



December, 13 2018

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

Regarding: Notice of Exempt Modification – Swapping (3) new antennas, and adding (6) RRU's

Property Address: 225 Grist Road, Simsbury, CT

Applicant: AT&T Mobility ("AT&T", Site # CT1151)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 184-foot monopole at the above-referenced address, latitude 41-52-00.15, longitude 72-48-56.78. Said monopole is owned by SBA Communications Corporation at 8051 Congress Avenue Boca Raton FL 334871310

AT&T desires to modify its existing telecommunications facility by swapping (3) new antennas, (3) RRUS-4426 B66, (3) 4478 B5 Radios to the centerline height of said antennas is and will remain at 150 feet.

Please accept this application as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72 (b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Town Selectman of the Town of Simsbury Eric Wellman, The town's Building Official Henry Miga, the Zoning Enforcement Officer Michael Glidden. A copy of this letter is also being sent to SBA Corporation, the owner of the structure on which AT&T is located.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The planned modifications will not result in an increase in the height of the existing structure. AT&T's antennas and associated lines will be installed at the existing mount height of 154' atop the Monopole tower.
2. The proposed modifications will not involve any changes to ground-space footprint and, therefore will not require an extension of the site boundary.

December 13, 2018



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3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. An RF emissions calculation is attached.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (Please see attached Structural analysis completed by James Stroke of Tower Engineering Solutions on 11/27/2018)

For the foregoing reasons AT&T respectfully requests that the proposed swap of antennas, addition of radios and addition of squids be allowed within the exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Scott Pike

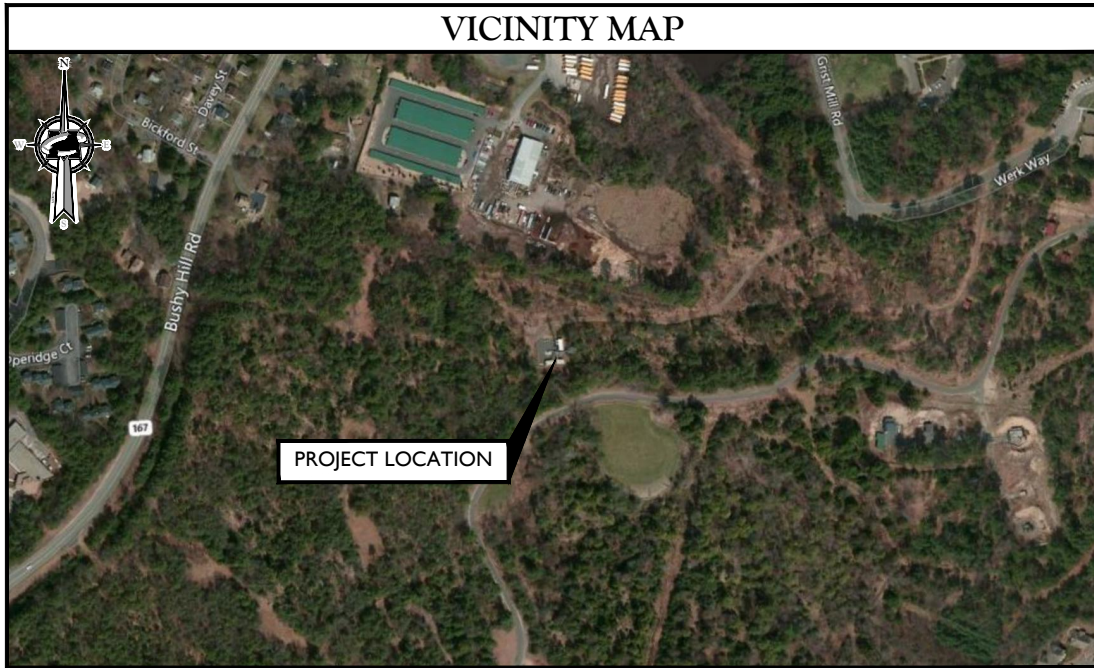
Site Acquisition Specialist
Empire Telecom
16 Esquire Road
Billerica, MA 01862
Phone: 339-223-9828
Email: spike@empiretelecomm.com

Enclosures:

CC: Eric Wellman, Town Selectman/Manager
Henry Miga, Town Building Official
Michael Glidden, Zoning Enforcement Officer
Carla Shorter, Property Owner

PROJECT NOTES

1. SITE INFORMATION OBTAINED FROM THE FOLLOWING:
 - A. PLAN ENTITLED "SIMSBURY CENTRAL" PREPARED BY TRYLON OF IRVING, TX LAST REVISED 11/22/2016.
 - B. LIMITED FIELD OBSERVATION BY MASER CONSULTING ON 05/31/2018.
2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
4. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
6. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
8. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
9. SINCE THE CELL SITE MAY BE 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 REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.
10. THE PROPOSED FACILITY WILL CAUSE AN INSIGNIFICANT OR "DE-MINIMUS" INCREASE IN STORM WATER RUNOFF, THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
11. NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
12. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).
13. THE FACILITY DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
14. CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTHS WITH RF ENGINEERING PRIOR TO INSTALLATION.
15. THE TOWER, MOUNTS AND ANTENNAS SHALL BE DESIGNED TO MEET EIA/TIA-222-G AS PER IBC REQUIREMENTS.
16. ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
17. CONTRACTOR MUST FIELD LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
18. CONSTRUCTION SHALL NOT COMMENCE UNTIL COMPLETION OF A PASSING STRUCTURAL ANALYSIS CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. THE STRUCTURAL ANALYSIS IS TO BE PERFORMED BY OTHERS.
19. CONTRACTOR SHALL CONTACT STATE SPECIFIC ONE CALL SYSTEM THREE WORKING DAYS PRIOR TO ANY EARTH MOVING ACTIVITIES.

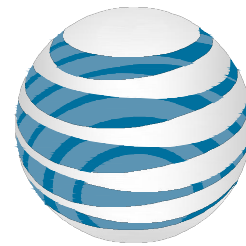


VICINITY MAP

PROJECT LOCATION

CODE COMPLIANCE

- ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.
- | | |
|---|--|
| 1. 2016 CONNECTICUT STATE BUILDING CODE, INCORPORATING THE 2012 IBC | 8. INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS 81 IEEE C2 LATEST EDITION |
| 2. 2014 NATIONAL ELECTRICAL CODE - NFPA 70 | 9. TELCORDIA GR-1275 |
| 3. 2012 NFPA 101 | 10. ANSI T1.311 |
| 4. AMERICAN INSTITUTE OF STEEL CONSTRUCTION 360-10 | 11. PROPOSED USE: UNMANNED TELECOM FACILITY |
| 5. AMERICAN CONCRETE INSTITUTE | 12. HANDICAP REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED. |
| 6. TIA-222-G | 13. CONSTRUCTION TYPE: IIB |
| 7. TIA 607 FOR GROUNDING | 14. USE GROUP: U |



at&t

SITE NAME: SIMSBURY CENTRAL
FA NUMBER: 10035290
SITE NUMBER: CT1151
SBA I.D.# CT10022
LTE: 4C/5C
GRIST MILL ROAD
SIMSBURY, CT 06070
HARTFORD COUNTY

PROJECT INFORMATION

SITE INFORMATION

LATITUDE: 41.8667231° N
 LONGITUDE: 72.8158050° W
 JURISDICTION: HARTFORD COUNTY

APPLICANT/LESSEE

COMPANY: NEW CINGULAR WIRELESS PCS, LLC
 ADDRESS: 550 COCHITUATE ROAD
 CITY, STATE, ZIP: FRAMINGHAM, MA 01701

STRUCTURE OWNER

COMPANY: T.B.D.
 ADDRESS: T.B.D.
 CITY, STATE, ZIP: T.B.D.

CLIENT REPRESENTATIVE

COMPANY: EMPIRE TELECOM
 ADDRESS: 16 ESQUIRE ROAD
 CITY, STATE, ZIP: BILLERICA, MA 01862
 CONTACT: DAVID COOPER
 E-MAIL: DCOOPER@EMPIRETELECOM.COM

SITE ACQUISITION

COMPANY: EMPIRE TELECOM
 ADDRESS: 16 ESQUIRE ROAD
 CITY, STATE, ZIP: BILLERICA, MA 01862
 CONTACT: DAVID COOPER
 E-MAIL: DCOOPER@EMPIRETELECOM.COM

ENGINEER

COMPANY: MASER CONSULTING P.A.
 ADDRESS: 331 NEWMAN SPRINGS ROAD, SUITE 203
 CITY, STATE, ZIP: RED BANK, NJ 07701-5669
 CONTACT: ROBERT ANDREWS
 PHONE: (856) 797-0412
 E-MAIL: RANDREWS@MASERCONSULTING.COM

PROJECT DESCRIPTION/ SCOPE OF WORK

- INSTALL (3) NEW RRU'S AT GRADE
- INSTALL (3) NEW RRU'S, (1) PER SECTOR
- INSTALL (3) NEW PANEL ANTENNAS, (1) PER SECTOR
- REMOVE (3) EXISTING PANEL ANTENNAS, (1) PER SECTOR
- INSTALL (2) NEW 6/C DC CABLES FOR RACK MOUNTED DC-12
- SWAP (2) DUS WITH (1) 5216
- ADD 2ND XMU AND (1) RBS 6630

PROPOSED PROJECT SCOPE BASED ON RFDS ID# 2311007, VERSION 3.00, LAST UPDATED 09/11/2018.

SHEET INDEX

SHEET	DESCRIPTION
T-1	TITLE SHEET
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A-1	CONSTRUCTION DETAILS
A-2	RF PLUMBING DIAGRAM
G-1	GROUNDING DETAILS AND NOTES



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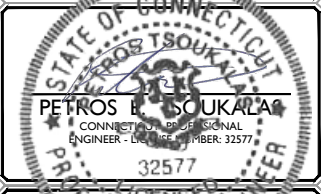
at&t



1150 FIRST AVENUE
 SUITE 600
 KING OF PRUSSIA, PA 19406
 TEL: (856) 701-3372



SCALE:	JOB NUMBER:			
AS SHOWN	18963011A			
0	09/26/18 FOR CONSTRUCTION	AJC	RA	
1	09/12/18 ISSUED FOR REVIEW	AJC	RA	
REV	DATE	DESIGNED BY	DRAWN BY	CHECKED BY



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO REPRODUCE OR REPRODUCE THIS DOCUMENT.

SITE NAME:

SIMSBURY CENTRAL
FA# 10035290
SITE# CT1151
GRIST MILL ROAD
SIMSBURY, CT 06070
HARTFORD COUNTY



SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T-1

GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GE'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 50 HMS OR LESS.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
6. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
7. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE EQUIPMENT GROUND RING WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
8. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
9. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
10. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
11. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. ALL BENDS SHALL BE MADE WITH 12" RADIUS OR LARGER.
12. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
13. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS EXCEPT FOR GROUND BAR CONNECTION FROM MGB TO OUTSIDE EXTERIOR GROUND SHALL ALL BE CADWELD CONNECTIONS.
14. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
15. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED TO THE TOWER GROUND BAR.
16. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
17. ALL EXTERIOR AND INTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
18. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
19. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
20. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G. NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
21. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/4" IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.
22. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 - CONTRACTOR - EMPIRE TELECOM
 - SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 - OWNER - AT&T (NEW CINGULAR WIRELESS PCS, LLC)
23. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
24. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
25. 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.
26. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
27. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

28. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
29. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
30. 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 OWNER.
31. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
32. 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 THE RESPONSIBLE ENGINEER. 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 & EXCAVATION.
33. 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, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
34. THE AREAS OF THE OWNER'S 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.
35. 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.
36. 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.
37. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
38. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
39. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
40. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
41. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
42. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR.
43. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, 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.
44. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
45. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS.
46. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
47. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
48. 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.
49. THE EXISTING CELL SITE IS 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.
50. SINCE THE 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 ADVISED TO BE WORN ALERT OF DANGEROUS EXPOSURE LEVELS.



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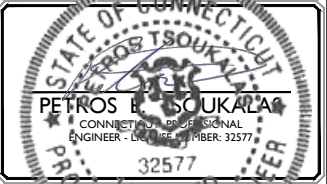


1150 FIRST AVENUE
SUITE 600
KING OF PRUSSIA, PA 19406
TEL: (856) 701-3372

811 PROTECT YOURSELF
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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE: AS SHOWN JOB NUMBER: 18963011A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	09/26/18	FOR CONSTRUCTION	AJC	RA
1	09/12/18	ISSUED FOR REVIEW	AJC	RA



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SITE NAME:

SIMSBURY CENTRAL
FA# 10035290
SITE# CT1151

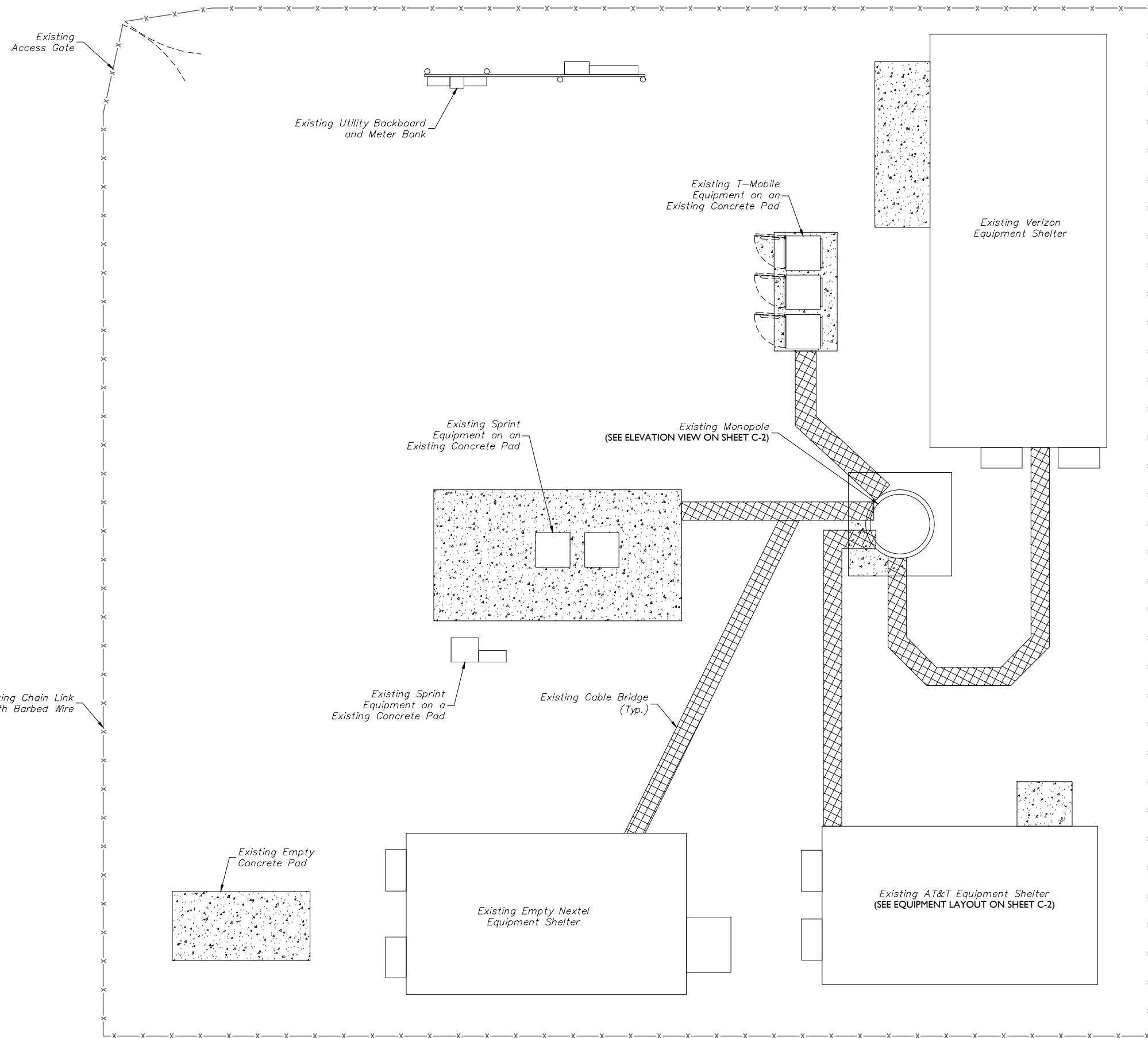
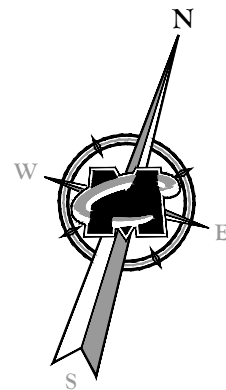
GRIST MILL ROAD
SIMSBURY, CT 06070
HARTFORD COUNTY

MT. LAUREL OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5669
Phone: 732.383.1950
Fax: 732.383.1984
email: solutions@maserconsulting.com

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
GN-1

9/10/2018 10:01:11 AM By: ACCO



COMPOUND PLAN



SCALE: 1" = 4' FOR 22"X34"
 (SCALE: 1" = 8' FOR 11"X17")



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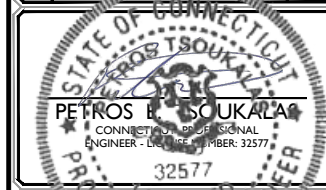


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0	09/26/18	FOR CONSTRUCTION	AJC	RA
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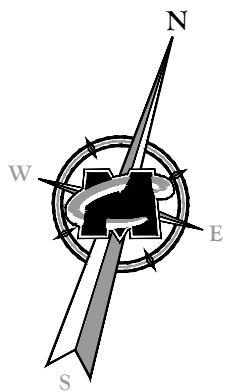
SITE NAME:
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 FA# 10035290
 SITE# CT1151
 GRIST MILL ROAD
 SIMSBURY, CT 06070
 HARTFORD COUNTY



SHEET TITLE:
COMPOUND PLAN

SHEET NUMBER:
C-1

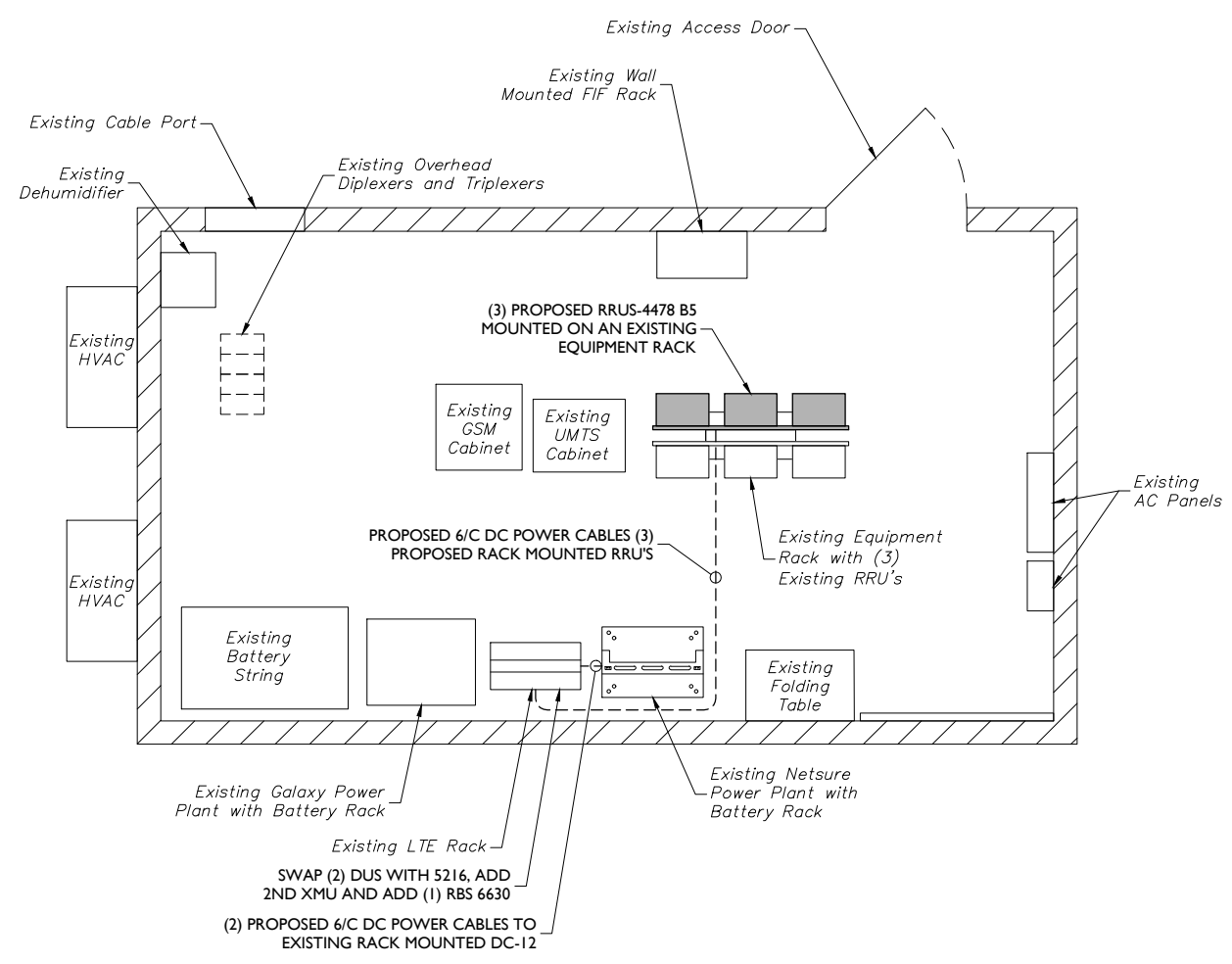
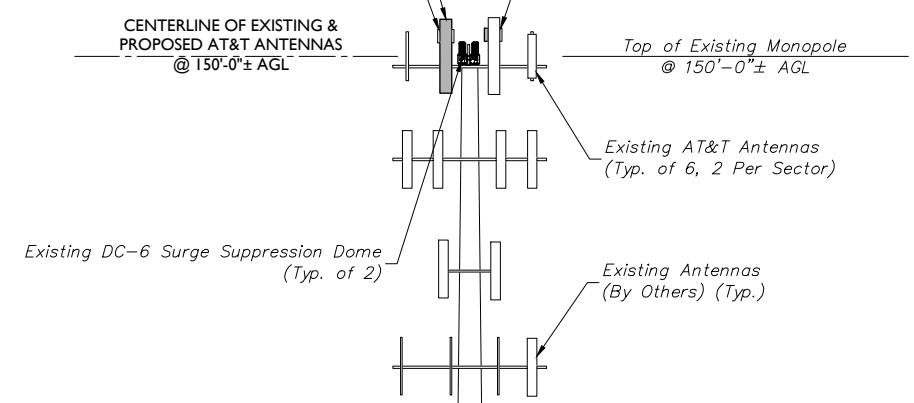
By: AC004



PROPOSED AT&T PANEL ANTENNAS MOUNTED ON AN EXISTING PIPE MAST (TYP. OF 3, 1 PER SECTOR)

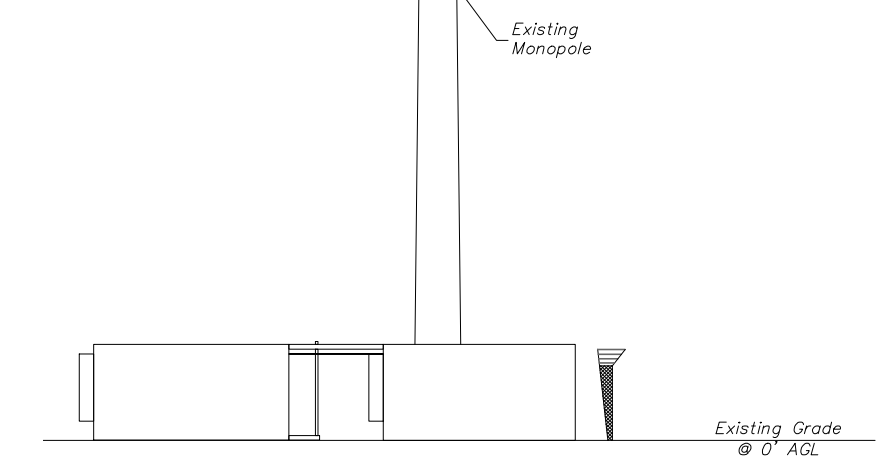
(3) Existing RRUS-32 B2 AND (3) Existing RRUS-32 Mounted on a Ericsson SXK1250461/1 B2B RRU Mounting Bracket (Typ. of Each Sector)

(3) PROPOSED RRUS-4426 B66 AND (3) EXISTING RRUS-11 MOUNTED ON A PROPOSED ERICSSON SXK1250461/1 B2B RRU MOUNTING BRACKET (TYP. OF EACH SECTOR)



EQUIPMENT LAYOUT

SCALE : 1" = 2' FOR 22"X34"
(SCALE : 1" = 4' FOR 11"X17")



ELEVATION VIEW

SCALE : 1" = 10' FOR 22"X34"
(SCALE : 1" = 20' FOR 11"X17")

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STATE OF CONNECTICUT
PETROS E. SOUKALAK
REGISTERED PROFESSIONAL ENGINEER - LICENSE NUMBER: 32577

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Red Bank, NJ 07701-5669
Phone: 732.383.1950
Fax: 732.383.1984
email: solutions@maserconsulting.com

