June 3, 2022

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

Regarding: Notice of Exempt Modification – AT&T Site CT1061 / FA# 10035037
Address: 82 Lovely Street, Farmington, CT 06085

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains a wireless telecommunications facility on an existing +/- 100' monopole at the above-referenced address, latitude 41.7613811, longitude -72.8875269. Said monopole is operated by EIP Communications I, LLC.

AT&T desires to modify its existing telecommunications facility by swapping six (6) antennas, adding three (3) antennas, adding three (3) Remote Radio Units (RRUS), adding one (1) surge arrestor and accompanying feedlines and mount replacement as more particularly detailed and described on the enclosed Construction Drawings prepared by Hudson Design Group, LLC, last revised June 1, 2022. The centerline height of the existing antennas is and will remain at 98 feet. 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 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 Kathleen A. Blonski, Town Manager of the Town of Farmington, as elected official, Bruce Cyr, Zoning Enforcement Officer of the Town of Farmington, Shannon Rutherford, Town Planner of the Town of Farmington, EIP Communications I, LLC., as tower operator, and Southern New England Telecommunications as property owner. We have reached out to the Building and Zoning Departments for the Town of Farmington who conducted a search and could not locate the original tower approval.

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 May 19, 2022, and prepared by Armor Tower Engineering, 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 – Mount Analysis
Exhibit 5 – RF Emissions Analysis Report Evaluation
Exhibit 6 – Notice Delivery Confirmations

cc: The Honorable Kathleen A. Blonski, Town Manager, as elected official
Bruce Cyr, Zoning Enforcement Officer, Town of Farmington
Shannon Rutherford, Town Planner, Town of Farmington
EIP Communications I, LLC, as tower operator
Southern New England Telecommunications, as property owner

EXHIBIT 1

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:
- PROPOSED AT&T ANTENNAS: OPA65R-BU8DA @ POS. 2 (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 2).
- PROPOSED AT&T ANTENNAS: OPA65R-BU6DA @ POS. 2 (TYP. OF 1 PER GAMMA SECTOR, TOTAL OF 1).
- EXISTING AT&T ANTENNAS: TPA65R-BU8DA @ POS. 4 (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 2).
- EXISTING AT&T ANTENNAS: TPA65R-BU6DA @ POS. 4 (TYP. OF 1 PER GAMMA SECTOR, TOTAL OF 1).
- PROPOSED AT&T AIR ANTENNAS: AIR6449 B77D @ POS. 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3) (BELOW)
- PROPOSED AT&T AIR ANTENNAS: AIR6419 B77G @ POS. 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TOP)
- PROPOSED AT&T RRUS: 4478 B14 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: 8843 B2/B66A (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE REMAIN ON POS. 4)
- PROPOSED AT&T SURGE ARRESTOR: DC6-48-60-18-8F (TOTAL OF 1).
- INSTALL AT&T (6) Y-CABLES
- INSTALL AT&T (2) 6AWG DC POWER CABLES & (1) 18PAIR OF FIBER RUN.

ITEMS TO BE MOUNTED IN EQUIPMENT LOCATION:
- INSTALL (1) NEW 6648 + XCEDE CABLE INSIDE LTE RACK.
- INSTALL (1) FIBER TRAY INSIDE INSIDE LTE RACK.
- INSTALL (3) NEW -48V RECTIFIERS FOR A TOTAL OF (10) -48V RECTIFIERS.
- INSTALL (1) FIBER BOX MOUNTED ON EXISTING EQUIPMENT ROOM WALL.
- INSTALL (1) FIBER TRAY INSIDE INSIDE LTE RACK.

ITEMS TO BE REMOVED:
- EXISTING AT&T ANTENNA: P65-15-XLH-RR (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNA: HPA-65R-BUU-H8 (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNA: HPA-65R-BUU-H6 (TYP. OF 1 PER ALPHA & BETA SECTOR, TOTAL OF 3).
- EXISTING AT&T TMAS: TT19-08BP111-001 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T TMAS: LGP12104 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T DIPLEXERS: 782-10250 (TYP. OF 2 PER SECTOR, TOTAL OF 6).

ITEMS TO REMAIN:
- (3) ANTENNAS, (6) RRU'S, (2) SURGE ARRESTOR, (6) COAX CABLES, (4) DC POWER & (2) FIBER.

SITE ADDRESS:	82 LOVELY STREET HARTFORD, CT 06085
LATITUDE:	41.7613888° N, 41° 45' 41.0" N
LONGITUDE:	72.8875277° W, 72° 53' 15.1" W
TYPE OF SITE:	MONOPOLE / INDOOR EQUIPMENT
STRUCTURE HEIGHT:	100'-0"±
RAD CENTER:	101'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
A-1	COMPOUND & EQUIPMENT PLANS	0
A-2	ANTENNA LAYOUT PLANS & ELEVATION	0
A-3	DETAILS	0
G-1	GROUNDING DETAILS	0
RF-1	RF PLUMBING DIAGRAM	0

SITE NUMBER: CT1061

SITE NAME: UNIONVILLE SBC CO

FA CODE: 10035037

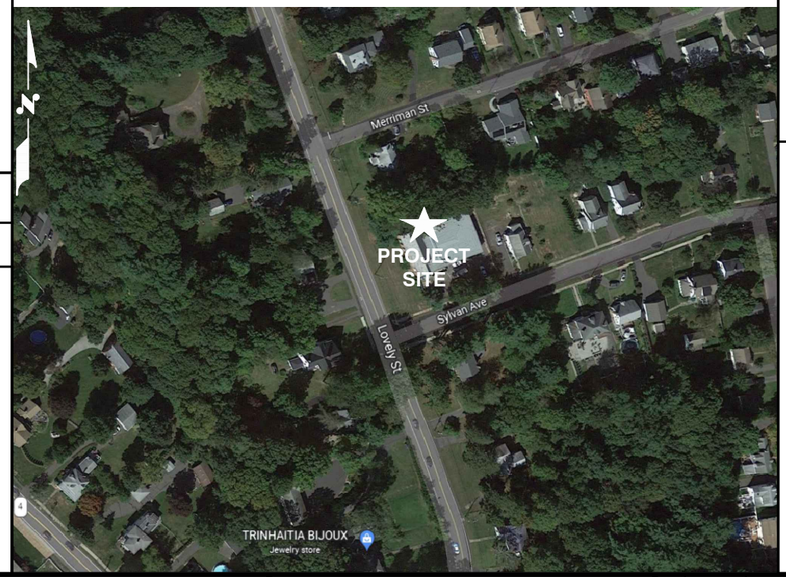
PACE ID: MRCTB056296, MRCTB056156, MRCTB054136, MRCTB053355, MRCTB053351, MRCTB056170

PROJECT: 5G NR RADIO, 5G NR 1SR CBAND, LTE NEXT CARRIER, LTE 4C,BBU RECONFIGURATION, 5G SOFTWARE RADIO, 2022 UPGRADE

ISSUED FOR PERMITTING

VICINITY MAP

DIRECTIONS TO SITE:
HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD (0.31 MILES), TURN LEFT ONTO CAPITAL BLVD (0.27MI). TURN LEFT ONTO WEST ST (0.30 MILES), TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN (1.63 MILES). MERGE ONTO CT-9 N VIA EXIT 22N TOWARD NEW BRITAIN (11.08 MILES). MERGE ONTO I-84 W/US-6 VIA EXIT 32 ON LEFT TOWARD WATERBURY (1.15 MILES), MERGE ONTO CT-508/FARMINGTON AVE VIA EXIT 39 TOWARD CT-4/FARMINGTON (1.07 MILES). STAY STRAIGHT TO GO ONTO CT-4/FARMINGTON AVE (4.87 MILES), TURN RIGHT ONTO LOVELY ST/CT-177 (0.23 MILES). 82 LOVELY STREET 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: CT1061
SITE NAME: UNIONVILLE SBC CO

82 LOVELY STREET
HARTFORD, CT 06085
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	06/01/22	ISSUED FOR PERMITTING	SC	AT	DPH
A	03/11/22	ISSUED FOR REVIEW	JP	AT	DPH

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

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

AT&T
TITLE SHEET
5G NR RADIO, 5G NR 1SR CBAND, LTE NEXT CARRIER, LTE 4C,BBU RECONFIGURATION, 5G SOFTWARE RADIO, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1061	T-1	0

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 (ANTENNAS)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

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: CT1061
SITE NAME: UNIONVILLE SBC CO

82 LOVELY STREET
HARTFORD, CT 06085
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	06/01/22	ISSUED FOR PERMITTING	SG	AT	DPH
A	03/11/22	ISSUED FOR REVIEW	JP	AT	DPH

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

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

AT&T
GENERAL NOTES
5G NR RADIO, 5G NR 1SR CBAND, LTE NEXT CARRIER, LTE 4C,BBU
RECONFIGURATION, 5G SOFTWARE RADIO, 2022 UPGRADE

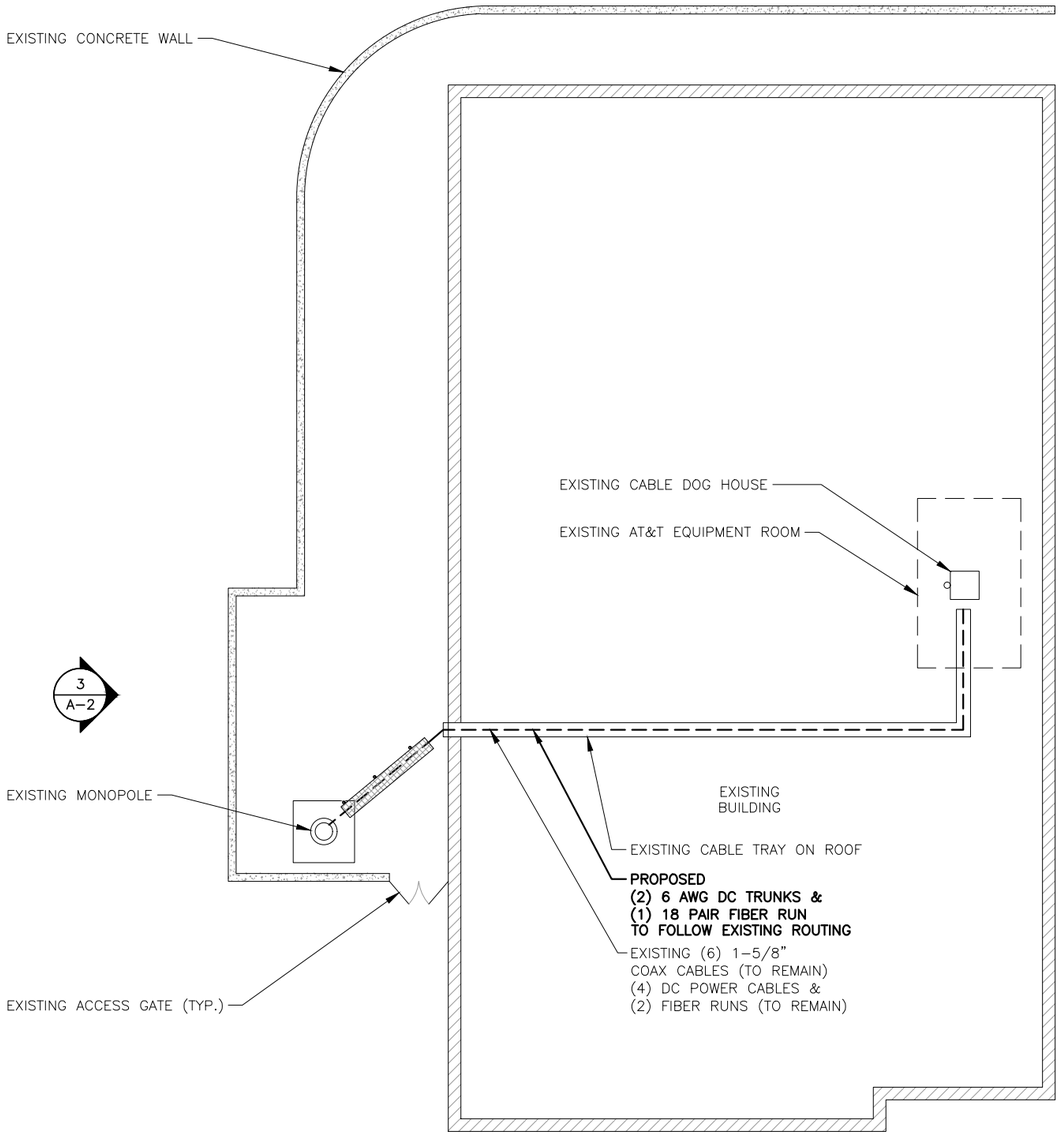
SITE NUMBER	DRAWING NUMBER	REV
CT1061	GN-1	0

