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3. **GETTING YOUR SHIPMENT TO UPS**
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   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
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689 DEPOT ST
NORTH EASTON ,MA 02356

UPS Access Point™
TOWN LINE GENERAL STORE
450 E CENTER ST
WEST BRIDGEWATER ,MA 02379

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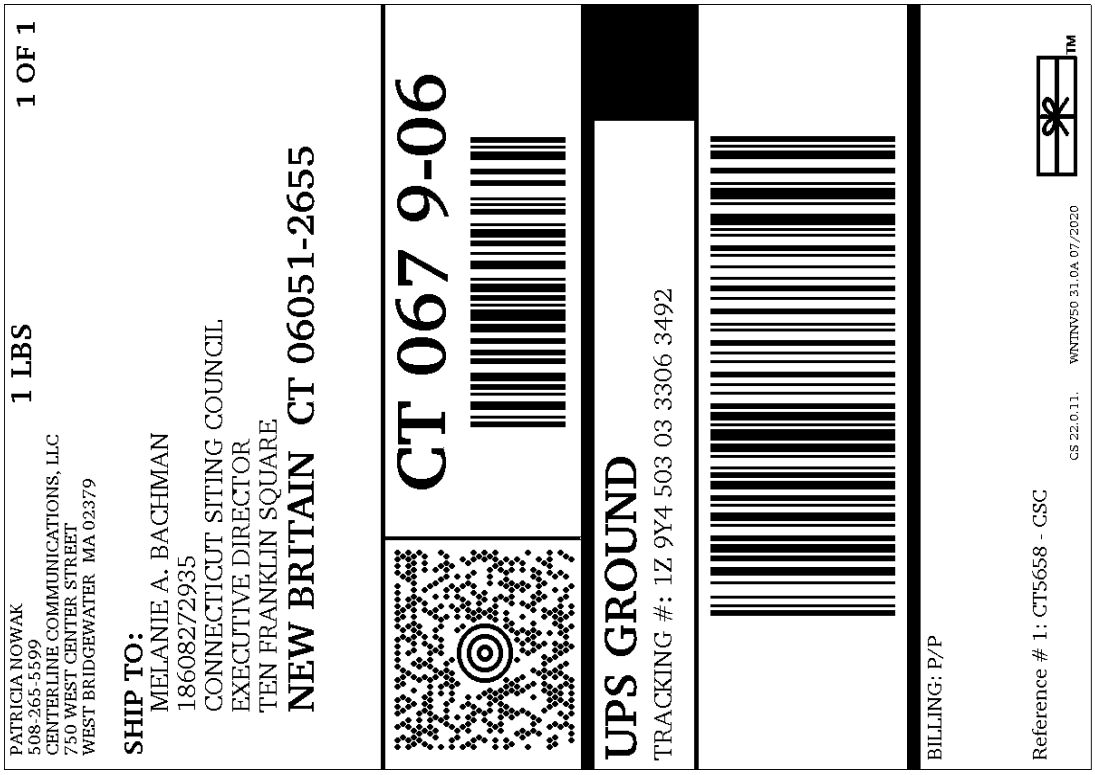

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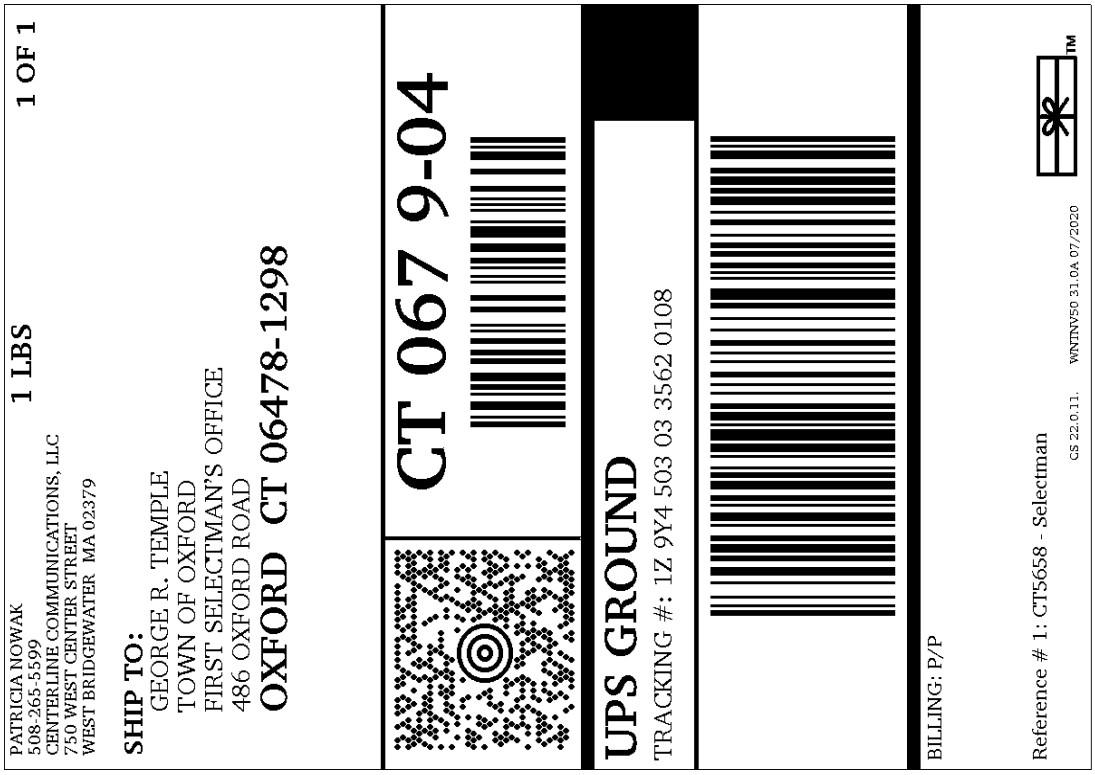

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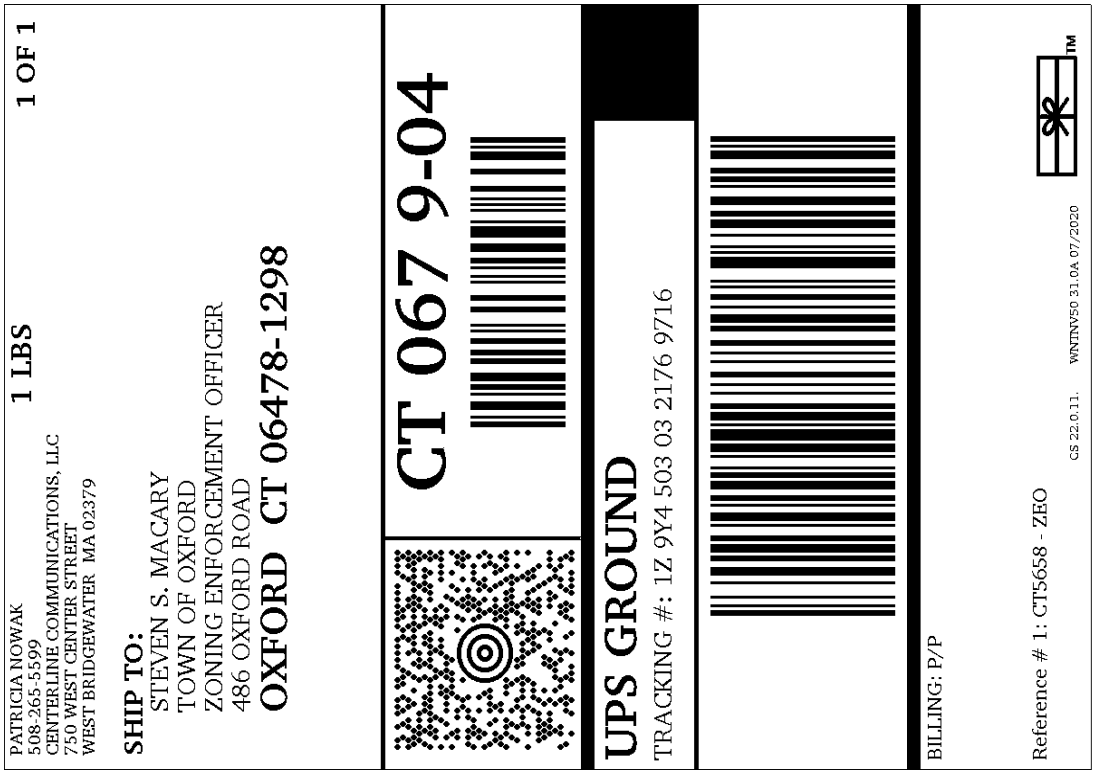

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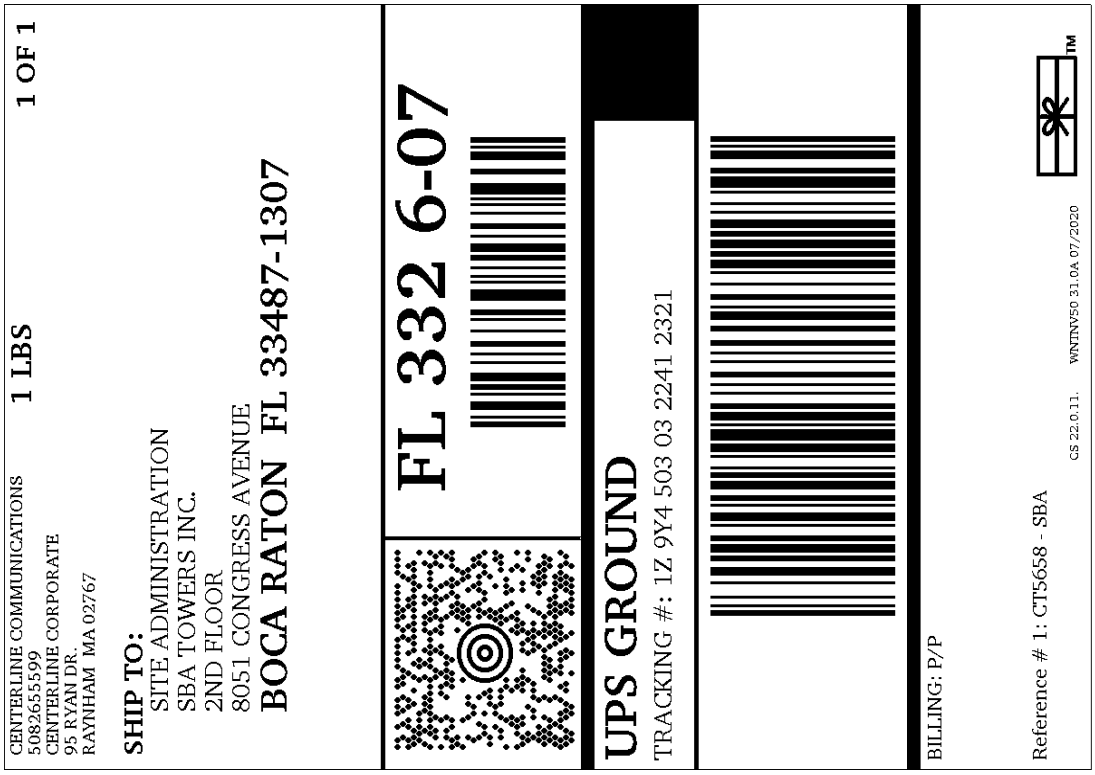

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August 6, 2020

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

Regarding: Notice of Exempt Modification – AT&T Site CT5658
Address: 106 Willenbrock Road, Oxford, CT 06478

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (hereinafter "AT&T") currently maintains a wireless telecommunications facility on an existing 150' monopole tower (the "Tower") at the above-referenced address, latitude 41.465106, longitude -73.146556. Said Tower is owned by SBA Towers Inc.

AT&T desires to modify its existing telecommunications facility on the Tower by adding (3) antennas, swapping (3) antennas, swapping (3) remote radio units, adding (6) remote radio units and adding (1) surge arrestor, as well as other related modifications, as more particularly detailed and described in the enclosed Construction Drawings prepared by Hudson Design Group LLC dated May 21, 2020 and last revised June 2, 2020. Enclosed please find a Mount Analysis Report prepared by Hudson Design Group LLC dated May 19, 2020. The centerline height of the antennas will be at 117 feet.

Town of Oxford issued building permit number B-00-280 for the construction of the Tower on November 21, 2000. Enclosed please find a copy of the above mentioned building permit.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the following individuals: The Honorable George R. Temple, First Selectman of the Town of Oxford; Steven S. Macary, Zoning Enforcement Officer of the Town of Oxford; SBA Towers Inc., as Tower owner; and Tower Business Park LLC, as the property owner. Enclosed please find property cards and a GIS map of the property.

The planned modifications to the facility fall 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 modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. *Please see the RF Emissions Analysis Report for AT&T's modified facility enclosed herewith.*

5. The proposed modifications will not cause an ineligible change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading. *Please see the Structural Analysis Report dated June 24, 2020 and prepared by SBA Communications Corp.*

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

Sincerely,

Patricia Nowak, Site Acquisition Consultant
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
pnowak@clinellc.com

Enclosures:
Exhibit 1 – Construction Drawings
Exhibit 2 - Mount Analysis
Exhibit 3 –Building Permit
Exhibit 4 – Property Cards and GIS Map
Exhibit 5 – RF Emissions Analysis Report
Exhibit 6 – Structural Analysis

cc: Honorable George R. Temple, First Selectman of the Town of Oxford
Steven S. Macary, Zoning Enforcement Officer of the Town of Oxford
SBA Towers Inc., as Tower owner
Tower Business Park LLC, as the property owner.

EXHIBIT 1

PROJECT INFORMATION

SCOPE OF WORK:	ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE: • NEW AT&T ANTENNAS: OPA65R–BU6DA @ POS. 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T ANTENNAS: DMP65R–BU6DA @ POS. 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T RRUS: 4478 B14 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T RRUS: 8843 B2/B66A (AWS/PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T RRUS: 4449 B5/B12 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T DC & FIBER SURGE ARRESTOR DC9–48–60–24–8C–EV (TOTAL OF 1) WITH (3) DC POWER & (1) FIBER RUN. • PROPOSED NEW MOUNT (SEE A–3 SHEET). ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION: • ADD (1) IDLe. • ADD (1) 6630 FOR 5G. • INSTALL (1) DC 12. • INSTALL (1) FIBER MANAGEMENT BOX. • INSTALL (1) FLEX CABINET WITH BREAKER PANEL ITEMS TO BE REMOVED: • EXISTING AT&T ANTENNAS: AM–X–CD–16–65–00T–RET @ POS. 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3). • EXISTING AT&T RRUS: RRUS–11 B12 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • EXISTING AT&T SECTOR FRAME (TYP. OF 1 PER SECTOR, TOTAL OF 3). • REMOVE (1) EXISTING GSM CABINETS. ITEMS TO REMAIN: • (3) ANTENNAS, (6) TMA'S (1) SURGE ARRESTOR, (6) COAX CABLES, (2) DC POWER & (1) FIBER.
PTN:	2051A0V4WR, 2051A0V48S, 2051A0V4FP, 2051A0V55D, 2051A0V48T
SITE ADDRESS:	106 WILLENBROCK ROAD OXFORD, CT 06478
LATITUDE:	41.465091° N, 41° 27' 54.33" N
LONGITUDE:	73.146598° W, 73° 08' 47.75" W
TYPE OF SITE:	MONOPOLE / OUTDOOR
STRUCTURE HEIGHT:	146'–0"±
RAD CENTER:	117'–0"±
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
G–1	GROUNDING DETAILS	1
RF–1	RF PLUMBING DIAGRAM	1

SBA SITE #: CT03109

SITE NUMBER: CT5658

SITE NAME: OXFORD - NW

FA CODE: 10091762

PACE ID: MRCTB046908, MRCTB046827, MRCTB046886, MRCTB046636

PROJECT: 2C_3C_4C_4G LTE 2021 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. 0.4 MILES. TURN LEFT AT CAPITOL BLVD 0.3 MILES. TURN LEFT AT WEST ST 0.2 MILES. TURN LEFT TO MERGE ONTO I–91 N TOWARD NEW HAVEN. 9.1 MILES. MERGE ONTO I–961 W VIA EXIT 18 TOWARD MERIDEAN/WATERBURY. 8.0 MILES. MERGE ONTO I–84 W VIA EXIT 1 ON THE LEFT TOWARD WATERBURY/DANBURY. 15.9 MILES. TAKE THE CT–188 EXIT, EXIT 16, TOWARD SOUTHFORD. 0.2 MILES. TURN LEFT ONTO STRONGTOWN RD/CT–188. 1.4 MILES. TURN LEFT ONTO BRISTOL–TOWN RD/HURLEY RD. CONTINUE TO FOLLOW HURLEY RD. 0.2 MILES. TURN RIGHT ON TO POPE RD. 0.6 MILES. TURN SLIGHT RIGHT ONTO HAWLEY ROAD. 0.1 MILES. TURN LEFT ONTO WILLENBROCK RD. 0.5 MILES. END AT 106 WILLENBROCK RD. OXFORD, CT 06478–1031.

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

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

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT5658
SITE NAME: OXFORD - NW
SBA SITE # ID: CT03109

106 WILLENBROCK ROAD
OXFORD, CT 06478
NEW HAVEN COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/02/20	ISSUED FOR CONSTRUCTION	TR	AT	DPH
A	05/21/20	ISSUED FOR REVIEW	TR	AT	DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

STATE OF CONNECTICUT — DANIEL P. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
2C_3C_4C_4G LTE 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5658	T–1	1

GROUNDING NOTES

1. 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) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 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.

4. 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.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. 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.

12. 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

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – CENTERLINE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. 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.

3. 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.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "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.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. 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.

9. 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.

10. 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.

11. 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.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. 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.

15. 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.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. 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.

18. 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.

19. 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 (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

HUDSON Design Group LLC
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FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT5658
SITE NAME: OXFORD - NW
SBA SITE # ID: CT03109

106 WILLENBROCK ROAD
OXFORD, CT 06478
NEW HAVEN COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/02/20	ISSUED FOR CONSTRUCTION	TR	AT	DPH
A	05/21/20	ISSUED FOR REVIEW	TR	AT	DPH

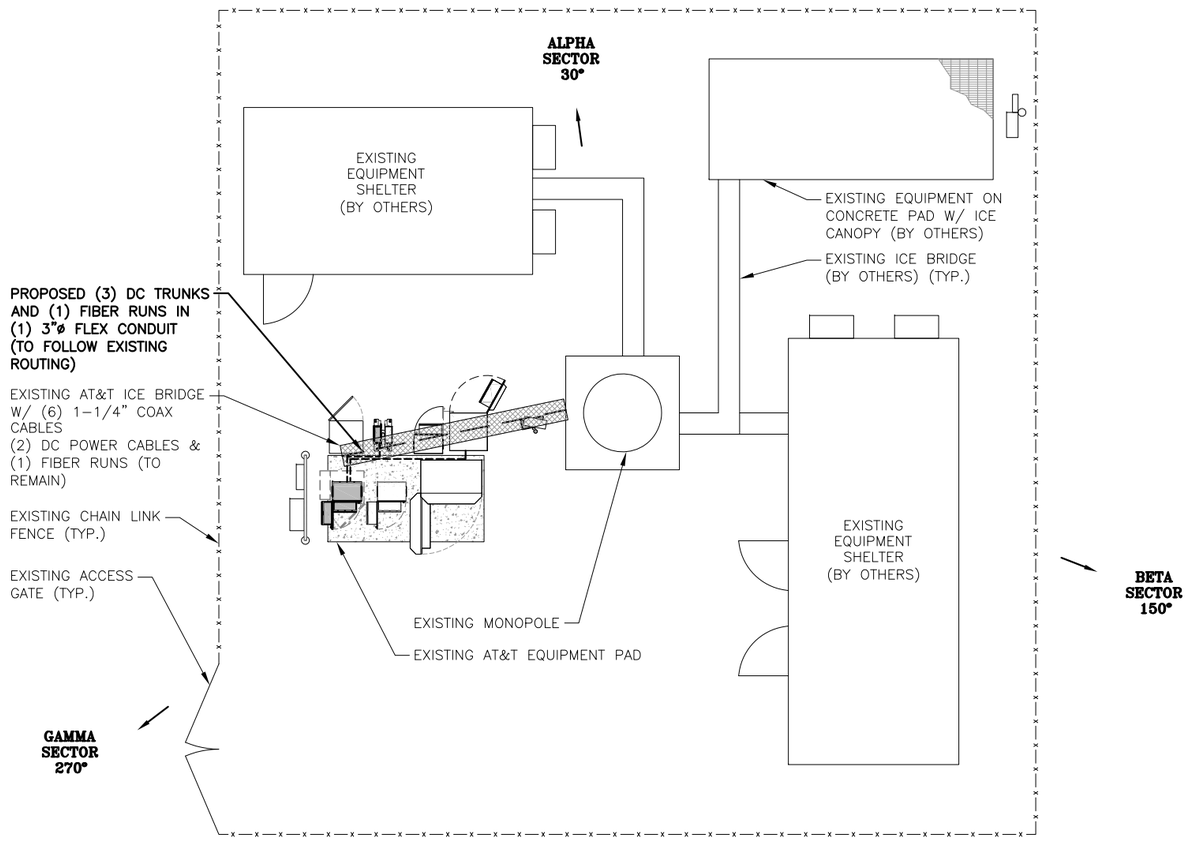
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

STATE OF CONNECTICUT · DANIEL P. HAMM · No.24178 · LICENSED PROFESSIONAL ENGINEER

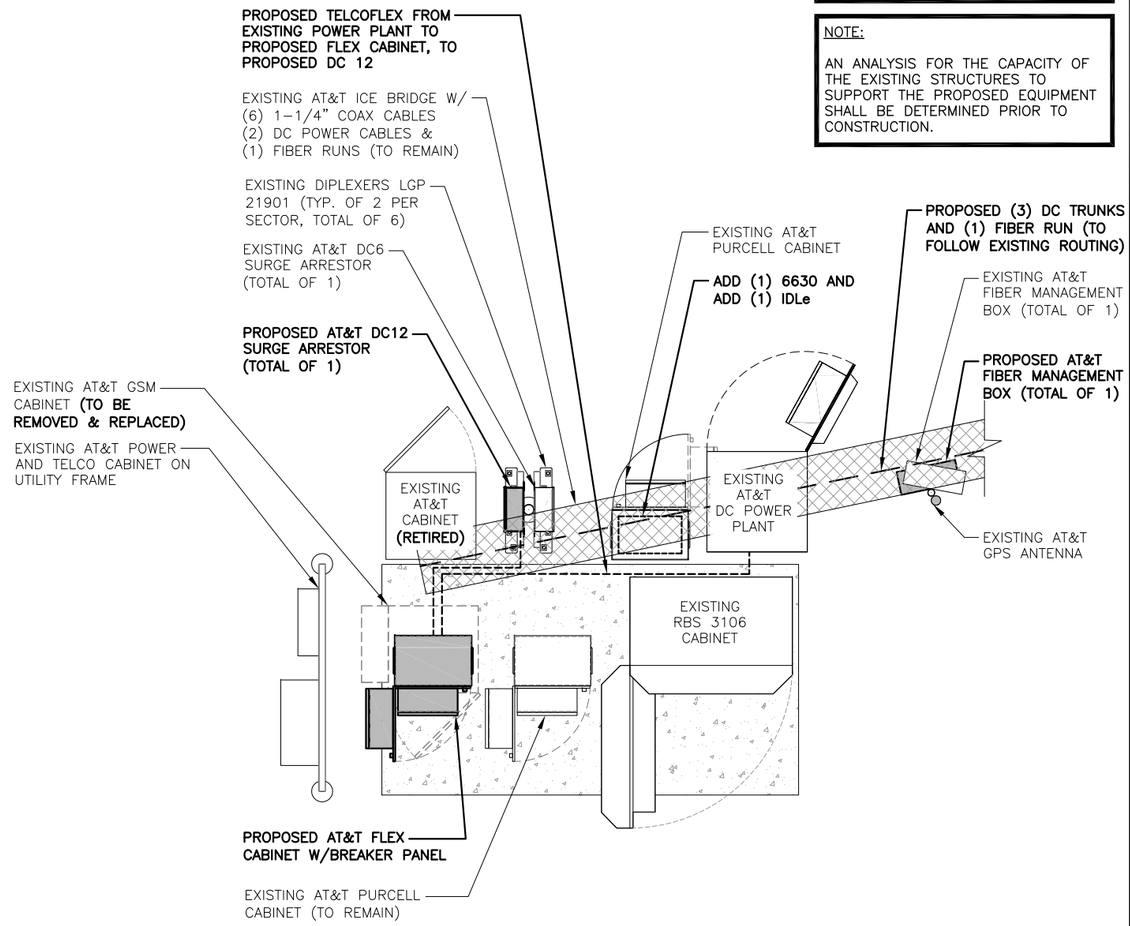
AT&T

GENERAL NOTES
2C_3C_4C_4G LTE 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5658	GN-1	1



COMPOUND PLAN (1 / A-1)
22x34 SCALE: 3/16"=1'-0"
11x17 SCALE: 3/32"=1'-0"



EQUIPMENT PLAN (2 / A-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

NOTE:

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

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 19, 2020

NOTE:

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

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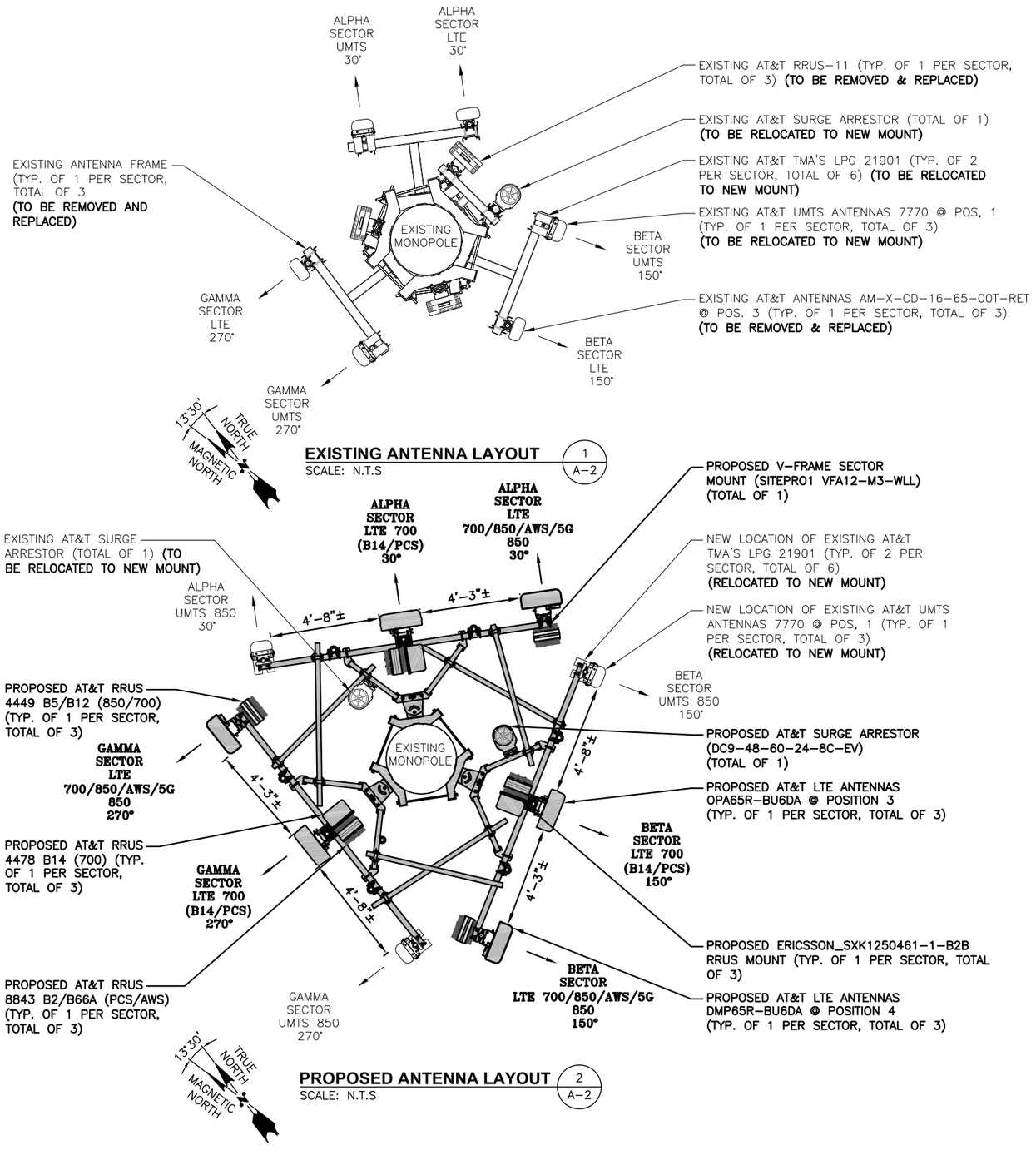
COMPOUND & EQUIPMENT PLANS
2C_3C_4C_4G LTE 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5658	A-1	1



EXISTING ANTENNA LAYOUT

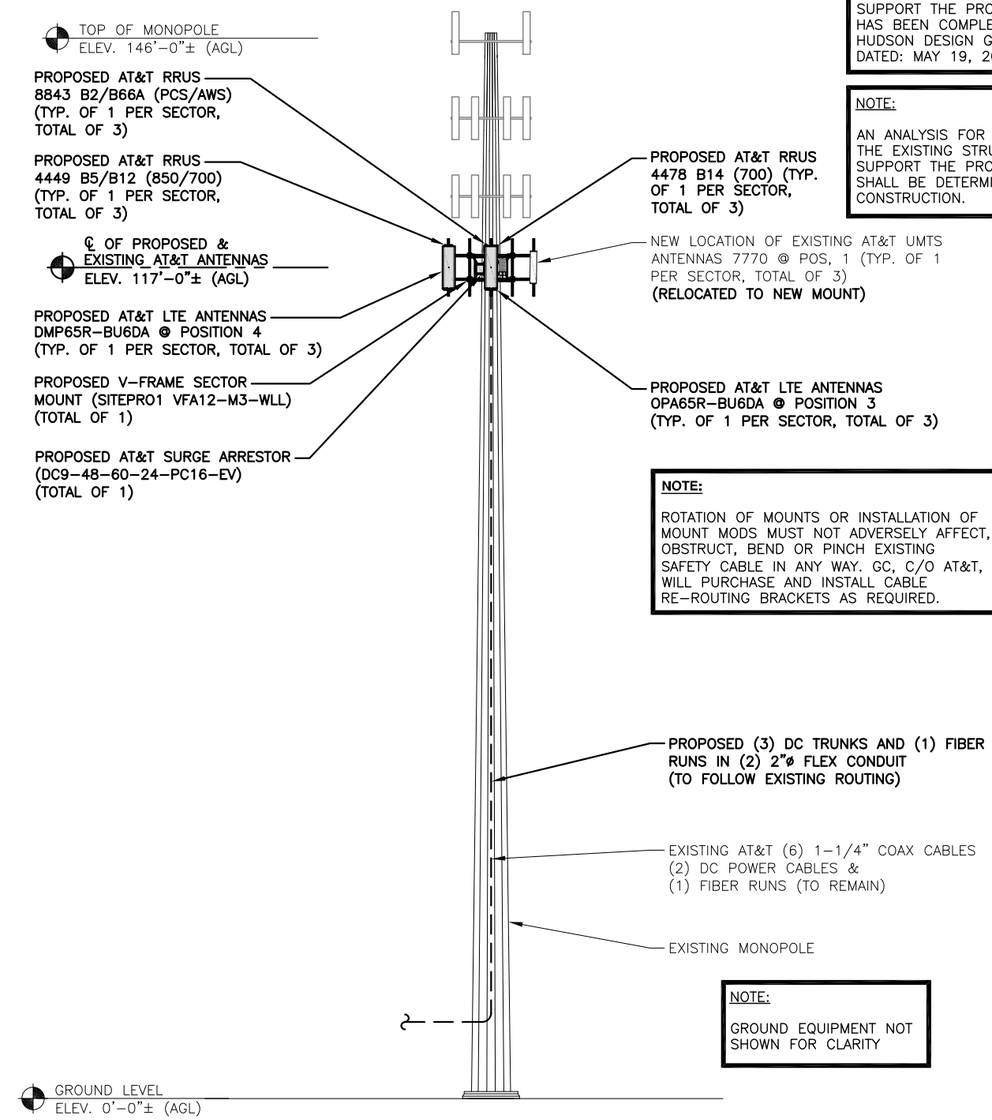
SCALE: N.T.S

1 / A-2

PROPOSED ANTENNA LAYOUT

SCALE: N.T.S

2 / A-2



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NOTE:

ROTATION OF MOUNTS OR INSTALLATION OF MOUNT MODS MUST NOT ADVERSELY AFFECT, OBSTRUCT, BEND OR PINCH EXISTING SAFETY CABLE IN ANY WAY. GC, C/O AT&T, WILL PURCHASE AND INSTALL CABLE RE-ROUTING BRACKETS AS REQUIRED.

