.456	0.90	0.90	5.18	162.00	0.000	0.000	310.68	0.00	0.00	
10	136.00	Low Profile Platform w/	1	33.550	36.905	1.00	1.00	43.29	1350.00	0.000	0.000	2556.19	0.00	0.00	
11	136.00	DC2-48-60-18-8F	1	33.550	36.905	0.63	0.80	0.58	13.05	0.000	0.000	34.33	0.00	0.00	
12	136.00	RRUS-11	6	33.550	36.905	0.55	0.80	12.55	275.40	0.000	0.000	741.20	0.00	0.00	
13	136.00	LGP21903	6	33.550	36.905	0.59	0.80	0.82	29.70	0.000	0.000	48.24	0.00	0.00	
14	136.00	LGP21401	6	33.550	36.905	0.53	0.80	3.33	76.14	0.000	0.000	196.42	0.00	0.00	
15	136.00	AM-X-CD-17-65-00T-RET	3	33.550	36.905	0.63	0.80	12.13	160.65	0.000	0.000	716.51	0.00	0.00	
16	136.00	7770	6	33.550	36.905	0.62	0.80	20.36	189.00	0.000	0.000	1202.51	0.00	0.00	
17	128.00	BXA-70063/6CF __ 2°	3	33.128	36.440	0.60	0.80	13.63	45.90	0.000	0.000	794.46	0.00	0.00	
18	128.00	Low Profile Platform w/	1	33.128	36.440	1.00	1.00	35.03	1677.15	0.000	0.000	2042.42	0.00	0.00	
19	126.00	Raycap	1	33.019	36.321	0.66	0.80	1.67	18.90	0.000	0.000	96.85	0.00	0.00	
20	126.00	B5/B13	3	33.019	36.321	0.66	0.80	3.74	189.81	0.000	0.000	217.63	0.00	0.00	
21	126.00	B2/B66A	3	33.019	36.321	0.66	0.80	3.74	227.88	0.000	0.000	217.63	0.00	0.00	
22	126.00	MT6407-77A	3	33.019	36.321	0.56	0.80	7.90	235.17	0.000	0.000	458.86	0.00	0.00	
23	126.00	MX06FRO660-03	6	33.019	36.321	0.70	0.80	41.22	324.00	0.000	0.000	2395.26	0.00	0.00	
Totals:									8,226.12						18,724.97

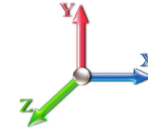
Total Applied Force Summary

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 16



Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		610.87	1460.95	0.00	0.00
10.00		598.41	1434.99	0.00	0.00
15.00		593.18	1409.03	0.00	0.00
20.00		614.77	1383.07	0.00	0.00
25.00		629.07	1357.11	0.00	0.00
30.00		638.30	1331.14	0.00	0.00
35.00		643.75	1305.18	0.00	0.00
40.00		646.24	1279.22	0.00	0.00
45.00		646.33	1253.26	0.00	0.00
47.00		256.41	494.04	0.00	0.00
50.00		391.64	1359.07	0.00	0.00
53.25		423.21	1451.24	0.00	0.00
55.00		226.53	424.03	0.00	0.00
60.00		647.71	1193.98	0.00	0.00
65.00		641.54	1168.02	0.00	0.00
70.00		634.22	1142.06	0.00	0.00
75.00		625.86	1116.10	0.00	0.00
80.00		616.56	1090.14	0.00	0.00
85.00		606.41	1064.18	0.00	0.00
90.00		595.47	1038.22	0.00	0.00
95.00		583.82	1012.26	0.00	0.00
95.75		86.13	149.60	0.00	0.00
100.00		494.30	1422.41	0.00	0.00
100.50		57.33	165.05	0.00	0.00
105.00		512.24	778.57	0.00	0.00
110.00		556.69	843.94	0.00	0.00
115.00		542.73	821.69	0.00	0.00
120.00		528.26	799.44	0.00	0.00
125.00		513.30	777.18	0.00	0.00
126.00	(16) attachments	3486.73	1148.53	0.00	0.00
128.00	(4) attachments	3036.17	2025.91	0.00	0.00
130.00		196.79	276.62	0.00	0.00
135.00		482.02	675.98	0.00	0.00
136.00	(29) attachments	5589.57	2226.47	0.00	0.00
140.00		371.01	472.67	0.00	0.00
145.00		449.09	570.82	0.00	0.00
146.00	(28) attachments	7093.99	3524.86	5189.05	68350.70
149.00		258.87	284.48	0.00	0.00
Totals:		36,125.51	41,731.51	5,189.05	68,350.70

Linear Appurtenance Segment Forces (Factored)

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



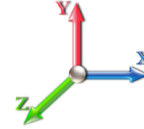
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Load Case: 0.9D + 1.6W 101 mph Wind

Iterations 23

Dead Load Factor 0.90

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	21.088	0.00	1.23
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.088	0.00	4.68
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	21.088	0.00	1.23
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.088	0.00	4.68
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	21.348	0.00	1.23
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	21.348	0.00	4.68
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	22.606	0.00	1.23
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	22.606	0.00	4.68
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	23.645	0.00	1.23
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	23.645	0.00	4.68
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	24.537	0.00	1.23
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	24.537	0.00	4.68
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	25.322	0.00	1.23
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	25.322	0.00	4.68
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	26.025	0.00	1.23
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	26.025	0.00	4.68
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	26.663	0.00	1.23
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	26.663	0.00	4.68
47.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	26.903	0.00	0.49
47.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	26.903	0.00	1.87
50.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.020	0.000	27.249	0.00	0.74
50.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.020	0.000	27.249	0.00	2.81
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.021	0.000	27.605	0.00	0.80
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	0.17	0.00	0.021	0.000	27.605	0.00	3.04
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.021	0.000	27.790	0.00	0.43
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.09	0.00	0.021	0.000	27.790	0.00	1.64
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	28.295	0.00	1.23
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	28.295	0.00	4.68
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	28.769	0.00	1.23
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	28.769	0.00	4.68
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	29.214	0.00	1.23
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	29.214	0.00	4.68
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	29.636	0.00	1.23
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	29.636	0.00	4.68
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	30.036	0.00	1.23
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	30.036	0.00	4.68
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	30.417	0.00	1.23
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	30.417	0.00	4.68
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	30.781	0.00	1.23
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	30.781	0.00	4.68
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	31.130	0.00	1.23
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	31.130	0.00	4.68
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.026	0.000	31.181	0.00	0.18
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.026	0.000	31.181	0.00	0.70
100.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.027	0.000	31.464	0.00	1.04
100.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.027	0.000	31.464	0.00	3.98
100.50	Safety Cable	Yes	0.50	0.000	0.38	0.02	0.00	0.027	0.000	31.497	0.00	0.12

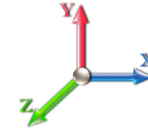
Linear Appurtenance Segment Forces (Factored)

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 18



Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.50	Step bolts (ladder)	Yes	0.50	0.000	0.63	0.03	0.00	0.027	0.000	31.497	0.00	0.47
105.00	Safety Cable	Yes	4.50	0.000	0.38	0.14	0.00	0.027	0.000	31.786	0.00	1.11
105.00	Step bolts (ladder)	Yes	4.50	0.000	0.63	0.24	0.00	0.027	0.000	31.786	0.00	4.21
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	32.096	0.00	1.23
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	32.096	0.00	4.68
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	32.395	0.00	1.23
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	32.395	0.00	4.68
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	32.684	0.00	1.23
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	32.684	0.00	4.68
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	32.964	0.00	1.23
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	32.964	0.00	4.68
126.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.032	0.000	33.019	0.00	0.25
126.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.032	0.000	33.019	0.00	0.94
128.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.032	0.000	33.128	0.00	0.49
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.032	0.000	33.128	0.00	1.87
130.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	33.235	0.00	0.49
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	33.235	0.00	1.87
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	33.498	0.00	1.23
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	33.498	0.00	4.68
136.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.034	0.000	33.550	0.00	0.25
136.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.034	0.000	33.550	0.00	0.94
140.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.035	0.000	33.754	0.00	0.98
140.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.035	0.000	33.754	0.00	3.74
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.036	0.000	34.002	0.00	1.23
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.036	0.000	34.002	0.00	4.68
146.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	34.051	0.00	0.25
146.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	34.051	0.00	0.94
149.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.038	0.000	34.196	0.00	0.74
149.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.038	0.000	34.196	0.00	2.81
Totals:											0.0	176.1

Calculated Forces

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 19



Load Case: 0.9D + 1.6W 101 mph Wind

Iterations 23

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	-41.68	-36.18	-5.14	-3990.6	-0.04	3990.61	5580.79	2790.40	13771.9	6896.19	0.00	0.000	0.000	0.586
5.00	-40.13	-35.67	-5.14	-3809.7	-0.04	3809.71	5509.80	2754.90	13318.1	6668.96	0.08	-0.146	0.000	0.579
10.00	-38.61	-35.17	-5.14	-3631.3	-0.04	3631.36	5437.04	2718.52	12867.3	6443.24	0.31	-0.295	0.000	0.571
15.00	-37.11	-34.66	-5.14	-3455.5	-0.04	3455.52	5362.51	2681.26	12419.8	6219.15	0.70	-0.445	-0.001	0.563
20.00	-35.64	-34.13	-5.14	-3282.2	-0.04	3282.21	5286.22	2643.11	11975.8	5996.84	1.25	-0.598	-0.001	0.554
25.00	-34.20	-33.58	-5.14	-3111.5	-0.05	3111.55	5208.16	2604.08	11535.7	5776.42	1.96	-0.752	-0.001	0.545
30.00	-32.79	-33.01	-5.14	-2943.6	-0.05	2943.65	5128.34	2564.17	11099.6	5558.05	2.83	-0.909	-0.001	0.536
35.00	-31.41	-32.43	-5.14	-2778.5	-0.05	2778.59	5046.75	2523.38	10667.8	5341.85	3.87	-1.067	-0.002	0.527
40.00	-30.05	-31.85	-5.14	-2616.4	-0.06	2616.43	4963.39	2481.70	10240.6	5127.96	5.07	-1.228	-0.002	0.516
45.00	-28.75	-31.23	-5.14	-2457.1	-0.06	2457.19	4878.27	2439.14	9818.41	4916.50	6.45	-1.390	-0.002	0.506
47.00	-28.22	-31.00	-5.14	-2394.7	-0.06	2394.74	4843.73	2421.86	9650.93	4832.64	7.04	-1.457	-0.002	0.502
50.00	-26.81	-30.62	-5.14	-2301.7	-0.07	2301.73	4791.38	2395.69	9401.28	4707.63	7.99	-1.557	-0.003	0.495
53.25	-25.33	-30.20	-5.15	-2202.2	-0.07	2202.21	4797.23	2398.61	9428.91	4721.46	9.09	-1.665	-0.003	0.472
55.00	-24.86	-30.00	-5.15	-2149.3	-0.08	2149.36	4766.44	2383.22	9284.05	4648.93	9.71	-1.725	-0.003	0.468
60.00	-23.60	-29.38	-5.15	-1999.3	-0.09	1999.34	4677.28	2338.64	8873.91	4443.55	11.60	-1.882	-0.003	0.455
65.00	-22.38	-28.77	-5.15	-1852.4	-0.09	1852.42	4586.36	2293.18	8469.53	4241.06	13.66	-2.040	-0.004	0.442
70.00	-21.18	-28.15	-5.15	-1708.5	-0.10	1708.59	4493.67	2246.84	8071.16	4041.58	15.88	-2.198	-0.004	0.428
75.00	-20.02	-27.53	-5.15	-1567.8	-0.11	1567.85	4393.03	2196.52	7668.29	3839.84	18.27	-2.356	-0.005	0.413
80.00	-18.88	-26.92	-5.16	-1430.1	-0.13	1430.19	4267.07	2133.53	7232.68	3621.71	20.82	-2.513	-0.005	0.399
85.00	-17.77	-26.32	-5.16	-1295.5	-0.14	1295.57	4141.11	2070.55	6809.81	3409.96	23.53	-2.669	-0.006	0.384
90.00	-16.70	-25.72	-5.16	-1163.9	-0.15	1163.99	4015.15	2007.57	6399.67	3204.59	26.41	-2.824	-0.007	0.368
95.00	-15.68	-25.11	-5.16	-1035.4	-0.16	1035.40	3889.19	1944.59	6002.28	3005.60	29.45	-2.975	-0.007	0.349
95.75	-15.50	-25.03	-5.16	-1016.5	-0.17	1016.57	3870.29	1935.15	5943.77	2976.30	29.92	-2.998	-0.007	0.346
100.00	-14.08	-24.48	-5.16	-910.18	-0.17	910.18	3763.23	1881.61	5617.62	2812.98	32.65	-3.124	-0.008	0.327
100.50	-13.88	-24.43	-5.16	-897.94	-0.18	897.94	3276.58	1638.29	4993.13	2500.28	32.97	-3.139	-0.008	0.364
105.00	-13.08	-23.91	-5.17	-788.00	-0.20	788.00	3189.50	1594.75	4715.31	2361.16	35.99	-3.267	-0.009	0.338
110.00	-12.21	-23.33	-5.17	-668.46	-0.21	668.46	3081.54	1540.77	4399.90	2203.22	39.50	-3.414	-0.010	0.308
115.00	-11.37	-22.77	-5.17	-551.79	-0.23	551.79	2973.57	1486.79	4095.40	2050.74	43.14	-3.550	-0.011	0.273
120.00	-10.56	-22.21	-5.18	-437.95	-0.25	437.95	2865.60	1432.80	3801.82	1903.74	46.93	-3.673	-0.012	0.234
125.00	-9.80	-21.66	-5.18	-326.89	-0.27	326.89	2757.64	1378.82	3519.16	1762.20	50.83	-3.780	-0.014	0.189
126.00	-8.87	-18.11	-5.18	-305.23	-0.28	305.23	2736.04	1368.02	3463.94	1734.55	51.63	-3.799	-0.014	0.179
128.00	-7.04	-14.95	-5.18	-269.01	-0.29	269.01	2692.86	1346.43	3354.81	1679.90	53.23	-3.836	-0.015	0.163
130.00	-6.77	-14.74	-5.18	-239.11	-0.29	239.12	2649.67	1324.84	3247.42	1626.12	54.84	-3.870	-0.016	0.150
135.00	-6.11	-14.22	-5.18	-165.41	-0.31	165.42	2541.71	1270.85	2986.60	1495.52	58.93	-3.941	-0.017	0.113
136.00	-4.27	-8.49	-5.18	-151.20	-0.32	151.20	2520.11	1260.06	2935.75	1470.06	59.76	-3.954	-0.018	0.105
140.00	-3.82	-8.09	-5.18	-117.24	-0.33	117.24	2433.74	1216.87	2736.70	1370.38	63.09	-3.998	-0.020	0.087
145.00	-3.28	-7.60	-5.18	-76.79	-0.34	76.79	2325.77	1162.89	2497.71	1250.71	67.29	-4.042	-0.022	0.063
146.00	-0.27	-0.28	0.00	-0.83	0.00	0.83	2304.18	1152.09	2451.22	1227.43	68.14	-4.049	-0.022	0.001
149.00	0.00	-0.26	0.00	0.00	0.00	0.00	2239.40	1119.70	2314.38	1158.91	70.68	-4.049	-0.022	0.000