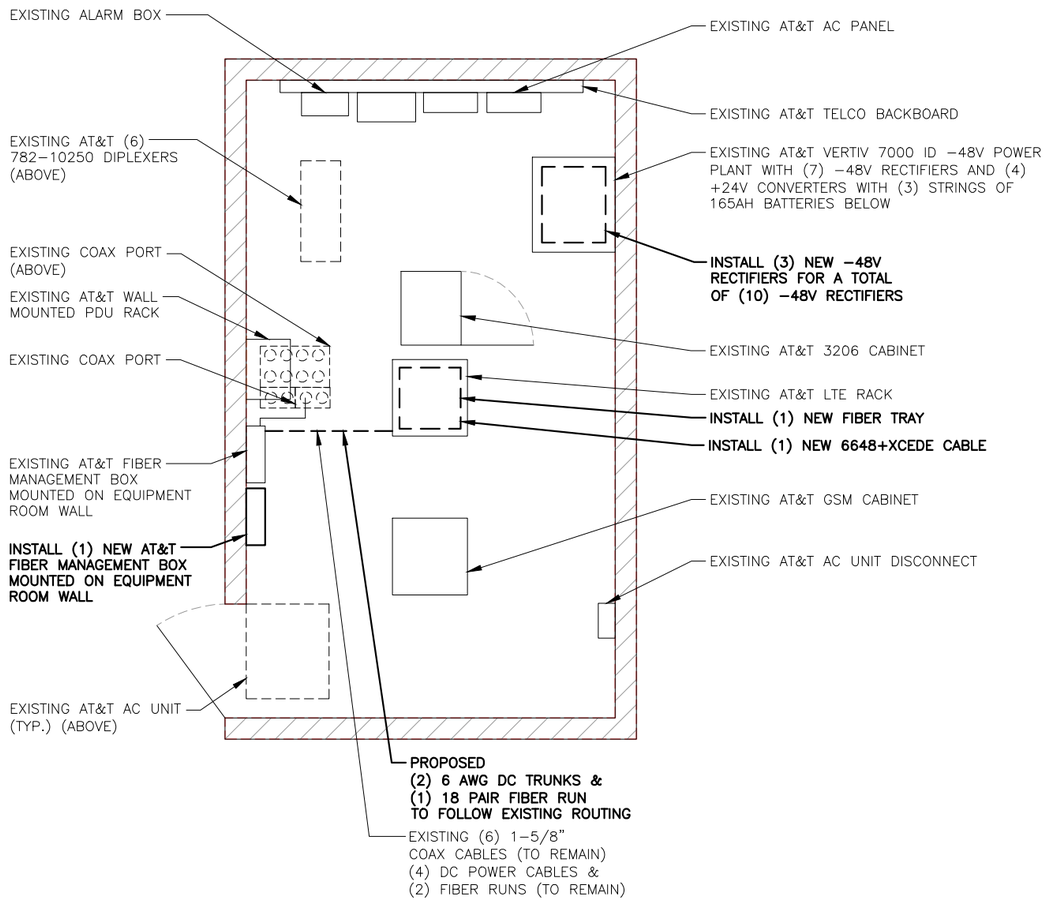
NOTE:

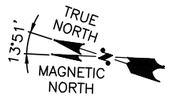
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

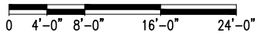
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

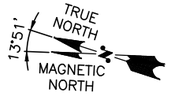






COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"





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

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: CT1061
SITE NAME: UNIONVILLE SBC CO

82 LOVELY STREET
HARTFORD, CT 06085
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	06/01/22	ISSUED FOR PERMITTING	SG	AT	DPH
A	03/11/22	ISSUED FOR REVIEW	JP	AT	DPH

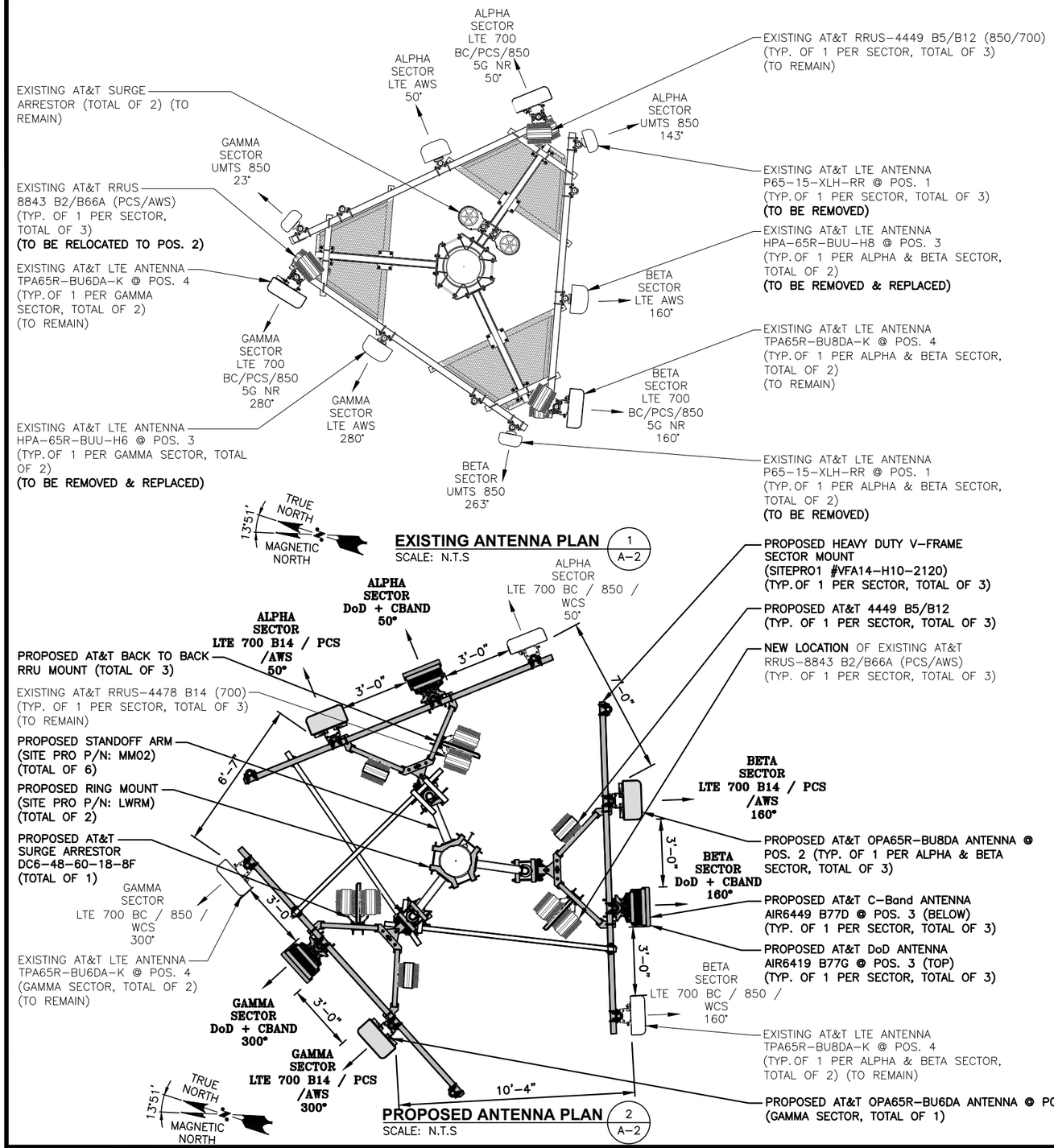
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: JP

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

AT&T

COMPOUND & EQUIPMENT PLANS
5G NR RADIO, 5G NR 1SR CBAND, LTE NEXT CARRIER, LTE 4C,BBU RECONFIGURATION, 5G SOFTWARE RADIO, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1061	A-1	0



EXISTING ANTENNA PLAN

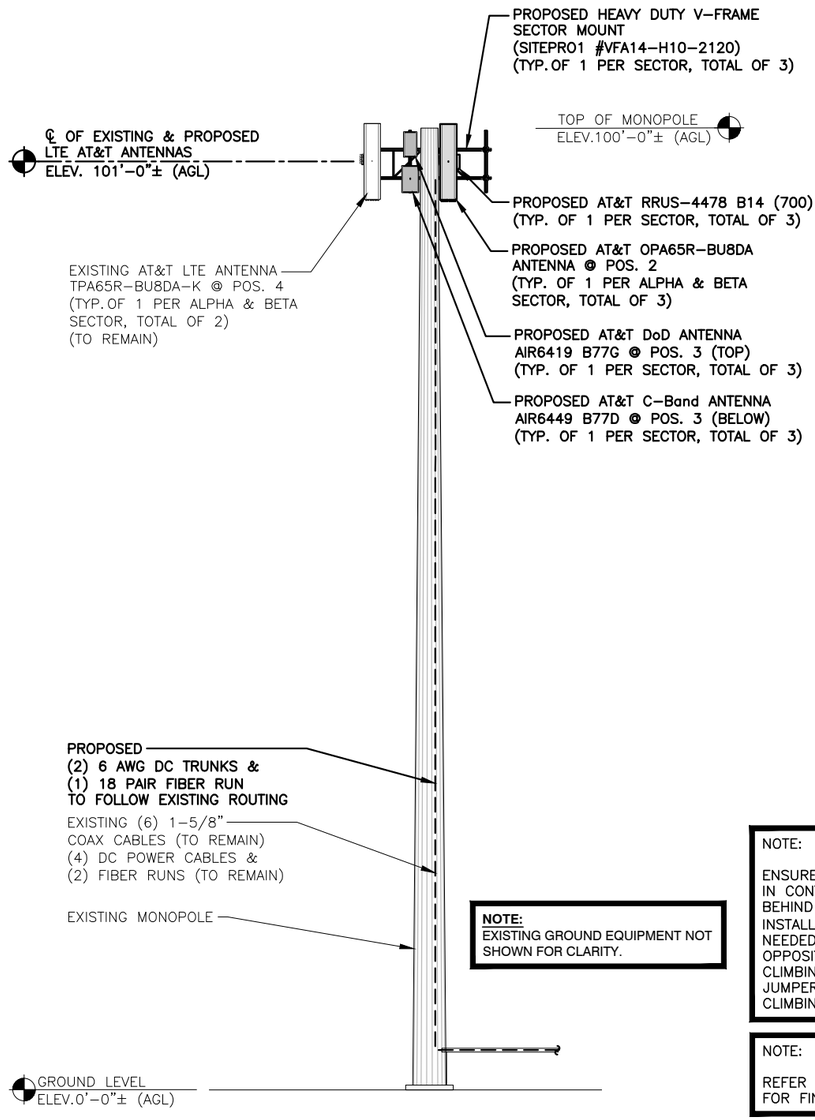
SCALE: N.T.S

1 / A-2

PROPOSED ANTENNA PLAN

SCALE: N.T.S

2 / A-2



NOTE:
EXISTING GROUND EQUIPMENT NOT SHOWN FOR CLARITY.

