May 5, 2022

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

Regarding: Notice of Exempt Modification – AT&T Site CT2120 / FA# 10035074
Address: 55 Walls Drive, Fairfield, CT 06824

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains a wireless telecommunications facility on an existing +/- 22' self-support tower on a +/- 50' rooftop at the above-referenced address, latitude 41.1478250, longitude -73.2514711. Said tower is owned by Robert D. Scinto c/o RD Scinto, Inc.

AT&T desires to modify its existing telecommunications facility by swapping nine (9) antennas, adding three (3) antennas, swapping six (6) remote radio units (RRUS), and swapping three (3) surge arrestors and accompanying feedlines as more particularly detailed and described on the enclosed Construction Drawings prepared by Hudson Design Group, LLC, last revised March 28, 2022. The centerline height of the existing antennas is and will remain at the 70' foot level. This modification may include B2, B5, B17, B14, B29, B30, B66, & n77 hardware that is 4G(LTE) and/or 5GNR capable through remote software configuration and either or both services may be turned on or off at various times.

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 Brenda L. Kupchick, First Selectwoman of the Town of Fairfield, as elected official. Matt Decker, Zoning Enforcement Officer and Jim Wendt, Planning Director of the Town of Fairfield. Robert D. Scinto c/o RD Scinto, Inc., property and tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). 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 calculation 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 dated January 27, 2022, and prepared by Hudson Design Group, LLC, enclosed herewith.*

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,

Evan Renwick

Evan Renwick
Site Acquisition Specialist
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
erenwick@clinellc.com

Enclosures:
Exhibit 1 – Construction Drawings
Exhibit 2 – Property Card and GIS
Exhibit 3 – Structural Analysis
Exhibit 4 – Tower Structural Analysis
Exhibit 5 – RF Emissions Analysis Report Evaluation
Exhibit 6 – Original Tower Approval
Exhibit 7 – Notice Delivery Confirmations

cc:
The Brenda L. Kupchick, First Selectwoman, Town of Fairfield, elected official
Matt Decker, Zoning Enforcement Officer, Town of Fairfield
Jim Wendt,Planning Director, Town of Fairfield
Robert D. Scinto c/o RD Scinto, Inc., property and tower owner.

EXHIBIT 1

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING TOWER ON ROOF TOP:
- NEW AT&T ANTENNAS: TPA-65R-BU6DA-K (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: AIR6449 N77D (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: AIR6419 N77G (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: DMP65R-BU6DA (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRU: 4478 B14 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRU: 4449 B5/B12 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T SQUID: DC9-48-60-24-8C-EV (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- NEW AT&T (9) #6 AWG DC POWER TRUNKS & (3) 24 PAIR FIBER TRUNKS.
- NEW AT&T (3) Y-CABLES.

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- ADD 6648 + XCEDE CABLE
- ADD 6630 + IDLE CABLE.
- NEW AT&T DC12 IN EXISTING POWER RACK.

ITEMS TO BE REMOVED:
- EXISTING AT&T UMTS ANTENNA: 7770 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T LTE ANTENNA: HPA-65R-BUU-H6 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T LTE ANTENNA: 800-10798 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: RRUS-11 B12 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T SURGE ARRESTORS: (2) DC6-48-60-18-8F
- EXISTING AT&T SURGE: APTDC-BDFDM-DB (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T DIPLEXER: LGP21901 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T DIPLEXER: DBC0061F1V51-2 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T TMA: LGP21401 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T (4) DC POWER TRUNKS & (2) FIBER

ITEMS TO REMAIN:
- (9) RRU'S, (6) COAX CABLES,

SITE ADDRESS:	55 WALLS DRIVE FAIRFIELD, CT 06824
LATITUDE:	41.1478250° N, 41° 8' 52.17" N
LONGITUDE:	73.2514711° W, 73° 15' 5.29" W
TYPE OF SITE:	ROOF TOP / INDOOR EQUIPMENT
STRUCTURE HEIGHT:	50'-0"±
RAD CENTER:	70'-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	ROOFTOP & EQUIPMENT PLANS	1
A-2	ANTENNA LAYOUT PLANS	1
A-3	ELEVATION	1
A-4	DETAILS	1
A-5	DETAILS	1
G-1	GROUNDING DETAILS	1
RF-1	RF PLUMBING DIAGRAM	1

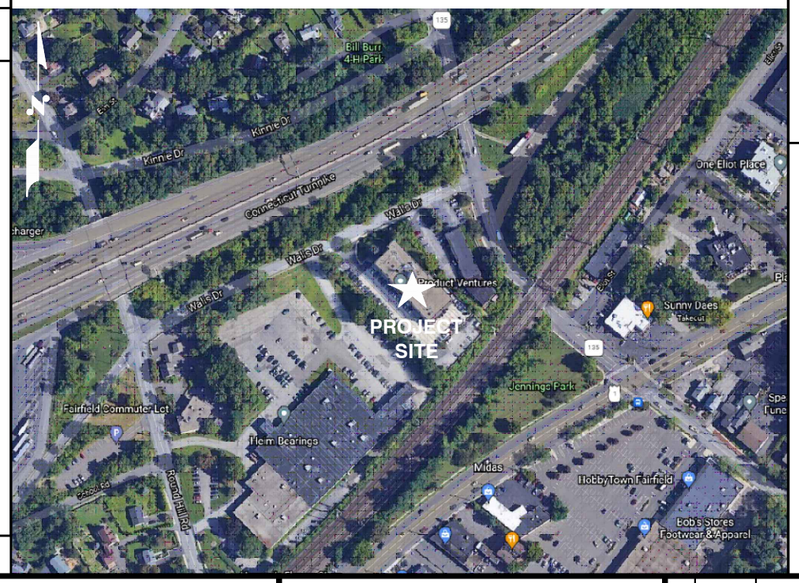
SITE NUMBER: CT2120
SITE NAME: FAIRFIELD CENTRAL
FA CODE: 10035074

PACE ID: MRCTB052110, MRCTB050856, MRCTB051179, MRCTB050993, MRCTB050953, MRCTB050871
PROJECT: 5G NR 1SR CBAND BBU UPGRADE, 4TXRX ANTENNA RETROFIT, 5G NR RADIO, 6C UPGRADE, 5G NR SOFTWARE UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING EAST ON ENTERPRISE DR TOWARD CAPITAL BLVD.TURN LEFT ONTO CAPITAL BLVD.TURN LEFT ONTO WEST ST.MERGE ONTO I-91 S VIA THE RAMP ON THE LEFT TOWARD NEW HAVEN.MERGE ONTO CT-15 S VIA EXIT 17 TOWARD E MAIN ST.MERGE ONTO CT-8 S VIA EXIT 52 TOWARD BRIDGEPORT.MERGE ONTO I-95 S TOWARD NY CITY.TAKE THE CT-135/N BENSON ROAD EXIT, EXIT 22.TURN LEFT ONTO N BENSON RD/CT-135.TAKE THE 1ST RIGHT ONTO KINNIE DR.TAKE THE 1ST LEFT ONTO ROUND HILL RD.TAKE THE 1ST LEFT ONTO WALLS DR.55 WALLS DR, FAIRFIELD, CT 06824-5139, 55 WALLS DR IS ON THE RIGHT.



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: CT2120
SITE NAME: FAIRFIELD CENTRAL

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FAIRFIELD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
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SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: MRK

STATE OF CONNECTICUT · DANIEL R. CRAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T
TITLE SHEET
5G NR 1SR CBAND BBU UPGRADE, 4TXRX ANTENNA RETROFIT, 5G NR RADIO, 6C UPGRADE 5G NR SOFTWARE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2120	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 CL	RADIATION CENTER LINE OF ANTENNA	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	RET	REMOTE ELECTRICAL TILT		

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: CT2120
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STATE OF CONNECTICUT — DANIEL E. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

AT&T
GENERAL NOTES
4LSC-NR 1SR CBAND BBU UPGRADE, 4TXRX ANTENNA RETROFIT, 5G NR RADIO, 6C UPGRADE 5G NR SOFTWARE UPGRADE

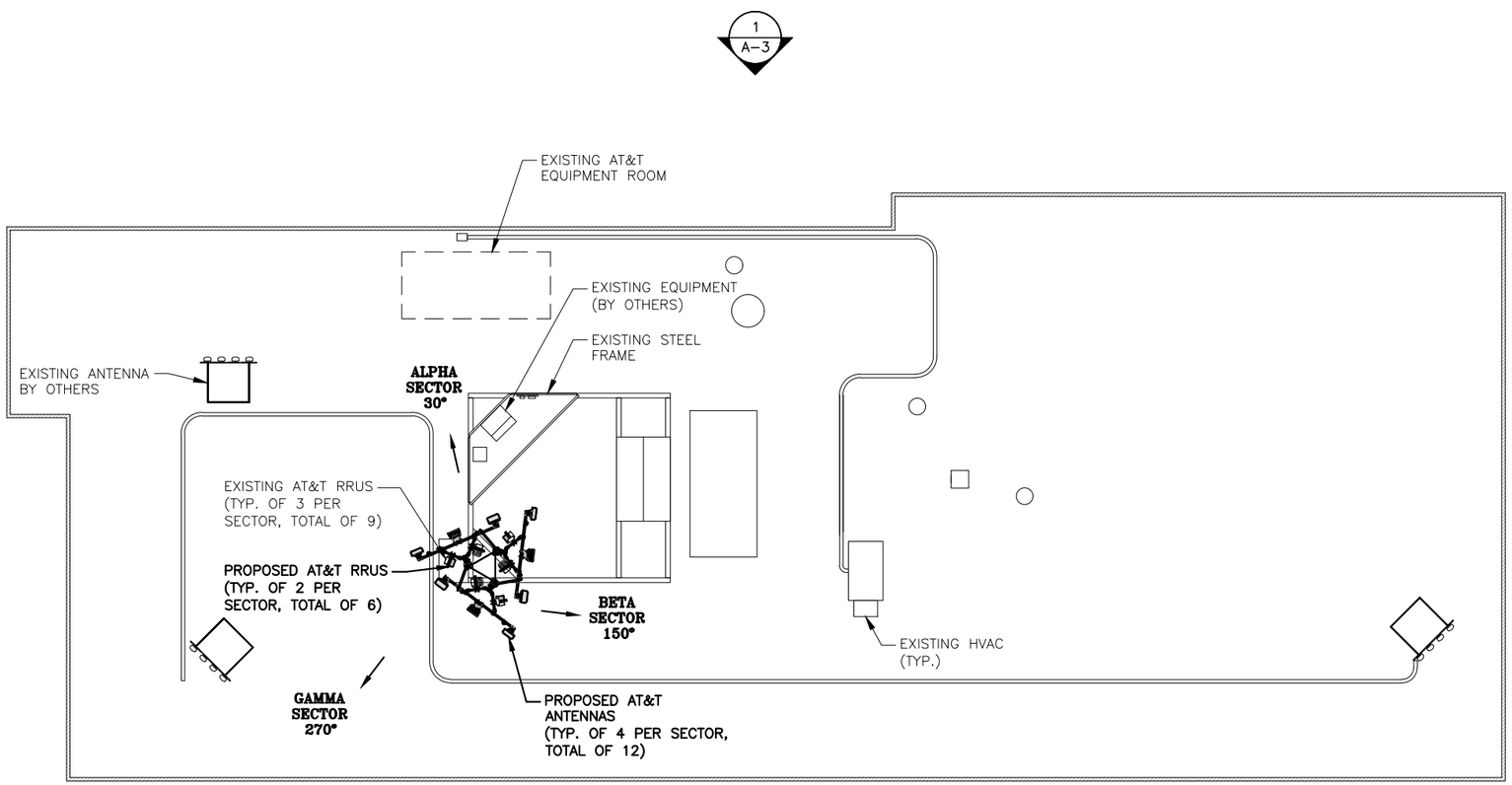
SITE NUMBER	DRAWING NUMBER	REV
CT2120	GN-1	1

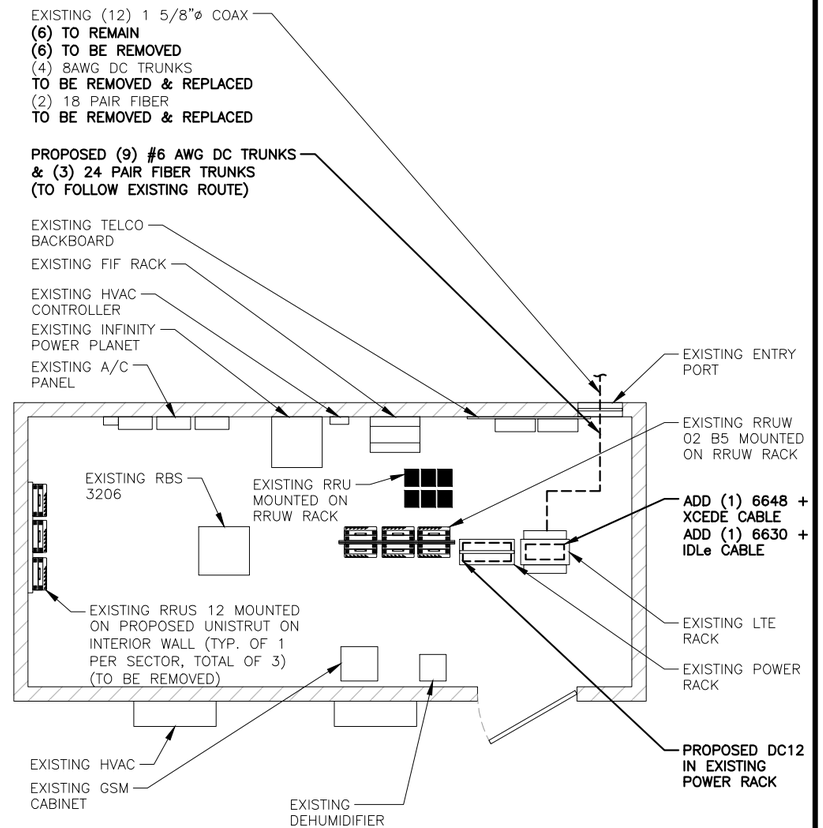
NOTE:

REFER TO THE FINAL/APPROVED V3 RFDS DATED: 3/3/22 FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT HAS BEEN COMPLETED BY HUDSON DESIGN GROUP LLC. DATED 01/27/22





13°17' TRUE NORTH / MAGNETIC NORTH

ROOF PLAN (1 / A-1)
22x34 SCALE: 3/32"=1'-0"
11x17 SCALE: 3/64"=1'-0"

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

13°17' TRUE NORTH / MAGNETIC NORTH

EQUIPMENT PLAN (2 / A-1)
22x34 SCALE: 3/8"=1'-0"
11x17 SCALE: 3/16"=1'-0"

0 2'-8" 5'-4" 8'-0"

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

AT&T

ROOFTOP & EQUIPMENT PLANS

5G NR 1SR CBAND BBU UPGRADE, 4TXRX ANTENNA RETROFIT, 5G NR RADIO, 6C UPGRADE 5G NR SOFTWARE UPGRADE

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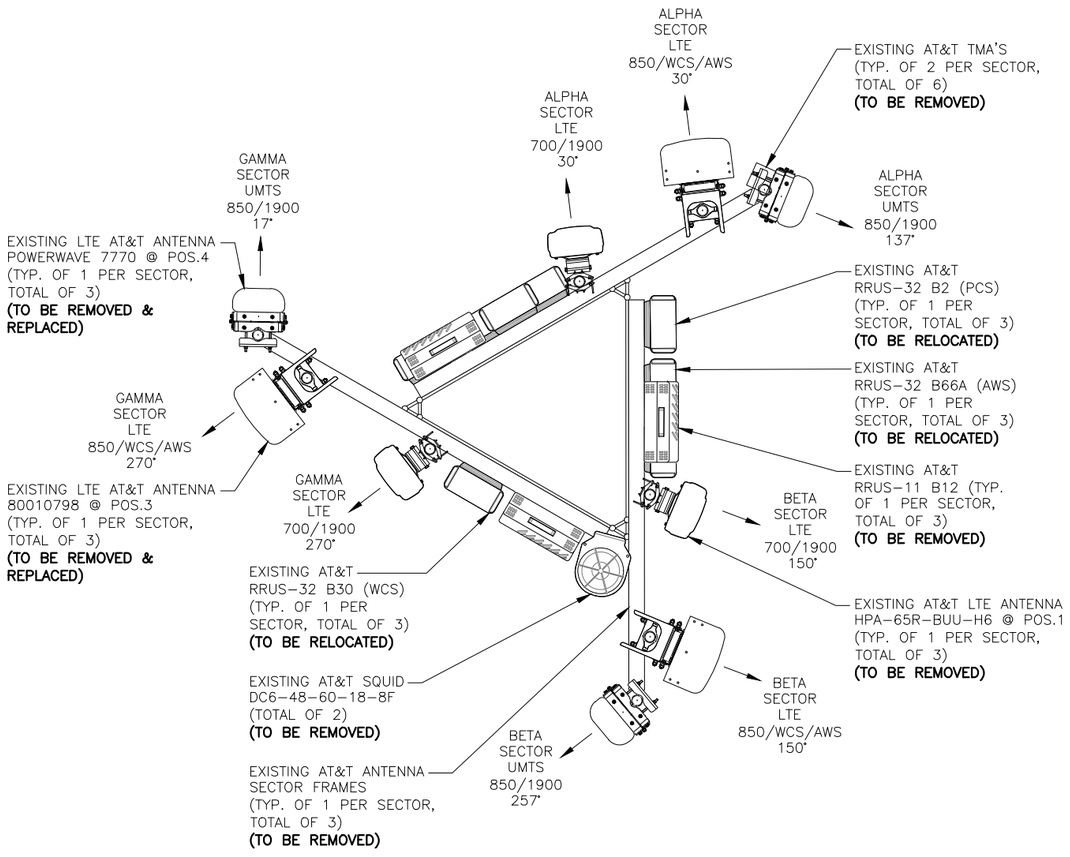

EXISTING ANTENNA PLAN (1 / A-2)
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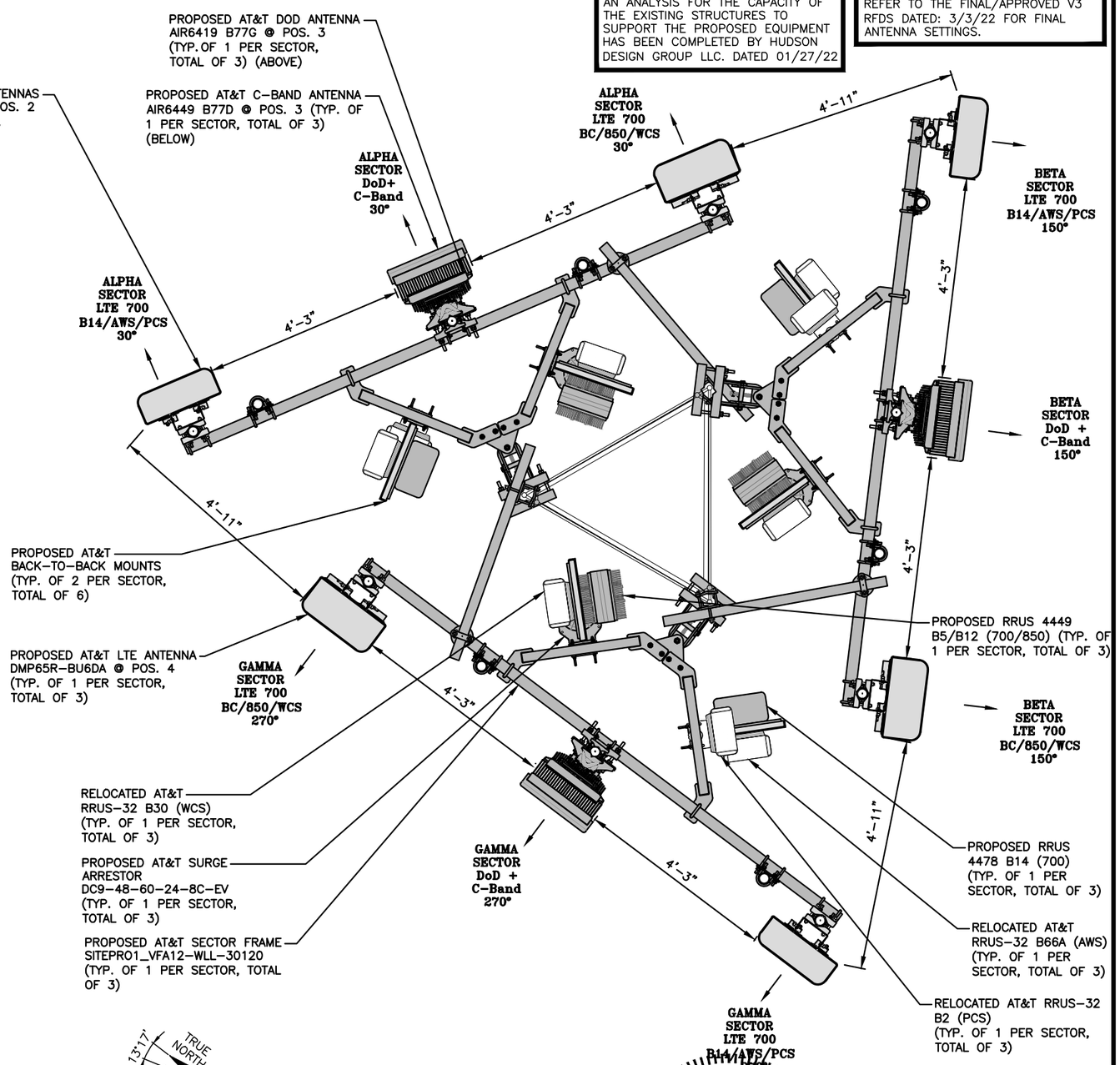
11x17 SCALE: 3/8"=1'-0"