SHEET TITLE:
EQUIPMENT LAYOUT AND ELEVATION VIEW

SHEET NUMBER:
C-2

By: ACDA

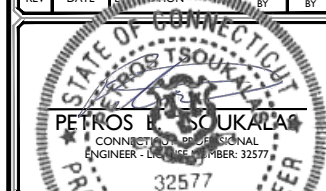
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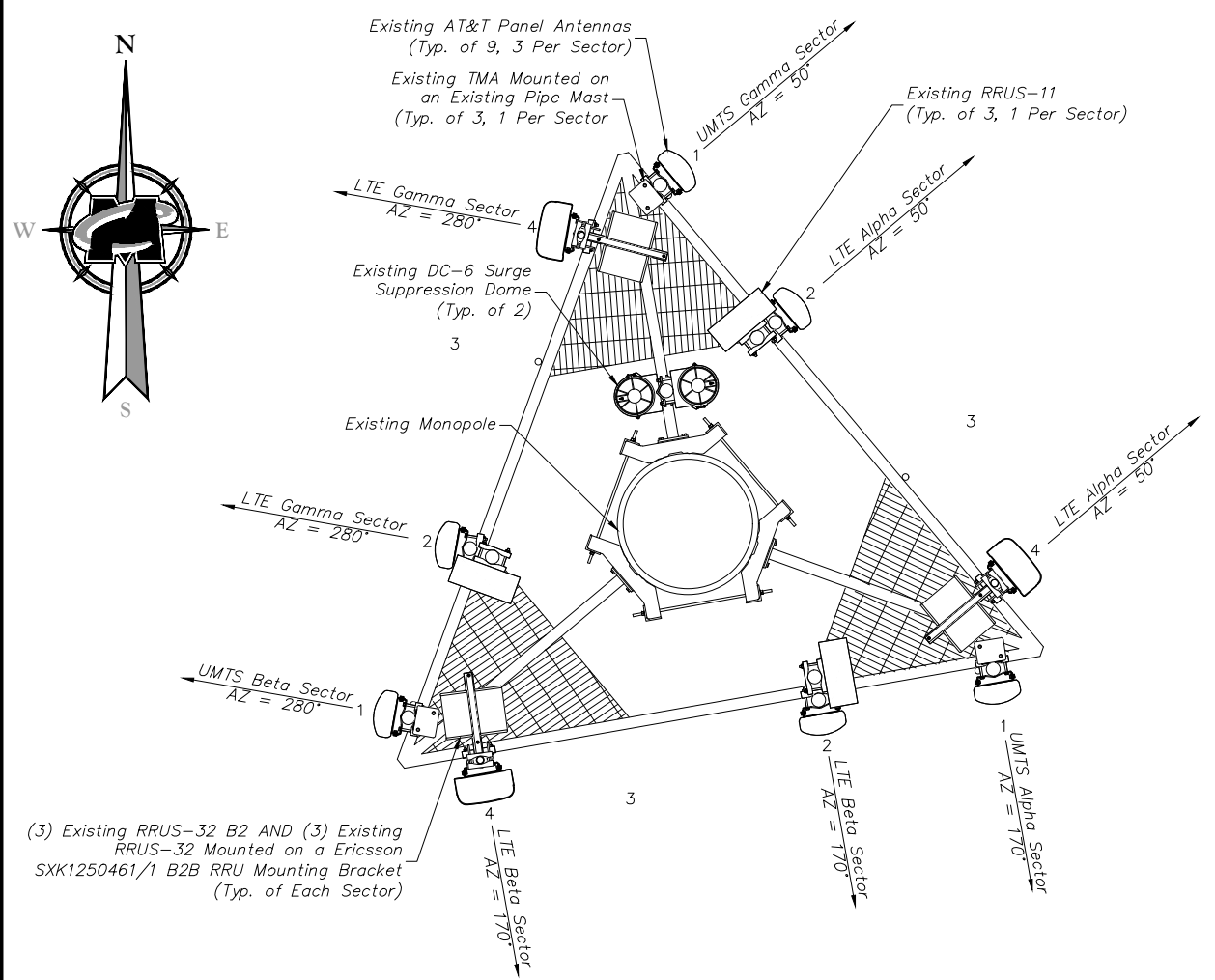
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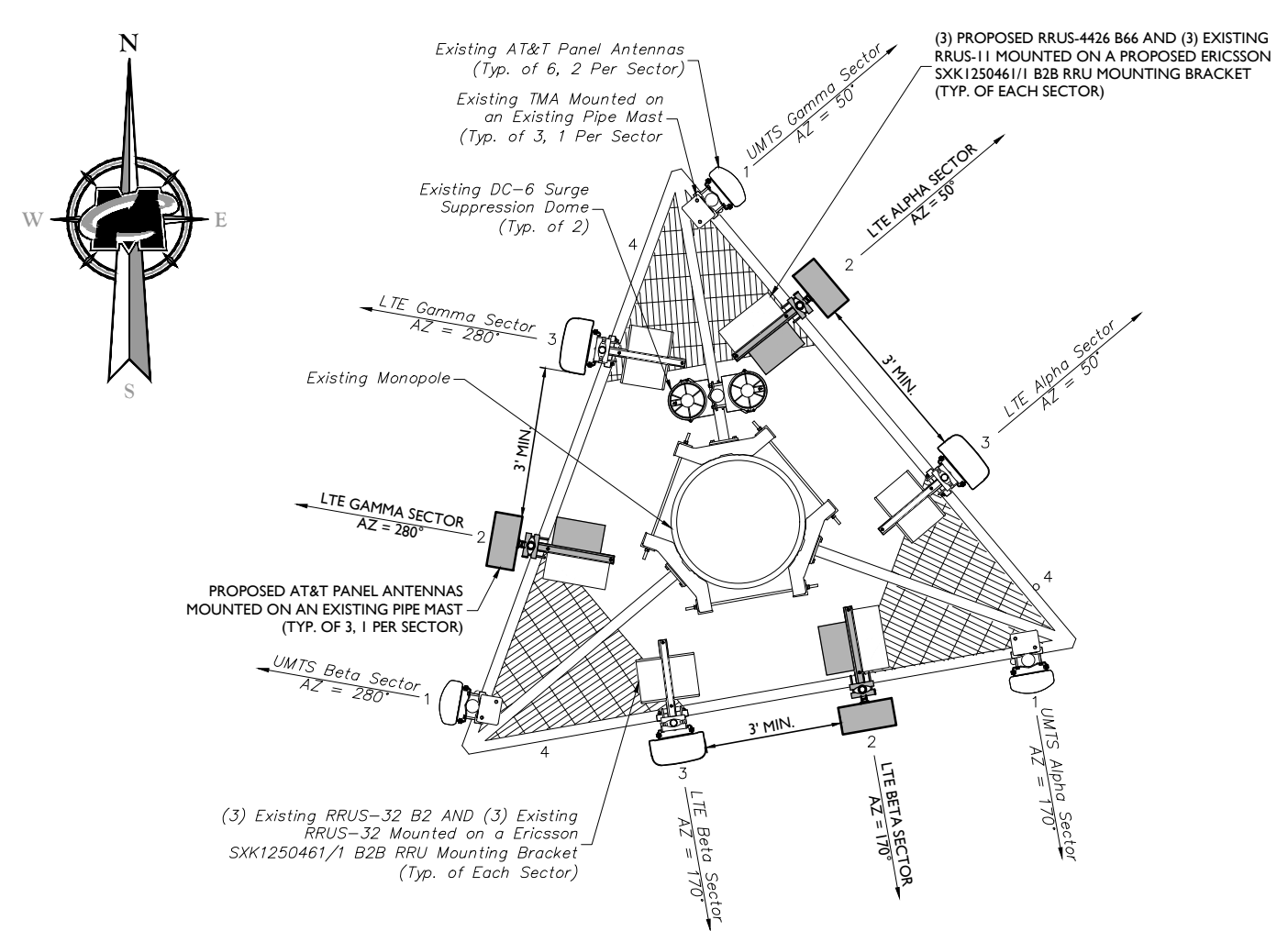
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 email: solutions@maserconsulting.com

SHEET TITLE:
ANTENNA LAYOUTS AND ANTENNA SCHEDULE

SHEET NUMBER:
C-3



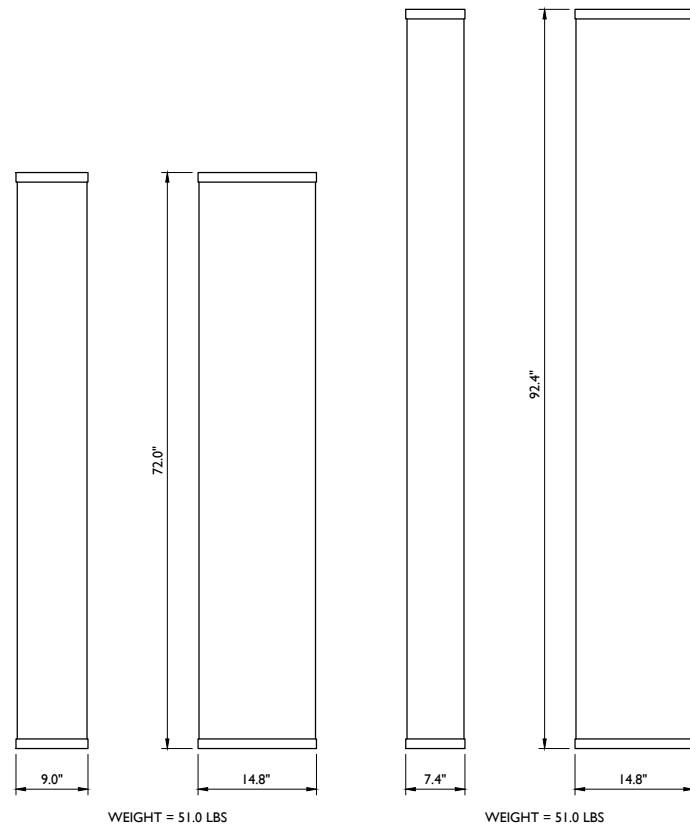
EXISTING ANTENNA LAYOUT
 NOT TO SCALE



PROPOSED ANTENNA LAYOUT
 NOT TO SCALE

ANTENNA SCHEDULE															
SECTOR	EXISTING ANTENNA	PROPOSED ANTENNA	TECHNOLOGY	ANTENNA STATUS	HEIGHT (in)	WIDTH (in)	DEPTH (in)	WEIGHT (lbs)	ANTENNA AZIMUTH (DEG.)	ANT. CL. ELEV. (ft)	REMOTE RADIO/TMA CONFIGURATION	TRANSMISSION CABLE			
												QUANTITY	TYPE	STATUS	
Sector 1	1	KATHREIN 80010121	KATHREIN 80010121	UMTS	EXISTING	54.90	10.30	5.90	51.20	170	150	(2) CM1007-DBPCBC-003 (1) DTMBP7819VG12A	1	5/8" COAX	EXISTING
	2	KMW AM-X-CD-1-6-65-00T-RET	CCI HPA-65R-BUU-H8	LTE	PROPOSED	72.30	14.40	7.30	55.50	50	150	(1) RRUS-4426 B66 (1) RRUS-11	1/2"	FIBER/DC	EXISTING
	3	QUNTEL Q566512-2	QUNTEL Q566512-2	LTE	EXISTING	72.00	12.00	9.60	126.60	50	150	(4) TPX-070821 (1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-4478 B5 (AT GRADE)	1/2"	FIBER/DC	EXISTING
	4	QUNTEL Q566512-2	-	-	-	-	-	-	-	-	-	-	-	-	-
Sector 2	1	KATHREIN 80010121	KATHREIN 80010121	UMTS	EXISTING	54.90	10.30	5.90	51.20	280	150	(2) CM1007-DBPCBC-003 (1) DTMBP7819VG12A	1	5/8" COAX	EXISTING
	2	POWERWAVE P65-17-XLH-RR	CCI HPA-65R-BUU-H8	LTE	PROPOSED	92.80	14.40	7.30	65.60	170	150	(1) RRUS-4426 B66 (1) RRUS-11	-	-	-
	3	CCI	CCI TPA-65R-LCUUUU-H8	LTE	EXISTING	96.00	14.40	8.60	87.60	170	150	(4) TPX-070821 (1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-4478 B5 (AT GRADE)	-	-	-
	4	CCI TPA-65R-LCUUUU-H8	-	-	-	-	-	-	-	-	-	-	-	-	-
Sector 3	1	KATHREIN 80010121	KATHREIN 80010121	UMTS	EXISTING	54.90	10.30	5.90	51.20	50	150	(2) CM1007-DBPCBC-003 (1) DTMBP7819VG12A	1	5/8" COAX	EXISTING
	2	POWERWAVE P65-17-XLH-RR	CCI HPA-65R-BUU-H8	LTE	PROPOSED	92.80	14.40	7.30	65.60	280	150	(1) RRUS-4426 B66 (1) RRUS-11	-	-	-
	3	CCI	CCI TPA-65R-LCUUUU-H8	LTE	EXISTING	96.00	14.40	8.60	87.60	280	150	(4) TPX-070821 (1) RRUS-32 B2 (1) RRUS-32 (1) RRUS-4478 B5 (AT GRADE)	-	-	-
	4	CCI TPA-65R-LCUUUU-H8	-	-	-	-	-	-	-	-	-	-	-	-	-

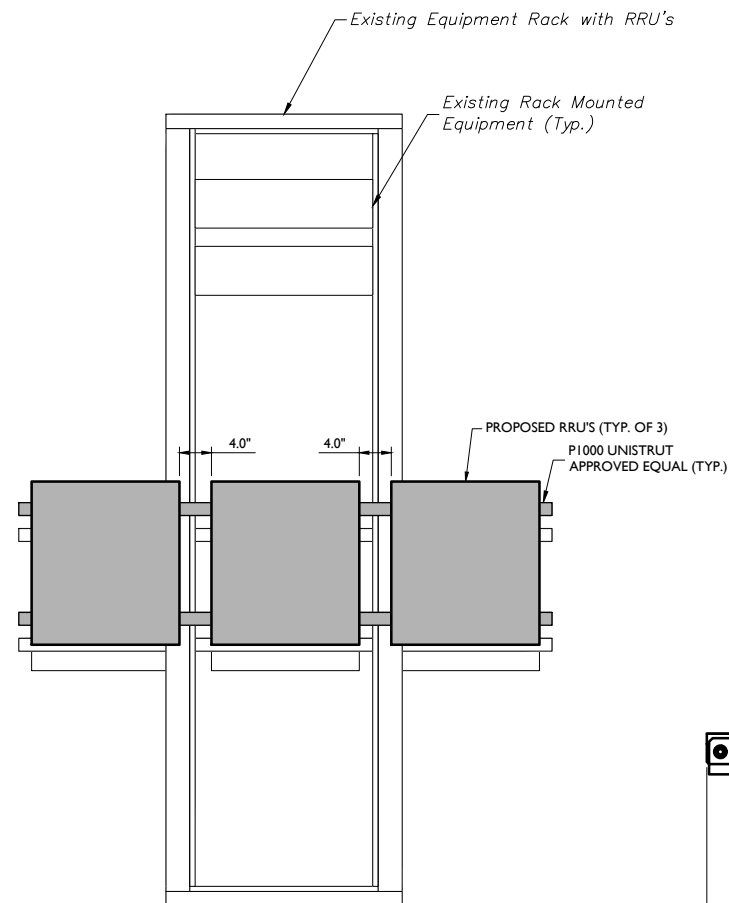
By: AC028



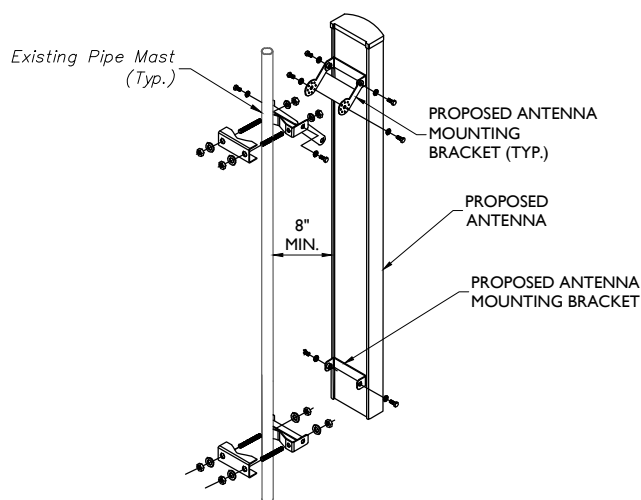
CCI HPA-65R-BUU-H6

CCI HPA-65R-BUU-H8

ANTENNA DETAILS
NOT TO SCALE

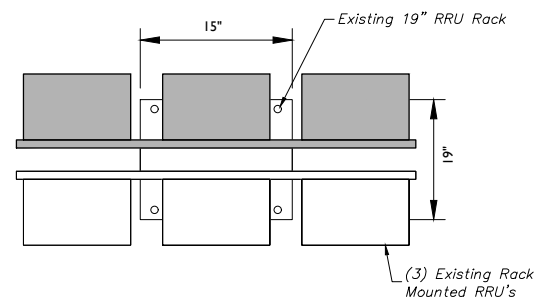


PROPOSED RRU'S (TYP. OF 3)
P1000 UNISTRUT
APPROVED EQUAL (TYP.)

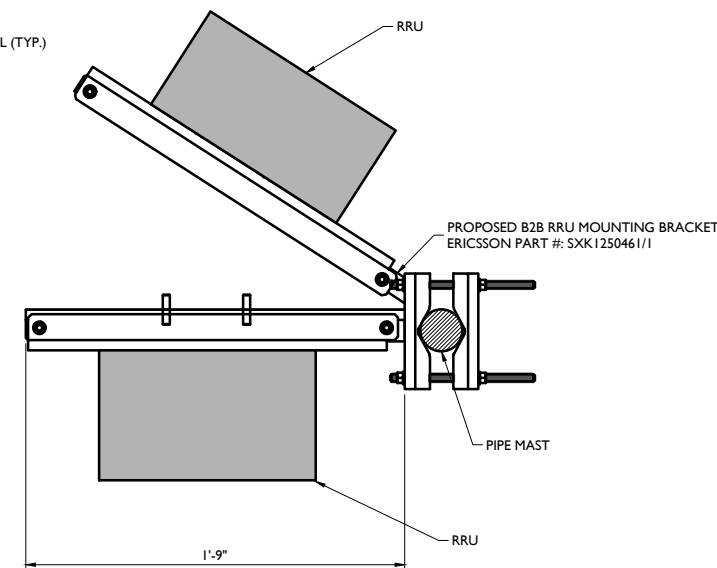


ANTENNA MOUNTING DETAIL
NOT TO SCALE

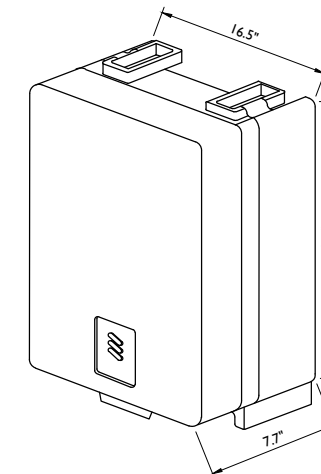
8" MINIMUM SEPERATION BETWEEN
BACK OF PANEL ANTENNA AND
EXISTING/PROPOSED EQUIPMENT



RRU RACK MOUNT DETAIL
NOT TO SCALE

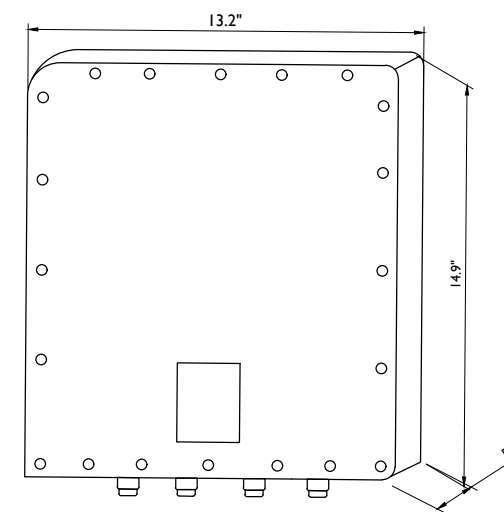


RRU MOUNTING DETAIL
NOT TO SCALE



DIMENSIONS (H X W X D): 16.5"H X 13.4"W X 7.7"D (INCLUDES SUNSHIELD)
WEIGHT: 59.9 LBS

RRU-4478-B5 DETAIL
NOT TO SCALE



RRUS 4426 B66 DIMENSIONS (H X W X D): 14.9" X 13.2" X 5.9"
(INCLUDES SUNSHIELD) WEIGHT: 48 LBS

RRUS 4426 B66 DETAIL
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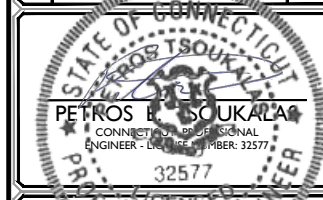
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SHEET TITLE:
DETAILS
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By: ACCOA



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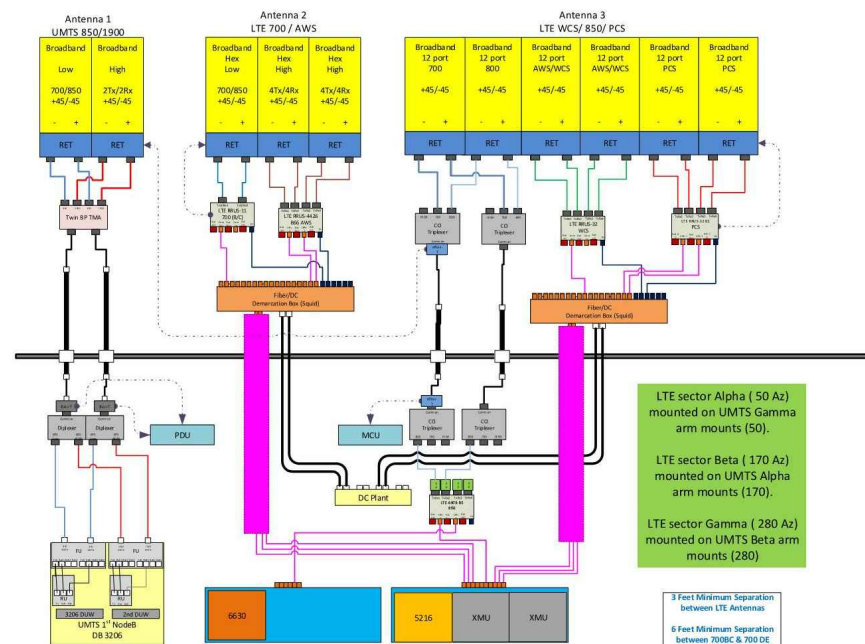
SHEET TITLE:
RF PLUMBING DIAGRAM

SHEET NUMBER:
A-2

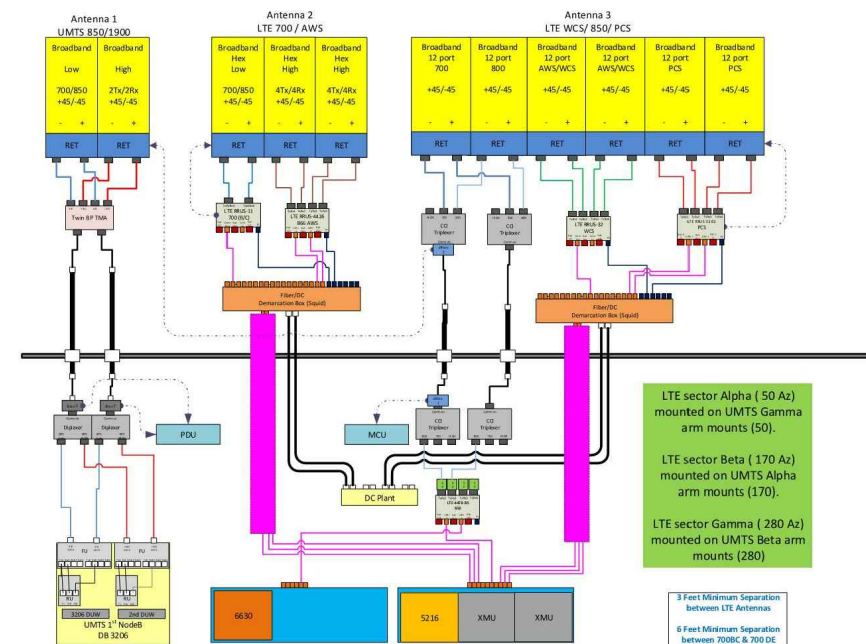
Diagram - Sector A Diagram File Name - 9G_CT1151_A-B-C_LTE_3C_R1.4.vsd
Host Site Name - CT101151 Location Name - SIMSBURY CENTRAL Market - CONNECTICUT Market Cluster - NEW ENGLAND
Comments - *Important Note: For detailed radio to antenna wiring refer to the latest field notes - Antenna - Radio Connection Drawings Playbook v6.0 - Ericsson*

Diagram - Sector B Diagram File Name - 9G_CT1151_A-B-C_LTE_3C_R1.4.vsd
Host Site Name - CT101151 Location Name - SIMSBURY CENTRAL Market - CONNECTICUT Market Cluster - NEW ENGLAND
Comments - *Important Note: For detailed radio to antenna wiring refer to the latest field notes - Antenna - Radio Connection Drawings Playbook v6.0 - Ericsson*

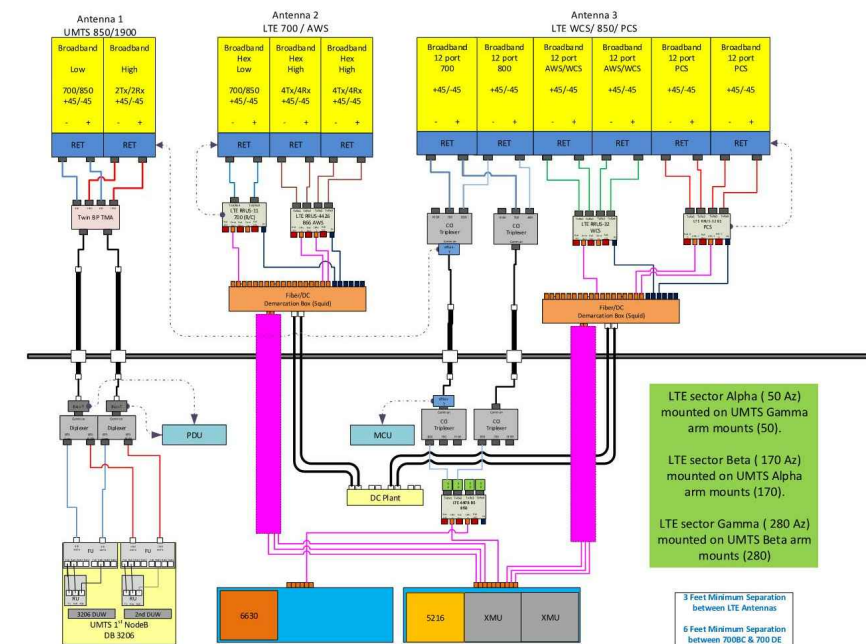
Diagram - Sector C Diagram File Name - 9G_CT1151_A-B-C_LTE_3C_R1.4.vsd
Host Site Name - CT101151 Location Name - SIMSBURY CENTRAL Market - CONNECTICUT Market Cluster - NEW ENGLAND
Comments - *Important Note: For detailed radio to antenna wiring refer to the latest field notes - Antenna - Radio Connection Drawings Playbook v6.0 - Ericsson*



ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR

BASED ON: RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND_CONNECTICUT_CT101151_2018-LTE-Next-Carrier_LTE_rx855w_2051A0GGLC_10035290_25937_04-02-2018_Final-Approved_v3.00", LAST REVISED 09/11/2018.