ELEVATION

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

3 / A-2

NOTE:

ENSURE THE SAFETY CABLE IS NOT IN CONTACT WITH OR TRAPPED BEHIND ANY PART OF THE MOUNT. INSTALL STANDOFF GROMMET(S) IF NEEDED. RELOCATE TIE-BACK TO OPPOSITE SIDE OF MOUNT TO KEEP CLIMBING FACILITES CLEAR. ROUTE JUMPER CABLES AWAY FROM CLIMBING FACILITIES.

NOTE:

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

NOTE:

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

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: CT1061
SITE NAME: UNIONVILLE SBC CO

82 LOVELY STREET
HARTFORD, CT 06085
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	06/01/22	ISSUED FOR PERMITTING	SG	AT	DPH
A	03/11/22	ISSUED FOR REVIEW	JP	AT	DPH

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

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

AT&T

ANTENNA LAYOUT PLANS & ELEVATION
5G NR RADIO, 5G NR 1SR CBAND, LTE NEXT CARRIER, LTE 4C,BBU RECONFIGURATION, 5G SOFTWARE RADIO, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1061	A-2	0

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	–	–	–	–	–	–	–	–	–	–	(E) (1) RAYCAP DC6-48-60-18-8F
A2	**PROPOSED**	**LTE 700 B14 / PCS /AWS**	**OPA65R-BU8DA**	**71.2"X20.7"X7.7"**	**101'-0"±**	**50°**	–	(E)(1)RRUS-4449 B5/B12 (850/700)	– – – –	(E)(2) DC POWER **(P)(1)(Y-CABLE)** (1) FIBER	
A3	**PROPOSED**	**DOD + CBAND**	**AIR6419 B77G AIR6449 B77D**	**31.1"X16.1"X7.3" 30.4"X15.9"X8.1"**	**101'-0"±**	**50°**	–	–	–	–	
A4	EXSTING	LTE 700 BC / 850 / WCS	TPA65R-BU8DA-K	71.2"X20.7"X7.7"	101'-0"±	50°	–	**(P)(1)RRUS-4478 B14 (700)** (E)(1)RRUS-8843 B2/B66A (PCS/AWS)	– –	**(P)(1)(Y-CABLE)**	
B1	–	–	–	–	–	–	–	–	–	–	(E) (1) RAYCAP DC6-48-60-18-8F
B2	**PROPOSED**	**LTE 700 B14 / PCS /AWS**	**OPA65R-BU8DA**	**71.2"X20.7"X7.7"**	**101'-0"±**	**160°**	–	(E)(1)RRUS-4449 B5/B12 (850/700)	– – – –	(E)(2) DC POWER **(P)(1)(Y-CABLE)** (1) FIBER	
B3	**PROPOSED**	**DOD + CBAND**	**AIR6419 B77G AIR6449 B77D**	**31.1"X16.1"X7.3" 30.4"X15.9"X8.1"**	**101'-0"±**	**160°**	–	–	–	–	
B4	EXSITING	LTE 700 BC / 850 / WCS	TPA65R-BU8DA-K	71.2"X20.7"X7.7"	101'-0"±	160°	–	**(P)(1)RRUS-4478 B14 (700)** (E)(1)RRUS-8843 B2/B66A (PCS/AWS)	– –	**(P)(1)(Y-CABLE)**	
C1	–	–	–	–	–	–	–	–	–	–	(P) (1) RAYCAP DC6-48-60-18-8F
C2	**PROPOSED**	**LTE 700 B14 / PCS /AWS**	**OPA65R-BU6DA**	**96"X20.7"X7.7"**	**101'-0"±**	**300°**	–	(E)(1)RRUS-4449 B5/B12 (850/700)	– – – –	**(P)(2) 6 AWG DC POWER (P)(1)(Y-CABLE) (P)(1) 18 PAIR FIBER**	
C3	**PROPOSED**	**DOD + CBAND**	**AIR6419 B77G AIR6449 B77D**	**31.1"X16.1"X7.3" 30.4"X15.9"X8.1"**	**101'-0"±**	**300°**	–	–	–	–	
C4	EXSITING	LTE 700 BC / 850 / WCS	TPA65R-BU6DA-K	71.2"X20.7"X7.7"	101'-0"±	280°	–	**(P)(1)RRUS-4478 B14 (700)** (E)(1)RRUS-8843 B2/B66A (PCS/AWS)	– –	**(P)(1)(Y-CABLE)**	

RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
P(3)	**4478 B14 (700)**	**18.1"x13.4"x8.3"**
E(3)	4449 B5/B12 (700)	17.9"x13.2"x10.4"
E(3)	8843 (1900/AWS)	14.9"x13.2"x10.9"

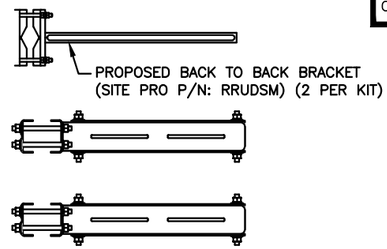
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:

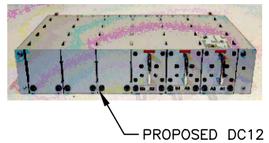
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

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

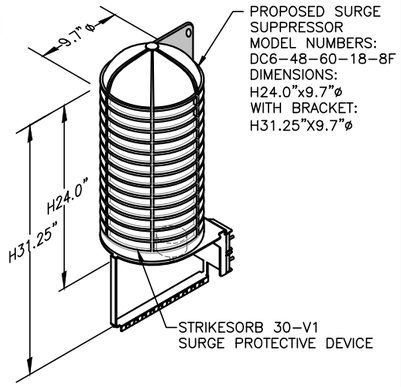


BACK TO BACK MOUNT DETAIL (2 / A-3)
SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

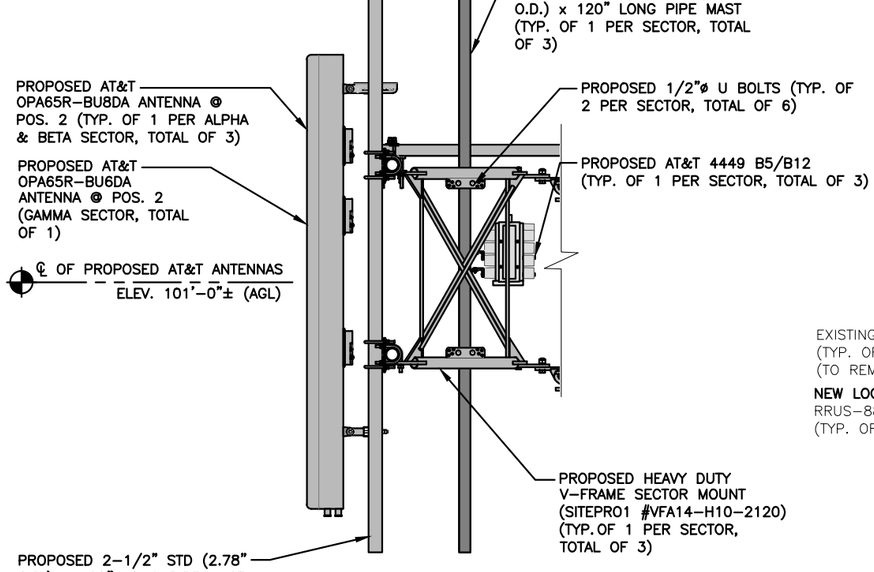
DC12 DETAIL (4 / A-3)
SCALE: N.T.S



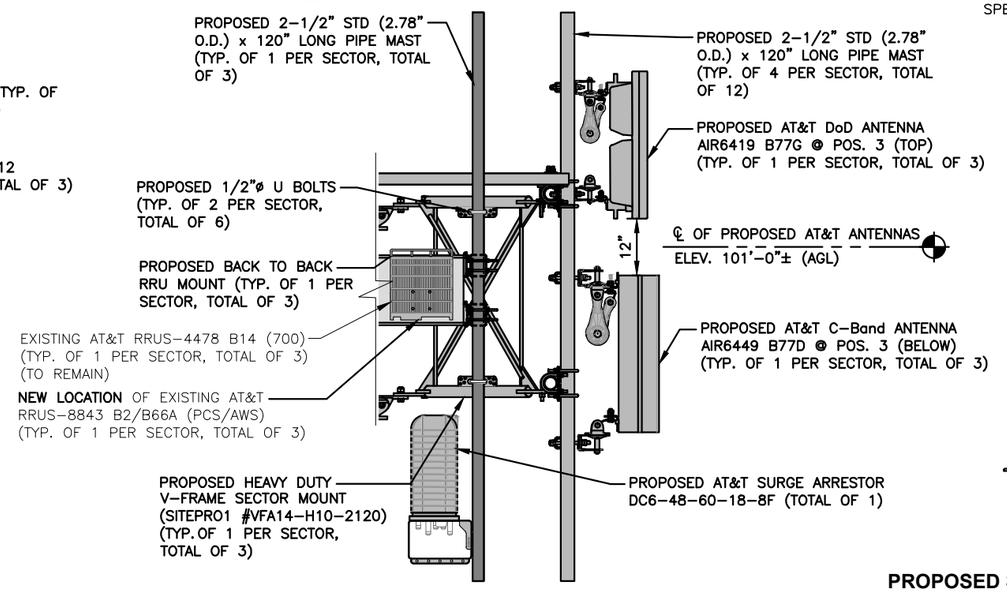
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (6 / A-3)
SCALE: N.T.S

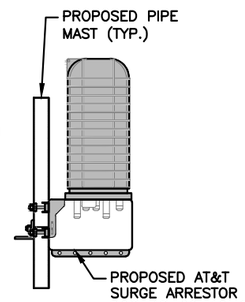
FINAL ANTENNA SCHEDULE (1 / A-3)
SCALE: N.T.S



PROPOSED ANTENNA @ POS. 2 (3 / A-3)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"
0 8" 1'-4" 2'-8" 4'-0"



PROPOSED ANTENNA @ POS. 3 (4 / A-3)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"
0 8" 1'-4" 2'-8" 4'-0"