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

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

SITE NUMBER: CT2120
SITE NAME: FAIRFIELD CENTRAL

55 WALLS DRIVE
FAIRFIELD, CT 06824
FAIRFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	03/28/22	ISSUED FOR CONSTRUCTION	MB	HC	DPH
A	12/16/21	ISSUED FOR REVIEW	MB	HC	DPH

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

AT&T

EXISTING & PROPOSED ANTENNA PLAN

~~4.5G NR~~ 1SR CBAND BBU UPGRADE, 4TXRX ANTENNA RETROFIT, 5G NR RADIO, 6C UPGRADE 5G NR SOFTWARE UPGRADE

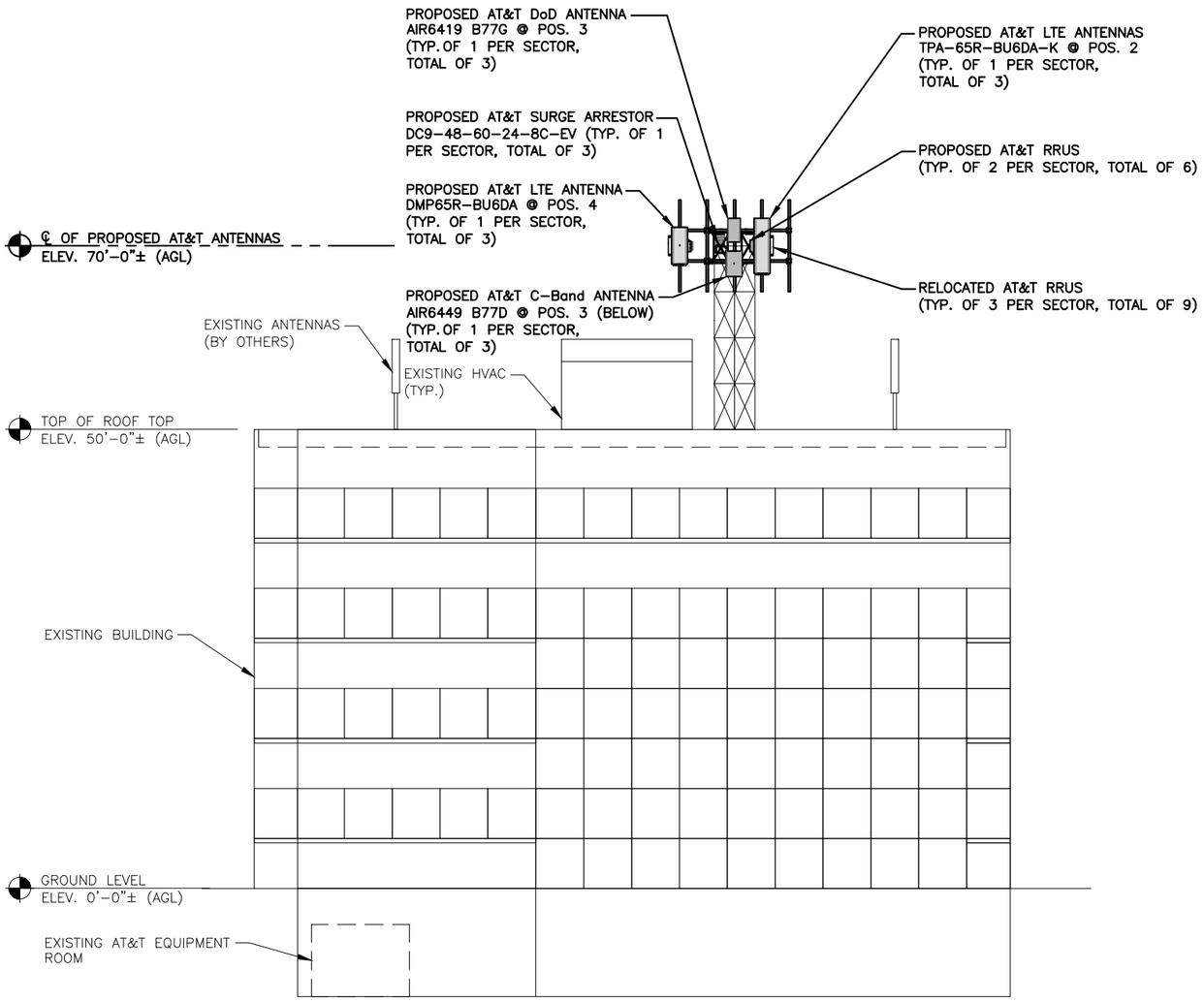
SITE NUMBER	DRAWING NUMBER	REV
CT2120	A-2	1

NOTE:

REFER TO THE FINAL/APPROVED V3 RFDS DATED: 3/3/22 FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT HAS BEEN COMPLETED BY HUDSON DESIGN GROUP LLC. DATED 01/27/22



ELEVATION 1/A-3
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

0 4'-0" 8'-0" 16'-0" 24'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
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A	12/16/21	ISSUED FOR REVIEW	MB	HC	DH

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

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

AT&T

ELEVATION

~~5G NR~~ 1SR CBAND BBU UPGRADE, 4TXRX ANTENNA RETROFIT, 5G NR RADIO, 6C UPGRADE 5G NR SOFTWARE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2120	A-3	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	–	–	–	–	–	–	–	–	–	–	(P) (1) RAYCAP DC9-48-60-24-8C-EV
A2	**PROPOSED**	**LTE 700 B14/AWS/PCS**	**TPA-65R-BU6DA-K**	**71.2X20.7X7.7**	**70'-0"±**	**30°**	–	(E)(1) RRUS-32 B2 (PCS) (E)(1) RRUS-32 B66A (AWS) **(P)(1) 4478 B14 (700)**	– – **18.1"x13.4"x8.3"**	**(P)(3) #6 AWG DC POWER & (P)(1) 24 PAIR FIBER**	
A3	**PROPOSED**	**DOD+ CBAND**	**AIR6419 N77G+ AIR6449 N77D STACKED**	**31.1X16.1X7.3 30.4X15.9X8.1**	**70'-0"±**	**30°**	–	–	–	–	
A4	**PROPOSED**	**LTE 700 BC/850/WCS**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**70'-0"±**	**30°**	–	**(P)(1) 4449 B5/B12 (850/700)** (E)(1) RRUS-32 B30 (WCS)	**17.9"x13.2"x10.4"** –	**(P)(1) Y CABLE** (2)1-5/8 COAX	
B1	–	–	–	–	–	–	–	–	–	–	(P) (1) RAYCAP DC9-48-60-24-8C-EV
B2	**PROPOSED**	**LTE 700 B14/AWS/PCS**	**TPA-65R-BU6DA-K**	**71.2X20.7X7.7**	**70'-0"±**	**150°**	–	(E)(1) RRUS-32 B2 (PCS) (E)(1) RRUS-32 B66A (AWS) **(P)(1) 4478 B14 (700)**	– – **18.1"x13.4"x8.3"**	**(P)(3) #6 AWG DC POWER & (P)(1) 24 PAIR FIBER**	
B3	**PROPOSED**	**DOD+ CBAND**	**AIR6419 N77G+ AIR6449 N77D STACKED**	**31.1X16.1X7.3 30.4X15.9X8.1**	**70'-0"±**	**150°**	–	–	–	–	
B4	**PROPOSED**	**LTE 700 BC/850/WCS**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**70'-0"±**	**150°**	–	**(P)(1) 4449 B5/B12 (850/700)** (E)(1) RRUS-32 B30 (WCS)	**17.9"x13.2"x10.4"** –	**(P)(1) Y CABLE** (2)1-5/8 COAX	
C1	–	–	–	–	–	–	–	–	–	–	(P) (1) RAYCAP DC9-48-60-24-8C-EV
C2	**PROPOSED**	**LTE 700 B14/AWS/PCS**	**TPA-65R-BU6DA-K**	**71.2X20.7X7.7**	**70'-0"±**	**270°**	–	(E)(1) RRUS-32 B2 (PCS) (E)(1) RRUS-32 B66A (AWS) **(P)(1) 4478 B14 (700)**	– – **18.1"x13.4"x8.3"**	**(P)(3) #6 AWG DC POWER & (P)(1) 24 PAIR FIBER**	
C3	**PROPOSED**	**DOD+ CBAND**	**AIR6419 N77G+ AIR6449 N77D STACKED**	**31.1X16.1X7.3 30.4X15.9X8.1**	**70'-0"±**	**270°**	–	–	–	–	
C4	**PROPOSED**	**LTE 700 BC/850/WCS**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**70'-0"±**	**270°**	–	**(P)(1) 4449 B5/B12 (850/700)** (E)(1) RRUS-32 B30 (WCS)	**17.9"x13.2"x10.4"** –	**(P)(1) Y CABLE** (2)1-5/8 COAX	

RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
3(E)	RRUS-32 B2 (PCS)	27.2"x12.1"x7.0"
3(E)	RRUS-32 B66A (AWS)	27.2"x12.1"x7.0"
3(P)	**4478 B14 (700)**	**18.1"x13.4"x8.3"**
3(E)	RRUS-32 B30 (WCS)	27.2"x12.1"x7.0"
3(P)	**4449 B5/B12 (850/700)**	**17.9"x13.2"x10.4"**

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:

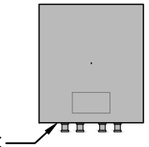
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT HAS BEEN COMPLETED BY HUDSON DESIGN GROUP LLC. DATED 01/27/22

NOTE:

REFER TO THE FINAL/APPROVED V3 RFDS DATED: 3/3/22 FOR FINAL ANTENNA SETTINGS.

NOTE:

SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



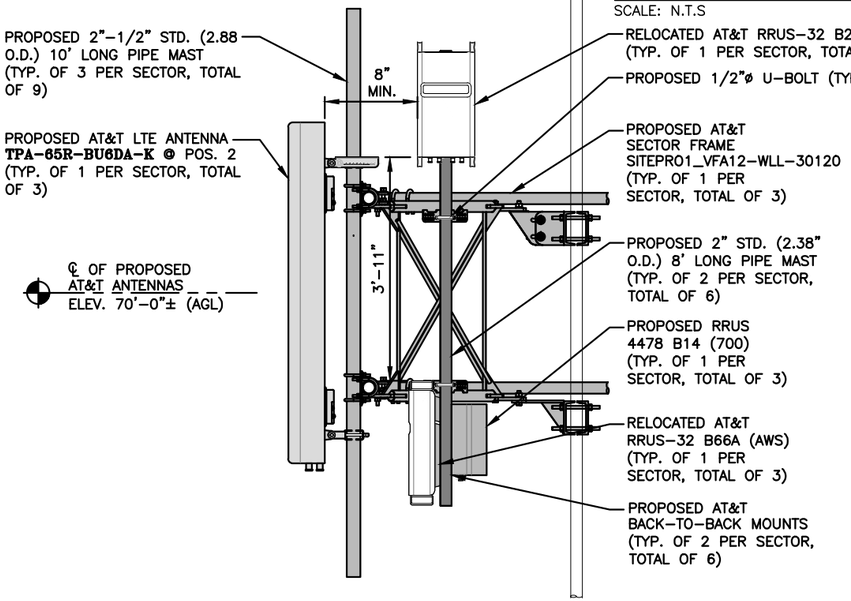
PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

FINAL ANTENNA SCHEDULE

1 A-4

SCALE: N.T.S

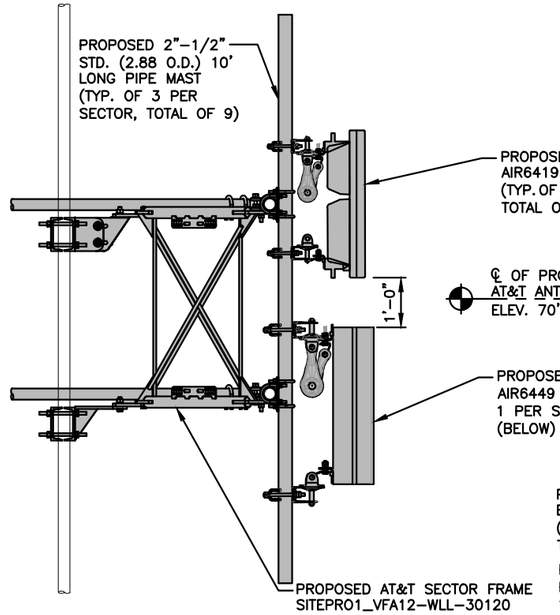


PROPOSED LTE ANTENNA MOUNTING DETAIL (POS. 2)

3 A-4

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

0 8" 1'–4" 2'–8" 4'–0"



PROPOSED DoD & C-BAND ANTENNA MOUNTING DETAIL (POS. 3)

4 A-4

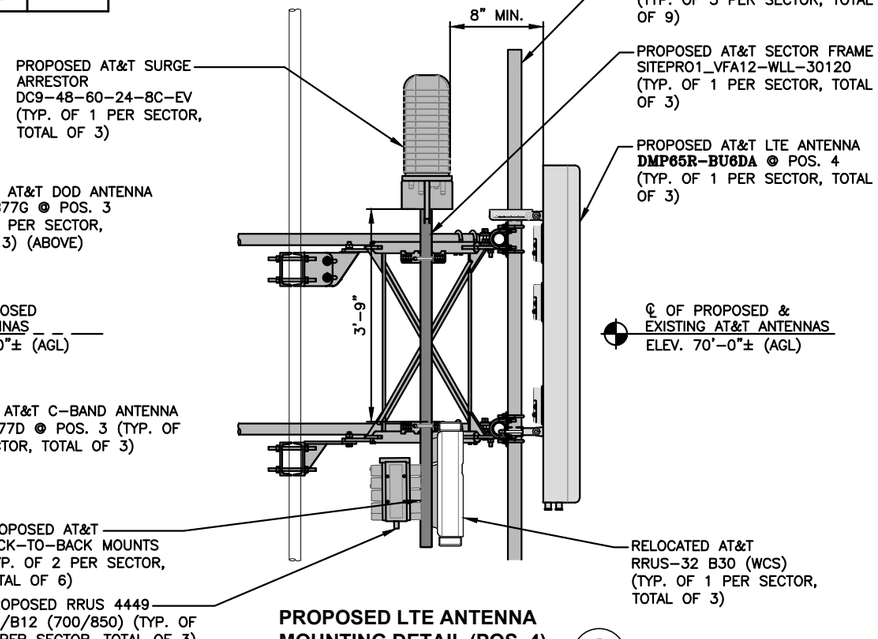
22x34 SCALE: 3/4"=1'–0"
11x17 SCALE: 3/8"=1'–0"

0 8" 1'–4" 2'–8" 4'–0"

PROPOSED RRUS DETAIL

2 A-3

SCALE: N.T.S



PROPOSED LTE ANTENNA MOUNTING DETAIL (POS. 4)

5 A-4

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

0 8" 1'–4" 2'–8" 4'–0"

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

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

AT&T

DETAILS

5G NR 1SR CBAND BBU UPGRADE, 4TXRX ANTENNA RETROFIT, 5G NR RADIO, 6C UPGRADE 5G NR SOFTWARE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2120	A-4	1

NOTE:

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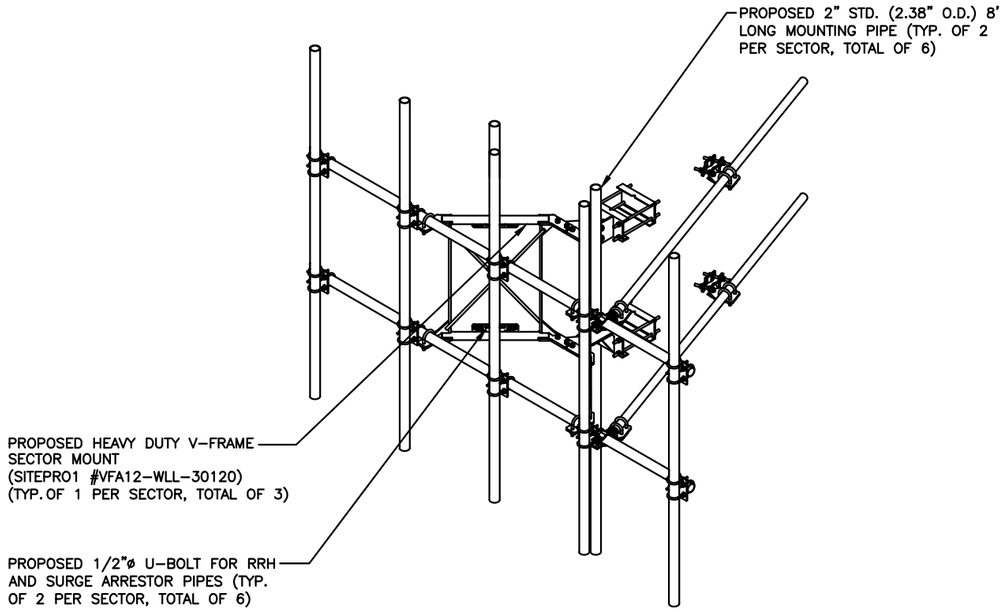
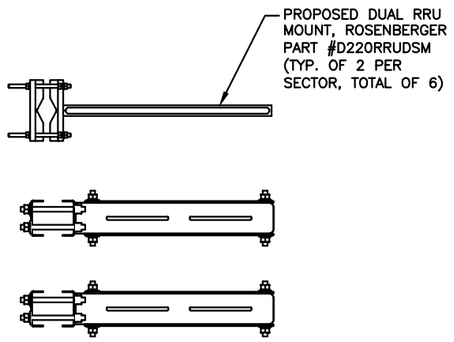
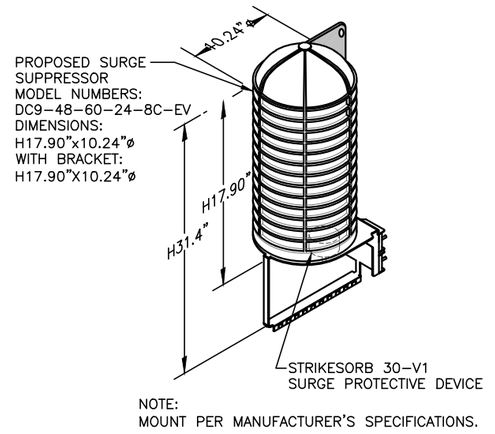


