



April 15, 2022

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

Re: Notice of Exempt Modification New Cingular Wireless PCS LLC ("AT&T") Site CT2547
50 Fairchild Road, Middletown, CT 06457 (the "Property")
Latitude: 41.545011 N Longitude: 72.620766 W

Dear Ms. Bachman:

AT&T currently maintains (12) antennas at the 130' level on the existing 130' monopole tower ("Tower") at 50 Fairchild Road, Middletown, CT. The property is owned by Stephen G. & Barbara L. Borrelli, and the Tower is owned by SBA Towers LLC. AT&T intends to modify its facility by removing (9) antennas and adding (3) AIR6449 B77 antennas at the 128'1" level, (3) QD6616-7 at the 130' level, and (3) AIR6419 B77G antennas at the 131' 8" level of the tower. The AIR6449 B77 & AIR6419 B77G antennas are stacked one on top of the other. The height of AT&T's existing antennas is 130' and the proposed antennas is 128'1", 130' and 131'8" level on the Tower.

This modification may include B2, B5, B17, B14, B29, B30, B66 & n77 hardware that is 4G(LTE) and/or 5GNR capable through remote software configuration and either or both services may be turned on or off at various times.

The CT Siting Council ("CSC") approved the Tower on November 14, 2006, under Docket 316 which included tower height and antenna mount restrictions. The CSC reopened the Docket under Docket 316A to increase the tower height to 130', remove the flush mount requirement and allow AT&T on the Tower. The CSC approved Docket 316A on August 25, 2011. AT&T's modification does not include an increase in tower height and thus complies with the above-mentioned approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies ("R.C.S.A") §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2). In accordance with to R.C.S.A §16-50j-73, a copy of this letter is being sent to Hon. Benjamin D. Florsheim, Mayor, City of Middletown, as chief elected official, Mr. Marek Kozikowski, Director of Land Use & City Planner, City of Middletown, Stephen G. & Barbara L. Borrelli, the property owners and SBA Towers, the tower owner.

The planned modification of the facility falls squarely within those activities explicitly provided for in R.C.S.A §16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require an extension of the site boundary.
3. The proposed modification 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 modified facility 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 foundation can support the proposed loading.

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

Sincerely,

Hollis M. Redding

Hollis M. Redding
SAI Communications, LLC
12 Industrial Way
Salem, NH 03079
Mobile: 860-834-6964
hredding@saigrp.com

Enclosures

Cc:

Hon. Benjamin D. Florsheim, Mayor, City of Middletown, chief elected official
Mr. Marek Kozikowski, Director of Land Use & City Planner, City of Middletown
Stephen G. & Barbara L. Borrelli, the property owners
SBA Towers LLC, the tower owner



C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
603-644-2800
support@csquaredsystems.com

Calculated Radio Frequency Exposure



CT2547

50 Fairchild Road, Middletown, CT

April 11, 2022

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of the AT&T antenna arrays on an existing tower located at 50 Fairchild Road, Middletown, CT. The coordinates of the tower are 41° 32' 42.04" N, 72° 37' 14.76" W.

AT&T is proposing the following:

- 1) Install twelve (12) multi-band antennas (four (4) per sector) to support its commercial wireless network and the FirstNet National Public Safety Broadband Network ("NPSBN").

This report considers the planned antenna configuration for AT&T¹ to derive the resulting % Maximum Permissible Exposure of its proposed installation.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm²). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

¹ As referenced to AT&T's Radio Frequency Design Sheet dated 1/19/22.

3. RF Exposure Calculation Methods

The power density calculation results were generated using the following formula as outlined in FCC bulletin OET 65, and Connecticut Siting Council recommendations:

$$\text{Power Density} = \left(\frac{1.6^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

ERP = Effective Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna

V = Vertical Distance from radiation center of antenna

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all antenna channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not consider actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

4. Calculation Results

Table 1 below outlines the cumulative power density information for the AT&T modification on the existing tower at the site. The proposed antennas are directional in nature; therefore, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm ²)	Limit	% MPE
SPRINT	90	850	1	377	0.0192	0.5667	0.34%
SPRINT	90	850	2	942	0.0960	0.5667	1.69%
SPRINT	90	1900	5	512	0.1305	1.0000	1.30%
SPRINT	90	1900	2	1280	0.1305	1.0000	1.30%
SPRINT	90	2500	8	640	0.2609	1.0000	2.61%
SPRINT	90	11000	1	3349	0.1707	1.0000	1.71%
Clearwire	90	2496	2	153	0.0156	1.0000	0.16%
Clearwire	90	11 GHz	1	211	0.0108	1.0000	0.11%
T-Mobile	100	2100	2	2334.27	0.1900	1.0000	1.90%
T-Mobile	100	1950	2	1167.14	0.0950	1.0000	0.95%
T-Mobile	100	2100	2	1167.14	0.0950	1.0000	0.95%
T-Mobile	100	700	1	865.21	0.0352	0.4667	0.75%
Verizon	110	1970	11	408	0.1492	1.0000	1.49%
Verizon	110	869	9	248	0.0742	0.5793	1.28%
Verizon	110	2145	1	2306	0.0767	1.0000	0.77%
Verizon	110	746	1	1050	0.0349	0.4973	0.70%
AT&T	130	739	2	2450	0.0115	0.4927	2.33%
AT&T	130	763	2	2878	0.0135	0.5087	2.65%
AT&T	130	885	1	2813	0.0066	0.5900	1.12%
AT&T	130	1900	3	5118	0.0359	1.0000	3.59%
AT&T	130	2100	2	8614	0.0403	1.0000	4.03%
AT&T	130	2300	1	6747	0.0158	1.0000	1.58%
AT&T	131.75	3500	1	24286	0.0553	1.0000	5.53%
AT&T	128.33	3500	1	24286	0.0584	1.0000	5.84%
Total							44.67%

Table 1: Carrier Information²

² The existing record in the CSC Power Density Table for AT&T should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for Sprint, Clearwire, T-Mobile and Verizon was taken directly from the CSC database dated 01/21/2022. Please note that % MPE values listed are rounded to two decimal points and the total % MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not identically match the total value reflected in the table.

5. Conclusion

The above analysis concludes that RF exposure at ground level from the proposed site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using conservative calculation methods, the highest expected percent of Maximum Permissible Exposure at ground level is **44.67% of the FCC General Population/Uncontrolled limit.**

As noted previously, the calculated % MPE levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in FCC OET Bulletin 65 Edition 97-01, ANSI/IEEE Std. C95.1 and ANSI/IEEE Std. C95.3.



April 11, 2022
Date

Reviewed/Approved By: Martin J. Lavin
Senior RF Engineer
C Squared Systems, LLC

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure³

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure⁴

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

³ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

⁴ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

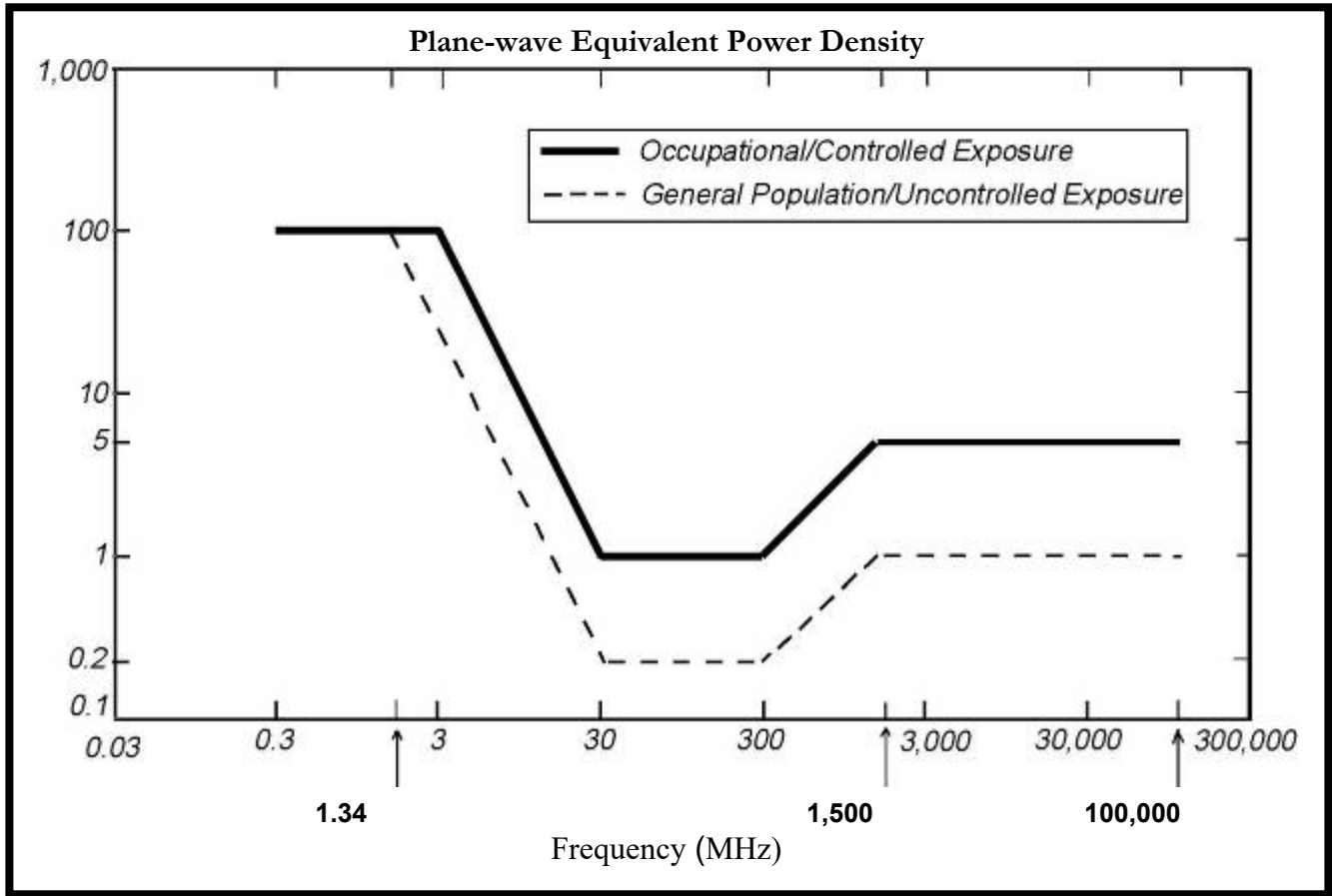
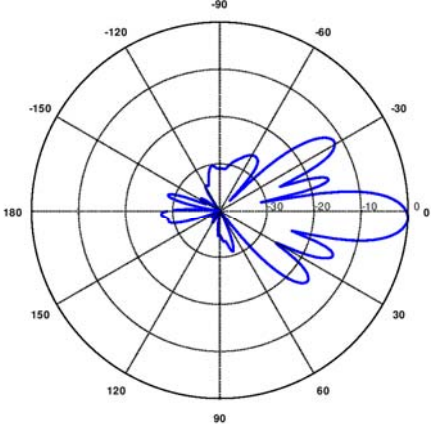
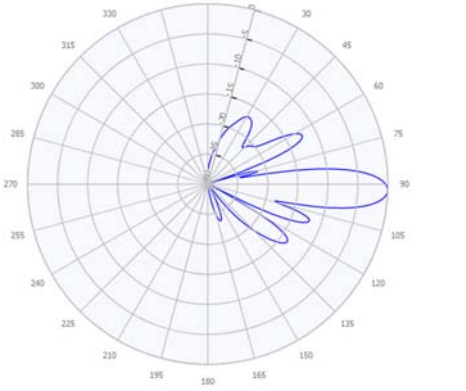
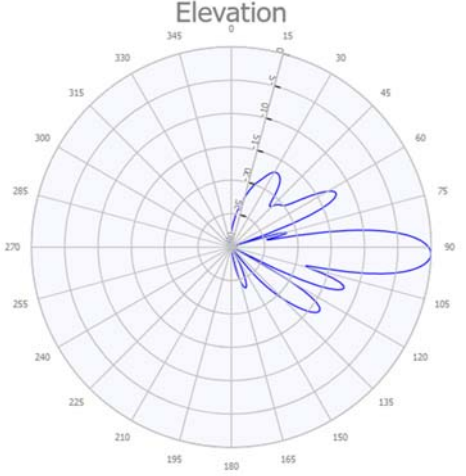
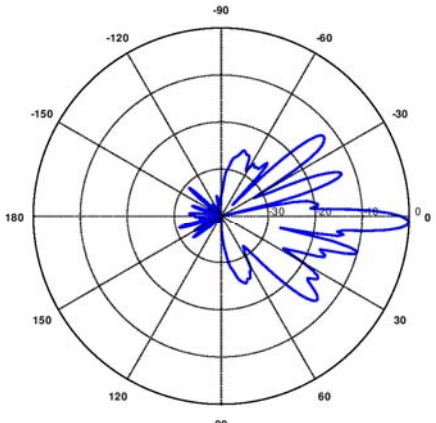
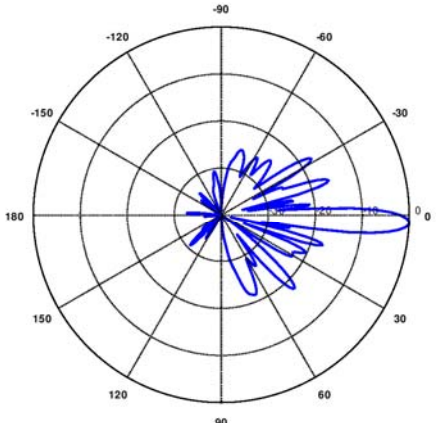
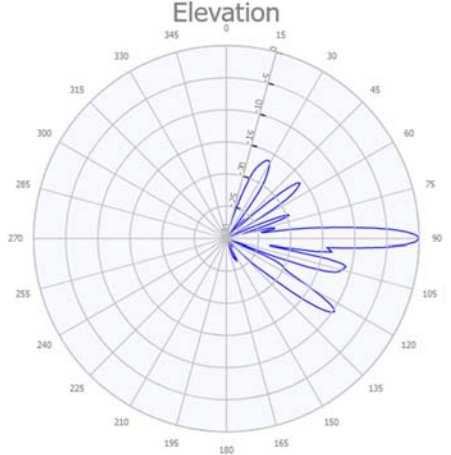


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

<p>700 MHz</p> <p>Manufacturer: Quintel Model #: QD6616-7 Frequency Band: 698-798 MHz Gain: 14.7 dBi Vertical Beamwidth: 12.5° Horizontal Beamwidth: 71° Polarization: Dual Linear 45° Size L x W x D: 72" x 22.0" x 9.6"</p>	
<p>700 MHz</p> <p>Manufacturer: CCI Model #: DMP65R-BU6D Frequency Band: 698 - 806MHz Gain: 14.0 dBi Vertical Beamwidth: 13° Horizontal Beamwidth: 74° Polarization: Dual Linear 45° Size L x W x D: 71.2" x 20.7" x 9.7"</p>	<p align="center">Elevation</p> 
<p>885 MHz</p> <p>Manufacturer: CCI Model #: DMP65R-BU6D Frequency Band: 824 - 896 MHz Gain: 14.6 dBi Vertical Beamwidth: 11.1° Horizontal Beamwidth: 63° Polarization: Dual Linear 45° Size L x W x D: 71.2" x 20.7" x 9.7"</p>	<p align="center">Elevation</p> 

<p>1900 MHz</p> <p>Manufacturer: Quintel Model #: QD6616-7 Frequency Band: 1920-1990 MHz Gain: 17.2 dBi Vertical Beamwidth: 6.5° Horizontal Beamwidth: 67° Polarization: Dual Linear 45° Size L x W x D: 72" x 22.0" x 9.6"</p>	
<p>2100 MHz</p> <p>Manufacturer: Quintel Model #: QD6616-7 Frequency Band: 1920-2180 MHz Gain: 17.7 dBi Vertical Beamwidth: 5.7° Horizontal Beamwidth: 62° Polarization: Dual Linear 45° Size L x W x D: 72" x 22.0" x 9.6"</p>	
<p>2300 MHz</p> <p>Manufacturer: CCI Model #: DMP65R-BU6D Frequency Band: 2300-2400 MHz Gain: 18.4 dBi Vertical Beamwidth: 4.1° Horizontal Beamwidth: 54° Polarization: Dual Linear 45° Size L x W x D: 71.2" x 20.7" x 9.7"</p>	<p style="text-align: center;">Elevation</p> 

PROJECT INFORMATION

SCOPE OF WORK: ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:

- NEW AT&T ANTENNAS: AIR6419 B77G (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: AIR6449 B77 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: QD6616-7 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: RRUS-E2 B29 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POS. 2).
- EXISTING AT&T RRUS: 4478 B14 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POS. 2).
- EXISTING AT&T RRUS: 8843 B2/B66A (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POS. 2).
- EXISTING AT&T RRUS: RRUS-32 B30 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POS. 4).
- NEW AT&T DC & FIBER SURGE ARRESTOR DC6-48-60-18-8F (TOTAL OF 1) WITH (1) FIBER LINE.
- ADD (6) Y-CABLES.

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:

- ADD (1) 6648 + XCEDE CABLE

ITEMS TO BE REMOVED:

- EXISTING AT&T ANTENNAS: QS66512-2 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNAS: OPA65R-LCUU-H6 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNAS: DMP65R-BU6DA (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: RRUS-32 B2 (PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T SURGE ARRESTOR: DC-ONLY (TOTAL OF 1).
- EXISTING AT&T (6) COAX CABLES.

ITEMS TO REMAIN:

- (3) ANTENNAS, (15) RRU'S, (3) SURGE ARRESTOR, (8) DC POWER & (2) FIBER

SITE ADDRESS: 50 FAIRCHILD ROAD
MIDDLETOWN, CT 06457

LATITUDE: 41.545011° N, 41° 32' 42.04" N

LONGITUDE: 72.620766° W, 72° 37' 14.76" W

TYPE OF SITE: MONOPOLE / INDOOR EQUIPMENT

STRUCTURE HEIGHT: 130'-0"±

RAD CENTER: 130'-0"± (LTE) , 131'-8" & 128'-1" (C-Band)

CURRENT USE: TELECOMMUNICATIONS FACILITY

PROPOSED USE: TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLANS	1
A-2	ANTENNA LAYOUTS & ELEVATION	1
A-3	DETAILS	1
SN-1	STRUCTURAL NOTES	1
S-1	MOUNT MODIFICATION DESIGN	1
G-1	GROUNDING DETAILS	1
RF-1	RF PLUMBING DIAGRAM	1



SITE NUMBER: CT2547

SITE NAME: MIDDLETOWN FAIRCHILD ROAD

FA CODE: 10141343

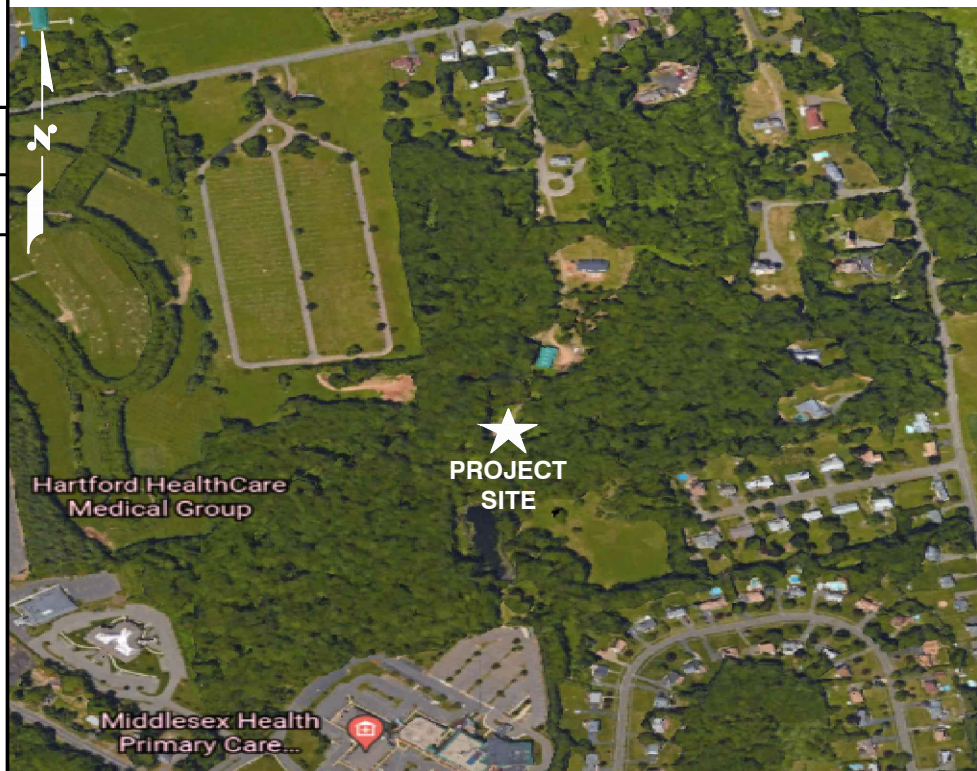
PACE ID: MRCTB056419, MRCTB054071, MRCTB053990, MRCTB056401

PROJECT: 5G NR 1SR CBAND UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

FROM HARTFORD, TAKE I-91 SOUTH. TAKE ROUTE 9 SOUTH. TAKE EXIT 12. TURN LEFT ON SILVER STREET. TURN RIGHT ON EASTERN DRIVE. TURN LEFT ON BOW LANE. TURN RIGHT ON FAIRCHILD STREET. SITE AT END OF FAIRCHILD STREET. CONTINUE DOWN PRIVATE HOME DRIVEWAY AT THE END OF STREET TO ACCESS ROAD. FOLLOW ACCESS ROAD TO SITE. GATE COMBO 4722.



GENERAL NOTES

1. 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.
2. 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.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS



CALL BEFORE YOU DIG



CALL TOLL FREE 1-800-922-4455

OR CALL 811

UNDERGROUND SERVICE ALERT

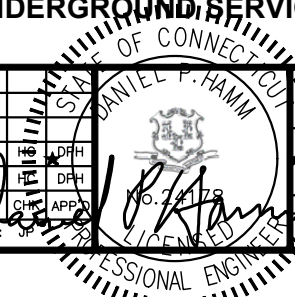


SITE NUMBER: CT2547
SITE NAME: MIDDLETOWN FAIRCHILD ROAD

50 FAIRCHILD ROAD
MIDDLETOWN, CT 06457
MIDDLESEX COUNTY



NO.	DATE	REVISIONS	BY	CHK	APP
1	03/17/22	ISSUED FOR REVIEW	JP	HC	DPH
A	01/28/22	ISSUED FOR REVIEW	JP	HC	DPH



AT&T	
TITLE SHEET	
5G NR 1SR CBAND UPGRADE	
SHEET NUMBER	DRAWING NUMBER
CT2547	T-1
REV	1

45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

12 INDUSTRIAL WAY
SALEM, NH 03079

500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

SCALE: AS SHOWN
DESIGNED BY: HC
DRAWN BY: JP

GROUNDING NOTES

- THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
- THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – SAI
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T MOBILITY
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

- ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
 - ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
 - CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
 - SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
 - THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
 - SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
- 20. 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: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

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, FOURTEENTH EDITION;

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

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.

ABBREVIATIONS					
AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING				

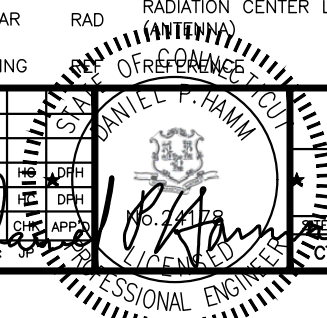
HDG HUDSON Design Group LLC
 45 BEECHWOOD DRIVE NORTH ANDOVER, MA 01845
 TEL: (978) 557-5553 FAX: (978) 336-5586

SAI
 12 INDUSTRIAL WAY SALEM, NH 03079

SITE NUMBER: CT2547
SITE NAME: MIDDLETOWN FAIRCHILD ROAD
 50 FAIRCHILD ROAD MIDDLETOWN, CT 06457 MIDDLESEX COUNTY

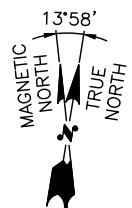
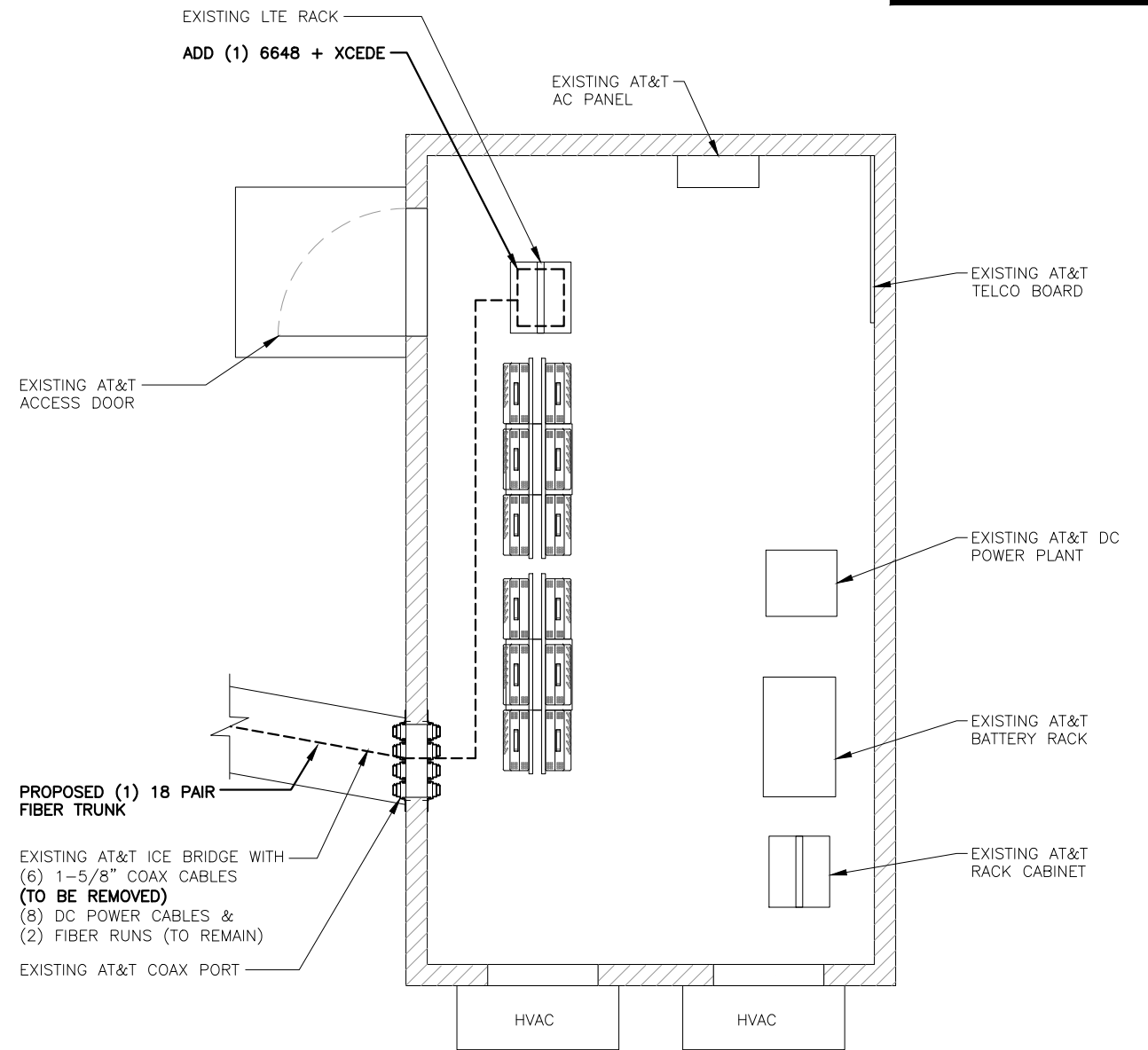
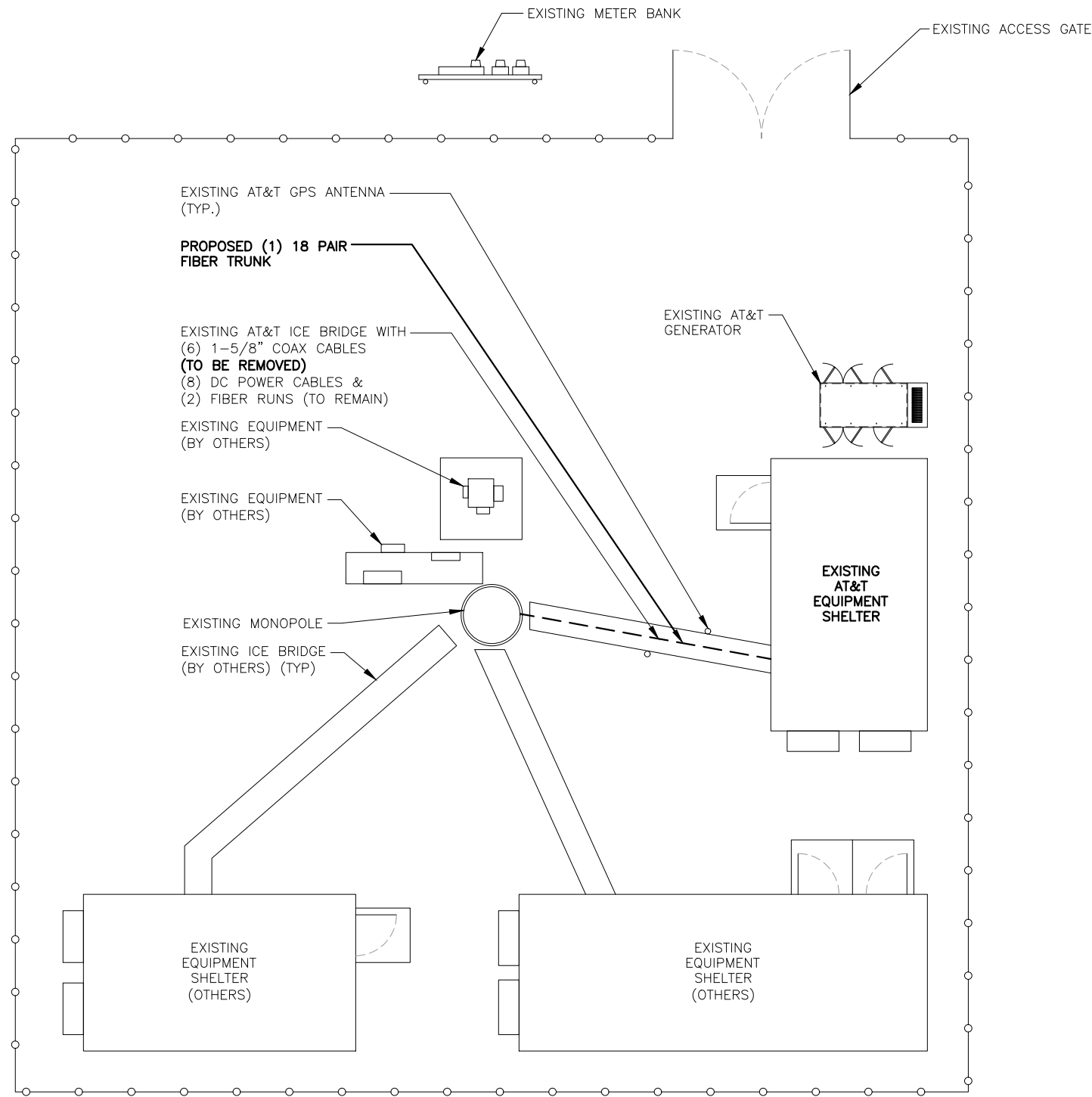
at&t
 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067

NO.		DATE	REVISIONS	BY	CHK	APP	DATE	SCALE	DESIGNED BY	DRAWN BY	PROJECT NUMBER	DRAWING NUMBER	REV
1		03/17/22	ISSUED FOR REVIEW	JP	HC	DPH		AS SHOWN	HC	JP	CT2547	GN-1	1
A		01/28/22	ISSUED FOR REVIEW	JP	HC	DPH							



NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

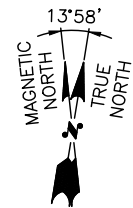
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



COMPOUND PLAN

22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"

1
A-1



EQUIPMENT PLAN

22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

2
A-1



45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
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12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2547
SITE NAME: MIDDLETOWN FAIRCHILD ROAD

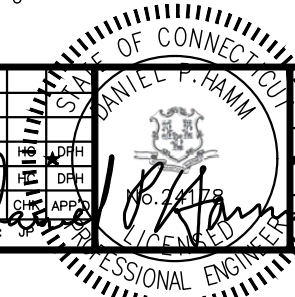
50 FAIRCHILD ROAD
MIDDLETOWN, CT 06457
MIDDLESEX COUNTY



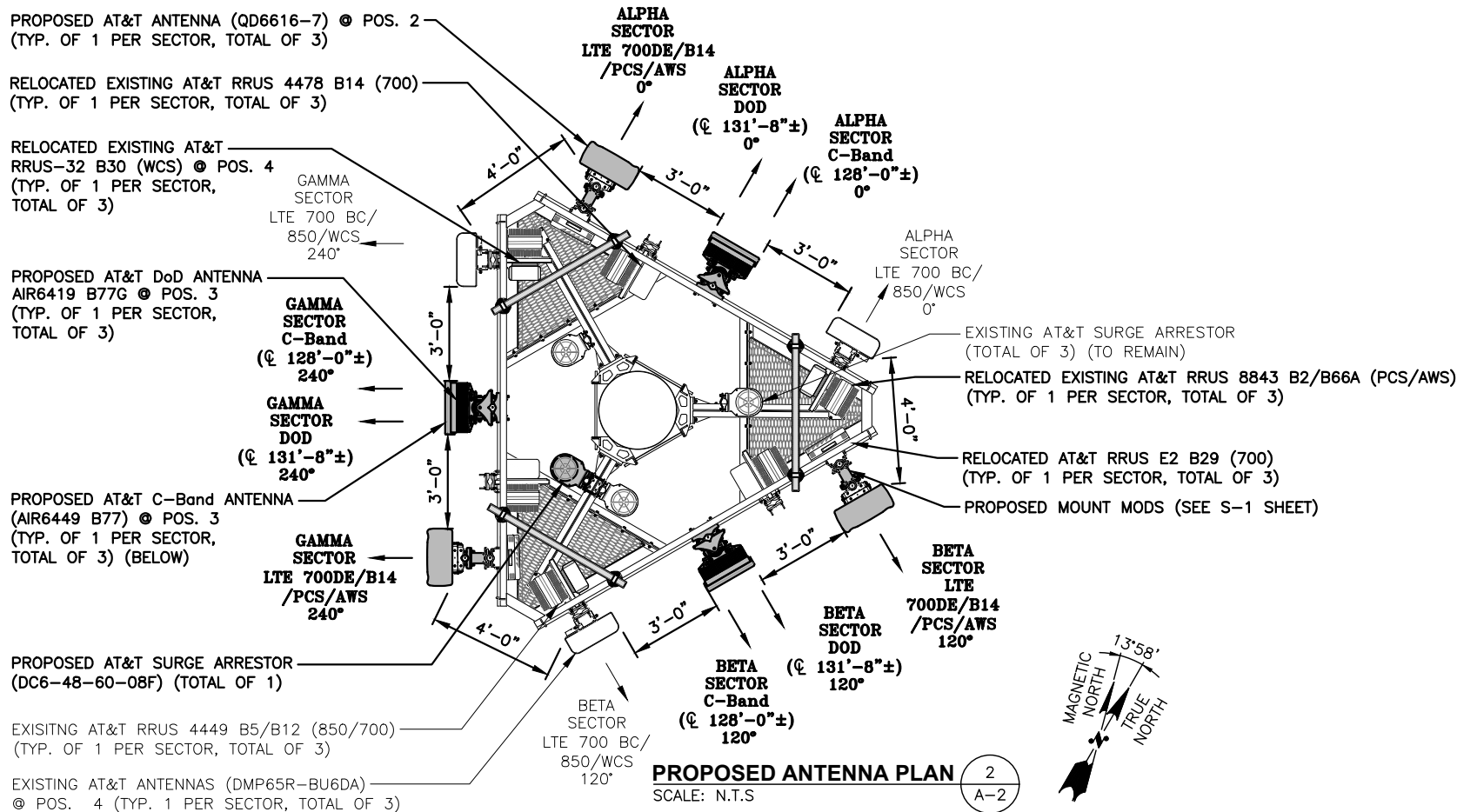
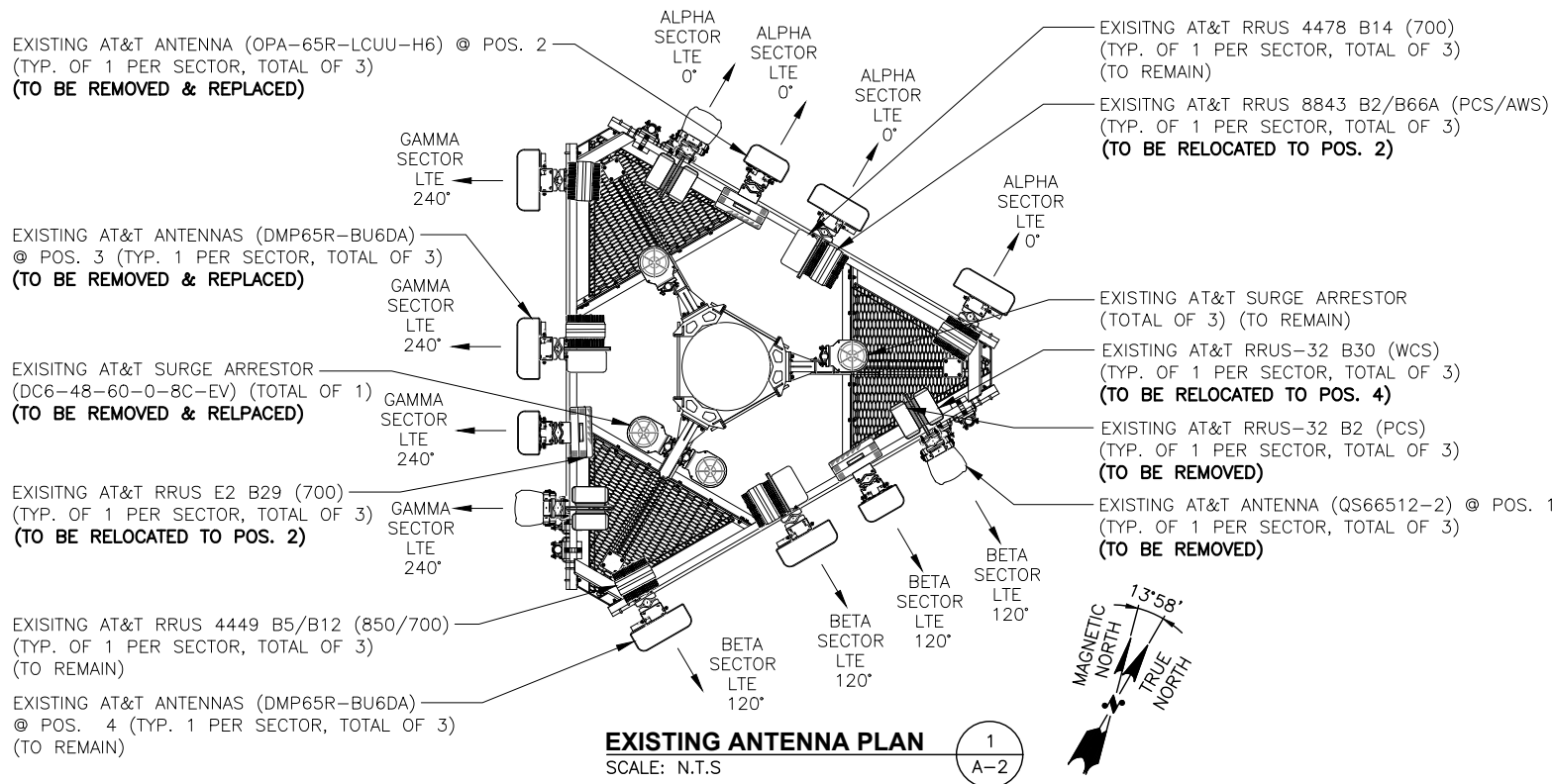
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP
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A	01/28/22	ISSUED FOR REVIEW	JP	HT	DPH

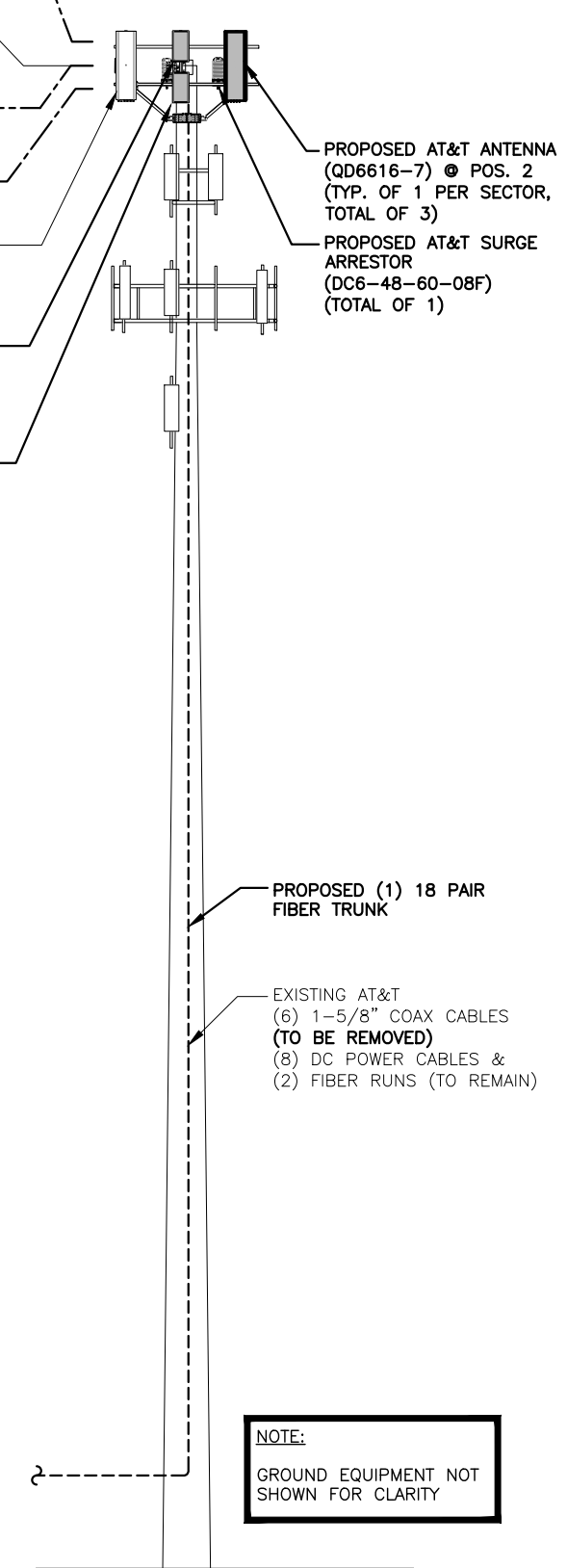
SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: JP



AT&T	
COMPOUND & EQUIPMENT PLANS 5G NR 1SR CBAND UPGRADE	
DWG NUMBER CT2547	REV 1



- CL OF PROPOSED AT&T DoD ANTENNAS**
ELEV. = 131'-8"± (AGL)
- TOP OF EXISTING MONOPOLE**
ELEV. 130'-0"± (AGL)
- CL OF EXISTING & PROPOSED LTE AT&T ANTENNAS**
ELEV. 130'-0"± (AGL)
- CL OF PROPOSED AT&T Cband ANTENNAS**
ELEV. = 128'-1"± (AGL)
- EXISTING AT&T ANTENNAS (DMP65R-BU6DA) @ POS. 4**
(TYP. 1 PER SECTOR, TOTAL OF 3)
- PROPOSED AT&T DoD ANTENNA AIR6419 B77G @ POS. 3**
(TYP. OF 1 PER SECTOR, TOTAL OF 3)
- PROPOSED AT&T C-Band ANTENNA (AIR6449 B77) @ POS. 3**
(TYP. OF 1 PER SECTOR, TOTAL OF 3) (BELOW)



NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: JANUARY 21, 2022.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

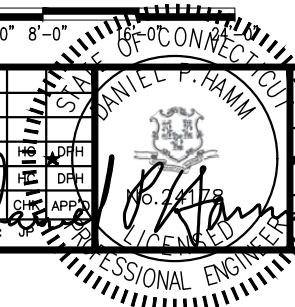
SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2547
SITE NAME: MIDDLETOWN FAIRCHILD ROAD
50 FAIRCHILD ROAD
MIDDLETOWN, CT 06457
MIDDLESEX COUNTY

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500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP
1	03/17/22	ISSUED FOR REVIEW	JP	HC	DPH
A	01/28/22	ISSUED FOR REVIEW	JP	HC	DPH

SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: JP



AT&T
ANTENNA LAYOUT PLAN & ELEVATION
5G NR 1SR CBAND UPGRADE
SHEET NUMBER: CT2547 | DRAWING NUMBER: A-2 | REV: 1

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA Ø HEIGHT	ANTENNA TIP HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	-	-	-	-	-	-	-	-	-	-	-
A2	PROPOSED	LTE 700DE/B14/PCS/AWS	QD6616-7	72X22X9.6	130'-0"±	133'-0"±	0°	-	(E)(1) RRUS-E2 B29 (700) (E)(1) 8843 B2/B66A (PCS) (E)(1) 4478 B14 (700)	-	(E)(4) DC POWER (P)(1) FIBER (P)(1) Y-CABLE	(E)(1) RAYCAP DC6-48-60-18-08F (P)(1)
A3	PROPOSED	DOD + CBAND	AIR6419 B77G AIR6449 B77	31.1X16.1X7.3 30.4X15.9X8.1	131'-8"± 128'-1"±	133'-0"± 129'-4"±	0°	-	-	-	-	(E)(1) RAYCAP DC6-48-60-18-08F (P)(1)
A4	EXISTING	LTE 700 BC/850/WCS	DMP65R-BU6DA	71.2X20.7X7.7	130'-0"±	133'-0"±	0°	-	(E)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B30 (WCS)	-	(P)(1) Y-CABLE	(E)(1) RAYCAP DC6-48-60-18-08F (P)(1)
B1	EXISTING	-	-	-	-	-	-	-	-	-	-	-
B2	PROPOSED	LTE 700DE/B14/PCS/AWS	QD6616-7	72X22X9.6	130'-0"±	133'-0"±	120°	-	(E)(1) RRUS-E2 B29 (700) (E)(1) 8843 B2/B66A (PCS) (E)(1) 4478 B14 (700)	-	(E)(2) DC POWER & (1) FIBER (P)(1) Y-CABLE	(E)(1) RAYCAP DC6-48-60-18-08F (P)(1)
B3	PROPOSED	DOD + CBAND	AIR6419 B77G AIR6449 B77	31.1X16.1X7.3 30.4X15.9X8.1	131'-8"± 128'-1"±	133'-0"± 129'-4"±	120°	-	-	-	-	(E)(1) RAYCAP DC6-48-60-18-08F (P)(1)
B4	EXISTING	LTE 700 BC/850/WCS	DMP65R-BU6DA	71.2X20.7X7.7	130'-0"±	133'-0"±	120°	-	(E)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B30 (WCS)	-	(P)(1) Y-CABLE	(E)(1) RAYCAP DC6-48-60-18-08F (P)(1)
C1	EXISTING	-	-	-	-	-	-	-	-	-	-	-
C2	PROPOSED	LTE 700DE/B14/PCS/AWS	QD6616-7	72X22X9.6	130'-0"±	133'-0"±	240°	-	(E)(1) RRUS-E2 B29 (700) (E)(1) 8843 B2/B66A (PCS) (E)(1) 4478 B14 (700)	-	(E)(2) DC POWER & (1) FIBER (P)(1) Y-CABLE	(E)(1) RAYCAP DC6-48-60-18-08F (P)(1)
C3	PROPOSED	DOD + CBAND	AIR6419 B77G AIR6449 B77	31.1X16.1X7.3 30.4X15.9X8.1	131'-8"± 128'-1"±	133'-0"± 129'-4"±	240°	-	-	-	-	(E)(1) RAYCAP DC6-48-60-18-08F (P)(1)
C4	EXISTING	LTE 700 BC/850/WCS	DMP65R-BU6DA	71.2X20.7X7.7	130'-0"±	133'-0"±	240°	-	(E)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B30 (WCS)	-	(P)(1) Y-CABLE	(E)(1) RAYCAP DC6-48-60-18-08F (P)(1)

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: JANUARY 21, 2022

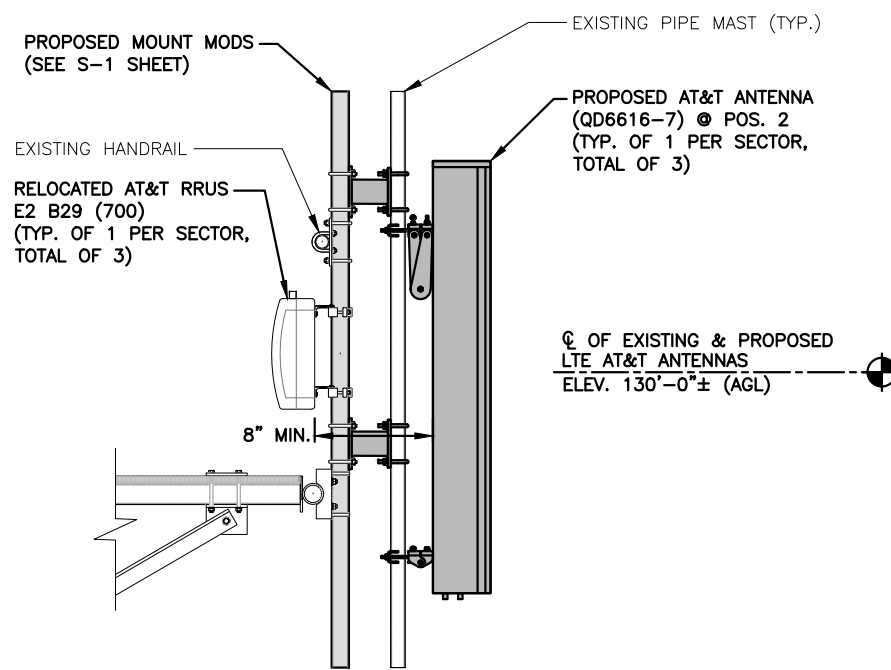
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

QUANTITY	MODEL	SIZE (L x W x D)
E(3)	4449 (850/700)	17.9"x13.2"x10.4"
E(3)	8843 (PCS/AWS)	14.9"x13.2"x10.9"
E(3)	4478 B14 (700)	18.1"x13.4"x8.3"
E(3)	RRUS-32 (WCS)	27.2"x12.1"x7.0"
E(3)	RRUS-E2 B29 (700)	20.4"x18.5"x7.5"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

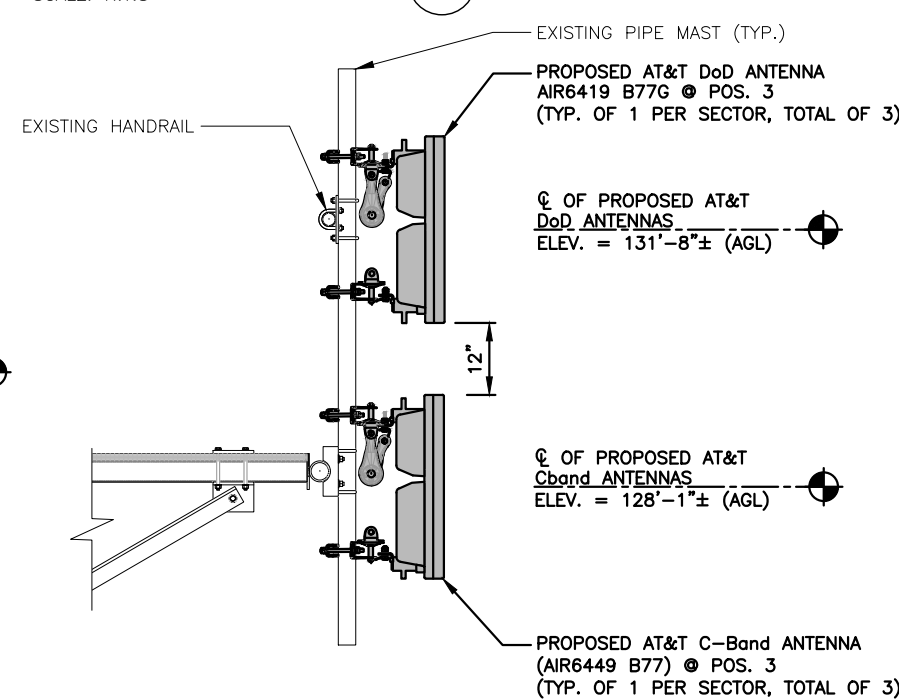
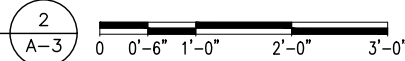
FINAL ANTENNA SCHEDULE

SCALE: N.T.S.



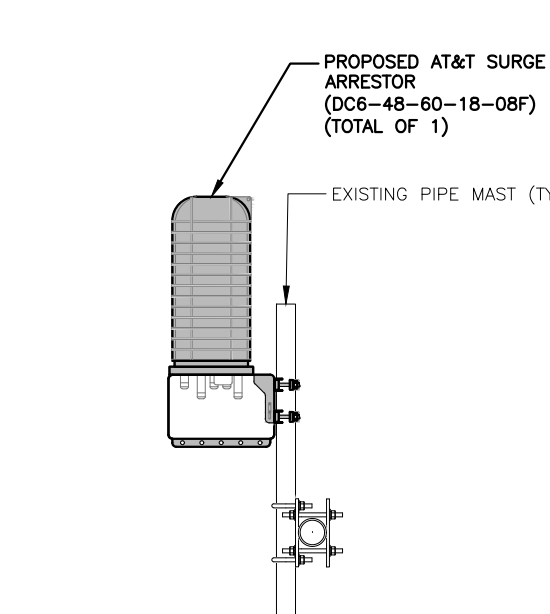
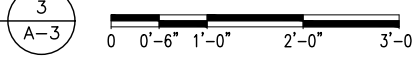
PROPOSED LTE ANTENNA MOUNTING DETAIL

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"



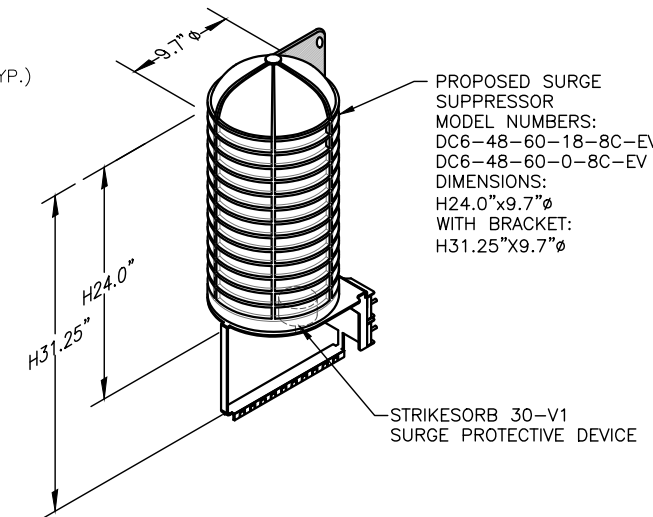
PROPOSED C-BAND ANTENNA MOUNTING DETAIL

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"



PROPOSED SURGE ARRESTOR MOUNTING DETAIL

SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.



45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586



12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2547
SITE NAME: MIDDLETOWN FAIRCHILD ROAD

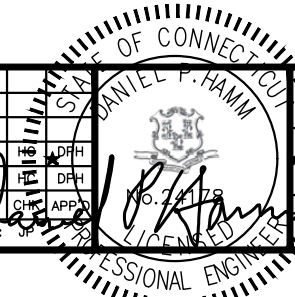
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MIDDLESEX COUNTY



500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP
1	03/17/22	ISSUED FOR REVIEW	JP	DPH	
A	01/28/22	ISSUED FOR REVIEW	JP	DPH	

SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: JP



REV	NO.	DATE	DESCRIPTION
1	A-3		

AT&T
DETAILS
5G NR 1SR CBAND UPGRADE

STRUCTURAL NOTES:

- DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL", 14TH EDITION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
- UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
- WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
- ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
- NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
- SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS ¹
N/A	MATERIAL SPECIFICATIONS REPORT ²
N/A	FABRICATOR NDE INSPECTION
REQUIRED	PACKING SLIPS ³
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS ⁴
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION ⁵
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS ⁶
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

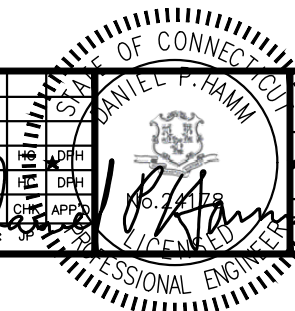
12 INDUSTRIAL WAY
SALEM, NH 03079

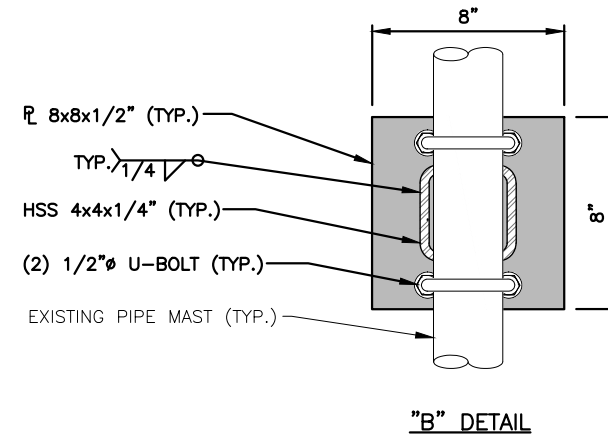
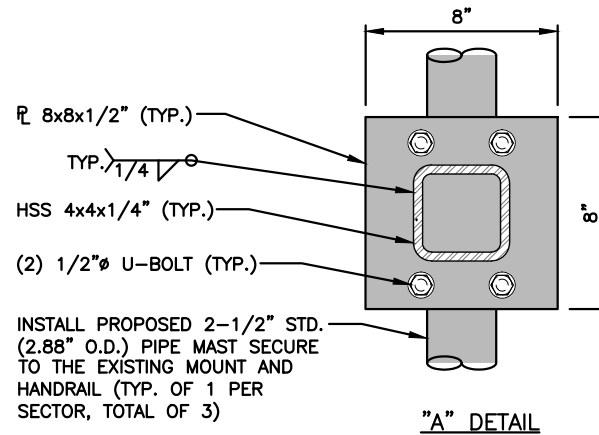
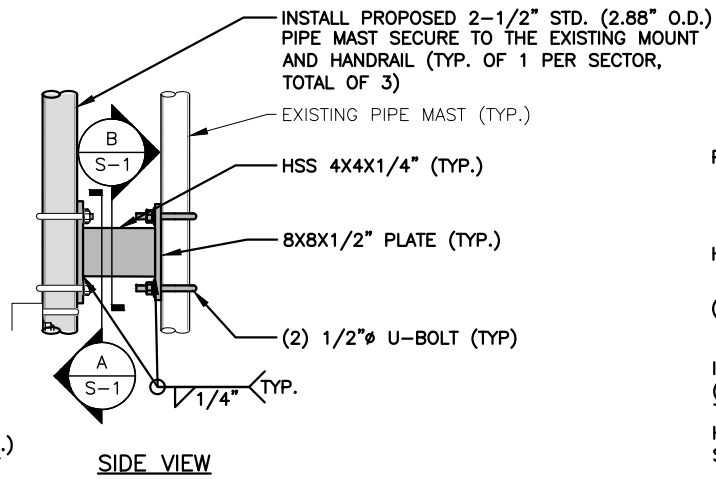
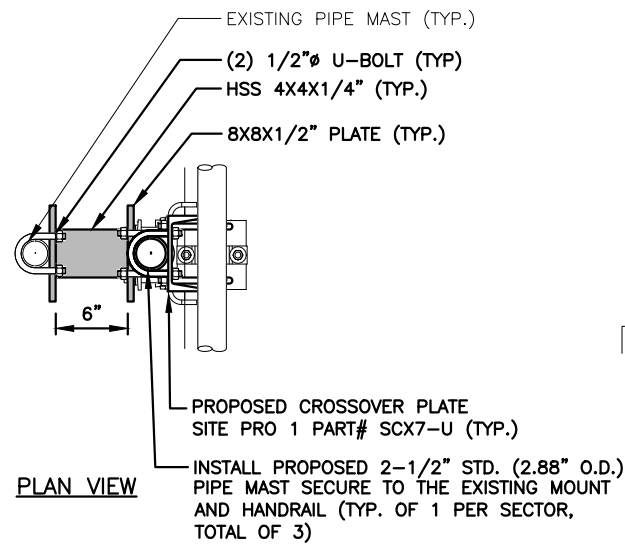
SITE NUMBER: CT2547
SITE NAME: MIDDLETOWN FAIRCHILD ROAD

50 FAIRCHILD ROAD
MIDDLETOWN, CT 06457
MIDDLESEX COUNTY

500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

1		03/17/22	ISSUED FOR REVIEW	JP	HC	DFH	
A		01/28/22	ISSUED FOR REVIEW	JP	HC	DFH	
NO.	DATE	REVISIONS		BY	CHK	APP	
SCALE:		AS SHOWN		DESIGNED BY:		HC	
		DRAWN BY:		JP			
		DATE:		03/17/22			
		PROJECT:		5G NR 1SR CBAND UPGRADE			
		DRAWING NUMBER:		SN-1			
		REV:		1			



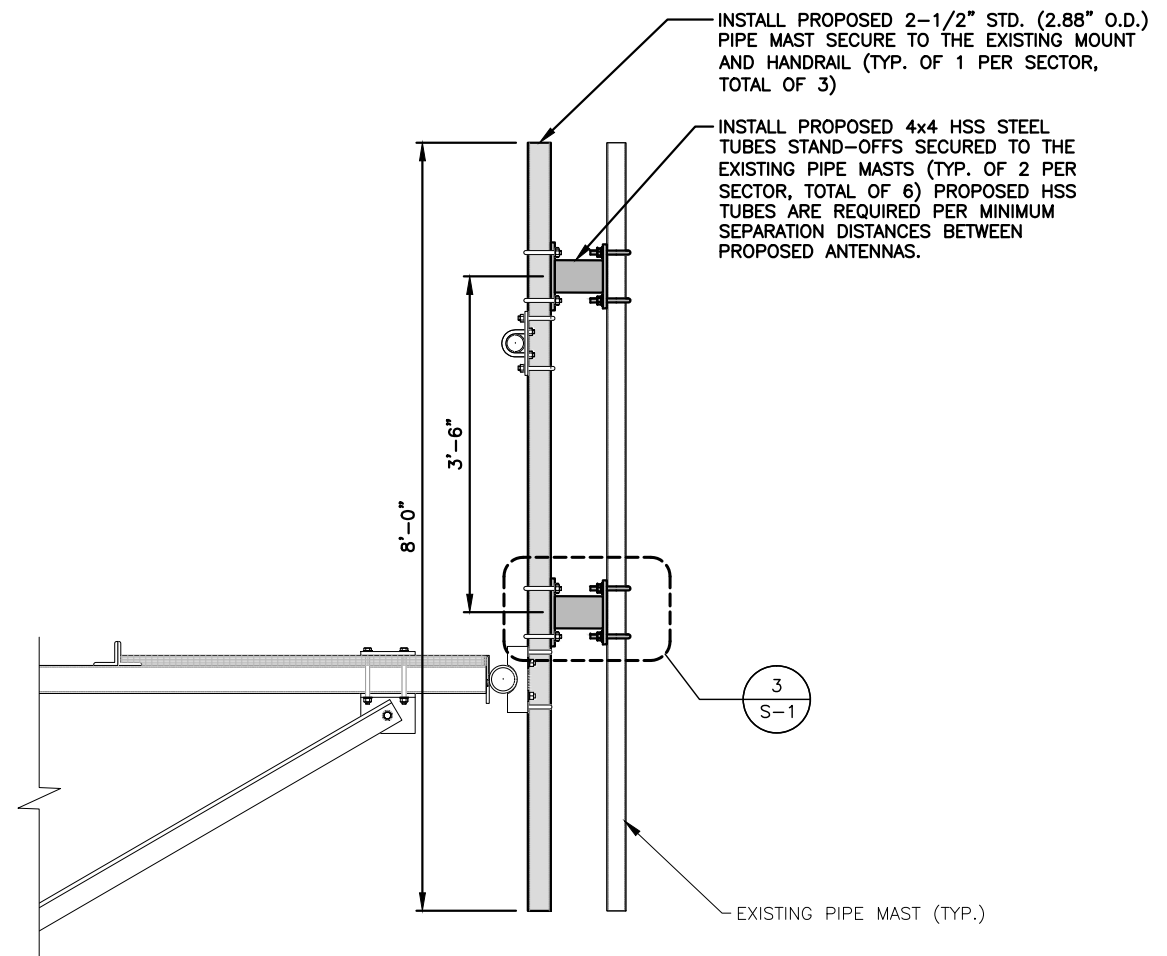
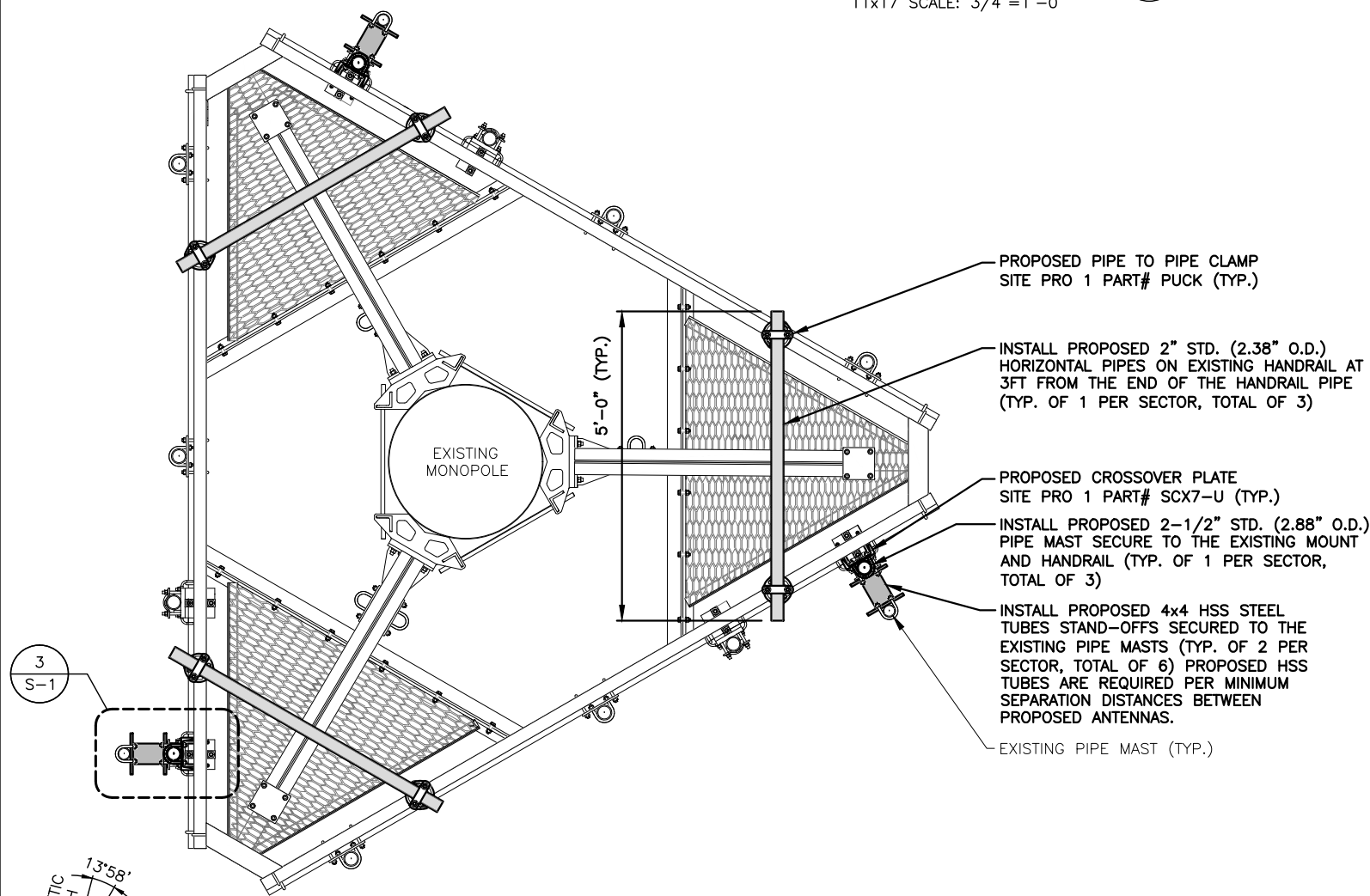


NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: JANUARY 21, 2022

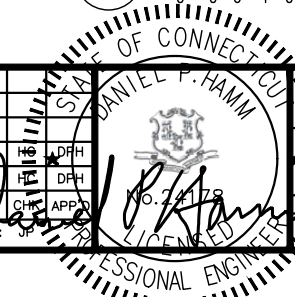
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

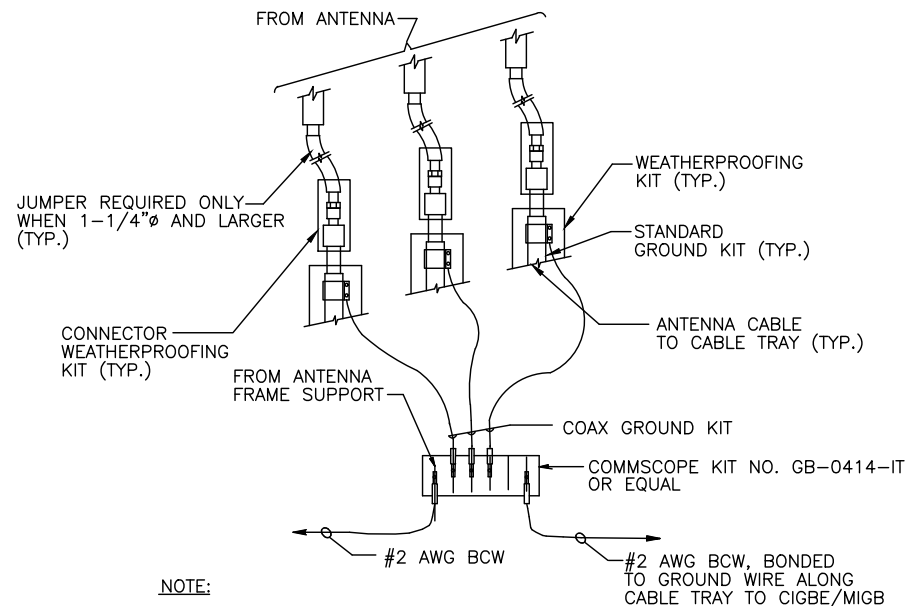
CONNECTION DETAIL 3
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"



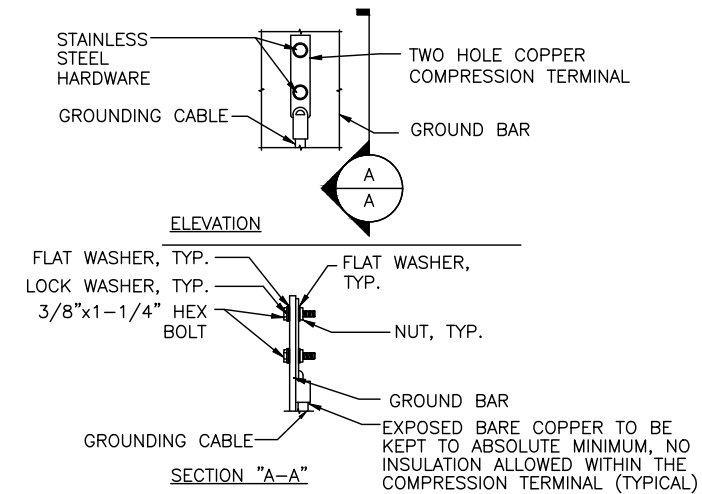
PROPOSED MOUNT MODIFICATIONS PLAN 1
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

PROPOSED MOUNT MODIFICATIONS DETAIL 2
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"



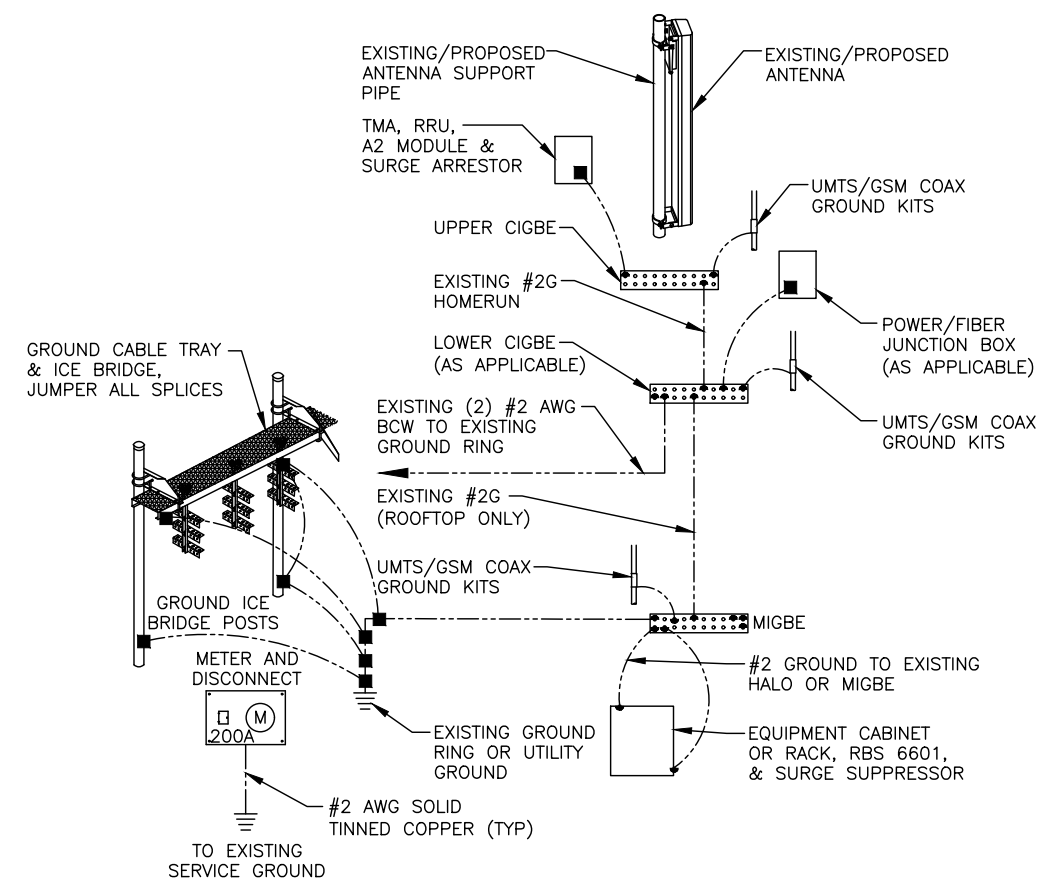


GROUND WIRE TO GROUND BAR CONNECTION DETAIL 1
SCALE: N.T.S. G-1



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

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



GROUNDING RISER DIAGRAM 2
SCALE: N.T.S. G-1

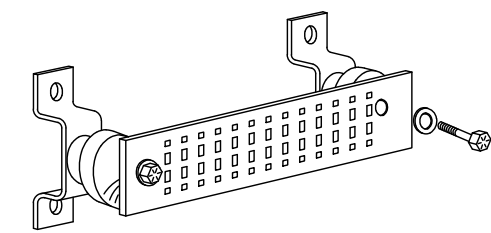
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

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

SECTION "A" - SURGE ABSORBERS

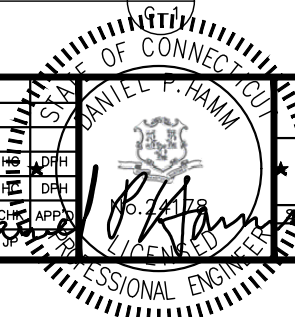
- INTERIOR GROUND RING (#2 AWG)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
- BUILDING STEEL (IF AVAILABLE) (#2 AWG)



GROUND BAR - DETAIL (AS REQUIRED) 4
SCALE: N.T.S. G-1

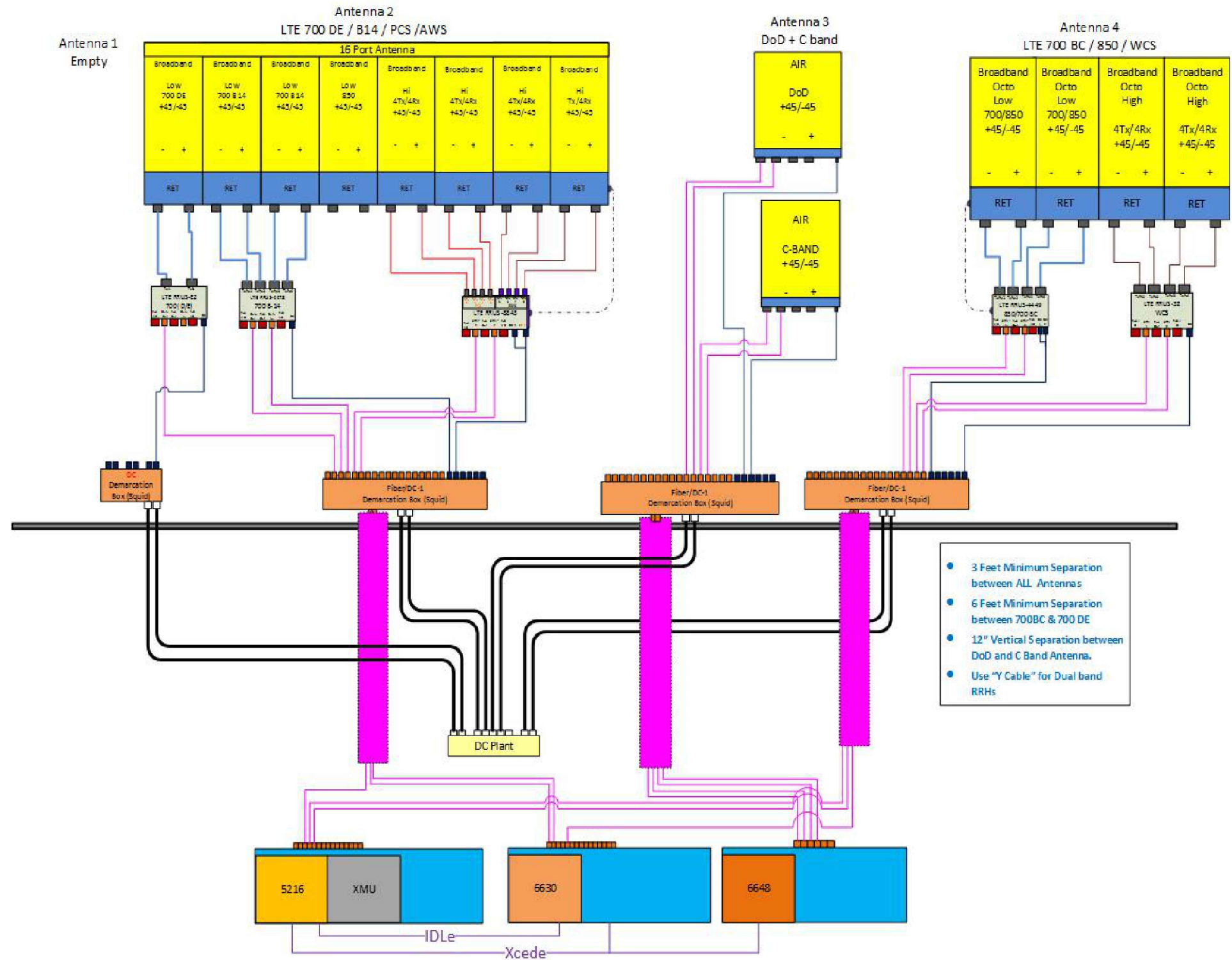
NO.	DATE	REVISIONS	BY	CHK	APP
1	03/17/22	ISSUED FOR REVIEW	JP	HC	DPH
A	01/28/22	ISSUED FOR REVIEW	JP	HC	DPH

SCALE: AS SHOWN DESIGNED BY: HC DRAWN BY: JP



AT&T	
GROUNDING DETAILS	
5G NR 1SR CBAND UPGRADE	
PROJECT NUMBER	DRAWING NUMBER
CT2547	G-1
REV	1

NOTE:
 REV: 3
 DATED: 01/10/2022
 RFDS ID: 4788766



RF PLUMBING DIAGRAM 1
 SCALE: N.T.S. RF-1

NOTE:
 1. CONTRACTOR TO CONFIRM ALL PARTS.
 2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.
 3. RFDS USED FOR REFERENCE.

NOTE:
 REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

1	03/17/22	ISSUED FOR REVIEW	JJ	HC	DPH
A	01/28/22	ISSUED FOR REVIEW	JP	HC	DPH
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: HC	DRAWN BY: JP		

AT&T		
RF PLUMBING DIAGRAM		
5G NR 1SR CBAND UPGRADE		
SITE NUMBER	DRAWING NUMBER	REV
CT2547	RF-1	1



Tower Engineering Solutions

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

Structural Analysis Report

Existing 130 ft Rohn Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT13064-A
Customer Site Name: Middletown 2, CT
Carrier Name: AT&T (App#: 185298-2)
Carrier Site ID / Name: CT2547 / Middletown
Site Location: 67 Fairchild Road
Middletown, Connecticut
Middlesex County
Latitude: 41.545011
Longitude: -72.620766

Analysis Result:

Max Structural Usage: 96.3% [Pass]
Max Foundation Usage: 99.8% [Pass]
Additional Usage Caused by Mount Modification: +1.6%

Report Prepared By: Changzhi Zang





Tower Engineering Solutions

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Report Prepared By: Changzhi Zang

Introduction

The purpose of this report is to summarize the analysis results on the 130 ft Rohn Monopole to support the proposed antennas and transmission lines in addition to those currently installed.

The pending modification by **TES** listed under Sources of Information was also considered completed and was included in this analysis.

Sources of Information

Tower Drawings	Rohn Parent File # 57886EH, Eng. File # 060-3494, Dwg. # A060995, dated 12/15/2006
Foundation Drawing	Rohn Parent File # 57886EH, Eng. File # 060-3494, Dwg. # A060998, dated 12/15/2006
Geotechnical Report	Gemini Geotechnical Associates Project # 06161CT, dated 11/30/2006
Mount Analysis	AT&T MA by Hudson Design Group LLC, Project #2547, dated 01/21/2022
Modification Drawings	FDH Project # 11-01248E S1, dated 09/21/2001; FDH Project # 12-08192E S2, dated 11/14/2012; FDH Project # 15BVXK1400, dated 08/06/2015; TES Job # 13064, dated 11/05/2015; TES Job # 56931, dated 08/24/2018
Pending Modification	TES Pending Job # 121134, dated 02/11/2022

Analysis Criteria

The feasibility/rigorous analysis was performed in accordance with the requirements and stipulations of the 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 $V_{ult} = 130.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 101.0$ mph (3-Sec. Gust)
Basic Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	SS = 0.179, S1 = 0.062

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	129.0	3	Cci - OPA-65R-LCUU-H6 - Panel	Platform w/ Hand Rail (Commscope MTC3607R) + Platform Reinforcement Kit (SitePro1 PRK-FMA), (6) P2.5" X-STR Pipe Masts, (6) Channel Reinforcement Angles L2x2x1/4	(2) 1/2" Fiber* (8) 3/4" DC* (1) 1/2"	AT&T
-		3	Quintel - QS66512-2 - Panel			
-		6	Cci - DMP65R-BU6DA - Panel			
-		6	Ericsson - RRUS 32 - RRU			
-		3	Ericsson - RRUS 4478 B14 - RRU			
-		3	Ericsson - RRUS 8843 B2 B66A - RRU			
-		3	Ericsson - 4449 B5/B12 - RRU			
-		3	Ericsson - RRUS E2 B29 - RRU			
-		2	Raycap - DC6-48-60-18-8F - OVP			
-		2	Raycap - DC6-48-60-0-8C-EV - OVP			
12	120.0	3	JMA Wireless MX08FRO665-21 - Panel	Platform w/ Handrails Commscope MC-PK8-DSH	(1) 1.6" Hybrid	Dish Wireless
13		3	Fujitsu TA08025-B605 - RRU			
14		3	Fujitsu TA08025-B604 - RRU			
15		1	Raycap RDIDC-9181-PF-48 - OVP			
16	111.0	3	Andrew - CBC721-DF - Panel	(3) T-Arms	(12) 1 5/8" (2) 1 5/8" Hybrid	Verizon
17	110.0	6	Andrew - SBNHH-1D65B - Panel			
18		3	Alcatel - RRH2X60-1900A-4R			
19		3	Alcatel - B13 RRH4X30-4R			
20		3	Alcatel - B4 RRH2X60-4R			
22		2	RFS - DB-T1-6Z-8AB-0Z			
23	109.0	3	Andrew - CBC721-DF - Panel	(3) T-Arms (Site Pro P/N RMV12-3xx)	(6) 1 5/8" (1) 1 5/8" Hybrid	T-Mobile
24	100.0	3	Ericsson - AIR 21 B2A/B4P - Panel			
25		3	Ericsson - AIR 21 B4A/B2P - Panel			
26		3	Commscope - LNX-6515DS-A1M - Panel			
27		3	Kathrein - 782 11056 - TMA	Platform w/ Handrails (Site Pro F3P-10W w/HRK10)	(3) 1-1/4" Fiber (1) 1.689" Fiber (2) 1/2" Fiber	Sprint Nextel
28	90.0	3	Nokia - AAHC - MIMO - Panel			
29		3	Commscope - NNVV-65B-R4 - Panel			
30		3	ALU - 1900 Mhz - RRU			
31		6	ALU - 800 Mhz - RRU			
32		2	Andrew - VHLP2-11 - Dish			

*Inside (5) 2" Conduits

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	132.0	3	Ericsson AIR6419 - Panel	Platform w/ Hand Rail (Commscope MTC3607R) + Platform Reinforcement Kit (SitePro1 PRK-FMA), (6) P2.5" X-STR Pipe Masts, (6) Channel Reinforcement Angles L2x2x1/4 (3) Pipe Mast (6) Steel Tube Stand off (3) Horizontal Pipes	(5) 2" Conduits (Housing (6) 1.496" Fiber & (8) 0.645" DC cables) (1) 1/2"	AT&T
2	130.0	3	Cci DMP65R-BU6DA - Panel			
3		3	Quintel QD6616-7 - Panel			
4		6	Ericsson - RRUS 32 - RRU			
5		3	Ericsson - RRUS 4478 B14 - RRU			
6		3	Ericsson - RRUS 8843 B2 B66A - RRU			
7		3	Ericsson - 4449 B5/B12 - RRU			
8		3	Ericsson - RRUS E2 B29 - RRU			
9		2	Raycap - DC6-48-60-18-8F - OVP			
10		2	Raycap - DC6-48-60-0-8C-EV - OVP			
11	128.0	3	Ericsson AIR6449 - Panel			

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

Analysis Results

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

	Pole shafts	Reinforcing Plate	Anchor Bolts	Base Plate	Flange Connections
Max. Usage:	96.0%	96.3%	69.4%	51.8%	63.9%
Pass/Fail	Pass	Pass	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	3545.0	35.0	39.0

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

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.6024 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222-G-2 Standard after the following pending modification is successfully completed.

- Pending modification design drawing by **TES** Job # 121134, dated 02/11/2022

Standard Conditions

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

Usage Diagram - Max Ratio 95.99% at 91.3ft

Structure: CT13064-A-SBA
Site Name: Middletown 2, CT
Height: 130.00 (ft)
Base Elev: 0.000 (ft)

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

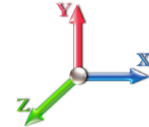
3/2/2022



Page: 1

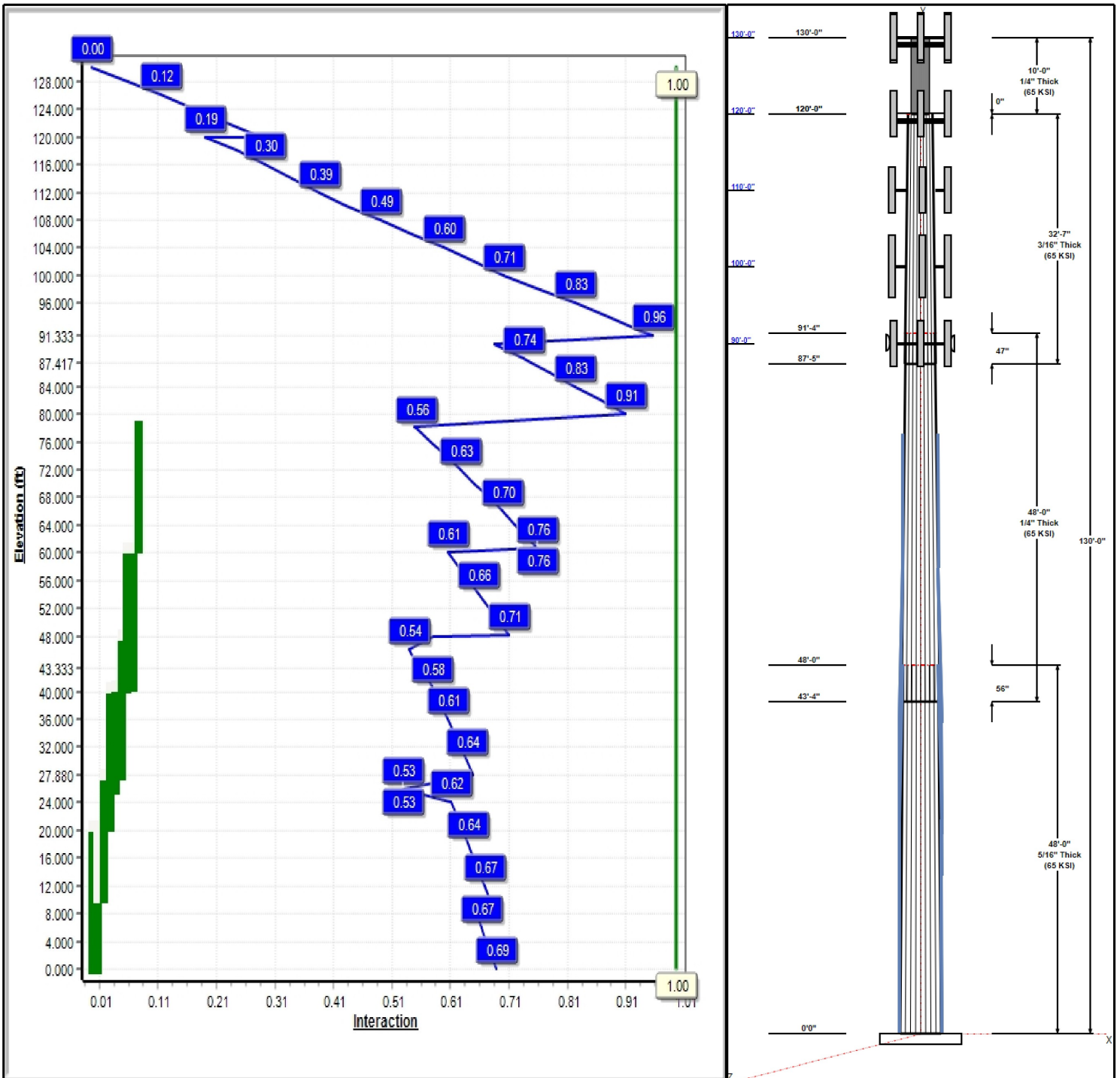
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 101 mph Wind



Iterations: 25

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Structure: CT13064-A-SBA

Type: Custom
Site Name: Middletown 2, CT
Height: 130.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.15529

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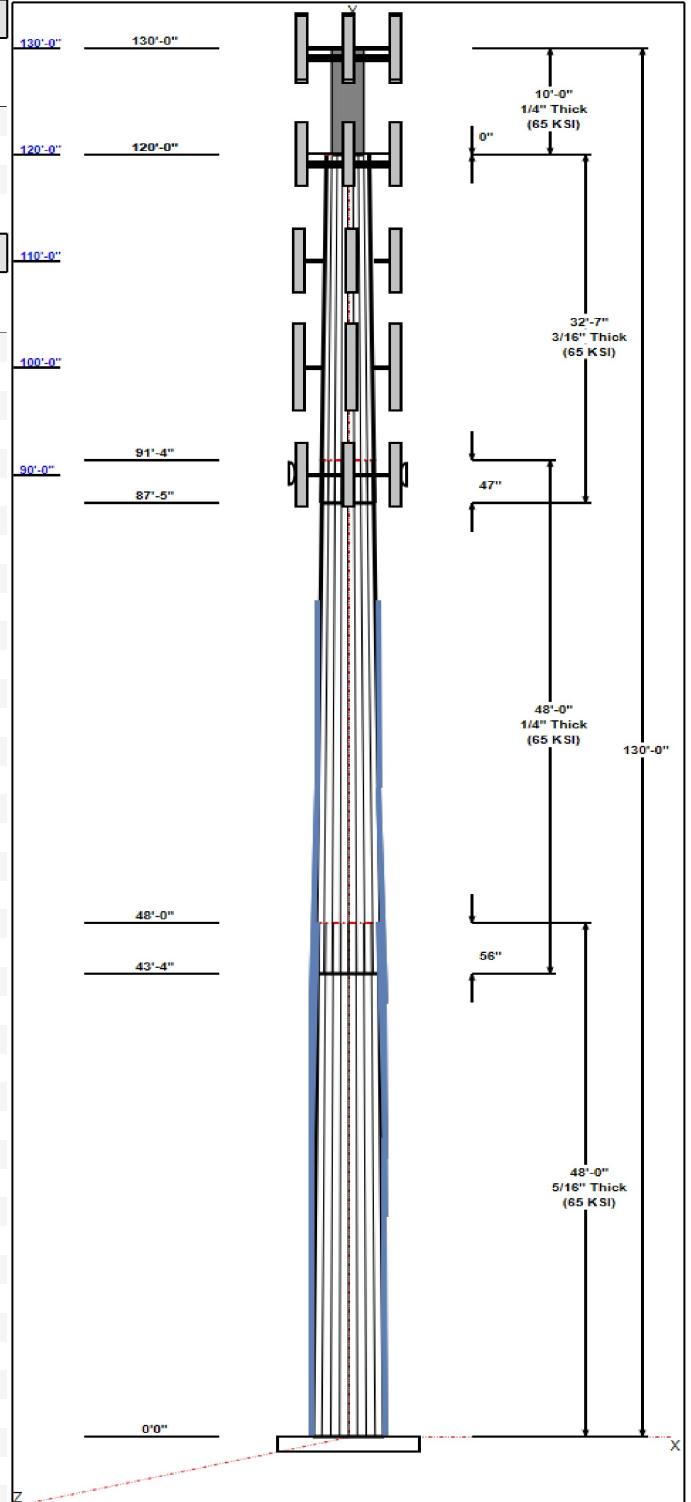


Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	35.05	42.50	0.313		0.15529	65
2	48.00	28.82	36.27	0.250	Slip	0.15529	65
3	32.58	24.74	29.80	0.188	Slip	0.15529	65
4	10.00	18.00	18.00	0.250	Butt	0.00000	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
130.00	133.00	1	6' Lightning rod	
130.00	130.00	3	Cci DMP65R-BU6DA	AT&T
130.00	130.00	6	RRUS 32	AT&T
130.00	130.00	3	RRUS 4478 B14	AT&T
130.00	130.00	3	B2 B66A 8843	AT&T
130.00	130.00	3	4449 B5/B12	AT&T
130.00	130.00	3	RRUS E2 B29	AT&T
130.00	130.00	2	DC6-48-60-18-8F	AT&T
130.00	130.00	2	DC6-48-60-0-8C	AT&T
130.00	130.00	1	MTC3607 Platform + HR	AT&T
130.00	130.00	1	PRK-1245 (kicker kit)	AT&T
130.00	130.00	1	Angle Reinforcement kit	AT&T
130.00	130.00	1	(3) Horizontal bracing	AT&T
130.00	130.00	3	Additional mount pipe	AT&T
130.00	128.00	3	Ericsson AIR6449	AT&T
130.00	130.00	3	Quinte QD6616-7	AT&T
130.00	132.00	3	Ericsson AIR6419	AT&T
120.00	120.00	3	MX08FRO665-21	Dish Wireless
120.00	120.00	3	TA08025-B605	Dish Wireless
120.00	120.00	3	TA08025-B604	Dish Wireless
120.00	120.00	1	RDIDC-9181-OF-48	Dish Wireless
120.00	120.00	1	MC-PK8-DSH	Dish Wireless
110.00	109.00	3	CBC721-DF	Verizon
110.00	110.00	6	SBNHH-1D65B	Verizon
110.00	110.00	3	RRH2X60-1900A-4R	Verizon
110.00	110.00	3	B13 RRH4X30-4R	Verizon
110.00	110.00	3	B4 RRH2X60-4R	Verizon
110.00	110.00	2	DB-T1-6Z-8AB-0Z	Verizon
110.00	110.00	3	T-Arm (Round)	Verizon
110.00	111.00	3	CBC721-DF	Verizon
100.00	100.00	3	AIR 21, 1.3M, B2A B4P	T-Mobile
100.00	100.00	3	AIR 21, 1.3M, B4A B2P	T-Mobile
100.00	100.00	3	LNx-6515DS-A1M	T-Mobile
100.00	100.00	3	782 11056	T-Mobile
100.00	100.00	3	T-Arm (Round)	T-Mobile
94.00	94.00	1	1'4"x6.5"x6" Surge	Clearwire
90.00	90.00	2	Andrew - VHLP2-11	Sprint Nextel
90.00	90.00	3	ALU - 1900MHz - RRU	Sprint Nextel
90.00	90.00	6	ALU - 800 MHz - RRU	Sprint Nextel
90.00	90.00	3	AAHC	Sprint Nextel
90.00	90.00	3	NNVV-65B-R4	Sprint Nextel
90.00	90.00	1	F3P-10W	Sprint Nextel



Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
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Structure: CT13064-A-SBA

Type: Custom
Site Name: Middletown 2, CT
Height: 130.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.00000

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0.00	130.00	Inside	0.645" DC Cables	AT&T
0.00	130.00	Inside	1.496" Hybrid	AT&T
0.00	130.00	Inside	1/2" Coax	AT&T
0.00	130.00	Inside	2" Conduit	AT&T
0.00	130.00	Outside	2" Conduit	AT&T
0.00	130.00	Inside	3/4" DC	AT&T
0.00	120.00	Inside	1.6" Hybrid	Dish Wireless
0.00	110.00	Inside	1 5/8" Coax	Verizon
0.00	110.00	Inside	1 5/8" Hybrid	Verizon
0.00	100.00	Inside	1 5/8" Coax	T-Mobile
0.00	100.00	Inside	1 5/8" Hybrid	T-Mobile
0.00	90.00	Inside	1-1/4" Fiber	Sprint Nextel
0.00	90.00	Inside	1.689" Hybrid	Sprint Nextel
0.00	90.00	Inside	1/2" Fiber	Sprint Nextel
0.00	81.00	Outside	1" Reinforcing plate	
23.33	63.33	Outside	1" Reinforcing plate	
30.50	50.50	Outside	1" Reinforcing plate	
0.00	30.50	Outside	1" Reinforcing plate	

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
14	1.5" F1554 105	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	51.8	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	3545.0	35.0	39.0
0.9D + 1.6W 101 mph Wind	3505.1	35.0	29.3
1.2D + 1.0Di + 1.0Wi 50 mph Wind	945.9	9.2	65.0
1.2D + 1.0E	241.3	2.0	39.1
0.9D + 1.0E	238.1	2.0	29.3
1.0D + 1.0W 60 mph Wind	777.5	7.7	32.6

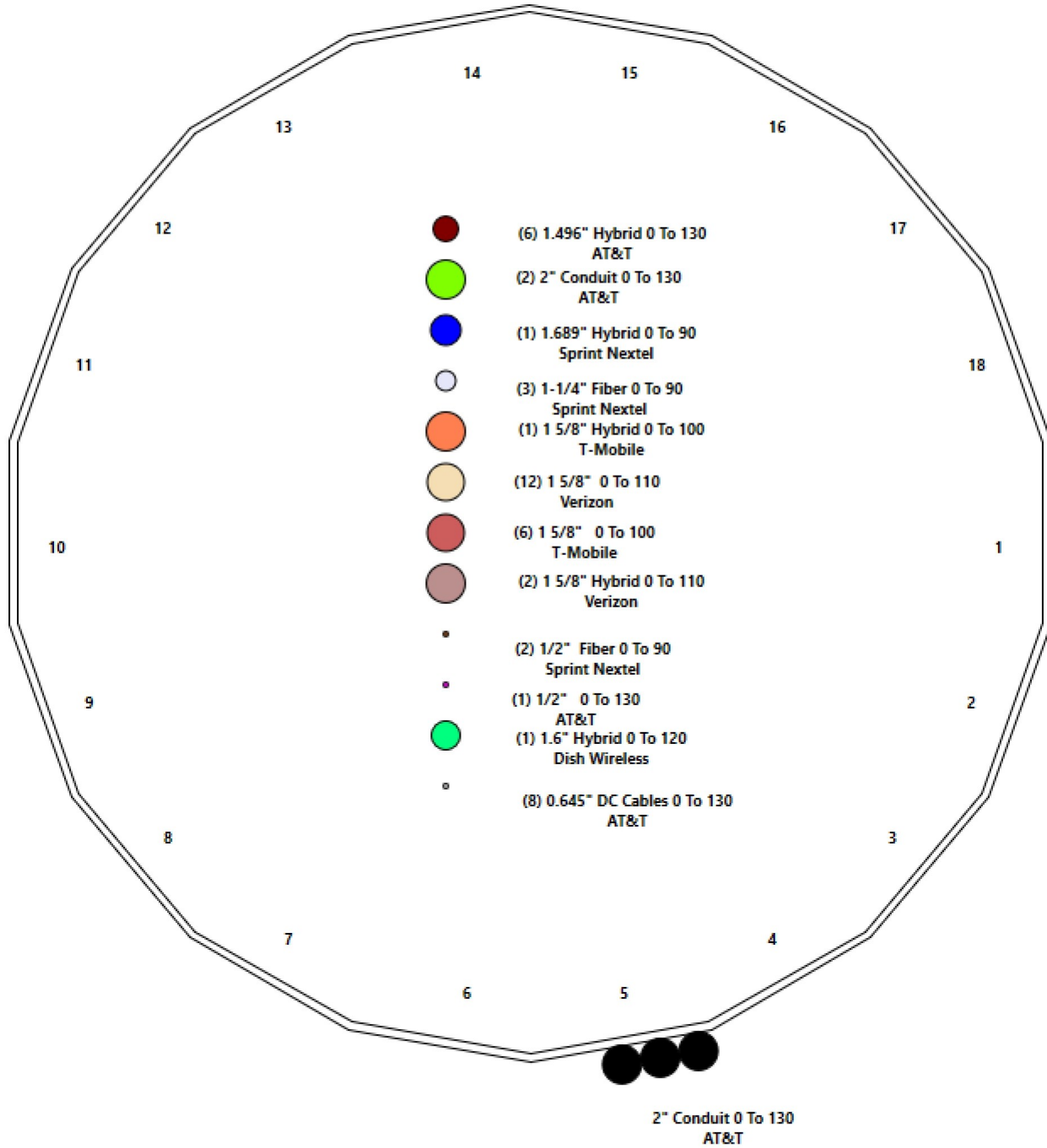
Structure: CT13064-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Middletown 2, CT
Height: 130.00 (ft)

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Shaft Properties

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.3125	65		0.00	6,231
2	18	48.000	0.2500	65	Slip	56.00	4,185
3	18	32.583	0.1875	65	Slip	47.00	1,787
4	R	10.000	0.2500	65	Flange	0.00	474
Total Shaft Weight:							12,677

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	42.50	0.00	41.84	9409.05	22.57	136.00	35.05	48.00	34.45	5250.98	18.36	112.1	0.155292
2	36.27	43.33	28.58	4685.33	24.17	145.08	28.82	91.33	22.67	2337.03	18.91	115.2	0.155292
3	29.80	87.42	17.62	1952.39	26.61	158.93	24.74	120.00	14.61	1112.84	21.86	131.9	0.155292
4	18.00	120.0	13.94	549.45	0.00	72.00	18.00	130.00	13.94	549.45	0.00	72.00	0.000000

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors			Termination Connectors		
							Description	Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty
0.00	20.50	4	PLT 6"x1" (1.25" Hole)	65	80	0.00	AJM20&sleeve	16.00	AJM20&sleeve	3.00	8	8
0.00	10.25	4	PLT 5.5"x1 1/4" (1.25" hol	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00	9	9
10.25	27.88	4	LNP LP6X100-G-20CT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		8
20.50	40.50	4	PLT 6"x1" (1.25" Hole)	65	80	0.00	AJM20&sleeve	16.00	AJM20&sleeve	3.00	8	8
25.96	40.71	2	LNP LP6X100-G-20CT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		8
27.88	48.12	2	LNP LP6X100-G-20TT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	8	8
40.50	60.75	4	PLT 6"x1" (1.25" Hole)	65	80	0.00	AJM20&sleeve	16.00	AJM20&sleeve	3.00	8	8
40.71	60.71	2	LNP LP6X100-G-20TT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	10	10
60.75	78.25	4	PLT 6"x1" (1.25" Hole)	65	80	0.00	AJM20&sleeve	16.00	AJM20&sleeve	3.00	8	10

Load Summary

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	130.00	6' Lightning rod	1	6.50	0.38	1.00	42.28	1.452	1.00	0.00	3.00
2	130.00	Cci DMP65R-BU6DA	3	63.30	12.71	0.72	360.21	14.179	0.74	0.00	0.00
3	130.00	RRUS 32	6	77.00	1.65	0.50	182.98	2.218	0.50	0.00	0.00
4	130.00	RRUS 4478 B14	3	59.40	1.65	0.50	100.28	2.161	0.50	0.00	0.00
5	130.00	B2 B66A 8843	3	70.00	1.64	0.50	115.33	2.149	0.50	0.00	0.00
6	130.00	4449 B5/B12	3	71.00	1.97	0.50	123.62	2.510	0.50	0.00	0.00
7	130.00	RRUS E2 B29	3	59.40	3.15	0.50	123.17	3.844	0.50	0.00	0.00
8	130.00	DC6-48-60-18-8F	2	31.80	0.92	0.50	92.75	1.352	0.50	0.00	0.00
9	130.00	DC6-48-60-0-8C	2	16.00	4.78	0.50	137.98	5.652	0.50	0.00	0.00
10	130.00	MTC3607 Platform + HR	1	2000.00	45.40	1.00	4064.50	78.517	1.00	0.00	0.00
11	130.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	784.85	19.306	1.00	0.00	0.00
12	130.00	Angle Reinforcement kit	1	250.00	5.80	1.00	542.47	11.388	1.00	0.00	0.00
13	130.00	(3) Horizontal bracing Pipes	1	137.25	5.94	1.00	269.48	13.292	1.00	0.00	0.00
14	130.00	Additional mount pipe	3	17.00	1.75	0.75	50.63	5.665	0.75	0.00	0.00
15	130.00	Ericcson AIR6449	3	88.00	4.13	0.85	223.24	4.974	0.85	0.00	-2.00
16	130.00	Quinte QD6616-7	3	59.10	13.58	0.75	465.81	15.449	0.77	0.00	0.00
17	130.00	Ericsson AIR6419	3	66.10	3.80	0.76	160.94	4.585	0.76	0.00	2.00
18	120.00	MX08FRO665-21	3	64.50	12.49	0.74	348.95	13.922	0.74	0.00	0.00
19	120.00	TA08025-B605	3	75.00	1.96	0.50	126.15	2.509	0.50	0.00	0.00
20	120.00	TA08025-B604	3	63.90	1.96	0.50	113.41	2.509	0.50	0.00	0.00
21	120.00	RDIDC-9181-OF-48	1	21.90	2.01	0.50	73.97	2.566	0.50	0.00	0.00
22	120.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3377.59	83.782	1.00	0.00	0.00
23	110.00	CBC721-DF	3	4.40	0.45	0.50	13.66	0.934	0.50	0.00	-1.00
24	110.00	SBNHH-1D65B	6	40.00	8.16	0.79	235.78	9.418	0.82	0.00	0.00
25	110.00	RRH2X60-1900A-4R	3	46.00	1.88	0.50	112.46	2.446	0.50	0.00	0.00
26	110.00	B13 RRH4X30-4R	3	57.20	2.16	0.50	117.59	2.752	0.50	0.00	0.00
27	110.00	B4 RRH2X60-4R	3	55.00	3.36	0.50	138.75	4.115	0.50	0.00	0.00
28	110.00	DB-T1-6Z-8AB-0Z	2	18.90	4.80	0.50	157.48	5.645	0.50	0.00	0.00
29	110.00	T-Arm (Round)	3	350.00	8.00	0.75	586.87	14.768	0.75	0.00	0.00
30	110.00	CBC721-DF	3	4.40	0.45	0.50	13.66	0.934	0.50	0.00	1.00
31	100.00	AIR 21, 1.3M, B2A B4P	3	91.50	6.09	0.80	252.43	7.141	0.83	0.00	0.00
32	100.00	AIR 21, 1.3M, B4A B2P	3	90.40	6.09	0.80	251.33	7.141	0.83	0.00	0.00
33	100.00	LNx-6515DS-A1M	3	50.30	11.47	0.80	272.94	14.607	0.84	0.00	0.00
34	100.00	782 11056	3	1.80	0.13	0.50	4.18	0.410	0.50	0.00	0.00
35	100.00	T-Arm (Round)	3	350.00	8.00	0.75	584.62	14.704	0.75	0.00	0.00
36	94.00	1'4"x6.5"x6" Surge Protector	1	53.00	2.14	1.00	146.00	3.112	1.00	0.00	0.00
37	90.00	Andrew - VHLP2-11	2	27.00	4.68	1.00	119.99	5.891	1.00	0.00	0.00
38	90.00	ALU - 1900MHz - RRU	3	44.00	3.80	0.50	147.73	5.121	0.50	0.00	0.00
39	90.00	ALU - 800 MHz - RRU	6	53.00	2.49	0.50	123.28	3.577	0.50	0.00	0.00
40	90.00	AAHC	3	104.00	4.20	0.75	225.70	4.987	0.75	0.00	0.00
41	90.00	NNVV-65B-R4	3	77.40	12.27	0.74	348.74	13.654	0.74	0.00	0.00
42	90.00	F3P-10W	1	2122.00	51.77	1.00	4092.60	13.582	1.00	0.00	0.00
Totals:			113	14,239.26			33,809.52				

Linear Appurtenances

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		
Bottom	Top										
Elev.	Elev.	Description		Exposed	Exposed						
(ft)	(ft)			Width	Width						
0.00	130.00	(8) 0.645" DC Cables		0.00	Inside						
0.00	130.00	(6) 1.496" Hybrid		0.00	Inside						
0.00	130.00	(1) 1/2" Coax		0.00	Inside						
0.00	130.00	(2) 2" Conduit		0.00	Inside						
0.00	130.00	(3) 2" Conduit		2.00	Outside						
0.00	130.00	(8) 3/4" DC		0.00	Inside						
0.00	120.00	(1) 1.6" Hybrid		0.00	Inside						
0.00	110.00	(12) 1 5/8" Coax		0.00	Inside						
0.00	110.00	(2) 1 5/8" Hybrid		0.00	Inside						
0.00	100.00	(6) 1 5/8" Coax		0.00	Inside						
0.00	100.00	(1) 1 5/8" Hybrid		0.00	Inside						
0.00	90.00	(3) 1-1/4" Fiber		0.00	Inside						
0.00	90.00	(1) 1.689" Hybrid		0.00	Inside						
0.00	90.00	(2) 1/2" Fiber		0.00	Inside						
0.00	81.00	(4) 1" Reinforcing plate		1.00	Outside						
23.33	63.33	(2) 1" Reinforcing plate		0.00	Outside						
30.50	50.50	(2) 1" Reinforcing plate		0.00	Outside						
0.00	30.50	(4) 1" Reinforcing plate		0.00	Outside						

Shaft Section Properties

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00	RB1 RB2	0.3125	42.500	41.843	9409.0	22.57	136.00	65	75	0.0	51.50	14174.7	10484.2	
2.00		0.3125	42.189	41.535	9202.8	22.39	135.01	65	75	283.7	51.50	13974.5	10336.6	350.5
4.00		0.3125	41.879	41.227	8999.5	22.22	134.01	65	75	281.6	51.50	13775.8	10190.1	350.5
6.00		0.3125	41.568	40.919	8799.3	22.04	133.02	65	75	279.5	51.50	13578.5	10044.7	350.5
8.00		0.3125	41.258	40.611	8602.1	21.87	132.02	65	76	277.4	51.50	13382.6	9900.3	350.5
10.00		0.3125	40.947	40.303	8407.8	21.69	131.03	65	76	275.3	51.50	13188.2	9756.9	350.5
10.25	RT2 RB3	0.3125	40.908	40.264	8383.7	21.67	130.91	65	76	34.3	48.00	12328.5	8895.1	40.8
12.00		0.3125	40.636	39.995	8216.5	21.52	130.04	65	76	239.0	48.00	12170.0	8781.1	285.8
14.00		0.3125	40.326	39.687	8028.1	21.34	129.04	65	76	271.1	48.00	11990.2	8651.8	326.7
16.00		0.3125	40.015	39.379	7842.6	21.17	128.05	65	77	269.0	48.00	11811.7	8523.4	326.7
18.00		0.3125	39.705	39.071	7660.0	20.99	127.06	65	77	266.9	48.00	11634.6	8395.9	326.7
20.00		0.3125	39.394	38.763	7480.2	20.82	126.06	65	77	264.9	48.00	11458.8	8269.5	326.7
20.50	RT1 RB4	0.3125	39.317	38.686	7435.7	20.77	125.81	65	77	65.9	48.00	11415.1	8238.0	81.7
22.00		0.3125	39.084	38.455	7303.3	20.64	125.07	65	77	196.9	48.00	11284.4	8144.0	245.0
24.00		0.3125	38.773	38.147	7129.2	20.47	124.07	65	77	260.7	48.00	11111.3	8019.4	326.7
25.96	RB5	0.3125	38.469	37.845	6961.3	20.30	123.10	65	78	253.4	60.00	13155.0	9930.1	400.2
26.00		0.3125	38.462	37.839	6957.9	20.29	123.08	65	78	5.2	60.00	13150.9	9927.0	8.2
27.88	RT3 RB6	0.3125	38.170	37.549	6799.3	20.13	122.15	65	78	241.1	48.00	11731.2	6487.7	307.1
28.00		0.3125	38.152	37.531	6789.3	20.12	122.09	65	78	15.3	48.00	11720.1	6481.6	19.6
30.00		0.3125	37.841	37.222	6623.5	19.94	121.09	65	78	254.4	48.00	11535.0	6380.7	326.7
32.00		0.3125	37.531	36.914	6460.4	19.77	120.10	65	78	252.3	48.00	11351.4	6280.6	326.7
34.00		0.3125	37.220	36.606	6300.0	19.59	119.10	65	78	250.2	48.00	11169.2	6181.3	326.7
36.00		0.3125	36.909	36.298	6142.3	19.42	118.11	65	79	248.1	48.00	10988.6	6082.7	326.7
38.00		0.3125	36.599	35.990	5987.2	19.24	117.12	65	79	246.0	48.00	10809.5	5985.0	326.7
40.00		0.3125	36.288	35.682	5834.8	19.06	116.12	65	79	243.9	48.00	10631.8	5888.1	326.7
40.50	RT4 RB7	0.3125	36.211	35.605	5797.1	19.02	115.87	65	79	60.6	48.00	10587.6	5864.0	81.7
40.71	RT5 RB8	0.3125	36.178	35.573	5781.3	19.00	115.77	65	79	25.4	48.00	10569.1	5853.9	34.3
42.00		0.3125	35.978	35.374	5685.0	18.89	115.13	65	79	155.7	48.00	10455.6	5792.0	210.7
43.33	Bot - Section 2	0.3125	35.771	35.169	5586.6	18.77	114.47	65	79	160.0	48.00	10339.0	5728.4	217.8
44.00		0.3125	35.667	35.066	5537.8	18.71	114.13	65	79	144.4	48.00	10561.8	5850.5	108.9
46.00		0.3125	35.357	34.758	5393.1	18.54	113.14	65	80	430.7	48.00	10386.2	5754.7	326.7
48.00	Top - Section 1	0.2500	35.546	28.006	4408.2	23.66	142.18	65	74	426.9	48.00	10212.2	5659.7	326.7
48.12	RT6	0.2500	35.527	27.992	4401.2	23.65	142.11	65	74	11.4	36.00	7227.7	4495.6	14.7
50.00		0.2500	35.235	27.760	4292.8	23.44	140.94	65	74	178.3	36.00	7112.8	4424.8	230.3
52.00		0.2500	34.925	27.513	4179.5	23.22	139.70	65	74	188.1	36.00	6991.5	4350.1	245.0
54.00		0.2500	34.614	27.267	4068.2	23.00	138.46	65	74	186.4	36.00	6871.3	4276.1	245.0
56.00		0.2500	34.304	27.021	3958.9	22.78	137.21	65	75	184.7	36.00	6752.1	4202.8	245.0
58.00		0.2500	33.993	26.774	3851.6	22.56	135.97	65	75	183.1	36.00	6634.0	4130.0	245.0
60.00		0.2500	33.682	26.528	3746.2	22.35	134.73	65	75	181.4	36.00	6517.0	4058.0	245.0
60.71	RT8	0.2500	33.572	26.440	3709.3	22.27	134.29	65	75	64.0	24.00	4800.1	2406.1	58.0
60.75	RT7 RB9	0.2500	33.566	26.435	3707.2	22.26	134.26	65	75	3.6	24.00	4798.4	2405.3	3.3
62.00		0.2500	33.372	26.281	3642.8	22.13	133.49	65	75	112.1	24.00	4745.0	2378.7	102.1
64.00		0.2500	33.061	26.035	3541.2	21.91	132.25	65	76	178.0	24.00	4660.2	2336.5	163.3
66.00		0.2500	32.751	25.788	3441.6	21.69	131.00	65	76	176.3	24.00	4576.2	2294.7	163.3
68.00		0.2500	32.440	25.542	3343.9	21.47	129.76	65	76	174.7	24.00	4493.0	2253.3	163.3
70.00		0.2500	32.130	25.296	3248.0	21.25	128.52	65	76	173.0	24.00	4410.5	2212.3	163.3
72.00		0.2500	31.819	25.049	3154.0	21.03	127.28	65	77	171.3	24.00	4328.8	2171.7	163.3
74.00		0.2500	31.508	24.803	3061.9	20.81	126.03	65	77	169.6	24.00	4247.9	2131.4	163.3
76.00		0.2500	31.198	24.556	2971.5	20.59	124.79	65	77	168.0	24.00	4167.7	2091.6	163.3
78.00		0.2500	30.887	24.310	2882.9	20.37	123.55	65	77	166.3	24.00	4088.4	2052.1	163.3

Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
78.25	RT9	0.2500	30.848	24.279	2872.0	20.35	123.39	65	77	20.7	24.00	4078.5	2047.2	20.4
80.00		0.2500	30.577	24.063	2796.1	20.16	122.31	65	78	143.9				
82.00		0.2500	30.266	23.817	2711.1	19.94	121.06	65	78	162.9				
84.00		0.2500	29.955	23.570	2627.8	19.72	119.82	65	78	161.2				
86.00		0.2500	29.645	23.324	2546.3	19.50	118.58	65	78	159.6				
87.42	Bot - Section 3	0.2500	29.425	23.149	2489.5	19.34	117.70	65	79	112.0				
88.00		0.2500	29.334	23.078	2466.4	19.28	117.34	65	79	80.8				
90.00		0.2500	29.024	22.831	2388.2	19.06	116.09	65	79	275.2				
91.33	Top - Section 2	0.1875	29.192	17.260	1834.5	26.04	155.69	65	71	181.8				
92.00		0.1875	29.088	17.199	1815.0	25.94	155.14	65	71	39.1				
94.00		0.1875	28.778	17.014	1757.1	25.65	153.48	65	71	116.4				
96.00		0.1875	28.467	16.829	1700.4	25.36	151.82	65	72	115.2				
98.00		0.1875	28.156	16.644	1645.0	25.07	150.17	65	72	113.9				
100.00		0.1875	27.846	16.460	1590.8	24.78	148.51	65	72	112.6				
102.00		0.1875	27.535	16.275	1537.8	24.48	146.85	65	73	111.4				
104.00		0.1875	27.225	16.090	1486.0	24.19	145.20	65	73	110.1				
106.00		0.1875	26.914	15.905	1435.4	23.90	143.54	65	73	108.9				
108.00		0.1875	26.603	15.720	1385.9	23.61	141.89	65	74	107.6				
110.00		0.1875	26.293	15.535	1337.6	23.32	140.23	65	74	106.4				
112.00		0.1875	25.982	15.351	1290.5	23.02	138.57	65	74	105.1				
114.00		0.1875	25.672	15.166	1244.4	22.73	136.92	65	75	103.8				
116.00		0.1875	25.361	14.981	1199.5	22.44	135.26	65	75	102.6				
118.00		0.1875	25.051	14.796	1155.6	22.15	133.60	65	75	101.3				
120.00	Top - Section 3	0.1875	24.740	14.611	1112.8	21.86	131.95	65	76	100.1				
120.00	Bot - Section 4	0.2500	18.000	13.941	549.4	16.39	98.96	65	59					
122.00		0.2500	18.000	13.941	549.4	0.00	72.00	65	59	94.9				
124.00		0.2500	18.000	13.941	549.4	0.00	72.00	65	59	94.9				
126.00		0.2500	18.000	13.941	549.4	0.00	72.00	65	59	94.9				
128.00		0.2500	18.000	13.941	549.4	0.00	72.00	65	59	94.9				
130.00		0.2500	18.000	13.941	549.4	0.00	72.00	65	59	94.9				
Total Weight										12677.2				
											11001.2			

Wind Loading - Shaft

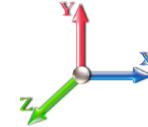
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1 RB2	1.00	0.85	21.088	23.20	334.88	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	21.088	23.20	332.43	0.650	0.000	2.00	7.166	4.66	172.9	0.0	340.5
4.00		1.00	0.85	21.088	23.20	329.98	0.650	0.000	2.00	7.114	4.62	171.6	0.0	337.9
6.00		1.00	0.85	21.088	23.20	327.54	0.650	0.000	2.00	7.061	4.59	170.3	0.0	335.4
8.00		1.00	0.85	21.088	23.20	325.09	0.650	0.000	2.00	7.009	4.56	169.1	0.0	332.9
10.00		1.00	0.85	21.088	23.20	322.64	0.650	0.000	2.00	6.956	4.52	167.8	0.0	330.4
10.25	RT2 RB3	1.00	0.85	21.088	23.20	322.34	0.650	0.000	0.25	0.866	0.56	20.9	0.0	41.1
12.00		1.00	0.85	21.088	23.20	320.19	0.650	0.000	1.75	6.038	3.92	145.7	0.0	286.8
14.00		1.00	0.85	21.088	23.20	317.75	0.650	0.000	2.00	6.851	4.45	165.3	0.0	325.4
16.00		1.00	0.86	21.348	23.48	317.24	0.650	0.000	2.00	6.798	4.42	166.0	0.0	322.9
18.00		1.00	0.88	21.884	24.07	318.71	0.650	0.000	2.00	6.746	4.38	168.9	0.0	320.3
20.00		1.00	0.90	22.375	24.61	319.74	0.650	0.000	2.00	6.693	4.35	171.3	0.0	317.8
20.50	RT1 RB4	1.00	0.91	22.491	24.74	319.94	0.650	0.000	0.50	1.665	1.08	42.8	0.0	79.1
22.00		1.00	0.92	22.828	25.11	320.42	0.650	0.000	1.50	4.976	3.23	129.9	0.0	236.2
24.00		1.00	0.94	23.250	25.58	320.80	0.650	0.000	2.00	6.588	4.28	175.2	0.0	312.8
25.96	RB5	1.00	0.95	23.638	26.00	320.92	0.650	0.000	1.96	6.405	4.16	173.2	0.0	304.1
26.00		1.00	0.95	23.645	26.01	320.92	0.650	0.000	0.04	0.130	0.08	3.5	0.0	6.2
27.88	RT3 RB6	1.00	0.97	23.995	26.39	320.83	0.650	0.000	1.88	6.096	3.96	167.3	0.0	289.4
28.00		1.00	0.97	24.017	26.42	320.82	0.650	0.000	0.12	0.387	0.25	10.6	0.0	18.4
30.00		1.00	0.98	24.369	26.81	320.53	0.650	0.000	2.00	6.430	4.18	179.3	0.0	305.2
32.00		1.00	1.00	24.702	27.17	320.06	0.650	0.000	2.00	6.378	4.15	180.2	0.0	302.7
34.00		1.00	1.01	25.019	27.52	319.45	0.650	0.000	2.00	6.325	4.11	181.0	0.0	300.2
36.00		1.00	1.02	25.322	27.85	318.69	0.650	0.000	2.00	6.273	4.08	181.7	0.0	297.7
38.00		1.00	1.03	25.612	28.17	317.82	0.650	0.000	2.00	6.220	4.04	182.3	0.0	295.2
40.00		1.00	1.04	25.890	28.48	316.82	0.650	0.000	2.00	6.168	4.01	182.7	0.0	292.7
40.50	RT4 RB7	1.00	1.05	25.958	28.55	316.56	0.650	0.000	0.50	1.534	1.00	45.5	0.0	72.8
40.71	RT5 RB8	1.00	1.05	25.986	28.58	316.45	0.650	0.000	0.21	0.643	0.42	19.1	0.0	30.5
42.00		1.00	1.05	26.157	28.77	315.73	0.650	0.000	1.29	3.938	2.56	117.8	0.0	186.9
43.33	Bot - Section 2	1.00	1.06	26.330	28.96	314.95	0.650	0.000	1.33	4.048	2.63	121.9	0.0	192.0
44.00		1.00	1.06	26.415	29.06	314.54	0.650	0.000	0.67	2.043	1.33	61.7	0.0	173.3
46.00		1.00	1.07	26.663	29.33	313.26	0.650	0.000	2.00	6.095	3.96	185.9	0.0	516.9
48.00	Top - Section 1	1.00	1.08	26.903	29.59	311.91	0.650	0.000	2.00	6.042	3.93	186.0	0.0	512.3
48.12	RT6	1.00	1.08	26.917	29.61	316.27	0.650	0.000	0.12	0.361	0.23	11.1	0.0	13.7
50.00		1.00	1.09	27.135	29.85	314.94	0.650	0.000	1.88	5.629	3.66	174.7	0.0	214.0
52.00		1.00	1.10	27.360	30.10	313.46	0.650	0.000	2.00	5.937	3.86	185.8	0.0	225.7
54.00		1.00	1.11	27.579	30.34	311.91	0.650	0.000	2.00	5.884	3.82	185.6	0.0	223.7
56.00		1.00	1.12	27.790	30.57	310.29	0.650	0.000	2.00	5.832	3.79	185.4	0.0	221.7
58.00		1.00	1.13	27.997	30.80	308.62	0.650	0.000	2.00	5.779	3.76	185.1	0.0	219.7
60.00		1.00	1.14	28.197	31.02	306.90	0.650	0.000	2.00	5.727	3.72	184.7	0.0	217.6
60.71	RT8	1.00	1.14	28.267	31.09	306.27	0.650	0.000	0.71	2.020	1.31	65.3	0.0	76.8
60.75	RT7 RB9	1.00	1.14	28.271	31.10	306.24	0.650	0.000	0.04	0.114	0.07	3.7	0.0	4.3
62.00		1.00	1.14	28.392	31.23	305.12	0.650	0.000	1.25	3.540	2.30	115.0	0.0	134.5
64.00		1.00	1.15	28.583	31.44	303.29	0.650	0.000	2.00	5.622	3.65	183.8	0.0	213.6
66.00		1.00	1.16	28.769	31.65	301.42	0.650	0.000	2.00	5.569	3.62	183.3	0.0	211.6
68.00		1.00	1.17	28.950	31.84	299.50	0.650	0.000	2.00	5.516	3.59	182.7	0.0	209.6
70.00		1.00	1.17	29.127	32.04	297.54	0.650	0.000	2.00	5.464	3.55	182.1	0.0	207.6
72.00		1.00	1.18	29.300	32.23	295.54	0.650	0.000	2.00	5.411	3.52	181.4	0.0	205.6

Wind Loading - Shaft

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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74.00	1.00	1.19	29.470	32.42	293.50	0.650	0.000	2.00	5.359	3.48	180.7	0.0	203.6
76.00	1.00	1.19	29.636	32.60	291.42	0.650	0.000	2.00	5.306	3.45	179.9	0.0	201.5
78.00	1.00	1.20	29.798	32.78	289.31	0.650	0.000	2.00	5.254	3.41	179.1	0.0	199.5
78.25 RT9	1.00	1.20	29.818	32.80	289.04	0.650	0.000	0.25	0.653	0.42	22.3	0.0	24.8
80.00	1.00	1.21	29.958	32.95	287.16	0.650	0.000	1.75	4.548	2.96	155.9	0.0	172.7
82.00	1.00	1.21	30.114	33.13	284.99	0.650	0.000	2.00	5.148	3.35	177.4	0.0	195.5
84.00	1.00	1.22	30.267	33.29	282.78	0.650	0.000	2.00	5.096	3.31	176.4	0.0	193.5
86.00	1.00	1.23	30.417	33.46	280.54	0.650	0.000	2.00	5.043	3.28	175.5	0.0	191.5
87.42 Bot - Section 3	1.00	1.23	30.522	33.57	278.94	0.650	0.000	1.42	3.541	2.30	123.6	0.0	134.4
88.00	1.00	1.23	30.565	33.62	278.27	0.650	0.000	0.58	1.469	0.95	51.4	0.0	97.0
90.00 Appurtenance(s)	1.00	1.24	30.710	33.78	275.98	0.650	0.000	2.00	5.002	3.25	175.7	0.0	330.2
91.33 Top - Section 2	1.00	1.24	30.805	33.89	274.44	0.650	0.000	1.33	3.305	2.15	116.5	0.0	218.2
92.00	1.00	1.24	30.852	33.94	277.23	0.650	0.000	0.67	1.644	1.07	58.0	0.0	46.9
94.00 Appurtenance(s)	1.00	1.25	30.992	34.09	274.89	0.650	0.000	2.00	4.897	3.18	173.6	0.0	139.7
96.00	1.00	1.25	31.130	34.24	272.53	0.650	0.000	2.00	4.844	3.15	172.5	0.0	138.2
98.00	1.00	1.26	31.265	34.39	270.14	0.650	0.000	2.00	4.791	3.11	171.4	0.0	136.7
100.00 Appurtenance(s)	1.00	1.27	31.399	34.54	267.73	0.650	0.000	2.00	4.739	3.08	170.2	0.0	135.2
102.00	1.00	1.27	31.530	34.68	265.30	0.650	0.000	2.00	4.686	3.05	169.0	0.0	133.7
104.00	1.00	1.28	31.659	34.82	262.84	0.650	0.000	2.00	4.634	3.01	167.8	0.0	132.2
106.00	1.00	1.28	31.786	34.96	260.37	0.650	0.000	2.00	4.581	2.98	166.6	0.0	130.6
108.00	1.00	1.29	31.911	35.10	257.87	0.650	0.000	2.00	4.529	2.94	165.3	0.0	129.1
110.00 Appurtenance(s)	1.00	1.29	32.035	35.24	255.35	0.650	0.000	2.00	4.476	2.91	164.0	0.0	127.6
112.00	1.00	1.30	32.157	35.37	252.81	0.650	0.000	2.00	4.423	2.88	162.7	0.0	126.1
114.00	1.00	1.30	32.277	35.50	250.26	0.650	0.000	2.00	4.371	2.84	161.4	0.0	124.6
116.00	1.00	1.31	32.395	35.63	247.68	0.650	0.000	2.00	4.318	2.81	160.0	0.0	123.1
118.00	1.00	1.31	32.512	35.76	245.09	0.650	0.000	2.00	4.266	2.77	158.7	0.0	121.6
120.00 Top - Section 3	1.00	1.32	32.627	35.89	242.48	0.650	0.000	2.00	4.213	2.74	157.3	0.0	120.1
122.00	1.00	1.32	32.741	36.01	174.04	0.620 *	0.000	2.00	3.000	1.86	107.2	0.0	113.9
124.00	1.00	1.32	32.853	36.14	174.34	0.620 *	0.000	2.00	3.000	1.86	107.5	0.0	113.9
126.00	1.00	1.33	32.964	36.26	174.63	0.620 *	0.000	2.00	3.000	1.86	107.9	0.0	113.9
128.00	1.00	1.33	33.073	36.38	174.92	0.620 *	0.000	2.00	3.000	1.86	108.3	0.0	113.9
130.00 Appurtenance(s)	1.00	1.34	33.182	36.50	175.21	0.620 *	0.000	2.00	3.000	1.86	108.6	0.0	113.9
								Totals:	130.00		11,059.9		15,212.6

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT13064-A-SBA
Site Name: Middletown 2, CT
Height: 130.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

