



QC Development

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February 23, 2018

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T)
5 Exeter Drive, Sterling, CT 06377 – CT2369
N 41-42-50.50
W 71-49-21.80

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 130-foot level of the existing 140-foot Monopole at 5 Exeter Drive, Sterling, CT. The tower is owned by SBA. The property is owned by The Town of Sterling. AT&T now intends to remove three (3) existing KMW antennas and replace them with three (3) CCI HPA-65R-BUU-H8K antennas. AT&T will also add three (3) Ericsson RRUS-32 B2 Remote Radio Units (RRU). These antennas and RRUs would be installed at the 130-foot level of the tower.

This facility was approved by the CT Siting Council (Docket # 0345) on February 14, 2008. Since no change in facility height is proposed, this modification therefore complies with the aforementioned approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Russell M. Gray, First Selectman of the Town of Sterling, and the Sterling Land Use Department as well as the tower and property owners.

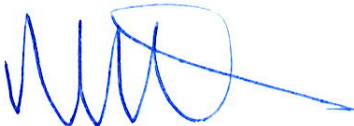
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

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

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

Please feel free to call me at (860) 670-9068 with any questions regarding this matter. Thank you for your consideration.

Sincerely,



Mark Roberts
QC Development
Consultant for AT&T

Attachments

cc: Mr. Russell M. Gray – as Elected Official and Property Owner
Demian Sorrentino – Zoning Enforcement Officer
SBA - Tower Owner (via e-mail)

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm ²)	Freq. Band (MHz ^{**})	Limit S (mW/cm ²)	%MPE
Other Carriers*							3.24%
AT&T GSM	2	565	130	0.0264	880	0.5867	0.45%
AT&T GSM	2	875	130	0.0409	1900	1.0000	0.41%
AT&T UMTS	1	283	130	0.0066	880	0.5867	0.11%
AT&T UMTS	4	525	130	0.0491	1900	1.0000	0.49%
AT&T LTE	1	1771	130	0.0414	734	0.4893	0.85%
Site Total							5.55%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm ²)	Freq. Band (MHz ^{**})	Limit S (mW/cm ²)	%MPE
Other Carriers*							3.24%
AT&T GSM	1	565	130	0.0132	880	0.5867	0.23%
AT&T UMTS	1	283	130	0.0066	880	0.5867	0.11%
AT&T UMTS	1	525	130	0.0123	1900	1.0000	0.12%
AT&T LTE	1	1045	130	0.0244	734	0.4893	0.12%
AT&T LTE	2	3381	130	0.1582	1900	1.0000	0.50%
Site Total							5.79%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Note: Proposed Loading may also include corrections to certain Existing Loading values

PROJECT INFORMATION	
SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS
SITE ADDRESS:	7 EXETER DRIVE STERLING, CT 06377
LATITUDE:	41° 42' 51" N
LONGITUDE:	71° 49' 22" W
JURISDICTION:	NATIONAL, STATE & LOCAL CODES OR ORDINANCES
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
DESIGN GUIDELINE:	LTE 2C

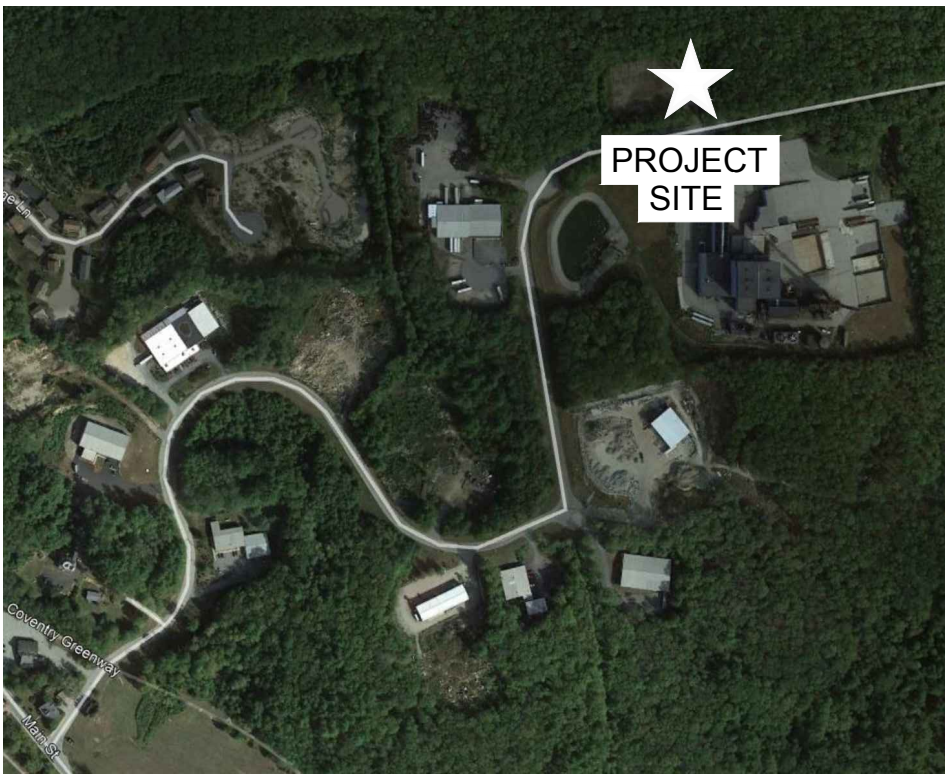
SITE NUMBER: CT2369

SITE NAME: STERLING-EXETER DR

7 EXETER DRIVE
STERLING, CT 06377
WINDHAM COUNTY

DRAWING INDEX	REV
T-1 TITLE SHEET	0
GN-1 GENERAL NOTES	0
A-1 COMPOUND AND EQUIPMENT PLANS	0
A-2 ELEVATIONS	0
A-3 ANTENNA PLANS	0
A-4 EQUIPMENT DETAILS & RF SCHEDULE	0
S-1 STRUCTURAL DETAILS	0
G-1 GROUNDING DETAILS AND ONE-LINE DIAGRAM	0

LOCUS MAP



GENERAL NOTES

- THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
- THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



- DRIVING DIRECTIONS FROM 550 COCHITUATE ROAD, FRAMINGHAM, MA:
- HEAD SOUTHWEST, TURN LEFT TOWARD LEGGATT MCCALL CONN
 - TURN LEFT ONTO LEGGATT MCCALL CONN
 - CONTINUE ONTO BURR ST
 - TURN LEFT ONTO COCHITUATE RD
 - USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 E/MASSPIKE W/SPRINGFIELD/BOSTON
 - KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR INTERSTATE 90 W/MASSACHUSETTS TURNPIKE/WORCESTER/SPRINGFIELD AND MERGE ONTO I-90 W/MASSACHUSETTS TURNPIKE
 - MERGE ONTO I-90 W/MASSACHUSETTS TURNPIKE
 - TAKE EXIT 10 TOWARD MA-12 N/AUBURN/WORCESTER
 - KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-395 S/US-20 E/NORWICH CT
 - CONTINUE ONTO I-395 S
 - TAKE EXIT 32 TO MERGE ONTO CT-14 E TOWARD STERLING/MOOSUP
 - MERGE ONTO CT-14 E
 - TURN LEFT ONTO MAIN ST
 - TURN RIGHT ONTO INDUSTRIAL PARK RD

CONNECTICUT

CALL BEFORE YOU DIG

CALL TOLL FREE: 800-922-4455

UNDERGROUND SERVICE ALERT

Civil Engineering - Site Development - Surveying - Telecommunications
500 North Broadway East Providence, RI 02914
Phone: (401) 354-2403
Fax: (401) 633-6354

SAI COMMUNICATIONS
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2369
SITE NAME: STERLING-EXETER DR
7 EXETER DRIVE
STERLING, CT 06377
WINDHAM COUNTY

550 COCHITUATE ROAD, SUITE 13,
FRAMINGHAM, MA 01701-4681

NO.	DATE	REVISIONS	BY	CHK
0	01/15/18	ISSUED FOR REVIEW	AAB	MRC

TITLE SHEET

SHEET NO. **T-1**

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.

2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.

3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE LESEE/LICENEE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.

4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.

5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS / CONTRACT DOCUMENTS.

7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.

9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.

12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.

13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.

14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.

15. THE CONTRACTOR SHALL NOTIFY THE LESEE/LICENEE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESEE/LICENEE REPRESENTATIVE.

16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.

17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL THE FOLLOWING FOR ALL PRE-CONSTRUCTION NOTIFICATION 72-HOURS PRIOR TO ANY EXCAVATION ACTIVITY: DIG SAFE SYSTEM (MA, ME, NH, RI, VT): 1-888-344-7233 CALL BEFORE YOU DIG (CT): 1-800-922-4455

18. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS SHOWN HEREIN.

19. ALL DIMENSIONS SHOWN THUS ± ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WHICH EFFECT THE CONTRACTORS WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH PROJECT OWNER PRIOR TO CONSTRUCTION.

20. NORTH ARROW SHOWN ON PLANS REFERS TO APPROXIMATE TRUE NORTH. PRIOR TO THE START OF CONSTRUCTION, ORDERING OR FABRICATING OF ANTENNA MOUNTS, CONTRACTOR SHALL CONSULT WITH PROJECT OWNER'S RF ENGINEER AND FIELD VERIFY ALL ANTENNA SECTOR LOCATIONS AND ANTENNA AZIMUTHS.

21. THE CONTRACTOR AND OR HIS SUB CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.

22. ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.

23. COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE PROJECT OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF PROJECT OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE EXHIBIT 3). ALL OTHER HARDWARE TO BE PROVIDED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.

24. WHEN "PAINT TO MATCH" IS SPECIFIED FOR ANTENNA CONCEALMENT, PAINT PRODUCT FOR ANTENNA RADOME SHALL BE SHERWIN WILLIAMS COROTHANE II. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PROJECT OWNER'S GUIDELINE'S.

25. COORDINATION, LAYOUT, AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

26. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.

27. ALL (E)ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.

28. ALL (E)INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF UTILITY COMPANY ENGINEERING. THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT, DRIVEWAY OR

29. GRAVEL, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED AND COVERED WITH MULCH UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROLS AT ALL TIMES

30. DURING CONSTRUCTION. PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS

31. FOR WIRELESS COMMUNICATIONS SYSTEMS. PROJECT OWNER'S IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. PROJECT OWNER RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.

32. APPLICABLE BUILDING CODES: SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:

2012 INTERNATIONAL BUILDING CODE
2016 CT STATE BUILDING CODE
ELECTRICAL CODE: NEC 2014
NFPA 780 2014

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.

2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.

3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.

4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.

5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.

6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.

7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION.

8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.

9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE AND GREENLEE CONDUIT MEASURING TAPE IN EACH INSTALLED TELCO CONDUIT.

10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.

11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.

12. PPC SUPPLIED BY PROJECT OWNER.

13. GROUNDING SHALL COMPLY WITH NEC ART. 250.

14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.

15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.

16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.

17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.

18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.

19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.

20. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.

21. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXISTING TOWER/ (E) MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.

22. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MAXIMUM RESISTANCE REQUIRED.

23. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.



ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	(P)	PROPOSED/NEW	TBR	TO BE REMOVED
(E)	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE		
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED	TYP	TYPICAL
(F)	FUTURE				



SITE NUMBER: CT2369
SITE NAME: STERLING-EXETER DR
7 EXETER DRIVE
STERLING, CT 06377
WINDHAM COUNTY



550 COCHITUATE ROAD, SUITE 13,
FRAMINGHAM, MA 01701-4681

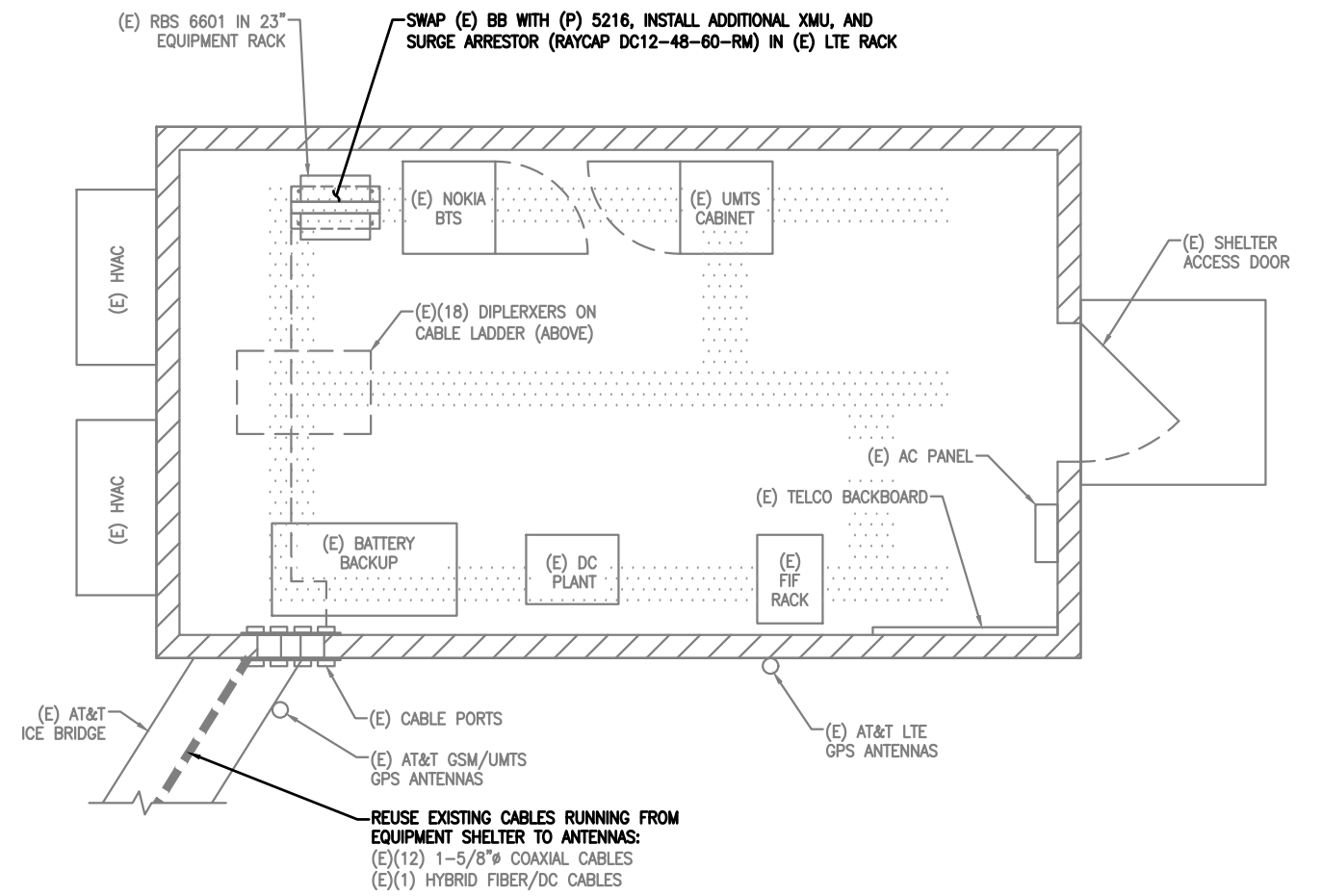
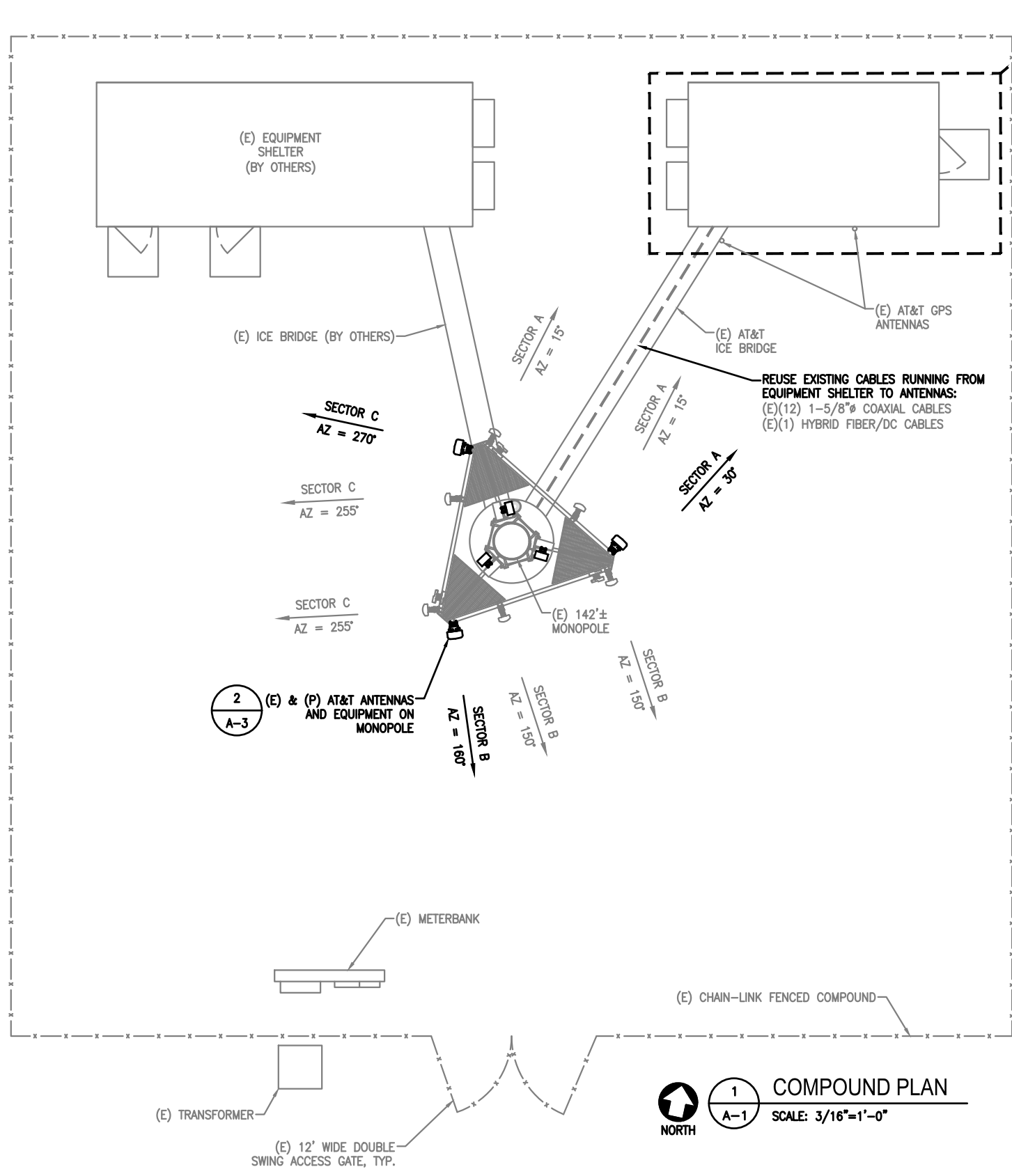
NO.	DATE	REVISIONS	BY	CHK
0	01/15/18	ISSUED FOR REVIEW	AAB	MRC

GENERAL NOTES

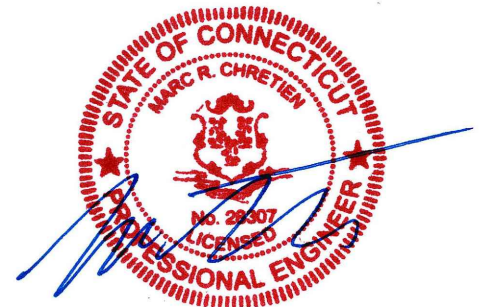
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GN-1