PROPOSED MOUNT (SITEPRO-1 #VFA12-WLL-30120) DETAIL 1 A-5
SCALE: N.T.S



BACK TO BACK RRU MOUNT DETAIL 2 A-5
SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL 3 A-5
SCALE: N.T.S

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STATE OF CONNECTICUT
DANIEL P. HAMM
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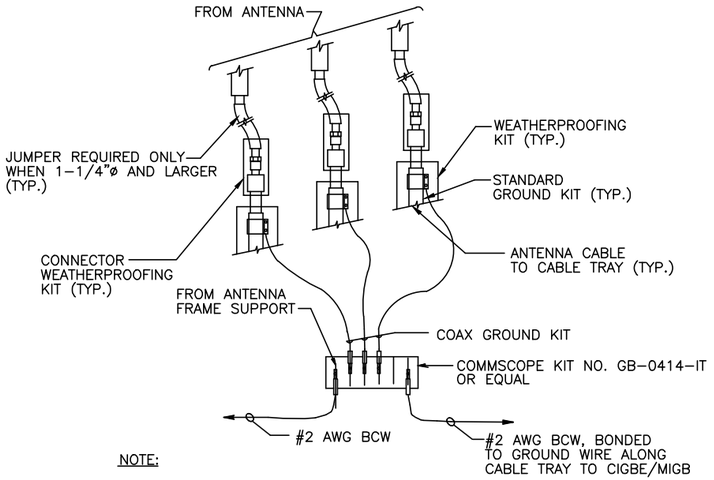
AT&T

DETAILS

5G NR 1SR CBAND BBU UPGRADE, 4TXRX ANTENNA RETROFIT, 5G NR RADIO, 6C UPGRADE 5G NR SOFTWARE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2120	A-5	1



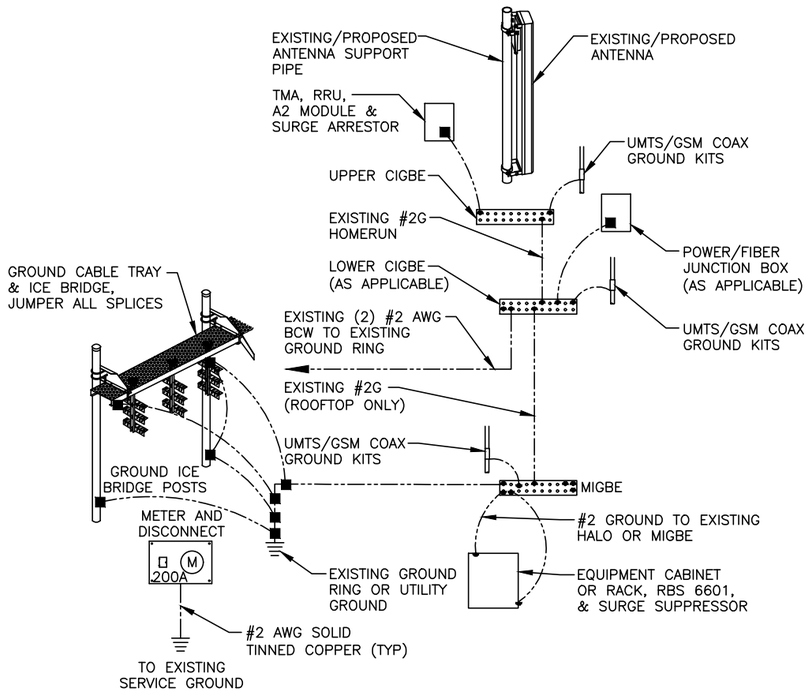
NOTE:

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

SCALE: N.T.S

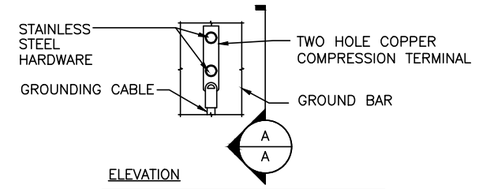
1 / G-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G-1



NOTES:

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

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3 / G-1

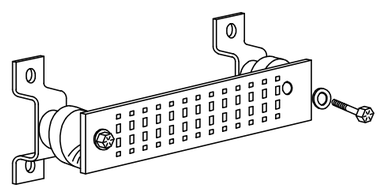
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL (AS REQUIRED)

SCALE: N.T.S

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GROUNDING DETAILS

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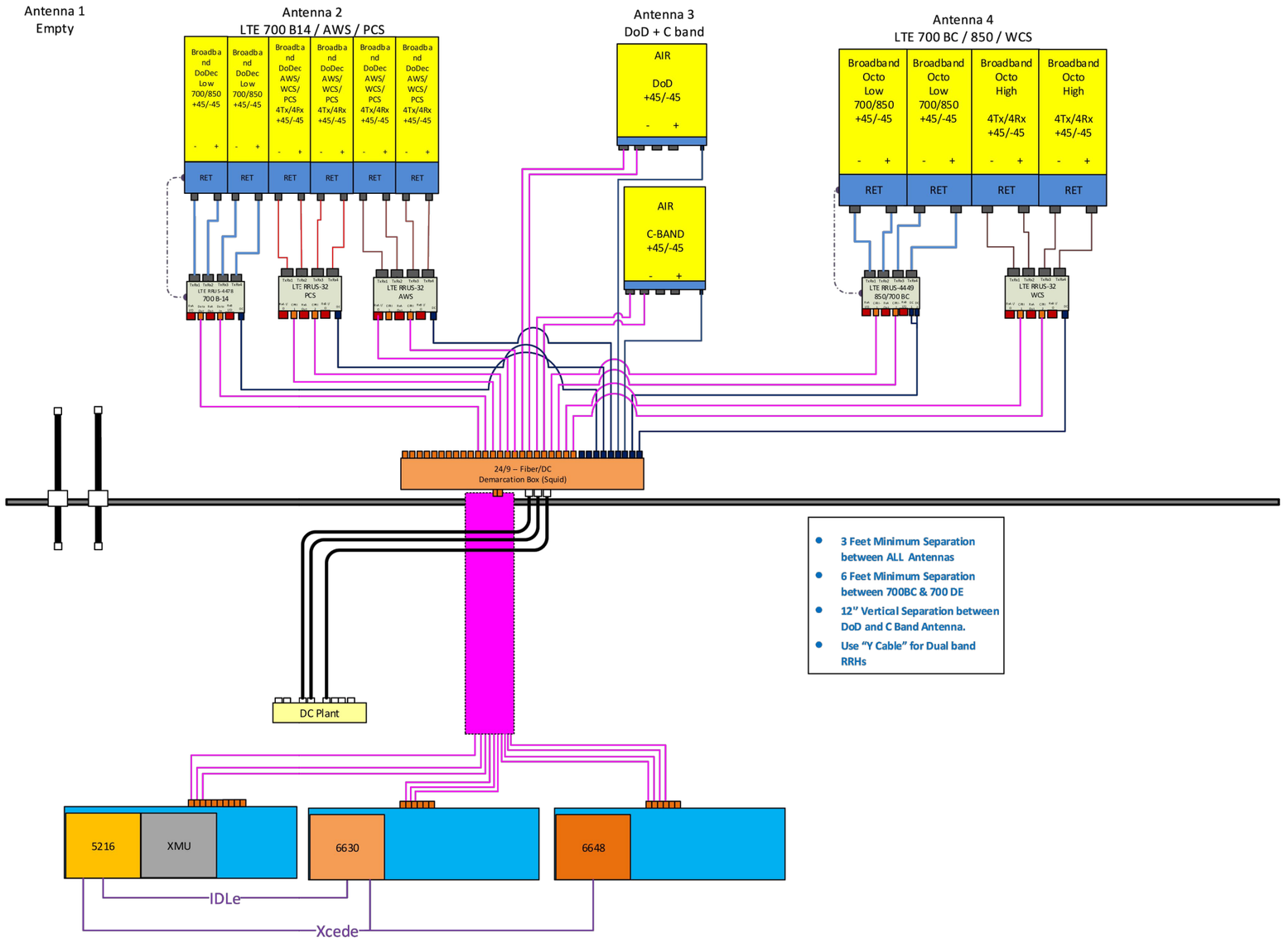
SITE NUMBER	DRAWING NUMBER	REV
CT2120	G-1	1



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/APPROVED V3 RFDS DATED: 3/3/22 FOR FINAL ANTENNA SETTINGS.

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RF PLUMBING DIAGRAM
5G NR 1SR CBAND BBU UPGRADE, 4TXRX ANTENNA RETROFIT, 5G NR RADIO, 6C UPGRADE 5G NR SOFTWARE UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT2120	RF–1	1

EXHIBIT 2

Property Location 55 WALLS DRIVE | Map ID 141/ 97/ / / | Bldg Name | State Use 3400
Vision ID 12330 | Account # 04050 | Bldg # 1 | Sec # 1 of 1 | Card # 1 of 1 | Print Date 3/18/2021 5:36:01 AM

CURRENT OWNER

55 WALLS DRIVE LLC
C/O R D SCINTO INC
ONE CORPORATE DRIVE

SHELTON CT 06484

TOPO		UTILITIES		STRT / ROAD		LOCATION	
1	Level	1	All Public	1	Paved	4	Bus. District
4	Rolling					X	
						K	

SUPPLEMENTAL DATA

Alt Prcl ID	00141 00097 00000	Legal	1,3,4,2R
Assoc.		Descrip	+PVT ST.
Lots		Descrip	DAWID
I&E SuppF		Record Ma	
Notice		Multi Fam	
Census	615		
GIS ID	1410970000	Assoc Pid#	

CURRENT ASSESSMENT

Description	Code	Appraised	Assessed
COM LAND	2-1	1,451,200	1,015,840
COM BLDG	2-2	8,949,000	6,264,300
COM OUTBL	2-5	247,000	172,900
Total		10,647,200	7,453,040

6051

FAIRFIELD, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE		SALE DATE	Q/U	V/I	SALE PRICE	VC
55 WALLS DRIVE LLC	2909	0115	06-02-2003	U	I	0	
SCINTO ROBERT D	0826	0146	12-02-1987			2,358,300	

PREVIOUS ASSESSMENTS (HISTORY)

Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
2020	2-1	1,015,840	2020	2-1	1,015,840	2019	2-1	967,540
	2-2	6,264,300		2-2	6,264,300		2-2	6,178,340
	2-5	172,900		2-5	172,900		2-5	162,960
	Total	7453040		Total	7453040		Total	7308840

EXEMPTIONS

Year	Code	Description	Amount
		Total	0.00

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm Int

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

Nbhd	Nbhd Name	B	Tracing	Batch
0020				

NOTES

1ST FLR-OFF-3 & CAFETERIA 2ND FLR-OFF-4,
3RD-OFF-4,4TH FLR-OFF-2 PAV2-UPPER LEVEL
PARKING100% SPR1-INCL-P SFB-LOWER ENTRC
ELEV=5 STPS,125FPM,P 1=5000#,1=4000.
11/96 COURT RED 93+LISTS ECO= I-95 & R/R
C/O 10/20/11 147043 INT ALT (NOTE P.P) *
C/O 3/27/12 146956 RELO 3 ANT.& ADD 3
ANT.& RADIO HEADS (NOTE: P.P.) *
10/22/12 C/O 146407 148039 ALT(OLD WORK)
C/O'S 151140 & 151141 2ND FLR RENO-*N/C
159561/159495/159426 COMP 10/1/19 NC

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	8,533,600
Appraised Xf (B) Value (Bldg)	415,400
Appraised Ob (B) Value (Bldg)	247,000
Appraised Land Value (Bldg)	1,451,200
Special Land Value	0
Total Appraised Parcel Value	10,647,200
Valuation Method	C
Total Appraised Parcel Value	10,647,200

BUILDING PERMIT RECORD

Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments
161003	08-04-2020	CM		20,000	10-01-2020	100	10-01-2020	**T MOBILE**ADD 6 ANTENN
159561	09-05-2019	CP		32,000	10-01-2019	100	10-01-2019	**FOUNDATION SOURCE**2
159495	08-22-2019	CC		20,000	10-01-2019	100	10-01-2019	**T MOBILE**SWAP 6 ANTEN
159426	08-06-2019	RE		2,325	10-01-2019	100	10-01-2019	**ACME UNITED**BUILD 1 O
156429	11-27-2017	CM		25,000	04-09-2018	100	04-09-2018	**AT & T**REPL 3 RADIO ANT
156160	10-02-2017	RE		65,550	04-09-2018	100	11-08-2017	INT FIT-UP-CTR FOR PEDIAT
154687	11-02-2016	RE	Remodel	38,000	04-18-2017	100	12-14-2016	INT ALTS-ACME UNITED

VISIT / CHANGE HISTORY

Date	Id	Type	Is	Cd	Purpost/Result
10-01-2019	KBC			44	No Change - Reinspection/
04-09-2018	KC			40	No change
04-09-2018	KC			40	No change
04-18-2017	JP			40	No change
09-15-2015	JW			22	Bldg Permit Listed
04-30-2015	KC			40	No change
01-14-2015	ES			00	Measur+Listed

LAND LINE VALUATION SECTION

B	Use Code	Description	Zone	Land Type	Land Units		Unit Price	I. Factor	Site Index	Cond.	Nbhd.	Nhbd Adj	Notes	Location Adjustment		Adj Unit Pric	Land Value
1	3400	Office C	DID		76,665	SF	18.03	1.00000	C	1.00	C4	1.050			0		1,451,200
				Total Card Land Units	1.760	AC	Parcel Total Land Area:			1.7600						Total Land Value	1,451,200

Property Location	55 WALLS DRIVE		Map ID	141/ 97/ / /		Bldg Name	State Use 3400
Vision ID 12330		Account # 04050		Bldg # 1	Sec # 1 of 1	Card # 1 of 1	Print Date 3/18/2021 5:36:02 AM

CONSTRUCTION DETAIL

Element	Cd	Description
Style:	500	Office
Model	94	Comm/Ind
Grade	04	Average Plus
Stories:	4	
Occupancy	8.00	
Exterior Wall 1	21	Stone/Masonry
Exterior Wall 2	28	Glass/Thermo.
Roof Structure	01	Flat
Roof Cover	04	Rubber
Interior Wall 1	05	Drywall
Interior Wall 2		
Interior Floor 1	14	Carpet
Interior Floor 2	19	Marble
Heating Fuel	03	Gas
Heating Type	04	Forced Air-Duc
AC Type	03	Central
Bldg Use	3400	Office C
Total Rooms		
Total Bedrms	00	
Total Baths	0	
Liv Area		
Effect Area		
Heat/AC	01	Heat/AC Pkgs
Frame Type	06	Fireprf Steel
Baths/Plumbing	02	Average
Ceiling/Wall	05	Sus-Ceil & WI
Rooms/Prtns	02	Average
Wall Height	12.00	
% Comn Wall	0.00	
1st Floor Use:	3400	

CONSTRUCTION DETAIL (CONTINUED)

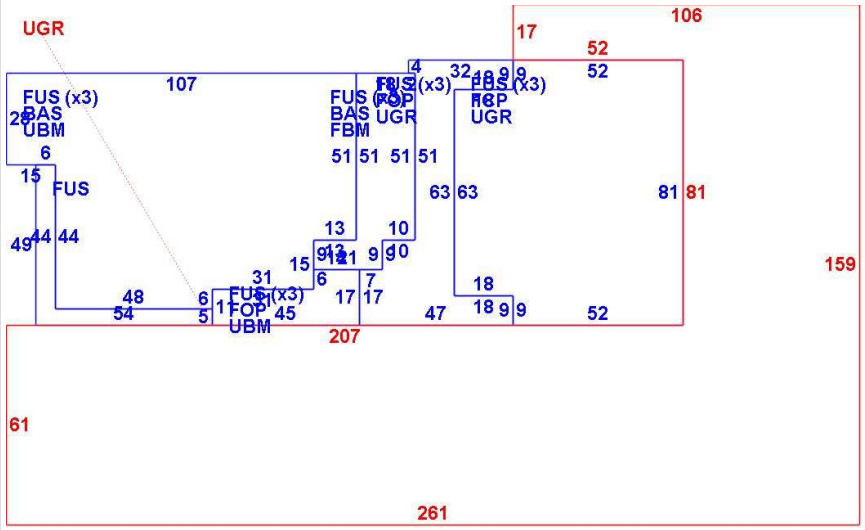
Element	Cd	Description

MIXED USE

Code	Description	Percentage
3400	Office C	100
		0
		0

COST / MARKET VALUATION

RCN	11,852,278
Year Built	1988
Effective Year Built	
Depreciation Code	5
Remodel Rating	
Year Remodeled	
Depreciation %	18
Functional Obsol	0
External Obsol	10
Trend Factor	1
Condition	
Condition %	
Percent Good	72
Cns Sect Rcnld	8,533,600
Dep % Ovr	
Dep Ovr Comment	
Misc Imp Ovr	
Misc Imp Ovr Comment	
Cost to Cure Ovr	
Cost to Cure Ovr Comment	



OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Good	Grade	Grade Adj	Appr. Value
SPR1	SPRINKLERS-	B	86,226	2.40	1999		72		0.00	149,000
LT1	LIGHTS-IN W/P	L	10	840.00	2001		90		0.00	7,600
PAV1	PAVING-ASPH	L	23,000	3.70	2001		90		0.00	76,600
PAV2	PAVING-CONC	L	28,700	4.70	2001		90		0.00	121,400
ELV1	PASS ELEV	B	5	37000.00	1999		72		0.00	133,200
ELV1	PASS ELEV	B	5	37000.00	1999		72		0.00	133,200
MSC4	UTIL BLDG	L	1	31000.00	2001		90		0.00	27,900
GEN1	GENERATOR	L	1	15000.00	2015		90		0.00	13,500

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
BAS	First Floor	7,692	7,692		177.05	1,361,830
FBM	Basement, Finished	554	1,107		61.89	68,516
FCP	Carport	0	5,346		44.28	236,709
FOP	Porch, Open, Finished	0	2,262		44.30	100,207
FUS	Upper Story, Finished	46,434	46,434		177.05	8,220,908
UBM	Basement, Unfinished	0	7,164		44.26	317,088
UGR	Garage, Under	0	29,126		53.11	1,547,019
	Ttl Gross Liv / Lease Area	54,680	99,131	66,945		11,852,277

Town of Fairfield

Title

Legend

- Parcels
- Local Basin Boundary
  - Major
  - Regional
  - Subregional
  - Local
- Local Basin Area

200.0 0 100.00 200.0 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Greater Bridgeport Regional Council

METROCOG
Connecticut Metropolitan Council of Governments

EXHIBIT 3

STRUCTURAL ANALYSIS REPORT

For

CT2120

FAIRFIELD CENTRAL

55 Walls Drive
Fairfield, CT 06824

Antennas Mounted on Tower Supported by Steel Platform

Prepared for:

CENTERLINE COMMUNICATIONS

at&t

Dated: January 27, 2022

Prepared by:

HUDSON Design Group LLC

45 Beechwood Drive
North Andover, MA 01845
(P) 978.557.5553 (F) 978.336.5586
www.hudsondesigngroupllc.com

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by AT&T to conduct a structural evaluation of the structure supporting the proposed equipment located in the areas depicted in the latest HDG construction drawings.

This report represents this office's findings, conclusions and recommendations pertaining to the support of AT&T's proposed antennas listed below.

This office conducted an on-site visual survey of the above site on March 23, 2021. Attendees included Patrick Barrett (HDG – Field Technician).

The following documents were used for our reference:

- Previous HDG Structural Analysis dated July 6, 2016.
- HDG Tower Structural Analysis dated January 10, 2022.

CONCLUSION SUMMARY:

Based on our evaluation, we have determined that the existing structure **IS CAPABLE** of supporting the proposed equipment loading.

	Member	Stress Ratio	Pass/Fail
Building Column	W12x65	67%	**PASS**

Based on our evaluation, we have determined that the existing connections **ARE CAPABLE** of supporting the proposed equipment loading.

	Member	Stress Ratio	Pass/Fail
Existing Tower Connection	5/8" Thru Bolt	69%	**PASS**

Based on our evaluation, we have determined that the existing mounts **ARE CAPABLE** of supporting the proposed equipment loading.

	Member	Controlling Load Case	Stress Ratio	Pass/Fail
Steel Platform	11	LC20	78%	**PASS**
Platform Support	2-1/2" std	Axial & Bending	87%	**PASS**

Note: Reference HDG Tower Structural Analysis dated January 10, 2022, for appurtenances and tower reactions.

*Reference documents attached.