PROPOSED SURGE PROTECTOR MOUNTING DETAIL (5 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"
0 0'-6" 1'-0" 2'-0" 3'-0"

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: CT1061
SITE NAME: UNIONVILLE SBC CO

82 LOVELY STREET
HARTFORD, CT 06085
HARTFORD COUNTY

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

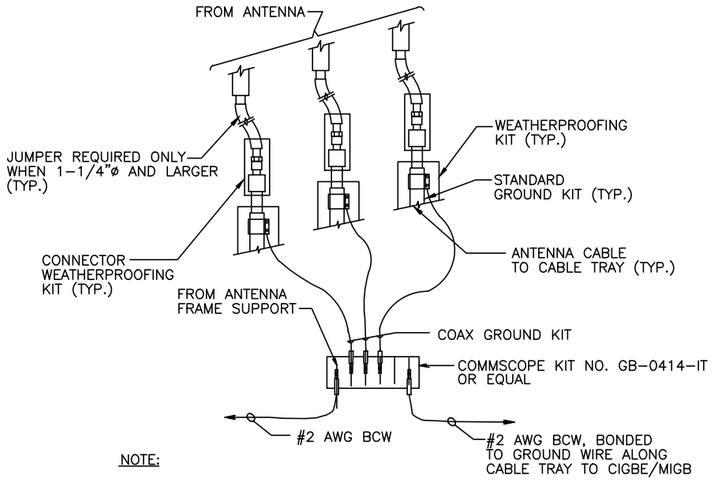
NO.	DATE	REVISIONS	BY	CHK	APP'D
0	06/01/22	ISSUED FOR PERMITTING	SG	AT	DPH
A	03/11/22	ISSUED FOR REVIEW	JP	AT	DPH

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

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

AT&T
DETAILS
5G NR RADIO, 5G NR 1SR CBAND, LTE NEXT CARRIER, LTE 4C,BBU RECONFIGURATION, 5G SOFTWARE RADIO, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1061	A-3	0

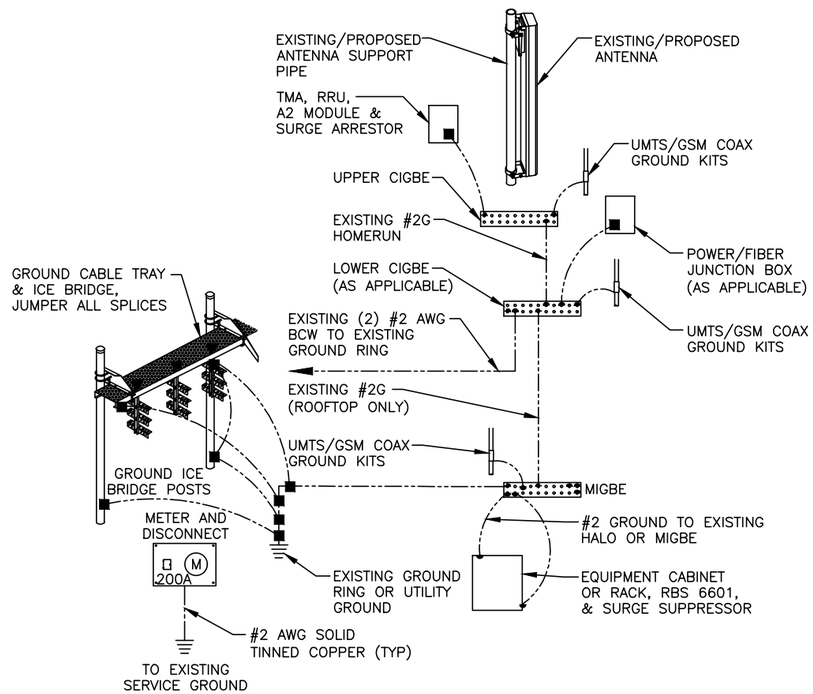


NOTE:

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

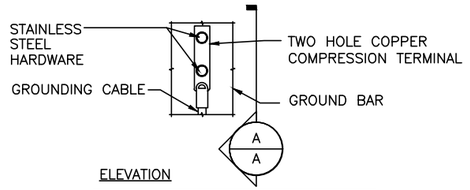
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

SCALE: N.T.S



GROUNDING RISER DIAGRAM (2 / G-1)

SCALE: N.T.S



NOTES:

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

TYPICAL GROUND BAR CONNECTION DETAIL (3 / G-1)

SCALE: N.T.S

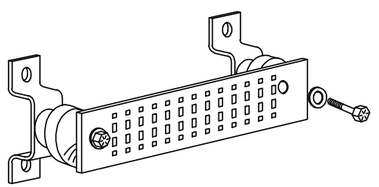
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL (AS REQUIRED)

SCALE: N.T.S

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: CT1061
SITE NAME: UNIONVILLE SBC CO

82 LOVELY STREET
HARTFORD, CT 06085
HARTFORD COUNTY

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

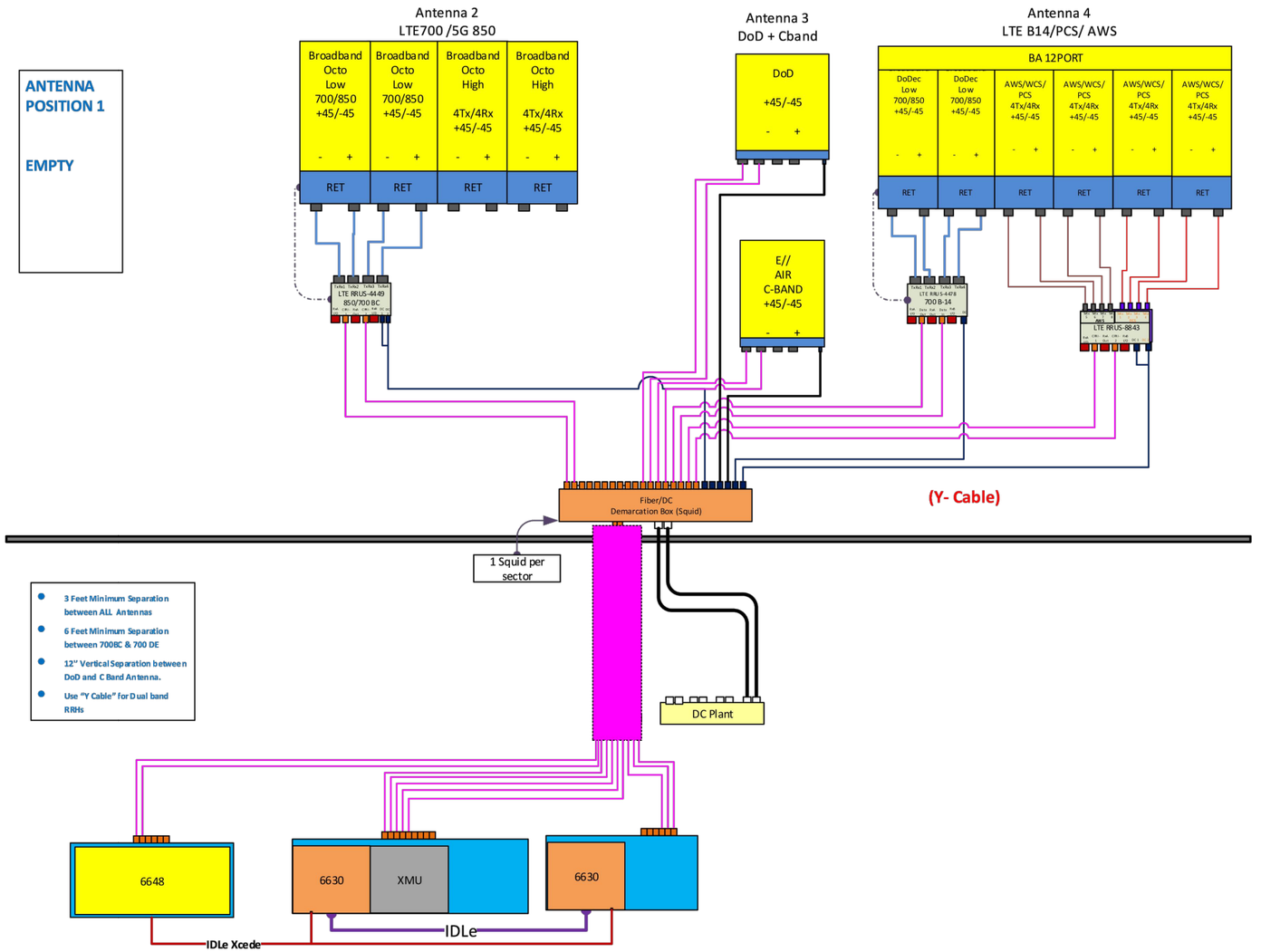
NO.	DATE	REVISIONS	BY	CHK	APP'D
0	06/01/22	ISSUED FOR PERMITTING	SG	AT	DPH
A	03/11/22	ISSUED FOR REVIEW	JP	AT	DPH

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

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

AT&T
GROUNDING DETAILS
5G NR RADIO, 5G NR 1SR CBAND, LTE NEXT CARRIER, LTE 4C,BBU RECONFIGURATION, 5G SOFTWARE RADIO, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1061	G-1	0



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

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

NOTE:

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

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: CT1061
SITE NAME: UNIONVILLE SBC CO

82 LOVELY STREET
HARTFORD, CT 06085
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	06/01/22	ISSUED FOR PERMITTING	SG	AT	DPH
A	03/11/22	ISSUED FOR REVIEW	JP	AT	DPH

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

AT&T
RF PLUMBING DIAGRAM
5G NR RADIO, 5G NR 1SR CBAND, LTE NEXT CARRIER, LTE 4C,BBU RECONFIGURATION, 5G SOFTWARE RADIO, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1061	RF–1	0

EXHIBIT 2

Town of Farmington, CT

Property Listing Report

Map Block Lot	006 1	Building #	1	Unique Identifier	11350082

Property Information

Property Location	82 LOVELY ST
Mailing Address	PO BOX 2629 ADDISON TX 75001
Land Use	Utility Building
Zoning Code	R20
Neighborhood	95

Owner	SOUTHERN NEW ENGLAND
Co-Owner	
Book / Page	0114/0169
Land Class	Commercial
Census Tract	4603
Acreage	0.67

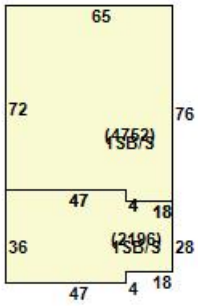
Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	359244	251470
Outbuildings	0	0
Land	243880	170720
Total	603124	422190

Utility Information

Electric	No
Gas	No
Sewer	No
Public Water	No
Well	No



Primary Construction Details

Year Built	1965
Building Desc.	Commercial
Building Style	
Stories	1
Exterior Walls	Brick
Exterior Walls 2	
Interior Walls	Painted Concrete
Interior Walls 2	
Interior Floors 1	Tile
Interior Floors 2	

Heating Fuel	Natural Gas
Heating Type	FHA
AC Type	Central
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	
Occupancy	0

Building Use	Light Industrial
Building Condition	Average
Frame Type	C+
Fireplaces	0
Bsmt Gar	0
Fin Bsmt Area	
Fin Bsmt Quality	
Building Grade	0
Roof Style	
Roof Cover	Arch Shingles