HALF SIZE PRINT
THIS DRAWING IS SCALEABLE
AT HALF THE NOTED SCALE

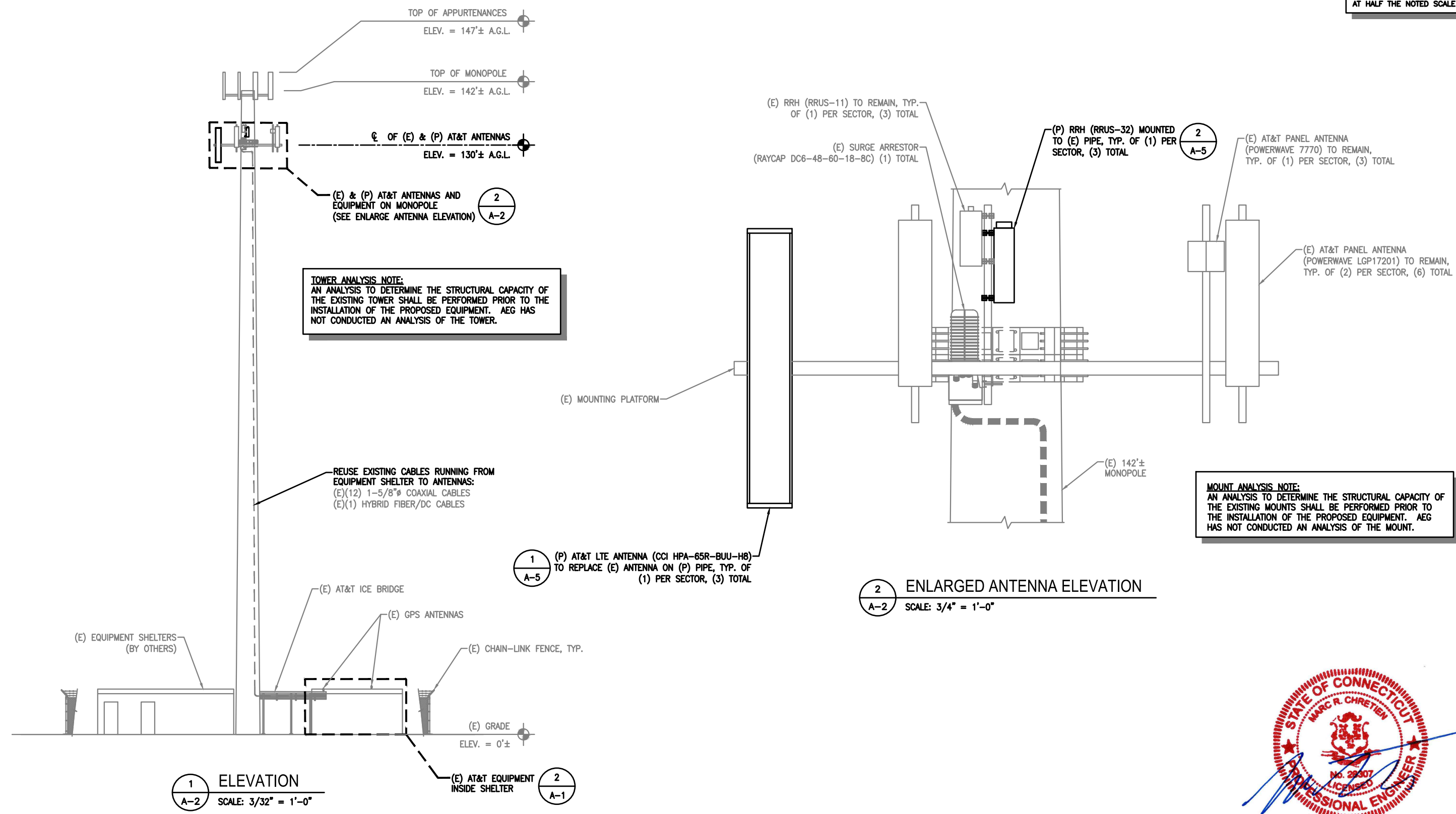


2
A-1 EQUIPMENT SHELTER PLAN
SCALE: 1/2"=1'-0"



NO.	DATE	REVISIONS	BY	CHK
0	01/15/18	ISSUED FOR REVIEW	AAB	MRC

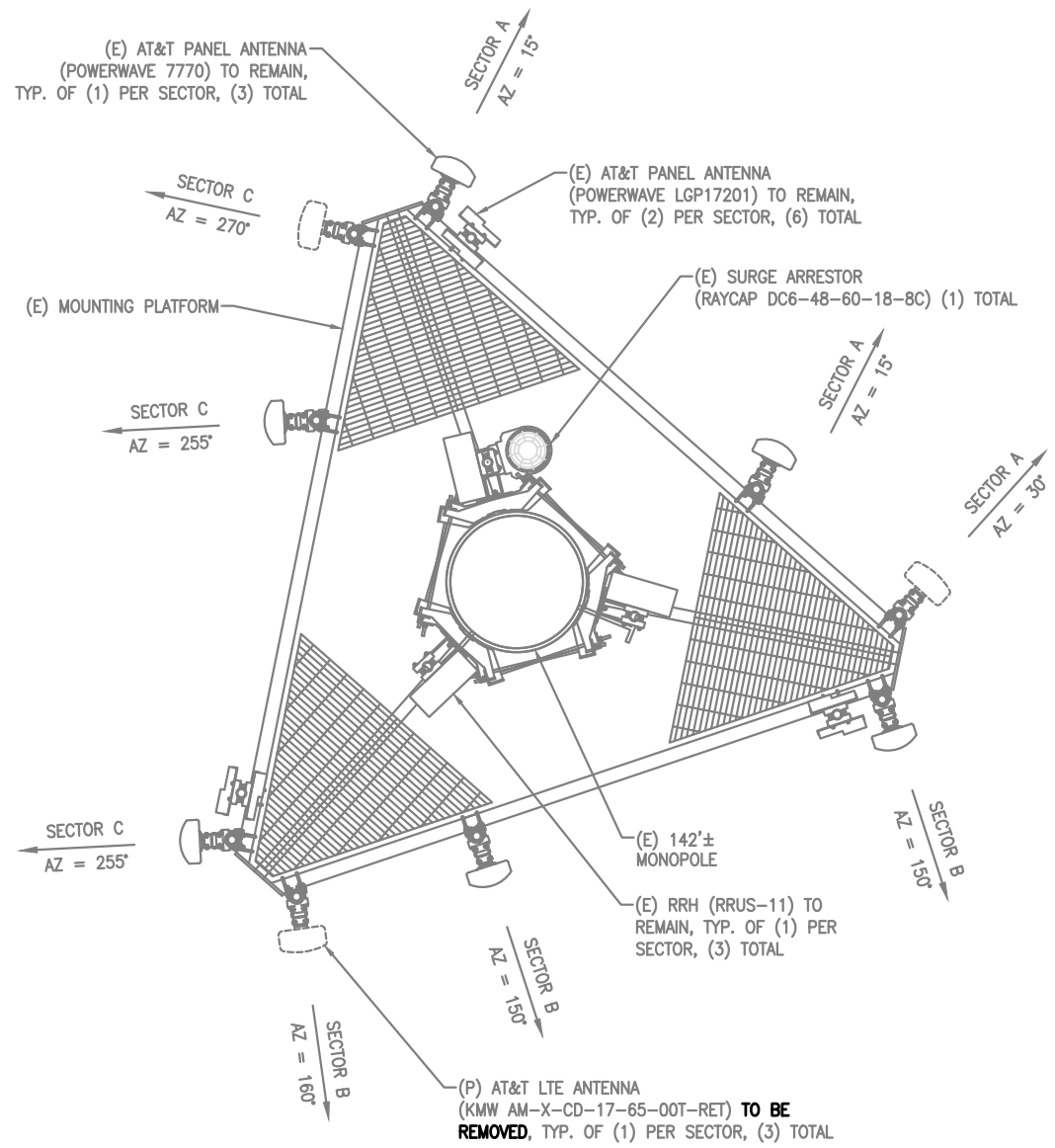
HALF SIZE PRINT
THIS DRAWING IS SCALEABLE
AT HALF THE NOTED SCALE



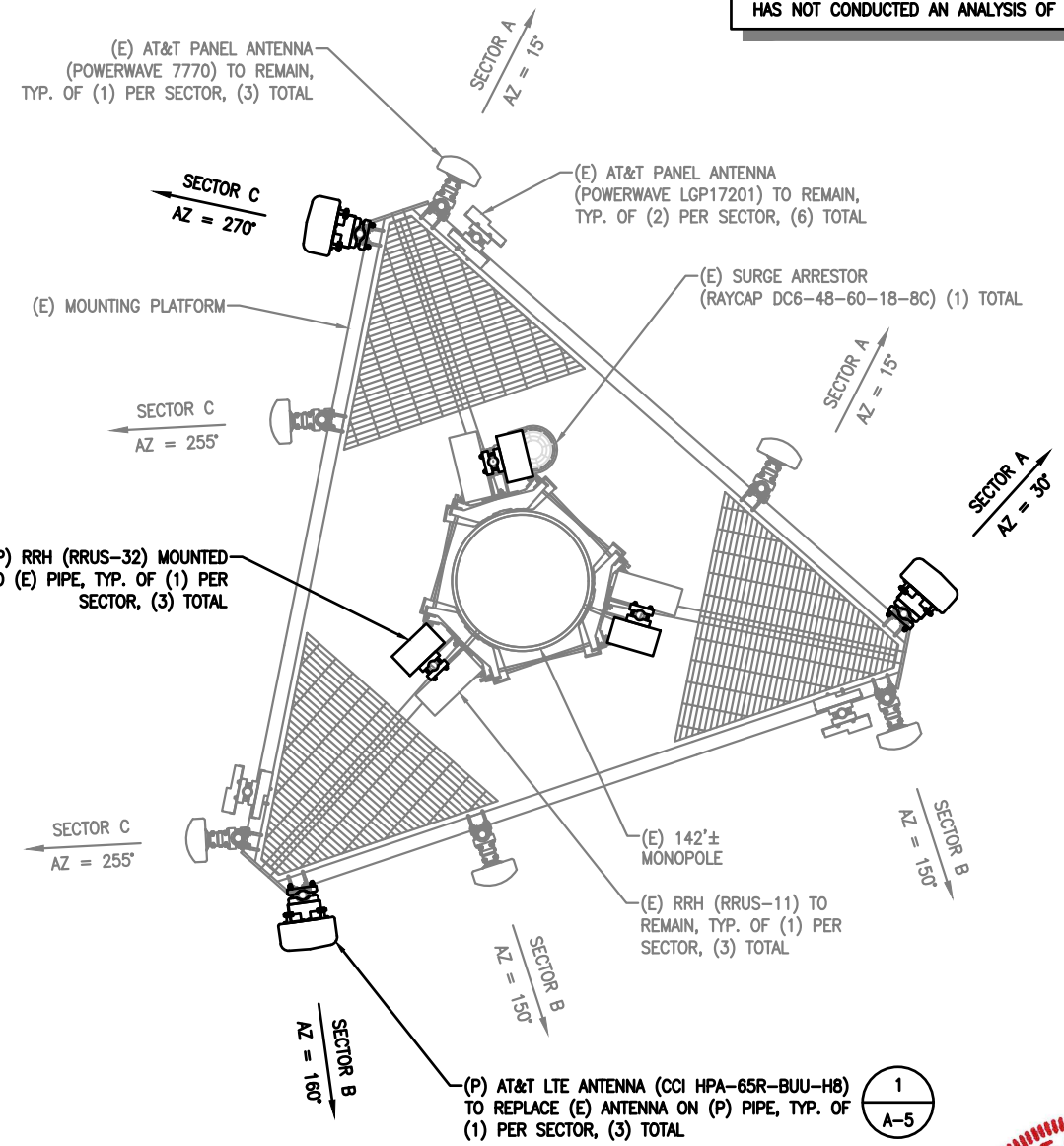
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HALF SIZE PRINT
THIS DRAWING IS SCALEABLE
AT HALF THE NOTED SCALE

MOUNT ANALYSIS NOTE:
AN ANALYSIS TO DETERMINE THE STRUCTURAL CAPACITY OF THE EXISTING MOUNTS SHALL BE PERFORMED PRIOR TO THE INSTALLATION OF THE PROPOSED EQUIPMENT. AEG HAS NOT CONDUCTED AN ANALYSIS OF THE MOUNT.



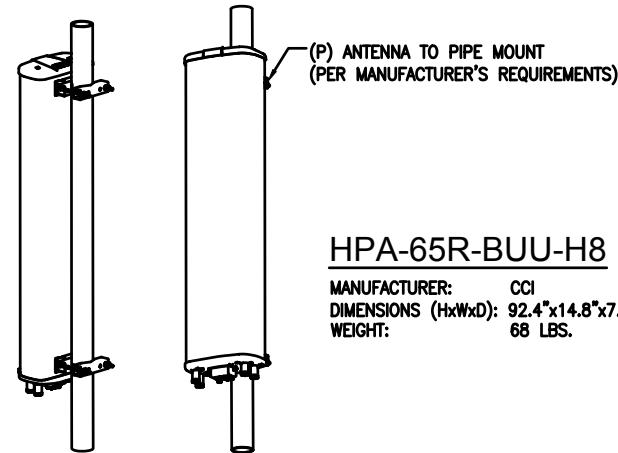
1 EXISTING ANTENNA PLAN
A-3 SCALE: 1/2" = 1'-0"



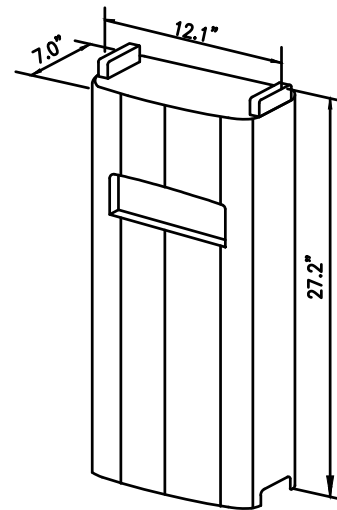
2 PROPOSED ANTENNA PLAN
A-3 SCALE: 1/2" = 1'-0"



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HPA-65R-BUU-H8
 MANUFACTURER: CCI
 DIMENSIONS (HxWxD): 92.4"x14.8"x7.4"
 WEIGHT: 68 LBS.



ERICSSON RRUS-32 B2
 -DIMENSIONS (H x W x D):
 27.2" x 12.1" x 7.0"
 -WEIGHT: 53 LBS

NOTES:
 RRU CAN ONLY BE PAINTED ON SOLAR SHIELD.

1 ANTENNA DETAILS
 A-4 SCALE: N.T.S.

2 REMOTE RADIO HEAD (RRH) DETAILS
 A-4 SCALE: N.T.S.

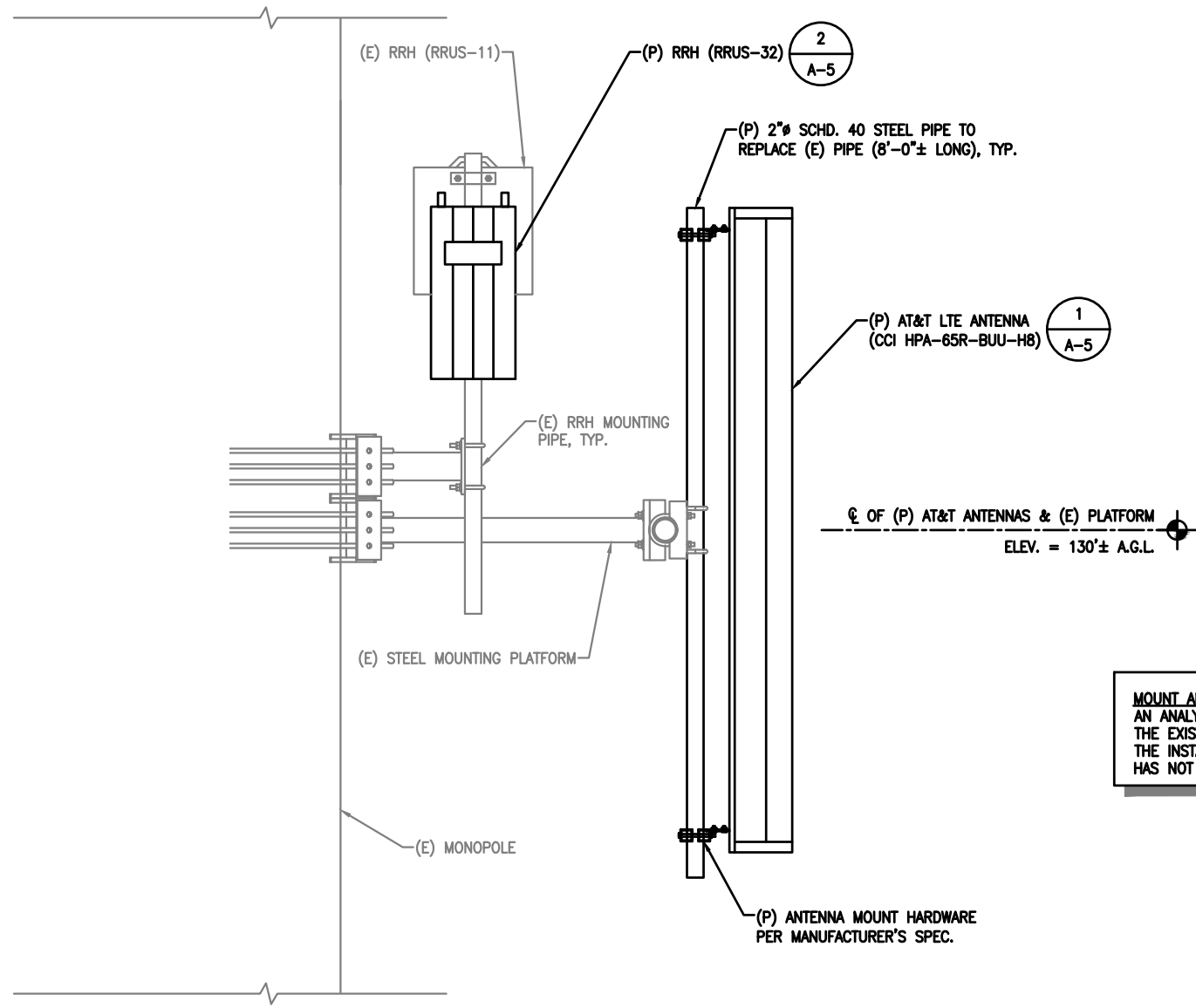
RF SYSTEM SCHEDULE

	RRH INFORMATION					TMA INFORMATION				ANTENNA INFORMATION			AZIMUTH	RAD CTR (AGL)
	MAKE	MODEL	(E) QTY	(P) QTY		MAKE	MODEL	(E) QTY	(P) QTY	SECTOR	MAKE	MODEL		
ALPHA	ERICSSON	RRUS-11	3	0		POWERWAVE	LGP17201	2	0	IA	POWERWAVE	7770	15°	130'±
	ERICSSON	RRUS-32	0	3		---	---	---	---	IIA	---	---	---	---
						---	---	---	---	IIIA	POWERWAVE	7770	15°	130'±
						---	---	---	---	IIV	CCI	HPA-65R-BUU-H8	30°	130'±
BETA	ERICSSON	RRUS-11	3	0		POWERWAVE	LGP17201	2	0	IB	POWERWAVE	7770	150°	130'±
	ERICSSON	RRUS-32	0	3		---	---	---	---	IIB	---	---	---	---
						---	---	---	---	IIIB	POWERWAVE	7770	150°	130'±
						---	---	---	---	IIV	CCI	HPA-65R-BUU-H8	160°	130'±
GAMMA	ERICSSON	RRUS-11	3	0		POWERWAVE	LGP17201	2	0	IC	POWERWAVE	7770	255°	130'±
	ERICSSON	RRUS-32	0	3		---	---	---	---	IIC	---	---	---	---
						---	---	---	---	IIIC	POWERWAVE	7770	255°	130'±
						---	---	---	---	IIV	CCI	HPA-65R-BUU-H8	270°	130'±

* CONTRACTOR TO VERIFY FINAL RFDS AND CABLE LENGTHS PRIOR TO CONSTRUCTION



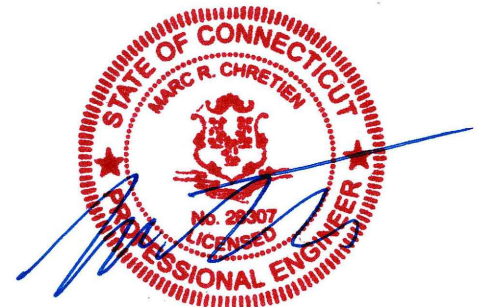
NO.	DATE	REVISIONS	BY	CHK
0	01/15/18	ISSUED FOR REVIEW	AAB	MRC



⌀ OF (P) AT&T ANTENNAS & (E) PLATFORM
ELEV. = 130'± A.G.L.

MOUNT ANALYSIS NOTE:
AN ANALYSIS TO DETERMINE THE STRUCTURAL CAPACITY OF THE EXISTING MOUNTS SHALL BE PERFORMED PRIOR TO THE INSTALLATION OF THE PROPOSED EQUIPMENT. AEG HAS NOT CONDUCTED AN ANALYSIS OF THE MOUNT.