3/2/2022
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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	130.00	DC6-48-60-18-8F	2	33.182	36.500	0.38	0.75	0.69	76.32	0.000	0.000	40.30	0.00	0.00
2	130.00	6' Lightning rod	1	33.341	36.675	1.00	1.00	0.38	7.80	0.000	3.000	22.30	0.00	66.90
3	130.00	Cci DMP65R-BU6DA	3	33.182	36.500	0.54	0.75	20.62	227.88	0.000	0.000	1204.13	0.00	0.00
4	130.00	RRUS 32	6	33.182	36.500	0.38	0.75	3.71	554.40	0.000	0.000	216.81	0.00	0.00
5	130.00	RRUS 4478 B14	3	33.182	36.500	0.38	0.75	1.86	213.84	0.000	0.000	108.40	0.00	0.00
6	130.00	B2 B66A 8843	3	33.182	36.500	0.38	0.75	1.84	252.00	0.000	0.000	107.75	0.00	0.00
7	130.00	4449 B5/B12	3	33.182	36.500	0.38	0.75	2.22	255.60	0.000	0.000	129.43	0.00	0.00
8	130.00	RRUS E2 B29	3	33.182	36.500	0.38	0.75	3.54	213.84	0.000	0.000	206.95	0.00	0.00
9	130.00	Ericsson AIR6419	3	33.288	36.617	0.57	0.75	6.50	237.96	0.000	2.000	380.70	0.00	761.40
10	130.00	(3) Horizontal bracing	1	33.182	36.500	0.75	0.75	4.45	164.70	0.000	0.000	260.06	0.00	0.00
11	130.00	Quinte QD6616-7	3	33.182	36.500	0.56	0.75	22.92	212.76	0.000	0.000	1338.30	0.00	0.00
12	130.00	Ericsson AIR6449	3	33.073	36.381	0.64	0.75	7.90	316.80	0.000	-2.000	459.77	0.00	-919.55
13	130.00	Additional mount pipe	3	33.182	36.500	0.56	0.75	2.95	61.20	0.000	0.000	172.46	0.00	0.00
14	130.00	DC6-48-60-0-8C	2	33.182	36.500	0.38	0.75	3.58	38.40	0.000	0.000	209.36	0.00	0.00
15	130.00	Angle Reinforcement kit	1	33.182	36.500	1.00	1.00	5.80	300.00	0.000	0.000	338.72	0.00	0.00
16	130.00	PRK-1245 (kicker kit)	1	33.182	36.500	1.00	1.00	9.50	557.89	0.000	0.000	554.80	0.00	0.00
17	130.00	MTC3607 Platform + HR	1	33.182	36.500	1.00	1.00	45.40	2400.00	0.000	0.000	2651.34	0.00	0.00
18	120.00	MC-PK8-DSH	1	32.627	35.890	1.00	1.00	37.59	2072.40	0.000	0.000	2158.56	0.00	0.00
19	120.00	RDIDC-9181-OF-48	1	32.627	35.890	0.38	0.75	0.75	26.28	0.000	0.000	43.28	0.00	0.00
20	120.00	TA08025-B604	3	32.627	35.890	0.38	0.75	2.21	230.04	0.000	0.000	126.62	0.00	0.00
21	120.00	TA08025-B605	3	32.627	35.890	0.38	0.75	2.21	270.00	0.000	0.000	126.62	0.00	0.00
22	120.00	MX08FRO665-21	3	32.627	35.890	0.55	0.75	20.80	232.20	0.000	0.000	1194.18	0.00	0.00
23	110.00	T-Arm (Round)	3	32.035	35.238	0.56	0.75	13.50	1260.00	0.000	0.000	761.15	0.00	0.00
24	110.00	DB-T1-6Z-8AB-OZ	2	32.035	35.238	0.40	0.80	3.84	45.36	0.000	0.000	216.50	0.00	0.00
25	110.00	B4 RRH2X60-4R	3	32.035	35.238	0.40	0.80	4.03	198.00	0.000	0.000	227.33	0.00	0.00
26	110.00	B13 RRH4X30-4R	3	32.035	35.238	0.40	0.80	2.59	205.92	0.000	0.000	146.14	0.00	0.00
27	110.00	RRH2X60-1900A-4R	3	32.035	35.238	0.40	0.80	2.26	165.60	0.000	0.000	127.20	0.00	0.00
28	110.00	SBNHH-1D65B	6	32.035	35.238	0.63	0.80	30.94	288.00	0.000	0.000	1744.59	0.00	0.00
29	110.00	CBC721-DF	3	31.973	35.171	0.40	0.80	0.54	15.84	0.000	-1.000	30.39	0.00	-30.39
30	110.00	CBC721-DF	3	32.096	35.306	0.40	0.80	0.54	15.84	0.000	1.000	30.50	0.00	30.50
31	100.00	AIR 21, 1.3M, B4A B2P	3	31.399	34.538	0.64	0.80	11.69	325.44	0.000	0.000	646.16	0.00	0.00
32	100.00	AIR 21, 1.3M, B2A B4P	3	31.399	34.538	0.64	0.80	11.69	329.40	0.000	0.000	646.16	0.00	0.00
33	100.00	782 11056	3	31.399	34.538	0.40	0.80	0.16	6.48	0.000	0.000	8.62	0.00	0.00
34	100.00	LNx-6515DS-A1M	3	31.399	34.538	0.64	0.80	22.02	181.08	0.000	0.000	1216.99	0.00	0.00
35	100.00	T-Arm (Round)	3	31.399	34.538	0.56	0.75	13.50	1260.00	0.000	0.000	746.03	0.00	0.00
36	94.00	1'4"x6.5"x6" Surge	1	30.992	34.091	0.80	0.80	1.71	63.60	0.000	0.000	93.38	0.00	0.00
37	90.00	F3P-10W	1	30.710	33.781	1.00	1.00	51.77	2546.40	0.000	0.000	2798.12	0.00	0.00
38	90.00	NNVV-65B-R4	3	30.710	33.781	0.55	0.75	20.43	278.64	0.000	0.000	1104.20	0.00	0.00
39	90.00	AAHC	3	30.710	33.781	0.56	0.75	7.09	374.40	0.000	0.000	383.07	0.00	0.00
40	90.00	ALU - 800 MHz - RRU	6	30.710	33.781	0.38	0.75	5.60	381.60	0.000	0.000	302.81	0.00	0.00
41	90.00	ALU - 1900MHz - RRU	3	30.710	33.781	0.38	0.75	4.27	158.40	0.000	0.000	231.06	0.00	0.00
42	90.00	Andrew - VHLP2-11	2	30.710	33.781	0.75	0.75	7.02	64.80	0.000	0.000	379.42	0.00	0.00
Totals:									17,087.11			23,890.68		

Total Applied Force Summary

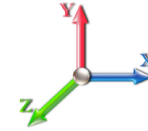
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		172.88	457.42	0.00	0.00
4.00		171.61	454.90	0.00	0.00
6.00		170.35	452.39	0.00	0.00
8.00		169.08	449.87	0.00	0.00
10.00		167.81	447.36	0.00	0.00
10.25		20.89	55.74	0.00	0.00
12.00		145.65	389.10	0.00	0.00
14.00		165.27	442.32	0.00	0.00
16.00		166.03	439.81	0.00	0.00
18.00		168.88	437.29	0.00	0.00
20.00		171.33	434.78	0.00	0.00
20.50		42.84	108.30	0.00	0.00
22.00		129.94	323.96	0.00	0.00
24.00		175.23	429.75	0.00	0.00
25.96		173.21	418.71	0.00	0.00
26.00		3.52	8.52	0.00	0.00
27.88		167.33	399.30	0.00	0.00
28.00		10.65	25.41	0.00	0.00
30.00		179.27	422.20	0.00	0.00
32.00		180.23	419.68	0.00	0.00
34.00		181.04	417.17	0.00	0.00
36.00		181.71	414.65	0.00	0.00
38.00		182.25	412.14	0.00	0.00
40.00		182.67	409.62	0.00	0.00
40.50		45.54	102.01	0.00	0.00
40.71		19.12	42.80	0.00	0.00
42.00		117.85	262.29	0.00	0.00
43.33		121.92	270.00	0.00	0.00
44.00		61.74	212.28	0.00	0.00
46.00		185.90	633.81	0.00	0.00
48.00		185.96	629.28	0.00	0.00
48.12		11.11	20.74	0.00	0.00
50.00		174.73	323.93	0.00	0.00
52.00		185.83	342.66	0.00	0.00
54.00		185.65	340.64	0.00	0.00
56.00		185.41	338.63	0.00	0.00
58.00		185.10	336.62	0.00	0.00
60.00		184.73	334.61	0.00	0.00
60.71		65.33	118.30	0.00	0.00
60.75		3.67	6.66	0.00	0.00
62.00		114.99	207.64	0.00	0.00
64.00		183.82	330.58	0.00	0.00
66.00		183.28	328.57	0.00	0.00
68.00		182.70	326.56	0.00	0.00
70.00		182.06	324.54	0.00	0.00
72.00		181.38	322.53	0.00	0.00

Total Applied Force Summary

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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74.00		180.66	320.52	0.00	0.00
76.00		179.90	318.51	0.00	0.00
78.00		179.09	316.49	0.00	0.00
78.25		22.28	39.42	0.00	0.00
80.00		155.87	275.06	0.00	0.00
82.00		177.36	312.47	0.00	0.00
84.00		176.45	310.46	0.00	0.00
86.00		175.49	308.44	0.00	0.00
87.42		123.63	217.26	0.00	0.00
88.00		51.36	131.08	0.00	0.00
90.00	(18) attachments	5374.41	4251.38	0.00	0.00
91.33		116.48	289.44	0.00	0.00
92.00		58.02	82.54	0.00	0.00
94.00	(1) attachments	266.99	310.22	0.00	0.00
96.00		172.51	245.11	0.00	0.00
98.00		171.38	243.60	0.00	0.00
100.00	(15) attachments	3434.18	2344.49	0.00	0.00
102.00		169.03	222.97	0.00	0.00
104.00		167.82	221.46	0.00	0.00
106.00		166.59	219.95	0.00	0.00
108.00		165.32	218.44	0.00	0.00
110.00	(26) attachments	3447.85	2411.49	0.00	0.12
112.00		162.73	180.19	0.00	0.00
114.00		161.39	178.68	0.00	0.00
116.00		160.04	177.17	0.00	0.00
118.00		158.66	175.66	0.00	0.00
120.00	(11) attachments	3806.52	3005.07	0.00	0.00
122.00		107.18	163.55	0.00	0.00
124.00		107.55	163.55	0.00	0.00
126.00		107.91	163.55	0.00	0.00
128.00		108.27	163.55	0.00	0.00
130.00	(42) attachments	8510.21	6254.95	0.00	-91.25
Totals:		34,950.58	39,062.81	0.00	-91.13

Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



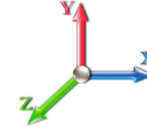
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Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	21.088	0.00	11.59
2.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.070	0.000	21.088	0.00	0.00
2.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	21.088	0.00	0.00
4.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	21.088	0.00	11.59
4.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.070	0.000	21.088	0.00	0.00
4.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	21.088	0.00	0.00
6.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	21.088	0.00	11.59
6.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.071	0.000	21.088	0.00	0.00
6.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	21.088	0.00	0.00
8.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	21.088	0.00	11.59
8.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.071	0.000	21.088	0.00	0.00
8.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	21.088	0.00	0.00
10.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.072	0.000	21.088	0.00	11.59
10.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.072	0.000	21.088	0.00	0.00
10.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	21.088	0.00	0.00
10.25	2" Conduit	Yes	0.25	0.000	2.00	0.04	0.00	0.072	0.000	21.088	0.00	1.45
10.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.072	0.000	21.088	0.00	0.00
10.25	1" Reinforcing plate	Yes	0.25	0.000	0.00	0.00	0.00	0.072	0.000	21.088	0.00	0.00
12.00	2" Conduit	Yes	1.75	0.000	2.00	0.29	0.00	0.072	0.000	21.088	0.00	10.14
12.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.072	0.000	21.088	0.00	0.00
12.00	1" Reinforcing plate	Yes	1.75	0.000	0.00	0.00	0.00	0.072	0.000	21.088	0.00	0.00
14.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	21.088	0.00	11.59
14.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.073	0.000	21.088	0.00	0.00
14.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	21.088	0.00	0.00
16.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	21.348	0.00	11.59
16.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.074	0.000	21.348	0.00	0.00
16.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	21.348	0.00	0.00
18.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	21.884	0.00	11.59
18.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.074	0.000	21.884	0.00	0.00
18.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	21.884	0.00	0.00
20.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	22.375	0.00	11.59
20.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.075	0.000	22.375	0.00	0.00
20.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	22.375	0.00	0.00
20.50	2" Conduit	Yes	0.50	0.000	2.00	0.08	0.00	0.075	0.000	22.491	0.00	2.90
20.50	1" Reinforcing plate	Yes	0.50	0.000	1.00	0.04	0.00	0.075	0.000	22.491	0.00	0.00
20.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.075	0.000	22.491	0.00	0.00
22.00	2" Conduit	Yes	1.50	0.000	2.00	0.25	0.00	0.075	0.000	22.828	0.00	8.69
22.00	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.13	0.00	0.075	0.000	22.828	0.00	0.00
22.00	1" Reinforcing plate	Yes	1.50	0.000	0.00	0.00	0.00	0.075	0.000	22.828	0.00	0.00
24.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	23.250	0.00	11.59
24.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.076	0.000	23.250	0.00	0.00
24.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.076	0.000	23.250	0.00	0.00
24.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	23.250	0.00	0.00
25.96	2" Conduit	Yes	1.96	0.000	2.00	0.33	0.00	0.076	0.000	23.638	0.00	11.36
25.96	1" Reinforcing plate	Yes	1.96	0.000	1.00	0.16	0.00	0.076	0.000	23.638	0.00	0.00
25.96	1" Reinforcing plate	Yes	1.96	0.000	0.00	0.00	0.00	0.076	0.000	23.638	0.00	0.00
25.96	1" Reinforcing plate	Yes	1.96	0.000	0.00	0.00	0.00	0.076	0.000	23.638	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



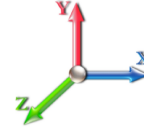
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Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
26.00	2" Conduit	Yes	0.04	0.000	2.00	0.01	0.00	0.077	0.000	23.645	0.00	0.23
26.00	1" Reinforcing plate	Yes	0.04	0.000	1.00	0.00	0.00	0.077	0.000	23.645	0.00	0.00
26.00	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.077	0.000	23.645	0.00	0.00
26.00	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.077	0.000	23.645	0.00	0.00
27.88	2" Conduit	Yes	1.88	0.000	2.00	0.31	0.00	0.077	0.000	23.995	0.00	10.90
27.88	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.16	0.00	0.077	0.000	23.995	0.00	0.00
27.88	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.077	0.000	23.995	0.00	0.00
27.88	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.077	0.000	23.995	0.00	0.00
28.00	2" Conduit	Yes	0.12	0.000	2.00	0.02	0.00	0.077	0.000	24.017	0.00	0.70
28.00	1" Reinforcing plate	Yes	0.12	0.000	1.00	0.01	0.00	0.077	0.000	24.017	0.00	0.00
28.00	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.077	0.000	24.017	0.00	0.00
28.00	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.077	0.000	24.017	0.00	0.00
30.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	24.369	0.00	11.59
30.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.078	0.000	24.369	0.00	0.00
30.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	24.369	0.00	0.00
30.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	24.369	0.00	0.00
32.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	24.702	0.00	11.59
32.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.078	0.000	24.702	0.00	0.00
32.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	24.702	0.00	0.00
32.00	1" Reinforcing plate	Yes	1.50	0.000	0.00	0.00	0.00	0.078	0.000	24.702	0.00	0.00
32.00	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.078	0.000	24.702	0.00	0.00
34.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	25.019	0.00	11.59
34.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.079	0.000	25.019	0.00	0.00
34.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	25.019	0.00	0.00
34.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	25.019	0.00	0.00
36.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.080	0.000	25.322	0.00	11.59
36.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.080	0.000	25.322	0.00	0.00
36.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	25.322	0.00	0.00
36.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	25.322	0.00	0.00
38.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.080	0.000	25.612	0.00	11.59
38.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.080	0.000	25.612	0.00	0.00
38.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	25.612	0.00	0.00
38.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	25.612	0.00	0.00
40.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.081	0.000	25.890	0.00	11.59
40.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.081	0.000	25.890	0.00	0.00
40.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	25.890	0.00	0.00
40.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	25.890	0.00	0.00
40.50	2" Conduit	Yes	0.50	0.000	2.00	0.08	0.00	0.082	0.000	25.958	0.00	2.90
40.50	1" Reinforcing plate	Yes	0.50	0.000	1.00	0.04	0.00	0.082	0.000	25.958	0.00	0.00
40.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.082	0.000	25.958	0.00	0.00
40.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.082	0.000	25.958	0.00	0.00
40.71	2" Conduit	Yes	0.21	0.000	2.00	0.04	0.00	0.082	0.000	25.986	0.00	1.22
40.71	1" Reinforcing plate	Yes	0.21	0.000	1.00	0.02	0.00	0.082	0.000	25.986	0.00	0.00
40.71	1" Reinforcing plate	Yes	0.21	0.000	0.00	0.00	0.00	0.082	0.000	25.986	0.00	0.00
40.71	1" Reinforcing plate	Yes	0.21	0.000	0.00	0.00	0.00	0.082	0.000	25.986	0.00	0.00
42.00	2" Conduit	Yes	1.29	0.000	2.00	0.21	0.00	0.082	0.000	26.157	0.00	7.48
42.00	1" Reinforcing plate	Yes	1.29	0.000	1.00	0.11	0.00	0.082	0.000	26.157	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



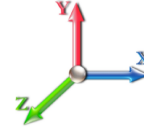
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Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
42.00	1" Reinforcing plate	Yes	1.29	0.000	0.00	0.00	0.00	0.082	0.000	26.157	0.00	0.00
42.00	1" Reinforcing plate	Yes	1.29	0.000	0.00	0.00	0.00	0.082	0.000	26.157	0.00	0.00
43.33	2" Conduit	Yes	1.33	0.000	2.00	0.22	0.00	0.082	0.000	26.330	0.00	7.73
43.33	1" Reinforcing plate	Yes	1.33	0.000	1.00	0.11	0.00	0.082	0.000	26.330	0.00	0.00
43.33	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.082	0.000	26.330	0.00	0.00
43.33	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.082	0.000	26.330	0.00	0.00
44.00	2" Conduit	Yes	0.67	0.000	2.00	0.11	0.00	0.083	0.000	26.415	0.00	3.86
44.00	1" Reinforcing plate	Yes	0.67	0.000	1.00	0.06	0.00	0.083	0.000	26.415	0.00	0.00
44.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.083	0.000	26.415	0.00	0.00
44.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.083	0.000	26.415	0.00	0.00
46.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	26.663	0.00	11.59
46.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.083	0.000	26.663	0.00	0.00
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	26.663	0.00	0.00
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	26.663	0.00	0.00
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	26.663	0.00	0.00
48.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.084	0.000	26.903	0.00	11.59
48.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.084	0.000	26.903	0.00	0.00
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	26.903	0.00	0.00
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	26.903	0.00	0.00
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	26.903	0.00	0.00
48.12	2" Conduit	Yes	0.12	0.000	2.00	0.02	0.00	0.083	0.000	26.917	0.00	0.70
48.12	1" Reinforcing plate	Yes	0.12	0.000	1.00	0.01	0.00	0.083	0.000	26.917	0.00	0.00
48.12	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.083	0.000	26.917	0.00	0.00
48.12	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.083	0.000	26.917	0.00	0.00
50.00	2" Conduit	Yes	1.88	0.000	2.00	0.31	0.00	0.084	0.000	27.135	0.00	10.90
50.00	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.16	0.00	0.084	0.000	27.135	0.00	0.00
50.00	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.084	0.000	27.135	0.00	0.00
50.00	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.084	0.000	27.135	0.00	0.00
52.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.084	0.000	27.360	0.00	11.59
52.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.084	0.000	27.360	0.00	0.00
52.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	27.360	0.00	0.00
52.00	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.084	0.000	27.360	0.00	0.00
54.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.085	0.000	27.579	0.00	11.59
54.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.085	0.000	27.579	0.00	0.00
54.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	27.579	0.00	0.00
56.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.086	0.000	27.790	0.00	11.59
56.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.086	0.000	27.790	0.00	0.00
56.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	27.790	0.00	0.00
58.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	27.997	0.00	11.59
58.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.087	0.000	27.997	0.00	0.00
58.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	27.997	0.00	0.00
60.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	28.197	0.00	11.59
60.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.087	0.000	28.197	0.00	0.00
60.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	28.197	0.00	0.00
60.71	2" Conduit	Yes	0.71	0.000	2.00	0.12	0.00	0.088	0.000	28.267	0.00	4.12
60.71	1" Reinforcing plate	Yes	0.71	0.000	1.00	0.06	0.00	0.088	0.000	28.267	0.00	0.00
60.71	1" Reinforcing plate	Yes	0.71	0.000	0.00	0.00	0.00	0.088	0.000	28.267	0.00	0.00
60.75	2" Conduit	Yes	0.04	0.000	2.00	0.01	0.00	0.088	0.000	28.271	0.00	0.23
60.75	1" Reinforcing plate	Yes	0.04	0.000	1.00	0.00	0.00	0.088	0.000	28.271	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



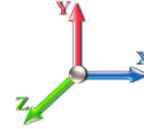
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Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
60.75	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.088	0.000	28.271	0.00	0.00
62.00	2" Conduit	Yes	1.25	0.000	2.00	0.21	0.00	0.088	0.000	28.392	0.00	7.25
62.00	1" Reinforcing plate	Yes	1.25	0.000	1.00	0.10	0.00	0.088	0.000	28.392	0.00	0.00
62.00	1" Reinforcing plate	Yes	1.25	0.000	0.00	0.00	0.00	0.088	0.000	28.392	0.00	0.00
64.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.089	0.000	28.583	0.00	11.59
64.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.089	0.000	28.583	0.00	0.00
64.00	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.089	0.000	28.583	0.00	0.00
66.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.090	0.000	28.769	0.00	11.59
66.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.090	0.000	28.769	0.00	0.00
68.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.091	0.000	28.950	0.00	11.59
68.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.091	0.000	28.950	0.00	0.00
70.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.092	0.000	29.127	0.00	11.59
70.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.092	0.000	29.127	0.00	0.00
72.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.092	0.000	29.300	0.00	11.59
72.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.092	0.000	29.300	0.00	0.00
74.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.093	0.000	29.470	0.00	11.59
74.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.093	0.000	29.470	0.00	0.00
76.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.094	0.000	29.636	0.00	11.59
76.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.094	0.000	29.636	0.00	0.00
78.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	29.798	0.00	11.59
78.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.095	0.000	29.798	0.00	0.00
78.25	2" Conduit	Yes	0.25	0.000	2.00	0.04	0.00	0.096	0.000	29.818	0.00	1.45
78.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.096	0.000	29.818	0.00	0.00
80.00	2" Conduit	Yes	1.75	0.000	2.00	0.29	0.00	0.096	0.000	29.958	0.00	10.14
80.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.096	0.000	29.958	0.00	0.00
82.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.081	0.000	30.114	0.00	11.59
82.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.081	0.000	30.114	0.00	0.00
84.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	30.267	0.00	11.59
86.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	30.417	0.00	11.59
87.42	2" Conduit	Yes	1.42	0.000	2.00	0.24	0.00	0.067	0.000	30.522	0.00	8.21
88.00	2" Conduit	Yes	0.58	0.000	2.00	0.10	0.00	0.067	0.000	30.565	0.00	3.38
90.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	30.710	0.00	11.59
91.33	2" Conduit	Yes	1.33	0.000	2.00	0.22	0.00	0.068	0.000	30.805	0.00	7.73
92.00	2" Conduit	Yes	0.67	0.000	2.00	0.11	0.00	0.068	0.000	30.852	0.00	3.86
94.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	30.992	0.00	11.59
96.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.069	0.000	31.130	0.00	11.59
98.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	31.265	0.00	11.59
100.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	31.399	0.00	11.59
102.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	31.530	0.00	11.59
104.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.072	0.000	31.659	0.00	11.59
106.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	31.786	0.00	11.59
108.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	31.911	0.00	11.59
110.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	32.035	0.00	11.59
112.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	32.157	0.00	11.59
114.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	32.277	0.00	11.59
116.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	32.395	0.00	11.59
118.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	32.512	0.00	11.59

Linear Appurtenance Segment Forces (Factored)

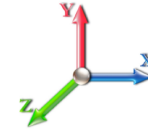
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
120.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	32.627	0.00	11.59
122.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	32.741	0.00	11.59
124.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	32.853	0.00	11.59
126.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	32.964	0.00	11.59
128.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	33.073	0.00	11.59
130.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	33.182	0.00	11.59
Totals:											0.0	753.5

Calculated Forces

Structure: CT13064-A-SBA
Site Name: Middletown 2, CT
Height: 130.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

3/2/2022

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Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 25

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	-39.03	-34.98	0.00	-3544.9	0.00	3544.96	2818.94	1409.47	4888.80	2448.04	0.00	0.000	0.000	0.692
2.00	-38.51	-34.88	0.00	-3474.9	0.00	3474.99	2805.89	1402.95	4830.09	2418.63	0.02	-0.100	0.000	0.683
4.00	-38.00	-34.77	0.00	-3405.2	0.00	3405.23	2792.73	1396.36	4771.51	2389.30	0.09	-0.201	0.000	0.675
6.00	-37.49	-34.67	0.00	-3335.6	0.00	3335.69	2779.45	1389.73	4713.08	2360.04	0.19	-0.301	0.000	0.667
8.00	-36.98	-34.56	0.00	-3266.3	0.00	3266.36	2766.06	1383.03	4654.80	2330.86	0.34	-0.400	0.000	0.658
10.00	-36.50	-34.42	0.00	-3197.2	0.00	3197.24	2752.56	1376.28	4596.67	2301.75	0.53	-0.500	0.000	0.649
10.25	-36.41	-34.43	0.00	-3188.6	0.00	3188.64	2750.86	1375.43	4589.41	2298.12	0.55	-0.512	0.000	0.680
12.00	-35.96	-34.35	0.00	-3128.3	0.00	3128.38	2738.94	1369.47	4538.70	2272.72	0.76	-0.603	0.000	0.672
14.00	-35.46	-34.24	0.00	-3059.6	0.00	3059.69	2725.20	1362.60	4480.89	2243.77	1.03	-0.707	0.000	0.663
16.00	-34.96	-34.13	0.00	-2991.2	0.00	2991.21	2711.35	1355.68	4423.25	2214.91	1.35	-0.810	0.000	0.654
18.00	-34.47	-34.02	0.00	-2922.9	0.00	2922.95	2697.39	1348.70	4365.78	2186.13	1.71	-0.913	0.000	0.644
20.00	-34.00	-33.88	0.00	-2854.9	0.00	2854.92	2683.32	1341.66	4308.48	2157.44	2.12	-1.015	0.000	0.635
20.50	-33.86	-33.86	0.00	-2837.9	0.00	2837.98	2679.78	1339.89	4294.19	2150.28	2.23	-1.041	0.000	0.632
22.00	-33.49	-33.78	0.00	-2787.1	0.00	2787.19	2669.12	1334.56	4251.37	2128.84	2.57	-1.117	0.000	0.625
24.00	-33.00	-33.65	0.00	-2719.6	0.00	2719.64	2654.82	1327.41	4194.44	2100.34	3.06	-1.219	0.000	0.616
25.96	-32.56	-33.50	0.00	-2653.6	0.00	2653.68	2640.69	1320.34	4138.83	2072.49	3.58	-1.318	0.000	0.532
26.00	-32.52	-33.52	0.00	-2652.3	0.00	2652.34	2640.40	1320.20	4137.70	2071.92	3.59	-1.319	0.000	0.532
27.88	-32.10	-33.37	0.00	-2589.3	0.00	2589.33	2626.74	1313.37	4084.54	2045.30	4.12	-1.402	0.000	0.654
28.00	-32.04	-33.39	0.00	-2585.3	0.00	2585.32	2625.87	1312.93	4081.15	2043.61	4.16	-1.409	0.000	0.653
30.00	-31.56	-33.26	0.00	-2518.5	0.00	2518.55	2611.22	1305.61	4024.80	2015.39	4.77	-1.518	0.000	0.642
32.00	-31.09	-33.12	0.00	-2452.0	0.00	2452.04	2596.46	1298.23	3968.65	1987.27	5.43	-1.627	0.000	0.631
34.00	-30.61	-32.99	0.00	-2385.7	0.00	2385.79	2581.58	1290.79	3912.71	1959.26	6.14	-1.735	0.000	0.620
36.00	-30.14	-32.85	0.00	-2319.8	0.00	2319.81	2566.59	1283.29	3856.98	1931.36	6.89	-1.842	0.000	0.609
38.00	-29.68	-32.71	0.00	-2254.1	0.00	2254.11	2551.48	1275.74	3801.46	1903.56	7.68	-1.949	0.000	0.598
40.00	-29.24	-32.55	0.00	-2188.6	0.00	2188.69	2536.26	1268.13	3746.17	1875.87	8.52	-2.054	0.000	0.586
40.50	-29.13	-32.51	0.00	-2172.4	0.00	2172.42	2532.44	1266.22	3732.38	1868.96	8.74	-2.081	0.000	0.583
40.71	-29.06	-32.51	0.00	-2165.5	0.00	2165.59	2530.83	1265.42	3726.59	1866.07	8.83	-2.092	0.000	0.582
42.00	-28.76	-32.41	0.00	-2123.6	0.00	2123.66	2520.93	1260.46	3691.10	1848.29	9.40	-2.160	0.000	0.575
43.33	-28.47	-32.31	0.00	-2108.4	0.00	2080.44	2510.64	1255.32	3654.51	1829.97	10.02	-2.229	0.000	0.567
44.00	-28.22	-32.27	0.00	-2058.9	0.00	2058.90	2505.48	1252.74	3636.25	1820.83	10.33	-2.264	0.000	0.555
46.00	-27.54	-32.11	0.00	-1994.3	0.00	1994.36	2489.92	1244.96	3581.64	1793.48	11.30	-2.365	0.000	0.543
48.00	-26.89	-31.92	0.00	-1930.1	0.00	1930.15	1854.44	927.22	2691.60	1347.80	12.31	-2.465	0.000	0.585
48.12	-26.84	-31.94	0.00	-1926.3	0.00	1926.32	1853.85	926.92	2689.31	1346.66	12.38	-2.471	0.000	0.714
50.00	-26.45	-31.80	0.00	-1866.2	0.00	1866.28	1844.56	922.28	2653.53	1328.74	13.37	-2.585	0.000	0.698
52.00	-26.06	-31.65	0.00	-1802.6	0.00	1802.67	1834.56	917.28	2615.56	1309.72	14.48	-2.704	0.000	0.680
54.00	-25.66	-31.50	0.00	-1739.3	0.00	1739.37	1824.45	912.23	2577.68	1290.76	15.64	-2.822	0.000	0.663
56.00	-25.27	-31.35	0.00	-1676.3	0.00	1676.36	1814.23	907.11	2539.90	1271.84	16.84	-2.939	0.000	0.645
58.00	-24.88	-31.20	0.00	-1613.6	0.00	1613.65	1803.89	901.94	2502.23	1252.97	18.10	-3.053	0.000	0.627
60.00	-24.51	-31.03	0.00	-1551.2	0.00	1551.25	1793.44	896.72	2464.66	1234.16	19.40	-3.166	0.000	0.609
60.71	-24.39	-30.97	0.00	-1529.2	0.00	1529.22	1789.70	894.85	2451.36	1227.50	19.88	-3.205	0.000	0.763
60.75	-24.36	-30.98	0.00	-1527.9	0.00	1527.98	1789.49	894.74	2450.61	1227.12	19.90	-3.208	0.000	0.762
62.00	-24.10	-30.90	0.00	-1489.2	0.00	1489.25	1782.87	891.44	2427.21	1215.41	20.76	-3.296	0.000	0.748
64.00	-23.70	-30.76	0.00	-1427.4	0.00	1427.45	1772.19	886.09	2389.88	1196.72	22.16	-3.433	0.000	0.726
66.00	-23.32	-30.61	0.00	-1365.9	0.00	1365.93	1761.39	880.70	2352.67	1178.08	23.63	-3.568	0.000	0.703
68.00	-22.93	-30.46	0.00	-1304.7	0.00	1304.71	1750.48	875.24	2315.58	1159.51	25.15	-3.701	0.000	0.679
70.00	-22.55	-30.31	0.00	-1243.8	0.00	1243.80	1739.46	869.73	2278.63	1141.01	26.73	-3.830	0.000	0.655
72.00	-22.18	-30.15	0.00	-1183.1	0.00	1183.19	1728.32	864.16	2241.81	1122.57	28.36	-3.956	0.000	0.631
74.00	-21.81	-30.00	0.00	-1122.8	0.00	1122.88	1717.07	858.54	2205.13	1104.20	30.05	-4.079	0.000	0.606

Calculated Forces

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 21



76.00	-21.44	-29.84	0.00	-1062.8	0.00	1062.89	1705.70	852.85	2168.59	1085.91	31.78	-4.199	0.000	0.581
78.00	-21.10	-29.66	0.00	-1003.2	0.00	1003.22	1694.22	847.11	2132.20	1067.69	33.56	-4.315	0.000	0.556
78.25	-21.04	-29.65	0.00	-995.81	0.00	995.81	1692.78	846.39	2127.67	1065.41	33.79	-4.329	0.000	0.552
78.25	-21.04	-29.65	0.00	-995.81	0.00	995.81	1692.78	846.39	2127.67	1065.41	33.79	-4.329	0.000	0.552
80.00	-20.70	-29.53	0.00	-943.91	0.00	943.91	1682.63	841.31	2095.97	1049.54	35.39	-4.427	0.000	0.913
82.00	-20.31	-29.39	0.00	-884.86	0.00	884.86	1670.92	835.46	2059.89	1031.48	37.29	-4.613	0.000	0.871
84.00	-19.93	-29.25	0.00	-826.07	0.00	826.07	1659.09	829.55	2023.98	1013.49	39.26	-4.793	0.000	0.828
86.00	-19.56	-29.10	0.00	-767.56	0.00	767.56	1647.16	823.58	1988.23	995.59	41.30	-4.965	0.000	0.784
87.42	-19.31	-28.99	0.00	-726.34	0.00	726.34	1638.63	819.32	1963.01	982.97	42.79	-5.084	0.000	0.752
88.00	-19.13	-28.96	0.00	-709.43	0.00	709.43	1635.10	817.55	1952.65	977.78	43.41	-5.132	0.000	0.739
90.00	-15.34	-23.26	0.00	-651.51	0.00	651.51	1622.94	811.47	1917.25	960.05	45.60	-5.289	0.000	0.689
91.33	-15.03	-23.13	0.00	-620.50	0.00	620.50	1099.39	549.70	1312.06	657.00	47.09	-5.390	0.000	0.960
92.00	-14.90	-23.10	0.00	-605.08	0.00	605.08	1097.24	548.62	1304.79	653.36	47.84	-5.439	0.000	0.941
94.00	-14.55	-22.85	0.00	-558.89	0.00	558.89	1090.71	545.35	1282.99	642.45	50.16	-5.622	0.000	0.885
96.00	-14.26	-22.69	0.00	-513.20	0.00	513.20	1084.06	542.03	1261.23	631.55	52.55	-5.795	0.000	0.827
98.00	-13.97	-22.54	0.00	-467.81	0.00	467.81	1077.30	538.65	1239.51	620.68	55.01	-5.959	0.000	0.768
100.00	-11.95	-18.91	0.00	-422.74	0.00	422.74	1070.43	535.22	1217.83	609.82	57.53	-6.113	0.000	0.706
102.00	-11.70	-18.74	0.00	-384.93	0.00	384.93	1063.44	531.72	1196.21	598.99	60.12	-6.258	0.000	0.655
104.00	-11.46	-18.58	0.00	-347.45	0.00	347.45	1056.34	528.17	1174.63	588.19	62.77	-6.393	0.000	0.603
106.00	-11.22	-18.41	0.00	-310.29	0.00	310.29	1049.12	524.56	1153.11	577.41	65.47	-6.519	0.000	0.549
108.00	-10.99	-18.24	0.00	-273.47	0.00	273.47	1041.79	520.90	1131.65	566.67	68.22	-6.635	0.000	0.494
110.00	-8.97	-14.55	0.00	-236.99	0.00	236.99	1034.34	517.17	1110.26	555.96	71.02	-6.740	0.000	0.436
112.00	-8.79	-14.38	0.00	-207.88	0.00	207.88	1026.79	513.39	1088.94	545.28	73.86	-6.834	0.000	0.391
114.00	-8.61	-14.21	0.00	-179.12	0.00	179.12	1019.11	509.56	1067.70	534.64	76.73	-6.920	0.000	0.344
116.00	-8.43	-14.04	0.00	-150.69	0.00	150.69	1011.32	505.66	1046.53	524.04	79.64	-6.995	0.000	0.297
118.00	-8.26	-13.87	0.00	-122.60	0.00	122.60	1003.42	501.71	1025.45	513.49	82.58	-7.060	0.000	0.248
120.00	-5.74	-9.73	0.00	-94.85	0.00	94.85	995.40	497.70	1004.45	502.97	85.54	-7.114	0.000	0.195
120.00	-5.74	-9.73	0.00	-94.85	0.00	94.85	735.22	367.61	535.89	335.79	85.54	-7.114	0.000	0.291
122.00	-5.59	-9.61	0.00	-75.39	0.00	75.39	735.22	367.61	535.89	335.79	88.53	-7.157	0.000	0.233
124.00	-5.43	-9.49	0.00	-56.17	0.00	56.17	735.22	367.61	535.89	335.79	91.53	-7.225	0.000	0.175
126.00	-5.27	-9.36	0.00	-37.20	0.00	37.20	735.22	367.61	535.89	335.79	94.56	-7.274	0.000	0.119
128.00	-5.12	-9.24	0.00	-18.47	0.00	18.47	735.22	367.61	535.89	335.79	97.61	-7.302	0.000	0.063
130.00	0.00	-8.51	0.00	0.00	0.00	0.00	735.22	367.61	535.89	335.79	100.66	-7.312	0.000	0.001

Wind Loading - Shaft

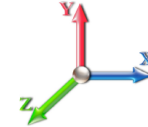
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1 RB2	1.00	0.85	21.088	23.20	334.88	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	21.088	23.20	332.43	0.650	0.000	2.00	7.166	4.66	172.9	0.0	255.3
4.00		1.00	0.85	21.088	23.20	329.98	0.650	0.000	2.00	7.114	4.62	171.6	0.0	253.5
6.00		1.00	0.85	21.088	23.20	327.54	0.650	0.000	2.00	7.061	4.59	170.3	0.0	251.6
8.00		1.00	0.85	21.088	23.20	325.09	0.650	0.000	2.00	7.009	4.56	169.1	0.0	249.7
10.00		1.00	0.85	21.088	23.20	322.64	0.650	0.000	2.00	6.956	4.52	167.8	0.0	247.8
10.25	RT2 RB3	1.00	0.85	21.088	23.20	322.34	0.650	0.000	0.25	0.866	0.56	20.9	0.0	30.8
12.00		1.00	0.85	21.088	23.20	320.19	0.650	0.000	1.75	6.038	3.92	145.7	0.0	215.1
14.00		1.00	0.85	21.088	23.20	317.75	0.650	0.000	2.00	6.851	4.45	165.3	0.0	244.0
16.00		1.00	0.86	21.348	23.48	317.24	0.650	0.000	2.00	6.798	4.42	166.0	0.0	242.1
18.00		1.00	0.88	21.884	24.07	318.71	0.650	0.000	2.00	6.746	4.38	168.9	0.0	240.3
20.00		1.00	0.90	22.375	24.61	319.74	0.650	0.000	2.00	6.693	4.35	171.3	0.0	238.4
20.50	RT1 RB4	1.00	0.91	22.491	24.74	319.94	0.650	0.000	0.50	1.665	1.08	42.8	0.0	59.3
22.00		1.00	0.92	22.828	25.11	320.42	0.650	0.000	1.50	4.976	3.23	129.9	0.0	177.2
24.00		1.00	0.94	23.250	25.58	320.80	0.650	0.000	2.00	6.588	4.28	175.2	0.0	234.6
25.96	RB5	1.00	0.95	23.638	26.00	320.92	0.650	0.000	1.96	6.405	4.16	173.2	0.0	228.1
26.00		1.00	0.95	23.645	26.01	320.92	0.650	0.000	0.04	0.130	0.08	3.5	0.0	4.6
27.88	RT3 RB6	1.00	0.97	23.995	26.39	320.83	0.650	0.000	1.88	6.096	3.96	167.3	0.0	217.0
28.00		1.00	0.97	24.017	26.42	320.82	0.650	0.000	0.12	0.387	0.25	10.6	0.0	13.8
30.00		1.00	0.98	24.369	26.81	320.53	0.650	0.000	2.00	6.430	4.18	179.3	0.0	228.9
32.00		1.00	1.00	24.702	27.17	320.06	0.650	0.000	2.00	6.378	4.15	180.2	0.0	227.0
34.00		1.00	1.01	25.019	27.52	319.45	0.650	0.000	2.00	6.325	4.11	181.0	0.0	225.2
36.00		1.00	1.02	25.322	27.85	318.69	0.650	0.000	2.00	6.273	4.08	181.7	0.0	223.3
38.00		1.00	1.03	25.612	28.17	317.82	0.650	0.000	2.00	6.220	4.04	182.3	0.0	221.4
40.00		1.00	1.04	25.890	28.48	316.82	0.650	0.000	2.00	6.168	4.01	182.7	0.0	219.5
40.50	RT4 RB7	1.00	1.05	25.958	28.55	316.56	0.650	0.000	0.50	1.534	1.00	45.5	0.0	54.6
40.71	RT5 RB8	1.00	1.05	25.986	28.58	316.45	0.650	0.000	0.21	0.643	0.42	19.1	0.0	22.9
42.00		1.00	1.05	26.157	28.77	315.73	0.650	0.000	1.29	3.938	2.56	117.8	0.0	140.1
43.33	Bot - Section 2	1.00	1.06	26.330	28.96	314.95	0.650	0.000	1.33	4.048	2.63	121.9	0.0	144.0
44.00		1.00	1.06	26.415	29.06	314.54	0.650	0.000	0.67	2.043	1.33	61.7	0.0	130.0
46.00		1.00	1.07	26.663	29.33	313.26	0.650	0.000	2.00	6.095	3.96	185.9	0.0	387.6
48.00	Top - Section 1	1.00	1.08	26.903	29.59	311.91	0.650	0.000	2.00	6.042	3.93	186.0	0.0	384.2
48.12	RT6	1.00	1.08	26.917	29.61	316.27	0.650	0.000	0.12	0.361	0.23	11.1	0.0	10.3
50.00		1.00	1.09	27.135	29.85	314.94	0.650	0.000	1.88	5.629	3.66	174.7	0.0	160.5
52.00		1.00	1.10	27.360	30.10	313.46	0.650	0.000	2.00	5.937	3.86	185.8	0.0	169.3
54.00		1.00	1.11	27.579	30.34	311.91	0.650	0.000	2.00	5.884	3.82	185.6	0.0	167.8
56.00		1.00	1.12	27.790	30.57	310.29	0.650	0.000	2.00	5.832	3.79	185.4	0.0	166.3
58.00		1.00	1.13	27.997	30.80	308.62	0.650	0.000	2.00	5.779	3.76	185.1	0.0	164.7
60.00		1.00	1.14	28.197	31.02	306.90	0.650	0.000	2.00	5.727	3.72	184.7	0.0	163.2
60.71	RT8	1.00	1.14	28.267	31.09	306.27	0.650	0.000	0.71	2.020	1.31	65.3	0.0	57.6
60.75	RT7 RB9	1.00	1.14	28.271	31.10	306.24	0.650	0.000	0.04	0.114	0.07	3.7	0.0	3.2
62.00		1.00	1.14	28.392	31.23	305.12	0.650	0.000	1.25	3.540	2.30	115.0	0.0	100.9
64.00		1.00	1.15	28.583	31.44	303.29	0.650	0.000	2.00	5.622	3.65	183.8	0.0	160.2
66.00		1.00	1.16	28.769	31.65	301.42	0.650	0.000	2.00	5.569	3.62	183.3	0.0	158.7
68.00		1.00	1.17	28.950	31.84	299.50	0.650	0.000	2.00	5.516	3.59	182.7	0.0	157.2
70.00		1.00	1.17	29.127	32.04	297.54	0.650	0.000	2.00	5.464	3.55	182.1	0.0	155.7
72.00		1.00	1.18	29.300	32.23	295.54	0.650	0.000	2.00	5.411	3.52	181.4	0.0	154.2

Wind Loading - Shaft

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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74.00	1.00	1.19	29.470	32.42	293.50	0.650	0.000	2.00	5.359	3.48	180.7	0.0	152.7
76.00	1.00	1.19	29.636	32.60	291.42	0.650	0.000	2.00	5.306	3.45	179.9	0.0	151.2
78.00	1.00	1.20	29.798	32.78	289.31	0.650	0.000	2.00	5.254	3.41	179.1	0.0	149.7
78.25 RT9	1.00	1.20	29.818	32.80	289.04	0.650	0.000	0.25	0.653	0.42	22.3	0.0	18.6
80.00	1.00	1.21	29.958	32.95	287.16	0.650	0.000	1.75	4.548	2.96	155.9	0.0	129.5
82.00	1.00	1.21	30.114	33.13	284.99	0.650	0.000	2.00	5.148	3.35	177.4	0.0	146.6
84.00	1.00	1.22	30.267	33.29	282.78	0.650	0.000	2.00	5.096	3.31	176.4	0.0	145.1
86.00	1.00	1.23	30.417	33.46	280.54	0.650	0.000	2.00	5.043	3.28	175.5	0.0	143.6
87.42 Bot - Section 3	1.00	1.23	30.522	33.57	278.94	0.650	0.000	1.42	3.541	2.30	123.6	0.0	100.8
88.00	1.00	1.23	30.565	33.62	278.27	0.650	0.000	0.58	1.469	0.95	51.4	0.0	72.7
90.00 Appurtenance(s)	1.00	1.24	30.710	33.78	275.98	0.650	0.000	2.00	5.002	3.25	175.7	0.0	247.6
91.33 Top - Section 2	1.00	1.24	30.805	33.89	274.44	0.650	0.000	1.33	3.305	2.15	116.5	0.0	163.6
92.00	1.00	1.24	30.852	33.94	277.23	0.650	0.000	0.67	1.644	1.07	58.0	0.0	35.2
94.00 Appurtenance(s)	1.00	1.25	30.992	34.09	274.89	0.650	0.000	2.00	4.897	3.18	173.6	0.0	104.8
96.00	1.00	1.25	31.130	34.24	272.53	0.650	0.000	2.00	4.844	3.15	172.5	0.0	103.6
98.00	1.00	1.26	31.265	34.39	270.14	0.650	0.000	2.00	4.791	3.11	171.4	0.0	102.5
100.00 Appurtenance(s)	1.00	1.27	31.399	34.54	267.73	0.650	0.000	2.00	4.739	3.08	170.2	0.0	101.4
102.00	1.00	1.27	31.530	34.68	265.30	0.650	0.000	2.00	4.686	3.05	169.0	0.0	100.2
104.00	1.00	1.28	31.659	34.82	262.84	0.650	0.000	2.00	4.634	3.01	167.8	0.0	99.1
106.00	1.00	1.28	31.786	34.96	260.37	0.650	0.000	2.00	4.581	2.98	166.6	0.0	98.0
108.00	1.00	1.29	31.911	35.10	257.87	0.650	0.000	2.00	4.529	2.94	165.3	0.0	96.9
110.00 Appurtenance(s)	1.00	1.29	32.035	35.24	255.35	0.650	0.000	2.00	4.476	2.91	164.0	0.0	95.7
112.00	1.00	1.30	32.157	35.37	252.81	0.650	0.000	2.00	4.423	2.88	162.7	0.0	94.6
114.00	1.00	1.30	32.277	35.50	250.26	0.650	0.000	2.00	4.371	2.84	161.4	0.0	93.5
116.00	1.00	1.31	32.395	35.63	247.68	0.650	0.000	2.00	4.318	2.81	160.0	0.0	92.3
118.00	1.00	1.31	32.512	35.76	245.09	0.650	0.000	2.00	4.266	2.77	158.7	0.0	91.2
120.00 Top - Section 3	1.00	1.32	32.627	35.89	242.48	0.650	0.000	2.00	4.213	2.74	157.3	0.0	90.1
122.00	1.00	1.32	32.741	36.01	174.04	0.620 *	0.000	2.00	3.000	1.86	107.2	0.0	85.4
124.00	1.00	1.32	32.853	36.14	174.34	0.620 *	0.000	2.00	3.000	1.86	107.5	0.0	85.4
126.00	1.00	1.33	32.964	36.26	174.63	0.620 *	0.000	2.00	3.000	1.86	107.9	0.0	85.4
128.00	1.00	1.33	33.073	36.38	174.92	0.620 *	0.000	2.00	3.000	1.86	108.3	0.0	85.4
130.00 Appurtenance(s)	1.00	1.34	33.182	36.50	175.21	0.620 *	0.000	2.00	3.000	1.86	108.6	0.0	85.4
								Totals:	130.00		11,059.9		11,409.5

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

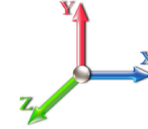


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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	130.00	DC6-48-60-18-8F	2	33.182	36.500	0.38	0.75	0.69	57.24	0.000	0.000	40.30	0.00	0.00
2	130.00	6' Lightning rod	1	33.341	36.675	1.00	1.00	0.38	5.85	0.000	3.000	22.30	0.00	66.90
3	130.00	Cci DMP65R-BU6DA	3	33.182	36.500	0.54	0.75	20.62	170.91	0.000	0.000	1204.13	0.00	0.00
4	130.00	RRUS 32	6	33.182	36.500	0.38	0.75	3.71	415.80	0.000	0.000	216.81	0.00	0.00
5	130.00	RRUS 4478 B14	3	33.182	36.500	0.38	0.75	1.86	160.38	0.000	0.000	108.40	0.00	0.00
6	130.00	B2 B66A 8843	3	33.182	36.500	0.38	0.75	1.84	189.00	0.000	0.000	107.75	0.00	0.00
7	130.00	4449 B5/B12	3	33.182	36.500	0.38	0.75	2.22	191.70	0.000	0.000	129.43	0.00	0.00
8	130.00	RRUS E2 B29	3	33.182	36.500	0.38	0.75	3.54	160.38	0.000	0.000	206.95	0.00	0.00
9	130.00	Ericsson AIR6419	3	33.288	36.617	0.57	0.75	6.50	178.47	0.000	2.000	380.70	0.00	761.40
10	130.00	(3) Horizontal bracing	1	33.182	36.500	0.75	0.75	4.45	123.53	0.000	0.000	260.06	0.00	0.00
11	130.00	Quinte QD6616-7	3	33.182	36.500	0.56	0.75	22.92	159.57	0.000	0.000	1338.30	0.00	0.00
12	130.00	Ericsson AIR6449	3	33.073	36.381	0.64	0.75	7.90	237.60	0.000	-2.000	459.77	0.00	-919.55
13	130.00	Additional mount pipe	3	33.182	36.500	0.56	0.75	2.95	45.90	0.000	0.000	172.46	0.00	0.00
14	130.00	DC6-48-60-0-8C	2	33.182	36.500	0.38	0.75	3.58	28.80	0.000	0.000	209.36	0.00	0.00
15	130.00	Angle Reinforcement kit	1	33.182	36.500	1.00	1.00	5.80	225.00	0.000	0.000	338.72	0.00	0.00
16	130.00	PRK-1245 (kicker kit)	1	33.182	36.500	1.00	1.00	9.50	418.42	0.000	0.000	554.80	0.00	0.00
17	130.00	MTC3607 Platform + HR	1	33.182	36.500	1.00	1.00	45.40	1800.00	0.000	0.000	2651.34	0.00	0.00
18	120.00	MC-PK8-DSH	1	32.627	35.890	1.00	1.00	37.59	1554.30	0.000	0.000	2158.56	0.00	0.00
19	120.00	RDIDC-9181-OF-48	1	32.627	35.890	0.38	0.75	0.75	19.71	0.000	0.000	43.28	0.00	0.00
20	120.00	TA08025-B604	3	32.627	35.890	0.38	0.75	2.21	172.53	0.000	0.000	126.62	0.00	0.00
21	120.00	TA08025-B605	3	32.627	35.890	0.38	0.75	2.21	202.50	0.000	0.000	126.62	0.00	0.00
22	120.00	MX08FRO665-21	3	32.627	35.890	0.55	0.75	20.80	174.15	0.000	0.000	1194.18	0.00	0.00
23	110.00	T-Arm (Round)	3	32.035	35.238	0.56	0.75	13.50	945.00	0.000	0.000	761.15	0.00	0.00
24	110.00	DB-T1-6Z-8AB-OZ	2	32.035	35.238	0.40	0.80	3.84	34.02	0.000	0.000	216.50	0.00	0.00
25	110.00	B4 RRH2X60-4R	3	32.035	35.238	0.40	0.80	4.03	148.50	0.000	0.000	227.33	0.00	0.00
26	110.00	B13 RRH4X30-4R	3	32.035	35.238	0.40	0.80	2.59	154.44	0.000	0.000	146.14	0.00	0.00
27	110.00	RRH2X60-1900A-4R	3	32.035	35.238	0.40	0.80	2.26	124.20	0.000	0.000	127.20	0.00	0.00
28	110.00	SBNHH-1D65B	6	32.035	35.238	0.63	0.80	30.94	216.00	0.000	0.000	1744.59	0.00	0.00
29	110.00	CBC721-DF	3	31.973	35.171	0.40	0.80	0.54	11.88	0.000	-1.000	30.39	0.00	-30.39
30	110.00	CBC721-DF	3	32.096	35.306	0.40	0.80	0.54	11.88	0.000	1.000	30.50	0.00	30.50
31	100.00	AIR 21, 1.3M, B4A B2P	3	31.399	34.538	0.64	0.80	11.69	244.08	0.000	0.000	646.16	0.00	0.00
32	100.00	AIR 21, 1.3M, B2A B4P	3	31.399	34.538	0.64	0.80	11.69	247.05	0.000	0.000	646.16	0.00	0.00
33	100.00	782 11056	3	31.399	34.538	0.40	0.80	0.16	4.86	0.000	0.000	8.62	0.00	0.00
34	100.00	LNx-6515DS-A1M	3	31.399	34.538	0.64	0.80	22.02	135.81	0.000	0.000	1216.99	0.00	0.00
35	100.00	T-Arm (Round)	3	31.399	34.538	0.56	0.75	13.50	945.00	0.000	0.000	746.03	0.00	0.00
36	94.00	1'4"x6.5"x6" Surge	1	30.992	34.091	0.80	0.80	1.71	47.70	0.000	0.000	93.38	0.00	0.00
37	90.00	F3P-10W	1	30.710	33.781	1.00	1.00	51.77	1909.80	0.000	0.000	2798.12	0.00	0.00
38	90.00	NNVV-65B-R4	3	30.710	33.781	0.55	0.75	20.43	208.98	0.000	0.000	1104.20	0.00	0.00
39	90.00	AAHC	3	30.710	33.781	0.56	0.75	7.09	280.80	0.000	0.000	383.07	0.00	0.00
40	90.00	ALU - 800 MHz - RRU	6	30.710	33.781	0.38	0.75	5.60	286.20	0.000	0.000	302.81	0.00	0.00
41	90.00	ALU - 1900MHz - RRU	3	30.710	33.781	0.38	0.75	4.27	118.80	0.000	0.000	231.06	0.00	0.00
42	90.00	Andrew - VHLP2-11	2	30.710	33.781	0.75	0.75	7.02	48.60	0.000	0.000	379.42	0.00	0.00

Totals: 12,815.33

23,890.68

Total Applied Force Summary

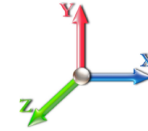
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
2.00		172.88	343.06	0.00	0.00
4.00		171.61	341.18	0.00	0.00
6.00		170.35	339.29	0.00	0.00
8.00		169.08	337.40	0.00	0.00
10.00		167.81	335.52	0.00	0.00
10.25		20.89	41.81	0.00	0.00
12.00		145.65	291.82	0.00	0.00
14.00		165.27	331.74	0.00	0.00
16.00		166.03	329.86	0.00	0.00
18.00		168.88	327.97	0.00	0.00
20.00		171.33	326.08	0.00	0.00
20.50		42.84	81.23	0.00	0.00
22.00		129.94	242.97	0.00	0.00
24.00		175.23	322.31	0.00	0.00
25.96		173.21	314.03	0.00	0.00
26.00		3.52	6.39	0.00	0.00
27.88		167.33	299.48	0.00	0.00
28.00		10.65	19.06	0.00	0.00
30.00		179.27	316.65	0.00	0.00
32.00		180.23	314.76	0.00	0.00
34.00		181.04	312.88	0.00	0.00
36.00		181.71	310.99	0.00	0.00
38.00		182.25	309.10	0.00	0.00
40.00		182.67	307.21	0.00	0.00
40.50		45.54	76.51	0.00	0.00
40.71		19.12	32.10	0.00	0.00
42.00		117.85	196.72	0.00	0.00
43.33		121.92	202.50	0.00	0.00
44.00		61.74	159.21	0.00	0.00
46.00		185.90	475.36	0.00	0.00
48.00		185.96	471.96	0.00	0.00
48.12		11.11	15.55	0.00	0.00
50.00		174.73	242.95	0.00	0.00
52.00		185.83	256.99	0.00	0.00
54.00		185.65	255.48	0.00	0.00
56.00		185.41	253.97	0.00	0.00
58.00		185.10	252.46	0.00	0.00
60.00		184.73	250.95	0.00	0.00
60.71		65.33	88.73	0.00	0.00
60.75		3.67	4.99	0.00	0.00
62.00		114.99	155.73	0.00	0.00
64.00		183.82	247.94	0.00	0.00
66.00		183.28	246.43	0.00	0.00
68.00		182.70	244.92	0.00	0.00
70.00		182.06	243.41	0.00	0.00
72.00		181.38	241.90	0.00	0.00

Total Applied Force Summary

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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74.00		180.66	240.39	0.00	0.00
76.00		179.90	238.88	0.00	0.00
78.00		179.09	237.37	0.00	0.00
78.25		22.28	29.57	0.00	0.00
80.00		155.87	206.30	0.00	0.00
82.00		177.36	234.35	0.00	0.00
84.00		176.45	232.84	0.00	0.00
86.00		175.49	231.33	0.00	0.00
87.42		123.63	162.95	0.00	0.00
88.00		51.36	98.31	0.00	0.00
90.00	(18) attachments	5374.41	3188.53	0.00	0.00
91.33		116.48	217.08	0.00	0.00
92.00		58.02	61.91	0.00	0.00
94.00	(1) attachments	266.99	232.67	0.00	0.00
96.00		172.51	183.84	0.00	0.00
98.00		171.38	182.70	0.00	0.00
100.00	(15) attachments	3434.18	1758.37	0.00	0.00
102.00		169.03	167.23	0.00	0.00
104.00		167.82	166.09	0.00	0.00
106.00		166.59	164.96	0.00	0.00
108.00		165.32	163.83	0.00	0.00
110.00	(26) attachments	3447.85	1808.62	0.00	0.12
112.00		162.73	135.14	0.00	0.00
114.00		161.39	134.01	0.00	0.00
116.00		160.04	132.88	0.00	0.00
118.00		158.66	131.75	0.00	0.00
120.00	(11) attachments	3806.52	2253.80	0.00	0.00
122.00		107.18	122.67	0.00	0.00
124.00		107.55	122.67	0.00	0.00
126.00		107.91	122.67	0.00	0.00
128.00		108.27	122.67	0.00	0.00
130.00	(42) attachments	8510.21	4691.21	0.00	-91.25
Totals:		34,950.58	29,297.11	0.00	-91.13

Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

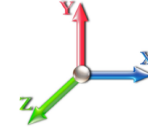


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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	21.088	0.00	8.69
2.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.070	0.000	21.088	0.00	0.00
2.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	21.088	0.00	0.00
4.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	21.088	0.00	8.69
4.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.070	0.000	21.088	0.00	0.00
4.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	21.088	0.00	0.00
6.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	21.088	0.00	8.69
6.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.071	0.000	21.088	0.00	0.00
6.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	21.088	0.00	0.00
8.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	21.088	0.00	8.69
8.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.071	0.000	21.088	0.00	0.00
8.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	21.088	0.00	0.00
10.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.072	0.000	21.088	0.00	8.69
10.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.072	0.000	21.088	0.00	0.00
10.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	21.088	0.00	0.00
10.25	2" Conduit	Yes	0.25	0.000	2.00	0.04	0.00	0.072	0.000	21.088	0.00	1.09
10.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.072	0.000	21.088	0.00	0.00
10.25	1" Reinforcing plate	Yes	0.25	0.000	0.00	0.00	0.00	0.072	0.000	21.088	0.00	0.00
12.00	2" Conduit	Yes	1.75	0.000	2.00	0.29	0.00	0.072	0.000	21.088	0.00	7.61
12.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.072	0.000	21.088	0.00	0.00
12.00	1" Reinforcing plate	Yes	1.75	0.000	0.00	0.00	0.00	0.072	0.000	21.088	0.00	0.00
14.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	21.088	0.00	8.69
14.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.073	0.000	21.088	0.00	0.00
14.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	21.088	0.00	0.00
16.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	21.348	0.00	8.69
16.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.074	0.000	21.348	0.00	0.00
16.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	21.348	0.00	0.00
18.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	21.884	0.00	8.69
18.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.074	0.000	21.884	0.00	0.00
18.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	21.884	0.00	0.00
20.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	22.375	0.00	8.69
20.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.075	0.000	22.375	0.00	0.00
20.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	22.375	0.00	0.00
20.50	2" Conduit	Yes	0.50	0.000	2.00	0.08	0.00	0.075	0.000	22.491	0.00	2.17
20.50	1" Reinforcing plate	Yes	0.50	0.000	1.00	0.04	0.00	0.075	0.000	22.491	0.00	0.00
20.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.075	0.000	22.491	0.00	0.00
22.00	2" Conduit	Yes	1.50	0.000	2.00	0.25	0.00	0.075	0.000	22.828	0.00	6.52
22.00	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.13	0.00	0.075	0.000	22.828	0.00	0.00
22.00	1" Reinforcing plate	Yes	1.50	0.000	0.00	0.00	0.00	0.075	0.000	22.828	0.00	0.00
24.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	23.250	0.00	8.69
24.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.076	0.000	23.250	0.00	0.00
24.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.076	0.000	23.250	0.00	0.00
24.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	23.250	0.00	0.00
25.96	2" Conduit	Yes	1.96	0.000	2.00	0.33	0.00	0.076	0.000	23.638	0.00	8.52
25.96	1" Reinforcing plate	Yes	1.96	0.000	1.00	0.16	0.00	0.076	0.000	23.638	0.00	0.00
25.96	1" Reinforcing plate	Yes	1.96	0.000	0.00	0.00	0.00	0.076	0.000	23.638	0.00	0.00
25.96	1" Reinforcing plate	Yes	1.96	0.000	0.00	0.00	0.00	0.076	0.000	23.638	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

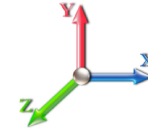
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
26.00	2" Conduit	Yes	0.04	0.000	2.00	0.01	0.00	0.077	0.000	23.645	0.00	0.17
26.00	1" Reinforcing plate	Yes	0.04	0.000	1.00	0.00	0.00	0.077	0.000	23.645	0.00	0.00
26.00	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.077	0.000	23.645	0.00	0.00
26.00	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.077	0.000	23.645	0.00	0.00
27.88	2" Conduit	Yes	1.88	0.000	2.00	0.31	0.00	0.077	0.000	23.995	0.00	8.17
27.88	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.16	0.00	0.077	0.000	23.995	0.00	0.00
27.88	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.077	0.000	23.995	0.00	0.00
27.88	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.077	0.000	23.995	0.00	0.00
28.00	2" Conduit	Yes	0.12	0.000	2.00	0.02	0.00	0.077	0.000	24.017	0.00	0.52
28.00	1" Reinforcing plate	Yes	0.12	0.000	1.00	0.01	0.00	0.077	0.000	24.017	0.00	0.00
28.00	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.077	0.000	24.017	0.00	0.00
28.00	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.077	0.000	24.017	0.00	0.00
30.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	24.369	0.00	8.69
30.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.078	0.000	24.369	0.00	0.00
30.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	24.369	0.00	0.00
30.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	24.369	0.00	0.00
32.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	24.702	0.00	8.69
32.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.078	0.000	24.702	0.00	0.00
32.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	24.702	0.00	0.00
32.00	1" Reinforcing plate	Yes	1.50	0.000	0.00	0.00	0.00	0.078	0.000	24.702	0.00	0.00
32.00	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.078	0.000	24.702	0.00	0.00
34.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	25.019	0.00	8.69
34.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.079	0.000	25.019	0.00	0.00
34.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	25.019	0.00	0.00
34.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	25.019	0.00	0.00
36.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.080	0.000	25.322	0.00	8.69
36.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.080	0.000	25.322	0.00	0.00
36.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	25.322	0.00	0.00
36.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	25.322	0.00	0.00
38.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.080	0.000	25.612	0.00	8.69
38.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.080	0.000	25.612	0.00	0.00
38.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	25.612	0.00	0.00
38.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	25.612	0.00	0.00
40.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.081	0.000	25.890	0.00	8.69
40.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.081	0.000	25.890	0.00	0.00
40.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	25.890	0.00	0.00
40.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	25.890	0.00	0.00
40.50	2" Conduit	Yes	0.50	0.000	2.00	0.08	0.00	0.082	0.000	25.958	0.00	2.17
40.50	1" Reinforcing plate	Yes	0.50	0.000	1.00	0.04	0.00	0.082	0.000	25.958	0.00	0.00
40.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.082	0.000	25.958	0.00	0.00
40.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.082	0.000	25.958	0.00	0.00
40.71	2" Conduit	Yes	0.21	0.000	2.00	0.04	0.00	0.082	0.000	25.986	0.00	0.91
40.71	1" Reinforcing plate	Yes	0.21	0.000	1.00	0.02	0.00	0.082	0.000	25.986	0.00	0.00
40.71	1" Reinforcing plate	Yes	0.21	0.000	0.00	0.00	0.00	0.082	0.000	25.986	0.00	0.00
40.71	1" Reinforcing plate	Yes	0.21	0.000	0.00	0.00	0.00	0.082	0.000	25.986	0.00	0.00
42.00	2" Conduit	Yes	1.29	0.000	2.00	0.21	0.00	0.082	0.000	26.157	0.00	5.61
42.00	1" Reinforcing plate	Yes	1.29	0.000	1.00	0.11	0.00	0.082	0.000	26.157	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

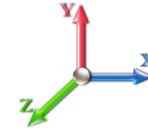
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
42.00	1" Reinforcing plate	Yes	1.29	0.000	0.00	0.00	0.00	0.082	0.000	26.157	0.00	0.00
42.00	1" Reinforcing plate	Yes	1.29	0.000	0.00	0.00	0.00	0.082	0.000	26.157	0.00	0.00
43.33	2" Conduit	Yes	1.33	0.000	2.00	0.22	0.00	0.082	0.000	26.330	0.00	5.80
43.33	1" Reinforcing plate	Yes	1.33	0.000	1.00	0.11	0.00	0.082	0.000	26.330	0.00	0.00
43.33	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.082	0.000	26.330	0.00	0.00
43.33	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.082	0.000	26.330	0.00	0.00
44.00	2" Conduit	Yes	0.67	0.000	2.00	0.11	0.00	0.083	0.000	26.415	0.00	2.90
44.00	1" Reinforcing plate	Yes	0.67	0.000	1.00	0.06	0.00	0.083	0.000	26.415	0.00	0.00
44.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.083	0.000	26.415	0.00	0.00
44.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.083	0.000	26.415	0.00	0.00
46.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	26.663	0.00	8.69
46.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.083	0.000	26.663	0.00	0.00
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	26.663	0.00	0.00
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	26.663	0.00	0.00
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	26.663	0.00	0.00
48.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.084	0.000	26.903	0.00	8.69
48.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.084	0.000	26.903	0.00	0.00
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	26.903	0.00	0.00
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	26.903	0.00	0.00
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	26.903	0.00	0.00
48.12	2" Conduit	Yes	0.12	0.000	2.00	0.02	0.00	0.083	0.000	26.917	0.00	0.52
48.12	1" Reinforcing plate	Yes	0.12	0.000	1.00	0.01	0.00	0.083	0.000	26.917	0.00	0.00
48.12	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.083	0.000	26.917	0.00	0.00
48.12	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.083	0.000	26.917	0.00	0.00
50.00	2" Conduit	Yes	1.88	0.000	2.00	0.31	0.00	0.084	0.000	27.135	0.00	8.17
50.00	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.16	0.00	0.084	0.000	27.135	0.00	0.00
50.00	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.084	0.000	27.135	0.00	0.00
50.00	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.084	0.000	27.135	0.00	0.00
52.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.084	0.000	27.360	0.00	8.69
52.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.084	0.000	27.360	0.00	0.00
52.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	27.360	0.00	0.00
52.00	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.084	0.000	27.360	0.00	0.00
54.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.085	0.000	27.579	0.00	8.69
54.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.085	0.000	27.579	0.00	0.00
54.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	27.579	0.00	0.00
56.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.086	0.000	27.790	0.00	8.69
56.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.086	0.000	27.790	0.00	0.00
56.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	27.790	0.00	0.00
58.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	27.997	0.00	8.69
58.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.087	0.000	27.997	0.00	0.00
58.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	27.997	0.00	0.00
60.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	28.197	0.00	8.69
60.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.087	0.000	28.197	0.00	0.00
60.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	28.197	0.00	0.00
60.71	2" Conduit	Yes	0.71	0.000	2.00	0.12	0.00	0.088	0.000	28.267	0.00	3.09
60.71	1" Reinforcing plate	Yes	0.71	0.000	1.00	0.06	0.00	0.088	0.000	28.267	0.00	0.00
60.71	1" Reinforcing plate	Yes	0.71	0.000	0.00	0.00	0.00	0.088	0.000	28.267	0.00	0.00
60.75	2" Conduit	Yes	0.04	0.000	2.00	0.01	0.00	0.088	0.000	28.271	0.00	0.17
60.75	1" Reinforcing plate	Yes	0.04	0.000	1.00	0.00	0.00	0.088	0.000	28.271	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