Report Created On 3/23/2022

Town of Farmington, CT

Property Listing Report | Map Block Lot **006 1** | Building # **1** | Unique Identifier **11350082**

Detached Outbuildings

Type	Description	Area (sq ft)	Condition	Year Built

Attached Extra Features

Type	Description	Area (sq ft)	Condition	Year Built

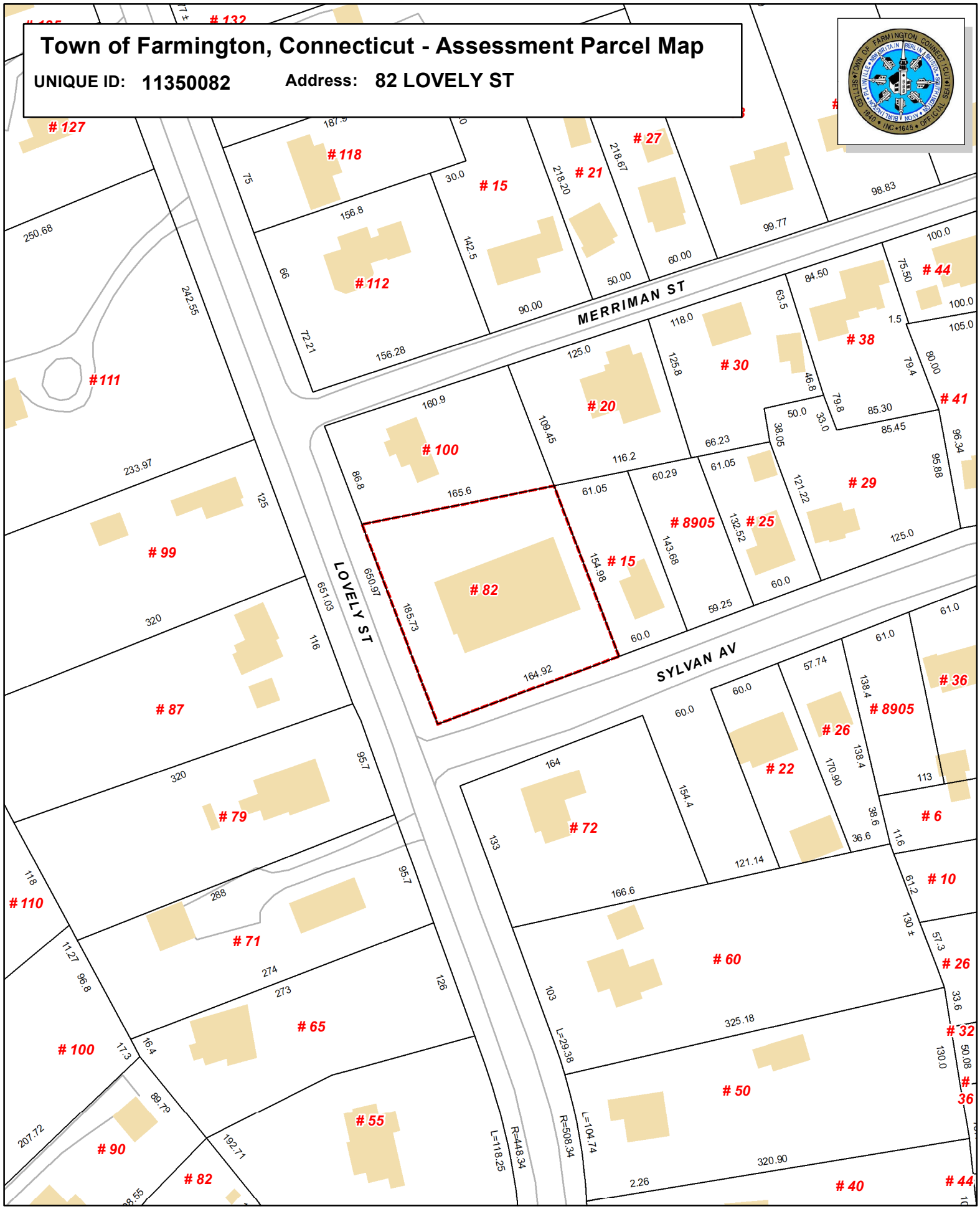
Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
SOUTHERN NEW ENGLAND	0114_0169	1/1/1900	0

Report Created On **3/23/2022**

Town of Farmington, Connecticut - Assessment Parcel Map

UNIQUE ID: 11350082 **Address:** 82 LOVELY ST



Approximate Scale: 1 inch = 100 feet

Map Produced January 2021

EXHIBIT 3

Structural Analysis of a 100 ft Monopole

Site Number: AT&T CT1061 Unionville SBC CO
EIP: 701773
Site Name: Unionville CO
County: Hartford
Location: Unionville, CT

Checked By:

Patrick Propert
Structural Design Engineer III

Two Allegheny Ctr

Nova Tower 2, Suite 1002

Pittsburgh, PA 15212

May 2022

9 North Main Street, 2nd Floor, Cortland, NY 13045
(607)591-5381 Fax: (866)870-0840 www.ArmorTower.com

May 19, 2022

Tom Rigg
Everest Infrastructure Partners
Two Allegheny Ctr
Nova Tower 2, Suite 1002
Pittsburgh, PA 15212

RE: AT&T – CT1061 – Unionville SBC CO
EIP – 701773 – Unionville CO
82 Lovely St, Unionville, CT

Tom:

We have completed the structural analysis of the subject tower and **have found it to be adequate within the scope of this analysis to support the proposed antenna loading**. The tower was analyzed according to the code wind and ice parameters outlined in the *Code Requirements Table* following this letter.

The subject tower is a 100 ft Engineered Endeavors monopole tower consisting of (3) slip-jointed tubular pole sections. Pole dimeters range from 14.5" at the top to 27.5" at the base. Foundation capacities are based on a foundation mapping and geotechnical report by Wilkinson Engineering dated February 2010.

The loading used in the analysis consisted of the existing antennas/lines for Dish Wireless as well as the following for AT&T at 101 ft on (3) new VFH14-H10-2120 trisector antenna frame:

- (2) TPA65R-BU8DA-K, (1) TPA-65R-BU6DA-K antennas
- (3) AIR6449 B77D, (3) AIR6419 B77G antennas
- (2) OPA65R-BU8DA, (1) OPA65R-BU6DA antennas
- (3) Radio 4478 B14, (3) Radio 8843 B2/B66A, (3) Radio 4449 B5/B12 RRUs
- (3) TT19-08BP111-001 TMAs
- (3) DC6-48-6-0-18-8F
- (12) 1-1/4" coax, (6) 7/8" DC cables and (3) 5/8" fiber cables inside (2) 2" Flex conduits

All feedlines to be installed inside the pole.

The results of the analysis showed all tower and apparent foundation elements to be loaded within allowable limits with a maximum stress rating of 87%. We recommend a post-construction inspection be completed by a structural engineer to document that tower-mounted equipment has been placed in compliance with the requirements of this analysis. For a detailed listing of tower performance, please see page 12 of the calculations.

We appreciate the opportunity to provide our professional services to Everest Infrastructure and AT&T and if you have any questions concerning this analysis, please contact us.

Sincerely,

ARMOR TOWER, INC.

Patrick Botimer
Structural Design Engineer V

9 North Main Street, 2nd Floor, Cortland, NY 13045
(607)591-5381 Fax: (866)870-0840 www.ArmorTower.com

CODE REQUIREMENTS

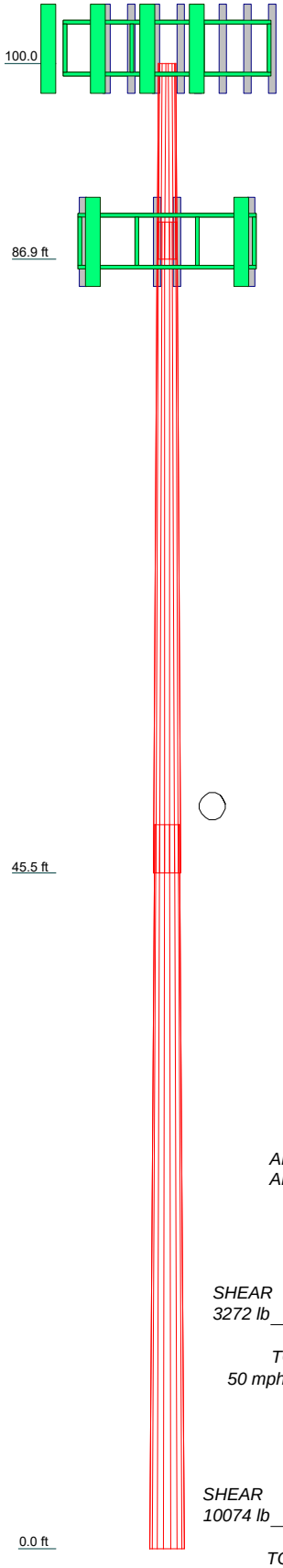
Governing code:	2018 CT State Building Code
Code basis/adoption:	2015 International Building Code
Referenced standard:	ANSI/TIA 222-G-2
Basic wind speed: (3-sec. gust):	V_{ult}: 120 mph with no ice V_{asd}: 93 mph with no ice 50 mph with 1" concurrent ice
County of site location:	**Hartford**
ASCE 7 Special wind region:	No
Structure/Risk Category:	II
Exposure Category:	B
Topographic Category: (Method 1)	1 - no topographic escalation
Crest Height/Tower Base AMSL Elevation:	0 ft/ 257 ft
Site Spectral Response:	S_s=0.182, S_1=0.064

PRIMARY ASSUMPTIONS CONSIDERED IN THIS PROJECT

1. Allowable steel stresses are defined by AISC-LRFD-99/360-16 and all welds conform to AWS D1.1 specification.
2. If reserved antennas/feed lines by other carriers are to be considered in this analysis, it is the responsibility of Everest Infrastructure and its affiliates to provide this information.
3. Any deviation from the analyzed antenna loading will require a re-analysis of the tower for verification of structural integrity. This analysis has considered the proposed hybrid line to be installed inside the tower as shown on drawing E-7.
4. This analysis assumes all tower members are galvanized adequately to prevent corrosion of the steel and that all tower members are in “like new” condition with no physical deterioration. This analysis also assumes the tower has been maintained properly per TIA 222-G Annex J recommended inspection and maintenance procedures for tower owners and is in a plumb condition. Armor Tower has not completed a condition assessment of the tower.
5. No accounting for residual stresses due to incorrect tower erection can be made. This analysis assumes all bolts are appropriately tightened providing necessary connection continuity and that the installation of the tower was performed by a qualified tower erector.
6. Foundation capacities are based on a foundation mapping and geotechnical report by Wilkinson Engineering dated February 2010.
7. No conclusions, expressed or implied, shall indicate that Armor Tower has made an evaluation of the original design, materials, fabrication, or potential installation or erection deficiencies. Any information contrary to that assumed for the purpose of preparing this analysis could alter the findings and conclusions stated herein.
8. Tower member sizes, geometry, and existing antenna loading are based on a tower analysis by MEI dated March 2010. It is our assumption that this data is complete and accurately reflects the existing conditions of the tower and equipment. Armor Tower has not been commissioned to field-validate this data. Armor Tower reserves the right to add to or modify this report as more information becomes available. Proposed equipment was outlined in a ColoApp dated May 17, 2022.