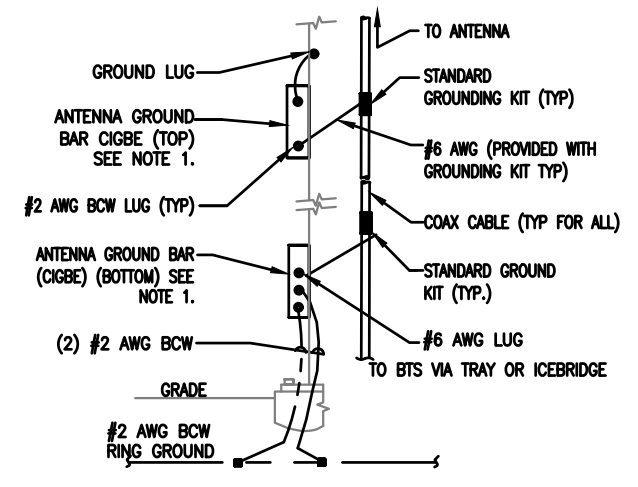
1 ANTENNA & RRH MOUNT DETAIL
S-1 SCALE: 1" = 1'-0"



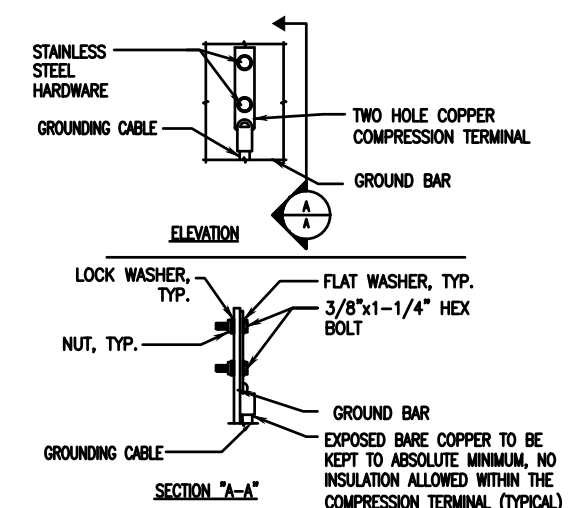
NO.	DATE	REVISIONS	BY	CHK
0	01/15/18	ISSUED FOR REVIEW	AAB	MRC

	CIRCUIT BREAKER	ACCA	ANTENNA CABLE COVER ASSEMBLY
	ELECTRIC BOX	AWG	AMERICAN WIRE GAUGE
	ELECTRICAL CONDUIT	BTWC	BARE TINNED COPPER WIRE
	EXOTHERMIC CONNECTION (CADWELD) TO GROUND RING AND COMPRESSION TO GROUND HALO	C	CONDUIT
	DISCONNECT SWITCH	CIGBE	COAX INSULATED GROUND BAR EXTERNAL CONDUIT ONLY
	GROUND ROD	DWG	DRAWING
	GROUND ROD WITH ACCESS	EGB	EXTERNAL GROUND BAR
	MECHANICAL GROUND CONN.	EMT	ELECTRICAL METALLIC TUBING
	GROUND ACCESS WELL	(E)	EXISTING
	GROUNDING WIRE	(F)	FUTURE
	GENERATOR	GEN	GENERATOR
	FUSE	GFI	GROUND FAULT CIRCUIT INTERRUPTER
	GROUND BUS BAR	GND	GROUND
	REVISION	GR	GROWTH
	TELEPHONE BOX	IGR	INTERIOR GROUND RING (HALO)
	UTILITY METER	MIGB	MASTER ISOLATED GROUND BAR
	XIT GROUND ROD	(P)	PROPOSED, NEW (PROVIDE AND INSTALL UNLESS NOTED OTHERWISE)
		PCS	PERSONAL COMMUNICATION SERVICE
		PPC	POWER PROTECTION CABINET
		PRC	PRIMARY RADIO CABINET
		PVC	POLYVINYL CHLORIDE CONDUIT
		RGS	RIGID GALVANIZED STEEL
		RWY	RACEWAY
		S.L.D.	SINGLE LINE DIAGRAM
		TEL	TELEPHONE
		TYP.	TYPICAL
		WP	WEATHER-PROOF EQUIPMENT

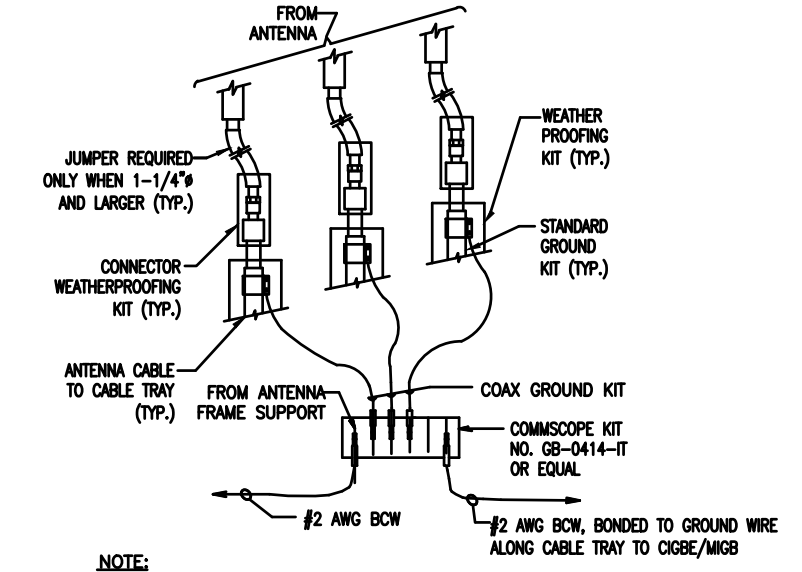
1 ELEC. / GROUNDING LEGEND
G-1 SCALE: N.T.S.



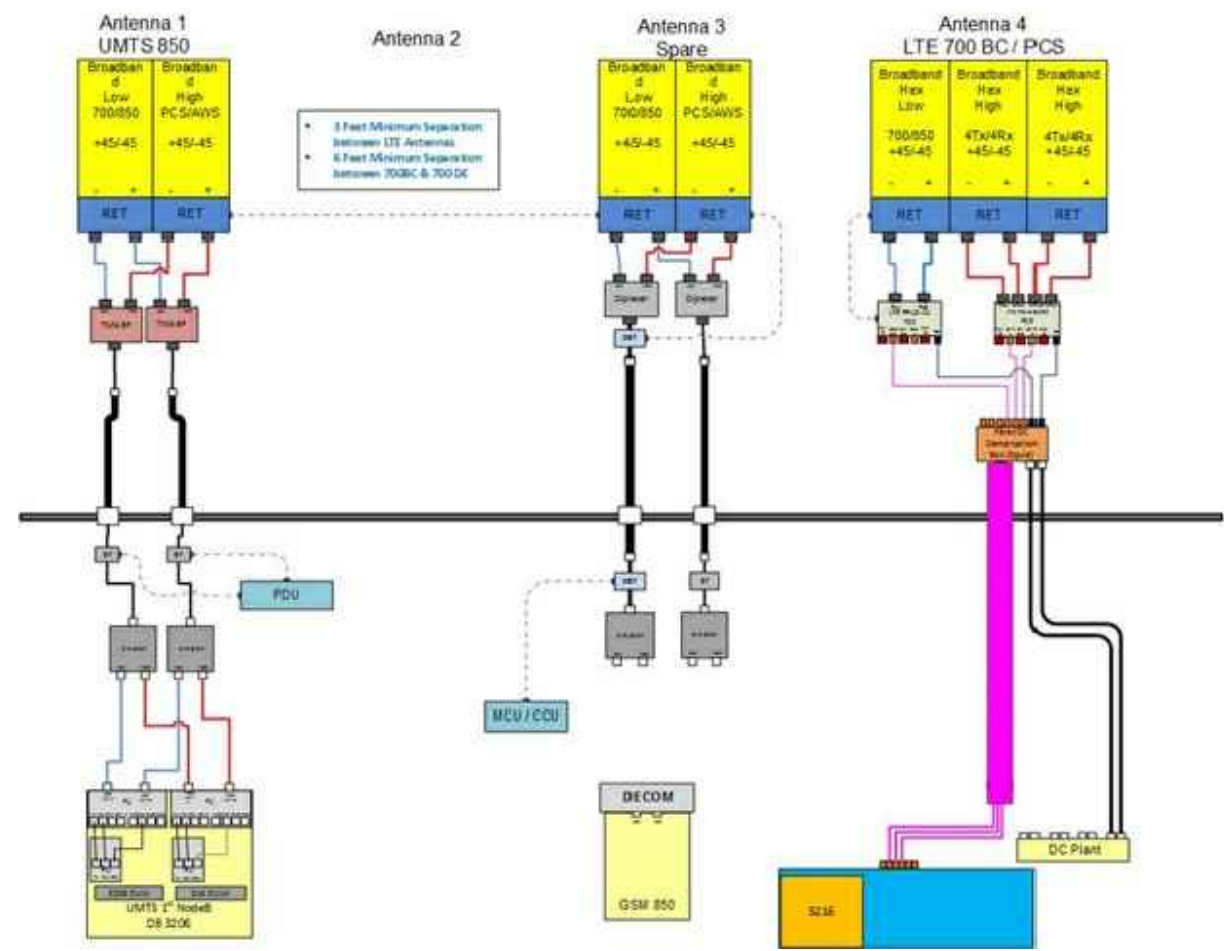
2 TYP. ANTENNA CABLE GROUNDING
G-1 SCALE: N.T.S.



3 TYP. GROUND BAR CONNECTION
G-1 SCALE: N.T.S.

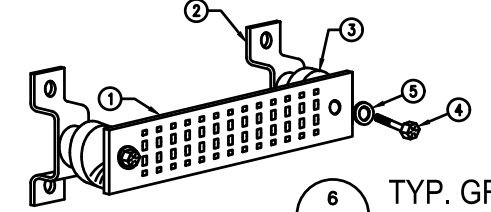


4 TYP. GROUND WIRE TO GROUND BAR CONN.
G-1 SCALE: N.T.S.

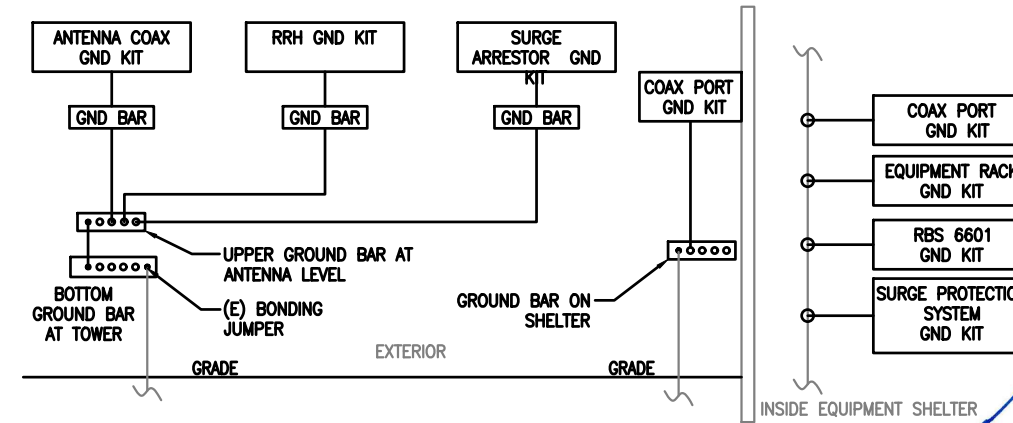


5 ONE LINE PLUMBING DIAGRAM
G-1 SCALE: N.T.S.

WIRELESS SOLUTIONS INC.				
NO.	REQ.	PART NO.	DESCRIPTION	
1	1	HLGB-0420-IS	SOLID GND. BAR (20"x4"x1/4")	
2	2		WALL MTG. BRKT.	
3	2		INSULATORS	
4	4		5/8"-11x1" H.H.C.S.	
5	4		5/8 LOCKWASHER	



6 TYP. GROUND BAR CONN.
G-1 SCALE: N.T.S.



7 ONE LINE GROUNDING DIAGRAM
G-1 SCALE: N.T.S.

- EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL 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)

GROUNDING NOTES:
ALL GROUNDING SHALL BE DONE IN ACCORDANCE WITH THE AT&T MOBILITY GROUNDING GUIDE.



NO.	DATE	REVISIONS	BY	CHK
0	01/15/18	ISSUED FOR REVIEW	AAB	MRC



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 140 ft Nudd Corporation Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT11560-A

Customer Site Name: Sterling 6, CT

Carrier Name: AT&T

Carrier Site ID / Name: CT2369 / Sterling Exeter Drive

Site Location: 24 Exeter Drive

Sterling, Connecticut

Windham County

Latitude: 41.714047

Longitude: -71.822735

Analysis Result:

Max Structural Usage: 42.8% [Pass]

Max Foundation Usage: 40.0% [Pass]

Report Prepared By : Stevie Long





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Report Prepared By : Stevie Long

Introduction

The purpose of this report is to summarize the analysis results on the 140 ft Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Monopole original structural design report prepared by Fred A. Nudd, Corp. Dated 03-17-2008. Drawing No 308-13078-1. Project No 308-13078. Monopole previous structural report prepared by FDH Engineering, Inc. Dated 03-24-2015. Project No 15BHJV1400.
Foundation Drawing	Monopole original foundation design prepared by Fred A. Nudd, Corp. Dated 03-17-2008. Drawing No 308-13078-2. Project No 308-13078.
Geotechnical Report	N/A
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 $V_{ult} = 131.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 102.0$ 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 / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.17$, $S_1 = 0.061$

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	140.0	6	RFS FD9R6004/2C-3L	Low Profile Platform	(12) 1 5/8" (1) 1 5/8" Fiber	Verizon
2	137.0	2	Antel - BXA-70080/6CF - Panel			
3		4	Antel - BXA-70063/6CF - Panel			
4		6	Commscope - HBXX-6517DS-A2M - Panel			
5		3	ALU RRH2x60-AWS			
6		3	ALU RRH2X60-PCS			
7		1	RFS Celwave DB-T1-6Z-8AB-0Z			
-	130.0	9	Powerwave - 7770 - Panel	Low Profile Platform Universal Ring Mount (Valmont LWRM)	(12) 1 5/8" (1) 3" Conduit (2) 3/4" DC (1) 7/16" Fiber	AT&T
-		2	KMW AM-X-CD-17-65-00T-RET - Panel			
-		1	Powerwave P65-17-XLH-RR - Panel			
-		12	Powerwave LGP21401 - TMA			
-		6	Powerwave LGP21901 - Diplexer			
-		6	Ericsson RRUS-11 (17.8x17.3x7.2)			
-		1	Raycap DC6-48-60-18-8F - DC SS			

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
8	130.0	9	Powerwave - 7770 - Panel	Low Profile Platform Universal Ring Mount (Valmont LWRM)	(12) 1 5/8" (1) 3" Conduit (2) 3/4" DC (1) 7/16" Fiber	AT&T
9		3	Cci - HPA-65R-BUU-H8 (92.4" x 14.8" x 7.4" 68 lbs.) - Panel			
10		12	Powerwave LGP21401 - TMA			
11		6	Powerwave LGP21901 - Diplexer			
12		3	Ericsson RRUS-11 (17.8x17.3x7.2)			
13		3	Ericsson RRUS-32 (29.9" x 13.3" x 9.5" 77 lbs.)			
14		1	Raycap DC6-48-60-18-8F - DC SS			

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
Max. Usage:	35.7%	42.8%
Pass/Fail	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	4677.1	35.7	45.5
Analysis Reactions	2437.7	24.7	76.3
Factored Reactions*	6314.1	48.2	61.4

* 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 0.3795 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 analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. 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.
7. 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.
8. 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.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 35.71% at 25.0ft

Structure: CT11560-A-SBA
Site Name: Sterling 6, CT
Height: 140.00 (ft)
Base Elev: 1.000 (ft)

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

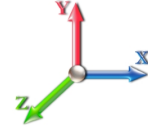
1/30/2018

Page: 1



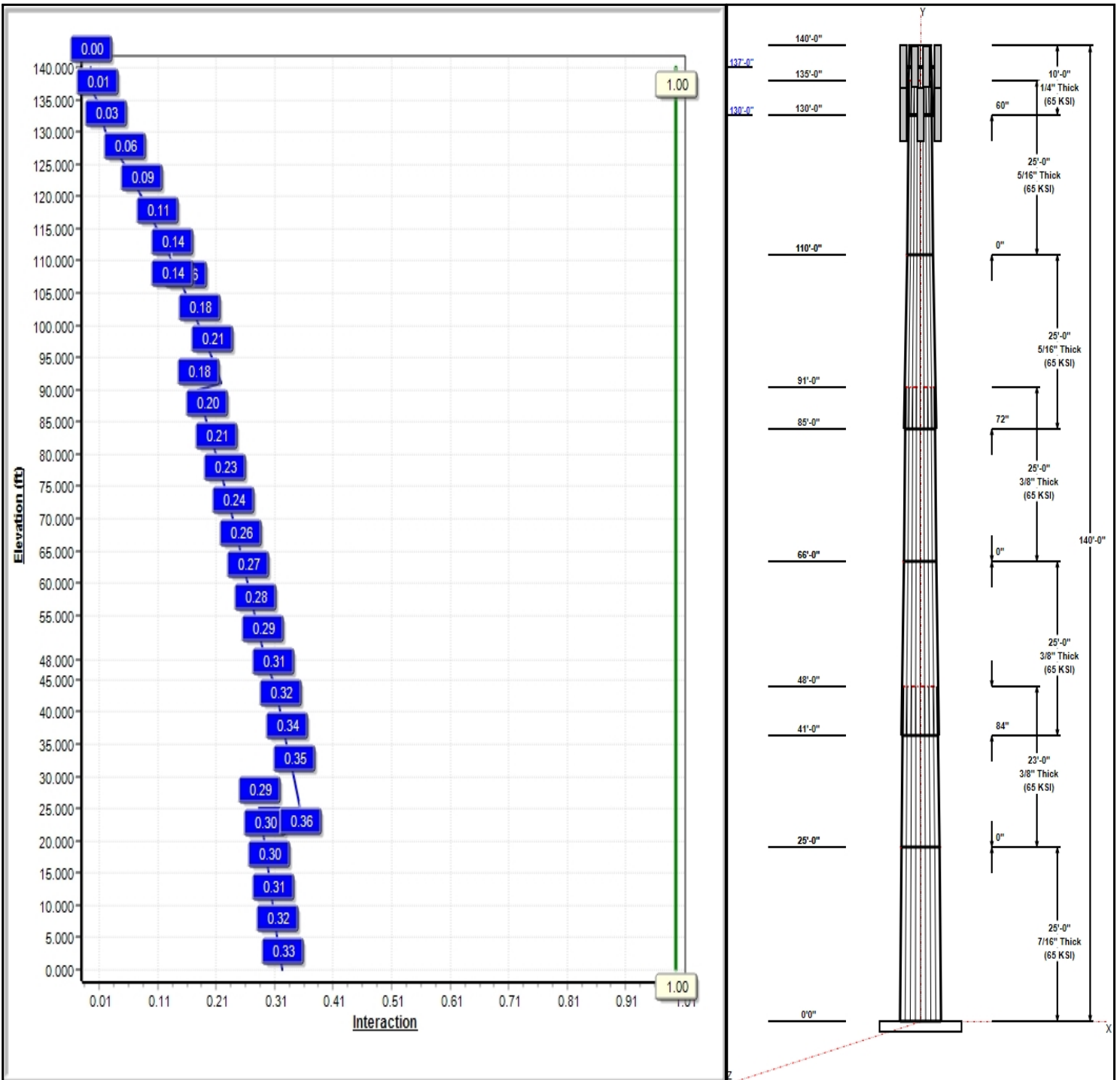
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 102 mph Wind



Iterations: 19

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Structure: CT11560-A-SBA

Type: Tapered
Site Name: Sterling 6, CT
Height: 140.00 (ft)
Base Elev: 1.00 (ft)

Base Shape: 18 Sided
Taper: 0.23518

1/30/2018

Page: 2



Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	25.00	58.62	64.50	0.438		0.23518	65
2	23.00	53.21	58.62	0.375	Butt	0.23518	65
3	25.00	49.73	55.61	0.375	Slip	0.23518	65
4	25.00	43.85	49.73	0.375	Butt	0.23518	65
5	25.00	40.01	45.88	0.313	Slip	0.23518	65
6	25.00	34.13	40.01	0.313	Butt	0.23518	65
7	10.00	33.45	35.80	0.250	Slip	0.23518	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
137.00	137.00	2	Antel BXA-70080/6CF	Verizon
137.00	137.00	4	Antel BXA-70063/6CF	Verizon
137.00	137.00	6	Commscope	Verizon
137.00	137.00	3	ALU RRH2x60-AWS	Verizon
137.00	137.00	3	ALU RRH2X60-PCS	Verizon
137.00	137.00	3	ALU RRH2x60-700	Verizon
137.00	140.00	6	RFS FD9R6004/2C-3L	Verizon
137.00	137.00	2	RFS Celwave	Verizon
137.00	137.00	1	Low Profile Platform	Verizon
130.00	130.00	6	Powerwave LGP21901 -	AT&T
130.00	130.00	3	HPA-65R-BUU-H8 (92.4" x	AT&T
130.00	130.00	3	Ericsson RRUS-32 (29.9"	AT&T
130.00	130.00	9	7770.00	AT&T
130.00	130.00	12	Powerwave LGP21401 -	AT&T
130.00	130.00	3	Ericsson RRUS-11	AT&T
130.00	130.00	1	DC6-48-60-18-8F	AT&T
130.00	130.00	1	Low Profile Platform	AT&T
130.00	130.00	3	Valmont LWRM Ring	AT&T
130.00	130.00	1	Pipe Mount	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	137.00	Inside	1 5/8" Coax	Verizon
3.00	137.00	Inside	1 5/8" Fiber	Verizon
3.00	130.00	Inside	1 5/8" Coax	AT&T
3.00	130.00	Inside	1/2" Fiber	AT&T
3.00	130.00	Inside	3" Conduit	AT&T
3.00	130.00	Inside	3/4" DC	AT&T
3.00	130.00	Inside	7/16" Fiber	AT&T