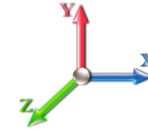
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
60.75	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.088	0.000	28.271	0.00	0.00
62.00	2" Conduit	Yes	1.25	0.000	2.00	0.21	0.00	0.088	0.000	28.392	0.00	5.43
62.00	1" Reinforcing plate	Yes	1.25	0.000	1.00	0.10	0.00	0.088	0.000	28.392	0.00	0.00
62.00	1" Reinforcing plate	Yes	1.25	0.000	0.00	0.00	0.00	0.088	0.000	28.392	0.00	0.00
64.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.089	0.000	28.583	0.00	8.69
64.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.089	0.000	28.583	0.00	0.00
64.00	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.089	0.000	28.583	0.00	0.00
66.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.090	0.000	28.769	0.00	8.69
66.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.090	0.000	28.769	0.00	0.00
68.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.091	0.000	28.950	0.00	8.69
68.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.091	0.000	28.950	0.00	0.00
70.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.092	0.000	29.127	0.00	8.69
70.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.092	0.000	29.127	0.00	0.00
72.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.092	0.000	29.300	0.00	8.69
72.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.092	0.000	29.300	0.00	0.00
74.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.093	0.000	29.470	0.00	8.69
74.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.093	0.000	29.470	0.00	0.00
76.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.094	0.000	29.636	0.00	8.69
76.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.094	0.000	29.636	0.00	0.00
78.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	29.798	0.00	8.69
78.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.095	0.000	29.798	0.00	0.00
78.25	2" Conduit	Yes	0.25	0.000	2.00	0.04	0.00	0.096	0.000	29.818	0.00	1.09
78.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.096	0.000	29.818	0.00	0.00
80.00	2" Conduit	Yes	1.75	0.000	2.00	0.29	0.00	0.096	0.000	29.958	0.00	7.61
80.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.096	0.000	29.958	0.00	0.00
82.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.081	0.000	30.114	0.00	8.69
82.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.081	0.000	30.114	0.00	0.00
84.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	30.267	0.00	8.69
86.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	30.417	0.00	8.69
87.42	2" Conduit	Yes	1.42	0.000	2.00	0.24	0.00	0.067	0.000	30.522	0.00	6.16
88.00	2" Conduit	Yes	0.58	0.000	2.00	0.10	0.00	0.067	0.000	30.565	0.00	2.54
90.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	30.710	0.00	8.69
91.33	2" Conduit	Yes	1.33	0.000	2.00	0.22	0.00	0.068	0.000	30.805	0.00	5.80
92.00	2" Conduit	Yes	0.67	0.000	2.00	0.11	0.00	0.068	0.000	30.852	0.00	2.90
94.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	30.992	0.00	8.69
96.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.069	0.000	31.130	0.00	8.69
98.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	31.265	0.00	8.69
100.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	31.399	0.00	8.69
102.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	31.530	0.00	8.69
104.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.072	0.000	31.659	0.00	8.69
106.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	31.786	0.00	8.69
108.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	31.911	0.00	8.69
110.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	32.035	0.00	8.69
112.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	32.157	0.00	8.69
114.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	32.277	0.00	8.69
116.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	32.395	0.00	8.69
118.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	32.512	0.00	8.69

Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

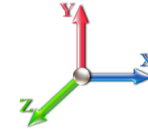


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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
120.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	32.627	0.00	8.69
122.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	32.741	0.00	8.69
124.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	32.853	0.00	8.69
126.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	32.964	0.00	8.69
128.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	33.073	0.00	8.69
130.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	33.182	0.00	8.69
Totals:											0.0	565.1

Calculated Forces

Structure: CT13064-A-SBA
Site Name: Middletown 2, CT
Height: 130.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

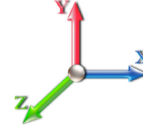
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Load Case: 0.9D + 1.6W 101 mph Wind

Iterations 25

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	-29.27	-34.98	0.00	-3505.0	0.00	3505.06	2818.94	1409.47	4888.80	2448.04	0.00	0.000	0.000	0.682
2.00	-28.86	-34.85	0.00	-3435.1	0.00	3435.11	2805.89	1402.95	4830.09	2418.63	0.02	-0.099	0.000	0.674
4.00	-28.46	-34.73	0.00	-3365.4	0.00	3365.40	2792.73	1396.36	4771.51	2389.30	0.08	-0.198	0.000	0.666
6.00	-28.06	-34.61	0.00	-3295.9	0.00	3295.94	2779.45	1389.73	4713.08	2360.04	0.19	-0.297	0.000	0.657
8.00	-27.67	-34.48	0.00	-3226.7	0.00	3226.73	2766.06	1383.03	4654.80	2330.86	0.33	-0.396	0.000	0.649
10.00	-27.30	-34.34	0.00	-3157.7	0.00	3157.77	2752.56	1376.28	4596.67	2301.75	0.52	-0.494	0.000	0.640
10.25	-27.23	-34.34	0.00	-3149.1	0.00	3149.18	2750.86	1375.43	4589.41	2298.12	0.55	-0.506	0.000	0.670
12.00	-26.88	-34.24	0.00	-3089.0	0.00	3089.09	2738.94	1369.47	4538.70	2272.72	0.75	-0.596	0.000	0.662
14.00	-26.49	-34.12	0.00	-3020.6	0.00	3020.61	2725.20	1362.60	4480.89	2243.77	1.02	-0.698	0.000	0.653
16.00	-26.10	-33.99	0.00	-2952.3	0.00	2952.38	2711.35	1355.68	4423.25	2214.91	1.34	-0.800	0.000	0.644
18.00	-25.72	-33.86	0.00	-2884.4	0.00	2884.40	2697.39	1348.70	4365.78	2186.13	1.69	-0.902	0.000	0.634
20.00	-25.36	-33.72	0.00	-2816.6	0.00	2816.67	2683.32	1341.66	4308.48	2157.44	2.09	-1.003	0.000	0.625
20.50	-25.25	-33.69	0.00	-2799.8	0.00	2799.81	2679.78	1339.89	4294.19	2150.28	2.20	-1.028	0.000	0.623
22.00	-24.95	-33.60	0.00	-2749.2	0.00	2749.27	2669.12	1334.56	4251.37	2128.84	2.53	-1.103	0.000	0.615
24.00	-24.58	-33.46	0.00	-2682.0	0.00	2682.08	2654.82	1327.41	4194.44	2100.34	3.02	-1.203	0.000	0.606
25.96	-24.24	-33.30	0.00	-2616.5	0.00	2616.50	2640.69	1320.34	4138.83	2072.49	3.53	-1.301	0.000	0.524
26.00	-24.21	-33.31	0.00	-2615.1	0.00	2615.17	2640.40	1320.20	4137.70	2071.92	3.54	-1.303	0.000	0.524
27.88	-23.89	-33.16	0.00	-2552.5	0.00	2552.55	2626.74	1313.37	4084.54	2045.30	4.07	-1.384	0.000	0.643
28.00	-23.84	-33.17	0.00	-2548.5	0.00	2548.57	2625.87	1312.93	4081.15	2043.61	4.11	-1.391	0.000	0.643
30.00	-23.46	-33.03	0.00	-2482.2	0.00	2482.23	2611.22	1305.61	4024.80	2015.39	4.71	-1.499	0.000	0.632
32.00	-23.09	-32.88	0.00	-2416.1	0.00	2416.18	2596.46	1298.23	3968.65	1987.27	5.37	-1.606	0.000	0.621
34.00	-22.72	-32.73	0.00	-2350.4	0.00	2350.42	2581.58	1290.79	3912.71	1959.26	6.06	-1.712	0.000	0.610
36.00	-22.36	-32.58	0.00	-2284.9	0.00	2284.95	2566.59	1283.29	3856.98	1931.36	6.80	-1.818	0.000	0.599
38.00	-22.00	-32.43	0.00	-2219.7	0.00	2219.79	2551.48	1275.74	3801.46	1903.56	7.59	-1.923	0.000	0.587
40.00	-21.66	-32.26	0.00	-2154.9	0.00	2154.93	2536.26	1268.13	3746.17	1875.87	8.41	-2.027	0.000	0.576
40.50	-21.57	-32.22	0.00	-2138.7	0.00	2138.79	2532.44	1266.22	3732.38	1868.96	8.63	-2.053	0.000	0.573
40.71	-21.52	-32.22	0.00	-2132.0	0.00	2132.03	2530.83	1265.42	3726.59	1866.07	8.72	-2.064	0.000	0.572
42.00	-21.29	-32.12	0.00	-2090.4	0.00	2090.47	2520.93	1260.46	3691.10	1848.29	9.28	-2.130	0.000	0.564
43.33	-21.06	-32.00	0.00	-2047.6	0.00	2047.65	2510.64	1255.32	3654.51	1829.97	9.89	-2.199	0.000	0.557
44.00	-20.87	-31.96	0.00	-2026.3	0.00	2026.31	2505.48	1252.74	3636.25	1820.83	10.20	-2.233	0.000	0.545
46.00	-20.35	-31.79	0.00	-1962.3	0.00	1962.39	2489.92	1244.96	3581.64	1793.48	11.16	-2.333	0.000	0.533
48.00	-19.85	-31.60	0.00	-1898.8	0.00	1898.81	1854.44	927.22	2691.60	1347.80	12.15	-2.431	0.000	0.574
48.12	-19.81	-31.61	0.00	-1895.0	0.00	1895.02	1853.85	926.92	2689.31	1346.66	12.22	-2.437	0.000	0.701
50.00	-19.51	-31.47	0.00	-1835.5	0.00	1835.59	1844.56	922.28	2653.53	1328.74	13.20	-2.549	0.000	0.685
52.00	-19.20	-31.31	0.00	-1772.6	0.00	1772.65	1834.56	917.28	2615.56	1309.72	14.29	-2.666	0.000	0.668
54.00	-18.89	-31.15	0.00	-1710.0	0.00	1710.03	1824.45	912.23	2577.68	1290.76	15.43	-2.782	0.000	0.650
56.00	-18.58	-30.99	0.00	-1647.7	0.00	1647.74	1814.23	907.11	2539.90	1271.84	16.62	-2.897	0.000	0.633
58.00	-18.28	-30.83	0.00	-1585.7	0.00	1585.76	1803.89	901.94	2502.23	1252.97	17.86	-3.009	0.000	0.615
60.00	-18.00	-30.65	0.00	-1524.1	0.00	1524.11	1793.44	896.72	2464.66	1234.16	19.14	-3.120	0.000	0.597
60.71	-17.90	-30.59	0.00	-1502.3	0.00	1502.35	1789.70	894.85	2451.36	1227.50	19.61	-3.159	0.000	0.748
60.75	-17.87	-30.60	0.00	-1501.1	0.00	1501.12	1789.49	894.74	2450.61	1227.12	19.64	-3.162	0.000	0.747
62.00	-17.67	-30.51	0.00	-1462.8	0.00	1462.87	1782.87	891.44	2427.21	1215.41	20.48	-3.248	0.000	0.733
64.00	-17.36	-30.35	0.00	-1401.8	0.00	1401.86	1772.19	886.09	2389.88	1196.72	21.86	-3.383	0.000	0.711
66.00	-17.05	-30.19	0.00	-1341.1	0.00	1341.15	1761.39	880.70	2352.67	1178.08	23.31	-3.515	0.000	0.688
68.00	-16.75	-30.03	0.00	-1280.7	0.00	1280.77	1750.48	875.24	2315.58	1159.51	24.81	-3.645	0.000	0.665
70.00	-16.46	-29.87	0.00	-1220.7	0.00	1220.70	1739.46	869.73	2278.63	1141.01	26.36	-3.772	0.000	0.642
72.00	-16.16	-29.71	0.00	-1160.9	0.00	1160.96	1728.32	864.16	2241.81	1122.57	27.97	-3.896	0.000	0.618
74.00	-15.88	-29.55	0.00	-1101.5	0.00	1101.54	1717.07	858.54	2205.13	1104.20	29.63	-4.017	0.000	0.593

Calculated Forces

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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76.00	-15.59	-29.38	0.00	-1042.4	0.00	1042.45	1705.70	852.85	2168.59	1085.91	31.33	-4.134	0.000	0.568
78.00	-15.34	-29.20	0.00	-983.69	0.00	983.69	1694.22	847.11	2132.20	1067.69	33.09	-4.248	0.000	0.543
78.25	-15.28	-29.19	0.00	-976.39	0.00	976.39	1692.78	846.39	2127.67	1065.41	33.31	-4.262	0.000	0.540
78.25	-15.28	-29.19	0.00	-976.39	0.00	976.39	1692.78	846.39	2127.67	1065.41	33.31	-4.262	0.000	0.540
80.00	-15.01	-29.06	0.00	-925.30	0.00	925.30	1682.63	841.31	2095.97	1049.54	34.89	-4.358	0.000	0.892
82.00	-14.70	-28.91	0.00	-867.19	0.00	867.19	1670.92	835.46	2059.89	1031.48	36.75	-4.540	0.000	0.851
84.00	-14.40	-28.76	0.00	-809.37	0.00	809.37	1659.09	829.55	2023.98	1013.49	38.69	-4.716	0.000	0.808
86.00	-14.11	-28.60	0.00	-751.85	0.00	751.85	1647.16	823.58	1988.23	995.59	40.71	-4.885	0.000	0.765
87.42	-13.92	-28.48	0.00	-711.34	0.00	711.34	1638.63	819.32	1963.01	982.97	42.17	-5.001	0.000	0.733
88.00	-13.78	-28.45	0.00	-694.73	0.00	694.73	1635.10	817.55	1952.65	977.78	42.79	-5.048	0.000	0.720
90.00	-11.03	-22.83	0.00	-637.83	0.00	637.83	1622.94	811.47	1917.25	960.05	44.93	-5.202	0.000	0.672
91.33	-10.80	-22.71	0.00	-607.39	0.00	607.39	1099.39	549.70	1312.06	657.00	46.40	-5.301	0.000	0.936
92.00	-10.70	-22.67	0.00	-592.25	0.00	592.25	1097.24	548.62	1304.79	653.36	47.14	-5.349	0.000	0.918
94.00	-10.42	-22.41	0.00	-546.91	0.00	546.91	1090.71	545.35	1282.99	642.45	49.42	-5.528	0.000	0.863
96.00	-10.19	-22.25	0.00	-502.09	0.00	502.09	1084.06	542.03	1261.23	631.55	51.77	-5.698	0.000	0.806
98.00	-9.97	-22.09	0.00	-457.59	0.00	457.59	1077.30	538.65	1239.51	620.68	54.19	-5.858	0.000	0.748
100.00	-8.53	-18.51	0.00	-413.41	0.00	413.41	1070.43	535.22	1217.83	609.82	56.67	-6.009	0.000	0.687
102.00	-8.33	-18.35	0.00	-376.38	0.00	376.38	1063.44	531.72	1196.21	598.99	59.21	-6.150	0.000	0.637
104.00	-8.15	-18.18	0.00	-339.68	0.00	339.68	1056.34	528.17	1174.63	588.19	61.82	-6.283	0.000	0.586
106.00	-7.96	-18.01	0.00	-303.32	0.00	303.32	1049.12	524.56	1153.11	577.41	64.47	-6.406	0.000	0.534
108.00	-7.79	-17.85	0.00	-267.29	0.00	267.29	1041.79	520.90	1131.65	566.67	67.17	-6.519	0.000	0.480
110.00	-6.36	-14.23	0.00	-231.59	0.00	231.59	1034.34	517.17	1110.26	555.96	69.92	-6.621	0.000	0.423
112.00	-6.22	-14.06	0.00	-203.14	0.00	203.14	1026.79	513.39	1088.94	545.28	72.71	-6.714	0.000	0.379
114.00	-6.09	-13.89	0.00	-175.03	0.00	175.03	1019.11	509.56	1067.70	534.64	75.53	-6.797	0.000	0.334
116.00	-5.96	-13.72	0.00	-147.25	0.00	147.25	1011.32	505.66	1046.53	524.04	78.39	-6.871	0.000	0.288
118.00	-5.84	-13.56	0.00	-119.80	0.00	119.80	1003.42	501.71	1025.45	513.49	81.28	-6.934	0.000	0.240
120.00	-4.05	-9.51	0.00	-92.69	0.00	92.69	995.40	497.70	1004.45	502.97	84.19	-6.986	0.000	0.189
120.00	-4.05	-9.51	0.00	-92.69	0.00	92.69	735.22	367.61	535.89	335.79	84.19	-6.986	0.000	0.282
122.00	-3.93	-9.39	0.00	-73.68	0.00	73.68	735.22	367.61	535.89	335.79	87.12	-7.029	0.000	0.225
124.00	-3.82	-9.27	0.00	-54.90	0.00	54.90	735.22	367.61	535.89	335.79	90.07	-7.096	0.000	0.169
126.00	-3.70	-9.15	0.00	-36.36	0.00	36.36	735.22	367.61	535.89	335.79	93.05	-7.143	0.000	0.114
128.00	-3.59	-9.03	0.00	-18.06	0.00	18.06	735.22	367.61	535.89	335.79	96.04	-7.171	0.000	0.059
130.00	0.00	-8.51	0.00	0.00	0.00	0.00	735.22	367.61	535.89	335.79	99.04	-7.180	0.000	0.001

Wind Loading - Shaft

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



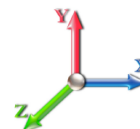
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1 RB2	1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	5.168	5.68	0.00	1.200	1.133	2.00	7.544	9.05	51.5	121.8	462.2
4.00		1.00	0.85	5.168	5.68	0.00	1.200	1.215	2.00	7.519	9.02	51.3	129.8	467.8
6.00		1.00	0.85	5.168	5.68	0.00	1.200	1.265	2.00	7.483	8.98	51.0	134.4	469.8
8.00		1.00	0.85	5.168	5.68	0.00	1.200	1.302	2.00	7.443	8.93	50.8	137.4	470.3
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	2.00	7.400	8.88	50.5	139.6	470.0
10.25	RT2 RB3	1.00	0.85	5.168	5.68	0.00	1.200	1.334	0.25	0.921	1.11	6.3	17.5	58.6
12.00		1.00	0.85	5.168	5.68	0.00	1.200	1.356	1.75	6.433	7.72	43.9	123.5	410.3
14.00		1.00	0.85	5.168	5.68	0.00	1.200	1.377	2.00	7.310	8.77	49.9	142.4	467.7
16.00		1.00	0.86	5.232	5.76	0.00	1.200	1.395	2.00	7.263	8.72	50.2	143.3	466.1
18.00		1.00	0.88	5.363	5.90	0.00	1.200	1.412	2.00	7.216	8.66	51.1	143.9	464.3
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	2.00	7.169	8.60	51.9	144.4	462.2
20.50	RT1 RB4	1.00	0.91	5.512	6.06	0.00	1.200	1.430	0.50	1.784	2.14	13.0	36.1	115.2
22.00		1.00	0.92	5.595	6.15	0.00	1.200	1.440	1.50	5.336	6.40	39.4	108.6	344.8
24.00		1.00	0.94	5.698	6.27	0.00	1.200	1.453	2.00	7.072	8.49	53.2	144.9	457.7
25.96	RB5	1.00	0.95	5.793	6.37	0.00	1.200	1.464	1.96	6.884	8.26	52.6	142.1	446.2
26.00		1.00	0.95	5.795	6.37	0.00	1.200	1.465	0.04	0.140	0.17	1.1	2.9	9.1
27.88	RT3 RB6	1.00	0.97	5.881	6.47	0.00	1.200	1.475	1.88	6.558	7.87	50.9	136.3	425.7
28.00		1.00	0.97	5.886	6.47	0.00	1.200	1.476	0.12	0.417	0.50	3.2	8.7	27.1
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	2.00	6.926	8.31	54.6	144.9	450.1
32.00		1.00	1.00	6.054	6.66	0.00	1.200	1.495	2.00	6.876	8.25	54.9	144.7	447.4
34.00		1.00	1.01	6.132	6.74	0.00	1.200	1.504	2.00	6.827	8.19	55.3	144.5	444.7
36.00		1.00	1.02	6.206	6.83	0.00	1.200	1.513	2.00	6.777	8.13	55.5	144.2	441.9
38.00		1.00	1.03	6.277	6.90	0.00	1.200	1.521	2.00	6.727	8.07	55.7	143.8	439.0
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	2.00	6.677	8.01	55.9	143.4	436.1
40.50	RT4 RB7	1.00	1.05	6.362	7.00	0.00	1.200	1.531	0.50	1.661	1.99	14.0	35.8	108.6
40.71	RT5 RB8	1.00	1.05	6.369	7.01	0.00	1.200	1.532	0.21	0.697	0.84	5.9	15.0	45.6
42.00		1.00	1.05	6.410	7.05	0.00	1.200	1.537	1.29	4.269	5.12	36.1	92.2	279.1
43.33	Bot - Section 2	1.00	1.06	6.453	7.10	0.00	1.200	1.541	1.33	4.390	5.27	37.4	95.1	287.1
44.00		1.00	1.06	6.474	7.12	0.00	1.200	1.544	0.67	2.215	2.66	18.9	48.1	221.4
46.00		1.00	1.07	6.534	7.19	0.00	1.200	1.551	2.00	6.611	7.93	57.0	143.8	660.7
48.00	Top - Section 1	1.00	1.08	6.593	7.25	0.00	1.200	1.557	2.00	6.561	7.87	57.1	143.3	655.6
48.12	RT6	1.00	1.08	6.597	7.26	0.00	1.200	1.558	0.12	0.392	0.47	3.4	8.6	22.3
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	1.88	6.119	7.34	53.7	134.1	348.1
52.00		1.00	1.10	6.705	7.38	0.00	1.200	1.570	2.00	6.460	7.75	57.2	142.0	367.7
54.00		1.00	1.11	6.759	7.43	0.00	1.200	1.576	2.00	6.410	7.69	57.2	141.4	365.1
56.00		1.00	1.12	6.811	7.49	0.00	1.200	1.581	2.00	6.359	7.63	57.2	140.7	362.4
58.00		1.00	1.13	6.861	7.55	0.00	1.200	1.587	2.00	6.308	7.57	57.1	140.0	359.7
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	2.00	6.257	7.51	57.1	139.3	356.9
60.71	RT8	1.00	1.14	6.928	7.62	0.00	1.200	1.594	0.71	2.209	2.65	20.2	49.3	126.1
60.75	RT7 RB9	1.00	1.14	6.928	7.62	0.00	1.200	1.594	0.04	0.124	0.15	1.1	2.8	7.1
62.00		1.00	1.14	6.958	7.65	0.00	1.200	1.598	1.25	3.873	4.65	35.6	86.6	221.1
64.00		1.00	1.15	7.005	7.71	0.00	1.200	1.603	2.00	6.156	7.39	56.9	137.7	351.4
66.00		1.00	1.16	7.050	7.76	0.00	1.200	1.608	2.00	6.105	7.33	56.8	137.0	348.6
68.00		1.00	1.17	7.095	7.80	0.00	1.200	1.612	2.00	6.054	7.26	56.7	136.1	345.7
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	2.00	6.003	7.20	56.6	135.3	342.9
72.00		1.00	1.18	7.181	7.90	0.00	1.200	1.622	2.00	5.952	7.14	56.4	134.5	340.0

Wind Loading - Shaft

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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74.00	1.00	1.19	7.222	7.94	0.00	1.200	1.626	2.00	5.901	7.08	56.3	133.6	337.2		
76.00	1.00	1.19	7.263	7.99	0.00	1.200	1.631	2.00	5.850	7.02	56.1	132.7	334.3		
78.00	1.00	1.20	7.303	8.03	0.00	1.200	1.635	2.00	5.798	6.96	55.9	131.8	331.3		
78.25 RT9	1.00	1.20	7.308	8.04	0.00	1.200	1.635	0.25	0.721	0.87	7.0	16.5	41.3		
80.00	1.00	1.21	7.342	8.08	0.00	1.200	1.639	1.75	5.026	6.03	48.7	114.5	287.3		
82.00	1.00	1.21	7.380	8.12	0.00	1.200	1.643	2.00	5.696	6.84	55.5	130.0	325.5		
84.00	1.00	1.22	7.418	8.16	0.00	1.200	1.647	2.00	5.645	6.77	55.3	129.0	322.5		
86.00	1.00	1.23	7.454	8.20	0.00	1.200	1.651	2.00	5.594	6.71	55.0	128.1	319.6		
87.42 Bot - Section 3	1.00	1.23	7.480	8.23	0.00	1.200	1.653	1.42	3.931	4.72	38.8	90.2	224.7		
88.00	1.00	1.23	7.491	8.24	0.00	1.200	1.655	0.58	1.630	1.96	16.1	37.5	134.5		
90.00 Appurtenance(s)	1.00	1.24	7.526	8.28	0.00	1.200	1.658	2.00	5.554	6.67	55.2	127.7	457.9		
91.33 Top - Section 2	1.00	1.24	7.549	8.30	0.00	1.200	1.661	1.33	3.674	4.41	36.6	84.7	302.8		
92.00	1.00	1.24	7.561	8.32	0.00	1.200	1.662	0.67	1.829	2.19	18.2	42.2	89.1		
94.00 Appurtenance(s)	1.00	1.25	7.595	8.35	0.00	1.200	1.666	2.00	5.452	6.54	54.7	125.7	265.4		
96.00	1.00	1.25	7.629	8.39	0.00	1.200	1.669	2.00	5.400	6.48	54.4	124.7	262.9		
98.00	1.00	1.26	7.662	8.43	0.00	1.200	1.672	2.00	5.349	6.42	54.1	123.7	260.4		
100.00 Appurtenance(s)	1.00	1.27	7.695	8.46	0.00	1.200	1.676	2.00	5.297	6.36	53.8	122.6	257.8		
102.00	1.00	1.27	7.727	8.50	0.00	1.200	1.679	2.00	5.246	6.30	53.5	121.6	255.3		
104.00	1.00	1.28	7.759	8.53	0.00	1.200	1.682	2.00	5.195	6.23	53.2	120.6	252.7		
106.00	1.00	1.28	7.790	8.57	0.00	1.200	1.686	2.00	5.143	6.17	52.9	119.5	250.2		
108.00	1.00	1.29	7.821	8.60	0.00	1.200	1.689	2.00	5.092	6.11	52.6	118.4	247.6		
110.00 Appurtenance(s)	1.00	1.29	7.851	8.64	0.00	1.200	1.692	2.00	5.040	6.05	52.2	117.4	245.0		
112.00	1.00	1.30	7.881	8.67	0.00	1.200	1.695	2.00	4.988	5.99	51.9	116.3	242.4		
114.00	1.00	1.30	7.910	8.70	0.00	1.200	1.698	2.00	4.937	5.92	51.5	115.2	239.8		
116.00	1.00	1.31	7.939	8.73	0.00	1.200	1.701	2.00	4.885	5.86	51.2	114.1	237.2		
118.00	1.00	1.31	7.968	8.76	0.00	1.200	1.704	2.00	4.834	5.80	50.8	113.0	234.6		
120.00 Top - Section 3	1.00	1.32	7.996	8.80	0.00	1.200	1.707	2.00	4.782	5.74	50.5	111.9	232.0		
122.00	1.00	1.32	8.024	8.83	0.00	1.240 *	1.710	2.00	3.570	4.43	39.1	82.3	196.2		
124.00	1.00	1.32	8.051	8.86	0.00	1.240 *	1.712	2.00	3.571	4.43	39.2	82.5	196.3		
126.00	1.00	1.33	8.079	8.89	0.00	1.240 *	1.715	2.00	3.572	4.43	39.4	82.6	196.5		
128.00	1.00	1.33	8.105	8.92	0.00	1.240 *	1.718	2.00	3.573	4.43	39.5	82.8	196.6		
130.00 Appurtenance(s)	1.00	1.34	8.132	8.95	0.00	1.240 *	1.720	2.00	3.573	4.43	39.6	82.9	196.8		
Totals:								130.00					3,451.9	23,650.8	

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

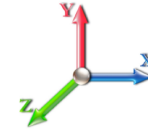
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	130.00	DC6-48-60-18-8F	2	8.132	8.945	0.38	0.75	1.01	162.81	0.000	0.000	9.07	0.00	0.00
2	130.00	6' Lightning rod	1	8.171	8.988	1.00	1.00	1.45	38.28	0.000	3.000	13.05	0.00	39.16
3	130.00	Cci DMP65R-BU6DA	3	8.132	8.945	0.56	0.75	23.64	916.72	0.000	0.000	211.47	0.00	0.00
4	130.00	RRUS 32	6	8.132	8.945	0.38	0.75	4.99	1135.07	0.000	0.000	44.64	0.00	0.00
5	130.00	RRUS 4478 B14	3	8.132	8.945	0.38	0.75	2.43	308.27	0.000	0.000	21.75	0.00	0.00
6	130.00	B2 B66A 8843	3	8.132	8.945	0.38	0.75	2.42	354.09	0.000	0.000	21.63	0.00	0.00
7	130.00	4449 B5/B12	3	8.132	8.945	0.38	0.75	2.82	372.67	0.000	0.000	25.25	0.00	0.00
8	130.00	RRUS E2 B29	3	8.132	8.945	0.38	0.75	4.32	352.05	0.000	0.000	38.68	0.00	0.00
9	130.00	Ericsson AIR6419	3	8.158	8.974	0.57	0.75	7.84	454.39	0.000	2.000	70.35	0.00	140.70
10	130.00	(3) Horizontal bracing	1	8.132	8.945	0.75	0.75	9.97	254.18	0.000	0.000	89.18	0.00	0.00
11	130.00	Quinte QD6616-7	3	8.132	8.945	0.57	0.75	26.63	1120.28	0.000	0.000	238.18	0.00	0.00
12	130.00	Ericsson AIR6449	3	8.105	8.916	0.64	0.75	9.51	722.50	0.000	-2.000	84.82	0.00	-169.64
13	130.00	Additional mount pipe	3	8.132	8.945	0.56	0.75	9.56	24.10	0.000	0.000	85.51	0.00	0.00
14	130.00	DC6-48-60-0-8C	2	8.132	8.945	0.38	0.75	4.24	222.75	0.000	0.000	37.92	0.00	0.00
15	130.00	Angle Reinforcement kit	1	8.132	8.945	1.00	1.00	11.39	842.47	0.000	0.000	101.87	0.00	0.00
16	130.00	PRK-1245 (kicker kit)	1	8.132	8.945	1.00	1.00	19.31	782.74	0.000	0.000	172.70	0.00	0.00
17	130.00	MTC3607 Platform + HR	1	8.132	8.945	1.00	1.00	78.52	3214.50	0.000	0.000	702.35	0.00	0.00
18	120.00	MC-PK8-DSH	1	7.996	8.796	1.00	1.00	83.78	3349.99	0.000	0.000	736.92	0.00	0.00
19	120.00	RDIDC-9181-OF-48	1	7.996	8.796	0.38	0.75	0.96	65.65	0.000	0.000	8.46	0.00	0.00
20	120.00	TA08025-B604	3	7.996	8.796	0.38	0.75	2.82	342.28	0.000	0.000	24.82	0.00	0.00
21	120.00	TA08025-B605	3	7.996	8.796	0.38	0.75	2.82	385.65	0.000	0.000	24.82	0.00	0.00
22	120.00	MX08FRO665-21	3	7.996	8.796	0.55	0.75	23.18	883.96	0.000	0.000	203.89	0.00	0.00
23	110.00	T-Arm (Round)	3	7.851	8.636	0.56	0.75	24.92	1760.61	0.000	0.000	215.21	0.00	0.00
24	110.00	DB-T1-6Z-8AB-OZ	2	7.851	8.636	0.40	0.80	4.52	322.52	0.000	0.000	39.00	0.00	0.00
25	110.00	B4 RRH2X60-4R	3	7.851	8.636	0.40	0.80	4.94	388.05	0.000	0.000	42.64	0.00	0.00
26	110.00	B13 RRH4X30-4R	3	7.851	8.636	0.40	0.80	3.30	341.19	0.000	0.000	28.52	0.00	0.00
27	110.00	RRH2X60-1900A-4R	3	7.851	8.636	0.40	0.80	2.94	364.99	0.000	0.000	25.35	0.00	0.00
28	110.00	SBNHH-1D65B	6	7.851	8.636	0.66	0.80	37.07	1462.67	0.000	0.000	320.12	0.00	0.00
29	110.00	CBC721-DF	3	7.836	8.619	0.40	0.80	1.12	35.51	0.000	-1.000	9.67	0.00	-9.67
30	110.00	CBC721-DF	3	7.866	8.652	0.40	0.80	1.12	35.51	0.000	1.000	9.70	0.00	9.70
31	100.00	AIR 21, 1.3M, B4A B2P	3	7.695	8.464	0.66	0.80	14.22	808.22	0.000	0.000	120.40	0.00	0.00
32	100.00	AIR 21, 1.3M, B2A B4P	3	7.695	8.464	0.66	0.80	14.22	812.18	0.000	0.000	120.40	0.00	0.00
33	100.00	782 11056	3	7.695	8.464	0.40	0.80	0.49	7.02	0.000	0.000	4.17	0.00	0.00
34	100.00	LNx-6515DS-A1M	3	7.695	8.464	0.67	0.80	29.45	653.11	0.000	0.000	249.26	0.00	0.00
35	100.00	T-Arm (Round)	3	7.695	8.464	0.56	0.75	24.81	1753.86	0.000	0.000	210.02	0.00	0.00
36	94.00	1'4"x6.5"x6" Surge	1	7.595	8.355	0.80	0.80	2.49	143.60	0.000	0.000	20.80	0.00	0.00
37	90.00	F3P-10W	1	7.526	8.279	1.00	1.00	113.58	3917.00	0.000	0.000	940.32	0.00	0.00
38	90.00	NNVV-65B-R4	3	7.526	8.279	0.55	0.75	22.73	895.25	0.000	0.000	188.20	0.00	0.00
39	90.00	AAHC	3	7.526	8.279	0.56	0.75	8.41	739.50	0.000	0.000	69.66	0.00	0.00
40	90.00	ALU - 800 MHz - RRU	6	7.526	8.279	0.38	0.75	8.05	676.66	0.000	0.000	66.63	0.00	0.00
41	90.00	ALU - 1900MHz - RRU	3	7.526	8.279	0.38	0.75	5.76	375.98	0.000	0.000	47.69	0.00	0.00
42	90.00	Andrew - VHLP2-11	2	7.526	8.279	0.75	0.75	8.84	194.77	0.000	0.000	73.15	0.00	0.00

Totals: 31,993.63

5,768.26

Total Applied Force Summary

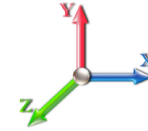
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

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
2.00		51.46	616.62	0.00	0.00
4.00		51.29	625.32	0.00	0.00
6.00		51.05	629.37	0.00	0.00
8.00		50.77	631.39	0.00	0.00
10.00		50.48	632.25	0.00	0.00
10.25		6.29	78.90	0.00	0.00
12.00		43.89	553.17	0.00	0.00
14.00		49.87	631.92	0.00	0.00
16.00		50.16	631.09	0.00	0.00
18.00		51.09	629.94	0.00	0.00
20.00		51.89	628.53	0.00	0.00
20.50		12.98	156.80	0.00	0.00
22.00		39.40	469.96	0.00	0.00
24.00		53.19	628.49	0.00	0.00
25.96		52.64	620.68	0.00	0.00
26.00		1.07	12.64	0.00	0.00
27.88		50.90	593.55	0.00	0.00
28.00		3.24	37.81	0.00	0.00
30.00		54.60	629.32	0.00	0.00
32.00		54.95	623.40	0.00	0.00
34.00		55.25	619.86	0.00	0.00
36.00		55.52	617.48	0.00	0.00
38.00		55.74	615.03	0.00	0.00
40.00		55.93	612.50	0.00	0.00
40.50		13.95	152.73	0.00	0.00
40.71		5.86	64.10	0.00	0.00
42.00		36.12	393.11	0.00	0.00
43.33		37.39	405.17	0.00	0.00
44.00		18.93	280.48	0.00	0.00
46.00		57.03	838.25	0.00	0.00
48.00		57.10	833.51	0.00	0.00
48.12		3.41	32.99	0.00	0.00
50.00		53.71	515.66	0.00	0.00
52.00		57.18	537.89	0.00	0.00
54.00		57.18	532.66	0.00	0.00
56.00		57.17	530.20	0.00	0.00
58.00		57.13	527.72	0.00	0.00
60.00		57.08	525.20	0.00	0.00
60.71		20.20	185.90	0.00	0.00
60.75		1.14	10.47	0.00	0.00
62.00		35.57	326.42	0.00	0.00
64.00		56.92	516.20	0.00	0.00
66.00		56.82	505.83	0.00	0.00
68.00		56.70	503.15	0.00	0.00
70.00		56.56	500.46	0.00	0.00
72.00		56.42	497.74	0.00	0.00

Total Applied Force Summary

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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74.00		56.25	495.00	0.00	0.00
76.00		56.08	492.24	0.00	0.00
78.00		55.90	489.46	0.00	0.00
78.25		6.96	61.03	0.00	0.00
80.00		48.71	425.73	0.00	0.00
82.00		55.49	475.12	0.00	0.00
84.00		55.27	463.49	0.00	0.00
86.00		55.04	460.59	0.00	0.00
87.42		38.81	324.58	0.00	0.00
88.00		16.11	175.64	0.00	0.00
90.00	(18) attachments	1440.84	7398.19	0.00	0.00
91.33		36.62	390.29	0.00	0.00
92.00		18.25	132.86	0.00	0.00
94.00	(1) attachments	75.46	540.25	0.00	0.00
96.00		54.38	394.19	0.00	0.00
98.00		54.10	391.73	0.00	0.00
100.00	(15) attachments	758.06	4423.65	0.00	0.00
102.00		53.51	369.15	0.00	0.00
104.00		53.20	366.65	0.00	0.00
106.00		52.88	364.14	0.00	0.00
108.00		52.56	361.62	0.00	0.00
110.00	(26) attachments	742.45	5070.14	0.00	0.04
112.00		51.89	321.32	0.00	0.00
114.00		51.55	318.77	0.00	0.00
116.00		51.20	316.22	0.00	0.00
118.00		50.84	313.66	0.00	0.00
120.00	(11) attachments	1049.39	5338.61	0.00	0.00
122.00		39.07	270.98	0.00	0.00
124.00		39.21	271.18	0.00	0.00
126.00		39.36	271.37	0.00	0.00
128.00		39.50	271.56	0.00	0.00
130.00	(42) attachments	2008.04	11549.62	0.00	10.22
Totals:		9,220.18	65,050.86	0.00	10.25

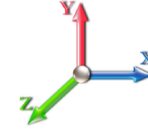
Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	2" Conduit	Yes	2.00	0.000	2.00	0.71	0.00	0.070	0.000	5.168	0.00	27.31
2.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.54	0.00	0.070	0.000	5.168	0.00	10.86
2.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	5.168	0.00	10.86
4.00	2" Conduit	Yes	2.00	0.000	2.00	0.74	0.00	0.070	0.000	5.168	0.00	28.54
4.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.57	0.00	0.070	0.000	5.168	0.00	11.83
4.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	5.168	0.00	11.83
6.00	2" Conduit	Yes	2.00	0.000	2.00	0.75	0.00	0.071	0.000	5.168	0.00	29.31
6.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.59	0.00	0.071	0.000	5.168	0.00	12.45
6.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.168	0.00	12.45
8.00	2" Conduit	Yes	2.00	0.000	2.00	0.77	0.00	0.071	0.000	5.168	0.00	29.89
8.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.60	0.00	0.071	0.000	5.168	0.00	12.91
8.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	5.168	0.00	12.91
10.00	2" Conduit	Yes	2.00	0.000	2.00	0.78	0.00	0.072	0.000	5.168	0.00	30.35
10.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.61	0.00	0.072	0.000	5.168	0.00	13.28
10.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	5.168	0.00	13.28
10.25	2" Conduit	Yes	0.25	0.000	2.00	0.10	0.00	0.072	0.000	5.168	0.00	3.80
10.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.08	0.00	0.072	0.000	5.168	0.00	1.67
10.25	1" Reinforcing plate	Yes	0.25	0.000	0.00	0.00	0.00	0.072	0.000	5.168	0.00	1.67
12.00	2" Conduit	Yes	1.75	0.000	2.00	0.69	0.00	0.072	0.000	5.168	0.00	26.90
12.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.54	0.00	0.072	0.000	5.168	0.00	11.89
12.00	1" Reinforcing plate	Yes	1.75	0.000	0.00	0.00	0.00	0.072	0.000	5.168	0.00	11.89
14.00	2" Conduit	Yes	2.00	0.000	2.00	0.79	0.00	0.073	0.000	5.168	0.00	31.08
14.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.63	0.00	0.073	0.000	5.168	0.00	13.87
14.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	5.168	0.00	13.87
16.00	2" Conduit	Yes	2.00	0.000	2.00	0.80	0.00	0.074	0.000	5.232	0.00	31.37
16.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.63	0.00	0.074	0.000	5.232	0.00	14.11
16.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	5.232	0.00	14.11
18.00	2" Conduit	Yes	2.00	0.000	2.00	0.80	0.00	0.074	0.000	5.363	0.00	31.64
18.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.64	0.00	0.074	0.000	5.363	0.00	14.32
18.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	5.363	0.00	14.32
20.00	2" Conduit	Yes	2.00	0.000	2.00	0.81	0.00	0.075	0.000	5.483	0.00	31.88
20.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.64	0.00	0.075	0.000	5.483	0.00	14.52
20.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	5.483	0.00	14.52
20.50	2" Conduit	Yes	0.50	0.000	2.00	0.20	0.00	0.075	0.000	5.512	0.00	7.99
20.50	1" Reinforcing plate	Yes	0.50	0.000	1.00	0.16	0.00	0.075	0.000	5.512	0.00	3.64
20.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.075	0.000	5.512	0.00	3.64
22.00	2" Conduit	Yes	1.50	0.000	2.00	0.61	0.00	0.075	0.000	5.595	0.00	24.08
22.00	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.49	0.00	0.075	0.000	5.595	0.00	11.02
22.00	1" Reinforcing plate	Yes	1.50	0.000	0.00	0.00	0.00	0.075	0.000	5.595	0.00	11.02
24.00	2" Conduit	Yes	2.00	0.000	2.00	0.82	0.00	0.076	0.000	5.698	0.00	32.31
24.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.65	0.00	0.076	0.000	5.698	0.00	14.87
24.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.076	0.000	5.698	0.00	3.35
24.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	5.698	0.00	14.87
25.96	2" Conduit	Yes	1.96	0.000	2.00	0.81	0.00	0.076	0.000	5.793	0.00	31.85
25.96	1" Reinforcing plate	Yes	1.96	0.000	1.00	0.64	0.00	0.076	0.000	5.793	0.00	14.72
25.96	1" Reinforcing plate	Yes	1.96	0.000	0.00	0.00	0.00	0.076	0.000	5.793	0.00	9.93
25.96	1" Reinforcing plate	Yes	1.96	0.000	0.00	0.00	0.00	0.076	0.000	5.793	0.00	14.72

Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



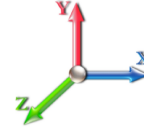
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
26.00	2" Conduit	Yes	0.04	0.000	2.00	0.02	0.00	0.077	0.000	5.795	0.00	0.65
26.00	1" Reinforcing plate	Yes	0.04	0.000	1.00	0.01	0.00	0.077	0.000	5.795	0.00	0.30
26.00	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.077	0.000	5.795	0.00	0.20
26.00	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.077	0.000	5.795	0.00	0.30
27.88	2" Conduit	Yes	1.88	0.000	2.00	0.78	0.00	0.077	0.000	5.881	0.00	30.72
27.88	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.62	0.00	0.077	0.000	5.881	0.00	14.25
27.88	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.077	0.000	5.881	0.00	9.62
27.88	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.077	0.000	5.881	0.00	14.25
28.00	2" Conduit	Yes	0.12	0.000	2.00	0.05	0.00	0.077	0.000	5.886	0.00	1.96
28.00	1" Reinforcing plate	Yes	0.12	0.000	1.00	0.04	0.00	0.077	0.000	5.886	0.00	0.91
28.00	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.077	0.000	5.886	0.00	0.61
28.00	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.077	0.000	5.886	0.00	0.91
30.00	2" Conduit	Yes	2.00	0.000	2.00	0.83	0.00	0.078	0.000	5.972	0.00	32.86
30.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.66	0.00	0.078	0.000	5.972	0.00	15.31
30.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.972	0.00	10.35
30.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	5.972	0.00	15.31
32.00	2" Conduit	Yes	2.00	0.000	2.00	0.83	0.00	0.078	0.000	6.054	0.00	33.02
32.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.67	0.00	0.078	0.000	6.054	0.00	15.44
32.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.054	0.00	10.45
32.00	1" Reinforcing plate	Yes	1.50	0.000	0.00	0.00	0.00	0.078	0.000	6.054	0.00	7.84
32.00	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.078	0.000	6.054	0.00	3.86
34.00	2" Conduit	Yes	2.00	0.000	2.00	0.83	0.00	0.079	0.000	6.132	0.00	33.17
34.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.67	0.00	0.079	0.000	6.132	0.00	15.56
34.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	6.132	0.00	10.55
34.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	6.132	0.00	10.55
36.00	2" Conduit	Yes	2.00	0.000	2.00	0.84	0.00	0.080	0.000	6.206	0.00	33.31
36.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.67	0.00	0.080	0.000	6.206	0.00	15.68
36.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	6.206	0.00	10.64
36.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	6.206	0.00	10.64
38.00	2" Conduit	Yes	2.00	0.000	2.00	0.84	0.00	0.080	0.000	6.277	0.00	33.45
38.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.67	0.00	0.080	0.000	6.277	0.00	15.79
38.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	6.277	0.00	10.72
38.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	6.277	0.00	10.72
40.00	2" Conduit	Yes	2.00	0.000	2.00	0.84	0.00	0.081	0.000	6.345	0.00	33.58
40.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.68	0.00	0.081	0.000	6.345	0.00	15.90
40.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	6.345	0.00	10.80
40.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	6.345	0.00	10.80
40.50	2" Conduit	Yes	0.50	0.000	2.00	0.21	0.00	0.082	0.000	6.362	0.00	8.40
40.50	1" Reinforcing plate	Yes	0.50	0.000	1.00	0.17	0.00	0.082	0.000	6.362	0.00	3.98
40.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.082	0.000	6.362	0.00	2.71
40.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.082	0.000	6.362	0.00	2.71
40.71	2" Conduit	Yes	0.21	0.000	2.00	0.09	0.00	0.082	0.000	6.369	0.00	3.53
40.71	1" Reinforcing plate	Yes	0.21	0.000	1.00	0.07	0.00	0.082	0.000	6.369	0.00	1.67
40.71	1" Reinforcing plate	Yes	0.21	0.000	0.00	0.00	0.00	0.082	0.000	6.369	0.00	1.14
40.71	1" Reinforcing plate	Yes	0.21	0.000	0.00	0.00	0.00	0.082	0.000	6.369	0.00	1.14
42.00	2" Conduit	Yes	1.29	0.000	2.00	0.55	0.00	0.082	0.000	6.410	0.00	21.74
42.00	1" Reinforcing plate	Yes	1.29	0.000	1.00	0.44	0.00	0.082	0.000	6.410	0.00	10.32

Linear Appurtenance Segment Forces (Factored)

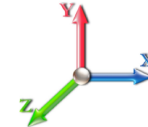
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
42.00	1" Reinforcing plate	Yes	1.29	0.000	0.00	0.00	0.00	0.082	0.000	6.410	0.00	7.02
42.00	1" Reinforcing plate	Yes	1.29	0.000	0.00	0.00	0.00	0.082	0.000	6.410	0.00	7.02
43.33	2" Conduit	Yes	1.33	0.000	2.00	0.56	0.00	0.082	0.000	6.453	0.00	22.52
43.33	1" Reinforcing plate	Yes	1.33	0.000	1.00	0.45	0.00	0.082	0.000	6.453	0.00	10.71
43.33	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.082	0.000	6.453	0.00	7.29
43.33	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.082	0.000	6.453	0.00	7.29
44.00	2" Conduit	Yes	0.67	0.000	2.00	0.28	0.00	0.083	0.000	6.474	0.00	11.28
44.00	1" Reinforcing plate	Yes	0.67	0.000	1.00	0.23	0.00	0.083	0.000	6.474	0.00	5.37
44.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.083	0.000	6.474	0.00	3.65
44.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.083	0.000	6.474	0.00	3.65
46.00	2" Conduit	Yes	2.00	0.000	2.00	0.85	0.00	0.083	0.000	6.534	0.00	33.94
46.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.68	0.00	0.083	0.000	6.534	0.00	16.19
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	6.534	0.00	11.03
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	6.534	0.00	11.03
48.00	2" Conduit	Yes	2.00	0.000	2.00	0.85	0.00	0.084	0.000	6.593	0.00	34.06
48.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.69	0.00	0.084	0.000	6.593	0.00	16.28
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	6.593	0.00	11.10
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	6.593	0.00	11.10
48.12	2" Conduit	Yes	0.12	0.000	2.00	0.05	0.00	0.083	0.000	6.597	0.00	2.04
48.12	1" Reinforcing plate	Yes	0.12	0.000	1.00	0.04	0.00	0.083	0.000	6.597	0.00	0.98
48.12	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.083	0.000	6.597	0.00	0.67
48.12	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.083	0.000	6.597	0.00	0.67
50.00	2" Conduit	Yes	1.88	0.000	2.00	0.80	0.00	0.084	0.000	6.650	0.00	32.11
50.00	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.65	0.00	0.084	0.000	6.650	0.00	15.39
50.00	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.084	0.000	6.650	0.00	10.50
50.00	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.084	0.000	6.650	0.00	10.50
52.00	2" Conduit	Yes	2.00	0.000	2.00	0.86	0.00	0.084	0.000	6.705	0.00	34.27
52.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.69	0.00	0.084	0.000	6.705	0.00	16.46
52.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	6.705	0.00	11.24
52.00	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.084	0.000	6.705	0.00	2.81
54.00	2" Conduit	Yes	2.00	0.000	2.00	0.86	0.00	0.085	0.000	6.759	0.00	34.37
54.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.69	0.00	0.085	0.000	6.759	0.00	16.54
54.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	6.759	0.00	11.30
56.00	2" Conduit	Yes	2.00	0.000	2.00	0.86	0.00	0.086	0.000	6.811	0.00	34.47
56.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.69	0.00	0.086	0.000	6.811	0.00	16.62
56.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	6.811	0.00	11.37
58.00	2" Conduit	Yes	2.00	0.000	2.00	0.86	0.00	0.087	0.000	6.861	0.00	34.56
58.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.70	0.00	0.087	0.000	6.861	0.00	16.70
58.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	6.861	0.00	11.43
60.00	2" Conduit	Yes	2.00	0.000	2.00	0.86	0.00	0.087	0.000	6.910	0.00	34.65
60.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.70	0.00	0.087	0.000	6.910	0.00	16.77
60.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	6.910	0.00	11.48
60.71	2" Conduit	Yes	0.71	0.000	2.00	0.31	0.00	0.088	0.000	6.928	0.00	12.31
60.71	1" Reinforcing plate	Yes	0.71	0.000	1.00	0.25	0.00	0.088	0.000	6.928	0.00	5.96
60.71	1" Reinforcing plate	Yes	0.71	0.000	0.00	0.00	0.00	0.088	0.000	6.928	0.00	4.08
60.75	2" Conduit	Yes	0.04	0.000	2.00	0.02	0.00	0.088	0.000	6.928	0.00	0.69
60.75	1" Reinforcing plate	Yes	0.04	0.000	1.00	0.01	0.00	0.088	0.000	6.928	0.00	0.34

Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



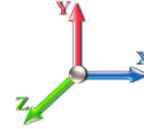
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
60.75	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.088	0.000	6.928	0.00	0.23
62.00	2" Conduit	Yes	1.25	0.000	2.00	0.54	0.00	0.088	0.000	6.958	0.00	21.71
62.00	1" Reinforcing plate	Yes	1.25	0.000	1.00	0.44	0.00	0.088	0.000	6.958	0.00	10.53
62.00	1" Reinforcing plate	Yes	1.25	0.000	0.00	0.00	0.00	0.088	0.000	6.958	0.00	7.21
64.00	2" Conduit	Yes	2.00	0.000	2.00	0.87	0.00	0.089	0.000	7.005	0.00	34.83
64.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.70	0.00	0.089	0.000	7.005	0.00	16.92
64.00	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.089	0.000	7.005	0.00	7.71
66.00	2" Conduit	Yes	2.00	0.000	2.00	0.87	0.00	0.090	0.000	7.050	0.00	34.92
66.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.70	0.00	0.090	0.000	7.050	0.00	16.99
68.00	2" Conduit	Yes	2.00	0.000	2.00	0.87	0.00	0.091	0.000	7.095	0.00	35.00
68.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.70	0.00	0.091	0.000	7.095	0.00	17.05
70.00	2" Conduit	Yes	2.00	0.000	2.00	0.87	0.00	0.092	0.000	7.138	0.00	35.08
70.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.71	0.00	0.092	0.000	7.138	0.00	17.12
72.00	2" Conduit	Yes	2.00	0.000	2.00	0.87	0.00	0.092	0.000	7.181	0.00	35.16
72.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.71	0.00	0.092	0.000	7.181	0.00	17.18
74.00	2" Conduit	Yes	2.00	0.000	2.00	0.88	0.00	0.093	0.000	7.222	0.00	35.23
74.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.71	0.00	0.093	0.000	7.222	0.00	17.25
76.00	2" Conduit	Yes	2.00	0.000	2.00	0.88	0.00	0.094	0.000	7.263	0.00	35.31
76.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.71	0.00	0.094	0.000	7.263	0.00	17.31
78.00	2" Conduit	Yes	2.00	0.000	2.00	0.88	0.00	0.095	0.000	7.303	0.00	35.38
78.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.71	0.00	0.095	0.000	7.303	0.00	17.37
78.25	2" Conduit	Yes	0.25	0.000	2.00	0.11	0.00	0.096	0.000	7.308	0.00	4.42
78.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.09	0.00	0.096	0.000	7.308	0.00	2.17
80.00	2" Conduit	Yes	1.75	0.000	2.00	0.77	0.00	0.096	0.000	7.342	0.00	31.02
80.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.62	0.00	0.096	0.000	7.342	0.00	15.25
82.00	2" Conduit	Yes	2.00	0.000	2.00	0.88	0.00	0.081	0.000	7.380	0.00	35.52
82.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.36	0.00	0.081	0.000	7.380	0.00	8.74
84.00	2" Conduit	Yes	2.00	0.000	2.00	0.88	0.00	0.065	0.000	7.418	0.00	35.59
86.00	2" Conduit	Yes	2.00	0.000	2.00	0.88	0.00	0.066	0.000	7.454	0.00	35.66
87.42	2" Conduit	Yes	1.42	0.000	2.00	0.63	0.00	0.067	0.000	7.480	0.00	25.29
88.00	2" Conduit	Yes	0.58	0.000	2.00	0.26	0.00	0.067	0.000	7.491	0.00	10.42
90.00	2" Conduit	Yes	2.00	0.000	2.00	0.89	0.00	0.068	0.000	7.526	0.00	35.79
91.33	2" Conduit	Yes	1.33	0.000	2.00	0.59	0.00	0.068	0.000	7.549	0.00	23.89
92.00	2" Conduit	Yes	0.67	0.000	2.00	0.30	0.00	0.068	0.000	7.561	0.00	11.95
94.00	2" Conduit	Yes	2.00	0.000	2.00	0.89	0.00	0.068	0.000	7.595	0.00	35.92
96.00	2" Conduit	Yes	2.00	0.000	2.00	0.89	0.00	0.069	0.000	7.629	0.00	35.98
98.00	2" Conduit	Yes	2.00	0.000	2.00	0.89	0.00	0.070	0.000	7.662	0.00	36.04
100.00	2" Conduit	Yes	2.00	0.000	2.00	0.89	0.00	0.070	0.000	7.695	0.00	36.10
102.00	2" Conduit	Yes	2.00	0.000	2.00	0.89	0.00	0.071	0.000	7.727	0.00	36.16
104.00	2" Conduit	Yes	2.00	0.000	2.00	0.89	0.00	0.072	0.000	7.759	0.00	36.21
106.00	2" Conduit	Yes	2.00	0.000	2.00	0.90	0.00	0.073	0.000	7.790	0.00	36.27
108.00	2" Conduit	Yes	2.00	0.000	2.00	0.90	0.00	0.074	0.000	7.821	0.00	36.33
110.00	2" Conduit	Yes	2.00	0.000	2.00	0.90	0.00	0.074	0.000	7.851	0.00	36.38
112.00	2" Conduit	Yes	2.00	0.000	2.00	0.90	0.00	0.075	0.000	7.881	0.00	36.43
114.00	2" Conduit	Yes	2.00	0.000	2.00	0.90	0.00	0.076	0.000	7.910	0.00	36.49
116.00	2" Conduit	Yes	2.00	0.000	2.00	0.90	0.00	0.077	0.000	7.939	0.00	36.54
118.00	2" Conduit	Yes	2.00	0.000	2.00	0.90	0.00	0.078	0.000	7.968	0.00	36.59

Linear Appurtenance Segment Forces (Factored)

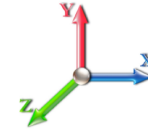
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
120.00	2" Conduit	Yes	2.00	0.000	2.00	0.90	0.00	0.079	0.000	7.996	0.00	36.64
122.00	2" Conduit	Yes	2.00	0.000	2.00	0.90	0.00	0.111	1.033	8.024	0.00	36.69
124.00	2" Conduit	Yes	2.00	0.000	2.00	0.90	0.00	0.111	1.033	8.051	0.00	36.74
126.00	2" Conduit	Yes	2.00	0.000	2.00	0.91	0.00	0.111	1.033	8.079	0.00	36.79
128.00	2" Conduit	Yes	2.00	0.000	2.00	0.91	0.00	0.111	1.033	8.105	0.00	36.84
130.00	2" Conduit	Yes	2.00	0.000	2.00	0.91	0.00	0.111	1.033	8.132	0.00	36.88
Totals:											0.0	3,396.8

Calculated Forces

Structure: CT13064-A-SBA
Site Name: Middletown 2, CT
Height: 130.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

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

3/2/2022
 Page: 44



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

Iterations 24

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	-65.05	-9.23	0.00	-945.90	0.00	945.90	2818.94	1409.47	4888.80	2448.04	0.00	0.000	0.000	0.193
2.00	-64.43	-9.21	0.00	-927.43	0.00	927.43	2805.89	1402.95	4830.09	2418.63	0.01	-0.027	0.000	0.191
4.00	-63.80	-9.19	0.00	-909.00	0.00	909.00	2792.73	1396.36	4771.51	2389.30	0.02	-0.054	0.000	0.189
6.00	-63.16	-9.17	0.00	-890.62	0.00	890.62	2779.45	1389.73	4713.08	2360.04	0.05	-0.080	0.000	0.186
8.00	-62.53	-9.15	0.00	-872.28	0.00	872.28	2766.06	1383.03	4654.80	2330.86	0.09	-0.107	0.000	0.184
10.00	-61.89	-9.11	0.00	-853.99	0.00	853.99	2752.56	1376.28	4596.67	2301.75	0.14	-0.133	0.000	0.182
10.25	-61.81	-9.12	0.00	-851.72	0.00	851.72	2750.86	1375.43	4589.41	2298.12	0.15	-0.137	0.000	0.190
12.00	-61.26	-9.10	0.00	-835.76	0.00	835.76	2738.94	1369.47	4538.70	2272.72	0.20	-0.161	0.000	0.188
14.00	-60.62	-9.08	0.00	-817.56	0.00	817.56	2725.20	1362.60	4480.89	2243.77	0.28	-0.189	0.000	0.185
16.00	-59.98	-9.05	0.00	-799.40	0.00	799.40	2711.35	1355.68	4423.25	2214.91	0.36	-0.216	0.000	0.183
18.00	-59.35	-9.03	0.00	-781.29	0.00	781.29	2697.39	1348.70	4365.78	2186.13	0.46	-0.244	0.000	0.180
20.00	-58.72	-8.99	0.00	-763.23	0.00	763.23	2683.32	1341.66	4308.48	2157.44	0.57	-0.271	0.000	0.178
20.50	-58.56	-8.99	0.00	-758.74	0.00	758.74	2679.78	1339.89	4294.19	2150.28	0.59	-0.278	0.000	0.177
22.00	-58.09	-8.98	0.00	-745.25	0.00	745.25	2669.12	1334.56	4251.37	2128.84	0.69	-0.298	0.000	0.175
24.00	-57.46	-8.95	0.00	-727.30	0.00	727.30	2654.82	1327.41	4194.44	2100.34	0.82	-0.326	0.000	0.173
25.96	-56.83	-8.90	0.00	-709.76	0.00	709.76	2640.69	1320.34	4138.83	2072.49	0.96	-0.352	0.000	0.149
26.00	-56.82	-8.91	0.00	-709.41	0.00	709.41	2640.40	1320.20	4137.70	2071.92	0.96	-0.353	0.000	0.149
27.88	-56.22	-8.87	0.00	-692.65	0.00	692.65	2626.74	1313.37	4084.54	2045.30	1.10	-0.375	0.000	0.183
28.00	-56.18	-8.88	0.00	-691.59	0.00	691.59	2625.87	1312.93	4081.15	2043.61	1.11	-0.376	0.000	0.183
30.00	-55.55	-8.85	0.00	-673.83	0.00	673.83	2611.22	1305.61	4024.80	2015.39	1.28	-0.406	0.000	0.180
32.00	-54.92	-8.82	0.00	-656.12	0.00	656.12	2596.46	1298.23	3968.65	1987.27	1.45	-0.435	0.000	0.177
34.00	-54.30	-8.79	0.00	-638.49	0.00	638.49	2581.58	1290.79	3912.71	1959.26	1.64	-0.464	0.000	0.174
36.00	-53.68	-8.75	0.00	-620.91	0.00	620.91	2566.59	1283.29	3856.98	1931.36	1.84	-0.492	0.000	0.171
38.00	-53.06	-8.72	0.00	-603.41	0.00	603.41	2551.48	1275.74	3801.46	1903.56	2.05	-0.521	0.000	0.167
40.00	-52.44	-8.67	0.00	-585.98	0.00	585.98	2536.26	1268.13	3746.17	1875.87	2.28	-0.549	0.000	0.164
40.50	-52.29	-8.66	0.00	-581.64	0.00	581.64	2532.44	1266.22	3732.38	1868.96	2.33	-0.556	0.000	0.164
40.71	-52.22	-8.66	0.00	-579.82	0.00	579.82	2530.83	1265.42	3726.59	1866.07	2.36	-0.559	0.000	0.163
42.00	-51.83	-8.64	0.00	-568.64	0.00	568.64	2520.93	1260.46	3691.10	1848.29	2.51	-0.577	0.000	0.161
43.33	-51.42	-8.61	0.00	-557.12	0.00	557.12	2510.64	1255.32	3654.51	1829.97	2.68	-0.596	0.000	0.159
44.00	-51.14	-8.61	0.00	-551.38	0.00	551.38	2505.48	1252.74	3636.25	1820.83	2.76	-0.605	0.000	0.156
46.00	-50.30	-8.56	0.00	-534.17	0.00	534.17	2489.92	1244.96	3581.64	1793.48	3.02	-0.632	0.000	0.153
48.00	-49.46	-8.51	0.00	-517.04	0.00	517.04	1854.44	927.22	2691.60	1347.80	3.29	-0.659	0.000	0.164
48.12	-49.43	-8.52	0.00	-516.02	0.00	516.02	1853.85	926.92	2689.31	1346.66	3.31	-0.661	0.000	0.201
50.00	-48.91	-8.49	0.00	-500.01	0.00	500.01	1844.56	922.28	2653.53	1328.74	3.57	-0.691	0.000	0.197
52.00	-48.37	-8.45	0.00	-483.03	0.00	483.03	1834.56	917.28	2615.56	1309.72	3.87	-0.723	0.000	0.192
54.00	-47.83	-8.41	0.00	-466.13	0.00	466.13	1824.45	912.23	2577.68	1290.76	4.18	-0.755	0.000	0.187
56.00	-47.30	-8.37	0.00	-449.31	0.00	449.31	1814.23	907.11	2539.90	1271.84	4.50	-0.786	0.000	0.182
58.00	-46.76	-8.33	0.00	-432.56	0.00	432.56	1803.89	901.94	2502.23	1252.97	4.84	-0.817	0.000	0.177
60.00	-46.24	-8.29	0.00	-415.90	0.00	415.90	1793.44	896.72	2464.66	1234.16	5.19	-0.847	0.000	0.172
60.71	-46.05	-8.27	0.00	-410.02	0.00	410.02	1789.70	894.85	2451.36	1227.50	5.31	-0.858	0.000	0.216
60.75	-46.04	-8.28	0.00	-409.68	0.00	409.68	1789.49	894.74	2450.61	1227.12	5.32	-0.858	0.000	0.216
62.00	-45.71	-8.26	0.00	-399.34	0.00	399.34	1782.87	891.44	2427.21	1215.41	5.55	-0.882	0.000	0.212
64.00	-45.19	-8.22	0.00	-382.82	0.00	382.82	1772.19	886.09	2389.88	1196.72	5.93	-0.919	0.000	0.206
66.00	-44.68	-8.19	0.00	-366.38	0.00	366.38	1761.39	880.70	2352.67	1178.08	6.32	-0.955	0.000	0.200
68.00	-44.17	-8.15	0.00	-350.01	0.00	350.01	1750.48	875.24	2315.58	1159.51	6.73	-0.990	0.000	0.193
70.00	-43.67	-8.11	0.00	-333.71	0.00	333.71	1739.46	869.73	2278.63	1141.01	7.15	-1.025	0.000	0.187
72.00	-43.17	-8.07	0.00	-317.50	0.00	317.50	1728.32	864.16	2241.81	1122.57	7.59	-1.059	0.000	0.180
74.00	-42.67	-8.03	0.00	-301.36	0.00	301.36	1717.07	858.54	2205.13	1104.20	8.04	-1.092	0.000	0.173