HUDSON Design Group LLC

DESIGN CRITERIA:

International Building Code (IBC) 2015 with 2018 Connecticut State Building Code Amendments, and ASCE 7-10 (Minimum Design Loads for Buildings and Other Structures).		
Wind		
Reference Wind Speed:	125 mph	(2018 CSBC Appendix N)
Exposure Category:	B	(ASCE 7-10 Chapter 26)
Risk Category:	II	(ASCE 7-10 Table 1.5-1)
Snow		
Ground Snow, P_g:	30	(2018 CSBC Appendix N)
Importance Factor (I_s):	1.0	(ASCE 7-10 Table 1.5-2)
Exposure Factor (C_e):	0.9	(Fully Exposed, Table 7-2)
Thermal Factor (C_t):	1.0	(ASCE 7-10 Table 7-3)
Flat Roof Snow Load:	19 psf	(ASCE 7-10 Equation 7.3-1)
Min. Flat Roof Snow Load:	30 psf	
EIA/TIA-222-H Structural Standards for Steel Antenna Towers and Antenna Supporting Structures		
Wind		
City/Town:	Fairfield	
County:	Fairfield	
Wind Load:	125 mph	(TIA-222-H Figure B-2)
Ice		
Design Ice Thickness (t_i):	1.0 in	(TIA-222-H Figure B-9)
Structure Class:	II	(TIA-222-H Table 2-1)
Importance Factor (I_i):	1.0	(TIA-222-H Table 2-3)
Factored Thickness of Radial Ice (t_{iz}):	1.08 in	(TIA-222-H Sec. 2.6.10)

EXISTING ROOF CONSTRUCTION:

The existing roof construction consists of a roofing membrane over rigid insulation over metal decking supported by steel beams and columns.

TOWER SUPPORT RECOMMENDATIONS:

The existing tower is supported by the existing steel platform located on the roof of the existing building supported on existing steel columns.

Limitations and Assumptions:

1. Reference the latest HDG construction drawings for all the equipment locations and details.
2. All detail requirements will be designed and furnished in the construction drawings.
3. 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.
4. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
5. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer requirements.
6. If field conditions differ from what is assumed in this report, then the engineer of record is to be notified as soon as possible.

FIELD PHOTOS:

Photo 1: Sample photo illustrating the existing tower and steel platform.

HUDSON
Design Group LLC

Tower Connection Calculations

Date: 1/27/2022
Project Name: FAIRFIELD CENTRAL
Project No.: CT2120
Designed By: ID **Checked By:** MSC

HUDSON Design Group LLC

CHECK CONNECTION CAPACITY (Worst Case - Tower Leg)

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

Bolt Type = A325 5/8" Threaded Rod

Allowable Tensile Load =

F_{Tall} = 13806 lbs.

Allowable Shear Load =

F_{Vall} = 8283 lbs.

TENSILE FORCES

Reaction **F =** 31662 lbs. (See HDG Tower Analysis Report dated January 10, 2022)

SHEAR FORCES

Reaction 3812 lbs. (See HDG Tower Analysis Report dated January 10, 2022)

No. of Supports = 1
No. of Bolts / Support = 4

Tension Design Load /Bolts =

f_t = 7915.50 lbs. < 13806 lbs. **Therefore, OK !**

Shear Design Load / Bolts=

f_v = 953.00 lbs. < 8283 lbs. **Therefore, OK !**

CHECK COMBINED TENSION AND SHEAR

f_t / F_T	+	f_v / F_V	≤	1.0			
0.573	+	0.115	=	0.688	<	1.0	**Therefore, OK !**

HUDSON
Design Group LLC

Steel Platform
Calculations

Date: 1/27/2022
Project Name: FAIRFIELD CENTRAL
Project No.: CT2120
Designed By: ID **Checked By:** MSC

HUDSON Design Group LLC

Wind Analysis → Equipment on Platform

Reference Codes:

-Connecticut State Building Code

-International Building Code 2018 (IBC 2018)

-Minimum Design Loads for Buildings and Other Structures (ASCE 7-10)

Structure Classification		II		(ASCE 7-10 Table 1.5-1)
Basic Wind Speed, V		125	mph	(CT Building Code Appendix N)
Importance Factor, I		1		(ASCE 7-10 Table 1.5-2)
Exposure Category		B		(ASCE 7-10 Section 26.7)
Height Above Ground Level, z		60	ft	(Center of Enclosure)
Exposure Coefficient, K_z		0.85		(ASCE 7-10 Table 29-3.1)
Wind Directionality Coef., K_d		0.90		(ASCE 7-10 Table 26.6-1)
Topographic Factor, K_{zt}		1.00		(ASCE 7-10 Section 26.8.2)
Velocity Pressure, q_z	$= 0.00256K_zK_{zt}K_dV^2$			(ASCE 7-10 Equation 29.3-1)
	= **30.60** **psf**			
Gust Factor, G		0.85		(ASCE 7-10 Section 26.9)
Enclosure Shape:		Square		
Net Force Coefficient, C_f		1.31		(ASCE 7-10 Figure 29.5-1)
Area Wind Force, F	= q_zGC_f			(ASCE 7-10 Equation 29.5-2)
	= **34.03** **psf**			

Bentley

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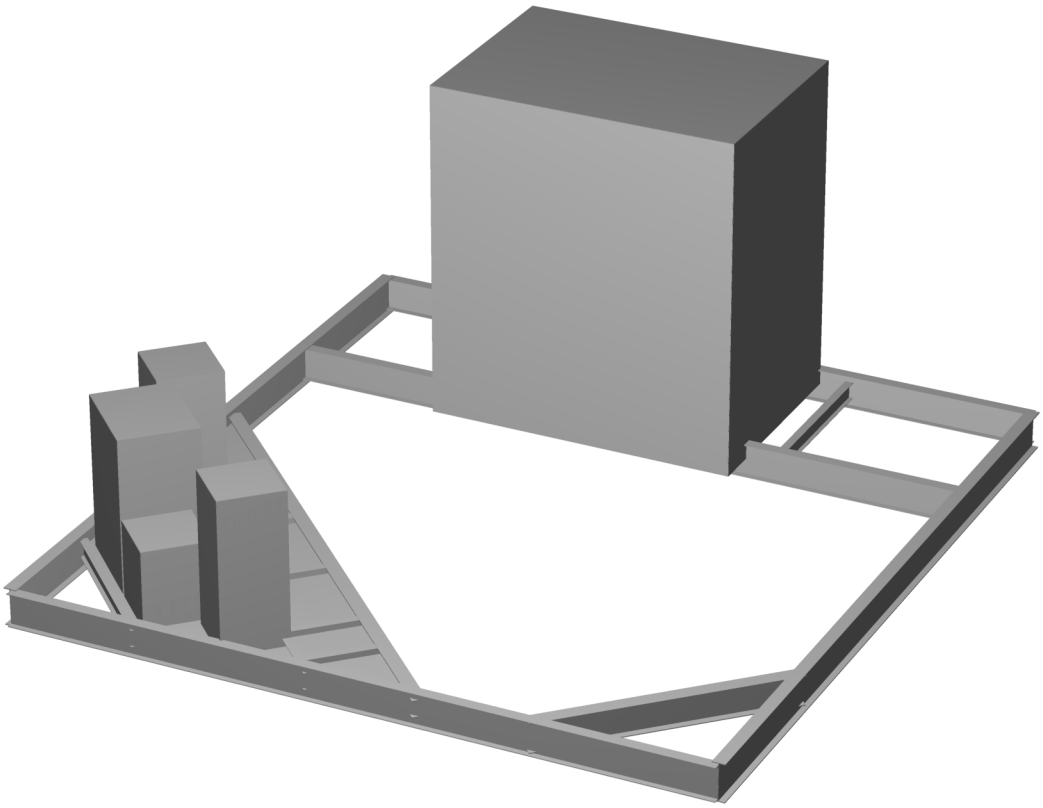
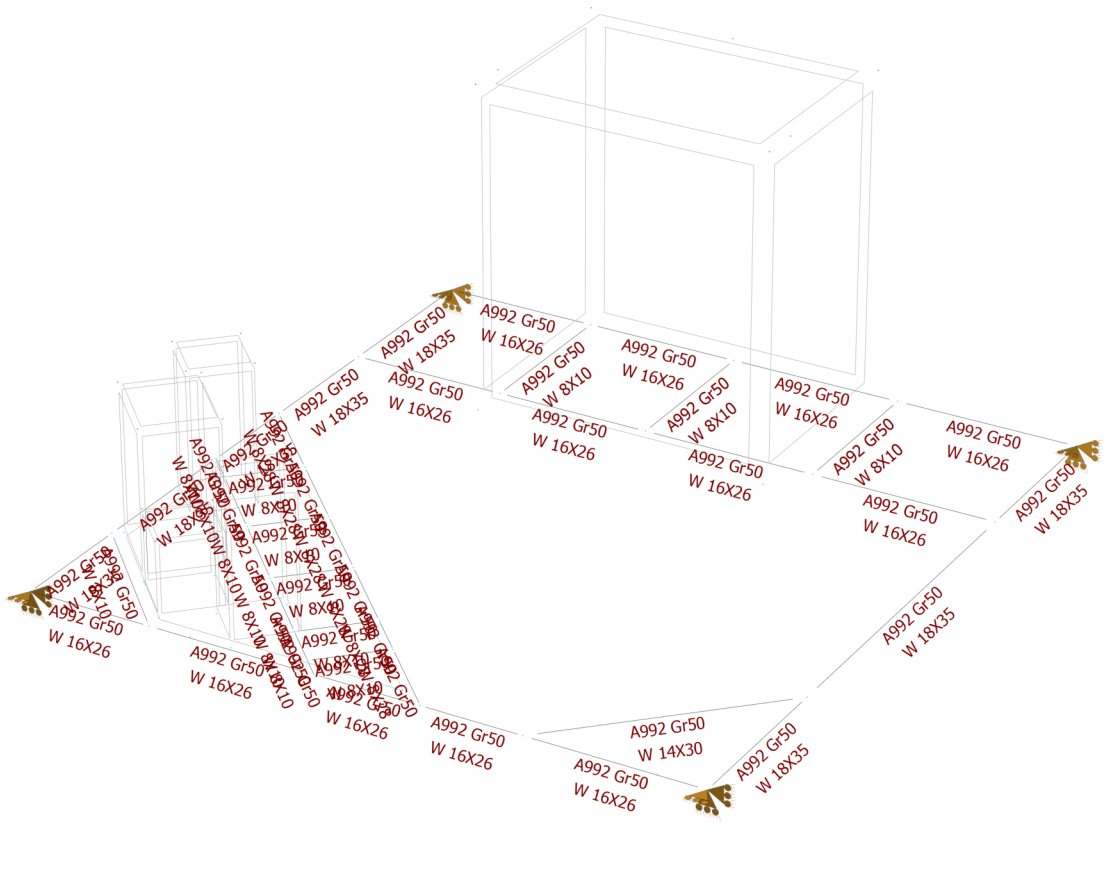
Units system: English




A992 Gr50
W 18X35
A992 Gr50
W 16X26
A992 Gr50
W 8X10
A992 Gr50
W 14X30
Y
Z
X

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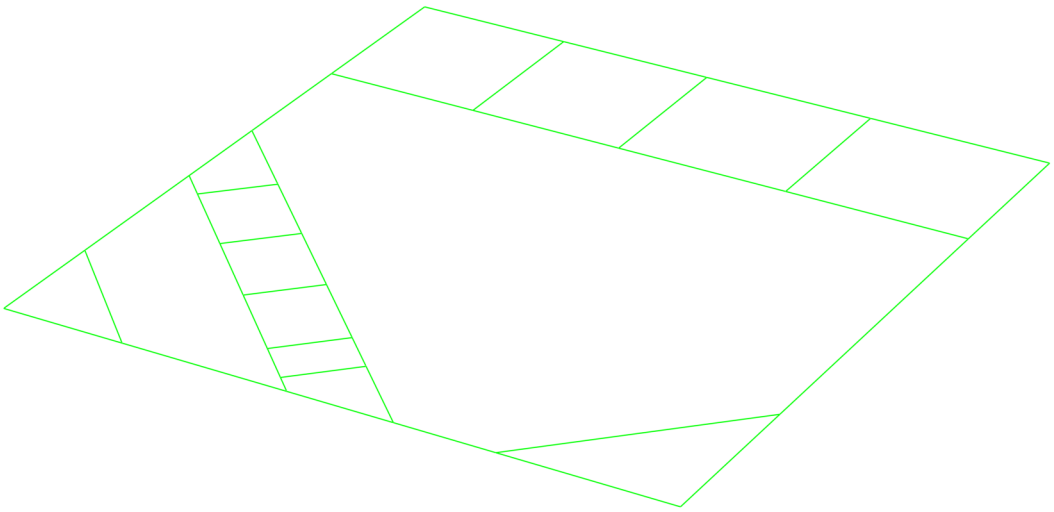
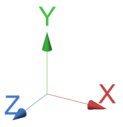
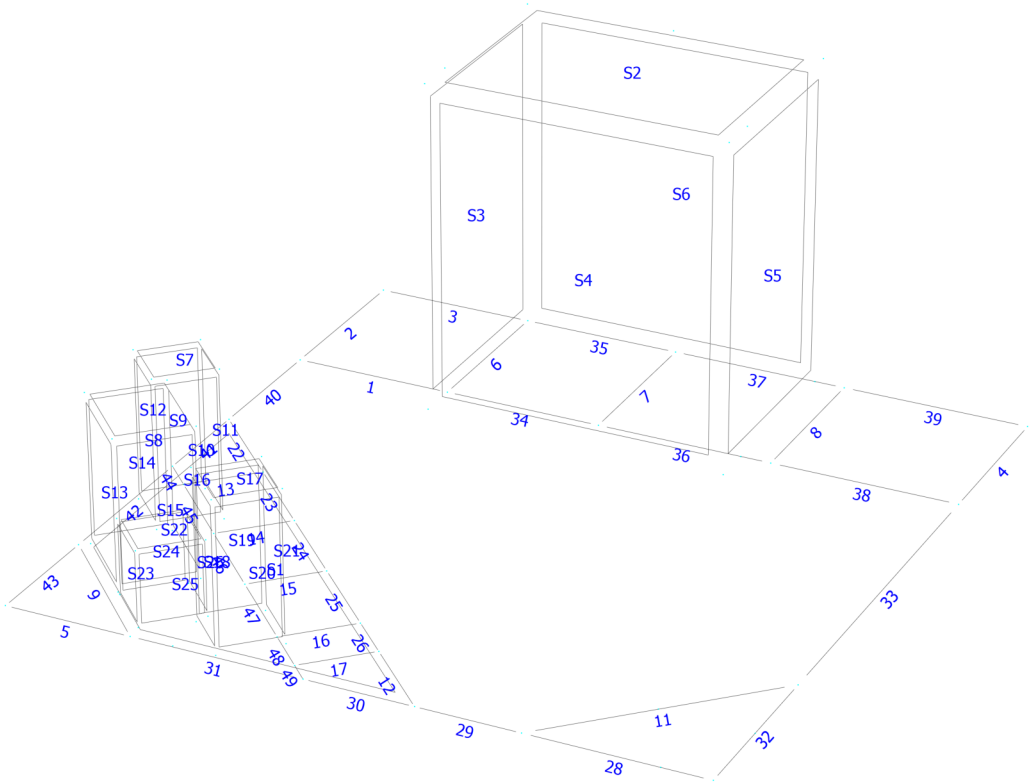
Units system: English

Design status
- Not designed
- Error on design
- Design O.K.
- With warnings






S2
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Units system: English

Load data

GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
LL	Live Load	No	LL
WL1	Wind Load Side 1	No	WIND
WL2	Wind Load Side 2	No	WIND
WL3	Wind Load Side 3	No	WIND
WL4	Wind Load Side 4	No	WIND
DL1	Leg A Loads	No	DL
DL2	Leg B Loads	No	DL
DL3	Leg CLoads	No	DL

Load on nodes

Condition	Node	FX [Kip]	FY [Kip]	FZ [Kip]	MX [Kip*ft]	MY [Kip*ft]	MZ [Kip*ft]
DL	17	0.00	-3.55	0.00	0.00	0.00	0.00
	20	0.00	-3.55	0.00	0.00	0.00	0.00
	24	0.00	-0.50	0.00	0.00	0.00	0.00
	38	0.00	-3.55	0.00	0.00	0.00	0.00
	40	0.00	-3.55	0.00	0.00	0.00	0.00
	48	0.00	-0.25	0.00	0.00	0.00	0.00
	49	0.00	-0.25	0.00	0.00	0.00	0.00
	50	0.00	-0.25	0.00	0.00	0.00	0.00
	51	0.00	-0.25	0.00	0.00	0.00	0.00
	56	0.00	-0.50	0.00	0.00	0.00	0.00
	57	0.00	-0.50	0.00	0.00	0.00	0.00
	58	0.00	-0.50	0.00	0.00	0.00	0.00
	59	0.00	-0.50	0.00	0.00	0.00	0.00
	64	0.00	-0.25	0.00	0.00	0.00	0.00
	65	0.00	-0.25	0.00	0.00	0.00	0.00
	66	0.00	-0.25	0.00	0.00	0.00	0.00
	67	0.00	-0.25	0.00	0.00	0.00	0.00
	72	0.00	-0.15	0.00	0.00	0.00	0.00
	73	0.00	-0.15	0.00	0.00	0.00	0.00
	74	0.00	-0.15	0.00	0.00	0.00	0.00
	75	0.00	-0.15	0.00	0.00	0.00	0.00
	81	0.00	-0.50	0.00	0.00	0.00	0.00
DL1	6	0.0901	-35.9994	3.9498	0.00	0.00	0.00
	16	1.2221	14.2289	1.8649	0.00	0.00	0.00
	80	-1.3517	15.6031	1.7183	0.00	0.00	0.00
DL2	6	-0.8142	15.2863	-1.9937	0.00	0.00	0.00
	16	-3.4333	-36.685	-1.8883	0.00	0.00	0.00
	80	-2.2169	15.2313	0.1498	0.00	0.00	0.00

DL3	6	0.7297	15.6586	-2.0294	0.00	0.00	0.00
	16	2.2677	14.229	0.0552	0.00	0.00	0.00
	80	3.5065	-36.055	-1.8266	0.00	0.00	0.00

Load on shells

Condition	Shell	Pressure [Kip/ft2]	Temp. [F]
DL	1	0.015	0.00
LL	1	0.025	0.00
WL1	4	0.034	0.00
	8	0.034	0.00
	13	0.034	0.00
	18	0.034	0.00
	23	0.034	0.00
WL2	5	-0.034	0.00
	10	0.034	0.00
	15	0.034	0.00
	20	0.034	0.00
	25	0.034	0.00
WL3	6	0.034	0.00
	11	0.034	0.00
	16	0.034	0.00
	21	0.034	0.00
	26	0.034	0.00
WL4	3	0.034	0.00
	9	0.034	0.00
	14	0.034	0.00
	19	0.034	0.00

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
LL	Live Load	No	0.00	0.00	0.00
WL1	Wind Load Side 1	No	0.00	0.00	0.00
WL2	Wind Load Side 2	No	0.00	0.00	0.00
WL3	Wind Load Side 3	No	0.00	0.00	0.00
WL4	Wind Load Side 4	No	0.00	0.00	0.00
DL1	Leg A Loads	No	0.00	0.00	0.00
DL2	Leg B Loads	No	0.00	0.00	0.00
DL3	Leg CLoads	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
LL	0.00	0.00	0.00
WL1	0.00	0.00	0.00
WL2	0.00	0.00	0.00
WL3	0.00	0.00	0.00
WL4	0.00	0.00	0.00
DL1	0.00	0.00	0.00
DL2	0.00	0.00	0.00
DL3	0.00	0.00	0.00