Wind Loading - Shaft

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 20

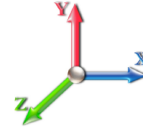


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 22

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	1.410	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	1.687	5.00	26.727	32.07	182.3	643.6	2328.0
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.792	5.00	26.299	31.56	179.4	671.3	2321.0
15.00		1.00	0.86	5.232	5.76	0.00	1.200	1.860	5.00	25.839	31.01	178.4	683.5	2298.6
20.00		1.00	0.91	5.540	6.09	0.00	1.200	1.912	5.00	25.365	30.44	185.5	688.3	2268.8
25.00		1.00	0.95	5.795	6.37	0.00	1.200	1.953	5.00	24.883	29.86	190.3	688.7	2234.6
30.00		1.00	0.99	6.013	6.61	0.00	1.200	1.988	5.00	24.395	29.27	193.6	686.2	2197.4
35.00		1.00	1.02	6.206	6.83	0.00	1.200	2.017	5.00	23.904	28.68	195.8	681.4	2158.1
40.00		1.00	1.05	6.378	7.02	0.00	1.200	2.044	5.00	23.409	28.09	197.1	675.1	2117.1
45.00		1.00	1.07	6.534	7.19	0.00	1.200	2.068	5.00	22.912	27.49	197.6	667.4	2074.8
47.00	Bot - Section 2	1.00	1.08	6.593	7.25	0.00	1.200	2.076	2.00	9.023	10.83	78.5	265.6	818.9
50.00		1.00	1.10	6.678	7.35	0.00	1.200	2.089	3.00	13.608	16.33	120.0	402.0	2056.0
53.25	Top - Section 1	1.00	1.11	6.765	7.44	0.00	1.200	2.102	3.25	14.539	17.45	129.8	431.5	2195.2
55.00		1.00	1.12	6.811	7.49	0.00	1.200	2.109	1.75	7.740	9.29	69.6	231.2	704.3
60.00		1.00	1.14	6.934	7.63	0.00	1.200	2.127	5.00	21.782	26.14	199.4	650.1	1978.5
65.00		1.00	1.16	7.050	7.76	0.00	1.200	2.144	5.00	21.279	25.54	198.0	639.0	1932.8
70.00		1.00	1.18	7.160	7.88	0.00	1.200	2.159	5.00	20.776	24.93	196.3	627.4	1886.6
75.00		1.00	1.19	7.263	7.99	0.00	1.200	2.174	5.00	20.272	24.33	194.3	615.3	1839.8
80.00		1.00	1.21	7.361	8.10	0.00	1.200	2.188	5.00	19.767	23.72	192.1	602.6	1792.6
85.00		1.00	1.23	7.454	8.20	0.00	1.200	2.201	5.00	19.261	23.11	189.5	589.6	1744.9
90.00		1.00	1.24	7.544	8.30	0.00	1.200	2.214	5.00	18.755	22.51	186.8	576.2	1696.9
95.00		1.00	1.25	7.629	8.39	0.00	1.200	2.225	5.00	18.248	21.90	183.8	562.4	1648.5
95.75	Bot - Section 3	1.00	1.26	7.642	8.41	0.00	1.200	2.227	0.75	2.693	3.23	27.2	84.0	244.0
100.00		1.00	1.27	7.711	8.48	0.00	1.200	2.237	4.25	15.317	18.38	155.9	475.0	2147.5
100.50	Top - Section 2	1.00	1.27	7.719	8.49	0.00	1.200	2.238	0.50	1.778	2.13	18.1	55.7	249.5
105.00		1.00	1.28	7.790	8.57	0.00	1.200	2.248	4.50	15.772	18.93	162.2	490.0	1290.9
110.00		1.00	1.29	7.866	8.65	0.00	1.200	2.258	5.00	17.043	20.45	177.0	529.9	1391.5
115.00		1.00	1.31	7.939	8.73	0.00	1.200	2.268	5.00	16.535	19.84	173.3	515.0	1347.0
120.00		1.00	1.32	8.010	8.81	0.00	1.200	2.277	5.00	16.026	19.23	169.4	499.9	1302.2
125.00		1.00	1.33	8.079	8.89	0.00	1.200	2.287	5.00	15.517	18.62	165.5	484.5	1257.2
126.00	Appurtenance(s)	1.00	1.33	8.092	8.90	0.00	1.200	2.289	1.00	3.042	3.65	32.5	96.3	247.3
128.00	Appurtenance(s)	1.00	1.34	8.119	8.93	0.00	1.200	2.292	2.00	6.023	7.23	64.5	190.1	488.5
130.00		1.00	1.34	8.145	8.96	0.00	1.200	2.296	2.00	5.941	7.13	63.9	187.6	481.2
135.00		1.00	1.35	8.210	9.03	0.00	1.200	2.304	5.00	14.498	17.40	157.1	453.2	1166.6
136.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	2.306	1.00	2.838	3.41	30.8	90.0	229.1
140.00		1.00	1.36	8.272	9.10	0.00	1.200	2.313	4.00	11.150	13.38	121.7	349.8	894.4
145.00		1.00	1.37	8.333	9.17	0.00	1.200	2.321	5.00	13.479	16.17	148.3	421.2	1075.2
146.00	Appurtenance(s)	1.00	1.37	8.345	9.18	0.00	1.200	2.322	1.00	2.634	3.16	29.0	83.6	210.8
149.00		1.00	1.38	8.381	9.22	0.00	1.200	2.327	3.00	7.781	9.34	86.1	244.9	619.5
Totals:									149.00			5,420.7		54,935.4

Discrete Appurtenance Forces

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



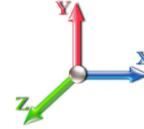
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 22

Dead Load Factor 1.20

Wind Load Factor 1.00



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	
1	146.00	RFS	3	8.345	9.180	0.66	0.90	44.78	1467.04	0.000	0.000	411.10	0.00	0.00	
2	146.00	Ericsson KRY 112 489/4	6	8.345	9.180	0.77	0.90	4.55	209.80	0.000	0.000	41.79	0.00	0.00	
3	146.00	Low Profile Platform w/	1	8.345	9.180	1.00	1.00	74.65	7063.07	0.000	0.000	685.21	0.00	0.00	
4	146.00	Ericsson AIR6419 B41	3	9.172	10.090	0.67	0.90	15.30	1156.37	10.118	83.300	154.39	1562.1	12860.46	
5	146.00	Kathrein 782 10662	3	8.345	9.180	0.76	0.90	0.90	16.60	0.000	0.000	8.27	0.00	0.00	
6	146.00	Commscope VV-65A-R1	3	8.345	9.180	0.68	0.90	14.81	393.83	0.000	0.000	135.91	0.00	0.00	
7	146.00	Ericsson 4449 B71 + B85	3	8.345	9.180	0.82	0.90	6.62	398.97	0.000	0.000	60.73	0.00	0.00	
8	146.00	Ericsson 4460 B25 + B66	3	8.345	9.180	0.77	0.90	6.76	507.09	0.000	0.000	62.01	0.00	0.00	
9	146.00	Empty Pipe Mounts	3	8.345	9.180	0.90	0.90	11.20	696.96	0.000	0.000	102.84	0.00	0.00	
10	136.00	Low Profile Platform w/	1	8.222	9.044	1.00	1.00	93.20	4290.43	0.000	0.000	842.96	0.00	0.00	
11	136.00	DC2-48-60-18-8F	1	8.222	9.044	0.65	0.80	0.93	31.84	0.000	0.000	8.41	0.00	0.00	
12	136.00	RRUS-11	6	8.222	9.044	0.57	0.80	16.37	989.52	0.000	0.000	148.07	0.00	0.00	
13	136.00	LGP21903	6	8.222	9.044	0.62	0.80	1.92	74.63	0.000	0.000	17.39	0.00	0.00	
14	136.00	LGP21401	6	8.222	9.044	0.56	0.80	5.41	263.91	0.000	0.000	48.95	0.00	0.00	
15	136.00	AM-X-CD-17-65-00T-RET	3	8.222	9.044	0.64	0.80	15.08	635.50	0.000	0.000	136.36	0.00	0.00	
16	136.00	7770	6	8.222	9.044	0.62	0.80	25.69	1475.63	0.000	0.000	232.36	0.00	0.00	
17	128.00	BXA-70063/6CF __ 2°	3	8.119	8.931	0.61	0.80	16.73	589.07	0.000	0.000	149.43	0.00	0.00	
18	128.00	Low Profile Platform w/	1	8.119	8.931	1.00	1.00	75.18	5375.08	0.000	0.000	671.37	0.00	0.00	
19	126.00	Raycap	1	8.092	8.901	0.67	0.80	2.24	82.67	0.000	0.000	19.92	0.00	0.00	
20	126.00	B5/B13	3	8.092	8.901	0.68	0.80	5.29	417.71	0.000	0.000	47.11	0.00	0.00	
21	126.00	B2/B66A	3	8.092	8.901	0.68	0.80	5.29	505.77	0.000	0.000	47.11	0.00	0.00	
22	126.00	MT6407-77A	3	8.092	8.901	0.57	0.80	10.02	701.78	0.000	0.000	89.23	0.00	0.00	
23	126.00	MX06FRO660-03	6	8.092	8.901	0.70	0.80	49.09	2111.53	0.000	0.000	437.01	0.00	0.00	
Totals:									29,454.84						4,557.93

Total Applied Force Summary

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 22

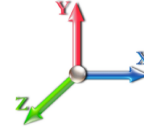


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 22

Dead Load Factor 1.20

Wind Load Factor 1.00



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		182.33	2633.11	0.00	0.00
10.00		179.40	2631.06	0.00	0.00
15.00		178.44	2611.94	0.00	0.00
20.00		185.49	2584.71	0.00	0.00
25.00		190.34	2552.62	0.00	0.00
30.00		193.64	2517.25	0.00	0.00
35.00		195.81	2479.49	0.00	0.00
40.00		197.08	2439.90	0.00	0.00
45.00		197.63	2398.86	0.00	0.00
47.00		78.53	948.69	0.00	0.00
50.00		119.96	2251.11	0.00	0.00
53.25		129.84	2407.06	0.00	0.00
55.00		69.59	818.49	0.00	0.00
60.00		199.38	2305.81	0.00	0.00
65.00		198.04	2261.10	0.00	0.00
70.00		196.35	2215.75	0.00	0.00
75.00		194.35	2169.82	0.00	0.00
80.00		192.06	2123.38	0.00	0.00
85.00		189.53	2076.48	0.00	0.00
90.00		186.75	2029.16	0.00	0.00
95.00		183.77	1981.46	0.00	0.00
95.75		27.16	293.93	0.00	0.00
100.00		155.90	2431.09	0.00	0.00
100.50		18.11	282.82	0.00	0.00
105.00		162.18	1591.74	0.00	0.00
110.00		176.96	1726.41	0.00	0.00
115.00		173.28	1682.46	0.00	0.00
120.00		169.45	1638.24	0.00	0.00
125.00		165.47	1593.79	0.00	0.00
126.00	(16) attachments	672.87	4134.07	0.00	0.00
128.00	(4) attachments	885.34	6587.40	0.00	0.00
130.00		63.88	585.84	0.00	0.00
135.00		157.11	1428.60	0.00	0.00
136.00	(29) attachments	1465.30	8043.02	0.00	0.00
140.00		121.75	1039.72	0.00	0.00
145.00		148.26	1257.32	0.00	0.00
146.00	(28) attachments	1691.27	12157.01	1562.14	12860.46
149.00		86.07	669.47	0.00	0.00
Totals:		9,978.67	93,580.17	1,562.14	12,860.46

Linear Appurtenance Segment Forces (Factored)