Calculated Forces

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 45



76.00	-42.17	-7.98	0.00	-285.31	0.00	285.31	1705.70	852.85	2168.59	1085.91	8.50	-1.124	0.000	0.167
78.00	-41.68	-7.93	0.00	-269.34	0.00	269.34	1694.22	847.11	2132.20	1067.69	8.98	-1.155	0.000	0.160
78.25	-41.62	-7.93	0.00	-267.36	0.00	267.36	1692.78	846.39	2127.67	1065.41	9.04	-1.159	0.000	0.159
78.25	-41.62	-7.93	0.00	-267.36	0.00	267.36	1692.78	846.39	2127.67	1065.41	9.04	-1.159	0.000	0.159
80.00	-41.19	-7.91	0.00	-253.47	0.00	253.47	1682.63	841.31	2095.97	1049.54	9.47	-1.185	0.000	0.266
82.00	-40.71	-7.87	0.00	-237.66	0.00	237.66	1670.92	835.46	2059.89	1031.48	9.98	-1.235	0.000	0.255
84.00	-40.24	-7.84	0.00	-221.91	0.00	221.91	1659.09	829.55	2023.98	1013.49	10.51	-1.284	0.000	0.243
86.00	-39.77	-7.80	0.00	-206.23	0.00	206.23	1647.16	823.58	1988.23	995.59	11.05	-1.330	0.000	0.231
87.42	-39.45	-7.77	0.00	-195.18	0.00	195.18	1638.63	819.32	1963.01	982.97	11.45	-1.362	0.000	0.223
88.00	-39.27	-7.77	0.00	-190.64	0.00	190.64	1635.10	817.55	1952.65	977.78	11.62	-1.375	0.000	0.219
90.00	-31.90	-6.17	0.00	-175.10	0.00	175.10	1622.94	811.47	1917.25	960.05	12.21	-1.417	0.000	0.202
91.33	-31.51	-6.13	0.00	-166.87	0.00	166.87	1099.39	549.70	1312.06	657.00	12.61	-1.444	0.000	0.283
92.00	-31.38	-6.13	0.00	-162.78	0.00	162.78	1097.24	548.62	1304.79	653.36	12.81	-1.457	0.000	0.278
94.00	-30.83	-6.07	0.00	-150.53	0.00	150.53	1090.71	545.35	1282.99	642.45	13.43	-1.506	0.000	0.263
96.00	-30.44	-6.03	0.00	-138.39	0.00	138.39	1084.06	542.03	1261.23	631.55	14.07	-1.553	0.000	0.247
98.00	-30.04	-5.98	0.00	-126.34	0.00	126.34	1077.30	538.65	1239.51	620.68	14.73	-1.598	0.000	0.232
100.00	-25.64	-5.12	0.00	-114.37	0.00	114.37	1070.43	535.22	1217.83	609.82	15.41	-1.639	0.000	0.212
102.00	-25.27	-5.07	0.00	-104.14	0.00	104.14	1063.44	531.72	1196.21	598.99	16.11	-1.678	0.000	0.198
104.00	-24.90	-5.02	0.00	-93.99	0.00	93.99	1056.34	528.17	1174.63	588.19	16.82	-1.715	0.000	0.183
106.00	-24.53	-4.97	0.00	-83.95	0.00	83.95	1049.12	524.56	1153.11	577.41	17.54	-1.749	0.000	0.169
108.00	-24.17	-4.92	0.00	-74.00	0.00	74.00	1041.79	520.90	1131.65	566.67	18.28	-1.780	0.000	0.154
110.00	-19.12	-4.03	0.00	-64.16	0.00	64.16	1034.34	517.17	1110.26	555.96	19.03	-1.809	0.000	0.134
112.00	-18.80	-3.98	0.00	-56.10	0.00	56.10	1026.79	513.39	1088.94	545.28	19.80	-1.834	0.000	0.121
114.00	-18.49	-3.92	0.00	-48.15	0.00	48.15	1019.11	509.56	1067.70	534.64	20.57	-1.857	0.000	0.108
116.00	-18.17	-3.87	0.00	-40.31	0.00	40.31	1011.32	505.66	1046.53	524.04	21.35	-1.877	0.000	0.095
118.00	-17.86	-3.81	0.00	-32.58	0.00	32.58	1003.42	501.71	1025.45	513.49	22.14	-1.895	0.000	0.081
120.00	-12.56	-2.59	0.00	-24.96	0.00	24.96	995.40	497.70	1004.45	502.97	22.94	-1.909	0.000	0.062
120.00	-12.56	-2.59	0.00	-24.96	0.00	24.96	735.22	367.61	535.89	335.79	22.94	-1.909	0.000	0.091
122.00	-12.29	-2.54	0.00	-19.79	0.00	19.79	735.22	367.61	535.89	335.79	23.74	-1.920	0.000	0.076
124.00	-12.01	-2.50	0.00	-14.71	0.00	14.71	735.22	367.61	535.89	335.79	24.55	-1.938	0.000	0.060
126.00	-11.74	-2.45	0.00	-9.71	0.00	9.71	735.22	367.61	535.89	335.79	25.37	-1.951	0.000	0.045
128.00	-11.47	-2.40	0.00	-4.81	0.00	4.81	735.22	367.61	535.89	335.79	26.19	-1.958	0.000	0.030
130.00	0.00	-2.01	0.00	-0.01	0.00	0.01	735.22	367.61	535.89	335.79	27.01	-1.961	0.000	0.000

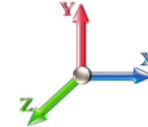
Seismic Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E						Iterations 23
Gust Response Factor	1.10			Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.25	SA	0.03	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1 RB2	0.00	0.00	0.00	0.00	0.00	
2.00		283.72	0.00	0.02	0.01	3.76	
4.00		281.62	0.00	0.03	0.02	5.93	
6.00		279.53	0.00	0.04	0.02	7.32	
8.00		277.43	0.01	0.05	0.03	8.25	
10.00		275.33	0.01	0.06	0.03	8.87	
10.25	RT2 RB3	34.27	0.01	0.06	0.03	1.11	
12.00		238.97	0.02	0.06	0.04	8.12	
14.00		271.14	0.02	0.07	0.04	9.55	
16.00		269.04	0.03	0.07	0.04	9.73	
18.00		266.95	0.04	0.07	0.04	9.84	
20.00		264.85	0.04	0.07	0.04	9.91	
20.50	RT1 RB4	65.88	0.05	0.07	0.04	2.47	
22.00		196.87	0.05	0.07	0.04	7.46	
24.00		260.66	0.06	0.07	0.04	9.99	
25.96	RB5	253.41	0.08	0.07	0.04	9.82	
26.00		5.15	0.08	0.07	0.04	0.20	
27.88	RT3 RB6	241.14	0.09	0.07	0.04	9.44	
28.00		15.33	0.09	0.07	0.04	0.60	
30.00		254.37	0.10	0.07	0.04	10.08	
32.00		252.27	0.11	0.07	0.04	10.12	
34.00		250.18	0.13	0.07	0.03	10.15	
36.00		248.08	0.14	0.07	0.03	10.18	
38.00		245.98	0.16	0.07	0.03	10.19	
40.00		243.89	0.18	0.07	0.03	10.18	
40.50	RT4 RB7	60.64	0.18	0.06	0.03	2.53	
40.71	RT5 RB8	25.43	0.19	0.06	0.03	1.06	
42.00		155.71	0.20	0.06	0.02	6.52	
43.33	Bot - Section 2	160.03	0.21	0.06	0.02	6.69	
44.00		144.41	0.22	0.06	0.02	6.03	
46.00		430.71	0.24	0.06	0.02	17.81	
48.00	Top - Section 1	426.94	0.26	0.05	0.02	17.30	
48.12	RT6	11.43	0.26	0.05	0.02	0.46	
50.00		178.33	0.28	0.05	0.01	6.98	
52.00		188.08	0.30	0.04	0.01	6.98	
54.00		186.41	0.33	0.04	0.01	6.39	
56.00		184.73	0.35	0.03	0.01	5.64	
58.00		183.05	0.38	0.03	0.01	4.72	
60.00		181.37	0.40	0.02	0.01	3.63	
60.71	RT8	63.98	0.41	0.01	0.01	1.13	
60.75	RT7 RB9	3.60	0.41	0.01	0.01	0.06	
62.00		112.11	0.43	0.01	0.01	1.48	
64.00		178.02	0.46	0.00	0.01	1.00	
66.00		176.34	0.49	-0.01	0.01	-0.44	
68.00		174.67	0.52	-0.02	0.01	-1.88	
70.00		172.99	0.55	-0.03	0.01	-3.25	

Seismic Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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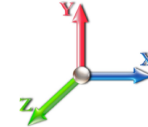
72.00		171.31	0.58	-0.05	0.01	-4.48
74.00		169.63	0.61	-0.06	0.02	-5.53
76.00		167.96	0.65	-0.07	0.02	-6.37
78.00		166.28	0.68	-0.08	0.03	-6.99
78.25	RT9	20.67	0.68	-0.08	0.03	-0.88
80.00		143.94	0.72	-0.09	0.03	-6.46
82.00		162.93	0.75	-0.10	0.04	-7.57
84.00		161.25	0.79	-0.11	0.05	-7.56
86.00		159.57	0.83	-0.12	0.06	-7.35
87.42	Bot - Section 3	112.02	0.85	-0.12	0.07	-5.03
88.00		80.81	0.87	-0.12	0.07	-3.57
90.00	Appurtenance(s)	3445.3	0.91	-0.12	0.09	-142.06
91.33	Top - Section 2	181.80	0.93	-0.12	0.10	-7.03
92.00		39.09	0.95	-0.12	0.11	-1.45
94.00	Appurtenance(s)	169.42	0.99	-0.11	0.13	-5.45
96.00		115.16	1.03	-0.10	0.15	-3.00
98.00		113.90	1.07	-0.08	0.17	-2.16
100.00	Appurtenance(s)	1864.6	1.12	-0.06	0.20	-20.22
102.00		111.39	1.16	-0.03	0.23	-0.19
104.00		110.13	1.21	0.01	0.26	0.93
106.00		108.87	1.26	0.06	0.30	2.13
108.00		107.61	1.30	0.13	0.34	3.42
110.00	Appurtenance(s)	1935.1	1.35	0.20	0.39	87.20
112.00		105.10	1.40	0.29	0.43	6.24
114.00		103.84	1.45	0.39	0.49	7.76
116.00		102.58	1.50	0.51	0.55	9.36
118.00		101.32	1.56	0.65	0.61	11.03
120.00	Top - Section 3	2459.1	1.61	0.81	0.68	313.56
122.00		94.88	1.66	0.99	0.76	13.98
124.00		94.88	1.72	1.20	0.84	15.97
126.00		94.88	1.78	1.43	0.94	18.06
128.00		94.88	1.83	1.69	1.03	20.27
130.00	Appurtenance(s)	5171.0	1.89	1.98	1.14	1231.52
Totals:		26,916.5				1,772.3
						Total Wind: 34,950.6

Calculated Forces

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0E		Iterations 23
Gust Response Factor	1.10	Sds 0.19
Dead Load Factor	1.20	Ss 0.18
Wind Load Factor	0.00	S1 0.06
Seismic Load Factor	1.00	Sd1 0.10
Structure Frequency (f1)	0.25	SA 0.03
Seismic Importance Factor	1.00	



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-39.06	-2.02	0.00	-241.25	0.00	241.25	2818.94	1409.47	4888.80	2448.04	0.00	0.00	0.00	0.053
2.00	-38.60	-2.02	0.00	-237.21	0.00	237.21	2805.89	1402.95	4830.09	2418.63	0.00	-0.01	0.052	
4.00	-38.15	-2.02	0.00	-233.16	0.00	233.16	2792.73	1396.36	4771.51	2389.30	0.01	-0.01	0.052	
6.00	-37.70	-2.02	0.00	-229.12	0.00	229.12	2779.45	1389.73	4713.08	2360.04	0.01	-0.02	0.051	
8.00	-37.25	-2.02	0.00	-225.08	0.00	225.08	2766.06	1383.03	4654.80	2330.86	0.02	-0.03	0.051	
10.00	-36.80	-2.01	0.00	-221.05	0.00	221.05	2752.56	1376.28	4596.67	2301.75	0.04	-0.03	0.050	
10.25	-36.74	-2.01	0.00	-220.55	0.00	220.55	2750.86	1375.43	4589.41	2298.12	0.04	-0.04	0.053	
12.00	-36.35	-2.01	0.00	-217.03	0.00	217.03	2738.94	1369.47	4538.70	2272.72	0.05	-0.04	0.052	
14.00	-35.91	-2.00	0.00	-213.02	0.00	213.02	2725.20	1362.60	4480.89	2243.77	0.07	-0.05	0.052	
16.00	-35.47	-1.99	0.00	-209.02	0.00	209.02	2711.35	1355.68	4423.25	2214.91	0.09	-0.06	0.051	
18.00	-35.03	-1.99	0.00	-205.03	0.00	205.03	2697.39	1348.70	4365.78	2186.13	0.12	-0.06	0.051	
20.00	-34.60	-1.98	0.00	-201.05	0.00	201.05	2683.32	1341.66	4308.48	2157.44	0.15	-0.07	0.050	
20.50	-34.49	-1.98	0.00	-200.06	0.00	200.06	2679.78	1339.89	4294.19	2150.28	0.15	-0.07	0.050	
22.00	-34.17	-1.98	0.00	-197.09	0.00	197.09	2669.12	1334.56	4251.37	2128.84	0.18	-0.08	0.049	
24.00	-33.74	-1.97	0.00	-193.14	0.00	193.14	2654.82	1327.41	4194.44	2100.34	0.21	-0.08	0.049	
25.96	-33.32	-1.96	0.00	-189.28	0.00	189.28	2640.69	1320.34	4138.83	2072.49	0.25	-0.09	0.042	
26.00	-33.31	-1.96	0.00	-189.20	0.00	189.20	2640.40	1320.20	4137.70	2071.92	0.25	-0.09	0.042	
27.88	-32.91	-1.95	0.00	-185.51	0.00	185.51	2626.74	1313.37	4084.54	2045.30	0.28	-0.10	0.052	
28.00	-32.88	-1.96	0.00	-185.28	0.00	185.28	2625.87	1312.93	4081.15	2043.61	0.29	-0.10	0.052	
30.00	-32.46	-1.95	0.00	-181.36	0.00	181.36	2611.22	1305.61	4024.80	2015.39	0.33	-0.11	0.051	
32.00	-32.04	-1.94	0.00	-177.46	0.00	177.46	2596.46	1298.23	3968.65	1987.27	0.38	-0.11	0.051	
34.00	-31.62	-1.94	0.00	-173.58	0.00	173.58	2581.58	1290.79	3912.71	1959.26	0.43	-0.12	0.050	
36.00	-31.21	-1.93	0.00	-169.70	0.00	169.70	2566.59	1283.29	3856.98	1931.36	0.48	-0.13	0.049	
38.00	-30.80	-1.92	0.00	-165.84	0.00	165.84	2551.48	1275.74	3801.46	1903.56	0.53	-0.14	0.049	
40.00	-30.39	-1.91	0.00	-162.00	0.00	162.00	2536.26	1268.13	3746.17	1875.87	0.59	-0.15	0.048	
40.50	-30.29	-1.91	0.00	-161.04	0.00	161.04	2532.44	1266.22	3732.38	1868.96	0.61	-0.15	0.048	
40.71	-30.24	-1.91	0.00	-160.64	0.00	160.64	2530.83	1265.42	3726.59	1866.07	0.62	-0.15	0.048	
42.00	-29.98	-1.91	0.00	-158.17	0.00	158.17	2520.93	1260.46	3691.10	1848.29	0.66	-0.15	0.047	
43.33	-29.71	-1.90	0.00	-155.63	0.00	155.63	2510.64	1255.32	3654.51	1829.97	0.70	-0.16	0.047	
44.00	-29.50	-1.90	0.00	-154.36	0.00	154.36	2505.48	1252.74	3636.25	1820.83	0.72	-0.16	0.046	
46.00	-28.86	-1.88	0.00	-150.56	0.00	150.56	2489.92	1244.96	3581.64	1793.48	0.79	-0.17	0.045	
48.00	-28.23	-1.87	0.00	-146.79	0.00	146.79	1854.44	927.22	2691.60	1347.80	0.86	-0.18	0.049	
48.12	-28.21	-1.87	0.00	-146.57	0.00	146.57	1853.85	926.92	2689.31	1346.66	0.87	-0.18	0.060	
50.00	-27.89	-1.86	0.00	-143.06	0.00	143.06	1844.56	922.28	2653.53	1328.74	0.94	-0.19	0.059	
52.00	-27.55	-1.86	0.00	-139.33	0.00	139.33	1834.56	917.28	2615.56	1309.72	1.02	-0.19	0.059	
54.00	-27.21	-1.86	0.00	-135.61	0.00	135.61	1824.45	912.23	2577.68	1290.76	1.10	-0.20	0.058	
56.00	-26.87	-1.85	0.00	-131.90	0.00	131.90	1814.23	907.11	2539.90	1271.84	1.19	-0.21	0.057	
58.00	-26.53	-1.85	0.00	-128.19	0.00	128.19	1803.89	901.94	2502.23	1252.97	1.28	-0.22	0.056	
60.00	-26.19	-1.85	0.00	-124.48	0.00	124.48	1793.44	896.72	2464.66	1234.16	1.37	-0.23	0.055	
60.71	-26.08	-1.85	0.00	-123.17	0.00	123.17	1789.70	894.85	2451.36	1227.50	1.41	-0.23	0.068	
60.75	-26.07	-1.85	0.00	-123.09	0.00	123.09	1789.49	894.74	2450.61	1227.12	1.41	-0.23	0.068	
62.00	-25.86	-1.85	0.00	-120.78	0.00	120.78	1782.87	891.44	2427.21	1215.41	1.47	-0.24	0.068	
64.00	-25.53	-1.86	0.00	-117.07	0.00	117.07	1772.19	886.09	2389.88	1196.72	1.58	-0.25	0.066	
66.00	-25.20	-1.86	0.00	-113.36	0.00	113.36	1761.39	880.70	2352.67	1178.08	1.68	-0.26	0.065	
68.00	-24.87	-1.86	0.00	-109.64	0.00	109.64	1750.48	875.24	2315.58	1159.51	1.80	-0.27	0.064	
70.00	-24.55	-1.87	0.00	-105.92	0.00	105.92	1739.46	869.73	2278.63	1141.01	1.91	-0.29	0.062	
72.00	-24.23	-1.87	0.00	-102.19	0.00	102.19	1728.32	864.16	2241.81	1122.57	2.04	-0.30	0.061	

Calculated Forces

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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74.00	-23.91	-1.87	0.00	-98.45	0.00	98.45	1717.07	858.54	2205.13	1104.20	2.16	-0.31	0.060
76.00	-23.59	-1.87	0.00	-94.71	0.00	94.71	1705.70	852.85	2168.59	1085.91	2.29	-0.32	0.058
78.00	-23.27	-1.87	0.00	-90.96	0.00	90.96	1694.22	847.11	2132.20	1067.69	2.43	-0.33	0.057
78.25	-23.23	-1.88	0.00	-90.49	0.00	90.49	1692.78	846.39	2127.67	1065.41	2.45	-0.33	0.056
78.25	-23.23	-1.88	0.00	-90.49	0.00	90.49	1692.78	846.39	2127.67	1065.41	2.45	-0.33	0.056
80.00	-22.96	-1.88	0.00	-87.21	0.00	87.21	1682.63	841.31	2095.97	1049.54	2.57	-0.34	0.097
82.00	-22.64	-1.88	0.00	-83.45	0.00	83.45	1670.92	835.46	2059.89	1031.48	2.71	-0.36	0.094
84.00	-22.33	-1.89	0.00	-79.68	0.00	79.68	1659.09	829.55	2023.98	1013.49	2.87	-0.37	0.092
86.00	-22.02	-1.89	0.00	-75.90	0.00	75.90	1647.16	823.58	1988.23	995.59	3.03	-0.39	0.090
87.42	-21.81	-1.89	0.00	-73.22	0.00	73.22	1638.63	819.32	1963.01	982.97	3.14	-0.40	0.088
88.00	-21.67	-1.90	0.00	-72.12	0.00	72.12	1635.10	817.55	1952.65	977.78	3.19	-0.41	0.087
90.00	-17.42	-1.87	0.00	-68.32	0.00	68.32	1622.94	811.47	1917.25	960.05	3.37	-0.42	0.082
91.33	-17.13	-1.87	0.00	-65.83	0.00	65.83	1099.39	549.70	1312.06	657.00	3.49	-0.43	0.116
92.00	-17.05	-1.87	0.00	-64.58	0.00	64.58	1097.24	548.62	1304.79	653.36	3.55	-0.44	0.114
94.00	-16.74	-1.88	0.00	-60.83	0.00	60.83	1090.71	545.35	1282.99	642.45	3.74	-0.46	0.110
96.00	-16.49	-1.88	0.00	-57.08	0.00	57.08	1084.06	542.03	1261.23	631.55	3.93	-0.48	0.106
98.00	-16.25	-1.88	0.00	-53.31	0.00	53.31	1077.30	538.65	1239.51	620.68	4.14	-0.50	0.101
100.00	-13.90	-1.87	0.00	-49.54	0.00	49.54	1070.43	535.22	1217.83	609.82	4.35	-0.51	0.094
102.00	-13.68	-1.87	0.00	-45.81	0.00	45.81	1063.44	531.72	1196.21	598.99	4.57	-0.53	0.089
104.00	-13.46	-1.87	0.00	-42.07	0.00	42.07	1056.34	528.17	1174.63	588.19	4.79	-0.55	0.084
106.00	-13.24	-1.87	0.00	-38.33	0.00	38.33	1049.12	524.56	1153.11	577.41	5.02	-0.56	0.079
108.00	-13.02	-1.87	0.00	-34.59	0.00	34.59	1041.79	520.90	1131.65	566.67	5.26	-0.58	0.074
110.00	-10.61	-1.76	0.00	-30.85	0.00	30.85	1034.34	517.17	1110.26	555.96	5.51	-0.59	0.066
112.00	-10.43	-1.75	0.00	-27.34	0.00	27.34	1026.79	513.39	1088.94	545.28	5.76	-0.60	0.060
114.00	-10.25	-1.74	0.00	-23.83	0.00	23.83	1019.11	509.56	1067.70	534.64	6.01	-0.61	0.055
116.00	-10.07	-1.73	0.00	-20.35	0.00	20.35	1011.32	505.66	1046.53	524.04	6.27	-0.62	0.049
118.00	-9.90	-1.72	0.00	-16.88	0.00	16.88	1003.42	501.71	1025.45	513.49	6.54	-0.63	0.043
120.00	-6.89	-1.38	0.00	-13.43	0.00	13.43	995.40	497.70	1004.45	502.97	6.80	-0.64	0.034
120.00	-6.89	-1.38	0.00	-13.43	0.00	13.43	735.22	367.61	535.89	335.79	6.80	-0.64	0.049
122.00	-6.73	-1.36	0.00	-10.68	0.00	10.68	735.22	367.61	535.89	335.79	7.07	-0.65	0.041
124.00	-6.57	-1.35	0.00	-7.95	0.00	7.95	735.22	367.61	535.89	335.79	7.34	-0.66	0.033
126.00	-6.40	-1.33	0.00	-5.26	0.00	5.26	735.22	367.61	535.89	335.79	7.62	-0.66	0.024
128.00	-6.24	-1.30	0.00	-2.61	0.00	2.61	735.22	367.61	535.89	335.79	7.90	-0.67	0.016
130.00	0.00	-1.23	0.00	0.00	0.00	0.00	735.22	367.61	535.89	335.79	8.18	-0.67	0.000

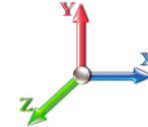
Seismic Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E						Iterations 23
Gust Response Factor	1.10			Sds	0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.25	SA	0.03	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1 RB2	0.00	0.00	0.00	0.00	0.00	
2.00		283.72	0.00	0.02	0.01	3.76	
4.00		281.62	0.00	0.03	0.02	5.93	
6.00		279.53	0.00	0.04	0.02	7.32	
8.00		277.43	0.01	0.05	0.03	8.25	
10.00		275.33	0.01	0.06	0.03	8.87	
10.25	RT2 RB3	34.27	0.01	0.06	0.03	1.11	
12.00		238.97	0.02	0.06	0.04	8.12	
14.00		271.14	0.02	0.07	0.04	9.55	
16.00		269.04	0.03	0.07	0.04	9.73	
18.00		266.95	0.04	0.07	0.04	9.84	
20.00		264.85	0.04	0.07	0.04	9.91	
20.50	RT1 RB4	65.88	0.05	0.07	0.04	2.47	
22.00		196.87	0.05	0.07	0.04	7.46	
24.00		260.66	0.06	0.07	0.04	9.99	
25.96	RB5	253.41	0.08	0.07	0.04	9.82	
26.00		5.15	0.08	0.07	0.04	0.20	
27.88	RT3 RB6	241.14	0.09	0.07	0.04	9.44	
28.00		15.33	0.09	0.07	0.04	0.60	
30.00		254.37	0.10	0.07	0.04	10.08	
32.00		252.27	0.11	0.07	0.04	10.12	
34.00		250.18	0.13	0.07	0.03	10.15	
36.00		248.08	0.14	0.07	0.03	10.18	
38.00		245.98	0.16	0.07	0.03	10.19	
40.00		243.89	0.18	0.07	0.03	10.18	
40.50	RT4 RB7	60.64	0.18	0.06	0.03	2.53	
40.71	RT5 RB8	25.43	0.19	0.06	0.03	1.06	
42.00		155.71	0.20	0.06	0.02	6.52	
43.33	Bot - Section 2	160.03	0.21	0.06	0.02	6.69	
44.00		144.41	0.22	0.06	0.02	6.03	
46.00		430.71	0.24	0.06	0.02	17.81	
48.00	Top - Section 1	426.94	0.26	0.05	0.02	17.30	
48.12	RT6	11.43	0.26	0.05	0.02	0.46	
50.00		178.33	0.28	0.05	0.01	6.98	
52.00		188.08	0.30	0.04	0.01	6.98	
54.00		186.41	0.33	0.04	0.01	6.39	
56.00		184.73	0.35	0.03	0.01	5.64	
58.00		183.05	0.38	0.03	0.01	4.72	
60.00		181.37	0.40	0.02	0.01	3.63	
60.71	RT8	63.98	0.41	0.01	0.01	1.13	
60.75	RT7 RB9	3.60	0.41	0.01	0.01	0.06	
62.00		112.11	0.43	0.01	0.01	1.48	
64.00		178.02	0.46	0.00	0.01	1.00	
66.00		176.34	0.49	-0.01	0.01	-0.44	
68.00		174.67	0.52	-0.02	0.01	-1.88	
70.00		172.99	0.55	-0.03	0.01	-3.25	

Seismic Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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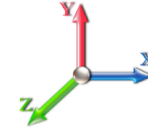
72.00		171.31	0.58	-0.05	0.01	-4.48
74.00		169.63	0.61	-0.06	0.02	-5.53
76.00		167.96	0.65	-0.07	0.02	-6.37
78.00		166.28	0.68	-0.08	0.03	-6.99
78.25	RT9	20.67	0.68	-0.08	0.03	-0.88
80.00		143.94	0.72	-0.09	0.03	-6.46
82.00		162.93	0.75	-0.10	0.04	-7.57
84.00		161.25	0.79	-0.11	0.05	-7.56
86.00		159.57	0.83	-0.12	0.06	-7.35
87.42	Bot - Section 3	112.02	0.85	-0.12	0.07	-5.03
88.00		80.81	0.87	-0.12	0.07	-3.57
90.00	Appurtenance(s)	3445.3	0.91	-0.12	0.09	-142.06
91.33	Top - Section 2	181.80	0.93	-0.12	0.10	-7.03
92.00		39.09	0.95	-0.12	0.11	-1.45
94.00	Appurtenance(s)	169.42	0.99	-0.11	0.13	-5.45
96.00		115.16	1.03	-0.10	0.15	-3.00
98.00		113.90	1.07	-0.08	0.17	-2.16
100.00	Appurtenance(s)	1864.6	1.12	-0.06	0.20	-20.22
102.00		111.39	1.16	-0.03	0.23	-0.19
104.00		110.13	1.21	0.01	0.26	0.93
106.00		108.87	1.26	0.06	0.30	2.13
108.00		107.61	1.30	0.13	0.34	3.42
110.00	Appurtenance(s)	1935.1	1.35	0.20	0.39	87.20
112.00		105.10	1.40	0.29	0.43	6.24
114.00		103.84	1.45	0.39	0.49	7.76
116.00		102.58	1.50	0.51	0.55	9.36
118.00		101.32	1.56	0.65	0.61	11.03
120.00	Top - Section 3	2459.1	1.61	0.81	0.68	313.56
122.00		94.88	1.66	0.99	0.76	13.98
124.00		94.88	1.72	1.20	0.84	15.97
126.00		94.88	1.78	1.43	0.94	18.06
128.00		94.88	1.83	1.69	1.03	20.27
130.00	Appurtenance(s)	5171.0	1.89	1.98	1.14	1231.52
Totals:		26,916.5				1,772.3
						Total Wind: 34,950.6

Calculated Forces

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.0E										Iterations 23
Gust Response Factor 1.10					Sds 0.19					Ss 0.18
Dead Load Factor 0.90			Seismic Load Factor 1.00			Sd1 0.10			S1 0.06	
Wind Load Factor 0.00		Structure Frequency (f1) 0.25		SA 0.03		Seismic Importance Factor 1.00				



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-29.30	-2.02	0.00	-238.13	0.00	238.13	2818.94	1409.47	4888.80	2448.04	0.00	0.00	0.00	0.051
2.00	-28.95	-2.02	0.00	-234.09	0.00	234.09	2805.89	1402.95	4830.09	2418.63	0.00	-0.01	0.050	
4.00	-28.61	-2.02	0.00	-230.04	0.00	230.04	2792.73	1396.36	4771.51	2389.30	0.01	-0.01	0.050	
6.00	-28.27	-2.01	0.00	-226.01	0.00	226.01	2779.45	1389.73	4713.08	2360.04	0.01	-0.02	0.049	
8.00	-27.94	-2.01	0.00	-221.98	0.00	221.98	2766.06	1383.03	4654.80	2330.86	0.02	-0.03	0.049	
10.00	-27.60	-2.00	0.00	-217.96	0.00	217.96	2752.56	1376.28	4596.67	2301.75	0.04	-0.03	0.048	
10.25	-27.56	-2.00	0.00	-217.46	0.00	217.46	2750.86	1375.43	4589.41	2298.12	0.04	-0.03	0.050	
12.00	-27.27	-2.00	0.00	-213.95	0.00	213.95	2738.94	1369.47	4538.70	2272.72	0.05	-0.04	0.050	
14.00	-26.93	-1.99	0.00	-209.95	0.00	209.95	2725.20	1362.60	4480.89	2243.77	0.07	-0.05	0.050	
16.00	-26.60	-1.98	0.00	-205.97	0.00	205.97	2711.35	1355.68	4423.25	2214.91	0.09	-0.06	0.049	
18.00	-26.28	-1.98	0.00	-202.00	0.00	202.00	2697.39	1348.70	4365.78	2186.13	0.12	-0.06	0.048	
20.00	-25.95	-1.97	0.00	-198.04	0.00	198.04	2683.32	1341.66	4308.48	2157.44	0.14	-0.07	0.048	
20.50	-25.87	-1.97	0.00	-197.06	0.00	197.06	2679.78	1339.89	4294.19	2150.28	0.15	-0.07	0.048	
22.00	-25.62	-1.96	0.00	-194.11	0.00	194.11	2669.12	1334.56	4251.37	2128.84	0.17	-0.08	0.047	
24.00	-25.30	-1.96	0.00	-190.18	0.00	190.18	2654.82	1327.41	4194.44	2100.34	0.21	-0.08	0.047	
25.96	-24.99	-1.95	0.00	-186.35	0.00	186.35	2640.69	1320.34	4138.83	2072.49	0.24	-0.09	0.041	
26.00	-24.98	-1.95	0.00	-186.27	0.00	186.27	2640.40	1320.20	4137.70	2071.92	0.24	-0.09	0.041	
27.88	-24.68	-1.94	0.00	-182.60	0.00	182.60	2626.74	1313.37	4084.54	2045.30	0.28	-0.10	0.050	
28.00	-24.66	-1.94	0.00	-182.37	0.00	182.37	2625.87	1312.93	4081.15	2043.61	0.28	-0.10	0.050	
30.00	-24.35	-1.93	0.00	-178.49	0.00	178.49	2611.22	1305.61	4024.80	2015.39	0.33	-0.10	0.049	
32.00	-24.03	-1.93	0.00	-174.62	0.00	174.62	2596.46	1298.23	3968.65	1987.27	0.37	-0.11	0.049	
34.00	-23.72	-1.92	0.00	-170.77	0.00	170.77	2581.58	1290.79	3912.71	1959.26	0.42	-0.12	0.048	
36.00	-23.41	-1.91	0.00	-166.93	0.00	166.93	2566.59	1283.29	3856.98	1931.36	0.47	-0.13	0.047	
38.00	-23.10	-1.90	0.00	-163.11	0.00	163.11	2551.48	1275.74	3801.46	1903.56	0.53	-0.14	0.047	
40.00	-22.79	-1.89	0.00	-159.30	0.00	159.30	2536.26	1268.13	3746.17	1875.87	0.59	-0.14	0.046	
40.50	-22.71	-1.89	0.00	-158.35	0.00	158.35	2532.44	1266.22	3732.38	1868.96	0.60	-0.14	0.046	
40.71	-22.68	-1.89	0.00	-157.96	0.00	157.96	2530.83	1265.42	3726.59	1866.07	0.61	-0.15	0.046	
42.00	-22.48	-1.89	0.00	-155.52	0.00	155.52	2520.93	1260.46	3691.10	1848.29	0.65	-0.15	0.045	
43.33	-22.28	-1.88	0.00	-153.00	0.00	153.00	2510.64	1255.32	3654.51	1829.97	0.69	-0.16	0.045	
44.00	-22.12	-1.88	0.00	-151.75	0.00	151.75	2505.48	1252.74	3636.25	1820.83	0.71	-0.16	0.044	
46.00	-21.65	-1.86	0.00	-147.99	0.00	147.99	2489.92	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
48.00	-21.17	-1.84	0.00	-144.27	0.00	144.27	2484.44	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
48.12	-21.16	-1.84	0.00	-144.05	0.00	144.05	2483.85	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
50.00	-20.92	-1.84	0.00	-140.58	0.00	140.58	2474.56	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
52.00	-20.66	-1.84	0.00	-136.90	0.00	136.90	2465.56	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
54.00	-20.40	-1.83	0.00	-133.23	0.00	133.23	2456.84	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
56.00	-20.15	-1.83	0.00	-129.57	0.00	129.57	2448.39	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
58.00	-19.90	-1.83	0.00	-125.91	0.00	125.91	2440.19	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
60.00	-19.64	-1.82	0.00	-122.26	0.00	122.26	2432.22	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
60.71	-19.56	-1.82	0.00	-120.97	0.00	120.97	2428.70	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
60.75	-19.55	-1.82	0.00	-120.90	0.00	120.90	2428.70	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
62.00	-19.39	-1.82	0.00	-118.62	0.00	118.62	2421.44	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
64.00	-19.15	-1.83	0.00	-114.97	0.00	114.97	2414.44	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
66.00	-18.90	-1.83	0.00	-111.32	0.00	111.32	2407.66	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
68.00	-18.65	-1.83	0.00	-107.66	0.00	107.66	2401.19	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
70.00	-18.41	-1.83	0.00	-104.00	0.00	104.00	2395.00	1244.96	3581.64	1793.48	0.78	-0.17	0.044	
72.00	-18.17	-1.83	0.00	-100.34	0.00	100.34	2389.06	1244.96	3581.64	1793.48	0.78	-0.17	0.044	

Calculated Forces

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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74.00	-17.93	-1.84	0.00	-96.67	0.00	96.67	1717.07	858.54	2205.13	1104.20	2.13	-0.30	0.057
76.00	-17.69	-1.84	0.00	-92.99	0.00	92.99	1705.70	852.85	2168.59	1085.91	2.26	-0.31	0.055
78.00	-17.45	-1.84	0.00	-89.32	0.00	89.32	1694.22	847.11	2132.20	1067.69	2.39	-0.32	0.054
78.25	-17.42	-1.84	0.00	-88.86	0.00	88.86	1692.78	846.39	2127.67	1065.41	2.41	-0.32	0.054
78.25	-17.42	-1.84	0.00	-88.86	0.00	88.86	1692.78	846.39	2127.67	1065.41	2.41	-0.32	0.054
80.00	-17.21	-1.84	0.00	-85.63	0.00	85.63	1682.63	841.31	2095.97	1049.54	2.53	-0.33	0.092
82.00	-16.98	-1.85	0.00	-81.95	0.00	81.95	1670.92	835.46	2059.89	1031.48	2.67	-0.35	0.090
84.00	-16.75	-1.85	0.00	-78.25	0.00	78.25	1659.09	829.55	2023.98	1013.49	2.82	-0.37	0.087
86.00	-16.51	-1.85	0.00	-74.55	0.00	74.55	1647.16	823.58	1988.23	995.59	2.98	-0.38	0.085
87.42	-16.35	-1.85	0.00	-71.93	0.00	71.93	1638.63	819.32	1963.01	982.97	3.09	-0.39	0.083
88.00	-16.25	-1.86	0.00	-70.85	0.00	70.85	1635.10	817.55	1952.65	977.78	3.14	-0.40	0.082
90.00	-13.06	-1.84	0.00	-67.13	0.00	67.13	1622.94	811.47	1917.25	960.05	3.31	-0.42	0.078
91.33	-12.85	-1.84	0.00	-64.68	0.00	64.68	1099.39	549.70	1312.06	657.00	3.43	-0.43	0.110
92.00	-12.78	-1.84	0.00	-63.46	0.00	63.46	1097.24	548.62	1304.79	653.36	3.49	-0.43	0.109
94.00	-12.55	-1.84	0.00	-59.78	0.00	59.78	1090.71	545.35	1282.99	642.45	3.68	-0.45	0.105
96.00	-12.37	-1.84	0.00	-56.10	0.00	56.10	1084.06	542.03	1261.23	631.55	3.87	-0.47	0.100
98.00	-12.18	-1.85	0.00	-52.41	0.00	52.41	1077.30	538.65	1239.51	620.68	4.07	-0.49	0.096
100.00	-10.42	-1.83	0.00	-48.71	0.00	48.71	1070.43	535.22	1217.83	609.82	4.28	-0.50	0.090
102.00	-10.26	-1.84	0.00	-45.05	0.00	45.05	1063.44	531.72	1196.21	598.99	4.49	-0.52	0.085
104.00	-10.09	-1.84	0.00	-41.37	0.00	41.37	1056.34	528.17	1174.63	588.19	4.71	-0.54	0.080
106.00	-9.92	-1.84	0.00	-37.70	0.00	37.70	1049.12	524.56	1153.11	577.41	4.94	-0.55	0.075
108.00	-9.76	-1.83	0.00	-34.03	0.00	34.03	1041.79	520.90	1131.65	566.67	5.18	-0.57	0.069
110.00	-7.95	-1.73	0.00	-30.37	0.00	30.37	1034.34	517.17	1110.26	555.96	5.42	-0.58	0.062
112.00	-7.82	-1.72	0.00	-26.91	0.00	26.91	1026.79	513.39	1088.94	545.28	5.66	-0.59	0.057
114.00	-7.68	-1.72	0.00	-23.46	0.00	23.46	1019.11	509.56	1067.70	534.64	5.91	-0.60	0.051
116.00	-7.55	-1.71	0.00	-20.03	0.00	20.03	1011.32	505.66	1046.53	524.04	6.17	-0.61	0.046
118.00	-7.42	-1.69	0.00	-16.62	0.00	16.62	1003.42	501.71	1025.45	513.49	6.43	-0.62	0.040
120.00	-5.17	-1.36	0.00	-13.23	0.00	13.23	995.40	497.70	1004.45	502.97	6.69	-0.63	0.032
120.00	-5.17	-1.36	0.00	-13.23	0.00	13.23	735.22	367.61	535.89	335.79	6.69	-0.63	0.046
122.00	-5.04	-1.34	0.00	-10.52	0.00	10.52	735.22	367.61	535.89	335.79	6.96	-0.64	0.038
124.00	-4.92	-1.33	0.00	-7.83	0.00	7.83	735.22	367.61	535.89	335.79	7.22	-0.64	0.030
126.00	-4.80	-1.31	0.00	-5.18	0.00	5.18	735.22	367.61	535.89	335.79	7.50	-0.65	0.022
128.00	-4.68	-1.29	0.00	-2.57	0.00	2.57	735.22	367.61	535.89	335.79	7.77	-0.66	0.014
130.00	0.00	-1.23	0.00	0.00	0.00	0.00	735.22	367.61	535.89	335.79	8.05	-0.66	0.000

Wind Loading - Shaft

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



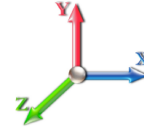
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 24

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1 RB2	1.00	0.85	7.442	8.19	198.94	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		1.00	0.85	7.442	8.19	197.48	0.650	0.000	2.00	7.166	4.66	38.1	0.0	283.7
4.00		1.00	0.85	7.442	8.19	196.03	0.650	0.000	2.00	7.114	4.62	37.9	0.0	281.6
6.00		1.00	0.85	7.442	8.19	194.58	0.650	0.000	2.00	7.061	4.59	37.6	0.0	279.5
8.00		1.00	0.85	7.442	8.19	193.12	0.650	0.000	2.00	7.009	4.56	37.3	0.0	277.4
10.00		1.00	0.85	7.442	8.19	191.67	0.650	0.000	2.00	6.956	4.52	37.0	0.0	275.3
10.25	RT2 RB3	1.00	0.85	7.442	8.19	191.49	0.650	0.000	0.25	0.866	0.56	4.6	0.0	34.3
12.00		1.00	0.85	7.442	8.19	190.21	0.650	0.000	1.75	6.038	3.92	32.1	0.0	239.0
14.00		1.00	0.85	7.442	8.19	188.76	0.650	0.000	2.00	6.851	4.45	36.5	0.0	271.1
16.00		1.00	0.86	7.534	8.29	188.46	0.650	0.000	2.00	6.798	4.42	36.6	0.0	269.0
18.00		1.00	0.88	7.723	8.50	189.33	0.650	0.000	2.00	6.746	4.38	37.2	0.0	266.9
20.00		1.00	0.90	7.896	8.69	189.94	0.650	0.000	2.00	6.693	4.35	37.8	0.0	264.9
20.50	RT1 RB4	1.00	0.91	7.937	8.73	190.06	0.650	0.000	0.50	1.665	1.08	9.4	0.0	65.9
22.00		1.00	0.92	8.056	8.86	190.35	0.650	0.000	1.50	4.976	3.23	28.7	0.0	196.9
24.00		1.00	0.94	8.205	9.03	190.57	0.650	0.000	2.00	6.588	4.28	38.7	0.0	260.7
25.96	RB5	1.00	0.95	8.342	9.18	190.64	0.650	0.000	1.96	6.405	4.16	38.2	0.0	253.4
26.00		1.00	0.95	8.345	9.18	190.64	0.650	0.000	0.04	0.130	0.08	0.8	0.0	5.2
27.88	RT3 RB6	1.00	0.97	8.468	9.31	190.59	0.650	0.000	1.88	6.096	3.96	36.9	0.0	241.1
28.00		1.00	0.97	8.476	9.32	190.59	0.650	0.000	0.12	0.387	0.25	2.3	0.0	15.3
30.00		1.00	0.98	8.600	9.46	190.41	0.650	0.000	2.00	6.430	4.18	39.5	0.0	254.4
32.00		1.00	1.00	8.717	9.59	190.14	0.650	0.000	2.00	6.378	4.15	39.8	0.0	252.3
34.00		1.00	1.01	8.829	9.71	189.77	0.650	0.000	2.00	6.325	4.11	39.9	0.0	250.2
36.00		1.00	1.02	8.936	9.83	189.32	0.650	0.000	2.00	6.273	4.08	40.1	0.0	248.1
38.00		1.00	1.03	9.039	9.94	188.80	0.650	0.000	2.00	6.220	4.04	40.2	0.0	246.0
40.00		1.00	1.04	9.137	10.05	188.21	0.650	0.000	2.00	6.168	4.01	40.3	0.0	243.9
40.50	RT4 RB7	1.00	1.05	9.161	10.08	188.06	0.650	0.000	0.50	1.534	1.00	10.0	0.0	60.6
40.71	RT5 RB8	1.00	1.05	9.171	10.09	187.99	0.650	0.000	0.21	0.643	0.42	4.2	0.0	25.4
42.00		1.00	1.05	9.231	10.15	187.56	0.650	0.000	1.29	3.938	2.56	26.0	0.0	155.7
43.33	Bot - Section 2	1.00	1.06	9.292	10.22	187.10	0.650	0.000	1.33	4.048	2.63	26.9	0.0	160.0
44.00		1.00	1.06	9.322	10.25	186.86	0.650	0.000	0.67	2.043	1.33	13.6	0.0	144.4
46.00		1.00	1.07	9.410	10.35	186.10	0.650	0.000	2.00	6.095	3.96	41.0	0.0	430.7
48.00	Top - Section 1	1.00	1.08	9.494	10.44	185.29	0.650	0.000	2.00	6.042	3.93	41.0	0.0	426.9
48.12	RT6	1.00	1.08	9.499	10.45	187.89	0.650	0.000	0.12	0.361	0.23	2.5	0.0	11.4
50.00		1.00	1.09	9.576	10.53	187.09	0.650	0.000	1.88	5.629	3.66	38.5	0.0	178.3
52.00		1.00	1.10	9.656	10.62	186.21	0.650	0.000	2.00	5.937	3.86	41.0	0.0	188.1
54.00		1.00	1.11	9.733	10.71	185.29	0.650	0.000	2.00	5.884	3.82	40.9	0.0	186.4
56.00		1.00	1.12	9.807	10.79	184.33	0.650	0.000	2.00	5.832	3.79	40.9	0.0	184.7
58.00		1.00	1.13	9.880	10.87	183.34	0.650	0.000	2.00	5.779	3.76	40.8	0.0	183.1
60.00		1.00	1.14	9.951	10.95	182.31	0.650	0.000	2.00	5.727	3.72	40.7	0.0	181.4
60.71	RT8	1.00	1.14	9.976	10.97	181.94	0.650	0.000	0.71	2.020	1.31	14.4	0.0	64.0
60.75	RT7 RB9	1.00	1.14	9.977	10.97	181.92	0.650	0.000	0.04	0.114	0.07	0.8	0.0	3.6
62.00		1.00	1.14	10.020	11.02	181.26	0.650	0.000	1.25	3.540	2.30	25.4	0.0	112.1
64.00		1.00	1.15	10.087	11.10	180.17	0.650	0.000	2.00	5.622	3.65	40.5	0.0	178.0
66.00		1.00	1.16	10.153	11.17	179.06	0.650	0.000	2.00	5.569	3.62	40.4	0.0	176.3
68.00		1.00	1.17	10.217	11.24	177.92	0.650	0.000	2.00	5.516	3.59	40.3	0.0	174.7
70.00		1.00	1.17	10.279	11.31	176.75	0.650	0.000	2.00	5.464	3.55	40.2	0.0	173.0
72.00		1.00	1.18	10.340	11.37	175.57	0.650	0.000	2.00	5.411	3.52	40.0	0.0	171.3

Wind Loading - Shaft

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 55
	Struct Class: II	



74.00	1.00	1.19	10.400	11.44	174.35	0.650	0.000	2.00	5.359	3.48	39.8	0.0	169.6
76.00	1.00	1.19	10.459	11.50	173.12	0.650	0.000	2.00	5.306	3.45	39.7	0.0	168.0
78.00	1.00	1.20	10.516	11.57	171.87	0.650	0.000	2.00	5.254	3.41	39.5	0.0	166.3
78.25 RT9	1.00	1.20	10.523	11.58	171.71	0.650	0.000	0.25	0.653	0.42	4.9	0.0	20.7
80.00	1.00	1.21	10.572	11.63	170.59	0.650	0.000	1.75	4.548	2.96	34.4	0.0	143.9
82.00	1.00	1.21	10.627	11.69	169.30	0.650	0.000	2.00	5.148	3.35	39.1	0.0	162.9
84.00	1.00	1.22	10.681	11.75	167.99	0.650	0.000	2.00	5.096	3.31	38.9	0.0	161.2
86.00	1.00	1.23	10.734	11.81	166.66	0.650	0.000	2.00	5.043	3.28	38.7	0.0	159.6
87.42 Bot - Section 3	1.00	1.23	10.771	11.85	165.71	0.650	0.000	1.42	3.541	2.30	27.3	0.0	112.0
88.00	1.00	1.23	10.787	11.87	165.31	0.650	0.000	0.58	1.469	0.95	11.3	0.0	80.8
90.00 Appurtenance(s)	1.00	1.24	10.838	11.92	163.95	0.650	0.000	2.00	5.002	3.25	38.8	0.0	275.2
91.33 Top - Section 2	1.00	1.24	10.871	11.96	163.03	0.650	0.000	1.33	3.305	2.15	25.7	0.0	181.8
92.00	1.00	1.24	10.888	11.98	164.69	0.650	0.000	0.67	1.644	1.07	12.8	0.0	39.1
94.00 Appurtenance(s)	1.00	1.25	10.937	12.03	163.30	0.650	0.000	2.00	4.897	3.18	38.3	0.0	116.4
96.00	1.00	1.25	10.986	12.08	161.90	0.650	0.000	2.00	4.844	3.15	38.0	0.0	115.2
98.00	1.00	1.26	11.034	12.14	160.48	0.650	0.000	2.00	4.791	3.11	37.8	0.0	113.9
100.00 Appurtenance(s)	1.00	1.27	11.081	12.19	159.05	0.650	0.000	2.00	4.739	3.08	37.5	0.0	112.6
102.00	1.00	1.27	11.127	12.24	157.60	0.650	0.000	2.00	4.686	3.05	37.3	0.0	111.4
104.00	1.00	1.28	11.173	12.29	156.14	0.650	0.000	2.00	4.634	3.01	37.0	0.0	110.1
106.00	1.00	1.28	11.218	12.34	154.67	0.650	0.000	2.00	4.581	2.98	36.7	0.0	108.9
108.00	1.00	1.29	11.262	12.39	153.19	0.650	0.000	2.00	4.529	2.94	36.5	0.0	107.6
110.00 Appurtenance(s)	1.00	1.29	11.305	12.44	151.69	0.650	0.000	2.00	4.476	2.91	36.2	0.0	106.4
112.00	1.00	1.30	11.348	12.48	150.19	0.650	0.000	2.00	4.423	2.88	35.9	0.0	105.1
114.00	1.00	1.30	11.391	12.53	148.67	0.650	0.000	2.00	4.371	2.84	35.6	0.0	103.8
116.00	1.00	1.31	11.432	12.58	147.14	0.650	0.000	2.00	4.318	2.81	35.3	0.0	102.6
118.00	1.00	1.31	11.474	12.62	145.60	0.650	0.000	2.00	4.266	2.77	35.0	0.0	101.3
120.00 Top - Section 3	1.00	1.32	11.514	12.67	144.05	0.650	0.000	2.00	4.213	2.74	34.7	0.0	100.1
122.00	1.00	1.32	11.554	12.71	103.39	0.620 *	0.000	2.00	3.000	1.86	23.6	0.0	94.9
124.00	1.00	1.32	11.594	12.75	103.57	0.620 *	0.000	2.00	3.000	1.86	23.7	0.0	94.9
126.00	1.00	1.33	11.633	12.80	103.74	0.620 *	0.000	2.00	3.000	1.86	23.8	0.0	94.9
128.00	1.00	1.33	11.672	12.84	103.92	0.620 *	0.000	2.00	3.000	1.86	23.9	0.0	94.9
130.00 Appurtenance(s)	1.00	1.34	11.710	12.88	104.08	0.620 *	0.000	2.00	3.000	1.86	24.0	0.0	94.9
								Totals:	130.00		2,439.4		12,677.2

* Cf Adjusted by Linear Load Ra Effect

Discrete Appurtenance Forces

Structure: CT13064-A-SBA
Site Name: Middletown 2, CT
Height: 130.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

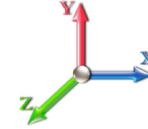
Code: TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

3/2/2022
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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	130.00	DC6-48-60-18-8F	2	11.710	12.881	0.38	0.75	0.69	63.60	0.000	0.000	8.89	0.00	0.00
2	130.00	6' Lightning rod	1	11.766	12.943	1.00	1.00	0.38	6.50	0.000	3.000	4.92	0.00	14.76
3	130.00	Cci DMP65R-BU6DA	3	11.710	12.881	0.54	0.75	20.62	189.90	0.000	0.000	265.59	0.00	0.00
4	130.00	RRUS 32	6	11.710	12.881	0.38	0.75	3.71	462.00	0.000	0.000	47.82	0.00	0.00
5	130.00	RRUS 4478 B14	3	11.710	12.881	0.38	0.75	1.86	178.20	0.000	0.000	23.91	0.00	0.00
6	130.00	B2 B66A 8843	3	11.710	12.881	0.38	0.75	1.84	210.00	0.000	0.000	23.77	0.00	0.00
7	130.00	4449 B5/B12	3	11.710	12.881	0.38	0.75	2.22	213.00	0.000	0.000	28.55	0.00	0.00
8	130.00	RRUS E2 B29	3	11.710	12.881	0.38	0.75	3.54	178.20	0.000	0.000	45.65	0.00	0.00
9	130.00	Ericsson AIR6419	3	11.748	12.922	0.57	0.75	6.50	198.30	0.000	2.000	83.97	0.00	167.94
10	130.00	(3) Horizontal bracing	1	11.710	12.881	0.75	0.75	4.45	137.25	0.000	0.000	57.36	0.00	0.00
11	130.00	Quinte QD6616-7	3	11.710	12.881	0.56	0.75	22.92	177.30	0.000	0.000	295.18	0.00	0.00
12	130.00	Ericsson AIR6449	3	11.672	12.839	0.64	0.75	7.90	264.00	0.000	-2.000	101.41	0.00	-202.82
13	130.00	Additional mount pipe	3	11.710	12.881	0.56	0.75	2.95	51.00	0.000	0.000	38.04	0.00	0.00
14	130.00	DC6-48-60-0-8C	2	11.710	12.881	0.38	0.75	3.58	32.00	0.000	0.000	46.18	0.00	0.00
15	130.00	Angle Reinforcement kit	1	11.710	12.881	1.00	1.00	5.80	250.00	0.000	0.000	74.71	0.00	0.00
16	130.00	PRK-1245 (kicker kit)	1	11.710	12.881	1.00	1.00	9.50	464.91	0.000	0.000	122.37	0.00	0.00
17	130.00	MTC3607 Platform + HR	1	11.710	12.881	1.00	1.00	45.40	2000.00	0.000	0.000	584.80	0.00	0.00
18	120.00	MC-PK8-DSH	1	11.514	12.666	1.00	1.00	37.59	1727.00	0.000	0.000	476.11	0.00	0.00
19	120.00	RDIDC-9181-OF-48	1	11.514	12.666	0.38	0.75	0.75	21.90	0.000	0.000	9.55	0.00	0.00
20	120.00	TA08025-B604	3	11.514	12.666	0.38	0.75	2.21	191.70	0.000	0.000	27.93	0.00	0.00
21	120.00	TA08025-B605	3	11.514	12.666	0.38	0.75	2.21	225.00	0.000	0.000	27.93	0.00	0.00
22	120.00	MX08FRO665-21	3	11.514	12.666	0.55	0.75	20.80	193.50	0.000	0.000	263.40	0.00	0.00
23	110.00	T-Arm (Round)	3	11.305	12.436	0.56	0.75	13.50	1050.00	0.000	0.000	167.88	0.00	0.00
24	110.00	DB-T1-6Z-8AB-OZ	2	11.305	12.436	0.40	0.80	3.84	37.80	0.000	0.000	47.75	0.00	0.00
25	110.00	B4 RRH2X60-4R	3	11.305	12.436	0.40	0.80	4.03	165.00	0.000	0.000	50.14	0.00	0.00
26	110.00	B13 RRH4X30-4R	3	11.305	12.436	0.40	0.80	2.59	171.60	0.000	0.000	32.23	0.00	0.00
27	110.00	RRH2X60-1900A-4R	3	11.305	12.436	0.40	0.80	2.26	138.00	0.000	0.000	28.06	0.00	0.00
28	110.00	SBNHH-1D65B	6	11.305	12.436	0.63	0.80	30.94	240.00	0.000	0.000	384.80	0.00	0.00
29	110.00	CBC721-DF	3	11.284	12.412	0.40	0.80	0.54	13.20	0.000	-1.000	6.70	0.00	-6.70
30	110.00	CBC721-DF	3	11.327	12.460	0.40	0.80	0.54	13.20	0.000	1.000	6.73	0.00	6.73
31	100.00	AIR 21, 1.3M, B4A B2P	3	11.081	12.189	0.64	0.80	11.69	271.20	0.000	0.000	142.52	0.00	0.00
32	100.00	AIR 21, 1.3M, B2A B4P	3	11.081	12.189	0.64	0.80	11.69	274.50	0.000	0.000	142.52	0.00	0.00
33	100.00	782 11056	3	11.081	12.189	0.40	0.80	0.16	5.40	0.000	0.000	1.90	0.00	0.00
34	100.00	LNx-6515DS-A1M	3	11.081	12.189	0.64	0.80	22.02	150.90	0.000	0.000	268.43	0.00	0.00
35	100.00	T-Arm (Round)	3	11.081	12.189	0.56	0.75	13.50	1050.00	0.000	0.000	164.55	0.00	0.00
36	94.00	1'4"x6.5"x6" Surge	1	10.937	12.031	0.80	0.80	1.71	53.00	0.000	0.000	20.60	0.00	0.00
37	90.00	F3P-10W	1	10.838	11.921	1.00	1.00	51.77	2122.00	0.000	0.000	617.17	0.00	0.00
38	90.00	NNVV-65B-R4	3	10.838	11.921	0.55	0.75	20.43	232.20	0.000	0.000	243.55	0.00	0.00
39	90.00	AAHC	3	10.838	11.921	0.56	0.75	7.09	312.00	0.000	0.000	84.49	0.00	0.00
40	90.00	ALU - 800 MHz - RRU	6	10.838	11.921	0.38	0.75	5.60	318.00	0.000	0.000	66.79	0.00	0.00
41	90.00	ALU - 1900MHz - RRU	3	10.838	11.921	0.38	0.75	4.27	132.00	0.000	0.000	50.96	0.00	0.00
42	90.00	Andrew - VHLP2-11	2	10.838	11.921	0.75	0.75	7.02	54.00	0.000	0.000	83.69	0.00	0.00

Totals: 14,239.26

5,269.49

Total Applied Force Summary

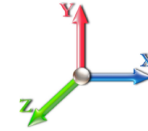
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 57

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

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
2.00		38.13	381.18	0.00	0.00
4.00		37.85	379.09	0.00	0.00
6.00		37.57	376.99	0.00	0.00
8.00		37.29	374.89	0.00	0.00
10.00		37.01	372.80	0.00	0.00
10.25		4.61	46.45	0.00	0.00
12.00		32.13	324.25	0.00	0.00
14.00		36.45	368.60	0.00	0.00
16.00		36.62	366.51	0.00	0.00
18.00		37.25	364.41	0.00	0.00
20.00		37.79	362.31	0.00	0.00
20.50		9.45	90.25	0.00	0.00
22.00		28.66	269.97	0.00	0.00
24.00		38.65	358.12	0.00	0.00
25.96		38.20	348.92	0.00	0.00
26.00		0.78	7.10	0.00	0.00
27.88		36.91	332.75	0.00	0.00
28.00		2.35	21.18	0.00	0.00
30.00		39.54	351.83	0.00	0.00
32.00		39.75	349.74	0.00	0.00
34.00		39.93	347.64	0.00	0.00
36.00		40.08	345.54	0.00	0.00
38.00		40.20	343.45	0.00	0.00
40.00		40.29	341.35	0.00	0.00
40.50		10.05	85.01	0.00	0.00
40.71		4.22	35.67	0.00	0.00
42.00		25.99	218.58	0.00	0.00
43.33		26.89	225.00	0.00	0.00
44.00		13.62	176.90	0.00	0.00
46.00		41.00	528.18	0.00	0.00
48.00		41.02	524.40	0.00	0.00
48.12		2.45	17.28	0.00	0.00
50.00		38.54	269.94	0.00	0.00
52.00		40.99	285.55	0.00	0.00
54.00		40.95	283.87	0.00	0.00
56.00		40.89	282.19	0.00	0.00
58.00		40.83	280.52	0.00	0.00
60.00		40.74	278.84	0.00	0.00
60.71		14.41	98.58	0.00	0.00
60.75		0.81	5.55	0.00	0.00
62.00		25.36	173.03	0.00	0.00
64.00		40.54	275.48	0.00	0.00
66.00		40.43	273.81	0.00	0.00
68.00		40.30	272.13	0.00	0.00
70.00		40.16	270.45	0.00	0.00
72.00		40.01	268.78	0.00	0.00

Total Applied Force Summary

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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74.00		39.85	267.10	0.00	0.00
76.00		39.68	265.42	0.00	0.00
78.00		39.50	263.74	0.00	0.00
78.25		4.91	32.85	0.00	0.00
80.00		34.38	229.22	0.00	0.00
82.00		39.12	260.39	0.00	0.00
84.00		38.92	258.71	0.00	0.00
86.00		38.71	257.04	0.00	0.00
87.42		27.27	181.05	0.00	0.00
88.00		11.33	109.23	0.00	0.00
90.00	(18) attachments	1185.42	3542.82	0.00	0.00
91.33		25.69	241.20	0.00	0.00
92.00		12.80	68.79	0.00	0.00
94.00	(1) attachments	58.89	258.52	0.00	0.00
96.00		38.05	204.26	0.00	0.00
98.00		37.80	203.00	0.00	0.00
100.00	(15) attachments	757.47	1953.75	0.00	0.00
102.00		37.28	185.81	0.00	0.00
104.00		37.02	184.55	0.00	0.00
106.00		36.74	183.29	0.00	0.00
108.00		36.46	182.03	0.00	0.00
110.00	(26) attachments	760.48	2009.58	0.00	0.03
112.00		35.89	150.16	0.00	0.00
114.00		35.60	148.90	0.00	0.00
116.00		35.30	147.64	0.00	0.00
118.00		35.00	146.38	0.00	0.00
120.00	(11) attachments	839.59	2504.23	0.00	0.00
122.00		23.64	136.30	0.00	0.00
124.00		23.72	136.30	0.00	0.00
126.00		23.80	136.30	0.00	0.00
128.00		23.88	136.30	0.00	0.00
130.00	(42) attachments	1877.07	5212.46	0.00	-20.13
Totals:		7,708.93	32,552.34	0.00	-20.10

Linear Appurtenance Segment Forces (Factored)

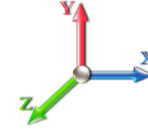
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
2.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	7.442	0.00	9.66
2.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.070	0.000	7.442	0.00	0.00
2.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	7.442	0.00	0.00
4.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	7.442	0.00	9.66
4.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.070	0.000	7.442	0.00	0.00
4.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.070	0.000	7.442	0.00	0.00
6.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	7.442	0.00	9.66
6.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.071	0.000	7.442	0.00	0.00
6.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	7.442	0.00	0.00
8.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	7.442	0.00	9.66
8.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.071	0.000	7.442	0.00	0.00
8.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.071	0.000	7.442	0.00	0.00
10.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.072	0.000	7.442	0.00	9.66
10.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.072	0.000	7.442	0.00	0.00
10.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.072	0.000	7.442	0.00	0.00
10.25	2" Conduit	Yes	0.25	0.000	2.00	0.04	0.00	0.072	0.000	7.442	0.00	1.21
10.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.072	0.000	7.442	0.00	0.00
10.25	1" Reinforcing plate	Yes	0.25	0.000	0.00	0.00	0.00	0.072	0.000	7.442	0.00	0.00
12.00	2" Conduit	Yes	1.75	0.000	2.00	0.29	0.00	0.072	0.000	7.442	0.00	8.45
12.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.072	0.000	7.442	0.00	0.00
12.00	1" Reinforcing plate	Yes	1.75	0.000	0.00	0.00	0.00	0.072	0.000	7.442	0.00	0.00
14.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	7.442	0.00	9.66
14.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.073	0.000	7.442	0.00	0.00
14.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.073	0.000	7.442	0.00	0.00
16.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	7.534	0.00	9.66
16.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.074	0.000	7.534	0.00	0.00
16.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	7.534	0.00	0.00
18.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	7.723	0.00	9.66
18.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.074	0.000	7.723	0.00	0.00
18.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.074	0.000	7.723	0.00	0.00
20.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	7.896	0.00	9.66
20.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.075	0.000	7.896	0.00	0.00
20.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.075	0.000	7.896	0.00	0.00
20.50	2" Conduit	Yes	0.50	0.000	2.00	0.08	0.00	0.075	0.000	7.937	0.00	2.42
20.50	1" Reinforcing plate	Yes	0.50	0.000	1.00	0.04	0.00	0.075	0.000	7.937	0.00	0.00
20.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.075	0.000	7.937	0.00	0.00
22.00	2" Conduit	Yes	1.50	0.000	2.00	0.25	0.00	0.075	0.000	8.056	0.00	7.25
22.00	1" Reinforcing plate	Yes	1.50	0.000	1.00	0.13	0.00	0.075	0.000	8.056	0.00	0.00
22.00	1" Reinforcing plate	Yes	1.50	0.000	0.00	0.00	0.00	0.075	0.000	8.056	0.00	0.00
24.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	8.205	0.00	9.66
24.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.076	0.000	8.205	0.00	0.00
24.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.076	0.000	8.205	0.00	0.00
24.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.076	0.000	8.205	0.00	0.00
25.96	2" Conduit	Yes	1.96	0.000	2.00	0.33	0.00	0.076	0.000	8.342	0.00	9.47
25.96	1" Reinforcing plate	Yes	1.96	0.000	1.00	0.16	0.00	0.076	0.000	8.342	0.00	0.00
25.96	1" Reinforcing plate	Yes	1.96	0.000	0.00	0.00	0.00	0.076	0.000	8.342	0.00	0.00
25.96	1" Reinforcing plate	Yes	1.96	0.000	0.00	0.00	0.00	0.076	0.000	8.342	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



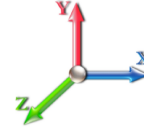
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 24

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
26.00	2" Conduit	Yes	0.04	0.000	2.00	0.01	0.00	0.077	0.000	8.345	0.00	0.19
26.00	1" Reinforcing plate	Yes	0.04	0.000	1.00	0.00	0.00	0.077	0.000	8.345	0.00	0.00
26.00	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.077	0.000	8.345	0.00	0.00
26.00	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.077	0.000	8.345	0.00	0.00
27.88	2" Conduit	Yes	1.88	0.000	2.00	0.31	0.00	0.077	0.000	8.468	0.00	9.08
27.88	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.16	0.00	0.077	0.000	8.468	0.00	0.00
27.88	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.077	0.000	8.468	0.00	0.00
27.88	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.077	0.000	8.468	0.00	0.00
28.00	2" Conduit	Yes	0.12	0.000	2.00	0.02	0.00	0.077	0.000	8.476	0.00	0.58
28.00	1" Reinforcing plate	Yes	0.12	0.000	1.00	0.01	0.00	0.077	0.000	8.476	0.00	0.00
28.00	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.077	0.000	8.476	0.00	0.00
28.00	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.077	0.000	8.476	0.00	0.00
30.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	8.600	0.00	9.66
30.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.078	0.000	8.600	0.00	0.00
30.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	8.600	0.00	0.00
30.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	8.600	0.00	0.00
32.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	8.717	0.00	9.66
32.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.078	0.000	8.717	0.00	0.00
32.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	8.717	0.00	0.00
32.00	1" Reinforcing plate	Yes	1.50	0.000	0.00	0.00	0.00	0.078	0.000	8.717	0.00	0.00
32.00	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.078	0.000	8.717	0.00	0.00
34.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	8.829	0.00	9.66
34.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.079	0.000	8.829	0.00	0.00
34.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	8.829	0.00	0.00
34.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.079	0.000	8.829	0.00	0.00
36.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.080	0.000	8.936	0.00	9.66
36.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.080	0.000	8.936	0.00	0.00
36.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	8.936	0.00	0.00
36.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	8.936	0.00	0.00
38.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.080	0.000	9.039	0.00	9.66
38.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.080	0.000	9.039	0.00	0.00
38.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	9.039	0.00	0.00
38.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.080	0.000	9.039	0.00	0.00
40.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.081	0.000	9.137	0.00	9.66
40.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.081	0.000	9.137	0.00	0.00
40.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	9.137	0.00	0.00
40.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.081	0.000	9.137	0.00	0.00
40.50	2" Conduit	Yes	0.50	0.000	2.00	0.08	0.00	0.082	0.000	9.161	0.00	2.42
40.50	1" Reinforcing plate	Yes	0.50	0.000	1.00	0.04	0.00	0.082	0.000	9.161	0.00	0.00
40.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.082	0.000	9.161	0.00	0.00
40.50	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.082	0.000	9.161	0.00	0.00
40.71	2" Conduit	Yes	0.21	0.000	2.00	0.04	0.00	0.082	0.000	9.171	0.00	1.01
40.71	1" Reinforcing plate	Yes	0.21	0.000	1.00	0.02	0.00	0.082	0.000	9.171	0.00	0.00
40.71	1" Reinforcing plate	Yes	0.21	0.000	0.00	0.00	0.00	0.082	0.000	9.171	0.00	0.00
40.71	1" Reinforcing plate	Yes	0.21	0.000	0.00	0.00	0.00	0.082	0.000	9.171	0.00	0.00
42.00	2" Conduit	Yes	1.29	0.000	2.00	0.21	0.00	0.082	0.000	9.231	0.00	6.23
42.00	1" Reinforcing plate	Yes	1.29	0.000	1.00	0.11	0.00	0.082	0.000	9.231	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