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Units system: English

Steel Code Check

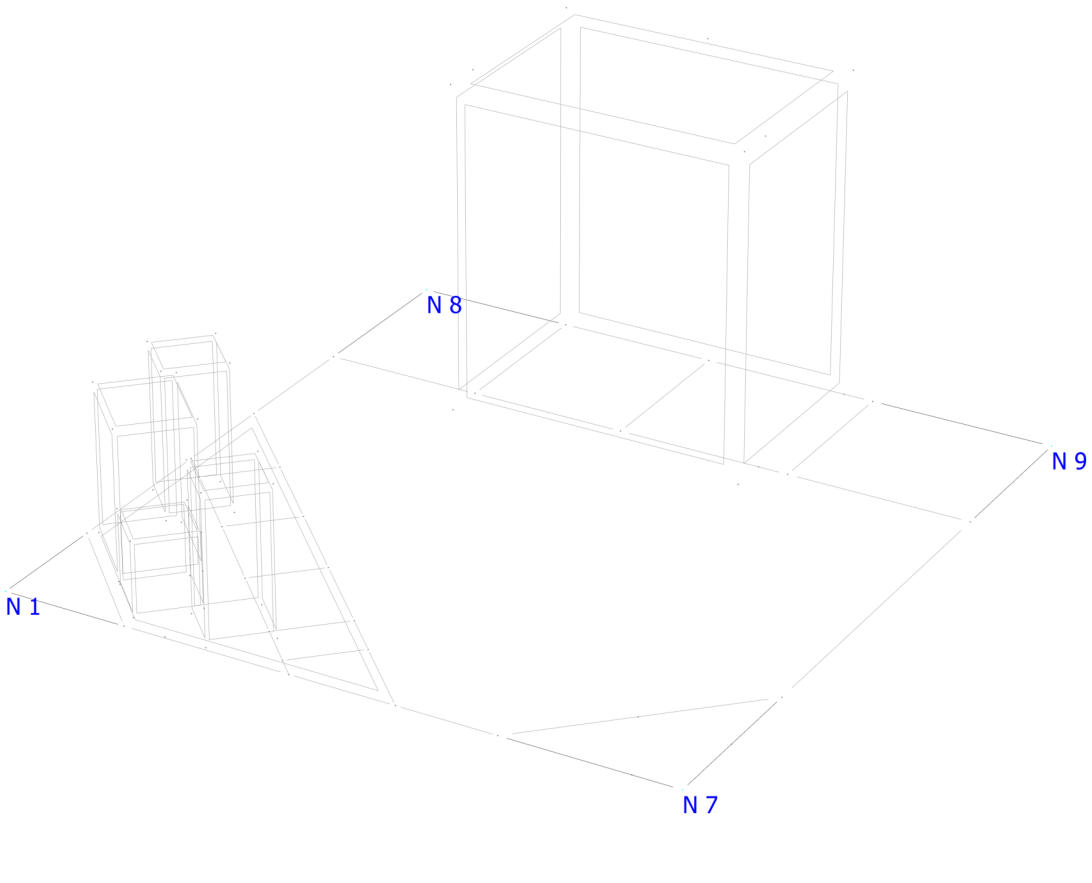
Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.4DL+DL1
LC2=1.4DL+DL2
LC3=1.4DL+DL3
LC4=1.2DL+1.6LL+DL1
LC5=1.2DL+1.6LL+DL2
LC6=1.2DL+1.6LL+DL3
LC7=1.2DL+LL+DL1
LC8=1.2DL+LL+DL2
LC9=1.2DL+LL+DL3
LC10=1.2DL+0.5WL1+DL1
LC11=1.2DL+0.5WL1+DL2
LC12=1.2DL+0.5WL1+DL3
LC13=1.2DL+0.5WL2+DL1
LC14=1.2DL+0.5WL2+DL2
LC15=1.2DL+0.5WL2+DL3
LC16=1.2DL+LL+WL1+DL1
LC17=1.2DL+LL+WL1+DL2
LC18=1.2DL+LL+WL1+DL3
LC19=1.2DL+LL+WL2+DL1
LC20=1.2DL+LL+WL2+DL2
LC21=1.2DL+LL+WL2+DL3
LC22=1.2DL+LL+WL3+DL1
LC23=1.2DL+LL+WL3+DL2
LC24=1.2DL+LL+WL3+DL3
LC25=1.2DL+LL+WL4+DL1
LC26=1.2DL+LL+WL4+DL2
LC27=1.2DL+LL+WL4+DL3
LC28=1.2DL+LL+DL1
LC29=1.2DL+LL+DL2
LC30=1.2DL+LL+DL3
LC31=0.9DL+WL1+DL1
LC32=0.9DL+WL1+DL2
LC33=0.9DL+WL1+DL3
LC34=0.9DL+WL2+DL1
LC35=0.9DL+WL2+DL2
LC36=0.9DL+WL2+DL3
LC37=0.9DL+WL3+DL1
LC38=0.9DL+WL3+DL2
L39=0.9DL+WL3+DL3
LC40=0.9DL+WL4+DL1
LC41=0.9DL+WL4+DL2
LC42=0.9DL+WL4+DL3
LC43=0.9DL+DL1
LC44=0.9DL+DL2
LC45=0.9DL+DL3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	W 14X30	**11**	LC20 at 50.00%	**0.78**	**OK**	
	W 16X26	**1**	LC24 at 100.00%	0.44	OK	
		3	LC16 at 100.00%	0.63	OK	
		5	LC5 at 100.00%	0.27	OK	

	28	LC23 at 0.00%	**0.70**	**OK**
	29	LC23 at 100.00%	0.69	OK
	30	LC5 at 100.00%	0.59	OK
	31	LC5 at 100.00%	0.50	OK
	34	LC23 at 100.00%	0.66	OK
	35	LC16 at 0.00%	0.51	OK
	36	LC22 at 0.00%	0.68	OK
	37	LC17 at 83.33%	0.61	OK
	38	LC22 at 0.00%	0.39	OK
	39	LC17 at 0.00%	0.59	OK
W 18X35	**2**	LC22 at 0.00%	0.40	OK
	4	LC24 at 100.00%	0.43	OK
	32	LC21 at 50.00%	0.67	OK
	33	LC21 at 100.00%	**0.72**	**OK**
	40	LC21 at 100.00%	0.46	OK
	41	LC22 at 0.00%	0.35	OK
	42	LC24 at 0.00%	0.24	OK
	43	LC23 at 0.00%	0.14	OK
W 8X10	**6**	LC26 at 50.00%	0.09	OK
	7	LC37 at 0.00%	0.01	OK
	8	LC16 at 0.00%	0.05	OK
	9	LC25 at 50.00%	0.08	OK
	13	LC18 at 46.88%	0.01	OK
	14	LC17 at 50.00%	0.01	OK
	15	LC25 at 100.00%	0.01	OK
	16	LC17 at 100.00%	0.44	OK
	17	LC6 at 50.00%	0.01	OK
	44	LC18 at 100.00%	0.13	OK
	45	LC18 at 100.00%	0.37	OK
	46	LC18 at 50.00%	0.40	OK
	47	LC18 at 0.00%	0.36	OK
	48	LC17 at 12.50%	**0.46**	**OK**
	49	LC18 at 0.00%	0.03	OK
W 8X28	**12**	LC5 at 100.00%	0.10	OK
	22	LC5 at 0.00%	0.07	OK
	23	LC5 at 0.00%	0.11	OK
	24	LC5 at 0.00%	0.14	OK
	25	LC5 at 46.88%	**0.14**	**OK**
	26	LC5 at 100.00%	0.14	OK

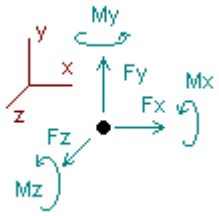

N 8
N 9
N 1
N 7
Y
Z
X

Current Date: 1/27/2022 3:41 PM
Units system: English

Analysis result

Envelope for nodal reactions

Note.- **Ic** is the controlling load condition



Direction of positive forces and moments

Envelope of nodal reactions for :

LC1=1.4DL+DL1
LC2=1.4DL+DL2
LC3=1.4DL+DL3
LC4=1.2DL+1.6LL+DL1
LC5=1.2DL+1.6LL+DL2
LC6=1.2DL+1.6LL+DL3
LC7=1.2DL+LL+DL1
LC8=1.2DL+LL+DL2
LC9=1.2DL+LL+DL3
LC10=1.2DL+0.5WL1+DL1
LC11=1.2DL+0.5WL1+DL2
LC12=1.2DL+0.5WL1+DL3
LC13=1.2DL+0.5WL2+DL1
LC14=1.2DL+0.5WL2+DL2
LC15=1.2DL+0.5WL2+DL3
LC16=1.2DL+LL+WL1+DL1
LC17=1.2DL+LL+WL1+DL2
LC18=1.2DL+LL+WL1+DL3
LC19=1.2DL+LL+WL2+DL1
LC20=1.2DL+LL+WL2+DL2
LC21=1.2DL+LL+WL2+DL3
LC22=1.2DL+LL+WL3+DL1
LC23=1.2DL+LL+WL3+DL2
LC24=1.2DL+LL+WL3+DL3
LC25=1.2DL+LL+WL4+DL1
LC26=1.2DL+LL+WL4+DL2
LC27=1.2DL+LL+WL4+DL3
LC28=1.2DL+LL+DL1
LC29=1.2DL+LL+DL2
LC30=1.2DL+LL+DL3
LC31=0.9DL+WL1+DL1
LC32=0.9DL+WL1+DL2
LC33=0.9DL+WL1+DL3
LC34=0.9DL+WL2+DL1
LC35=0.9DL+WL2+DL2
LC36=0.9DL+WL2+DL3
LC37=0.9DL+WL3+DL1
LC38=0.9DL+WL3+DL2
L39=0.9DL+WL3+DL3
LC40=0.9DL+WL4+DL1
LC41=0.9DL+WL4+DL2
LC42=0.9DL+WL4+DL3

LC43=0.9DL+DL1
LC44=0.9DL+DL2
LC45=0.9DL+DL3

Node		Forces						Moments					
		Fx [Kip]	**lc**	**Fy** [Kip]	**lc**	**Fz** [Kip]	**lc**	**Mx** [Kip*ft]	**lc**	**My** [Kip*ft]	**lc**	**Mz** [Kip*ft]	**lc**
1	Max	2.418	LC38	15.104	LC23	1.210	LC18	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-2.212	LC18	2.388	LC33	-1.193	LC38	0.00000	LC1	0.00000	LC1	0.00000	LC1
7	Max	6.269	LC35	14.497	LC4	3.950	LC35	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-6.854	LC27	2.660	LC32	-6.346	LC25	0.00000	LC1	0.00000	LC1	0.00000	LC1
8	Max	5.280	LC16	13.288	LC1	5.187	LC18	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-1.752	LC38	7.190	LC41	-4.499	LC37	0.00000	LC1	0.00000	LC1	0.00000	LC1
9	Max	2.299	L39	12.362	LC2	3.088	LC32	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-5.405	LC16	1.480	LC34	-2.813	LC22	0.00000	LC1	0.00000	LC1	0.00000	LC1

HUDSON Design Group LLC

Project Title: FAIRFIELD CENTRAL
Engineer:
Project ID: CT2120
Project Descr:

Printed: 27 JAN 2022, 3:44PM

Steel Column

File: STUB UP.ec6

Lic. # : KW-06013026 — Hudson Design Group LLC

DESCRIPTION: Steel Platform Support (Worse Case)

Code References

Calculations per AISC 360-10, IBC 2015, CBC 2016, ASCE 7-10
Load Combinations Used : ASCE 7-10

General Information

Steel Section Name :	**Pipe2-1/2 Std**
Analysis Method :	Allowable Strength
Steel Stress Grade	
Fy : Steel Yield	35.0 ksi
E : Elastic Bending Modulus	29,000.0 ksi

Overall Column Height	0.750 ft
Top & Bottom Fixity	Top Pinned, Bottom Fixed

Brace condition for deflection (buckling) along columns :
X-X (width) axis :
Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis :
Fully braced against buckling ABOUT X-X Axis

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 4.360 lbs * Dead Load Factor
AXIAL LOADS . . .
Steel Platform Reactions (See Bentley Output): Axial Load at 0.750 ft, Xecc = 0.480 in, Yecc = 0.480 in, D = 14.497 k
BENDING LOADS . . .
Steel Platform Reactions (See Bentley Output): Lat. Point Load at 1.50 ft creating Mx-x, D = 6.346 k
Steel Platform Reactions (See Bentley Output): Lat. Point Load at 1.50 ft creating My-y, D = 6.854 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.8617** : 1

Load Combination	D Only
Location of max.above base	0.7450 ft
At maximum location values are . . .	
Pa : Axial	14.501 k
Pn / Omega : Allowable	33.323 k
Ma-x : Applied	-0.5740 k-ft
Mn-x / Omega : Allowable	2.393 k-ft
Ma-y : Applied	-0.5740 k-ft
Mn-y / Omega : Allowable	2.393 k-ft

PASS Maximum Shear Stress Ratio = **0.8016** : 1

Load Combination	D Only
Location of max.above base	0.750 ft
At maximum location values are . . .	
Va : Applied	8.014 k
Vn / Omega : Allowable	9.997 k

Maximum Load Reactions . .

Top along X-X	8.014 k
Bottom along X-X	1.160 k
Top along Y-Y	7.506 k
Bottom along Y-Y	1.160 k

Maximum Load Deflections . . .

Along Y-Y -0.000496 in at 0.5034 ft above base
for load combination : D Only

Along X-X -0.000496 in at 0.5034 ft above base
for load combination : D Only

Load Combination Results

Load Combination	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Cbx	Cby	KxLx/Rx	KyLy/Ry	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.862	PASS	0.74 ft	1.00	1.00	0.00	0.00	0.802	PASS	0.75 ft
+0.60D	0.517	PASS	0.74 ft	1.00	1.00	0.00	0.00	0.481	PASS	0.75 ft

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
	k	k	k	k	k	k-ft	k-ft	k-ft	k-ft
D Only	14.501	1.160	8.014	-1.160	7.506	0.290		0.290	
+0.60D	8.701	0.696	4.808	-0.696	4.503	0.174		0.174	

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	My - End Moments @ Base	My - End Moments @ Top
		k	k	k	k	k	k-ft	k-ft	k-ft	k-ft
Axial @ Base	Maximum	14.501	1.160	8.014	-1.160	7.506	0.290		0.290	
"	Minimum	8.701	0.696	4.808	-0.696	4.503	0.174		0.174	
Reaction, X-X Axis Base	Maximum	14.501	1.160	8.014	-1.160	7.506	0.290		0.290	
"	Minimum	8.701	0.696	4.808	-0.696	4.503	0.174		0.174	

Steel Column

DESCRIPTION: Steel Platform Support (Worse Case)

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	k	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	k-ft	My - End Moments @ Base	My - End Moments @ Top
Reaction, Y-Y Axis Base	Maximum	8.701	0.696	4.808		-0.696	4.503	0.174			0.174	
"	Minimum	14.501	1.160	8.014		-1.160	7.506	0.290			0.290	
Reaction, X-X Axis Top	Maximum	14.501	1.160	8.014		-1.160	7.506	0.290			0.290	
"	Minimum	8.701	0.696	4.808		-0.696	4.503	0.174			0.174	
Reaction, Y-Y Axis Top	Maximum	14.501	1.160	8.014		-1.160	7.506	0.290			0.290	
"	Minimum	8.701	0.696	4.808		-0.696	4.503	0.174			0.174	
Moment, X-X Axis Base	Maximum	14.501	0.290	8.014		-1.160	7.506	0.290			0.290	
"	Minimum	8.701	0.174	4.808		-0.696	4.503	0.174			0.174	
Moment, Y-Y Axis Base	Maximum	14.501	1.160	8.014		-1.160	7.506	0.174			0.290	
"	Minimum	8.701	0.696	4.808		-0.696	4.503	0.174			0.174	
Moment, X-X Axis Top	Maximum	14.501	1.160	8.014		-1.160	7.506	0.290			0.290	
"	Minimum	14.501	1.160	8.014		-1.160	7.506	0.290			0.290	
Moment, Y-Y Axis Top	Maximum	14.501	1.160	8.014		-1.160	7.506	0.290			0.290	
"	Minimum	14.501	1.160	8.014		-1.160	7.506	0.290			0.290	

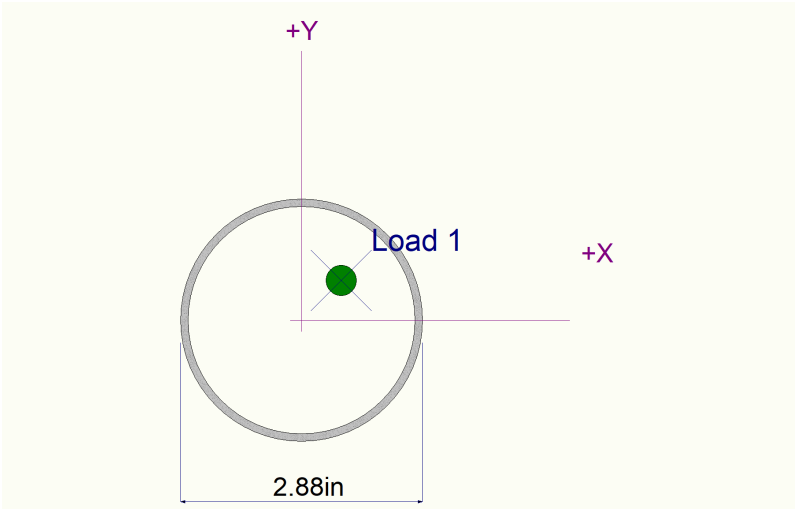
Maximum Deflections for Load Combinations

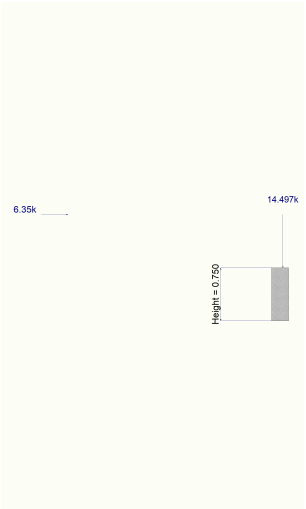
Load Combination	Max. X-X Deflection		Distance		Max. Y-Y Deflection		Distance	
D Only	-0.0005	in	0.503	ft	-0.000	in	0.503	ft
+0.60D	-0.0003	in	0.503	ft	-0.000	in	0.503	ft

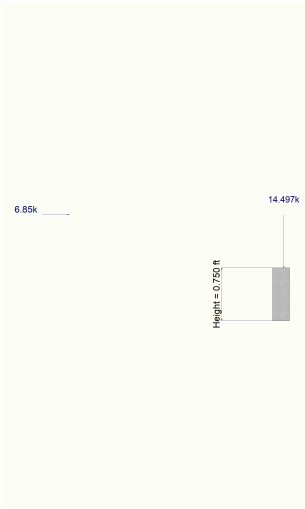
Steel Section Properties : Pipe2-1/2 Std

Depth	=	2.875	in	I xx	=	1.45	in^4	J	=	2.890 in^4
				S xx	=	1.01	in^3			
Diameter	=	2.875	in	R xx	=	0.952	in			
Wall Thick	=	0.203	in	Zx	=	1.370	in^3			
Area	=	1.590	in^2	I yy	=	1.450	in^4			
Weight	=	5.813	plf	S yy	=	1.010	in^3			
				R yy	=	0.952	in			
Ycg	=	0.000	in							

Sketches







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Roof Framing Calculations

HUDSON Design Group LLC

Project Title: FAIRFIELD CENTRAL
Engineer:
Project ID: CT2120
Project Descr:

Printed: 27 JAN 2022, 3:48PM

Steel Column

File: STUB UP.ec6

Lic. # : KW-06013026 — Hudson Design Group LLC

DESCRIPTION: Building Column (Worse Case)

Code References

Calculations per AISC 360-10, IBC 2015, CBC 2016, ASCE 7-10
Load Combinations Used : ASCE 7-10

General Information

Steel Section Name :	**W12x65**	Overall Column Height	14.0 ft
Analysis Method :	Allowable Strength	Top & Bottom Fixity	Top & Bottom Pinned
Steel Stress Grade	A-572, High Strength, Low Alloy, Fy =		
Fy : Steel Yield	50.0 ksi		
E : Elastic Bending Modulus	29,000.0 ksi		

Brace condition for deflection (buckling) along columns :
X-X (width) axis :
Fully braced against buckling ABOUT Y-Y Axis
Y-Y (depth) axis :
Fully braced against buckling ABOUT X-X Axis

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Column self weight included : 910.23 lbs * Dead Load Factor
AXIAL LOADS . . .
Steel Platform Reactions (See Bentley Output): Axial Load at 14.0 ft, D = 15.104 k
Roof Load (Trib Area: 819 sq ft.): Axial Load at 14.0 ft, D = 32.80, S = 28.70 k
3rd Floor Load (Trib Area: 819 sq ft.): Axial Load at 14.0 ft, D = 61.40, L = 49.10 k
2nd Floor Load (Trib Area: 819 sq ft.): Axial Load at 14.0 ft, D = 61.40, L = 49.10 k
1st Floor Load (Trib Area: 819 sq ft.): Axial Load at 14.0 ft, D = 61.40, L = 49.10 k

DESIGN SUMMARY

Bending & Shear Check Results

PASS Max. Axial+Bending Stress Ratio = **0.6651** : 1

Load Combination	+D+L
Location of max.above base	0.0 ft
At maximum location values are . . .	
Pa : Axial	380.314 k
Pn / Omega : Allowable	571.86 k
Ma-x : Applied	0.0 k-ft
Mn-x / Omega : Allowable	237.004 k-ft
Ma-y : Applied	0.0 k-ft
Mn-y / Omega : Allowable	106.994 k-ft

PASS Maximum Shear Stress Ratio = **0.0** : 1

Load Combination	0.0
Location of max.above base	0.0 ft
At maximum location values are . . .	
Va : Applied	0.0 k
Vn / Omega : Allowable	0.0 k

Maximum Load Reactions . .