NOTE:

GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION

22x34 SCALE: 3/32"=1'-0"
11x17 SCALE: 3/64"=1'-0"

3 / A-2

0 5'-4" 10'-8" 21'-4" 32'-0"

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ANTENNA LAYOUTS & ELEVATION
2C_3C_4C_4G LTE 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5658	A-2	1

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS 850	7770	55X11X5	117'-0"±	30°	(2)(E) LGP21401	–	–	(2) 1-1/4" COAX	(E) (1) RAYCAP DC6-48-60-18-8F
A2	–	–	–	–	–	–	–	–	–	–	
A3	**PROPOSED**	**LTE 700 (B14/PCS)**	**OPA65R-BU6DA**	**71.2X21X7.8**	**117'-0"±**	**30°**	–	**(1)(P) 4478 B14 (700) (1)(P) 8843 B2/B66A (AWS/PCS)**	**18.1x13.4x8.3 14.9x13.2x10.9**	–	
A4	**PROPOSED**	**LTE 700/850/AWS /5G 850**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**117'-0"±**	**30°**	–	**(1)(P) 4449 B5/B12 (850/700)**	**17.9x13.2x10.4**	(2)(E) DC (1)(E) FIBER	
B1	EXISTING	UMTS 850	7770	55X11X5	117'-0"±	150°	(2)(E) LGP21401	–	–	(2) 1-1/4" COAX	(P) (1) RAYCAP DC9-48-60-24-8C-EV
B2	–	–	–	–	–	–	–	–	–	–	
B3	**PROPOSED**	**LTE 700 (B14/PCS)**	**OPA65R-BU6DA**	**71.2X21X7.8**	**117'-0"±**	**150°**	–	**(1)(P) 4478 B14 (700) (1)(P) 8843 B2/B66A (AWS/PCS)**	**18.1x13.4x8.3 14.9x13.2x10.9**	**(3)(P) DC (1)(P) FIBER**	
B4	**PROPOSED**	**LTE 700/850/AWS /5G 850**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**117'-0"±**	**150°**	–	**(1)(P) 4449 B5/B12 (850/700)**	**17.9x13.2x10.4**	–	
C1	EXISTING	UMTS 850	7770	55X11X5	117'-0"±	270°	(2)(E) LGP21401	–	–	(2) 1-1/4" COAX	SHARED
C2	–	–	–	–	–	–	–	–	–	–	
C3	**PROPOSED**	**LTE 700 (B14/PCS)**	**OPA65R-BU6DA**	**71.2X21X7.8**	**117'-0"±**	**270°**	–	**(1)(P) 4478 B14 (700) (1)(P) 8843 B2/B66A (AWS/PCS)**	**18.1x13.4x8.3 14.9x13.2x10.9**	–	
C4	**PROPOSED**	**LTE 700/850/AWS /5G 850**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**117'-0"±**	**270°**	–	**(1)(P) 4449 B5/B12 (850/700)**	**17.9x13.2x10.4**	–	

RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
3(P)	4449 (850/700)	17.9"x13.2"x10.4"
3(P)	8843 (PCS/AWS)	14.9"x13.2"x10.9"
3(P)	4478 B14 (700)	18.1"x13.4"x8.3"

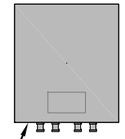
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

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

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 19, 2020

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

NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

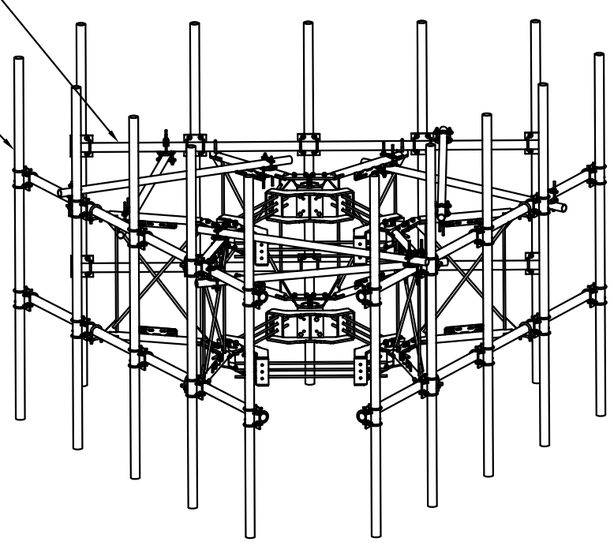
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

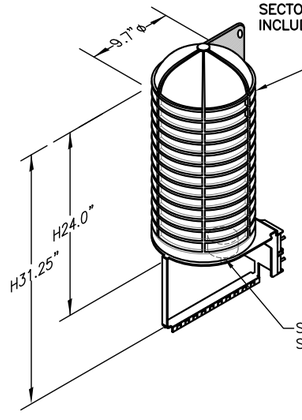
PROPOSED RRUS DETAIL (2 / A-3)
SCALE: N.T.S

FINAL ANTENNA SCHEDULE (1 / A-3)
SCALE: N.T.S

PROPOSED V-FRAME SECTOR MOUNT (SITEPRO1 VFA12-M3-WLL) (TOTAL OF 1)

PROPOSED 2" STD (2-3/8" O.D.) X 96" PIPE MAST (TYP. OF 4 PER SECTOR, TOTAL OF 12) NOT INCLUDED WITH V-FRAME KIT





PROPOSED SURGE SUPPRESSOR
MODEL NUMBERS:
DC9-48-60-24-8C-EV
DIMENSIONS:
H24.0"x9.7"ø
WITH BRACKET:
H31.25"X9.7"ø

STRIKESORB 30-V1
SURGE PROTECTIVE DEVICE

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (3 / A-3)
SCALE: N.T.S

HEAVY DUTY V-FRAME MOUNT DETAIL (4 / A-3)
SCALE: N.T.S

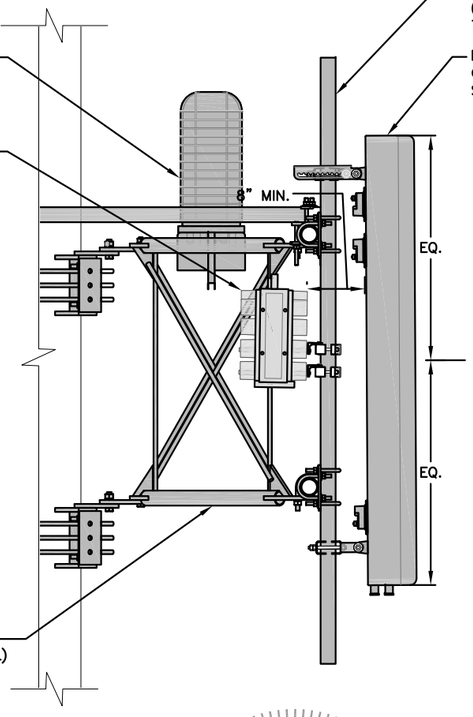
PROPOSED AT&T SURGE ARRESTOR (DC9-48-60-24-8C-EV) (TOTAL OF 1)

PROPOSED AT&T RRUS 4449 B5/B12 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3)

PROPOSED V-FRAME SECTOR MOUNT (SITEPRO1 VFA12-M3-WLL) (TOTAL OF 1)

PROPOSED 2" STD. (2.38" O.D.) (8'-0" LONG) MOUNTING PIPE (TYP. OF 3 PER SECTOR, TOTAL OF 9)

PROPOSED AT&T LTE ANTENNAS @ POSITION 3 & 4 (TYP. 2 PER SECTOR, TOTAL OF 6)



℄ OF PROPOSED & EXISTING AT&T ANTENNAS ELEV. 117'-0"± (AGL)

PROPOSED LTE ANTENNA MOUNTING DETAIL (5 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

0 0'-6" 1'-0" 2'-0" 3'-0"

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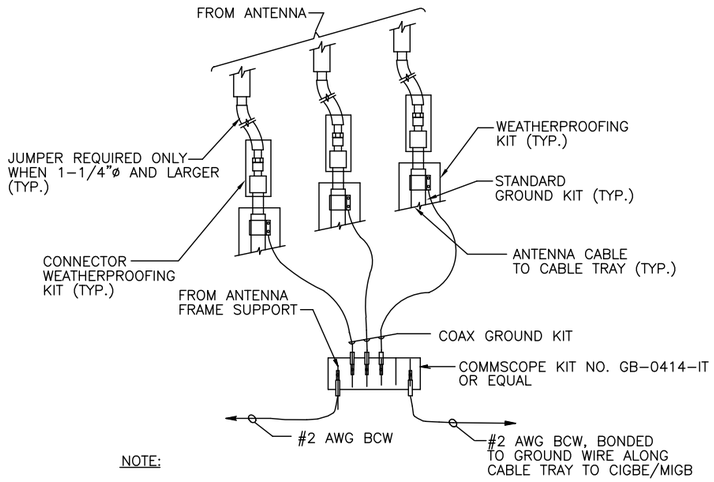
AT&T

DETAILS
2C_3C_4C_4G LTE 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5658	A-3	1

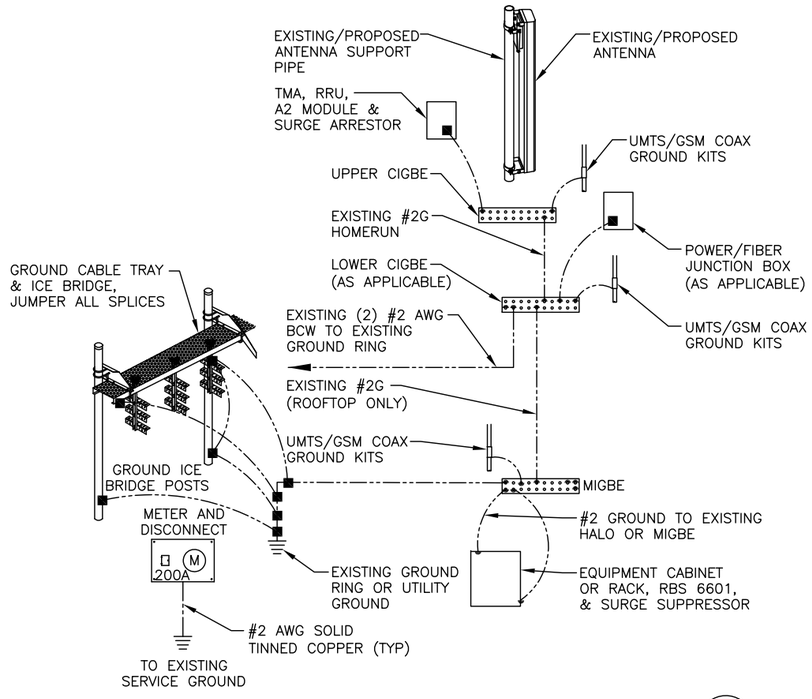


NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

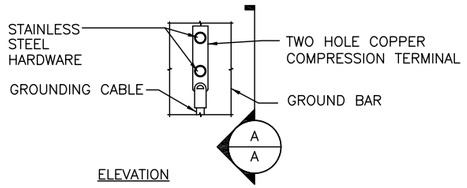
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

SCALE: N.T.S



GROUNDING RISER DIAGRAM (2 / G-1)

SCALE: N.T.S



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 / G-1)

SCALE: N.T.S

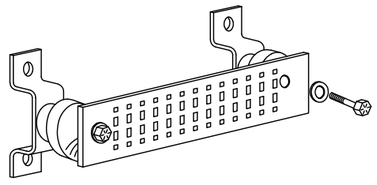
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2 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 / G-1)

SCALE: N.T.S

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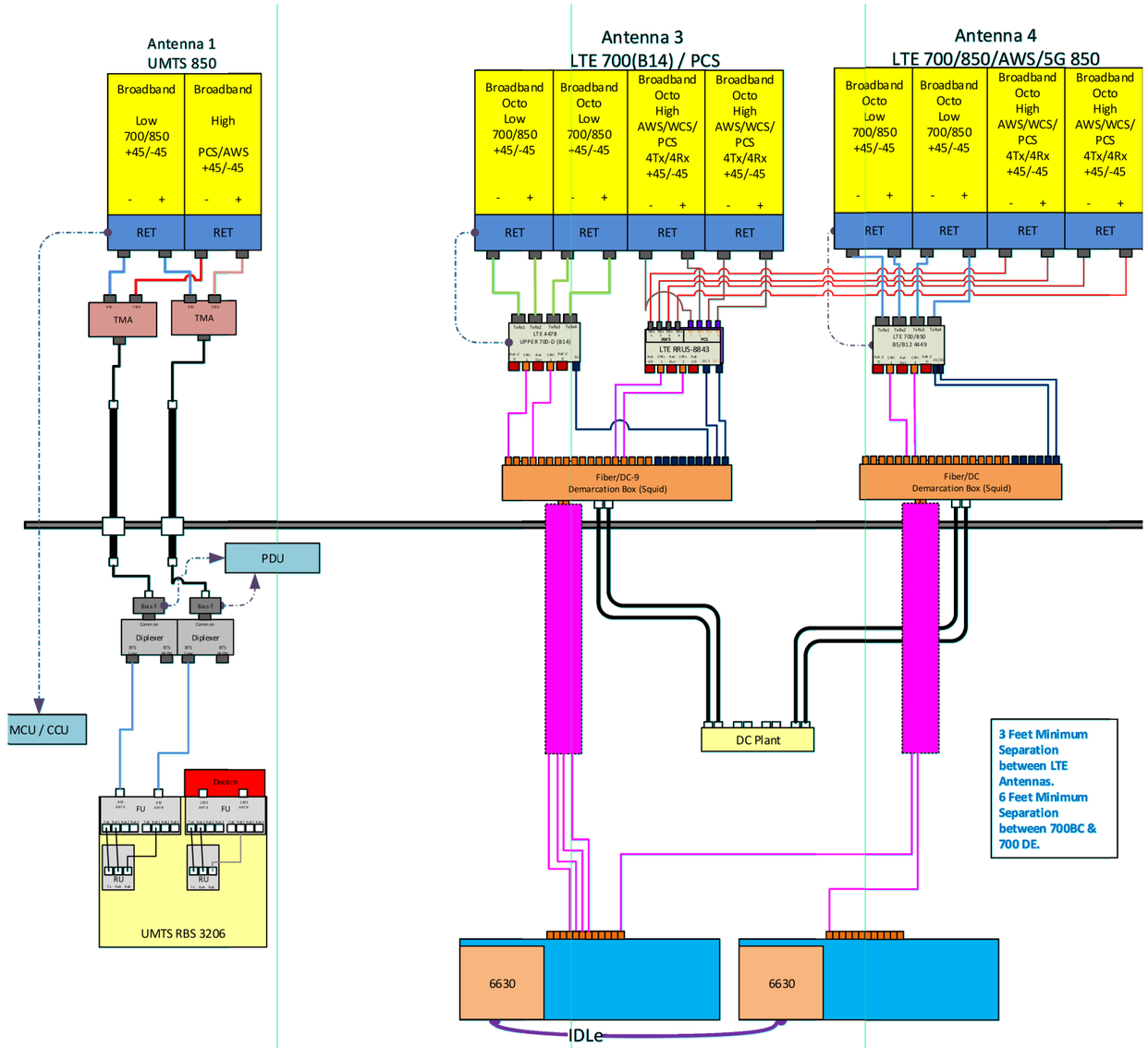
GROUNDING DETAILS
2C_3C_4C_4G LTE 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5658	G-1	1



RF PLUMBING DIAGRAM 1 / RF–1
SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:

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

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RF PLUMBING DIAGRAM
2C_3C_4C_4G LTE 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5658	RF–1	1

EXHIBIT 2

May 19, 2020

Centerline Communications
750 West Center Street, Suite #301
West Bridgewater, MA 02379

RE:		
	Site Number:	CT5658 (LTE 2C/3C/4C/RETRO/5G NR)
	FA Number:	10091762
	PACE Number:	MRCTB046636
	PT Number:	2051A0V48T
	Site Name:	OXFORD - NW
	Site Address:	106 Willenbrock Road Oxford, CT 06478

To Whom It May Concern:

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

- (3) 7770 Antennas (55.0"x11.0"x5.0" - Wt. = 35 lbs. /each)
- (6) LGP21401 TMA's (14.4"x9.0"x2.7" – Wt. = 19 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each) (Tower Mount)
- **(3) DMP65R-BU6DA Antennas (71.2"x20.7"x7.7" – Wt. = 80 lbs. /each)**
- **(3) OPA65R-BU6DA Antennas (71.1"x21.0"x7.8" – Wt. = 61 lbs. /each)**
- **(3) B14 4478 RRH's (18.1"x13.4"x8.3"– Wt. = 60 lbs. /each)**
- **(3) B2/B66A 8843 RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)**
- **(3) B5/B12 4449 RRH's (17.9"x13.2"x9.5" – Wt. = 71 lbs. /each)**
- **(1) DC9-48-60-24-PC16-EV Junction Box (18.9"x15.9"x9.7" – Wt. = 71 lbs. /each)**

**Proposed equipment shown in bold*

Mount fabrication drawings prepared by Valmont-SitePro1, P/N VFA12-M3-WLL, dated October 29, 2018 were used to perform this analysis. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mounts on March 24, 2020.

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 – R13.
- 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 125 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 1.13 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.
- The mount has been analyzed with load combinations consisting of 250 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 2.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.

Based on our evaluation, we have determined that the New Valmont-SitePro1 VFA12-M3-WLL mounts **ARE CAPABLE** of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Proposed (LTE 2C/3C/4C/RETRO/5G NR) Mount Rating	88	LC2	86%	**PASS**

Reference Documents:

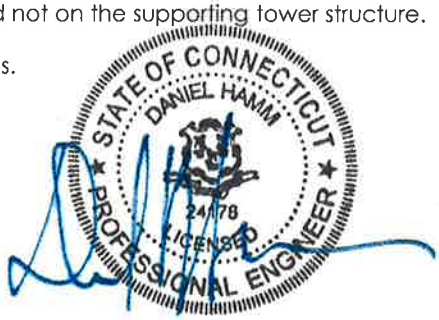
- Mount mapping report prepared by ProVertic LLC.
- Mount fabrication drawings prepared by Valmont-SitePro1, P/N VFA12-M3-WLL, dated October 29, 2018.

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 mounts 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.

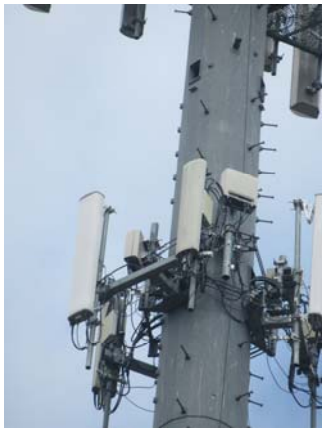
Respectfully Submitted,
Hudson Design Group LLC



Michael Cabral
Vice President

Daniel P. Hamm, PE
Principal

FIELD PHOTOS:
*Note: Existing mount to be removed.



p: 978.557.5553 f: 978.336.5586 a: 45 Beechwood Drive, N. Andover, MA 01845
p: 203.208.3919 f: 203.234.6398 a: 110 Washington Avenue, 4th Floor, North Haven CT 06473


Powerwave
LGP21401
TMA-DDD 850/1900
824-849/1850-1910
21401D6A061059653


DANGER
DualPhase
UP

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 5/20/2020
Project Name: OXFORD - NW
Project No.: CT5658
Designed By: ID **Checked By:** MSC

HUDSON Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

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

z=	117	(ft)
z_g=	900	(ft)
α=	9.5	

K_z= 1.308

Kzmin ≤ Kz ≤ 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

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

$K_h = e^{(f*z/H)}$

K_{zt}= #DIV/0!

K_h=	#DIV/0!	
K_c=	1	(from Table 2-4)
K_t=		(from Table 2-5)
f=		(from Table 2-5)
z=	117	
z_s=	550	(Mean elevation of base of structure above sea level)
H=		(Ht. of the crest above surrounding terrain)
K_{zt}=	1.00	(from 2.6.6.2.1)
K_e=	0.98	(from 2.6.8)

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

Category= **1**

2.6.10 Design Ice Thickness

Max Ice Thickness =	t_i =	1.00 in
Importance Factor =	I=	1.0 (from Table 2-3)
	K_{iz} =	1.13 (from Sec. 2.6.10)

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

t_{iz} = 1.13 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=	146	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

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

G_h=	1.35	**Gh=**	**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=	1.308	(from 2.6.5.2)
		K_{zt}=	1.0	(from 2.6.6.2.1)
		K_s=	1.0	(from 2.6.7)
q_z=	**48.73**	K_e=	0.98	(from 2.6.8)
$q_{z\ (ice)}$=	**7.80**	K_d=	0.95	(from Table 2-2)
$q_{z\ (30)}$=	**2.81**	V_{max}=	125	mph (Ultimate Wind Speed)
		$V_{max\ (ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
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) ≥ 0.85	1.4 - 4.0(r_s) ≥ 0.90	2.0 - 6.0(r_s) ≥ 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 = **1.13** 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)
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	**268**	**54**	**15**
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.39	1.24	**626**	**115**	**36**
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.44	1.24	**619**	**113**	**36**
B14 4478 RRH	18.1	8.3	13.4	1.04	2.18	1.20	**61**	**14**	**4**
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	4.36	1.28	**33**	**9**	**2**
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.20	**66**	**15**	**4**
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	2.73	1.21	**33**	**9**	**2**
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.36	1.20	**96**	**20**	**6**
B5/B12 4449 RRH (Shielded)	17.9	0.0	9.5	0.00	0.00	1.20	**0**	**3**	**0**
LGP21401 TMA	14.4	2.7	9.0	0.27	5.33	1.33	**17**	**6**	**1**
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.19	1.20	**122**	**25**	**7**
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	**55**	**12**	**3**
PL 3-1/2x5/8	0.6	12.0		0.05	0.05	1.20	**3**	**3**	**0**
PL 11-1/4x5/8	0.6	12.0		0.05	0.05	1.20	**3**	**3**	**0**
5/8" Round Bar	0.6	12.0		0.05	0.05	1.20	**4**	**3**	**0**
3/4" Round Bar	0.8	12.0		0.06	0.06	1.20	**4**	**3**	**0**
2" Pipe	2.4	12.0		0.20	0.20	1.20	**12**	**4**	**1**
2-1/2" pipe	2.9	12.0		0.24	0.24	2.00	**23**	**8**	**1**

Date: 5/20/2020
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HUDSON Design Group LLC

WIND LOADS

Angle =	30	(deg)	Ice Thickness =	1.13	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) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	268	143	237
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.85	3.39	9.12	1.24	1.47	626	276	539
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	619	274	533
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	61	98	70
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	33	98	49
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	66	80	69
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	33	80	45
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	96	69	89
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	48	69	54
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	17	53	26
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.27	1.19	1.95	1.20	1.20	122	74	110

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.28	2.89	4.32	7.88	1.28	1.43	53	32	48
OPA65R-BU6DA Antenna	73.4	23.3	10.1	11.86	5.13	3.15	7.29	1.23	1.41	114	56	99
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.72	5.09	3.20	7.37	1.23	1.41	112	56	98
B14 4478 RRH	20.4	10.6	15.7	1.50	2.22	1.93	1.30	1.20	1.20	14	21	16
B14 4478 RRH (Shielded)	20.4	5.3	15.7	0.75	2.22	3.85	1.30	1.26	1.20	7	21	11
B2/B66A 8843 RRH	17.2	13.2	15.5	1.57	1.84	1.30	1.11	1.20	1.20	15	17	15
B2/B66A 8843 RRH (Shielded)	17.2	6.6	15.5	0.79	1.84	2.61	1.11	1.20	1.20	7	17	10
B5/B12 4449 RRH	20.2	15.5	11.8	2.17	1.65	1.30	1.71	1.20	1.20	20	15	19
B5/B12 4449 RRH (Shielded)	20.2	7.7	11.8	1.08	1.65	2.61	1.71	1.20	1.20	10	15	11
LGP21401 TMA	16.7	5.0	11.3	0.58	1.30	3.35	1.48	1.24	1.20	6	12	7
DC9-48-60-24-PC16-EV Junction Box	21.2	18.2	12.0	2.67	1.76	1.17	1.77	1.20	1.20	25	16	23

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	15	8	14
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.85	3.39	9.12	1.24	1.47	36	16	31
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	36	16	31
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	4
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	2	6	3
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	5	3
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	6	4	5
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	3	4	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	2
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.27	1.19	1.95	1.20	1.20	7	4	6

Date: 5/20/2020
Project Name: OXFORD - NW
Project No.: CT5658
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	1.13	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) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	268	143	174
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.85	3.39	9.12	1.24	1.47	626	276	364
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	619	274	360
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	61	98	89
B14 4478 RRH (Shielded)	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	46	98	85
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	66	80	76
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	49	80	72
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	96	69	76
B5/B12 4449 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	72	69	70
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	17	53	44
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.27	1.19	1.95	1.20	1.20	122	74	86

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.28	2.89	4.32	7.88	1.28	1.43	53	32	37
OPA65R-BU6DA Antenna	73.4	23.3	10.1	11.86	5.13	3.15	7.29	1.23	1.41	114	56	71
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.72	5.09	3.20	7.37	1.23	1.41	112	56	70
B14 4478 RRH	20.4	10.6	15.7	1.50	2.22	1.93	1.30	1.20	1.20	14	21	19
B14 4478 RRH (Shielded)	20.4	7.9	15.7	1.12	2.22	2.57	1.30	1.20	1.20	11	21	18
B2/B66A 8843 RRH	17.2	13.2	15.5	1.57	1.84	1.30	1.11	1.20	1.20	15	17	17
B2/B66A 8843 RRH (Shielded)	17.2	9.9	15.5	1.18	1.84	1.74	1.11	1.20	1.20	11	17	16
B5/B12 4449 RRH	20.2	15.5	11.8	2.17	1.65	1.30	1.71	1.20	1.20	20	15	17
B5/B12 4449 RRH (Shielded)	20.2	11.6	11.8	1.63	1.65	1.74	1.71	1.20	1.20	15	15	15
LGP21401 TMA	16.7	5.0	11.3	0.58	1.30	3.35	1.48	1.24	1.20	6	12	11
DC9-48-60-24-PC16-EV Junction Box	21.2	18.2	12.0	2.67	1.76	1.17	1.77	1.20	1.20	25	16	19

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	15	8	10
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.85	3.39	9.12	1.24	1.47	36	16	21
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	36	16	21
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	5
B14 4478 RRH (Shielded)	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	3	6	5
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	3	5	4
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	6	4	4
B5/B12 4449 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	4	4	4
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	3
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.27	1.19	1.95	1.20	1.20	7	4	5

Date: 5/20/2020
Project Name: OXFORD - NW
Project No.: CT5658
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.13	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) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	268	143	143
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.85	3.39	9.12	1.24	1.47	626	276	276
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	619	274	274
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	61	98	98
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	33	98	98
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	66	80	80
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	33	80	80
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	96	69	69
B5/B12 4449 RRH (Shielded)	17.9	0.0	9.5	0.00	1.18	0.00	1.88	1.20	1.20	0	69	69
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	17	53	53
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.27	1.19	1.95	1.20	1.20	122	74	74

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.28	2.89	4.32	7.88	1.28	1.43	53	32	32
OPA65R-BU6DA Antenna	73.4	23.3	10.1	11.86	5.13	3.15	7.29	1.23	1.41	114	56	56
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.72	5.09	3.20	7.37	1.23	1.41	112	56	56
B14 4478 RRH	20.4	10.6	15.7	1.50	2.22	1.93	1.30	1.20	1.20	14	21	21
B14 4478 RRH (Shielded)	20.4	6.4	15.7	0.91	2.22	3.17	1.30	1.23	1.20	9	21	21
B2/B66A 8843 RRH	17.2	13.2	15.5	1.57	1.84	1.30	1.11	1.20	1.20	15	17	17
B2/B66A 8843 RRH (Shielded)	17.2	7.7	15.5	0.92	1.84	2.22	1.11	1.20	1.20	9	17	17
B5/B12 4449 RRH	20.2	15.5	11.8	2.17	1.65	1.30	1.71	1.20	1.20	20	15	15
B5/B12 4449 RRH (Shielded)	20.2	2.3	11.8	0.32	1.65	8.89	1.71	1.46	1.20	4	15	15
LGP21401 TMA	16.7	5.0	11.3	0.58	1.30	3.35	1.48	1.24	1.20	6	12	12
DC9-48-60-24-PC16-EV Junction Box	21.2	18.2	12.0	2.67	1.76	1.17	1.77	1.20	1.20	25	16	16

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	15	8	8
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.85	3.39	9.12	1.24	1.47	36	16	16
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	36	16	16
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	6
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	2	6	6
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	5
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	5	5
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	6	4	4
B5/B12 4449 RRH (Shielded)	17.9	0.0	9.5	0.00	1.18	0.00	1.88	1.20	1.20	0	4	4
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	3
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.27	1.19	1.95	1.20	1.20	7	4	4

Date: 5/20/2020
Project Name: OXFORD - NW
Project No.: CT5658
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	120	(deg)	Ice Thickness =	1.13	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) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	268	143	174
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.85	3.39	9.12	1.24	1.47	626	276	364
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	619	274	360
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	61	98	89
B14 4478 RRH (Shielded)	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	46	98	85
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	66	80	76
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	49	80	72
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	96	69	76
B5/B12 4449 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	72	69	70
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	17	53	44
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.27	1.19	1.95	1.20	1.20	122	74	86

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.28	2.89	4.32	7.88	1.28	1.43	53	32	37
OPA65R-BU6DA Antenna	73.4	23.3	10.1	11.86	5.13	3.15	7.29	1.23	1.41	114	56	71
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.72	5.09	3.20	7.37	1.23	1.41	112	56	70
B14 4478 RRH	20.4	10.6	15.7	1.50	2.22	1.93	1.30	1.20	1.20	14	21	19
B14 4478 RRH (Shielded)	20.4	7.9	15.7	1.12	2.22	2.57	1.30	1.20	1.20	11	21	18
B2/B66A 8843 RRH	17.2	13.2	15.5	1.57	1.84	1.30	1.11	1.20	1.20	15	17	17
B2/B66A 8843 RRH (Shielded)	17.2	9.9	15.5	1.18	1.84	1.74	1.11	1.20	1.20	11	17	16
B5/B12 4449 RRH	20.2	15.5	11.8	2.17	1.65	1.30	1.71	1.20	1.20	20	15	17
B5/B12 4449 RRH (Shielded)	20.2	11.6	11.8	1.63	1.65	1.74	1.71	1.20	1.20	15	15	15
LGP21401 TMA	16.7	5.0	11.3	0.58	1.30	3.35	1.48	1.24	1.20	6	12	11
DC9-48-60-24-PC16-EV Junction Box	21.2	18.2	12.0	2.67	1.76	1.17	1.77	1.20	1.20	25	16	19

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	15	8	10
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.85	3.39	9.12	1.24	1.47	36	16	21
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	36	16	21
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	5
B14 4478 RRH (Shielded)	18.1	6.2	13.4	0.78	1.68	2.91	1.35	1.22	1.20	3	6	5
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	3	5	4
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	6	4	4
B5/B12 4449 RRH (Shielded)	17.9	9.9	9.5	1.23	1.18	1.81	1.88	1.20	1.20	4	4	4
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	3
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.27	1.19	1.95	1.20	1.20	7	4	5

Date: 5/20/2020
Project Name: OXFORD - NW
Project No.: CT5658
Designed By: ID Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	150	(deg)	Ice Thickness =	1.13	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) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	268	143	237
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.85	3.39	9.12	1.24	1.47	626	276	539
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	619	274	533
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	61	98	70
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	33	98	49
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	66	80	69
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	33	80	45
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	96	69	89
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	48	69	54
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	17	53	26
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.27	1.19	1.95	1.20	1.20	122	74	110

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.28	2.89	4.32	7.88	1.28	1.43	53	32	48
OPA65R-BU6DA Antenna	73.4	23.3	10.1	11.86	5.13	3.15	7.29	1.23	1.41	114	56	99
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.72	5.09	3.20	7.37	1.23	1.41	112	56	98
B14 4478 RRH	20.4	10.6	15.7	1.50	2.22	1.93	1.30	1.20	1.20	14	21	16
B14 4478 RRH (Shielded)	20.4	5.3	15.7	0.75	2.22	3.85	1.30	1.26	1.20	7	21	11
B2/B66A 8843 RRH	17.2	13.2	15.5	1.57	1.84	1.30	1.11	1.20	1.20	15	17	15
B2/B66A 8843 RRH (Shielded)	17.2	6.6	15.5	0.79	1.84	2.61	1.11	1.20	1.20	7	17	10
B5/B12 4449 RRH	20.2	15.5	11.8	2.17	1.65	1.30	1.71	1.20	1.20	20	15	19
B5/B12 4449 RRH (Shielded)	20.2	7.7	11.8	1.08	1.65	2.61	1.71	1.20	1.20	10	15	11
LGP21401 TMA	16.7	5.0	11.3	0.58	1.30	3.35	1.48	1.24	1.20	6	12	7
DC9-48-60-24-PC16-EV Junction Box	21.2	18.2	12.0	2.67	1.76	1.17	1.77	1.20	1.20	25	16	23

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	15	8	14
OPA65R-BU6DA Antenna	71.1	21.0	7.8	10.37	3.85	3.39	9.12	1.24	1.47	36	16	31
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	36	16	31
B14 4478 RRH	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	4
B14 4478 RRH (Shielded)	18.1	4.2	13.4	0.52	1.68	4.36	1.35	1.28	1.20	2	6	3
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	4	5	4
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	5	3
B5/B12 4449 RRH	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	6	4	5
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.5	0.82	1.18	2.71	1.88	1.21	1.20	3	4	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	2
DC9-48-60-24-PC16-EV Junction Box	18.9	15.9	9.7	2.09	1.27	1.19	1.95	1.20	1.20	7	4	6

Date: 5/20/2020
Project Name: OXFORD - NW
Project No.: CT5658
Designed By: ID **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.13 in.
Density of ice: 56 pcf

7770 Antenna

Weight of ice based on total radial SF area:

Height (in):	55.0		
Width (in):	11.0		
Depth (in):	5.0		
Total weight of ice on object:		84	lbs
Weight of object:	35.0	lbs	
Combined weight of ice and object:		119	lbs

OPA65R-BU6DA Antenna

Weight of ice based on total radial SF area:

Height (in):	71.1		
Width (in):	21.0		
Depth (in):	7.8		
Total weight of ice on object:		192	lbs
Weight of object:	61.0	lbs	
Combined weight of ice and object:		253	lbs

DMP65R-BU6DA 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:		190	lbs
Weight of object:	80.0	lbs	
Combined weight of ice and object:		270	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:		35	lbs
Weight of object:	60.0	lbs	
Combined weight of ice and object:		95	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:		31	lbs
Weight of object:	72.0	lbs	
Combined weight of ice and object:		103	lbs

B5/B12 4449 RRH

Weight of ice based on total radial SF area:

Height (in):	17.9		
Width (in):	13.2		
Depth (in):	9.5		
Total weight of ice on object:		36	lbs
Weight of object:	71.0	lbs	
Combined weight of ice and object:		107	lbs

LGP21401 TMA

Weight of ice based on total radial SF area:

Height (in):	14.4		
Width (in):	2.7		
Depth (in):	9.0		
Total weight of ice on object:		17	lbs
Weight of object:	19.0	lbs	
Combined weight of ice and object:		36	lbs

DC9-48-60-24-PC16-EV Junction Box

Weight of ice based on total radial SF area:

Height (in):	18.9		
Width (in):	15.9		
Depth (in):	9.6		
Total weight of ice on object:		43	lbs
Weight of object:	35.0	lbs	
Combined weight of ice and object:		78	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

PL 11-1/4x5/8

Weight of ice based on total radial SF area:

Height (in):	11.25		
Width (in):	0.625		
Per foot weight of ice on object:		17	plf

5/8" Round Bar

Per foot weight of ice:

diameter (in):	0.625		
Per foot weight of ice on object:		3	plf

3/4" Round Bar

Per foot weight of ice:

diameter (in):	0.75		
Per foot weight of ice on object:		3	plf

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

PL 3-1/2x5/8

Weight of ice based on total radial SF area:

Height (in):	3.5		
Width (in):	0.625		
Per foot weight of ice on object:		6	plf

HUDSON
Design Group LLC

Mount Calculations
(Proposed Conditions)

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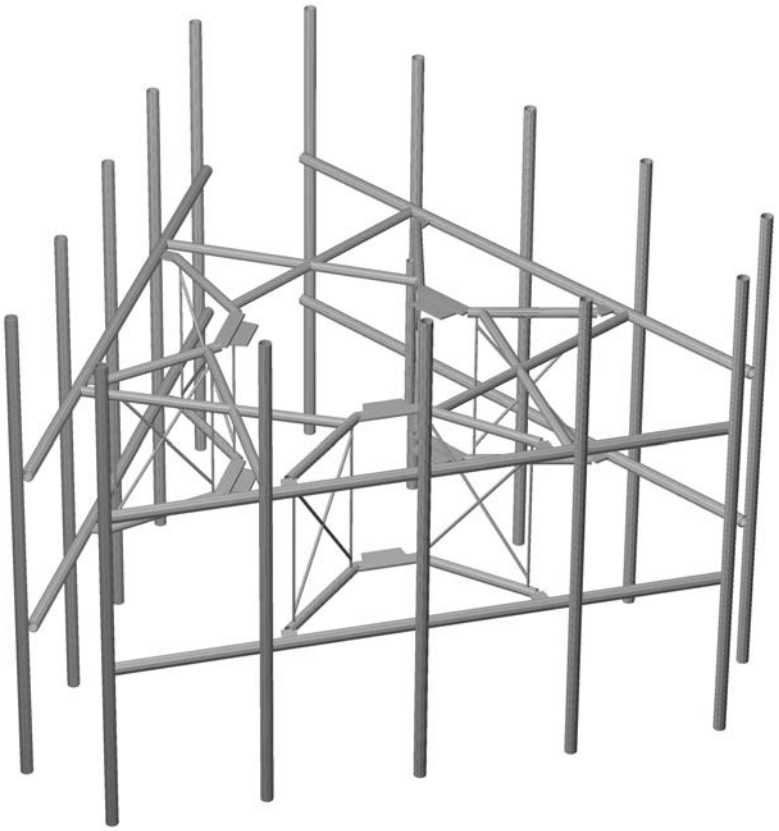

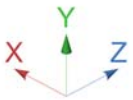

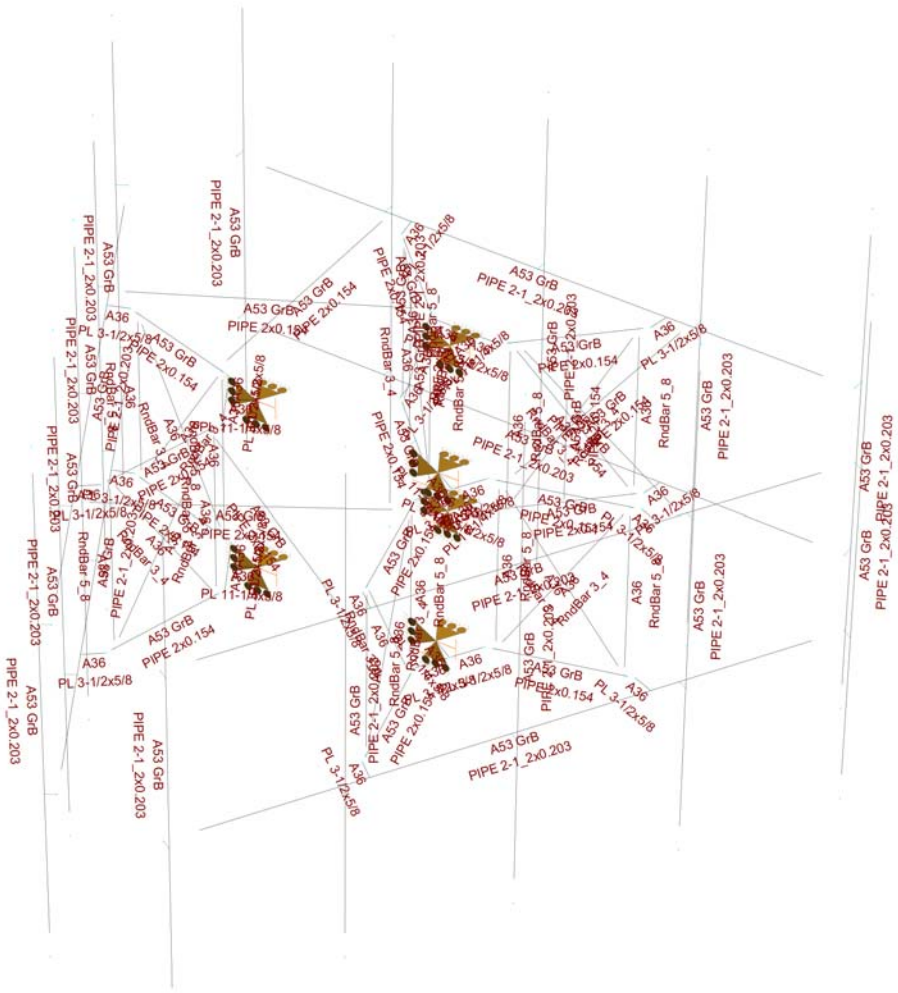
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A36
PL 3-1/2x5/8
RndBar 3_4
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Y
X
Z

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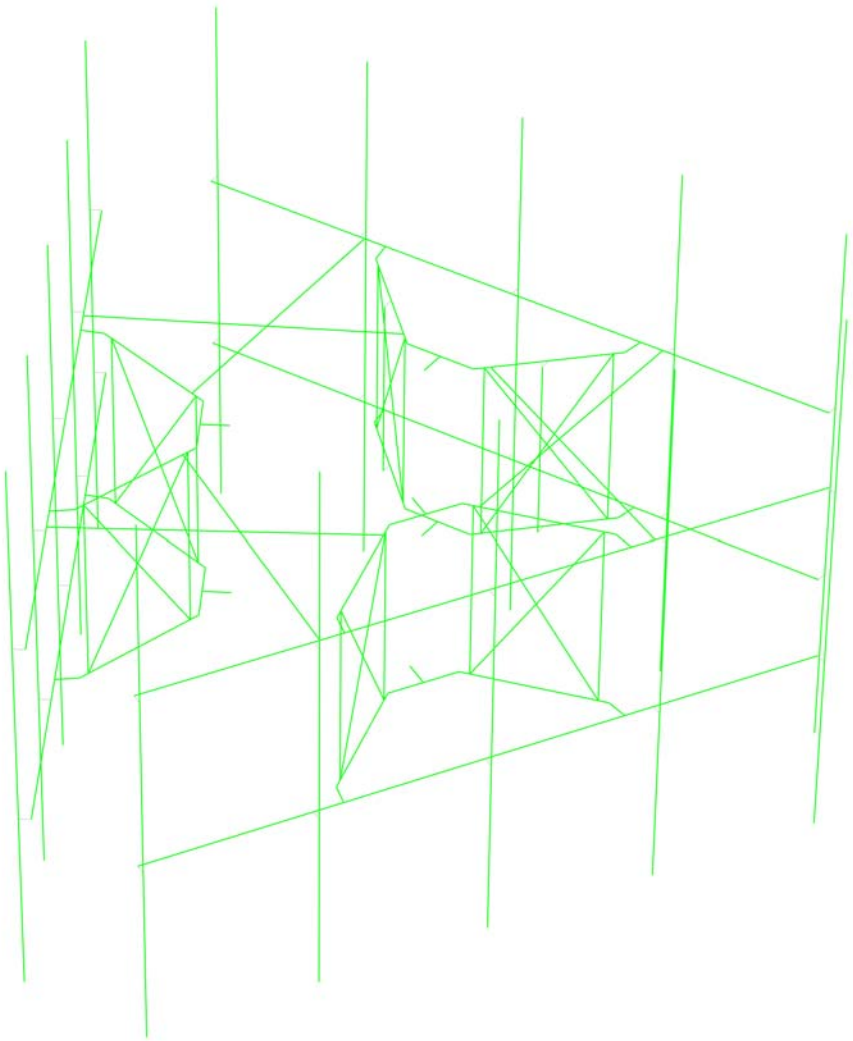