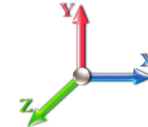
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
42.00	1" Reinforcing plate	Yes	1.29	0.000	0.00	0.00	0.00	0.082	0.000	9.231	0.00	0.00
42.00	1" Reinforcing plate	Yes	1.29	0.000	0.00	0.00	0.00	0.082	0.000	9.231	0.00	0.00
43.33	2" Conduit	Yes	1.33	0.000	2.00	0.22	0.00	0.082	0.000	9.292	0.00	6.44
43.33	1" Reinforcing plate	Yes	1.33	0.000	1.00	0.11	0.00	0.082	0.000	9.292	0.00	0.00
43.33	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.082	0.000	9.292	0.00	0.00
43.33	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.082	0.000	9.292	0.00	0.00
44.00	2" Conduit	Yes	0.67	0.000	2.00	0.11	0.00	0.083	0.000	9.322	0.00	3.22
44.00	1" Reinforcing plate	Yes	0.67	0.000	1.00	0.06	0.00	0.083	0.000	9.322	0.00	0.00
44.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.083	0.000	9.322	0.00	0.00
44.00	1" Reinforcing plate	Yes	0.67	0.000	0.00	0.00	0.00	0.083	0.000	9.322	0.00	0.00
46.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	9.410	0.00	9.66
46.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.083	0.000	9.410	0.00	0.00
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	9.410	0.00	0.00
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	9.410	0.00	0.00
46.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	9.410	0.00	0.00
48.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.084	0.000	9.494	0.00	9.66
48.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.084	0.000	9.494	0.00	0.00
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	9.494	0.00	0.00
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	9.494	0.00	0.00
48.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	9.494	0.00	0.00
48.12	2" Conduit	Yes	0.12	0.000	2.00	0.02	0.00	0.083	0.000	9.499	0.00	0.58
48.12	1" Reinforcing plate	Yes	0.12	0.000	1.00	0.01	0.00	0.083	0.000	9.499	0.00	0.00
48.12	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.083	0.000	9.499	0.00	0.00
48.12	1" Reinforcing plate	Yes	0.12	0.000	0.00	0.00	0.00	0.083	0.000	9.499	0.00	0.00
50.00	2" Conduit	Yes	1.88	0.000	2.00	0.31	0.00	0.084	0.000	9.576	0.00	9.08
50.00	1" Reinforcing plate	Yes	1.88	0.000	1.00	0.16	0.00	0.084	0.000	9.576	0.00	0.00
50.00	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.084	0.000	9.576	0.00	0.00
50.00	1" Reinforcing plate	Yes	1.88	0.000	0.00	0.00	0.00	0.084	0.000	9.576	0.00	0.00
52.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.084	0.000	9.656	0.00	9.66
52.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.084	0.000	9.656	0.00	0.00
52.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.084	0.000	9.656	0.00	0.00
52.00	1" Reinforcing plate	Yes	0.50	0.000	0.00	0.00	0.00	0.084	0.000	9.656	0.00	0.00
54.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.085	0.000	9.733	0.00	9.66
54.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.085	0.000	9.733	0.00	0.00
54.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.085	0.000	9.733	0.00	0.00
56.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.086	0.000	9.807	0.00	9.66
56.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.086	0.000	9.807	0.00	0.00
56.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.086	0.000	9.807	0.00	0.00
58.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	9.880	0.00	9.66
58.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.087	0.000	9.880	0.00	0.00
58.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	9.880	0.00	0.00
60.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.087	0.000	9.951	0.00	9.66
60.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.087	0.000	9.951	0.00	0.00
60.00	1" Reinforcing plate	Yes	2.00	0.000	0.00	0.00	0.00	0.087	0.000	9.951	0.00	0.00
60.71	2" Conduit	Yes	0.71	0.000	2.00	0.12	0.00	0.088	0.000	9.976	0.00	3.43
60.71	1" Reinforcing plate	Yes	0.71	0.000	1.00	0.06	0.00	0.088	0.000	9.976	0.00	0.00
60.71	1" Reinforcing plate	Yes	0.71	0.000	0.00	0.00	0.00	0.088	0.000	9.976	0.00	0.00
60.75	2" Conduit	Yes	0.04	0.000	2.00	0.01	0.00	0.088	0.000	9.977	0.00	0.19
60.75	1" Reinforcing plate	Yes	0.04	0.000	1.00	0.00	0.00	0.088	0.000	9.977	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

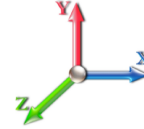


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 24

Dead Load Factor 1.00
Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
60.75	1" Reinforcing plate	Yes	0.04	0.000	0.00	0.00	0.00	0.088	0.000	9.977	0.00	0.00
62.00	2" Conduit	Yes	1.25	0.000	2.00	0.21	0.00	0.088	0.000	10.020	0.00	6.04
62.00	1" Reinforcing plate	Yes	1.25	0.000	1.00	0.10	0.00	0.088	0.000	10.020	0.00	0.00
62.00	1" Reinforcing plate	Yes	1.25	0.000	0.00	0.00	0.00	0.088	0.000	10.020	0.00	0.00
64.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.089	0.000	10.087	0.00	9.66
64.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.089	0.000	10.087	0.00	0.00
64.00	1" Reinforcing plate	Yes	1.33	0.000	0.00	0.00	0.00	0.089	0.000	10.087	0.00	0.00
66.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.090	0.000	10.153	0.00	9.66
66.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.090	0.000	10.153	0.00	0.00
68.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.091	0.000	10.217	0.00	9.66
68.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.091	0.000	10.217	0.00	0.00
70.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.092	0.000	10.279	0.00	9.66
70.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.092	0.000	10.279	0.00	0.00
72.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.092	0.000	10.340	0.00	9.66
72.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.092	0.000	10.340	0.00	0.00
74.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.093	0.000	10.400	0.00	9.66
74.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.093	0.000	10.400	0.00	0.00
76.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.094	0.000	10.459	0.00	9.66
76.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.094	0.000	10.459	0.00	0.00
78.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.095	0.000	10.516	0.00	9.66
78.00	1" Reinforcing plate	Yes	2.00	0.000	1.00	0.17	0.00	0.095	0.000	10.516	0.00	0.00
78.25	2" Conduit	Yes	0.25	0.000	2.00	0.04	0.00	0.096	0.000	10.523	0.00	1.21
78.25	1" Reinforcing plate	Yes	0.25	0.000	1.00	0.02	0.00	0.096	0.000	10.523	0.00	0.00
80.00	2" Conduit	Yes	1.75	0.000	2.00	0.29	0.00	0.096	0.000	10.572	0.00	8.45
80.00	1" Reinforcing plate	Yes	1.75	0.000	1.00	0.15	0.00	0.096	0.000	10.572	0.00	0.00
82.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.081	0.000	10.627	0.00	9.66
82.00	1" Reinforcing plate	Yes	1.00	0.000	1.00	0.08	0.00	0.081	0.000	10.627	0.00	0.00
84.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.065	0.000	10.681	0.00	9.66
86.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.066	0.000	10.734	0.00	9.66
87.42	2" Conduit	Yes	1.42	0.000	2.00	0.24	0.00	0.067	0.000	10.771	0.00	6.84
88.00	2" Conduit	Yes	0.58	0.000	2.00	0.10	0.00	0.067	0.000	10.787	0.00	2.82
90.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	10.838	0.00	9.66
91.33	2" Conduit	Yes	1.33	0.000	2.00	0.22	0.00	0.068	0.000	10.871	0.00	6.44
92.00	2" Conduit	Yes	0.67	0.000	2.00	0.11	0.00	0.068	0.000	10.888	0.00	3.22
94.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.068	0.000	10.937	0.00	9.66
96.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.069	0.000	10.986	0.00	9.66
98.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	11.034	0.00	9.66
100.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.070	0.000	11.081	0.00	9.66
102.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.071	0.000	11.127	0.00	9.66
104.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.072	0.000	11.173	0.00	9.66
106.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.073	0.000	11.218	0.00	9.66
108.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	11.262	0.00	9.66
110.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.074	0.000	11.305	0.00	9.66
112.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.075	0.000	11.348	0.00	9.66
114.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.076	0.000	11.391	0.00	9.66
116.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.077	0.000	11.432	0.00	9.66
118.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	11.474	0.00	9.66

Linear Appurtenance Segment Forces (Factored)

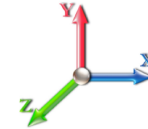
Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
120.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.079	0.000	11.514	0.00	9.66
122.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	11.554	0.00	9.66
124.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	11.594	0.00	9.66
126.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	11.633	0.00	9.66
128.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	11.672	0.00	9.66
130.00	2" Conduit	Yes	2.00	0.000	2.00	0.33	0.00	0.111	1.033	11.710	0.00	9.66
Totals:											0.0	627.9

Calculated Forces

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 64
	Struct Class: II	



Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 24

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	-32.55	-7.71	0.00	-777.50	0.00	777.50	2818.94	1409.47	4888.80	2448.04	0.00	0.000	0.000	0.155
2.00	-32.17	-7.69	0.00	-762.08	0.00	762.08	2805.89	1402.95	4830.09	2418.63	0.00	-0.022	0.000	0.154
4.00	-31.78	-7.66	0.00	-746.70	0.00	746.70	2792.73	1396.36	4771.51	2389.30	0.02	-0.044	0.000	0.152
6.00	-31.40	-7.64	0.00	-731.37	0.00	731.37	2779.45	1389.73	4713.08	2360.04	0.04	-0.066	0.000	0.150
8.00	-31.03	-7.61	0.00	-716.10	0.00	716.10	2766.06	1383.03	4654.80	2330.86	0.07	-0.088	0.000	0.148
10.00	-30.65	-7.58	0.00	-700.88	0.00	700.88	2752.56	1376.28	4596.67	2301.75	0.12	-0.110	0.000	0.146
10.25	-30.60	-7.58	0.00	-698.98	0.00	698.98	2750.86	1375.43	4589.41	2298.12	0.12	-0.112	0.000	0.153
12.00	-30.28	-7.56	0.00	-685.72	0.00	685.72	2738.94	1369.47	4538.70	2272.72	0.17	-0.132	0.000	0.151
14.00	-29.91	-7.53	0.00	-670.60	0.00	670.60	2725.20	1362.60	4480.89	2243.77	0.23	-0.155	0.000	0.149
16.00	-29.54	-7.51	0.00	-655.53	0.00	655.53	2711.35	1355.68	4423.25	2214.91	0.30	-0.178	0.000	0.147
18.00	-29.17	-7.48	0.00	-640.51	0.00	640.51	2697.39	1348.70	4365.78	2186.13	0.38	-0.200	0.000	0.145
20.00	-28.81	-7.45	0.00	-625.55	0.00	625.55	2683.32	1341.66	4308.48	2157.44	0.46	-0.223	0.000	0.143
20.50	-28.71	-7.44	0.00	-621.83	0.00	621.83	2679.78	1339.89	4294.19	2150.28	0.49	-0.228	0.000	0.142
22.00	-28.44	-7.42	0.00	-610.66	0.00	610.66	2669.12	1334.56	4251.37	2128.84	0.56	-0.245	0.000	0.140
24.00	-28.08	-7.40	0.00	-595.81	0.00	595.81	2654.82	1327.41	4194.44	2100.34	0.67	-0.267	0.000	0.138
25.96	-27.73	-7.36	0.00	-581.32	0.00	581.32	2640.69	1320.34	4138.83	2072.49	0.78	-0.289	0.000	0.120
26.00	-27.72	-7.36	0.00	-581.02	0.00	581.02	2640.40	1320.20	4137.70	2071.92	0.79	-0.289	0.000	0.119
27.88	-27.39	-7.33	0.00	-567.18	0.00	567.18	2626.74	1313.37	4084.54	2045.30	0.90	-0.307	0.000	0.146
28.00	-27.37	-7.33	0.00	-566.30	0.00	566.30	2625.87	1312.93	4081.15	2043.61	0.91	-0.309	0.000	0.146
30.00	-27.01	-7.30	0.00	-551.63	0.00	551.63	2611.22	1305.61	4024.80	2015.39	1.05	-0.333	0.000	0.144
32.00	-26.66	-7.27	0.00	-537.02	0.00	537.02	2596.46	1298.23	3968.65	1987.27	1.19	-0.357	0.000	0.142
34.00	-26.31	-7.24	0.00	-522.48	0.00	522.48	2581.58	1290.79	3912.71	1959.26	1.35	-0.380	0.000	0.139
36.00	-25.96	-7.21	0.00	-507.99	0.00	507.99	2566.59	1283.29	3856.98	1931.36	1.51	-0.404	0.000	0.137
38.00	-25.61	-7.18	0.00	-493.57	0.00	493.57	2551.48	1275.74	3801.46	1903.56	1.68	-0.427	0.000	0.134
40.00	-25.27	-7.14	0.00	-479.22	0.00	479.22	2536.26	1268.13	3746.17	1875.87	1.87	-0.450	0.000	0.131
40.50	-25.19	-7.13	0.00	-475.65	0.00	475.65	2532.44	1266.22	3732.38	1868.96	1.92	-0.456	0.000	0.131
40.71	-25.15	-7.13	0.00	-474.15	0.00	474.15	2530.83	1265.42	3726.59	1866.07	1.94	-0.458	0.000	0.131
42.00	-24.93	-7.11	0.00	-464.95	0.00	464.95	2520.93	1260.46	3691.10	1848.29	2.06	-0.473	0.000	0.129
43.33	-24.70	-7.09	0.00	-455.47	0.00	455.47	2510.64	1255.32	3654.51	1829.97	2.20	-0.488	0.000	0.127
44.00	-24.52	-7.08	0.00	-450.75	0.00	450.75	2505.48	1252.74	3636.25	1820.83	2.26	-0.496	0.000	0.125
46.00	-23.99	-7.04	0.00	-436.59	0.00	436.59	2489.92	1244.96	3581.64	1793.48	2.48	-0.518	0.000	0.122
48.00	-23.47	-7.00	0.00	-422.51	0.00	422.51	1854.44	927.22	2691.60	1347.80	2.70	-0.540	0.000	0.131
48.12	-23.45	-7.00	0.00	-421.67	0.00	421.67	1853.85	926.92	2689.31	1346.66	2.71	-0.541	0.000	0.160
50.00	-23.18	-6.97	0.00	-408.51	0.00	408.51	1844.56	922.28	2653.53	1328.74	2.93	-0.566	0.000	0.157
52.00	-22.89	-6.94	0.00	-394.56	0.00	394.56	1834.56	917.28	2615.56	1309.72	3.17	-0.592	0.000	0.153
54.00	-22.60	-6.90	0.00	-380.69	0.00	380.69	1824.45	912.23	2577.68	1290.76	3.43	-0.618	0.000	0.149
56.00	-22.32	-6.87	0.00	-366.88	0.00	366.88	1814.23	907.11	2539.90	1271.84	3.69	-0.644	0.000	0.145
58.00	-22.03	-6.84	0.00	-353.14	0.00	353.14	1803.89	901.94	2502.23	1252.97	3.97	-0.669	0.000	0.141
60.00	-21.75	-6.80	0.00	-339.46	0.00	339.46	1793.44	896.72	2464.66	1234.16	4.25	-0.693	0.000	0.137
60.71	-21.65	-6.78	0.00	-334.64	0.00	334.64	1789.70	894.85	2451.36	1227.50	4.36	-0.702	0.000	0.172
60.75	-21.65	-6.79	0.00	-334.37	0.00	334.37	1789.49	894.74	2450.61	1227.12	4.36	-0.703	0.000	0.171
62.00	-21.47	-6.77	0.00	-325.88	0.00	325.88	1782.87	891.44	2427.21	1215.41	4.55	-0.722	0.000	0.168
64.00	-21.19	-6.74	0.00	-312.34	0.00	312.34	1772.19	886.09	2389.88	1196.72	4.86	-0.752	0.000	0.163
66.00	-20.92	-6.70	0.00	-298.87	0.00	298.87	1761.39	880.70	2352.67	1178.08	5.18	-0.782	0.000	0.158
68.00	-20.64	-6.67	0.00	-285.47	0.00	285.47	1750.48	875.24	2315.58	1159.51	5.51	-0.810	0.000	0.153
70.00	-20.37	-6.63	0.00	-272.13	0.00	272.13	1739.46	869.73	2278.63	1141.01	5.86	-0.839	0.000	0.148
72.00	-20.10	-6.60	0.00	-258.86	0.00	258.86	1728.32	864.16	2241.81	1122.57	6.22	-0.866	0.000	0.142
74.00	-19.83	-6.57	0.00	-245.66	0.00	245.66	1717.07	858.54	2205.13	1104.20	6.58	-0.893	0.000	0.137

Calculated Forces

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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76.00	-19.56	-6.53	0.00	-232.53	0.00	232.53	1705.70	852.85	2168.59	1085.91	6.96	-0.919	0.000	0.131
78.00	-19.30	-6.49	0.00	-219.47	0.00	219.47	1694.22	847.11	2132.20	1067.69	7.36	-0.945	0.000	0.126
78.25	-19.26	-6.49	0.00	-217.85	0.00	217.85	1692.78	846.39	2127.67	1065.41	7.41	-0.948	0.000	0.125
78.25	-19.26	-6.49	0.00	-217.85	0.00	217.85	1692.78	846.39	2127.67	1065.41	7.41	-0.948	0.000	0.125
80.00	-19.03	-6.46	0.00	-206.49	0.00	206.49	1682.63	841.31	2095.97	1049.54	7.76	-0.969	0.000	0.208
82.00	-18.77	-6.43	0.00	-193.56	0.00	193.56	1670.92	835.46	2059.89	1031.48	8.17	-1.010	0.000	0.199
84.00	-18.50	-6.40	0.00	-180.70	0.00	180.70	1659.09	829.55	2023.98	1013.49	8.60	-1.049	0.000	0.190
86.00	-18.24	-6.37	0.00	-167.90	0.00	167.90	1647.16	823.58	1988.23	995.59	9.05	-1.087	0.000	0.180
87.42	-18.06	-6.34	0.00	-158.88	0.00	158.88	1638.63	819.32	1963.01	982.97	9.38	-1.113	0.000	0.173
88.00	-17.95	-6.34	0.00	-155.18	0.00	155.18	1635.10	817.55	1952.65	977.78	9.52	-1.123	0.000	0.170
90.00	-14.43	-5.09	0.00	-142.51	0.00	142.51	1622.94	811.47	1917.25	960.05	9.99	-1.158	0.000	0.157
91.33	-14.19	-5.06	0.00	-135.72	0.00	135.72	1099.39	549.70	1312.06	657.00	10.32	-1.180	0.000	0.220
92.00	-14.12	-5.05	0.00	-132.35	0.00	132.35	1097.24	548.62	1304.79	653.36	10.49	-1.191	0.000	0.216
94.00	-13.86	-5.00	0.00	-122.24	0.00	122.24	1090.71	545.35	1282.99	642.45	10.99	-1.231	0.000	0.203
96.00	-13.65	-4.96	0.00	-112.25	0.00	112.25	1084.06	542.03	1261.23	631.55	11.52	-1.269	0.000	0.190
98.00	-13.44	-4.93	0.00	-102.32	0.00	102.32	1077.30	538.65	1239.51	620.68	12.06	-1.305	0.000	0.177
100.00	-11.51	-4.13	0.00	-92.46	0.00	92.46	1070.43	535.22	1217.83	609.82	12.61	-1.338	0.000	0.162
102.00	-11.32	-4.10	0.00	-84.19	0.00	84.19	1063.44	531.72	1196.21	598.99	13.18	-1.370	0.000	0.151
104.00	-11.13	-4.06	0.00	-75.99	0.00	75.99	1056.34	528.17	1174.63	588.19	13.76	-1.399	0.000	0.140
106.00	-10.95	-4.03	0.00	-67.87	0.00	67.87	1049.12	524.56	1153.11	577.41	14.35	-1.427	0.000	0.128
108.00	-10.77	-3.99	0.00	-59.82	0.00	59.82	1041.79	520.90	1131.65	566.67	14.96	-1.452	0.000	0.116
110.00	-8.78	-3.18	0.00	-51.84	0.00	51.84	1034.34	517.17	1110.26	555.96	15.57	-1.475	0.000	0.102
112.00	-8.63	-3.15	0.00	-45.47	0.00	45.47	1026.79	513.39	1088.94	545.28	16.19	-1.496	0.000	0.092
114.00	-8.48	-3.11	0.00	-39.18	0.00	39.18	1019.11	509.56	1067.70	534.64	16.82	-1.515	0.000	0.082
116.00	-8.33	-3.07	0.00	-32.97	0.00	32.97	1011.32	505.66	1046.53	524.04	17.46	-1.531	0.000	0.071
118.00	-8.18	-3.03	0.00	-26.82	0.00	26.82	1003.42	501.71	1025.45	513.49	18.11	-1.545	0.000	0.060
120.00	-5.70	-2.13	0.00	-20.75	0.00	20.75	995.40	497.70	1004.45	502.97	18.76	-1.557	0.000	0.047
120.00	-5.70	-2.13	0.00	-20.75	0.00	20.75	735.22	367.61	535.89	335.79	18.76	-1.557	0.000	0.070
122.00	-5.57	-2.10	0.00	-16.50	0.00	16.50	735.22	367.61	535.89	335.79	19.41	-1.567	0.000	0.057
124.00	-5.43	-2.08	0.00	-12.29	0.00	12.29	735.22	367.61	535.89	335.79	20.07	-1.581	0.000	0.044
126.00	-5.29	-2.05	0.00	-8.14	0.00	8.14	735.22	367.61	535.89	335.79	20.73	-1.592	0.000	0.031
128.00	-5.16	-2.02	0.00	-4.04	0.00	4.04	735.22	367.61	535.89	335.79	21.40	-1.598	0.000	0.019
130.00	0.00	-1.88	0.00	0.00	0.00	0.00	735.22	367.61	535.89	335.79	22.07	-1.600	0.000	0.000

Final Analysis Summary

Structure: CT13064-A-SBA	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 101 mph Wind	35.0	0.00	39.03	0.00	0.00	3544.96
0.9D + 1.6W 101 mph Wind	35.0	0.00	29.27	0.00	0.00	3505.06
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.2	0.00	65.05	0.00	0.00	945.90
1.2D + 1.0E	2.0	0.00	39.06	0.00	0.00	241.25
0.9D + 1.0E	2.0	0.00	29.30	0.00	0.00	238.13
1.0D + 1.0W 60 mph Wind	7.7	0.00	32.55	0.00	0.00	777.50

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 101 mph Wind	-15.03	-23.13	0.00	-620.50	0.00	-620.50	1099.39	549.70	1312.06	657.00	91.33	0.960
0.9D + 1.6W 101 mph Wind	-10.80	-22.71	0.00	-607.39	0.00	-607.39	1099.39	549.70	1312.06	657.00	91.33	0.936
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-31.51	-6.13	0.00	-166.87	0.00	-166.87	1099.39	549.70	1312.06	657.00	91.33	0.283
1.2D + 1.0E	-17.13	-1.87	0.00	-65.83	0.00	-65.83	1099.39	549.70	1312.06	657.00	91.33	0.116
0.9D + 1.0E	-12.85	-1.84	0.00	-64.68	0.00	-64.68	1099.39	549.70	1312.06	657.00	91.33	0.110
1.0D + 1.0W 60 mph Wind	-14.19	-5.06	0.00	-135.72	0.00	-135.72	1099.39	549.70	1312.06	657.00	91.33	0.220

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Lower Termination				Upper Termination				Max Member				
			VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio	
0.0	20.5	(4) PLT-6"x1" (1.25" Hole)	251.1	4.02	37.1	262.4	37.1	8	8	252.5	37.1			8	267.68	326.3	281.25	0.952
0.0	10.3	(4) PLT-5.5"x1 1/4" (1.25" hol	258.8	4.66	37.1	302.5	37.1	9	9	287.6	25.3			9	302.55	379.1	314.06	0.963
10.3	27.9	(4) LNP-LP6X100-G-20CT	258.8	6.21	25.3	267.7	25.3			220.6	25.3	9	8	8	267.68	297.8	288.75	0.927
20.5	40.5	(4) PLT-6"x1" (1.25" Hole)	-304.6	-4.87	37.1	252.5	37.1			244.3	37.1			8	269.10	326.3	281.25	0.957
26.0	40.7	(2) LNP-LP6X100-G-20CT	-250.4	-6.01	25.3	203.7	25.3	9	0	200.2	25.3			8	221.70	297.8	288.75	0.768
27.9	48.1	(2) LNP-LP6X100-G-20TT	270.9	6.50	25.3	219.5	25.3	9	8	196.1	25.3	8	8	8	219.48	297.8	288.75	0.760
40.5	60.8	(4) PLT-6"x1" (1.25" Hole)	-453.5	-7.26	37.1	244.3	37.1			268.4	37.1			8	268.52	326.3	281.25	0.955
40.7	60.7	(2) LNP-LP6X100-G-20TT	-375.4	-9.01	25.3	200.2	25.3			222.4	25.3	9	10	10	258.11	297.8	288.75	0.894
60.8	78.3	(4) PLT-6"x1" (1.25" Hole)	-493.8	-7.90	37.1	268.4	37.1			199.0	37.1	6	10	10	268.38	326.3	281.25	0.954

Base Plate Summary

Structure: CT13064-A-SB	Code: TIA-222-G	3/2/2022
Site Name: Middletown 2, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 47.25
Moment (kip-ft): 1864.44	Width (in): 51.75	Number Bolts: 14.00
Axial (kip): 38.20	Style: Round	Bolt Type: 1.5" F1554 105
Shear (kip): 20.10	Polygon Sides: 0.00	Bolt Diameter (in): 1.50
Analysis (1.2D + 1.6W)	Clip Length (in): 0.00	Yield (ksi): 105.00
Moment (kip-ft): 3544.96	Effective Len (in): 17.08	Ultimate (ksi): 125.00
Axial (kip): 39.03	Moment (kip-in): 223.90	Arrangement: Radial
Shear (kip): 34.98	Allow Stress (ksi): 67.50	Cluster Dist (in): 0.00
	Applied Stress (ksi): 35.10	Start Angle (deg): 0.00
	Stress Ratio: 0.52	Compression
		Force (kip): 92.84
		Allowable (kip): 141.00
		Ratio: 0.69
		Tension
		Force (kip): 83.54
		Allowable (kip): 141.00
		Ratio: 0.63



Monopole Mat Foundation Design

Date

3/2/2022

Customer Name:	AT&T	EIA/TIA Standard:	TIA-222-G
Site Name:		Structure Height (Ft.):	130
Site Number:	CT13064-A-SBA	Engineer Name:	J. Tibbetts
Engr. Number:	125117	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	39.0	Shear Force (Kips):	35.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3545.0

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	Yes
Diameter of Pier (ft.):	6.0	Depth of Base BG (ft.):	6.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	2.50
Length of Pad (ft.):	20	Width of Pad (ft.):	20
Add Concrete Width & Length (ft.)	14	Add Concrete Thick. (ft)	1
Final Length of pad (ft)	20.0	Final width of pad (ft):	20.0

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	30	Tie Spacing (in):	3.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	6	
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):	26	Qty. of Rebar in Pad (W):	26
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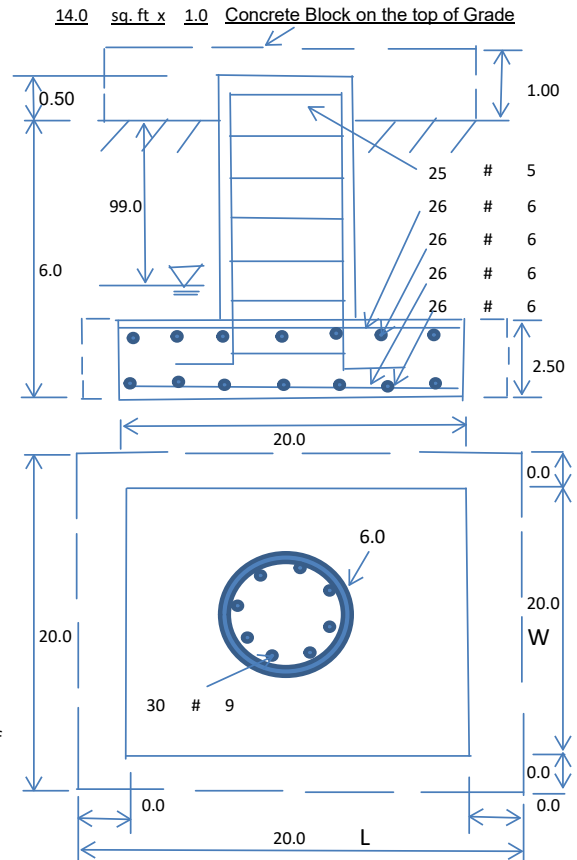
Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

Soil Unit Weight (pcf):	130.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	16000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00			



Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	1301.04	Total Dry Soil Weight (Kips):	169.14
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	169.14	Weight from the Concrete Block at Top (K):	27.28
Total Dry Concrete Volume (cu. Ft.):	1294.96	Total Dry Concrete Weight (Kips):	194.24
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	194.24	Total Vertical Load on Base (Kips):	402.41

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	6472	<	Allowable Factored Soil Bearing (psf):	12000	0.54	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	3660.7	>	Design Factored Momont (kips-ft):	3657	1.00	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.00					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):	4245.7	> Design Factored Moment (Mu, Kips-F	3685.0	0.87	OK!
Calculated Shear Capacity (Kips):	1100.5	> Design Factored Shear (Kips):	35.0	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	1620.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7145.4	> Design Factored Axial Load (Pu Kips):	39.0	0.01	OK!
Moment & Axial Strength Combination:	0.87	OK! Check Tie Spacing (Design/Required):		0.25	OK!
Pier Reinforcement Ratio:	0.007	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	606.2	> One-Way Factored Shear (L-D. Kips):	279.6	0.46	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	606.2	> One-Way Factored Shear (W-D., Kips)	279.6	0.46	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	540.9	> One-Way Factored Shear (C-C, Kips):	286.4	0.53	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	NG! Lower Steel Pad Reinf. Ratio (W-Direc	0.0018		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	1349.0	> Moment at Bottom (L-Dir. K-Ft):	1157.2	0.86	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	1349.0	> Moment at Bottom (W-Dir. K-Ft):	1157.2	0.86	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	1899.5	> Moment at Bottom (C-C Dir. K-Ft):	1636.6	0.86	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	1349.0	> Moment at the top (L-Dir K-Ft):	487.5	0.36	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	1349.0	> Moment at the top (W-Dir K-Ft):	487.5	0.36	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	1899.5	> Moment at the top (C-C Dir. K-Ft):	458.7	0.24	OK!

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

Moment transferred by punching shear:	1418.0	k-ft.	Max. factored shear stress $v_{u,CD}$:	7.5	Psi
Max. factored shear stress $v_{u,AB}$:	15.0	Psi	Factored shear Strength ϕv_n :	189.7	Psi
Max. factored shear stress v_u :	15.0	Psi	Check Usage of Punching Shear Capacity:	0.08	OK!

January 21, 2022



SAI Communications
12 Industrial Way
Salem NH, 03079

RE: Site Number: CT2547(C-Band)
 FA Number: 10141343
 PACE Number: MRCTB056419
 PT Number: 2051A11LTD
 Site Name: MIDDLETOWN FAIRCHILD ROAD
 Site Address: 50 Fairchild Road
 Middletown, CT 06457

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by SAI Communications to perform a mount analysis on the existing AT&T antenna/RRH mount to determine its capability of supporting the following additional loading:

- (3) DMP65R-BU6DA Antennas (71.2"x20.7"x7.7" – Wt. = 80 lbs. /each)
- (3) RRUS-E2 B29 RRH's (20.4"x18.5"x7.5" – Wt. = 53 lbs. /each)
- (3) B2/B66A 8843 RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)
- (3) B14 4478 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)
- (3) 4449 B5/B12 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each)
- (3) RRUS-32 B30 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) Squid Surge Arrestors (24.0"x9.7" Ø – Wt. = 33 lbs.)
- **(3) QD6616-7 Antennas (72.0"x22.0"x9.6" – Wt. = 60 lbs. /each)**
- **(3) AIR6419 Antennas (31.1"x16.1"x7.3" – Wt. = 66 lbs. /each)**
- **(3) AIR6449 Antennas (30.6"x15.9"x10.6" – Wt. = 82 lbs. /each)**
- **(1) Squid Surge Arrestors (24.0"x9.7" Ø – Wt. = 33 lbs.)**

*Proposed equipment shown in bold.

Mount fabrication drawings prepared by Commscope, P/N MTC3607, dated September 24, 2013, were used to perform this analysis. HDG conducted a ground audit of the existing AT&T antenna mount on September 20, 2021.

THIS PAGE CONTAINS CONFIDENTIAL, PROPRIETARY OR TRADE SECRET INFORMATION EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R16.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 130 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.15 in was used for this analysis.
- HDG considers this site to be exposure category C; tower is located near large, flat, open, terrain/grasslands.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- HDG considers this site to have a spectral response acceleration parameter at short periods, S_s , of 0.180 and a spectral response acceleration parameter at a period of 1 second, S_1 , of 0.063.
- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 1.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing monopole with ring mounts. The ring mounts are secured around the monopole using threaded rods. HDG considers the threaded rods to be the governing connection member.

Based on our evaluation, we have determined that the existing mount **IS NOT CAPABLE** of supporting the proposed installation. HDG recommends the following modification.

- **Install proposed 4x4 HSS steel tubes stand-offs secured to the existing pipe masts (typ. of 2 per sector, total of 6). Proposed HSS tubes are required per minimum separation distances between proposed antennas.**
- **Install proposed 2-1/2" std. (2.88" O.D.) pipe mast secured to the existing mount and handrail (typ. of 1 per sector, total of 3).**
- **Install proposed 2" std. (2.38" O.D.) horizontal pipes on existing handrail at 3ft from the end of the handrail pipe (typ. of 1 per sector, total of 3).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing Mount Rating with HSS Stand-offs	160	LC4	105%	FAIL
Modified Mount Rating	305	LC4	65%	PASS

Reference Documents:

- Fabrication drawings prepared by CommScope, P/N MTC3607, dated September 24, 2013.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mount must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC

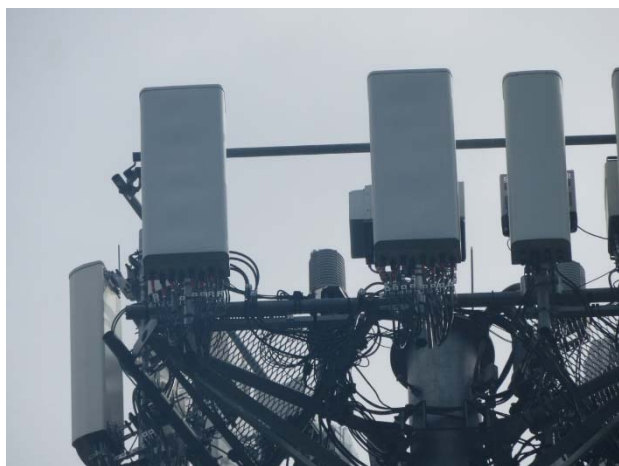


Michael Cabral
Vice President

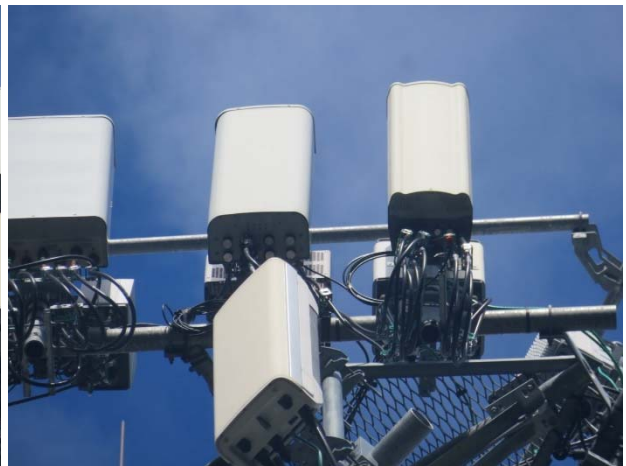
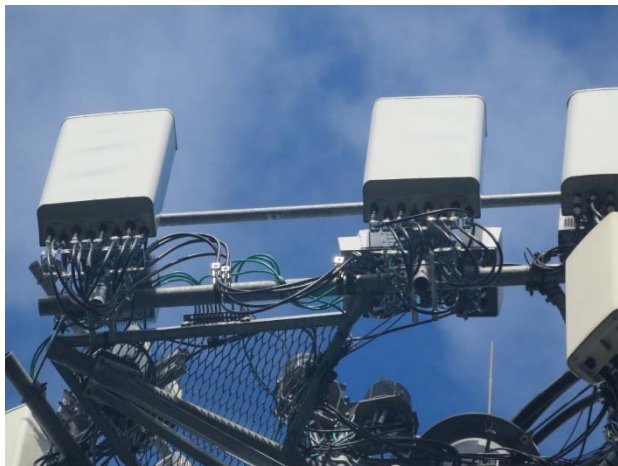
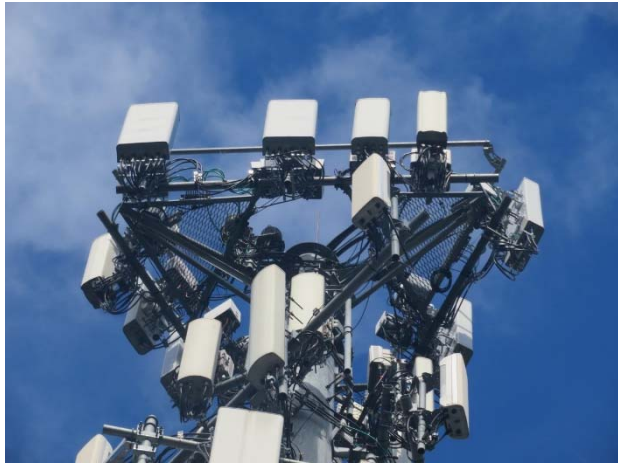


Daniel P. Hamm, PE
Principal

FIELD PHOTOS:



FIELD PHOTOS (CONT.):





HUDSON
Design Group LLC

**Wind & Ice
Calculations**

Date: 1/18/2022
 Project Name: MIDDLETOWN FAIRCHILD ROAD
 Project No.: CT2547
 Designed By: KSBM Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$$K_z = 2.01 (z/z_g)^{2/\alpha}$$

$K_z =$ **1.337**

$z =$ 130 (ft)
 $z_g =$ 900 (ft)
 $\alpha =$ 9.5

$K_{zmin} \leq K_z \leq 2.01$

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$$K_{zt} = [1 + (K_c K_t / K_h)]^2$$

$$K_h = e^{(fz/H)}$$

$K_{zt} =$ **1**

$K_h =$ 1

(If Category 1 then $K_{zt} = 1.0$)

$K_c =$ 1.0 (from Table 2-4)

$K_t =$ 0 (from Table 2-5)

$f =$ 0 (from Table 2-5)

Category = **1**

$z =$ 130

$z_s =$ 190 (Mean elevation of base of structure above sea level)

$H =$ 0 (Ht. of the crest above surrounding terrain)

$K_{zt} =$ 1.00 (from 2.6.6.2.1)

$K_e =$ 0.99 (from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =

$t_i =$ 1.00 in

Importance Factor =

$I =$ 1.00 (from Table 2-3)

$K_{iz} =$ 1.15 (from Sec. 2.6.10)

$$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$$

$t_{iz} =$ 1.15 in

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2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

$G_h = 1.0$ Latticed Structures > 600 ft

$G_h = 0.85$ Latticed Structures 450 ft or less

$G_h = 0.85 + 0.15 [h/150 - 3.0]$ $h =$ ht. of structure

$h =$ 130

$G_h =$ 0.85

2.6.9.2 Guyed Masts

$G_h =$ 0.85

2.6.9.3 Pole Structures

$G_h =$ 1.1

2.6.9 Appurtenances

$G_h =$ 1.0

2.6.9.4 Structures Supported on Other Structures

(Cantilevered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5))

$G_h =$ 1.35

$G_h =$ 1.00

2.6.11.2 Design Wind Force on Appurtenances

$F = q_z * G_h * (EPA)_A$

$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$

$K_z =$ 1.337 (from 2.6.5.2)

$K_{zt} =$ 1.0 (from 2.6.6.2.1)

$K_s =$ 1.0 (from 2.6.7)

$K_e =$ 0.99 (from 2.6.8)

$K_d =$ 0.95 (from Table 2-2)

$V_{max} =$ 130 mph (Ultimate Wind Speed)

$V_{max(ice)} =$ 50 mph

$V_{30} =$ 30 mph

$q_z =$	54.60
$q_{z(ice)} =$	8.08
$q_{z(30)} =$	2.91

Table 2-2

Structure Type	Wind Direction Probability Factor, K_d
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

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Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		$1.2 - 2.8(r_s) \geq 0.85$	$1.4 - 4.0(r_s) \geq 0.90$	$2.0 - 6.0(r_s) \geq 1.25$
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 78 (Transitional)	$4.14/(C^{0.485})$	$3.66/(C^{0.415})$	$46.8/(C^{1.0})$
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance,
 Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = 1.15 in Angle = 0 (deg) Equivalent Angle = 180 (deg)

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ ice)	Force (lbs) (30 mph)
QD6616-7 Antenna	72.0	22.0	9.6	11.00	3.27	1.23	741	125	39
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.93	1.20	227	41	12
AIR6449 Antenna	30.6	15.9	10.6	3.38	1.92	1.20	221	40	12
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.44	1.24	694	118	37
RRUS-E2 B29 RRH (Side)	20.4	7.5	18.5	1.06	2.72	1.21	70	15	4
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.20	74	15	4
B14 4478 RRH	18.1	13.4	8.3	1.68	1.35	1.20	110	22	6
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.90	1.20	77	16	4
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	3.81	1.26	40	10	2
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	3.89	1.26	91	19	5
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	7.77	1.43	51	14	3
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	62	12	3
2" Pipe	2.4	12.0		0.20	0.20	1.20	13		
2-1/2" Pipe	2.9	12.0		0.24	0.24	1.20	16		
3" Pipe	3.5	12.0		0.29	0.29	1.20	19		
2x2 Angle	2.0	12.0		0.17	0.17	2.00	18		
3x3 Angle	3.0	12.0		0.25	0.25	2.00	27		
Plate 6x1/2	6.0	12.0		0.50	0.50	2.00	55		
HSS 4x4	4.0	12.0		0.33	0.33	1.25	23		
C 3x2	3.0	12.0		0.25	0.25	2.00	27		
C 6x4	6.0	12.0		0.50	0.50	2.00	55		

Date: 1/18/2022
 Project Name: MIDDLETOWN FAIRCHILD ROAD
 Project No.: CT2547
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WIND LOADS

Angle = **30** (deg) Ice Thickness = **1.15** in. Equivalent Angle = **210** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
QD6616-7 Antenna	72.0	22.0	9.6	11.00	4.80	3.27	7.50	1.23	1.42	741	371	649
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	227	110	198
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	221	150	203
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	694	307	597
RRUS-E2 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	70	172	96
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	74	89	78
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	110	68	100
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	77	107	84
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	1.64	0.00	1.36	1.20	1.20	38	107	56
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	91	150	106
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	43	150	70

WIND LOADS WITH ICE:

QD6616-7 Antenna	74.3	24.3	11.9	12.53	6.14	3.06	6.25	1.22	1.37	124	68	110
AIR6419 Antenna	33.3	18.4	9.6	4.25	2.22	1.81	3.47	1.20	1.24	41	22	36
AIR6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	40	29	37
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.74	5.10	3.20	7.35	1.23	1.41	117	58	102
RRUS-E2 RRH (Side)	22.7	9.8	20.8	1.54	3.28	2.32	1.09	1.20	1.20	15	32	19
B2/B66A 8843 RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	15	18	16
B14 4478 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	22	15	20
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.17	1.73	1.30	1.20	1.20	16	21	17
4449 B5/B12 RRH (Shielded)	20.2	7.0	15.5	0.98	2.17	2.89	1.30	1.22	1.20	10	21	12
RRUS-32 B30 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	19	29	21
RRUS-32 B30 RRH (Shielded)	29.5	5.8	14.4	1.19	2.95	5.09	2.05	1.32	1.20	13	29	17

WIND LOADS AT 30 MPH:

QD6616-7 Antenna	72.0	22.0	9.6	11.00	4.80	3.27	7.50	1.23	1.42	39	20	35
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	12	6	11
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	12	8	11
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	37	16	32
RRUS-E2 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	4	9	5
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	5
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	4
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	1.64	0.00	1.36	1.20	1.20	2	6	3
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	5	8	6
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	2	8	4

Date: 1/18/2022
 Project Name: MIDDLETOWN FAIRCHILD ROAD
 Project No.: CT2547
 Designed By: KSBM Checked By: MSC



WIND LOADS

Angle = **60** (deg) Ice Thickness = **1.15** in. Equivalent Angle = **240** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
QD6616-7 Antenna	72.0	22.0	9.6	11.00	4.80	3.27	7.50	1.23	1.42	741	371	464
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	227	110	139
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	221	150	168
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	694	307	403
RRUS-E2 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	70	172	146
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	74	89	86
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	110	68	79
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	77	107	100
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	1.64	0.00	1.36	1.20	1.20	38	107	90
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	91	150	135
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	43	150	123

WIND LOADS WITH ICE:

QD6616-7 Antenna	74.3	24.3	11.9	12.53	6.14	3.06	6.25	1.22	1.37	124	68	82
AIR6419 Antenna	33.3	18.4	9.6	4.25	2.22	1.81	3.47	1.20	1.24	41	22	27
AIR6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	40	29	32
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.74	5.10	3.20	7.35	1.23	1.41	117	58	73
RRUS-E2 RRH (Side)	22.7	9.8	20.8	1.54	3.28	2.32	1.09	1.20	1.20	15	32	28
B2/B66A 8843 RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	15	18	17
B14 4478 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	22	15	16
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.17	1.73	1.30	1.20	1.20	16	21	20
4449 B5/B12 RRH (Shielded)	20.2	7.0	15.5	0.98	2.17	2.89	1.30	1.22	1.20	10	21	18
RRUS-32 B30 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	19	29	26
RRUS-32 B30 RRH (Shielded)	29.5	5.8	14.4	1.19	2.95	5.09	2.05	1.32	1.20	13	29	25

WIND LOADS AT 30 MPH:

QD6616-7 Antenna	72.0	22.0	9.6	11.00	4.80	3.27	7.50	1.23	1.42	39	20	25
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	12	6	7
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	12	8	9
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	37	16	21
RRUS-E2 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	4	9	8
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	5
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	5
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	1.64	0.00	1.36	1.20	1.20	2	6	5
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	5	8	7
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	2	8	7

Date: 1/18/2022
 Project Name: MIDDLETOWN FAIRCHILD ROAD
 Project No.: CT2547
 Designed By: KSBM Checked By: MSC



WIND LOADS

Angle = **90** (deg) Ice Thickness = **1.15** in. Equivalent Angle = **270** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
QD6616-7 Antenna	72.0	22.0	9.6	11.00	4.80	3.27	7.50	1.23	1.42	741	371	371
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	227	110	110
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	221	150	150
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	694	307	307
RRUS-E2 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	70	172	172
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	74	89	89
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	110	68	68
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	77	107	107
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	1.64	0.00	1.36	1.20	1.20	38	107	107
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	91	150	150
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	43	150	150

WIND LOADS WITH ICE:

QD6616-7 Antenna	74.3	24.3	11.9	12.53	6.14	3.06	6.25	1.22	1.37	124	68	68
AIR6419 Antenna	33.3	18.4	9.6	4.25	2.22	1.81	3.47	1.20	1.24	41	22	22
AIR6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	40	29	29
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.74	5.10	3.20	7.35	1.23	1.41	117	58	58
RRUS-E2 RRH (Side)	22.7	9.8	20.8	1.54	3.28	2.32	1.09	1.20	1.20	15	32	32
B2/B66A 8843 RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	15	18	18
B14 4478 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	22	15	15
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.17	1.73	1.30	1.20	1.20	16	21	21
4449 B5/B12 RRH (Shielded)	20.2	7.0	15.5	0.98	2.17	2.89	1.30	1.22	1.20	10	21	21
RRUS-32 B30 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	19	29	29
RRUS-32 B30 RRH (Shielded)	29.5	5.8	14.4	1.19	2.95	5.09	2.05	1.32	1.20	13	29	29

WIND LOADS AT 30 MPH:

QD6616-7 Antenna	72.0	22.0	9.6	11.00	4.80	3.27	7.50	1.23	1.42	39	20	20
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	12	6	6
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	12	8	8
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	37	16	16
RRUS-E2 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	4	9	9
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	5
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	6
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	1.64	0.00	1.36	1.20	1.20	2	6	6
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	5	8	8
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	2	8	8

Date: 1/18/2022
 Project Name: MIDDLETOWN FAIRCHILD ROAD
 Project No.: CT2547
 Designed By: KSBM Checked By: MSC



WIND LOADS

Angle = **120** (deg) Ice Thickness = **1.15** in. Equivalent Angle = **300** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
QD6616-7 Antenna	72.0	22.0	9.6	11.00	4.80	3.27	7.50	1.23	1.42	741	371	464
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	227	110	139
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	221	150	168
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	694	307	403
RRUS-E2 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	70	172	146
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	74	89	86
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	110	68	79
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	77	107	100
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	1.64	0.00	1.36	1.20	1.20	38	107	90
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	91	150	135
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	43	150	123

WIND LOADS WITH ICE:

QD6616-7 Antenna	74.3	24.3	11.9	12.53	6.14	3.06	6.25	1.22	1.37	124	68	82
AIR6419 Antenna	33.3	18.4	9.6	4.25	2.22	1.81	3.47	1.20	1.24	41	22	27
AIR6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	40	29	32
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.74	5.10	3.20	7.35	1.23	1.41	117	58	73
RRUS-E2 RRH (Side)	22.7	9.8	20.8	1.54	3.28	2.32	1.09	1.20	1.20	15	32	28
B2/B66A 8843 RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	15	18	17
B14 4478 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	22	15	16
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.17	1.73	1.30	1.20	1.20	16	21	20
4449 B5/B12 RRH (Shielded)	20.2	7.0	15.5	0.98	2.17	2.89	1.30	1.22	1.20	10	21	18
RRUS-32 B30 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	19	29	26
RRUS-32 B30 RRH (Shielded)	29.5	5.8	14.4	1.19	2.95	5.09	2.05	1.32	1.20	13	29	25

WIND LOADS AT 30 MPH:

QD6616-7 Antenna	72.0	22.0	9.6	11.00	4.80	3.27	7.50	1.23	1.42	39	20	25
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	12	6	7
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	12	8	9
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	37	16	21
RRUS-E2 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	4	9	8
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	5
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	5
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	1.64	0.00	1.36	1.20	1.20	2	6	5
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	5	8	7
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	2	8	7

Date: 1/18/2022
 Project Name: MIDDLETOWN FAIRCHILD ROAD
 Project No.: CT2547
 Designed By: KSBM Checked By: MSC



WIND LOADS

Angle = 150 (deg) Ice Thickness = 1.15 in. Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
QD6616-7 Antenna	72.0	22.0	9.6	11.00	4.80	3.27	7.50	1.23	1.42	741	371	649
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	227	110	198
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	221	150	203
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	694	307	597
RRUS-E2 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	70	172	96
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	74	89	78
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	110	68	100
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	77	107	84
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	1.64	0.00	1.36	1.20	1.20	38	107	56
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	91	150	106
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	43	150	70

WIND LOADS WITH ICE:

QD6616-7 Antenna	74.3	24.3	11.9	12.53	6.14	3.06	6.25	1.22	1.37	124	68	110
AIR6419 Antenna	33.3	18.4	9.6	4.25	2.22	1.81	3.47	1.20	1.24	41	22	36
AIR6449 Antenna	32.9	18.2	12.9	4.16	2.95	1.81	2.55	1.20	1.20	40	29	37
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.74	5.10	3.20	7.35	1.23	1.41	117	58	102
RRUS-E2 RRH (Side)	22.7	9.8	20.8	1.54	3.28	2.32	1.09	1.20	1.20	15	32	19
B2/B66A 8843 RRH (Side)	17.2	13.2	15.5	1.58	1.85	1.30	1.11	1.20	1.20	15	18	16
B14 4478 RRH	20.4	15.7	10.6	2.22	1.50	1.30	1.93	1.20	1.20	22	15	20
4449 B5/B12 RRH (Side)	20.2	11.7	15.5	1.64	2.17	1.73	1.30	1.20	1.20	16	21	17
4449 B5/B12 RRH (Shielded)	20.2	7.0	15.5	0.98	2.17	2.89	1.30	1.22	1.20	10	21	12
RRUS-32 B30 RRH (Side)	29.5	9.3	14.4	1.90	2.95	3.17	2.05	1.23	1.20	19	29	21
RRUS-32 B30 RRH (Shielded)	29.5	5.8	14.4	1.19	2.95	5.09	2.05	1.32	1.20	13	29	17

WIND LOADS AT 30 MPH:

QD6616-7 Antenna	72.0	22.0	9.6	11.00	4.80	3.27	7.50	1.23	1.42	39	20	35
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	12	6	11
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	12	8	11
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	37	16	32
RRUS-E2 RRH (Side)	20.4	7.5	18.5	1.06	2.62	2.72	1.10	1.21	1.20	4	9	5
B2/B66A 8843 RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	5
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	4	6	4
4449 B5/B12 RRH (Shielded)	17.9	4.7	13.2	0.58	1.64	0.00	1.36	1.20	1.20	2	6	3
RRUS-32 B30 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	5	8	6
RRUS-32 B30 RRH (Shielded)	27.2	3.5	12.1	0.66	2.29	0.00	2.25	1.20	1.20	2	8	4

Date: 1/18/2022
 Project Name: MIDDLETOWN FAIRCHILD ROAD
 Project No.: CT2547
 Designed By: KSBM Checked By: MSC



ICE WEIGHT CALCULATIONS

Thickness of ice: 1.15 in.
 Density of ice: 56 pcf

QD6616-7 Antenna

Weight of ice based on total radial SF area:
 Height (in): 72.0
 Width (in): 22.0
 Depth (in): 9.6
 Total weight of ice on object: 212 lbs
 Weight of object: 60.0 lbs
Combined weight of ice and object: 272 lbs

AIR6419 Antenna

Weight of ice based on total radial SF area:
 Height (in): 31.0
 Width (in): 16.1
 Depth (in): 7.3
 Total weight of ice on object: 68 lbs
 Weight of object: 66.0 lbs
Combined weight of ice and object: 134 lbs

AIR6449 Antenna

Weight of ice based on total radial SF area:
 Height (in): 30.6
 Width (in): 15.9
 Depth (in): 10.6
 Total weight of ice on object: 73 lbs
 Weight of object: 82.0 lbs
Combined weight of ice and object: 155 lbs

DMP65R-BUGDA Antenna

Weight of ice based on total radial SF area:
 Height (in): 71.2
 Width (in): 20.7
 Depth (in): 7.7
 Total weight of ice on object: 194 lbs
 Weight of object: 80.0 lbs
Combined weight of ice and object: 274 lbs

RRUS-E2 B29 RRH

Weight of ice based on total radial SF area:
 Height (in): 20.4
 Width (in): 18.5
 Depth (in): 7.5
 Total weight of ice on object: 50 lbs
 Weight of object: 53.0 lbs
Combined weight of ice and object: 103 lbs

B2/B66A 8843 RRH

Weight of ice based on total radial SF area:
 Height (in): 14.9
 Width (in): 13.2
 Depth (in): 10.9
 Total weight of ice on object: 32 lbs
 Weight of object: 72.0 lbs
Combined weight of ice and object: 104 lbs

B14 4478 RRH

Weight of ice based on total radial SF area:
 Height (in): 18.1
 Width (in): 13.4
 Depth (in): 8.3
 Total weight of ice on object: 36 lbs
 Weight of object: 60.0 lbs
Combined weight of ice and object: 96 lbs

4449 B5/B12 RRH

Weight of ice based on total radial SF area:
 Height (in): 17.9
 Width (in): 13.2
 Depth (in): 9.4
 Total weight of ice on object: 36 lbs
 Weight of object: 73.0 lbs
Combined weight of ice and object: 109 lbs

RRUS-32 B30 RRH

Weight of ice based on total radial SF area:
 Height (in): 27.2
 Width (in): 12.1
 Depth (in): 7.0
 Total weight of ice on object: 48 lbs
 Weight of object: 60.0 lbs
Combined weight of ice and object: 108 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:
 Depth (in): 24.0
 Diameter(in): 9.7
 Total weight of ice on object: 30 lbs
 Weight of object: 33 lbs
Combined weight of ice and object: 63 lbs

2" pipe

Per foot weight of ice:
 diameter (in): 2.38
Per foot weight of ice on object: 5 plf

2-1/2" pipe

Per foot weight of ice:
 diameter (in): 2.88
Per foot weight of ice on object: 6 plf

3" Pipe

Per foot weight of ice:
 diameter (in): 3.5
Per foot weight of ice on object: 7 plf

L 2x2 Angles

Weight of ice based on total radial SF area:
 Height (in): 2
 Width (in): 2
Per foot weight of ice on object: 6 plf

L 3x3 Angles

Weight of ice based on total radial SF area:
 Height (in): 3
 Width (in): 3
Per foot weight of ice on object: 8 plf

PL 6x1/2

Weight of ice based on total radial SF area:
 Height (in): 6
 Width (in): 0.50
Per foot weight of ice on object: 10 plf

HSS 4x4

Weight of ice based on total radial SF area:
 Height (in): 4
 Width (in): 4
Per foot weight of ice on object: 10 plf

C 3x2

Weight of ice based on total radial SF area:
 Height (in): 3
 Width (in): 2
Per foot weight of ice on object: 7 plf

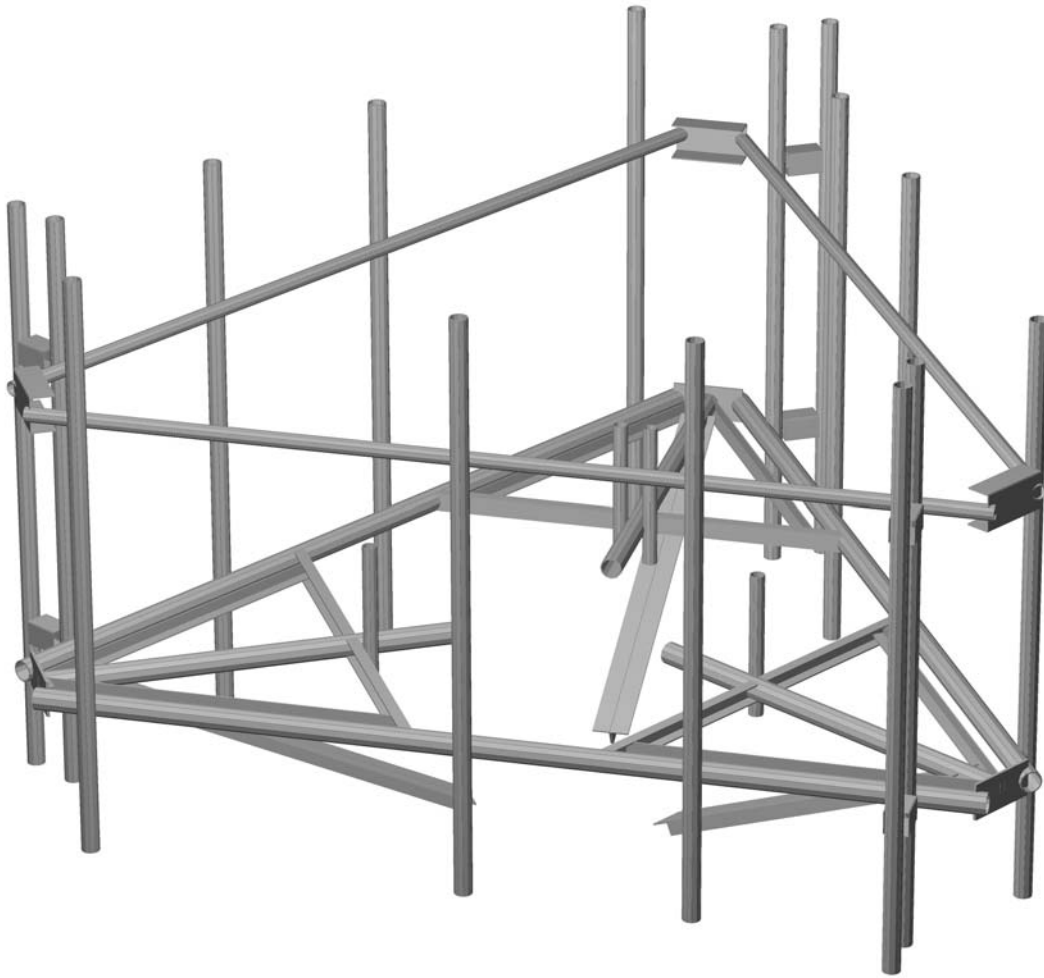
C 6x4

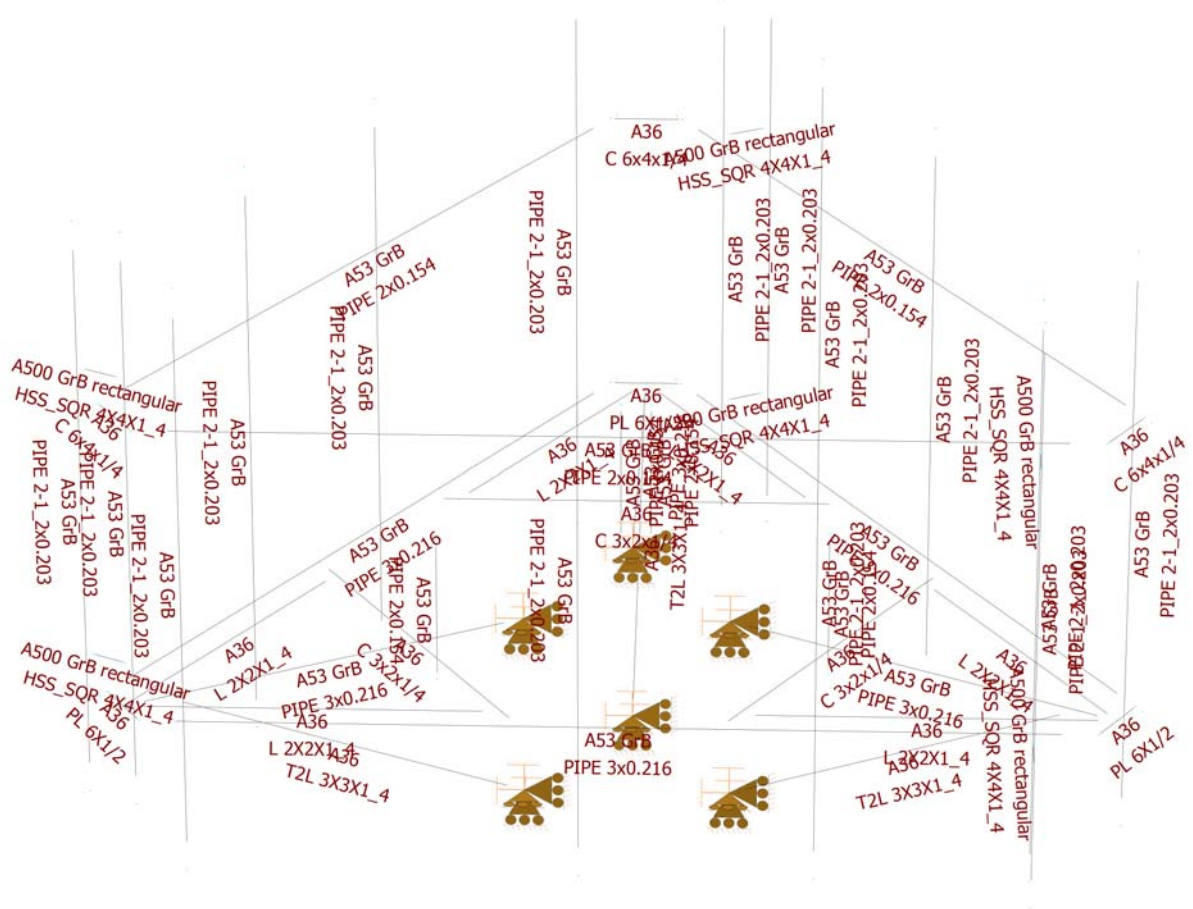
Weight of ice based on total radial SF area:
 Height (in): 6
 Width (in): 4
Per foot weight of ice on object: 12 plf