9. The investigation of the load carrying capacities of the antenna supporting frames/mounts is outside the scope of this analysis. Antenna mount certification can be completed under a separate contract.
10. Armor Tower can assist the contractor in providing a Class IV rigging plan for equipment lifting.

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
1	13.15	18	0.1875	2.50	14.5000	16.3487		405.6
2	43.88	18	0.2500	3.25	15.6221	21.7155	A572-65	2182.3
3	48.72	18	0.3125		20.7642	27.5000		3917.2
								6505.1



ALL REACTIONS ARE FACTORED

AXIAL 36429 lb
SHEAR 3272 lb
MOMENT 334910 lb-ft
TORQUE 362 lb-ft
50 mph WIND - 1.0000 in ICE

AXIAL 17940 lb
SHEAR 10074 lb
MOMENT 901941 lb-ft
TORQUE 1046 lb-ft
REACTIONS - 93 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
TPA65R-BU8DA-K w. MtgPipe (ATI-Alpha)	101	OPA65R-BU6Dx w. MtgPipe (P-ATI-Gamma)	101
TPA65R-BU8DA-K w. MtgPipe (ATI-Beta)	101	Ericsson Radio 4478 B14 (P-ATI-Alpha)	101
TPA65R-BU6A w. Mtg Pipe (ATI-Gamma)	101	Ericsson Radio 4478 B14 (P-ATI-Beta)	101
PwrWv TT19-08BP111-001 TMA (R-ATI-Alpha)	101	Ericsson Radio 4478 B14 (P-ATI-Gamma)	101
PwrWv TT19-08BP111-001 TMA (R-ATI-Beta)	101	Ericsson AIR6419 B77G RRU (P-ATI-Alpha)	101
PwrWv TT19-08BP111-001 TMA (R-ATI-Gamma)	101	Ericsson AIR6419 B77G RRU (P-ATI-Beta)	101
Ericsson Radio 8843 B25/B66A (ATI-Alpha)	101	Ericsson AIR6419 B77G RRU (P-ATI-Gamma)	101
Ericsson Radio 8843 B25/B66A (ATI-Beta)	101	Ericsson AIR6449 B77D RRU (P-ATI-Alpha)	101
Ericsson Radio 8843 B25/B66A (ATI-Gamma)	101	Ericsson AIR6449 B77D RRU (P-ATI-Beta)	101
Ericsson Radio 4449 B5/B12 (ATI-Alpha)	101	Ericsson AIR6449 B77D RRU (P-ATI-Gamma)	101
Ericsson Radio 4449 B5/B12 (ATI-Beta)	101	MX08FRO665-20 w. Mtg Pipe (P-DW-Alpha)	88
Ericsson Radio 4449 B5/B12 (ATI-Gamma)	101	MX08FRO665-20 w. Mtg Pipe (P-DW-Beta)	88
DC6-48-60-18-8F Surge Suppressor (ATI-Alpha)	101	MX08FRO665-20 w. Mtg Pipe (P-DW-Gamma)	88
DC6-48-60-18-8F Surge Suppressor (ATI-Beta)	101	TA08025-B604 RRU (P-DW-Alpha)	88
DC6-48-60-18-8F Surge Suppressor (P-ATI-Gamma)	101	TA08025-B604 RRU (P-DW-Beta)	88
SitePro1 VFA14-H10-2120 (P-ATI)	101	TA08025-B604 RRU (P-DW-Gamma)	88
OPA65R-BU8Dx w. MtgPipe (P-ATI-Alpha)	101	TA08025-B605 RRU (P-DW-Alpha)	88
OPA65R-BU8Dx w. MtgPipe (P-ATI-Beta)	101	TA08025-B605 RRU (P-DW-Beta)	88
		TA08025-B605 RRU (P-DW-Gamma)	88
		RDIDC-9181-PF-48 (P-DW-Alpha)	88
		Valmont SNP8HR-396 Platform (P-DW)	88

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

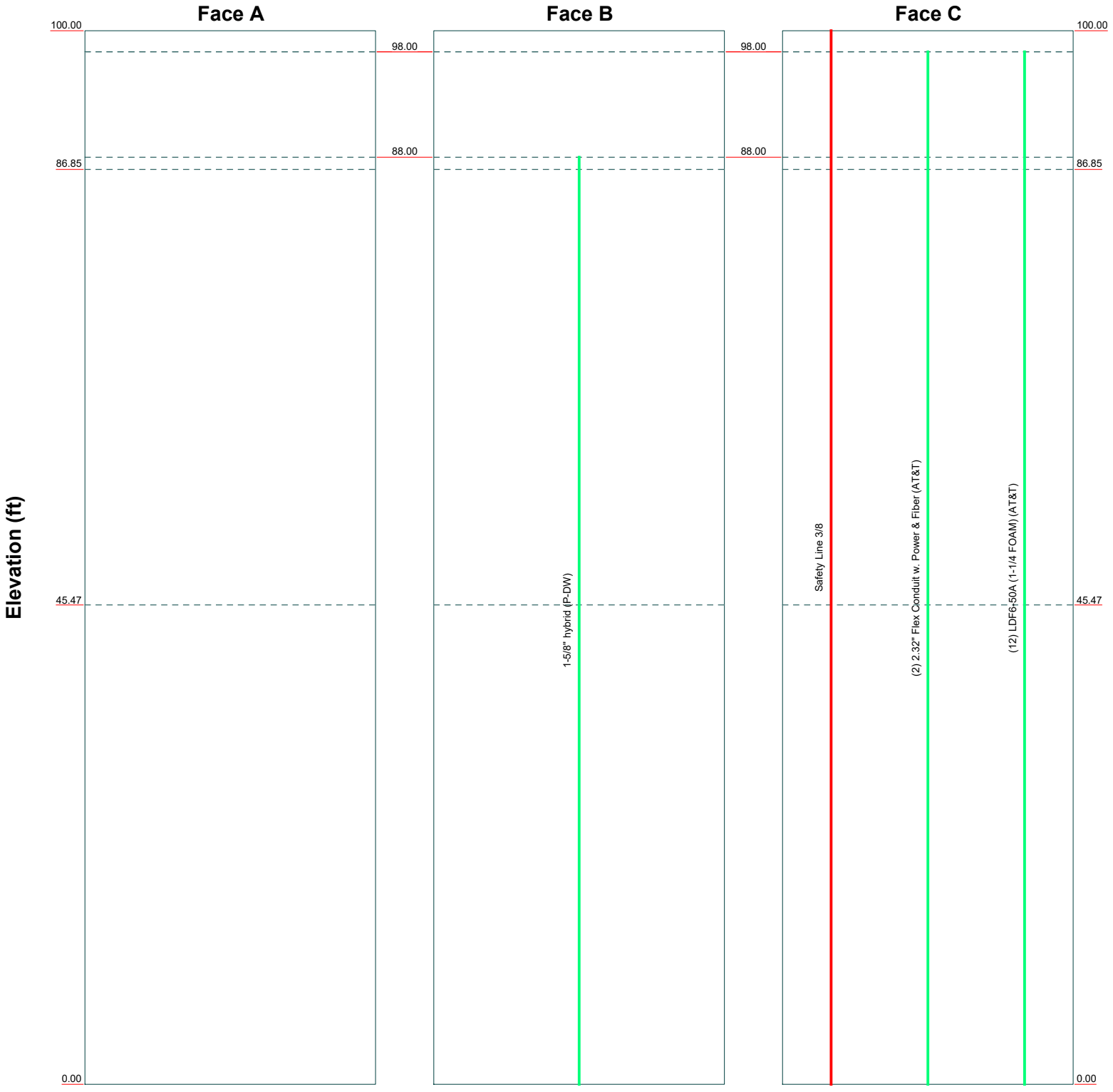
1. Tower designed for Exposure B to the TIA-222-G Standard.
2. Tower designed for a 93 mph basic wind in accordance with the TIA-222-G Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
8. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
9. Welds are fabricated with ER-70S-6 electrodes.
10. ASCE7-10:120mph (Vult) => 93 mph (Vasd)
11. TOWER RATING: 87.2%

ARMOR TOWER, INC
9 North Main
Cortland, NY 13045
Phone: 607-591-5381
FAX: 866-870-0840

Job:	100' MONOPOLE ANALYSIS
Project:	AT&T CT1061 - Unionville SBC CO, CT
Client:	Everest Infrastructure Partners - 701773
Drawn by:	PB
App'd:	
Code:	TIA-222-G
Date:	05/19/22
Scale:	NTS
Path:	
Dwg No.	E-1

Feed Line Distribution Chart
0' - 100'

Round | Flat | App In Face | App Out Face | Truss Leg



ARMOR TOWER

ARMOR TOWER, INC
9 North Main
Cortland, NY 13045
Phone: 607-591-5381
FAX: 866-870-0840

Job:	***100' MONOPOLE ANALYSIS***		
Project:	***AT&T CT1061 - Unionville SBC CO, CT***		
Client:	Everest Infrastructure Partners - 701773	Drawn by: PB	App'd:
Code:	TIA-222-G	Date: 05/19/22	Scale: NTS
Path:			Dwg No. E-7

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
Basic wind speed of 93 mph.
Structure Class II.
Exposure Category B.
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.
Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
Welds are fabricated with ER-70S-6 electrodes.
ASCE7-10:120mph (Vult) => 93 mph (Vasd).
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned	√	Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r	√	All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice		Bypass Mast Stability Checks		Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
√	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
√	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
√	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component		Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)	√	Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	100.00-86.85	13.15	2.50	18	14.5000	16.3487	0.1875	0.7500	A572-65 (65 ksi)
L2	86.85-45.47	43.88	3.25	18	15.6221	21.7155	0.2500	1.0000	A572-65 (65 ksi)
L3	45.47-0.00	48.72		18	20.7642	27.5000	0.3125	1.2500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	14.6948	8.5177	220.4409	5.0809	7.3660	29.9268	441.1718	4.2597	2.2220	11.851
	16.5720	9.6179	317.3704	5.7372	8.3051	38.2137	635.1585	4.8099	2.5474	13.586
L2	16.1771	12.1978	364.1548	5.4571	7.9360	45.8862	728.7887	6.1000	2.3095	9.238
	22.0119	17.0329	991.5335	7.6203	11.0315	89.8822	1984.3718	8.5181	3.3819	13.528
L3	21.4925	20.2855	1071.9684	7.2603	10.5482	101.6256	2145.3474	10.1447	3.1045	9.934
	27.8760	26.9666	2518.2696	9.6516	13.9700	180.2627	5039.8527	13.4859	4.2900	13.728

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 100.00-86.85				1	1	1			
L2 86.85-45.47				1	1	1			
L3 45.47-0.00				1	1	1			

Monopole Base Plate Data

Base Plate Data	
Base plate is square	
Base plate is grouted	√
Anchor bolt grade	A615-75
Anchor bolt size	2.2500 in
Number of bolts	6
Embedment length	72.0000 in
f'_c	4 ksi
Grout space	4.0000 in
Base plate grade	A871 Gr60
Base plate thickness	2.5000 in
Bolt circle diameter	36.5000 in
Outer diameter	43.0000 in
Inner diameter	17.5000 in
Base plate type	Plain Plate