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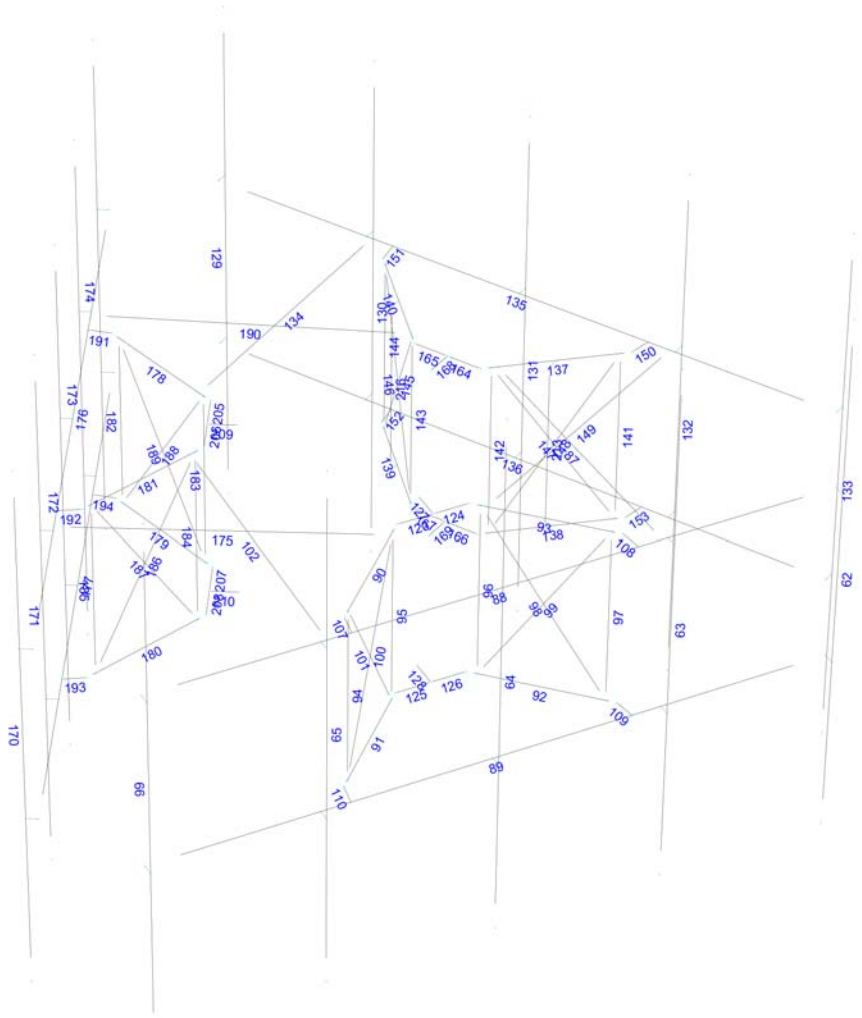

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Load data

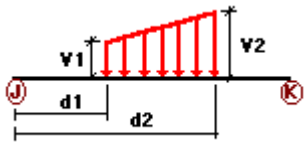
GLOSSARY

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	250 lb Live Load Antenna 1	No	LL
LLa2	250 lb Live Load Antenna 2	No	LL
LLa3	250 lb Live Load Antenna 3	No	LL
LLa4	250 lb Live Load Antenna 4	No	LL

Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
W0	62	z	-0.023	0.00	0.00	No	0.00	No
	63	z	-0.023	0.00	0.00	No	0.00	No
	64	z	-0.023	0.00	0.00	No	0.00	No
	65	z	-0.023	0.00	0.00	No	0.00	No
	66	z	-0.023	0.00	0.00	No	0.00	No
	87	z	-0.012	0.00	0.00	No	0.00	No
	88	z	-0.023	0.00	0.00	No	0.00	No
	89	z	-0.023	0.00	0.00	No	0.00	No
	90	z	-0.012	0.00	0.00	No	0.00	No
	91	z	-0.012	0.00	0.00	No	0.00	No
	92	z	-0.012	0.00	0.00	No	0.00	No
	93	z	-0.012	0.00	0.00	No	0.00	No
	94	z	-0.004	0.00	0.00	No	0.00	No
	95	z	-0.004	0.00	0.00	No	0.00	No
	96	z	-0.004	0.00	0.00	No	0.00	No

97	z	-0.004	0.00	0.00	No	0.00	No
98	z	-0.004	0.00	0.00	No	0.00	No
99	z	-0.004	0.00	0.00	No	0.00	No
100	z	-0.004	0.00	0.00	No	0.00	No
101	z	-0.004	0.00	0.00	No	0.00	No
102	z	-0.012	0.00	0.00	No	0.00	No
107	z	-0.003	0.00	0.00	No	0.00	No
108	z	-0.003	0.00	0.00	No	0.00	No
109	z	-0.003	0.00	0.00	No	0.00	No
110	z	-0.003	0.00	0.00	No	0.00	No
123	z	-0.003	0.00	0.00	No	0.00	No
124	z	-0.003	0.00	0.00	No	0.00	No
125	z	-0.003	0.00	0.00	No	0.00	No
126	z	-0.003	0.00	0.00	No	0.00	No
127	z	-0.003	0.00	0.00	No	0.00	No
128	z	-0.003	0.00	0.00	No	0.00	No
130	z	-0.023	0.00	0.00	No	0.00	No
132	z	-0.023	0.00	0.00	No	0.00	No
134	z	-0.012	0.00	0.00	No	0.00	No
135	z	-0.023	0.00	0.00	No	0.00	No
136	z	-0.023	0.00	0.00	No	0.00	No
137	z	-0.012	0.00	0.00	No	0.00	No
138	z	-0.012	0.00	0.00	No	0.00	No
139	z	-0.012	0.00	0.00	No	0.00	No
140	z	-0.012	0.00	0.00	No	0.00	No
141	z	-0.004	0.00	0.00	No	0.00	No
142	z	-0.004	0.00	0.00	No	0.00	No
143	z	-0.004	0.00	0.00	No	0.00	No
144	z	-0.004	0.00	0.00	No	0.00	No
145	z	-0.004	0.00	0.00	No	0.00	No
146	z	-0.004	0.00	0.00	No	0.00	No
147	z	-0.004	0.00	0.00	No	0.00	No
148	z	-0.004	0.00	0.00	No	0.00	No
149	z	-0.012	0.00	0.00	No	0.00	No
150	z	-0.003	0.00	0.00	No	0.00	No
151	z	-0.003	0.00	0.00	No	0.00	No
152	z	-0.003	0.00	0.00	No	0.00	No
153	z	-0.003	0.00	0.00	No	0.00	No
164	z	-0.003	0.00	0.00	No	0.00	No
165	z	-0.003	0.00	0.00	No	0.00	No
166	z	-0.003	0.00	0.00	No	0.00	No
167	z	-0.003	0.00	0.00	No	0.00	No
168	z	-0.003	0.00	0.00	No	0.00	No
169	z	-0.003	0.00	0.00	No	0.00	No
170	z	-0.023	0.00	0.00	No	0.00	No
171	z	-0.023	0.00	0.00	No	0.00	No
172	z	-0.023	0.00	0.00	No	0.00	No
173	z	-0.023	0.00	0.00	No	0.00	No
174	z	-0.023	0.00	0.00	No	0.00	No
175	z	-0.012	0.00	0.00	No	0.00	No
176	z	-0.023	0.00	0.00	No	0.00	No
177	z	-0.023	0.00	0.00	No	0.00	No
182	z	-0.004	0.00	0.00	No	0.00	No
183	z	-0.004	0.00	0.00	No	0.00	No
184	z	-0.004	0.00	0.00	No	0.00	No
185	z	-0.004	0.00	0.00	No	0.00	No
186	z	-0.004	0.00	0.00	No	0.00	No
187	z	-0.004	0.00	0.00	No	0.00	No
188	z	-0.004	0.00	0.00	No	0.00	No
189	z	-0.004	0.00	0.00	No	0.00	No

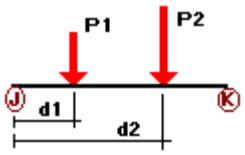
	190	z	-0.012	0.00	0.00	No	0.00	No
	191	z	-0.003	0.00	0.00	No	0.00	No
	192	z	-0.003	0.00	0.00	No	0.00	No
	193	z	-0.003	0.00	0.00	No	0.00	No
	194	z	-0.003	0.00	0.00	No	0.00	No
	205	z	-0.003	0.00	0.00	No	0.00	No
	206	z	-0.003	0.00	0.00	No	0.00	No
	207	z	-0.003	0.00	0.00	No	0.00	No
	208	z	-0.003	0.00	0.00	No	0.00	No
	209	z	-0.003	0.00	0.00	No	0.00	No
	210	z	-0.003	0.00	0.00	No	0.00	No
	213	z	-0.012	0.00	0.00	No	0.00	No
	216	z	-0.012	0.00	0.00	No	0.00	No
W30	62	x	-0.023	0.00	0.00	No	0.00	No
	63	x	-0.023	0.00	0.00	No	0.00	No
	64	x	-0.023	0.00	0.00	No	0.00	No
	65	x	-0.023	0.00	0.00	No	0.00	No
	66	x	-0.023	0.00	0.00	No	0.00	No
	87	x	-0.012	0.00	0.00	No	0.00	No
	88	x	-0.023	0.00	0.00	No	0.00	No
	89	x	-0.023	0.00	0.00	No	0.00	No
	90	x	-0.012	0.00	0.00	No	0.00	No
	91	x	-0.012	0.00	0.00	No	0.00	No
	92	x	-0.012	0.00	0.00	No	0.00	No
	93	x	-0.012	0.00	0.00	No	0.00	No
	94	x	-0.004	0.00	0.00	No	0.00	No
	95	x	-0.004	0.00	0.00	No	0.00	No
	96	x	-0.004	0.00	0.00	No	0.00	No
	97	x	-0.004	0.00	0.00	No	0.00	No
	98	x	-0.004	0.00	0.00	No	0.00	No
	99	x	-0.004	0.00	0.00	No	0.00	No
	100	x	-0.004	0.00	0.00	No	0.00	No
	101	x	-0.004	0.00	0.00	No	0.00	No
	102	x	-0.012	0.00	0.00	No	0.00	No
	107	x	-0.003	0.00	0.00	No	0.00	No
	108	x	-0.003	0.00	0.00	No	0.00	No
	109	x	-0.003	0.00	0.00	No	0.00	No
	110	x	-0.003	0.00	0.00	No	0.00	No
	123	x	-0.003	0.00	0.00	No	0.00	No
	124	x	-0.003	0.00	0.00	No	0.00	No
	125	x	-0.003	0.00	0.00	No	0.00	No
	126	x	-0.003	0.00	0.00	No	0.00	No
	127	x	-0.003	0.00	0.00	No	0.00	No
	128	x	-0.003	0.00	0.00	No	0.00	No
	129	x	-0.023	0.00	0.00	No	0.00	No
	130	x	-0.023	0.00	0.00	No	0.00	No
	131	x	-0.023	0.00	0.00	No	0.00	No
	132	x	-0.023	0.00	0.00	No	0.00	No
	133	x	-0.023	0.00	0.00	No	0.00	No
	134	x	-0.012	0.00	0.00	No	0.00	No
	137	x	-0.012	0.00	0.00	No	0.00	No
	138	x	-0.012	0.00	0.00	No	0.00	No
	139	x	-0.012	0.00	0.00	No	0.00	No
	140	x	-0.012	0.00	0.00	No	0.00	No
	141	x	-0.004	0.00	0.00	No	0.00	No
	142	x	-0.004	0.00	0.00	No	0.00	No
	143	x	-0.004	0.00	0.00	No	0.00	No
	144	x	-0.004	0.00	0.00	No	0.00	No
	145	x	-0.004	0.00	0.00	No	0.00	No
	146	x	-0.004	0.00	0.00	No	0.00	No

	147	x	-0.004	0.00	0.00	No	0.00	No
	148	x	-0.004	0.00	0.00	No	0.00	No
	149	x	-0.012	0.00	0.00	No	0.00	No
	150	x	-0.003	0.00	0.00	No	0.00	No
	151	x	-0.003	0.00	0.00	No	0.00	No
	152	x	-0.003	0.00	0.00	No	0.00	No
	153	x	-0.003	0.00	0.00	No	0.00	No
	164	x	-0.003	0.00	0.00	No	0.00	No
	165	x	-0.003	0.00	0.00	No	0.00	No
	166	x	-0.003	0.00	0.00	No	0.00	No
	167	x	-0.003	0.00	0.00	No	0.00	No
	168	x	-0.003	0.00	0.00	No	0.00	No
	169	x	-0.003	0.00	0.00	No	0.00	No
	170	x	-0.023	0.00	0.00	No	0.00	No
	171	x	-0.023	0.00	0.00	No	0.00	No
	172	x	-0.023	0.00	0.00	No	0.00	No
	173	x	-0.023	0.00	0.00	No	0.00	No
	174	x	-0.023	0.00	0.00	No	0.00	No
	175	x	-0.012	0.00	0.00	No	0.00	No
	176	x	-0.023	0.00	0.00	No	0.00	No
	177	x	-0.023	0.00	0.00	No	0.00	No
	182	x	-0.004	0.00	0.00	No	0.00	No
	183	x	-0.004	0.00	0.00	No	0.00	No
	184	x	-0.004	0.00	0.00	No	0.00	No
	185	x	-0.004	0.00	0.00	No	0.00	No
	186	x	-0.004	0.00	0.00	No	0.00	No
	187	x	-0.004	0.00	0.00	No	0.00	No
	188	x	-0.004	0.00	0.00	No	0.00	No
	189	x	-0.004	0.00	0.00	No	0.00	No
	190	x	-0.012	0.00	0.00	No	0.00	No
	191	x	-0.003	0.00	0.00	No	0.00	No
	192	x	-0.003	0.00	0.00	No	0.00	No
	193	x	-0.003	0.00	0.00	No	0.00	No
	194	x	-0.003	0.00	0.00	No	0.00	No
	205	x	-0.003	0.00	0.00	No	0.00	No
	206	x	-0.003	0.00	0.00	No	0.00	No
	207	x	-0.003	0.00	0.00	No	0.00	No
	208	x	-0.003	0.00	0.00	No	0.00	No
	209	x	-0.003	0.00	0.00	No	0.00	No
	210	x	-0.003	0.00	0.00	No	0.00	No
	213	x	-0.012	0.00	0.00	No	0.00	No
	216	x	-0.012	0.00	0.00	No	0.00	No
Di	62	y	-0.006	0.00	0.00	No	0.00	No
	63	y	-0.006	0.00	0.00	No	0.00	No
	64	y	-0.006	0.00	0.00	No	0.00	No
	65	y	-0.006	0.00	0.00	No	0.00	No
	66	y	-0.006	0.00	0.00	No	0.00	No
	87	y	-0.005	0.00	0.00	No	0.00	No
	88	y	-0.006	0.00	0.00	No	0.00	No
	89	y	-0.006	0.00	0.00	No	0.00	No
	90	y	-0.005	0.00	0.00	No	0.00	No
	91	y	-0.005	0.00	0.00	No	0.00	No
	92	y	-0.005	0.00	0.00	No	0.00	No
	93	y	-0.005	0.00	0.00	No	0.00	No
	94	y	-0.003	0.00	0.00	No	0.00	No
	95	y	-0.003	0.00	0.00	No	0.00	No
	96	y	-0.003	0.00	0.00	No	0.00	No
	97	y	-0.003	0.00	0.00	No	0.00	No
	98	y	-0.003	0.00	0.00	No	0.00	No
	99	y	-0.003	0.00	0.00	No	0.00	No

100	y	-0.003	0.00	0.00	No	0.00	No
101	y	-0.003	0.00	0.00	No	0.00	No
102	y	-0.005	0.00	0.00	No	0.00	No
107	y	-0.006	0.00	0.00	No	0.00	No
108	y	-0.006	0.00	0.00	No	0.00	No
109	y	-0.006	0.00	0.00	No	0.00	No
110	y	-0.006	0.00	0.00	No	0.00	No
123	y	-0.006	0.00	0.00	No	0.00	No
124	y	-0.006	0.00	0.00	No	0.00	No
125	y	-0.006	0.00	0.00	No	0.00	No
126	y	-0.006	0.00	0.00	No	0.00	No
127	y	-0.017	0.00	0.00	No	0.00	No
128	y	-0.017	0.00	0.00	No	0.00	No
129	y	-0.006	0.00	0.00	No	0.00	No
130	y	-0.006	0.00	0.00	No	0.00	No
131	y	-0.006	0.00	0.00	No	0.00	No
132	y	-0.006	0.00	0.00	No	0.00	No
133	y	-0.006	0.00	0.00	No	0.00	No
134	y	-0.005	0.00	0.00	No	0.00	No
135	y	-0.006	0.00	0.00	No	0.00	No
136	y	-0.006	0.00	0.00	No	0.00	No
137	y	-0.005	0.00	0.00	No	0.00	No
138	y	-0.005	0.00	0.00	No	0.00	No
139	y	-0.005	0.00	0.00	No	0.00	No
140	y	-0.005	0.00	0.00	No	0.00	No
141	y	-0.003	0.00	0.00	No	0.00	No
142	y	-0.003	0.00	0.00	No	0.00	No
143	y	-0.003	0.00	0.00	No	0.00	No
144	y	-0.003	0.00	0.00	No	0.00	No
145	y	-0.003	0.00	0.00	No	0.00	No
146	y	-0.003	0.00	0.00	No	0.00	No
147	y	-0.003	0.00	0.00	No	0.00	No
148	y	-0.003	0.00	0.00	No	0.00	No
149	y	-0.005	0.00	0.00	No	0.00	No
150	y	-0.006	0.00	0.00	No	0.00	No
151	y	-0.006	0.00	0.00	No	0.00	No
152	y	-0.006	0.00	0.00	No	0.00	No
153	y	-0.006	0.00	0.00	No	0.00	No
164	y	-0.006	0.00	0.00	No	0.00	No
165	y	-0.006	0.00	0.00	No	0.00	No
166	y	-0.006	0.00	0.00	No	0.00	No
167	y	-0.006	0.00	0.00	No	0.00	No
168	y	-0.017	0.00	0.00	No	0.00	No
169	y	-0.017	0.00	0.00	No	0.00	No
170	y	-0.006	0.00	0.00	No	0.00	No
171	y	-0.006	0.00	0.00	No	0.00	No
172	y	-0.006	0.00	0.00	No	0.00	No
173	y	-0.006	0.00	0.00	No	0.00	No
174	y	-0.006	0.00	0.00	No	0.00	No
175	y	-0.005	0.00	0.00	No	0.00	No
176	y	-0.006	0.00	0.00	No	0.00	No
177	y	-0.006	0.00	0.00	No	0.00	No
182	y	-0.003	0.00	0.00	No	0.00	No
183	y	-0.003	0.00	0.00	No	0.00	No
184	y	-0.003	0.00	0.00	No	0.00	No
185	y	-0.003	0.00	0.00	No	0.00	No
186	y	-0.003	0.00	0.00	No	0.00	No
187	y	-0.003	0.00	0.00	No	0.00	No
188	y	-0.003	0.00	0.00	No	0.00	No
189	y	-0.003	0.00	0.00	No	0.00	No

190	y	-0.005	0.00	0.00	No	0.00	No
191	y	-0.006	0.00	0.00	No	0.00	No
192	y	-0.006	0.00	0.00	No	0.00	No
193	y	-0.006	0.00	0.00	No	0.00	No
194	y	-0.006	0.00	0.00	No	0.00	No
205	y	-0.006	0.00	0.00	No	0.00	No
206	y	-0.006	0.00	0.00	No	0.00	No
207	y	-0.006	0.00	0.00	No	0.00	No
208	y	-0.006	0.00	0.00	No	0.00	No
209	y	-0.017	0.00	0.00	No	0.00	No
210	y	-0.017	0.00	0.00	No	0.00	No
213	y	-0.005	0.00	0.00	No	0.00	No
216	y	-0.005	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	62	y	-0.018	3.50	No
		y	-0.018	6.50	No
		y	-0.038	5.00	No
	64	y	-0.031	2.50	No
		y	-0.031	7.50	No
		y	-0.06	4.00	No
		y	-0.072	4.00	No
	66	y	-0.04	2.50	No
		y	-0.04	7.50	No
		y	-0.071	4.00	No
	129	y	-0.018	3.50	No
		y	-0.018	6.50	No
		y	-0.038	5.00	No
	131	y	-0.031	2.50	No
		y	-0.031	7.50	No
		y	-0.06	4.00	No
		y	-0.072	4.00	No
	133	y	-0.04	2.50	No
		y	-0.04	7.50	No
		y	-0.071	4.00	No
	170	y	-0.018	3.50	No
		y	-0.018	6.50	No
		y	-0.038	5.00	No
	172	y	-0.031	2.50	No
		y	-0.031	7.50	No
		y	-0.06	4.00	No
		y	-0.072	4.00	No
	174	y	-0.04	2.50	No
		y	-0.04	7.50	No
		y	-0.071	4.00	No
	213	y	-0.035	50.00	Yes
	216	y	-0.033	50.00	Yes

W0	62	z	-0.088	3.50	No
		z	-0.088	6.50	No
		z	-0.044	5.00	No
	64	z	-0.182	2.50	No
		z	-0.182	7.50	No
		z	-0.085	4.00	No
	66	z	-0.181	2.50	No
		z	-0.181	7.50	No
		z	-0.07	4.00	No
	129	z	-0.135	3.50	No
		z	-0.135	6.50	No
		z	-0.017	5.00	No
	131	z	-0.314	2.50	No
		z	-0.314	7.50	No
		z	-0.033	4.00	No
		z	-0.033	4.00	No
	133	z	-0.31	2.50	No
		z	-0.31	7.50	No
	170	z	-0.088	3.50	No
		z	-0.088	6.50	No
		z	-0.044	5.00	No
	172	z	-0.182	2.50	No
		z	-0.182	7.50	No
		z	-0.085	4.00	No
	174	z	-0.181	2.50	No
		z	-0.181	7.50	No
		z	-0.07	4.00	No
	213	z	-0.122	50.00	Yes
	216	z	-0.055	50.00	Yes
W30	62	x	-0.119	3.50	No
		x	-0.119	6.50	No
		x	-0.026	5.00	No
	64	x	-0.27	2.50	No
		x	-0.27	7.50	No
		x	-0.049	4.00	No
	66	x	-0.267	2.50	No
		x	-0.267	7.50	No
		x	-0.049	4.00	No
	129	x	-0.072	3.50	No
		x	-0.072	6.50	No
		x	-0.053	5.00	No
	131	x	-0.138	2.50	No
		x	-0.138	7.50	No
		x	-0.098	4.00	No
	133	x	-0.137	2.50	No
		x	-0.137	7.50	No
		x	-0.069	4.00	No
	170	x	-0.119	3.50	No
		x	-0.119	6.50	No
		x	-0.026	5.00	No
	172	x	-0.27	2.50	No
		x	-0.27	7.50	No
		x	-0.049	4.00	No
	174	x	-0.267	2.50	No
		x	-0.267	7.50	No
		x	-0.049	4.00	No
	213	x	-0.074	50.00	Yes
	216	x	-0.055	50.00	Yes
Di	62	y	-0.042	3.50	No
		y	-0.042	6.50	No

		y	-0.034	5.00	No
	64	y	-0.096	2.50	No
		y	-0.096	7.50	No
		y	-0.035	4.00	No
		y	-0.031	4.00	No
	66	y	-0.095	2.50	No
		y	-0.095	7.50	No
		y	-0.036	4.00	No
	129	y	-0.042	3.50	No
		y	-0.042	6.50	No
		y	-0.034	5.00	No
	131	y	-0.096	2.50	No
		y	-0.096	7.50	No
		y	-0.035	4.00	No
		y	-0.031	4.00	No
	133	y	-0.095	2.50	No
		y	-0.095	7.50	No
		y	-0.036	4.00	No
	170	y	-0.042	3.50	No
		y	-0.042	6.50	No
		y	-0.034	5.00	No
	172	y	-0.096	2.50	No
		y	-0.096	7.50	No
		y	-0.035	4.00	No
		y	-0.031	4.00	No
	174	y	-0.095	2.50	No
		y	-0.095	7.50	No
		y	-0.036	4.00	No
	213	y	-0.043	50.00	Yes
	216	y	-0.033	50.00	Yes
Wi0	62	z	-0.019	3.50	No
		z	-0.019	6.50	No
		z	-0.011	5.00	No
	64	z	-0.036	2.50	No
		z	-0.036	7.50	No
		z	-0.018	4.00	No
	66	z	-0.036	2.50	No
		z	-0.036	7.50	No
		z	-0.015	4.00	No
	129	z	-0.027	3.50	No
		z	-0.027	6.50	No
		z	-0.006	5.00	No
	131	z	-0.058	2.50	No
		z	-0.058	7.50	No
		z	-0.009	4.00	No
		z	-0.009	4.00	No
	133	z	-0.057	2.50	No
		z	-0.057	7.50	No
		z	-0.003	4.00	No
	170	z	-0.019	3.50	No
		z	-0.019	6.50	No
		z	-0.011	5.00	No
	172	z	-0.036	2.50	No
		z	-0.036	7.50	No
		z	-0.018	4.00	No
	174	z	-0.036	2.50	No
		z	-0.036	7.50	No
		z	-0.015	4.00	No
	213	z	-0.025	50.00	Yes
	216	z	-0.012	50.00	Yes

Wi30	62	x	-0.024	3.50	No
		x	-0.024	6.50	No
		x	-0.007	5.00	No
	64	x	-0.05	2.50	No
		x	-0.05	7.50	No
		x	-0.011	4.00	No
	66	x	-0.05	2.50	No
		x	-0.05	7.50	No
		x	-0.011	4.00	No
	129	x	-0.017	3.50	No
		x	-0.017	6.50	No
		x	-0.012	5.00	No
	131	x	-0.029	2.50	No
		x	-0.029	7.50	No
		x	-0.021	4.00	No
	133	x	-0.029	2.50	No
		x	-0.029	7.50	No
		x	-0.015	4.00	No
	170	x	-0.024	3.50	No
		x	-0.024	6.50	No
		x	-0.007	5.00	No
	172	x	-0.05	2.50	No
		x	-0.05	7.50	No
		x	-0.011	4.00	No
	174	x	-0.05	2.50	No
		x	-0.05	7.50	No
		x	-0.011	4.00	No
	213	x	-0.016	50.00	Yes
	216	z	-0.012	50.00	Yes
WL0	62	z	-0.006	3.50	No
		z	-0.006	6.50	No
		z	-0.003	5.00	No
	64	z	-0.011	2.50	No
		z	-0.011	7.50	No
		z	-0.005	4.00	No
	66	z	-0.011	2.50	No
		z	-0.011	7.50	No
		z	-0.004	4.00	No
	129	z	-0.008	3.50	No
		z	-0.008	6.50	No
		z	-0.001	5.00	No
	131	z	-0.019	2.50	No
		z	-0.019	7.50	No
		z	-0.002	4.00	No
		z	-0.002	4.00	No
	133	z	-0.018	2.50	No
		z	-0.018	7.50	No
	170	z	-0.006	3.50	No
		z	-0.006	6.50	No
		z	-0.003	5.00	No
	172	z	-0.011	2.50	No
		z	-0.011	7.50	No
		z	-0.005	4.00	No
	174	z	-0.011	2.50	No
		z	-0.011	7.50	No
		z	-0.004	4.00	No
	213	z	-0.007	50.00	Yes
	216	z	-0.003	50.00	Yes
WL30	62	x	-0.007	3.50	No
		x	-0.007	6.50	No

		x	-0.002	5.00	No
	64	x	-0.016	2.50	No
		x	-0.016	7.50	No
		x	-0.003	4.00	No
	66	x	-0.016	2.50	No
		x	-0.016	7.50	No
		x	-0.003	4.00	No
	129	x	-0.005	3.50	No
		x	-0.005	6.50	No
		x	-0.003	5.00	No
	131	x	-0.008	2.50	No
		x	-0.008	7.50	No
		x	-0.006	4.00	No
	133	x	-0.008	2.50	No
		x	-0.008	7.50	No
		x	-0.004	4.00	No
	170	x	-0.007	3.50	No
		x	-0.007	6.50	No
		x	-0.002	5.00	No
	172	x	-0.016	2.50	No
		x	-0.016	7.50	No
		x	-0.003	4.00	No
	174	x	-0.016	2.50	No
		x	-0.016	7.50	No
		x	-0.003	4.00	No
	213	x	-0.004	50.00	Yes
	216	x	-0.003	50.00	Yes
LL1	135	y	-0.25	50.00	Yes
LL2	135	y	-0.25	100.00	Yes
LLa1	129	y	-0.25	50.00	Yes
LLa2	131	y	-0.25	50.00	Yes
LLa3	133	y	-0.25	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	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	250 lb Live Load Antenna 4	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
LLa4	0.00	0.00	0.00

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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=1.2DL
LC15=1.2DL+1.5LL1
LC16=1.2DL+1.5LL2
LC17=1.2DL+WL0+1.5LLa1
LC18=1.2DL+WL30+1.5LLa1
LC19=1.2DL-WL0+1.5LLa1
LC20=1.2DL-WL30+1.5LLa1
LC21=1.2DL+WL0+1.5LLa2
LC22=1.2DL+WL30+1.5LLa2
LC23=1.2DL-WL0+1.5LLa2
LC24=1.2DL-WL30+1.5LLa2
LC25=1.2DL+WL0+1.5LLa3
LC26=1.2DL+WL30+1.5LLa3
LC27=1.2DL-WL0+1.5LLa3
LC28=1.2DL-WL30+1.5LLa3
LC29=1.2DL+WL0+1.5LLa4
LC30=1.2DL+WL30+1.5LLa4
LC31=1.2DL-WL0+1.5LLa4
LC32=1.2DL-WL30+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 2-1_2x0.203	**62**	LC3 at 33.33%	0.16	OK	Eq. H1-1b
		63	LC3 at 33.33%	0.21	OK	Eq. H1-1b
		64	LC3 at 33.33%	0.28	OK	Eq. H1-1b
		65	LC4 at 33.33%	0.22	OK	Eq. H1-1b
		66	LC1 at 33.33%	0.23	OK	Eq. H1-1b
		88	LC2 at 25.78%	**0.86**	**OK**	Eq. H1-1b
		89	LC4 at 70.83%	0.66	OK	Eq. H1-1b
		129	LC20 at 33.33%	0.21	OK	Eq. H1-1b
		130	LC4 at 33.33%	0.21	OK	Eq. H1-1b
		131	LC4 at 33.33%	0.29	OK	Eq. H1-1b
		132	LC2 at 33.33%	0.23	OK	Eq. H1-1b
		133	LC26 at 33.33%	0.25	OK	Eq. H1-1b
		135	LC3 at 25.78%	0.62	OK	Eq. H1-1b
		136	LC3 at 29.17%	0.59	OK	Eq. H1-1b
		170	LC1 at 33.33%	0.17	OK	Eq. H1-1b
		171	LC1 at 33.33%	0.23	OK	Eq. H1-1b
		172	LC1 at 33.33%	0.31	OK	Eq. H1-1b
		173	LC3 at 33.33%	0.25	OK	Eq. H1-1b

	174	LC3 at 33.33%	0.24	OK	Eq. H1-1b
	176	LC1 at 25.78%	0.62	OK	Eq. H1-1b
	177	LC2 at 29.17%	0.76	OK	Eq. H1-1b
PIPE 2x0.154	**87**	LC3 at 100.00%	0.16	OK	Eq. H1-1b
	90	LC2 at 93.75%	0.45	OK	Eq. H1-1b
	91	LC3 at 93.75%	0.26	OK	Eq. H1-1b
	92	LC4 at 93.75%	0.29	OK	Eq. H1-1b
	93	LC1 at 93.75%	0.33	OK	Eq. H1-1b
	102	LC8 at 100.00%	0.23	OK	Eq. H1-1b
	134	LC2 at 100.00%	0.17	OK	Eq. H1-1b
	137	LC11 at 93.75%	0.30	OK	Eq. H1-1b
	138	LC9 at 93.75%	0.26	OK	Eq. H1-1b
	139	LC1 at 93.75%	0.22	OK	Eq. H1-1b
	140	LC1 at 100.00%	0.28	OK	Eq. H1-1b
	149	LC3 at 100.00%	0.20	OK	Eq. H1-1b
	175	LC2 at 100.00%	0.19	OK	Eq. H1-1b
	178	LC2 at 100.00%	0.38	OK	Eq. H1-1b
	179	LC2 at 93.75%	0.31	OK	Eq. H1-1b
	180	LC3 at 93.75%	0.24	OK	Eq. H1-1b
	181	LC2 at 89.06%	**0.46**	**OK**	Eq. H1-1b
	190	LC4 at 100.00%	0.15	OK	Eq. H1-1b
	213	LC2 at 100.00%	0.10	OK	Eq. H1-1b
	216	LC4 at 0.00%	0.10	OK	Eq. H1-1b
PL 11-1/4x5/8	**127**	LC9 at 100.00%	0.29	OK	Eq. H1-1b
	128	LC10 at 100.00%	0.18	OK	Eq. H1-1b
	168	LC11 at 100.00%	**0.30**	**OK**	Eq. H1-1b
	169	LC11 at 100.00%	0.23	OK	Eq. H1-1b
	209	LC12 at 100.00%	0.28	OK	Eq. H1-1b
	210	LC12 at 100.00%	0.17	OK	Eq. H1-1b
PL 3-1/2x5/8	**107**	LC3 at 100.00%	0.40	OK	Eq. H1-1b
	108	LC4 at 100.00%	0.38	OK	Eq. H1-1b
	109	LC4 at 100.00%	0.33	OK	Eq. H1-1b
	110	LC2 at 100.00%	0.49	OK	Eq. H1-1b
	123	LC3 at 100.00%	0.57	OK	Eq. H1-1b
	124	LC4 at 0.00%	**0.57**	**OK**	Eq. H1-1b
	125	LC11 at 100.00%	0.51	OK	Eq. H1-1b
	126	LC4 at 0.00%	0.46	OK	Eq. H1-1b
	150	LC4 at 100.00%	0.37	OK	Eq. H1-1b
	151	LC2 at 100.00%	0.35	OK	Eq. H1-1b
	152	LC18 at 100.00%	0.36	OK	Eq. H1-1b
	153	LC3 at 100.00%	0.42	OK	Eq. H1-1b
	164	LC4 at 100.00%	0.47	OK	Eq. H1-1b
	165	LC1 at 0.00%	0.45	OK	Eq. H1-1b
	166	LC12 at 100.00%	0.53	OK	Eq. H1-1b
	167	LC17 at 0.00%	0.43	OK	Eq. H1-1b
	191	LC2 at 100.00%	0.35	OK	Eq. H1-1b
	192	LC3 at 100.00%	0.39	OK	Eq. H1-1b
	193	LC3 at 100.00%	0.35	OK	Eq. H1-1b
	194	LC9 at 100.00%	0.42	OK	Eq. H1-1b
	205	LC2 at 100.00%	0.56	OK	Eq. H1-1b
	206	LC3 at 0.00%	0.49	OK	Eq. H1-1b
	207	LC10 at 100.00%	0.50	OK	Eq. H1-1b
	208	LC3 at 0.00%	0.44	OK	Eq. H1-1b
RndBar 3_4	**98**	LC4 at 50.00%	0.17	OK	Eq. H1-1b
	99	LC12 at 0.00%	0.17	OK	Eq. H1-1b
	100	LC12 at 0.00%	0.21	OK	Eq. H1-1b
	101	LC11 at 100.00%	**0.22**	**OK**	Eq. H1-1b
	145	LC16 at 0.00%	0.14	OK	Eq. Sec. D2
	146	LC17 at 0.00%	0.15	OK	Eq. H1-1b
	147	LC12 at 100.00%	0.17	OK	Eq. Sec. D2

	148	LC12 at 100.00%	0.18	OK	Eq. H1-1b
	186	LC3 at 50.00%	0.16	OK	Eq. H1-1b
	187	LC11 at 0.00%	0.16	OK	Eq. H1-1b
	188	LC10 at 0.00%	0.20	OK	Eq. H1-1b
	189	LC10 at 100.00%	0.22	OK	Eq. H1-1b
RndBar 5_8	**94**	LC11 at 87.50%	0.49	OK	Eq. H1-1a
	95	LC10 at 87.50%	0.44	OK	Eq. H1-1a
	96	LC12 at 87.50%	0.35	OK	Eq. H1-1a
	97	LC4 at 43.75%	0.47	OK	Eq. H1-1a
	141	LC12 at 87.50%	0.56	OK	Eq. H1-1a
	142	LC12 at 87.50%	**0.56**	**OK**	Eq. H1-1a
	143	LC17 at 87.50%	0.47	OK	Eq. H1-1a
	144	LC16 at 87.50%	0.48	OK	Eq. H1-1a
	182	LC10 at 87.50%	0.49	OK	Eq. H1-1a
	183	LC9 at 87.50%	0.43	OK	Eq. H1-1a
	184	LC11 at 87.50%	0.35	OK	Eq. H1-1a
	185	LC3 at 50.00%	0.45	OK	Eq. H1-1a

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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
142	-1.7321	0.00	-1.00	0
143	-1.8282	0.00	-1.7901	0
144	-1.7321	-3.3333	-1.00	0
145	-1.8282	-3.3333	-1.7901	0
146	-2.4644	-3.3333	-0.6882	0
147	-2.4644	0.00	-0.6882	0
152	-7.1829	-6.6667	2.7812	0
153	-7.1829	3.3333	2.7812	0
154	-1.1829	-6.6667	-7.6112	0
155	-1.1829	3.3333	-7.6112	0
156	-5.4576	0.00	0.1929	0
157	-0.8376	0.00	2.6778	0
158	-1.0097	0.00	-7.5112	0
159	-7.0097	0.00	2.8812	0
160	-1.0097	-3.3333	-7.5112	0
161	-7.0097	-3.3333	2.8812	0
162	-2.4634	0.00	-4.2081	0
163	-2.4634	-3.3333	-4.2081	0
164	-4.876	-3.3333	-0.0293	0
165	-4.876	0.00	-0.0293	0
166	-2.4173	0.00	-4.0324	0
167	-2.4173	-3.3333	-4.0324	0