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

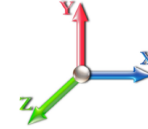


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 22

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	1.56	0.00	0.017	0.000	5.168	0.00	21.53
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.67	0.00	0.017	0.000	5.168	0.00	27.88
10.00	Safety Cable	Yes	5.00	0.000	0.38	1.65	0.00	0.017	0.000	5.168	0.00	23.92
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.76	0.00	0.017	0.000	5.168	0.00	30.37
15.00	Safety Cable	Yes	5.00	0.000	0.38	1.71	0.00	0.017	0.000	5.232	0.00	25.55
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.81	0.00	0.017	0.000	5.232	0.00	32.07
20.00	Safety Cable	Yes	5.00	0.000	0.38	1.75	0.00	0.018	0.000	5.540	0.00	26.81
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.86	0.00	0.018	0.000	5.540	0.00	33.37
25.00	Safety Cable	Yes	5.00	0.000	0.38	1.79	0.00	0.018	0.000	5.795	0.00	27.84
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.89	0.00	0.018	0.000	5.795	0.00	34.45
30.00	Safety Cable	Yes	5.00	0.000	0.38	1.81	0.00	0.019	0.000	6.013	0.00	28.73
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.92	0.00	0.019	0.000	6.013	0.00	35.36
35.00	Safety Cable	Yes	5.00	0.000	0.38	1.84	0.00	0.019	0.000	6.206	0.00	29.50
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.94	0.00	0.019	0.000	6.206	0.00	36.17
40.00	Safety Cable	Yes	5.00	0.000	0.38	1.86	0.00	0.019	0.000	6.378	0.00	30.20
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.97	0.00	0.019	0.000	6.378	0.00	36.89
45.00	Safety Cable	Yes	5.00	0.000	0.38	1.88	0.00	0.020	0.000	6.534	0.00	30.82
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.99	0.00	0.020	0.000	6.534	0.00	37.54
47.00	Safety Cable	Yes	2.00	0.000	0.38	0.76	0.00	0.020	0.000	6.593	0.00	12.42
47.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.80	0.00	0.020	0.000	6.593	0.00	15.11
50.00	Safety Cable	Yes	3.00	0.000	0.38	1.14	0.00	0.020	0.000	6.678	0.00	18.84
50.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	1.20	0.00	0.020	0.000	6.678	0.00	22.88
53.25	Safety Cable	Yes	3.25	0.000	0.38	1.24	0.00	0.021	0.000	6.765	0.00	20.64
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	1.31	0.00	0.021	0.000	6.765	0.00	25.03
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.67	0.00	0.021	0.000	6.811	0.00	11.18
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.71	0.00	0.021	0.000	6.811	0.00	13.54
60.00	Safety Cable	Yes	5.00	0.000	0.38	1.93	0.00	0.021	0.000	6.934	0.00	32.43
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.03	0.00	0.021	0.000	6.934	0.00	39.20
65.00	Safety Cable	Yes	5.00	0.000	0.38	1.94	0.00	0.022	0.000	7.050	0.00	32.89
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.05	0.00	0.022	0.000	7.050	0.00	39.68
70.00	Safety Cable	Yes	5.00	0.000	0.38	1.96	0.00	0.022	0.000	7.160	0.00	33.33
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.06	0.00	0.022	0.000	7.160	0.00	40.13
75.00	Safety Cable	Yes	5.00	0.000	0.38	1.97	0.00	0.023	0.000	7.263	0.00	33.74
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.07	0.00	0.023	0.000	7.263	0.00	40.56
80.00	Safety Cable	Yes	5.00	0.000	0.38	1.98	0.00	0.023	0.000	7.361	0.00	34.13
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.09	0.00	0.023	0.000	7.361	0.00	40.96
85.00	Safety Cable	Yes	5.00	0.000	0.38	1.99	0.00	0.024	0.000	7.454	0.00	34.50
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.10	0.00	0.024	0.000	7.454	0.00	41.35
90.00	Safety Cable	Yes	5.00	0.000	0.38	2.00	0.00	0.025	0.000	7.544	0.00	34.86
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.11	0.00	0.025	0.000	7.544	0.00	41.71
95.00	Safety Cable	Yes	5.00	0.000	0.38	2.01	0.00	0.026	0.000	7.629	0.00	35.19
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.12	0.00	0.026	0.000	7.629	0.00	42.06
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.30	0.00	0.026	0.000	7.642	0.00	5.29
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.32	0.00	0.026	0.000	7.642	0.00	6.32
100.00	Safety Cable	Yes	4.25	0.000	0.38	1.72	0.00	0.027	0.000	7.711	0.00	30.19
100.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	1.81	0.00	0.027	0.000	7.711	0.00	36.04
100.50	Safety Cable	Yes	0.50	0.000	0.38	0.20	0.00	0.027	0.000	7.719	0.00	3.56

Linear Appurtenance Segment Forces (Factored)

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 24

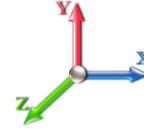


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 22

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.50	Step bolts (ladder)	Yes	0.50	0.000	0.63	0.21	0.00	0.027	0.000	7.719	0.00	4.24
105.00	Safety Cable	Yes	4.50	0.000	0.38	1.83	0.00	0.027	0.000	7.790	0.00	32.25
105.00	Step bolts (ladder)	Yes	4.50	0.000	0.63	1.92	0.00	0.027	0.000	7.790	0.00	38.45
110.00	Safety Cable	Yes	5.00	0.000	0.38	2.04	0.00	0.028	0.000	7.866	0.00	36.13
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.14	0.00	0.028	0.000	7.866	0.00	43.03
115.00	Safety Cable	Yes	5.00	0.000	0.38	2.05	0.00	0.029	0.000	7.939	0.00	36.42
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.15	0.00	0.029	0.000	7.939	0.00	43.33
120.00	Safety Cable	Yes	5.00	0.000	0.38	2.06	0.00	0.030	0.000	8.010	0.00	36.70
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.16	0.00	0.030	0.000	8.010	0.00	43.62
125.00	Safety Cable	Yes	5.00	0.000	0.38	2.06	0.00	0.031	0.000	8.079	0.00	36.97
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.17	0.00	0.031	0.000	8.079	0.00	43.90
126.00	Safety Cable	Yes	1.00	0.000	0.38	0.41	0.00	0.032	0.000	8.092	0.00	7.41
126.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.43	0.00	0.032	0.000	8.092	0.00	8.79
128.00	Safety Cable	Yes	2.00	0.000	0.38	0.83	0.00	0.032	0.000	8.119	0.00	14.85
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.87	0.00	0.032	0.000	8.119	0.00	17.63
130.00	Safety Cable	Yes	2.00	0.000	0.38	0.83	0.00	0.033	0.000	8.145	0.00	14.89
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.87	0.00	0.033	0.000	8.145	0.00	17.67
135.00	Safety Cable	Yes	5.00	0.000	0.38	2.08	0.00	0.033	0.000	8.210	0.00	37.49
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.18	0.00	0.033	0.000	8.210	0.00	44.44
136.00	Safety Cable	Yes	1.00	0.000	0.38	0.42	0.00	0.034	0.000	8.222	0.00	7.51
136.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.44	0.00	0.034	0.000	8.222	0.00	8.90
140.00	Safety Cable	Yes	4.00	0.000	0.38	1.67	0.00	0.035	0.000	8.272	0.00	30.19
140.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	1.75	0.00	0.035	0.000	8.272	0.00	35.75
145.00	Safety Cable	Yes	5.00	0.000	0.38	2.09	0.00	0.036	0.000	8.333	0.00	37.98
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	2.20	0.00	0.036	0.000	8.333	0.00	44.94
146.00	Safety Cable	Yes	1.00	0.000	0.38	0.42	0.00	0.037	0.000	8.345	0.00	7.61
146.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.44	0.00	0.037	0.000	8.345	0.00	9.00
149.00	Safety Cable	Yes	3.00	0.000	0.38	1.26	0.00	0.038	0.000	8.381	0.00	22.90
149.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	1.32	0.00	0.038	0.000	8.381	0.00	27.08
Totals:											0.0	2,156.9

Calculated Forces

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 25



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

Iterations 22

Dead Load Factor 1.20
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-93.58	-10.01	-1.56	-1109.2	-0.01	1109.20	5580.79	2790.40	13771.9	6896.19	0.00	0.000	0.000	0.178
5.00	-90.94	-9.89	-1.56	-1059.1	-0.01	1059.14	5509.80	2754.90	13318.1	6668.96	0.02	-0.041	0.000	0.175
10.00	-88.30	-9.78	-1.56	-1009.6	-0.01	1009.67	5437.04	2718.52	12867.3	6443.24	0.09	-0.082	0.000	0.173
15.00	-85.68	-9.66	-1.56	-960.79	-0.01	960.79	5362.51	2681.26	12419.8	6219.15	0.20	-0.124	0.000	0.170
20.00	-83.09	-9.53	-1.56	-912.51	-0.01	912.51	5286.22	2643.11	11975.8	5996.84	0.35	-0.166	0.000	0.168
25.00	-80.53	-9.39	-1.56	-864.88	-0.01	864.88	5208.16	2604.08	11535.7	5776.42	0.54	-0.209	0.000	0.165
30.00	-78.01	-9.24	-1.56	-817.94	-0.01	817.94	5128.34	2564.17	11099.6	5558.05	0.79	-0.253	0.000	0.162
35.00	-75.52	-9.09	-1.56	-771.73	-0.01	771.73	5046.75	2523.38	10667.8	5341.85	1.08	-0.297	-0.001	0.159
40.00	-73.07	-8.94	-1.56	-726.26	-0.01	726.26	4963.39	2481.70	10240.6	5127.96	1.41	-0.341	-0.001	0.156
45.00	-70.67	-8.77	-1.56	-681.55	-0.01	681.55	4878.27	2439.14	9818.41	4916.50	1.79	-0.386	-0.001	0.153
47.00	-69.72	-8.71	-1.56	-664.02	-0.01	664.02	4843.73	2421.86	9650.93	4832.64	1.96	-0.405	-0.001	0.152
50.00	-67.47	-8.61	-1.56	-637.89	-0.01	637.89	4791.38	2395.69	9401.28	4707.63	2.22	-0.432	-0.001	0.150
53.25	-65.06	-8.49	-1.56	-609.91	-0.01	609.91	4797.23	2398.61	9428.91	4721.46	2.53	-0.462	-0.001	0.143
55.00	-64.23	-8.44	-1.56	-595.07	-0.01	595.07	4766.44	2383.22	9284.05	4648.93	2.70	-0.479	-0.001	0.141
60.00	-61.92	-8.27	-1.56	-552.85	-0.01	552.85	4677.28	2338.64	8873.91	4443.55	3.22	-0.522	-0.001	0.138
65.00	-59.66	-8.10	-1.56	-511.50	-0.01	511.50	4586.36	2293.18	8469.53	4241.06	3.80	-0.566	-0.001	0.134
70.00	-57.44	-7.92	-1.56	-471.02	-0.01	471.02	4493.67	2246.84	8071.16	4041.58	4.41	-0.610	-0.001	0.129
75.00	-55.27	-7.74	-1.56	-431.42	-0.01	431.42	4393.03	2196.52	7668.29	3839.84	5.07	-0.653	-0.001	0.125
80.00	-53.14	-7.57	-1.56	-392.69	-0.02	392.69	4267.07	2133.53	7232.68	3621.71	5.78	-0.697	-0.002	0.121
85.00	-51.06	-7.39	-1.56	-354.86	-0.02	354.86	4141.11	2070.55	6809.81	3409.96	6.53	-0.739	-0.002	0.116
90.00	-49.03	-7.21	-1.56	-317.91	-0.02	317.91	4015.15	2007.57	6399.67	3204.59	7.33	-0.782	-0.002	0.111
95.00	-47.05	-7.02	-1.56	-281.85	-0.02	281.85	3889.19	1944.59	6002.28	3005.60	8.17	-0.823	-0.002	0.106
95.75	-46.75	-7.00	-1.56	-276.59	-0.02	276.59	3870.29	1935.15	5943.77	2976.30	8.30	-0.829	-0.002	0.105
100.00	-44.32	-6.83	-1.56	-246.82	-0.02	246.82	3763.23	1881.61	5617.62	2812.98	9.06	-0.863	-0.002	0.100
100.50	-44.03	-6.82	-1.56	-243.40	-0.02	243.40	3276.58	1638.29	4993.13	2500.28	9.15	-0.867	-0.002	0.111
105.00	-42.44	-6.66	-1.56	-212.71	-0.02	212.71	3189.50	1594.75	4715.31	2361.16	9.98	-0.902	-0.003	0.103
110.00	-40.71	-6.48	-1.56	-179.41	-0.02	179.41	3081.54	1540.77	4399.90	2203.22	10.95	-0.942	-0.003	0.095
115.00	-39.03	-6.31	-1.56	-146.99	-0.02	146.99	2973.57	1486.79	4095.40	2050.74	11.95	-0.978	-0.003	0.085
120.00	-37.39	-6.13	-1.56	-115.46	-0.02	115.46	2865.60	1432.80	3801.82	1903.74	13.00	-1.011	-0.004	0.074
125.00	-35.80	-5.94	-1.56	-84.82	-0.02	84.82	2757.64	1378.82	3519.16	1762.20	14.07	-1.038	-0.004	0.061
126.00	-31.68	-5.20	-1.56	-78.88	-0.03	78.88	2736.04	1368.02	3463.94	1734.55	14.29	-1.044	-0.004	0.057
128.00	-25.11	-4.20	-1.56	-68.48	-0.03	68.48	2692.86	1346.43	3354.81	1679.90	14.73	-1.053	-0.005	0.050
130.00	-24.52	-4.13	-1.56	-60.08	-0.03	60.08	2649.67	1324.84	3247.42	1626.12	15.17	-1.062	-0.005	0.046
135.00	-23.10	-3.95	-1.56	-39.44	-0.03	39.44	2541.71	1270.85	2986.60	1495.52	16.29	-1.079	-0.005	0.035
136.00	-15.08	-2.33	-1.56	-35.49	-0.03	35.49	2520.11	1260.06	2935.75	1470.06	16.52	-1.082	-0.005	0.030
140.00	-14.04	-2.19	-1.56	-26.16	-0.03	26.16	2433.74	1216.87	2736.70	1370.38	17.43	-1.092	-0.006	0.025
145.00	-12.79	-2.02	-1.56	-15.18	-0.03	15.18	2325.77	1162.89	2497.71	1250.71	18.58	-1.102	-0.007	0.018
146.00	-0.67	-0.10	0.00	-0.30	0.00	0.30	2304.18	1152.09	2451.22	1227.43	18.81	-1.103	-0.007	0.001
149.00	0.00	-0.09	0.00	0.00	0.00	0.00	2239.40	1119.70	2314.38	1158.91	19.50	-1.103	-0.007	0.000

Seismic Segment Forces (Factored)

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

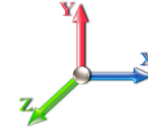


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Load Case: 1.2D + 1.0E

Iterations 20

Gust Response Factor 1.10	Sds 0.19	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) 0.43	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	0.01	0.00	0.00	
5.00		1403.6	0.00	0.04	0.02	23.93	
10.00		1374.7	0.01	0.06	0.03	32.41	
15.00		1345.9	0.02	0.06	0.04	36.28	
20.00		1317.0	0.04	0.07	0.04	37.92	
25.00		1288.2	0.06	0.07	0.04	38.54	
30.00		1259.3	0.08	0.07	0.04	38.78	
35.00		1230.5	0.11	0.07	0.04	38.89	
40.00		1201.6	0.14	0.07	0.03	38.86	
45.00		1172.8	0.18	0.07	0.03	38.48	
47.00	Bot - Section 2	461.06	0.19	0.06	0.02	15.15	
50.00		1378.2	0.22	0.06	0.02	45.04	
53.25	Top - Section 1	1469.7	0.25	0.06	0.02	47.13	
55.00		394.26	0.26	0.05	0.02	12.42	
60.00		1106.9	0.31	0.04	0.01	31.82	
65.00		1078.1	0.37	0.03	0.01	25.81	
70.00		1049.2	0.42	0.01	0.01	17.66	
75.00		1020.4	0.49	-0.01	0.01	7.81	
80.00		991.60	0.55	-0.03	0.01	-2.68	
85.00		962.76	0.62	-0.06	0.02	-12.29	
90.00		933.91	0.70	-0.09	0.03	-19.46	
95.00		905.06	0.77	-0.11	0.05	-23.09	
95.75	Bot - Section 3	133.27	0.79	-0.11	0.05	-3.45	
100.00		1393.7	0.86	-0.12	0.07	-36.07	
100.50	Top - Section 2	161.43	0.87	-0.12	0.07	-4.14	
105.00		667.38	0.94	-0.12	0.11	-14.34	
110.00		718.05	1.03	-0.10	0.15	-8.71	
115.00		693.32	1.13	-0.05	0.21	1.54	
120.00		668.60	1.23	0.03	0.28	14.44	
125.00		643.87	1.33	0.17	0.37	29.63	
126.00	Appurtenance(s)	1232.2	1.35	0.20	0.39	63.47	
128.00	Appurtenance(s)	2163.1	1.40	0.28	0.43	136.52	
130.00		244.69	1.44	0.37	0.48	18.48	
135.00		594.42	1.55	0.64	0.61	65.53	
136.00	Appurtenance(s)	2442.5	1.58	0.71	0.64	287.73	
140.00		453.78	1.67	1.01	0.77	68.16	
145.00		544.97	1.79	1.50	0.96	106.55	
146.00	Appurtenance(s)	3898.6	1.82	1.61	1.00	800.12	
149.00		312.15	1.89	1.98	1.14	73.57	
Totals:		40,311.8				2,068.5	Total Wind: 36,125.5