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	C	Yes	Surface Ar (CaAa)	100.00 - 0.00	1	1	0.000 0.000	0.3750		0.22

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
*									
2.32" Flex Conduit w. Power & Fiber (AT&T)	C	No	Yes	Inside Pole	98.00 - 0.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.80 2.80 2.80
LDF6-50A (1-1/4 FOAM) (AT&T)	C	No	Yes	Inside Pole	98.00 - 0.00	12	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.66 0.66 0.66
*									
1-5/8" hybrid (P-DW)	B	No	Yes	Inside Pole	88.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.67 0.67 0.67

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
L1	100.00-86.85	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.77
		C	0.000	0.000	0.493	0.000	153.58
L2	86.85-45.47	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	27.72
		C	0.000	0.000	1.552	0.000	568.56
L3	45.47-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	30.47
		C	0.000	0.000	1.705	0.000	624.82

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
L1	100.00-86.85	A	2.219	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.77
		C		0.000	0.000	6.327	0.000	246.03
L2	86.85-45.47	A	2.142	0.000	0.000	0.000	0.000	0.00

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
		B		0.000	0.000	0.000	0.000	27.72
		C		0.000	0.000	19.917	0.000	859.57
L3	45.47-0.00	A	1.920	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	30.47
		C		0.000	0.000	21.188	0.000	924.39

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	1	Safety Line 3/8	86.85 - 100.00	1.0000	1.0000
L2	1	Safety Line 3/8	45.47 - 86.85	1.0000	1.0000
L3	1	Safety Line 3/8	0.00 - 45.47	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
*No Lightning Rod *									
*AT&T May2022									
TPA65R-BU8DA-K w. MtgPipe (AT&T-Alpha)	A	From Face	3.00 3.00 0.00	0.0000	101.00	No Ice 1/2" Ice 1" Ice	18.09 18.72 19.36	10.10 11.52 12.80	127.90 247.98 378.43
TPA65R-BU8DA-K w. MtgPipe (AT&T-Beta)	B	From Face	3.00 3.00 0.00	0.0000	101.00	No Ice 1/2" Ice 1" Ice	18.09 18.72 19.36	10.10 11.52 12.80	127.90 247.98 378.43
TPA65R-BU6A w. Mtg Pipe (AT&T-Gamma)	C	From Face	3.00 3.00 0.00	0.0000	101.00	No Ice 1/2" Ice 1" Ice	7.88 8.34 8.80	7.44 8.40 9.23	69.90 138.34 214.57
PwrWv TT19-08BP111-001 TMA (R-AT&T-Alpha)	A	From Face	3.00 0.00 0.00	0.0000	101.00	No Ice 1/2" Ice 1" Ice	0.55 0.65 0.75	0.45 0.53 0.63	16.00 21.80 29.22
PwrWv TT19-08BP111-001 TMA (R-AT&T-Beta)	B	From Face	3.00 0.00 0.00	0.0000	101.00	No Ice 1/2" Ice 1" Ice	0.55 0.65 0.75	0.45 0.53 0.63	16.00 21.80 29.22
PwrWv TT19-08BP111-001 TMA (R-AT&T-Gamma)	C	From Face	3.00 0.00 0.00	0.0000	101.00	No Ice 1/2" Ice 1" Ice	0.55 0.65 0.75	0.45 0.53 0.63	16.00 21.80 29.22
Ericsson Radio 8843 B25/B66A (AT&T-Alpha)	A	From Face	3.00 0.00 0.00	0.0000	101.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.36 1.51 1.66	71.87 89.52 109.89
Ericsson Radio 8843 B25/B66A	B	From Face	3.00 0.00	0.0000	101.00	No Ice 1/2" Ice	1.64 1.80	1.36 1.51	71.87 89.52

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(AT&T-Beta)			0.00				1" Ice	1.97	1.66	109.89
Ericsson Radio 8843	C	From Face	3.00	0.0000	101.00		No Ice	1.64	1.36	71.87
B25/B66A			0.00				1/2" Ice	1.80	1.51	89.52
(AT&T-Gamma)			0.00				1" Ice	1.97	1.66	109.89
Ericsson Radio 4449 B5/B12	A	From Face	3.00	0.0000	101.00		No Ice	1.97	1.41	70.50
(AT&T-Alpha)			0.00				1/2" Ice	2.15	1.57	89.03
			0.00				1" Ice	2.33	1.73	110.38
Ericsson Radio 4449 B5/B12	B	From Face	3.00	0.0000	101.00		No Ice	1.97	1.41	70.50
(AT&T-Beta)			0.00				1/2" Ice	2.15	1.57	89.03
			0.00				1" Ice	2.33	1.73	110.38
Ericsson Radio 4449 B5/B12	C	From Face	3.00	0.0000	101.00		No Ice	1.97	1.41	70.50
(AT&T-Gamma)			0.00				1/2" Ice	2.15	1.57	89.03
			0.00				1" Ice	2.33	1.73	110.38
DC6-48-60-18-8F Surge	A	From Face	2.00	0.0000	101.00		No Ice	0.79	0.79	20.00
Suppressor			0.00				1/2" Ice	1.27	1.27	35.12
(AT&T-Alpha)			0.00				1" Ice	1.45	1.45	52.57
DC6-48-60-18-8F Surge	B	From Face	2.00	0.0000	101.00		No Ice	0.79	0.79	20.00
Suppressor			0.00				1/2" Ice	1.27	1.27	35.12
(AT&T-Beta)			0.00				1" Ice	1.45	1.45	52.57
DC6-48-60-18-8F Surge	C	From Face	2.00	0.0000	101.00		No Ice	0.79	0.79	20.00
Suppressor			0.00				1/2" Ice	1.27	1.27	35.12
(P-AT&T-Gamma)			0.00				1" Ice	1.45	1.45	52.57
SitePro1 VFA14-H10-2120	C	None			0.0000	101.00	No Ice	29.50	29.50	2650.00
(P-AT&T)							1/2" Ice	33.00	33.00	3250.00
							1" Ice	36.50	36.50	3850.00
OPA65R-BU8Dx w. MtgPipe	A	From Face	3.00	0.0000	101.00		No Ice	17.87	10.02	117.60
(P-AT&T-Alpha)			0.00				1/2" Ice	18.50	11.44	236.28
			0.00				1" Ice	19.14	12.72	365.31
OPA65R-BU8Dx w. MtgPipe	B	From Face	3.00	0.0000	101.00		No Ice	17.87	10.02	117.60
(P-AT&T-Beta)			0.00				1/2" Ice	18.50	11.44	236.28
			0.00				1" Ice	19.14	12.72	365.31
OPA65R-BU6Dx w. MtgPipe	C	From Face	3.00	0.0000	101.00		No Ice	12.73	7.04	95.20
(P-AT&T-Gamma)			0.00				1/2" Ice	13.23	7.99	185.04
			0.00				1" Ice	13.73	8.82	283.21
Ericsson Radio 4478 B14	A	From Face	3.00	0.0000	101.00		No Ice	1.86	1.12	63.29
(P-AT&T-Alpha)			0.00				1/2" Ice	2.03	1.26	79.70
			0.00				1" Ice	2.20	1.41	98.78
Ericsson Radio 4478 B14	B	From Face	3.00	0.0000	101.00		No Ice	1.86	1.12	63.29
(P-AT&T-Beta)			0.00				1/2" Ice	2.03	1.26	79.70
			0.00				1" Ice	2.20	1.41	98.78
Ericsson Radio 4478 B14	C	From Face	3.00	0.0000	101.00		No Ice	1.86	1.12	63.29
(P-AT&T-Gamma)			0.00				1/2" Ice	2.03	1.26	79.70
			0.00				1" Ice	2.20	1.41	98.78
Ericsson AIR6419 B77G	A	From Face	3.00	0.0000	101.00		No Ice	3.80	1.94	66.10
RRU			0.00				1/2" Ice	4.05	2.14	93.96
(P-AT&T-Alpha)			0.00				1" Ice	4.31	2.34	125.40
Ericsson AIR6419 B77G	B	From Face	3.00	0.0000	101.00		No Ice	3.80	1.94	66.10
RRU			0.00				1/2" Ice	4.05	2.14	93.96
(P-AT&T-Beta)			0.00				1" Ice	4.31	2.34	125.40
Ericsson AIR6419 B77G	C	From Face	3.00	0.0000	101.00		No Ice	3.80	1.94	66.10
RRU			0.00				1/2" Ice	4.05	2.14	93.96
(P-AT&T-Gamma)			0.00				1" Ice	4.31	2.34	125.40
Ericsson AIR6449 B77D	A	From Face	3.00	0.0000	101.00		No Ice	4.03	2.15	101.10
RRU			0.00				1/2" Ice	4.29	2.36	130.71
(P-AT&T-Alpha)			0.00				1" Ice	4.56	2.57	164.05
Ericsson AIR6449 B77D	B	From Face	3.00	0.0000	101.00		No Ice	4.03	2.15	101.10
RRU			0.00				1/2" Ice	4.29	2.36	130.71

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
(P-AT&T-Beta)			0.00			1" Ice	4.56	2.57	164.05
Ericsson AIR6449 B77D	C	From Face	3.00	0.0000	101.00	No Ice	4.03	2.15	101.10
RRU			0.00			1/2" Ice	4.29	2.36	130.71
(P-AT&T-Gamma)			0.00			1" Ice	4.56	2.57	164.05
*									
*									
*DishWireless Aug2021									
MX08FRO665-20 w. Mtg	A	From Face	3.00	0.0000	88.00	No Ice	12.49	7.29	93.90
Pipe			0.00			1/2" Ice	12.99	8.25	183.58
(P-DW-Alpha)			0.00			1" Ice	13.49	9.08	281.61
MX08FRO665-20 w. Mtg	B	From Face	3.00	0.0000	88.00	No Ice	12.49	7.29	93.90
Pipe			0.00			1/2" Ice	12.99	8.25	183.58
(P-DW-Beta)			0.00			1" Ice	13.49	9.08	281.61
MX08FRO665-20 w. Mtg	C	From Face	3.00	0.0000	88.00	No Ice	12.49	7.29	93.90
Pipe			0.00			1/2" Ice	12.99	8.25	183.58
(P-DW-Gamma)			0.00			1" Ice	13.49	9.08	281.61
TA08025-B604 RRU	A	From Face	3.00	0.0000	88.00	No Ice	1.98	1.04	64.00
(P-DW-Alpha)			-2.00			1/2" Ice	2.15	1.18	80.85
			0.00			1" Ice	2.33	1.32	100.41
TA08025-B604 RRU	B	From Face	3.00	0.0000	88.00	No Ice	1.98	1.04	64.00
(P-DW-Beta)			-2.00			1/2" Ice	2.15	1.18	80.85
			0.00			1" Ice	2.33	1.32	100.41
TA08025-B604 RRU	C	From Face	3.00	0.0000	88.00	No Ice	1.98	1.04	64.00
(P-DW-Gamma)			-2.00			1/2" Ice	2.15	1.18	80.85
			0.00			1" Ice	2.33	1.32	100.41
TA08025-B605 RRU	A	From Face	3.00	0.0000	88.00	No Ice	1.98	1.20	75.00
(P-DW-Alpha)			-2.00			1/2" Ice	2.15	1.34	93.09
			0.00			1" Ice	2.33	1.49	113.96
TA08025-B605 RRU	B	From Face	3.00	0.0000	88.00	No Ice	1.98	1.20	75.00
(P-DW-Beta)			-2.00			1/2" Ice	2.15	1.34	93.09
			0.00			1" Ice	2.33	1.49	113.96
TA08025-B605 RRU	C	From Face	3.00	0.0000	88.00	No Ice	1.98	1.20	75.00
(P-DW-Gamma)			-2.00			1/2" Ice	2.15	1.34	93.09
			0.00			1" Ice	2.33	1.49	113.96
RDIDC-9181-PF-48	A	From Face	2.00	0.0000	88.00	No Ice	2.31	1.29	22.00
(P-DW-Alpha)			0.00			1/2" Ice	2.50	1.45	41.25
			0.00			1" Ice	2.70	1.61	63.41
Valmont SNP8HR-396	C	None		0.0000	88.00	No Ice	30.70	30.70	1786.00
Platform						1/2" Ice	42.00	42.00	2052.00
(P-DW)						1" Ice	53.30	53.30	2318.00