Top along X-X	0.0 k
Bottom along X-X	0.0 k
Top along Y-Y	0.0 k
Bottom along Y-Y	0.0 k

Maximum Load Deflections . . .

Along Y-Y 0.0 in at 0.0 ft above base
for load combination :

Along X-X 0.0 in at 0.0 ft above base
for load combination :

Load Combination Results

Load Combination	Maximum Axial + Bending Stress Ratios: Stress Ratio	Status	Location	Cbx	Cby	KxLx/Rx	KyLy/Ry	Maximum Shear Ratios: Stress Ratio	Status	Location
D Only	0.407	PASS	0.00 ft	1.00	1.00	0.00	0.00	0.000	PASS	0.00 ft
+D+L	0.665	PASS	0.00 ft	1.00	1.00	0.00	0.00	0.000	PASS	0.00 ft
+D+S	0.458	PASS	0.00 ft	1.00	1.00	0.00	0.00	0.000	PASS	0.00 ft
+D+0.750L	0.601	PASS	0.00 ft	1.00	1.00	0.00	0.00	0.000	PASS	0.00 ft
+D+0.750L+0.750S	0.638	PASS	0.00 ft	1.00	1.00	0.00	0.00	0.000	PASS	0.00 ft
+0.60D	0.244	PASS	0.00 ft	1.00	1.00	0.00	0.00	0.000	PASS	0.00 ft

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	Axial Reaction @ Base	X-X Axis Reaction k @ Base	@ Top	Y-Y Axis Reaction @ Base	@ Top	Mx - End Moments k-ft @ Base	@ Top	My - End Moments @ Base	@ Top
D Only	233.014								
+D+L	380.314								
+D+S	261.714								
+D+0.750L	343.489								

HUDSON Design Group LLC

Project Title: FAIRFIELD CENTRAL
Engineer:
Project ID: CT2120
Project Descr:

Printed: 27 JAN 2022, 3:48PM

Steel Column

File: STUB UP.ec6

Lic. # : KW-06013026 — Hudson Design Group LLC

DESCRIPTION: Building Column (Worse Case)

Maximum Reactions

Note: Only non-zero reactions are listed.

Load Combination	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	k	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	k-ft	My - End Moments @ Base	My - End Moments @ Top
+D+0.750L+0.750S	365.014										
+0.60D	139.809										
L Only	147.300										
S Only	28.700										

Extreme Reactions

Item	Extreme Value	Axial Reaction @ Base	X-X Axis Reaction @ Base	X-X Axis Reaction @ Top	k	Y-Y Axis Reaction @ Base	Y-Y Axis Reaction @ Top	Mx - End Moments @ Base	Mx - End Moments @ Top	k-ft	My - End Moments @ Base	My - End Moments @ Top
Axial @ Base	Maximum	380.314										
"	Minimum	28.700										
Reaction, X-X Axis Base	Maximum	233.014										
"	Minimum	233.014										
Reaction, Y-Y Axis Base	Maximum	233.014										
"	Minimum	233.014										
Reaction, X-X Axis Top	Maximum	233.014										
"	Minimum	233.014										
Reaction, Y-Y Axis Top	Maximum	233.014										
"	Minimum	233.014										
Moment, X-X Axis Base	Maximum	233.014										
"	Minimum	233.014										
Moment, Y-Y Axis Base	Maximum	233.014										
"	Minimum	233.014										
Moment, X-X Axis Top	Maximum	233.014										
"	Minimum	233.014										
Moment, Y-Y Axis Top	Maximum	233.014										
"	Minimum	233.014										

Maximum Deflections for Load Combinations

Load Combination	Max. X-X Deflection		Distance		Max. Y-Y Deflection		Distance	
D Only	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+L	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+0.750L	0.0000	in	0.000	ft	0.000	in	0.000	ft
+D+0.750L+0.750S	0.0000	in	0.000	ft	0.000	in	0.000	ft
+0.60D	0.0000	in	0.000	ft	0.000	in	0.000	ft
L Only	0.0000	in	0.000	ft	0.000	in	0.000	ft
S Only	0.0000	in	0.000	ft	0.000	in	0.000	ft

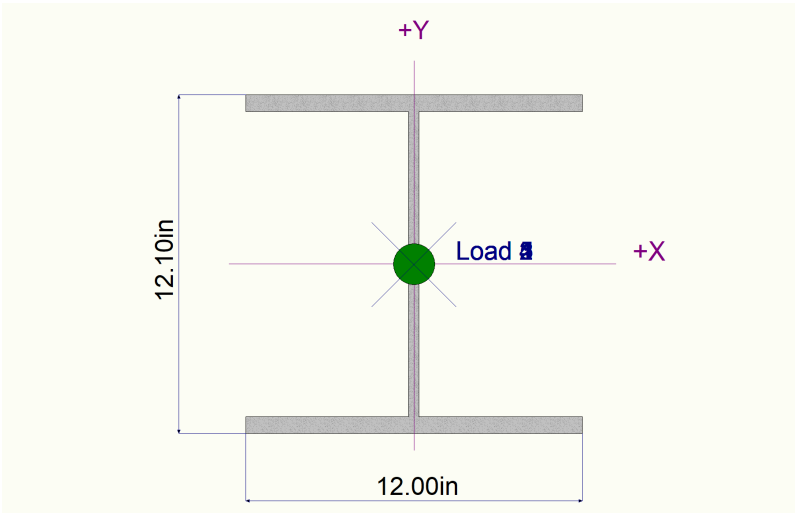
Steel Section Properties : W12x65

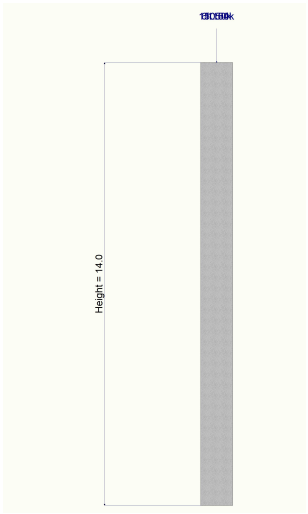
Depth	=	12.100	in	I xx	=	533.00	in^4	J	=	2.180	in^4
Web Thick	=	0.390	in	S xx	=	87.90	in^3	Cw	=	5,780.00	in^6
Flange Width	=	12.000	in	R xx	=	5.280	in				
Flange Thick	=	0.605	in	Zx	=	96.800	in^3				
Area	=	19.100	in^2	I yy	=	174.000	in^4				
Weight	=	65.016	plf	S yy	=	29.100	in^3	Wno	=	34.500	in^2
Kdesign	=	1.200	in	R yy	=	3.020	in	Sw	=	62.600	in^4
K1	=	1.000	in	Zy	=	44.100	in^3	Qf	=	20.200	in^3
rts	=	3.380	in					Qw	=	47.500	in^3
Ycg	=	0.000	in								

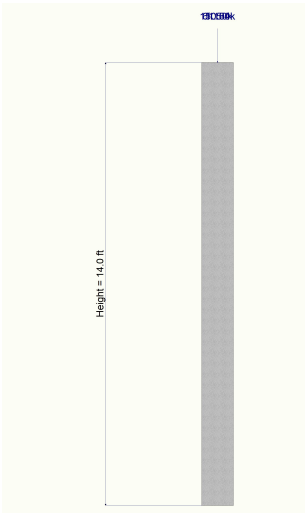
Steel Column

DESCRIPTION: Building Column (Worse Case)

Sketches







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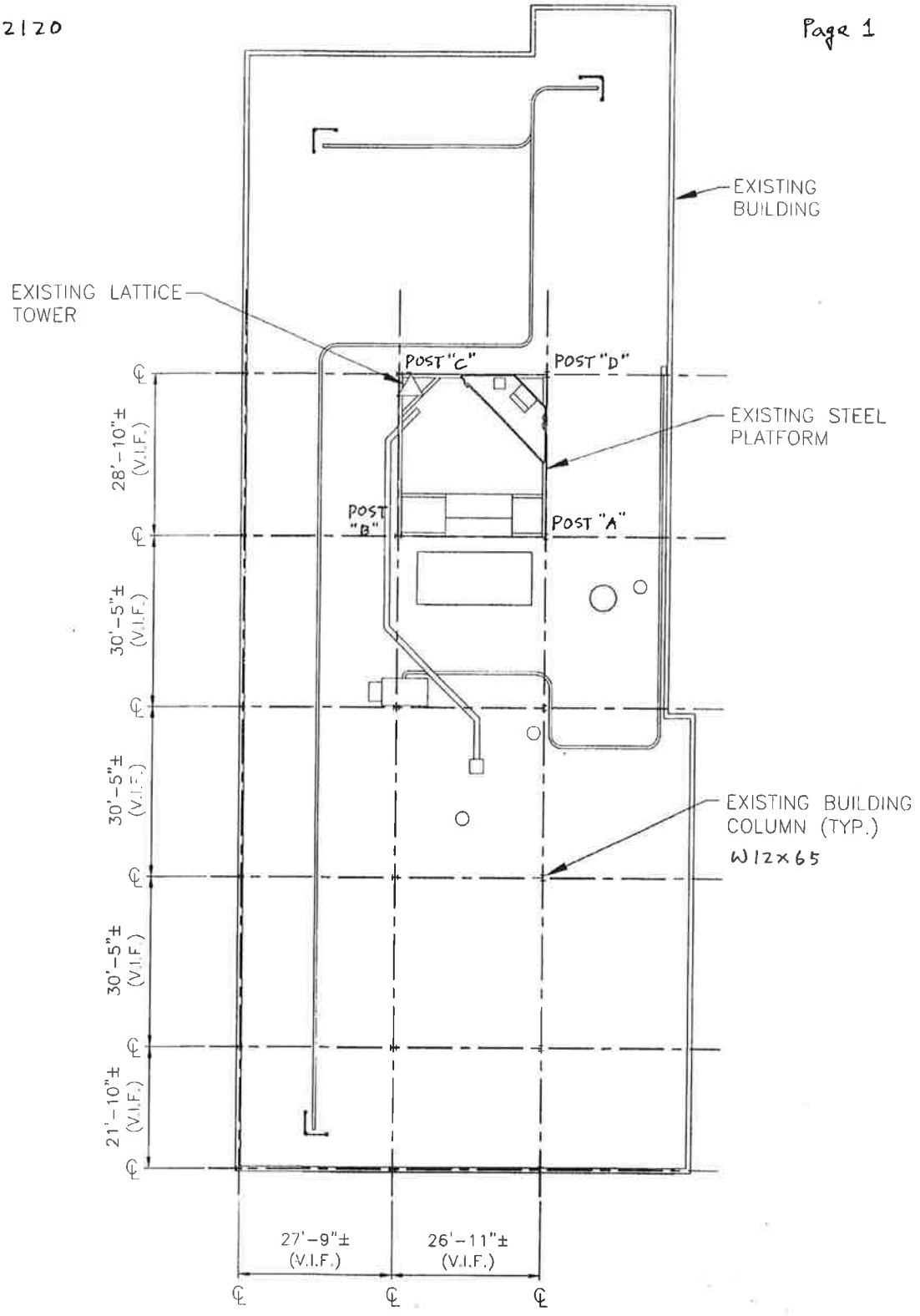
Reference Documents

CT2120

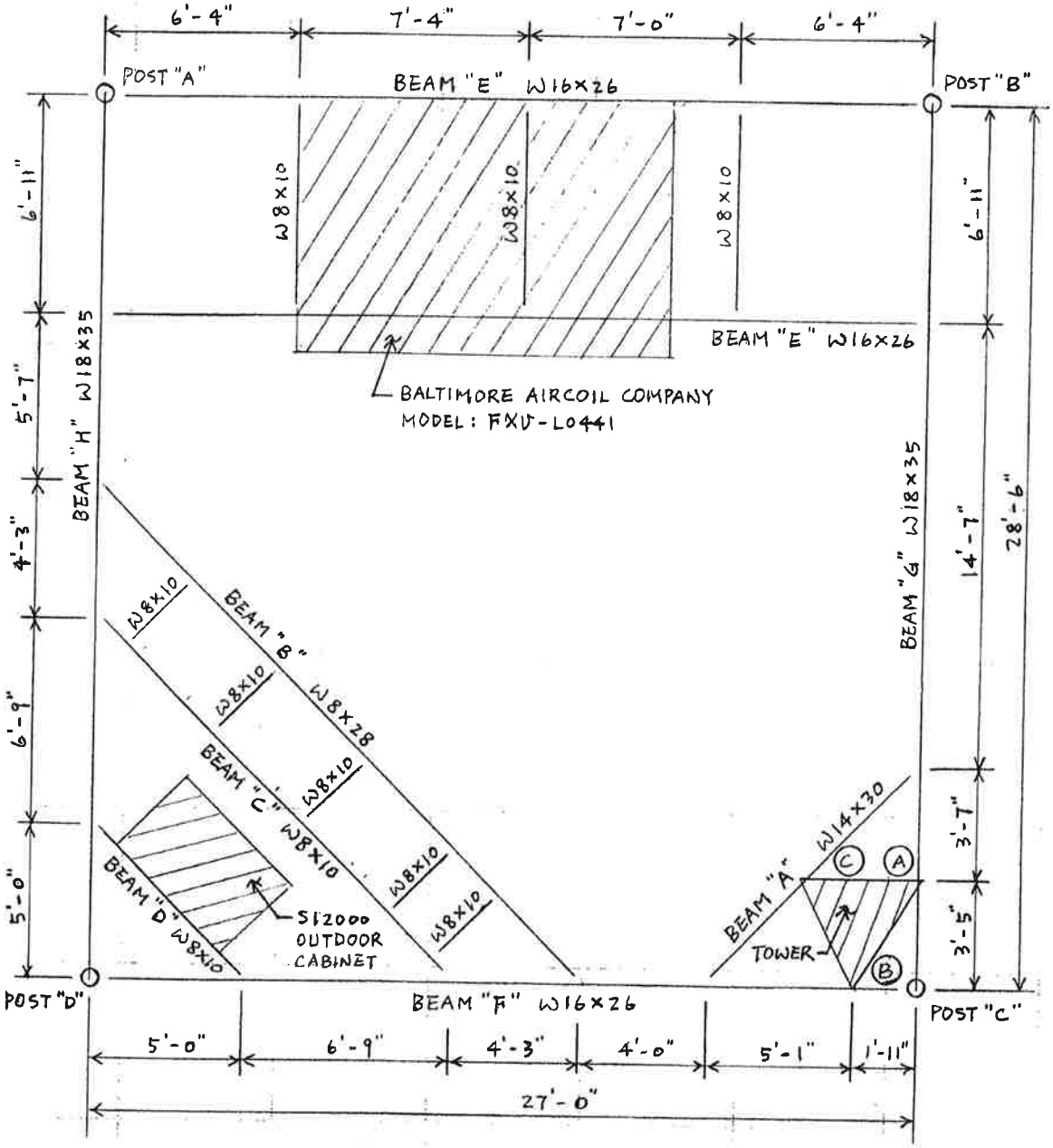


ROOF PLAN

SCALE: NTS

DATE: 7/6/2016
Project Name: FAIRFIELD - CENTRAL
Project No.: CT2120
Design By: KW Chk'd By: _____ Page 2 of ____

Hudson Design Group LLC



157132

EXHIBIT 4

STRUCTURAL ANALYSIS REPORT

For

SITE NUMBER: CT2120
SITE NAME: FAIRFIELD CENTRAL

55 Walls Drive
Fairfield, CT 06824

Antennas Mounted on the Tower

Prepared for:

CENTERLINE COMMUNICATIONS

at&t

Dated: January 10, 2022

Prepared by:

HUDSON Design Group LLC

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SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by AT&T to conduct a structural evaluation of the 20' self-supporting tower supporting the proposed AT&T's antennas located at elevation 70' above the ground level.

This report represents this office's findings, conclusions and recommendations pertaining to the support of AT&T's existing and proposed antennas listed below.

The following documents were used for our reference:

- Previous HDG Structural Analysis dated July 6, 2016.
- Tower Structural Analysis prepared by Maser Consulting dated August 21, 2017.
- Tower Mapping Report prepared by Provertic LLC dated December 22, 2021.

CONCLUSION SUMMARY:

Based on our evaluation, we have determined that the existing tower **is in conformance** with the ANSI/TIA-222-H Standard for the loading considered under the criteria listed in this report. The tower structure is rated at **51.9 %** - (Legs at Tower Section T4 from EL.53.75' to EL.58.75' Controlling).

Note: This structural analysis report is for the tower structure ONLY. A separate structural analysis will be required to determine the capacity of the tower base supporting structure.

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APPURTENANCES CONFIGURATION:

Tenant	Appurtenances	Elev.	Mount
	(1) 27' Whip Antenna	84.75'	Tower Leg
	(1) GPS	73.25'	Tower Leg
AT&T	(3) RRUS 32 B2 RRH's	70'	**Sector Frame**
AT&T	(3) RRUS 32 B66A RRH's	70'	**Sector Frame**
AT&T	(3) RRUS 32 B30 RRH's	70'	**Sector Frame**
AT&T	**(3) TPA65R-BU6DA-K Antennas**	70'	**Sector Frame**
AT&T	**(3) AIR 6419 Antennas**	70'	**Sector Frame**
AT&T	**(3) AIR 6449 Antennas**	70'	**Sector Frame**
AT&T	**(3) DMP65R-BU6DA Antennas**	70'	**Sector Frame**
AT&T	**(3) DC6 Surge Arrestors**	70'	**Sector Frame**
AT&T	**(3) B14 4478 RRH's**	70'	**Sector Frame**
AT&T	**(3) 4449 B5/B12 RRH's**	70'	**Sector Frame**
	(1) GPS	60'	Tower Leg

Proposed AT&T Appurtenances shown in Bold.

*****This page contains confidential, proprietary or trade secret information exempt from disclosure under applicable law.***

AT&T EXISTING COAX CABLES:

Tenant	Coax Cables	Elev.	Mount
AT&T	(6) 1-1/4" Coax Cables	70'	Tower Face
AT&T	(2) 1/2" Coax Cables	70'	Tower Face
AT&T	(1) RET Cable	70'	Tower Face
AT&T	(4) DC Power Cables	70'	Tower Face
AT&T	(2) Fiber Cable	70'	Tower Face
AT&T	**(5) DC Power Cables**	70'	Tower Face
AT&T	**(1) Fiber Cable**	70'	Tower Face

Proposed AT&T Coax Cables shown in Bold.