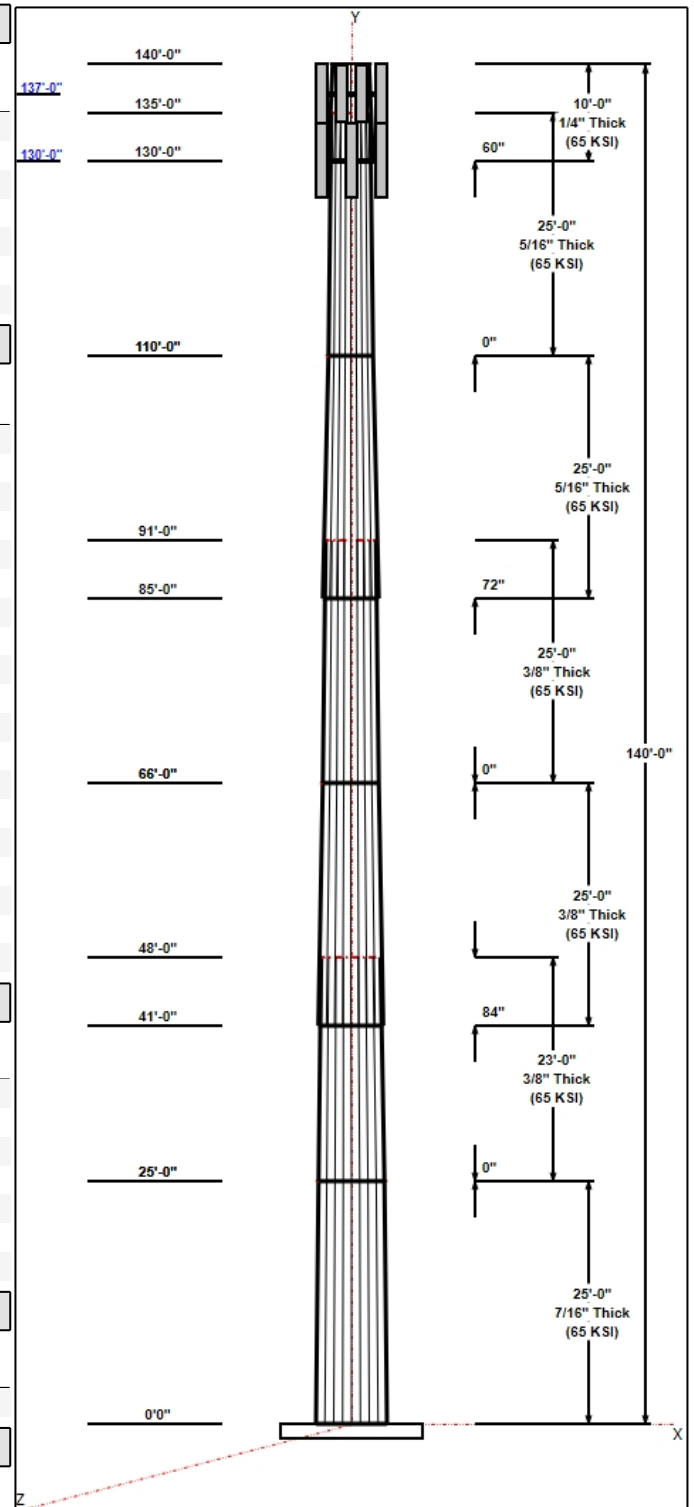
Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.00" F1554 105	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.0000	78.0	50.0	Round

Reactions



Structure: CT11560-A-SBA

Type: Tapered
Site Name: Sterling 6, CT
Height: 140.00 (ft)
Base Elev: 1.00 (ft)

Base Shape: 18 Sided
Taper: 0.23518

1/30/2018

Page: 3



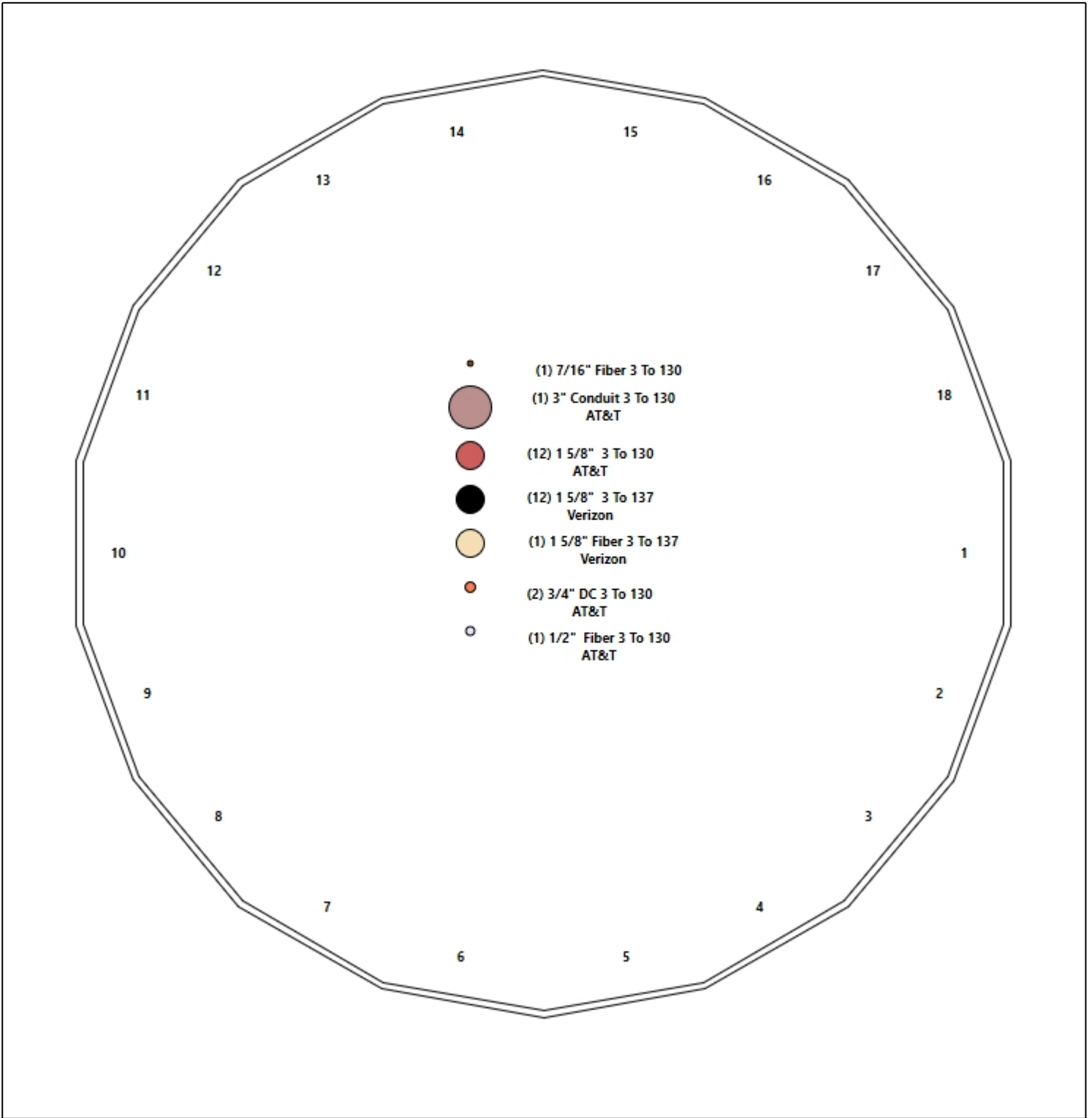
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 102 mph Wind	2437.7	24.7	46.9
0.9D + 1.6W 102 mph Wind	2426.5	24.7	35.2
1.2D + 1.0Di + 1.0Wi 50 mph Wind	674.0	6.9	76.3
1.2D + 1.0E	211.9	1.9	46.9
0.9D + 1.0E	210.9	1.9	35.2
1.0D + 1.0W 60 mph Wind	525.6	5.3	39.1

Structure: CT11560-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Sterling 6, CT
Height: 140.00 (ft)

1/30/2018

Page: 4



Shaft Properties

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	25.000	0.4375	65		0.00	7,220
2	18	23.000	0.3750	65	Flange	0.00	5,174
3	18	25.000	0.3750	65	Slip	84.00	5,295
4	18	25.000	0.3750	65	Flange	0.00	4,699
5	18	25.000	0.3125	65	Slip	72.00	3,597
6	18	25.000	0.3125	65	Flange	0.00	3,101
7	18	10.000	0.2500	65	Slip	60.00	928
Total Shaft Weight:							30,014

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	64.50	0.00	88.96	46124.76	24.59	147.43	58.62	25.00	80.79	34555.0	22.22	133.9	0.235179
2	58.62	25.00	69.32	29714.17	26.15	156.32	53.21	48.00	62.89	22180.7	23.61	141.9	0.235179
3	55.61	41.00	65.74	25337.51	24.74	148.29	49.73	66.00	58.74	18076.8	21.97	132.6	0.235179
4	49.73	66.00	58.74	18076.82	21.97	132.61	43.85	91.00	51.74	12355.4	19.21	116.9	0.235179
5	45.88	85.00	45.20	11860.36	24.48	146.83	40.01	110.00	39.37	7836.67	21.16	128.0	0.235179
6	40.01	110.0	39.37	7836.67	21.16	128.02	34.13	135.00	33.54	4844.63	17.84	109.2	0.235179
7	35.80	130.0	28.21	4504.73	23.84	143.21	33.45	140.00	26.34	3668.59	22.18	133.8	0.235179

Load Summary

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 6

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	137.00	Antel BXA-70080/6CF	2	18.00	5.84	0.88	184.51	8.993	0.88	0.00	0.00
2	137.00	Antel BXA-70063/6CF	4	17.00	7.57	0.70	204.38	11.225	0.70	0.00	0.00
3	137.00	Commscope HBXX-6517DS-A2M	6	40.80	8.55	0.77	273.84	12.409	0.77	0.00	0.00
4	137.00	ALU RRH2x60-AWS	3	60.00	3.50	0.67	175.42	4.543	0.67	0.00	0.00
5	137.00	ALU RRH2X60-PCS	3	55.00	2.20	0.67	175.43	3.066	0.67	0.00	0.00
6	137.00	ALU RRH2x60-700	3	60.00	3.50	0.67	175.42	4.543	0.67	0.00	0.00
7	137.00	RFS FD9R6004/2C-3L	6	3.10	0.36	0.67	13.71	0.946	0.67	0.00	3.00
8	137.00	RFS Celwave DB-T1-6Z-8AB-0Z	2	44.00	4.80	0.67	245.17	5.980	0.67	0.00	0.00
9	137.00	Low Profile Platform	1	1500.00	22.00	1.00	3230.72	45.353	1.00	0.00	0.00
10	130.00	Powerwave LGP21901 - Diplexer	6	5.50	1.67	0.67	15.62	5.185	0.67	0.00	0.00
11	130.00	HPA-65R-BUU-H8 (92.4" x 14.8"	3	68.00	12.98	0.79	470.94	15.145	0.79	0.00	0.00
12	130.00	Ericsson RRUS-32 (29.9" x 13.3" x	3	77.00	3.87	0.87	236.37	4.381	0.87	0.00	0.00
13	130.00	7770.00	9	35.00	5.50	0.73	225.76	6.930	0.73	0.00	0.00
14	130.00	Powerwave LGP21401 - TMA	12	14.10	1.29	0.67	46.99	2.389	0.67	0.00	0.00
15	130.00	Ericsson RRUS-11 (17.8x17.3x7.2)	3	50.70	2.52	0.75	176.56	3.401	0.75	0.00	0.00
16	130.00	DC6-48-60-18-8F	1	31.80	0.92	1.00	113.12	1.496	1.00	0.00	0.00
17	130.00	Low Profile Platform	1	1500.00	22.00	1.00	3221.74	45.232	1.00	0.00	0.00
18	130.00	Valmont LWRM Ring Mount	3	60.00	2.63	0.75	218.40	10.481	0.75	0.00	0.00
19	130.00	Pipe Mount	1	35.00	2.63	1.00	127.40	10.481	1.00	0.00	0.00
Totals:			72	5,331.50			17,670.19				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	137.00	(12) 1 5/8" Coax	0.00	Inside
3.00	137.00	(1) 1 5/8" Fiber	0.00	Inside
3.00	130.00	(12) 1 5/8" Coax	0.00	Inside
3.00	130.00	(1) 1/2" Fiber	0.00	Inside
3.00	130.00	(1) 3" Conduit	0.00	Inside
3.00	130.00	(2) 3/4" DC	0.00	Inside
3.00	130.00	(1) 7/16" Fiber	0.00	Inside

Shaft Section Properties

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 7

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	64.500	88.956	46124.8	24.59	147.43	72.5	1408.	0.0
5.00		0.4375	63.324	87.323	43631.2	24.11	144.74	73.0	1357.	1499.6
10.00		0.4375	62.148	85.690	41229.1	23.64	142.05	73.6	1306.	1471.8
15.00		0.4375	60.972	84.057	38916.9	23.16	139.37	74.2	1257.	1444.0
20.00		0.4375	59.796	82.424	36692.8	22.69	136.68	74.7	1208.	1416.2
25.00	Top - Section 1	0.4375	58.621	80.792	34555.1	22.22	133.99	75.3	1161.	1388.5
25.00	Bot - Section 2	0.3750	58.621	69.324	29714.2	25.92	156.32	70.6	998.4	
30.00		0.3750	57.445	67.925	27950.6	25.60	153.19	71.3	958.3	1167.6
35.00		0.3750	56.269	66.525	26258.2	25.05	150.05	71.9	919.1	1143.8
40.00		0.3750	55.093	65.126	24635.6	24.49	146.91	72.6	880.7	1119.9
41.00	Bot - Section 3	0.3750	54.858	64.846	24319.3	24.38	146.29	72.7	873.2	221.1
45.00		0.3750	53.917	63.726	23081.2	23.94	143.78	73.2	843.2	1762.2
48.00	Top - Section 2	0.3750	53.961	63.779	23138.8	23.96	143.90	0.0	0.0	1301.6
50.00		0.3750	53.491	63.219	22534.8	23.74	142.64	73.5	829.8	432.1
55.00		0.3750	52.315	61.820	21071.0	23.19	139.51	74.1	793.3	1063.7
60.00		0.3750	51.139	60.420	19672.1	22.64	136.37	74.8	757.7	1039.9
65.00		0.3750	49.963	59.020	18336.5	22.08	133.24	75.4	722.8	1016.1
66.00	Top - Section 3	0.3750	49.728	58.741	18076.8	21.97	132.61	75.6	716.0	200.4
66.00	Bot - Section 4	0.3750	49.728	58.741	18076.8	21.97	132.61	75.6	716.0	
70.00		0.3750	48.788	57.621	17062.7	21.53	130.10	76.1	688.8	791.9
75.00		0.3750	47.612	56.221	15849.4	20.98	126.96	76.7	655.7	968.4
80.00		0.3750	46.436	54.822	14694.9	20.42	123.83	77.4	623.3	944.6
85.00	Bot - Section 5	0.3750	45.260	53.422	13598.0	19.87	120.69	78.0	591.8	920.8
90.00		0.3750	44.084	52.023	12557.0	19.32	117.56	78.7	561.0	1656.1
91.00	Top - Section 4	0.3125	44.474	43.801	10792.4	23.68	142.32	0.0	0.0	326.0
95.00		0.3125	43.533	42.868	10117.3	23.15	139.31	74.2	457.7	589.8
100.00		0.3125	42.357	41.702	9313.8	22.49	135.54	74.9	433.1	719.4
105.00		0.3125	41.181	40.535	8554.0	21.83	131.78	75.7	409.1	699.6
110.00	Top - Section 5	0.3125	40.005	39.369	7836.7	21.16	128.02	76.5	385.8	679.7
110.00	Bot - Section 6	0.3125	40.005	39.369	7836.7	21.16	128.02	76.5	385.8	
115.00		0.3125	38.829	38.203	7160.6	20.50	124.25	77.3	363.2	659.9
120.00		0.3125	37.654	37.036	6524.6	19.84	120.49	78.1	341.3	640.1
125.00		0.3125	36.478	35.870	5927.4	19.17	116.73	78.9	320.1	620.2
130.00	Bot - Section 7	0.3125	35.302	34.704	5367.8	18.51	112.97	79.6	299.5	600.4
135.00	Top - Section 6	0.2500	34.626	27.276	4072.4	23.01	138.50	0.0	0.0	1052.5
137.00		0.2500	34.156	26.903	3907.5	22.68	136.62	74.7	225.3	184.4
140.00		0.2500	33.450	26.343	3668.6	22.18	133.80	75.3	216.0	271.8

30014.2

Wind Loading - Shaft

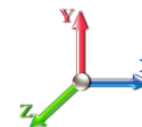
Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 8

Load Case: 1.2D + 1.6W 102 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 19

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	0.70	17.712	19.48	465.78	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	17.712	19.48	457.28	0.650	0.000	5.00	27.041	17.58	547.9	0.0	1799.5
10.00		1.00	0.70	17.712	19.48	448.79	0.650	0.000	5.00	26.543	17.25	537.8	0.0	1766.2
15.00		1.00	0.70	17.712	19.48	440.30	0.650	0.000	5.00	26.046	16.93	527.7	0.0	1732.8
20.00		1.00	0.70	17.712	19.48	431.81	0.650	0.000	5.00	25.548	16.61	517.7	0.0	1699.5
25.00	Top - Section 1	1.00	0.70	17.712	19.48	423.32	0.650	0.000	5.00	25.051	16.28	507.6	0.0	1666.2
30.00		1.00	0.71	17.894	19.68	416.95	0.650	0.000	5.00	24.553	15.96	502.6	0.0	1401.1
35.00		1.00	0.74	18.675	20.54	417.23	0.650	0.000	5.00	24.056	15.64	513.9	0.0	1372.5
40.00		1.00	0.77	19.382	21.32	416.17	0.650	0.000	5.00	23.558	15.31	522.3	0.0	1343.9
41.00	Bot - Section 3	1.00	0.77	19.515	21.47	415.83	0.650	0.000	1.00	4.652	3.02	103.9	0.0	265.4
45.00		1.00	0.79	20.029	22.03	414.04	0.650	0.000	4.00	18.663	12.13	427.6	0.0	2114.6
48.00	Top - Section 2	1.00	0.81	20.394	22.43	412.33	0.650	0.000	3.00	13.788	8.96	321.7	0.0	1561.9
50.00		1.00	0.82	20.629	22.69	416.87	0.650	0.000	2.00	9.093	5.91	214.6	0.0	518.6
55.00		1.00	0.84	21.187	23.31	413.19	0.650	0.000	5.00	22.383	14.55	542.5	0.0	1276.4
60.00		1.00	0.86	21.711	23.88	408.87	0.650	0.000	5.00	21.886	14.23	543.6	0.0	1247.9
65.00		1.00	0.88	22.206	24.43	403.99	0.650	0.000	5.00	21.388	13.90	543.3	0.0	1219.3
66.00	Top - Section 3	1.00	0.88	22.301	24.53	402.95	0.650	0.000	1.00	4.218	2.74	107.6	0.0	240.4
70.00		1.00	0.90	22.674	24.94	398.62	0.650	0.000	4.00	16.673	10.84	432.5	0.0	950.3
75.00		1.00	0.91	23.119	25.43	392.81	0.650	0.000	5.00	20.393	13.26	539.4	0.0	1162.1
80.00		1.00	0.93	23.544	25.90	386.61	0.650	0.000	5.00	19.895	12.93	535.9	0.0	1133.6
85.00	Bot - Section 5	1.00	0.95	23.950	26.35	380.06	0.650	0.000	5.00	19.398	12.61	531.5	0.0	1105.0
90.00		1.00	0.96	24.340	26.77	373.19	0.650	0.000	5.00	19.165	12.46	533.6	0.0	1987.4
91.00	Top - Section 4	1.00	0.96	24.416	26.86	371.78	0.650	0.000	1.00	3.773	2.45	105.4	0.0	391.2
95.00		1.00	0.98	24.715	27.19	371.35	0.650	0.000	4.00	14.894	9.68	421.1	0.0	707.8
100.00		1.00	0.99	25.076	27.58	363.95	0.650	0.000	5.00	18.170	11.81	521.2	0.0	863.3
105.00		1.00	1.00	25.425	27.97	356.30	0.650	0.000	5.00	17.672	11.49	514.0	0.0	839.5
110.00	Top - Section 5	1.00	1.02	25.762	28.34	348.41	0.650	0.000	5.00	17.175	11.16	506.2	0.0	815.7
115.00		1.00	1.03	26.088	28.70	340.30	0.650	0.000	5.00	16.677	10.84	497.7	0.0	791.9
120.00		1.00	1.04	26.404	29.04	331.99	0.650	0.000	5.00	16.180	10.52	488.7	0.0	768.1
125.00		1.00	1.06	26.712	29.38	323.49	0.650	0.000	5.00	15.682	10.19	479.2	0.0	744.3
130.00	Bot - Section 7	1.00	1.07	27.010	29.71	314.81	0.650	0.000	5.00	15.185	9.87	469.2	0.0	720.4
135.00	Top - Section 6	1.00	1.08	27.301	30.03	305.96	0.650	0.000	5.00	14.899	9.68	465.3	0.0	1263.0
137.00	Appurtenance(s)	1.00	1.08	27.415	30.16	306.86	0.650	0.000	2.00	5.820	3.78	182.5	0.0	221.2
140.00		1.00	1.09	27.584	30.34	301.45	0.650	0.000	3.00	8.581	5.58	270.8	0.0	326.1
								Totals:	140.00			14,476.7		36,017.0

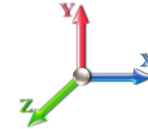
Discrete Appurtenance Forces

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 9
	Struct Class: II	



Load Case: 1.2D + 1.6W 102 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 19