RF PLUMBING DIAGRAMS

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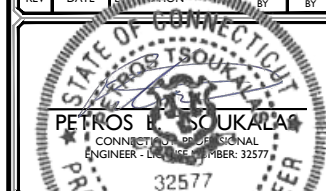


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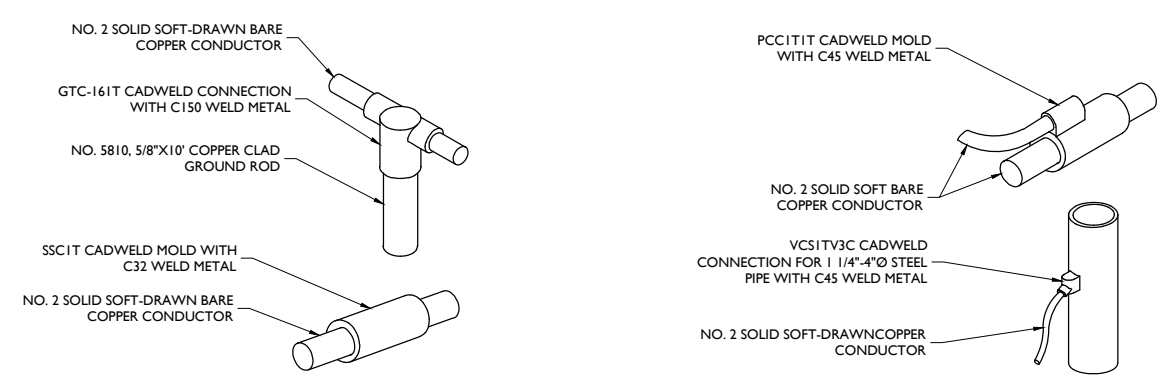
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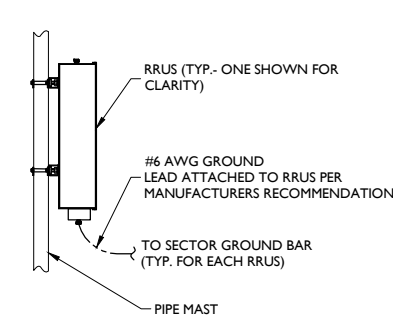
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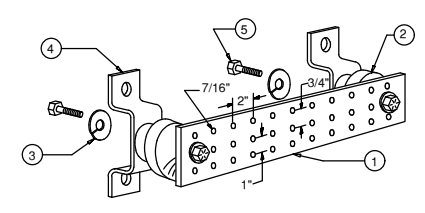
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RRU GROUNDING
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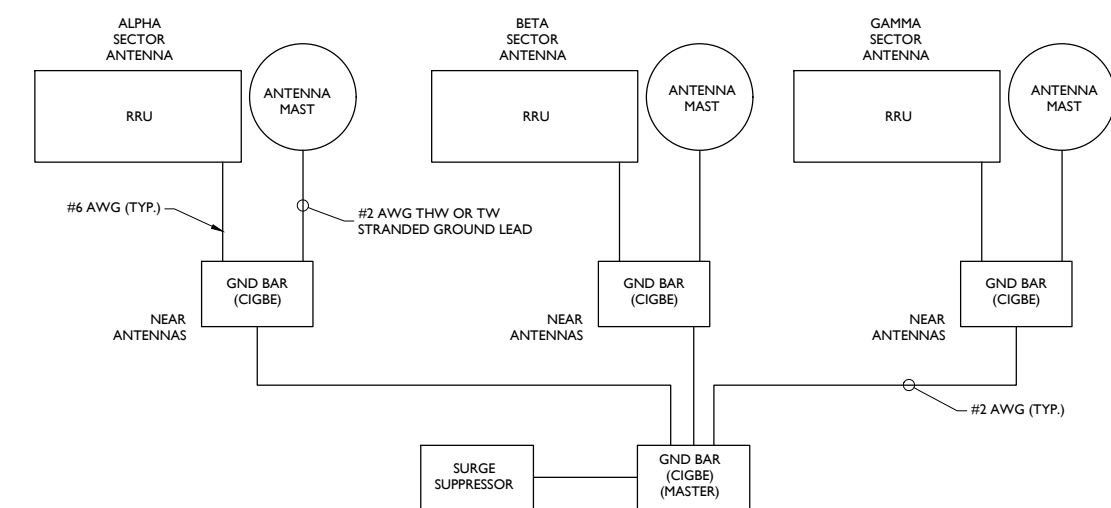


- LEGEND**
- 1- TINNED COPPER GROUND BAR, 1/4"x4"x20", NEWTON INSTRUMENT CO. CAT. NO. B-6142 OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
 - 2- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
 - 3- 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
 - 4- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-5056
 - 5- 5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
 - 6- EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

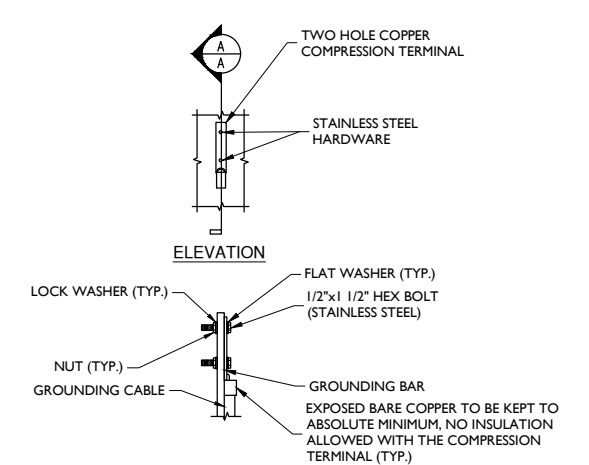
SECTION "P" - SURGE PRODUCERS
CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS
INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

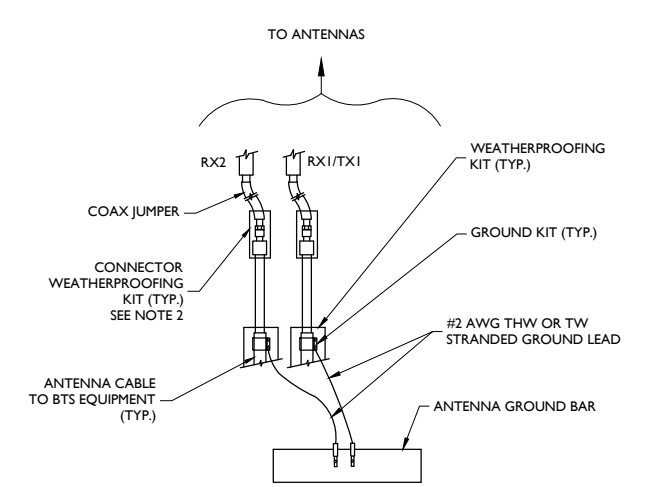
MASTER GROUND BAR
NOT TO SCALE



SCHEMATIC DIAGRAM GROUNDING SYSTEM

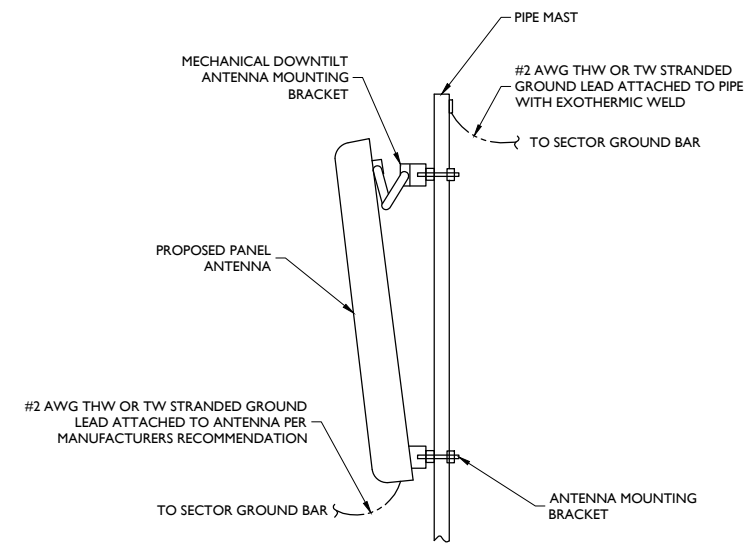


TYPICAL GROUND BAR CONNECTION DETAIL
NOT TO SCALE



- NOTES:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
 2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

TYPICAL GROUND WIRE TO GROUNDING BAR
NOT TO SCALE



ANTENNA GROUNDING
NOT TO SCALE

By: ACD/MS



Tower Engineering Solutions

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

Structural Analysis Report

Existing 150 ft Rohn Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT10022-A

Customer Site Name: Simsbury 2, CT

Carrier Name: AT&T (App#: 100607, V2)

Carrier Site ID / Name: CT1151 / Simsbury Central

Site Location: 225 Grist Mill Road

Simsbury, Connecticut

Hartford County

Latitude: 41.866708

Longitude: -72.815772

Analysis Result:

Max Structural Usage: 86.8% [Pass]

Max Foundation Usage: 71% [Pass]

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



Report Prepared By: Leonardo Klem



Tower Engineering Solutions

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

Structural Analysis Report

Existing 150 ft Rohn Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT10022-A

Customer Site Name: Simsbury 2, CT

Carrier Name: AT&T (App#: 100607, V2)

Carrier Site ID / Name: CT1151 / Simsbury Central

Site Location: 225 Grist Mill Road

Simsbury, Connecticut

Hartford County

Latitude: 41.866708

Longitude: -72.815772

Analysis Result:

Max Structural Usage: 86.8% [Pass]

Max Foundation Usage: 71% [Pass]

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

Report Prepared By: Leonardo Klem

Introduction

The purpose of this report is to summarize the analysis results on the 150 ft Rohn Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Rohn Industries, Inc., File No. 50754AE, Drawing No. A020293, dated February 13, 2002
Foundation Drawing	Rohn Industries, Inc., File No. 50754AE, Drawing No. A020294 1-3, dated February 13, 2002
Geotechnical Report	FDH Engineering, Inc., Project No. 15BGSH1600, dated March 19, 2015
Modification Drawings	N/A

Analysis Criteria

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

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 120.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 93.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_5 = 0.179$, $S_1 = 0.064$

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	150.0	2	Powerwave P65-17-XLH-RR - Panel	Low Profile Platform	(12) 1 5/8" (2) 1/2" DC (4) 3/8" Fiber (1) 3" Conduit	AT&T
-		1	KMW AM-X-CD-16-65-00T-RET - Panel			
-		3	Kathrein 800 10121 - Panel			
-		2	CCI TPA-65R-LCUUUU-H8 - Panel			
-		1	Quintel QS66512-3 - Panel			
-		6	CCI DTMABP7819VG12A-TMAs			
-		3	Ericsson RRUS-11-RRUs			
-		3	Ericsson RRUS-32-RRHs			
-		3	Ericsson RRUS 32 B2-RRHs			
-		6	CCI TPX-070821-Diplexers			
-		3	CSS DBC-750-Combiners			
-		1	Commscope ABT-DRDM-ADBH-Bias T			
-		1	LMU Antenna			
-		2	Raycap DC6-48-60-18-8F-DC			
16	141.0	3	Alcatel Lucent RRH2X60-700 - RRU	Low Profile Platform	(12) 1 5/8" (2) 1 5/8" Hybrid	Verizon
17		3	Alcatel Lucent RRH2X60-AWS - RRU			
18		3	Alcatel Lucent RRH2X60-PCS - RRU			
19		3	Antel BXA-70063-6CF-EDIN-0 - Panel			
20		3	Antel BXA-70080-4CF-EDIN-0 - Panel			
21		6	Commscope SBNHH-1D65B - Panel			
22	2	RFS DB-T1-6Z-8AB-OZ – Distribution Box				
23	131.0	3	Commscope LNX-6515DS - Panel	(3) T-Arms (Site Pro P/N UDS-NPL)	(18) 7/8"	T-Mobile
24		3	Ericsson KRY 144/1			
25		3	Kathrein 782 11056			
26		3	RFS APX16DWV-16DWVS-C - Panel			
27	3	RFS ATM1412D-1A20				
28	123.0	2	RFS - APXVSP18-C-A20 - Panel	Platform w/ Handrail Kit [SitePro1 HRK14]	(4) 1-1/4" Fiber	Sprint Nextel
29		1	RFS - APXVSP18-C-A20 (50 lb) - Panel			
30		3	RFS - APXVTM14-C-I20 - Panel			
31		4	RFS - ACU-A20-N - RET			
32		3	ALU - TD-RRH8x20-25 - RRU			
33		3	ALU - 1900 MHz RRH - RRU			
34		3	ALU - 800 MHz RRH - RRU			
35		3	ALU - 800 MHz Filter			

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	150.0	3	Kathrein 800 10121 - Panel	Low Profile Platform	(6) 1 5/8" (1) 3" Conduit*	AT&T
2		3	Cci HPA-65R-BUU-H6 - Panel			
3		1	Quintel QS6658-2 - Panel			
4		2	cci TPA-65R-LCUUUU-H8 - Panel			
5		6	Cci DTMABP7819VG12A - TMA			
6		6	CCI TPX-070821 - Diplexer			
7		3	Ericsson RRUS 11 - RRH			
8		3	Ericsson RRUS 32 B2 - RRH			
9		3	Ericsson RRUS32 - RRH			
10		3	Ericsson 4426 B66 - RRH			
11		3	Ericsson 4478 B5 - RRH			
12		3	CSS DBC-750 - Combiners			
13		3	Commscope ABT-DRDM-ADBH - OVP			
14		2	Raycap DC6-48-60-18-8F - OVP			
15		1	LMU Antenna			

*Containing (2) 1/2" Power Cables, and (4) 3/8" Fiber

All transmission lines are considered running inside of the pole shafts.

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	86.8%	75.5%	81.1%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	3324.0	26.4	65.6
Analysis Reactions	3666.8	32.8	80.3
Factored Reactions*	4487.4	35.6	88.6
% of Design Reactions	81.7%	92.1%	90.7%

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

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA-222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.2150 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

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

Usage Diagram - Max Ratio 86.78% at 0.0ft

Structure: CT10022-A-SBA
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.000 (ft)

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

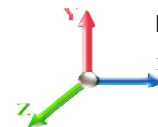
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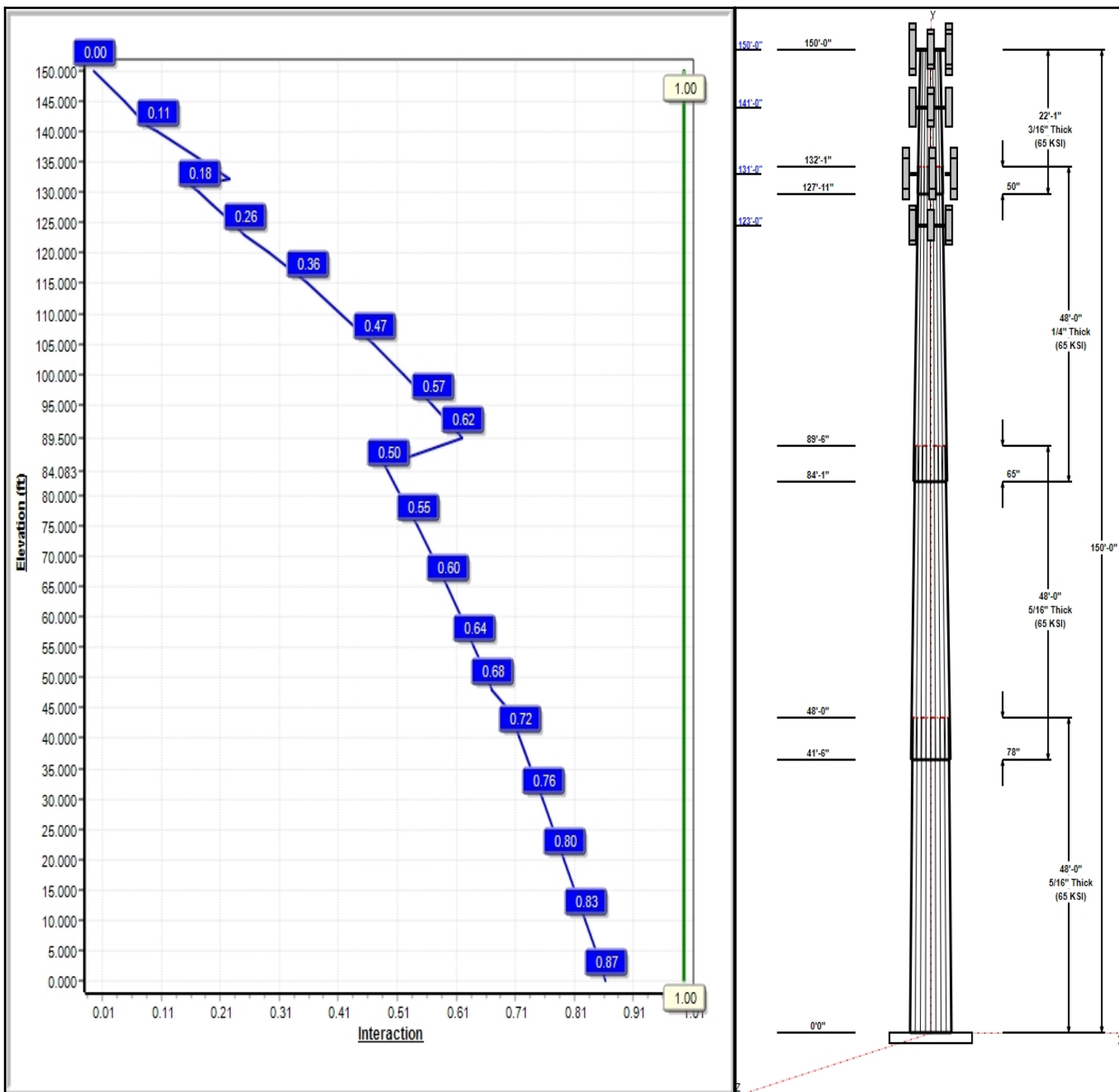
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 93 mph Wind



Iterations: 23

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Structure: CT10022-A-SBA

Type: Tapered
Site Name: Simsbury 2, CT
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23136

11/27/2018



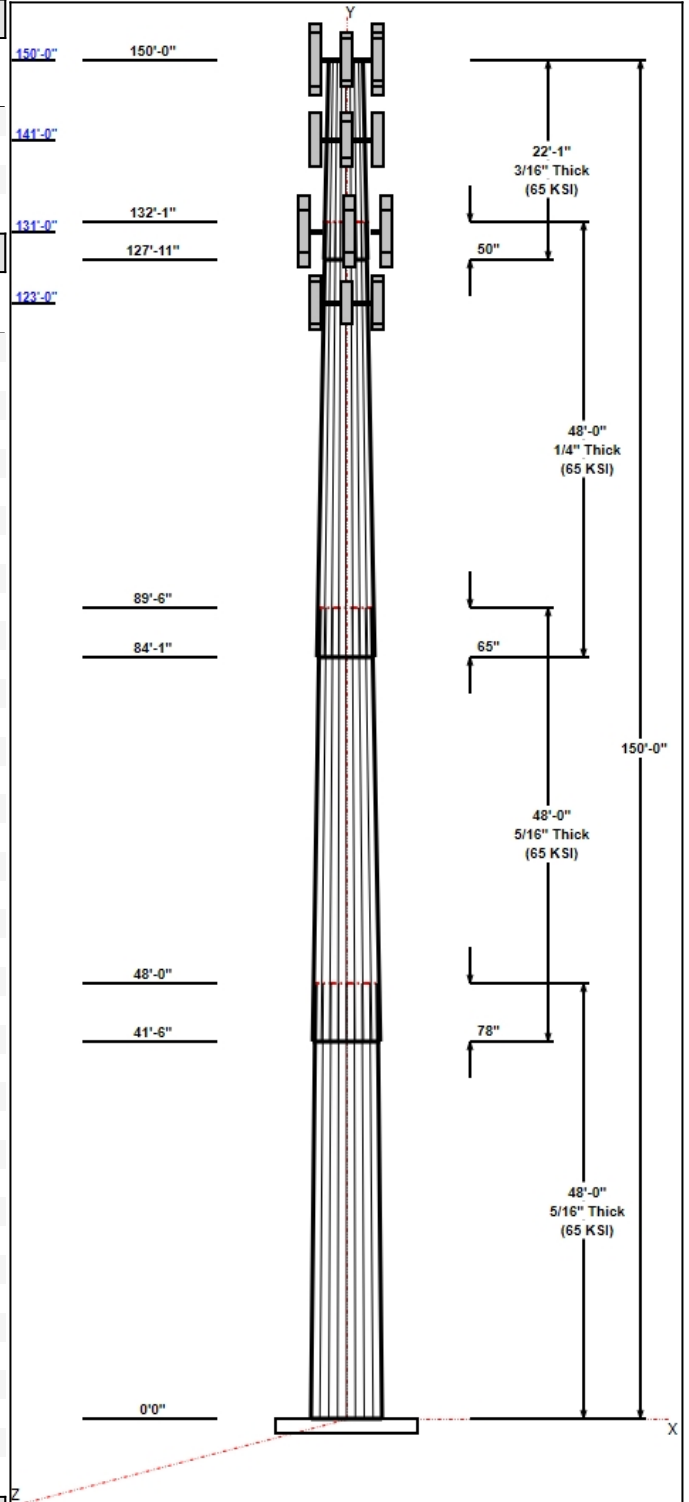
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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	50.39	61.50	0.313		0.23136	65
2	48.00	41.42	52.52	0.313	Slip	0.23136	65
3	48.00	32.07	43.17	0.250	Slip	0.23136	65
4	22.08	28.30	33.41	0.188	Slip	0.23136	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
150.00	150.00	3	Kathrein 800 10121	AT&T
150.00	150.00	6	CCI	AT&T
150.00	150.00	3	Ericsson RRUS-11-RRUs	AT&T
150.00	150.00	3	Commscope	AT&T
150.00	150.00	3	CSS DBC-750-Combiners	AT&T
150.00	149.00	1	Low Profile Platform	AT&T
150.00	151.00	2	Raycap	AT&T
150.00	150.00	2	CCI	AT&T
150.00	150.00	1	Quintel QS66512-3	AT&T
150.00	150.00	6	CCI TPX-070821-Diplexers	AT&T
150.00	150.00	3	Ericsson RRUS-32-RRHs	AT&T
150.00	150.00	3	Ericsson RRUS 32	AT&T
150.00	150.00	1	LMU	AT&T
150.00	150.00	3	HPA-65R-BUU-H6	AT&T
150.00	150.00	3	4426 B66	AT&T
150.00	150.00	3	RRUS 4478 B5	AT&T
141.00	141.00	3	Antel	Verizon
141.00	141.00	6	Commscope	Verizon
141.00	141.00	3	Antel	Verizon
141.00	141.00	3	Alcatel Lucent	Verizon
141.00	141.00	3	Alcatel Lucent	Verizon
141.00	141.00	3	Alcatel Lucent	Verizon
141.00	141.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
141.00	141.00	1	Low Profile Platform	Verizon
141.00	141.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
131.00	131.00	3	RFS	T-Mobile
131.00	131.00	3	Commscope LNX-6515DS	T-Mobile
131.00	131.00	3	RFS ATM1412D-1A20	T-Mobile
131.00	131.00	3	Ericsson KRY 144/1	T-Mobile
131.00	131.00	3	Kathrein 782 11056	T-Mobile
131.00	131.00	3	T-Arms (Site Pro P/N	T-Mobile
123.00	123.00	3	APXVTM14-C-I20	Sprint Nextel
123.00	123.00	2	APXVSP18-C-A20	Sprint Nextel
123.00	123.00	3	ALU - TD-RRH8x20-25 -	Sprint Nextel
123.00	123.00	1	Platform w/ HRK Handrail	Sprint Nextel
123.00	123.00	1	APXVSP18-C-A20 (50 lb)	Sprint Nextel
123.00	123.00	3	ALU - 800 MHz Filter	Sprint Nextel
123.00	123.00	3	ALU - 1900 MHz RRH -	Sprint Nextel
123.00	123.00	3	ALU - 800 MHz RRH -	Sprint Nextel
123.00	123.00	4	RFS - ACU-A20-N - RET	Sprint Nextel



Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	150.00	Inside	1 5/8" Coax	AT&T
0.00	150.00	Inside	1/2" Power Cables	AT&T

Structure: CT10022-A-SBA

Type: Tapered	Base Shape: 18 Sided	11/27/2018
Site Name: Simsbury 2, CT	Taper: 0.23136	
Height: 150.00 (ft)		
Base Elev: 0.00 (ft)		Page: 3



0.00	150.00	Inside	3" Conduit	AT&T
0.00	150.00	Inside	3/8" Fiber	AT&T
0.00	141.00	Inside	1 5/8" Coax	Verizon
0.00	141.00	Inside	1 5/8" Hybrid	Verizon
0.00	131.00	Inside	7/8" Coax	T-Mobile
0.00	123.00	Inside	1-1/4" Fiber	Sprint Nextel

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
14	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.0000	73.5	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	3666.8	32.8	44.6
0.9D + 1.6W 93 mph Wind	3633.2	32.8	33.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1240.1	10.9	80.3
1.2D + 1.0E	257.4	2.0	44.6
0.9D + 1.0E	254.8	2.0	33.5
1.0D + 1.0W 60 mph Wind	949.0	8.5	37.2