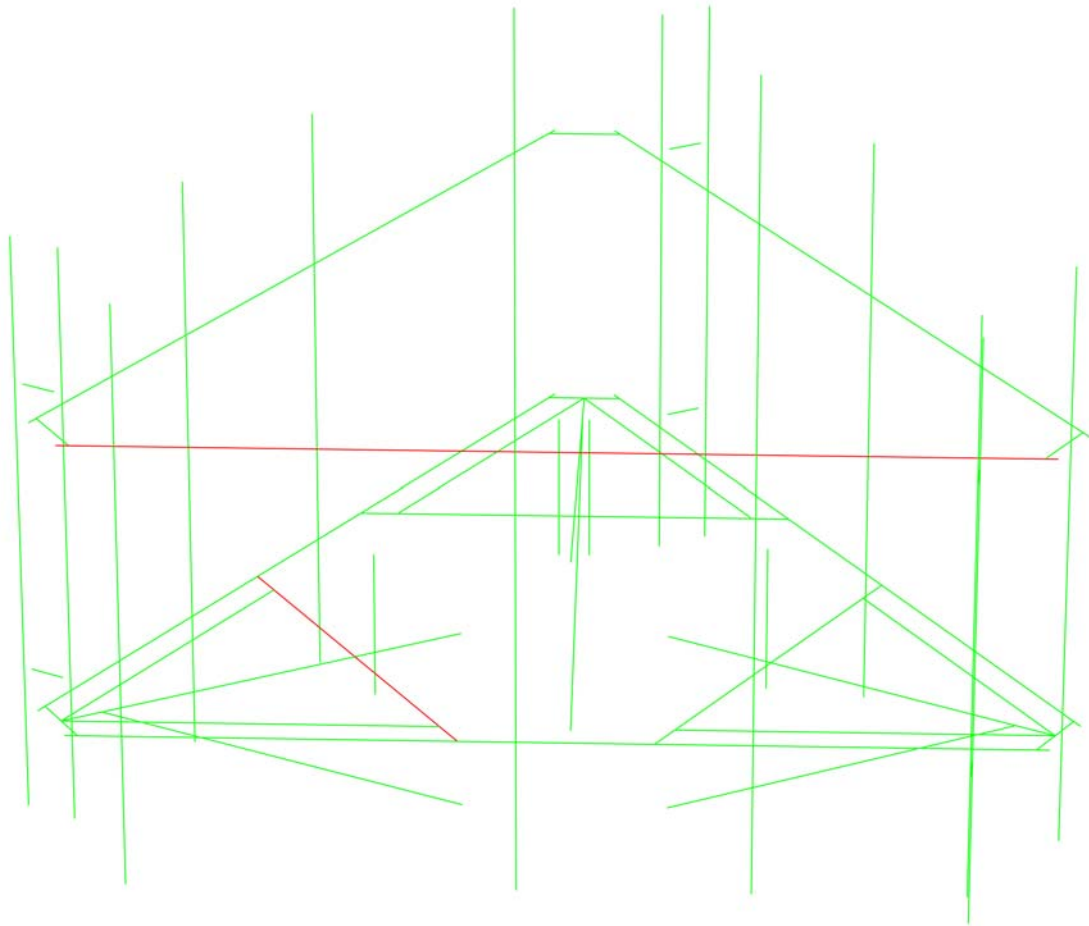


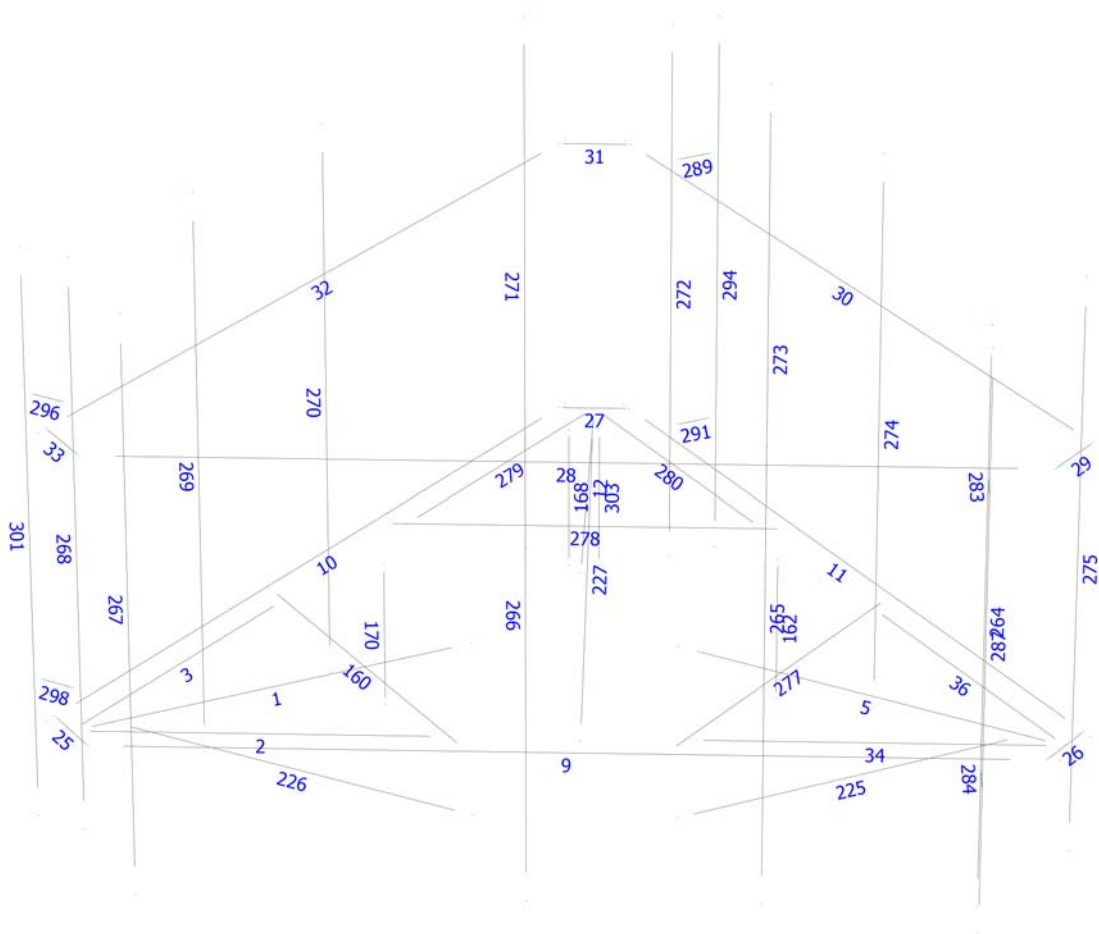
HUDSON
Design Group LLC

**Mount Calculations
(Existing Conditions)**









Load data

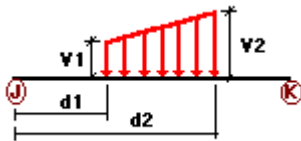
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	500 lb Live Load Antenna 1	No	LL
LLa2	500 lb Live Load Antenna 2	No	LL
LLa3	500 lb Live Load Antenna 3	No	LL

Distributed force on members



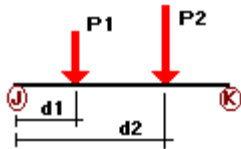
Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	2	y	-0.01	0.00	0.00	No	0.00	No
	3	y	-0.01	0.00	0.00	No	0.00	No
	34	y	-0.01	0.00	0.00	No	0.00	No
	36	y	-0.01	0.00	0.00	No	0.00	No
	160	y	-0.01	0.00	0.00	No	0.00	No
	277	y	-0.01	0.00	0.00	No	0.00	No
	278	y	-0.01	0.00	0.00	No	0.00	No
	279	y	-0.01	0.00	0.00	No	0.00	No
	280	y	-0.01	0.00	0.00	No	0.00	No
	W0	296	z	-0.023	0.00	0.00	No	0.00
283		z	-0.023	0.00	0.00	No	0.00	No
284		z	-0.023	0.00	0.00	No	0.00	No
289		z	-0.023	0.00	0.00	No	0.00	No
291		z	-0.023	0.00	0.00	No	0.00	No
298		z	-0.023	0.00	0.00	No	0.00	No
1		z	-0.019	0.00	0.00	No	0.00	No
2		z	-0.018	0.00	0.00	No	0.00	No

	3	z	-0.018	0.00	0.00	No	0.00	No
	5	z	-0.019	0.00	0.00	No	0.00	No
	9	z	-0.019	0.00	0.00	No	0.00	No
	10	z	-0.019	0.00	0.00	No	0.00	No
	11	z	-0.019	0.00	0.00	No	0.00	No
	12	z	-0.019	0.00	0.00	No	0.00	No
	25	z	-0.055	0.00	0.00	No	0.00	No
	26	z	-0.055	0.00	0.00	No	0.00	No
	27	z	-0.055	0.00	0.00	No	0.00	No
	28	z	-0.013	0.00	0.00	No	0.00	No
	29	z	-0.055	0.00	0.00	No	0.00	No
	30	z	-0.013	0.00	0.00	No	0.00	No
	31	z	-0.055	0.00	0.00	No	0.00	No
	32	z	-0.013	0.00	0.00	No	0.00	No
	33	z	-0.055	0.00	0.00	No	0.00	No
	34	z	-0.018	0.00	0.00	No	0.00	No
	36	z	-0.018	0.00	0.00	No	0.00	No
	160	z	-0.027	0.00	0.00	No	0.00	No
	162	z	-0.013	0.00	0.00	No	0.00	No
	168	z	-0.013	0.00	0.00	No	0.00	No
	170	z	-0.013	0.00	0.00	No	0.00	No
	225	z	-0.027	0.00	0.00	No	0.00	No
	226	z	-0.027	0.00	0.00	No	0.00	No
	227	z	-0.027	0.00	0.00	No	0.00	No
	265	z	-0.016	0.00	0.00	No	0.00	No
	268	z	-0.016	0.00	0.00	No	0.00	No
	269	z	-0.016	0.00	0.00	No	0.00	No
	270	z	-0.016	0.00	0.00	No	0.00	No
	271	z	-0.016	0.00	0.00	No	0.00	No
	272	z	-0.016	0.00	0.00	No	0.00	No
	273	z	-0.016	0.00	0.00	No	0.00	No
	274	z	-0.016	0.00	0.00	No	0.00	No
	275	z	-0.016	0.00	0.00	No	0.00	No
	277	z	-0.027	0.00	0.00	No	0.00	No
	278	z	-0.027	0.00	0.00	No	0.00	No
	279	z	-0.018	0.00	0.00	No	0.00	No
	280	z	-0.018	0.00	0.00	No	0.00	No
	294	z	-0.016	0.00	0.00	No	0.00	No
	301	z	-0.016	0.00	0.00	No	0.00	No
	303	z	-0.013	0.00	0.00	No	0.00	No
W30	296	x	-0.023	0.00	0.00	No	0.00	No
	283	x	-0.023	0.00	0.00	No	0.00	No
	284	x	-0.023	0.00	0.00	No	0.00	No
	289	x	-0.023	0.00	0.00	No	0.00	No
	291	x	-0.023	0.00	0.00	No	0.00	No
	298	x	-0.023	0.00	0.00	No	0.00	No
	1	x	-0.019	0.00	0.00	No	0.00	No
	2	x	-0.018	0.00	0.00	No	0.00	No
	3	x	-0.018	0.00	0.00	No	0.00	No
	5	x	-0.019	0.00	0.00	No	0.00	No
	10	x	-0.019	0.00	0.00	No	0.00	No
	11	x	-0.019	0.00	0.00	No	0.00	No
	12	x	-0.019	0.00	0.00	No	0.00	No
	25	x	-0.055	0.00	0.00	No	0.00	No
	26	x	-0.055	0.00	0.00	No	0.00	No
	27	x	-0.055	0.00	0.00	No	0.00	No
	29	x	-0.055	0.00	0.00	No	0.00	No
	30	x	-0.013	0.00	0.00	No	0.00	No
	31	x	-0.055	0.00	0.00	No	0.00	No
	32	x	-0.013	0.00	0.00	No	0.00	No

	33	x	-0.055	0.00	0.00	No	0.00	No
	34	x	-0.018	0.00	0.00	No	0.00	No
	36	x	-0.018	0.00	0.00	No	0.00	No
	160	x	-0.027	0.00	0.00	No	0.00	No
	162	x	-0.013	0.00	0.00	No	0.00	No
	168	x	-0.013	0.00	0.00	No	0.00	No
	170	x	-0.013	0.00	0.00	No	0.00	No
	225	x	-0.027	0.00	0.00	No	0.00	No
	226	x	-0.027	0.00	0.00	No	0.00	No
	227	x	-0.027	0.00	0.00	No	0.00	No
	264	x	-0.016	0.00	0.00	No	0.00	No
	265	x	-0.016	0.00	0.00	No	0.00	No
	266	x	-0.016	0.00	0.00	No	0.00	No
	267	x	-0.016	0.00	0.00	No	0.00	No
	268	x	-0.016	0.00	0.00	No	0.00	No
	269	x	-0.016	0.00	0.00	No	0.00	No
	270	x	-0.016	0.00	0.00	No	0.00	No
	271	x	-0.016	0.00	0.00	No	0.00	No
	272	x	-0.016	0.00	0.00	No	0.00	No
	273	x	-0.016	0.00	0.00	No	0.00	No
	274	x	-0.016	0.00	0.00	No	0.00	No
	275	x	-0.016	0.00	0.00	No	0.00	No
	277	x	-0.027	0.00	0.00	No	0.00	No
	278	x	-0.027	0.00	0.00	No	0.00	No
	279	x	-0.018	0.00	0.00	No	0.00	No
	280	x	-0.018	0.00	0.00	No	0.00	No
	287	x	-0.016	0.00	0.00	No	0.00	No
	294	x	-0.016	0.00	0.00	No	0.00	No
	301	x	-0.016	0.00	0.00	No	0.00	No
	303	x	-0.013	0.00	0.00	No	0.00	No
Di	296	y	-0.01	0.00	0.00	No	0.00	No
	283	y	-0.01	0.00	0.00	No	0.00	No
	284	y	-0.01	0.00	0.00	No	0.00	No
	289	y	-0.01	0.00	0.00	No	0.00	No
	291	y	-0.01	0.00	0.00	No	0.00	No
	298	y	-0.01	0.00	0.00	No	0.00	No
	1	y	-0.007	0.00	0.00	No	0.00	No
	2	y	-0.006	0.00	0.00	No	0.00	No
	3	y	-0.006	0.00	0.00	No	0.00	No
	5	y	-0.007	0.00	0.00	No	0.00	No
	9	y	-0.007	0.00	0.00	No	0.00	No
	10	y	-0.007	0.00	0.00	No	0.00	No
	11	y	-0.007	0.00	0.00	No	0.00	No
	12	y	-0.007	0.00	0.00	No	0.00	No
	25	y	-0.01	0.00	0.00	No	0.00	No
	26	y	-0.01	0.00	0.00	No	0.00	No
	27	y	-0.01	0.00	0.00	No	0.00	No
	28	y	-0.005	0.00	0.00	No	0.00	No
	29	y	-0.012	0.00	0.00	No	0.00	No
	30	y	-0.005	0.00	0.00	No	0.00	No
	31	y	-0.012	0.00	0.00	No	0.00	No
	32	y	-0.005	0.00	0.00	No	0.00	No
	33	y	-0.012	0.00	0.00	No	0.00	No
	34	y	-0.006	0.00	0.00	No	0.00	No
	36	y	-0.006	0.00	0.00	No	0.00	No
	160	y	-0.007	0.00	0.00	No	0.00	No
	162	y	-0.005	0.00	0.00	No	0.00	No
	168	y	-0.005	0.00	0.00	No	0.00	No
	170	y	-0.005	0.00	0.00	No	0.00	No
	225	y	-0.008	0.00	0.00	No	0.00	No

226	y	-0.008	0.00	0.00	No	0.00	No
227	y	-0.008	0.00	0.00	No	0.00	No
264	y	-0.006	0.00	0.00	No	0.00	No
265	y	-0.006	0.00	0.00	No	0.00	No
266	y	-0.006	0.00	0.00	No	0.00	No
267	y	-0.006	0.00	0.00	No	0.00	No
268	y	-0.006	0.00	0.00	No	0.00	No
269	y	-0.006	0.00	0.00	No	0.00	No
270	y	-0.006	0.00	0.00	No	0.00	No
271	y	-0.006	0.00	0.00	No	0.00	No
272	y	-0.006	0.00	0.00	No	0.00	No
273	y	-0.006	0.00	0.00	No	0.00	No
274	y	-0.006	0.00	0.00	No	0.00	No
275	y	-0.006	0.00	0.00	No	0.00	No
277	y	-0.007	0.00	0.00	No	0.00	No
278	y	-0.007	0.00	0.00	No	0.00	No
279	y	-0.006	0.00	0.00	No	0.00	No
280	y	-0.006	0.00	0.00	No	0.00	No
287	y	-0.006	0.00	0.00	No	0.00	No
294	y	-0.006	0.00	0.00	No	0.00	No
301	y	-0.006	0.00	0.00	No	0.00	No
303	y	-0.005	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	162	y	-0.033	0.50	No
	168	y	-0.033	0.50	No
	170	y	-0.033	0.50	No
	265	y	-0.053	1.50	No
		y	-0.072	1.50	No
		y	-0.06	4.00	No
	266	y	-0.033	1.25	No
		y	-0.033	3.00	No
		y	-0.041	5.00	No
		y	-0.041	6.75	No
	267	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.073	3.50	No
		y	-0.06	3.50	No
	269	y	-0.053	1.50	No
		y	-0.072	1.50	No
		y	-0.06	4.00	No
	270	y	-0.033	1.25	No
		y	-0.033	3.00	No
		y	-0.041	5.00	No
		y	-0.041	6.75	No
	271	y	-0.04	0.50	No
		y	-0.04	5.50	No

		y	-0.073	3.50	No
		y	-0.06	3.50	No
	273	y	-0.053	1.50	No
		y	-0.072	1.50	No
		y	-0.06	4.00	No
	274	y	-0.033	1.25	No
		y	-0.033	3.00	No
		y	-0.041	5.00	No
		y	-0.041	6.75	No
	275	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.073	3.50	No
		y	-0.06	3.50	No
	287	y	-0.03	0.50	No
		y	-0.03	5.50	No
	294	y	-0.03	0.50	No
		y	-0.03	5.50	No
	301	y	-0.03	0.50	No
		y	-0.03	5.50	No
	303	y	-0.033	0.50	No
W0	162	z	-0.062	0.50	No
	168	z	-0.062	0.50	No
	170	z	-0.062	0.50	No
	265	z	-0.07	1.50	No
		z	-0.074	1.50	No
		z	-0.11	4.00	No
	266	z	-0.114	1.25	No
		z	-0.114	3.00	No
		z	-0.111	5.00	No
		z	-0.111	6.75	No
	267	z	-0.347	0.50	No
		z	-0.347	5.50	No
		z	-0.04	3.50	No
		z	-0.051	3.50	No
	269	z	-0.146	1.50	No
		z	-0.079	4.00	No
	270	z	-0.07	1.25	No
		z	-0.07	3.00	No
		z	-0.084	5.00	No
		z	-0.084	6.75	No
	271	z	-0.202	0.50	No
		z	-0.202	5.50	No
		z	-0.123	3.50	No
	273	z	-0.146	1.50	No
		z	-0.079	4.00	No
	274	z	-0.07	1.25	No
		z	-0.07	3.00	No
		z	-0.084	5.00	No
		z	-0.084	6.75	No
	275	z	-0.202	0.50	No
		z	-0.202	5.50	No
		z	-0.123	3.50	No
	287	z	-0.371	0.50	No
		z	-0.371	5.50	No
	294	z	-0.232	0.50	No
		z	-0.232	5.50	No
	301	z	-0.232	0.50	No
		z	-0.232	5.50	No
	303	z	-0.062	0.50	No
W30	162	x	-0.062	0.50	No

	168	x	-0.062	0.50	No
	170	x	-0.062	0.50	No
	265	x	-0.172	1.50	No
		x	-0.068	4.00	No
	266	x	-0.055	1.25	No
		x	-0.055	3.00	No
		x	-0.075	5.00	No
		x	-0.075	6.75	No
	267	x	-0.154	0.50	No
		x	-0.154	5.50	No
		x	-0.15	3.50	No
	269	x	-0.096	1.50	No
		x	-0.10	4.00	No
	270	x	-0.099	1.25	No
		x	-0.099	3.00	No
		x	-0.102	5.00	No
		x	-0.102	6.75	No
	271	x	-0.299	0.50	No
		x	-0.299	5.50	No
		x	-0.07	3.50	No
	273	x	-0.096	1.50	No
		x	-0.10	4.00	No
	274	x	-0.099	1.25	No
		x	-0.099	3.00	No
		x	-0.102	5.00	No
		x	-0.102	6.75	No
	275	x	-0.299	0.50	No
		x	-0.299	5.50	No
		x	-0.07	3.50	No
	287	x	-0.186	0.50	No
		x	-0.186	5.50	No
	294	x	-0.325	0.50	No
		x	-0.325	5.50	No
	301	x	-0.325	0.50	No
		x	-0.325	5.50	No
	303	x	-0.062	0.50	No
Di	162	y	-0.03	0.50	No
	168	y	-0.03	0.50	No
	170	y	-0.03	0.50	No
	265	y	-0.05	1.50	No
		y	-0.032	1.50	No
		y	-0.036	4.00	No
	266	y	-0.035	1.25	No
		y	-0.035	3.00	No
		y	-0.037	5.00	No
		y	-0.037	6.75	No
	267	y	-0.097	0.50	No
		y	-0.097	5.50	No
		y	-0.036	3.50	No
		y	-0.048	3.50	No
	269	y	-0.05	1.50	No
		y	-0.032	1.50	No
		y	-0.036	4.00	No
	270	y	-0.035	1.25	No
		y	-0.035	3.00	No
		y	-0.037	5.00	No
		y	-0.037	6.75	No
	271	y	-0.097	0.50	No
		y	-0.097	5.50	No
		y	-0.036	3.50	No

		y	-0.048	3.50	No
	273	y	-0.05	1.50	No
		y	-0.032	1.50	No
		y	-0.036	4.00	No
	274	y	-0.035	1.25	No
		y	-0.035	3.00	No
		y	-0.037	5.00	No
		y	-0.037	6.75	No
	275	y	-0.097	0.50	No
		y	-0.097	5.50	No
		y	-0.036	3.50	No
		y	-0.048	3.50	No
	287	y	-0.107	0.50	No
		y	-0.107	5.50	No
	294	y	-0.107	0.50	No
		y	-0.107	5.50	No
	301	y	-0.107	0.50	No
		y	-0.107	5.50	No
	303	y	-0.03	0.50	No
Wi0	162	z	-0.012	0.50	No
	168	z	-0.012	0.50	No
	170	z	-0.012	0.50	No
	265	z	-0.015	1.50	No
		z	-0.015	1.50	No
		z	-0.022	4.00	No
	266	z	-0.021	1.25	No
		z	-0.021	3.00	No
		z	-0.021	5.00	No
		z	-0.021	6.75	No
	267	z	-0.059	0.50	No
		z	-0.059	5.50	No
		z	-0.01	3.50	No
		z	-0.014	3.50	No
	269	z	-0.028	1.50	No
		z	-0.016	4.00	No
	270	z	-0.014	1.25	No
		z	-0.014	3.00	No
		z	-0.016	5.00	No
		z	-0.016	6.75	No
	271	z	-0.037	0.50	No
		z	-0.037	5.50	No
		z	-0.025	3.50	No
	273	z	-0.028	1.50	No
		z	-0.016	4.00	No
	274	z	-0.014	1.25	No
		z	-0.014	3.00	No
		z	-0.016	5.00	No
		z	-0.016	6.75	No
	275	z	-0.037	0.50	No
		z	-0.037	5.50	No
		z	-0.025	3.50	No
	287	z	-0.063	0.50	No
		z	-0.063	5.50	No
	294	z	-0.041	0.50	No
		z	-0.041	5.50	No
	301	z	-0.041	0.50	No
		z	-0.041	5.50	No
	303	z	-0.012	0.50	No
Wi30	162	x	-0.012	0.50	No
	168	x	-0.012	0.50	No

	170	x	-0.012	0.50	No
	265	x	-0.032	1.50	No
		x	-0.015	4.00	No
	266	x	-0.012	1.25	No
		x	-0.012	3.00	No
		x	-0.015	5.00	No
		x	-0.015	6.75	No
	267	x	-0.03	0.50	No
		x	-0.03	5.50	No
		x	-0.029	3.50	No
	269	x	-0.019	1.50	No
		x	-0.02	4.00	No
	270	x	-0.019	1.25	No
		x	-0.019	3.00	No
		x	-0.019	5.00	No
		x	-0.019	6.75	No
	271	x	-0.052	0.50	No
		x	-0.052	5.50	No
		x	-0.017	3.50	No
	273	x	-0.019	1.50	No
		x	-0.02	4.00	No
	274	x	-0.019	1.25	No
		x	-0.019	3.00	No
		x	-0.019	5.00	No
		x	-0.019	6.75	No
	275	x	-0.052	0.50	No
		x	-0.052	5.50	No
		x	-0.017	3.50	No
	287	x	-0.034	0.50	No
		x	-0.034	5.50	No
	294	x	-0.055	0.50	No
		x	-0.055	5.50	No
	301	x	-0.055	0.50	No
		x	-0.055	5.50	No
WLO	303	x	-0.012	0.50	No
	162	z	-0.003	0.50	No
	168	z	-0.003	0.50	No
	170	z	-0.003	0.50	No
	265	z	-0.004	1.50	No
		z	-0.004	1.50	No
		z	-0.006	4.00	No
	266	z	-0.007	1.25	No
		z	-0.007	3.00	No
		z	-0.006	5.00	No
		z	-0.006	6.75	No
	267	z	-0.019	0.50	No
		z	-0.019	5.50	No
		z	-0.002	3.50	No
		z	-0.003	3.50	No
	269	z	-0.008	1.50	No
		z	-0.004	4.00	No
	270	z	-0.004	1.25	No
		z	-0.004	3.00	No
		z	-0.005	5.00	No
		z	-0.005	6.75	No
	271	z	-0.011	0.50	No
		z	-0.011	5.50	No
		z	-0.007	3.50	No
	273	z	-0.008	1.50	No
		z	-0.004	4.00	No

	274	z	-0.004	1.25	No
		z	-0.004	3.00	No
		z	-0.005	5.00	No
		z	-0.005	6.75	No
	275	z	-0.011	0.50	No
		z	-0.011	5.50	No
		z	-0.007	3.50	No
	287	z	-0.02	0.50	No
		z	-0.02	5.50	No
	294	z	-0.013	0.50	No
		z	-0.013	5.50	No
	301	z	-0.013	0.50	No
		z	-0.013	5.50	No
	303	z	-0.003	0.50	No
WL30	162	x	-0.003	0.50	No
	168	x	-0.003	0.50	No
	170	x	-0.003	0.50	No
	265	x	-0.009	1.50	No
		x	-0.004	4.00	No
	266	x	-0.003	1.25	No
		x	-0.003	3.00	No
		x	-0.004	5.00	No
		x	-0.004	6.75	No
	267	x	-0.009	0.50	No
		x	-0.009	5.50	No
		x	-0.008	3.50	No
	269	x	-0.005	1.50	No
		x	-0.005	4.00	No
	270	x	-0.006	1.25	No
		x	-0.006	3.00	No
		x	-0.006	5.00	No
		x	-0.006	6.75	No
	271	x	-0.016	0.50	No
		x	-0.016	5.50	No
		x	-0.004	3.50	No
	273	x	-0.005	1.50	No
		x	-0.005	4.00	No
	274	x	-0.006	1.25	No
		x	-0.006	3.00	No
		x	-0.006	5.00	No
		x	-0.006	6.75	No
	275	x	-0.016	0.50	No
		x	-0.016	5.50	No
		x	-0.004	3.50	No
	287	x	-0.01	0.50	No
		x	-0.01	5.50	No
	294	x	-0.018	0.50	No
		x	-0.018	5.50	No
	301	x	-0.018	0.50	No
		x	-0.018	5.50	No
	303	x	-0.003	0.50	No
LL1	28	y	-0.25	50.00	Yes
LL2	28	y	-0.25	100.00	Yes
LLa1	287	y	-0.50	50.00	Yes
LLa2	266	y	-0.50	50.00	Yes
LLa3	267	y	-0.50	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load Antenna 3	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

- LC1=1.2DL+W0
- LC2=1.2DL+W30
- LC3=1.2DL-W0
- LC4=1.2DL-W30
- LC5=0.9DL+W0
- LC6=0.9DL+W30
- LC7=0.9DL-W0
- LC8=0.9DL-W30
- LC9=1.2DL+Di+Wi0
- LC10=1.2DL+Di+Wi30
- LC11=1.2DL+Di-Wi0
- LC12=1.2DL+Di-Wi30
- LC13=1.4DL
- LC14=1.2DL+1.6LL1
- LC15=1.2DL+1.6LL2
- LC16=1.2DL+W0+1.6LLa1
- LC17=1.2DL+W30+1.6LLa1
- LC18=1.2DL-W0+1.6LLa1
- LC19=1.2DL-W30+1.6LLa1
- LC20=1.2DL+W0+1.6LLa2
- LC21=1.2DL+W30+1.6LLa2
- LC22=1.2DL-W0+1.6LLa2
- LC23=1.2DL-W30+1.6LLa2
- LC24=1.2DL+W0+1.6LLa3
- LC25=1.2DL+W30+1.6LLa3
- LC26=1.2DL-W0+1.6LLa3
- LC27=1.2DL-W30+1.6LLa3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	C 3x2x1/4	160	LC4 at 100.00%	1.05	N.G.	Eq. H1-1b
		277	LC1 at 100.00%	0.96	OK	Eq. H1-1b
		278	LC3 at 100.00%	0.72	OK	Eq. H1-1b
	C 6x4x1/4	29	LC3 at 100.00%	0.12	OK	Eq. H1-1b
		31	LC4 at 100.00%	0.11	OK	Eq. H1-1b
		33	LC2 at 100.00%	0.13	OK	Eq. H1-1b
	HSS_SQR 4X4X1_4	283	LC1 at 100.00%	0.04	OK	Eq. H1-1b
		284	LC3 at 0.00%	0.05	OK	Eq. H1-1b
		289	LC2 at 100.00%	0.03	OK	Eq. H1-1b
		291	LC1 at 0.00%	0.04	OK	Eq. H1-1b
		296	LC4 at 100.00%	0.03	OK	Eq. H1-1b
		298	LC2 at 0.00%	0.05	OK	Eq. H1-1b
	L 2X2X1_4	2	LC2 at 0.00%	0.45	OK	Eq. H2-1
		3	LC6 at 100.00%	0.46	OK	Eq. H2-1
		34	LC7 at 100.00%	0.44	OK	Eq. H2-1
		36	LC4 at 0.00%	0.45	OK	Eq. H2-1
		279	LC1 at 100.00%	0.50	OK	Eq. H2-1
		280	LC1 at 0.00%	0.41	OK	Eq. H2-1
	PIPE 2-1_2x0.203	264	LC4 at 72.92%	0.55	OK	Eq. H1-1b

265	LC4 at 72.92%	0.72	OK	Eq. H1-1b
266	LC2 at 72.92%	0.85	OK	Eq. H1-1b
267	LC2 at 72.92%	0.65	OK	Eq. H1-1b
268	LC3 at 72.92%	0.42	OK	Eq. H1-1b
269	LC3 at 72.92%	0.66	OK	Eq. H1-1b
270	LC4 at 72.92%	0.82	OK	Eq. H1-1b
271	LC1 at 72.92%	0.67	OK	Eq. H1-1b
272	LC1 at 72.92%	0.53	OK	Eq. H1-1b
273	LC3 at 72.92%	0.72	OK	Eq. H1-1b
274	LC3 at 72.92%	0.86	OK	Eq. H1-1b
275	LC4 at 72.92%	0.51	OK	Eq. H1-1b
287	LC1 at 22.92%	0.21	OK	Eq. H1-1b
294	LC4 at 22.92%	0.19	OK	Eq. H1-1b
301	LC4 at 22.92%	0.19	OK	Eq. H1-1b

PIPE 2x0.154

28	LC2 at 6.25%	1.02	N.G.	Eq. H1-1b
30	LC3 at 93.75%	0.85	OK	Eq. H1-1b
32	LC1 at 93.75%	0.92	OK	Eq. H1-1b
162	LC1 at 71.88%	0.08	OK	Eq. H1-1b
168	LC4 at 71.88%	0.08	OK	Eq. H1-1b
170	LC1 at 71.88%	0.08	OK	Eq. H1-1b
303	LC4 at 71.88%	0.08	OK	Eq. H1-1b

PIPE 3x0.216

1	LC3 at 100.00%	0.66	OK	Eq. H3-6
5	LC3 at 100.00%	0.65	OK	Eq. H1-1b
9	LC2 at 45.83%	0.37	OK	Eq. H1-1b
10	LC5 at 93.75%	0.38	OK	Eq. H1-1b
11	LC3 at 8.33%	0.36	OK	Eq. H1-1b
12	LC4 at 0.00%	0.87	OK	Eq. H3-6

PL 6X1/2

25	LC2 at 50.00%	0.47	OK	Eq. H1-1b
26	LC4 at 50.00%	0.41	OK	Eq. H1-1b
27	LC1 at 50.00%	0.49	OK	Eq. H1-1b

T2L 3X3X1_4

225	LC4 at 100.00%	0.53	OK	Eq. H2-1
226	LC2 at 0.00%	0.51	OK	Eq. H2-1
227	LC1 at 0.00%	0.46	OK	Eq. H2-1

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
3	-6.0833	0.00	0.00	0
4	-6.25	0.00	0.00	0
5	-6.3333	0.00	-0.433	0
6	-6.5833	0.00	-0.866	0
10	-6.6667	0.00	-0.7217	0
13	-0.50	0.00	-11.4027	0
14	-0.4167	0.00	-11.547	0
18	6.0833	0.00	0.00	0
19	6.25	0.00	0.00	0
20	6.3333	0.00	-0.433	0
21	6.5833	0.00	-0.866	0
25	6.6667	0.00	-0.7217	0
28	0.50	0.00	-11.4027	0
29	0.4167	0.00	-11.547	0
32	0.00	0.00	-11.4027	0
72	-6.25	4.00	0.00	0
73	6.25	4.00	0.00	0
74	6.0833	4.00	0.00	0
75	6.5833	4.00	-0.866	0
76	0.4167	4.00	-11.547	0
77	6.6667	4.00	-0.7217	0
78	0.50	4.00	-11.4027	0
79	-0.50	4.00	-11.4027	0

80	-6.6667	4.00	-0.7217	0
81	-0.4167	4.00	-11.547	0
82	-6.5833	4.00	-0.866	0
83	-6.0833	4.00	0.00	0
95	1.3574	0.00	-3.3059	0
107	0.00	0.00	-5.6569	0
108	-1.3574	0.00	-3.3059	0
173	1.3574	-2.50	-3.3059	0
174	0.00	-2.50	-5.6569	0
175	-1.3574	-2.50	-3.3059	0
417	2.648	1.50	-2.7985	0
418	2.648	-0.50	-2.7985	0
429	-0.2059	1.50	-7.0284	0
430	-0.2059	-0.50	-7.0284	0
433	-2.4421	1.50	-2.4419	0
434	-2.4421	-0.50	-2.4419	0
519	1.0899	6.00	-10.781	0
520	1.0899	-2.00	-10.781	0
525	2.4649	6.00	-8.3994	0
526	2.4649	-2.00	-8.3994	0
531	3.9649	6.00	-5.8014	0
532	3.9649	-2.00	-5.8014	0
537	6.4649	6.00	-1.4712	0
538	6.4649	-2.00	-1.4712	0
570	-3.4649	6.00	-6.6674	0
571	-3.4649	-2.00	-6.6674	0
576	-4.9649	6.00	-4.0693	0
577	-4.9649	-2.00	-4.0693	0
582	-6.3399	6.00	-1.6877	0
583	-6.3399	-2.00	-1.6877	0
588	-0.9649	6.00	-10.9975	0
589	-0.9649	-2.00	-10.9975	0
594	-0.50	6.00	0.20	0
595	-0.50	-2.00	0.20	0
600	2.50	6.00	0.20	0
601	2.50	-2.00	0.20	0
606	5.25	6.00	0.20	0
607	5.25	-2.00	0.20	0
612	-5.50	6.00	0.20	0
613	-5.50	-2.00	0.20	0
634	-1.25	0.00	0.00	0
655	1.25	0.00	0.00	0
665	2.9167	0.00	-7.2169	0
666	4.1667	0.00	-5.0518	0
667	-4.1667	0.00	-5.0518	0
668	-2.9167	0.00	-7.2169	0
669	1.50	0.00	-0.433	0
670	3.9167	0.00	-4.6188	0
671	-3.9167	0.00	-4.6188	0
672	-1.50	0.00	-0.433	0
673	2.4167	0.00	-7.2169	0
674	-2.4167	0.00	-7.2169	0
680	0.00	0.00	-10.8333	0
687	-5.8403	0.00	-0.7177	0
688	5.8403	0.00	-0.7177	0
692	5.25	4.00	0.82	0
693	5.25	0.00	0.82	0
694	5.25	4.00	0.32	0
695	5.25	0.00	0.32	0
698	5.25	6.00	0.94	0

699	5.25	-2.00	0.94	0
702	1.1938	4.00	-10.841	0
703	1.6268	4.00	-11.091	0
705	1.1938	0.00	-10.841	0
706	1.6268	0.00	-11.091	0
708	1.7307	6.00	-11.151	0
709	1.7307	-2.00	-11.151	0
712	-6.4438	4.00	-1.7477	0
713	-6.8768	4.00	-1.9977	0
715	-6.4438	0.00	-1.7477	0
716	-6.8768	0.00	-1.9977	0
718	-6.9807	6.00	-2.0577	0
719	-6.9807	-2.00	-2.0577	0
721	0.2059	1.50	-7.0284	0
722	0.2059	-0.50	-7.0284	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
95	1	1	1	1	1	1
107	1	1	1	1	1	1
108	1	1	1	1	1	1
173	1	1	1	1	1	1
174	1	1	1	1	1	1
175	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
296	712	713		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
283	694	692		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
284	695	693		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
289	702	703		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
291	705	706		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
298	715	716		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
1	5	108		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
2	5	672		L 2X2X1_4	A36	0.00	0.00	0.00
3	5	671		L 2X2X1_4	A36	0.00	0.00	0.00
5	20	95		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
9	4	19		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
10	10	14		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
11	29	25		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
12	107	32		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
25	6	3		PL 6X1/2	A36	0.00	0.00	0.00
26	18	21		PL 6X1/2	A36	0.00	0.00	0.00
27	28	13		PL 6X1/2	A36	0.00	0.00	0.00
28	72	73		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
29	74	75		C 6x4x1/4	A36	0.00	0.00	0.00
30	76	77		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
31	78	79		C 6x4x1/4	A36	0.00	0.00	0.00

32	80	81	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
33	82	83	C 6x4x1/4	A36	0.00	0.00	0.00
34	20	669	L 2X2X1_4	A36	0.00	0.00	0.00
36	20	670	L 2X2X1_4	A36	0.00	0.00	0.00
160	634	667	C 3x2x1/4	A36	0.00	0.00	0.00
162	417	418	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
168	429	430	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
170	433	434	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
225	173	688	T2L 3X3X1_4	A36	0.00	0.00	0.00
226	687	175	T2L 3X3X1_4	A36	0.00	0.00	0.00
227	680	174	T2L 3X3X1_4	A36	0.00	0.00	0.00
264	606	607	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
265	600	601	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
266	594	595	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
267	612	613	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
268	582	583	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
269	576	577	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
270	570	571	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
271	588	589	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
272	519	520	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
273	525	526	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
274	531	532	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
275	537	538	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
277	666	655	C 3x2x1/4	A36	0.00	0.00	0.00
278	668	665	C 3x2x1/4	A36	0.00	0.00	0.00
279	674	32	L 2X2X1_4	A36	0.00	0.00	0.00
280	32	673	L 2X2X1_4	A36	0.00	0.00	0.00
287	698	699	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
294	708	709	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
301	718	719	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
303	721	722	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
2	270.00	0	0.00	0.00	0.00
29	180.00	0	0.00	0.00	0.00
31	180.00	0	0.00	0.00	0.00
33	180.00	0	0.00	0.00	0.00
36	270.00	0	0.00	0.00	0.00
160	180.00	0	0.00	0.00	0.00
162	315.00	0	0.00	0.00	0.00
168	315.00	0	0.00	0.00	0.00
170	315.00	0	0.00	0.00	0.00
264	315.00	0	0.00	0.00	0.00
265	315.00	0	0.00	0.00	0.00
266	315.00	0	0.00	0.00	0.00
267	315.00	0	0.00	0.00	0.00
268	315.00	0	0.00	0.00	0.00
269	315.00	0	0.00	0.00	0.00
270	315.00	0	0.00	0.00	0.00
271	315.00	0	0.00	0.00	0.00
272	315.00	0	0.00	0.00	0.00
273	315.00	0	0.00	0.00	0.00
274	315.00	0	0.00	0.00	0.00

275	315.00	0	0.00	0.00	0.00
277	180.00	0	0.00	0.00	0.00
278	180.00	0	0.00	0.00	0.00
303	315.00	0	0.00	0.00	0.00



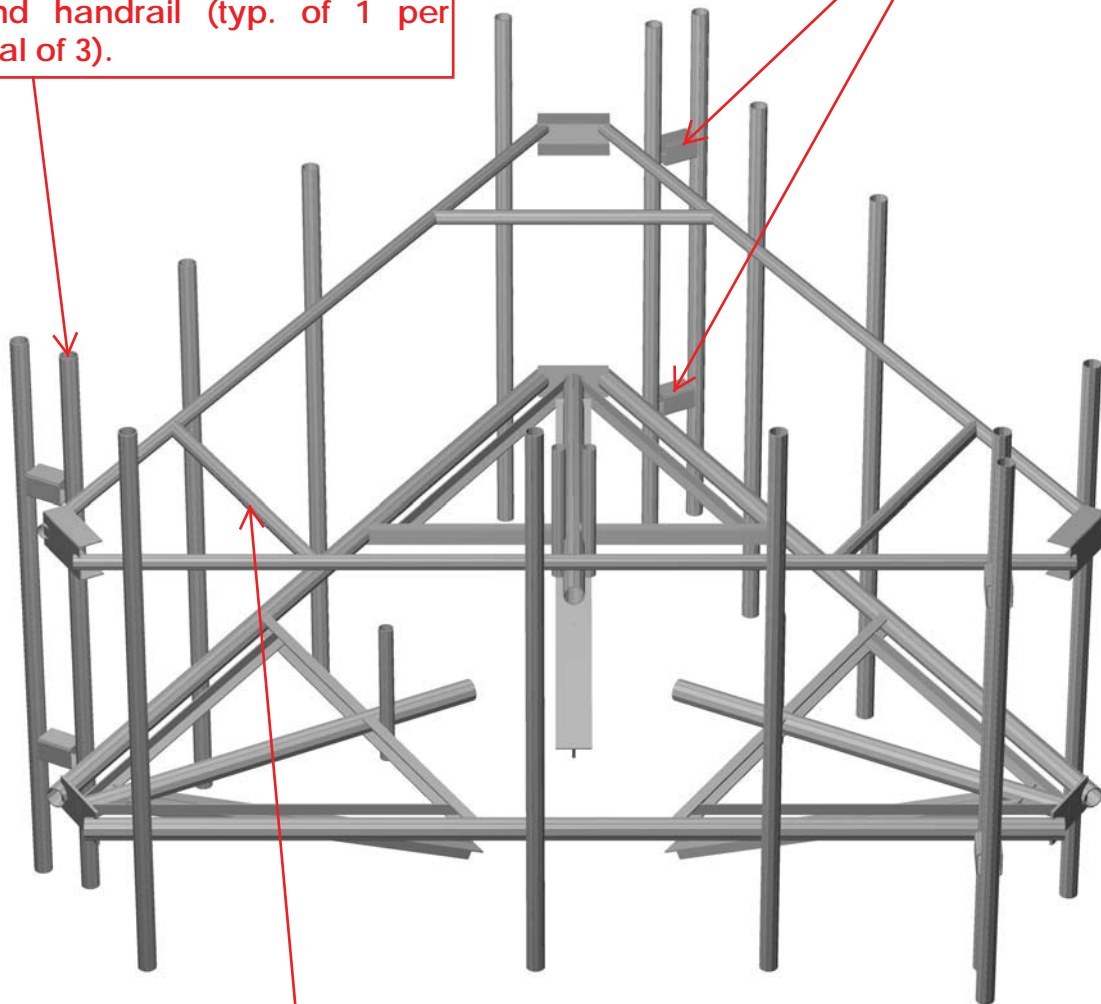
HUDSON
Design Group LLC

**Mount Calculations
(Modified Conditions)**

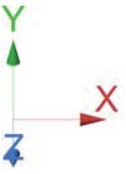
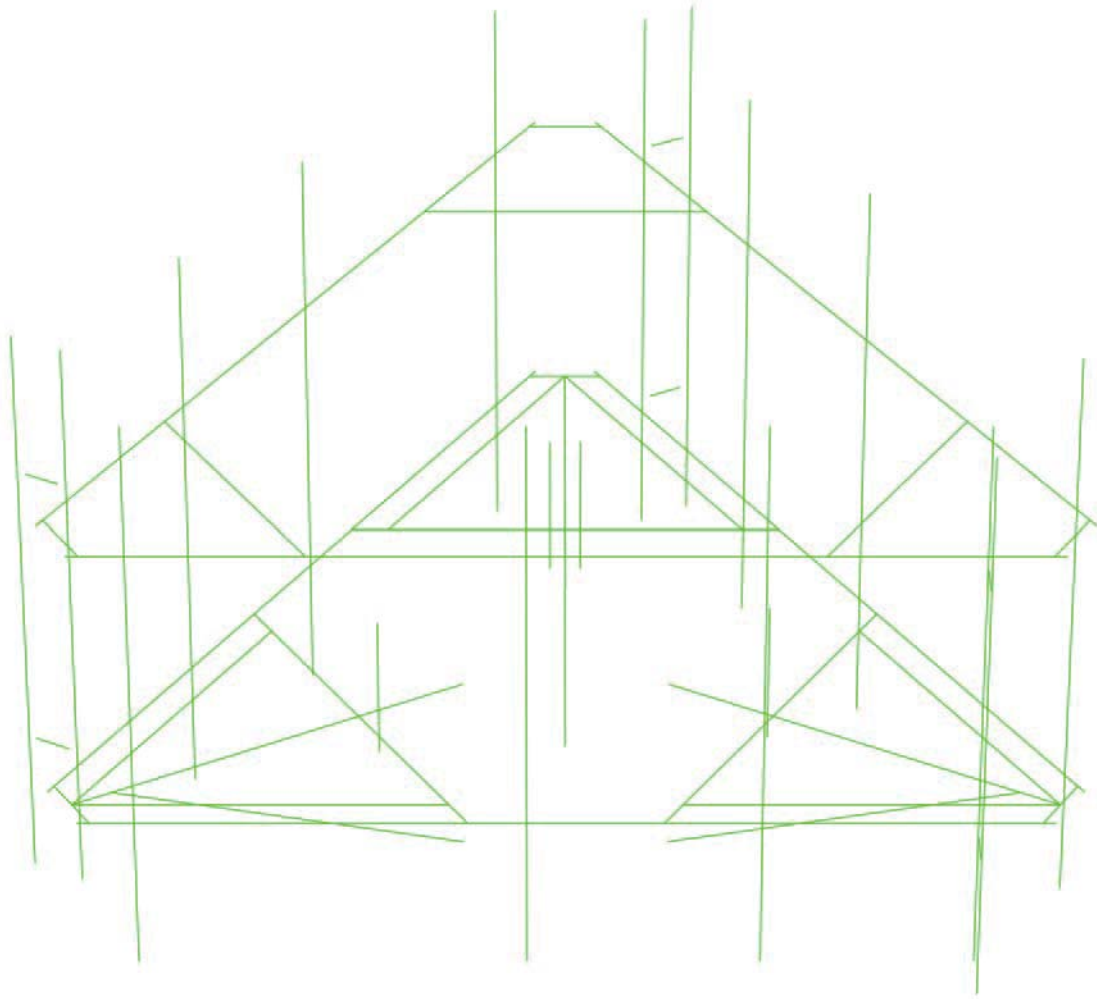


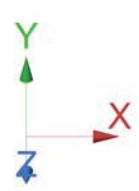
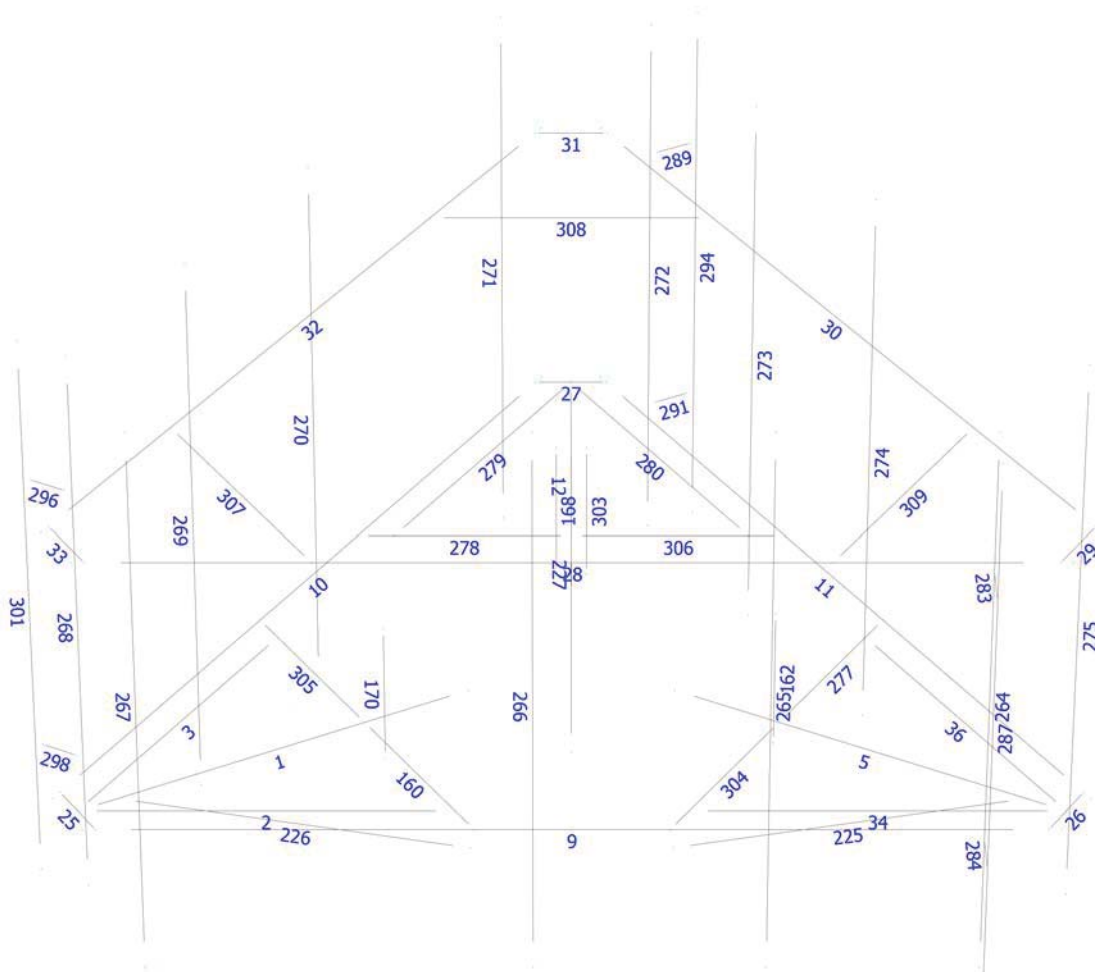
Install proposed 4x4 HSS steel tubes stand-offs secured to the existing pipe masts (typ. of 2 per sector, total of 6). Proposed HSS tubes are required per minimum separation distances between proposed antennas.

Install proposed 2-1/2" std. (2.88" O.D.) pipe mast secured to the existing mount and handrail (typ. of 1 per sector, total of 3).



Install proposed 2" std. (2.38" O.D.) horizontal pipes on existing handrail at 3ft from the end of the handrail pipe (typ. of 1 per sector, total of 3).





Load data

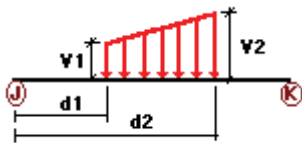
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	500 lb Live Load Antenna 1	No	LL
LLa2	500 lb Live Load Antenna 2	No	LL
LLa3	500 lb Live Load Antenna 3	No	LL

Distributed force on members



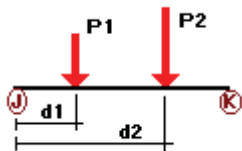
Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	2	y	-0.01	0.00	0.00	No	0.00	No
	3	y	-0.01	0.00	0.00	No	0.00	No
	34	y	-0.01	0.00	0.00	No	0.00	No
	36	y	-0.01	0.00	0.00	No	0.00	No
	160	Y	-0.01	-0.01	0.00	No	100.00	Yes
	277	Y	-0.01	-0.01	0.00	No	100.00	Yes
	278	Y	-0.01	-0.01	0.00	No	100.00	Yes
	279	y	-0.01	0.00	0.00	No	0.00	No
	280	y	-0.01	0.00	0.00	No	0.00	No
	304	Y	-0.01	-0.01	0.00	No	100.00	Yes
W0	305	Y	-0.01	-0.01	0.00	No	100.00	Yes
	306	Y	-0.01	-0.01	0.00	No	100.00	Yes
	1	z	-0.019	0.00	0.00	No	0.00	No
	2	z	-0.018	0.00	0.00	No	0.00	No
	3	z	-0.018	0.00	0.00	No	0.00	No
	5	z	-0.019	0.00	0.00	No	0.00	No
	9	z	-0.019	0.00	0.00	No	0.00	No

10	z	-0.019	0.00	0.00	No	0.00	No
11	z	-0.019	0.00	0.00	No	0.00	No
12	z	-0.019	0.00	0.00	No	0.00	No
25	z	-0.055	0.00	0.00	No	0.00	No
26	z	-0.055	0.00	0.00	No	0.00	No
27	z	-0.055	0.00	0.00	No	0.00	No
28	z	-0.013	0.00	0.00	No	0.00	No
29	z	-0.055	0.00	0.00	No	0.00	No
30	z	-0.013	0.00	0.00	No	0.00	No
31	z	-0.055	0.00	0.00	No	0.00	No
32	z	-0.013	0.00	0.00	No	0.00	No
33	z	-0.055	0.00	0.00	No	0.00	No
34	z	-0.018	0.00	0.00	No	0.00	No
36	z	-0.018	0.00	0.00	No	0.00	No
160	Z	-0.027	-0.027	0.00	No	100.00	Yes
162	z	-0.013	0.00	0.00	No	0.00	No
168	z	-0.013	0.00	0.00	No	0.00	No
170	z	-0.013	0.00	0.00	No	0.00	No
225	z	-0.027	0.00	0.00	No	0.00	No
226	z	-0.027	0.00	0.00	No	0.00	No
227	z	-0.027	0.00	0.00	No	0.00	No
265	z	-0.016	0.00	0.00	No	0.00	No
268	z	-0.016	0.00	0.00	No	0.00	No
269	z	-0.016	0.00	0.00	No	0.00	No
270	z	-0.016	0.00	0.00	No	0.00	No
271	z	-0.016	0.00	0.00	No	0.00	No
272	z	-0.016	0.00	0.00	No	0.00	No
273	z	-0.016	0.00	0.00	No	0.00	No
274	z	-0.016	0.00	0.00	No	0.00	No
275	z	-0.016	0.00	0.00	No	0.00	No
277	Z	-0.027	-0.027	0.00	No	100.00	Yes
278	Z	-0.027	-0.027	0.00	No	100.00	Yes
279	z	-0.018	0.00	0.00	No	0.00	No
280	z	-0.018	0.00	0.00	No	0.00	No
283	z	-0.023	0.00	0.00	No	0.00	No
284	z	-0.023	0.00	0.00	No	0.00	No
289	z	-0.023	0.00	0.00	No	0.00	No
291	z	-0.023	0.00	0.00	No	0.00	No
294	z	-0.016	0.00	0.00	No	0.00	No
296	z	-0.023	0.00	0.00	No	0.00	No
298	z	-0.023	0.00	0.00	No	0.00	No
301	z	-0.016	0.00	0.00	No	0.00	No
303	z	-0.013	0.00	0.00	No	0.00	No
304	Z	-0.027	-0.027	0.00	No	100.00	Yes
305	Z	-0.027	-0.027	0.00	No	100.00	Yes
306	Z	-0.027	-0.027	0.00	No	100.00	Yes
307	z	-0.013	0.00	0.00	No	0.00	No
308	z	-0.013	0.00	0.00	No	0.00	No
309	z	-0.013	0.00	0.00	No	0.00	No
W30	1	x	-0.019	0.00	No	0.00	No
	2	x	-0.018	0.00	No	0.00	No
	3	x	-0.018	0.00	No	0.00	No
	5	x	-0.019	0.00	No	0.00	No
	10	x	-0.019	0.00	No	0.00	No
	11	x	-0.019	0.00	No	0.00	No
	12	x	-0.019	0.00	No	0.00	No
	25	x	-0.055	0.00	No	0.00	No
	26	x	-0.055	0.00	No	0.00	No
	27	x	-0.055	0.00	No	0.00	No
	29	x	-0.055	0.00	No	0.00	No

30	x	-0.013	0.00	0.00	No	0.00	No
31	x	-0.055	0.00	0.00	No	0.00	No
32	x	-0.013	0.00	0.00	No	0.00	No
33	x	-0.055	0.00	0.00	No	0.00	No
34	x	-0.018	0.00	0.00	No	0.00	No
36	x	-0.018	0.00	0.00	No	0.00	No
160	X	-0.027	-0.027	0.00	No	100.00	Yes
162	x	-0.013	0.00	0.00	No	0.00	No
168	x	-0.013	0.00	0.00	No	0.00	No
170	x	-0.013	0.00	0.00	No	0.00	No
225	x	-0.027	0.00	0.00	No	0.00	No
226	x	-0.027	0.00	0.00	No	0.00	No
227	x	-0.027	0.00	0.00	No	0.00	No
264	x	-0.016	0.00	0.00	No	0.00	No
265	x	-0.016	0.00	0.00	No	0.00	No
266	x	-0.016	0.00	0.00	No	0.00	No
267	x	-0.016	0.00	0.00	No	0.00	No
268	x	-0.016	0.00	0.00	No	0.00	No
269	x	-0.016	0.00	0.00	No	0.00	No
270	x	-0.016	0.00	0.00	No	0.00	No
271	x	-0.016	0.00	0.00	No	0.00	No
272	x	-0.016	0.00	0.00	No	0.00	No
273	x	-0.016	0.00	0.00	No	0.00	No
274	x	-0.016	0.00	0.00	No	0.00	No
275	x	-0.016	0.00	0.00	No	0.00	No
277	X	-0.027	-0.027	0.00	No	100.00	Yes
278	X	-0.027	-0.027	0.00	No	100.00	Yes
279	x	-0.018	0.00	0.00	No	0.00	No
280	x	-0.018	0.00	0.00	No	0.00	No
283	x	-0.023	0.00	0.00	No	0.00	No
284	x	-0.023	0.00	0.00	No	0.00	No
287	x	-0.016	0.00	0.00	No	0.00	No
289	x	-0.023	0.00	0.00	No	0.00	No
291	x	-0.023	0.00	0.00	No	0.00	No
294	x	-0.016	0.00	0.00	No	0.00	No
296	x	-0.023	0.00	0.00	No	0.00	No
298	x	-0.023	0.00	0.00	No	0.00	No
301	x	-0.016	0.00	0.00	No	0.00	No
303	x	-0.013	0.00	0.00	No	0.00	No
304	X	-0.027	-0.027	0.00	No	100.00	Yes
305	X	-0.027	-0.027	0.00	No	100.00	Yes
306	X	-0.027	-0.027	0.00	No	100.00	Yes
307	x	-0.013	0.00	0.00	No	0.00	No
308	x	-0.013	0.00	0.00	No	0.00	No
309	x	-0.013	0.00	0.00	No	0.00	No
Di 1	y	-0.007	0.00	0.00	No	0.00	No
2	y	-0.006	0.00	0.00	No	0.00	No
3	y	-0.006	0.00	0.00	No	0.00	No
5	y	-0.007	0.00	0.00	No	0.00	No
9	y	-0.007	0.00	0.00	No	0.00	No
10	y	-0.007	0.00	0.00	No	0.00	No
11	y	-0.007	0.00	0.00	No	0.00	No
12	y	-0.007	0.00	0.00	No	0.00	No
25	y	-0.01	0.00	0.00	No	0.00	No
26	y	-0.01	0.00	0.00	No	0.00	No
27	y	-0.01	0.00	0.00	No	0.00	No
28	y	-0.005	0.00	0.00	No	0.00	No
29	y	-0.012	0.00	0.00	No	0.00	No
30	y	-0.005	0.00	0.00	No	0.00	No
31	y	-0.012	0.00	0.00	No	0.00	No

32	y	-0.005	0.00	0.00	No	0.00	No
33	y	-0.012	0.00	0.00	No	0.00	No
34	y	-0.006	0.00	0.00	No	0.00	No
36	y	-0.006	0.00	0.00	No	0.00	No
160	Y	-0.007	-0.007	0.00	No	100.00	Yes
162	y	-0.005	0.00	0.00	No	0.00	No
168	y	-0.005	0.00	0.00	No	0.00	No
170	y	-0.005	0.00	0.00	No	0.00	No
225	y	-0.008	0.00	0.00	No	0.00	No
226	y	-0.008	0.00	0.00	No	0.00	No
227	y	-0.008	0.00	0.00	No	0.00	No
264	y	-0.006	0.00	0.00	No	0.00	No
265	y	-0.006	0.00	0.00	No	0.00	No
266	y	-0.006	0.00	0.00	No	0.00	No
267	y	-0.006	0.00	0.00	No	0.00	No
268	y	-0.006	0.00	0.00	No	0.00	No
269	y	-0.006	0.00	0.00	No	0.00	No
270	y	-0.006	0.00	0.00	No	0.00	No
271	y	-0.006	0.00	0.00	No	0.00	No
272	y	-0.006	0.00	0.00	No	0.00	No
273	y	-0.006	0.00	0.00	No	0.00	No
274	y	-0.006	0.00	0.00	No	0.00	No
275	y	-0.006	0.00	0.00	No	0.00	No
277	Y	-0.007	-0.007	0.00	No	100.00	Yes
278	Y	-0.007	-0.007	0.00	No	100.00	Yes
279	y	-0.006	0.00	0.00	No	0.00	No
280	y	-0.006	0.00	0.00	No	0.00	No
283	y	-0.01	0.00	0.00	No	0.00	No
284	y	-0.01	0.00	0.00	No	0.00	No
287	y	-0.006	0.00	0.00	No	0.00	No
289	y	-0.01	0.00	0.00	No	0.00	No
291	y	-0.01	0.00	0.00	No	0.00	No
294	y	-0.006	0.00	0.00	No	0.00	No
296	y	-0.01	0.00	0.00	No	0.00	No
298	y	-0.01	0.00	0.00	No	0.00	No
301	y	-0.006	0.00	0.00	No	0.00	No
303	y	-0.005	0.00	0.00	No	0.00	No
304	Y	-0.007	-0.007	0.00	No	100.00	Yes
305	Y	-0.007	-0.007	0.00	No	100.00	Yes
306	Y	-0.007	-0.007	0.00	No	100.00	Yes
307	y	-0.005	0.00	0.00	No	0.00	No
308	y	-0.005	0.00	0.00	No	0.00	No
309	y	-0.005	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	162	y	-0.033	0.50	No
	168	y	-0.033	0.50	No
	170	y	-0.033	0.50	No
	265	y	-0.053	1.50	No
		y	-0.072	1.50	No
		y	-0.06	4.00	No
	266	y	-0.033	1.25	No
		y	-0.033	3.00	No
		y	-0.041	5.00	No
	267	y	-0.041	6.75	No
		y	-0.04	0.50	No
		y	-0.04	5.50	No
	269	y	-0.073	3.50	No
		y	-0.06	3.50	No
		y	-0.053	1.50	No
	270	y	-0.072	1.50	No
		y	-0.06	4.00	No
		y	-0.033	1.25	No
	271	y	-0.033	3.00	No
		y	-0.041	5.00	No
		y	-0.041	6.75	No
	273	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.073	3.50	No
	274	y	-0.06	3.50	No
		y	-0.053	1.50	No
		y	-0.072	1.50	No
	275	y	-0.06	4.00	No
		y	-0.033	1.25	No
		y	-0.033	3.00	No
	287	y	-0.041	5.00	No
		y	-0.041	6.75	No
		y	-0.04	0.50	No
294	y	-0.04	5.50	No	
	y	-0.073	3.50	No	
	y	-0.06	3.50	No	
301	y	-0.073	3.50	No	
	y	-0.04	0.50	No	
	y	-0.04	5.50	No	
303	y	-0.03	0.50	No	
	y	-0.03	5.50	No	
	y	-0.03	0.50	No	
WO	162	z	-0.062	0.50	No
	168	z	-0.062	0.50	No
	170	z	-0.062	0.50	No
	265	z	-0.07	1.50	No
		z	-0.074	1.50	No
		z	-0.11	4.00	No
	266	z	-0.114	1.25	No
		z	-0.114	3.00	No
		z	-0.111	5.00	No
	267	z	-0.111	6.75	No
		z	-0.347	0.50	No
		z	-0.347	5.50	No
269	z	-0.04	3.50	No	
	z	-0.051	3.50	No	
	z	-0.146	1.50	No	
270	z	-0.079	4.00	No	
	z	-0.07	1.25	No	

		z	-0.07	3.00	No
		z	-0.084	5.00	No
		z	-0.084	6.75	No
	271	z	-0.202	0.50	No
		z	-0.202	5.50	No
		z	-0.123	3.50	No
	273	z	-0.146	1.50	No
		z	-0.079	4.00	No
	274	z	-0.07	1.25	No
		z	-0.07	3.00	No
		z	-0.084	5.00	No
		z	-0.084	6.75	No
	275	z	-0.202	0.50	No
		z	-0.202	5.50	No
		z	-0.123	3.50	No
	287	z	-0.371	0.50	No
		z	-0.371	5.50	No
	294	z	-0.232	0.50	No
		z	-0.232	5.50	No
	301	z	-0.232	0.50	No
		z	-0.232	5.50	No
	303	z	-0.062	0.50	No
W30	162	x	-0.062	0.50	No
	168	x	-0.062	0.50	No
	170	x	-0.062	0.50	No
	265	x	-0.172	1.50	No
		x	-0.068	4.00	No
	266	x	-0.055	1.25	No
		x	-0.055	3.00	No
		x	-0.075	5.00	No
		x	-0.075	6.75	No
	267	x	-0.154	0.50	No
		x	-0.154	5.50	No
		x	-0.15	3.50	No
	269	x	-0.096	1.50	No
		x	-0.10	4.00	No
	270	x	-0.099	1.25	No
		x	-0.099	3.00	No
		x	-0.102	5.00	No
		x	-0.102	6.75	No
	271	x	-0.299	0.50	No
		x	-0.299	5.50	No
		x	-0.07	3.50	No
	273	x	-0.096	1.50	No
		x	-0.10	4.00	No
	274	x	-0.099	1.25	No
		x	-0.099	3.00	No
		x	-0.102	5.00	No
		x	-0.102	6.75	No
	275	x	-0.299	0.50	No
		x	-0.299	5.50	No
		x	-0.07	3.50	No
	287	x	-0.186	0.50	No
		x	-0.186	5.50	No
	294	x	-0.325	0.50	No
		x	-0.325	5.50	No
	301	x	-0.325	0.50	No
		x	-0.325	5.50	No
	303	x	-0.062	0.50	No
Di	162	y	-0.03	0.50	No

	168	y	-0.03	0.50	No
	170	y	-0.03	0.50	No
	265	y	-0.05	1.50	No
		y	-0.032	1.50	No
		y	-0.036	4.00	No
	266	y	-0.035	1.25	No
		y	-0.035	3.00	No
		y	-0.037	5.00	No
		y	-0.037	6.75	No
	267	y	-0.097	0.50	No
		y	-0.097	5.50	No
		y	-0.036	3.50	No
		y	-0.048	3.50	No
	269	y	-0.05	1.50	No
		y	-0.032	1.50	No
		y	-0.036	4.00	No
	270	y	-0.035	1.25	No
		y	-0.035	3.00	No
		y	-0.037	5.00	No
		y	-0.037	6.75	No
	271	y	-0.097	0.50	No
		y	-0.097	5.50	No
		y	-0.036	3.50	No
		y	-0.048	3.50	No
	273	y	-0.05	1.50	No
		y	-0.032	1.50	No
		y	-0.036	4.00	No
	274	y	-0.035	1.25	No
		y	-0.035	3.00	No
		y	-0.037	5.00	No
		y	-0.037	6.75	No
	275	y	-0.097	0.50	No
		y	-0.097	5.50	No
		y	-0.036	3.50	No
		y	-0.048	3.50	No
	287	y	-0.107	0.50	No
		y	-0.107	5.50	No
	294	y	-0.107	0.50	No
		y	-0.107	5.50	No
	301	y	-0.107	0.50	No
		y	-0.107	5.50	No
	303	y	-0.03	0.50	No
Wi0	162	z	-0.012	0.50	No
	168	z	-0.012	0.50	No
	170	z	-0.012	0.50	No
	265	z	-0.015	1.50	No
		z	-0.015	1.50	No
		z	-0.022	4.00	No
	266	z	-0.021	1.25	No
		z	-0.021	3.00	No
		z	-0.021	5.00	No
		z	-0.021	6.75	No
	267	z	-0.059	0.50	No
		z	-0.059	5.50	No
		z	-0.01	3.50	No
		z	-0.014	3.50	No
	269	z	-0.028	1.50	No
		z	-0.016	4.00	No
	270	z	-0.014	1.25	No
		z	-0.014	3.00	No

		z	-0.016	5.00	No
		z	-0.016	6.75	No
	271	z	-0.037	0.50	No
		z	-0.037	5.50	No
		z	-0.025	3.50	No
	273	z	-0.028	1.50	No
		z	-0.016	4.00	No
	274	z	-0.014	1.25	No
		z	-0.014	3.00	No
		z	-0.016	5.00	No
		z	-0.016	6.75	No
	275	z	-0.037	0.50	No
		z	-0.037	5.50	No
		z	-0.025	3.50	No
	287	z	-0.063	0.50	No
		z	-0.063	5.50	No
	294	z	-0.041	0.50	No
		z	-0.041	5.50	No
	301	z	-0.041	0.50	No
		z	-0.041	5.50	No
	303	z	-0.012	0.50	No
Wi30	162	x	-0.012	0.50	No
	168	x	-0.012	0.50	No
	170	x	-0.012	0.50	No
	265	x	-0.032	1.50	No
		x	-0.015	4.00	No
	266	x	-0.012	1.25	No
		x	-0.012	3.00	No
		x	-0.015	5.00	No
		x	-0.015	6.75	No
	267	x	-0.03	0.50	No
		x	-0.03	5.50	No
		x	-0.029	3.50	No
	269	x	-0.019	1.50	No
		x	-0.02	4.00	No
	270	x	-0.019	1.25	No
		x	-0.019	3.00	No
		x	-0.019	5.00	No
		x	-0.019	6.75	No
	271	x	-0.052	0.50	No
		x	-0.052	5.50	No
		x	-0.017	3.50	No
	273	x	-0.019	1.50	No
		x	-0.02	4.00	No
	274	x	-0.019	1.25	No
		x	-0.019	3.00	No
		x	-0.019	5.00	No
		x	-0.019	6.75	No
	275	x	-0.052	0.50	No
		x	-0.052	5.50	No
		x	-0.017	3.50	No
	287	x	-0.034	0.50	No
		x	-0.034	5.50	No
	294	x	-0.055	0.50	No
		x	-0.055	5.50	No
	301	x	-0.055	0.50	No
		x	-0.055	5.50	No
	303	x	-0.012	0.50	No
WLO	162	z	-0.003	0.50	No
	168	z	-0.003	0.50	No