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	137.00	Antel BXA-70080/6CF	2	27.415	30.156	0.70	0.80	8.22	43.20	0.000	0.000	396.75	0.00	0.00
2	137.00	RFS Celwave	2	27.415	30.156	0.54	0.80	5.15	105.60	0.000	0.000	248.28	0.00	0.00
3	137.00	RFS FD9R6004/2C-3L	6	27.584	30.342	0.60	0.90	1.30	22.32	0.000	3.000	63.23	0.00	189.70
4	137.00	ALU RRH2x60-700	3	27.415	30.156	0.54	0.80	5.63	216.00	0.000	0.000	271.55	0.00	0.00
5	137.00	ALU RRH2X60-PCS	3	27.415	30.156	0.54	0.80	3.54	198.00	0.000	0.000	170.69	0.00	0.00
6	137.00	ALU RRH2x60-AWS	3	27.415	30.156	0.54	0.80	5.63	216.00	0.000	0.000	271.55	0.00	0.00
7	137.00	Commscope	6	27.415	30.156	0.69	0.90	35.55	293.76	0.000	0.000	1715.34	0.00	0.00
8	137.00	Antel BXA-70063/6CF	4	27.415	30.156	0.56	0.80	16.96	81.60	0.000	0.000	818.17	0.00	0.00
9	137.00	Low Profile Platform	1	27.415	30.156	1.00	1.00	22.00	1800.00	0.000	0.000	1061.51	0.00	0.00
10	130.00	Powerwave LGP21901 -	6	27.010	29.711	0.54	0.80	5.37	39.60	0.000	0.000	255.31	0.00	0.00
11	130.00	Pipe Mount	1	27.010	29.711	1.00	1.00	2.63	42.00	0.000	0.000	125.03	0.00	0.00
12	130.00	Valmont LWRM Ring	3	27.010	29.711	0.56	0.75	4.44	216.00	0.000	0.000	210.98	0.00	0.00
13	130.00	Low Profile Platform	1	27.010	29.711	1.00	1.00	22.00	1800.00	0.000	0.000	1045.84	0.00	0.00
14	130.00	DC6-48-60-18-8F	1	27.010	29.711	1.00	1.00	0.92	38.16	0.000	0.000	43.73	0.00	0.00
15	130.00	Ericsson RRUS-11	3	27.010	29.711	0.60	0.80	4.54	182.52	0.000	0.000	215.63	0.00	0.00
16	130.00	Powerwave LGP21401 -	12	27.010	29.711	0.54	0.80	8.30	203.04	0.000	0.000	394.44	0.00	0.00
17	130.00	7770.00	9	27.010	29.711	0.58	0.80	28.91	378.00	0.000	0.000	1374.23	0.00	0.00
18	130.00	Ericsson RRUS-32 (29.9"	3	27.010	29.711	0.70	0.80	8.08	277.20	0.000	0.000	384.13	0.00	0.00
19	130.00	HPA-65R-BUU-H8 (92.4"	3	27.010	29.711	0.63	0.80	24.61	244.80	0.000	0.000	1169.91	0.00	0.00
Totals:									6,397.80			10,236.32		

Total Applied Force Summary

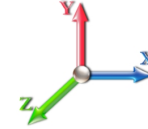
Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 10

Load Case: 1.2D + 1.6W 102 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 19

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		547.91	1868.27	0.00	0.00
10.00		537.83	1938.07	0.00	0.00
15.00		527.75	1904.73	0.00	0.00
20.00		517.67	1871.40	0.00	0.00
25.00		507.59	1838.06	0.00	0.00
30.00		502.61	1572.98	0.00	0.00
35.00		513.92	1544.41	0.00	0.00
40.00		522.35	1515.83	0.00	0.00
41.00		103.86	299.74	0.00	0.00
45.00		427.63	2252.10	0.00	0.00
48.00		321.69	1665.08	0.00	0.00
50.00		214.58	587.34	0.00	0.00
55.00		542.53	1448.34	0.00	0.00
60.00		543.59	1419.76	0.00	0.00
65.00		543.32	1391.19	0.00	0.00
66.00		107.61	274.81	0.00	0.00
70.00		432.47	1087.81	0.00	0.00
75.00		539.36	1334.04	0.00	0.00
80.00		535.86	1305.47	0.00	0.00
85.00		531.48	1276.89	0.00	0.00
90.00		533.64	2159.25	0.00	0.00
91.00		105.39	425.56	0.00	0.00
95.00		421.11	845.31	0.00	0.00
100.00		521.24	1035.21	0.00	0.00
105.00		514.01	1011.40	0.00	0.00
110.00		506.16	987.59	0.00	0.00
115.00		497.73	963.78	0.00	0.00
120.00		488.74	939.96	0.00	0.00
125.00		479.22	916.15	0.00	0.00
130.00	(42) attachments	5688.44	4313.66	0.00	0.00
135.00		465.32	1344.16	0.00	0.00
137.00	(30) attachments	5199.62	3230.16	0.00	189.70
140.00		270.78	326.13	0.00	0.00
	Totals:	24,712.99	46,894.66	0.00	189.70

Calculated Forces

Structure: CT11560-A-SBA
Site Name: Sterling 6, CT
Height: 140.00 (ft)
Base Elev: 1.000 (ft)
Gh: 1.1

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

1/30/2018

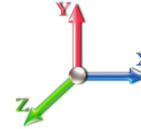


Page: 11

Load Case: 1.2D + 1.6W 102 mph Wind

Iterations 19

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	-46.88	-24.74	0.00	-2437.6	0.00	2437.67	5803.10	2901.55	15291.3	7657.05	0.00	0.000	0.000	0.327
5.00	-44.98	-24.25	0.00	-2313.9	0.00	2313.96	5740.39	2870.20	14846.6	7434.33	0.04	-0.073	0.000	0.319
10.00	-43.01	-23.77	0.00	-2192.7	0.00	2192.70	5676.04	2838.02	14403.7	7212.59	0.16	-0.147	0.000	0.312
15.00	-41.08	-23.28	0.00	-2073.8	0.00	2073.87	5610.05	2805.03	13963.1	6991.95	0.35	-0.220	0.000	0.304
20.00	-39.18	-22.81	0.00	-1957.4	0.00	1957.45	5542.43	2771.21	13524.9	6772.52	0.62	-0.294	0.000	0.296
25.00	-37.32	-22.34	0.00	-1843.4	0.00	1843.40	5473.16	2736.58	13089.3	6554.42	0.97	-0.368	0.000	0.288
25.00	-37.32	-22.34	0.00	-1843.4	0.00	1843.40	4407.37	2203.68	10563.1	5289.42	0.97	-0.368	0.000	0.357
30.00	-35.72	-21.87	0.00	-1731.7	0.00	1731.71	4358.14	2179.07	10232.9	5124.08	1.39	-0.441	0.000	0.346
35.00	-34.15	-21.40	0.00	-1622.3	0.00	1622.34	4307.28	2153.64	9903.77	4959.25	1.90	-0.527	0.000	0.335
40.00	-32.62	-20.89	0.00	-1515.3	0.00	1515.34	4254.78	2127.39	9575.87	4795.05	2.50	-0.612	0.000	0.324
41.00	-32.30	-20.81	0.00	-1494.4	0.00	1494.45	4244.08	2122.04	9510.46	4762.30	2.63	-0.629	0.000	0.322
45.00	-30.03	-20.38	0.00	-1411.2	0.00	1411.23	4200.64	2100.32	9249.48	4631.61	3.19	-0.697	0.000	0.312
48.00	-28.36	-20.06	0.00	-1350.0	0.00	1350.07	4202.72	2101.36	9261.79	4637.78	3.64	-0.748	0.000	0.298
50.00	-27.75	-19.87	0.00	-1309.9	0.00	1309.95	4180.63	2090.32	9131.68	4572.63	3.96	-0.782	0.000	0.293
55.00	-26.29	-19.34	0.00	-1210.6	0.00	1210.61	4124.26	2062.13	8807.72	4410.41	4.83	-0.862	0.000	0.281
60.00	-24.85	-18.81	0.00	-1113.9	0.00	1113.90	4066.25	2033.13	8485.83	4249.22	5.77	-0.940	0.000	0.268
65.00	-23.45	-18.26	0.00	-1019.8	0.00	1019.86	4006.61	2003.30	8166.25	4089.20	6.80	-1.017	0.000	0.255
66.00	-23.17	-18.16	0.00	-1001.6	0.00	1001.60	3994.48	1997.24	8102.64	4057.34	7.01	-1.033	0.000	0.253
66.00	-23.17	-18.16	0.00	-1001.6	0.00	1001.60	3994.48	1997.24	8102.64	4057.34	7.01	-1.033	0.000	0.253
70.00	-22.07	-17.74	0.00	-928.94	0.00	928.94	3945.32	1972.66	7849.23	3930.45	7.91	-1.094	0.000	0.242
75.00	-20.72	-17.20	0.00	-840.25	0.00	840.25	3882.40	1941.20	7534.99	3773.10	9.09	-1.168	0.000	0.228
80.00	-19.41	-16.66	0.00	-754.27	0.00	754.27	3817.84	1908.92	7223.78	3617.26	10.35	-1.239	0.000	0.214
85.00	-18.13	-16.12	0.00	-670.97	0.00	670.97	3751.64	1875.82	6915.84	3463.06	11.69	-1.308	0.000	0.199
90.00	-15.97	-15.55	0.00	-590.37	0.00	590.37	3683.80	1841.90	6611.41	3310.62	13.09	-1.374	0.000	0.183
91.00	-15.54	-15.44	0.00	-574.82	0.00	574.82	2899.19	1449.59	5264.94	2636.38	13.38	-1.387	0.000	0.224
95.00	-14.69	-15.01	0.00	-513.06	0.00	513.06	2861.52	1430.76	5085.06	2546.31	14.57	-1.437	0.000	0.207
100.00	-13.65	-14.48	0.00	-438.00	0.00	438.00	2812.95	1406.48	4861.78	2434.50	16.11	-1.504	0.000	0.185
105.00	-12.64	-13.95	0.00	-365.59	0.00	365.59	2762.75	1381.37	4640.48	2323.69	17.72	-1.566	0.000	0.162
110.00	-11.65	-13.43	0.00	-295.83	0.00	295.83	2710.91	1355.45	4421.40	2213.98	19.39	-1.621	0.000	0.138
110.00	-11.65	-13.43	0.00	-295.83	0.00	295.83	2710.91	1355.45	4421.40	2213.98	19.39	-1.621	0.000	0.138
115.00	-10.69	-12.91	0.00	-228.68	0.00	228.68	2657.43	1328.71	4204.77	2105.51	21.11	-1.668	0.000	0.113
120.00	-9.76	-12.40	0.00	-164.11	0.00	164.11	2602.31	1301.16	3990.84	1998.39	22.88	-1.707	0.000	0.086
125.00	-8.86	-11.90	0.00	-102.10	0.00	102.10	2545.56	1272.78	3779.85	1892.74	24.69	-1.736	0.000	0.058
130.00	-4.72	-6.08	0.00	-42.60	0.00	42.60	2487.16	1243.58	3572.03	1788.67	26.52	-1.754	0.000	0.026
135.00	-3.39	-5.58	0.00	-12.19	0.00	12.19	1824.83	912.42	2579.10	1291.47	28.36	-1.761	0.000	0.011
137.00	-0.32	-0.28	0.00	-0.84	0.00	0.84	1809.31	904.66	2521.92	1262.84	29.10	-1.762	0.000	0.001
140.00	0.00	-0.27	0.00	0.00	0.00	0.00	1785.54	892.77	2436.62	1220.12	30.21	-1.762	0.000	0.000

Wind Loading - Shaft

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 12

Load Case: 0.9D + 1.6W 102 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 19

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	0.70	17.712	19.48	465.78	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	17.712	19.48	457.28	0.650	0.000	5.00	27.041	17.58	547.9	0.0	1349.6
10.00		1.00	0.70	17.712	19.48	448.79	0.650	0.000	5.00	26.543	17.25	537.8	0.0	1324.6
15.00		1.00	0.70	17.712	19.48	440.30	0.650	0.000	5.00	26.046	16.93	527.7	0.0	1299.6
20.00		1.00	0.70	17.712	19.48	431.81	0.650	0.000	5.00	25.548	16.61	517.7	0.0	1274.6
25.00	Top - Section 1	1.00	0.70	17.712	19.48	423.32	0.650	0.000	5.00	25.051	16.28	507.6	0.0	1249.6
30.00		1.00	0.71	17.894	19.68	416.95	0.650	0.000	5.00	24.553	15.96	502.6	0.0	1050.8
35.00		1.00	0.74	18.675	20.54	417.23	0.650	0.000	5.00	24.056	15.64	513.9	0.0	1029.4
40.00		1.00	0.77	19.382	21.32	416.17	0.650	0.000	5.00	23.558	15.31	522.3	0.0	1008.0
41.00	Bot - Section 3	1.00	0.77	19.515	21.47	415.83	0.650	0.000	1.00	4.652	3.02	103.9	0.0	199.0
45.00		1.00	0.79	20.029	22.03	414.04	0.650	0.000	4.00	18.663	12.13	427.6	0.0	1585.9
48.00	Top - Section 2	1.00	0.81	20.394	22.43	412.33	0.650	0.000	3.00	13.788	8.96	321.7	0.0	1171.5
50.00		1.00	0.82	20.629	22.69	416.87	0.650	0.000	2.00	9.093	5.91	214.6	0.0	388.9
55.00		1.00	0.84	21.187	23.31	413.19	0.650	0.000	5.00	22.383	14.55	542.5	0.0	957.3
60.00		1.00	0.86	21.711	23.88	408.87	0.650	0.000	5.00	21.886	14.23	543.6	0.0	935.9
65.00		1.00	0.88	22.206	24.43	403.99	0.650	0.000	5.00	21.388	13.90	543.3	0.0	914.5
66.00	Top - Section 3	1.00	0.88	22.301	24.53	402.95	0.650	0.000	1.00	4.218	2.74	107.6	0.0	180.3
70.00		1.00	0.90	22.674	24.94	398.62	0.650	0.000	4.00	16.673	10.84	432.5	0.0	712.7
75.00		1.00	0.91	23.119	25.43	392.81	0.650	0.000	5.00	20.393	13.26	539.4	0.0	871.6
80.00		1.00	0.93	23.544	25.90	386.61	0.650	0.000	5.00	19.895	12.93	535.9	0.0	850.2
85.00	Bot - Section 5	1.00	0.95	23.950	26.35	380.06	0.650	0.000	5.00	19.398	12.61	531.5	0.0	828.7
90.00		1.00	0.96	24.340	26.77	373.19	0.650	0.000	5.00	19.165	12.46	533.6	0.0	1490.5
91.00	Top - Section 4	1.00	0.96	24.416	26.86	371.78	0.650	0.000	1.00	3.773	2.45	105.4	0.0	293.4
95.00		1.00	0.98	24.715	27.19	371.35	0.650	0.000	4.00	14.894	9.68	421.1	0.0	530.8
100.00		1.00	0.99	25.076	27.58	363.95	0.650	0.000	5.00	18.170	11.81	521.2	0.0	647.5
105.00		1.00	1.00	25.425	27.97	356.30	0.650	0.000	5.00	17.672	11.49	514.0	0.0	629.6
110.00	Top - Section 5	1.00	1.02	25.762	28.34	348.41	0.650	0.000	5.00	17.175	11.16	506.2	0.0	611.8
115.00		1.00	1.03	26.088	28.70	340.30	0.650	0.000	5.00	16.677	10.84	497.7	0.0	593.9
120.00		1.00	1.04	26.404	29.04	331.99	0.650	0.000	5.00	16.180	10.52	488.7	0.0	576.0
125.00		1.00	1.06	26.712	29.38	323.49	0.650	0.000	5.00	15.682	10.19	479.2	0.0	558.2
130.00	Bot - Section 7	1.00	1.07	27.010	29.71	314.81	0.650	0.000	5.00	15.185	9.87	469.2	0.0	540.3
135.00	Top - Section 6	1.00	1.08	27.301	30.03	305.96	0.650	0.000	5.00	14.899	9.68	465.3	0.0	947.3
137.00	Appurtenance(s)	1.00	1.08	27.415	30.16	306.86	0.650	0.000	2.00	5.820	3.78	182.5	0.0	165.9
140.00		1.00	1.09	27.584	30.34	301.45	0.650	0.000	3.00	8.581	5.58	270.8	0.0	244.6
								Totals:	140.00			14,476.7		27,012.8

Discrete Appurtenance Forces

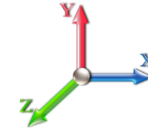
Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 13

Load Case: 0.9D + 1.6W 102 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 19

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	137.00	Antel BXA-70080/6CF	2	27.415	30.156	0.70	0.80	8.22	32.40	0.000	0.000	396.75	0.00	0.00
2	137.00	RFS Celwave	2	27.415	30.156	0.54	0.80	5.15	79.20	0.000	0.000	248.28	0.00	0.00
3	137.00	RFS FD9R6004/2C-3L	6	27.584	30.342	0.60	0.90	1.30	16.74	0.000	3.000	63.23	0.00	189.70
4	137.00	ALU RRH2x60-700	3	27.415	30.156	0.54	0.80	5.63	162.00	0.000	0.000	271.55	0.00	0.00
5	137.00	ALU RRH2X60-PCS	3	27.415	30.156	0.54	0.80	3.54	148.50	0.000	0.000	170.69	0.00	0.00
6	137.00	ALU RRH2x60-AWS	3	27.415	30.156	0.54	0.80	5.63	162.00	0.000	0.000	271.55	0.00	0.00
7	137.00	Commscope	6	27.415	30.156	0.69	0.90	35.55	220.32	0.000	0.000	1715.34	0.00	0.00
8	137.00	Antel BXA-70063/6CF	4	27.415	30.156	0.56	0.80	16.96	61.20	0.000	0.000	818.17	0.00	0.00
9	137.00	Low Profile Platform	1	27.415	30.156	1.00	1.00	22.00	1350.00	0.000	0.000	1061.51	0.00	0.00
10	130.00	Powerwave LGP21901 -	6	27.010	29.711	0.54	0.80	5.37	29.70	0.000	0.000	255.31	0.00	0.00
11	130.00	Pipe Mount	1	27.010	29.711	1.00	1.00	2.63	31.50	0.000	0.000	125.03	0.00	0.00
12	130.00	Valmont LWRM Ring	3	27.010	29.711	0.56	0.75	4.44	162.00	0.000	0.000	210.98	0.00	0.00
13	130.00	Low Profile Platform	1	27.010	29.711	1.00	1.00	22.00	1350.00	0.000	0.000	1045.84	0.00	0.00
14	130.00	DC6-48-60-18-8F	1	27.010	29.711	1.00	1.00	0.92	28.62	0.000	0.000	43.73	0.00	0.00
15	130.00	Ericsson RRUS-11	3	27.010	29.711	0.60	0.80	4.54	136.89	0.000	0.000	215.63	0.00	0.00
16	130.00	Powerwave LGP21401 -	12	27.010	29.711	0.54	0.80	8.30	152.28	0.000	0.000	394.44	0.00	0.00
17	130.00	7770.00	9	27.010	29.711	0.58	0.80	28.91	283.50	0.000	0.000	1374.23	0.00	0.00
18	130.00	Ericsson RRUS-32 (29.9"	3	27.010	29.711	0.70	0.80	8.08	207.90	0.000	0.000	384.13	0.00	0.00
19	130.00	HPA-65R-BUU-H8 (92.4"	3	27.010	29.711	0.63	0.80	24.61	183.60	0.000	0.000	1169.91	0.00	0.00
Totals:									4,798.35			10,236.32		

Total Applied Force Summary

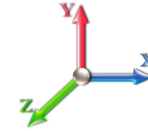
Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 14

Load Case: 0.9D + 1.6W 102 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 19

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		547.91	1401.20	0.00	0.00
10.00		537.83	1453.55	0.00	0.00
15.00		527.75	1428.55	0.00	0.00
20.00		517.67	1403.55	0.00	0.00
25.00		507.59	1378.55	0.00	0.00
30.00		502.61	1179.74	0.00	0.00
35.00		513.92	1158.31	0.00	0.00
40.00		522.35	1136.88	0.00	0.00
41.00		103.86	224.80	0.00	0.00
45.00		427.63	1689.08	0.00	0.00
48.00		321.69	1248.81	0.00	0.00
50.00		214.58	440.50	0.00	0.00
55.00		542.53	1086.25	0.00	0.00
60.00		543.59	1064.82	0.00	0.00
65.00		543.32	1043.39	0.00	0.00
66.00		107.61	206.11	0.00	0.00
70.00		432.47	815.85	0.00	0.00
75.00		539.36	1000.53	0.00	0.00
80.00		535.86	979.10	0.00	0.00
85.00		531.48	957.67	0.00	0.00
90.00		533.64	1619.44	0.00	0.00
91.00		105.39	319.17	0.00	0.00
95.00		421.11	633.99	0.00	0.00
100.00		521.24	776.41	0.00	0.00
105.00		514.01	758.55	0.00	0.00
110.00		506.16	740.69	0.00	0.00
115.00		497.73	722.83	0.00	0.00
120.00		488.74	704.97	0.00	0.00
125.00		479.22	687.11	0.00	0.00
130.00	(42) attachments	5688.44	3235.25	0.00	0.00
135.00		465.32	1008.12	0.00	0.00
137.00	(30) attachments	5199.62	2422.62	0.00	189.70
140.00		270.78	244.60	0.00	0.00
	Totals:	24,712.99	35,170.99	0.00	189.70