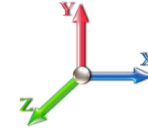
Calculated Forces

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E						Iterations 20
Gust Response Factor	1.10			Sds	0.19	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)	0.43	SA	0.04	Seismic Importance Factor 1.00



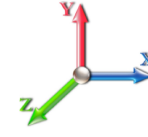
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-55.64	-2.20	0.00	-263.07	0.00	263.07	5580.79	2790.40	13771.9	6896.19	0.00	0.00	0.00	0.048
5.00	-53.69	-2.18	0.00	-252.09	0.00	252.09	5509.80	2754.90	13318.1	6668.96	0.01	-0.01	0.048	
10.00	-51.78	-2.16	0.00	-241.18	0.00	241.18	5437.04	2718.52	12867.3	6443.24	0.02	-0.02	0.047	
15.00	-49.90	-2.13	0.00	-230.39	0.00	230.39	5362.51	2681.26	12419.8	6219.15	0.05	-0.03	0.046	
20.00	-48.06	-2.10	0.00	-219.74	0.00	219.74	5286.22	2643.11	11975.8	5996.84	0.08	-0.04	0.046	
25.00	-46.25	-2.07	0.00	-209.24	0.00	209.24	5208.16	2604.08	11535.7	5776.42	0.13	-0.05	0.045	
30.00	-44.47	-2.04	0.00	-198.90	0.00	198.90	5128.34	2564.17	11099.6	5558.05	0.19	-0.06	0.044	
35.00	-42.73	-2.00	0.00	-188.72	0.00	188.72	5046.75	2523.38	10667.8	5341.85	0.26	-0.07	0.044	
40.00	-41.02	-1.97	0.00	-178.71	0.00	178.71	4963.39	2481.70	10240.6	5127.96	0.34	-0.08	0.043	
45.00	-39.35	-1.93	0.00	-168.86	0.00	168.86	4878.27	2439.14	9818.41	4916.50	0.43	-0.09	0.042	
47.00	-38.69	-1.92	0.00	-165.00	0.00	165.00	4843.73	2421.86	9650.93	4832.64	0.47	-0.10	0.042	
50.00	-36.88	-1.88	0.00	-159.23	0.00	159.23	4791.38	2395.69	9401.28	4707.63	0.53	-0.10	0.042	
53.25	-34.95	-1.83	0.00	-153.13	0.00	153.13	4797.23	2398.61	9428.91	4721.46	0.61	-0.11	0.040	
55.00	-34.38	-1.82	0.00	-149.92	0.00	149.92	4766.44	2383.22	9284.05	4648.93	0.65	-0.12	0.039	
60.00	-32.79	-1.79	0.00	-140.82	0.00	140.82	4677.28	2338.64	8873.91	4443.55	0.78	-0.13	0.039	
65.00	-31.23	-1.77	0.00	-131.85	0.00	131.85	4586.36	2293.18	8469.53	4241.06	0.92	-0.14	0.038	
70.00	-29.71	-1.75	0.00	-123.00	0.00	123.00	4493.67	2246.84	8071.16	4041.58	1.07	-0.15	0.037	
75.00	-28.22	-1.75	0.00	-114.23	0.00	114.23	4393.03	2196.52	7668.29	3839.84	1.23	-0.16	0.036	
80.00	-26.77	-1.75	0.00	-105.50	0.00	105.50	4267.07	2133.53	7232.68	3621.71	1.41	-0.17	0.035	
85.00	-25.35	-1.75	0.00	-96.75	0.00	96.75	4141.11	2070.55	6809.81	3409.96	1.60	-0.18	0.034	
90.00	-23.96	-1.75	0.00	-88.00	0.00	88.00	4015.15	2007.57	6399.67	3204.59	1.80	-0.20	0.033	
95.00	-22.61	-1.75	0.00	-79.25	0.00	79.25	3889.19	1944.59	6002.28	3005.60	2.01	-0.21	0.032	
95.75	-22.41	-1.75	0.00	-77.94	0.00	77.94	3870.29	1935.15	5943.77	2976.30	2.04	-0.21	0.032	
100.00	-20.52	-1.74	0.00	-70.51	0.00	70.51	3763.23	1881.61	5617.62	2812.98	2.23	-0.22	0.031	
100.50	-20.30	-1.75	0.00	-69.64	0.00	69.64	3276.58	1638.29	4993.13	2500.28	2.25	-0.22	0.034	
105.00	-19.26	-1.74	0.00	-61.78	0.00	61.78	3189.50	1594.75	4715.31	2361.16	2.47	-0.23	0.032	
110.00	-18.13	-1.74	0.00	-53.06	0.00	53.06	3081.54	1540.77	4399.90	2203.22	2.71	-0.24	0.030	
115.00	-17.04	-1.74	0.00	-44.34	0.00	44.34	2973.57	1486.79	4095.40	2050.74	2.97	-0.25	0.027	
120.00	-15.97	-1.72	0.00	-35.64	0.00	35.64	2865.60	1432.80	3801.82	1903.74	3.24	-0.26	0.024	
125.00	-14.93	-1.69	0.00	-27.02	0.00	27.02	2757.64	1378.82	3519.16	1762.20	3.52	-0.27	0.021	
126.00	-13.40	-1.62	0.00	-25.33	0.00	25.33	2736.04	1368.02	3463.94	1734.55	3.58	-0.27	0.020	
128.00	-10.70	-1.47	0.00	-22.08	0.00	22.08	2692.86	1346.43	3354.81	1679.90	3.70	-0.28	0.017	
130.00	-10.33	-1.45	0.00	-19.14	0.00	19.14	2649.67	1324.84	3247.42	1626.12	3.81	-0.28	0.016	
135.00	-9.43	-1.38	0.00	-11.88	0.00	11.88	2541.71	1270.85	2986.60	1495.52	4.11	-0.28	0.012	
136.00	-6.47	-1.08	0.00	-10.50	0.00	10.50	2520.11	1260.06	2935.75	1470.06	4.17	-0.29	0.010	
140.00	-5.84	-1.01	0.00	-6.17	0.00	6.17	2433.74	1216.87	2736.70	1370.38	4.41	-0.29	0.007	
145.00	-5.07	-0.90	0.00	-1.13	0.00	1.13	2325.77	1162.89	2497.71	1250.71	4.71	-0.29	0.003	
146.00	-0.38	-0.08	0.00	-0.23	0.00	0.23	2304.18	1152.09	2451.22	1227.43	4.77	-0.29	0.000	
149.00	0.00	-0.07	0.00	0.00	0.00	0.00	2239.40	1119.70	2314.38	1158.91	4.95	-0.29	0.000	

Seismic Segment Forces (Factored)

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 28



Load Case: 0.9D + 1.0E				Iterations 20
Gust Response Factor	1.10	Sds	0.19	Ss 0.17
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.43	SA 0.04
				Seismic Importance Factor 1.00



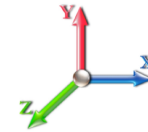
Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.01	0.00	0.00	
5.00		1403.6	0.00	0.04	0.02	23.93	
10.00		1374.7	0.01	0.06	0.03	32.41	
15.00		1345.9	0.02	0.06	0.04	36.28	
20.00		1317.0	0.04	0.07	0.04	37.92	
25.00		1288.2	0.06	0.07	0.04	38.54	
30.00		1259.3	0.08	0.07	0.04	38.78	
35.00		1230.5	0.11	0.07	0.04	38.89	
40.00		1201.6	0.14	0.07	0.03	38.86	
45.00		1172.8	0.18	0.07	0.03	38.48	
47.00	Bot - Section 2	461.06	0.19	0.06	0.02	15.15	
50.00		1378.2	0.22	0.06	0.02	45.04	
53.25	Top - Section 1	1469.7	0.25	0.06	0.02	47.13	
55.00		394.26	0.26	0.05	0.02	12.42	
60.00		1106.9	0.31	0.04	0.01	31.82	
65.00		1078.1	0.37	0.03	0.01	25.81	
70.00		1049.2	0.42	0.01	0.01	17.66	
75.00		1020.4	0.49	-0.01	0.01	7.81	
80.00		991.60	0.55	-0.03	0.01	-2.68	
85.00		962.76	0.62	-0.06	0.02	-12.29	
90.00		933.91	0.70	-0.09	0.03	-19.46	
95.00		905.06	0.77	-0.11	0.05	-23.09	
95.75	Bot - Section 3	133.27	0.79	-0.11	0.05	-3.45	
100.00		1393.7	0.86	-0.12	0.07	-36.07	
100.50	Top - Section 2	161.43	0.87	-0.12	0.07	-4.14	
105.00		667.38	0.94	-0.12	0.11	-14.34	
110.00		718.05	1.03	-0.10	0.15	-8.71	
115.00		693.32	1.13	-0.05	0.21	1.54	
120.00		668.60	1.23	0.03	0.28	14.44	
125.00		643.87	1.33	0.17	0.37	29.63	
126.00	Appurtenance(s)	1232.2	1.35	0.20	0.39	63.47	
128.00	Appurtenance(s)	2163.1	1.40	0.28	0.43	136.52	
130.00		244.69	1.44	0.37	0.48	18.48	
135.00		594.42	1.55	0.64	0.61	65.53	
136.00	Appurtenance(s)	2442.5	1.58	0.71	0.64	287.73	
140.00		453.78	1.67	1.01	0.77	68.16	
145.00		544.97	1.79	1.50	0.96	106.55	
146.00	Appurtenance(s)	3898.6	1.82	1.61	1.00	800.12	
149.00		312.15	1.89	1.98	1.14	73.57	
Totals:		40,311.8				2,068.5	Total Wind: 36,125.5

Calculated Forces

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.0E						Iterations 20
Gust Response Factor	1.10			Sds	0.19	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)	0.43	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	-41.73	-2.20	0.00	-260.80	0.00	260.80	5580.79	2790.40	13771.9	6896.19	0.00	0.00	0.00	0.045
5.00	-40.27	-2.18	0.00	-249.83	0.00	249.83	5509.80	2754.90	13318.1	6668.96	0.01	-0.01	0.045	
10.00	-38.83	-2.15	0.00	-238.93	0.00	238.93	5437.04	2718.52	12867.3	6443.24	0.02	-0.02	0.044	
15.00	-37.43	-2.12	0.00	-228.17	0.00	228.17	5362.51	2681.26	12419.8	6219.15	0.05	-0.03	0.044	
20.00	-36.04	-2.09	0.00	-217.56	0.00	217.56	5286.22	2643.11	11975.8	5996.84	0.08	-0.04	0.043	
25.00	-34.68	-2.06	0.00	-207.11	0.00	207.11	5208.16	2604.08	11535.7	5776.42	0.13	-0.05	0.043	
30.00	-33.35	-2.02	0.00	-196.83	0.00	196.83	5128.34	2564.17	11099.6	5558.05	0.19	-0.06	0.042	
35.00	-32.05	-1.99	0.00	-186.72	0.00	186.72	5046.75	2523.38	10667.8	5341.85	0.25	-0.07	0.041	
40.00	-30.77	-1.95	0.00	-176.78	0.00	176.78	4963.39	2481.70	10240.6	5127.96	0.33	-0.08	0.041	
45.00	-29.51	-1.92	0.00	-167.01	0.00	167.01	4878.27	2439.14	9818.41	4916.50	0.43	-0.09	0.040	
47.00	-29.02	-1.90	0.00	-163.18	0.00	163.18	4843.73	2421.86	9650.93	4832.64	0.47	-0.10	0.040	
50.00	-27.66	-1.86	0.00	-157.47	0.00	157.47	4791.38	2395.69	9401.28	4707.63	0.53	-0.10	0.039	
53.25	-26.21	-1.81	0.00	-151.42	0.00	151.42	4797.23	2398.61	9428.91	4721.46	0.60	-0.11	0.038	
55.00	-25.79	-1.80	0.00	-148.25	0.00	148.25	4766.44	2383.22	9284.05	4648.93	0.64	-0.12	0.037	
60.00	-24.59	-1.77	0.00	-139.24	0.00	139.24	4677.28	2338.64	8873.91	4443.55	0.77	-0.13	0.037	
65.00	-23.42	-1.75	0.00	-130.37	0.00	130.37	4586.36	2293.18	8469.53	4241.06	0.91	-0.14	0.036	
70.00	-22.28	-1.73	0.00	-121.62	0.00	121.62	4493.67	2246.84	8071.16	4041.58	1.06	-0.15	0.035	
75.00	-21.16	-1.73	0.00	-112.96	0.00	112.96	4393.03	2196.52	7668.29	3839.84	1.22	-0.16	0.034	
80.00	-20.07	-1.73	0.00	-104.33	0.00	104.33	4267.07	2133.53	7232.68	3621.71	1.39	-0.17	0.034	
85.00	-19.01	-1.73	0.00	-95.69	0.00	95.69	4141.11	2070.55	6809.81	3409.96	1.58	-0.18	0.033	
90.00	-17.97	-1.73	0.00	-87.05	0.00	87.05	4015.15	2007.57	6399.67	3204.59	1.78	-0.19	0.032	
95.00	-16.96	-1.73	0.00	-78.41	0.00	78.41	3889.19	1944.59	6002.28	3005.60	1.99	-0.21	0.030	
95.75	-16.81	-1.73	0.00	-77.11	0.00	77.11	3870.29	1935.15	5943.77	2976.30	2.02	-0.21	0.030	
100.00	-15.39	-1.72	0.00	-69.77	0.00	69.77	3763.23	1881.61	5617.62	2812.98	2.21	-0.22	0.029	
100.50	-15.22	-1.72	0.00	-68.91	0.00	68.91	3276.58	1638.29	4993.13	2500.28	2.23	-0.22	0.032	
105.00	-14.44	-1.72	0.00	-61.15	0.00	61.15	3189.50	1594.75	4715.31	2361.16	2.44	-0.23	0.030	
110.00	-13.60	-1.72	0.00	-52.53	0.00	52.53	3081.54	1540.77	4399.90	2203.22	2.69	-0.24	0.028	
115.00	-12.78	-1.72	0.00	-43.91	0.00	43.91	2973.57	1486.79	4095.40	2050.74	2.94	-0.25	0.026	
120.00	-11.98	-1.70	0.00	-35.31	0.00	35.31	2865.60	1432.80	3801.82	1903.74	3.21	-0.26	0.023	
125.00	-11.20	-1.67	0.00	-26.78	0.00	26.78	2757.64	1378.82	3519.16	1762.20	3.49	-0.27	0.019	
126.00	-10.05	-1.60	0.00	-25.11	0.00	25.11	2736.04	1368.02	3463.94	1734.55	3.54	-0.27	0.018	
128.00	-8.02	-1.46	0.00	-21.90	0.00	21.90	2692.86	1346.43	3354.81	1679.90	3.66	-0.27	0.016	
130.00	-7.75	-1.44	0.00	-18.98	0.00	18.98	2649.67	1324.84	3247.42	1626.12	3.77	-0.28	0.015	
135.00	-7.07	-1.37	0.00	-11.79	0.00	11.79	2541.71	1270.85	2986.60	1495.52	4.06	-0.28	0.011	
136.00	-4.85	-1.07	0.00	-10.42	0.00	10.42	2520.11	1260.06	2935.75	1470.06	4.12	-0.28	0.009	
140.00	-4.38	-1.00	0.00	-6.13	0.00	6.13	2433.74	1216.87	2736.70	1370.38	4.36	-0.28	0.006	
145.00	-3.80	-0.89	0.00	-1.12	0.00	1.12	2325.77	1162.89	2497.71	1250.71	4.66	-0.29	0.003	
146.00	-0.28	-0.07	0.00	-0.22	0.00	0.22	2304.18	1152.09	2451.22	1227.43	4.72	-0.29	0.000	
149.00	0.00	-0.07	0.00	0.00	0.00	0.00	2239.40	1119.70	2314.38	1158.91	4.90	-0.29	0.000	