ANALYSIS RESULTS SUMMARY:

Component	Max. Stress Ratio	Elev. of Component (ft)	Pass/Fail	Comments
Legs	**51.9 %**	53.75 – 58.75	PASS	**Controlling**
Diagonals	31.3 %	53.75 – 58.75	PASS	
Secondary Horizontal	0.5 %	63.75 – 68.75	PASS	
Top Girt	1.4 %	68.75 – 71.25	PASS	

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DESIGN CRITERIA:

1. EIA/TIA-222-H Structural Standards for Steel Antenna Towers and Antenna Supporting Structures

   County: Fairfield
   Ultimate Wind Speed: 125 mph (3 second gust)
   Structural Class: II
   Exposure Category: B
   Topographic Category: 1
   Nominal Ice Thickness: 1 inch

2. Approximate height above grade to proposed antennas: 70'

***Calculations and referenced documents are attached.**

ASSUMPTIONS:

1. The appurtenances configuration is as stated in this report. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.

2. The tower and supporting structure are properly constructed and maintained. 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. The support mounts and platforms are not analyzed and are considered adequate to support the loading. The analysis is limited to the primary support structure itself.

SUPPORT RECOMMENDATIONS:

HDG recommends that the proposed antennas, RRH's and surge arrestors be mounted on the proposed sector frame supported by the tower.

Reference HDG's Latest Construction Drawings for all component and connection requirements (attached).

Photo 1: Photo illustrating the Tower with Appurtenances shown.

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CALCULATIONS

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
27' Whip Antenna	84.75	AIR 6419 Antenna w/ Mounting Pipe (ATI)	70
GPS	73.25	AIR 6419 Antenna w/ Mounting Pipe (ATI)	70
RRUS 32 B30	70	AIR 6449 Antenna (ATI)	70
RRUS 32 B30	70	AIR 6449 Antenna (ATI)	70
RRUS 32 B30	70	AIR 6449 Antenna (ATI)	70
RRUS 32 B2	70	DMP65R-BU6DA Antenna	70
RRUS 32 B2	70	DMP65R-BU6DA Antenna	70
RRUS 32 B2	70	DMP65R-BU6DA Antenna	70
RRUS 32 B66A	70	B14 4478 RRH	70
RRUS 32 B66A	70	B14 4478 RRH	70
RRUS 32 B66A	70	B14 4478 RRH	70
VFA12-WLL-30120	70	4449 B5/B12 RRH	70
VFA12-WLL-30120	70	4449 B5/B12 RRH	70
VFA12-WLL-30120	70	4449 B5/B12 RRH	70
TPA65R-BU6DA-K Antenna w/ Mounting Pipe	70	DC6 Surge Arrestor	70
TPA65R-BU6DA-K Antenna w/ Mounting Pipe	70	DC6 Surge Arrestor	70
TPA65R-BU6DA-K Antenna w/ Mounting Pipe	70	DC6 Surge Arrestor	70
AIR 6419 Antenna w/ Mounting Pipe (ATI)	70	GPS	60

SYMBOL LIST

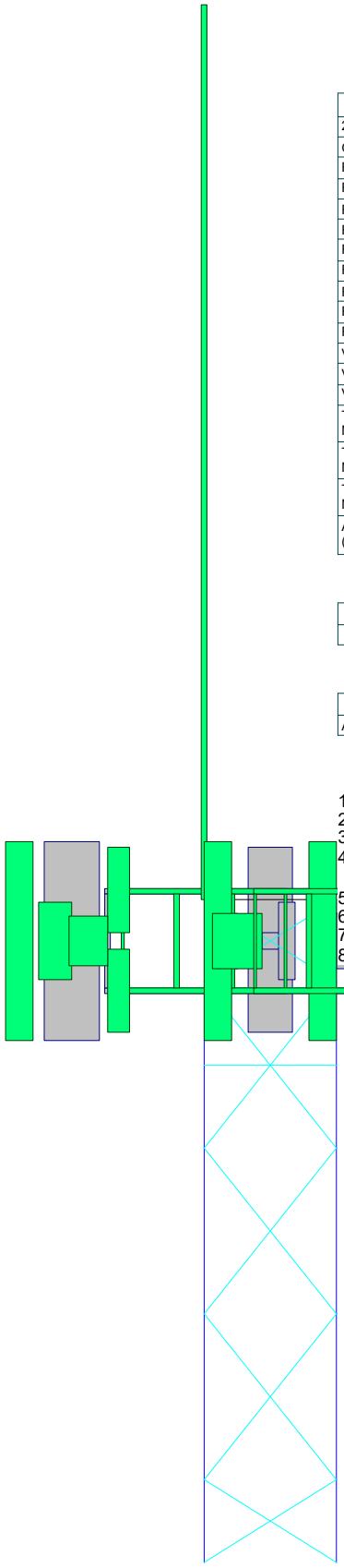
MARK	SIZE	MARK	SIZE
A	L2 1/2x2 1/2x3/16		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 51.9%



ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 36685 lb
SHEAR: 3918 lb

UPLIFT: -31941 lb
SHEAR: 3812 lb

AXIAL
12722 lb

SHEAR
1929 lb

MOMENT
31662 lb-ft

TORQUE 340 lb-ft
50 mph WIND - 1.0000 in ICE

AXIAL
6167 lb

SHEAR
7533 lb

MOMENT
119959 lb-ft

TORQUE 1219 lb-ft
REACTIONS - 125 mph WIND

Section		T1	T2	T3	T4	T5	
Legs	bent plate (1/4")						71.3 ft
Leg Grade	A36						
Diagonals	L2x2x1/8						68.8 ft
Diagonal Grade	A36						
Top Girts	A						63.8 ft
Sec. Horizontals	L2 1/2x2 1/2x3/16	N.A.		N.A.			
Face Width (ft)	4						58.8 ft
# Panels @ (ft)	3 @ 5	1 @ 2.5	236.5	196.0	196.0	114.5	
Weight (lb)	897.9	155.0					53.8 ft
							51.3 ft

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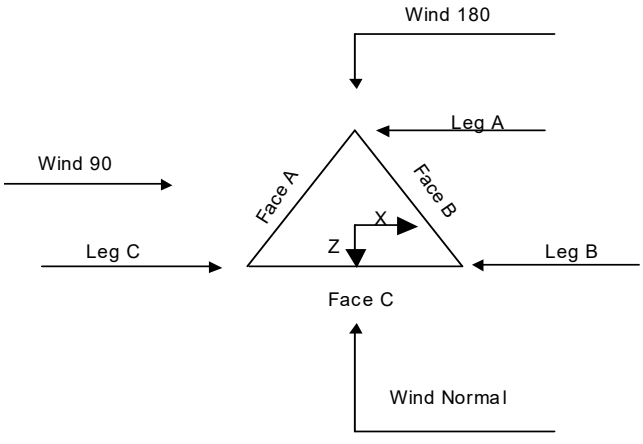
Job: **CT2120**		
Project: **FAIRFILED CENTRAL**		
Client: AT&T	Drawn by: ID	App'd:
Code: TIA-222-H	Date: 01/10/22	Scale: NTS
Path: Z:\Shared\Work2.0\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\TnxTower\Tnx Projects\AT&T\CT\CT2120\CENTERLINE\C-BAND\CT2120.eri		Dwg No. E-1

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 71.25 ft above the ground line.
The base of the tower is set at an elevation of 51.25 ft above the ground line.
The face width of the tower is 4.00 ft at the top and 4.00 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Tower base elevation above sea level: 51.25 ft.
Basic wind speed of 125 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	71.25-68.75			4.00	1	2.50
T2	68.75-63.75			4.00	1	5.00
T3	63.75-58.75			4.00	1	5.00
T4	58.75-53.75			4.00	1	5.00
T5	53.75-51.25			4.00	1	2.50

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	71.25-68.75	2.50	X Brace	No	No	0.0000	0.0000
T2	68.75-63.75	5.00	X Brace	No	Yes	0.0000	0.0000
T3	63.75-58.75	5.00	X Brace	No	No	0.0000	0.0000
T4	58.75-53.75	5.00	X Brace	No	No	0.0000	0.0000
T5	53.75-51.25	2.50	X Brace	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 71.25-68.75	Arbitrary Shape	bent plate (1/4")	A36 (36 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)
T2 68.75-63.75	Arbitrary Shape	bent plate (1/4")	A36 (36 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)
T3 63.75-58.75	Arbitrary Shape	bent plate (1/4")	A36 (36 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)
T4 58.75-53.75	Arbitrary Shape	bent plate (1/4")	A36 (36 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)
T5 53.75-51.25	Arbitrary Shape	bent plate (1/4")	A36 (36 ksi)	Single Angle	L2x2x1/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 71.25-68.75	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Pipe		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T2 68.75-63.75	Equal Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C_AA_A ft^2/ft	Weight plf
1 1/4	A	No	No	CaAa (Out Of Face)	70.00 - 51.25	0.0000	0	6	No Ice 1/2" Ice 1" Ice	0.16 0.25 0.35	0.66 1.91 3.78
1/2	A	No	No	CaAa (Out Of Face)	70.00 - 51.25	0.0000	0	2	No Ice 1/2" Ice 1" Ice	0.06 0.16 0.26	0.25 0.91 2.18
RET Cable	A	No	No	CaAa (Out Of Face)	70.00 - 51.25	0.0000	0	1	No Ice 1/2" Ice 1" Ice	0.03 0.13 0.23	1.32 1.81 2.92
DC Cable	C	No	No	CaAa (Out Of Face)	70.00 - 51.25	0.0000	0	4	No Ice 1/2" Ice 1" Ice	0.10 0.20 0.30	0.88 2.59 4.09
Fiber Cable (1-1/4")	C	No	No	CaAa (Out Of Face)	70.00 - 51.25	0.0000	0.1	2	No Ice 1/2" Ice 1" Ice	0.13 0.23 0.32	0.48 1.55 3.23
**											
DC Cable	C	No	No	CaAa (Out Of Face)	70.00 - 51.25	0.0000	0	5	No Ice 1/2" Ice 1" Ice	0.10 0.20 0.30	0.88 2.59 4.09
Fiber Cable (1-1/4")	C	No	No	CaAa (Out Of Face)	70.00 - 51.25	0.0000	0.1	1	No Ice 1/2" Ice 1" Ice	0.13 0.23 0.32	0.48 1.55 3.23

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	71.25-68.75	A	0.000	0.000	0.000	1.346	7.22
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.545	11.68
T2	68.75-63.75	A	0.000	0.000	0.000	5.385	28.90
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	6.182	46.73
T3	63.75-58.75	A	0.000	0.000	0.000	5.385	28.90
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	6.182	46.73
T4	58.75-53.75	A	0.000	0.000	0.000	5.385	28.90
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	6.182	46.73
T5	53.75-51.25	A	0.000	0.000	0.000	2.693	14.45
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	3.091	23.36

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	71.25-68.75	A	1.078	0.000	0.000	0.000	3.772	41.92
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	4.780	63.91
T2	68.75-63.75	A	1.072	0.000	0.000	0.000	15.035	166.32
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	19.048	253.91
T3	63.75-58.75	A	1.064	0.000	0.000	0.000	14.959	164.39
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	18.947	251.43
T4	58.75-53.75	A	1.055	0.000	0.000	0.000	14.878	162.31
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	18.839	248.77
T5	53.75-51.25	A	1.048	0.000	0.000	0.000	7.406	80.32
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	9.376	123.31

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	71.25-68.75	-3.1165	-1.3330	-5.6381	-1.7749
T2	68.75-63.75	-5.4647	-2.2704	-8.7269	-2.6887
T3	63.75-58.75	-5.6861	-2.3560	-8.9790	-2.7669
T4	58.75-53.75	-5.6861	-2.3560	-8.9647	-2.7653
T5	53.75-51.25	-5.4216	-2.2536	-8.6046	-2.6575

Discrete Tower Loads

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* *ft ft ft*	*Azimuth Adjustment* *°*	*Placement* *ft*		C_AA_A *Front* *ft²*	C_AA_A *Side* *ft²*	*Weight* *lb*
27' Whip Antenna	C	From Leg	0.00	0.0000	84.75	No Ice	8.10	8.10	30.00
			0.00			1/2" Ice	10.83	10.83	88.13
			0.00			1" Ice	13.58	13.58	163.22
GPS	C	From Leg	0.50	0.0000	73.25	No Ice	0.21	0.21	5.00
			0.00			1/2" Ice	0.32	0.32	7.52
			0.00			1" Ice	0.44	0.44	11.31
GPS	C	From Leg	0.50	0.0000	60.00	No Ice	0.21	0.21	5.00
			0.00			1/2" Ice	0.32	0.32	7.52
			0.00			1" Ice	0.44	0.44	11.31
****									
RRUS 32 B30	A	From Face	2.00	0.0000	70.00	No Ice	2.74	1.67	60.00
			6.50			1/2" Ice	2.96	1.86	81.11
			0.00			1" Ice	3.19	2.05	105.42
RRUS 32 B30	B	From Face	2.00	0.0000	70.00	No Ice	2.74	1.67	60.00
			6.50			1/2" Ice	2.96	1.86	81.11
			0.00			1" Ice	3.19	2.05	105.42
RRUS 32 B30	C	From Face	2.00	0.0000	70.00	No Ice	2.74	1.67	60.00
			6.50			1/2" Ice	2.96	1.86	81.11
			0.00			1" Ice	3.19	2.05	105.42
RRUS 32 B2	B	From Face	2.00	0.0000	70.00	No Ice	2.74	1.67	60.00
			5.00			1/2" Ice	2.96	1.86	81.11
			0.00			1" Ice	3.19	2.05	105.42
RRUS 32 B2	B	From Face	2.00	0.0000	70.00	No Ice	2.74	1.67	60.00
			5.00			1/2" Ice	2.96	1.86	81.11
			0.00			1" Ice	3.19	2.05	105.42
RRUS 32 B2	B	From Face	2.00	0.0000	70.00	No Ice	2.74	1.67	60.00
			5.00			1/2" Ice	2.96	1.86	81.11
			0.00			1" Ice	3.19	2.05	105.42
RRUS 32 B66A	C	From Face	2.00	0.0000	70.00	No Ice	2.74	1.67	60.00
			-6.50			1/2" Ice	2.96	1.86	81.11
			0.00			1" Ice	3.19	2.05	105.42
RRUS 32 B66A	C	From Face	2.00	0.0000	70.00	No Ice	2.74	1.67	60.00
			-6.50			1/2" Ice	2.96	1.86	81.11
			0.00			1" Ice	3.19	2.05	105.42
RRUS 32 B66A	C	From Face	2.00	0.0000	70.00	No Ice	2.74	1.67	60.00
			-6.50			1/2" Ice	2.96	1.86	81.11
			0.00			1" Ice	3.19	2.05	105.42
****									
VFA12-WLL-30120	A	From Leg	0.00	0.0000	70.00	No Ice	13.20	9.20	658.00
			0.00			1/2" Ice	19.50	14.60	804.00
			0.00			1" Ice	25.80	19.50	1015.00
VFA12-WLL-30120	B	From Leg	0.00	0.0000	70.00	No Ice	13.20	9.20	658.00
			0.00			1/2" Ice	19.50	14.60	804.00
			0.00			1" Ice	25.80	19.50	1015.00
VFA12-WLL-30120	C	From Leg	0.00	0.0000	70.00	No Ice	13.20	9.20	658.00
			0.00			1/2" Ice	19.50	14.60	804.00
			0.00			1" Ice	25.80	19.50	1015.00
TPA65R-BU6DA-K Antenna	A	From Leg	3.00	0.0000	70.00	No Ice	12.73	7.04	90.90
w/ Mounting Pipe			-6.00			1/2" Ice	13.23	7.99	180.74
			0.00			1" Ice	13.73	8.82	278.91
TPA65R-BU6DA-K Antenna	B	From Leg	3.00	0.0000	70.00	No Ice	12.73	7.04	90.90
w/ Mounting Pipe			-6.00			1/2" Ice	13.23	7.99	180.74
			0.00			1" Ice	13.73	8.82	278.91
TPA65R-BU6DA-K Antenna	C	From Leg	3.00	0.0000	70.00	No Ice	12.73	7.04	90.90

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
w/ Mounting Pipe			-6.00			1/2" Ice	13.23	7.99	180.74
			0.00			1" Ice	13.73	8.82	278.91
AIR 6419 Antenna w/ Mounting Pipe (AT&T)	A	From Leg	3.00	0.0000	70.00	No Ice	4.97	3.43	87.90
			0.00			1/2" Ice	5.52	4.14	132.90
			1.50			1" Ice	6.00	4.73	183.30
AIR 6419 Antenna w/ Mounting Pipe (AT&T)	B	From Leg	3.00	0.0000	70.00	No Ice	4.97	3.43	87.90
			0.00			1/2" Ice	5.52	4.14	132.90
			1.50			1" Ice	6.00	4.73	183.30
AIR 6419 Antenna w/ Mounting Pipe (AT&T)	C	From Leg	3.00	0.0000	70.00	No Ice	4.97	3.43	87.90
			0.00			1/2" Ice	5.52	4.14	132.90
			1.50			1" Ice	6.00	4.73	183.30
AIR 6449 Antenna (AT&T)	A	From Leg	3.00	0.0000	70.00	No Ice	4.05	2.74	82.00
			0.00			1/2" Ice	4.32	2.97	115.62
			-1.50			1" Ice	4.59	3.20	153.14
AIR 6449 Antenna (AT&T)	B	From Leg	3.00	0.0000	70.00	No Ice	4.05	2.74	82.00
			0.00			1/2" Ice	4.32	2.97	115.62
			-1.50			1" Ice	4.59	3.20	153.14
AIR 6449 Antenna (AT&T)	C	From Leg	3.00	0.0000	70.00	No Ice	4.05	2.74	82.00
			0.00			1/2" Ice	4.32	2.97	115.62
			-1.50			1" Ice	4.59	3.20	153.14
DMP65R-BU6DA Antenna	A	From Leg	3.00	0.0000	70.00	No Ice	12.71	5.62	96.00
			6.00			1/2" Ice	13.21	6.07	169.96
			0.00			1" Ice	13.71	6.53	250.56
DMP65R-BU6DA Antenna	B	From Leg	3.00	0.0000	70.00	No Ice	12.71	5.62	96.00
			6.00			1/2" Ice	13.21	6.07	169.96
			0.00			1" Ice	13.71	6.53	250.56
DMP65R-BU6DA Antenna	C	From Leg	3.00	0.0000	70.00	No Ice	12.71	5.62	96.00
			6.00			1/2" Ice	13.21	6.07	169.96
			0.00			1" Ice	13.71	6.53	250.56
B14 4478 RRH	A	From Face	2.00	0.0000	70.00	No Ice	2.02	1.25	60.00
			5.50			1/2" Ice	2.20	1.40	77.66
			0.00			1" Ice	2.39	1.56	98.08
B14 4478 RRH	B	From Face	2.00	0.0000	70.00	No Ice	2.02	1.25	60.00
			5.50			1/2" Ice	2.20	1.40	77.66
			0.00			1" Ice	2.39	1.56	98.08
B14 4478 RRH	C	From Face	2.00	0.0000	70.00	No Ice	2.02	1.25	60.00
			5.50			1/2" Ice	2.20	1.40	77.66
			0.00			1" Ice	2.39	1.56	98.08
4449 B5/B12 RRH	A	From Face	2.00	0.0000	70.00	No Ice	1.97	1.40	7.20
			-5.50			1/2" Ice	2.15	1.56	25.68
			0.00			1" Ice	2.33	1.72	46.97
4449 B5/B12 RRH	B	From Face	2.00	0.0000	70.00	No Ice	1.97	1.40	7.20
			-5.50			1/2" Ice	2.15	1.56	25.68
			0.00			1" Ice	2.33	1.72	46.97
4449 B5/B12 RRH	C	From Face	2.00	0.0000	70.00	No Ice	1.97	1.40	7.20
			-5.50			1/2" Ice	2.15	1.56	25.68
			0.00			1" Ice	2.33	1.72	46.97
DC6 Surge Arrestor	A	From Face	1.00	0.0000	70.00	No Ice	3.05	1.10	44.00
			1.00			1/2" Ice	3.26	1.24	65.28
			0.00			1" Ice	3.49	1.40	89.65
DC6 Surge Arrestor	B	From Face	1.00	0.0000	70.00	No Ice	3.05	1.10	44.00
			1.00			1/2" Ice	3.26	1.24	65.28
			0.00			1" Ice	3.49	1.40	89.65
DC6 Surge Arrestor	C	From Face	1.00	0.0000	70.00	No Ice	3.05	1.10	44.00
			1.00			1/2" Ice	3.26	1.24	65.28
			0.00			1" Ice	3.49	1.40	89.65