Calculated Forces

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

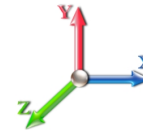


Page: 15

Load Case: 0.9D + 1.6W 102 mph Wind

Iterations 19

Dead Load Factor 0.90
Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-35.15	-24.74	0.00	-2426.5	0.00	2426.54	5803.10	2901.55	15291.3	7657.05	0.00	0.000	0.000	0.323
5.00	-33.72	-24.23	0.00	-2302.8	0.00	2302.87	5740.39	2870.20	14846.6	7434.33	0.04	-0.073	0.000	0.316
10.00	-32.24	-23.73	0.00	-2181.7	0.00	2181.72	5676.04	2838.02	14403.7	7212.59	0.16	-0.146	0.000	0.308
15.00	-30.78	-23.24	0.00	-2063.0	0.00	2063.07	5610.05	2805.03	13963.1	6991.95	0.35	-0.219	0.000	0.301
20.00	-29.35	-22.75	0.00	-1946.8	0.00	1946.88	5542.43	2771.21	13524.9	6772.52	0.62	-0.293	0.000	0.293
25.00	-27.95	-22.27	0.00	-1833.1	0.00	1833.12	5473.16	2736.58	13089.3	6554.42	0.96	-0.366	0.000	0.285
25.00	-27.95	-22.27	0.00	-1833.1	0.00	1833.12	4407.37	2203.68	10563.1	5289.42	0.96	-0.366	0.000	0.353
30.00	-26.74	-21.80	0.00	-1721.7	0.00	1721.77	4358.14	2179.07	10232.9	5124.08	1.39	-0.439	0.000	0.342
35.00	-25.56	-21.31	0.00	-1612.7	0.00	1612.78	4307.28	2153.64	9903.77	4959.25	1.89	-0.524	0.000	0.331
40.00	-24.41	-20.80	0.00	-1506.2	0.00	1506.22	4254.78	2127.39	9575.87	4795.05	2.49	-0.608	0.000	0.320
41.00	-24.17	-20.71	0.00	-1485.4	0.00	1485.42	4244.08	2122.04	9510.46	4762.30	2.62	-0.626	0.000	0.318
45.00	-22.46	-20.29	0.00	-1402.5	0.00	1402.58	4200.64	2100.32	9249.48	4631.61	3.17	-0.693	0.000	0.308
48.00	-21.20	-19.97	0.00	-1341.7	0.00	1341.72	4202.72	2101.36	9261.79	4637.78	3.62	-0.744	0.000	0.294
50.00	-20.75	-19.77	0.00	-1301.7	0.00	1301.78	4180.63	2090.32	9131.68	4572.63	3.94	-0.778	0.000	0.290
55.00	-19.64	-19.23	0.00	-1202.9	0.00	1202.96	4124.26	2062.13	8807.72	4410.41	4.80	-0.857	0.000	0.278
60.00	-18.56	-18.70	0.00	-1106.7	0.00	1106.78	4066.25	2033.13	8485.83	4249.22	5.74	-0.935	0.000	0.265
65.00	-17.51	-18.15	0.00	-1013.2	0.00	1013.28	4006.61	2003.30	8166.25	4089.20	6.76	-1.012	0.000	0.252
66.00	-17.30	-18.05	0.00	-995.13	0.00	995.13	3994.48	1997.24	8102.64	4057.34	6.97	-1.027	0.000	0.250
66.00	-17.30	-18.05	0.00	-995.13	0.00	995.13	3994.48	1997.24	8102.64	4057.34	6.97	-1.027	0.000	0.250
70.00	-16.47	-17.62	0.00	-922.92	0.00	922.92	3945.32	1972.66	7849.23	3930.45	7.86	-1.087	0.000	0.239
75.00	-15.46	-17.09	0.00	-834.80	0.00	834.80	3882.40	1941.20	7534.99	3773.10	9.04	-1.161	0.000	0.225
80.00	-14.47	-16.55	0.00	-749.37	0.00	749.37	3817.84	1908.92	7223.78	3617.26	10.30	-1.232	0.000	0.211
85.00	-13.50	-16.01	0.00	-666.64	0.00	666.64	3751.64	1875.82	6915.84	3463.06	11.62	-1.300	0.000	0.196
90.00	-11.89	-15.45	0.00	-586.59	0.00	586.59	3683.80	1841.90	6611.41	3310.62	13.02	-1.366	0.000	0.180
91.00	-11.56	-15.34	0.00	-571.14	0.00	571.14	2899.19	1449.59	5264.94	2636.38	13.31	-1.379	0.000	0.221
95.00	-10.92	-14.92	0.00	-509.78	0.00	509.78	2861.52	1430.76	5085.06	2546.31	14.49	-1.429	0.000	0.204
100.00	-10.14	-14.39	0.00	-435.20	0.00	435.20	2812.95	1406.48	4861.78	2434.50	16.02	-1.495	0.000	0.182
105.00	-9.39	-13.86	0.00	-363.28	0.00	363.28	2762.75	1381.37	4640.48	2323.69	17.62	-1.556	0.000	0.160
110.00	-8.65	-13.34	0.00	-293.97	0.00	293.97	2710.91	1355.45	4421.40	2213.98	19.28	-1.611	0.000	0.136
110.00	-8.65	-13.34	0.00	-293.97	0.00	293.97	2710.91	1355.45	4421.40	2213.98	19.28	-1.611	0.000	0.136
115.00	-7.93	-12.83	0.00	-227.26	0.00	227.26	2657.43	1328.71	4204.77	2105.51	20.99	-1.658	0.000	0.111
120.00	-7.23	-12.33	0.00	-163.11	0.00	163.11	2602.31	1301.16	3990.84	1998.39	22.75	-1.697	0.000	0.084
125.00	-6.56	-11.83	0.00	-101.49	0.00	101.49	2545.56	1272.78	3779.85	1892.74	24.55	-1.726	0.000	0.056
130.00	-3.49	-6.05	0.00	-42.35	0.00	42.35	2487.16	1243.58	3572.03	1788.67	26.37	-1.743	0.000	0.025
135.00	-2.50	-5.55	0.00	-12.12	0.00	12.12	1824.83	912.42	2579.10	1291.47	28.20	-1.750	0.000	0.011
137.00	-0.24	-0.28	0.00	-0.83	0.00	0.83	1809.31	904.66	2521.92	1262.84	28.93	-1.751	0.000	0.001
140.00	0.00	-0.27	0.00	0.00	0.00	0.00	1785.54	892.77	2436.62	1220.12	30.03	-1.751	0.000	0.000

Wind Loading - Shaft

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 18

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	0.70	4.256	4.68	0.00	1.200	1.410	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.68	0.00	1.200	1.687	5.00	28.446	34.14	159.8	686.8	2486.3
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.792	5.00	28.037	33.64	157.5	717.7	2483.9
15.00		1.00	0.70	4.256	4.68	0.00	1.200	1.860	5.00	27.596	33.12	155.0	732.2	2465.0
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.912	5.00	27.141	32.57	152.5	738.9	2438.4
25.00	Top - Section 1	1.00	0.70	4.256	4.68	0.00	1.200	1.953	5.00	26.678	32.01	149.9	740.9	2407.1
30.00		1.00	0.71	4.300	4.73	0.00	1.200	1.988	5.00	26.210	31.45	148.8	739.9	2140.9
35.00		1.00	0.74	4.487	4.94	0.00	1.200	2.017	5.00	25.737	30.88	152.4	736.5	2109.0
40.00		1.00	0.77	4.657	5.12	0.00	1.200	2.044	5.00	25.261	30.31	155.3	731.4	2075.4
41.00	Bot - Section 3	1.00	0.77	4.689	5.16	0.00	1.200	2.049	1.00	4.993	5.99	30.9	146.0	411.4
45.00		1.00	0.79	4.813	5.29	0.00	1.200	2.068	4.00	20.041	24.05	127.3	587.7	2702.3
48.00	Top - Section 2	1.00	0.81	4.901	5.39	0.00	1.200	2.081	3.00	14.828	17.79	95.9	438.2	2000.1
50.00		1.00	0.82	4.957	5.45	0.00	1.200	2.089	2.00	9.789	11.75	64.0	290.9	809.4
55.00		1.00	0.84	5.091	5.60	0.00	1.200	2.109	5.00	24.140	28.97	162.2	718.7	1995.2
60.00		1.00	0.86	5.217	5.74	0.00	1.200	2.127	5.00	23.658	28.39	162.9	709.5	1957.3
65.00		1.00	0.88	5.336	5.87	0.00	1.200	2.144	5.00	23.174	27.81	163.2	699.5	1918.8
66.00	Top - Section 3	1.00	0.88	5.359	5.89	0.00	1.200	2.147	1.00	4.576	5.49	32.4	139.5	379.9
70.00		1.00	0.90	5.448	5.99	0.00	1.200	2.159	4.00	18.112	21.73	130.3	551.1	1501.4
75.00		1.00	0.91	5.555	6.11	0.00	1.200	2.174	5.00	22.205	26.65	162.8	677.8	1840.0
80.00		1.00	0.93	5.657	6.22	0.00	1.200	2.188	5.00	21.719	26.06	162.2	666.2	1799.8
85.00	Bot - Section 5	1.00	0.95	5.755	6.33	0.00	1.200	2.201	5.00	21.232	25.48	161.3	654.2	1759.2
90.00		1.00	0.96	5.849	6.43	0.00	1.200	2.214	5.00	21.009	25.21	162.2	650.4	2637.8
91.00	Top - Section 4	1.00	0.96	5.867	6.45	0.00	1.200	2.216	1.00	4.143	4.97	32.1	129.6	520.8
95.00		1.00	0.98	5.939	6.53	0.00	1.200	2.225	4.00	16.378	19.65	128.4	510.1	1217.9
100.00		1.00	0.99	6.026	6.63	0.00	1.200	2.237	5.00	20.034	24.04	159.3	624.6	1487.9
105.00		1.00	1.00	6.109	6.72	0.00	1.200	2.248	5.00	19.545	23.45	157.6	611.2	1450.7
110.00	Top - Section 5	1.00	1.02	6.190	6.81	0.00	1.200	2.258	5.00	19.056	22.87	155.7	597.5	1413.2
115.00		1.00	1.03	6.269	6.90	0.00	1.200	2.268	5.00	18.567	22.28	153.6	583.6	1375.5
120.00		1.00	1.04	6.345	6.98	0.00	1.200	2.277	5.00	18.078	21.69	151.4	569.4	1337.5
125.00		1.00	1.06	6.419	7.06	0.00	1.200	2.287	5.00	17.588	21.11	149.0	555.0	1299.3
130.00	Bot - Section 7	1.00	1.07	6.490	7.14	0.00	1.200	2.296	5.00	17.098	20.52	146.5	540.4	1260.8
135.00	Top - Section 6	1.00	1.08	6.560	7.22	0.00	1.200	2.304	5.00	16.819	20.18	145.6	532.8	1795.8
137.00	Appurtenance(s)	1.00	1.08	6.588	7.25	0.00	1.200	2.308	2.00	6.589	7.91	57.3	210.7	431.9
140.00		1.00	1.09	6.628	7.29	0.00	1.200	2.313	3.00	9.737	11.68	85.2	310.7	636.8
								Totals:	140.00			4,370.7	54,546.7	

Discrete Appurtenance Forces

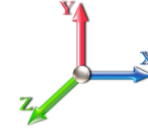
Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 17

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 18

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	137.00	Antel BXA-70080/6CF	2	6.588	7.246	0.70	0.80	12.66	304.23	0.000	0.000	91.76	0.00	0.00
2	137.00	RFS Celwave	2	6.588	7.246	0.54	0.80	6.41	507.94	0.000	0.000	46.46	0.00	0.00
3	137.00	RFS FD9R6004/2C-3L	6	6.628	7.291	0.60	0.90	3.42	72.20	0.000	3.000	24.96	0.00	74.88
4	137.00	ALU RRH2x60-700	3	6.588	7.246	0.54	0.80	7.31	501.96	0.000	0.000	52.94	0.00	0.00
5	137.00	ALU RRH2X60-PCS	3	6.588	7.246	0.54	0.80	4.93	559.30	0.000	0.000	35.73	0.00	0.00
6	137.00	ALU RRH2x60-AWS	3	6.588	7.246	0.54	0.80	7.31	501.96	0.000	0.000	52.94	0.00	0.00
7	137.00	Commscope	6	6.588	7.246	0.69	0.90	51.60	1389.62	0.000	0.000	373.90	0.00	0.00
8	137.00	Antel BXA-70063/6CF	4	6.588	7.246	0.56	0.80	25.14	668.71	0.000	0.000	182.19	0.00	0.00
9	137.00	Low Profile Platform	1	6.588	7.246	1.00	1.00	45.35	3230.72	0.000	0.000	328.65	0.00	0.00
10	130.00	Powerwave LGP21901 -	6	6.490	7.139	0.54	0.80	16.67	87.10	0.000	0.000	119.04	0.00	0.00
11	130.00	Pipe Mount	1	6.490	7.139	1.00	1.00	10.48	106.40	0.000	0.000	74.83	0.00	0.00
12	130.00	Valmont LWRM Ring	3	6.490	7.139	0.56	0.75	17.69	682.20	0.000	0.000	126.27	0.00	0.00
13	130.00	Low Profile Platform	1	6.490	7.139	1.00	1.00	45.23	3221.74	0.000	0.000	322.93	0.00	0.00
14	130.00	DC6-48-60-18-8F	1	6.490	7.139	1.00	1.00	1.50	101.78	0.000	0.000	10.68	0.00	0.00
15	130.00	Ericsson RRUS-11	3	6.490	7.139	0.60	0.80	6.12	560.09	0.000	0.000	43.70	0.00	0.00
16	130.00	Powerwave LGP21401 -	12	6.490	7.139	0.54	0.80	15.37	512.48	0.000	0.000	109.72	0.00	0.00
17	130.00	7770.00	9	6.490	7.139	0.58	0.80	36.43	2094.85	0.000	0.000	260.05	0.00	0.00
18	130.00	Ericsson RRUS-32 (29.9"	3	6.490	7.139	0.70	0.80	9.15	755.32	0.000	0.000	65.30	0.00	0.00
19	130.00	HPA-65R-BUU-H8 (92.4"	3	6.490	7.139	0.63	0.80	28.72	1453.61	0.000	0.000	205.01	0.00	0.00
Totals:								17,312.19				2,527.06		

Total Applied Force Summary

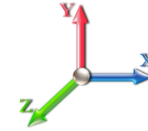
Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 18

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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 18

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		159.81	2555.09	0.00	0.00
10.00		157.51	2655.77	0.00	0.00
15.00		155.03	2636.91	0.00	0.00
20.00		152.48	2610.28	0.00	0.00
25.00		149.88	2579.00	0.00	0.00
30.00		148.75	2312.85	0.00	0.00
35.00		152.45	2280.92	0.00	0.00
40.00		155.30	2247.26	0.00	0.00
41.00		30.91	445.79	0.00	0.00
45.00		127.32	2839.85	0.00	0.00
48.00		95.92	2103.26	0.00	0.00
50.00		64.05	878.21	0.00	0.00
55.00		162.23	2167.07	0.00	0.00
60.00		162.92	2129.23	0.00	0.00
65.00		163.22	2090.70	0.00	0.00
66.00		32.37	414.30	0.00	0.00
70.00		130.26	1638.95	0.00	0.00
75.00		162.83	2011.85	0.00	0.00
80.00		162.19	1971.68	0.00	0.00
85.00		161.29	1931.07	0.00	0.00
90.00		162.20	2809.66	0.00	0.00
91.00		32.08	555.14	0.00	0.00
95.00		128.39	1355.44	0.00	0.00
100.00		159.34	1659.80	0.00	0.00
105.00		157.62	1622.60	0.00	0.00
110.00		155.71	1585.11	0.00	0.00
115.00		153.64	1547.37	0.00	0.00
120.00		151.40	1509.38	0.00	0.00
125.00		149.01	1471.16	0.00	0.00
130.00	(42) attachments	1484.02	11008.28	0.00	0.00
135.00		145.64	1876.93	0.00	0.00
137.00	(30) attachments	1246.82	8201.02	0.00	74.88
140.00		85.19	636.80	0.00	0.00
	Totals:	6,897.79	76,338.70	0.00	74.88

Calculated Forces

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

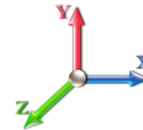


Page: 19

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

Iterations 18

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	-76.34	-6.91	0.00	-674.00	0.00	674.00	5803.10	2901.55	15291.3	7657.05	0.00	0.000	0.000	0.101
5.00	-73.78	-6.78	0.00	-639.44	0.00	639.44	5740.39	2870.20	14846.6	7434.33	0.01	-0.020	0.000	0.099
10.00	-71.12	-6.64	0.00	-605.55	0.00	605.55	5676.04	2838.02	14403.7	7212.59	0.04	-0.041	0.000	0.096
15.00	-68.48	-6.51	0.00	-572.34	0.00	572.34	5610.05	2805.03	13963.1	6991.95	0.10	-0.061	0.000	0.094
20.00	-65.87	-6.38	0.00	-539.79	0.00	539.79	5542.43	2771.21	13524.9	6772.52	0.17	-0.081	0.000	0.092
25.00	-63.29	-6.25	0.00	-507.90	0.00	507.90	5473.16	2736.58	13089.3	6554.42	0.27	-0.102	0.000	0.089
25.00	-63.29	-6.25	0.00	-507.90	0.00	507.90	4407.37	2203.68	10563.1	5289.42	0.27	-0.102	0.000	0.110
30.00	-60.97	-6.12	0.00	-476.67	0.00	476.67	4358.14	2179.07	10232.9	5124.08	0.39	-0.122	0.000	0.107
35.00	-58.69	-5.98	0.00	-446.09	0.00	446.09	4307.28	2153.64	9903.77	4959.25	0.53	-0.145	0.000	0.104
40.00	-56.44	-5.83	0.00	-416.17	0.00	416.17	4254.78	2127.39	9575.87	4795.05	0.69	-0.169	0.000	0.100
41.00	-56.00	-5.81	0.00	-410.34	0.00	410.34	4244.08	2122.04	9510.46	4762.30	0.73	-0.173	0.000	0.099
45.00	-53.16	-5.69	0.00	-387.08	0.00	387.08	4200.64	2100.32	9249.48	4631.61	0.88	-0.192	0.000	0.096
48.00	-51.05	-5.60	0.00	-370.00	0.00	370.00	4202.72	2101.36	9261.79	4637.78	1.00	-0.206	0.000	0.092
50.00	-50.17	-5.55	0.00	-358.80	0.00	358.80	4180.63	2090.32	9131.68	4572.63	1.09	-0.215	0.000	0.090
55.00	-48.00	-5.39	0.00	-331.07	0.00	331.07	4124.26	2062.13	8807.72	4410.41	1.33	-0.237	0.000	0.087
60.00	-45.87	-5.24	0.00	-304.10	0.00	304.10	4066.25	2033.13	8485.83	4249.22	1.59	-0.259	0.000	0.083
65.00	-43.78	-5.08	0.00	-277.91	0.00	277.91	4006.61	2003.30	8166.25	4089.20	1.87	-0.280	0.000	0.079
66.00	-43.37	-5.05	0.00	-272.83	0.00	272.83	3994.48	1997.24	8102.64	4057.34	1.93	-0.284	0.000	0.078
66.00	-43.37	-5.05	0.00	-272.83	0.00	272.83	3994.48	1997.24	8102.64	4057.34	1.93	-0.284	0.000	0.078
70.00	-41.73	-4.92	0.00	-252.64	0.00	252.64	3945.32	1972.66	7849.23	3930.45	2.18	-0.300	0.000	0.075
75.00	-39.71	-4.76	0.00	-228.02	0.00	228.02	3882.40	1941.20	7534.99	3773.10	2.50	-0.320	0.000	0.071
80.00	-37.74	-4.60	0.00	-204.21	0.00	204.21	3817.84	1908.92	7223.78	3617.26	2.85	-0.340	0.000	0.066
85.00	-35.81	-4.44	0.00	-181.19	0.00	181.19	3751.64	1875.82	6915.84	3463.06	3.22	-0.359	0.000	0.062
90.00	-33.00	-4.27	0.00	-158.99	0.00	158.99	3683.80	1841.90	6611.41	3310.62	3.60	-0.376	0.000	0.057
91.00	-32.45	-4.24	0.00	-154.72	0.00	154.72	2899.19	1449.59	5264.94	2636.38	3.68	-0.380	0.000	0.070
95.00	-31.09	-4.11	0.00	-137.78	0.00	137.78	2861.52	1430.76	5085.06	2546.31	4.00	-0.393	0.000	0.065
100.00	-29.43	-3.94	0.00	-117.25	0.00	117.25	2812.95	1406.48	4861.78	2434.50	4.43	-0.411	0.000	0.059
105.00	-27.81	-3.78	0.00	-97.52	0.00	97.52	2762.75	1381.37	4640.48	2323.69	4.87	-0.428	0.000	0.052
110.00	-26.22	-3.62	0.00	-78.61	0.00	78.61	2710.91	1355.45	4421.40	2213.98	5.32	-0.442	0.000	0.045
110.00	-26.22	-3.62	0.00	-78.61	0.00	78.61	2710.91	1355.45	4421.40	2213.98	5.32	-0.442	0.000	0.045
115.00	-24.68	-3.46	0.00	-60.51	0.00	60.51	2657.43	1328.71	4204.77	2105.51	5.79	-0.455	0.000	0.038
120.00	-23.17	-3.30	0.00	-43.20	0.00	43.20	2602.31	1301.16	3990.84	1998.39	6.28	-0.465	0.000	0.031
125.00	-21.70	-3.14	0.00	-26.70	0.00	26.70	2545.56	1272.78	3779.85	1892.74	6.77	-0.473	0.000	0.023
130.00	-10.70	-1.57	0.00	-10.99	0.00	10.99	2487.16	1243.58	3572.03	1788.67	7.27	-0.477	0.000	0.010
135.00	-8.83	-1.41	0.00	-3.16	0.00	3.16	1824.83	912.42	2579.10	1291.47	7.77	-0.479	0.000	0.007
137.00	-0.64	-0.09	0.00	-0.27	0.00	0.27	1809.31	904.66	2521.92	1262.84	7.97	-0.479	0.000	0.001
140.00	0.00	-0.09	0.00	0.00	0.00	0.00	1785.54	892.77	2436.62	1220.12	8.27	-0.480	0.000	0.000

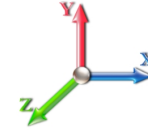
Seismic Segment Forces (Factored)