168	-1.8744	0.00	-1.9658	0
169	-1.8744	-3.3333	-1.9658	0
170	-2.6396	0.00	-0.6404	0
171	-2.6396	-3.3333	-0.6404	0
172	-4.7008	0.00	-0.0772	0
173	-4.7008	-3.3333	-0.0772	0
174	-2.5618	0.00	-4.8229	0
175	1.9002	0.00	-2.0642	0
176	-2.6829	-6.6667	-5.0131	0
177	-2.6829	3.3333	-5.0131	0
180	-5.6829	-6.6667	0.1831	0
181	-5.6829	3.3333	0.1831	0
184	-2.7701	0.00	-4.462	0
185	-5.2493	0.00	-0.168	0
186	-5.2493	-3.3333	-0.168	0
187	-2.7701	-3.3333	-4.462	0
188	-4.1829	-6.6667	-2.415	0
189	-4.1829	3.3333	-2.415	0
192	-1.1829	3.33E-06	-7.6112	0
193	-7.1829	3.33E-06	2.7812	0
194	-2.6829	3.33E-06	-5.0131	0
195	-2.5097	3.33E-06	-4.9131	0
196	-5.5097	3.33E-06	0.2831	0
197	-5.6829	3.33E-06	0.1831	0
198	-4.1829	3.33E-06	-2.415	0
199	-4.0097	3.33E-06	-2.315	0
200	-1.1829	-3.3333	-7.6112	0
201	-2.6829	-3.3333	-5.0131	0
202	-2.5097	-3.3333	-4.9131	0
203	-4.1829	-3.3333	-2.415	0
204	-4.0097	-3.3333	-2.315	0
205	-5.5097	-3.3333	0.2831	0
206	-5.6829	-3.3333	0.1831	0
207	-7.1829	-3.3333	2.7812	0
208	-2.1463	0.00	-1.2392	0
209	-2.1463	-3.3333	-1.2392	0
211	0.00	0.00	2.00	0
212	-0.6362	0.00	2.4783	0
213	0.00	-3.3333	2.00	0
214	-0.6362	-3.3333	2.4783	0
215	0.6362	-3.3333	2.4783	0
216	0.6362	0.00	2.4783	0
217	6.00	-6.6667	4.83	0
218	6.00	3.3333	4.83	0
219	-6.00	-6.6667	4.83	0
220	-6.00	3.3333	4.83	0
221	2.8958	0.00	4.63	0
222	2.7378	0.00	-0.6135	0
223	-6.00	0.00	4.63	0
224	6.00	0.00	4.63	0
225	-6.00	-3.3333	4.63	0
226	6.00	-3.3333	4.63	0
227	-2.4126	0.00	4.2374	0
228	-2.4126	-3.3333	4.2374	0
229	2.4126	-3.3333	4.2374	0
230	2.4126	0.00	4.2374	0
231	-2.2835	0.00	4.1096	0
232	-2.2835	-3.3333	4.1096	0
233	-0.7653	0.00	2.6062	0
234	-0.7653	-3.3333	2.6062	0

235	0.7653	0.00	2.6062	0
236	0.7653	-3.3333	2.6062	0
237	2.2835	0.00	4.1096	0
238	2.2835	-3.3333	4.1096	0
239	-2.8958	0.00	4.63	0
240	-2.7378	0.00	-0.6135	0
241	-3.00	-6.6667	4.83	0
242	-3.00	3.3333	4.83	0
243	3.00	-6.6667	4.83	0
244	3.00	3.3333	4.83	0
245	-2.4792	0.00	4.63	0
246	2.4792	0.00	4.63	0
247	2.4792	-3.3333	4.63	0
248	-2.4792	-3.3333	4.63	0
249	0.00	-6.6667	4.83	0
250	0.00	3.3333	4.83	0
251	-6.00	3.33E-06	4.83	0
252	6.00	3.33E-06	4.83	0
253	-3.00	3.33E-06	4.83	0
254	-3.00	3.33E-06	4.63	0
255	3.00	3.33E-06	4.63	0
256	3.00	3.33E-06	4.83	0
257	0.00	3.33E-06	4.83	0
258	0.00	3.33E-06	4.63	0
259	-6.00	-3.3333	4.83	0
260	-3.00	-3.3333	4.83	0
261	-3.00	-3.3333	4.63	0
262	0.00	-3.3333	4.83	0
263	0.00	-3.3333	4.63	0
264	3.00	-3.3333	4.63	0
265	3.00	-3.3333	4.83	0
266	6.00	-3.3333	4.83	0
267	0.00	0.00	2.4783	0
268	0.00	-3.3333	2.4783	0
270	1.7321	0.00	-1.00	0
271	2.4644	0.00	-0.6882	0
272	1.7321	-3.3333	-1.00	0
273	2.4644	-3.3333	-0.6882	0
274	1.8282	-3.3333	-1.7901	0
275	1.8282	0.00	-1.7901	0
276	1.1829	-6.6667	-7.6112	0
277	1.1829	3.3333	-7.6112	0
278	7.1829	-6.6667	2.7812	0
279	7.1829	3.3333	2.7812	0
280	2.5618	0.00	-4.8229	0
281	-1.9002	0.00	-2.0642	0
282	7.0097	0.00	2.8812	0
283	1.0097	0.00	-7.5112	0
284	7.0097	-3.3333	2.8812	0
285	1.0097	-3.3333	-7.5112	0
286	4.876	0.00	-0.0293	0
287	4.876	-3.3333	-0.0293	0
288	2.4634	-3.3333	-4.2081	0
289	2.4634	0.00	-4.2081	0
290	4.7008	0.00	-0.0772	0
291	4.7008	-3.3333	-0.0772	0
292	2.6396	0.00	-0.6404	0
293	2.6396	-3.3333	-0.6404	0
294	1.8744	0.00	-1.9658	0
295	1.8744	-3.3333	-1.9658	0

296	2.4173	0.00	-4.0324	0
297	2.4173	-3.3333	-4.0324	0
298	5.4576	0.00	0.1929	0
299	0.8376	0.00	2.6778	0
300	5.6829	-6.6667	0.1831	0
301	5.6829	3.3333	0.1831	0
302	2.6829	-6.6667	-5.0131	0
303	2.6829	3.3333	-5.0131	0
304	5.2493	0.00	-0.168	0
305	2.7701	0.00	-4.462	0
306	2.7701	-3.3333	-4.462	0
307	5.2493	-3.3333	-0.168	0
308	4.1829	-6.6667	-2.415	0
309	4.1829	3.3333	-2.415	0
310	7.1829	3.33E-06	2.7812	0
311	1.1829	3.33E-06	-7.6112	0
312	5.6829	3.33E-06	0.1831	0
313	5.5097	3.33E-06	0.2831	0
314	2.5097	3.33E-06	-4.9131	0
315	2.6829	3.33E-06	-5.0131	0
316	4.1829	3.33E-06	-2.415	0
317	4.0097	3.33E-06	-2.315	0
318	7.1829	-3.3333	2.7812	0
319	5.6829	-3.3333	0.1831	0
320	5.5097	-3.3333	0.2831	0
321	4.1829	-3.3333	-2.415	0
322	4.0097	-3.3333	-2.315	0
323	2.5097	-3.3333	-4.9131	0
324	2.6829	-3.3333	-5.0131	0
325	1.1829	-3.3333	-7.6112	0
326	2.1463	0.00	-1.2392	0
327	2.1463	-3.3333	-1.2392	0
328	-1.5244	0.00	3.3579	0
329	-1.5244	-3.3333	3.3579	0
330	-1.5244	0.00	3.1579	0
331	-1.5244	-3.3333	3.1579	0
332	1.5244	0.00	3.3579	0
333	1.5244	-3.3333	3.3579	0
334	1.5244	0.00	3.1579	0
335	1.5244	-3.3333	3.1579	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
142	1	1	1	1	0	1
144	1	1	1	1	0	1
211	1	1	1	1	0	1
213	1	1	1	1	0	1
270	1	1	1	1	0	1
272	1	1	1	1	0	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
62	153	152		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
63	181	180		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
64	189	188		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
65	177	176		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
66	155	154		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
87	156	157		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
88	158	159		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
89	160	161		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
90	162	143		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
91	163	145		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
92	164	146		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
93	165	147		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
94	166	167		RndBar 5_8	A36	0.00	0.00	0.00
95	168	169		RndBar 5_8	A36	0.00	0.00	0.00
96	170	171		RndBar 5_8	A36	0.00	0.00	0.00
97	172	173		RndBar 5_8	A36	0.00	0.00	0.00
98	170	173		RndBar 3_4	A36	0.00	0.00	0.00
99	171	172		RndBar 3_4	A36	0.00	0.00	0.00
100	167	168		RndBar 3_4	A36	0.00	0.00	0.00
101	166	169		RndBar 3_4	A36	0.00	0.00	0.00
102	174	175		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
107	162	184		PL 3-1/2x5/8	A36	0.00	0.00	0.00
108	165	185		PL 3-1/2x5/8	A36	0.00	0.00	0.00
109	164	186		PL 3-1/2x5/8	A36	0.00	0.00	0.00
110	163	187		PL 3-1/2x5/8	A36	0.00	0.00	0.00
123	143	208		PL 3-1/2x5/8	A36	0.00	0.00	0.00
124	208	147		PL 3-1/2x5/8	A36	0.00	0.00	0.00
125	145	209		PL 3-1/2x5/8	A36	0.00	0.00	0.00
126	209	146		PL 3-1/2x5/8	A36	0.00	0.00	0.00
127	208	142		PL 11-1/4x5/8	A36	11.25	9.25	0.00
128	209	144		PL 11-1/4x5/8	A36	11.25	9.25	0.00
129	218	217		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
130	244	243		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
131	250	249		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
132	242	241		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
133	220	219		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
134	221	222		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
135	223	224		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
136	225	226		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
137	227	212		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
138	228	214		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
139	229	215		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
140	230	216		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
141	231	232		RndBar 5_8	A36	0.00	0.00	0.00
142	233	234		RndBar 5_8	A36	0.00	0.00	0.00
143	235	236		RndBar 5_8	A36	0.00	0.00	0.00
144	237	238		RndBar 5_8	A36	0.00	0.00	0.00
145	235	238		RndBar 3_4	A36	0.00	0.00	0.00
146	236	237		RndBar 3_4	A36	0.00	0.00	0.00
147	232	233		RndBar 3_4	A36	0.00	0.00	0.00
148	231	234		RndBar 3_4	A36	0.00	0.00	0.00
149	239	240		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
150	227	245		PL 3-1/2x5/8	A36	0.00	0.00	0.00
151	230	246		PL 3-1/2x5/8	A36	0.00	0.00	0.00
152	229	247		PL 3-1/2x5/8	A36	0.00	0.00	0.00
153	228	248		PL 3-1/2x5/8	A36	0.00	0.00	0.00
164	212	267		PL 3-1/2x5/8	A36	0.00	0.00	0.00
165	267	216		PL 3-1/2x5/8	A36	0.00	0.00	0.00
166	214	268		PL 3-1/2x5/8	A36	0.00	0.00	0.00
167	268	215		PL 3-1/2x5/8	A36	0.00	0.00	0.00

168	267	211	PL 11-1/4x5/8	A36	11.25	9.25	0.00
169	268	213	PL 11-1/4x5/8	A36	11.25	9.25	0.00
170	277	276	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
171	303	302	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
172	309	308	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
173	301	300	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
174	279	278	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
175	280	281	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
176	282	283	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
177	284	285	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
178	286	271	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
179	287	273	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
180	288	274	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
181	289	275	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
182	290	291	RndBar 5_8	A36	0.00	0.00	0.00
183	292	293	RndBar 5_8	A36	0.00	0.00	0.00
184	294	295	RndBar 5_8	A36	0.00	0.00	0.00
185	296	297	RndBar 5_8	A36	0.00	0.00	0.00
186	294	297	RndBar 3_4	A36	0.00	0.00	0.00
187	295	296	RndBar 3_4	A36	0.00	0.00	0.00
188	291	292	RndBar 3_4	A36	0.00	0.00	0.00
189	290	293	RndBar 3_4	A36	0.00	0.00	0.00
190	298	299	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
191	286	304	PL 3-1/2x5/8	A36	0.00	0.00	0.00
192	289	305	PL 3-1/2x5/8	A36	0.00	0.00	0.00
193	288	306	PL 3-1/2x5/8	A36	0.00	0.00	0.00
194	287	307	PL 3-1/2x5/8	A36	0.00	0.00	0.00
205	271	326	PL 3-1/2x5/8	A36	0.00	0.00	0.00
206	326	275	PL 3-1/2x5/8	A36	0.00	0.00	0.00
207	273	327	PL 3-1/2x5/8	A36	0.00	0.00	0.00
208	327	274	PL 3-1/2x5/8	A36	0.00	0.00	0.00
209	326	270	PL 11-1/4x5/8	A36	11.25	9.25	0.00
210	327	272	PL 11-1/4x5/8	A36	11.25	9.25	0.00
213	331	330	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
216	334	335	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
62	0.00	2	0.2588	0.00	0.9659
63	0.00	2	0.2588	0.00	0.9659
64	0.00	2	0.2588	0.00	0.9659
65	0.00	2	0.2588	0.00	0.9659
66	0.00	2	0.2588	0.00	0.9659
94	0.00	2	-0.866	0.00	-0.50
95	0.00	2	-0.866	0.00	-0.50
96	0.00	2	-0.866	0.00	-0.50
97	0.00	2	-0.866	0.00	-0.50
107	90.00	0	0.00	0.00	0.00
108	90.00	0	0.00	0.00	0.00
109	90.00	0	0.00	0.00	0.00
110	90.00	0	0.00	0.00	0.00
123	90.00	0	0.00	0.00	0.00
124	90.00	0	0.00	0.00	0.00
125	90.00	0	0.00	0.00	0.00

126	90.00	0	0.00	0.00	0.00
127	90.00	0	0.00	0.00	0.00
128	90.00	0	0.00	0.00	0.00
129	315.00	0	0.00	0.00	0.00
130	315.00	0	0.00	0.00	0.00
131	315.00	0	0.00	0.00	0.00
132	315.00	0	0.00	0.00	0.00
133	315.00	0	0.00	0.00	0.00
141	0.00	2	0.00	0.00	1.00
142	0.00	2	0.00	0.00	1.00
143	0.00	2	0.00	0.00	1.00
144	0.00	2	0.00	0.00	1.00
150	90.00	0	0.00	0.00	0.00
151	90.00	0	0.00	0.00	0.00
152	90.00	0	0.00	0.00	0.00
153	90.00	0	0.00	0.00	0.00
164	90.00	0	0.00	0.00	0.00
165	90.00	0	0.00	0.00	0.00
166	90.00	0	0.00	0.00	0.00
167	90.00	0	0.00	0.00	0.00
168	90.00	0	0.00	0.00	0.00
169	90.00	0	0.00	0.00	0.00
170	0.00	2	-0.9659	0.00	-0.2588
171	0.00	2	-0.9659	0.00	-0.2588
172	0.00	2	-0.9659	0.00	-0.2588
173	0.00	2	-0.9659	0.00	-0.2588
174	0.00	2	-0.9659	0.00	-0.2588
182	0.00	2	0.866	0.00	-0.50
183	0.00	2	0.866	0.00	-0.50
184	0.00	2	0.866	0.00	-0.50
185	0.00	2	0.866	0.00	-0.50
191	90.00	0	0.00	0.00	0.00
192	90.00	0	0.00	0.00	0.00
193	90.00	0	0.00	0.00	0.00
194	90.00	0	0.00	0.00	0.00
205	90.00	0	0.00	0.00	0.00
206	90.00	0	0.00	0.00	0.00
207	90.00	0	0.00	0.00	0.00
208	90.00	0	0.00	0.00	0.00
209	90.00	0	0.00	0.00	0.00
210	90.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
98	0.00	-3.50	0.00	0.00	3.50	0.00
99	0.00	3.50	0.00	0.00	-3.50	0.00
100	0.00	3.50	0.00	0.00	-3.50	0.00
101	0.00	-3.50	0.00	0.00	3.50	0.00
127	0.00	-0.625	0.00	0.00	-0.625	0.00
128	0.00	-0.625	0.00	0.00	-0.625	0.00
145	0.00	-3.50	0.00	0.00	3.50	0.00
146	0.00	3.50	0.00	0.00	-3.50	0.00
147	0.00	3.50	0.00	0.00	-3.50	0.00
148	0.00	-3.50	0.00	0.00	3.50	0.00

168	0.00	-0.625	0.00	0.00	-0.625	0.00
169	0.00	-0.625	0.00	0.00	-0.625	0.00
186	0.00	-3.50	0.00	0.00	3.50	0.00
187	0.00	3.50	0.00	0.00	-3.50	0.00
188	0.00	3.50	0.00	0.00	-3.50	0.00
189	0.00	-3.50	0.00	0.00	3.50	0.00
209	0.00	-0.625	0.00	0.00	-0.625	0.00
210	0.00	-0.625	0.00	0.00	-0.625	0.00

Hinges

	Node-J				Node-K						
Member	**M33**	**M22**	**V3**	**V2**	**M33**	**M22**	**V3**	**V2**	**TOR**	**AXL**	**Axial rigidity**
87	1	1	0	0	0	0	0	0	0	0	Full
99	0	0	0	0	0	0	0	0	0	0	Tension only
101	0	0	0	0	0	0	0	0	0	0	Tension only
102	1	1	0	0	0	0	0	0	0	0	Full
107	1	1	0	0	0	0	0	0	0	0	Full
108	1	1	0	0	0	0	0	0	0	0	Full
109	1	1	0	0	0	0	0	0	0	0	Full
110	1	1	0	0	0	0	0	0	0	0	Full
134	1	1	0	0	0	0	0	0	0	0	Full
146	0	0	0	0	0	0	0	0	0	0	Tension only
148	0	0	0	0	0	0	0	0	0	0	Tension only
149	1	1	0	0	0	0	0	0	0	0	Full
150	1	1	0	0	0	0	0	0	0	0	Full
151	1	1	0	0	0	0	0	0	0	0	Full
152	1	1	0	0	0	0	0	0	0	0	Full
153	1	1	0	0	0	0	0	0	0	0	Full
175	1	1	0	0	0	0	0	0	0	0	Full
187	0	0	0	0	0	0	0	0	0	0	Tension only
189	0	0	0	0	0	0	0	0	0	0	Tension only
190	1	1	0	0	0	0	0	0	0	0	Full
191	1	1	0	0	0	0	0	0	0	0	Full
192	1	1	0	0	0	0	0	0	0	0	Full
193	1	1	0	0	0	0	0	0	0	0	Full
194	1	1	0	0	0	0	0	0	0	0	Full

EXHIBIT 3

TOWN OF OXFORD

S.B. Church Memorial Town Hall
486 Oxford Road, Oxford, Connecticut 06478-1298

Building Department

APPLICATION FOR BUILDING PERMIT

(OFFICE USE ONLY)

Estimated Cost of Construction (labor & material) : 170,000.00

Date 11/21/00
Building Permit # B-00-280
Permit Use Communication Tower
Square Foot Living Area —

Permit Fee : 1208.00
State Education Fee: 27.20
Other Fees: —
TOTAL FEE : 1235.20

(Please Print or Type All Entries)

1. 106 WILLENBROCK ROAD — 18-29-21-5
   Property Location Street Address — Map # Block # Lot #
2. WILLENBROCK 4/5 LLC
   Owner's Name (As it appears in land records)
3. 339 CHRISTIAN ST. — OXFORD — CT — 06478
   Street Address — Town — State — Zip
4. Home Phone # — Work Phone # — Fax # — Mobile #
5. SBA TOWERS, INC. & SPRINT PCS — License #
   Applicant's Name (If other than Owner)
6. 80 EASTERN BLVD. — GLASTONBURY — CT — 06033
   Street Address — Town — State — Zip
7. Home Phone # — 860 659-9101 — 860 659-9140 — Mobile #
   Work Phone # — Fax #

PURPOSE OF THIS PERMIT : [X] New [ ] Addition [ ] Alteration [ ] Pool [ ] Other

To Be Filled Out By Building Official

Complete Set of Blueprints (necessary for application) ____ ✓ 100 year flood plain ___yes ___no

Type of Work: **RESIDENTIAL** ____ **COMMERCIAL** ✓ **INDUSTRIAL** ____

Plan Take-off: Footing Size ____ # of Baths ____ Rafter Size ____ per Plans.
Footing Drain ____ # of Bedrooms ____ Rafter Span ____
Wall Size ____ Garage Size ____

Joist Size: Floor ____ **Wall Stud Size:** Interior ____ **Insulation:** Ceiling ____
Ceiling ____ Exterior ____ Wall ____
Floor ____

Swimming Pool Size ____ AG / IG Deck Size ____ Shed/Barn Size ____

****

CERTIFICATION: I hereby certify that: ___ I am the owner, X I am the agent for the owner of the property and we agree to conform to all applicable laws, regulations and ordinances. All information contained within is true and accurate to the best of my knowledge and belief.

EDWARD G. DUPONT — Print Name
Edward G. DuPont — Signature of Owner or Agent — 11/16/00 Date

Building Official — 11/21/00 Date

NOTE: This permit is only good for two years and does not cover any Mechanical permits needed (e.g. Plumbing, Heating or Electrical).

EXHIBIT 4

Town of Oxford
Property Listing Report

Parcel ID 18/29/21-5

Account I0176800

Property Information

Owner	TOWER BUSINESS PARK LLC
Address	106 WILLENBROCK RD
Mailing Address	15 BATES PLACE DANBURY , CT 06810
Land Use	- Industrial
Land Class	I

Census Tract	R 4
Neighborhood	C06
Zoning	IND
Acreage	9.8
Utilities	
Lot Setting/ Desc	/

Photo

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

	Appraised	Assessed
Buildings	642800	450000
Outbuildings	20200	14100
Improvements	664800	465400
Extras	1800	1300
Land	420000	294000
Total	1084800	759400
Previous		

Construction Details

Year Built	
Stories	1.00
Building Style	Pre-Eng Warehs
Building Use	Ind/Comm
Building Condition	Average +20
Total Rooms	
Bedrooms	
Full Bathrooms	0
Half Bathrooms	
Bath Style	n/a
Kitchen Style	n/a
Roof Style	Gable
Roof Cover	Enam Mtl Shing

EXTERIOR WALLS:	
Primary	Pre-finsh Metl
Secondary	
INTERIOR WALLS:	
Primary	Minim/Masonry
Secondary	
FLOORS:	
Primary	Concr-Finished
Secondary	
HEATING/AC:	
Heating Type	Hot Air-no Duc
Heating Fuel	Gas
AC Type	Partial

BUILDING AREA:	
Effective Building Area	
Gross Building Area	
Total Living Area	

SALES HISTORY:	
Sale Date	10/24/2006
Sale Price	0
Book/ Page	319/1244

Report Created On 6/30/2020

Town of Oxford
Property Listing Report

Parcel ID 18/29/21-5/CELL

Account I017680C

Property Information

Owner	SBA TOWERS INC
Address	106 WILLENBROCK RD
Mailing Address	8051 CONGRESS AVE BOCA RATON , FL 33487-1307
Land Use	- Cell Tower
Land Class	I

Census Tract	
Neighborhood	100
Zoning	
Acreage	0
Utilities	
Lot Setting/ Desc	/

Photo

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

	Appraised	Assessed
Buildings	0	0
Outbuildings	867600	607300
Improvements	867600	607300
Extras	0	0
Land	0	0
Total	867600	607300
Previous		

Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Total Rooms	
Bedrooms	
Full Bathrooms	0
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

EXTERIOR WALLS:	
Primary	
Secondary	
INTERIOR WALLS:	
Primary	
Secondary	
FLOORS:	
Primary	
Secondary	
HEATING/AC:	
Heating Type	
Heating Fuel	
AC Type	

BUILDING AREA:

Effective Building Area	
Gross Building Area	
Total Living Area	

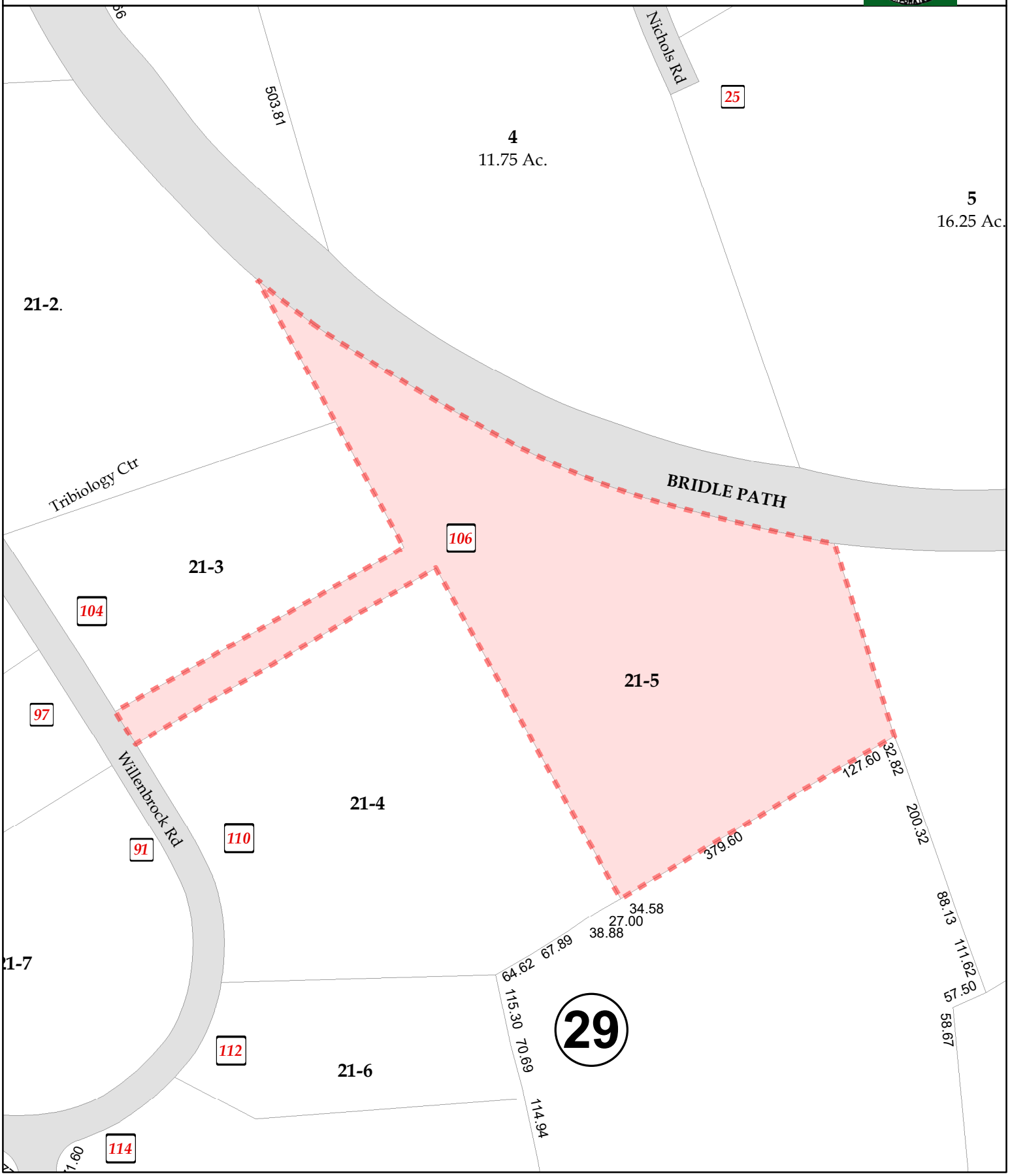
SALES HISTORY:

Sale Date	10/1/2010
Sale Price	0
Book/ Page	000/ 000

Report Created On 6/30/2020

Town of Oxford, Connecticut - Assessment Parcel Map

Parcel: 18-29-21-5 **Location:** 106 WILLENBROCK RD



Approximate Scale: 1 inch = 200 feet

0 100 200 300 400 Feet

Map Produced: February 2020

EXHIBIT 5

Radio Frequency Emissions Analysis Report

AT&T

Site Name: **Oxford - NW**

106 Willenbrock Road
Oxford, CT 06478
June 25, 2020

Site Compliance Summary	
Compliance Status:	**Compliant**
Site total MPE% of FCC general population allowable limit:	**0.104434%**

750 West Center St. Suite 301 | West Bridgewater, MA 02379

June 25, 2020
AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 01701

Emissions Analysis for Site: **Oxford - NW**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility to be located on a **Monopole** near **106 Willenbrock Road, Oxford CT 06478** for the purpose of determining whether the emissions from the proposed facility are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 1900 MHz (PCS) and 5 GHz (B46) bands is 1000 $\mu W/cm^2$.

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

Additional details can be found in FCC OET 65.

CALCULATION FORMULAS

MODELING

RoofMasterTM employs several power density prediction models based on the computational approaches set forth in the Federal Communications Commission's Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields, OET Bulletin 65. This guideline utilizes several antenna and operational parameters in calculating the power density contributions from each emitter at specified points throughout the study space. RoofMasterTM enables antennas to be fully defined in site-specific aspects as well as through the use of a library of manufacturer data. The parameters include:

- Antenna model
- Radiation patterns
- Aperture length
- Gain
- Beam width
- Antenna radiation center
- Azimuth
- Mechanical downtilt
- Location Frequency
- Power into antenna

THE CYLINDRICAL MODEL IMPLEMENTATION (Sula9)

In OET-65, the Cylindrical Model is presented as an approach to determine the spatially averaged power density in the near field directly in front of an antenna. In order to implement this model in all directions, RoofMasterTM utilizes the antenna manufacturer horizontal pattern data. Additionally, RoofMasterTM incorporates factors that reduce the power density by the inverse square of horizontal and vertical distance beyond the near field region.

Power density is calculated as follows:

$$S = \left(\left(\frac{360}{Beamwidth} \right) \frac{P_{in} G_H H_r V_r}{2\pi Rh} \right) \frac{\mu W}{cm^2}$$

- S is the spatially averaged power density value
- R is the horizontal distance meters to the study point
- h is the aperture length in meters
- Pin is power into the antenna input port in Watts
- RoofMasterTM Implementation:
  - GH is gain offset to study point as specified in manufacturer horizontal pattern
  - Pin is adjusted by the portion of the antenna aperture in the 0-6 ft vertical study zone
  - Hr accounts for 1/R2 Far Field roll off which starts at 2xh
  - Vr accounts for 1/ (vertical distance)2 roll off from antenna bottom to the top of the 0- 6ft study zone (or antenna top to bottom of 0-6ft study zone)

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

RRH #	Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
1	UMTS	850	1	40
2	LTE	700	4	40
2	LTE	1900	4	40
3	LTE	700	2	40
3	LTE	850	2	40
3	LTE	2100	4	40
3	5G	850	2	40

Table 1: Channel Data Table

Sector	Antenna Number	Frequency	Antenna Make / Model	Antenna Centerline (ft)
A	1	850	POWERWAVE 7770 00	117
A	2	700	CCI OPA65R-BU6D	117
A	2	1900	CCI OPA65R-BU6D	117
A	3	700	CCI DMP65R-BU6D	117
A	3	850	CCI DMP65R-BU6D	117
A	3	2100	CCI DMP65R-BU6D	117
A	3	850	CCI DMP65R-BU6D	117
B	4	850	POWERWAVE 7770 00	117
B	5	700	CCI OPA65R-BU6D	117
B	5	1900	CCI OPA65R-BU6D	117
B	6	700	CCI DMP65R-BU6D	117
B	6	850	CCI DMP65R-BU6D	117
B	6	2100	CCI DMP65R-BU6D	117
B	6	850	CCI DMP65R-BU6D	117
C	7	850	POWERWAVE 7770 00	117
C	8	700	CCI OPA65R-BU6D	117
C	8	1900	CCI OPA65R-BU6D	117
C	9	700	CCI DMP65R-BU6D	117
C	9	850	CCI DMP65R-BU6D	117
C	9	2100	CCI DMP65R-BU6D	117
C	9	850	CCI DMP65R-BU6D	117

Table 2: Antenna Data

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

RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power (W)	ERP (W)	MPE %
AT&T 1	POWERWAVE 7770 00	850	11.35	117.0	1	40	545.83	0.000055313
AT&T 2	CCI OPA65R-BU6D	700	11.75	117.0	4	40	2393.9	0.000022008
AT&T 2	CCI OPA65R-BU6D	1900	15.25	117.0	4	40	5359.4	0.000009338
AT&T 3	CCI DMP65R-BU6D	700	11.65	117.0	2	40	1169.7	0.000029398
AT&T 3	CCI DMP65R-BU6D	850	11.35	117.0	2	40	1091.6	0.000020850
AT&T 3	CCI DMP65R-BU6D	2100	15.25	117.0	4	40	5359.4	0.000011322
AT&T 3	CCI DMP65R-BU6D	850	11.35	117.0	2	40	1091.6	0.000020850
AT&T 4	POWERWAVE 7770 00	850	11.35	117.0	1	40	545.83	0.000060650
AT&T 5	CCI OPA65R-BU6D	700	11.55	117.0	4	40	2286.2	0.000037455
AT&T 5	CCI OPA65R-BU6D	1900	15.45	117.0	4	40	5612.0	0.000011505
AT&T 6	CCI DMP65R-BU6D	700	11.75	117.0	2	40	1196.9	0.000026760
AT&T 6	CCI DMP65R-BU6D	850	11.45	117.0	2	40	1117.0	0.000026571
AT&T 6	CCI DMP65R-BU6D	2100	15.25	117.0	4	40	5359.4	0.000024483
AT&T 6	CCI DMP65R-BU6D	850	11.45	117.0	2	40	1117.0	0.000026571
AT&T 7	POWERWAVE 7770 00	850	11.35	117.0	1	40	545.83	0.005405413
AT&T 8	CCI OPA65R-BU6D	700	11.75	117.0	4	40	2393.9	0.032551949
AT&T 8	CCI OPA65R-BU6D	1900	15.25	117.0	4	40	5359.4	0.013748777
AT&T 9	CCI DMP65R-BU6D	700	11.55	117.0	2	40	1143.1	0.015835990
AT&T 9	CCI DMP65R-BU6D	850	11.35	117.0	2	40	1091.6	0.011572372
AT&T 9	CCI DMP65R-BU6D	2100	15.25	117.0	4	40	5359.4	0.013363613
AT&T 9	CCI DMP65R-BU6D	850	11.35	117.0	2	40	1091.6	0.011572372
	Site Total Composite MPE%							0.104434 %

Table 3: Antenna Inventory & Power Levels

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 4* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s).

Frequency Band	# of Channels	ERP W (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Technology	Allowable MPE ($\mu W/cm^2$)	Calculated Power Density
850	1	40	114.7	0.0003134	UMTS	567	0.000313442
700	4	40	114.0	0.0001027	LTE	467	0.000102703
1900	4	40	114.0	0.0000934	LTE	1000	0.000093382
700	2	40	114.0	0.0001372	LTE	467	0.000137190
850	2	40	114.0	0.0001182	LTE	567	0.000118152
2100	4	40	114.0	0.0001132	LTE	1000	0.000113220
850	2	40	114.0	0.0001182	5G	567	0.000118152
						Alpha Total:	**0.000996240**
850	1	40	114.7	0.0003437	UMTS	567	0.000343682
700	4	40	114.0	0.0001748	LTE	467	0.000174792
1900	4	40	114.0	0.0001151	LTE	1000	0.000115053
700	2	40	114.0	0.0001249	LTE	467	0.000124880
850	2	40	114.0	0.0001506	LTE	567	0.000150569
2100	4	40	114.0	0.0002448	LTE	1000	0.000244826
850	2	40	114.0	0.0001506	5G	567	0.000150569
						Beta Total:	**0.001304371**
850	1	40	114.7	0.0306307	UMTS	567	0.030630674
700	4	40	114.0	0.1519091	LTE	467	0.151909097
1900	4	40	114.0	0.1374878	LTE	1000	0.137487767
700	2	40	114.0	0.0739013	LTE	467	0.073901288
850	2	40	114.0	0.0655768	LTE	567	0.065576773
2100	4	40	114.0	0.1336361	LTE	1000	0.133636127
850	2	40	114.0	0.0655768	5G	567	0.065576773
						Gamma Total:	**0.658718497**
						AT&T Total:	**0.661019108**

Table 4: AT&T Maximum MPE Power Values

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

Carrier	MPE Value (%)
AT&T:	**0.104434**

Site Total:	**0.104434%**
Site Compliance Status:	**Compliant**

The anticipated composite MPE value for this site assuming all carriers present is **0.104434%** of the allowable FCC established general population limit sampled at the ground level.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Dane Folie

Dane Folie
RF Compliance Consultant
Centerline Communications, LLC
750 West Center St. Suite 301
West Bridgewater, MA 02379

EXHIBIT 6

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

T + 561.995.7670
F + 561.995.7626

sbasite.com

Structural Analysis Report

Client: AT&T

Client Site ID / Name: CT5658 / Oxford NW
Application #: 134090, v1

SBA Site ID / Name: CT03109-S / Oxford 3, CT

150 ft Monopole

106 Willenbrock Road
Oxford, CT 06478-1031
Lat: 41.465106, Long: -73.146556

Project number: CT03109-ATT-061820

Analysis Results

Tower	37.8%	Pass
Foundation	28.0%	Pass

Change in tower stress due to mount modification / replacement	1.8%

Prepared by:

Daniel Yohannes,
Structural Engineer II
561-322-7936
dyohannes@sbasite.com

Reviewed by:

Nitesh Ahuja, P.E.
Director of Engineering
561-226-9452
nahuja@sbasite.com

June 24, 2020

Table of Contents

Introduction

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

Table 1 List of Documents Used

Item	Document
Tower design/drawings	Paul J. Ford, Job # 29200-1055, dated 7/19/2000
Foundation drawings	Paul J. Ford, Job # 29200-1055, dated 8/7/2000
Geotechnical report	Jaworski, Report # 00248G, dated 07/14/2000
Modification drawings	N/A
Latest SA	FDH, Project # 1462GH1400, dated 04/09/2014

Analysis Criteria

Table 2 Code Related Data

Jurisdiction (State/County/City)	Connecticut/NEW HAVEN/Oxford
Governing Codes	ANSI/TIA/EIA 222-G, 2018 Connecticut State Building Code, 2015 IBC
Basic Wind Speed (3-Sec gust)	97.0 mph (Ultimate Wind Speed: 125 mph)
Wind Speed with Ice (3-Sec gust)	50 mph
Service Wind Speed (3-Sec gust)	60 mph
Ice Thickness	0.75”
Structural Class*	II
Exposure Category	C
Topographic Category	1
Crest Height	0 ft
Ground Elevation	554.26 ft.
Seismic Parameter S_s**	0.186
Seismic Parameter S_1	0.062

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

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

Appurtenance Loading

Existing Loading:

Table 3 Existing Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	147.0	3	RFS - APXVSPP18-C-A20 - Panel	Low Profile Platform	(4) 1-1/4"	Sprint
2		3	RFS - APXVTM14-C-120 - Panel			
3		3	Alcatel Lucent - TD-RRH8x20-25			
4		3	Alcatel Lucent - 1900MHz RRU			
5		3	Alcatel Lucent - 800 MHz RRU			
6		3	Alcatel Lucent - 800 MHz Filter			
7		4	RFS - ACU-A20-N RET			
8	137.0	3	Antel BXA-70063/6CF - Panel	Low Profile Platform	(12) 1 5/8" (1) 1 5/8" Hybrid	Verizon
9		3	Antel BXA-171063-8BF - Panel			
10		3	Andrew HBX-6517DS - Panel			
11		3	Andrew LNX-6514DS - Panel			
12		3	Alcatel Lucent RRH2x40-AWS			
13		6	RFS FD9R6004/2C-3L			
14		1	RFS DB-T1-6Z-8AB-0Z			
15		1	GPS			
16	119.5	6	Ericsson RRU11	(1) Collar Mount	(9) 1 5/8" (2) 1/2" DC	AT&T
17		1	Raycap DC6-48-60-18-8F			
18	117.0	3	Powerwave 7770 - Panel	(3) T-Arm		
19		3	KMW AM-X-CD-16-65-00T-RET - Panel			
26		6	Powerwave - LGP21401			
28	80.0	1	GPS	(1) Side Arm	(1) 1/2"	Sprint

Proposed Loading:

Information pertaining to proposed antennas and transmission lines were based upon the Application #:134090, v1 from AT&T and is listed in Table 4.