Wind Loading - Shaft

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 30

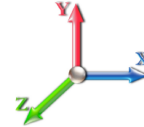


Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 21

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	283.01	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	277.29	0.650	0.000	5.00	25.322	16.46	134.7	0.0	1403.6
10.00		1.00	0.85	7.442	8.19	271.58	0.650	0.000	5.00	24.805	16.12	132.0	0.0	1374.8
15.00		1.00	0.86	7.534	8.29	267.50	0.650	0.000	5.00	24.289	15.79	130.8	0.0	1345.9
20.00		1.00	0.91	7.978	8.78	269.35	0.650	0.000	5.00	23.772	15.45	135.6	0.0	1317.1
25.00		1.00	0.95	8.345	9.18	269.42	0.650	0.000	5.00	23.256	15.12	138.8	0.0	1288.2
30.00		1.00	0.99	8.659	9.53	268.29	0.650	0.000	5.00	22.739	14.78	140.8	0.0	1259.4
35.00		1.00	1.02	8.936	9.83	266.28	0.650	0.000	5.00	22.222	14.44	142.0	0.0	1230.5
40.00		1.00	1.05	9.184	10.10	263.60	0.650	0.000	5.00	21.706	14.11	142.5	0.0	1201.7
45.00		1.00	1.07	9.410	10.35	260.39	0.650	0.000	5.00	21.189	13.77	142.6	0.0	1172.8
47.00	Bot - Section 2	1.00	1.08	9.494	10.44	258.98	0.650	0.000	2.00	8.331	5.42	56.6	0.0	461.1
50.00		1.00	1.10	9.616	10.58	256.74	0.650	0.000	3.00	12.564	8.17	86.4	0.0	1378.3
53.25	Top - Section 1	1.00	1.11	9.742	10.72	254.16	0.650	0.000	3.25	13.401	8.71	93.3	0.0	1469.7
55.00		1.00	1.12	9.807	10.79	257.42	0.650	0.000	1.75	7.125	4.63	50.0	0.0	394.3
60.00		1.00	1.14	9.986	10.98	253.12	0.650	0.000	5.00	20.010	13.01	142.9	0.0	1107.0
65.00		1.00	1.16	10.153	11.17	248.56	0.650	0.000	5.00	19.493	12.67	141.5	0.0	1078.1
70.00		1.00	1.18	10.310	11.34	243.75	0.650	0.000	5.00	18.977	12.33	139.9	0.0	1049.3
75.00		1.00	1.19	10.459	11.50	238.73	0.650	0.000	5.00	18.460	12.00	138.0	0.0	1020.4
80.00		1.00	1.21	10.600	11.66	233.51	0.650	0.000	5.00	17.943	11.66	136.0	0.0	991.6
85.00		1.00	1.23	10.734	11.81	228.12	0.650	0.000	5.00	17.427	11.33	133.8	0.0	962.8
90.00		1.00	1.24	10.863	11.95	222.58	0.650	0.000	5.00	16.910	10.99	131.3	0.0	933.9
95.00		1.00	1.25	10.986	12.08	216.89	0.650	0.000	5.00	16.394	10.66	128.8	0.0	905.1
95.75	Bot - Section 3	1.00	1.26	11.004	12.10	216.03	0.650	0.000	0.75	2.414	1.57	19.0	0.0	133.3
100.00		1.00	1.27	11.104	12.21	211.07	0.650	0.000	4.25	13.732	8.93	109.0	0.0	1393.7
100.50	Top - Section 2	1.00	1.27	11.116	12.23	210.48	0.650	0.000	0.50	1.591	1.03	12.6	0.0	161.4
105.00		1.00	1.28	11.218	12.34	209.44	0.650	0.000	4.50	14.087	9.16	113.0	0.0	667.4
110.00		1.00	1.29	11.327	12.46	203.41	0.650	0.000	5.00	15.161	9.85	122.8	0.0	718.0
115.00		1.00	1.31	11.432	12.58	197.27	0.650	0.000	5.00	14.645	9.52	119.7	0.0	693.3
120.00		1.00	1.32	11.534	12.69	191.04	0.650	0.000	5.00	14.128	9.18	116.5	0.0	668.6
125.00		1.00	1.33	11.633	12.80	184.71	0.650	0.000	5.00	13.611	8.85	113.2	0.0	643.9
126.00	Appurtenance(s)	1.00	1.33	11.653	12.82	183.43	0.650	0.000	1.00	2.660	1.73	22.2	0.0	125.8
128.00	Appurtenance(s)	1.00	1.34	11.691	12.86	180.87	0.650	0.000	2.00	5.259	3.42	44.0	0.0	248.6
130.00		1.00	1.34	11.729	12.90	178.29	0.650	0.000	2.00	5.176	3.36	43.4	0.0	244.7
135.00		1.00	1.35	11.822	13.00	171.79	0.650	0.000	5.00	12.578	8.18	106.3	0.0	594.4
136.00	Appurtenance(s)	1.00	1.35	11.840	13.02	170.48	0.650	0.000	1.00	2.454	1.59	20.8	0.0	115.9
140.00		1.00	1.36	11.912	13.10	165.21	0.650	0.000	4.00	9.608	6.25	81.8	0.0	453.8
145.00		1.00	1.37	12.000	13.20	158.56	0.650	0.000	5.00	11.545	7.50	99.1	0.0	545.0
146.00	Appurtenance(s)	1.00	1.37	12.017	13.22	157.23	0.650	0.000	1.00	2.247	1.46	19.3	0.0	106.0
149.00		1.00	1.38	12.068	13.27	153.19	0.650	0.000	3.00	6.617	4.30	57.1	0.0	312.1
Totals:									149.00			3,838.0		31,171.7

Discrete Appurtenance Forces

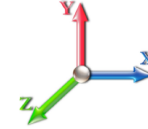
Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 31



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	146.00	RFS	3	12.017	13.219	0.65	0.90	39.35	368.40	0.000	0.000	520.11	0.00	0.00	
2	146.00	Ericsson KRY 112 489/4	6	12.017	13.219	0.75	0.90	2.51	92.40	0.000	0.000	33.18	0.00	0.00	
3	146.00	Low Profile Platform w/	1	12.017	13.219	1.00	1.00	34.54	2289.00	0.000	0.000	456.57	0.00	0.00	
4	146.00	Ericsson AIR6419 B41	3	13.208	14.529	0.66	0.90	12.46	249.00	10.118	83.300	180.98	1831.2	15075.88	
5	146.00	Kathrein 782 10662	3	12.017	13.219	0.71	0.90	0.32	5.40	0.000	0.000	4.23	0.00	0.00	
6	146.00	Commscope VV-65A-R1	3	12.017	13.219	0.66	0.90	11.67	71.43	0.000	0.000	154.24	0.00	0.00	
7	146.00	Ericsson 4449 B71 + B85	3	12.017	13.219	0.81	0.90	4.74	225.00	0.000	0.000	62.64	0.00	0.00	
8	146.00	Ericsson 4460 B25 + B66	3	12.017	13.219	0.77	0.90	4.91	312.00	0.000	0.000	64.92	0.00	0.00	
9	146.00	Empty Pipe Mounts	3	12.017	13.219	0.90	0.90	5.18	180.00	0.000	0.000	68.53	0.00	0.00	
10	136.00	Low Profile Platform w/	1	11.840	13.024	1.00	1.00	43.29	1500.00	0.000	0.000	563.81	0.00	0.00	
11	136.00	DC2-48-60-18-8F	1	11.840	13.024	0.63	0.80	0.58	14.50	0.000	0.000	7.57	0.00	0.00	
12	136.00	RRUS-11	6	11.840	13.024	0.55	0.80	12.55	306.00	0.000	0.000	163.48	0.00	0.00	
13	136.00	LGP21903	6	11.840	13.024	0.59	0.80	0.82	33.00	0.000	0.000	10.64	0.00	0.00	
14	136.00	LGP21401	6	11.840	13.024	0.53	0.80	3.33	84.60	0.000	0.000	43.32	0.00	0.00	
15	136.00	AM-X-CD-17-65-00T-RET	3	11.840	13.024	0.63	0.80	12.13	178.50	0.000	0.000	158.04	0.00	0.00	
16	136.00	7770	6	11.840	13.024	0.62	0.80	20.36	210.00	0.000	0.000	265.23	0.00	0.00	
17	128.00	BXA-70063/6CF __ 2°	3	11.691	12.860	0.60	0.80	13.63	51.00	0.000	0.000	175.23	0.00	0.00	
18	128.00	Low Profile Platform w/	1	11.691	12.860	1.00	1.00	35.03	1863.50	0.000	0.000	450.49	0.00	0.00	
19	126.00	Raycap	1	11.653	12.818	0.66	0.80	1.67	21.00	0.000	0.000	21.36	0.00	0.00	
20	126.00	B5/B13	3	11.653	12.818	0.66	0.80	3.74	210.90	0.000	0.000	48.00	0.00	0.00	
21	126.00	B2/B66A	3	11.653	12.818	0.66	0.80	3.74	253.20	0.000	0.000	48.00	0.00	0.00	
22	126.00	MT6407-77A	3	11.653	12.818	0.56	0.80	7.90	261.30	0.000	0.000	101.21	0.00	0.00	
23	126.00	MX06FRO660-03	6	11.653	12.818	0.70	0.80	41.22	360.00	0.000	0.000	528.31	0.00	0.00	
Totals:									9,140.13						4,130.10

Total Applied Force Summary

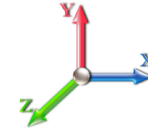
Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 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		134.74	1623.28	0.00	0.00
10.00		131.99	1594.43	0.00	0.00
15.00		130.84	1565.59	0.00	0.00
20.00		135.60	1536.74	0.00	0.00
25.00		138.75	1507.90	0.00	0.00
30.00		140.79	1479.05	0.00	0.00
35.00		141.99	1450.20	0.00	0.00
40.00		142.54	1421.36	0.00	0.00
45.00		142.56	1392.51	0.00	0.00
47.00		56.55	548.93	0.00	0.00
50.00		86.38	1510.08	0.00	0.00
53.25		93.35	1612.49	0.00	0.00
55.00		49.97	471.14	0.00	0.00
60.00		142.86	1326.65	0.00	0.00
65.00		141.50	1297.80	0.00	0.00
70.00		139.89	1268.96	0.00	0.00
75.00		138.04	1240.11	0.00	0.00
80.00		135.99	1211.27	0.00	0.00
85.00		133.75	1182.42	0.00	0.00
90.00		131.34	1153.57	0.00	0.00
95.00		128.77	1124.73	0.00	0.00
95.75		19.00	166.22	0.00	0.00
100.00		109.03	1580.46	0.00	0.00
100.50		12.64	183.39	0.00	0.00
105.00		112.98	865.08	0.00	0.00
110.00		122.79	937.71	0.00	0.00
115.00		119.71	912.99	0.00	0.00
120.00		116.52	888.26	0.00	0.00
125.00		113.22	863.54	0.00	0.00
126.00	(16) attachments	769.06	1276.14	0.00	0.00
128.00	(4) attachments	669.68	2251.01	0.00	0.00
130.00		43.41	307.36	0.00	0.00
135.00		106.32	751.09	0.00	0.00
136.00	(29) attachments	1232.87	2473.85	0.00	0.00
140.00		81.83	525.19	0.00	0.00
145.00		99.05	634.24	0.00	0.00
146.00	(28) attachments	1564.70	3916.51	1831.25	15075.88
149.00		57.10	316.09	0.00	0.00
Totals:		7,968.08	46,368.35	1,831.25	15,075.88

Linear Appurtenance Segment Forces (Factored)