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 20

Load Case: 1.2D + 1.0E					Iterations 17
Gust Response Factor	1.10			Sds	0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10
Wind Load Factor	0.00	Structure Frequency	0.60	SA	0.06
				Seismic Importance Factor	1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.01	0.00	0.00	
5.00		1499.5	0.00	0.04	0.02	20.19	
10.00		1471.8	0.01	0.06	0.03	27.94	
15.00		1444.0	0.02	0.07	0.04	31.72	
20.00		1416.2	0.04	0.07	0.04	33.56	
25.00	Top - Section 1	1388.4	0.06	0.07	0.04	34.55	
30.00		1167.5	0.09	0.07	0.04	30.25	
35.00		1143.7	0.12	0.07	0.03	30.77	
40.00		1119.9	0.16	0.07	0.03	31.12	
41.00	Bot - Section 3	221.13	0.17	0.07	0.03	6.18	
45.00		1762.1	0.20	0.06	0.02	49.96	
48.00	Top - Section 2	1301.6	0.23	0.06	0.02	36.98	
50.00		432.15	0.25	0.06	0.02	12.22	
55.00		1063.7	0.30	0.05	0.01	28.92	
60.00		1039.8	0.35	0.03	0.01	25.69	
65.00		1016.0	0.41	0.01	0.01	20.95	
66.00	Top - Section 3	200.36	0.43	0.01	0.01	3.93	
70.00		791.90	0.48	-0.01	0.01	11.84	
75.00		968.45	0.55	-0.03	0.01	7.90	
80.00		944.64	0.62	-0.06	0.02	1.05	
85.00	Bot - Section 5	920.83	0.70	-0.09	0.03	-4.54	
90.00		1656.1	0.79	-0.11	0.05	-14.19	
91.00	Top - Section 4	325.99	0.80	-0.11	0.06	-2.90	
95.00		589.83	0.88	-0.12	0.08	-5.06	
100.00		719.43	0.97	-0.12	0.12	-2.89	
105.00		699.58	1.07	-0.09	0.17	4.00	
110.00	Top - Section 5	679.74	1.17	-0.02	0.23	14.26	
115.00		659.90	1.28	0.09	0.32	27.68	
120.00		640.05	1.39	0.27	0.42	44.01	
125.00		620.21	1.51	0.52	0.55	62.93	
130.00	Bot - Section 7	3451.4	1.63	0.88	0.71	483.80	
135.00	Top - Section 6	1052.5	1.76	1.36	0.91	194.66	
137.00	Appurtenance(s)	2664.7	1.81	1.59	1.00	545.13	
140.00		271.78	1.89	1.98	1.14	64.11	
Totals:		35,345.7				1,856.7	Total Wind: 24,713.0

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

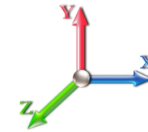
Calculated Forces

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 21

Load Case: 1.2D + 1.0E						Iterations 17
Gust Response Factor	1.10			Sds	0.18	Ss 0.17
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.60	SA	0.06	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	-46.89	-1.89	0.00	-211.91	0.00	211.91	5803.10	2901.55	15291.3	7657.05	0.00	0.00	0.00	0.036
5.00	-45.03	-1.87	0.00	-202.47	0.00	202.47	5740.39	2870.20	14846.6	7434.33	0.00	-0.01	0.035	
10.00	-43.09	-1.85	0.00	-193.11	0.00	193.11	5676.04	2838.02	14403.7	7212.59	0.01	-0.01	0.034	
15.00	-41.18	-1.82	0.00	-183.86	0.00	183.86	5610.05	2805.03	13963.1	6991.95	0.03	-0.02	0.034	
20.00	-39.31	-1.79	0.00	-174.75	0.00	174.75	5542.43	2771.21	13524.9	6772.52	0.05	-0.03	0.033	
25.00	-37.47	-1.76	0.00	-165.78	0.00	165.78	5473.16	2736.58	13089.3	6554.42	0.09	-0.03	0.032	
25.00	-37.47	-1.76	0.00	-165.78	0.00	165.78	4407.37	2203.68	10563.1	5289.42	0.09	-0.03	0.040	
30.00	-35.90	-1.73	0.00	-156.98	0.00	156.98	4358.14	2179.07	10232.9	5124.08	0.12	-0.04	0.039	
35.00	-34.36	-1.71	0.00	-148.31	0.00	148.31	4307.28	2153.64	9903.77	4959.25	0.17	-0.05	0.038	
40.00	-32.84	-1.68	0.00	-139.77	0.00	139.77	4254.78	2127.39	9575.87	4795.05	0.22	-0.05	0.037	
41.00	-32.54	-1.67	0.00	-138.09	0.00	138.09	4244.08	2122.04	9510.46	4762.30	0.23	-0.06	0.037	
45.00	-30.29	-1.62	0.00	-131.40	0.00	131.40	4200.64	2100.32	9249.48	4631.61	0.28	-0.06	0.036	
48.00	-28.62	-1.59	0.00	-126.53	0.00	126.53	4202.72	2101.36	9261.79	4637.78	0.32	-0.07	0.034	
50.00	-28.03	-1.58	0.00	-123.35	0.00	123.35	4180.63	2090.32	9131.68	4572.63	0.35	-0.07	0.034	
55.00	-26.59	-1.55	0.00	-115.47	0.00	115.47	4124.26	2062.13	8807.72	4410.41	0.43	-0.08	0.033	
60.00	-25.17	-1.53	0.00	-107.72	0.00	107.72	4066.25	2033.13	8485.83	4249.22	0.52	-0.09	0.032	
65.00	-23.77	-1.50	0.00	-100.10	0.00	100.10	4006.61	2003.30	8166.25	4089.20	0.61	-0.09	0.030	
66.00	-23.50	-1.50	0.00	-98.60	0.00	98.60	3994.48	1997.24	8102.64	4057.34	0.63	-0.09	0.030	
66.00	-23.50	-1.50	0.00	-98.60	0.00	98.60	3994.48	1997.24	8102.64	4057.34	0.63	-0.09	0.030	
70.00	-22.41	-1.49	0.00	-92.59	0.00	92.59	3945.32	1972.66	7849.23	3930.45	0.71	-0.10	0.029	
75.00	-21.08	-1.48	0.00	-85.14	0.00	85.14	3882.40	1941.20	7534.99	3773.10	0.82	-0.11	0.028	
80.00	-19.77	-1.48	0.00	-77.73	0.00	77.73	3817.84	1908.92	7223.78	3617.26	0.94	-0.12	0.027	
85.00	-18.50	-1.48	0.00	-70.32	0.00	70.32	3751.64	1875.82	6915.84	3463.06	1.06	-0.12	0.025	
90.00	-16.34	-1.48	0.00	-62.92	0.00	62.92	3683.80	1841.90	6611.41	3310.62	1.20	-0.13	0.023	
91.00	-15.91	-1.48	0.00	-61.44	0.00	61.44	2899.19	1449.59	5264.94	2636.38	1.22	-0.13	0.029	
95.00	-15.06	-1.48	0.00	-55.53	0.00	55.53	2861.52	1430.76	5085.06	2546.31	1.34	-0.14	0.027	
100.00	-14.03	-1.48	0.00	-48.15	0.00	48.15	2812.95	1406.48	4861.78	2434.50	1.48	-0.14	0.025	
105.00	-13.02	-1.47	0.00	-40.77	0.00	40.77	2762.75	1381.37	4640.48	2323.69	1.64	-0.15	0.022	
110.00	-12.03	-1.46	0.00	-33.41	0.00	33.41	2710.91	1355.45	4421.40	2213.98	1.80	-0.16	0.020	
110.00	-12.03	-1.46	0.00	-33.41	0.00	33.41	2710.91	1355.45	4421.40	2213.98	1.80	-0.16	0.020	
115.00	-11.07	-1.43	0.00	-26.13	0.00	26.13	2657.43	1328.71	4204.77	2105.51	1.96	-0.16	0.017	
120.00	-10.13	-1.38	0.00	-19.00	0.00	19.00	2602.31	1301.16	3990.84	1998.39	2.14	-0.17	0.013	
125.00	-9.21	-1.32	0.00	-12.10	0.00	12.10	2545.56	1272.78	3779.85	1892.74	2.31	-0.17	0.010	
130.00	-4.90	-0.82	0.00	-5.53	0.00	5.53	2487.16	1243.58	3572.03	1788.67	2.49	-0.17	0.005	
135.00	-3.55	-0.62	0.00	-1.43	0.00	1.43	1824.83	912.42	2579.10	1291.47	2.67	-0.17	0.003	
137.00	-0.33	-0.07	0.00	-0.20	0.00	0.20	1809.31	904.66	2521.92	1262.84	2.75	-0.17	0.000	
140.00	0.00	-0.06	0.00	0.00	0.00	0.00	1785.54	892.77	2436.62	1220.12	2.85	-0.17	0.000	

Seismic Segment Forces (Factored)

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 22

Load Case: 0.9D + 1.0E						Iterations 17
Gust Response Factor	1.10	Sds	0.18	Ss	0.17	
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency	0.60	SA	0.06	Seismic Importance Factor 1.00

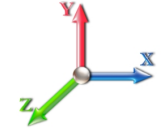
Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.01	0.00	0.00	
5.00		1499.5	0.00	0.04	0.02	20.19	
10.00		1471.8	0.01	0.06	0.03	27.94	
15.00		1444.0	0.02	0.07	0.04	31.72	
20.00		1416.2	0.04	0.07	0.04	33.56	
25.00	Top - Section 1	1388.4	0.06	0.07	0.04	34.55	
30.00		1167.5	0.09	0.07	0.04	30.25	
35.00		1143.7	0.12	0.07	0.03	30.77	
40.00		1119.9	0.16	0.07	0.03	31.12	
41.00	Bot - Section 3	221.13	0.17	0.07	0.03	6.18	
45.00		1762.1	0.20	0.06	0.02	49.96	
48.00	Top - Section 2	1301.6	0.23	0.06	0.02	36.98	
50.00		432.15	0.25	0.06	0.02	12.22	
55.00		1063.7	0.30	0.05	0.01	28.92	
60.00		1039.8	0.35	0.03	0.01	25.69	
65.00		1016.0	0.41	0.01	0.01	20.95	
66.00	Top - Section 3	200.36	0.43	0.01	0.01	3.93	
70.00		791.90	0.48	-0.01	0.01	11.84	
75.00		968.45	0.55	-0.03	0.01	7.90	
80.00		944.64	0.62	-0.06	0.02	1.05	
85.00	Bot - Section 5	920.83	0.70	-0.09	0.03	-4.54	
90.00		1656.1	0.79	-0.11	0.05	-14.19	
91.00	Top - Section 4	325.99	0.80	-0.11	0.06	-2.90	
95.00		589.83	0.88	-0.12	0.08	-5.06	
100.00		719.43	0.97	-0.12	0.12	-2.89	
105.00		699.58	1.07	-0.09	0.17	4.00	
110.00	Top - Section 5	679.74	1.17	-0.02	0.23	14.26	
115.00		659.90	1.28	0.09	0.32	27.68	
120.00		640.05	1.39	0.27	0.42	44.01	
125.00		620.21	1.51	0.52	0.55	62.93	
130.00	Bot - Section 7	3451.4	1.63	0.88	0.71	483.80	
135.00	Top - Section 6	1052.5	1.76	1.36	0.91	194.66	
137.00	Appurtenance(s)	2664.7	1.81	1.59	1.00	545.13	
140.00		271.78	1.89	1.98	1.14	64.11	
Totals:		35,345.7				1,856.7	Total Wind: 24,713.0

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

Calculated Forces

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.0E							Iterations 17
Gust Response Factor	1.10			Sds	0.18	Ss	0.17
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1	0.06
Wind Load Factor	0.00	Structure Frequency	0.60	SA	0.06	Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-35.17	-1.89	0.00	-210.88	0.00	210.88	5803.10	2901.55	15291.3	7657.05	0.00	0.00	0.00	0.034
5.00	-33.77	-1.87	0.00	-201.44	0.00	201.44	5740.39	2870.20	14846.6	7434.33	0.00	-0.01	0.00	0.033
10.00	-32.32	-1.85	0.00	-192.09	0.00	192.09	5676.04	2838.02	14403.7	7212.59	0.01	-0.01	0.00	0.032
15.00	-30.89	-1.82	0.00	-182.85	0.00	182.85	5610.05	2805.03	13963.1	6991.95	0.03	-0.02	0.00	0.032
20.00	-29.48	-1.79	0.00	-173.76	0.00	173.76	5542.43	2771.21	13524.9	6772.52	0.05	-0.03	0.00	0.031
25.00	-28.10	-1.76	0.00	-164.83	0.00	164.83	5473.16	2736.58	13089.3	6554.42	0.08	-0.03	0.00	0.030
25.00	-28.10	-1.76	0.00	-164.83	0.00	164.83	4407.37	2203.68	10563.1	5289.42	0.08	-0.03	0.00	0.038
30.00	-26.92	-1.73	0.00	-156.05	0.00	156.05	4358.14	2179.07	10232.9	5124.08	0.12	-0.04	0.00	0.037
35.00	-25.77	-1.70	0.00	-147.41	0.00	147.41	4307.28	2153.64	9903.77	4959.25	0.17	-0.05	0.00	0.036
40.00	-24.63	-1.67	0.00	-138.92	0.00	138.92	4254.78	2127.39	9575.87	4795.05	0.22	-0.05	0.00	0.035
41.00	-24.40	-1.66	0.00	-137.25	0.00	137.25	4244.08	2122.04	9510.46	4762.30	0.23	-0.06	0.00	0.035
45.00	-22.71	-1.62	0.00	-130.59	0.00	130.59	4200.64	2100.32	9249.48	4631.61	0.28	-0.06	0.00	0.034
48.00	-21.47	-1.58	0.00	-125.74	0.00	125.74	4202.72	2101.36	9261.79	4637.78	0.32	-0.07	0.00	0.032
50.00	-21.03	-1.57	0.00	-122.59	0.00	122.59	4180.63	2090.32	9131.68	4572.63	0.35	-0.07	0.00	0.032
55.00	-19.94	-1.54	0.00	-114.75	0.00	114.75	4124.26	2062.13	8807.72	4410.41	0.43	-0.08	0.00	0.031
60.00	-18.87	-1.52	0.00	-107.05	0.00	107.05	4066.25	2033.13	8485.83	4249.22	0.51	-0.09	0.00	0.030
65.00	-17.83	-1.49	0.00	-99.48	0.00	99.48	4006.61	2003.30	8166.25	4089.20	0.61	-0.09	0.00	0.029
66.00	-17.62	-1.49	0.00	-97.98	0.00	97.98	3994.48	1997.24	8102.64	4057.34	0.63	-0.09	0.00	0.029
66.00	-17.62	-1.49	0.00	-97.98	0.00	97.98	3994.48	1997.24	8102.64	4057.34	0.63	-0.09	0.00	0.029
70.00	-16.81	-1.48	0.00	-92.02	0.00	92.02	3945.32	1972.66	7849.23	3930.45	0.71	-0.10	0.00	0.028
75.00	-15.81	-1.47	0.00	-84.62	0.00	84.62	3882.40	1941.20	7534.99	3773.10	0.82	-0.11	0.00	0.026
80.00	-14.83	-1.47	0.00	-77.26	0.00	77.26	3817.84	1908.92	7223.78	3617.26	0.93	-0.11	0.00	0.025
85.00	-13.87	-1.47	0.00	-69.91	0.00	69.91	3751.64	1875.82	6915.84	3463.06	1.06	-0.12	0.00	0.024
90.00	-12.25	-1.47	0.00	-62.56	0.00	62.56	3683.80	1841.90	6611.41	3310.62	1.19	-0.13	0.00	0.022
91.00	-11.93	-1.47	0.00	-61.09	0.00	61.09	2899.19	1449.59	5264.94	2636.38	1.22	-0.13	0.00	0.027
95.00	-11.30	-1.47	0.00	-55.22	0.00	55.22	2861.52	1430.76	5085.06	2546.31	1.33	-0.14	0.00	0.026
100.00	-10.52	-1.47	0.00	-47.88	0.00	47.88	2812.95	1406.48	4861.78	2434.50	1.47	-0.14	0.00	0.023
105.00	-9.76	-1.46	0.00	-40.54	0.00	40.54	2762.75	1381.37	4640.48	2323.69	1.63	-0.15	0.00	0.021
110.00	-9.02	-1.45	0.00	-33.23	0.00	33.23	2710.91	1355.45	4421.40	2213.98	1.79	-0.16	0.00	0.018
110.00	-9.02	-1.45	0.00	-33.23	0.00	33.23	2710.91	1355.45	4421.40	2213.98	1.79	-0.16	0.00	0.018
115.00	-8.30	-1.42	0.00	-26.00	0.00	26.00	2657.43	1328.71	4204.77	2105.51	1.95	-0.16	0.00	0.015
120.00	-7.59	-1.37	0.00	-18.91	0.00	18.91	2602.31	1301.16	3990.84	1998.39	2.12	-0.17	0.00	0.012
125.00	-6.91	-1.31	0.00	-12.04	0.00	12.04	2545.56	1272.78	3779.85	1892.74	2.30	-0.17	0.00	0.009
130.00	-3.67	-0.81	0.00	-5.50	0.00	5.50	2487.16	1243.58	3572.03	1788.67	2.48	-0.17	0.00	0.005
135.00	-2.67	-0.62	0.00	-1.43	0.00	1.43	1824.83	912.42	2579.10	1291.47	2.66	-0.17	0.00	0.003
137.00	-0.24	-0.06	0.00	-0.19	0.00	0.19	1809.31	904.66	2521.92	1262.84	2.73	-0.17	0.00	0.000
140.00	0.00	-0.06	0.00	0.00	0.00	0.00	1785.54	892.77	2436.62	1220.12	2.84	-0.17	0.00	0.000

Wind Loading - Shaft

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 24

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 18

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	0.70	6.129	6.74	273.99	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	268.99	0.650	0.000	5.00	27.041	17.58	118.5	0.0	1499.6
10.00		1.00	0.70	6.129	6.74	264.00	0.650	0.000	5.00	26.543	17.25	116.3	0.0	1471.8
15.00		1.00	0.70	6.129	6.74	259.00	0.650	0.000	5.00	26.046	16.93	114.1	0.0	1444.0
20.00		1.00	0.70	6.129	6.74	254.01	0.650	0.000	5.00	25.548	16.61	112.0	0.0	1416.2
25.00	Top - Section 1	1.00	0.70	6.129	6.74	249.01	0.650	0.000	5.00	25.051	16.28	109.8	0.0	1388.5
30.00		1.00	0.71	6.192	6.81	245.26	0.650	0.000	5.00	24.553	15.96	108.7	0.0	1167.6
35.00		1.00	0.74	6.462	7.11	245.43	0.650	0.000	5.00	24.056	15.64	111.1	0.0	1143.8
40.00		1.00	0.77	6.706	7.38	244.81	0.650	0.000	5.00	23.558	15.31	113.0	0.0	1119.9
41.00	Bot - Section 3	1.00	0.77	6.753	7.43	244.60	0.650	0.000	1.00	4.652	3.02	22.5	0.0	221.1
45.00		1.00	0.79	6.931	7.62	243.55	0.650	0.000	4.00	18.663	12.13	92.5	0.0	1762.2
48.00	Top - Section 2	1.00	0.81	7.057	7.76	242.55	0.650	0.000	3.00	13.788	8.96	69.6	0.0	1301.6
50.00		1.00	0.82	7.138	7.85	245.22	0.650	0.000	2.00	9.093	5.91	46.4	0.0	432.1
55.00		1.00	0.84	7.331	8.06	243.05	0.650	0.000	5.00	22.383	14.55	117.3	0.0	1063.7
60.00		1.00	0.86	7.513	8.26	240.51	0.650	0.000	5.00	21.886	14.23	117.6	0.0	1039.9
65.00		1.00	0.88	7.684	8.45	237.64	0.650	0.000	5.00	21.388	13.90	117.5	0.0	1016.1
66.00	Top - Section 3	1.00	0.88	7.717	8.49	237.03	0.650	0.000	1.00	4.218	2.74	23.3	0.0	200.4
70.00		1.00	0.90	7.846	8.63	234.48	0.650	0.000	4.00	16.673	10.84	93.5	0.0	791.9
75.00		1.00	0.91	8.000	8.80	231.06	0.650	0.000	5.00	20.393	13.26	116.6	0.0	968.4
80.00		1.00	0.93	8.147	8.96	227.42	0.650	0.000	5.00	19.895	12.93	115.9	0.0	944.6
85.00	Bot - Section 5	1.00	0.95	8.287	9.12	223.56	0.650	0.000	5.00	19.398	12.61	114.9	0.0	920.8
90.00		1.00	0.96	8.422	9.26	219.52	0.650	0.000	5.00	19.165	12.46	115.4	0.0	1656.1
91.00	Top - Section 4	1.00	0.96	8.448	9.29	218.69	0.650	0.000	1.00	3.773	2.45	22.8	0.0	326.0
95.00		1.00	0.98	8.552	9.41	218.44	0.650	0.000	4.00	14.894	9.68	91.1	0.0	589.8
100.00		1.00	0.99	8.677	9.54	214.09	0.650	0.000	5.00	18.170	11.81	112.7	0.0	719.4
105.00		1.00	1.00	8.797	9.68	209.59	0.650	0.000	5.00	17.672	11.49	111.2	0.0	699.6
110.00	Top - Section 5	1.00	1.02	8.914	9.81	204.95	0.650	0.000	5.00	17.175	11.16	109.5	0.0	679.7
115.00		1.00	1.03	9.027	9.93	200.18	0.650	0.000	5.00	16.677	10.84	107.6	0.0	659.9
120.00		1.00	1.04	9.136	10.05	195.29	0.650	0.000	5.00	16.180	10.52	105.7	0.0	640.1
125.00		1.00	1.06	9.243	10.17	190.29	0.650	0.000	5.00	15.682	10.19	103.6	0.0	620.2
130.00	Bot - Section 7	1.00	1.07	9.346	10.28	185.18	0.650	0.000	5.00	15.185	9.87	101.5	0.0	600.4
135.00	Top - Section 6	1.00	1.08	9.447	10.39	179.97	0.650	0.000	5.00	14.899	9.68	100.6	0.0	1052.5
137.00	Appurtenance(s)	1.00	1.08	9.486	10.43	180.51	0.650	0.000	2.00	5.820	3.78	39.5	0.0	184.4
140.00		1.00	1.09	9.545	10.50	177.32	0.650	0.000	3.00	8.581	5.58	58.6	0.0	271.8
Totals:								140.00	3,130.8	30,014.2				