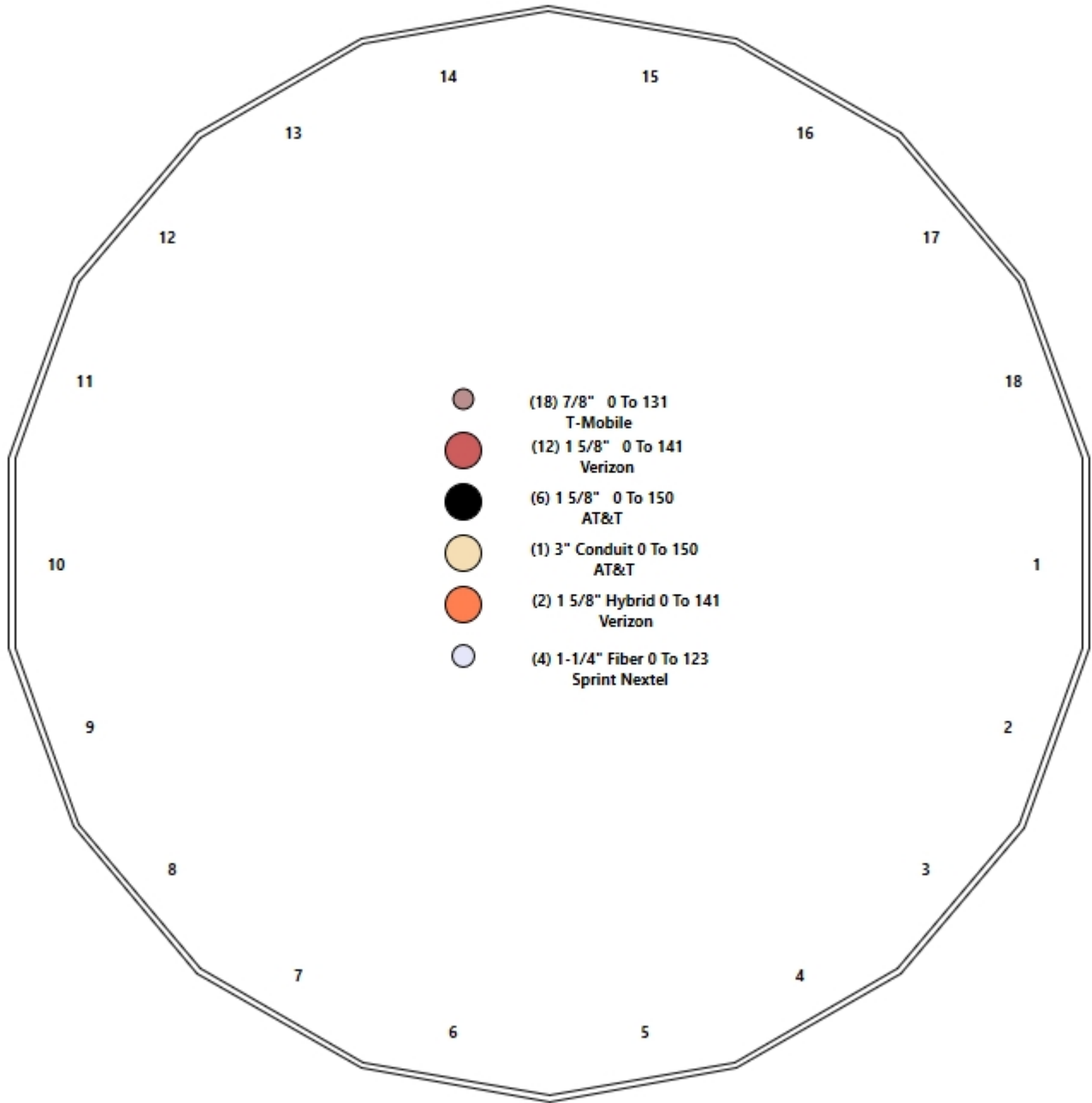
Structure: CT10022-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Simsbury 2, CT
Height: 150.00 (ft)

11/27/2018



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Shaft Properties

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.3125	65		0.00	9,013
2	18	48.000	0.3125	65	Slip	78.00	7,559
3	18	48.000	0.2500	65	Slip	65.00	4,843
4	18	22.083	0.1875	65	Slip	50.00	1,371
Total Shaft Weight:							22,786

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	61.50	0.00	60.69	28706.65	33.29	196.80	50.39	48.00	49.67	15741.4	27.02	161.2	0.231360
2	52.52	41.50	51.78	17835.36	28.23	168.08	41.42	89.50	40.77	8703.68	21.96	132.5	0.231360
3	43.17	84.08	34.06	7926.99	29.04	172.69	32.07	132.08	25.25	3228.71	21.21	128.2	0.231360
4	33.41	127.9	19.77	2755.84	30.00	178.16	28.30	150.00	16.73	1669.78	25.20	150.9	0.231360

Load Summary

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	150.00	Kathrein 800 10121	3	62.40	5.15	0.90	279.10	7.959	0.92	0.00	0.00
2	150.00	CCI DTMAPB7819VG12A-TMAs	6	19.20	1.14	0.67	53.23	2.166	0.70	0.00	0.00
3	150.00	Ericsson RRUS-11-RRUs	3	55.00	2.52	0.67	158.92	3.364	1.00	0.00	0.00
4	150.00	Commscope ABT-DRDM-ADBH-Bias	3	1.10	0.05	0.67	4.07	0.307	1.00	0.00	0.00
5	150.00	CSS DBC-750-Combiners	3	4.80	0.51	0.67	17.69	1.216	1.00	0.00	0.00
6	150.00	Low Profile Platform	1	1500.00	22.00	1.00	3245.22	45.549	1.00	0.00	-1.00
7	150.00	Raycap DC6-48-60-18-8F-DC	2	32.80	0.92	0.67	117.83	1.504	1.00	0.00	1.00
8	150.00	CCI TPA-65R-LCUUUU-H8	2	75.00	13.43	0.79	641.29	18.405	0.84	0.00	0.00
9	150.00	Quintel QS66512-3	1	105.00	8.13	0.90	425.90	9.900	0.96	0.00	0.00
10	150.00	CCI TPX-070821-Diplexers	6	3.30	0.43	0.67	15.18	1.122	0.75	0.00	0.00
11	150.00	Ericsson RRUS-32-RRHs	3	77.00	3.87	0.67	239.13	4.396	1.00	0.00	0.00
12	150.00	Ericsson RRUS 32 B2-RRHs	3	53.00	2.74	0.67	179.89	3.737	1.00	0.00	0.00
13	150.00	LMU	1	28.00	0.88	0.67	100.43	1.765	1.00	0.00	0.00
14	150.00	HPA-65R-BUU-H6	3	51.00	9.66	0.85	400.05	11.517	0.87	0.00	0.00
15	150.00	4426 B66	3	48.50	1.15	0.73	107.06	1.808	0.75	0.00	0.00
16	150.00	RRUS 4478 B5	3	59.90	1.84	0.79	125.08	2.571	0.81	0.00	0.00
17	141.00	Antel BXA-70080-4CF-EDIN-0	3	30.30	3.56	1.02	325.95	6.007	1.04	0.00	0.00
18	141.00	Commscope SBNHH-1D65B	6	72.70	8.08	0.91	356.08	9.802	0.93	0.00	0.00
19	141.00	Antel BXA-70063-6CF-EDIN-0	3	39.00	7.57	0.86	286.06	9.279	0.89	0.00	0.00
20	141.00	Alcatel Lucent RRH2X60-AWS	3	60.00	3.50	0.50	175.67	4.546	0.79	0.00	0.00
21	141.00	Alcatel Lucent RRH2X60-PCS	3	55.00	1.51	0.90	175.77	3.068	0.90	0.00	0.00
22	141.00	Alcatel Lucent RRH2X60-700	3	60.00	3.50	0.50	175.67	4.546	0.79	0.00	0.00
23	141.00	RFS DB-T1-6Z-8AB-OZ	1	21.40	4.10	0.96	178.58	5.162	0.99	0.00	0.00
24	141.00	Low Profile Platform	1	1500.00	22.00	1.00	3234.45	45.404	1.00	0.00	0.00
25	141.00	RFS DB-T1-6Z-8AB-OZ	1	21.40	4.10	0.96	178.58	5.162	0.99	0.00	0.00
26	131.00	RFS APX16DWV-16DWVS-C	3	62.70	6.46	0.74	295.76	9.313	0.78	0.00	0.00
27	131.00	Commscope LNX-6515DS	3	79.10	11.47	0.92	558.70	15.767	0.95	0.00	0.00
28	131.00	RFS ATM1412D-1A20	3	13.00	1.17	0.73	47.96	2.199	0.76	0.00	0.00
29	131.00	Ericsson KRY 144/1	3	11.00	0.41	0.70	25.18	1.035	0.73	0.00	0.00
30	131.00	Kathrein 782 11056	3	11.00	0.66	0.76	31.75	1.462	0.79	0.00	0.00
31	131.00	T-Arms (Site Pro P/N UDS-NPL)	3	132.00	8.00	0.75	253.21	17.183	1.00	0.00	0.00
32	123.00	APXVTM14-C-I20	3	55.00	6.34	0.85	277.88	7.824	0.88	0.00	0.00
33	123.00	APXVSP18-C-A20	2	57.00	8.02	0.91	282.94	11.672	0.83	0.00	0.00
34	123.00	ALU - TD-RRH8x20-25 - RRU	3	70.00	4.05	0.69	223.81	5.138	0.75	0.00	0.00
35	123.00	Platform w/ HRK Handrail Kit	1	1600.00	32.00	1.00	3424.98	65.580	1.00	0.00	0.00
36	123.00	APXVSP18-C-A20 (50 lb)	1	50.00	8.02	0.91	248.19	11.672	0.83	0.00	0.00
37	123.00	ALU - 800 MHz Filter	3	8.80	0.78	0.67	31.86	1.626	0.67	0.00	0.00
38	123.00	ALU - 1900 MHz RRH - RRU	3	60.00	2.71	0.98	165.56	4.362	1.00	0.00	0.00
39	123.00	ALU - 800 MHz RRH - RRU	3	53.00	2.49	0.92	149.68	3.985	0.95	0.00	0.00
40	123.00	RFS - ACU-A20-N - RET	4	1.00	0.14	0.79	6.62	0.528	0.82	0.00	0.00
Totals:			111	9,368.40			29,828.20				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	150.00	(6) 1 5/8" Coax	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
0.00	150.00	(2) 1/2" Power Cables		0.00		Inside					
0.00	150.00	(1) 3" Conduit		0.00		Inside					
0.00	150.00	(4) 3/8" Fiber		0.00		Inside					
0.00	141.00	(12) 1 5/8" Coax		0.00		Inside					
0.00	141.00	(2) 1 5/8" Hybrid		0.00		Inside					
0.00	131.00	(18) 7/8" Coax		0.00		Inside					
0.00	123.00	(4) 1-1/4" Fiber		0.00		Inside					

Shaft Section Properties

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 8

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.3125	61.500	60.688	28706.7	33.29	196.80	62.2	919.4	0.0
5.00		0.3125	60.343	59.541	27109.1	32.64	193.10	63.0	884.8	1022.8
10.00		0.3125	59.186	58.393	25571.9	31.99	189.40	63.8	851.0	1003.3
15.00		0.3125	58.030	57.246	24093.9	31.33	185.69	64.5	817.8	983.7
20.00		0.3125	56.873	56.099	22674.1	30.68	181.99	65.3	785.2	964.2
25.00		0.3125	55.716	54.951	21311.1	30.03	178.29	66.1	753.4	944.7
30.00		0.3125	54.559	53.804	20003.9	29.37	174.59	66.9	722.2	925.2
35.00		0.3125	53.402	52.657	18751.2	28.72	170.89	67.6	691.6	905.7
40.00		0.3125	52.246	51.509	17552.0	28.07	167.19	68.4	661.7	886.1
41.50	Bot - Section 2	0.3125	51.899	51.165	17202.5	27.87	166.08	68.6	652.9	262.0
45.00		0.3125	51.089	50.362	16405.0	27.42	163.48	69.2	632.5	1216.5
48.00	Top - Section 1	0.3125	51.020	50.293	16338.2	27.38	163.26	0.0	0.0	1027.5
50.00		0.3125	50.557	49.834	15895.0	27.12	161.78	69.5	619.2	340.7
55.00		0.3125	49.400	48.687	14822.2	26.46	158.08	70.3	591.0	838.1
60.00		0.3125	48.243	47.540	13798.8	25.81	154.38	71.0	563.4	818.6
65.00		0.3125	47.087	46.392	12823.6	25.16	150.68	71.8	536.4	799.1
70.00		0.3125	45.930	45.245	11895.5	24.51	146.98	72.6	510.1	779.6
75.00		0.3125	44.773	44.098	11013.3	23.85	143.27	73.3	484.5	760.0
80.00		0.3125	43.616	42.950	10175.8	23.20	139.57	74.1	459.5	740.5
84.08	Bot - Section 3	0.3125	42.671	42.013	9524.3	22.67	136.55	74.7	439.6	590.3
85.00		0.3125	42.459	41.803	9381.9	22.55	135.87	74.9	435.2	236.7
89.50	Top - Section 2	0.2500	41.918	33.063	7252.7	28.15	167.67	0.0	0.0	1144.8
90.00		0.2500	41.803	32.971	7192.5	28.07	167.21	68.4	338.9	56.2
95.00		0.2500	40.646	32.053	6608.3	27.26	162.58	69.3	320.2	553.2
100.00		0.2500	39.489	31.135	6056.7	26.44	157.96	70.3	302.1	537.5
105.00		0.2500	38.332	30.217	5536.7	25.63	153.33	71.3	284.5	521.9
110.00		0.2500	37.175	29.299	5047.3	24.81	148.70	72.2	267.4	506.3
115.00		0.2500	36.019	28.381	4587.6	23.99	144.07	73.2	250.9	490.7
120.00		0.2500	34.862	27.463	4156.8	23.18	139.45	74.1	234.8	475.1
123.00		0.2500	34.168	26.913	3911.7	22.69	136.67	74.7	225.5	277.5
125.00		0.2500	33.705	26.546	3753.8	22.36	134.82	75.1	219.4	181.9
127.92	Bot - Section 4	0.2500	33.030	26.010	3531.2	21.89	132.12	75.7	210.6	260.8
130.00		0.2500	32.548	25.628	3377.7	21.55	130.19	76.1	204.4	322.2
131.00		0.2500	32.317	25.444	3305.6	21.38	129.27	76.3	201.5	152.9
132.08	Top - Section 3	0.1875	32.441	19.194	2522.8	29.10	173.02	0.0	0.0	164.5
135.00		0.1875	31.766	18.793	2367.8	28.46	169.42	67.9	146.8	188.5
140.00		0.1875	30.610	18.104	2117.0	27.37	163.25	69.2	136.2	313.9
141.00		0.1875	30.378	17.967	2069.0	27.16	162.02	69.5	134.1	61.4
145.00		0.1875	29.453	17.416	1884.5	26.29	157.08	70.5	126.0	240.8
150.00		0.1875	28.296	16.727	1669.8	25.20	150.91	71.8	116.2	290.5

22785.8

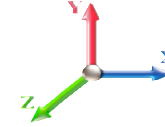
Wind Loading - Shaft

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	17.879	19.67	446.21	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	437.81	0.650	0.000	5.00	25.776	16.75	527.2	0.0	1227.3
10.00		1.00	0.85	17.879	19.67	429.42	0.650	0.000	5.00	25.286	16.44	517.2	0.0	1203.9
15.00		1.00	0.85	17.879	19.67	421.03	0.650	0.000	5.00	24.797	16.12	507.2	0.0	1180.5
20.00		1.00	0.90	18.971	20.87	425.04	0.650	0.000	5.00	24.307	15.80	527.5	0.0	1157.1
25.00		1.00	0.95	19.883	21.87	426.29	0.650	0.000	5.00	23.818	15.48	541.8	0.0	1133.6
30.00		1.00	0.98	20.661	22.73	425.53	0.650	0.000	5.00	23.328	15.16	551.4	0.0	1110.2
35.00		1.00	1.01	21.343	23.48	423.32	0.650	0.000	5.00	22.839	14.85	557.6	0.0	1086.8
40.00		1.00	1.04	21.951	24.15	420.01	0.650	0.000	5.00	22.350	14.53	561.2	0.0	1063.4
41.50	Bot - Section 2	1.00	1.05	22.122	24.33	418.84	0.650	0.000	1.50	6.609	4.30	167.3	0.0	314.4
45.00		1.00	1.07	22.502	24.75	415.84	0.650	0.000	3.50	15.436	10.03	397.4	0.0	1459.8
48.00	Top - Section 1	1.00	1.08	22.810	25.09	412.98	0.650	0.000	3.00	13.040	8.48	340.3	0.0	1233.0
50.00		1.00	1.09	23.007	25.31	416.10	0.650	0.000	2.00	8.595	5.59	226.2	0.0	408.9
55.00		1.00	1.12	23.473	25.82	410.68	0.650	0.000	5.00	21.146	13.74	567.8	0.0	1005.7
60.00		1.00	1.14	23.907	26.30	404.75	0.650	0.000	5.00	20.656	13.43	564.9	0.0	982.3
65.00		1.00	1.16	24.313	26.74	398.39	0.650	0.000	5.00	20.167	13.11	560.9	0.0	958.9
70.00		1.00	1.17	24.696	27.17	391.64	0.650	0.000	5.00	19.677	12.79	555.9	0.0	935.5
75.00		1.00	1.19	25.057	27.56	384.56	0.650	0.000	5.00	19.188	12.47	550.0	0.0	912.0
80.00		1.00	1.21	25.400	27.94	377.18	0.650	0.000	5.00	18.698	12.15	543.3	0.0	888.6
84.08	Bot - Section 3	1.00	1.22	25.667	28.23	370.95	0.650	0.000	4.08	14.907	9.69	437.7	0.0	708.3
85.00		1.00	1.22	25.726	28.30	369.53	0.650	0.000	0.92	3.340	2.17	98.3	0.0	284.0
89.50	Top - Section 2	1.00	1.24	26.007	28.61	362.43	0.650	0.000	4.50	16.160	10.50	480.8	0.0	1373.8
90.00		1.00	1.24	26.037	28.64	366.01	0.650	0.000	0.50	1.771	1.15	52.8	0.0	67.4
95.00		1.00	1.25	26.336	28.97	357.91	0.650	0.000	5.00	17.442	11.34	525.5	0.0	663.8
100.00		1.00	1.27	26.621	29.28	349.61	0.650	0.000	5.00	16.952	11.02	516.3	0.0	645.0
105.00		1.00	1.28	26.896	29.59	341.11	0.650	0.000	5.00	16.463	10.70	506.6	0.0	626.3
110.00		1.00	1.29	27.161	29.88	332.44	0.650	0.000	5.00	15.973	10.38	496.3	0.0	607.6
115.00		1.00	1.30	27.416	30.16	323.61	0.650	0.000	5.00	15.484	10.06	485.6	0.0	588.8
120.00		1.00	1.32	27.663	30.43	314.62	0.650	0.000	5.00	14.995	9.75	474.5	0.0	570.1
123.00	Appurtenance(s)	1.00	1.32	27.807	30.59	309.16	0.650	0.000	3.00	8.762	5.70	278.7	0.0	333.1
125.00		1.00	1.33	27.902	30.69	305.49	0.650	0.000	2.00	5.743	3.73	183.3	0.0	218.3
127.92	Bot - Section 4	1.00	1.33	28.038	30.84	300.10	0.650	0.000	2.92	8.235	5.35	264.1	0.0	313.0
130.00		1.00	1.34	28.133	30.95	296.23	0.650	0.000	2.08	5.846	3.80	188.2	0.0	386.6
131.00	Appurtenance(s)	1.00	1.34	28.179	31.00	294.36	0.650	0.000	1.00	2.776	1.80	89.5	0.0	183.5
132.08	Top - Section 3	1.00	1.34	28.228	31.05	292.33	0.650	0.000	1.08	2.985	1.94	96.4	0.0	197.4
135.00		1.00	1.35	28.358	31.19	290.26	0.650	0.000	2.92	7.923	5.15	257.0	0.0	226.2
140.00		1.00	1.36	28.576	31.43	280.76	0.650	0.000	5.00	13.195	8.58	431.4	0.0	376.7
141.00	Appurtenance(s)	1.00	1.36	28.619	31.48	278.85	0.650	0.000	1.00	2.580	1.68	84.5	0.0	73.6
145.00		1.00	1.37	28.788	31.67	271.15	0.650	0.000	4.00	10.126	6.58	333.5	0.0	289.0
150.00	Appurtenance(s)	1.00	1.38	28.994	31.89	261.43	0.650	0.000	5.00	12.217	7.94	405.2	0.0	348.5
Totals:									150.00			15,451.5		27,342.9

Discrete Appurtenance Forces

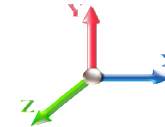
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	150.00	Ericsson RRUS 32	3	28.994	31.893	0.60	0.90	4.96	190.80	0.000	0.000	252.93	0.00	0.00
2	150.00	Kathrein 800 10121	3	28.994	31.893	0.81	0.90	12.57	224.64	0.000	0.000	641.44	0.00	0.00
3	150.00	CCI	6	28.994	31.893	0.60	0.90	4.12	138.24	0.000	0.000	210.47	0.00	0.00
4	150.00	Ericsson RRUS-11-RRUs	3	28.994	31.893	0.60	0.90	4.56	198.00	0.000	0.000	232.62	0.00	0.00
5	150.00	Commscope	3	28.994	31.893	0.60	0.90	0.09	3.96	0.000	0.000	4.62	0.00	0.00
6	150.00	CSS DBC-750-Combiners	3	28.994	31.893	0.60	0.90	0.92	17.28	0.000	0.000	47.08	0.00	0.00
7	150.00	Low Profile Platform	1	28.953	31.848	1.00	1.00	22.00	1800.00	0.000	-1.000	1121.06	0.00	-1121.06
8	150.00	Ericsson RRUS-32-RRHs	3	28.994	31.893	0.60	0.90	7.00	277.20	0.000	0.000	357.25	0.00	0.00
9	150.00	RRUS 4478 B5	3	28.994	31.893	0.71	0.90	3.92	215.64	0.000	0.000	200.27	0.00	0.00
10	150.00	CCI	6	28.994	31.893	0.60	0.90	1.56	23.76	0.000	0.000	79.39	0.00	0.00
11	150.00	4426 B66	3	28.994	31.893	0.66	0.90	2.27	174.60	0.000	0.000	115.66	0.00	0.00
12	150.00	HPA-65R-BUJ-H6	3	28.994	31.893	0.77	0.90	22.17	183.60	0.000	0.000	1131.30	0.00	0.00
13	150.00	LMU	1	28.994	31.893	0.60	0.90	0.53	33.60	0.000	0.000	27.08	0.00	0.00
14	150.00	Quintel QS66512-3	1	28.994	31.893	0.81	0.90	6.59	126.00	0.000	0.000	336.04	0.00	0.00
15	150.00	CCI	2	28.994	31.893	0.71	0.90	19.10	180.00	0.000	0.000	974.52	0.00	0.00
16	150.00	Raycap	2	29.034	31.938	0.60	0.90	1.11	78.72	0.000	1.000	56.70	0.00	56.70
17	141.00	RFS DB-T1-6Z-8AB-0Z	1	28.619	31.480	0.77	0.80	3.15	25.68	0.000	0.000	158.60	0.00	0.00
18	141.00	Low Profile Platform	1	28.619	31.480	0.80	0.80	17.60	1800.00	0.000	0.000	886.49	0.00	0.00
19	141.00	RFS DB-T1-6Z-8AB-0Z	1	28.619	31.480	0.77	0.80	3.15	25.68	0.000	0.000	158.60	0.00	0.00
20	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	216.00	0.000	0.000	211.55	0.00	0.00
21	141.00	Alcatel Lucent	3	28.619	31.480	0.72	0.80	3.26	198.00	0.000	0.000	164.28	0.00	0.00
22	141.00	Antel	3	28.619	31.480	0.69	0.80	15.62	140.40	0.000	0.000	786.98	0.00	0.00
23	141.00	Commscope	6	28.619	31.480	0.73	0.80	35.22	523.44	0.000	0.000	1773.77	0.00	0.00
24	141.00	Antel	3	28.619	31.480	0.82	0.80	8.71	109.08	0.000	0.000	438.96	0.00	0.00
25	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	216.00	0.000	0.000	211.55	0.00	0.00
26	131.00	RFS ATM1412D-1A20	3	28.179	30.997	0.58	0.80	2.05	46.80	0.000	0.000	101.66	0.00	0.00
27	131.00	Commscope LNX-6515DS	3	28.179	30.997	0.74	0.80	25.30	284.76	0.000	0.000	1254.65	0.00	0.00
28	131.00	RFS	3	28.179	30.997	0.60	0.80	11.55	225.72	0.000	0.000	572.84	0.00	0.00
29	131.00	Kathrein 782 11056	3	28.179	30.997	0.61	0.80	1.20	39.60	0.000	0.000	59.70	0.00	0.00
30	131.00	T-Arms (Site Pro P/N	3	28.179	30.997	0.56	0.75	13.50	475.20	0.000	0.000	669.53	0.00	0.00
31	131.00	Ericsson KRY 144/1	3	28.179	30.997	0.56	0.80	0.69	39.60	0.000	0.000	34.16	0.00	0.00
32	123.00	ALU - 1900 MHz RRH -	3	27.807	30.588	0.78	0.80	6.37	216.00	0.000	0.000	311.95	0.00	0.00
33	123.00	APXVTM14-C-I20	3	27.807	30.588	0.68	0.80	12.96	198.00	0.000	0.000	634.47	0.00	0.00
34	123.00	APXVSPP18-C-A20	2	27.807	30.588	0.72	0.80	11.63	136.80	0.000	0.000	568.98	0.00	0.00
35	123.00	ALU - TD-RRH8x20-25 -	3	27.807	30.588	0.55	0.80	6.71	252.00	0.000	0.000	328.24	0.00	0.00
36	123.00	Platform w/ HRK Handrail	1	27.807	30.588	1.00	1.00	32.00	1920.00	0.000	0.000	1566.11	0.00	0.00
37	123.00	ALU - 800 MHz RRH -	3	27.807	30.588	0.74	0.80	5.50	190.80	0.000	0.000	269.07	0.00	0.00
38	123.00	RFS - ACU-A20-N - RET	4	27.807	30.588	0.63	0.80	0.35	4.80	0.000	0.000	17.32	0.00	0.00
39	123.00	APXVSPP18-C-A20 (50	1	27.807	30.588	0.72	0.80	5.81	60.00	0.000	0.000	284.49	0.00	0.00
40	123.00	ALU - 800 MHz Filter	3	27.807	30.588	0.54	0.80	1.25	31.68	0.000	0.000	61.38	0.00	0.00