Table 4 Proposed Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
18	117.0	3	Powerwave - 7770 - Panel	(3) Sector Mount (SitePro1 VFA12-M3-WLL)	(9) 1 5/8" (1) 2" Conduit* (1) 2" Conduit** (2) 1/2" DC (1) 3/8" Fiber	AT&T
20		3	CCI - OPA65R-BU6DA - Panel			
21		3	CCI - DMP65R-BU6DA - Panel			
22		6	Powerwave - LGP21401			
23		3	Ericsson - 4449 B5/B12			
24		3	Ericsson - 8843 B2/B66A			
25		3	Ericsson - RRUS 4478 B14			
26		1	Raycap - DC6-48-60-18-8F			
27		1	Raycap - DC9-48-60-24-PC16-EV			

** Housing (2) 3/4" DC Power*
*** Housing (1) 3/4" DC Power, (1) 3/8" Fiber*

Analysis Results

Tower

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

Table 5 Tower Analysis Summary

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	33.8%	30.4%	37.8%
Pass/Fail	Pass	Pass	Pass

Foundation

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

Table 6 Foundation Analysis Summary

Structural Component	Max Usage (%)	Analysis Result
Foundation	28.0%	Pass

Conclusions

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

Installation Requirements

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

Assumptions and Limitations

Assumptions

This analysis was completed based on the following assumptions:

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

Limitations

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

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

Appendix

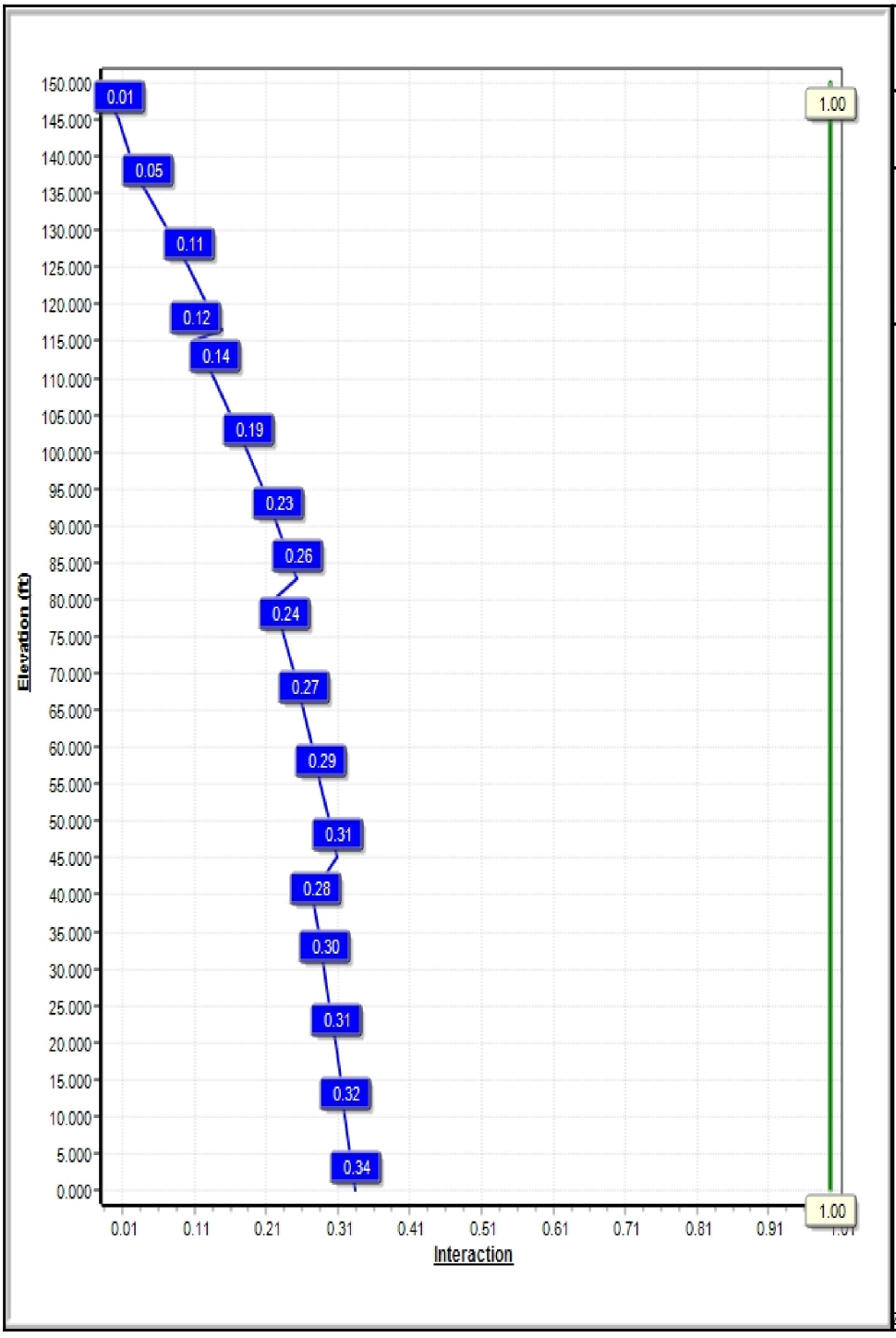
Usage Diagram - Max Ratio 33.80% at 0.0ft

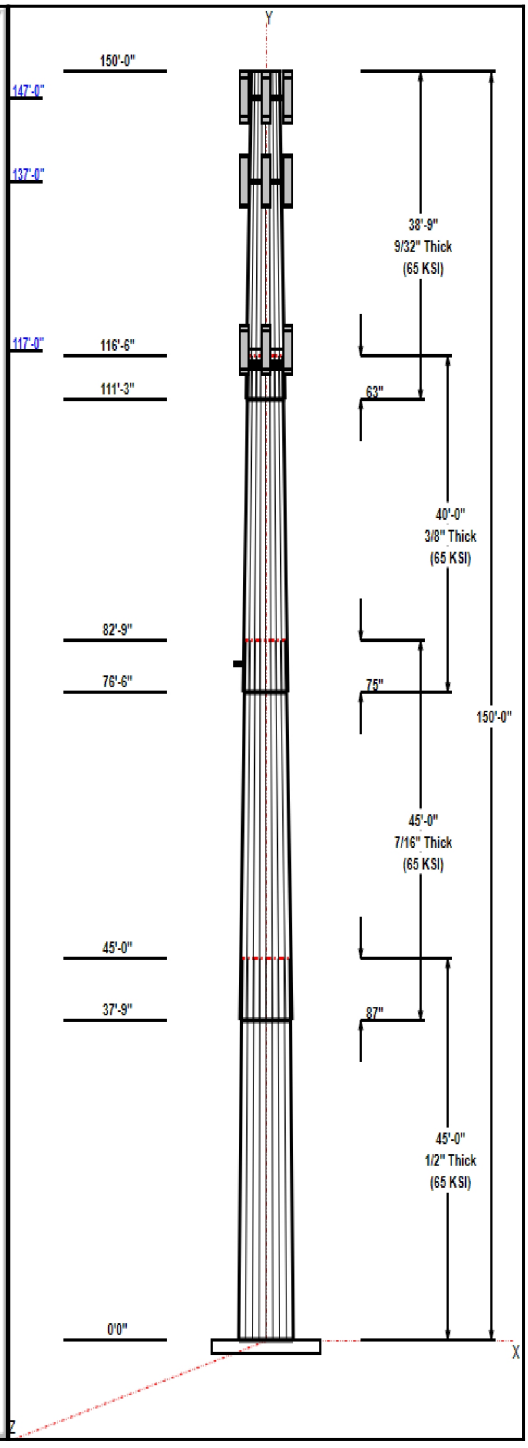
Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT	**Exposure:**	C	
Height:	150.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 97 mph Wind

Iterations: 22





Structure: CT03109-S

Type: Tapered
Site Name: Oxford 3, CT
Height: 150.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.25370

6/24/2020

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	45.00	55.55	66.97	0.500		0.25370	65
2	45.00	46.85	58.27	0.438	Slip	0.25370	65
3	40.00	39.04	49.19	0.375	Slip	0.25370	65
4	38.75	31.10	40.93	0.281	Slip	0.25370	65

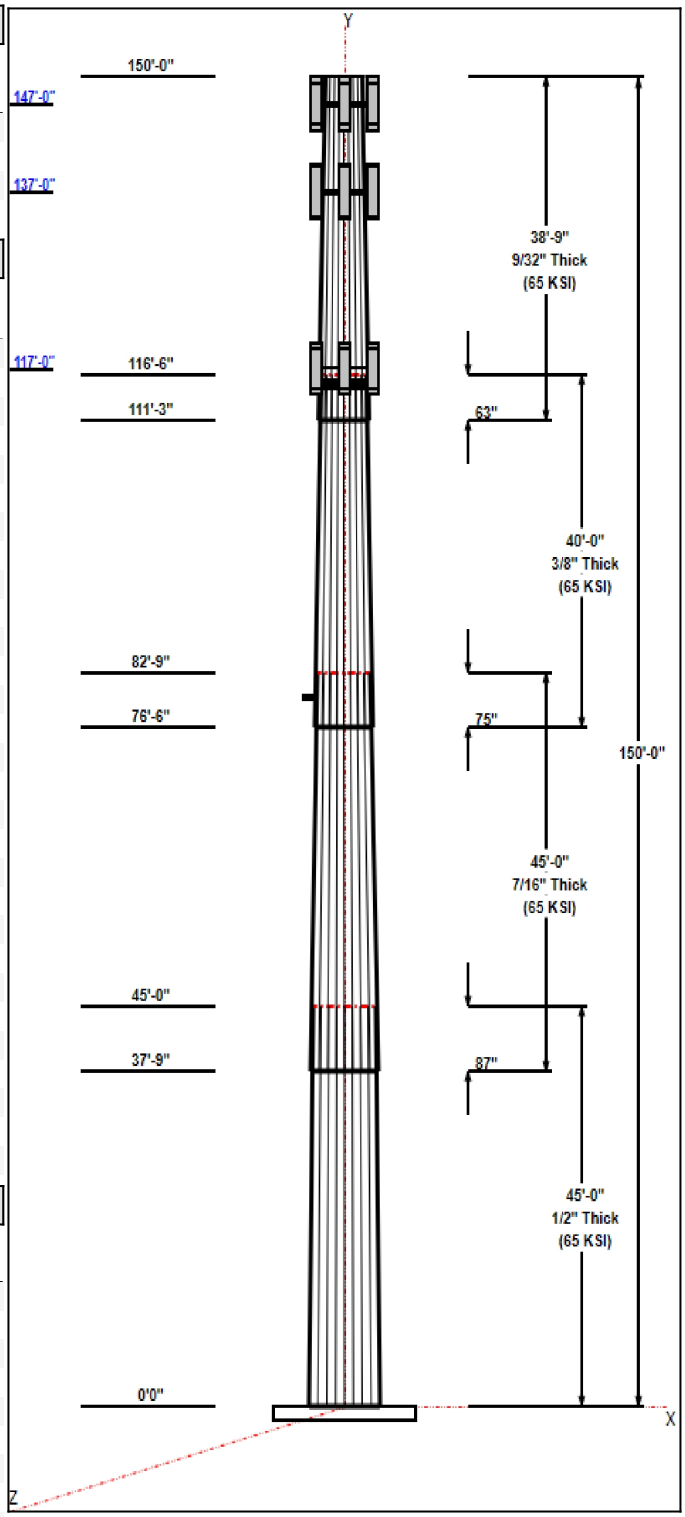
Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
147.00	147.00	1	Low Profile Platform	Sprint
147.00	147.00	3	RFS - APXVSPP18-C-A20	Sprint
147.00	147.00	3	RFS - APXVTM14-C-120	Sprint
147.00	147.00	3	Alcatel Lucent -	Sprint
147.00	147.00	3	Alcatel Lucent - 1900MHz	Sprint
147.00	147.00	3	Alcatel Lucent - 800 MHz	Sprint
147.00	147.00	3	Alcatel Lucent - 800 MHz	Sprint
147.00	147.00	4	RFS - ACU-A20-N	Sprint
137.00	137.00	1	Low Profile Platform	Verizon
137.00	137.00	3	Antel BXA 70063/6CF	Verizon
137.00	137.00	3	Antel BXA - 171063-8BF	Verizon
137.00	137.00	3	Andrew HBX-6517DS	Verizon
137.00	137.00	3	Andrew LNX-6514DS	Verizon
137.00	137.00	3	Alcatel Lucent	Verizon
137.00	137.00	6	RFS FD9R6004/2C-3L	Verizon
137.00	137.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
137.00	137.00	1	GPS	Verizon
117.00	117.00	3	Powerwave 7770.00	AT&T
117.00	117.00	3	Sector Mount (SitePro1	AT&T
117.00	117.00	3	CCI - OPA65R-BU6DA	AT&T
117.00	117.00	3	CCI - DMP65R-BU6DA	AT&T
117.00	117.00	6	Powerwave - LGP21401	AT&T
117.00	117.00	3	Ericsson - 4449 B5/B12	AT&T
117.00	117.00	3	Ericsson - 8843	AT&T
117.00	117.00	3	Ericsson - RRUS 4478 B14	AT&T
117.00	117.00	1	Raycap - DC6-48-60-18-8F	AT&T
117.00	117.00	1	Raycap -	AT&T
80.00	80.00	1	GPS	Sprint
80.00	80.00	1	Side Arm	Sprint

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	150.00	Outside	Safety Cable	
0.00	150.00	Outside	Step bolts	
0.00	147.00	Inside	1-1/4"	Sprint
0.00	137.00	Inside	1 5/8" Coax	Verizon
0.00	137.00	Inside	1 5/8" Hybrid	Venoco
0.00	117.00	Inside	1 5/8" Coax	AT&T
0.00	117.00	Inside	1/2" DC	AT&T
0.00	117.00	Inside	2" Conduit	AT&T
0.00	117.00	Inside	3/8" Fiber	AT&T
0.00	80.00	Inside	1/2"	Sprint

Anchor Bolts



Qty	Specifications	Grade (ksi)	Arrangement
28	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	77.0	55.0	Clipped

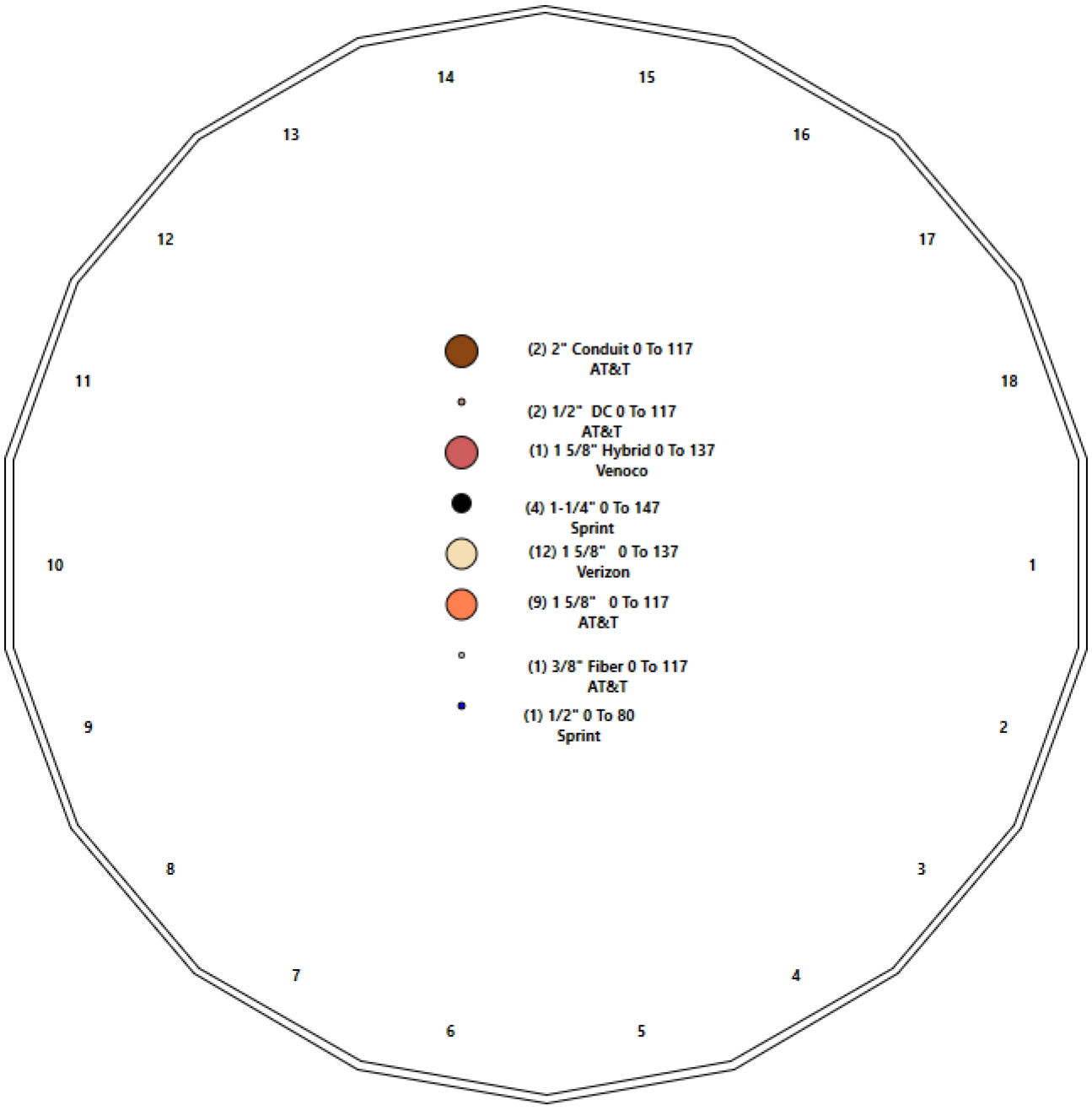
Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 97 mph Wind	3223.0	32.2	58.8
0.9D + 1.6W 97 mph Wind	3208.4	32.2	44.1
1.2D + 1.0Di + 1.0Wi 50 mph Wind	928.0	9.5	83.2
1.2D + 1.0E	215.0	2.0	58.8
0.9D + 1.0E	213.9	2.0	44.1
1.0D + 1.0W 60 mph Wind	768.5	7.7	49.0

Structure: CT03109-S - Coax Line Placement

Type:
Site Name: Oxford 3, CT
Height: 150.00 (ft)

6/24/2020



Shaft Properties

Structure:	CT03109-S		**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 1

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	45.000	0.5000	65		0.00	14,765
2	18	45.000	0.4375	65	Slip	87.00	11,083
3	18	40.000	0.3750	65	Slip	75.00	7,086
4	18	38.750	0.2813	65	Slip	63.00	4,207
					Total Shaft Weight:		**37,140**

	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	66.97	0.00	105.4	58883.20	22.21	133.94	55.55	45.00	87.37	33455.8	18.18	111.1	0.253697
2	58.27	37.75	80.30	33930.60	22.07	133.18	46.85	82.75	64.45	17541.6	17.47	107.0	0.253697
3	49.19	76.50	58.10	17488.78	21.72	131.17	39.04	116.50	46.02	8691.70	16.95	104.1	0.253697
4	40.93	111.2	36.30	7578.36	24.25	145.52	31.10	150.00	27.52	3302.81	18.09	110.5	0.253697

Load Summary

Structure:	CT03109-S		**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 2

Discrete Appurtenances

				No Ice			Ice				
No.	**Elev (ft)**	**Description**	**Qty**	**Weight (lb)**	**CaAa (sf)**	**CaAa Factor**	**Weight (lb)**	**CaAa (sf)**	**CaAa Factor**	**Hor. Ecc. (ft)**	**Vert Ecc (ft)**
1	147.00	Low Profile Platform	1	2100.00	18.38	1.00	4022.41	31.313	1.00	0.00	0.00
2	147.00	RFS - APXVSPP18-C-A20	3	57.00	8.02	0.83	238.56	9.238	0.84	4.00	0.00
3	147.00	RFS - APXVTM14-C-120	3	56.00	6.34	0.79	216.02	7.451	0.80	4.00	0.00
4	147.00	Alcatel Lucent - TD-RRH8x20-25	3	70.00	4.05	0.69	163.83	4.826	0.75	4.00	0.00
5	147.00	Alcatel Lucent - 1900MHz RRU	3	44.00	3.80	0.88	152.94	5.187	0.89	4.00	0.00
6	147.00	Alcatel Lucent - 800 MHz RRU	3	53.00	2.49	0.92	126.81	3.631	0.93	4.00	0.00
7	147.00	Alcatel Lucent - 800 MHz Exter	3	8.80	0.67	0.69	24.84	0.994	0.75	4.00	0.00
8	147.00	RFS - ACU-A20-N	4	1.00	0.07	1.00	4.09	0.195	1.00	4.00	0.00
9	137.00	Low Profile Platform	1	928.00	23.03	1.00	2295.41	34.820	1.00	0.00	0.00
10	137.00	Antel BXA 70063/6CF	3	17.00	7.57	0.73	163.96	10.309	0.74	4.00	0.00
11	137.00	Antel BXA - 171063-8BF	3	10.50	2.94	0.84	75.45	4.583	0.85	4.00	0.00
12	137.00	Andrew HBX-6517DS	3	18.70	5.29	0.75	138.48	6.565	0.76	4.00	0.00
13	137.00	Andrew LNX-6514DS	3	33.10	8.09	0.80	206.23	10.860	0.80	4.00	0.00
14	137.00	Alcatel Lucent RRH2x40-AWS	3	44.00	2.52	0.82	104.18	3.732	0.83	4.00	0.00
15	137.00	RFS FD9R6004/2C-3L	6	3.10	0.36	1.00	11.05	0.799	1.00	4.00	0.00
16	137.00	RFS DB-T1-6Z-8AB-0Z	1	18.90	4.80	0.71	161.10	5.665	0.72	4.00	0.00
17	137.00	GPS	1	4.00	0.91	1.00	28.99	1.906	1.00	4.00	0.00
18	117.00	Powerwave 7770.00	3	35.00	5.50	0.73	166.12	6.537	0.74	4.00	0.00
19	117.00	Sector Mount (SitePro1	3	658.00	18.58	0.75	1150.88	50.210	0.75	1.50	0.00
20	117.00	CCI - OPA65R-BU6DA	3	60.20	12.71	0.72	333.46	14.138	0.73	3.00	0.00
21	117.00	CCI - DMP65R-BU6DA	3	79.40	12.71	0.72	439.82	14.138	0.73	3.00	0.00
22	117.00	Powerwave - LGP21401	6	19.00	1.29	1.00	51.86	2.105	1.00	3.00	0.00
23	117.00	Ericsson - 4449 B5/B12	3	71.00	1.97	0.86	125.05	2.525	0.87	3.00	0.00
24	117.00	Ericsson - 8843	3	72.00	1.64	0.91	119.31	2.145	0.92	3.00	0.00
25	117.00	Ericsson - RRUS 4478 B14	3	60.00	2.02	0.81	111.48	2.558	0.82	3.00	0.00
26	117.00	Raycap - DC6-48-60-18-8F	1	32.80	2.20	1.00	101.68	2.796	1.00	3.00	0.00
27	117.00	Raycap - DC9-48-60-24-PC16-EV	1	71.00	2.51	0.83	240.12	3.103	0.84	3.00	0.00
28	80.00	GPS	1	4.00	0.91	1.00	27.68	1.854	1.00	3.00	0.00
29	80.00	Side Arm	1	95.00	2.00	1.00	157.28	4.622	1.00	1.50	0.00
		Totals:	**78**	**7,733.40**			**19,600.81**				

Linear Appurtenances

Bottom Elev. (ft)	**Top Elev. (ft)**	**Description**	**Exposed Width**	**Exposed**
0.00	150.00	(1) Safety Cable	0.38	Outside
0.00	150.00	(1) Step bolts	0.63	Outside
0.00	147.00	(4) 1-1/4"	0.00	Inside
0.00	137.00	(12) 1 5/8" Coax	0.00	Inside
0.00	137.00	(1) 1 5/8" Hybrid	0.00	Inside
0.00	117.00	(9) 1 5/8" Coax	0.00	Inside
0.00	117.00	(2) 1/2" DC	0.00	Inside
0.00	117.00	(2) 2" Conduit	0.00	Inside
0.00	117.00	(1) 3/8" Fiber	0.00	Inside
0.00	80.00	(1) 1/2"	0.00	Inside

Shaft Section Properties

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 3	

Increment Length: **5 (ft)**

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.5000	66.970	105.484	58883.2	22.21	133.94	75.3	1731.	0.0
5.00		0.5000	65.702	103.471	55576.0	21.76	131.40	75.8	1666.	1777.6
10.00		0.5000	64.433	101.458	52395.0	21.31	128.87	76.3	1601.	1743.3
15.00		0.5000	63.165	99.445	49337.8	20.86	126.33	76.9	1538.	1709.1
20.00		0.5000	61.896	97.432	46401.9	20.42	123.79	77.4	1476.	1674.8
25.00		0.5000	60.628	95.419	43584.8	19.97	121.26	77.9	1415.	1640.6
30.00		0.5000	59.359	93.406	40884.1	19.52	118.72	78.4	1356.	1606.3
35.00		0.5000	58.091	91.393	38297.4	19.08	116.18	79.0	1298.	1572.1
37.75	Bot - Section 2	0.5000	57.393	90.286	36922.3	18.83	114.79	79.3	1267.	850.0
40.00		0.5000	56.822	89.380	35822.1	18.63	113.64	79.5	1241.	1299.6
45.00	Top - Section 1	0.4375	56.429	77.748	30795.0	21.33	128.98	0.0	0.0	2841.4
50.00		0.4375	55.160	75.986	28749.0	20.82	126.08	76.9	1026.	1307.8
55.00		0.4375	53.892	74.225	26795.8	20.31	123.18	77.5	979.3	1277.8
60.00		0.4375	52.623	72.464	24933.1	19.80	120.28	78.1	933.2	1247.9
65.00		0.4375	51.355	70.702	23158.8	19.29	117.38	78.7	888.2	1217.9
70.00		0.4375	50.086	68.941	21470.7	18.78	114.48	79.3	844.3	1187.9
75.00		0.4375	48.818	67.180	19866.7	18.26	111.58	79.9	801.5	1158.0
76.50	Bot - Section 3	0.4375	48.437	66.651	19401.6	18.11	110.71	80.1	788.9	341.5
80.00		0.4375	47.549	65.418	18344.6	17.75	108.68	80.5	759.9	1472.1
82.75	Top - Section 2	0.3750	47.602	56.209	15839.2	20.97	126.94	0.0	0.0	1137.5
85.00		0.3750	47.031	55.530	15271.8	20.70	125.42	77.0	639.6	427.8
90.00		0.3750	45.762	54.020	14059.7	20.11	122.03	77.8	605.1	931.9
95.00		0.3750	44.494	52.510	12913.5	19.51	118.65	78.5	571.6	906.3
100.00		0.3750	43.225	51.001	11831.4	18.91	115.27	79.2	539.1	880.6
105.00		0.3750	41.957	49.491	10811.5	18.32	111.88	79.9	507.5	854.9
110.00		0.3750	40.688	47.981	9851.9	17.72	108.50	80.6	476.9	829.2
111.25	Bot - Section 4	0.3750	40.371	47.604	9621.2	17.57	107.66	80.7	469.4	203.3
115.00		0.3750	39.420	46.471	8950.9	17.12	105.12	81.3	447.2	1057.9
116.50	Top - Section 3	0.2813	39.602	35.106	6857.6	23.41	140.78	0.0	0.0	416.1
117.00		0.2813	39.475	34.993	6791.5	23.33	140.33	74.0	338.9	59.6
120.00		0.2813	38.714	34.313	6403.5	22.86	137.63	74.5	325.8	353.7
125.00		0.2813	37.445	33.181	5790.1	22.06	133.12	75.5	304.6	574.2
130.00		0.2813	36.177	32.048	5217.2	21.27	128.61	76.4	284.0	554.9
135.00		0.2813	34.908	30.916	4683.4	20.47	124.10	77.3	264.3	535.6
137.00		0.2813	34.401	30.463	4480.6	20.15	122.29	77.7	256.5	208.9
140.00		0.2813	33.640	29.783	4187.4	19.68	119.59	78.3	245.2	307.5
145.00		0.2813	32.371	28.651	3727.6	18.88	115.08	79.2	226.8	497.1
147.00		0.2813	31.864	28.198	3553.6	18.56	113.27	79.6	219.7	193.4
150.00		0.2813	31.103	27.518	3302.8	18.09	110.57	80.1	209.2	284.4
										37140.4

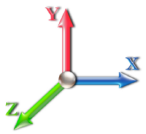
Wind Loading - Shaft

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 4	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	19.450	21.40	506.79	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	497.19	0.650	0.000	5.00	28.066	18.24	624.5	0.0	2133.1
10.00		1.00	0.85	19.450	21.40	487.59	0.650	0.000	5.00	27.530	17.89	612.6	0.0	2092.0
15.00		1.00	0.85	19.450	21.40	477.99	0.650	0.000	5.00	26.993	17.55	600.6	0.0	2050.9
20.00		1.00	0.90	20.638	22.70	482.48	0.650	0.000	5.00	26.456	17.20	624.6	0.0	2009.8
25.00		1.00	0.95	21.630	23.79	483.82	0.650	0.000	5.00	25.920	16.85	641.4	0.0	1968.7
30.00		1.00	0.98	22.477	24.72	482.88	0.650	0.000	5.00	25.383	16.50	652.7	0.0	1927.6
35.00		1.00	1.01	23.218	25.54	480.29	0.650	0.000	5.00	24.846	16.15	659.9	0.0	1886.5
37.75	Bot - Section 2	1.00	1.03	23.591	25.95	478.31	0.650	0.000	2.75	13.437	8.73	362.6	0.0	1020.1
40.00		1.00	1.04	23.880	26.27	476.45	0.650	0.000	2.25	11.039	7.18	301.6	0.0	1559.5
45.00	Top - Section 1	1.00	1.07	24.479	26.93	471.63	0.650	0.000	5.00	24.143	15.69	676.1	0.0	3409.6
50.00		1.00	1.09	25.029	27.53	473.51	0.650	0.000	5.00	23.606	15.34	675.9	0.0	1569.4
55.00		1.00	1.12	25.536	28.09	467.28	0.650	0.000	5.00	23.070	15.00	673.9	0.0	1533.4
60.00		1.00	1.14	26.008	28.61	460.48	0.650	0.000	5.00	22.533	14.65	670.4	0.0	1497.4
65.00		1.00	1.16	26.450	29.09	453.19	0.650	0.000	5.00	21.996	14.30	665.6	0.0	1461.5
70.00		1.00	1.17	26.866	29.55	445.45	0.650	0.000	5.00	21.460	13.95	659.5	0.0	1425.5
75.00		1.00	1.19	27.259	29.98	437.34	0.650	0.000	5.00	20.923	13.60	652.5	0.0	1389.6
76.50	Bot - Section 3	1.00	1.20	27.373	30.11	434.83	0.650	0.000	1.50	6.172	4.01	193.3	0.0	409.9
80.00	Appurtenance(s)	1.00	1.21	27.632	30.39	428.88	0.650	0.000	3.50	14.436	9.38	456.3	0.0	1766.5
82.75	Top - Section 2	1.00	1.22	27.829	30.61	424.09	0.650	0.000	2.75	11.158	7.25	355.2	0.0	1365.0
85.00		1.00	1.22	27.987	30.79	426.92	0.650	0.000	2.25	9.009	5.86	288.4	0.0	513.3
90.00		1.00	1.24	28.325	31.16	417.91	0.650	0.000	5.00	19.630	12.76	636.1	0.0	1118.3
95.00		1.00	1.25	28.650	31.51	408.64	0.650	0.000	5.00	19.093	12.41	625.8	0.0	1087.5
100.00		1.00	1.27	28.961	31.86	399.14	0.650	0.000	5.00	18.557	12.06	614.8	0.0	1056.7
105.00		1.00	1.28	29.260	32.19	389.42	0.650	0.000	5.00	18.020	11.71	603.2	0.0	1025.9
110.00		1.00	1.29	29.548	32.50	379.50	0.650	0.000	5.00	17.483	11.36	591.0	0.0	995.0
111.25	Bot - Section 4	1.00	1.29	29.618	32.58	376.99	0.650	0.000	1.25	4.287	2.79	145.3	0.0	243.9
115.00		1.00	1.30	29.826	32.81	369.40	0.650	0.000	3.75	12.838	8.34	438.0	0.0	1269.5
116.50	Top - Section 3	1.00	1.31	29.907	32.90	366.33	0.650	0.000	1.50	5.051	3.28	172.8	0.0	499.3
117.00	Appurtenance(s)	1.00	1.31	29.934	32.93	370.59	0.650	0.000	0.50	1.673	1.09	57.3	0.0	71.6
120.00		1.00	1.32	30.094	33.10	364.41	0.650	0.000	3.00	9.924	6.45	341.7	0.0	424.5
125.00		1.00	1.33	30.354	33.39	353.99	0.650	0.000	5.00	16.111	10.47	559.5	0.0	689.0
130.00		1.00	1.34	30.605	33.67	343.41	0.650	0.000	5.00	15.575	10.12	545.3	0.0	665.9
135.00		1.00	1.35	30.850	33.93	332.69	0.650	0.000	5.00	15.038	9.77	530.7	0.0	642.8
137.00	Appurtenance(s)	1.00	1.35	30.945	34.04	328.36	0.650	0.000	2.00	5.865	3.81	207.6	0.0	250.6
140.00		1.00	1.36	31.087	34.20	321.83	0.650	0.000	3.00	8.636	5.61	307.1	0.0	369.0
145.00		1.00	1.37	31.317	34.45	310.84	0.650	0.000	5.00	13.965	9.08	500.3	0.0	596.5
147.00	Appurtenance(s)	1.00	1.37	31.408	34.55	306.41	0.650	0.000	2.00	5.436	3.53	195.3	0.0	232.1
150.00		1.00	1.38	31.541	34.70	299.73	0.650	0.000	3.00	7.992	5.19	288.4	0.0	341.3
								Totals:	**150.00**			**18,407.9**		**44,568.5**

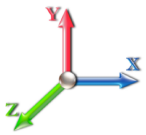
Discrete Appurtenance Forces

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 5	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	147.00	Alcatel Lucent -	3	31.408	34.548	0.55	0.80	6.71	252.00	5.348	0.000	370.73	1239.2	0.00
2	147.00	Low Profile Platform	1	31.408	34.548	1.00	1.00	18.38	2520.00	0.000	0.000	1016.00	0.00	0.00
3	147.00	RFS - APXVSPP18-C-A20	3	31.408	34.548	0.66	0.80	15.98	205.20	5.348	0.000	883.10	2951.8	0.00
4	147.00	RFS - APXVTM14-C-120	3	31.408	34.548	0.63	0.80	12.02	201.60	5.348	0.000	664.47	2221.0	0.00
5	147.00	RFS - ACU-A20-N	4	31.408	34.548	0.80	0.80	0.22	4.80	5.348	0.000	12.38	41.39	0.00
6	147.00	Alcatel Lucent - 1900MHz	3	31.408	34.548	0.70	0.80	8.03	158.40	5.348	0.000	443.63	1482.8	0.00
7	147.00	Alcatel Lucent - 800 MHz	3	31.408	34.548	0.74	0.80	5.50	190.80	5.348	0.000	303.91	1015.8	0.00
8	147.00	Alcatel Lucent - 800 MHz	3	31.408	34.548	0.55	0.80	1.11	31.68	5.348	0.000	61.33	205.01	0.00
9	137.00	GPS	1	30.945	34.040	1.00	1.00	0.91	4.80	5.455	0.000	49.56	168.99	0.00
10	137.00	RFS DB-T1-6Z-8AB-0Z	1	30.945	34.040	0.57	0.80	2.73	22.68	5.455	0.000	148.49	506.30	0.00
11	137.00	RFS FD9R6004/2C-3L	6	30.945	34.040	0.80	0.80	1.73	22.32	5.455	0.000	94.11	320.90	0.00
12	137.00	Alcatel Lucent	3	30.945	34.040	0.66	0.80	4.96	158.40	5.455	0.000	270.10	920.97	0.00
13	137.00	Andrew LNX-6514DS	3	30.945	34.040	0.64	0.80	15.53	119.16	5.455	0.000	845.97	2884.4	0.00
14	137.00	Andrew HBX-6517DS	3	30.945	34.040	0.60	0.80	9.52	67.32	5.455	0.000	518.60	1768.2	0.00
15	137.00	Antel BXA - 171063-8BF	3	30.945	34.040	0.67	0.80	5.93	37.80	5.455	0.000	322.81	1100.6	0.00
16	137.00	Low Profile Platform	1	30.945	34.040	1.00	1.00	23.03	1113.60	0.000	0.000	1254.30	0.00	0.00
17	137.00	Antel BXA 70063/6CF	3	30.945	34.040	0.58	0.80	13.26	61.20	5.455	0.000	722.33	2462.9	0.00
18	117.00	Powerwave - LGP21401	6	29.934	32.927	0.80	0.80	6.19	136.80	4.670	0.000	326.22	952.18	0.00
19	117.00	Powerwave 7770.00	3	29.934	32.927	0.58	0.80	9.64	126.00	5.670	0.000	507.66	1799.0	0.00
20	117.00	Sector Mount (SitePro1	3	29.934	32.927	0.56	0.75	31.35	2368.80	3.170	0.000	1651.84	3272.8	0.00
21	117.00	CCI - OPA65R-BU6DA	3	29.934	32.927	0.58	0.80	21.96	216.72	4.670	0.000	1157.09	3377.3	0.00
22	117.00	CCI - DMP65R-BU6DA	3	29.934	32.927	0.58	0.80	21.96	285.84	4.670	0.000	1157.09	3377.3	0.00
23	117.00	Ericsson - 4449 B5/B12	3	29.934	32.927	0.69	0.80	4.07	255.60	4.670	0.000	214.22	625.27	0.00
24	117.00	Ericsson - 8843	3	29.934	32.927	0.73	0.80	3.58	259.20	4.670	0.000	188.70	550.79	0.00
25	117.00	Ericsson - RRUS 4478	3	29.934	32.927	0.65	0.80	3.93	216.00	4.670	0.000	206.88	603.86	0.00
26	117.00	Raycap -	1	29.934	32.927	0.80	0.80	1.76	39.36	4.670	0.000	92.72	270.65	0.00
27	117.00	Raycap -	1	29.934	32.927	0.66	0.80	1.67	85.20	4.670	0.000	87.81	256.29	0.00
28	80.00	Side Arm	1	27.632	30.395	1.00	1.00	2.00	114.00	3.512	0.000	97.26	213.48	0.00
29	80.00	GPS	1	27.632	30.395	1.00	1.00	0.91	4.80	5.012	0.000	44.25	138.62	0.00
							Totals:		**9,280.08**			**13,713.58**		