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

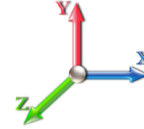


Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 21

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	7.442	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	7.442	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	7.442	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	7.442	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	7.534	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	7.534	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	7.978	0.00	1.37
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	7.978	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	8.345	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	8.345	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	8.659	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	8.659	0.00	5.20
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	8.936	0.00	1.37
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	8.936	0.00	5.20
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	9.184	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	9.184	0.00	5.20
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	9.410	0.00	1.37
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	9.410	0.00	5.20
47.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.020	0.000	9.494	0.00	0.55
47.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.020	0.000	9.494	0.00	2.08
50.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.020	0.000	9.616	0.00	0.82
50.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.020	0.000	9.616	0.00	3.12
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.021	0.000	9.742	0.00	0.89
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	0.17	0.00	0.021	0.000	9.742	0.00	3.38
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.021	0.000	9.807	0.00	0.48
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.09	0.00	0.021	0.000	9.807	0.00	1.82
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	9.986	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	9.986	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	10.153	0.00	1.37
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	10.153	0.00	5.20
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	10.310	0.00	1.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	10.310	0.00	5.20
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	10.459	0.00	1.37
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	10.459	0.00	5.20
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	10.600	0.00	1.37
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	10.600	0.00	5.20
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	10.734	0.00	1.37
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	10.734	0.00	5.20
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	10.863	0.00	1.37
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	10.863	0.00	5.20
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	10.986	0.00	1.37
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	10.986	0.00	5.20
95.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.026	0.000	11.004	0.00	0.20
95.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.026	0.000	11.004	0.00	0.78
100.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.027	0.000	11.104	0.00	1.16
100.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.027	0.000	11.104	0.00	4.42
100.50	Safety Cable	Yes	0.50	0.000	0.38	0.02	0.00	0.027	0.000	11.116	0.00	0.14

Linear Appurtenance Segment Forces (Factored)

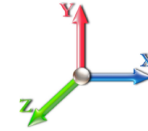
Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 21

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.50	Step bolts (ladder)	Yes	0.50	0.000	0.63	0.03	0.00	0.027	0.000	11.116	0.00	0.52
105.00	Safety Cable	Yes	4.50	0.000	0.38	0.14	0.00	0.027	0.000	11.218	0.00	1.23
105.00	Step bolts (ladder)	Yes	4.50	0.000	0.63	0.24	0.00	0.027	0.000	11.218	0.00	4.68
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	11.327	0.00	1.37
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	11.327	0.00	5.20
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	11.432	0.00	1.37
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	11.432	0.00	5.20
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	11.534	0.00	1.37
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	11.534	0.00	5.20
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	11.633	0.00	1.37
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	11.633	0.00	5.20
126.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.032	0.000	11.653	0.00	0.27
126.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.032	0.000	11.653	0.00	1.04
128.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.032	0.000	11.691	0.00	0.55
128.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.032	0.000	11.691	0.00	2.08
130.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	11.729	0.00	0.55
130.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	11.729	0.00	2.08
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	11.822	0.00	1.37
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	11.822	0.00	5.20
136.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.034	0.000	11.840	0.00	0.27
136.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.034	0.000	11.840	0.00	1.04
140.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.035	0.000	11.912	0.00	1.09
140.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.035	0.000	11.912	0.00	4.16
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.036	0.000	12.000	0.00	1.37
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.036	0.000	12.000	0.00	5.20
146.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	12.017	0.00	0.27
146.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	12.017	0.00	1.04
149.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.038	0.000	12.068	0.00	0.82
149.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.038	0.000	12.068	0.00	3.12
Totals:											0.0	195.6

Calculated Forces

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

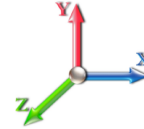


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 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	-46.37	-7.98	-1.83	-883.23	0.00	883.23	5580.79	2790.40	13771.9	6896.19	0.00	0.000	0.000	0.136
5.00	-44.74	-7.87	-1.83	-843.32	0.00	843.32	5509.80	2754.90	13318.1	6668.96	0.02	-0.032	0.000	0.135
10.00	-43.14	-7.76	-1.83	-803.97	0.00	803.97	5437.04	2718.52	12867.3	6443.24	0.07	-0.065	0.000	0.133
15.00	-41.57	-7.65	-1.83	-765.15	0.00	765.15	5362.51	2681.26	12419.8	6219.15	0.16	-0.099	0.000	0.131
20.00	-40.03	-7.54	-1.83	-726.88	0.00	726.88	5286.22	2643.11	11975.8	5996.84	0.28	-0.132	0.000	0.129
25.00	-38.52	-7.42	-1.83	-689.19	0.00	689.19	5208.16	2604.08	11535.7	5776.42	0.43	-0.167	0.000	0.127
30.00	-37.03	-7.30	-1.83	-652.09	0.00	652.09	5128.34	2564.17	11099.6	5558.05	0.63	-0.201	0.000	0.125
35.00	-35.58	-7.17	-1.83	-615.60	0.00	615.60	5046.75	2523.38	10667.8	5341.85	0.86	-0.236	-0.001	0.122
40.00	-34.15	-7.04	-1.83	-579.75	0.00	579.75	4963.39	2481.70	10240.6	5127.96	1.12	-0.272	-0.001	0.120
45.00	-32.76	-6.91	-1.83	-544.53	-0.01	544.53	4878.27	2439.14	9818.41	4916.50	1.43	-0.308	-0.001	0.117
47.00	-32.21	-6.86	-1.83	-530.71	-0.01	530.71	4843.73	2421.86	9650.93	4832.64	1.56	-0.323	-0.001	0.116
50.00	-30.70	-6.78	-1.83	-510.14	-0.01	510.14	4791.38	2395.69	9401.28	4707.63	1.77	-0.345	-0.001	0.115
53.25	-29.08	-6.68	-1.83	-488.11	-0.01	488.11	4797.23	2398.61	9428.91	4721.46	2.01	-0.369	-0.001	0.109
55.00	-28.61	-6.64	-1.83	-476.42	-0.01	476.42	4766.44	2383.22	9284.05	4648.93	2.15	-0.382	-0.001	0.108
60.00	-27.28	-6.51	-1.83	-443.21	-0.01	443.21	4677.28	2338.64	8873.91	4443.55	2.57	-0.417	-0.001	0.106
65.00	-25.98	-6.37	-1.83	-410.68	-0.01	410.68	4586.36	2293.18	8469.53	4241.06	3.03	-0.452	-0.001	0.103
70.00	-24.71	-6.24	-1.83	-378.83	-0.01	378.83	4493.67	2246.84	8071.16	4041.58	3.52	-0.487	-0.002	0.099
75.00	-23.46	-6.10	-1.83	-347.65	-0.01	347.65	4393.03	2196.52	7668.29	3839.84	4.05	-0.522	-0.002	0.096
80.00	-22.25	-5.97	-1.83	-317.15	-0.01	317.15	4267.07	2133.53	7232.68	3621.71	4.61	-0.557	-0.002	0.093
85.00	-21.07	-5.83	-1.83	-287.31	-0.01	287.31	4141.11	2070.55	6809.81	3409.96	5.21	-0.591	-0.002	0.089
90.00	-19.91	-5.70	-1.83	-258.14	-0.01	258.14	4015.15	2007.57	6399.67	3204.59	5.85	-0.626	-0.002	0.086
95.00	-18.79	-5.57	-1.83	-229.63	-0.01	229.63	3889.19	1944.59	6002.28	3005.60	6.53	-0.659	-0.003	0.081
95.75	-18.62	-5.55	-1.83	-225.46	-0.01	225.46	3870.29	1935.15	5943.77	2976.30	6.63	-0.664	-0.003	0.081
100.00	-17.04	-5.43	-1.83	-201.86	-0.01	201.86	3763.23	1881.61	5617.62	2812.98	7.23	-0.692	-0.003	0.076
100.50	-16.85	-5.42	-1.83	-199.15	-0.01	199.15	3276.58	1638.29	4993.13	2500.28	7.31	-0.696	-0.003	0.085
105.00	-15.99	-5.30	-1.83	-174.77	-0.02	174.77	3189.50	1594.75	4715.31	2361.16	7.98	-0.724	-0.003	0.079
110.00	-15.05	-5.18	-1.83	-148.25	-0.02	148.25	3081.54	1540.77	4399.90	2203.22	8.75	-0.757	-0.004	0.072
115.00	-14.13	-5.05	-1.83	-122.37	-0.02	122.37	2973.57	1486.79	4095.40	2050.74	9.56	-0.787	-0.004	0.064
120.00	-13.25	-4.93	-1.83	-97.11	-0.02	97.11	2865.60	1432.80	3801.82	1903.74	10.40	-0.814	-0.004	0.056
125.00	-12.38	-4.81	-1.83	-72.47	-0.02	72.47	2757.64	1378.82	3519.16	1762.20	11.27	-0.838	-0.005	0.046
126.00	-11.12	-4.02	-1.83	-67.66	-0.02	67.66	2736.04	1368.02	3463.94	1734.55	11.44	-0.842	-0.005	0.043
128.00	-8.88	-3.32	-1.83	-59.62	-0.02	59.62	2692.86	1346.43	3354.81	1679.90	11.80	-0.850	-0.005	0.039
130.00	-8.57	-3.27	-1.83	-52.99	-0.02	52.99	2649.67	1324.84	3247.42	1626.12	12.16	-0.858	-0.006	0.036
135.00	-7.82	-3.16	-1.83	-36.63	-0.02	36.63	2541.71	1270.85	2986.60	1495.52	13.06	-0.873	-0.006	0.028
136.00	-5.36	-1.89	-1.83	-33.47	-0.02	33.47	2520.11	1260.06	2935.75	1470.06	13.25	-0.876	-0.006	0.025
140.00	-4.84	-1.80	-1.83	-25.93	-0.03	25.93	2433.74	1216.87	2736.70	1370.38	13.98	-0.886	-0.007	0.021
145.00	-4.21	-1.69	-1.83	-16.95	-0.03	16.95	2325.77	1162.89	2497.71	1250.71	14.92	-0.896	-0.008	0.015
146.00	-0.32	-0.06	0.00	-0.19	0.00	0.19	2304.18	1152.09	2451.22	1227.43	15.11	-0.897	-0.008	0.000
149.00	0.00	-0.06	0.00	0.00	0.00	0.00	2239.40	1119.70	2314.38	1158.91	15.67	-0.897	-0.008	0.000

Final Analysis Summary

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 36



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	36.2	0.00	55.59	0.05	5.14	4023.73
0.9D + 1.6W 101 mph Wind	36.2	0.00	41.68	0.04	5.14	3990.61
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.0	0.00	93.58	0.01	1.56	1109.20
1.2D + 1.0E	2.2	0.00	55.64	0.00	0.00	263.07
0.9D + 1.0E	2.2	0.00	41.73	0.00	0.00	260.80
1.0D + 1.0W 60 mph Wind	8.0	0.00	46.37	0.00	1.83	883.23

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	-55.59	-36.20	-5.14	-4023.7	-0.05	-4023.7	5580.79	2790.4	13771.9	6896.19	0.00	0.594
0.9D + 1.6W 101 mph Wind	-41.68	-36.18	-5.14	-3990.6	-0.04	-3990.6	5580.79	2790.4	13771.9	6896.19	0.00	0.586
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-93.58	-10.01	-1.56	-1109.2	-0.01	-1109.2	5580.79	2790.4	13771.9	6896.19	0.00	0.178
1.2D + 1.0E	-55.64	-2.20	0.00	-263.07	0.00	-263.07	5580.79	2790.4	13771.9	6896.19	0.00	0.048
0.9D + 1.0E	-41.73	-2.20	0.00	-260.80	0.00	-260.80	5580.79	2790.4	13771.9	6896.19	0.00	0.045
1.0D + 1.0W 60 mph Wind	-46.37	-7.98	-1.83	-883.23	0.00	-883.23	5580.79	2790.4	13771.9	6896.19	0.00	0.136

Base Plate Summary

Structure: CT13614-A	Code: TIA-222-G	4/12/2022
Site Name: Knowlton	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 37



Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 60.00	Bolt Circle: 68.00
Moment (kip-ft): 3739.40	Width (in): 68.00	Number Bolts: 20.00
Axial (kip): 55.50	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 28.20	Polygon Sides: 4.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 15.00	Yield (ksi): 75.00
Moment (kip-ft): 4023.73	Effective Len (in): 9.47	Ultimate (ksi): 100.00
Axial (kip): 55.59	Moment (kip-in): 553.03	Arrangement: Clustered
Shear (kip): 36.20	Allow Stress (ksi): 81.00	Cluster Dist (in): 6.00
	Applied Stress (ksi): 38.88	Start Angle (deg): 45.00
	Stress Ratio: 0.48	Compression
		Force (kip): 146.69
		Allowable (kip): 260.00
		Ratio: 0.58
		Tension
		Force (kip): 137.34
		Allowable (kip): 260.00
		Ratio: 0.54

	Monopole Mat Foundation Design			Date
				4/11/2022
	Customer Name:	T-Mobile	TIA Standard:	TIA-222-G
	Site Name:		Structure Height (Ft.):	150
	Site Number:	CT13614-A	Engineer Name:	SBA Engineer
Engr. Number:		Engineer Login ID:		

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	55.6	Shear Force (Kips):	36.2
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4023.7

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	27.5	Width of Pad (ft.):	27.5

Final Length of pad (ft)	27.5	Final width of pad (ft):	27.5
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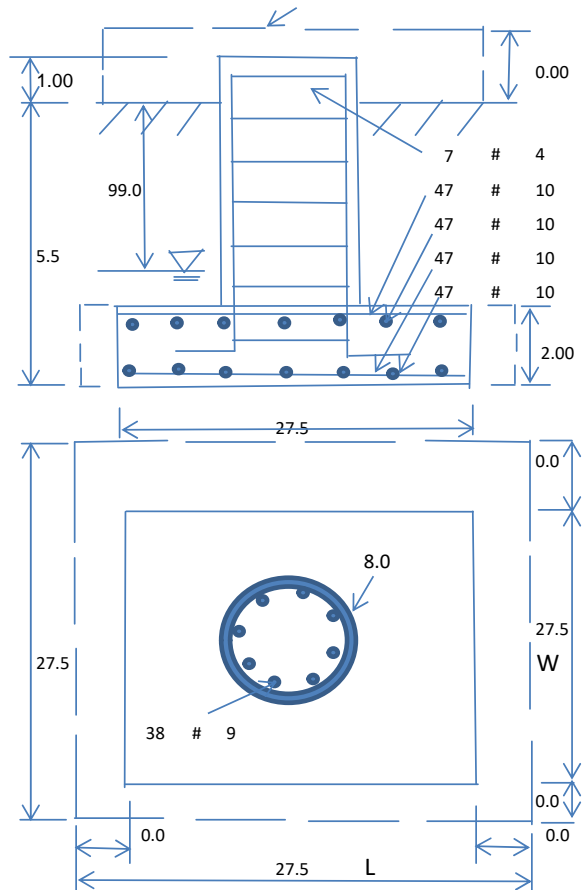
Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	38	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	10	
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):	47	Qty. of Rebar in Pad (W):	47	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	47	Qty. of Rebar in Pad (W):	47	

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	57.6	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	16000	Ultimate Skin Friction:	0	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm of Pad:	25	



Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	2470.95	Total Dry Soil Weight (Kips):	296.51
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	296.51	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1738.69	Total Dry Concrete Weight (Kips):	260.80
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	260.80	Total Vertical Load on Base (Kips):	612.92

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	2218	<	Allowable Factored Soil Bearing (psf):	12000	0.18	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7661.3	>	Design Factored Momont (kips-ft):	4259	0.56	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.80					OK!