Totals: 11,242.08 17,313.76

Total Applied Force Summary

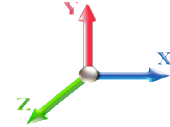
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 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		527.21	1444.93	0.00	0.00
10.00		517.20	1421.51	0.00	0.00
15.00		507.19	1398.08	0.00	0.00
20.00		527.53	1374.66	0.00	0.00
25.00		541.77	1351.23	0.00	0.00
30.00		551.40	1327.81	0.00	0.00
35.00		557.63	1304.38	0.00	0.00
40.00		561.24	1280.96	0.00	0.00
41.50		167.27	379.72	0.00	0.00
45.00		397.36	1612.17	0.00	0.00
48.00		340.27	1363.59	0.00	0.00
50.00		226.23	495.89	0.00	0.00
55.00		567.83	1223.34	0.00	0.00
60.00		564.94	1199.91	0.00	0.00
65.00		560.93	1176.49	0.00	0.00
70.00		555.92	1153.06	0.00	0.00
75.00		550.03	1129.64	0.00	0.00
80.00		543.33	1106.21	0.00	0.00
84.08		437.73	886.03	0.00	0.00
85.00		98.31	323.92	0.00	0.00
89.50		480.79	1569.59	0.00	0.00
90.00		52.76	89.17	0.00	0.00
95.00		525.48	881.38	0.00	0.00
100.00		516.28	862.64	0.00	0.00
105.00		506.55	843.90	0.00	0.00
110.00		496.33	825.16	0.00	0.00
115.00		485.65	806.42	0.00	0.00
120.00		474.53	787.68	0.00	0.00
123.00	(23) attachments	4320.74	3473.69	0.00	0.00
125.00		183.33	296.17	0.00	0.00
127.92		264.15	426.54	0.00	0.00
130.00		188.17	467.71	0.00	0.00
131.00	(18) attachments	2782.04	1334.16	0.00	0.00
132.08		96.41	227.37	0.00	0.00
135.00		257.04	307.02	0.00	0.00
140.00		431.37	515.20	0.00	0.00
141.00	(24) attachments	4875.26	3355.63	0.00	0.00
145.00		333.47	329.33	0.00	0.00
150.00	(46) attachments	6193.64	4265.05	0.00	-1064.36
	Totals:	32,765.27	44,617.31	0.00	-1,064.36

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

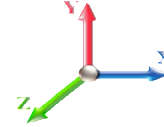


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Load Case: 1.2D + 1.6W 93 mph Wind

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	-44.56	-32.84	0.00	-3666.7	0.00	3666.77	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.868
5.00	-43.02	-32.44	0.00	-3502.5	0.00	3502.59	3376.67	1688.33	8351.12	4181.77	0.10	-0.178	0.000	0.851
10.00	-41.50	-32.05	0.00	-3340.3	0.00	3340.39	3351.94	1675.97	8129.40	4070.74	0.38	-0.357	0.000	0.833
15.00	-40.01	-31.66	0.00	-3180.1	0.00	3180.16	3325.63	1662.82	7906.28	3959.02	0.85	-0.539	0.000	0.816
20.00	-38.54	-31.24	0.00	-3021.8	0.00	3021.88	3297.74	1648.87	7681.99	3846.70	1.51	-0.722	0.000	0.798
25.00	-37.09	-30.80	0.00	-2865.6	0.00	2865.69	3268.26	1634.13	7456.75	3733.92	2.37	-0.906	0.000	0.779
30.00	-35.68	-30.34	0.00	-2711.7	0.00	2711.71	3237.20	1618.60	7230.79	3620.77	3.42	-1.092	0.000	0.760
35.00	-34.29	-29.87	0.00	-2560.0	0.00	2560.02	3204.54	1602.27	7004.35	3507.38	4.66	-1.280	0.000	0.741
40.00	-32.96	-29.35	0.00	-2410.6	0.00	2410.68	3170.31	1585.15	6777.64	3393.86	6.11	-1.468	0.000	0.721
41.50	-32.53	-29.22	0.00	-2366.6	0.00	2366.66	3159.73	1579.86	6709.61	3359.79	6.58	-1.527	0.000	0.715
45.00	-30.87	-28.85	0.00	-2264.3	0.00	2264.38	3134.49	1567.24	6550.90	3280.32	7.75	-1.661	0.000	0.700
48.00	-29.47	-28.52	0.00	-2177.8	0.00	2177.84	3132.30	1566.15	6537.37	3273.54	8.83	-1.776	0.000	0.675
50.00	-28.92	-28.34	0.00	-2120.8	0.00	2120.80	3117.49	1558.74	6446.72	3228.15	9.59	-1.854	0.000	0.667
55.00	-27.62	-27.82	0.00	-1979.1	0.00	1979.10	3079.35	1539.68	6220.34	3114.79	11.63	-2.037	0.000	0.645
60.00	-26.36	-27.30	0.00	-1839.9	0.00	1839.99	3039.63	1519.81	5994.49	3001.70	13.86	-2.221	0.000	0.622
65.00	-25.12	-26.77	0.00	-1703.5	0.00	1703.51	2998.32	1499.16	5769.39	2888.98	16.29	-2.403	0.000	0.598
70.00	-23.91	-26.24	0.00	-1569.6	0.00	1569.67	2955.43	1477.72	5545.28	2776.76	18.90	-2.585	0.000	0.574
75.00	-22.73	-25.71	0.00	-1438.4	0.00	1438.48	2910.95	1455.48	5322.38	2665.15	21.70	-2.765	0.000	0.548
80.00	-21.58	-25.17	0.00	-1309.9	0.00	1309.95	2864.89	1432.44	5100.92	2554.25	24.70	-2.942	0.000	0.521
84.08	-20.68	-24.72	0.00	-1207.1	0.00	1207.17	2826.09	1413.05	4921.28	2464.30	27.27	-3.086	0.000	0.497
85.00	-20.32	-24.64	0.00	-1184.5	0.00	1184.51	2817.24	1408.62	4881.12	2444.19	27.87	-3.119	0.000	0.492
89.50	-18.74	-24.10	0.00	-1073.6	0.00	1073.65	2031.94	1015.97	3485.43	1745.31	30.88	-3.273	0.000	0.625
90.00	-18.61	-24.07	0.00	-1061.6	0.00	1061.60	2029.15	1014.57	3470.92	1738.04	31.23	-3.290	0.000	0.621
95.00	-17.68	-23.56	0.00	-941.24	0.00	941.24	2000.34	1000.17	3325.82	1665.38	34.78	-3.488	0.000	0.575
100.00	-16.78	-23.04	0.00	-823.45	0.00	823.45	1969.95	984.97	3180.92	1592.82	38.53	-3.678	0.000	0.526
105.00	-15.90	-22.53	0.00	-708.24	0.00	708.24	1937.97	968.98	3036.44	1520.48	42.48	-3.858	0.000	0.475
110.00	-15.05	-22.02	0.00	-595.60	0.00	595.60	1904.40	952.20	2892.62	1448.46	46.61	-4.025	0.000	0.420
115.00	-14.23	-21.51	0.00	-485.50	0.00	485.50	1869.25	934.63	2749.69	1376.89	50.91	-4.178	0.000	0.361
120.00	-13.44	-21.01	0.00	-377.93	0.00	377.93	1832.52	916.26	2607.87	1305.87	55.36	-4.312	0.000	0.297
123.00	-10.29	-16.44	0.00	-314.92	0.00	314.92	1809.72	904.86	2523.40	1263.58	58.09	-4.383	0.000	0.255
125.00	-10.00	-16.25	0.00	-282.03	0.00	282.03	1794.20	897.10	2467.38	1235.52	59.93	-4.426	0.000	0.234
127.92	-9.58	-15.96	0.00	-234.64	0.00	234.64	1771.11	885.56	2386.14	1194.84	62.65	-4.483	0.000	0.202
130.00	-9.12	-15.74	0.00	-201.39	0.00	201.39	1754.29	877.15	2328.47	1165.96	64.62	-4.520	0.000	0.178
131.00	-8.01	-12.86	0.00	-185.66	0.00	185.66	1746.12	873.06	2300.89	1152.16	65.56	-4.536	0.000	0.166
132.08	-7.78	-12.75	0.00	-171.72	0.00	171.72	1160.48	580.24	1541.12	771.71	66.59	-4.553	0.000	0.230
135.00	-7.48	-12.48	0.00	-134.53	0.00	134.53	1148.82	574.41	1493.54	747.88	69.39	-4.592	0.000	0.187
140.00	-7.00	-12.01	0.00	-72.14	0.00	72.14	1127.58	563.79	1411.91	707.01	74.23	-4.654	0.000	0.109
141.00	-4.05	-6.88	0.00	-60.13	0.00	60.13	1123.15	561.57	1395.60	698.84	75.20	-4.663	0.000	0.090
145.00	-3.74	-6.52	0.00	-32.61	0.00	32.61	1104.76	552.38	1330.41	666.20	79.12	-4.689	0.000	0.052
150.00	0.00	-6.19	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	84.03	-4.701	0.000	0.000

Wind Loading - Shaft

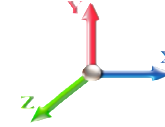
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	17.879	19.67	446.21	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	437.81	0.650	0.000	5.00	25.776	16.75	527.2	0.0	920.5
10.00		1.00	0.85	17.879	19.67	429.42	0.650	0.000	5.00	25.286	16.44	517.2	0.0	902.9
15.00		1.00	0.85	17.879	19.67	421.03	0.650	0.000	5.00	24.797	16.12	507.2	0.0	885.4
20.00		1.00	0.90	18.971	20.87	425.04	0.650	0.000	5.00	24.307	15.80	527.5	0.0	867.8
25.00		1.00	0.95	19.883	21.87	426.29	0.650	0.000	5.00	23.818	15.48	541.8	0.0	850.2
30.00		1.00	0.98	20.661	22.73	425.53	0.650	0.000	5.00	23.328	15.16	551.4	0.0	832.7
35.00		1.00	1.01	21.343	23.48	423.32	0.650	0.000	5.00	22.839	14.85	557.6	0.0	815.1
40.00		1.00	1.04	21.951	24.15	420.01	0.650	0.000	5.00	22.350	14.53	561.2	0.0	797.5
41.50	Bot - Section 2	1.00	1.05	22.122	24.33	418.84	0.650	0.000	1.50	6.609	4.30	167.3	0.0	235.8
45.00		1.00	1.07	22.502	24.75	415.84	0.650	0.000	3.50	15.436	10.03	397.4	0.0	1094.9
48.00	Top - Section 1	1.00	1.08	22.810	25.09	412.98	0.650	0.000	3.00	13.040	8.48	340.3	0.0	924.8
50.00		1.00	1.09	23.007	25.31	416.10	0.650	0.000	2.00	8.595	5.59	226.2	0.0	306.6
55.00		1.00	1.12	23.473	25.82	410.68	0.650	0.000	5.00	21.146	13.74	567.8	0.0	754.3
60.00		1.00	1.14	23.907	26.30	404.75	0.650	0.000	5.00	20.656	13.43	564.9	0.0	736.7
65.00		1.00	1.16	24.313	26.74	398.39	0.650	0.000	5.00	20.167	13.11	560.9	0.0	719.2
70.00		1.00	1.17	24.696	27.17	391.64	0.650	0.000	5.00	19.677	12.79	555.9	0.0	701.6
75.00		1.00	1.19	25.057	27.56	384.56	0.650	0.000	5.00	19.188	12.47	550.0	0.0	684.0
80.00		1.00	1.21	25.400	27.94	377.18	0.650	0.000	5.00	18.698	12.15	543.3	0.0	666.5
84.08	Bot - Section 3	1.00	1.22	25.667	28.23	370.95	0.650	0.000	4.08	14.907	9.69	437.7	0.0	531.2
85.00		1.00	1.22	25.726	28.30	369.53	0.650	0.000	0.92	3.340	2.17	98.3	0.0	213.0
89.50	Top - Section 2	1.00	1.24	26.007	28.61	362.43	0.650	0.000	4.50	16.160	10.50	480.8	0.0	1030.3
90.00		1.00	1.24	26.037	28.64	366.01	0.650	0.000	0.50	1.771	1.15	52.8	0.0	50.6
95.00		1.00	1.25	26.336	28.97	357.91	0.650	0.000	5.00	17.442	11.34	525.5	0.0	497.8
100.00		1.00	1.27	26.621	29.28	349.61	0.650	0.000	5.00	16.952	11.02	516.3	0.0	483.8
105.00		1.00	1.28	26.896	29.59	341.11	0.650	0.000	5.00	16.463	10.70	506.6	0.0	469.7
110.00		1.00	1.29	27.161	29.88	332.44	0.650	0.000	5.00	15.973	10.38	496.3	0.0	455.7
115.00		1.00	1.30	27.416	30.16	323.61	0.650	0.000	5.00	15.484	10.06	485.6	0.0	441.6
120.00		1.00	1.32	27.663	30.43	314.62	0.650	0.000	5.00	14.995	9.75	474.5	0.0	427.6
123.00	Appurtenance(s)	1.00	1.32	27.807	30.59	309.16	0.650	0.000	3.00	8.762	5.70	278.7	0.0	249.8
125.00		1.00	1.33	27.902	30.69	305.49	0.650	0.000	2.00	5.743	3.73	183.3	0.0	163.7
127.92	Bot - Section 4	1.00	1.33	28.038	30.84	300.10	0.650	0.000	2.92	8.235	5.35	264.1	0.0	234.7
130.00		1.00	1.34	28.133	30.95	296.23	0.650	0.000	2.08	5.846	3.80	188.2	0.0	289.9
131.00	Appurtenance(s)	1.00	1.34	28.179	31.00	294.36	0.650	0.000	1.00	2.776	1.80	89.5	0.0	137.7
132.08	Top - Section 3	1.00	1.34	28.228	31.05	292.33	0.650	0.000	1.08	2.985	1.94	96.4	0.0	148.0
135.00		1.00	1.35	28.358	31.19	290.26	0.650	0.000	2.92	7.923	5.15	257.0	0.0	169.7
140.00		1.00	1.36	28.576	31.43	280.76	0.650	0.000	5.00	13.195	8.58	431.4	0.0	282.5
141.00	Appurtenance(s)	1.00	1.36	28.619	31.48	278.85	0.650	0.000	1.00	2.580	1.68	84.5	0.0	55.2
145.00		1.00	1.37	28.788	31.67	271.15	0.650	0.000	4.00	10.126	6.58	333.5	0.0	216.7
150.00	Appurtenance(s)	1.00	1.38	28.994	31.89	261.43	0.650	0.000	5.00	12.217	7.94	405.2	0.0	261.4
Totals:								150.00				15,451.5		20,507.2

Discrete Appurtenance Forces

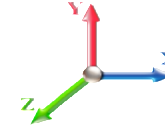
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	150.00	Ericsson RRUS 32	3	28.994	31.893	0.60	0.90	4.96	143.10	0.000	0.000	252.93	0.00	0.00
2	150.00	Kathrein 800 10121	3	28.994	31.893	0.81	0.90	12.57	168.48	0.000	0.000	641.44	0.00	0.00
3	150.00	CCI	6	28.994	31.893	0.60	0.90	4.12	103.68	0.000	0.000	210.47	0.00	0.00
4	150.00	Ericsson RRUS-11-RRUs	3	28.994	31.893	0.60	0.90	4.56	148.50	0.000	0.000	232.62	0.00	0.00
5	150.00	Commscope	3	28.994	31.893	0.60	0.90	0.09	2.97	0.000	0.000	4.62	0.00	0.00
6	150.00	CSS DBC-750-Combiners	3	28.994	31.893	0.60	0.90	0.92	12.96	0.000	0.000	47.08	0.00	0.00
7	150.00	Low Profile Platform	1	28.953	31.848	1.00	1.00	22.00	1350.00	0.000	-1.000	1121.06	0.00	-1121.06
8	150.00	Ericsson RRUS-32-RRHs	3	28.994	31.893	0.60	0.90	7.00	207.90	0.000	0.000	357.25	0.00	0.00
9	150.00	RRUS 4478 B5	3	28.994	31.893	0.71	0.90	3.92	161.73	0.000	0.000	200.27	0.00	0.00
10	150.00	CCI	6	28.994	31.893	0.60	0.90	1.56	17.82	0.000	0.000	79.39	0.00	0.00
11	150.00	4426 B66	3	28.994	31.893	0.66	0.90	2.27	130.95	0.000	0.000	115.66	0.00	0.00
12	150.00	HPA-65R-BUJ-H6	3	28.994	31.893	0.77	0.90	22.17	137.70	0.000	0.000	1131.30	0.00	0.00
13	150.00	LMU	1	28.994	31.893	0.60	0.90	0.53	25.20	0.000	0.000	27.08	0.00	0.00
14	150.00	Quintel QS66512-3	1	28.994	31.893	0.81	0.90	6.59	94.50	0.000	0.000	336.04	0.00	0.00
15	150.00	CCI	2	28.994	31.893	0.71	0.90	19.10	135.00	0.000	0.000	974.52	0.00	0.00
16	150.00	Raycap	2	29.034	31.938	0.60	0.90	1.11	59.04	0.000	1.000	56.70	0.00	56.70
17	141.00	RFS DB-T1-6Z-8AB-0Z	1	28.619	31.480	0.77	0.80	3.15	19.26	0.000	0.000	158.60	0.00	0.00
18	141.00	Low Profile Platform	1	28.619	31.480	0.80	0.80	17.60	1350.00	0.000	0.000	886.49	0.00	0.00
19	141.00	RFS DB-T1-6Z-8AB-0Z	1	28.619	31.480	0.77	0.80	3.15	19.26	0.000	0.000	158.60	0.00	0.00
20	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	162.00	0.000	0.000	211.55	0.00	0.00
21	141.00	Alcatel Lucent	3	28.619	31.480	0.72	0.80	3.26	148.50	0.000	0.000	164.28	0.00	0.00
22	141.00	Antel	3	28.619	31.480	0.69	0.80	15.62	105.30	0.000	0.000	786.98	0.00	0.00
23	141.00	Commscope	6	28.619	31.480	0.73	0.80	35.22	392.58	0.000	0.000	1773.77	0.00	0.00
24	141.00	Antel	3	28.619	31.480	0.82	0.80	8.71	81.81	0.000	0.000	438.96	0.00	0.00
25	141.00	Alcatel Lucent	3	28.619	31.480	0.40	0.80	4.20	162.00	0.000	0.000	211.55	0.00	0.00
26	131.00	RFS ATM1412D-1A20	3	28.179	30.997	0.58	0.80	2.05	35.10	0.000	0.000	101.66	0.00	0.00
27	131.00	Commscope LNX-6515DS	3	28.179	30.997	0.74	0.80	25.30	213.57	0.000	0.000	1254.65	0.00	0.00
28	131.00	RFS	3	28.179	30.997	0.60	0.80	11.55	169.29	0.000	0.000	572.84	0.00	0.00
29	131.00	Kathrein 782 11056	3	28.179	30.997	0.61	0.80	1.20	29.70	0.000	0.000	59.70	0.00	0.00
30	131.00	T-Arms (Site Pro P/N	3	28.179	30.997	0.56	0.75	13.50	356.40	0.000	0.000	669.53	0.00	0.00
31	131.00	Ericsson KRY 144/1	3	28.179	30.997	0.56	0.80	0.69	29.70	0.000	0.000	34.16	0.00	0.00
32	123.00	ALU - 1900 MHz RRH -	3	27.807	30.588	0.78	0.80	6.37	162.00	0.000	0.000	311.95	0.00	0.00
33	123.00	APXVTM14-C-I20	3	27.807	30.588	0.68	0.80	12.96	148.50	0.000	0.000	634.47	0.00	0.00
34	123.00	APXVSPP18-C-A20	2	27.807	30.588	0.72	0.80	11.63	102.60	0.000	0.000	568.98	0.00	0.00
35	123.00	ALU - TD-RRH8x20-25 -	3	27.807	30.588	0.55	0.80	6.71	189.00	0.000	0.000	328.24	0.00	0.00
36	123.00	Platform w/ HRK Handrail	1	27.807	30.588	1.00	1.00	32.00	1440.00	0.000	0.000	1566.11	0.00	0.00
37	123.00	ALU - 800 MHz RRH -	3	27.807	30.588	0.74	0.80	5.50	143.10	0.000	0.000	269.07	0.00	0.00
38	123.00	RFS - ACU-A20-N - RET	4	27.807	30.588	0.63	0.80	0.35	3.60	0.000	0.000	17.32	0.00	0.00
39	123.00	APXVSPP18-C-A20 (50	1	27.807	30.588	0.72	0.80	5.81	45.00	0.000	0.000	284.49	0.00	0.00
40	123.00	ALU - 800 MHz Filter	3	27.807	30.588	0.54	0.80	1.25	23.76	0.000	0.000	61.38	0.00	0.00

Totals: 8,431.56

17,313.76

Total Applied Force Summary

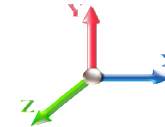
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 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		527.21	1083.70	0.00	0.00
10.00		517.20	1066.13	0.00	0.00
15.00		507.19	1048.56	0.00	0.00
20.00		527.53	1030.99	0.00	0.00
25.00		541.77	1013.42	0.00	0.00
30.00		551.40	995.86	0.00	0.00
35.00		557.63	978.29	0.00	0.00
40.00		561.24	960.72	0.00	0.00
41.50		167.27	284.79	0.00	0.00
45.00		397.36	1209.13	0.00	0.00
48.00		340.27	1022.69	0.00	0.00
50.00		226.23	371.92	0.00	0.00
55.00		567.83	917.50	0.00	0.00
60.00		564.94	899.93	0.00	0.00
65.00		560.93	882.36	0.00	0.00
70.00		555.92	864.80	0.00	0.00
75.00		550.03	847.23	0.00	0.00
80.00		543.33	829.66	0.00	0.00
84.08		437.73	664.52	0.00	0.00
85.00		98.31	242.94	0.00	0.00
89.50		480.79	1177.19	0.00	0.00
90.00		52.76	66.88	0.00	0.00
95.00		525.48	661.03	0.00	0.00
100.00		516.28	646.98	0.00	0.00
105.00		506.55	632.92	0.00	0.00
110.00		496.33	618.87	0.00	0.00
115.00		485.65	604.81	0.00	0.00
120.00		474.53	590.76	0.00	0.00
123.00	(23) attachments	4320.74	2605.27	0.00	0.00
125.00		183.33	222.13	0.00	0.00
127.92		264.15	319.90	0.00	0.00
130.00		188.17	350.78	0.00	0.00
131.00	(18) attachments	2782.04	1000.62	0.00	0.00
132.08		96.41	170.53	0.00	0.00
135.00		257.04	230.27	0.00	0.00
140.00		431.37	386.40	0.00	0.00
141.00	(24) attachments	4875.26	2516.72	0.00	0.00
145.00		333.47	246.99	0.00	0.00
150.00	(46) attachments	6193.64	3198.79	0.00	-1064.36
	Totals:	32,765.27	33,462.99	0.00	-1,064.36

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

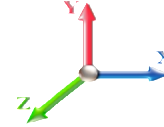


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Load Case: 0.9D + 1.6W 93 mph Wind

Iterations 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	-33.41	-32.82	0.00	-3633.1	0.00	3633.18	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.857
5.00	-32.23	-32.39	0.00	-3469.0	0.00	3469.09	3376.67	1688.33	8351.12	4181.77	0.10	-0.176	0.000	0.839
10.00	-31.07	-31.96	0.00	-3307.1	0.00	3307.16	3351.94	1675.97	8129.40	4070.74	0.38	-0.354	0.000	0.822
15.00	-29.92	-31.54	0.00	-3147.3	0.00	3147.34	3325.63	1662.82	7906.28	3959.02	0.84	-0.533	0.000	0.804
20.00	-28.80	-31.10	0.00	-2989.6	0.00	2989.63	3297.74	1648.87	7681.99	3846.70	1.50	-0.714	0.000	0.786
25.00	-27.69	-30.63	0.00	-2834.1	0.00	2834.16	3268.26	1634.13	7456.75	3733.92	2.35	-0.897	0.000	0.768
30.00	-26.61	-30.15	0.00	-2681.0	0.00	2681.02	3237.20	1618.60	7230.79	3620.77	3.39	-1.081	0.000	0.749
35.00	-25.55	-29.65	0.00	-2530.3	0.00	2530.30	3204.54	1602.27	7004.35	3507.38	4.62	-1.266	0.000	0.730
40.00	-24.54	-29.12	0.00	-2382.0	0.00	2382.05	3170.31	1585.15	6777.64	3393.86	6.04	-1.453	0.000	0.710
41.50	-24.21	-28.98	0.00	-2338.3	0.00	2338.37	3159.73	1579.86	6709.61	3359.79	6.51	-1.510	0.000	0.704
45.00	-22.95	-28.60	0.00	-2236.9	0.00	2236.93	3134.49	1567.24	6550.90	3280.32	7.67	-1.643	0.000	0.690
48.00	-21.89	-28.27	0.00	-2151.1	0.00	2151.12	3132.30	1566.15	6537.37	3273.54	8.74	-1.757	0.000	0.664
50.00	-21.46	-28.08	0.00	-2094.5	0.00	2094.58	3117.49	1558.74	6446.72	3228.15	9.49	-1.834	0.000	0.656
55.00	-20.48	-27.55	0.00	-1954.1	0.00	1954.18	3079.35	1539.68	6220.34	3114.79	11.51	-2.015	0.000	0.634
60.00	-19.52	-27.01	0.00	-1816.4	0.00	1816.45	3039.63	1519.81	5994.49	3001.70	13.72	-2.196	0.000	0.612
65.00	-18.57	-26.47	0.00	-1681.4	0.00	1681.40	2998.32	1499.16	5769.39	2888.98	16.11	-2.376	0.000	0.589
70.00	-17.65	-25.94	0.00	-1549.0	0.00	1549.04	2955.43	1477.72	5545.28	2776.76	18.70	-2.555	0.000	0.564
75.00	-16.75	-25.40	0.00	-1419.3	0.00	1419.36	2910.95	1455.48	5322.38	2665.15	21.47	-2.733	0.000	0.539
80.00	-15.88	-24.86	0.00	-1292.3	0.00	1292.36	2864.89	1432.44	5100.92	2554.25	24.42	-2.908	0.000	0.512
84.08	-15.21	-24.41	0.00	-1190.8	0.00	1190.86	2826.09	1413.05	4921.28	2464.30	26.97	-3.049	0.000	0.489
85.00	-14.93	-24.32	0.00	-1168.4	0.00	1168.48	2817.24	1408.62	4881.12	2444.19	27.56	-3.082	0.000	0.484
89.50	-13.75	-23.80	0.00	-1059.0	0.00	1059.02	2031.94	1015.97	3485.43	1745.31	30.54	-3.234	0.000	0.614
90.00	-13.64	-23.77	0.00	-1047.1	0.00	1047.13	2029.15	1014.57	3470.92	1738.04	30.88	-3.251	0.000	0.610
95.00	-12.93	-23.25	0.00	-928.29	0.00	928.29	2000.34	1000.17	3325.82	1665.38	34.39	-3.446	0.000	0.564
100.00	-12.24	-22.73	0.00	-812.05	0.00	812.05	1969.95	984.97	3180.92	1592.82	38.10	-3.634	0.000	0.517
105.00	-11.58	-22.22	0.00	-698.39	0.00	698.39	1937.97	968.98	3036.44	1520.48	42.00	-3.811	0.000	0.466
110.00	-10.94	-21.71	0.00	-587.29	0.00	587.29	1904.40	952.20	2892.62	1448.46	46.08	-3.976	0.000	0.412
115.00	-10.31	-21.21	0.00	-478.72	0.00	478.72	1869.25	934.63	2749.69	1376.89	50.32	-4.126	0.000	0.354
120.00	-9.72	-20.71	0.00	-372.66	0.00	372.66	1832.52	916.26	2607.87	1305.87	54.72	-4.258	0.000	0.291
123.00	-7.43	-16.22	0.00	-310.53	0.00	310.53	1809.72	904.86	2523.40	1263.58	57.41	-4.329	0.000	0.250
125.00	-7.21	-16.02	0.00	-278.10	0.00	278.10	1794.20	897.10	2467.38	1235.52	59.23	-4.371	0.000	0.229
127.92	-6.90	-15.74	0.00	-231.37	0.00	231.37	1771.11	885.56	2386.14	1194.84	61.92	-4.428	0.000	0.198
130.00	-6.56	-15.53	0.00	-198.57	0.00	198.57	1754.29	877.15	2328.47	1165.96	63.86	-4.464	0.000	0.174
131.00	-5.77	-12.68	0.00	-183.05	0.00	183.05	1746.12	873.06	2300.89	1152.16	64.80	-4.480	0.000	0.162
132.08	-5.61	-12.57	0.00	-169.31	0.00	169.31	1160.48	580.24	1541.12	771.71	65.81	-4.496	0.000	0.225
135.00	-5.39	-12.30	0.00	-132.65	0.00	132.65	1148.82	574.41	1493.54	747.88	68.57	-4.535	0.000	0.183
140.00	-5.03	-11.84	0.00	-71.14	0.00	71.14	1127.58	563.79	1411.91	707.01	73.35	-4.596	0.000	0.106
141.00	-2.91	-6.78	0.00	-59.29	0.00	59.29	1123.15	561.57	1395.60	698.84	74.32	-4.605	0.000	0.088
145.00	-2.69	-6.43	0.00	-32.16	0.00	32.16	1104.76	552.38	1330.41	666.20	78.18	-4.630	0.000	0.051
150.00	0.00	-6.19	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	83.04	-4.642	0.000	0.000