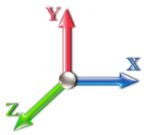
Total Applied Force Summary

Structure:	CT03109-S		**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 6

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		624.51	2324.06	0.00	0.00
10.00		612.56	2282.96	0.00	0.00
15.00		600.62	2241.86	0.00	0.00
20.00		624.61	2200.76	0.00	0.00
25.00		641.38	2159.66	0.00	0.00
30.00		652.67	2118.56	0.00	0.00
35.00		659.95	2077.46	0.00	0.00
37.75		362.62	1125.09	0.00	0.00
40.00		301.58	1645.41	0.00	0.00
45.00		676.11	3600.60	0.00	0.00
50.00		675.91	1760.35	0.00	0.00
55.00		673.93	1724.38	0.00	0.00
60.00		670.42	1688.42	0.00	0.00
65.00		665.58	1652.46	0.00	0.00
70.00		659.55	1616.50	0.00	0.00
75.00		652.46	1580.54	0.00	0.00
76.50		193.28	467.15	0.00	0.00
80.00	(2) attachments	597.85	2018.97	352.10	0.00
82.75		355.24	1469.51	0.00	0.00
85.00		288.43	598.81	0.00	0.00
90.00		636.10	1308.34	0.00	0.00
95.00		625.79	1277.51	0.00	0.00
100.00		614.80	1246.69	0.00	0.00
105.00		603.19	1215.87	0.00	0.00
110.00		590.98	1185.04	0.00	0.00
111.25		145.26	291.44	0.00	0.00
115.00		438.04	1412.04	0.00	0.00
116.50		172.80	556.32	0.00	0.00
117.00	(29) attachments	5647.51	4080.08	15085.74	0.00
120.00		341.67	491.85	0.00	0.00
125.00		559.46	801.25	0.00	0.00
130.00		545.31	778.13	0.00	0.00
135.00		530.72	755.01	0.00	0.00
137.00	(24) attachments	4433.90	1902.81	10133.50	0.00
140.00		307.13	387.47	0.00	0.00
145.00		500.30	627.28	0.00	0.00
147.00	(23) attachments	3950.86	3808.92	9157.25	0.00
150.00		288.39	345.98	0.00	0.00
	Totals:	**32,121.49**	**58,825.55**	**34,728.60**	**0.00**

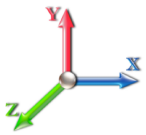
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 7	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 22

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	19.450	0.00	1.64
5.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.015	0.000	19.450	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	19.450	0.00	1.64
10.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.015	0.000	19.450	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	19.450	0.00	1.64
15.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.016	0.000	19.450	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	20.638	0.00	1.64
20.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.016	0.000	20.638	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	21.630	0.00	1.64
25.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.016	0.000	21.630	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	22.477	0.00	1.64
30.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	22.477	0.00	6.24
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	23.218	0.00	1.64
35.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	23.218	0.00	6.24
37.75	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.017	0.000	23.591	0.00	0.90
37.75	Step bolts	Yes	2.75	0.000	0.63	0.14	0.00	0.017	0.000	23.591	0.00	3.43
40.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.017	0.000	23.880	0.00	0.74
40.00	Step bolts	Yes	2.25	0.000	0.63	0.12	0.00	0.017	0.000	23.880	0.00	2.81
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.479	0.00	1.64
45.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.479	0.00	6.24
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	25.029	0.00	1.64
50.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	25.029	0.00	6.24
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	25.536	0.00	1.64
55.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	25.536	0.00	6.24
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	26.008	0.00	1.64
60.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	26.008	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	26.450	0.00	1.64
65.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	26.450	0.00	6.24
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	26.866	0.00	1.64
70.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	26.866	0.00	6.24
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	27.259	0.00	1.64
75.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	27.259	0.00	6.24
76.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.020	0.000	27.373	0.00	0.49
76.50	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.020	0.000	27.373	0.00	1.87
80.00	Safety Cable	Yes	3.50	0.000	0.38	0.11	0.00	0.021	0.000	27.632	0.00	1.15
80.00	Step bolts	Yes	3.50	0.000	0.63	0.18	0.00	0.021	0.000	27.632	0.00	4.37
82.75	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.021	0.000	27.829	0.00	0.90
82.75	Step bolts	Yes	2.75	0.000	0.63	0.14	0.00	0.021	0.000	27.829	0.00	3.43
85.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.021	0.000	27.987	0.00	0.74
85.00	Step bolts	Yes	2.25	0.000	0.63	0.12	0.00	0.021	0.000	27.987	0.00	2.81
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	28.325	0.00	1.64
90.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	28.325	0.00	6.24
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	28.650	0.00	1.64
95.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	28.650	0.00	6.24
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	28.961	0.00	1.64
100.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	28.961	0.00	6.24
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	29.260	0.00	1.64

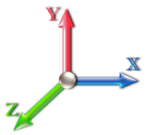
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 22

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)
105.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	29.260	0.00	6.24
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	29.548	0.00	1.64
110.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	29.548	0.00	6.24
111.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.025	0.000	29.618	0.00	0.41
111.25	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.025	0.000	29.618	0.00	1.56
115.00	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.025	0.000	29.826	0.00	1.23
115.00	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.025	0.000	29.826	0.00	4.68
116.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.025	0.000	29.907	0.00	0.49
116.50	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.025	0.000	29.907	0.00	1.87
117.00	Safety Cable	Yes	0.50	0.000	0.38	0.02	0.00	0.025	0.000	29.934	0.00	0.16
117.00	Step bolts	Yes	0.50	0.000	0.63	0.03	0.00	0.025	0.000	29.934	0.00	0.62
120.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.025	0.000	30.094	0.00	0.98
120.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.025	0.000	30.094	0.00	3.74
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	30.354	0.00	1.64
125.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	30.354	0.00	6.24
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	30.605	0.00	1.64
130.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	30.605	0.00	6.24
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	30.850	0.00	1.64
135.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	30.850	0.00	6.24
137.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	30.945	0.00	0.66
137.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	30.945	0.00	2.50
140.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.029	0.000	31.087	0.00	0.98
140.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.029	0.000	31.087	0.00	3.74
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	31.317	0.00	1.64
145.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	31.317	0.00	6.24
147.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.031	0.000	31.408	0.00	0.66
147.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.031	0.000	31.408	0.00	2.50
150.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.032	0.000	31.541	0.00	0.98
150.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.032	0.000	31.541	0.00	3.74
										Totals:	**0.0**	**236.3**

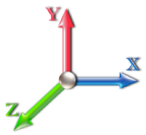
Calculated Forces

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Load Case: 1.2D + 1.6W 97 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 22

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	-58.80	-32.16	-34.66	-3223.0	-0.10	3223.00	7146.92	3573.46	19526.6	9777.85	0.00	0.000	0.000	0.338
5.00	-56.44	-31.61	-34.66	-3062.1	-0.10	3062.19	7059.53	3529.77	18917.0	9472.60	0.04	-0.076	-0.001	0.331
10.00	-54.11	-31.07	-34.66	-2904.1	-0.10	2904.14	6970.23	3485.12	18311.6	9169.43	0.16	-0.152	-0.002	0.325
15.00	-51.83	-30.53	-34.66	-2748.8	-0.11	2748.81	6879.02	3439.51	17710.6	8868.51	0.36	-0.229	-0.003	0.318
20.00	-49.60	-29.96	-34.66	-2596.1	-0.11	2596.17	6785.91	3392.96	17114.5	8569.97	0.65	-0.306	-0.004	0.310
25.00	-47.40	-29.37	-34.66	-2446.3	-0.12	2446.38	6690.89	3345.45	16523.4	8273.98	1.01	-0.383	-0.005	0.303
30.00	-45.25	-28.76	-34.66	-2299.5	-0.14	2299.54	6593.97	3296.98	15937.6	7980.68	1.45	-0.461	-0.006	0.295
35.00	-43.15	-28.13	-34.66	-2155.7	-0.14	2155.73	6495.14	3247.57	15357.6	7690.22	1.98	-0.538	-0.007	0.287
37.75	-42.01	-27.78	-34.66	-2078.3	-0.15	2078.38	6439.97	3219.98	15041.1	7531.73	2.30	-0.582	-0.008	0.283
40.00	-40.34	-27.51	-34.66	-2015.8	-0.17	2015.86	6394.40	3197.20	14783.5	7402.76	2.58	-0.617	-0.008	0.279
45.00	-36.71	-26.84	-34.67	-1878.3	-0.19	1878.34	5339.68	2669.84	12285.4	6151.87	3.27	-0.694	-0.010	0.312
50.00	-34.92	-26.19	-34.67	-1744.1	-0.22	1744.15	5259.83	2629.91	11825.4	5921.52	4.04	-0.771	-0.011	0.301
55.00	-33.17	-25.54	-34.67	-1613.2	-0.24	1613.21	5178.07	2589.04	11369.6	5693.28	4.89	-0.854	-0.013	0.290
60.00	-31.46	-24.89	-34.67	-1485.5	-0.27	1485.52	5094.41	2547.20	10918.3	5467.29	5.83	-0.937	-0.015	0.278
65.00	-29.78	-24.23	-34.68	-1361.1	-0.30	1361.10	5008.84	2504.42	10471.8	5243.71	6.86	-1.018	-0.017	0.266
70.00	-28.14	-23.58	-34.68	-1239.9	-0.34	1239.93	4921.36	2460.68	10030.4	5022.69	7.97	-1.098	-0.019	0.253
75.00	-26.56	-22.92	-34.68	-1122.0	-0.36	1122.01	4831.98	2415.99	9594.48	4804.37	9.16	-1.176	-0.021	0.239
76.50	-26.08	-22.74	-34.68	-1087.6	-0.38	1087.63	4804.80	2402.40	9464.78	4739.43	9.54	-1.200	-0.022	0.235
80.00	-24.05	-22.12	-34.33	-1008.0	-0.40	1008.05	4740.69	2370.35	9164.20	4588.91	10.44	-1.254	-0.024	0.225
82.75	-22.58	-21.74	-34.33	-947.23	-0.42	947.23	3881.85	1940.93	7532.31	3771.76	11.17	-1.295	-0.025	0.257
85.00	-21.96	-21.46	-34.34	-898.30	-0.46	898.30	3850.71	1925.35	7380.86	3695.92	11.79	-1.329	-0.026	0.249
90.00	-20.64	-20.82	-34.34	-790.98	-0.51	790.98	3780.12	1890.06	7047.00	3528.74	13.22	-1.408	-0.030	0.230
95.00	-19.36	-20.19	-34.34	-686.86	-0.56	686.87	3707.63	1853.81	6717.10	3363.54	14.74	-1.482	-0.033	0.210
100.00	-18.10	-19.56	-34.35	-585.91	-0.61	585.91	3633.23	1816.61	6391.46	3200.48	16.33	-1.552	-0.037	0.188
105.00	-16.89	-18.95	-34.35	-488.09	-0.67	488.09	3556.92	1778.46	6070.39	3039.70	17.99	-1.617	-0.041	0.166
110.00	-15.71	-18.33	-34.35	-393.36	-0.73	393.36	3478.71	1739.35	5754.18	2881.36	19.72	-1.675	-0.046	0.141
111.25	-15.41	-18.18	-34.35	-370.45	-0.75	370.45	3458.86	1729.43	5675.92	2842.18	20.16	-1.689	-0.047	0.135
115.00	-14.01	-17.71	-34.36	-302.26	-0.80	302.26	3398.59	1699.29	5443.13	2725.61	21.50	-1.726	-0.051	0.115
116.50	-13.45	-17.52	-34.36	-275.69	-0.82	275.70	2333.72	1166.86	3773.22	1889.41	22.05	-1.740	-0.052	0.152
117.00	-9.54	-11.76	-19.28	-266.93	-0.37	266.93	2329.14	1164.57	3753.57	1879.57	22.23	-1.744	-0.053	0.146
120.00	-9.05	-11.41	-19.28	-231.66	-0.40	231.66	2301.24	1150.62	3636.08	1820.74	23.34	-1.776	-0.055	0.131
125.00	-8.26	-10.83	-19.28	-174.63	-0.45	174.63	2253.21	1126.61	3441.83	1723.47	25.22	-1.821	-0.060	0.105
130.00	-7.50	-10.26	-19.28	-120.50	-0.51	120.50	2203.28	1101.64	3249.82	1627.33	27.15	-1.857	-0.064	0.078
135.00	-6.76	-9.71	-19.28	-69.19	-0.56	69.19	2151.44	1075.72	3060.35	1532.45	29.11	-1.883	-0.070	0.049
137.00	-5.00	-5.21	-9.15	-49.77	-0.25	49.77	2130.17	1065.09	2985.33	1494.89	29.90	-1.890	-0.072	0.036
140.00	-4.62	-4.90	-9.15	-34.13	-0.26	34.13	2097.70	1048.85	2873.71	1438.99	31.09	-1.898	-0.074	0.026
145.00	-4.01	-4.38	-9.15	-9.65	-0.29	9.65	2042.04	1021.02	2690.20	1347.10	33.08	-1.906	-0.077	0.009
147.00	-0.34	-0.30	0.00	-0.90	0.00	0.90	2019.25	1009.62	2617.75	1310.82	33.88	-1.906	-0.078	0.001
150.00	0.00	-0.29	0.00	0.00	0.00	0.00	1984.48	992.24	2510.13	1256.93	35.08	-1.906	-0.078	0.000

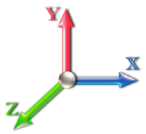
Wind Loading - Shaft

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	19.450	21.40	506.79	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	19.450	21.40	497.19	0.650	0.000	5.00	28.066	18.24	624.5	0.0	1599.8
10.00		1.00	0.85	19.450	21.40	487.59	0.650	0.000	5.00	27.530	17.89	612.6	0.0	1569.0
15.00		1.00	0.85	19.450	21.40	477.99	0.650	0.000	5.00	26.993	17.55	600.6	0.0	1538.2
20.00		1.00	0.90	20.638	22.70	482.48	0.650	0.000	5.00	26.456	17.20	624.6	0.0	1507.3
25.00		1.00	0.95	21.630	23.79	483.82	0.650	0.000	5.00	25.920	16.85	641.4	0.0	1476.5
30.00		1.00	0.98	22.477	24.72	482.88	0.650	0.000	5.00	25.383	16.50	652.7	0.0	1445.7
35.00		1.00	1.01	23.218	25.54	480.29	0.650	0.000	5.00	24.846	16.15	659.9	0.0	1414.9
37.75	Bot - Section 2	1.00	1.03	23.591	25.95	478.31	0.650	0.000	2.75	13.437	8.73	362.6	0.0	765.0
40.00		1.00	1.04	23.880	26.27	476.45	0.650	0.000	2.25	11.039	7.18	301.6	0.0	1169.6
45.00	Top - Section 1	1.00	1.07	24.479	26.93	471.63	0.650	0.000	5.00	24.143	15.69	676.1	0.0	2557.2
50.00		1.00	1.09	25.029	27.53	473.51	0.650	0.000	5.00	23.606	15.34	675.9	0.0	1177.0
55.00		1.00	1.12	25.536	28.09	467.28	0.650	0.000	5.00	23.070	15.00	673.9	0.0	1150.1
60.00		1.00	1.14	26.008	28.61	460.48	0.650	0.000	5.00	22.533	14.65	670.4	0.0	1123.1
65.00		1.00	1.16	26.450	29.09	453.19	0.650	0.000	5.00	21.996	14.30	665.6	0.0	1096.1
70.00		1.00	1.17	26.866	29.55	445.45	0.650	0.000	5.00	21.460	13.95	659.5	0.0	1069.1
75.00		1.00	1.19	27.259	29.98	437.34	0.650	0.000	5.00	20.923	13.60	652.5	0.0	1042.2
76.50	Bot - Section 3	1.00	1.20	27.373	30.11	434.83	0.650	0.000	1.50	6.172	4.01	193.3	0.0	307.4
80.00	Appurtenance(s)	1.00	1.21	27.632	30.39	428.88	0.650	0.000	3.50	14.436	9.38	456.3	0.0	1324.9
82.75	Top - Section 2	1.00	1.22	27.829	30.61	424.09	0.650	0.000	2.75	11.158	7.25	355.2	0.0	1023.7
85.00		1.00	1.22	27.987	30.79	426.92	0.650	0.000	2.25	9.009	5.86	288.4	0.0	385.0
90.00		1.00	1.24	28.325	31.16	417.91	0.650	0.000	5.00	19.630	12.76	636.1	0.0	838.7
95.00		1.00	1.25	28.650	31.51	408.64	0.650	0.000	5.00	19.093	12.41	625.8	0.0	815.6
100.00		1.00	1.27	28.961	31.86	399.14	0.650	0.000	5.00	18.557	12.06	614.8	0.0	792.5
105.00		1.00	1.28	29.260	32.19	389.42	0.650	0.000	5.00	18.020	11.71	603.2	0.0	769.4
110.00		1.00	1.29	29.548	32.50	379.50	0.650	0.000	5.00	17.483	11.36	591.0	0.0	746.3
111.25	Bot - Section 4	1.00	1.29	29.618	32.58	376.99	0.650	0.000	1.25	4.287	2.79	145.3	0.0	183.0
115.00		1.00	1.30	29.826	32.81	369.40	0.650	0.000	3.75	12.838	8.34	438.0	0.0	952.1
116.50	Top - Section 3	1.00	1.31	29.907	32.90	366.33	0.650	0.000	1.50	5.051	3.28	172.8	0.0	374.5
117.00	Appurtenance(s)	1.00	1.31	29.934	32.93	370.59	0.650	0.000	0.50	1.673	1.09	57.3	0.0	53.7
120.00		1.00	1.32	30.094	33.10	364.41	0.650	0.000	3.00	9.924	6.45	341.7	0.0	318.4
125.00		1.00	1.33	30.354	33.39	353.99	0.650	0.000	5.00	16.111	10.47	559.5	0.0	516.7
130.00		1.00	1.34	30.605	33.67	343.41	0.650	0.000	5.00	15.575	10.12	545.3	0.0	499.4
135.00		1.00	1.35	30.850	33.93	332.69	0.650	0.000	5.00	15.038	9.77	530.7	0.0	482.1
137.00	Appurtenance(s)	1.00	1.35	30.945	34.04	328.36	0.650	0.000	2.00	5.865	3.81	207.6	0.0	188.0
140.00		1.00	1.36	31.087	34.20	321.83	0.650	0.000	3.00	8.636	5.61	307.1	0.0	276.8
145.00		1.00	1.37	31.317	34.45	310.84	0.650	0.000	5.00	13.965	9.08	500.3	0.0	447.4
147.00	Appurtenance(s)	1.00	1.37	31.408	34.55	306.41	0.650	0.000	2.00	5.436	3.53	195.3	0.0	174.1
150.00		1.00	1.38	31.541	34.70	299.73	0.650	0.000	3.00	7.992	5.19	288.4	0.0	255.9
								Totals:	**150.00**			**18,407.9**		**33,426.4**

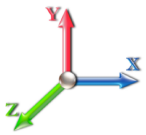
Discrete Appurtenance Forces

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	147.00	Alcatel Lucent -	3	31.408	34.548	0.55	0.80	6.71	189.00	5.348	0.000	370.73	1239.2	0.00
2	147.00	Low Profile Platform	1	31.408	34.548	1.00	1.00	18.38	1890.00	0.000	0.000	1016.00	0.00	0.00
3	147.00	RFS - APXVSPP18-C-A20	3	31.408	34.548	0.66	0.80	15.98	153.90	5.348	0.000	883.10	2951.8	0.00
4	147.00	RFS - APXVTM14-C-120	3	31.408	34.548	0.63	0.80	12.02	151.20	5.348	0.000	664.47	2221.0	0.00
5	147.00	RFS - ACU-A20-N	4	31.408	34.548	0.80	0.80	0.22	3.60	5.348	0.000	12.38	41.39	0.00
6	147.00	Alcatel Lucent - 1900MHz	3	31.408	34.548	0.70	0.80	8.03	118.80	5.348	0.000	443.63	1482.8	0.00
7	147.00	Alcatel Lucent - 800 MHz	3	31.408	34.548	0.74	0.80	5.50	143.10	5.348	0.000	303.91	1015.8	0.00
8	147.00	Alcatel Lucent - 800 MHz	3	31.408	34.548	0.55	0.80	1.11	23.76	5.348	0.000	61.33	205.01	0.00
9	137.00	GPS	1	30.945	34.040	1.00	1.00	0.91	3.60	5.455	0.000	49.56	168.99	0.00
10	137.00	RFS DB-T1-6Z-8AB-0Z	1	30.945	34.040	0.57	0.80	2.73	17.01	5.455	0.000	148.49	506.30	0.00
11	137.00	RFS FD9R6004/2C-3L	6	30.945	34.040	0.80	0.80	1.73	16.74	5.455	0.000	94.11	320.90	0.00
12	137.00	Alcatel Lucent	3	30.945	34.040	0.66	0.80	4.96	118.80	5.455	0.000	270.10	920.97	0.00
13	137.00	Andrew LNX-6514DS	3	30.945	34.040	0.64	0.80	15.53	89.37	5.455	0.000	845.97	2884.4	0.00
14	137.00	Andrew HBX-6517DS	3	30.945	34.040	0.60	0.80	9.52	50.49	5.455	0.000	518.60	1768.2	0.00
15	137.00	Antel BXA - 171063-8BF	3	30.945	34.040	0.67	0.80	5.93	28.35	5.455	0.000	322.81	1100.6	0.00
16	137.00	Low Profile Platform	1	30.945	34.040	1.00	1.00	23.03	835.20	0.000	0.000	1254.30	0.00	0.00
17	137.00	Antel BXA 70063/6CF	3	30.945	34.040	0.58	0.80	13.26	45.90	5.455	0.000	722.33	2462.9	0.00
18	117.00	Powerwave - LGP21401	6	29.934	32.927	0.80	0.80	6.19	102.60	4.670	0.000	326.22	952.18	0.00
19	117.00	Powerwave 7770.00	3	29.934	32.927	0.58	0.80	9.64	94.50	5.670	0.000	507.66	1799.0	0.00
20	117.00	Sector Mount (SitePro1	3	29.934	32.927	0.56	0.75	31.35	1776.60	3.170	0.000	1651.84	3272.8	0.00
21	117.00	CCI - OPA65R-BU6DA	3	29.934	32.927	0.58	0.80	21.96	162.54	4.670	0.000	1157.09	3377.3	0.00
22	117.00	CCI - DMP65R-BU6DA	3	29.934	32.927	0.58	0.80	21.96	214.38	4.670	0.000	1157.09	3377.3	0.00
23	117.00	Ericsson - 4449 B5/B12	3	29.934	32.927	0.69	0.80	4.07	191.70	4.670	0.000	214.22	625.27	0.00
24	117.00	Ericsson - 8843	3	29.934	32.927	0.73	0.80	3.58	194.40	4.670	0.000	188.70	550.79	0.00
25	117.00	Ericsson - RRUS 4478	3	29.934	32.927	0.65	0.80	3.93	162.00	4.670	0.000	206.88	603.86	0.00
26	117.00	Raycap -	1	29.934	32.927	0.80	0.80	1.76	29.52	4.670	0.000	92.72	270.65	0.00
27	117.00	Raycap -	1	29.934	32.927	0.66	0.80	1.67	63.90	4.670	0.000	87.81	256.29	0.00
28	80.00	Side Arm	1	27.632	30.395	1.00	1.00	2.00	85.50	3.512	0.000	97.26	213.48	0.00
29	80.00	GPS	1	27.632	30.395	1.00	1.00	0.91	3.60	5.012	0.000	44.25	138.62	0.00
							Totals:		**6,960.06**			**13,713.58**		

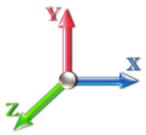
Total Applied Force Summary

Structure:	CT03109-S		**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 12

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		624.51	1743.04	0.00	0.00
10.00		612.56	1712.22	0.00	0.00
15.00		600.62	1681.39	0.00	0.00
20.00		624.61	1650.57	0.00	0.00
25.00		641.38	1619.75	0.00	0.00
30.00		652.67	1588.92	0.00	0.00
35.00		659.95	1558.10	0.00	0.00
37.75		362.62	843.81	0.00	0.00
40.00		301.58	1234.06	0.00	0.00
45.00		676.11	2700.45	0.00	0.00
50.00		675.91	1320.26	0.00	0.00
55.00		673.93	1293.29	0.00	0.00
60.00		670.42	1266.32	0.00	0.00
65.00		665.58	1239.35	0.00	0.00
70.00		659.55	1212.37	0.00	0.00
75.00		652.46	1185.40	0.00	0.00
76.50		193.28	350.36	0.00	0.00
80.00	(2) attachments	597.85	1514.23	352.10	0.00
82.75		355.24	1102.13	0.00	0.00
85.00		288.43	449.11	0.00	0.00
90.00		636.10	981.25	0.00	0.00
95.00		625.79	958.14	0.00	0.00
100.00		614.80	935.02	0.00	0.00
105.00		603.19	911.90	0.00	0.00
110.00		590.98	888.78	0.00	0.00
111.25		145.26	218.58	0.00	0.00
115.00		438.04	1059.03	0.00	0.00
116.50		172.80	417.24	0.00	0.00
117.00	(29) attachments	5647.51	3060.06	15085.74	0.00
120.00		341.67	368.89	0.00	0.00
125.00		559.46	600.94	0.00	0.00
130.00		545.31	583.60	0.00	0.00
135.00		530.72	566.26	0.00	0.00
137.00	(24) attachments	4433.90	1427.11	10133.50	0.00
140.00		307.13	290.60	0.00	0.00
145.00		500.30	470.46	0.00	0.00
147.00	(23) attachments	3950.86	2856.69	9157.25	0.00
150.00		288.39	259.49	0.00	0.00
	Totals:	**32,121.49**	**44,119.16**	**34,728.60**	**0.00**

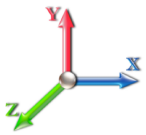
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 22

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	19.450	0.00	1.23
5.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.015	0.000	19.450	0.00	4.68
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	19.450	0.00	1.23
10.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.015	0.000	19.450	0.00	4.68
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	19.450	0.00	1.23
15.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.016	0.000	19.450	0.00	4.68
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	20.638	0.00	1.23
20.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.016	0.000	20.638	0.00	4.68
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	21.630	0.00	1.23
25.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.016	0.000	21.630	0.00	4.68
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	22.477	0.00	1.23
30.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	22.477	0.00	4.68
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	23.218	0.00	1.23
35.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	23.218	0.00	4.68
37.75	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.017	0.000	23.591	0.00	0.68
37.75	Step bolts	Yes	2.75	0.000	0.63	0.14	0.00	0.017	0.000	23.591	0.00	2.57
40.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.017	0.000	23.880	0.00	0.55
40.00	Step bolts	Yes	2.25	0.000	0.63	0.12	0.00	0.017	0.000	23.880	0.00	2.11
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.479	0.00	1.23
45.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.479	0.00	4.68
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	25.029	0.00	1.23
50.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	25.029	0.00	4.68
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	25.536	0.00	1.23
55.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	25.536	0.00	4.68
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	26.008	0.00	1.23
60.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	26.008	0.00	4.68
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	26.450	0.00	1.23
65.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	26.450	0.00	4.68
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	26.866	0.00	1.23
70.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	26.866	0.00	4.68
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	27.259	0.00	1.23
75.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	27.259	0.00	4.68
76.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.020	0.000	27.373	0.00	0.37
76.50	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.020	0.000	27.373	0.00	1.40
80.00	Safety Cable	Yes	3.50	0.000	0.38	0.11	0.00	0.021	0.000	27.632	0.00	0.86
80.00	Step bolts	Yes	3.50	0.000	0.63	0.18	0.00	0.021	0.000	27.632	0.00	3.28
82.75	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.021	0.000	27.829	0.00	0.68
82.75	Step bolts	Yes	2.75	0.000	0.63	0.14	0.00	0.021	0.000	27.829	0.00	2.57
85.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.021	0.000	27.987	0.00	0.55
85.00	Step bolts	Yes	2.25	0.000	0.63	0.12	0.00	0.021	0.000	27.987	0.00	2.11
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	28.325	0.00	1.23
90.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	28.325	0.00	4.68
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	28.650	0.00	1.23
95.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	28.650	0.00	4.68
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	28.961	0.00	1.23
100.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	28.961	0.00	4.68
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	29.260	0.00	1.23

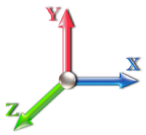
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 22

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)
105.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	29.260	0.00	4.68
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	29.548	0.00	1.23
110.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	29.548	0.00	4.68
111.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.025	0.000	29.618	0.00	0.31
111.25	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.025	0.000	29.618	0.00	1.17
115.00	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.025	0.000	29.826	0.00	0.92
115.00	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.025	0.000	29.826	0.00	3.51
116.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.025	0.000	29.907	0.00	0.37
116.50	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.025	0.000	29.907	0.00	1.40
117.00	Safety Cable	Yes	0.50	0.000	0.38	0.02	0.00	0.025	0.000	29.934	0.00	0.12
117.00	Step bolts	Yes	0.50	0.000	0.63	0.03	0.00	0.025	0.000	29.934	0.00	0.47
120.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.025	0.000	30.094	0.00	0.74
120.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.025	0.000	30.094	0.00	2.81
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	30.354	0.00	1.23
125.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	30.354	0.00	4.68
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	30.605	0.00	1.23
130.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	30.605	0.00	4.68
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	30.850	0.00	1.23
135.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	30.850	0.00	4.68
137.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	30.945	0.00	0.49
137.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	30.945	0.00	1.87
140.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.029	0.000	31.087	0.00	0.74
140.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.029	0.000	31.087	0.00	2.81
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	31.317	0.00	1.23
145.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	31.317	0.00	4.68
147.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.031	0.000	31.408	0.00	0.49
147.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.031	0.000	31.408	0.00	1.87
150.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.032	0.000	31.541	0.00	0.74
150.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.032	0.000	31.541	0.00	2.81
										Totals:	**0.0**	**177.3**

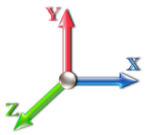
Calculated Forces

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Load Case: 0.9D + 1.6W 97 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 22

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-44.10	-32.15	-34.66	-3208.3	-0.08	3208.39	7146.92	3573.46	19526.6	9777.85	0.00	0.000	0.000	0.334
5.00	-42.31	-31.58	-34.66	-3047.6	-0.08	3047.63	7059.53	3529.77	18917.0	9472.60	0.04	-0.076	-0.001	0.328
10.00	-40.56	-31.02	-34.66	-2889.7	-0.08	2889.72	6970.23	3485.12	18311.6	9169.43	0.16	-0.152	-0.002	0.321
15.00	-38.84	-30.47	-34.66	-2734.6	-0.09	2734.62	6879.02	3439.51	17710.6	8868.51	0.36	-0.228	-0.003	0.314
20.00	-37.15	-29.88	-34.66	-2582.3	-0.10	2582.30	6785.91	3392.96	17114.5	8569.97	0.64	-0.305	-0.004	0.307
25.00	-35.50	-29.28	-34.66	-2432.8	-0.11	2432.88	6690.89	3345.45	16523.4	8273.98	1.00	-0.381	-0.005	0.299
30.00	-33.88	-28.66	-34.66	-2286.4	-0.12	2286.49	6593.97	3296.98	15937.6	7980.68	1.44	-0.458	-0.006	0.292
35.00	-32.29	-28.02	-34.66	-2143.1	-0.12	2143.18	6495.14	3247.57	15357.6	7690.22	1.97	-0.536	-0.007	0.284
37.75	-31.43	-27.67	-34.66	-2066.1	-0.13	2066.13	6439.97	3219.98	15041.1	7531.73	2.29	-0.579	-0.008	0.279
40.00	-30.18	-27.39	-34.66	-2003.8	-0.15	2003.87	6394.40	3197.20	14783.5	7402.76	2.57	-0.614	-0.008	0.276
45.00	-27.45	-26.72	-34.67	-1866.9	-0.17	1866.93	5339.68	2669.84	12285.4	6151.87	3.25	-0.691	-0.010	0.309
50.00	-26.10	-26.06	-34.67	-1733.3	-0.20	1733.35	5259.83	2629.91	11825.4	5921.52	4.02	-0.767	-0.011	0.298
55.00	-24.78	-25.40	-34.67	-1603.0	-0.23	1603.05	5178.07	2589.04	11369.6	5693.28	4.87	-0.850	-0.013	0.287
60.00	-23.49	-24.75	-34.67	-1476.0	-0.26	1476.03	5094.41	2547.20	10918.3	5467.29	5.80	-0.931	-0.015	0.275
65.00	-22.23	-24.09	-34.68	-1352.2	-0.29	1352.29	5008.84	2504.42	10471.8	5243.71	6.82	-1.012	-0.017	0.262
70.00	-21.00	-23.44	-34.68	-1231.8	-0.32	1231.83	4921.36	2460.68	10030.4	5022.69	7.93	-1.091	-0.019	0.250
75.00	-19.80	-22.78	-34.68	-1114.6	-0.35	1114.64	4831.98	2415.99	9594.48	4804.37	9.11	-1.169	-0.021	0.236
76.50	-19.44	-22.59	-34.68	-1080.4	-0.37	1080.47	4804.80	2402.40	9464.78	4739.43	9.48	-1.193	-0.022	0.232
80.00	-17.92	-21.98	-34.33	-1001.3	-0.39	1001.39	4740.69	2370.35	9164.20	4588.91	10.38	-1.246	-0.024	0.222
82.75	-16.82	-21.61	-34.33	-940.95	-0.41	940.96	3881.85	1940.93	7532.31	3771.76	11.11	-1.288	-0.025	0.254
85.00	-16.35	-21.33	-34.34	-892.33	-0.44	892.33	3850.71	1925.35	7380.86	3695.92	11.72	-1.321	-0.026	0.246
90.00	-15.36	-20.69	-34.34	-785.70	-0.49	785.70	3780.12	1890.06	7047.00	3528.74	13.15	-1.399	-0.030	0.227
95.00	-14.39	-20.06	-34.34	-682.26	-0.54	682.26	3707.63	1853.81	6717.10	3363.54	14.66	-1.474	-0.033	0.207
100.00	-13.45	-19.43	-34.35	-581.98	-0.60	581.98	3633.23	1816.61	6391.46	3200.48	16.24	-1.543	-0.037	0.186
105.00	-12.53	-18.82	-34.35	-484.81	-0.66	484.81	3556.92	1778.46	6070.39	3039.70	17.89	-1.607	-0.041	0.163
110.00	-11.65	-18.21	-34.35	-390.72	-0.71	390.72	3478.71	1739.35	5754.18	2881.36	19.61	-1.665	-0.046	0.139
111.25	-11.43	-18.06	-34.36	-367.96	-0.74	367.96	3458.86	1729.43	5675.92	2842.18	20.04	-1.679	-0.047	0.133
115.00	-10.38	-17.60	-34.36	-300.22	-0.79	300.22	3398.59	1699.29	5443.13	2725.61	21.38	-1.716	-0.051	0.113
116.50	-9.96	-17.41	-34.36	-273.83	-0.80	273.83	2333.72	1166.86	3773.22	1889.41	21.92	-1.729	-0.052	0.150
117.00	-7.07	-11.68	-19.28	-265.12	-0.36	265.12	2329.14	1164.57	3753.57	1879.57	22.10	-1.734	-0.053	0.144
120.00	-6.70	-11.33	-19.28	-230.08	-0.39	230.08	2301.24	1150.62	3636.08	1820.74	23.20	-1.765	-0.055	0.130
125.00	-6.11	-10.76	-19.28	-173.43	-0.45	173.43	2253.21	1126.61	3441.83	1723.47	25.08	-1.810	-0.060	0.104
130.00	-5.54	-10.20	-19.28	-119.64	-0.50	119.64	2203.28	1101.64	3249.82	1627.33	26.99	-1.846	-0.064	0.076
135.00	-4.99	-9.65	-19.28	-68.66	-0.55	68.66	2151.44	1075.72	3060.35	1532.45	28.94	-1.871	-0.070	0.047
137.00	-3.71	-5.17	-9.15	-49.36	-0.24	49.36	2130.17	1065.09	2985.33	1494.89	29.73	-1.878	-0.072	0.035
140.00	-3.43	-4.86	-9.15	-33.85	-0.26	33.85	2097.70	1048.85	2873.71	1438.99	30.91	-1.886	-0.074	0.025
145.00	-2.97	-4.34	-9.15	-9.57	-0.29	9.57	2042.04	1021.02	2690.20	1347.10	32.89	-1.894	-0.077	0.009
147.00	-0.25	-0.30	0.00	-0.89	0.00	0.89	2019.25	1009.62	2617.75	1310.82	33.68	-1.895	-0.078	0.001
150.00	0.00	-0.29	0.00	0.00	0.00	0.00	1984.48	992.24	2510.13	1256.93	34.87	-1.895	-0.078	0.000