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T1	71.25 - 68.75	Leg	Max Tension	15	1607.48	-0.00	0.00
			Max. Compression	31	-4862.51	52.87	3.03
			Max. Mx	2	-2960.56	-744.45	15.03
			Max. My	16	-2450.34	-7.85	-1166.02
			Max. Vy	3	-865.47	323.65	12.85
			Max. Vx	16	939.45	0.00	0.00
		Diagonal	Max Tension	6	1161.02	0.00	0.00
			Max. Compression	19	-1133.57	0.00	0.00
			Max. Mx	28	56.80	-4.27	-0.24
			Max. My	18	-735.60	0.84	1.87
			Max. Vy	31	-8.78	3.44	-0.15
			Max. Vx	18	-0.79	0.84	1.87
		Top Girt	Max Tension	3	280.37	0.00	0.00
			Max. Compression	6	-313.10	0.00	0.00
			Max. Mx	26	-136.63	-20.26	0.00
			Max. My	16	-19.99	0.00	0.00
			Max. Vy	26	20.26	0.00	0.00
			Max. Vx	16	-0.00	0.00	0.00
T2	68.75 - 63.75	Leg	Max Tension	7	5391.64	-330.71	4.17
			Max. Compression	10	-8751.18	43.44	-2.22
			Max. Mx	14	5058.80	-332.28	2.45
			Max. My	4	-2431.69	-6.98	-105.49
			Max. Vy	22	-175.98	-328.75	-4.50
			Max. Vx	4	42.98	-7.85	21.26
		Diagonal	Max Tension	9	3098.58	0.00	0.00
			Max. Compression	20	-3165.58	-8.02	3.72
			Max. Mx	8	3086.12	13.41	-2.46
			Max. My	18	-3072.11	1.84	6.71
			Max. Vy	30	-10.73	11.01	-0.08
			Max. Vx	18	2.10	1.84	6.71
		Secondary Horizontal	Max Tension	2	160.19	0.00	0.00
			Max. Compression	15	-128.49	-11.59	-2.15
			Max. Mx	18	-77.34	-18.38	-0.93
			Max. My	8	-104.04	-13.35	-3.13
			Max. Vy	33	16.02	11.86	0.48
			Max. Vx	12	1.57	0.00	0.00
T3	63.75 - 58.75	Leg	Max Tension	7	13390.77	-49.28	-2.46
			Max. Compression	10	-17228.47	68.18	-1.75
			Max. Mx	10	-17228.47	68.18	-1.75
			Max. My	12	-1650.41	0.73	-318.66
			Max. Vy	10	-57.93	68.18	-1.75
			Max. Vx	2	-114.77	-32.39	277.19
		Diagonal	Max Tension	20	3428.31	0.00	0.00
			Max. Compression	9	-3379.62	0.00	0.00
			Max. Mx	10	2706.76	12.56	0.73
			Max. My	19	-3100.72	-11.07	5.86
			Max. Vy	31	-9.83	8.29	0.11
			Max. Vx	18	1.83	-10.94	5.86
T4	58.75 - 53.75	Leg	Max Tension	15	21880.38	-55.46	-12.93
			Max. Compression	10	-25938.74	82.62	-5.21
			Max. Mx	31	-9992.74	102.72	0.49
			Max. My	12	-1752.26	-1.91	-508.56
			Max. Vy	19	-53.57	82.26	-4.05
			Max. Vx	2	-100.23	-44.62	435.20
		Diagonal	Max Tension	9	3687.06	14.58	-0.35
			Max. Compression	20	-3778.52	0.00	0.00
			Max. Mx	10	2987.57	20.06	0.24
			Max. My	16	-3195.54	-10.92	4.63
			Max. Vy	31	-13.07	18.84	-0.04
			Max. Vx	16	-1.45	-10.92	4.63

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T5	53.75 - 51.25	Leg	Max Tension	15	29243.60	-78.11	2.43
			Max. Compression	10	-33835.87	-0.00	-0.00
			Max. Mx	31	-12898.78	102.72	0.49
			Max. My	12	-1905.77	-1.91	-508.56
			Max. Vy	11	56.65	82.79	-5.30
			Max. Vx	12	-231.74	-1.91	-508.56
		Diagonal	Max Tension	8	3103.88	0.00	0.00
			Max. Compression	9	-3096.31	0.00	0.00
			Max. Mx	32	-422.94	-23.00	-1.33
			Max. My	16	-2717.67	-9.57	5.37
			Max. Vy	32	-16.89	0.00	0.00
			Max. Vx	16	-2.28	-9.57	5.37

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	71.25 - 68.75	Leg	bent plate (1/4")	1	-2989.45	66337.00	4.5	Pass
		Leg	bent plate (1/4")	2	-4862.51	66337.00	7.3	Pass
		Leg	bent plate (1/4")	3	-2960.56	66337.00	4.5	Pass
		Diagonal	L2x2x1/8	7	-1133.57	14253.20	8.0	Pass
		Diagonal	L2x2x1/8	8	-1055.60	14253.20	7.4	Pass
		Diagonal	L2x2x1/8	9	-928.40	14253.20	6.5	Pass
		Diagonal	L2x2x1/8	10	-1060.10	14253.20	7.4	Pass
		Diagonal	L2x2x1/8	11	-822.59	14253.20	5.8	Pass
		Diagonal	L2x2x1/8	12	-749.46	14253.20	5.3	Pass
		Top Girt	L2 1/2x2 1/2x3/16	4	-312.85	22870.80	1.4	Pass
		Top Girt	L2 1/2x2 1/2x3/16	5	-313.10	22870.80	1.4	Pass
		Top Girt	L2 1/2x2 1/2x3/16	6	-310.30	22870.80	1.4	Pass
T2	68.75 - 63.75	Leg	bent plate (1/4")	13	-7695.19	49985.10	15.4	Pass
		Leg	bent plate (1/4")	14	-8751.18	49985.10	17.5	Pass
		Leg	bent plate (1/4")	15	-7703.73	49985.10	15.4	Pass
		Diagonal	L2x2x1/8	16	-3165.58	12067.10	26.2	Pass
		Diagonal	L2x2x1/8	17	-3163.46	12067.10	26.2	Pass
		Diagonal	L2x2x1/8	18	-3026.24	12067.10	25.1	Pass
		Diagonal	L2x2x1/8	19	-3028.26	12067.10	25.1	Pass
		Diagonal	L2x2x1/8	20	-2341.20	12067.10	19.4	Pass
		Diagonal	L2x2x1/8	21	-2341.29	12067.10	19.4	Pass
		Secondary Horizontal	L2 1/2x2 1/2x3/16	22	160.19	29224.80	0.5	Pass
		Secondary Horizontal	L2 1/2x2 1/2x3/16	23	155.66	29224.80	0.5	Pass
		Secondary Horizontal	L2 1/2x2 1/2x3/16	24	-133.29	28585.30	0.5	Pass
T3	63.75 - 58.75	Leg	bent plate (1/4")	25	-16316.40	49985.10	32.6	Pass
		Leg	bent plate (1/4")	26	-17228.50	49985.10	34.5	Pass
		Leg	bent plate (1/4")	27	-16295.20	49985.10	32.6	Pass
		Diagonal	L2x2x1/8	28	-3374.70	12067.10	28.0	Pass
		Diagonal	L2x2x1/8	29	-3379.62	12067.10	28.0	Pass
		Diagonal	L2x2x1/8	30	-3205.99	12067.10	26.6	Pass
		Diagonal	L2x2x1/8	31	-3201.23	12067.10	26.5	Pass
		Diagonal	L2x2x1/8	32	-2704.06	12067.10	22.4	Pass
		Diagonal	L2x2x1/8	33	-2703.88	12067.10	22.4	Pass
T4	58.75 - 53.75	Leg	bent plate (1/4")	34	-25191.60	49985.10	50.4	Pass
		Leg	bent plate (1/4")	35	-25938.70	49985.10	51.9	Pass
		Leg	bent plate (1/4")	36	-25148.10	49985.10	50.3	Pass
		Diagonal	L2x2x1/8	37	-3778.52	12067.10	31.3	Pass
		Diagonal	L2x2x1/8	38	-3777.09	12067.10	31.3	Pass
		Diagonal	L2x2x1/8	39	-3576.48	12067.10	29.6	Pass
		Diagonal	L2x2x1/8	40	-3577.93	12067.10	29.7	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		Diagonal	L2x2x1/8	41	-3218.22	12067.10	26.7	Pass
		Diagonal	L2x2x1/8	42	-3218.21	12067.10	26.7	Pass
T5	53.75 - 51.25	Leg	bent plate (1/4")	43	-33183.30	66337.00	50.0	Pass
		Leg	bent plate (1/4")	44	-33835.90	66337.00	51.0	Pass
		Leg	bent plate (1/4")	45	-33127.90	66337.00	49.9	Pass
		Diagonal	L2x2x1/8	46	-3093.31	14253.20	21.7	Pass
		Diagonal	L2x2x1/8	47	-3096.31	14253.20	21.7	Pass
		Diagonal	L2x2x1/8	48	-2929.75	14253.20	20.6	Pass
		Diagonal	L2x2x1/8	49	-2926.56	14253.20	20.5	Pass
		Diagonal	L2x2x1/8	50	-2741.18	14253.20	19.2	Pass
		Diagonal	L2x2x1/8	51	-2741.36	14253.20	19.2	Pass
							Summary	
						Leg (T4)	51.9	Pass
						Diagonal (T4)	31.3	Pass
						Secondary Horizontal (T2)	0.5	Pass
						Top Girt (T1)	1.4	Pass
						RATING =	**51.9**	**Pass**

EXHIBIT 5

Radio Frequency Exposure Analysis Report

May 2, 2022

Centerline on behalf of AT&T
Centerline Communications Project Number: 566540

AT&T Site Name: FAIRFIELD CENTRAL
Site Number: CT2120
FA#: 10035074
USID: 60405

Site Address: 55 WALLS DRIVE, FAIRFIELD, CT 06824

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	96.74641 µW/cm^2
Cumulative General Population % MPE (Ground Level):	9.6750600000000002%

May 2, 2022

Centerline
Attn: Jennifer Iliades, Project Manager
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **FAIRFIELD CENTRAL**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed AT&T facility at **55 WALLS DRIVE, FAIRFIELD, CT 06824** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm^2 (1000 $\mu W/cm^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the 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.

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 Methodology

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.

Data & Results

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the ground.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.

Maximum Calculated Cumulative Power Density (Location: approximately 200' northwest of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (μW/cm²)	General Population MPE Limit (μW/cm²)	General Population % MPE
AT&T A 1	CCI TPA65R-BU6D	700	11.45	69.30	4.00	40.00	2234.19	0.00058	466.67	0.00012
AT&T A 1	CCI TPA65R-BU6D	1900	15.25	69.30	4.00	40.00	5359.45	0.00029	1000.00	0.00003
AT&T A 1	CCI TPA65R-BU6D	2100	15.95	69.30	4.00	40.00	6296.80	0.00028	1000.00	0.00003
AT&T A 2	ERICSSON AIR6449	3700	23.55	69.30	1.00	108.40	24548.74	0.00500	1000.00	0.00050
AT&T A 3	ERICSSON AIR6419	3450	22.85	72.30	1.00	54.20	10447.19	24.16858	1000.00	2.41686
AT&T A 3	ERICSSON AIR6419	3450	22.85	72.30	1.00	54.00	10408.63	24.16858	1000.00	2.41686
AT&T A 4	CCI DMP65R-BU6D	700	11.35	69.30	4.00	40.00	2183.33	0.00072	466.67	0.00015
AT&T A 4	CCI DMP65R-BU6D	850	11.35	69.30	4.00	40.00	2183.33	0.00052	566.67	0.00009
AT&T A 4	CCI DMP65R-BU6D	2300	15.25	69.30	4.00	25.00	3349.65	0.00013	1000.00	0.00001
AT&T B 5	CCI TPA65R-BU6D	700	11.75	69.30	4.00	40.00	2393.98	0.00000	466.67	0.00000
AT&T B 5	CCI TPA65R-BU6D	1900	15.25	69.30	4.00	40.00	5359.45	0.00000	1000.00	0.00000
AT&T B 5	CCI TPA65R-BU6D	2100	15.95	69.30	4.00	40.00	6296.80	0.00000	1000.00	0.00000
AT&T B 6	ERICSSON AIR6449	3700	23.55	69.30	1.00	108.40	24548.74	0.00002	1000.00	0.00000
AT&T B 7	ERICSSON AIR6419	3450	22.85	72.30	1.00	54.20	10447.19	0.02827	1000.00	0.00283
AT&T B 7	ERICSSON AIR6419	3450	22.85	72.30	1.00	54.00	10408.63	0.02827	1000.00	0.00283
AT&T B 8	CCI DMP65R-BU6D	700	11.75	69.30	4.00	40.00	2393.98	0.00000	466.67	0.00000
AT&T B 8	CCI DMP65R-BU6D	850	11.45	69.30	4.00	40.00	2234.19	0.00000	566.67	0.00000
AT&T B 8	CCI DMP65R-BU6D	2300	15.25	69.30	4.00	25.00	3349.65	0.00000	1000.00	0.00000
AT&T C 9	CCI TPA65R-BU6D	700	11.65	69.30	4.00	40.00	2339.48	0.00040	466.67	0.00009
AT&T C 9	CCI TPA65R-BU6D	1900	15.45	69.30	4.00	40.00	5612.03	0.00026	1000.00	0.00003
AT&T C 9	CCI TPA65R-BU6D	2100	15.95	69.30	4.00	40.00	6296.80	0.00024	1000.00	0.00002
AT&T C 10	ERICSSON AIR6449	3700	23.55	69.30	1.00	108.40	24548.74	0.00500	1000.00	0.00050
AT&T C 11	ERICSSON AIR6419	3450	22.85	72.30	1.00	54.20	10447.19	24.16858	1000.00	2.41686
AT&T C 11	ERICSSON AIR6419	3450	22.85	72.30	1.00	54.00	10408.63	24.16858	1000.00	2.41686
AT&T C 12	CCI DMP65R-BU6D	700	11.65	69.30	4.00	40.00	2339.48	0.00048	466.67	0.00010
AT&T C 12	CCI DMP65R-BU6D	850	11.35	69.30	4.00	40.00	2183.33	0.00013	566.67	0.00002
AT&T C 12	CCI DMP65R-BU6D	2300	15.25	69.30	4.00	25.00	3349.65	0.00012	1000.00	0.00001
Unknown A 13	GENERIC OMNI 12FT	850	8.96	85.30	1.00	12.70	99.95	0.00002	566.67	0.00000
T-Mobile A 14	GENERIC PANEL 6FT	1900	15.84	56.20	2.00	60.00	4604.49	0.00005	1000.00	0.00001
T-Mobile A 15	GENERIC PANEL 6FT	600	12.33	56.20	2.00	60.00	2052.02	0.00008	400.00	0.00002
T-Mobile A 16	GENERIC PANEL 6FT	700	12.33	56.20	2.00	60.00	2052.02	0.00008	466.67	0.00002
T-Mobile A 17	GENERIC PANEL 6FT	2100	15.84	56.20	2.00	60.00	4604.49	0.00005	1000.00	0.00001
T-Mobile B 18	GENERIC PANEL 6FT	1900	15.84	56.20	2.00	60.00	4604.49	0.00000	1000.00	0.00000
T-Mobile B 19	GENERIC PANEL 6FT	600	12.33	56.20	2.00	60.00	2052.02	0.00000	400.00	0.00000
T-Mobile B 20	GENERIC PANEL 6FT	700	12.33	56.20	2.00	60.00	2052.02	0.00000	466.67	0.00000

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu W/cm^2$)	General Population MPE Limit ($\mu W/cm^2$)	General Population % MPE
T-Mobile B 21	GENERIC PANEL 6FT	2100	15.84	56.20	2.00	60.00	4604.49	0.00000	1000.00	0.00000
T-Mobile C 22	GENERIC PANEL 6FT	1900	15.84	56.20	2.00	60.00	4604.49	0.00019	1000.00	0.00002
T-Mobile C 23	GENERIC PANEL 6FT	600	12.33	56.20	2.00	60.00	2052.02	0.00037	400.00	0.00009
T-Mobile C 24	GENERIC PANEL 6FT	700	12.33	56.20	2.00	60.00	2052.02	0.00037	466.67	0.00008
T-Mobile C 25	GENERIC PANEL 6FT	2100	15.84	56.20	2.00	60.00	4604.49	0.00019	1000.00	0.00002
							Cumulative Power Density:	**96.74641 $\mu W/cm^2$**	**Cumulative % MPE:**	**9.67506%**

Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **Compliant** with FCC rules and regulations.

Katrina Styx
RF EME Technical Writer
Centerline Communications, LLC

EXHIBIT 6

Town of Fairfield
Building Department

725 Old Post Road · Fairfield, CT 06824 · 203.256.3036

PERM# 24676 **TYPE** BUI **MAP/LOT/EX** 141 097

HSE#/STREET/UNIT/UN 0055 WALLS DRIVE 0000

OWNER
NAME: SCINTO ROBERT D
ADDRESS: ONE CORPORATE DRIVE
SHELTON CT 06484-6208
PHONE: 000 9296300

CONTRACTOR
NAME: PETRA CORP
ADDRESS: 153 EAST STREET
NEW HAVEN, CT
PHONE: 203 8656043
LICENSE#: 00000025B1

DESCRIPTION INTERIOR RENOVATONS FOR SNET CELLULAR RADIO CELL SITE
+ REPLACE TOWER

DATE **ENTERED** 02Nov1995 **ISSUED** 02Nov1995 **EXPIRED** 30Apr1996

COST $23,000.00 **RECEIPT** 10387 **FEE** $186.00 **PEN** $0.00

BPERM# 00000 **CTYPE** ALT **OCCUP** NRNH

EXHIBIT 7

From: UPS
To: Evan Renwick
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030324832454
Date: Monday, May 9, 2022 10:18:16 AM

Hello, your package has been delivered.

Delivery Date: Monday, 05/09/2022
Delivery Time: 10:10 AM
Left At: FRONT DESK
Signed by: BRENDA K

Set Delivery Instructions | Manage Preferences | View My Packages

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030324832454
Ship To:	OFFICE OF THE FIRST SELECTWOMAN 725 OLD POST ROAD 2ND FLOOR FAIRFIELD, CT 068246684 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CT2120- FIRST SELECTWOMAN

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Review the UPS My Choice Service Terms

From: UPS
To: Evan Renwick
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030335234679
Date: Monday, May 9, 2022 10:18:14 AM

Hello, your package has been delivered.

Delivery Date: Monday, 05/09/2022
Delivery Time: 10:09 AM
Left At: FRONT DESK
Signed by: RECEP

Set Delivery Instructions | Manage Preferences | View My Packages

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030335234679
Ship To:	PLANNING & ZONING DEPARTMENT 725 OLD POST ROAD SULLIVAN INDEPENDENCE HALL FAIRFIELD, CT 068246684 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CT2120- CSC PLANNING DIRECTOR

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From: UPS
To: Evan Renwick
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030320325287
Date: Monday, May 9, 2022 12:42:09 PM

Hello, your package has been delivered.

Delivery Date: Monday, 05/09/2022
Delivery Time: 12:40 PM
Left At: OFFICE
Signed by: POSADA

CENTERLINE SITE ACQUISITION

Tracking Number:	**1Z9Y45030320325287**
Ship To:	RD SCINTO, INC 1 CORPORATE DRIVE SHELTON, CT 064846208 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CT2120-CSC ROBERT D. SCINTO

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From: UPS
To: Evan Renwick
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030327037068
Date: Monday, May 9, 2022 10:18:14 AM

Hello, your package has been delivered.

Delivery Date: Monday, 05/09/2022
Delivery Time: 10:09 AM
Left At: FRONT DESK
Signed by: RECEP

Set Delivery Instructions | Manage Preferences | View My Packages

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030327037068
Ship To:	PLANNING & ZONING DEPARTMENT 725 OLD POST ROAD SULLIVAN INDEPENDENCE HALL FAIRFIELD, CT 068246684 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CT2120-CSC ZEO

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