Wind Loading - Shaft

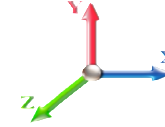
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.656	5.00	27.156	32.59	185.2	643.2	1870.5
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.775	5.00	26.765	32.12	182.6	677.8	1881.7
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.848	5.00	26.337	31.60	179.7	693.2	1873.7
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.902	5.00	25.893	31.07	187.4	700.3	1857.4
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.945	5.00	25.439	30.53	193.0	702.5	1836.2
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.981	5.00	24.979	29.98	196.9	701.5	1811.8
35.00		1.00	1.01	6.169	6.79	0.00	1.200	2.012	5.00	24.515	29.42	199.6	698.2	1785.0
40.00		1.00	1.04	6.345	6.98	0.00	1.200	2.039	5.00	24.049	28.86	201.4	693.2	1756.5
41.50	Bot - Section 2	1.00	1.05	6.394	7.03	0.00	1.200	2.046	1.50	7.121	8.55	60.1	207.4	521.9
45.00		1.00	1.07	6.504	7.15	0.00	1.200	2.063	3.50	16.639	19.97	142.9	486.4	1946.2
48.00	Top - Section 1	1.00	1.08	6.593	7.25	0.00	1.200	2.076	3.00	14.078	16.89	122.5	414.3	1647.3
50.00		1.00	1.09	6.650	7.32	0.00	1.200	2.085	2.00	9.290	11.15	81.6	274.9	683.8
55.00		1.00	1.12	6.785	7.46	0.00	1.200	2.105	5.00	22.900	27.48	205.1	678.9	1684.7
60.00		1.00	1.14	6.910	7.60	0.00	1.200	2.123	5.00	22.426	26.91	204.6	669.7	1652.0
65.00		1.00	1.16	7.028	7.73	0.00	1.200	2.140	5.00	21.950	26.34	203.6	659.8	1618.7
70.00		1.00	1.17	7.138	7.85	0.00	1.200	2.156	5.00	21.474	25.77	202.3	649.3	1584.8
75.00		1.00	1.19	7.243	7.97	0.00	1.200	2.171	5.00	20.997	25.20	200.7	638.3	1550.3
80.00		1.00	1.21	7.342	8.08	0.00	1.200	2.185	5.00	20.519	24.62	198.9	626.7	1515.4
84.08	Bot - Section 3	1.00	1.22	7.419	8.16	0.00	1.200	2.196	4.08	16.402	19.68	160.6	503.9	1212.2
85.00		1.00	1.22	7.436	8.18	0.00	1.200	2.198	0.92	3.676	4.41	36.1	114.0	398.0
89.50	Top - Section 2	1.00	1.24	7.517	8.27	0.00	1.200	2.210	4.50	17.817	21.38	176.8	549.6	1923.3
90.00		1.00	1.24	7.526	8.28	0.00	1.200	2.211	0.50	1.955	2.35	19.4	60.9	128.3
95.00		1.00	1.25	7.612	8.37	0.00	1.200	2.223	5.00	19.294	23.15	193.9	596.7	1260.5
100.00		1.00	1.27	7.695	8.46	0.00	1.200	2.234	5.00	18.814	22.58	191.1	583.8	1228.8
105.00		1.00	1.28	7.774	8.55	0.00	1.200	2.245	5.00	18.334	22.00	188.1	570.5	1196.8
110.00		1.00	1.29	7.851	8.64	0.00	1.200	2.256	5.00	17.853	21.42	185.0	557.0	1164.5
115.00		1.00	1.30	7.925	8.72	0.00	1.200	2.266	5.00	17.372	20.85	181.7	543.1	1132.0
120.00		1.00	1.32	7.996	8.80	0.00	1.200	2.276	5.00	16.891	20.27	178.3	529.1	1099.2
123.00	Appurtenance(s)	1.00	1.32	8.038	8.84	0.00	1.200	2.281	3.00	9.902	11.88	105.1	312.3	645.4
125.00		1.00	1.33	8.065	8.87	0.00	1.200	2.285	2.00	6.505	7.81	69.3	205.9	424.2
127.92	Bot - Section 4	1.00	1.33	8.104	8.91	0.00	1.200	2.290	2.92	9.349	11.22	100.0	295.4	608.4
130.00		1.00	1.34	8.132	8.95	0.00	1.200	2.294	2.08	6.643	7.97	71.3	210.7	597.3
131.00	Appurtenance(s)	1.00	1.34	8.145	8.96	0.00	1.200	2.296	1.00	3.159	3.79	34.0	100.6	284.1
132.08	Top - Section 3	1.00	1.34	8.159	8.98	0.00	1.200	2.298	1.08	3.400	4.08	36.6	108.3	305.6
135.00		1.00	1.35	8.197	9.02	0.00	1.200	2.303	2.92	9.043	10.85	97.8	286.5	512.7
140.00		1.00	1.36	8.260	9.09	0.00	1.200	2.311	5.00	15.121	18.15	164.9	476.2	852.9
141.00	Appurtenance(s)	1.00	1.36	8.272	9.10	0.00	1.200	2.313	1.00	2.966	3.56	32.4	94.7	168.3
145.00		1.00	1.37	8.321	9.15	0.00	1.200	2.319	4.00	11.672	14.01	128.2	369.0	657.9
150.00	Appurtenance(s)	1.00	1.38	8.381	9.22	0.00	1.200	2.327	5.00	14.156	16.99	156.6	446.0	794.6
Totals:								150.00			5,655.3	45,672.9		

Discrete Appurtenance Forces

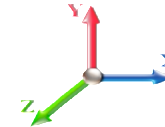
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	150.00	Ericsson RRUS 32	3	8.381	9.219	0.90	0.90	10.09	571.48	0.000	0.000	93.02	0.00	0.00
2	150.00	Kathrein 800 10121	3	8.381	9.219	0.83	0.90	19.86	758.34	0.000	0.000	183.05	0.00	0.00
3	150.00	CCI	6	8.381	9.219	0.63	0.90	8.19	298.60	0.000	0.000	75.48	0.00	0.00
4	150.00	Ericsson RRUS-11-RRUs	3	8.381	9.219	0.90	0.90	9.08	499.57	0.000	0.000	83.74	0.00	0.00
5	150.00	Commscope	3	8.381	9.219	0.90	0.90	0.83	10.78	0.000	0.000	7.63	0.00	0.00
6	150.00	CSS DBC-750-Combiners	3	8.381	9.219	0.90	0.90	3.28	47.25	0.000	0.000	30.26	0.00	0.00
7	150.00	Low Profile Platform	1	8.369	9.206	1.00	1.00	45.55	3245.22	0.000	-1.000	419.31	0.00	-419.31
8	150.00	Ericsson RRUS-32-RRHs	3	8.381	9.219	0.90	0.90	11.87	763.59	0.000	0.000	109.43	0.00	0.00
9	150.00	RRUS 4478 B5	3	8.381	9.219	0.73	0.90	5.62	376.07	0.000	0.000	51.84	0.00	0.00
10	150.00	CCI	6	8.381	9.219	0.68	0.90	4.54	80.05	0.000	0.000	41.89	0.00	0.00
11	150.00	4426 B66	3	8.381	9.219	0.68	0.90	3.66	350.28	0.000	0.000	33.74	0.00	0.00
12	150.00	HPA-65R-BUJ-H6	3	8.381	9.219	0.78	0.90	27.05	1230.74	0.000	0.000	249.40	0.00	0.00
13	150.00	LMU	1	8.381	9.219	0.90	0.90	1.59	113.83	0.000	0.000	14.65	0.00	0.00
14	150.00	Quintel QS66512-3	1	8.381	9.219	0.86	0.90	8.55	446.90	0.000	0.000	78.86	0.00	0.00
15	150.00	CCI	2	8.381	9.219	0.76	0.90	27.83	1203.57	0.000	0.000	256.54	0.00	0.00
16	150.00	Raycap	2	8.392	9.232	0.90	0.90	2.71	215.37	0.000	1.000	24.99	0.00	24.99
17	141.00	RFS DB-T1-6Z-8AB-0Z	1	8.272	9.099	0.79	0.80	4.09	153.16	0.000	0.000	37.20	0.00	0.00
18	141.00	Low Profile Platform	1	8.272	9.099	0.80	0.80	36.32	3234.45	0.000	0.000	330.52	0.00	0.00
19	141.00	RFS DB-T1-6Z-8AB-0Z	1	8.272	9.099	0.79	0.80	4.09	153.16	0.000	0.000	37.20	0.00	0.00
20	141.00	Alcatel Lucent	3	8.272	9.099	0.63	0.80	8.62	502.70	0.000	0.000	78.43	0.00	0.00
21	141.00	Alcatel Lucent	3	8.272	9.099	0.72	0.80	6.61	560.31	0.000	0.000	60.18	0.00	0.00
22	141.00	Antel	3	8.272	9.099	0.71	0.80	19.80	881.58	0.000	0.000	180.15	0.00	0.00
23	141.00	Commscope	6	8.272	9.099	0.75	0.80	43.94	2223.73	0.000	0.000	399.85	0.00	0.00
24	141.00	Antel	3	8.272	9.099	0.83	0.80	14.95	900.92	0.000	0.000	136.03	0.00	0.00
25	141.00	Alcatel Lucent	3	8.272	9.099	0.63	0.80	8.62	502.70	0.000	0.000	78.43	0.00	0.00
26	131.00	RFS ATM1412D-1A20	3	8.145	8.960	0.61	0.80	4.01	128.89	0.000	0.000	35.94	0.00	0.00
27	131.00	Commscope LNX-6515DS	3	8.145	8.960	0.76	0.80	36.14	1495.87	0.000	0.000	323.79	0.00	0.00
28	131.00	RFS	3	8.145	8.960	0.62	0.80	17.35	801.01	0.000	0.000	155.40	0.00	0.00
29	131.00	Kathrein 782 11056	3	8.145	8.960	0.63	0.80	2.77	88.04	0.000	0.000	24.84	0.00	0.00
30	131.00	T-Arms (Site Pro P/N	3	8.145	8.960	0.75	0.75	38.66	-25.17	0.000	0.000	346.39	0.00	0.00
31	131.00	Ericsson KRY 144/1	3	8.145	8.960	0.58	0.80	1.81	72.84	0.000	0.000	16.25	0.00	0.00
32	123.00	ALU - 1900 MHz RRH -	3	8.038	8.842	0.80	0.80	10.47	463.37	0.000	0.000	92.56	0.00	0.00
33	123.00	APXVTM14-C-I20	3	8.038	8.842	0.70	0.80	16.51	866.62	0.000	0.000	145.93	0.00	0.00
34	123.00	APXVSPP18-C-A20	2	8.038	8.842	0.67	0.80	15.54	432.28	0.000	0.000	137.37	0.00	0.00
35	123.00	ALU - TD-RRH8x20-25 -	3	8.038	8.842	0.60	0.80	9.25	713.44	0.000	0.000	81.77	0.00	0.00
36	123.00	Platform w/ HRK Handrail	1	8.038	8.842	1.00	1.00	65.58	3544.98	0.000	0.000	579.82	0.00	0.00
37	123.00	ALU - 800 MHz RRH -	3	8.038	8.842	0.76	0.80	9.09	417.53	0.000	0.000	80.33	0.00	0.00
38	123.00	RFS - ACU-A20-N - RET	4	8.038	8.842	0.66	0.80	1.39	22.06	0.000	0.000	12.25	0.00	0.00
39	123.00	APXVSPP18-C-A20 (50	1	8.038	8.842	0.67	0.80	7.77	172.99	0.000	0.000	68.69	0.00	0.00
40	123.00	ALU - 800 MHz Filter	3	8.038	8.842	0.54	0.80	2.61	85.87	0.000	0.000	23.11	0.00	0.00

Totals: 28,604.98

5,216.27

Total Applied Force Summary

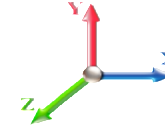
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 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		185.25	2088.10	0.00	0.00
10.00		182.59	2099.27	0.00	0.00
15.00		179.66	2091.33	0.00	0.00
20.00		187.41	2074.98	0.00	0.00
25.00		192.99	2053.77	0.00	0.00
30.00		196.92	2029.35	0.00	0.00
35.00		199.63	2002.62	0.00	0.00
40.00		201.42	1974.14	0.00	0.00
41.50		60.11	587.13	0.00	0.00
45.00		142.86	2098.55	0.00	0.00
48.00		122.52	1777.87	0.00	0.00
50.00		81.55	770.84	0.00	0.00
55.00		205.09	1902.28	0.00	0.00
60.00		204.56	1869.63	0.00	0.00
65.00		203.63	1836.30	0.00	0.00
70.00		202.34	1802.36	0.00	0.00
75.00		200.74	1767.89	0.00	0.00
80.00		198.86	1732.95	0.00	0.00
84.08		160.63	1389.92	0.00	0.00
85.00		36.09	437.89	0.00	0.00
89.50		176.80	2119.16	0.00	0.00
90.00		19.43	150.11	0.00	0.00
95.00		193.87	1478.12	0.00	0.00
100.00		191.10	1446.41	0.00	0.00
105.00		188.15	1414.40	0.00	0.00
110.00		185.02	1382.11	0.00	0.00
115.00		181.73	1349.56	0.00	0.00
120.00		178.28	1316.78	0.00	0.00
123.00	(23) attachments	1326.90	7495.10	0.00	0.00
125.00		69.25	502.10	0.00	0.00
127.92		100.01	721.94	0.00	0.00
130.00		71.31	678.44	0.00	0.00
131.00	(18) attachments	936.57	2884.54	0.00	0.00
132.08		36.62	335.63	0.00	0.00
135.00		97.84	593.49	0.00	0.00
140.00		164.87	991.44	0.00	0.00
141.00	(24) attachments	1370.36	9308.72	0.00	0.00
145.00		128.20	698.30	0.00	0.00
150.00	(46) attachments	1910.44	11056.66	0.00	-394.32
Totals:		10,871.58	80,310.18	0.00	-394.32

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

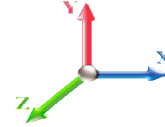


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 23

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	-80.30	-10.91	0.00	-1240.0	0.00	1240.09	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.313
5.00	-78.20	-10.81	0.00	-1185.5	0.00	1185.52	3376.67	1688.33	8351.12	4181.77	0.03	-0.060	0.000	0.307
10.00	-76.09	-10.71	0.00	-1131.4	0.00	1131.47	3351.94	1675.97	8129.40	4070.74	0.13	-0.121	0.000	0.301
15.00	-73.99	-10.60	0.00	-1077.9	0.00	1077.94	3325.63	1662.82	7906.28	3959.02	0.29	-0.182	0.000	0.295
20.00	-71.91	-10.48	0.00	-1024.9	0.00	1024.94	3297.74	1648.87	7681.99	3846.70	0.51	-0.244	0.000	0.288
25.00	-69.84	-10.36	0.00	-972.52	0.00	972.52	3268.26	1634.13	7456.75	3733.92	0.80	-0.307	0.000	0.282
30.00	-67.80	-10.22	0.00	-920.74	0.00	920.74	3237.20	1618.60	7230.79	3620.77	1.16	-0.370	0.000	0.275
35.00	-65.79	-10.08	0.00	-869.62	0.00	869.62	3204.54	1602.27	7004.35	3507.38	1.58	-0.434	0.000	0.269
40.00	-63.81	-9.91	0.00	-819.21	0.00	819.21	3170.31	1585.15	6777.64	3393.86	2.07	-0.498	0.000	0.262
41.50	-63.22	-9.88	0.00	-804.34	0.00	804.34	3159.73	1579.86	6709.61	3359.79	2.23	-0.518	0.000	0.259
45.00	-61.11	-9.77	0.00	-769.75	0.00	769.75	3134.49	1567.24	6550.90	3280.32	2.63	-0.563	0.000	0.254
48.00	-59.33	-9.66	0.00	-740.45	0.00	740.45	3132.30	1566.15	6537.37	3273.54	2.99	-0.603	0.000	0.245
50.00	-58.56	-9.61	0.00	-721.14	0.00	721.14	3117.49	1558.74	6446.72	3228.15	3.25	-0.629	0.000	0.242
55.00	-56.65	-9.45	0.00	-673.06	0.00	673.06	3079.35	1539.68	6220.34	3114.79	3.94	-0.691	0.000	0.235
60.00	-54.77	-9.28	0.00	-625.82	0.00	625.82	3039.63	1519.81	5994.49	3001.70	4.70	-0.754	0.000	0.227
65.00	-52.93	-9.11	0.00	-579.42	0.00	579.42	2998.32	1499.16	5769.39	2888.98	5.52	-0.816	0.000	0.218
70.00	-51.12	-8.94	0.00	-533.87	0.00	533.87	2955.43	1477.72	5545.28	2776.76	6.41	-0.878	0.000	0.210
75.00	-49.34	-8.76	0.00	-489.20	0.00	489.20	2910.95	1455.48	5322.38	2665.15	7.36	-0.939	0.000	0.201
80.00	-47.61	-8.58	0.00	-445.41	0.00	445.41	2864.89	1432.44	5100.92	2554.25	8.38	-0.999	0.000	0.191
84.08	-46.21	-8.41	0.00	-410.39	0.00	410.39	2826.09	1413.05	4921.28	2464.30	9.26	-1.048	0.000	0.183
85.00	-45.77	-8.40	0.00	-402.68	0.00	402.68	2817.24	1408.62	4881.12	2444.19	9.46	-1.059	0.000	0.181
89.50	-43.65	-8.20	0.00	-364.90	0.00	364.90	2031.94	1015.97	3485.43	1745.31	10.48	-1.111	0.000	0.231
90.00	-43.50	-8.21	0.00	-360.80	0.00	360.80	2029.15	1014.57	3470.92	1738.04	10.60	-1.117	0.000	0.229
95.00	-42.01	-8.03	0.00	-319.76	0.00	319.76	2000.34	1000.17	3325.82	1665.38	11.81	-1.185	0.000	0.213
100.00	-40.56	-7.85	0.00	-279.61	0.00	279.61	1969.95	984.97	3180.92	1592.82	13.08	-1.249	0.000	0.196
105.00	-39.15	-7.68	0.00	-240.34	0.00	240.34	1937.97	968.98	3036.44	1520.48	14.42	-1.310	0.000	0.178
110.00	-37.76	-7.49	0.00	-201.96	0.00	201.96	1904.40	952.20	2892.62	1448.46	15.83	-1.367	0.000	0.159
115.00	-36.41	-7.31	0.00	-164.50	0.00	164.50	1869.25	934.63	2749.69	1376.89	17.29	-1.419	0.000	0.139
120.00	-35.09	-7.12	0.00	-127.95	0.00	127.95	1832.52	916.26	2607.87	1305.87	18.80	-1.464	0.000	0.117
123.00	-27.63	-5.61	0.00	-106.59	0.00	106.59	1809.72	904.86	2523.40	1263.58	19.73	-1.488	0.000	0.100
125.00	-27.13	-5.53	0.00	-95.37	0.00	95.37	1794.20	897.10	2467.38	1235.52	20.35	-1.503	0.000	0.092
127.92	-26.41	-5.42	0.00	-79.23	0.00	79.23	1771.11	885.56	2386.14	1194.84	21.28	-1.522	0.000	0.081
130.00	-25.73	-5.34	0.00	-67.93	0.00	67.93	1754.29	877.15	2328.47	1165.96	21.95	-1.534	0.000	0.073
131.00	-22.88	-4.33	0.00	-62.60	0.00	62.60	1746.12	873.06	2300.89	1152.16	22.27	-1.540	0.000	0.067
132.08	-22.54	-4.28	0.00	-57.91	0.00	57.91	1160.48	580.24	1541.12	771.71	22.62	-1.546	0.000	0.095
135.00	-21.95	-4.18	0.00	-45.42	0.00	45.42	1148.82	574.41	1493.54	747.88	23.57	-1.559	0.000	0.080
140.00	-20.96	-3.99	0.00	-24.53	0.00	24.53	1127.58	563.79	1411.91	707.01	25.21	-1.580	0.000	0.053
141.00	-11.69	-2.36	0.00	-20.54	0.00	20.54	1123.15	561.57	1395.60	698.84	25.54	-1.583	0.000	0.040
145.00	-11.00	-2.22	0.00	-11.09	0.00	11.09	1104.76	552.38	1330.41	666.20	26.87	-1.592	0.000	0.027
150.00	0.00	-1.91	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	28.54	-1.596	0.000	0.000

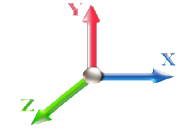
Seismic Segment Forces (Factored)

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E				Iterations 21
Gust Response Factor	1.10	Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	SA 0.04
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1022.7	0.00	0.03	0.02	17.22	
10.00		1003.2	0.01	0.05	0.03	24.89	
15.00		983.74	0.02	0.06	0.04	28.36	
20.00		964.22	0.03	0.07	0.04	29.83	
25.00		944.70	0.05	0.07	0.04	30.39	
30.00		925.18	0.08	0.07	0.04	30.61	
35.00		905.65	0.10	0.07	0.04	30.72	
40.00		886.13	0.13	0.07	0.03	30.75	
41.50	Bot - Section 2	262.03	0.14	0.07	0.03	9.15	
45.00		1216.5	0.17	0.07	0.03	42.89	
48.00	Top - Section 1	1027.5	0.19	0.06	0.02	36.32	
50.00		340.71	0.21	0.06	0.02	12.01	
55.00		838.12	0.25	0.05	0.02	28.61	
60.00		818.60	0.30	0.04	0.01	25.65	
65.00		799.08	0.35	0.03	0.01	20.96	
70.00		779.55	0.41	0.01	0.01	14.36	
75.00		760.03	0.47	-0.01	0.01	6.13	
80.00		740.51	0.54	-0.03	0.01	-2.83	
84.08	Bot - Section 3	590.27	0.59	-0.05	0.01	-7.94	
85.00		236.69	0.61	-0.06	0.02	-3.66	
89.50	Top - Section 2	1144.8	0.67	-0.08	0.02	-27.62	
90.00		56.17	0.68	-0.08	0.03	-1.40	
95.00		553.15	0.76	-0.10	0.04	-16.92	
100.00		537.54	0.84	-0.12	0.07	-16.98	
105.00		521.92	0.93	-0.12	0.10	-14.38	
110.00		506.30	1.02	-0.11	0.14	-9.31	
115.00		490.69	1.11	-0.06	0.19	-2.03	
120.00		475.07	1.21	0.01	0.26	7.22	
123.00	Appurtenance(s)	2785.9	1.27	0.08	0.31	81.51	
125.00		181.91	1.31	0.14	0.35	7.21	
127.92	Bot - Section 4	260.80	1.37	0.24	0.41	14.68	
130.00		322.15	1.42	0.32	0.45	22.32	
131.00	Appurtenance(s)	1079.3	1.44	0.37	0.48	81.84	
132.08	Top - Section 3	164.46	1.47	0.42	0.50	13.68	
135.00		188.51	1.53	0.58	0.58	19.63	
140.00		313.88	1.65	0.93	0.73	45.31	
141.00	Appurtenance(s)	2773.2	1.67	1.01	0.77	424.41	
145.00		240.80	1.77	1.39	0.92	45.75	
150.00	Appurtenance(s)	3512.1	1.89	1.98	1.14	847.24	
Totals:		32,154.2				1,926.6	Total Wind: 32,765.3