	170	z	-0.003	0.50	No
	265	z	-0.004	1.50	No
		z	-0.004	1.50	No
		z	-0.006	4.00	No
	266	z	-0.007	1.25	No
		z	-0.007	3.00	No
		z	-0.006	5.00	No
		z	-0.006	6.75	No
	267	z	-0.019	0.50	No
		z	-0.019	5.50	No
		z	-0.002	3.50	No
		z	-0.003	3.50	No
	269	z	-0.008	1.50	No
		z	-0.004	4.00	No
	270	z	-0.004	1.25	No
		z	-0.004	3.00	No
		z	-0.005	5.00	No
		z	-0.005	6.75	No
	271	z	-0.011	0.50	No
		z	-0.011	5.50	No
		z	-0.007	3.50	No
	273	z	-0.008	1.50	No
		z	-0.004	4.00	No
	274	z	-0.004	1.25	No
		z	-0.004	3.00	No
		z	-0.005	5.00	No
		z	-0.005	6.75	No
	275	z	-0.011	0.50	No
		z	-0.011	5.50	No
		z	-0.007	3.50	No
	287	z	-0.02	0.50	No
		z	-0.02	5.50	No
	294	z	-0.013	0.50	No
		z	-0.013	5.50	No
	301	z	-0.013	0.50	No
		z	-0.013	5.50	No
	303	z	-0.003	0.50	No
WL30	162	x	-0.003	0.50	No
	168	x	-0.003	0.50	No
	170	x	-0.003	0.50	No
	265	x	-0.009	1.50	No
		x	-0.004	4.00	No
	266	x	-0.003	1.25	No
		x	-0.003	3.00	No
		x	-0.004	5.00	No
		x	-0.004	6.75	No
	267	x	-0.009	0.50	No
		x	-0.009	5.50	No
		x	-0.008	3.50	No
	269	x	-0.005	1.50	No
		x	-0.005	4.00	No
	270	x	-0.006	1.25	No
		x	-0.006	3.00	No
		x	-0.006	5.00	No
		x	-0.006	6.75	No
	271	x	-0.016	0.50	No
		x	-0.016	5.50	No
		x	-0.004	3.50	No
	273	x	-0.005	1.50	No
		x	-0.005	4.00	No

	274	x	-0.006	1.25	No
		x	-0.006	3.00	No
		x	-0.006	5.00	No
		x	-0.006	6.75	No
	275	x	-0.016	0.50	No
		x	-0.016	5.50	No
		x	-0.004	3.50	No
	287	x	-0.01	0.50	No
		x	-0.01	5.50	No
	294	x	-0.018	0.50	No
		x	-0.018	5.50	No
	301	x	-0.018	0.50	No
		x	-0.018	5.50	No
	303	x	-0.003	0.50	No
LL1	28	y	-0.25	50.00	Yes
LL2	28	y	-0.25	100.00	Yes
LLa1	287	y	-0.50	50.00	Yes
LLa2	266	y	-0.50	50.00	Yes
LLa3	267	y	-0.50	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load Antenna 3	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00

LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

- LC1=1.2DL+W0
- LC2=1.2DL+W30
- LC3=1.2DL-W0
- LC4=1.2DL-W30
- LC5=0.9DL+W0
- LC6=0.9DL+W30
- LC7=0.9DL-W0
- LC8=0.9DL-W30
- LC9=1.2DL+Di+Wi0
- LC10=1.2DL+Di+Wi30
- LC11=1.2DL+Di-Wi0
- LC12=1.2DL+Di-Wi30
- LC13=1.4DL
- LC14=1.2DL+1.6LL1
- LC15=1.2DL+1.6LL2
- LC16=1.2DL+W0+1.6LLa1
- LC17=1.2DL+W30+1.6LLa1
- LC18=1.2DL-W0+1.6LLa1
- LC19=1.2DL-W30+1.6LLa1
- LC20=1.2DL+W0+1.6LLa2
- LC21=1.2DL+W30+1.6LLa2
- LC22=1.2DL-W0+1.6LLa2
- LC23=1.2DL-W30+1.6LLa2
- LC24=1.2DL+W0+1.6LLa3
- LC25=1.2DL+W30+1.6LLa3
- LC26=1.2DL-W0+1.6LLa3
- LC27=1.2DL-W30+1.6LLa3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	C 3x2x1/4	160	LC1 at 0.00%	0.47	OK	
		277	LC2 at 0.00%	0.50	OK	
		278	LC4 at 0.00%	0.37	OK	
		304	LC1 at 100.00%	0.59	OK	
		305	LC4 at 100.00%	0.65	OK	
		306	LC3 at 100.00%	0.47	OK	
		C 6x4x1/4	29	LC4 at 100.00%	0.04	OK
	31		LC2 at 100.00%	0.05	OK	
	33		LC3 at 100.00%	0.04	OK	
	HSS_SQR 4X4X1_4	283	LC1 at 100.00%	0.02	OK	
		284	LC3 at 0.00%	0.02	OK	
		289	LC4 at 0.00%	0.02	OK	
		291	LC1 at 0.00%	0.02	OK	
		296	LC1 at 0.00%	0.02	OK	
		298	LC2 at 0.00%	0.03	OK	
	L 2X2X1_4	2	LC3 at 100.00%	0.29	OK	
		3	LC2 at 0.00%	0.31	OK	
		34	LC4 at 0.00%	0.24	OK	
		36	LC8 at 100.00%	0.32	OK	
		279	LC1 at 100.00%	0.34	OK	

	280	LC1 at 0.00%	0.29	OK
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PIPE 2-1_2x0.203	264	LC4 at 72.92%	0.37	OK
	265	LC4 at 72.92%	0.48	OK
	266	LC2 at 72.92%	0.58	OK
	267	LC2 at 72.92%	0.44	OK
	268	LC3 at 72.92%	0.27	OK
	269	LC3 at 72.92%	0.43	OK
	270	LC3 at 72.92%	0.49	OK
	271	LC1 at 72.92%	0.45	OK
	272	LC1 at 72.92%	0.36	OK
	273	LC3 at 72.92%	0.47	OK
	274	LC3 at 72.92%	0.56	OK
	275	LC4 at 72.92%	0.33	OK
	287	LC1 at 22.92%	0.14	OK
	294	LC4 at 22.92%	0.13	OK
	301	LC2 at 22.92%	0.13	OK
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PIPE 2x0.154	28	LC2 at 69.44%	0.50	OK
	30	LC1 at 8.33%	0.56	OK
	32	LC2 at 8.33%	0.56	OK
	162	LC1 at 71.88%	0.05	OK
	168	LC4 at 71.88%	0.05	OK
	170	LC3 at 71.88%	0.05	OK
	303	LC1 at 71.88%	0.05	OK
	307	LC2 at 0.00%	0.33	OK
	308	LC4 at 100.00%	0.37	OK
	309	LC3 at 0.00%	0.38	OK
<hr/>				
PIPE 3x0.216	1	LC1 at 100.00%	0.42	OK
	5	LC3 at 100.00%	0.44	OK
	9	LC2 at 45.83%	0.24	OK
	10	LC3 at 93.75%	0.24	OK
	11	LC3 at 8.33%	0.23	OK
	12	LC4 at 0.00%	0.56	OK
<hr/>				
PL 6X1/2	25	LC2 at 50.00%	0.30	OK
	26	LC4 at 50.00%	0.28	OK
	27	LC1 at 50.00%	0.33	OK
<hr/>				
T2L 3X3X1_4	225	LC4 at 100.00%	0.23	OK
	226	LC2 at 0.00%	0.22	OK
	227	LC1 at 0.00%	0.18	OK

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
3	-6.0833	0.00	0.00	0
4	-6.25	0.00	0.00	0
5	-6.3333	0.00	-0.433	0
6	-6.5833	0.00	-0.866	0
10	-6.6667	0.00	-0.7217	0
13	-0.50	0.00	-11.4027	0
14	-0.4167	0.00	-11.547	0
18	6.0833	0.00	0.00	0
19	6.25	0.00	0.00	0
20	6.3333	0.00	-0.433	0
21	6.5833	0.00	-0.866	0
25	6.6667	0.00	-0.7217	0
28	0.50	0.00	-11.4027	0
29	0.4167	0.00	-11.547	0
32	0.00	0.00	-11.4027	0
72	-6.25	4.00	0.00	0
73	6.25	4.00	0.00	0
74	6.0833	4.00	0.00	0
75	6.5833	4.00	-0.866	0
76	0.4167	4.00	-11.547	0
77	6.6667	4.00	-0.7217	0
78	0.50	4.00	-11.4027	0
79	-0.50	4.00	-11.4027	0

80	-6.6667	4.00	-0.7217	0
81	-0.4167	4.00	-11.547	0
82	-6.5833	4.00	-0.866	0
83	-6.0833	4.00	0.00	0
95	1.3574	0.00	-3.3059	0
107	0.00	0.00	-5.6569	0
108	-1.3574	0.00	-3.3059	0
173	1.3574	-2.50	-3.3059	0
174	0.00	-2.50	-5.6569	0
175	-1.3574	-2.50	-3.3059	0
417	2.648	1.50	-2.7985	0
418	2.648	-0.50	-2.7985	0
429	-0.2059	1.50	-7.0284	0
430	-0.2059	-0.50	-7.0284	0
433	-2.4421	1.50	-2.4419	0
434	-2.4421	-0.50	-2.4419	0
519	1.0899	6.00	-10.781	0
520	1.0899	-2.00	-10.781	0
525	2.4649	6.00	-8.3994	0
526	2.4649	-2.00	-8.3994	0
531	3.9649	6.00	-5.8014	0
532	3.9649	-2.00	-5.8014	0
537	6.4649	6.00	-1.4712	0
538	6.4649	-2.00	-1.4712	0
570	-3.4649	6.00	-6.6674	0
571	-3.4649	-2.00	-6.6674	0
576	-4.9649	6.00	-4.0693	0
577	-4.9649	-2.00	-4.0693	0
582	-6.3399	6.00	-1.6877	0
583	-6.3399	-2.00	-1.6877	0
588	-0.9649	6.00	-10.9975	0
589	-0.9649	-2.00	-10.9975	0
594	-0.50	6.00	0.20	0
595	-0.50	-2.00	0.20	0
600	2.50	6.00	0.20	0
601	2.50	-2.00	0.20	0
606	5.25	6.00	0.20	0
607	5.25	-2.00	0.20	0
612	-5.50	6.00	0.20	0
613	-5.50	-2.00	0.20	0
634	-1.25	0.00	0.00	0
655	1.25	0.00	0.00	0
665	2.9167	0.00	-7.2169	0
666	4.1667	0.00	-5.0518	0
667	-4.1667	0.00	-5.0518	0
668	-2.9167	0.00	-7.2169	0
669	1.50	0.00	-0.433	0
670	3.9167	0.00	-4.6188	0
671	-3.9167	0.00	-4.6188	0
672	-1.50	0.00	-0.433	0
673	2.4167	0.00	-7.2169	0
674	-2.4167	0.00	-7.2169	0
680	0.00	0.00	-10.8333	0
687	-5.8403	0.00	-0.7177	0
688	5.8403	0.00	-0.7177	0
689	0.00	0.00	-7.2169	0
690	2.7083	0.00	-2.5259	0
691	-2.7083	0.00	-2.5259	0
692	5.25	4.00	0.82	0
693	5.25	0.00	0.82	0

694	5.25	4.00	0.32	0
695	5.25	0.00	0.32	0
698	5.25	6.00	0.94	0
699	5.25	-2.00	0.94	0
702	1.1938	4.00	-10.841	0
703	1.6268	4.00	-11.091	0
705	1.1938	0.00	-10.841	0
706	1.6268	0.00	-11.091	0
708	1.7307	6.00	-11.151	0
709	1.7307	-2.00	-11.151	0
712	-6.4438	4.00	-1.7477	0
713	-6.8768	4.00	-1.9977	0
715	-6.4438	0.00	-1.7477	0
716	-6.8768	0.00	-1.9977	0
718	-6.9807	6.00	-2.0577	0
719	-6.9807	-2.00	-2.0577	0
721	0.2059	1.50	-7.0284	0
722	0.2059	-0.50	-7.0284	0
729	-5.1667	4.00	-3.3198	0
730	-3.25	4.00	0.00	0
731	-1.9167	4.00	-8.9489	0
732	1.9167	4.00	-8.9489	0
733	5.1667	4.00	-3.3198	0
734	3.25	4.00	0.00	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
95	1	1	1	1	1	1
107	1	1	1	1	1	1
108	1	1	1	1	1	1
173	1	1	1	1	1	1
174	1	1	1	1	1	1
175	1	1	1	1	1	1

Members

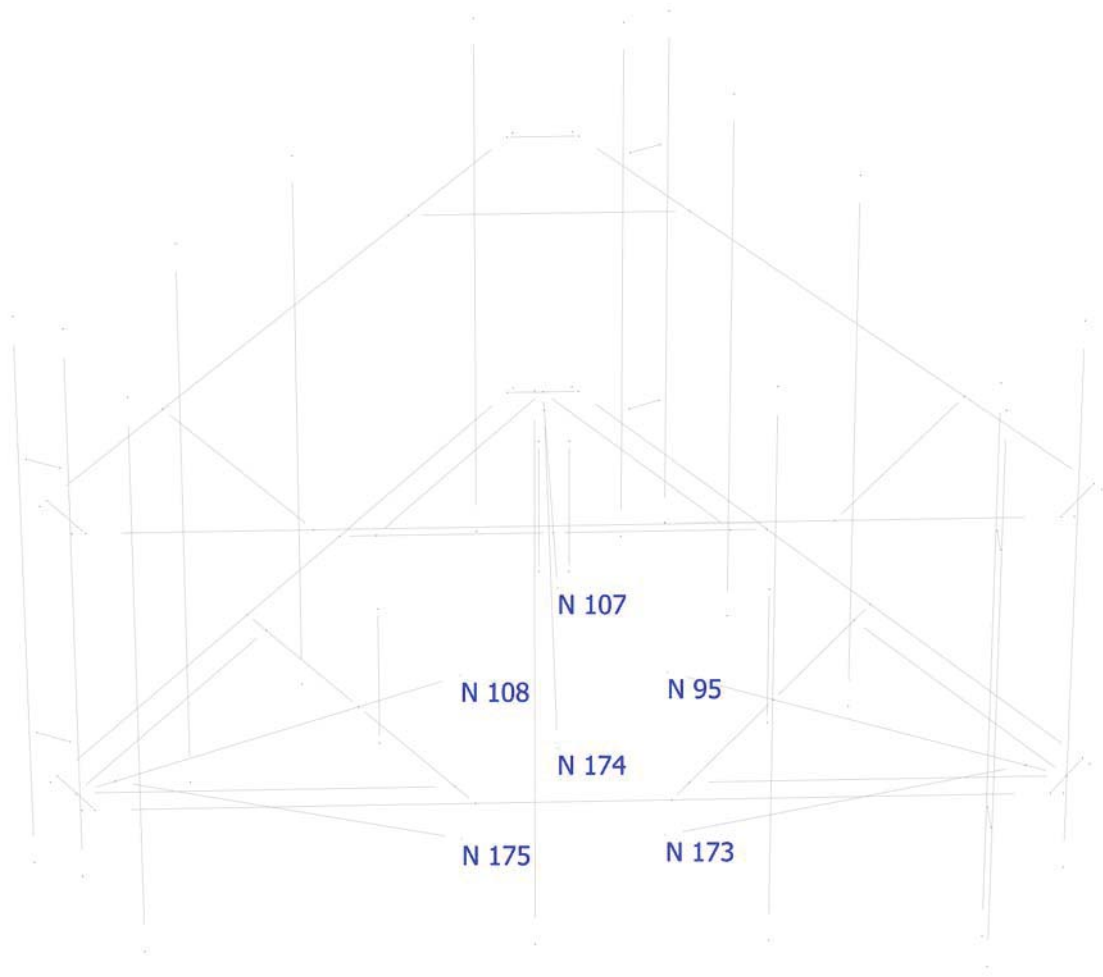
Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
1	5	108		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
2	5	672		L 2X2X1_4	A36	0.00	0.00	0.00
3	5	671		L 2X2X1_4	A36	0.00	0.00	0.00
5	20	95		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
9	4	19		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
10	10	14		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
11	29	25		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
12	107	32		PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
25	6	3		PL 6X1/2	A36	0.00	0.00	0.00
26	18	21		PL 6X1/2	A36	0.00	0.00	0.00
27	28	13		PL 6X1/2	A36	0.00	0.00	0.00
28	72	73		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

29	74	75	C 6x4x1/4	A36	0.00	0.00	0.00
30	76	77	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
31	78	79	C 6x4x1/4	A36	0.00	0.00	0.00
32	80	81	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
33	82	83	C 6x4x1/4	A36	0.00	0.00	0.00
34	20	669	L 2X2X1_4	A36	0.00	0.00	0.00
36	20	670	L 2X2X1_4	A36	0.00	0.00	0.00
160	634	691	C 3x2x1/4	A36	0.00	0.00	0.00
162	417	418	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
168	429	430	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
170	433	434	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
225	173	688	T2L 3X3X1_4	A36	0.00	0.00	0.00
226	687	175	T2L 3X3X1_4	A36	0.00	0.00	0.00
227	680	174	T2L 3X3X1_4	A36	0.00	0.00	0.00
264	606	607	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
265	600	601	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
266	594	595	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
267	612	613	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
268	582	583	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
269	576	577	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
270	570	571	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
271	588	589	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
272	519	520	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
273	525	526	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
274	531	532	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
275	537	538	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
277	666	690	C 3x2x1/4	A36	0.00	0.00	0.00
278	668	689	C 3x2x1/4	A36	0.00	0.00	0.00
279	674	32	L 2X2X1_4	A36	0.00	0.00	0.00
280	32	673	L 2X2X1_4	A36	0.00	0.00	0.00
283	694	692	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
284	695	693	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
287	698	699	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
289	702	703	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
291	705	706	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
294	708	709	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
296	712	713	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
298	715	716	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
301	718	719	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
303	721	722	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
304	690	655	C 3x2x1/4	A36	0.00	0.00	0.00
305	691	667	C 3x2x1/4	A36	0.00	0.00	0.00
306	689	665	C 3x2x1/4	A36	0.00	0.00	0.00
307	729	730	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
308	731	732	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
309	734	733	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

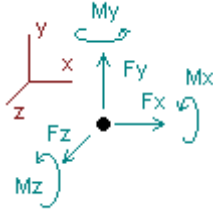
Member	Rotation [Deg]	Axes23	NX	NY	NZ
2	270.00	0	0.00	0.00	0.00
29	180.00	0	0.00	0.00	0.00
31	180.00	0	0.00	0.00	0.00
33	180.00	0	0.00	0.00	0.00
36	270.00	0	0.00	0.00	0.00

160	180.00	0	0.00	0.00	0.00
162	315.00	0	0.00	0.00	0.00
168	315.00	0	0.00	0.00	0.00
170	315.00	0	0.00	0.00	0.00
264	315.00	0	0.00	0.00	0.00
265	315.00	0	0.00	0.00	0.00
266	315.00	0	0.00	0.00	0.00
267	315.00	0	0.00	0.00	0.00
268	315.00	0	0.00	0.00	0.00
269	315.00	0	0.00	0.00	0.00
270	315.00	0	0.00	0.00	0.00
271	315.00	0	0.00	0.00	0.00
272	315.00	0	0.00	0.00	0.00
273	315.00	0	0.00	0.00	0.00
274	315.00	0	0.00	0.00	0.00
275	315.00	0	0.00	0.00	0.00
277	180.00	0	0.00	0.00	0.00
278	180.00	0	0.00	0.00	0.00
303	315.00	0	0.00	0.00	0.00
304	180.00	0	0.00	0.00	0.00
305	180.00	0	0.00	0.00	0.00
306	180.00	0	0.00	0.00	0.00



Analysis result

Reactions



Direction of positive forces and moments

Node	Forces [Kip]			Moments [Kip*ft]		
	FX	FY	FZ	MX	MY	MZ
Condition LC1=1.2DL+W0						
95	1.57557	0.45801	2.56794	0.22548	-1.55440	0.63280
107	-0.22869	0.52740	10.12844	0.62302	0.23385	-0.18238
108	-1.61971	0.69191	2.54472	0.32446	1.56770	-0.97181
173	0.39952	0.25971	0.19240	-0.01703	-0.00934	0.04914
174	-0.01163	2.90755	-6.06148	0.01062	0.03816	0.01856
175	-0.11505	0.12185	0.02325	-0.02177	0.04060	-0.08805
SUM	0.00000	4.96644	9.39526	1.14478	0.31657	-0.54175
Condition LC2=1.2DL+W30						
95	5.22650	0.64191	2.59484	-0.80154	0.34339	0.23722
107	2.09986	0.43960	1.65525	0.44142	-2.38290	-0.76912
108	8.16323	0.57164	-3.96171	-0.14078	0.61103	-0.65146
173	-1.13473	-0.51957	-0.54804	0.03467	-0.20730	0.13359
174	0.02031	1.19051	-2.41669	0.03220	-0.24137	-0.12295
175	-4.78348	2.64235	2.67635	-0.08262	-0.17491	0.01928
SUM	9.59170	4.96644	0.00000	-0.51665	-2.05205	-1.15344
Condition LC3=1.2DL-W0						
95	-4.34928	0.63836	-4.17576	-0.81809	1.56750	0.31654
107	0.22272	0.64522	-6.89770	0.56597	-0.22006	0.23116
108	4.39705	0.40268	-4.14139	-0.84684	-1.55404	-0.01597
173	3.38575	1.92552	2.00218	-0.03177	-0.00026	0.04424
174	0.02007	-0.70761	1.66101	0.09945	-0.04852	-0.02334
175	-3.67629	2.06225	2.15640	-0.03466	-0.05029	-0.00076
SUM	0.00000	4.96644	-9.39526	-1.06593	-0.30567	0.55187
Condition LC4=1.2DL-W30						
95	-8.00022	0.45446	-4.20267	0.20894	-0.33029	0.71212
107	-2.10584	0.73302	1.57549	0.74757	2.39669	0.81789
108	-5.38590	0.52296	2.36504	-0.38160	-0.59738	-0.33633
173	4.92000	2.70481	2.74262	-0.08347	0.19771	-0.04021
174	-0.01187	1.00944	-1.98378	0.07787	0.23101	0.11817
175	0.99213	-0.45825	-0.49671	0.02619	0.16521	-0.10808
SUM	-9.59170	4.96644	0.00000	0.59550	2.06295	1.16355

Condition **LC5=0.9DL+W0**

95	1.92228	0.32096	2.76892	0.29956	-1.55604	0.51413
107	-0.22795	0.38082	9.72460	0.47440	0.23213	-0.18848
108	-1.96688	0.55509	2.74431	0.38976	1.56599	-0.84834
173	-0.07364	-0.01344	-0.08192	-0.01093	-0.00814	0.03747
174	-0.01269	2.63256	-5.51142	-0.00314	0.03946	0.01916
175	0.35886	-0.15116	-0.24921	-0.01472	0.04181	-0.07695
SUM	0.00000	3.72483	9.39526	1.13493	0.31521	-0.54302

Condition **LC6=0.9DL+W30**

95	5.57322	0.50487	2.79582	-0.72747	0.34175	0.11855
107	2.10061	0.29302	1.25140	0.29280	-2.38462	-0.77521
108	7.81606	0.43481	-3.76213	-0.07548	0.60933	-0.52799
173	-1.60789	-0.79273	-0.82237	0.04077	-0.20610	0.12192
174	0.01925	0.91551	-1.86663	0.01844	-0.24008	-0.12235
175	-4.30956	2.36934	2.40389	-0.07557	-0.17369	0.03038
SUM	9.59170	3.72483	0.00000	-0.52651	-2.05342	-1.15470

Condition **LC7=0.9DL-W0**

95	-4.00257	0.50131	-3.97479	-0.74401	1.56587	0.19787
107	0.22346	0.49864	-7.30154	0.41735	-0.22179	0.22506
108	4.04988	0.26586	-3.94180	-0.78154	-1.55575	0.10750
173	2.91259	1.65237	1.72786	-0.02567	0.00094	0.03257
174	0.01901	-0.98260	2.21107	0.08569	-0.04723	-0.02275
175	-3.20238	1.78924	1.88394	-0.02761	-0.04908	0.01034
SUM	0.00000	3.72483	-9.39526	-1.07579	-0.30703	0.55060

Condition **LC8=0.9DL-W30**

95	-7.65350	0.31741	-4.00169	0.28301	-0.33193	0.59345
107	-2.10509	0.58644	1.17165	0.59895	2.39496	0.81179
108	-5.73306	0.38614	2.56463	-0.31630	-0.59908	-0.21285
173	4.44684	2.43166	2.46830	-0.07737	0.19891	-0.05189
174	-0.01293	0.73445	-1.43372	0.06411	0.23231	0.11876
175	1.46605	-0.73127	-0.76916	0.03324	0.16642	-0.09698
SUM	-9.59170	3.72483	0.00000	0.58565	2.06159	1.16229

Condition **LC9=1.2DL+Di+Wi0**

95	-2.10657	0.86177	-1.02291	-0.39563	-0.17960	0.77782
107	-0.02244	0.92475	3.92502	0.94628	0.02714	0.00837
108	2.09032	0.89174	-1.02129	-0.33444	0.18735	-0.84919
173	3.17344	1.81942	1.82048	-0.03859	0.00452	0.06360
174	0.00682	2.19558	-4.46289	0.06635	-0.00840	-0.00386
175	-3.14157	1.80006	1.78360	-0.04909	-0.02484	-0.06291
SUM	0.00000	8.49333	1.02200	0.19487	0.00617	-0.06618

Condition **LC10=1.2DL+Di+Wi30**

95	-1.68208	0.88670	-1.02262	-0.53568	0.04970	0.72380
107	0.22343	0.91520	2.88243	0.92368	-0.25041	-0.06788
108	3.26334	0.87317	-1.80235	-0.39962	0.07417	-0.80101
173	2.97233	1.72233	1.74288	-0.02473	-0.03908	0.07938
174	-0.00705	1.95826	-3.95377	0.07257	-0.01491	-0.00784
175	-3.77197	2.13767	2.15343	-0.04655	-0.03561	-0.04741
SUM	0.99800	8.49333	0.00000	-0.01033	-0.21613	-0.12096

Condition **LC11=1.2DL+Di-Wi0**

95	-2.82493	0.88434	-1.83683	-0.54099	0.20372	0.72968
107	0.01091	0.94410	1.81544	0.94110	-0.00190	0.06558
108	2.84889	0.85151	-1.81717	-0.49717	-0.16232	-0.71553
173	3.58279	2.04944	2.09731	-0.02574	-0.02282	0.06475
174	0.00878	1.69696	-3.38738	0.08471	-0.01114	-0.00517
175	-3.62645	2.06696	2.10663	-0.02984	0.00638	-0.05675
SUM	0.00000	8.49333	-1.02200	-0.06794	0.01193	0.08256

Condition **LC12=1.2DL+Di-Wi30**

95	-3.24941	0.85942	-1.83712	-0.40095	-0.02558	0.78370
107	-0.23496	0.95366	2.85804	0.96371	0.27565	0.14182
108	1.67586	0.87008	-1.03611	-0.43200	-0.04915	-0.76371
173	3.78391	2.14654	2.17491	-0.03961	0.02078	0.04897
174	0.02265	1.93428	-3.89650	0.07849	-0.00462	-0.00119
175	-2.99605	1.72936	1.73679	-0.03238	0.01715	-0.07224
SUM	-0.99800	8.49333	0.00000	0.13726	0.23422	0.13734

Condition **LC13=1.4DL**

95	-1.61800	0.63955	-0.93790	-0.34569	0.00764	0.55378
107	-0.00349	0.68403	1.88460	0.69358	0.00805	0.02845
108	1.62011	0.63852	-0.93139	-0.30472	0.00797	-0.57621
173	2.20808	1.27472	1.28017	-0.02847	-0.00560	0.05447
174	0.00492	1.28330	-2.56694	0.06421	-0.00604	-0.00279
175	-2.21162	1.27406	1.27146	-0.03292	-0.00566	-0.05180
SUM	0.00000	5.79417	0.00000	0.04600	0.00636	0.00590

Condition **LC14=1.2DL+1.6LL1**

95	-1.53382	0.67913	-0.89829	-0.48185	0.02161	0.52305
107	-0.00243	0.55517	1.49977	0.56224	0.00617	0.02644
108	1.53013	0.68812	-0.88891	-0.46025	-0.00731	-0.54607
173	2.05416	1.19258	1.21041	-0.01866	-0.03214	0.06238
174	0.00389	1.06184	-2.12244	0.05303	-0.00469	-0.00217
175	-2.05193	1.18959	1.19946	-0.02320	0.02194	-0.06083
SUM	0.00000	5.36644	0.00000	-0.36868	0.00558	0.00281

Condition **LC15=1.2DL+1.6LL2**

95	-2.08199	0.55753	-1.20852	-0.31194	0.01206	0.47278
107	-0.01281	0.58273	1.49114	0.59028	0.01996	0.02651
108	1.31914	0.54871	-0.76922	-0.27065	-0.00506	-0.48942
173	2.66557	1.50740	1.55029	-0.00982	-0.01383	0.02988
174	0.00405	1.07846	-2.15434	0.05520	-0.00225	-0.00095
175	-1.89396	1.09161	1.09065	-0.02769	-0.00385	-0.04434
SUM	0.00000	5.36644	0.00000	0.02538	0.00702	-0.00553

Condition **LC16=1.2DL+Wl0+1.6LLa1**

95	-2.54462	0.61300	-1.44338	-0.43341	-0.00080	0.46436
107	-0.02889	0.56594	1.54770	0.57610	0.04144	0.00640
108	1.27197	0.58473	-0.69830	-0.31075	0.03911	-0.50726
173	3.22903	1.82219	1.92002	0.02153	-0.07698	0.03495
174	0.00010	1.06809	-2.13377	0.05467	0.00961	0.00475
175	-1.92759	1.11249	1.11272	-0.02456	0.00625	-0.04878
SUM	0.00000	5.76644	0.30500	-0.11642	0.01862	-0.04557

Condition **LC17=1.2DL+WL30+1.6LLa1**

95	-2.42051	0.62032	-1.44105	-0.47506	0.06352	0.44829
107	0.04745	0.56265	1.23588	0.56940	-0.04557	-0.01611
108	1.62179	0.57913	-0.93462	-0.33029	0.00124	-0.49237
173	3.16916	1.79341	1.89747	0.02637	-0.09168	0.04006
174	-0.00372	0.99703	-1.98124	0.05660	0.00612	0.00281
175	-2.11717	1.21388	1.22357	-0.02438	0.00152	-0.04369

SUM	0.29700	5.76644	0.00000	-0.17735	-0.06485	-0.06101
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Condition **LC18=1.2DL-WL0+1.6LLa1**

95	-2.76120	0.61990	-1.68643	-0.47667	0.11259	0.44998
107	-0.01822	0.57112	0.91610	0.57494	0.03181	0.02369
108	1.50014	0.57264	-0.93705	-0.35947	-0.06597	-0.46690
173	3.35212	1.89136	2.00340	0.02559	-0.08561	0.03536
174	0.00076	0.91857	-1.81106	0.06033	0.00844	0.00419
175	-2.07361	1.19284	1.21004	-0.01880	0.01551	-0.04684

SUM	0.00000	5.76644	-0.30500	-0.19409	0.01677	-0.00053
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Condition **LC19=1.2DL-WL30+1.6LLa1**

95	-2.88530	0.61258	-1.68876	-0.43503	0.04827	0.46605
107	-0.09456	0.57441	1.22792	0.58163	0.11882	0.04620
108	1.15032	0.57823	-0.70073	-0.33994	-0.02810	-0.48178
173	3.41200	1.92014	2.02595	0.02074	-0.07092	0.03024
174	0.00458	0.98963	-1.96358	0.05841	0.01193	0.00612
175	-1.88404	1.09145	1.09920	-0.01898	0.02023	-0.05193

SUM	-0.29700	5.76644	0.00000	-0.13316	0.10024	0.01491
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Condition **LC20=1.2DL+WL0+1.6LLa2**

95	-1.53576	0.79465	-0.84877	-0.63823	-0.02071	0.56880
107	-0.00400	0.51934	1.67017	0.52842	0.00635	0.02393
108	1.62721	0.84786	-0.89771	-0.65960	0.03071	-0.61918
173	2.10983	1.23368	1.25767	-0.01389	-0.05736	0.07809
174	0.00395	1.08657	-2.18060	0.04851	-0.00561	-0.00261
175	-2.20124	1.28432	1.30425	-0.01770	0.05159	-0.07945

SUM	0.00000	5.76644	0.30500	-0.75248	0.00498	-0.03042
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Condition **LC21=1.2DL+WL30+1.6LLa2**

95	-1.41166	0.80198	-0.84645	-0.67987	0.04361	0.55273
107	0.07235	0.51605	1.35835	0.52173	-0.08066	0.00141
108	1.97703	0.84227	-1.13404	-0.67913	-0.00716	-0.60430
173	2.04995	1.20491	1.23511	-0.00905	-0.07206	0.08321
174	0.00013	1.01551	-2.02807	0.05044	-0.00910	-0.00455
175	-2.39081	1.38571	1.41509	-0.01753	0.04687	-0.07436

SUM	0.29700	5.76644	0.00000	-0.81341	-0.07849	-0.04586
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Condition **LC22=1.2DL-WL0+1.6LLa2**

95	-1.75234	0.80156	-1.09182	-0.68149	0.09269	0.55442
107	0.00668	0.52452	1.03857	0.52726	-0.00328	0.04121
108	1.85537	0.83577	-1.13646	-0.70831	-0.07437	-0.57883
173	2.23292	1.30286	1.34105	-0.00983	-0.06599	0.07850
174	0.00462	0.93705	-1.85789	0.05417	-0.00677	-0.00317
175	-2.34725	1.36467	1.40156	-0.01194	0.06086	-0.07751

SUM	0.00000	5.76644	-0.30500	-0.83015	0.00313	0.01462
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Condition **LC23=1.2DL-WL30+1.6LLa2**

95	-1.87644	0.79423	-1.09415	-0.63984	0.02837	0.57049
107	-0.06966	0.52781	1.35039	0.53396	0.08373	0.06373
108	1.50556	0.84137	-0.90014	-0.68878	-0.03650	-0.59371
173	2.29279	1.33163	1.36360	-0.01467	-0.05130	0.07339
174	0.00843	1.00811	-2.01042	0.05225	-0.00328	-0.00123
175	-2.15768	1.26328	1.29072	-0.01212	0.06558	-0.08260

SUM	-0.29700	5.76644	0.00000	-0.76922	0.08660	0.03006
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Condition **LC24=1.2DL+WL0+1.6LLa3**

95	-1.22342	0.56252	-0.66773	-0.31189	-0.03300	0.48006
107	0.00865	0.56288	1.67760	0.57248	-0.01145	0.03444
108	2.57869	0.58161	-1.45307	-0.33663	0.02248	-0.48231
173	1.89686	1.09552	1.09892	-0.02339	-0.00705	0.04732
174	0.00771	1.12933	-2.26679	0.05090	-0.01687	-0.00801
175	-3.26849	1.83458	1.91607	0.01036	0.04307	-0.02263

SUM	0.00000	5.76644	0.30500	-0.03817	-0.00283	0.04886
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Condition **LC25=1.2DL+WL30+1.6LLa3**

95	-1.09932	0.56984	-0.66540	-0.35354	0.03131	0.46399
107	0.08499	0.55959	1.36577	0.56578	-0.09846	0.01192
108	2.92851	0.57601	-1.68939	-0.35616	-0.01539	-0.46743
173	1.83699	1.06674	1.07637	-0.01855	-0.02175	0.05243
174	0.00389	1.05827	-2.11426	0.05283	-0.02036	-0.00995
175	-3.45806	1.93597	2.02691	0.01054	0.03835	-0.01754

SUM	0.29700	5.76644	0.00000	-0.09910	-0.08630	0.03342
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Condition **LC26=1.2DL-WL0+1.6LLa3**

95	-1.44001	0.56942	-0.91078	-0.35516	0.08039	0.46568
107	0.01933	0.56806	1.04600	0.57131	-0.02108	0.05173
108	2.80686	0.56952	-1.69182	-0.38534	-0.08260	-0.44195
173	2.01995	1.16469	1.18230	-0.01933	-0.01569	0.04773
174	0.00837	0.97981	-1.94408	0.05657	-0.01804	-0.00858
175	-3.41450	1.91493	2.01338	0.01612	0.05234	-0.02069

SUM	0.00000	5.76644	-0.30500	-0.11583	-0.00468	0.09391
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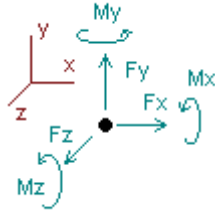
Condition **LC27=1.2DL-WL30+1.6LLa3**

95	-1.56411	0.56210	-0.91311	-0.31351	0.01607	0.48174
107	-0.05702	0.57135	1.35782	0.57801	0.06593	0.07424
108	2.45704	0.57511	-1.45550	-0.36581	-0.04473	-0.45683
173	2.07982	1.19347	1.20485	-0.02417	-0.00099	0.04261
174	0.01219	1.05087	-2.09660	0.05464	-0.01455	-0.00664
175	-3.22493	1.81354	1.90254	0.01594	0.05706	-0.02578

SUM	-0.29700	5.76644	0.00000	-0.05490	0.07879	0.10935
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Envelope for nodal reactions

Note.- I_c is the controlling load condition



Direction of positive forces and moments

Envelope of nodal reactions for :

- LC1=1.2DL+W0
- LC2=1.2DL+W30
- LC3=1.2DL-W0
- LC4=1.2DL-W30
- LC5=0.9DL+W0
- LC6=0.9DL+W30
- LC7=0.9DL-W0
- LC8=0.9DL-W30
- LC9=1.2DL+Di+W0
- LC10=1.2DL+Di+W30
- LC11=1.2DL+Di-W0
- LC12=1.2DL+Di-W30
- LC13=1.4DL
- LC14=1.2DL+1.6LL1
- LC15=1.2DL+1.6LL2
- LC16=1.2DL+W0+1.6LLa1
- LC17=1.2DL+W30+1.6LLa1
- LC18=1.2DL-W0+1.6LLa1
- LC19=1.2DL-W30+1.6LLa1
- LC20=1.2DL+W0+1.6LLa2
- LC21=1.2DL+W30+1.6LLa2
- LC22=1.2DL-W0+1.6LLa2
- LC23=1.2DL-W30+1.6LLa2
- LC24=1.2DL+W0+1.6LLa3
- LC25=1.2DL+W30+1.6LLa3
- LC26=1.2DL-W0+1.6LLa3
- LC27=1.2DL-W30+1.6LLa3

Node		Forces						Moments					
		Fx	I_c	Fy	I_c	Fz	I_c	Mx	I_c	My	I_c	Mz	I_c
		[Kip]		[Kip]		[Kip]		[Kip*ft]		[Kip*ft]		[Kip*ft]	
95	Max	5.573	LC6	0.887	LC10	2.796	LC6	0.29956	LC5	1.56750	LC3	0.78370	LC12
	Min	-8.000	LC4	0.317	LC8	-4.203	LC4	-0.81809	LC3	-1.55604	LC5	0.11855	LC6
107	Max	2.101	LC6	0.954	LC12	10.128	LC1	0.96371	LC12	2.39669	LC4	0.81789	LC4
	Min	-2.106	LC4	0.293	LC6	-7.302	LC7	0.29280	LC6	-2.38462	LC6	-0.77521	LC6
108	Max	8.163	LC2	0.892	LC9	2.744	LC5	0.38976	LC5	1.56770	LC1	0.10750	LC7
	Min	-5.733	LC8	0.266	LC7	-4.141	LC3	-0.84684	LC3	-1.55575	LC7	-0.97181	LC1
173	Max	4.920	LC4	2.705	LC4	2.743	LC4	0.04077	LC6	0.19891	LC8	0.13359	LC2
	Min	-1.608	LC6	-0.793	LC6	-0.822	LC6	-0.08347	LC4	-0.20730	LC2	-0.05189	LC8
174	Max	0.023	LC12	2.908	LC1	2.211	LC7	0.09945	LC3	0.23231	LC8	0.11876	LC8
	Min	-0.013	LC8	-0.983	LC7	-6.061	LC1	-0.00314	LC5	-0.24137	LC2	-0.12295	LC2
175	Max	1.466	LC8	2.642	LC2	2.676	LC2	0.03324	LC8	0.16642	LC8	0.03038	LC6
	Min	-4.783	LC2	-0.731	LC8	-0.769	LC8	-0.08262	LC2	-0.17491	LC2	-0.10808	LC4



HUDSON
Design Group LLC

Connection Check

Date: 1/21/2022
Project Name: MIDDLETOWN FAIRCHILD ROAD
Project No.: CT2547
Designed By: KSBM Checked By: MSC



CHECK CONNECTION CAPACITY (Worst Case)

Reference: AISC Steel Construction Manual 14th Edition (ASD)

Bolt Type = A36 3/4" (Threaded Rod)

Allowable Tensile Load =

$F_{Tall} = 9609$ lbs.

Allowable Shear Load =

$F_{Vall} = 5765$ lbs.

TENSILE FORCES

Reaction $F = 4141$ lbs. (See Bentley Output)

SHEAR FORCES

Reactions in X direction: 8163 lbs. (See Bentley Output)

Reactions in Y direction: 892 lbs. (See Bentley Output)

Resultant: 8212 lbs.

No. of Supports = 1

No. of Bolts / Support = 2

Tension Design Load /Bolts =

$f_t = 2070.50$ lbs. < 9609 lbs. **Therefore, OK !**

Shear Design Load / Bolts=

$f_v = 4105.80$ lbs. < 5765 lbs. **Therefore, OK !**

CHECK COMBINED TENSION AND SHEAR

$f_t / F_T + f_v / F_V \leq 1.0$
0.215 + 0.712 = 0.928 < 1.0 **Therefore, OK !**

CURRENT OWNER				TOPO	UTILITIES	STRT / ROAD	LOCATION	CURRENT ASSESSMENT				
BORRELLI STEPHEN G & BARBARA 67 FAIRCHILD RD MIDDLETOWN CT 06457				1 Level	5 Well	1 Paved		Description	Code	Appraisec	Assessed	6083 MIDDLETOWN, CT VISION
					6 Septic		1 Light Traf	RES LAND	1-1	71,140	49,800	
								DWELLING	1-3	169,610	118,730	
SUPPLEMENTAL DATA												
Alt Prcl ID 42 30-6 33						Class Res						
						State Clas 105						
						Supl Info						
Color TAN						Unsold						
Census 5419												
District 2:South Farms												
GIS ID R01106						Assoc Pid#						
									Total	240,750	168,530	

RECORD OF OWNERSHIP							BK-VOL/PAGE	SALE DATE	Q/U	V/I	SALE PRICE	VC	PREVIOUS ASSESSMENTS (HISTORY)								
BORRELLI STEPHEN G & BARBARA L							1091 0136	02-28-1996	U	I	0	29	Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
													2020	1-1	49,800	2020	1-1	49,800	2019	1-1	49,800
														1-3	118,730		1-3	118,730		1-3	118,730
													Total		168,530	Total		168,530	Total		168,530

EXEMPTIONS				OTHER ASSESSMENTS				This signature acknowledges a visit by a Data Collector or Assessor												
Year	Code	Description	Amount	Code	Description	Number	Amount	Comm Int												
			Total	0.00																

ASSESSING NEIGHBORHOOD											
Nbhd		Nbhd Name		B		Tracing		Batch			
0001											

NOTES												APPRAISED VALUE SUMMARY						
PARCEL SPLIT FOR 2008												Appraised Bldg. Value (Card)						169,610
FOUNDATION=STONE;EXCEPT IN ADDITION												Appraised Xf (B) Value (Bldg)						0
												Appraised Ob (B) Value (Bldg)						0
												Appraised Land Value (Bldg)						71,140
												Special Land Value						0
												Total Appraised Parcel Value						240,750
												Valuation Method						C
												Total Appraised Parcel Value						240,750

BUILDING PERMIT RECORD										VISIT / CHANGE HISTORY					
Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments		Date	Id	Type	Is	Cd	Purpost/Result
201912432	01-22-2019	EL	Electric	500		100	10-01-2019	INSTALL EQUIPMENT TO FIB		12-18-2017	LAV			42	Change - Informal Hearing/
201811086	04-23-2018	EL	Electric	3,300		100	10-01-2018	REPLACE 3 METER PACK WI		10-05-2017	DAB			41	Field Review
20144878	10-06-2014	EL	Electric	15,000		100		REPLACE 3 CELLL ANTENNA		07-08-2013	AJ			61	Mailer Return - Change
20144200	05-23-2014	EL	Electric	60,000		100		MODIFY ATENNAS & EQUIP		05-10-2013	KL			41	Field Review
										04-08-2013	SS			08	Measured/Interior Refused
										12-18-2012	GM			02	2nd visit
										12-18-2012	GM			01	Measured

LAND LINE VALUATION SECTION																	
B	Use Code	Description	Zone	Land Type	Land Units	Unit Price	Size Adj	Site Index	Cond.	Nbhd.	Nbhd. Adj	Notes		Location Adjustment	Adj Unit P	Land Value	
1	103	3 Family	R-30	Primary	2.000 AC	68,080	0.55000	5	1.00	13	0.950			1.0000	35,571.8	71,140	
Total Card Land Units					2.00 AC	Parcel Total Land Area					2.00	Total Land Value					71,140

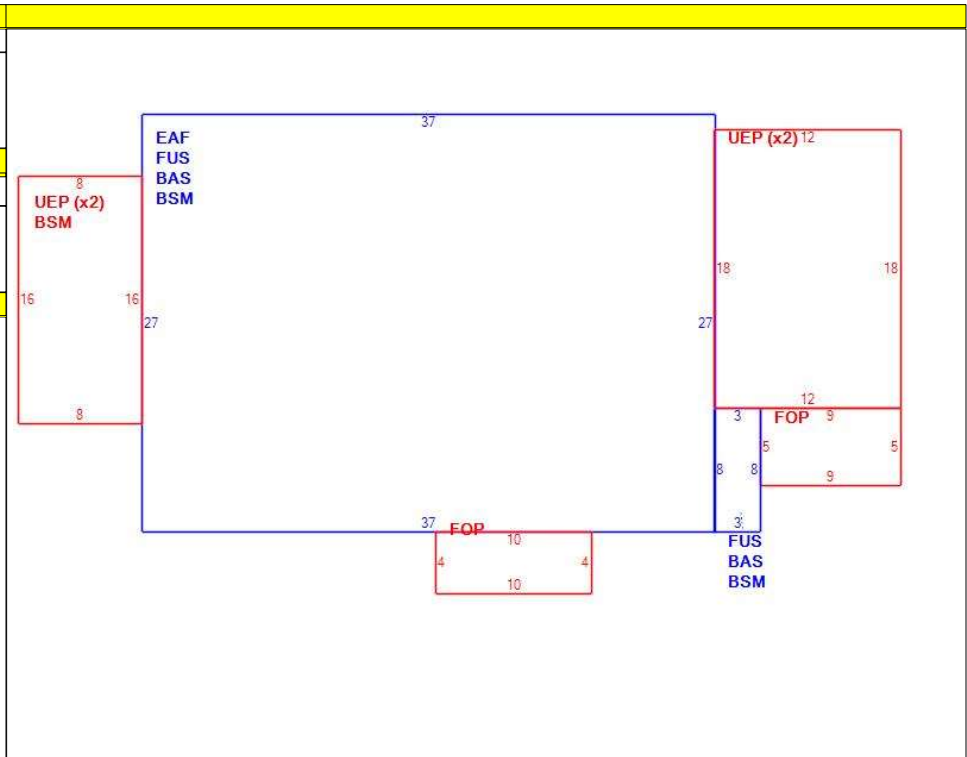
CONSTRUCTION DETAIL			CONSTRUCTION DETAIL (CONTINUED)		
Element	Cd	Description	Element	Cd	Description
Style	11	Three Family	Bsmt Garage	0	
Model	03	Multi-Family	In Law	0	
Grade	09	C+			
Stories	2.5				
Occupancy	3				
Exterior Wall 1	25	Vinyl Siding			
Exterior Wall 2					
Roof Structure	03	Gable			
Roof Cover	03	Asphalt Shingl			
Interior Wall 1	05	Drywall			
Interior Wall 2					
Interior Floor 1	12	Hardwood			
Interior Floor 2	14	Carpet			
Heat Fuel	02	Oil			
Heat Type	04	Forced Air			
Bedrooms	6				
Full Baths	3				
Half Baths	0				
Extra Fixtures	0				
Total Rooms	13				
Bath Remodel	N	Not Updated			
Kitchen Remod	N	Not Updated			
Extra Kitchens	0				
Fireplaces	0				
Extra Openings					
Gas Fireplace	0				
Int vs Ext	0	Unknown			
A/C Type	01	None			
A/C %	0				
Fin Bsmt Area	0.00				
FBM grade	0				
Bsmt Garage	0				
In Law	0				

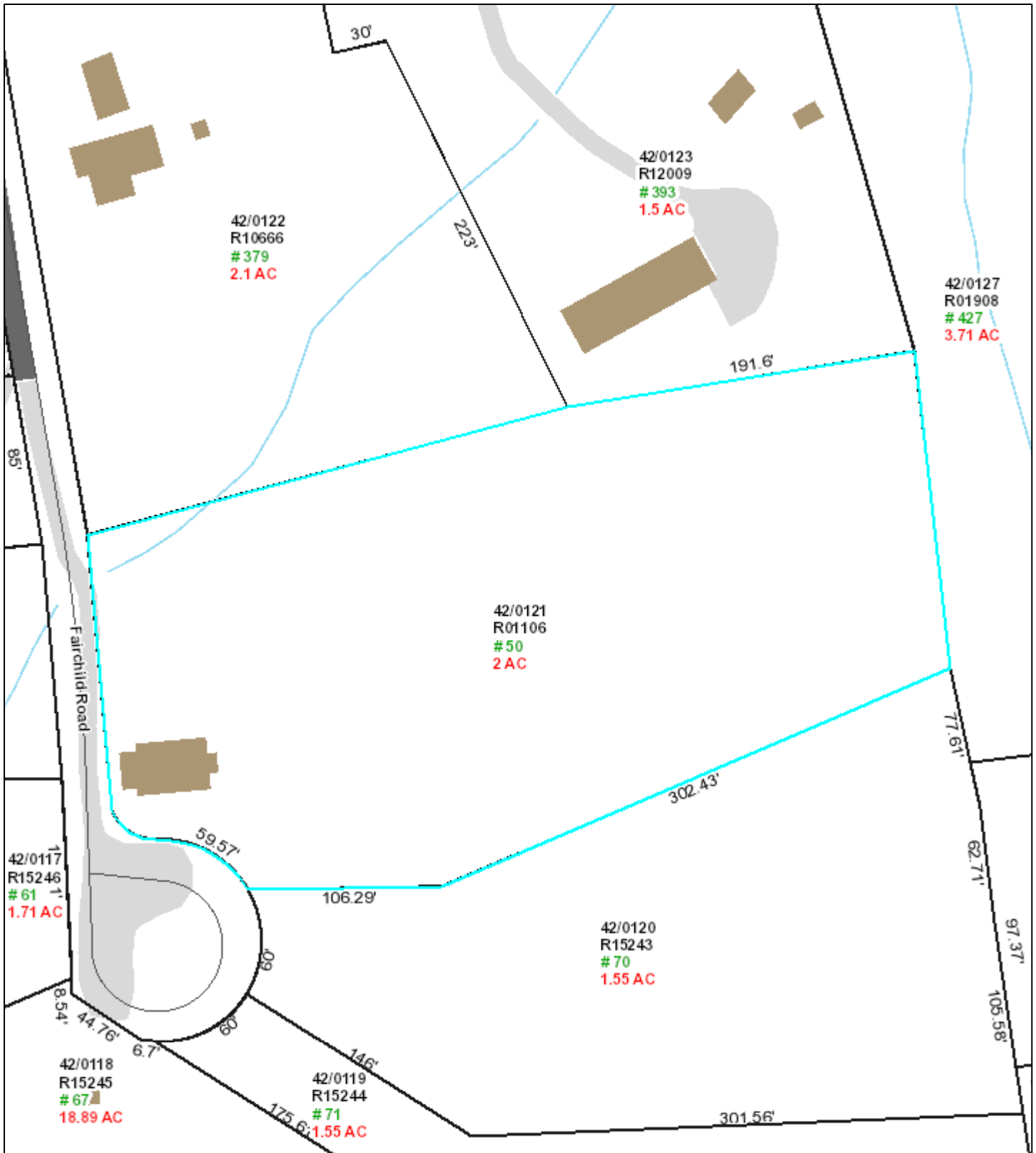
MIXED USE		
Code	Description	Percentage
103	3 Family	100
		0
		0

COST / MARKET VALUATION		
Building Value New		
Year Built		1763
Effective Year Built		1982
Depreciation Code		G
Remodel Rating		
Year Remodeled		
Depreciation %		35
Functional Obsol		
External Obsol		
Trend Factor		1
Condition		
Condition %		
Percent Good		65
Cns Sect Rcnld		169,610
Dep % Ovr		
Dep Ovr Comment		
Misc Imp Ovr		
Misc Imp Ovr Comment		
Cost to Cure Ovr		
Cost to Cure Ovr Comment		

OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)										
Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Gd	Grade	Grade Adj.	Appr. Value

BUILDING SUB-AREA SUMMARY SECTION						
Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	1,023	1,023	1,023	88.36	90,395
BSM	Basement	0	1,151	288	22.11	25,448
EAF	Expansion Attic Finished	400	999	400	35.38	35,345
FOP	Framed Open Porch	0	85	13	13.51	1,149
FUS	Finished Upper Story	1,023	1,023	1,023	88.36	90,395
UEP	Utility Enclosed Porch	0	688	206	26.46	18,203
Ttl Gross Liv / Lease Area		2,446	4,969	2,953		260,935



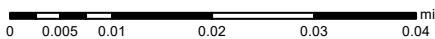


50 Fairchild Road

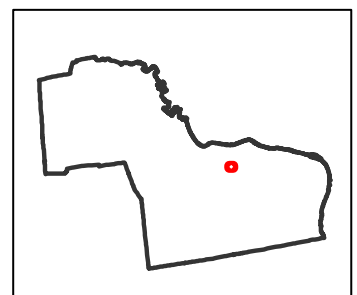
Map generated 3/9/2022



Map Legend: <http://gis.cityofmiddletown.com/middletownct/legend.pdf>
<vision link>



1 in = 100 ft



MAP FOR REFERENCE ONLY - NOT A LEGAL DOCUMENT

Because of different update schedules, current property assessments may not reflect recent changes to property boundaries. Check with the Board of Assessors to confirm boundaries uses at the time of assessment.

DOCKET NO. 316 – Optasite, Inc. application for a Certificate } Connecticut
of Environmental Compatibility and Public Need for the }
construction, maintenance and operation of a telecommunications } Siting
facility at 50 Fairchild Road in Middletown, Connecticut. }
}

November 14, 2006

Decision and Order

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

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

1. The tower shall be designed as a monopole and shall be constructed no taller than 120 feet above ground level to provide telecommunications services to both public and private entities.
2. All telecommunications antennas providing cellular and/or PCS service shall be flush-mounted to the tower.
3. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the City of Middletown and all parties and intervenors, as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, tower color, antenna mountings, equipment building, access road, utility line, and landscaping; and
 - b) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

4. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council in the event other carriers locate at this facility or if circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
5. Upon the establishment of any new state or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
6. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
7. The Certificate Holder shall provide reasonable space on the tower for no compensation for any City of Middletown public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
8. If the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
11. Any request for extension of the time periods referred to in Conditions 8, 9, and 10 shall be filed with the Council not later than sixty days prior to the expiration date of this Certificate and shall be served on all parties and intervenors and the City of Middletown, as listed in the service list. Any proposed modifications to this Decision and Order shall likewise be so served.

12. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Middletown Press.

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

The parties and intervenors in this proceeding are:

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	Optasite, Inc.	<p>Lucia Chiocchio, Esq. Cuddy & Feder, LLP 90 Maple Avenue White Plains, NY 10601 (914) 761-1300 (914) 761-5372/6405 fax lchiocchio@cuddyfeder.com</p> <p>Jennifer Young Gaudet 345 Taylor Street Talcottville, CT 06066</p>
Intervenor (approved 06/27/06)	Nextel Communications of the Mid-Atlantic, Inc.	<p>Thomas J. Regan, Esq. Brown Rudnick Berlack Israels LLP 185 Asylum Street, CityPlace I Hartford, CT 06103-3402 (860) 509-6522 (860) 509-6501 tregan@brownrudnick.com mkozlik@brownrudnick.com</p>
Intervenor (granted 07/27/06)	Barbara Melia 379 Bow Lane Middletown, CT 06457 (860) 346-4334 bardebldave@yahoo.com	
Intervenor (granted 07/27/06)	Debora Bagley and Michael Bagley 393 Bow Lane Middletown, CT 06457 (860) 346-5373	
Intervenor (granted 07/27/06)	Earle Roberts 785 Bow Lane Middletown, CT 06457 (860) 346-0068 (860) 344-9327 eroberts4675@sbcglobal.net	

DOCKET NO. 316A - SBA Infrastructure LLC Certificate of } Connecticut
Environmental Compatibility and Public Need for the }
construction, maintenance and operation of a telecommunications } Siting
facility at 50 Fairchild Road in Middletown, Connecticut. }
Reopening. } Council

August 25, 2011

Decision and Order

In response to the Connecticut Siting Council's (Council) reopening of the record in this docket on March 31, 2011 to consider whether changed conditions exist that would warrant a modification to the original Decision and Order's Condition 2 eliminating the requirement that all antennas on this telecommunications facility must be flush-mounted and to consider a proposed ten-foot extension of the facility, the Council hereby rescinds the Decision and Order in Docket 316 issued on November 14, 2006 and issues this new Decision and Order for the construction, maintenance and operation of a telecommunications facility located at 50 Fairchild Road in Middletown, Connecticut.

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

1. The existing monopole tower may be extended from its originally approved height of 120 feet, no taller than necessary to provide the proposed telecommunications services and sufficient to accommodate the antennas of New Cingular Wireless PCS, LLC (AT&T) and other entities, but such tower shall not exceed a height of 130 feet above ground level.
2. AT&T shall submit plans showing the extension of the existing tower and the installation of its proposed antennas. These plans shall be served on the City of Middletown for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction.
3. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility herein shall be brought into compliance with such standards.
4. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
5. The Certificate Holder shall provide reasonable space on the tower for no compensation for any City of Middletown public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
7. At least one wireless telecommunications carrier shall install their equipment and shall become operational not later than 120 days after the tower is erected. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the City of Middletown. Any proposed modifications to this Decision and Order shall likewise be so served.
9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of tower erection, commencement of site operation, and the completion of site construction.
12. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.
13. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

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

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

The parties and intervenors to this proceeding are:

Intervenor:

New Cingular Wireless PCS, LLC

Certificate Holder:

SBA Infrastructure LLC

Its Representative(s):

Christopher B. Fisher, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

Its Representative(s):

Christopher B. Fisher, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601



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

T + 561.995.7670
F + 561.995.7626

sbasite.com

LETTER OF AUTHORIZATION

SBA Site ID: CT13064-A, Middletown 2, CT

Property Located at: 67 Fairchild Road, Middletown, CT, 06457

THE CITY/COUNTY OF: Middletown / Middlesex/Middletown

APPLICATION FOR ZONING/USE/BUILDING PERMIT

This letter authorizes AT&T and its authorized agents to file for all necessary zoning, planning and building permits (local, state and federal) for the purposes of installing, operating and maintaining a telecommunications facility on the existing tower on the property referenced above on behalf of Stephen G. & Barbara L. Borrelli.

All approval conditions that may be granted to AT&T in connection with above referenced facility relating to this specific application are the sole responsibility of AT&T.

SBA Infrastructure, LLC

A handwritten signature in black ink, appearing to read "Jason Silberstein", is written over a light blue horizontal line.

Jason Silberstein

Executive VP, Site Leasing

Date: 4/14/2022



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usps.com 9405 5036 9930 0223 7698 51 0089 5000 0020 6457
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Mailed from 03079

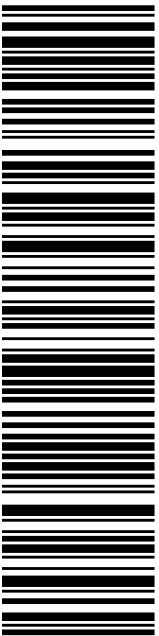
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HOLLIS M REDDING Expected Delivery Date: 04/18/22
SAI GROUP Ref#: CT2547
12 INDUSTRIAL WAY
SALEM NH 03079-2837 **0006**

C002

SHIP TO: HON. BEN FLORSHEIM, MAYOR MAREK KOZIKOWSKI,
MIDDLETOWN CITY HALL
245 DEKOVEN DR
MIDDLETOWN CT 06457-3460

USPS TRACKING #



9405 5036 9930 0223 7698 51

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04/15/2022

Mailed from 03079

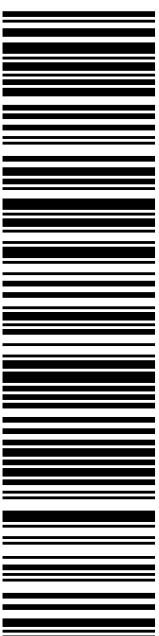
PRIORITY MAIL 2-DAY™

HOLLIS M REDDING Expected Delivery Date: 04/18/22
SAI GROUP Ref#: CT2547
12 INDUSTRIAL WAY
SALEM NH 03079-2837 **0006**

C015

SHIP TO: STEPHEN & BARBARA BORRELLI
67 FAIRCHILD RD
MIDDLETOWN CT 06457-4815

USPS TRACKING #



9405 5036 9930 0223 7698 68

Electronic Rate Approved #038555749

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04/15/2022

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PRIORITY MAIL 2-DAY™

HOLLIS M REDDING

Expected Delivery Date: 04/18/22

SAI GROUP

Ref#: CT2203

12 INDUSTRIAL WAY

SALEM NH 03079-2837

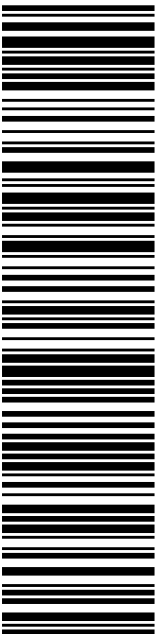
0006

C036

SHIP
TO:

SBA COMMUNICATIONS CORP
8051 CONGRESS AVE
BOCA RATON FL 33487-1307

USPS TRACKING #



9405 5036 9930 0223 0623 34

Electronic Rate Approved #038555749



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9405 5036 9930 0223 0623 89 0092 5000 0020 6051

PRIORITY MAIL 2-DAY™

HOLLIS M REDDING

Expected Delivery Date: 04/18/22

SAI GROUP

Ref#: CT2203

12 INDUSTRIAL WAY

SALEM NH 03079-2837

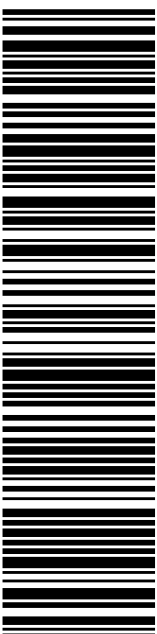
0006

C006

SHIP

TO: MELANIE BACHMAN EXECUTIVE DIRECTOR
CT SITING COUNCIL
10 FRANKLIN SQ
NEW BRITAIN CT 06051-2655

USPS TRACKING #



9405 5036 9930 0223 0623 89

Electronic Rate Approved #038555749

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From: auto-reply@usps.com
Sent: Friday, April 15, 2022 1:01 PM
To: Hollis Redding
Subject: USPS® Expected Delivery by Saturday, April 16, 2022 arriving by 9:00pm
9405503699300223769851



Hello **HOLLIS M REDDING**,

USPS is now in possession of your item as of 12:04 pm on April 15, 2022 in MERIDEN, CT 06450.

Tracking Number: [9405503699300223769851](#)

Expected Delivery By

A calendar icon with a dark blue header containing the word "Sat" in white. Below the header, the number "16" is displayed in a large, bold, dark blue font, with "Apr" written in a smaller, dark blue font underneath.

By 9:00pm

An icon representing a package with a clock, indicating a time-sensitive delivery. The package is a dark blue outline, and the clock is a dark blue circle with a white face and a dark blue hand.

Tracking & Delivery Options

My Account

Visit [USPS Tracking®](#) to check the most up-to-date status of your package. Sign up for [Informed Delivery®](#) to digitally preview the address side of your incoming letter-

From: auto-reply@usps.com
Sent: Friday, April 15, 2022 1:01 PM
To: Hollis Redding
Subject: USPS® Expected Delivery by Saturday, April 16, 2022 arriving by 9:00pm
9405503699300223769868



Hello **HOLLIS M REDDING**,

USPS is now in possession of your item as of 12:04 pm on April 15, 2022 in MERIDEN, CT 06450.

Tracking Number: [9405503699300223769868](#)

Expected Delivery By

A calendar icon with a dark blue header containing the word "Sat" in white. Below the header, the number "16" is displayed in a large, bold, dark blue font, with "Apr" in a smaller, dark blue font underneath.

By 9:00pm

An icon representing a package with a clock, indicating a time-sensitive delivery. The package is a dark blue outline, and the clock is a dark blue circle with a white face and a dark blue hand.

Tracking & Delivery Options

My Account

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From: auto-reply@usps.com
Sent: Friday, April 15, 2022 12:18 PM
To: Hollis Redding
Subject: USPS® Expected Delivery by Monday, April 18, 2022 arriving by 9:00pm
9405503699300223062334



Hello **HOLLIS M REDDING**,

USPS is now in possession of your item as of 12:04 pm on April 15, 2022 in MERIDEN, CT 06450.

Tracking Number: [9405503699300223062334](#)

Expected Delivery By

A calendar icon with a dark blue header containing the word "Mon" in white. Below the header, the number "18" is displayed in a large, bold, dark blue font, with "Apr" in a smaller, dark blue font underneath.

By 9:00pm

An icon representing a package with a clock, indicating a time-sensitive delivery. The package is a dark blue outline, and the clock is a dark blue circle with a white face and a dark blue hand.

Tracking & Delivery Options

My Account

Visit [USPS Tracking®](#) to check the most up-to-date status of your package. Sign up for [Informed Delivery®](#) to digitally preview the address side of your incoming letter-