Discrete Appurtenance Forces

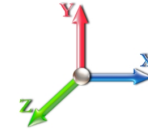
Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 25

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 18

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	137.00	Antel BXA-70080/6CF	2	9.486	10.435	0.70	0.80	8.22	36.00	0.000	0.000	85.80	0.00	0.00
2	137.00	RFS Celwave	2	9.486	10.435	0.54	0.80	5.15	88.00	0.000	0.000	53.69	0.00	0.00
3	137.00	RFS FD9R6004/2C-3L	6	9.545	10.499	0.60	0.90	1.30	18.60	0.000	3.000	13.67	0.00	41.02
4	137.00	ALU RRH2x60-700	3	9.486	10.435	0.54	0.80	5.63	180.00	0.000	0.000	58.73	0.00	0.00
5	137.00	ALU RRH2X60-PCS	3	9.486	10.435	0.54	0.80	3.54	165.00	0.000	0.000	36.91	0.00	0.00
6	137.00	ALU RRH2x60-AWS	3	9.486	10.435	0.54	0.80	5.63	180.00	0.000	0.000	58.73	0.00	0.00
7	137.00	Commscope	6	9.486	10.435	0.69	0.90	35.55	244.80	0.000	0.000	370.97	0.00	0.00
8	137.00	Antel BXA-70063/6CF	4	9.486	10.435	0.56	0.80	16.96	68.00	0.000	0.000	176.94	0.00	0.00
9	137.00	Low Profile Platform	1	9.486	10.435	1.00	1.00	22.00	1500.00	0.000	0.000	229.56	0.00	0.00
10	130.00	Powerwave LGP21901 -	6	9.346	10.281	0.54	0.80	5.37	33.00	0.000	0.000	55.21	0.00	0.00
11	130.00	Pipe Mount	1	9.346	10.281	1.00	1.00	2.63	35.00	0.000	0.000	27.04	0.00	0.00
12	130.00	Valmont LWRM Ring	3	9.346	10.281	0.56	0.75	4.44	180.00	0.000	0.000	45.63	0.00	0.00
13	130.00	Low Profile Platform	1	9.346	10.281	1.00	1.00	22.00	1500.00	0.000	0.000	226.18	0.00	0.00
14	130.00	DC6-48-60-18-8F	1	9.346	10.281	1.00	1.00	0.92	31.80	0.000	0.000	9.46	0.00	0.00
15	130.00	Ericsson RRUS-11	3	9.346	10.281	0.60	0.80	4.54	152.10	0.000	0.000	46.63	0.00	0.00
16	130.00	Powerwave LGP21401 -	12	9.346	10.281	0.54	0.80	8.30	169.20	0.000	0.000	85.30	0.00	0.00
17	130.00	7770.00	9	9.346	10.281	0.58	0.80	28.91	315.00	0.000	0.000	297.19	0.00	0.00
18	130.00	Ericsson RRUS-32 (29.9"	3	9.346	10.281	0.70	0.80	8.08	231.00	0.000	0.000	83.07	0.00	0.00
19	130.00	HPA-65R-BUU-H8 (92.4"	3	9.346	10.281	0.63	0.80	24.61	204.00	0.000	0.000	253.01	0.00	0.00
Totals:									5,331.50			2,213.74		

Total Applied Force Summary

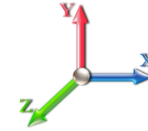
Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 26

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 18

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		118.49	1556.89	0.00	0.00
10.00		116.31	1615.06	0.00	0.00
15.00		114.13	1587.28	0.00	0.00
20.00		111.95	1559.50	0.00	0.00
25.00		109.77	1531.72	0.00	0.00
30.00		108.70	1310.82	0.00	0.00
35.00		111.14	1287.01	0.00	0.00
40.00		112.96	1263.20	0.00	0.00
41.00		22.46	249.78	0.00	0.00
45.00		92.48	1876.75	0.00	0.00
48.00		69.57	1387.56	0.00	0.00
50.00		46.40	489.45	0.00	0.00
55.00		117.33	1206.95	0.00	0.00
60.00		117.56	1183.14	0.00	0.00
65.00		117.50	1159.32	0.00	0.00
66.00		23.27	229.01	0.00	0.00
70.00		93.53	906.50	0.00	0.00
75.00		116.64	1111.70	0.00	0.00
80.00		115.89	1087.89	0.00	0.00
85.00		114.94	1064.08	0.00	0.00
90.00		115.41	1799.38	0.00	0.00
91.00		22.79	354.64	0.00	0.00
95.00		91.07	704.43	0.00	0.00
100.00		112.72	862.68	0.00	0.00
105.00		111.16	842.83	0.00	0.00
110.00		109.46	822.99	0.00	0.00
115.00		107.64	803.15	0.00	0.00
120.00		105.70	783.30	0.00	0.00
125.00		103.64	763.46	0.00	0.00
130.00	(42) attachments	1230.20	3594.72	0.00	0.00
135.00		100.63	1120.14	0.00	0.00
137.00	(30) attachments	1124.48	2691.80	0.00	41.02
140.00		58.56	271.78	0.00	0.00
	Totals:	5,344.50	39,078.88	0.00	41.02

Calculated Forces

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

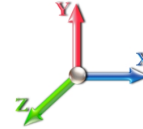


Page: 27

Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 18

Dead Load Factor 1.00
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-39.08	-5.35	0.00	-525.62	0.00	525.62	5803.10	2901.55	15291.3	7657.05	0.00	0.000	0.000	0.075
5.00	-37.52	-5.24	0.00	-498.88	0.00	498.88	5740.39	2870.20	14846.6	7434.33	0.01	-0.016	0.000	0.074
10.00	-35.90	-5.13	0.00	-472.67	0.00	472.67	5676.04	2838.02	14403.7	7212.59	0.03	-0.032	0.000	0.072
15.00	-34.31	-5.03	0.00	-447.00	0.00	447.00	5610.05	2805.03	13963.1	6991.95	0.08	-0.048	0.000	0.070
20.00	-32.75	-4.92	0.00	-421.85	0.00	421.85	5542.43	2771.21	13524.9	6772.52	0.13	-0.063	0.000	0.068
25.00	-31.22	-4.82	0.00	-397.23	0.00	397.23	5473.16	2736.58	13089.3	6554.42	0.21	-0.079	0.000	0.066
25.00	-31.22	-4.82	0.00	-397.23	0.00	397.23	4407.37	2203.68	10563.1	5289.42	0.21	-0.079	0.000	0.082
30.00	-29.91	-4.72	0.00	-373.13	0.00	373.13	4358.14	2179.07	10232.9	5124.08	0.30	-0.095	0.000	0.080
35.00	-28.62	-4.62	0.00	-349.53	0.00	349.53	4307.28	2153.64	9903.77	4959.25	0.41	-0.114	0.000	0.077
40.00	-27.36	-4.50	0.00	-326.46	0.00	326.46	4254.78	2127.39	9575.87	4795.05	0.54	-0.132	0.000	0.075
41.00	-27.11	-4.49	0.00	-321.95	0.00	321.95	4244.08	2122.04	9510.46	4762.30	0.57	-0.136	0.000	0.074
45.00	-25.23	-4.39	0.00	-304.01	0.00	304.01	4200.64	2100.32	9249.48	4631.61	0.69	-0.150	0.000	0.072
48.00	-23.84	-4.32	0.00	-290.82	0.00	290.82	4202.72	2101.36	9261.79	4637.78	0.79	-0.161	0.000	0.068
50.00	-23.35	-4.28	0.00	-282.17	0.00	282.17	4180.63	2090.32	9131.68	4572.63	0.85	-0.169	0.000	0.067
55.00	-22.14	-4.17	0.00	-260.76	0.00	260.76	4124.26	2062.13	8807.72	4410.41	1.04	-0.186	0.000	0.064
60.00	-20.96	-4.05	0.00	-239.92	0.00	239.92	4066.25	2033.13	8485.83	4249.22	1.24	-0.203	0.000	0.062
65.00	-19.80	-3.93	0.00	-219.66	0.00	219.66	4006.61	2003.30	8166.25	4089.20	1.47	-0.219	0.000	0.059
66.00	-19.57	-3.91	0.00	-215.73	0.00	215.73	3994.48	1997.24	8102.64	4057.34	1.51	-0.223	0.000	0.058
66.00	-19.57	-3.91	0.00	-215.73	0.00	215.73	3994.48	1997.24	8102.64	4057.34	1.51	-0.223	0.000	0.058
70.00	-18.66	-3.82	0.00	-200.08	0.00	200.08	3945.32	1972.66	7849.23	3930.45	1.70	-0.236	0.000	0.056
75.00	-17.55	-3.70	0.00	-180.98	0.00	180.98	3882.40	1941.20	7534.99	3773.10	1.96	-0.252	0.000	0.052
80.00	-16.46	-3.59	0.00	-162.46	0.00	162.46	3817.84	1908.92	7223.78	3617.26	2.23	-0.267	0.000	0.049
85.00	-15.40	-3.47	0.00	-144.53	0.00	144.53	3751.64	1875.82	6915.84	3463.06	2.52	-0.282	0.000	0.046
90.00	-13.60	-3.35	0.00	-127.17	0.00	127.17	3683.80	1841.90	6611.41	3310.62	2.82	-0.296	0.000	0.042
91.00	-13.24	-3.33	0.00	-123.82	0.00	123.82	2899.19	1449.59	5264.94	2636.38	2.88	-0.299	0.000	0.052
95.00	-12.54	-3.23	0.00	-110.52	0.00	110.52	2861.52	1430.76	5085.06	2546.31	3.14	-0.310	0.000	0.048
100.00	-11.68	-3.12	0.00	-94.35	0.00	94.35	2812.95	1406.48	4861.78	2434.50	3.47	-0.324	0.000	0.043
105.00	-10.83	-3.01	0.00	-78.76	0.00	78.76	2762.75	1381.37	4640.48	2323.69	3.82	-0.337	0.000	0.038
110.00	-10.01	-2.89	0.00	-63.73	0.00	63.73	2710.91	1355.45	4421.40	2213.98	4.18	-0.349	0.000	0.032
110.00	-10.01	-2.89	0.00	-63.73	0.00	63.73	2710.91	1355.45	4421.40	2213.98	4.18	-0.349	0.000	0.032
115.00	-9.21	-2.78	0.00	-49.27	0.00	49.27	2657.43	1328.71	4204.77	2105.51	4.55	-0.359	0.000	0.027
120.00	-8.42	-2.67	0.00	-35.36	0.00	35.36	2602.31	1301.16	3990.84	1998.39	4.93	-0.368	0.000	0.021
125.00	-7.66	-2.56	0.00	-22.00	0.00	22.00	2545.56	1272.78	3779.85	1892.74	5.32	-0.374	0.000	0.015
130.00	-4.08	-1.31	0.00	-9.18	0.00	9.18	2487.16	1243.58	3572.03	1788.67	5.71	-0.378	0.000	0.007
135.00	-2.96	-1.20	0.00	-2.63	0.00	2.63	1824.83	912.42	2579.10	1291.47	6.11	-0.379	0.000	0.004
137.00	-0.27	-0.06	0.00	-0.18	0.00	0.18	1809.31	904.66	2521.92	1262.84	6.27	-0.380	0.000	0.000
140.00	0.00	-0.06	0.00	0.00	0.00	0.00	1785.54	892.77	2436.62	1220.12	6.51	-0.380	0.000	0.000

Final Analysis Summary

Structure: CT11560-A-SBA	Code: EIA/TIA-222-G	1/30/2018
Site Name: Sterling 6, CT	Exposure: B	
Height: 140.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II




Page: 28

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 102 mph Wind	24.7	0.00	46.88	0.00	0.00	2437.67
0.9D + 1.6W 102 mph Wind	24.7	0.00	35.15	0.00	0.00	2426.54
1.2D + 1.0Di + 1.0Wi 50 mph Wind	6.9	0.00	76.34	0.00	0.00	674.00
1.2D + 1.0E	1.9	0.00	46.89	0.00	0.00	211.91
0.9D + 1.0E	1.9	0.00	35.17	0.00	0.00	210.88
1.0D + 1.0W 60 mph Wind	5.3	0.00	39.08	0.00	0.00	525.62

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 102 mph Wind	-37.32	-22.34	0.00	-1843.4	0.00	-1843.4	5473.16	2736.5	13089.3	6554.42	25.00	0.357
0.9D + 1.6W 102 mph Wind	-27.95	-22.27	0.00	-1833.1	0.00	-1833.1	5473.16	2736.5	13089.3	6554.42	25.00	0.353
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-63.29	-6.25	0.00	-507.90	0.00	-507.90	5473.16	2736.5	13089.3	6554.42	25.00	0.110
1.2D + 1.0E	-37.47	-1.76	0.00	-165.78	0.00	-165.78	5473.16	2736.5	13089.3	6554.42	25.00	0.040
0.9D + 1.0E	-28.10	-1.76	0.00	-164.83	0.00	-164.83	5473.16	2736.5	13089.3	6554.42	25.00	0.038
1.0D + 1.0W 60 mph Wind	-31.22	-4.82	0.00	-397.23	0.00	-397.23	5473.16	2736.5	13089.3	6554.42	25.00	0.082

	Monopole Mat Foundation Design			Date
				1/30/2018
	Customer Name:	AT&T	EIA/TIA Standard:	EIA-222-G
	Site Name:		Structure Height (Ft.):	140
	Site Number:	CT11560-A-SBA	Engineer Name:	Rama K.
Engr. Number:	46572	Engineer Login ID:		

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	46.9	Shear Force (Kips):	24.7
Uplift Force (Kips):	0.0	Moment (Kips-ft):	2437.7

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.50
Length of Pad (ft.):	31	Width of Pad (ft.):	31
Final Length of pad (ft)	31.0	Final width of pad (ft):	31.0
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 #:	5	
Qty. of Vertical Rebars:	60	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30	

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

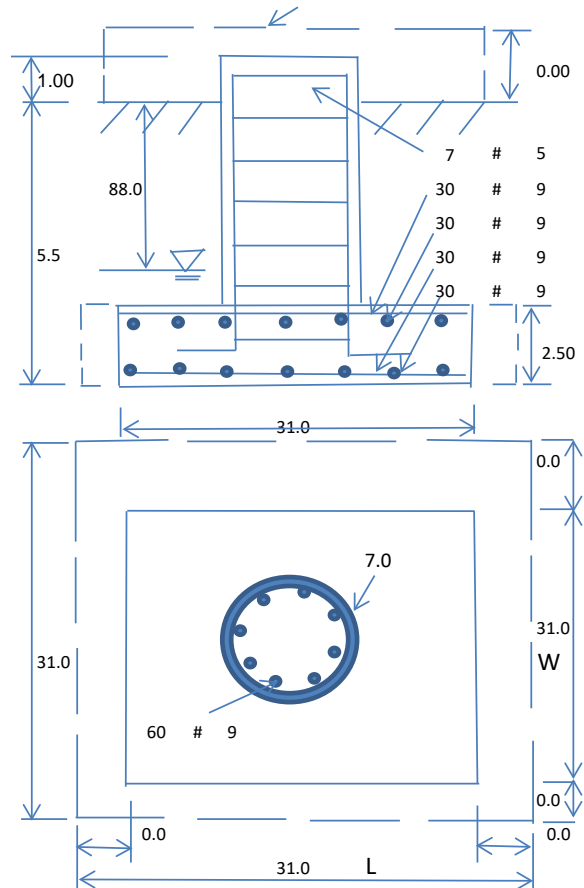
Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	88.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	44891	Ultimate Skin Friction:	0	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for 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.):	2767.55	Total Dry Soil Weight (Kips):	332.11
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	332.11	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2556.44	Total Dry Concrete Weight (Kips):	383.47
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	383.47	Total Vertical Load on Base (Kips):	762.45

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	1118	<	Allowable Factored Soil Bearing (psf):	33668	0.03	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	10708.9	>	Design Factored Momont (kips-ft):	2598	0.24	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	4.12					OK!



Check the capacities of Reinforcing Concrete:

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

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.31	
Calculated Moment Capacity (Mn,Kips-Ft):	9417.5	> Design Factored Moment (Mu, Kips-Ft)	2536.5	0.27 OK!
Calculated Shear Capacity (Kips):	663.6	> Design Factored Shear (Kips):	24.7	0.04 OK!
Calculated Tension Capacity (Tn, Kips):	3240.0	> Design Factored Tension (Tu Kips):	0.0	0.00 OK!
Calculated Compression Capacity (Pn, Kips):	7268.8	> Design Factored Axial Load (Pu Kips):	46.9	0.01 OK!
Moment & Axial Strength Combination:	0.27	OK! Check Tie Spacing (Design/Required):	1	OK!
Pier Reinforcement Ratio:	0.011	Reinforcement Ratio is satisfied per ACI		

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	808.0	> One-Way Factored Shear (L-D. Kips):	204.9	0.25 OK!
One-Way Design Shear Capacity (W-Direction, Kips):	808.0	> One-Way Factored Shear (W-D., Kips)	204.9	0.25 OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	845.4	> One-Way Factored Shear (C-C, Kips):	178.7	0.21 OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0031	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0031	
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3441.0	> Moment at Bottom (L-Dir. K-Ft):	1380.2	0.40 OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3441.0	> Moment at Bottom (W-Dir. K-Ft):	1380.2	0.40 OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4831.9	> Moment at Bottom (C-C Dir. K-Ft):	1952.0	0.40 OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0031	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0031	
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	3441.0	> Moment at the top (L-Dir K-Ft):	477.6	0.14 OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	3441.0	> Moment at the top (W-Dir K-Ft):	477.6	0.14 OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4831.9	> Moment at the top (C-C Dir. K-Ft):	445.8	0.09 OK!

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

Moment transferred by punching shear:	975.1	k-ft.	Max. factored shear stress v_{u_cd} :	1.4	Psi
Max. factored shear stress v_{u_AB} :	9.7	Psi	Factored shear Strength ϕv_n :	164.3	Psi
Max. factored shear stress v_u :	9.7	Psi	Check Usage of Punching Shear Capacity:	0.06	OK!



Sterling, CT : Assessor Database

Property Search:

Parcel ID:	Alternate ID:	Owner 1 Name:	Street Number:	Street Name:
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	EXETER DR <input type="text"/>

Property Detail:

Parcel ID:	Alternate ID/Map Block Lot:	Card:	Card:	Street Name:	Street Number:	Zoning:	LUC:	Acres:
00045300	03842-017-IP16			EXETER DR	5		Municipal	8.31

Owner Information:

Owner 1 Name:	STERLING TOWN OF
Owner 2 Name:	
Street 1:	PO BOX 157
Street 2:	
City:	ONECO
State:	CT
Zip:	06373
Volume:	40
Page:	15
Deed Date:	27-DEC-1976

Property Images:

Picture:	There is no picture available.
Sketch:	There is no sketch available.

Valuation:

Appraised Land:	\$52,780.00
Appraised Bldg:	\$39,840.00
Appraised Total:	\$92,620.00
Total Assessment:	\$64,830.00

Out-Buildings:

Code:	Description:	Units:	Year Built:	Size1:	Size2:	Area:	Grade:	Condition:
RS3	BRICK/STN UTILITY SHED	1	2008	16	12	192	C	AVERAGE (Res)

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Sterling Mobile

Parcel Search




Parcels:

Parcel ID	03842-017-IP16
Feature Type	Parcel
Location	5 EXETER DR
Lot Size	8.31 AC
Account Number	45,300
Owner	STERLING TOWN OF
Address	PO BOX 157
Address2	
City	ONECO
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Zip	06373
Sale Date	
Sale Price	
Zoom to	



-71.817 41.715 Degrees

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MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
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0024

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SHIP TO: MR. RUSSELL M GRAY
 TOWN OF STERLING
 PO BOX 157
 OFFICE OF THE FIRST SELECTMAN
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USPS TRACKING #



9405 8036 9930 0597 4087 53

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Instructions

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

Click-N-Ship® Label Record

**USPS TRACKING # / Insurance Number:
 9405 8036 9930 0597 4087 53**

Trans. #:	428369065	Priority Mail® Postage:	\$6.70
Print Date:	02/24/2018	Insurance Fee	\$0.00
Ship Date:	02/24/2018	Total	\$6.70
Expected Delivery Date:	02/26/2018		
Insured Value:	\$50.00		

From: MARK J ROBERTS
 QC DEVELOPMENT
 PO BOX 916
 STORRS CT 06268-0916

To: MR. RUSSELL M GRAY
 TOWN OF STERLING
 PO BOX 157
 OFFICE OF THE FIRST SELECTMAN
 ONECO CT 06373-0157

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