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

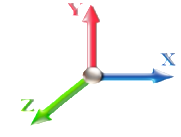
Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E						Iterations 21
Gust Response Factor	1.10			Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	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	-44.62	-2.03	0.00	-257.36	0.00	257.36	3399.80	1699.90	8571.22	4291.98	0.00	0.00	0.00	0.073
5.00	-43.17	-2.03	0.00	-247.19	0.00	247.19	3376.67	1688.33	8351.12	4181.77	0.01	-0.01	0.072	
10.00	-41.75	-2.01	0.00	-237.06	0.00	237.06	3351.94	1675.97	8129.40	4070.74	0.03	-0.03	0.071	
15.00	-40.35	-1.99	0.00	-227.01	0.00	227.01	3325.63	1662.82	7906.28	3959.02	0.06	-0.04	0.069	
20.00	-38.98	-1.97	0.00	-217.06	0.00	217.06	3297.74	1648.87	7681.99	3846.70	0.11	-0.05	0.068	
25.00	-37.62	-1.95	0.00	-207.22	0.00	207.22	3268.26	1634.13	7456.75	3733.92	0.17	-0.06	0.067	
30.00	-36.30	-1.92	0.00	-197.50	0.00	197.50	3237.20	1618.60	7230.79	3620.77	0.24	-0.08	0.066	
35.00	-34.99	-1.90	0.00	-187.89	0.00	187.89	3204.54	1602.27	7004.35	3507.38	0.33	-0.09	0.064	
40.00	-33.71	-1.87	0.00	-178.40	0.00	178.40	3170.31	1585.15	6777.64	3393.86	0.44	-0.11	0.063	
41.50	-33.33	-1.86	0.00	-175.60	0.00	175.60	3159.73	1579.86	6709.61	3359.79	0.47	-0.11	0.063	
45.00	-31.72	-1.82	0.00	-169.07	0.00	169.07	3134.49	1567.24	6550.90	3280.32	0.55	-0.12	0.062	
48.00	-30.35	-1.79	0.00	-163.61	0.00	163.61	3132.30	1566.15	6537.37	3273.54	0.63	-0.13	0.060	
50.00	-29.86	-1.78	0.00	-160.03	0.00	160.03	3117.49	1558.74	6446.72	3228.15	0.69	-0.13	0.059	
55.00	-28.63	-1.75	0.00	-151.13	0.00	151.13	3079.35	1539.68	6220.34	3114.79	0.84	-0.15	0.058	
60.00	-27.43	-1.73	0.00	-142.36	0.00	142.36	3039.63	1519.81	5994.49	3001.70	1.00	-0.16	0.056	
65.00	-26.26	-1.71	0.00	-133.69	0.00	133.69	2998.32	1499.16	5769.39	2888.98	1.18	-0.18	0.055	
70.00	-25.10	-1.70	0.00	-125.12	0.00	125.12	2955.43	1477.72	5545.28	2776.76	1.37	-0.19	0.054	
75.00	-23.97	-1.70	0.00	-116.60	0.00	116.60	2910.95	1455.48	5322.38	2665.15	1.58	-0.21	0.052	
80.00	-22.87	-1.70	0.00	-108.11	0.00	108.11	2864.89	1432.44	5100.92	2554.25	1.80	-0.22	0.050	
84.08	-21.98	-1.70	0.00	-101.16	0.00	101.16	2826.09	1413.05	4921.28	2464.30	1.99	-0.23	0.049	
85.00	-21.66	-1.70	0.00	-99.61	0.00	99.61	2817.24	1408.62	4881.12	2444.19	2.04	-0.23	0.048	
89.50	-20.09	-1.70	0.00	-91.95	0.00	91.95	2031.94	1015.97	3485.43	1745.31	2.27	-0.25	0.063	
90.00	-20.00	-1.70	0.00	-91.10	0.00	91.10	2029.15	1014.57	3470.92	1738.04	2.29	-0.25	0.062	
95.00	-19.12	-1.70	0.00	-82.60	0.00	82.60	2000.34	1000.17	3325.82	1665.38	2.56	-0.27	0.059	
100.00	-18.25	-1.70	0.00	-74.09	0.00	74.09	1969.95	984.97	3180.92	1592.82	2.85	-0.28	0.056	
105.00	-17.41	-1.70	0.00	-65.57	0.00	65.57	1937.97	968.98	3036.44	1520.48	3.16	-0.30	0.052	
110.00	-16.58	-1.70	0.00	-57.05	0.00	57.05	1904.40	952.20	2892.62	1448.46	3.48	-0.32	0.048	
115.00	-15.78	-1.70	0.00	-48.53	0.00	48.53	1869.25	934.63	2749.69	1376.89	3.82	-0.33	0.044	
120.00	-14.99	-1.69	0.00	-40.02	0.00	40.02	1832.52	916.26	2607.87	1305.87	4.17	-0.34	0.039	
123.00	-11.51	-1.59	0.00	-34.93	0.00	34.93	1809.72	904.86	2523.40	1263.58	4.39	-0.35	0.034	
125.00	-11.22	-1.59	0.00	-31.75	0.00	31.75	1794.20	897.10	2467.38	1235.52	4.54	-0.36	0.032	
127.92	-10.79	-1.57	0.00	-27.13	0.00	27.13	1771.11	885.56	2386.14	1194.84	4.76	-0.36	0.029	
130.00	-10.32	-1.54	0.00	-23.86	0.00	23.86	1754.29	877.15	2328.47	1165.96	4.92	-0.37	0.026	
131.00	-8.99	-1.45	0.00	-22.31	0.00	22.31	1746.12	873.06	2300.89	1152.16	4.99	-0.37	0.025	
132.08	-8.76	-1.44	0.00	-20.74	0.00	20.74	1160.48	580.24	1541.12	771.71	5.08	-0.37	0.034	
135.00	-8.46	-1.42	0.00	-16.54	0.00	16.54	1148.82	574.41	1493.54	747.88	5.31	-0.38	0.029	
140.00	-7.94	-1.37	0.00	-9.45	0.00	9.45	1127.58	563.79	1411.91	707.01	5.71	-0.38	0.020	
141.00	-4.59	-0.92	0.00	-8.08	0.00	8.08	1123.15	561.57	1395.60	698.84	5.79	-0.39	0.016	
145.00	-4.26	-0.88	0.00	-4.38	0.00	4.38	1104.76	552.38	1330.41	666.20	6.11	-0.39	0.010	
150.00	0.00	-0.85	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	6.52	-0.39	0.000	

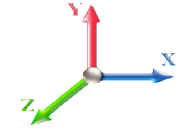
Seismic Segment Forces (Factored)

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E				Iterations 21
Gust Response Factor	1.10	Sds	0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	SA 0.04
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1022.7	0.00	0.03	0.02	17.22	
10.00		1003.2	0.01	0.05	0.03	24.89	
15.00		983.74	0.02	0.06	0.04	28.36	
20.00		964.22	0.03	0.07	0.04	29.83	
25.00		944.70	0.05	0.07	0.04	30.39	
30.00		925.18	0.08	0.07	0.04	30.61	
35.00		905.65	0.10	0.07	0.04	30.72	
40.00		886.13	0.13	0.07	0.03	30.75	
41.50	Bot - Section 2	262.03	0.14	0.07	0.03	9.15	
45.00		1216.5	0.17	0.07	0.03	42.89	
48.00	Top - Section 1	1027.5	0.19	0.06	0.02	36.32	
50.00		340.71	0.21	0.06	0.02	12.01	
55.00		838.12	0.25	0.05	0.02	28.61	
60.00		818.60	0.30	0.04	0.01	25.65	
65.00		799.08	0.35	0.03	0.01	20.96	
70.00		779.55	0.41	0.01	0.01	14.36	
75.00		760.03	0.47	-0.01	0.01	6.13	
80.00		740.51	0.54	-0.03	0.01	-2.83	
84.08	Bot - Section 3	590.27	0.59	-0.05	0.01	-7.94	
85.00		236.69	0.61	-0.06	0.02	-3.66	
89.50	Top - Section 2	1144.8	0.67	-0.08	0.02	-27.62	
90.00		56.17	0.68	-0.08	0.03	-1.40	
95.00		553.15	0.76	-0.10	0.04	-16.92	
100.00		537.54	0.84	-0.12	0.07	-16.98	
105.00		521.92	0.93	-0.12	0.10	-14.38	
110.00		506.30	1.02	-0.11	0.14	-9.31	
115.00		490.69	1.11	-0.06	0.19	-2.03	
120.00		475.07	1.21	0.01	0.26	7.22	
123.00	Appurtenance(s)	2785.9	1.27	0.08	0.31	81.51	
125.00		181.91	1.31	0.14	0.35	7.21	
127.92	Bot - Section 4	260.80	1.37	0.24	0.41	14.68	
130.00		322.15	1.42	0.32	0.45	22.32	
131.00	Appurtenance(s)	1079.3	1.44	0.37	0.48	81.84	
132.08	Top - Section 3	164.46	1.47	0.42	0.50	13.68	
135.00		188.51	1.53	0.58	0.58	19.63	
140.00		313.88	1.65	0.93	0.73	45.31	
141.00	Appurtenance(s)	2773.2	1.67	1.01	0.77	424.41	
145.00		240.80	1.77	1.39	0.92	45.75	
150.00	Appurtenance(s)	3512.1	1.89	1.98	1.14	847.24	
Totals:		32,154.2				1,926.6	Total Wind: 32,765.3

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

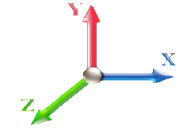
Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E						Iterations 21
Gust Response Factor	1.10		Sds	0.19		Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.39	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	-33.46	-2.03	0.00	-254.81	0.00	254.81	3399.80	1699.90	8571.22	4291.98	0.00	0.00	0.00	0.069
5.00	-32.38	-2.02	0.00	-244.65	0.00	244.65	3376.67	1688.33	8351.12	4181.77	0.01	-0.01	0.068	
10.00	-31.31	-2.00	0.00	-234.54	0.00	234.54	3351.94	1675.97	8129.40	4070.74	0.03	-0.02	0.067	
15.00	-30.26	-1.98	0.00	-224.52	0.00	224.52	3325.63	1662.82	7906.28	3959.02	0.06	-0.04	0.066	
20.00	-29.23	-1.96	0.00	-214.61	0.00	214.61	3297.74	1648.87	7681.99	3846.70	0.11	-0.05	0.065	
25.00	-28.22	-1.93	0.00	-204.82	0.00	204.82	3268.26	1634.13	7456.75	3733.92	0.17	-0.06	0.063	
30.00	-27.22	-1.91	0.00	-195.16	0.00	195.16	3237.20	1618.60	7230.79	3620.77	0.24	-0.08	0.062	
35.00	-26.24	-1.88	0.00	-185.62	0.00	185.62	3204.54	1602.27	7004.35	3507.38	0.33	-0.09	0.061	
40.00	-25.28	-1.85	0.00	-176.21	0.00	176.21	3170.31	1585.15	6777.64	3393.86	0.43	-0.10	0.060	
41.50	-25.00	-1.85	0.00	-173.43	0.00	173.43	3159.73	1579.86	6709.61	3359.79	0.46	-0.11	0.060	
45.00	-23.79	-1.81	0.00	-166.97	0.00	166.97	3134.49	1567.24	6550.90	3280.32	0.55	-0.12	0.058	
48.00	-22.76	-1.77	0.00	-161.55	0.00	161.55	3132.30	1566.15	6537.37	3273.54	0.62	-0.13	0.057	
50.00	-22.39	-1.76	0.00	-158.01	0.00	158.01	3117.49	1558.74	6446.72	3228.15	0.68	-0.13	0.056	
55.00	-21.47	-1.73	0.00	-149.21	0.00	149.21	3079.35	1539.68	6220.34	3114.79	0.83	-0.15	0.055	
60.00	-20.57	-1.71	0.00	-140.53	0.00	140.53	3039.63	1519.81	5994.49	3001.70	0.99	-0.16	0.054	
65.00	-19.69	-1.69	0.00	-131.97	0.00	131.97	2998.32	1499.16	5769.39	2888.98	1.16	-0.17	0.052	
70.00	-18.83	-1.68	0.00	-123.51	0.00	123.51	2955.43	1477.72	5545.28	2776.76	1.35	-0.19	0.051	
75.00	-17.98	-1.68	0.00	-115.11	0.00	115.11	2910.95	1455.48	5322.38	2665.15	1.56	-0.20	0.049	
80.00	-17.15	-1.68	0.00	-106.72	0.00	106.72	2864.89	1432.44	5100.92	2554.25	1.78	-0.22	0.048	
84.08	-16.48	-1.68	0.00	-99.88	0.00	99.88	2826.09	1413.05	4921.28	2464.30	1.97	-0.23	0.046	
85.00	-16.24	-1.68	0.00	-98.34	0.00	98.34	2817.24	1408.62	4881.12	2444.19	2.01	-0.23	0.046	
89.50	-15.06	-1.67	0.00	-90.79	0.00	90.79	2031.94	1015.97	3485.43	1745.31	2.24	-0.24	0.059	
90.00	-15.00	-1.68	0.00	-89.95	0.00	89.95	2029.15	1014.57	3470.92	1738.04	2.26	-0.25	0.059	
95.00	-14.33	-1.68	0.00	-81.57	0.00	81.57	2000.34	1000.17	3325.82	1665.38	2.53	-0.26	0.056	
100.00	-13.69	-1.68	0.00	-73.18	0.00	73.18	1969.95	984.97	3180.92	1592.82	2.82	-0.28	0.053	
105.00	-13.05	-1.68	0.00	-64.78	0.00	64.78	1937.97	968.98	3036.44	1520.48	3.12	-0.30	0.049	
110.00	-12.43	-1.68	0.00	-56.38	0.00	56.38	1904.40	952.20	2892.62	1448.46	3.44	-0.31	0.045	
115.00	-11.83	-1.68	0.00	-47.98	0.00	47.98	1869.25	934.63	2749.69	1376.89	3.77	-0.33	0.041	
120.00	-11.24	-1.67	0.00	-39.59	0.00	39.59	1832.52	916.26	2607.87	1305.87	4.12	-0.34	0.036	
123.00	-8.63	-1.57	0.00	-34.57	0.00	34.57	1809.72	904.86	2523.40	1263.58	4.34	-0.35	0.032	
125.00	-8.41	-1.57	0.00	-31.43	0.00	31.43	1794.20	897.10	2467.38	1235.52	4.48	-0.35	0.030	
127.92	-8.09	-1.55	0.00	-26.86	0.00	26.86	1771.11	885.56	2386.14	1194.84	4.70	-0.36	0.027	
130.00	-7.74	-1.53	0.00	-23.63	0.00	23.63	1754.29	877.15	2328.47	1165.96	4.86	-0.36	0.025	
131.00	-6.74	-1.44	0.00	-22.10	0.00	22.10	1746.12	873.06	2300.89	1152.16	4.93	-0.36	0.023	
132.08	-6.57	-1.42	0.00	-20.54	0.00	20.54	1160.48	580.24	1541.12	771.71	5.02	-0.37	0.032	
135.00	-6.34	-1.40	0.00	-16.38	0.00	16.38	1148.82	574.41	1493.54	747.88	5.24	-0.37	0.027	
140.00	-5.95	-1.36	0.00	-9.36	0.00	9.36	1127.58	563.79	1411.91	707.01	5.64	-0.38	0.019	
141.00	-3.44	-0.92	0.00	-8.01	0.00	8.01	1123.15	561.57	1395.60	698.84	5.72	-0.38	0.015	
145.00	-3.19	-0.87	0.00	-4.34	0.00	4.34	1104.76	552.38	1330.41	666.20	6.04	-0.38	0.009	
150.00	0.00	-0.85	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	6.44	-0.39	0.000	

Wind Loading - Shaft

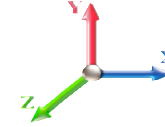
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	287.87	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	282.46	0.650	0.000	5.00	25.776	16.75	137.2	0.0	1022.8
10.00		1.00	0.85	7.442	8.19	277.04	0.650	0.000	5.00	25.286	16.44	134.5	0.0	1003.3
15.00		1.00	0.85	7.442	8.19	271.63	0.650	0.000	5.00	24.797	16.12	131.9	0.0	983.7
20.00		1.00	0.90	7.896	8.69	274.22	0.650	0.000	5.00	24.307	15.80	137.2	0.0	964.2
25.00		1.00	0.95	8.276	9.10	275.03	0.650	0.000	5.00	23.818	15.48	140.9	0.0	944.7
30.00		1.00	0.98	8.600	9.46	274.54	0.650	0.000	5.00	23.328	15.16	143.4	0.0	925.2
35.00		1.00	1.01	8.883	9.77	273.11	0.650	0.000	5.00	22.839	14.85	145.1	0.0	905.7
40.00		1.00	1.04	9.137	10.05	270.98	0.650	0.000	5.00	22.350	14.53	146.0	0.0	886.1
41.50	Bot - Section 2	1.00	1.05	9.208	10.13	270.22	0.650	0.000	1.50	6.609	4.30	43.5	0.0	262.0
45.00		1.00	1.07	9.366	10.30	268.28	0.650	0.000	3.50	15.436	10.03	103.4	0.0	1216.5
48.00	Top - Section 1	1.00	1.08	9.494	10.44	266.44	0.650	0.000	3.00	13.040	8.48	88.5	0.0	1027.5
50.00		1.00	1.09	9.576	10.53	268.45	0.650	0.000	2.00	8.595	5.59	58.9	0.0	340.7
55.00		1.00	1.12	9.770	10.75	264.95	0.650	0.000	5.00	21.146	13.74	147.7	0.0	838.1
60.00		1.00	1.14	9.951	10.95	261.13	0.650	0.000	5.00	20.656	13.43	147.0	0.0	818.6
65.00		1.00	1.16	10.120	11.13	257.02	0.650	0.000	5.00	20.167	13.11	145.9	0.0	799.1
70.00		1.00	1.17	10.279	11.31	252.67	0.650	0.000	5.00	19.677	12.79	144.6	0.0	779.6
75.00		1.00	1.19	10.430	11.47	248.10	0.650	0.000	5.00	19.188	12.47	143.1	0.0	760.0
80.00		1.00	1.21	10.572	11.63	243.34	0.650	0.000	5.00	18.698	12.15	141.3	0.0	740.5
84.08	Bot - Section 3	1.00	1.22	10.684	11.75	239.32	0.650	0.000	4.08	14.907	9.69	113.9	0.0	590.3
85.00		1.00	1.22	10.708	11.78	238.40	0.650	0.000	0.92	3.340	2.17	25.6	0.0	236.7
89.50	Top - Section 2	1.00	1.24	10.825	11.91	233.82	0.650	0.000	4.50	16.160	10.50	125.1	0.0	1144.8
90.00		1.00	1.24	10.838	11.92	236.13	0.650	0.000	0.50	1.771	1.15	13.7	0.0	56.2
95.00		1.00	1.25	10.962	12.06	230.91	0.650	0.000	5.00	17.442	11.34	136.7	0.0	553.2
100.00		1.00	1.27	11.081	12.19	225.55	0.650	0.000	5.00	16.952	11.02	134.3	0.0	537.5
105.00		1.00	1.28	11.195	12.31	220.07	0.650	0.000	5.00	16.463	10.70	131.8	0.0	521.9
110.00		1.00	1.29	11.305	12.44	214.48	0.650	0.000	5.00	15.973	10.38	129.1	0.0	506.3
115.00		1.00	1.30	11.412	12.55	208.78	0.650	0.000	5.00	15.484	10.06	126.3	0.0	490.7
120.00		1.00	1.32	11.514	12.67	202.98	0.650	0.000	5.00	14.995	9.75	123.4	0.0	475.1
123.00	Appurtenance(s)	1.00	1.32	11.574	12.73	199.46	0.650	0.000	3.00	8.762	5.70	72.5	0.0	277.5
125.00		1.00	1.33	11.614	12.78	197.09	0.650	0.000	2.00	5.743	3.73	47.7	0.0	181.9
127.92	Bot - Section 4	1.00	1.33	11.670	12.84	193.61	0.650	0.000	2.92	8.235	5.35	68.7	0.0	260.8
130.00		1.00	1.34	11.710	12.88	191.11	0.650	0.000	2.08	5.846	3.80	49.0	0.0	322.2
131.00	Appurtenance(s)	1.00	1.34	11.729	12.90	189.91	0.650	0.000	1.00	2.776	1.80	23.3	0.0	152.9
132.08	Top - Section 3	1.00	1.34	11.749	12.92	188.60	0.650	0.000	1.08	2.985	1.94	25.1	0.0	164.5
135.00		1.00	1.35	11.803	12.98	187.27	0.650	0.000	2.92	7.923	5.15	66.9	0.0	188.5
140.00		1.00	1.36	11.894	13.08	181.14	0.650	0.000	5.00	13.195	8.58	112.2	0.0	313.9
141.00	Appurtenance(s)	1.00	1.36	11.912	13.10	179.90	0.650	0.000	1.00	2.580	1.68	22.0	0.0	61.4
145.00		1.00	1.37	11.982	13.18	174.94	0.650	0.000	4.00	10.126	6.58	86.8	0.0	240.8
150.00	Appurtenance(s)	1.00	1.38	12.068	13.27	168.67	0.650	0.000	5.00	12.217	7.94	105.4	0.0	290.5
Totals:												150.00	4,019.6	22,785.8

Discrete Appurtenance Forces

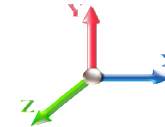
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	150.00	Ericsson RRUS 32	3	12.068	13.275	0.60	0.90	4.96	159.00	0.000	0.000	65.80	0.00	0.00
2	150.00	Kathrein 800 10121	3	12.068	13.275	0.81	0.90	12.57	187.20	0.000	0.000	166.87	0.00	0.00
3	150.00	CCI	6	12.068	13.275	0.60	0.90	4.12	115.20	0.000	0.000	54.75	0.00	0.00
4	150.00	Ericsson RRUS-11-RRUs	3	12.068	13.275	0.60	0.90	4.56	165.00	0.000	0.000	60.52	0.00	0.00
5	150.00	Commscope	3	12.068	13.275	0.60	0.90	0.09	3.30	0.000	0.000	1.20	0.00	0.00
6	150.00	CSS DBC-750-Combiners	3	12.068	13.275	0.60	0.90	0.92	14.40	0.000	0.000	12.25	0.00	0.00
7	150.00	Low Profile Platform	1	12.051	13.256	1.00	1.00	22.00	1500.00	0.000	-1.000	291.64	0.00	-291.64
8	150.00	Ericsson RRUS-32-RRHs	3	12.068	13.275	0.60	0.90	7.00	231.00	0.000	0.000	92.94	0.00	0.00
9	150.00	RRUS 4478 B5	3	12.068	13.275	0.71	0.90	3.92	179.70	0.000	0.000	52.10	0.00	0.00
10	150.00	CCI	6	12.068	13.275	0.60	0.90	1.56	19.80	0.000	0.000	20.65	0.00	0.00
11	150.00	4426 B66	3	12.068	13.275	0.66	0.90	2.27	145.50	0.000	0.000	30.09	0.00	0.00
12	150.00	HPA-65R-BUJ-H6	3	12.068	13.275	0.77	0.90	22.17	153.00	0.000	0.000	294.30	0.00	0.00
13	150.00	LMU	1	12.068	13.275	0.60	0.90	0.53	28.00	0.000	0.000	7.04	0.00	0.00
14	150.00	Quintel QS66512-3	1	12.068	13.275	0.81	0.90	6.59	105.00	0.000	0.000	87.42	0.00	0.00
15	150.00	CCI	2	12.068	13.275	0.71	0.90	19.10	150.00	0.000	0.000	253.52	0.00	0.00
16	150.00	Raycap	2	12.085	13.294	0.60	0.90	1.11	65.60	0.000	1.000	14.75	0.00	14.75
17	141.00	RFS DB-T1-6Z-8AB-0Z	1	11.912	13.103	0.77	0.80	3.15	21.40	0.000	0.000	41.26	0.00	0.00
18	141.00	Low Profile Platform	1	11.912	13.103	0.80	0.80	17.60	1500.00	0.000	0.000	230.62	0.00	0.00
19	141.00	RFS DB-T1-6Z-8AB-0Z	1	11.912	13.103	0.77	0.80	3.15	21.40	0.000	0.000	41.26	0.00	0.00
20	141.00	Alcatel Lucent	3	11.912	13.103	0.40	0.80	4.20	180.00	0.000	0.000	55.03	0.00	0.00
21	141.00	Alcatel Lucent	3	11.912	13.103	0.72	0.80	3.26	165.00	0.000	0.000	42.74	0.00	0.00
22	141.00	Antel	3	11.912	13.103	0.69	0.80	15.62	117.00	0.000	0.000	204.73	0.00	0.00
23	141.00	Commscope	6	11.912	13.103	0.73	0.80	35.22	436.20	0.000	0.000	461.44	0.00	0.00
24	141.00	Antel	3	11.912	13.103	0.82	0.80	8.71	90.90	0.000	0.000	114.19	0.00	0.00
25	141.00	Alcatel Lucent	3	11.912	13.103	0.40	0.80	4.20	180.00	0.000	0.000	55.03	0.00	0.00
26	131.00	RFS ATM1412D-1A20	3	11.729	12.902	0.58	0.80	2.05	39.00	0.000	0.000	26.45	0.00	0.00
27	131.00	Commscope LNX-6515DS	3	11.729	12.902	0.74	0.80	25.30	237.30	0.000	0.000	326.39	0.00	0.00
28	131.00	RFS	3	11.729	12.902	0.60	0.80	11.55	188.10	0.000	0.000	149.02	0.00	0.00
29	131.00	Kathrein 782 11056	3	11.729	12.902	0.61	0.80	1.20	33.00	0.000	0.000	15.53	0.00	0.00
30	131.00	T-Arms (Site Pro P/N	3	11.729	12.902	0.56	0.75	13.50	396.00	0.000	0.000	174.17	0.00	0.00
31	131.00	Ericsson KRY 144/1	3	11.729	12.902	0.56	0.80	0.69	33.00	0.000	0.000	8.89	0.00	0.00
32	123.00	ALU - 1900 MHz RRH -	3	11.574	12.732	0.78	0.80	6.37	180.00	0.000	0.000	81.15	0.00	0.00
33	123.00	APXVTM14-C-I20	3	11.574	12.732	0.68	0.80	12.96	165.00	0.000	0.000	165.06	0.00	0.00
34	123.00	APXVSP18-C-A20	2	11.574	12.732	0.72	0.80	11.63	114.00	0.000	0.000	148.02	0.00	0.00
35	123.00	ALU - TD-RRH8x20-25 -	3	11.574	12.732	0.55	0.80	6.71	210.00	0.000	0.000	85.39	0.00	0.00
36	123.00	Platform w/ HRK Handrail	1	11.574	12.732	1.00	1.00	32.00	1600.00	0.000	0.000	407.42	0.00	0.00
37	123.00	ALU - 800 MHz RRH -	3	11.574	12.732	0.74	0.80	5.50	159.00	0.000	0.000	70.00	0.00	0.00
38	123.00	RFS - ACU-A20-N - RET	4	11.574	12.732	0.63	0.80	0.35	4.00	0.000	0.000	4.51	0.00	0.00
39	123.00	APXVSP18-C-A20 (50	1	11.574	12.732	0.72	0.80	5.81	50.00	0.000	0.000	74.01	0.00	0.00
40	123.00	ALU - 800 MHz Filter	3	11.574	12.732	0.54	0.80	1.25	26.40	0.000	0.000	15.97	0.00	0.00