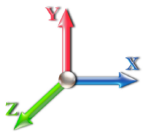
Wind Loading - Shaft

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 20

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	29.101	34.92	198.5	520.9	2654.0
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	28.639	34.37	195.4	548.4	2640.4
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	28.148	33.78	192.0	560.6	2611.5
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	27.645	33.17	200.1	566.0	2575.8
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	27.135	32.56	205.9	567.4	2536.1
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	26.621	31.95	209.9	566.3	2493.9
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	26.104	31.32	212.6	563.3	2449.8
37.75	Bot - Section 2	1.00	1.03	6.268	6.89	0.00	1.200	1.520	2.75	14.133	16.96	116.9	308.6	1328.6
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	2.25	11.613	13.94	97.3	255.3	1814.8
45.00	Top - Section 1	1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	25.432	30.52	218.4	561.9	3971.5
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	5.00	24.909	29.89	218.7	555.6	2125.0
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	5.00	24.385	29.26	218.4	548.5	2081.9
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	23.860	28.63	217.6	540.8	2038.2
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	23.334	28.00	216.5	532.5	1994.0
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	22.807	27.37	214.9	523.7	1949.2
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	22.280	26.74	213.0	514.5	1904.1
76.50	Bot - Section 3	1.00	1.20	7.273	8.00	0.00	1.200	1.632	1.50	6.580	7.90	63.2	153.5	563.4
80.00	Appurtenance(s)	1.00	1.21	7.342	8.08	0.00	1.200	1.639	3.50	15.392	18.47	149.2	358.8	2125.3
82.75	Top - Section 2	1.00	1.22	7.394	8.13	0.00	1.200	1.644	2.75	11.912	14.29	116.3	279.0	1644.0
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	2.25	9.627	11.55	94.5	226.2	739.5
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	21.012	25.21	208.7	492.5	1610.9
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	20.483	24.58	205.8	482.0	1569.5
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	5.00	19.953	23.94	202.7	471.3	1528.0
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	19.423	23.31	199.3	460.3	1486.1
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	5.00	18.893	22.67	195.8	449.1	1444.1
111.25	Bot - Section 4	1.00	1.29	7.870	8.66	0.00	1.200	1.694	1.25	4.640	5.57	48.2	111.6	355.5
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	3.75	13.900	16.68	145.4	332.7	1602.3
116.50	Top - Section 3	1.00	1.31	7.946	8.74	0.00	1.200	1.702	1.50	5.476	6.57	57.4	132.1	631.4
117.00	Appurtenance(s)	1.00	1.31	7.954	8.75	0.00	1.200	1.702	0.50	1.815	2.18	19.1	43.9	115.5
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	3.00	10.778	12.93	113.8	259.2	683.7
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	17.539	21.05	186.7	420.3	1109.3
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	5.00	17.008	20.41	182.6	408.3	1074.2
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	16.477	19.77	178.3	396.2	1038.9
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	1.729	2.00	6.441	7.73	69.9	156.5	407.1
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	3.00	9.503	11.40	103.6	230.4	599.4
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	15.414	18.50	169.3	371.5	968.0
147.00	Appurtenance(s)	1.00	1.37	8.345	9.18	0.00	1.200	1.742	2.00	6.016	7.22	66.3	146.6	378.7
150.00		1.00	1.38	8.381	9.22	0.00	1.200	1.745	3.00	8.865	10.64	98.1	215.4	556.6
								Totals:	**150.00**			**6,020.0**		**59,400.2**

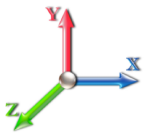
Discrete Appurtenance Forces

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 20

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	147.00	Alcatel Lucent -	3	8.345	9.180	0.60	0.80	8.69	500.79	5.348	0.000	79.74	426.46	0.00
2	147.00	Low Profile Platform	1	8.345	9.180	1.00	1.00	31.31	2520.00	0.000	0.000	287.44	0.00	0.00
3	147.00	RFS - APXVSPP18-C-A20	3	8.345	9.180	0.67	0.80	18.62	682.67	5.348	0.000	170.96	914.32	0.00
4	147.00	RFS - APXVTM14-C-120	3	8.345	9.180	0.64	0.80	14.31	681.67	5.348	0.000	131.32	702.33	0.00
5	147.00	RFS - ACU-A20-N	4	8.345	9.180	0.80	0.80	0.62	15.56	5.348	0.000	5.71	30.55	0.00
6	147.00	Alcatel Lucent - 1900MHz	3	8.345	9.180	0.71	0.80	11.08	391.63	5.348	0.000	101.71	543.96	0.00
7	147.00	Alcatel Lucent - 800 MHz	3	8.345	9.180	0.74	0.80	8.11	348.93	5.348	0.000	74.40	397.93	0.00
8	147.00	Alcatel Lucent - 800 MHz	3	8.345	9.180	0.60	0.80	1.79	74.09	5.348	0.000	16.42	87.79	0.00
9	137.00	GPS	1	8.222	9.044	1.00	1.00	1.91	22.59	5.455	0.000	17.24	94.04	0.00
10	137.00	RFS DB-T1-6Z-8AB-0Z	1	8.222	9.044	0.58	0.80	3.26	164.88	5.455	0.000	29.51	161.01	0.00
11	137.00	RFS FD9R6004/2C-3L	6	8.222	9.044	0.80	0.80	3.84	56.24	5.455	0.000	34.70	189.31	0.00
12	137.00	Alcatel Lucent	3	8.222	9.044	0.66	0.80	7.43	286.73	5.455	0.000	67.23	366.78	0.00
13	137.00	Andrew LNX-6514DS	3	8.222	9.044	0.64	0.80	20.85	488.56	5.455	0.000	188.59	1028.8	0.00
14	137.00	Andrew HBX-6517DS	3	8.222	9.044	0.61	0.80	11.97	426.66	5.455	0.000	108.30	590.84	0.00
15	137.00	Antel BXA - 171063-8BF	3	8.222	9.044	0.68	0.80	9.35	176.26	5.455	0.000	84.57	461.35	0.00
16	137.00	Low Profile Platform	1	8.222	9.044	1.00	1.00	34.82	3409.01	0.000	0.000	314.92	0.00	0.00
17	137.00	Antel BXA 70063/6CF	3	8.222	9.044	0.59	0.80	18.31	374.57	5.455	0.000	165.59	903.38	0.00
18	117.00	Powerwave - LGP21401	6	7.954	8.749	0.80	0.80	10.10	320.78	4.670	0.000	88.41	412.87	0.00
19	117.00	Powerwave 7770.00	3	7.954	8.749	0.59	0.80	11.61	519.36	5.670	0.000	101.58	575.96	0.00
20	117.00	Sector Mount (SitePro1	3	7.954	8.749	0.56	0.75	84.73	2368.80	3.170	0.000	741.30	2350.0	0.00
21	117.00	CCI - OPA65R-BU6DA	3	7.954	8.749	0.58	0.80	24.77	825.31	4.670	0.000	216.71	1012.0	0.00
22	117.00	CCI - DMP65R-BU6DA	3	7.954	8.749	0.58	0.80	24.77	1213.49	4.670	0.000	216.71	1012.0	0.00
23	117.00	Ericsson - 4449 B5/B12	3	7.954	8.749	0.70	0.80	5.27	376.96	4.670	0.000	46.13	215.45	0.00
24	117.00	Ericsson - 8843	3	7.954	8.749	0.74	0.80	4.74	365.14	4.670	0.000	41.43	193.49	0.00
25	117.00	Ericsson - RRUS 4478	3	7.954	8.749	0.66	0.80	5.03	352.74	4.670	0.000	44.04	205.68	0.00
26	117.00	Raycap -	1	7.954	8.749	0.80	0.80	2.24	100.54	4.670	0.000	19.57	91.40	0.00
27	117.00	Raycap -	1	7.954	8.749	0.67	0.80	2.09	290.22	4.670	0.000	18.24	85.20	0.00
28	80.00	Side Arm	1	7.342	8.076	1.00	1.00	4.62	271.28	3.512	0.000	37.33	131.09	0.00
29	80.00	GPS	1	7.342	8.076	1.00	1.00	1.85	21.28	5.012	0.000	14.97	75.03	0.00
							Totals:		**17,646.75**			**3,464.78**		

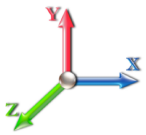
Total Applied Force Summary

Structure:	CT03109-S		**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 18

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 20

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		198.52	2868.86	0.00	0.00
10.00		195.37	2858.45	0.00	0.00
15.00		192.02	2831.54	0.00	0.00
20.00		200.10	2797.36	0.00	0.00
25.00		205.86	2758.99	0.00	0.00
30.00		209.86	2717.84	0.00	0.00
35.00		212.57	2674.69	0.00	0.00
37.75		116.94	1452.57	0.00	0.00
40.00		97.26	1916.33	0.00	0.00
45.00		218.35	4198.00	0.00	0.00
50.00		218.66	2352.11	0.00	0.00
55.00		218.40	2309.70	0.00	0.00
60.00		217.64	2266.60	0.00	0.00
65.00		216.46	2222.90	0.00	0.00
70.00		214.90	2178.68	0.00	0.00
75.00		213.00	2134.00	0.00	0.00
76.50		63.17	632.38	0.00	0.00
80.00	(2) attachments	201.47	2579.16	206.12	0.00
82.75		116.26	1770.29	0.00	0.00
85.00		94.50	842.97	0.00	0.00
90.00		208.74	1841.14	0.00	0.00
95.00		205.82	1800.22	0.00	0.00
100.00		202.67	1759.03	0.00	0.00
105.00		199.33	1717.58	0.00	0.00
110.00		195.80	1675.89	0.00	0.00
111.25		48.20	413.47	0.00	0.00
115.00		145.41	1776.35	0.00	0.00
116.50		57.44	701.04	0.00	0.00
117.00	(29) attachments	1553.17	6872.02	6154.23	0.00
120.00		113.76	776.54	0.00	0.00
125.00		186.72	1264.27	0.00	0.00
130.00		182.57	1229.50	0.00	0.00
135.00		178.28	1194.57	0.00	0.00
137.00	(24) attachments	1080.57	5874.96	3795.57	0.00
140.00		103.61	644.02	0.00	0.00
145.00		169.30	1042.74	0.00	0.00
147.00	(23) attachments	933.98	5624.00	3103.34	0.00
150.00		98.07	587.89	0.00	0.00
	Totals:	**9,484.74**	**83,158.64**	**13,259.26**	**0.00**

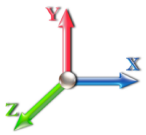
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 20

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	1.19	0.00	0.015	0.000	5.168	0.00	12.93
5.00	Step bolts	Yes	5.00	0.000	0.63	1.30	0.00	0.015	0.000	5.168	0.00	18.85
10.00	Safety Cable	Yes	5.00	0.000	0.38	1.27	0.00	0.015	0.000	5.168	0.00	14.46
10.00	Step bolts	Yes	5.00	0.000	0.63	1.37	0.00	0.015	0.000	5.168	0.00	20.46
15.00	Safety Cable	Yes	5.00	0.000	0.38	1.31	0.00	0.016	0.000	5.168	0.00	15.46
15.00	Step bolts	Yes	5.00	0.000	0.63	1.42	0.00	0.016	0.000	5.168	0.00	21.51
20.00	Safety Cable	Yes	5.00	0.000	0.38	1.35	0.00	0.016	0.000	5.483	0.00	16.21
20.00	Step bolts	Yes	5.00	0.000	0.63	1.45	0.00	0.016	0.000	5.483	0.00	22.31
25.00	Safety Cable	Yes	5.00	0.000	0.38	1.37	0.00	0.016	0.000	5.747	0.00	16.83
25.00	Step bolts	Yes	5.00	0.000	0.63	1.48	0.00	0.016	0.000	5.747	0.00	22.95
30.00	Safety Cable	Yes	5.00	0.000	0.38	1.40	0.00	0.017	0.000	5.972	0.00	17.35
30.00	Step bolts	Yes	5.00	0.000	0.63	1.50	0.00	0.017	0.000	5.972	0.00	23.50
35.00	Safety Cable	Yes	5.00	0.000	0.38	1.42	0.00	0.017	0.000	6.169	0.00	17.80
35.00	Step bolts	Yes	5.00	0.000	0.63	1.52	0.00	0.017	0.000	6.169	0.00	23.98
37.75	Safety Cable	Yes	2.75	0.000	0.38	0.78	0.00	0.017	0.000	6.268	0.00	9.92
37.75	Step bolts	Yes	2.75	0.000	0.63	0.84	0.00	0.017	0.000	6.268	0.00	13.32
40.00	Safety Cable	Yes	2.25	0.000	0.38	0.64	0.00	0.017	0.000	6.345	0.00	8.19
40.00	Step bolts	Yes	2.25	0.000	0.63	0.69	0.00	0.017	0.000	6.345	0.00	10.98
45.00	Safety Cable	Yes	5.00	0.000	0.38	1.45	0.00	0.018	0.000	6.504	0.00	18.58
45.00	Step bolts	Yes	5.00	0.000	0.63	1.55	0.00	0.018	0.000	6.504	0.00	24.79
50.00	Safety Cable	Yes	5.00	0.000	0.38	1.46	0.00	0.018	0.000	6.650	0.00	18.91
50.00	Step bolts	Yes	5.00	0.000	0.63	1.57	0.00	0.018	0.000	6.650	0.00	25.14
55.00	Safety Cable	Yes	5.00	0.000	0.38	1.47	0.00	0.018	0.000	6.785	0.00	19.22
55.00	Step bolts	Yes	5.00	0.000	0.63	1.58	0.00	0.018	0.000	6.785	0.00	25.46
60.00	Safety Cable	Yes	5.00	0.000	0.38	1.49	0.00	0.019	0.000	6.910	0.00	19.51
60.00	Step bolts	Yes	5.00	0.000	0.63	1.59	0.00	0.019	0.000	6.910	0.00	25.76
65.00	Safety Cable	Yes	5.00	0.000	0.38	1.50	0.00	0.019	0.000	7.028	0.00	19.78
65.00	Step bolts	Yes	5.00	0.000	0.63	1.60	0.00	0.019	0.000	7.028	0.00	26.04
70.00	Safety Cable	Yes	5.00	0.000	0.38	1.51	0.00	0.020	0.000	7.138	0.00	20.03
70.00	Step bolts	Yes	5.00	0.000	0.63	1.61	0.00	0.020	0.000	7.138	0.00	26.31
75.00	Safety Cable	Yes	5.00	0.000	0.38	1.52	0.00	0.020	0.000	7.243	0.00	20.27
75.00	Step bolts	Yes	5.00	0.000	0.63	1.62	0.00	0.020	0.000	7.243	0.00	26.56
76.50	Safety Cable	Yes	1.50	0.000	0.38	0.46	0.00	0.020	0.000	7.273	0.00	6.10
76.50	Step bolts	Yes	1.50	0.000	0.63	0.49	0.00	0.020	0.000	7.273	0.00	7.99
80.00	Safety Cable	Yes	3.50	0.000	0.38	1.07	0.00	0.021	0.000	7.342	0.00	14.35
80.00	Step bolts	Yes	3.50	0.000	0.63	1.14	0.00	0.021	0.000	7.342	0.00	18.76
82.75	Safety Cable	Yes	2.75	0.000	0.38	0.84	0.00	0.021	0.000	7.394	0.00	11.34
82.75	Step bolts	Yes	2.75	0.000	0.63	0.90	0.00	0.021	0.000	7.394	0.00	14.81
85.00	Safety Cable	Yes	2.25	0.000	0.38	0.69	0.00	0.021	0.000	7.436	0.00	9.32
85.00	Step bolts	Yes	2.25	0.000	0.63	0.74	0.00	0.021	0.000	7.436	0.00	12.16
90.00	Safety Cable	Yes	5.00	0.000	0.38	1.54	0.00	0.021	0.000	7.526	0.00	20.91
90.00	Step bolts	Yes	5.00	0.000	0.63	1.64	0.00	0.021	0.000	7.526	0.00	27.23
95.00	Safety Cable	Yes	5.00	0.000	0.38	1.55	0.00	0.022	0.000	7.612	0.00	21.11
95.00	Step bolts	Yes	5.00	0.000	0.63	1.65	0.00	0.022	0.000	7.612	0.00	27.44
100.00	Safety Cable	Yes	5.00	0.000	0.38	1.55	0.00	0.023	0.000	7.695	0.00	21.30
100.00	Step bolts	Yes	5.00	0.000	0.63	1.66	0.00	0.023	0.000	7.695	0.00	27.63
105.00	Safety Cable	Yes	5.00	0.000	0.38	1.56	0.00	0.023	0.000	7.774	0.00	21.48

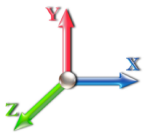
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 20

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)
105.00	Step bolts	Yes	5.00	0.000	0.63	1.67	0.00	0.023	0.000	7.774	0.00	27.82
110.00	Safety Cable	Yes	5.00	0.000	0.38	1.57	0.00	0.024	0.000	7.851	0.00	21.65
110.00	Step bolts	Yes	5.00	0.000	0.63	1.67	0.00	0.024	0.000	7.851	0.00	28.00
111.25	Safety Cable	Yes	1.25	0.000	0.38	0.39	0.00	0.025	0.000	7.870	0.00	5.42
111.25	Step bolts	Yes	1.25	0.000	0.63	0.42	0.00	0.025	0.000	7.870	0.00	7.01
115.00	Safety Cable	Yes	3.75	0.000	0.38	1.18	0.00	0.025	0.000	7.925	0.00	16.36
115.00	Step bolts	Yes	3.75	0.000	0.63	1.26	0.00	0.025	0.000	7.925	0.00	21.13
116.50	Safety Cable	Yes	1.50	0.000	0.38	0.47	0.00	0.025	0.000	7.946	0.00	6.56
116.50	Step bolts	Yes	1.50	0.000	0.63	0.50	0.00	0.025	0.000	7.946	0.00	8.47
117.00	Safety Cable	Yes	0.50	0.000	0.38	0.16	0.00	0.025	0.000	7.954	0.00	2.19
117.00	Step bolts	Yes	0.50	0.000	0.63	0.17	0.00	0.025	0.000	7.954	0.00	2.82
120.00	Safety Cable	Yes	3.00	0.000	0.38	0.95	0.00	0.025	0.000	7.996	0.00	13.19
120.00	Step bolts	Yes	3.00	0.000	0.63	1.01	0.00	0.025	0.000	7.996	0.00	17.01
125.00	Safety Cable	Yes	5.00	0.000	0.38	1.59	0.00	0.026	0.000	8.065	0.00	22.14
125.00	Step bolts	Yes	5.00	0.000	0.63	1.69	0.00	0.026	0.000	8.065	0.00	28.51
130.00	Safety Cable	Yes	5.00	0.000	0.38	1.59	0.00	0.027	0.000	8.132	0.00	22.29
130.00	Step bolts	Yes	5.00	0.000	0.63	1.70	0.00	0.027	0.000	8.132	0.00	28.67
135.00	Safety Cable	Yes	5.00	0.000	0.38	1.60	0.00	0.028	0.000	8.197	0.00	22.43
135.00	Step bolts	Yes	5.00	0.000	0.63	1.70	0.00	0.028	0.000	8.197	0.00	28.82
137.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.029	0.000	8.222	0.00	9.00
137.00	Step bolts	Yes	2.00	0.000	0.63	0.68	0.00	0.029	0.000	8.222	0.00	11.55
140.00	Safety Cable	Yes	3.00	0.000	0.38	0.96	0.00	0.029	0.000	8.260	0.00	13.54
140.00	Step bolts	Yes	3.00	0.000	0.63	1.02	0.00	0.029	0.000	8.260	0.00	17.38
145.00	Safety Cable	Yes	5.00	0.000	0.38	1.61	0.00	0.030	0.000	8.321	0.00	22.71
145.00	Step bolts	Yes	5.00	0.000	0.63	1.71	0.00	0.030	0.000	8.321	0.00	29.11
147.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.031	0.000	8.345	0.00	9.11
147.00	Step bolts	Yes	2.00	0.000	0.63	0.69	0.00	0.031	0.000	8.345	0.00	11.67
150.00	Safety Cable	Yes	3.00	0.000	0.38	0.97	0.00	0.032	0.000	8.381	0.00	13.71
150.00	Step bolts	Yes	3.00	0.000	0.63	1.03	0.00	0.032	0.000	8.381	0.00	17.55
										Totals:	**0.0**	**1,371.1**

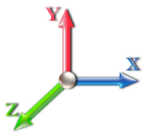
Calculated Forces

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 21

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

Dead Load Factor 1.20

Wind Load Factor 1.00



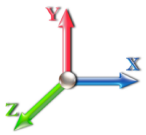
Iterations 20

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	-83.16	-9.50	-13.26	-928.04	-0.02	928.04	7146.92	3573.46	19526.6	9777.85	0.00	0.000	0.000	0.107
5.00	-80.28	-9.33	-13.26	-880.54	-0.02	880.54	7059.53	3529.77	18917.0	9472.60	0.01	-0.022	0.000	0.104
10.00	-77.42	-9.17	-13.26	-833.88	-0.02	833.88	6970.23	3485.12	18311.6	9169.43	0.05	-0.044	-0.001	0.102
15.00	-74.59	-9.00	-13.26	-788.05	-0.02	788.05	6879.02	3439.51	17710.6	8868.51	0.10	-0.066	-0.001	0.100
20.00	-71.79	-8.82	-13.26	-743.05	-0.02	743.05	6785.91	3392.96	17114.5	8569.97	0.19	-0.088	-0.001	0.097
25.00	-69.03	-8.64	-13.26	-698.94	-0.02	698.94	6690.89	3345.45	16523.4	8273.98	0.29	-0.110	-0.002	0.095
30.00	-66.30	-8.45	-13.26	-655.74	-0.02	655.74	6593.97	3296.98	15937.6	7980.68	0.42	-0.132	-0.002	0.092
35.00	-63.63	-8.25	-13.26	-613.50	-0.02	613.50	6495.14	3247.57	15357.6	7690.22	0.57	-0.154	-0.003	0.090
37.75	-62.17	-8.14	-13.26	-590.82	-0.02	590.82	6439.97	3219.98	15041.1	7531.73	0.66	-0.166	-0.003	0.088
40.00	-60.26	-8.05	-13.26	-572.50	-0.02	572.50	6394.40	3197.20	14783.5	7402.76	0.74	-0.177	-0.003	0.087
45.00	-56.06	-7.84	-13.26	-532.23	-0.03	532.23	5339.68	2669.84	12285.4	6151.87	0.94	-0.198	-0.004	0.097
50.00	-53.70	-7.64	-13.26	-493.02	-0.03	493.02	5259.83	2629.91	11825.4	5921.52	1.16	-0.220	-0.004	0.093
55.00	-51.39	-7.43	-13.26	-454.83	-0.03	454.83	5178.07	2589.04	11369.6	5693.28	1.40	-0.244	-0.005	0.090
60.00	-49.12	-7.22	-13.26	-417.68	-0.04	417.68	5094.41	2547.20	10918.3	5467.29	1.67	-0.267	-0.006	0.086
65.00	-46.90	-7.01	-13.26	-381.57	-0.04	381.57	5008.84	2504.42	10471.8	5243.71	1.96	-0.290	-0.006	0.082
70.00	-44.72	-6.80	-13.26	-346.50	-0.04	346.50	4921.36	2460.68	10030.4	5022.69	2.28	-0.312	-0.007	0.078
75.00	-42.58	-6.59	-13.26	-312.48	-0.04	312.48	4831.98	2415.99	9594.48	4804.37	2.62	-0.334	-0.008	0.074
76.50	-41.95	-6.53	-13.26	-302.60	-0.05	302.60	4804.80	2402.40	9464.78	4739.43	2.72	-0.340	-0.008	0.073
80.00	-39.37	-6.32	-13.05	-279.74	-0.05	279.74	4740.69	2370.35	9164.20	4588.91	2.98	-0.355	-0.009	0.069
82.75	-37.60	-6.20	-13.05	-262.35	-0.05	262.35	3881.85	1940.93	7532.31	3771.76	3.19	-0.367	-0.010	0.079
85.00	-36.75	-6.11	-13.05	-248.40	-0.05	248.40	3850.71	1925.35	7380.86	3695.92	3.36	-0.376	-0.010	0.077
90.00	-34.91	-5.90	-13.05	-217.84	-0.06	217.84	3780.12	1890.06	7047.00	3528.74	3.77	-0.398	-0.011	0.071
95.00	-33.11	-5.70	-13.05	-188.32	-0.06	188.32	3707.63	1853.81	6717.10	3363.54	4.19	-0.419	-0.013	0.065
100.00	-31.35	-5.49	-13.05	-159.84	-0.07	159.84	3633.23	1816.61	6391.46	3200.48	4.64	-0.438	-0.014	0.059
105.00	-29.64	-5.29	-13.05	-132.38	-0.08	132.38	3556.92	1778.46	6070.39	3039.70	5.11	-0.455	-0.016	0.052
110.00	-27.96	-5.08	-13.05	-105.95	-0.08	105.95	3478.71	1739.35	5754.18	2881.36	5.60	-0.471	-0.017	0.045
111.25	-27.55	-5.03	-13.05	-99.59	-0.08	99.59	3458.86	1729.43	5675.92	2842.18	5.72	-0.475	-0.018	0.043
115.00	-25.77	-4.88	-13.05	-80.72	-0.09	80.72	3398.59	1699.29	5443.13	2725.61	6.10	-0.485	-0.019	0.037
116.50	-25.07	-4.81	-13.05	-73.40	-0.09	73.40	2333.72	1166.86	3773.22	1889.41	6.25	-0.488	-0.020	0.050
117.00	-18.21	-3.20	-6.90	-71.00	-0.04	71.00	2329.14	1164.57	3753.57	1879.57	6.30	-0.490	-0.020	0.046
120.00	-17.44	-3.09	-6.90	-61.38	-0.04	61.38	2301.24	1150.62	3636.08	1820.74	6.61	-0.498	-0.021	0.041
125.00	-16.17	-2.89	-6.90	-45.95	-0.05	45.95	2253.21	1126.61	3441.83	1723.47	7.14	-0.510	-0.023	0.034
130.00	-14.94	-2.70	-6.90	-31.49	-0.05	31.49	2203.28	1101.64	3249.82	1627.33	7.68	-0.519	-0.024	0.026
135.00	-13.75	-2.51	-6.90	-17.99	-0.06	17.99	2151.44	1075.72	3060.35	1532.45	8.23	-0.526	-0.026	0.018
137.00	-7.89	-1.38	-3.10	-12.97	-0.02	12.97	2130.17	1065.09	2985.33	1494.89	8.45	-0.528	-0.027	0.012
140.00	-7.24	-1.27	-3.10	-8.83	-0.02	8.83	2097.70	1048.85	2873.71	1438.99	8.78	-0.530	-0.028	0.010
145.00	-6.20	-1.09	-3.10	-2.49	-0.03	2.49	2042.04	1021.02	2690.20	1347.10	9.34	-0.532	-0.029	0.005
147.00	-0.59	-0.10	0.00	-0.31	0.00	0.31	2019.25	1009.62	2617.75	1310.82	9.56	-0.532	-0.029	0.001
150.00	0.00	-0.10	0.00	0.00	0.00	0.00	1984.48	992.24	2510.13	1256.93	9.90	-0.532	-0.029	0.000

Seismic Segment Forces (Factored)

Structure:	CT03109-S		**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 22

Load Case:	1.2D + 1.0E					**Iterations**	18
Gust Response Factor	1.10			**Sds**	0.20	**Ss**	0.19
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10	**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.52	**SA**	0.05	**Seismic Importance Factor**	1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1777.5	0.00	0.03	0.02	26.13	
10.00		1743.3	0.01	0.05	0.03	38.81	
15.00		1709.0	0.02	0.06	0.04	44.91	
20.00		1674.8	0.03	0.07	0.04	47.69	
25.00		1640.5	0.05	0.07	0.04	48.92	
30.00		1606.3	0.08	0.07	0.04	49.51	
35.00		1572.0	0.10	0.07	0.04	49.88	
37.75	Bot - Section 2	850.04	0.12	0.07	0.03	27.38	
40.00		1299.5	0.13	0.07	0.03	42.34	
45.00	Top - Section 1	2841.3	0.17	0.07	0.03	94.38	
50.00		1307.8	0.21	0.06	0.02	43.63	
55.00		1277.8	0.25	0.05	0.02	41.67	
60.00		1247.8	0.30	0.04	0.01	38.06	
65.00		1217.9	0.35	0.03	0.01	32.39	
70.00		1187.9	0.41	0.01	0.01	24.50	
75.00		1157.9	0.47	-0.01	0.01	14.66	
76.50	Bot - Section 3	341.55	0.49	-0.01	0.01	3.40	
80.00	Appurtenance(s)	1571.0	0.54	-0.03	0.01	5.20	
82.75	Top - Section 2	1137.5	0.58	-0.04	0.01	-2.31	
85.00		427.75	0.61	-0.06	0.02	-2.69	
90.00		931.94	0.68	-0.08	0.03	-13.61	
95.00		906.25	0.76	-0.10	0.04	-18.26	
100.00		880.56	0.84	-0.12	0.07	-19.15	
105.00		854.88	0.93	-0.12	0.10	-15.91	
110.00		829.19	1.02	-0.11	0.14	-8.57	
111.25	Bot - Section 4	203.28	1.04	-0.10	0.15	-1.51	
115.00		1057.9	1.11	-0.06	0.19	3.47	
116.50	Top - Section 3	416.10	1.14	-0.04	0.21	3.50	
117.00	Appurtenance(s)	3384.2	1.15	-0.04	0.22	34.66	
120.00		353.75	1.21	0.01	0.26	7.89	
125.00		574.17	1.31	0.14	0.35	26.89	
130.00		554.90	1.42	0.32	0.45	42.65	
135.00		535.63	1.53	0.58	0.58	60.26	
137.00	Appurtenance(s)	1548.2	1.58	0.71	0.64	198.70	
140.00		307.50	1.65	0.93	0.73	47.30	
145.00		497.09	1.77	1.39	0.92	99.86	
147.00	Appurtenance(s)	3163.8	1.82	1.61	1.00	700.32	
150.00		284.38	1.89	1.98	1.14	72.18	
	Totals:	**44,873.8**				**1,889.1**	**Total Wind:** **32,121.5**

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

Calculated Forces

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Load Case:	1.2D + 1.0E							**Iterations**	18
Gust Response Factor	1.10			**Sds**	0.20			**Ss**	0.19
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.52	**SA**	0.05	**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	-58.83	-1.97	0.00	-214.98	0.00	214.98	7146.92	3573.46	19526.6	9777.85		0.00	0.00	0.030
5.00	-56.50	-1.95	0.00	-205.11	0.00	205.11	7059.53	3529.77	18917.0	9472.60		0.00	-0.01	0.030
10.00	-54.22	-1.92	0.00	-195.35	0.00	195.35	6970.23	3485.12	18311.6	9169.43		0.01	-0.01	0.029
15.00	-51.98	-1.88	0.00	-185.76	0.00	185.76	6879.02	3439.51	17710.6	8868.51		0.02	-0.02	0.029
20.00	-49.78	-1.83	0.00	-176.37	0.00	176.37	6785.91	3392.96	17114.5	8569.97		0.04	-0.02	0.028
25.00	-47.62	-1.79	0.00	-167.21	0.00	167.21	6690.89	3345.45	16523.4	8273.98		0.07	-0.03	0.027
30.00	-45.50	-1.74	0.00	-158.27	0.00	158.27	6593.97	3296.98	15937.6	7980.68		0.10	-0.03	0.027
35.00	-43.42	-1.69	0.00	-149.56	0.00	149.56	6495.14	3247.57	15357.6	7690.22		0.13	-0.04	0.026
37.75	-42.29	-1.67	0.00	-144.90	0.00	144.90	6439.97	3219.98	15041.1	7531.73		0.16	-0.04	0.026
40.00	-40.65	-1.63	0.00	-141.15	0.00	141.15	6394.40	3197.20	14783.5	7402.76		0.17	-0.04	0.025
45.00	-37.05	-1.53	0.00	-133.02	0.00	133.02	5339.68	2669.84	12285.4	6151.87		0.22	-0.05	0.029
50.00	-35.29	-1.49	0.00	-125.35	0.00	125.35	5259.83	2629.91	11825.4	5921.52		0.27	-0.05	0.028
55.00	-33.56	-1.45	0.00	-117.89	0.00	117.89	5178.07	2589.04	11369.6	5693.28		0.33	-0.06	0.027
60.00	-31.87	-1.42	0.00	-110.63	0.00	110.63	5094.41	2547.20	10918.3	5467.29		0.40	-0.07	0.026
65.00	-30.22	-1.38	0.00	-103.56	0.00	103.56	5008.84	2504.42	10471.8	5243.71		0.47	-0.07	0.026
70.00	-28.61	-1.36	0.00	-96.64	0.00	96.64	4921.36	2460.68	10030.4	5022.69		0.55	-0.08	0.025
75.00	-27.02	-1.35	0.00	-89.83	0.00	89.83	4831.98	2415.99	9594.48	4804.37		0.63	-0.08	0.024
76.50	-26.56	-1.34	0.00	-87.81	0.00	87.81	4804.80	2402.40	9464.78	4739.43		0.66	-0.09	0.024
80.00	-24.54	-1.34	0.00	-83.11	0.00	83.11	4740.69	2370.35	9164.20	4588.91		0.72	-0.09	0.023
82.75	-23.07	-1.34	0.00	-79.44	0.00	79.44	3881.85	1940.93	7532.31	3771.76		0.77	-0.09	0.027
85.00	-22.47	-1.34	0.00	-76.43	0.00	76.43	3850.71	1925.35	7380.86	3695.92		0.82	-0.10	0.027
90.00	-21.16	-1.34	0.00	-69.75	0.00	69.75	3780.12	1890.06	7047.00	3528.74		0.92	-0.10	0.025
95.00	-19.88	-1.34	0.00	-63.07	0.00	63.07	3707.63	1853.81	6717.10	3363.54		1.04	-0.11	0.024
100.00	-18.64	-1.34	0.00	-56.39	0.00	56.39	3633.23	1816.61	6391.46	3200.48		1.15	-0.12	0.023
105.00	-17.42	-1.34	0.00	-49.71	0.00	49.71	3556.92	1778.46	6070.39	3039.70		1.28	-0.12	0.021
110.00	-16.24	-1.33	0.00	-43.03	0.00	43.03	3478.71	1739.35	5754.18	2881.36		1.41	-0.13	0.020
111.25	-15.94	-1.33	0.00	-41.36	0.00	41.36	3458.86	1729.43	5675.92	2842.18		1.44	-0.13	0.019
115.00	-14.53	-1.33	0.00	-36.36	0.00	36.36	3398.59	1699.29	5443.13	2725.61		1.55	-0.13	0.018
116.50	-13.98	-1.32	0.00	-34.36	0.00	34.36	2333.72	1166.86	3773.22	1889.41		1.59	-0.14	0.024
117.00	-9.90	-1.28	0.00	-33.70	0.00	33.70	2329.14	1164.57	3753.57	1879.57		1.61	-0.14	0.022
120.00	-9.40	-1.27	0.00	-29.86	0.00	29.86	2301.24	1150.62	3636.08	1820.74		1.69	-0.14	0.020
125.00	-8.60	-1.24	0.00	-23.51	0.00	23.51	2253.21	1126.61	3441.83	1723.47		1.84	-0.15	0.017
130.00	-7.82	-1.20	0.00	-17.29	0.00	17.29	2203.28	1101.64	3249.82	1627.33		2.00	-0.15	0.014
135.00	-7.07	-1.14	0.00	-11.29	0.00	11.29	2151.44	1075.72	3060.35	1532.45		2.16	-0.16	0.011
137.00	-5.17	-0.93	0.00	-9.02	0.00	9.02	2130.17	1065.09	2985.33	1494.89		2.23	-0.16	0.008
140.00	-4.78	-0.89	0.00	-6.22	0.00	6.22	2097.70	1048.85	2873.71	1438.99		2.33	-0.16	0.007
145.00	-4.15	-0.78	0.00	-1.79	0.00	1.79	2042.04	1021.02	2690.20	1347.10		2.49	-0.16	0.003
147.00	-0.35	-0.07	0.00	-0.22	0.00	0.22	2019.25	1009.62	2617.75	1310.82		2.56	-0.16	0.000
150.00	0.00	-0.07	0.00	0.00	0.00	0.00	1984.48	992.24	2510.13	1256.93		2.66	-0.16	0.000

Seismic Segment Forces (Factored)

Structure:	CT03109-S		**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 24

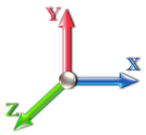
Load Case:	0.9D + 1.0E					**Iterations**	18
Gust Response Factor	1.10			**Sds**	0.20	**Ss**	0.19
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10	**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.52	**SA**	0.05	**Seismic Importance Factor**	1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1777.5	0.00	0.03	0.02	26.13	
10.00		1743.3	0.01	0.05	0.03	38.81	
15.00		1709.0	0.02	0.06	0.04	44.91	
20.00		1674.8	0.03	0.07	0.04	47.69	
25.00		1640.5	0.05	0.07	0.04	48.92	
30.00		1606.3	0.08	0.07	0.04	49.51	
35.00		1572.0	0.10	0.07	0.04	49.88	
37.75	Bot - Section 2	850.04	0.12	0.07	0.03	27.38	
40.00		1299.5	0.13	0.07	0.03	42.34	
45.00	Top - Section 1	2841.3	0.17	0.07	0.03	94.38	
50.00		1307.8	0.21	0.06	0.02	43.63	
55.00		1277.8	0.25	0.05	0.02	41.67	
60.00		1247.8	0.30	0.04	0.01	38.06	
65.00		1217.9	0.35	0.03	0.01	32.39	
70.00		1187.9	0.41	0.01	0.01	24.50	
75.00		1157.9	0.47	-0.01	0.01	14.66	
76.50	Bot - Section 3	341.55	0.49	-0.01	0.01	3.40	
80.00	Appurtenance(s)	1571.0	0.54	-0.03	0.01	5.20	
82.75	Top - Section 2	1137.5	0.58	-0.04	0.01	-2.31	
85.00		427.75	0.61	-0.06	0.02	-2.69	
90.00		931.94	0.68	-0.08	0.03	-13.61	
95.00		906.25	0.76	-0.10	0.04	-18.26	
100.00		880.56	0.84	-0.12	0.07	-19.15	
105.00		854.88	0.93	-0.12	0.10	-15.91	
110.00		829.19	1.02	-0.11	0.14	-8.57	
111.25	Bot - Section 4	203.28	1.04	-0.10	0.15	-1.51	
115.00		1057.9	1.11	-0.06	0.19	3.47	
116.50	Top - Section 3	416.10	1.14	-0.04	0.21	3.50	
117.00	Appurtenance(s)	3384.2	1.15	-0.04	0.22	34.66	
120.00		353.75	1.21	0.01	0.26	7.89	
125.00		574.17	1.31	0.14	0.35	26.89	
130.00		554.90	1.42	0.32	0.45	42.65	
135.00		535.63	1.53	0.58	0.58	60.26	
137.00	Appurtenance(s)	1548.2	1.58	0.71	0.64	198.70	
140.00		307.50	1.65	0.93	0.73	47.30	
145.00		497.09	1.77	1.39	0.92	99.86	
147.00	Appurtenance(s)	3163.8	1.82	1.61	1.00	700.32	
150.00		284.38	1.89	1.98	1.14	72.18	
	Totals:	**44,873.8**				**1,889.1**	**Total Wind:** **32,121.5**