Load/
Capacity
Ratio

Check the capacities of Reinforcing Concrete:

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

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

Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	7455.7	> Design Factored Moment (Mu, Kips-Ft)	4186.6	0.56	OK!
Calculated Shear Capacity (Kips):	840.3	> Design Factored Shear (Kips):	36.2	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	2052.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	12730.0	> Design Factored Axial Load (Pu Kips):	55.6	0.00	OK!
Moment & Axial Strength Combination:	0.56	OK! Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	637.9	> One-Way Factored Shear (L-D. Kips):	259.8	0.41	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	637.9	> One-Way Factored Shear (W-D., Kips)	259.8	0.41	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	637.8	> One-Way Factored Shear (C-C, Kips):	258.1	0.40	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0089	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0089		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	5044.1	> Moment at Bottom (L-Dir. K-Ft):	1399.7	0.28	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	5044.1	> Moment at Bottom (W-Dir. K-Ft):	1399.7	0.28	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	6976.5	> Moment at Bottom (C-C Dir. K-Ft):	1979.4	0.28	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0089	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0089		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	5044.1	> Moment at the top (L-Dir K-Ft):	627.8	0.12	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	5044.1	> Moment at the top (W-Dir K-Ft):	627.8	0.12	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	6976.5	> Moment at the top (C-C Dir. K-Ft):	589.9	0.08	OK!

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

Moment transferred by punching shear:	1609.5	k-ft.	Max. factored shear stress v_{u_CD} :	1.7	Psi
Max. factored shear stress v_{u_AB} :	14.4	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	14.4	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: CT13614-A-SBA

Customer Site Name: Knowlton

Carrier Name: T-Mobile (App#: 193738-1, V1)

Carrier Site ID / Name: CT11519D / Knowlton

Site Location: 99 Knowlton Hill Rd

Ashford, Connecticut

Windham County

Latitude: 41.840777

Longitude: -72.207528

Analysis Result:

Max Structural Usage: 79.4% [Pass]

Report Prepared By: Progesh Roka





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Report Prepared By: Progesh Roka

Introduction

The purpose of this report is to summarize the analysis results on the (1) Platform with Handrails at 147.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount photos provided by SBA dated 03/22/2022
Antenna Loading	Provided by SBA; Application #: 193738, v1; dated 6/3/2022
Modification Drawings	N/A

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/2018 CSBC

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

(1) Platform with Handrails at 147.00' elevation

Final Antenna Configuration

3	Ericsson AIR6419 B41
3	RFS APXVAALL24_43-U-NA20
3	Commscope VV-65A-R1
6	Ericsson KRY 112 489/2
3	Ericsson 4449 B71 + B85
3	Ericsson 4460 B25 + B66
3	Kathrein 782 11056

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 mount will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 79.4%, which occurs in the mount pipe. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

Attachments

1. Mount Photos
2. Antenna Placement Diagram
3. 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.



Sector: **A**

6/3/2022

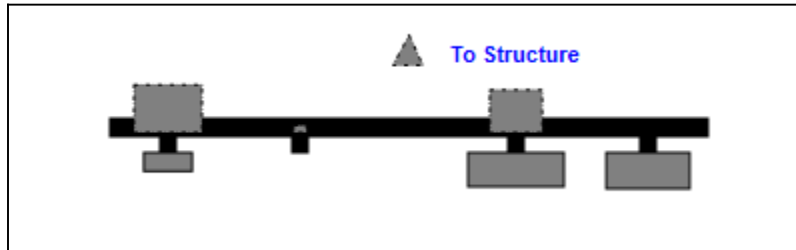
Structure Type: Monopole

Mount Elev: 147.00

Page: 1

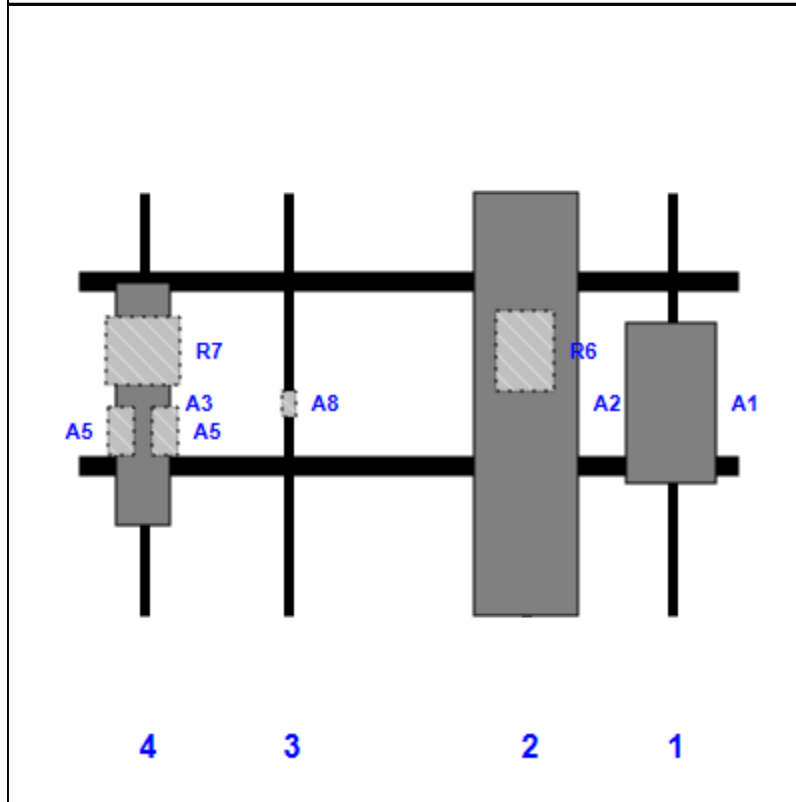


Plan View



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	47.94			
A2	APXVAALL24_43-U-NA20	95.90	24.00	102.00	2	a	Front	48.00			
R6	4449 B71 + B85	17.90	13.10	102.00	2	a	Behind	36.00			
A8	782 11056	5.50	3.20	48.00	3	a	Behind	48.00			
A3	VV-65A-R1	54.72	12.08	15.00	4	a	Front	48.00			
A5	KRY 112 489/2	11.00	6.10	15.00	4	a	Behind	54.00	-5.00		
R7	4460 B25 + B66	15.10	17.00	15.00	4	a	Behind	36.00			
A5	KRY 112 489/2	11.00	6.10	15.00	4	b	Behind	54.00	5.00		

Sector: **B**

6/3/2022

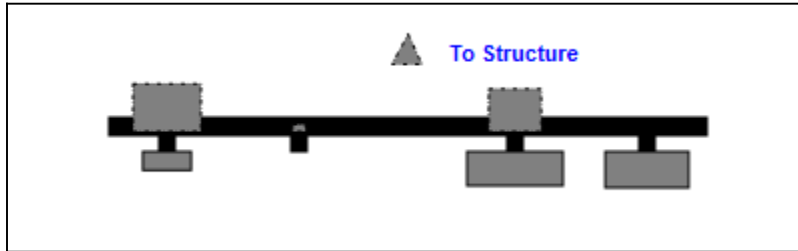
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Mount Elev: 147.00

Page: 2

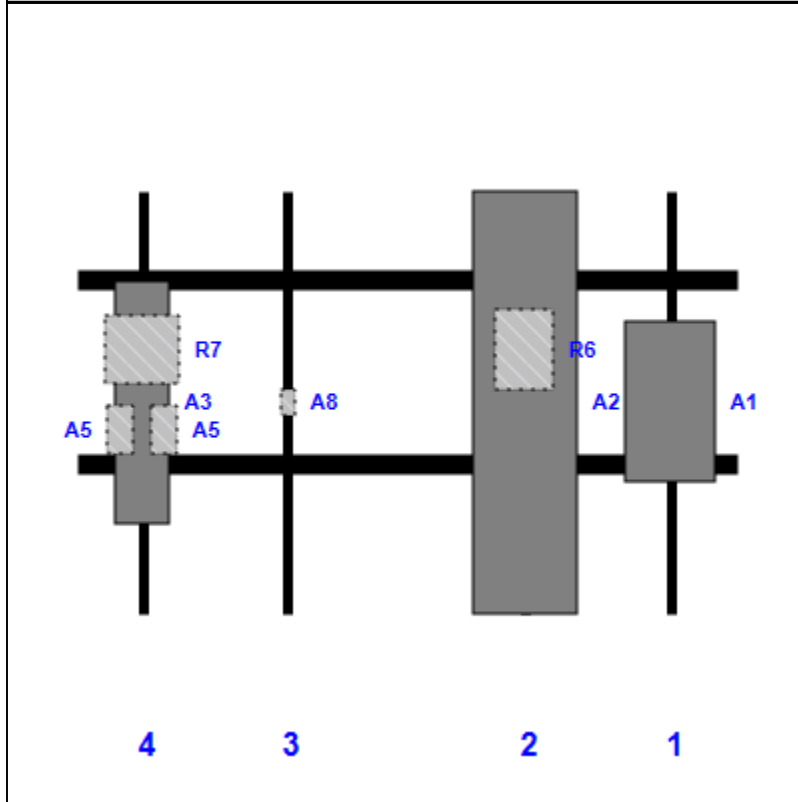


Plan View



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	47.94			
A2	APXVAALL24_43-U-NA20	95.90	24.00	102.00	2	a	Front	48.00			
R6	4449 B71 + B85	17.90	13.10	102.00	2	a	Behind	36.00			
A8	782 11056	5.50	3.20	48.00	3	a	Behind	48.00			
A3	VV-65A-R1	54.72	12.08	15.00	4	a	Front	48.00			
A5	KRY 112 489/2	11.00	6.10	15.00	4	a	Behind	54.00	-5.00		
R7	4460 B25 + B66	15.10	17.00	15.00	4	a	Behind	36.00			
A5	KRY 112 489/2	11.00	6.10	15.00	4	b	Behind	54.00	5.00		

Sector: C

6/3/2022

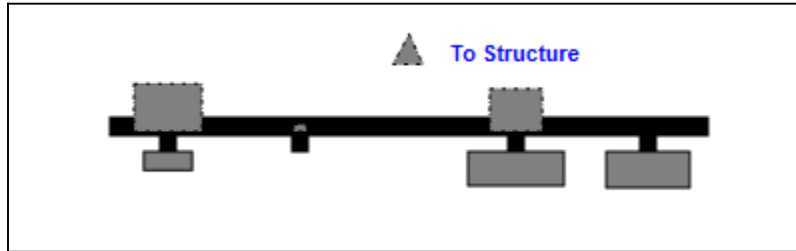
Structure Type: Monopole

Mount Elev: 147.00

Page: 3

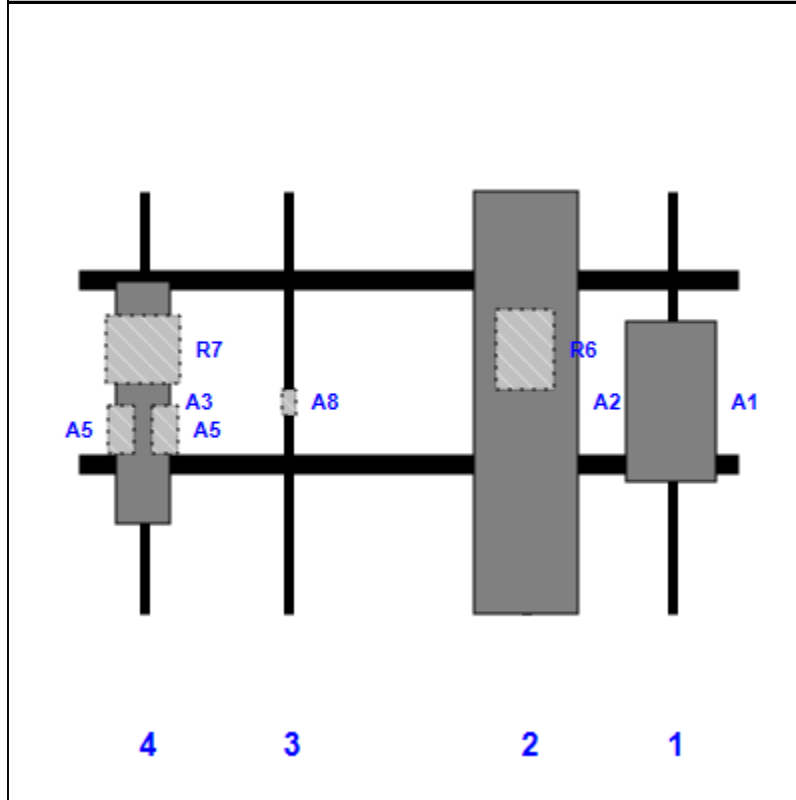


Plan View

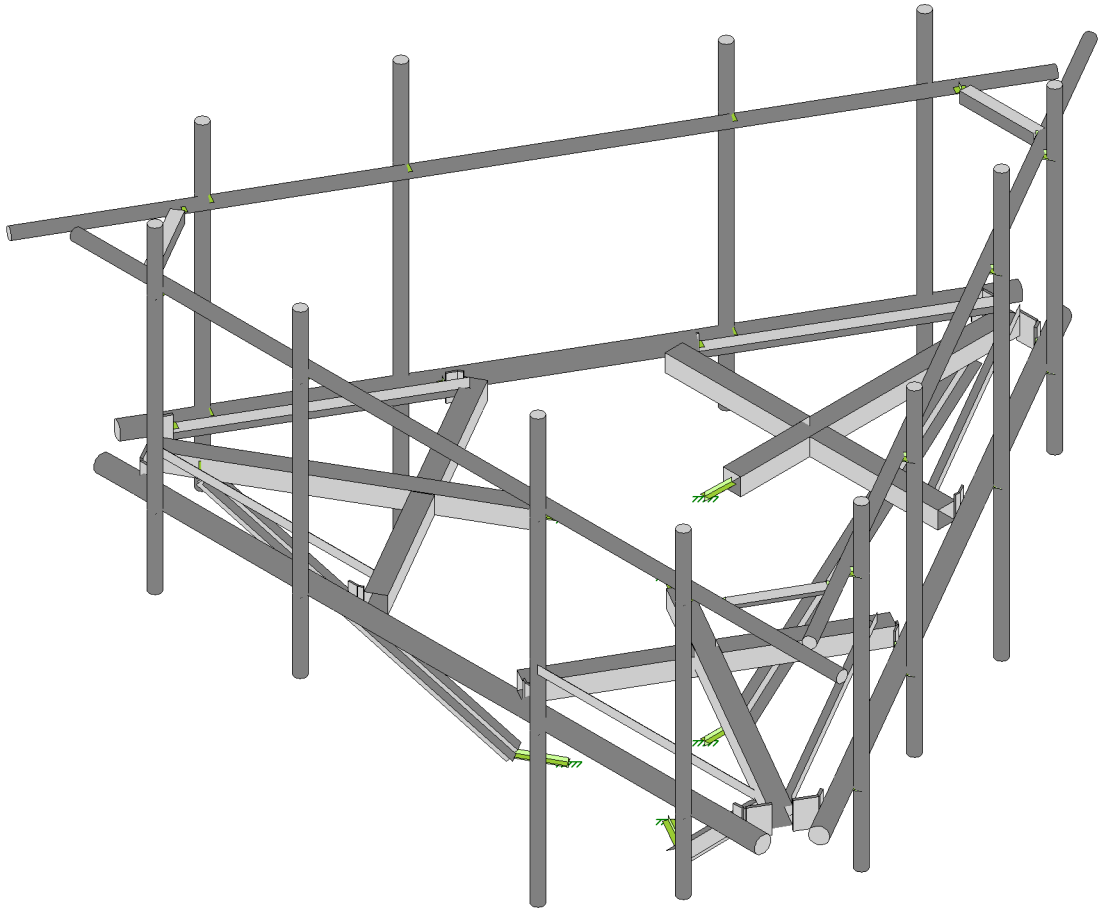
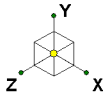