Totals: 9,368.40

4,504.10

Total Applied Force Summary

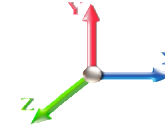
Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		137.15	1204.11	0.00	0.00
10.00		134.55	1184.59	0.00	0.00
15.00		131.94	1165.07	0.00	0.00
20.00		137.23	1145.55	0.00	0.00
25.00		140.94	1126.03	0.00	0.00
30.00		143.44	1106.51	0.00	0.00
35.00		145.07	1086.98	0.00	0.00
40.00		146.00	1067.46	0.00	0.00
41.50		43.51	316.43	0.00	0.00
45.00		103.37	1343.47	0.00	0.00
48.00		88.52	1136.32	0.00	0.00
50.00		58.85	413.24	0.00	0.00
55.00		147.72	1019.45	0.00	0.00
60.00		146.97	999.93	0.00	0.00
65.00		145.92	980.41	0.00	0.00
70.00		144.62	960.88	0.00	0.00
75.00		143.09	941.36	0.00	0.00
80.00		141.34	921.84	0.00	0.00
84.08		113.87	738.36	0.00	0.00
85.00		25.58	269.93	0.00	0.00
89.50		125.08	1307.99	0.00	0.00
90.00		13.72	74.31	0.00	0.00
95.00		136.70	734.48	0.00	0.00
100.00		134.31	718.87	0.00	0.00
105.00		131.78	703.25	0.00	0.00
110.00		129.12	687.63	0.00	0.00
115.00		126.34	672.02	0.00	0.00
120.00		123.45	656.40	0.00	0.00
123.00	(23) attachments	1124.02	2894.74	0.00	0.00
125.00		47.69	246.81	0.00	0.00
127.92		68.72	355.45	0.00	0.00
130.00		48.95	389.76	0.00	0.00
131.00	(18) attachments	723.74	1111.80	0.00	0.00
132.08		25.08	189.48	0.00	0.00
135.00		66.87	255.85	0.00	0.00
140.00		112.22	429.33	0.00	0.00
141.00	(24) attachments	1268.28	2796.36	0.00	0.00
145.00		86.75	274.44	0.00	0.00
150.00	(46) attachments	1611.25	3554.21	0.00	-276.89
	Totals:	8,523.74	37,181.09	0.00	-276.89

Calculated Forces

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

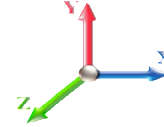


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 22

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	-37.18	-8.54	0.00	-948.97	0.00	948.97	3399.80	1699.90	8571.22	4291.98	0.00	0.000	0.000	0.232
5.00	-35.97	-8.43	0.00	-906.28	0.00	906.28	3376.67	1688.33	8351.12	4181.77	0.02	-0.046	0.000	0.227
10.00	-34.78	-8.32	0.00	-864.13	0.00	864.13	3351.94	1675.97	8129.40	4070.74	0.10	-0.092	0.000	0.223
15.00	-33.60	-8.22	0.00	-822.52	0.00	822.52	3325.63	1662.82	7906.28	3959.02	0.22	-0.139	0.000	0.218
20.00	-32.45	-8.10	0.00	-781.44	0.00	781.44	3297.74	1648.87	7681.99	3846.70	0.39	-0.187	0.000	0.213
25.00	-31.32	-7.98	0.00	-740.93	0.00	740.93	3268.26	1634.13	7456.75	3733.92	0.61	-0.234	0.000	0.208
30.00	-30.21	-7.86	0.00	-701.02	0.00	701.02	3237.20	1618.60	7230.79	3620.77	0.88	-0.283	0.000	0.203
35.00	-29.11	-7.73	0.00	-661.72	0.00	661.72	3204.54	1602.27	7004.35	3507.38	1.21	-0.331	0.000	0.198
40.00	-28.04	-7.60	0.00	-623.05	0.00	623.05	3170.31	1585.15	6777.64	3393.86	1.58	-0.380	0.000	0.192
41.50	-27.72	-7.56	0.00	-611.65	0.00	611.65	3159.73	1579.86	6709.61	3359.79	1.70	-0.395	0.000	0.191
45.00	-26.38	-7.47	0.00	-585.18	0.00	585.18	3134.49	1567.24	6550.90	3280.32	2.00	-0.429	0.000	0.187
48.00	-25.24	-7.38	0.00	-562.79	0.00	562.79	3132.30	1566.15	6537.37	3273.54	2.28	-0.459	0.000	0.180
50.00	-24.82	-7.33	0.00	-548.03	0.00	548.03	3117.49	1558.74	6446.72	3228.15	2.48	-0.479	0.000	0.178
55.00	-23.80	-7.19	0.00	-511.38	0.00	511.38	3079.35	1539.68	6220.34	3114.79	3.01	-0.527	0.000	0.172
60.00	-22.79	-7.06	0.00	-475.41	0.00	475.41	3039.63	1519.81	5994.49	3001.70	3.59	-0.574	0.000	0.166
65.00	-21.81	-6.92	0.00	-440.13	0.00	440.13	2998.32	1499.16	5769.39	2888.98	4.21	-0.621	0.000	0.160
70.00	-20.84	-6.78	0.00	-405.54	0.00	405.54	2955.43	1477.72	5545.28	2776.76	4.89	-0.668	0.000	0.153
75.00	-19.90	-6.64	0.00	-371.64	0.00	371.64	2910.95	1455.48	5322.38	2665.15	5.61	-0.715	0.000	0.146
80.00	-18.97	-6.50	0.00	-338.43	0.00	338.43	2864.89	1432.44	5100.92	2554.25	6.39	-0.761	0.000	0.139
84.08	-18.24	-6.39	0.00	-311.88	0.00	311.88	2826.09	1413.05	4921.28	2464.30	7.05	-0.798	0.000	0.133
85.00	-17.96	-6.36	0.00	-306.03	0.00	306.03	2817.24	1408.62	4881.12	2444.19	7.21	-0.806	0.000	0.132
89.50	-16.65	-6.23	0.00	-277.39	0.00	277.39	2031.94	1015.97	3485.43	1745.31	7.99	-0.846	0.000	0.167
90.00	-16.58	-6.22	0.00	-274.28	0.00	274.28	2029.15	1014.57	3470.92	1738.04	8.08	-0.850	0.000	0.166
95.00	-15.84	-6.09	0.00	-243.19	0.00	243.19	2000.34	1000.17	3325.82	1665.38	8.99	-0.902	0.000	0.154
100.00	-15.12	-5.95	0.00	-212.76	0.00	212.76	1969.95	984.97	3180.92	1592.82	9.97	-0.951	0.000	0.141
105.00	-14.41	-5.82	0.00	-183.00	0.00	183.00	1937.97	968.98	3036.44	1520.48	10.99	-0.997	0.000	0.128
110.00	-13.72	-5.69	0.00	-153.90	0.00	153.90	1904.40	952.20	2892.62	1448.46	12.06	-1.040	0.000	0.113
115.00	-13.05	-5.56	0.00	-125.46	0.00	125.46	1869.25	934.63	2749.69	1376.89	13.17	-1.080	0.000	0.098
120.00	-12.39	-5.43	0.00	-97.67	0.00	97.67	1832.52	916.26	2607.87	1305.87	14.32	-1.114	0.000	0.082
123.00	-9.52	-4.25	0.00	-81.39	0.00	81.39	1809.72	904.86	2523.40	1263.58	15.02	-1.133	0.000	0.070
125.00	-9.27	-4.20	0.00	-72.89	0.00	72.89	1794.20	897.10	2467.38	1235.52	15.50	-1.144	0.000	0.064
127.92	-8.92	-4.12	0.00	-60.65	0.00	60.65	1771.11	885.56	2386.14	1194.84	16.20	-1.159	0.000	0.056
130.00	-8.53	-4.07	0.00	-52.05	0.00	52.05	1754.29	877.15	2328.47	1165.96	16.71	-1.168	0.000	0.050
131.00	-7.43	-3.32	0.00	-47.99	0.00	47.99	1746.12	873.06	2300.89	1152.16	16.96	-1.172	0.000	0.046
132.08	-7.24	-3.30	0.00	-44.38	0.00	44.38	1160.48	580.24	1541.12	771.71	17.22	-1.177	0.000	0.064
135.00	-6.99	-3.22	0.00	-34.77	0.00	34.77	1148.82	574.41	1493.54	747.88	17.95	-1.187	0.000	0.053
140.00	-6.56	-3.10	0.00	-18.65	0.00	18.65	1127.58	563.79	1411.91	707.01	19.20	-1.203	0.000	0.032
141.00	-3.79	-1.78	0.00	-15.54	0.00	15.54	1123.15	561.57	1395.60	698.84	19.45	-1.205	0.000	0.026
145.00	-3.52	-1.69	0.00	-8.43	0.00	8.43	1104.76	552.38	1330.41	666.20	20.46	-1.212	0.000	0.016
150.00	0.00	-1.61	0.00	0.00	0.00	0.00	1080.36	540.18	1249.27	625.56	21.74	-1.215	0.000	0.000

Final Analysis Summary

Structure: CT10022-A-SBA	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 93 mph Wind	32.8	0.00	44.56	0.00	0.00	3666.77
0.9D + 1.6W 93 mph Wind	32.8	0.00	33.41	0.00	0.00	3633.18
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.9	0.00	80.30	0.00	0.00	1240.09
1.2D + 1.0E	2.0	0.00	44.62	0.00	0.00	257.36
0.9D + 1.0E	2.0	0.00	33.46	0.00	0.00	254.81
1.0D + 1.0W 60 mph Wind	8.5	0.00	37.18	0.00	0.00	948.97

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 93 mph Wind	-44.56	-32.84	0.00	-3666.7	0.00	-3666.7	3399.80	1699.9	8571.22	4291.98	0.00	0.868
0.9D + 1.6W 93 mph Wind	-33.41	-32.82	0.00	-3633.1	0.00	-3633.1	3399.80	1699.9	8571.22	4291.98	0.00	0.857
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-80.30	-10.91	0.00	-1240.0	0.00	-1240.0	3399.80	1699.9	8571.22	4291.98	0.00	0.313
1.2D + 1.0E	-44.62	-2.03	0.00	-257.36	0.00	-257.36	3399.80	1699.9	8571.22	4291.98	0.00	0.073
0.9D + 1.0E	-33.46	-2.03	0.00	-254.81	0.00	-254.81	3399.80	1699.9	8571.22	4291.98	0.00	0.069
1.0D + 1.0W 60 mph Wind	-37.18	-8.54	0.00	-948.97	0.00	-948.97	3399.80	1699.9	8571.22	4291.98	0.00	0.232

Base Plate Summary

Structure: CT10022-A-SB	Code: EIA/TIA-222-G	11/27/2018
Site Name: Simsbury 2, CT	Exposure: C	
Height: 150.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 30



Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 67.63
Moment (kip-ft): 3324.00	Width (in): 73.50	Number Bolts: 14.00
Axial (kip): 65.60	Style: Round	Bolt Type: 2.25" 18J
Shear (kip): 26.40	Polygon Sides: 0.00	Bolt Diameter (in): 2.25
Analysis	Clip Length (in): 0.00	Yield (ksi): 75.00
Moment (kip-ft): 3666.77	Effective Len (in): 16.10	Ultimate (ksi): 100.00
Axial (kip): 80.30	Moment (kip-in): 587.34	Arrangement: Radial
Shear (kip): 32.84	Allow Stress (ksi): 67.50	Cluster Dist (in): 0.00
	Applied Stress (ksi): 0.00	Start Angle (deg): 0.00
Moment Design %: 110.31	Stress Ratio: 0.81	Compression
		Force (kip): 191.63
		Allowable (kip): 260.00
		Ratio: 0.76
		Tension
		Force (kip): 180.15
		Allowable (kip): 260.00
		Ratio: 0.71



Monopole Mat Foundation Design

Date

11/27/2018

Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	150
Site Number:	CT10022-A-SBA	Engineer Name:	J. Chen
Engr. Number:	65387	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Factored):

Axial Load (Kips):	44.6	Shear Force (Kips):	32.8
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3666.8

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.5	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	23.5	Width of Pad (ft.):	23.5
Final Length of pad (ft)	23.5	Final width of pad (ft):	23.5
Control Value for Cell D18:	0	Control Value for Cell F18:	0

Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	34	Tie Spacing (in):	3.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	24	Qty. of Rebar in Pad (W):	24	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	24	Qty. of Rebar in Pad (W):	24	

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

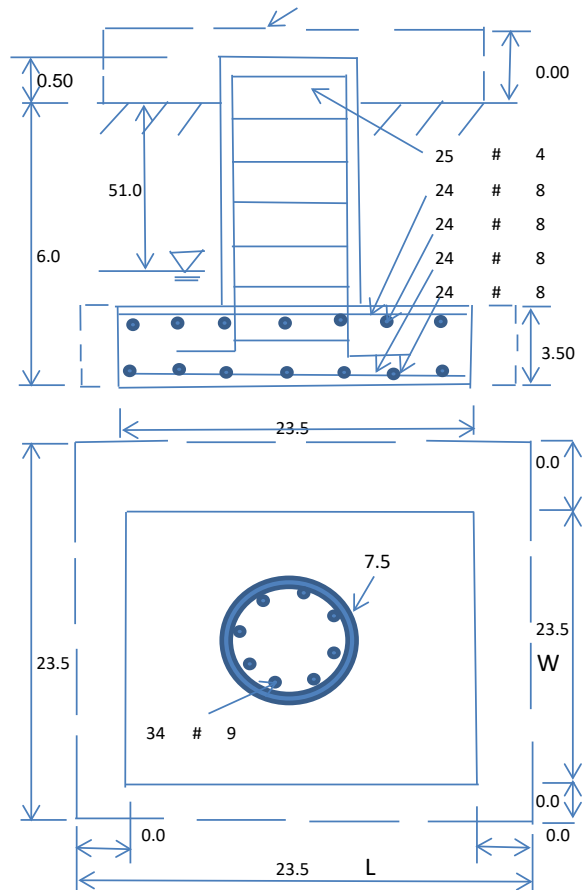
Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	60.0	Pcf
Water Table B.G.S. (ft):	51.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	14000	Ultimate Skin Friction:	0	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for 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.):	1270.18	Total Dry Soil Weight (Kips):	158.77
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	158.77	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2065.41	Total Dry Concrete Weight (Kips):	309.81
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	309.81	Total Vertical Load on Base (Kips):	513.14

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	3346	<	Allowable Factored Soil Bearing (psf):	10500	0.32	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5478.9	>	Design Factored Momont (kips-ft):	3880	0.71	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.41					OK!



Check the capacities of Reinforcing Concrete:

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

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

Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	6126.5	> Design Factored Moment (Mu, Kips-Ft)	3765.2	0.61	OK!
Calculated Shear Capacity (Kips):	1098.7	> Design Factored Shear (Kips):	32.8	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	1836.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	8390.6	> Design Factored Axial Load (Pu Kips):	44.6	0.01	OK!
Moment & Axial Strength Combination:	0.61	OK! Check Tie Spacing (Design/Required):		0.25	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	892.0	> One-Way Factored Shear (L-D. Kips):	209.9	0.24	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	892.0	> One-Way Factored Shear (W-D., Kips)	209.9	0.24	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	733.2	> One-Way Factored Shear (C-C, Kips):	205.4	0.28	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0017	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0017		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3217.3	> Moment at Bottom (L-Dir. K-Ft):	1125.4	0.35	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3217.3	> Moment at Bottom (W-Dir. K-Ft):	1125.4	0.35	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4522.2	> Moment at Bottom (C-C Dir. K-Ft):	1591.5	0.35	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0017	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0017		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	3217.3	> Moment at the top (L-Dir K-Ft):	535.2	0.17	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	3217.3	> Moment at the top (W-Dir K-Ft):	535.2	0.17	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4522.2	> Moment at the top (C-C Dir. K-Ft):	505.4	0.11	OK!

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

Moment transferred by punching shear:	1466.7	k-ft.	Max. factored shear stress $v_{u,CD}$:	3.0	Psi
Max. factored shear stress $v_{u,AB}$:	7.5	Psi	Factored shear Strength ϕv_n :	164.3	Psi
Max. factored shear stress v_u :	7.5	Psi	Check Usage of Punching Shear Capacity:	0.05	OK!

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 2017.

SIMSBURY

CONNECTICUT



Information on the Property Records for the Municipality of Simsbury was last updated on 12/13/2018.

Parcel Information

Location:	225 GRIST MILL ROAD	Property Use:	Vacant Land	Primary Use:	Commercial Vacant Land
Unique ID:	30569027	Map Block Lot:	F11 103 005	Acres:	0.23
490 Acres:	0.00	Zone:	I-2	Volume / Page:	0294/0600
Developers Map / Lot:		Census:			

Value Information

	Appraised Value	Assessed Value
Land	490,188	343,130
Buildings	0	0
Detached Outbuildings	120,000	84,000
Total	610,188	427,130

Owner's Information

Owner's Data

ENSIGN-BICKFORD REALTY CORPORATION
P O BOX 711
SIMSBURY, CT 06070

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Cell Tower Tower	0000			1

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
ENSIGN-BICKFORD REALTY CORPORATION	0294	0600	11/25/1985		No	\$0

Information Published With Permission From The Assessor



Property Information

Owner	ENSIGN-BICKFORD REALTY CORPORATION
Address	225 GRIST MILL ROAD
Mailing Address	P O BOX 711 SIMSBURY , CT 06070
Land Use	- Commercial Vacant Land
Land Class	Commercial

Census Tract	
Neighborhood	0239
Zoning	I-2
Acreage	0.23
Utilities	
Lot Setting/ Desc	/

Photo



PARCEL VALUATIONS (Assessed value = 70% of Appraised Value)

	Appraised	Assessed
Buildings		
Outbuildings		
Improvements		
Extras		
Land		
Total	610188	427130
Previous		

Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Total Rooms	
Bedrooms	
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

EXTERIOR WALLS:

Primary	
Secondary	

INTERIOR WALLS:

Primary	
Secondary	

FLOORS:

Primary	
Secondary	

HEATING/AC:

Heating Type	
Heating Fuel	
AC Type	

BUILDING AREA:

Effective Building Area	
Gross Building Area	
Total Living Area	

SALES HISTORY:

Sale Date	11/25/1985
Sale Price	0
Book/ Page	0294/0600



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT1151

FA#: 10035290

Simsbury Central
Grist Mill Rd
Simsbury, CT 06070

December 17, 2018

Centerline Communications Project Number: 950006-158

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	15.88 %



December 17, 2018

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT1151 – Simsbury Central**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **Grist Mill Rd, Simsbury, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) 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 performed for the proposed AT&T Wireless antenna facility located at **Grist Mill Rd, Simsbury, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
UMTS	1900 MHz (PCS)	2	30
LTE	700 MHz	2	40
LTE	2100 MHz (AWS)	4	30
LTE	850 MHz	2	40
LTE	1900 MHz (PCS)	4	40
5G	850 MHz	2	25
LTE	2300 MHz (WCS)	4	30

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Kathrein 800-10121	150
A	2	CCI HPA-65R-BUU-H6	150
A	3	Quintel QS6658-2	150
B	1	Kathrein 800-10121	150
B	2	CCI HPA-65R-BUU-H6	150
B	3	CCI TPA-65R-LCUUUU-H8	150
C	1	Kathrein 800-10121	150
C	2	CCI HPA-65R-BUU-H6	150
C	3	CCI TPA-65R-LCUUUU-H8	150

Table 2: Antenna Data

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



RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	0.54
Antenna A2	CCI HPA-65R-BUU-H6	700 MHz / 2100 MHz (AWS)	11.95 / 15.05	6	200	5,092.07	1.13
Antenna A3	Quintel QS6658-2	850 MHz / 1900 MHz (PCS) / 2300 MHz (WCS)	11.85 / 14.35 / 14.05	12	410	9,395.90	1.89
Sector A Composite MPE%							3.56
Antenna B1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	0.54
Antenna B2	CCI HPA-65R-BUU-H6	700 MHz / 2100 MHz (AWS)	11.95 / 15.05	6	200	5,092.07	1.13
Antenna B3	CCI TPA-65R-LCUUUU-H8	850 MHz / 1900 MHz (PCS) / 2300 MHz (WCS)	13.75 / 13.45 / 14.45	12	410	10,014.57	2.12
Sector B Composite MPE%							3.79
Antenna C1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	0.54
Antenna C2	CCI HPA-65R-BUU-H6	700 MHz / 2100 MHz (AWS)	11.95 / 15.05	6	200	5,092.07	1.13
Antenna C3	CCI TPA-65R-LCUUUU-H8	850 MHz / 1900 MHz (PCS) / 2300 MHz (WCS)	13.75 / 13.45 / 14.45	12	410	10,014.57	2.12
Sector C Composite MPE%							3.79

Table 3: AT&T Emissions Levels



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

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Sector Value (Sectors B & C)	3.79 %
Verizon Wireless	3.63 %
T-Mobile	4.06 %
Nextel	0.52 %
Sprint	3.88 %
Site Total MPE %:	15.88 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	3.56 %
AT&T Sector B Total:	3.79 %
AT&T Sector C Total:	3.79 %
Site Total:	15.88 %

Table 5: Site MPE Summary



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

AT&T _ Frequency Band / Technology Max Power Values (Sectors B & C)	# 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
AT&T 850 MHz UMTS – Antenna 1	2	418.91	150	1.45	850 MHz	567	0.26%
AT&T 1900 MHz (PCS) UMTS – Antenna 1	2	816.81	150	2.83	1900 MHz (PCS)	1000	0.28%
AT&T 700 MHz LTE – Antenna 2	2	626.70	150	2.17	700 MHz	467	0.47%
AT&T 2100 MHz (AWS) LTE – Antenna 2	4	959.67	150	6.66	2100 MHz (AWS)	1000	0.67%
AT&T 850 MHz LTE – Antenna 3	2	885.24	150	3.07	850 MHz	567	0.54%
AT&T 1900 MHz (PCS) LTE – Antenna 3	4	948.55	150	6.58	1900 MHz (PCS)	1000	0.66%
AT&T 850 MHz 5G – Antenna 3	2	553.27	150	1.92	850 MHz	567	0.34%
AT&T 2300 MHz (WCS) LTE – Antenna 3	4	835.84	150	5.80	2300 MHz (WCS)	1000	0.58%
						Total:	3.79%

Table 6: AT&T Maximum Sector MPE Power Values



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 AT&T 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:

AT&T Sector	Power Density Value (%)
Sector A:	3.56 %
Sector B:	3.79 %
Sector C:	3.79 %
AT&T Maximum Total (Sectors B & C):	3.79 %
Site Total:	15.88 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **15.88 %** 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.

A handwritten signature in black ink, appearing to read 'Scott Heffernan', is written over a light blue horizontal line.

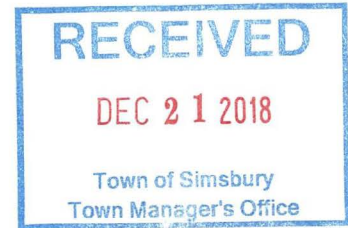
Scott Heffernan

RF Engineering Director

Centerline Communications, LLC

95 Ryan Drive, Suite 1

Raynham, MA 02767



December, 13 2018

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

Regarding: Notice of Exempt Modification – Swapping (3) new antennas, and adding (6) RRU's

Property Address: 225 Grist Road, Simsbury, CT

Applicant: AT&T Mobility ("AT&T", Site # CT1151)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 184-foot monopole at the above-referenced address, latitude 41-52-00.15, longitude 72-48-56.78. Said monopole is owned by SBA Communications Corporation at 8051 Congress Avenue Boca Raton FL 334871310

AT&T desires to modify its existing telecommunications facility by swapping (3) new antennas, (3) RRUS-4426 B66, (3) 4478 B5 Radios to the centerline height of said antennas is and will remain at 150 feet.

Please accept this application as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72 (b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Town Selectman of the Town of Simsbury Eric Wellman, The town's Building Official Henry Miga, the Zoning Enforcement Officer Michael Glidden. A copy of this letter is also being sent to SBA Corporation, the owner of the structure on which AT&T is located.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The planned modifications will not result in an increase in the height of the existing structure. AT&T's antennas and associated lines will be installed at the existing mount height of 154' atop the Monopole tower.
2. The proposed modifications will not involve any changes to ground-space footprint and, therefore will not require an extension of the site boundary.

December 13, 2018



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3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. An RF emissions calculation is attached.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (Please see attached Structural analysis completed by James Stroke of Tower Engineering Solutions on 11/27/2018)

For the foregoing reasons AT&T respectfully requests that the proposed swap of antennas, addition of radios and addition of squids be allowed within the exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Scott Pike

Site Acquisition Specialist
Empire Telecom
16 Esquire Road
Billerica, MA 01862
Phone: 339-223-9828
Email: spike@empiretelecomm.com

Enclosures:

CC: Eric Wellman, Town Selectman/Manager
Henry Miga, Town Building Official
Michael Glidden, Zoning Enforcement Officer
Carla Shorter, Property Owner

Tracking Number: 9405503699300359813879

Remo

Expected Delivery on

SATURDAY

22 DECEMBER
2018 ⓘ

by
8:00pm ⓘ

Status

 **Delivered**

December 22, 2018 at 1:55 pm
Delivered, Front Desk/Reception/Mail Room
BOCA RATON, FL 33487

Get Updates 

Delivered

Text & Email Updates



Tracking History



Product Information



See Less 

Tracking Number: 9405503699300359813893

On Time

Expected Delivery on

FRIDAY

21 DECEMBER
2018 ⓘ

by
8:00pm ⓘ

Status

 **Delivered**

December 21, 2018 at 5:53 pm
Delivered, Front Desk/Reception/Mail Room
SIMSBURY, CT 06070

Get Updates 

Delivered

Text & Email Updates



Tracking History



Product Information



Tracking Number: 9405503699300359813886

On Time

Expected Delivery on

FRIDAY

21

DECEMBER
2018 ⓘ

by

8:00pm ⓘ

Status

 **Delivered**

December 21, 2018 at 5:53 pm
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Product Information



Tracking Number: 9405503699300359813923

On Time

Expected Delivery on

FRIDAY

21

DECEMBER
2018 ⓘ

by

8:00pm ⓘ

Status

 **Delivered**

December 21, 2018 at 9:08 am
Delivered, Front Desk/Reception/Mail Room
SIMSBURY, CT 06070

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Tracking History



Product Information