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

Calculated Forces

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Load Case:	0.9D + 1.0E							**Iterations**	18
Gust Response Factor	1.10			**Sds**	0.20			**Ss**	0.19
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.52	**SA**	0.05			**Seismic Importance Factor**	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-44.12	-1.97	0.00	-213.92	0.00	213.92	7146.92	3573.46	19526.6	9777.85		0.00	0.00	0.028
5.00	-42.38	-1.95	0.00	-204.06	0.00	204.06	7059.53	3529.77	18917.0	9472.60		0.00	-0.01	0.028
10.00	-40.66	-1.91	0.00	-194.31	0.00	194.31	6970.23	3485.12	18311.6	9169.43		0.01	-0.01	0.027
15.00	-38.98	-1.87	0.00	-184.73	0.00	184.73	6879.02	3439.51	17710.6	8868.51		0.02	-0.02	0.026
20.00	-37.33	-1.83	0.00	-175.37	0.00	175.37	6785.91	3392.96	17114.5	8569.97		0.04	-0.02	0.026
25.00	-35.71	-1.78	0.00	-166.23	0.00	166.23	6690.89	3345.45	16523.4	8273.98		0.07	-0.03	0.025
30.00	-34.12	-1.73	0.00	-157.32	0.00	157.32	6593.97	3296.98	15937.6	7980.68		0.10	-0.03	0.025
35.00	-32.56	-1.69	0.00	-148.64	0.00	148.64	6495.14	3247.57	15357.6	7690.22		0.13	-0.04	0.024
37.75	-31.72	-1.66	0.00	-144.01	0.00	144.01	6439.97	3219.98	15041.1	7531.73		0.15	-0.04	0.024
40.00	-30.49	-1.62	0.00	-140.27	0.00	140.27	6394.40	3197.20	14783.5	7402.76		0.17	-0.04	0.024
45.00	-27.79	-1.52	0.00	-132.18	0.00	132.18	5339.68	2669.84	12285.4	6151.87		0.22	-0.05	0.027
50.00	-26.47	-1.48	0.00	-124.55	0.00	124.55	5259.83	2629.91	11825.4	5921.52		0.27	-0.05	0.026
55.00	-25.17	-1.44	0.00	-117.14	0.00	117.14	5178.07	2589.04	11369.6	5693.28		0.33	-0.06	0.025
60.00	-23.91	-1.41	0.00	-109.93	0.00	109.93	5094.41	2547.20	10918.3	5467.29		0.40	-0.06	0.025
65.00	-22.67	-1.37	0.00	-102.90	0.00	102.90	5008.84	2504.42	10471.8	5243.71		0.47	-0.07	0.024
70.00	-21.45	-1.35	0.00	-96.03	0.00	96.03	4921.36	2460.68	10030.4	5022.69		0.54	-0.08	0.023
75.00	-20.27	-1.34	0.00	-89.27	0.00	89.27	4831.98	2415.99	9594.48	4804.37		0.63	-0.08	0.023
76.50	-19.92	-1.33	0.00	-87.27	0.00	87.27	4804.80	2402.40	9464.78	4739.43		0.65	-0.08	0.023
80.00	-18.40	-1.33	0.00	-82.61	0.00	82.61	4740.69	2370.35	9164.20	4588.91		0.72	-0.09	0.022
82.75	-17.30	-1.33	0.00	-78.96	0.00	78.96	3881.85	1940.93	7532.31	3771.76		0.77	-0.09	0.025
85.00	-16.85	-1.33	0.00	-75.97	0.00	75.97	3850.71	1925.35	7380.86	3695.92		0.81	-0.10	0.025
90.00	-15.87	-1.33	0.00	-69.34	0.00	69.34	3780.12	1890.06	7047.00	3528.74		0.92	-0.10	0.024
95.00	-14.91	-1.33	0.00	-62.71	0.00	62.71	3707.63	1853.81	6717.10	3363.54		1.03	-0.11	0.023
100.00	-13.98	-1.33	0.00	-56.08	0.00	56.08	3633.23	1816.61	6391.46	3200.48		1.15	-0.12	0.021
105.00	-13.06	-1.33	0.00	-49.45	0.00	49.45	3556.92	1778.46	6070.39	3039.70		1.27	-0.12	0.020
110.00	-12.18	-1.32	0.00	-42.82	0.00	42.82	3478.71	1739.35	5754.18	2881.36		1.40	-0.13	0.018
111.25	-11.96	-1.32	0.00	-41.16	0.00	41.16	3458.86	1729.43	5675.92	2842.18		1.44	-0.13	0.018
115.00	-10.90	-1.32	0.00	-36.19	0.00	36.19	3398.59	1699.29	5443.13	2725.61		1.54	-0.13	0.016
116.50	-10.48	-1.32	0.00	-34.21	0.00	34.21	2333.72	1166.86	3773.22	1889.41		1.58	-0.14	0.023
117.00	-7.42	-1.27	0.00	-33.56	0.00	33.56	2329.14	1164.57	3753.57	1879.57		1.60	-0.14	0.021
120.00	-7.05	-1.27	0.00	-29.73	0.00	29.73	2301.24	1150.62	3636.08	1820.74		1.68	-0.14	0.019
125.00	-6.45	-1.24	0.00	-23.41	0.00	23.41	2253.21	1126.61	3441.83	1723.47		1.83	-0.15	0.016
130.00	-5.87	-1.19	0.00	-17.22	0.00	17.22	2203.28	1101.64	3249.82	1627.33		1.99	-0.15	0.013
135.00	-5.30	-1.13	0.00	-11.25	0.00	11.25	2151.44	1075.72	3060.35	1532.45		2.15	-0.15	0.010
137.00	-3.87	-0.93	0.00	-8.98	0.00	8.98	2130.17	1065.09	2985.33	1494.89		2.21	-0.16	0.008
140.00	-3.58	-0.88	0.00	-6.19	0.00	6.19	2097.70	1048.85	2873.71	1438.99		2.31	-0.16	0.006
145.00	-3.11	-0.78	0.00	-1.78	0.00	1.78	2042.04	1021.02	2690.20	1347.10		2.48	-0.16	0.003
147.00	-0.26	-0.07	0.00	-0.22	0.00	0.22	2019.25	1009.62	2617.75	1310.82		2.54	-0.16	0.000
150.00	0.00	-0.07	0.00	0.00	0.00	0.00	1984.48	992.24	2510.13	1256.93		2.64	-0.16	0.000

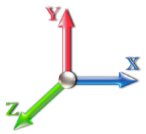
Wind Loading - Shaft

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 20

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	313.48	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	307.54	0.650	0.000	5.00	28.066	18.24	149.3	0.0	1777.6
10.00		1.00	0.85	7.442	8.19	301.60	0.650	0.000	5.00	27.530	17.89	146.5	0.0	1743.3
15.00		1.00	0.85	7.442	8.19	295.67	0.650	0.000	5.00	26.993	17.55	143.6	0.0	1709.1
20.00		1.00	0.90	7.896	8.69	298.44	0.650	0.000	5.00	26.456	17.20	149.4	0.0	1674.8
25.00		1.00	0.95	8.276	9.10	299.27	0.650	0.000	5.00	25.920	16.85	153.4	0.0	1640.6
30.00		1.00	0.98	8.600	9.46	298.69	0.650	0.000	5.00	25.383	16.50	156.1	0.0	1606.3
35.00		1.00	1.01	8.883	9.77	297.09	0.650	0.000	5.00	24.846	16.15	157.8	0.0	1572.1
37.75	Bot - Section 2	1.00	1.03	9.026	9.93	295.86	0.650	0.000	2.75	13.437	8.73	86.7	0.0	850.0
40.00		1.00	1.04	9.137	10.05	294.71	0.650	0.000	2.25	11.039	7.18	72.1	0.0	1299.6
45.00	Top - Section 1	1.00	1.07	9.366	10.30	291.73	0.650	0.000	5.00	24.143	15.69	161.7	0.0	2841.4
50.00		1.00	1.09	9.576	10.53	292.89	0.650	0.000	5.00	23.606	15.34	161.6	0.0	1307.8
55.00		1.00	1.12	9.770	10.75	289.04	0.650	0.000	5.00	23.070	15.00	161.2	0.0	1277.8
60.00		1.00	1.14	9.951	10.95	284.84	0.650	0.000	5.00	22.533	14.65	160.3	0.0	1247.9
65.00		1.00	1.16	10.120	11.13	280.32	0.650	0.000	5.00	21.996	14.30	159.2	0.0	1217.9
70.00		1.00	1.17	10.279	11.31	275.54	0.650	0.000	5.00	21.460	13.95	157.7	0.0	1187.9
75.00		1.00	1.19	10.430	11.47	270.52	0.650	0.000	5.00	20.923	13.60	156.0	0.0	1158.0
76.50	Bot - Section 3	1.00	1.20	10.473	11.52	268.97	0.650	0.000	1.50	6.172	4.01	46.2	0.0	341.5
80.00	Appurtenance(s)	1.00	1.21	10.572	11.63	265.28	0.650	0.000	3.50	14.436	9.38	109.1	0.0	1472.1
82.75	Top - Section 2	1.00	1.22	10.648	11.71	262.32	0.650	0.000	2.75	11.158	7.25	84.9	0.0	1137.5
85.00		1.00	1.22	10.708	11.78	264.07	0.650	0.000	2.25	9.009	5.86	69.0	0.0	427.8
90.00		1.00	1.24	10.838	11.92	258.50	0.650	0.000	5.00	19.630	12.76	152.1	0.0	931.9
95.00		1.00	1.25	10.962	12.06	252.77	0.650	0.000	5.00	19.093	12.41	149.6	0.0	906.3
100.00		1.00	1.27	11.081	12.19	246.89	0.650	0.000	5.00	18.557	12.06	147.0	0.0	880.6
105.00		1.00	1.28	11.195	12.31	240.88	0.650	0.000	5.00	18.020	11.71	144.2	0.0	854.9
110.00		1.00	1.29	11.305	12.44	234.75	0.650	0.000	5.00	17.483	11.36	141.3	0.0	829.2
111.25	Bot - Section 4	1.00	1.29	11.332	12.47	233.19	0.650	0.000	1.25	4.287	2.79	34.7	0.0	203.3
115.00		1.00	1.30	11.412	12.55	228.49	0.650	0.000	3.75	12.838	8.34	104.8	0.0	1057.9
116.50	Top - Section 3	1.00	1.31	11.443	12.59	226.60	0.650	0.000	1.50	5.051	3.28	41.3	0.0	416.1
117.00	Appurtenance(s)	1.00	1.31	11.453	12.60	229.23	0.650	0.000	0.50	1.673	1.09	13.7	0.0	59.6
120.00		1.00	1.32	11.514	12.67	225.41	0.650	0.000	3.00	9.924	6.45	81.7	0.0	353.7
125.00		1.00	1.33	11.614	12.78	218.96	0.650	0.000	5.00	16.111	10.47	133.8	0.0	574.2
130.00		1.00	1.34	11.710	12.88	212.42	0.650	0.000	5.00	15.575	10.12	130.4	0.0	554.9
135.00		1.00	1.35	11.803	12.98	205.79	0.650	0.000	5.00	15.038	9.77	126.9	0.0	535.6
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	203.11	0.650	0.000	2.00	5.865	3.81	49.6	0.0	208.9
140.00		1.00	1.36	11.894	13.08	199.07	0.650	0.000	3.00	8.636	5.61	73.4	0.0	307.5
145.00		1.00	1.37	11.982	13.18	192.27	0.650	0.000	5.00	13.965	9.08	119.6	0.0	497.1
147.00	Appurtenance(s)	1.00	1.37	12.017	13.22	189.53	0.650	0.000	2.00	5.436	3.53	46.7	0.0	193.4
150.00		1.00	1.38	12.068	13.27	185.40	0.650	0.000	3.00	7.992	5.19	69.0	0.0	284.4
								Totals:	**150.00**			**4,401.9**		**37,140.4**

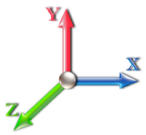
Discrete Appurtenance Forces

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 20

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	147.00	Alcatel Lucent -	3	12.017	13.219	0.55	0.80	6.71	210.00	5.348	0.000	88.65	474.14	0.00
2	147.00	Low Profile Platform	1	12.017	13.219	1.00	1.00	18.38	2100.00	0.000	0.000	242.96	0.00	0.00
3	147.00	RFS - APXVSPP18-C-A20	3	12.017	13.219	0.66	0.80	15.98	171.00	5.348	0.000	211.18	1129.4	0.00
4	147.00	RFS - APXVTM14-C-120	3	12.017	13.219	0.63	0.80	12.02	168.00	5.348	0.000	158.90	849.80	0.00
5	147.00	RFS - ACU-A20-N	4	12.017	13.219	0.80	0.80	0.22	4.00	5.348	0.000	2.96	15.84	0.00
6	147.00	Alcatel Lucent - 1900MHz	3	12.017	13.219	0.70	0.80	8.03	132.00	5.348	0.000	106.09	567.37	0.00
7	147.00	Alcatel Lucent - 800 MHz	3	12.017	13.219	0.74	0.80	5.50	159.00	5.348	0.000	72.67	388.68	0.00
8	147.00	Alcatel Lucent - 800 MHz	3	12.017	13.219	0.55	0.80	1.11	26.40	5.348	0.000	14.67	78.44	0.00
9	137.00	GPS	1	11.840	13.024	1.00	1.00	0.91	4.00	5.455	0.000	11.85	64.66	0.00
10	137.00	RFS DB-T1-6Z-8AB-0Z	1	11.840	13.024	0.57	0.80	2.73	18.90	5.455	0.000	35.51	193.72	0.00
11	137.00	RFS FD9R6004/2C-3L	6	11.840	13.024	0.80	0.80	1.73	18.60	5.455	0.000	22.51	122.78	0.00
12	137.00	Alcatel Lucent	3	11.840	13.024	0.66	0.80	4.96	132.00	5.455	0.000	64.59	352.37	0.00
13	137.00	Andrew LNX-6514DS	3	11.840	13.024	0.64	0.80	15.53	99.30	5.455	0.000	202.30	1103.6	0.00
14	137.00	Andrew HBX-6517DS	3	11.840	13.024	0.60	0.80	9.52	56.10	5.455	0.000	124.01	676.56	0.00
15	137.00	Antel BXA - 171063-8BF	3	11.840	13.024	0.67	0.80	5.93	31.50	5.455	0.000	77.19	421.13	0.00
16	137.00	Low Profile Platform	1	11.840	13.024	1.00	1.00	23.03	928.00	0.000	0.000	299.94	0.00	0.00
17	137.00	Antel BXA 70063/6CF	3	11.840	13.024	0.58	0.80	13.26	51.00	5.455	0.000	172.73	942.34	0.00
18	117.00	Powerwave - LGP21401	6	11.453	12.598	0.80	0.80	6.19	114.00	4.670	0.000	78.01	364.32	0.00
19	117.00	Powerwave 7770.00	3	11.453	12.598	0.58	0.80	9.64	105.00	5.670	0.000	121.40	688.35	0.00
20	117.00	Sector Mount (SitePro1	3	11.453	12.598	0.56	0.75	31.35	1974.00	3.170	0.000	395.01	1252.2	0.00
21	117.00	CCI - OPA65R-BU6DA	3	11.453	12.598	0.58	0.80	21.96	180.60	4.670	0.000	276.70	1292.2	0.00
22	117.00	CCI - DMP65R-BU6DA	3	11.453	12.598	0.58	0.80	21.96	238.20	4.670	0.000	276.70	1292.2	0.00
23	117.00	Ericsson - 4449 B5/B12	3	11.453	12.598	0.69	0.80	4.07	213.00	4.670	0.000	51.23	239.24	0.00
24	117.00	Ericsson - 8843	3	11.453	12.598	0.73	0.80	3.58	216.00	4.670	0.000	45.12	210.74	0.00
25	117.00	Ericsson - RRUS 4478	3	11.453	12.598	0.65	0.80	3.93	180.00	4.670	0.000	49.47	231.04	0.00
26	117.00	Raycap -	1	11.453	12.598	0.80	0.80	1.76	32.80	4.670	0.000	22.17	103.55	0.00
27	117.00	Raycap -	1	11.453	12.598	0.66	0.80	1.67	71.00	4.670	0.000	21.00	98.06	0.00
28	80.00	Side Arm	1	10.572	11.629	1.00	1.00	2.00	95.00	3.512	0.000	23.26	81.68	0.00
29	80.00	GPS	1	10.572	11.629	1.00	1.00	0.91	4.00	5.012	0.000	10.58	53.04	0.00
							Totals:		**7,733.40**			**3,279.37**		

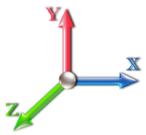
Total Applied Force Summary

Structure:	CT03109-S		**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 28

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 20

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		149.34	1936.71	0.00	0.00
10.00		146.48	1902.47	0.00	0.00
15.00		143.63	1868.22	0.00	0.00
20.00		149.37	1833.97	0.00	0.00
25.00		153.37	1799.72	0.00	0.00
30.00		156.08	1765.47	0.00	0.00
35.00		157.82	1731.22	0.00	0.00
37.75		86.72	937.57	0.00	0.00
40.00		72.12	1371.18	0.00	0.00
45.00		161.68	3000.50	0.00	0.00
50.00		161.63	1466.95	0.00	0.00
55.00		161.16	1436.99	0.00	0.00
60.00		160.32	1407.02	0.00	0.00
65.00		159.16	1377.05	0.00	0.00
70.00		157.72	1347.08	0.00	0.00
75.00		156.02	1317.11	0.00	0.00
76.50		46.22	389.29	0.00	0.00
80.00	(2) attachments	142.97	1682.48	134.72	0.00
82.75		84.95	1224.59	0.00	0.00
85.00		68.97	499.01	0.00	0.00
90.00		152.11	1090.28	0.00	0.00
95.00		149.65	1064.60	0.00	0.00
100.00		147.02	1038.91	0.00	0.00
105.00		144.24	1013.22	0.00	0.00
110.00		141.32	987.53	0.00	0.00
111.25		34.74	242.87	0.00	0.00
115.00		104.75	1176.70	0.00	0.00
116.50		41.32	463.60	0.00	0.00
117.00	(29) attachments	1350.50	3400.07	5771.99	0.00
120.00		81.70	409.88	0.00	0.00
125.00		133.79	667.71	0.00	0.00
130.00		130.40	648.44	0.00	0.00
135.00		126.91	629.17	0.00	0.00
137.00	(24) attachments	1060.29	1585.67	3877.20	0.00
140.00		73.45	322.89	0.00	0.00
145.00		119.64	522.74	0.00	0.00
147.00	(23) attachments	944.78	3174.10	3503.68	0.00
150.00		68.96	288.32	0.00	0.00
	Totals:	**7,681.30**	**49,021.29**	**13,287.59**	**0.00**

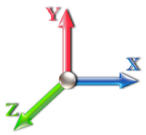
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 20

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	7.442	0.00	1.37
5.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.015	0.000	7.442	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.015	0.000	7.442	0.00	1.37
10.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.015	0.000	7.442	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	7.442	0.00	1.37
15.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.016	0.000	7.442	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	7.896	0.00	1.37
20.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.016	0.000	7.896	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.016	0.000	8.276	0.00	1.37
25.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.016	0.000	8.276	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	8.600	0.00	1.37
30.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	8.600	0.00	5.20
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.017	0.000	8.883	0.00	1.37
35.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	8.883	0.00	5.20
37.75	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.017	0.000	9.026	0.00	0.75
37.75	Step bolts	Yes	2.75	0.000	0.63	0.14	0.00	0.017	0.000	9.026	0.00	2.86
40.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.017	0.000	9.137	0.00	0.61
40.00	Step bolts	Yes	2.25	0.000	0.63	0.12	0.00	0.017	0.000	9.137	0.00	2.34
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	9.366	0.00	1.37
45.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	9.366	0.00	5.20
50.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	9.576	0.00	1.37
50.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	9.576	0.00	5.20
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	9.770	0.00	1.37
55.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	9.770	0.00	5.20
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	9.951	0.00	1.37
60.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	9.951	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	10.120	0.00	1.37
65.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	10.120	0.00	5.20
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	10.279	0.00	1.37
70.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	10.279	0.00	5.20
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	10.430	0.00	1.37
75.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	10.430	0.00	5.20
76.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.020	0.000	10.473	0.00	0.41
76.50	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.020	0.000	10.473	0.00	1.56
80.00	Safety Cable	Yes	3.50	0.000	0.38	0.11	0.00	0.021	0.000	10.572	0.00	0.96
80.00	Step bolts	Yes	3.50	0.000	0.63	0.18	0.00	0.021	0.000	10.572	0.00	3.64
82.75	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.021	0.000	10.648	0.00	0.75
82.75	Step bolts	Yes	2.75	0.000	0.63	0.14	0.00	0.021	0.000	10.648	0.00	2.86
85.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.021	0.000	10.708	0.00	0.61
85.00	Step bolts	Yes	2.25	0.000	0.63	0.12	0.00	0.021	0.000	10.708	0.00	2.34
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	10.838	0.00	1.37
90.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	10.838	0.00	5.20
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	10.962	0.00	1.37
95.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	10.962	0.00	5.20
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	11.081	0.00	1.37
100.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	11.081	0.00	5.20
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	11.195	0.00	1.37

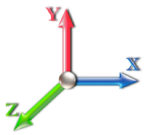
Linear Appurtenance Segment Forces (Factored)

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 20

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)
105.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	11.195	0.00	5.20
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	11.305	0.00	1.37
110.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	11.305	0.00	5.20
111.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.025	0.000	11.332	0.00	0.34
111.25	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.025	0.000	11.332	0.00	1.30
115.00	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.025	0.000	11.412	0.00	1.02
115.00	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.025	0.000	11.412	0.00	3.90
116.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.025	0.000	11.443	0.00	0.41
116.50	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.025	0.000	11.443	0.00	1.56
117.00	Safety Cable	Yes	0.50	0.000	0.38	0.02	0.00	0.025	0.000	11.453	0.00	0.14
117.00	Step bolts	Yes	0.50	0.000	0.63	0.03	0.00	0.025	0.000	11.453	0.00	0.52
120.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.025	0.000	11.514	0.00	0.82
120.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.025	0.000	11.514	0.00	3.12
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	11.614	0.00	1.37
125.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	11.614	0.00	5.20
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	11.710	0.00	1.37
130.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	11.710	0.00	5.20
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	11.803	0.00	1.37
135.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	11.803	0.00	5.20
137.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.029	0.000	11.840	0.00	0.55
137.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.029	0.000	11.840	0.00	2.08
140.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.029	0.000	11.894	0.00	0.82
140.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.029	0.000	11.894	0.00	3.12
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	11.982	0.00	1.37
145.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	11.982	0.00	5.20
147.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.031	0.000	12.017	0.00	0.55
147.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.031	0.000	12.017	0.00	2.08
150.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.032	0.000	12.068	0.00	0.82
150.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.032	0.000	12.068	0.00	3.12
										Totals:	**0.0**	**197.0**

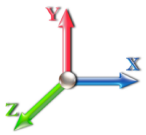
Calculated Forces

Structure:	CT03109-S	**Code:**	EIA/TIA-222-G	6/24/2020	
Site Name:	Oxford 3, CT	**Exposure:**	C		
Height:	150.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 31

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 20

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	-49.02	-7.69	-13.29	-768.51	-0.01	768.51	7146.92	3573.46	19526.6	9777.85	0.00	0.000	0.000	0.085
5.00	-47.08	-7.55	-13.29	-730.06	-0.01	730.06	7059.53	3529.77	18917.0	9472.60	0.01	-0.018	0.000	0.084
10.00	-45.18	-7.42	-13.29	-692.29	-0.01	692.29	6970.23	3485.12	18311.6	9169.43	0.04	-0.036	-0.001	0.082
15.00	-43.31	-7.29	-13.29	-655.18	-0.01	655.18	6879.02	3439.51	17710.6	8868.51	0.09	-0.055	-0.001	0.080
20.00	-41.47	-7.15	-13.29	-618.73	-0.01	618.73	6785.91	3392.96	17114.5	8569.97	0.15	-0.073	-0.001	0.078
25.00	-39.67	-7.01	-13.29	-582.97	-0.01	582.97	6690.89	3345.45	16523.4	8273.98	0.24	-0.091	-0.002	0.076
30.00	-37.90	-6.86	-13.29	-547.93	-0.01	547.93	6593.97	3296.98	15937.6	7980.68	0.35	-0.110	-0.002	0.074
35.00	-36.17	-6.71	-13.29	-513.62	-0.01	513.62	6495.14	3247.57	15357.6	7690.22	0.47	-0.128	-0.003	0.072
37.75	-35.23	-6.63	-13.29	-495.17	-0.01	495.17	6439.97	3219.98	15041.1	7531.73	0.55	-0.139	-0.003	0.071
40.00	-33.86	-6.56	-13.29	-480.26	-0.01	480.26	6394.40	3197.20	14783.5	7402.76	0.62	-0.147	-0.003	0.070
45.00	-30.85	-6.40	-13.29	-447.46	-0.02	447.46	5339.68	2669.84	12285.4	6151.87	0.78	-0.165	-0.004	0.079
50.00	-29.39	-6.24	-13.29	-415.47	-0.02	415.47	5259.83	2629.91	11825.4	5921.52	0.96	-0.184	-0.004	0.076
55.00	-27.95	-6.09	-13.29	-384.26	-0.02	384.26	5178.07	2589.04	11369.6	5693.28	1.17	-0.204	-0.005	0.073
60.00	-26.54	-5.93	-13.29	-353.82	-0.02	353.82	5094.41	2547.20	10918.3	5467.29	1.39	-0.223	-0.006	0.070
65.00	-25.16	-5.77	-13.29	-324.18	-0.03	324.18	5008.84	2504.42	10471.8	5243.71	1.63	-0.243	-0.006	0.067
70.00	-23.81	-5.62	-13.29	-295.31	-0.03	295.31	4921.36	2460.68	10030.4	5022.69	1.90	-0.262	-0.007	0.064
75.00	-22.50	-5.46	-13.29	-267.22	-0.03	267.22	4831.98	2415.99	9594.48	4804.37	2.18	-0.280	-0.008	0.060
76.50	-22.11	-5.42	-13.29	-259.03	-0.03	259.03	4804.80	2402.40	9464.78	4739.43	2.27	-0.286	-0.008	0.059
80.00	-20.42	-5.27	-13.15	-240.08	-0.04	240.08	4740.69	2370.35	9164.20	4588.91	2.49	-0.299	-0.009	0.057
82.75	-19.20	-5.18	-13.15	-225.59	-0.04	225.59	3881.85	1940.93	7532.31	3771.76	2.66	-0.309	-0.010	0.065
85.00	-18.70	-5.11	-13.15	-213.94	-0.04	213.94	3850.71	1925.35	7380.86	3695.92	2.81	-0.317	-0.010	0.063
90.00	-17.61	-4.96	-13.15	-188.38	-0.05	188.38	3780.12	1890.06	7047.00	3528.74	3.15	-0.335	-0.011	0.058
95.00	-16.54	-4.81	-13.15	-163.58	-0.05	163.58	3707.63	1853.81	6717.10	3363.54	3.51	-0.353	-0.013	0.053
100.00	-15.50	-4.66	-13.15	-139.54	-0.06	139.54	3633.23	1816.61	6391.46	3200.48	3.89	-0.370	-0.014	0.048
105.00	-14.49	-4.51	-13.15	-116.25	-0.06	116.25	3556.92	1778.46	6070.39	3039.70	4.29	-0.385	-0.016	0.042
110.00	-13.50	-4.37	-13.15	-93.69	-0.07	93.69	3478.71	1739.35	5754.18	2881.36	4.70	-0.399	-0.017	0.036
111.25	-13.26	-4.33	-13.15	-88.23	-0.07	88.23	3458.86	1729.43	5675.92	2842.18	4.80	-0.402	-0.018	0.035
115.00	-12.08	-4.22	-13.15	-71.99	-0.07	71.99	3398.59	1699.29	5443.13	2725.61	5.12	-0.411	-0.019	0.030
116.50	-11.62	-4.17	-13.15	-65.66	-0.07	65.66	2333.72	1166.86	3773.22	1889.41	5.25	-0.414	-0.020	0.040
117.00	-8.23	-2.80	-7.38	-63.57	-0.03	63.57	2329.14	1164.57	3753.57	1879.57	5.30	-0.416	-0.020	0.037
120.00	-7.82	-2.72	-7.38	-55.17	-0.04	55.17	2301.24	1150.62	3636.08	1820.74	5.56	-0.423	-0.021	0.034
125.00	-7.15	-2.58	-7.38	-41.59	-0.04	41.59	2253.21	1126.61	3441.83	1723.47	6.01	-0.434	-0.023	0.027
130.00	-6.50	-2.44	-7.38	-28.69	-0.05	28.69	2203.28	1101.64	3249.82	1627.33	6.47	-0.442	-0.025	0.021
135.00	-5.88	-2.31	-7.38	-16.47	-0.05	16.47	2151.44	1075.72	3060.35	1532.45	6.94	-0.449	-0.027	0.013
137.00	-4.30	-1.24	-3.50	-11.84	-0.02	11.84	2130.17	1065.09	2985.33	1494.89	7.12	-0.450	-0.028	0.010
140.00	-3.98	-1.16	-3.50	-8.12	-0.02	8.12	2097.70	1048.85	2873.71	1438.99	7.41	-0.452	-0.028	0.008
145.00	-3.45	-1.04	-3.50	-2.30	-0.03	2.30	2042.04	1021.02	2690.20	1347.10	7.88	-0.454	-0.029	0.003
147.00	-0.29	-0.07	0.00	-0.21	0.00	0.21	2019.25	1009.62	2617.75	1310.82	8.07	-0.454	-0.030	0.000
150.00	0.00	-0.07	0.00	0.00	0.00	0.00	1984.48	992.24	2510.13	1256.93	8.36	-0.454	-0.030	0.000

Final Analysis Summary

Structure:	CT03109-S		**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 32

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 97 mph Wind	32.2	0.00	58.80	0.10	34.66	3223.00
0.9D + 1.6W 97 mph Wind	32.2	0.00	44.10	0.08	34.66	3208.39
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.5	0.00	83.16	0.02	13.26	928.04
1.2D + 1.0E	2.0	0.00	58.83	0.00	0.00	214.98
0.9D + 1.0E	2.0	0.00	44.12	0.00	0.00	213.92
1.0D + 1.0W 60 mph Wind	7.7	0.00	49.02	0.01	13.29	768.51

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 97 mph Wind	-58.80	-32.16	-34.66	-3223.0	-0.10	-3223.0	7146.92	3573.4	19526.6	9777.85	0.00	0.338
0.9D + 1.6W 97 mph Wind	-44.10	-32.15	-34.66	-3208.3	-0.08	-3208.3	7146.92	3573.4	19526.6	9777.85	0.00	0.334
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-83.16	-9.50	-13.26	-928.04	-0.02	-928.04	7146.92	3573.4	19526.6	9777.85	0.00	0.107
1.2D + 1.0E	-58.83	-1.97	0.00	-214.98	0.00	-214.98	7146.92	3573.4	19526.6	9777.85	0.00	0.030
0.9D + 1.0E	-44.12	-1.97	0.00	-213.92	0.00	-213.92	7146.92	3573.4	19526.6	9777.85	0.00	0.028
1.0D + 1.0W 60 mph Wind	-49.02	-7.69	-13.29	-768.51	-0.01	-768.51	7146.92	3573.4	19526.6	9777.85	0.00	0.085

Base Plate Summary

Structure:	CT03109-S		**Code:**	EIA/TIA-222-G	6/24/2020
Site Name:	Oxford 3, CT		**Exposure:**	C	
Height:	150.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

Reactions

Original Design

Moment (kip-ft):	6800.00
Axial (kip):	55.00
Shear (kip):	53.00

Analysis

Moment (kip-ft):	3223.00
Axial (kip):	83.16
Shear (kip):	32.16
Moment Design %:	47.40

Base Plate

Yield (ksi):	55.00
Width (in):	77.00
Style:	Clipped
Polygon Sides:	4.00
Clip Length (in):	19.00
Effective Len (in):	7.31
Moment (kip-in):	307.70
Allow Stress (ksi):	74.25
Applied Stress (ksi):	0.00
Stress Ratio:	0.38

Anchor Bolts

Bolt Circle:	75.00
Number Bolts:	28.00
Bolt Type:	2.25" 18J
Bolt Diameter (in):	2.25
Yield (ksi):	75.00
Ultimate (ksi):	100.00
Arrangement:	Clustered
Cluster Dist (in):	5.00
Start Angle (deg):	45.00

Compression

Force (kip):	76.64
Allowable (kip):	260.00
Ratio:	0.30

Tension

Force (kip):	70.70
Allowable (kip):	260.00
Ratio:	0.28

Monopole Mat Foundation Design

				Date
				6/18/2020
Customer Name:	AT&T	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	150
Site Number:	CT03109-S	**Engineer Name:**	D. Yohannes
Engr. Number:		**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

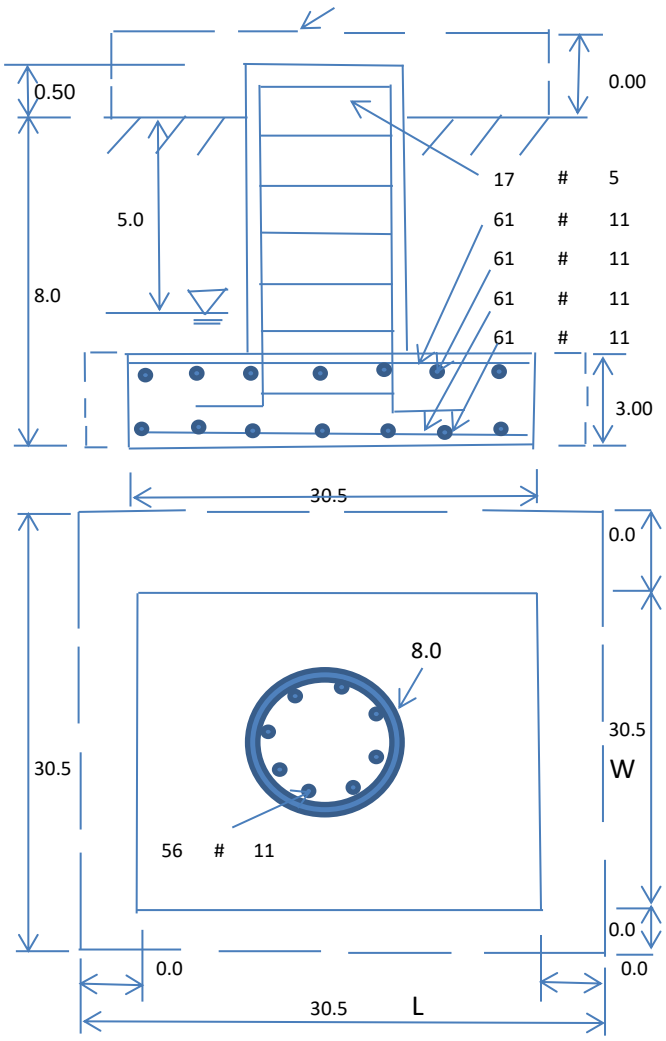
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	58.8	Shear Force (Kips):	32.2
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3223.0
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	8.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	3.00
Length of Pad (ft.):	30.5	Width of Pad (ft.):	30.5
Final Length of pad (ft)	30.5	Final width of pad (ft):	30.5



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	56	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	11	
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):	61	Qty. of Rebar in Pad (W):	61	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	61	Qty. of Rebar in Pad (W):	61	
Apply 1.35 factor for e/w Per G:	1.35			

Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	62.6	Pcf		
Water Table B.G.S. (ft):	5.0	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.:	No	Reduction factor on the maximum soil bearing pressure:			1.00	

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	4399.92	Total Dry Soil Weight (Kips):	549.99
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	549.99	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	276.46	Total Dry Concrete Weight (Kips):	41.47
Total Buoyant Concrete Volume (cu. Ft.):	2790.75	Total Buoyant Concrete Weight (Kips):	244.47
Total Effective Concrete Weight (Kips):	285.94	Total Vertical Load on Base (Kips):	894.74

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	1623	<	Allowable Factored Soil Bearing (psf):	12000	0.14	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	12370.0	>	Design Factored Momont (kips-ft):	3497	0.28	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	3.54	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90		Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65		Wind Load Factor on Concrete Design:	1.00		
					Load/ Capacity Ratio	
(1) Concrete Pier:						
Vertical Steel Rebar Area (sq. in./each):	1.56		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	15495.8	>	Design Factored Moment (Mu, Kips-Ft	3400.1	0.22	OK!
Calculated Shear Capacity (Kips):	1070.8	>	Design Factored Shear (Kips):	32.2	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	4717.4	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9482.1	>	Design Factored Axial Load (Pu Kips):	58.8	0.01	OK!
Moment & Axial Strength Combination:	0.22	OK!	Check Tie Spacing (Design/Required):		0.5	OK!
Pier Reinforcement Ratio:	0.012		Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:						
One-Way Design Shear Capacity (L-Direction, Kips):	971.6	>	One-Way Factored Shear (L-D. Kips):	266.2	0.27	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	971.6	>	One-Way Factored Shear (W-D., Kips):	266.2	0.27	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	947.7	>	One-Way Factored Shear (C-C, Kips):	241.6	0.25	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0080	OK!	Lower Steel Pad Reinf. Ratio (W-Direct	0.0080		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	12527.0	>	Moment at Bottom (L-Dir. K-Ft):	1791.7	0.14	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	12527.0	>	Moment at Bottom (W-Dir. K-Ft):	1791.7	0.14	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	17294.1	>	Moment at Bottom (C-C Dir. K-Ft):	2533.8	0.15	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0080	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0080		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	12527.0	>	Moment at the top (L-Dir K-Ft):	532.1	0.04	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	12527.0	>	Moment at the top (W-Dir K-Ft):	532.1	0.04	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	17294.1	>	Moment at the top (C-C Dir. K-Ft):	498.2	0.03	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:						
Moment transferred by punching shear:	1289.2	k-ft.	Max. factored shear stress v_{u_CD}:		1.1	Psi
Max. factored shear stress v_{u_AB}:	8.3	Psi	Factored shear Strength ϕv_n:		164.3	Psi
Max. factored shear stress v_u:	8.3	Psi	Check Usage of Punching Shear Capacity:		0.05	OK!