Front View

Looking Toward Structure



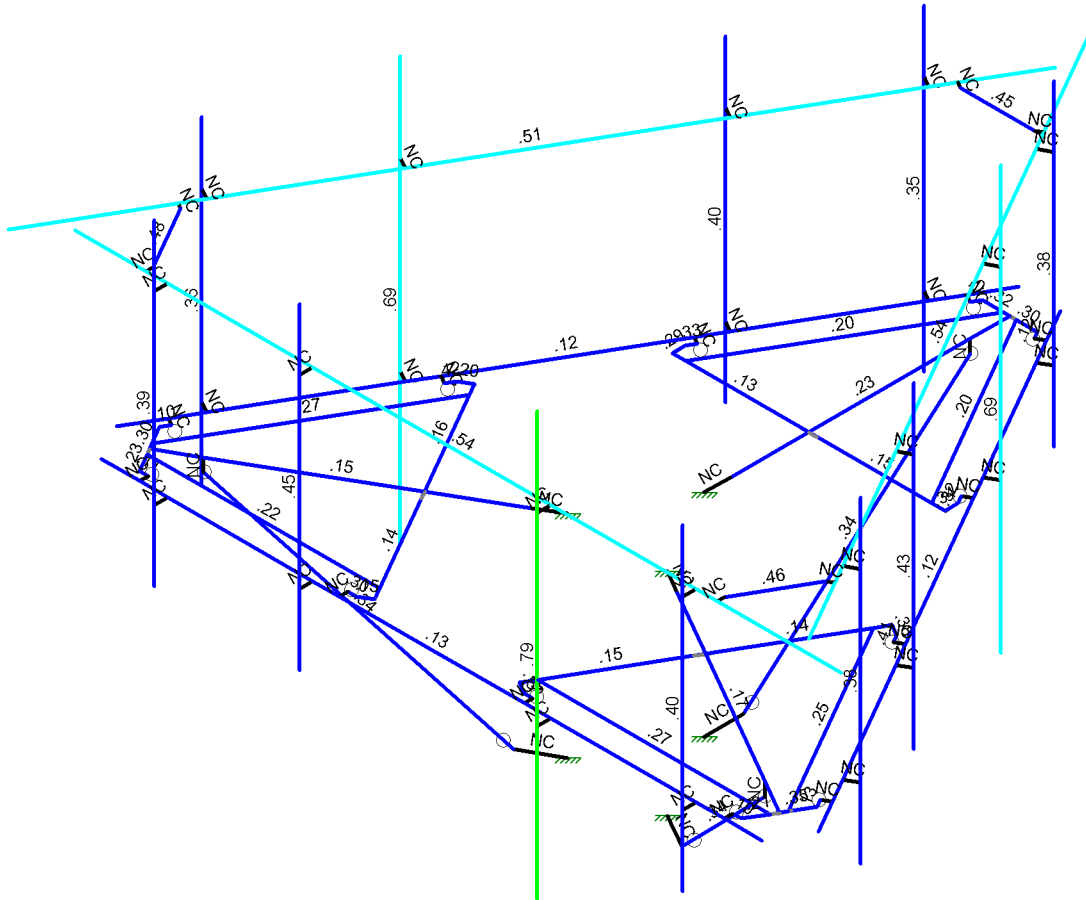
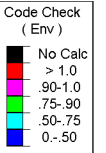
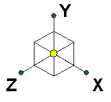
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A2	APXVAALL24_43-U-NA20	95.90	24.00	102.00	2	a	Front	48.00			
R6	4449 B71 + B85	17.90	13.10	102.00	2	a	Behind	36.00			
A8	782 11056	5.50	3.20	48.00	3	a	Behind	48.00			
A3	VV-65A-R1	54.72	12.08	15.00	4	a	Front	48.00			
A5	KRY 112 489/2	11.00	6.10	15.00	4	a	Behind	54.00	-5.00		
R7	4460 B25 + B66	15.10	17.00	15.00	4	a	Behind	36.00			
A5	KRY 112 489/2	11.00	6.10	15.00	4	b	Behind	54.00	5.00		



Tower Engineering Solutio...
Progesh Roka
TES Project No. 130076

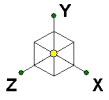
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RENDER

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June 3, 2022 at 4:47 PM
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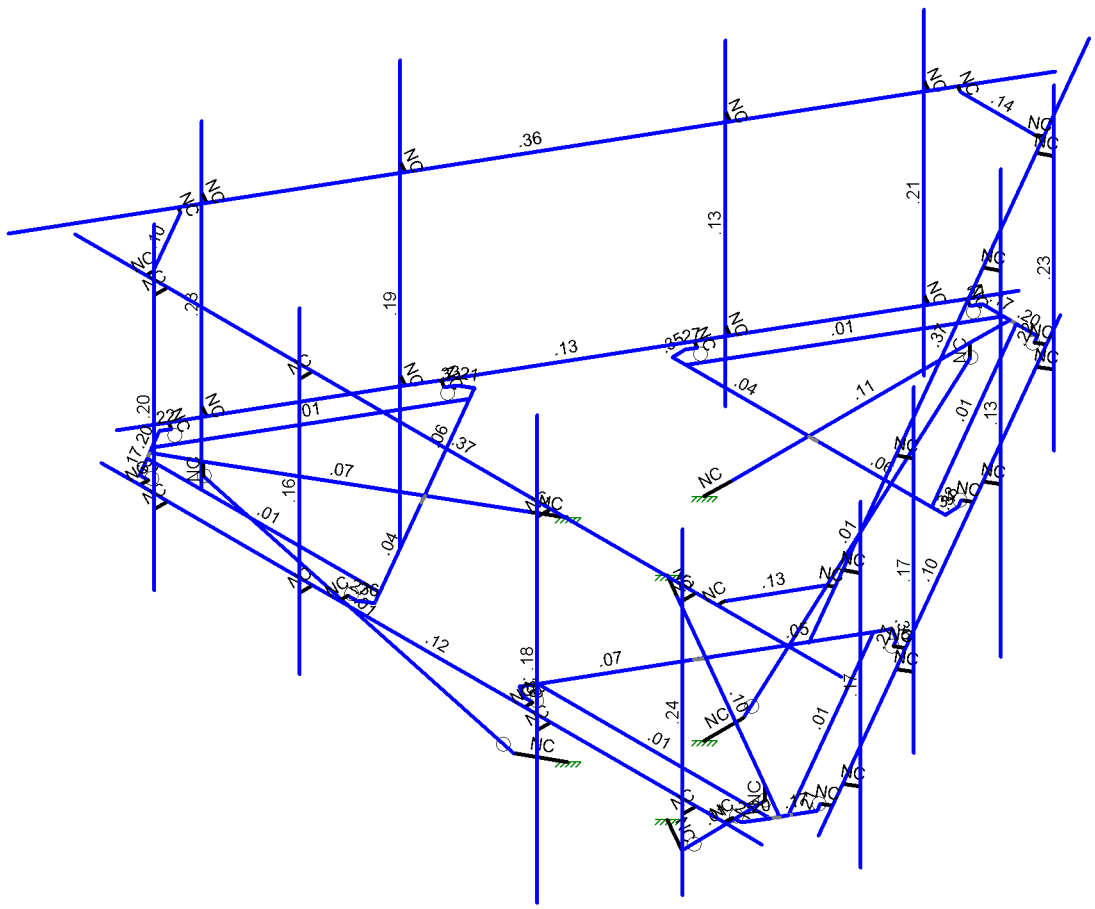
Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.6W (Front)

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Progesh Roka		June 3, 2022 at 4:47 PM
TES Project No. 130076		CT13614-A-SBA_130076_G_RISA_...



Shear Check (Env)

- No Calc
- > 1.0
- .90-1.0
- .75-.90
- .50-.75
- 0-.50



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

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TES Project No. 130076		CT13614-A-SBA_130076_G_RISA_...

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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: CT11519D

CT519/TVI Ashford - Prime
99 Knowlton Hill Road
Ashford, Connecticut 06278

April 28, 2022

EBI Project Number: 6222002872

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	23.49%

April 28, 2022

T-Mobile

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

Emissions Analysis for Site: CT11519D - CT519/TVI Ashford - Prime

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **99 Knowlton Hill Road** in **Ashford, 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 99 Knowlton Hill Road in Ashford, 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 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.

- 7) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.
- 8) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.
- 9) 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.
- 10) 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.
- 11) 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.
- 12) 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.
- 13) 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 APXVAALL24_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 channel(s) in Sector A, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_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 channel(s) in Sector B, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_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 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.

- 14) The antenna mounting height centerline of the proposed antennas is 147 feet above ground level (AGL).
- 15) 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.
- 16) 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 / 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):	147 feet	Height (AGL):	147 feet	Height (AGL):	147 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 %:	5.61%	Antenna B1 MPE %:	5.61%	Antenna C1 MPE %:	5.61%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_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 / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd
Height (AGL):	147 feet	Height (AGL):	147 feet	Height (AGL):	147 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):	4,151.83	ERP (W):	4,151.83	ERP (W):	4,151.83
Antenna A2 MPE %:	1.79%	Antenna B2 MPE %:	1.79%	Antenna C2 MPE %:	1.79%
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	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd
Height (AGL):	147 feet	Height (AGL):	147 feet	Height (AGL):	147 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360.00 Watts	Total TX Power (W):	360.00 Watts	Total TX Power (W):	360.00 Watts
ERP (W):	13,446.73	ERP (W):	13,446.73	ERP (W):	13,446.73
Antenna A3 MPE %:	2.43%	Antenna B3 MPE %:	2.43%	Antenna C3 MPE %:	2.43%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	9.83%
AT&T	2.07%
Verizon	11.59%
Site Total MPE % :	23.49%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	9.83%
T-Mobile Sector B Total:	9.83%
T-Mobile Sector C Total:	9.83%
Site Total MPE % :	23.49%

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	147.0	17.40	2500 MHz LTE IC & 2C Traffic	1000	1.74%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	717.84	147.0	1.30	2500 MHz LTE IC & 2C Broadcast	1000	0.13%
T-Mobile 2500 MHz NR Traffic	1	19238.94	147.0	34.79	2500 MHz NR Traffic	1000	3.48%
T-Mobile 2500 MHz NR Broadcast	1	1435.69	147.0	2.60	2500 MHz NR Broadcast	1000	0.26%
T-Mobile 600 MHz LTE	2	591.73	147.0	2.14	600 MHz LTE	400	0.54%
T-Mobile 600 MHz NR	1	1577.94	147.0	2.85	600 MHz NR	400	0.71%
T-Mobile 700 MHz LTE	2	695.22	147.0	2.51	700 MHz LTE	467	0.54%
T-Mobile 1900 MHz GSM	4	1076.77	147.0	7.79	1900 MHz GSM	1000	0.78%
T-Mobile 1900 MHz LTE	2	2153.53	147.0	7.79	1900 MHz LTE	1000	0.78%
T-Mobile 2100 MHz LTE	2	2416.30	147.0	8.74	2100 MHz LTE	1000	0.87%
						Total:	9.83%

• 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:

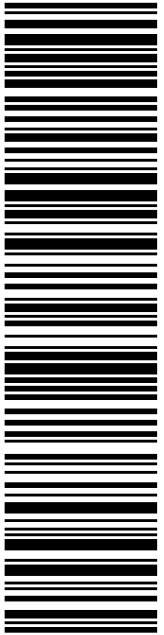
T-Mobile Sector	Power Density Value (%)
Sector A:	9.83%
Sector B:	9.83%
Sector C:	9.83%
T-Mobile Maximum MPE % (Sector A):	9.83%
Site Total:	23.49%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **23.49%** 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

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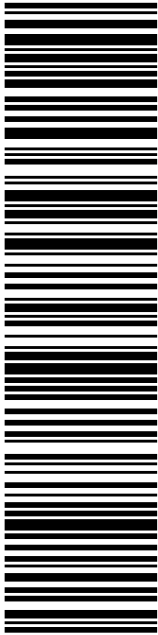


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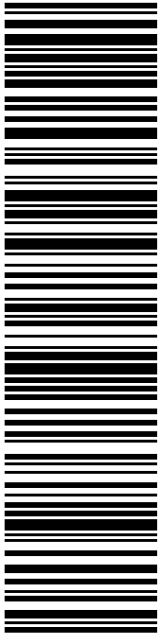


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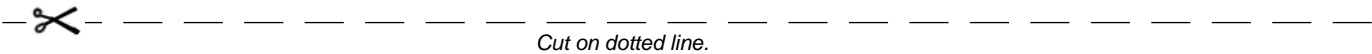
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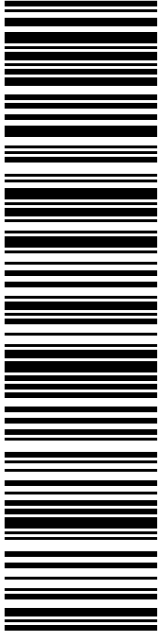


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Prepaid Mail Ashford, CT 06278 Weight: 0 lb 9.10 oz Acceptance Date: Tue 06/14/2022 Tracking #: 9405 5036 9930 0273 0889 33	1		\$0.00
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