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice

Comb. No.	Description
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 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 Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	30	36428.78	-3271.98	-3.24
	Max. H_x	20	17940.44	10073.72	15.56
	Max. H_z	2	17940.44	15.56	9770.55
	Max. M_x	2	868427.99	15.56	9770.55
	Max. M_z	8	901940.05	-10073.72	-15.56
	Max. Torsion	12	1045.90	-5050.33	-8469.32
	Min. Vert	25	13455.33	5050.33	8469.32
	Min. H_x	8	17940.44	-10073.72	-15.56
	Min. H_z	14	17940.44	-15.56	-9770.55

ARMOR TOWER, INC
9 North Main
Cortland, NY 13045
Phone: 607-591-5381
FAX: 866-870-0840

Location	*Condition*	*Gov. Load Comb.*	*Vertical lb*	*Horizontal, X lb*	*Horizontal, Z lb*
	Min. M_x	14	-867505.74	-15.56	-9770.55
	Min. M_z	20	-901580.80	10073.72	15.56
	Min. Torsion	24	-1032.61	5050.33	8469.32

Tower Mast Reaction Summary

Load Combination	*Vertical lb*	*Shear$_x$ lb*	*Shear$_z$ lb*	*Overturning Moment, M_x lb-ft*	*Overturning Moment, M_z lb-ft*	*Torque lb-ft*
Dead Only	14950.37	0.00	-0.00	-351.00	-135.68	0.02
1.2 Dead+1.6 Wind 0 deg - No Ice	17940.44	-15.56	-9770.55	-868427.99	1380.18	804.35
0.9 Dead+1.6 Wind 0 deg - No Ice	13455.33	-15.56	-9770.54	-842897.72	1376.66	796.07
1.2 Dead+1.6 Wind 30 deg - No Ice	17940.44	5023.39	-8453.76	-751320.55	-449882.89	358.59
0.9 Dead+1.6 Wind 30 deg - No Ice	13455.33	5023.39	-8453.76	-729219.36	-436634.28	357.70
1.2 Dead+1.6 Wind 60 deg - No Ice	17940.44	8716.32	-4871.80	-432985.61	-780467.86	-188.02
0.9 Dead+1.6 Wind 60 deg - No Ice	13455.33	8716.32	-4871.80	-420209.95	-757527.75	-181.02
1.2 Dead+1.6 Wind 90 deg - No Ice	17940.44	10073.72	15.56	1087.63	-901940.05	-687.87
0.9 Dead+1.6 Wind 90 deg - No Ice	13455.33	10073.72	15.56	1168.48	-875451.09	-674.76
1.2 Dead+1.6 Wind 120 deg - No Ice	17940.44	8731.88	4898.75	434727.31	-781947.01	-1003.49
0.9 Dead+1.6 Wind 120 deg - No Ice	13455.33	8731.88	4898.75	422130.71	-758972.22	-987.76
1.2 Dead+1.6 Wind 150 deg - No Ice	17940.44	5050.33	8469.32	751912.25	-452487.58	-1045.90
0.9 Dead+1.6 Wind 150 deg - No Ice	13455.33	5050.33	8469.32	730031.57	-439170.72	-1031.87
1.2 Dead+1.6 Wind 180 deg - No Ice	17940.44	15.56	9770.55	867505.74	-1667.35	-802.37
0.9 Dead+1.6 Wind 180 deg - No Ice	13455.33	15.56	9770.54	842241.23	-1582.60	-794.17
1.2 Dead+1.6 Wind 210 deg - No Ice	17940.44	-5023.39	8453.76	750378.25	449556.99	-343.39
0.9 Dead+1.6 Wind 210 deg - No Ice	13455.33	-5023.39	8453.76	728549.16	436401.69	-343.33
1.2 Dead+1.6 Wind 240 deg - No Ice	17940.44	-8716.32	4871.80	432069.06	780105.93	201.09
0.9 Dead+1.6 Wind 240 deg - No Ice	13455.33	-8716.32	4871.80	419557.46	757270.46	193.44
1.2 Dead+1.6 Wind 270 deg - No Ice	17940.44	-10073.72	-15.56	-1958.54	901580.80	685.75
0.9 Dead+1.6 Wind 270 deg - No Ice	13455.33	-10073.72	-15.56	-1789.62	875195.70	672.72
1.2 Dead+1.6 Wind 300 deg - No Ice	17940.44	-8731.88	-4898.75	-435578.12	781626.41	988.22
0.9 Dead+1.6 Wind 300 deg - No Ice	13455.33	-8731.88	-4898.75	-422738.13	758743.42	973.21
1.2 Dead+1.6 Wind 330 deg - No Ice	17940.44	-5050.33	-8469.32	-752788.70	452203.08	1032.61
0.9 Dead+1.6 Wind 330 deg -	13455.33	-5050.33	-8469.32	-730656.64	438966.67	1019.32

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
No Ice						
1.2 Dead+1.0 Ice+1.0 Temp	36428.77	0.01	-0.03	-3316.72	-1107.32	0.74
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	36428.78	-3.24	-3225.97	-330793.99	-727.81	215.77
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	36428.77	1633.12	-2792.05	-286788.91	-167710.17	40.71
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	36428.77	2831.89	-1610.12	-166766.81	-290047.08	-145.53
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	36428.78	3271.98	3.24	-2958.28	-334896.75	-292.77
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	36428.77	2835.14	1615.74	160742.79	-290424.54	-361.48
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	36428.77	1638.74	2795.29	280479.31	-168368.12	-332.75
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	36428.78	3.25	3225.96	324102.60	-1492.75	-214.20
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	36428.77	-1633.12	2792.05	280090.28	165480.81	-38.15
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	36428.77	-2831.89	1610.12	160073.41	287809.27	147.90
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	36428.78	-3271.97	-3.25	-3722.91	332659.49	294.12
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	36428.77	-2835.14	-1615.74	-167420.87	288194.76	361.92
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	36428.77	-1638.74	-2795.30	-287162.61	166146.80	333.23
Dead+Wind 0 deg - Service	14950.37	-3.62	-2276.60	-199555.50	204.45	191.62
Dead+Wind 30 deg - Service	14950.37	1170.45	-1969.78	-172695.82	-103344.80	84.67
Dead+Wind 60 deg - Service	14950.37	2030.89	-1135.16	-99662.81	-179239.75	-45.22
Dead+Wind 90 deg - Service	14950.37	2347.16	3.62	-28.11	-207145.77	-163.20
Dead+Wind 120 deg - Service	14950.37	2034.51	1141.43	99512.29	-179587.77	-237.42
Dead+Wind 150 deg - Service	14950.37	1176.72	1973.40	172288.43	-103948.59	-247.77
Dead+Wind 180 deg - Service	14950.37	3.62	2276.60	198798.60	-493.98	-191.48
Dead+Wind 210 deg - Service	14950.37	-1170.45	1969.78	171938.05	103053.57	-83.91
Dead+Wind 240 deg - Service	14950.37	-2030.89	1135.16	98906.16	178946.94	45.87
Dead+Wind 270 deg - Service	14950.37	-2347.16	-3.62	-726.52	206853.08	163.12
Dead+Wind 300 deg - Service	14950.37	-2034.51	-1141.43	-100266.06	179296.79	236.71
Dead+Wind 330 deg - Service	14950.37	-1176.72	-1973.40	-173043.32	103659.18	247.16

Maximum Tower Deflections - Service Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
L1	100 - 86.8542	25.682	42	2.2238	0.0127
L2	89.3542 - 45.4742	20.800	42	2.1352	0.0087
L3	48.7242 - 0	6.121	42	1.1837	0.0026

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
101.00	TPA65R-BU8DA-K w. MtgPipe	42	25.682	2.2238	0.0127	9097
88.00	MX08FRO665-20 w. Mtg Pipe	42	20.195	2.1185	0.0083	4127

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 86.8542	111.837	8	9.7050	0.0548
L2	89.3542 - 45.4742	90.614	8	9.3255	0.0379
L3	48.7242 - 0	26.687	8	5.1680	0.0110

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
101.00	TPA65R-BU8DA-K w. MtgPipe	8	111.837	9.7050	0.0548	2214
88.00	MX08FRO665-20 w. Mtg Pipe	8	87.983	9.2530	0.0360	1000

Base Plate Design Data

Plate Thickness in	Number of Anchor Bolts	Anchor Bolt Size in	Actual / Allowable Ratio Bolt Tension lb	Actual / Allowable Ratio Concrete Stress ksi	Actual / Allowable Ratio Plate Stress ksi	Actual / Allowable Ratio Stiffener Stress ksi	Controlling Condition	Critical Ratio
2.5000	6	2.2500	144603.00 223654.40 0.65	2.382 4.080 0.58	45.782 54.000 0.85		Plate	0.85 ✔

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	100 - 86.8542	TP16.3487x14.5x0.1875	13.15	100.00	213.8	9.4087	-14846.10	46495.10	0.319

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
L2	86.8542 - 45.4742 (1)	TP21.7155x15.6221x0.25	43.88	100.00	160.9	16.6748	-11348.90	145586.00	0.078
L3	45.4742 - 0 (2)	TP27.5x20.7642x0.3125	48.72	100.00	124.3	26.9666	-17918.80	394093.00	0.045

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} lb-ft	ϕM_{nx} lb-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} lb-ft	ϕM_{ny} lb-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	100 - 86.8542 (1)	TP16.3487x14.5x0.1875	25345.75	226351.67	0.112	0.00	226351.67	0.000
L2	86.8542 - 45.4742 (2)	TP21.7155x15.6221x0.25	423410.00	533197.50	0.794	0.00	533197.50	0.000
L3	45.4742 - 0 (3)	TP27.5x20.7642x0.3125	901941.67	1116050.00	0.808	0.00	1116050.00	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u lb	ϕV_n lb	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u lb-ft	ϕT_n lb-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	100 - 86.8542 (1)	TP16.3487x14.5x0.1875	2215.17	349510.00	0.006	125.85	454065.00	0.000
L2	86.8542 - 45.4742 (2)	TP21.7155x15.6221x0.25	9444.49	619426.00	0.015	694.27	1069608.33	0.001
L3	45.4742 - 0 (3)	TP27.5x20.7642x0.3125	10112.20	1001740.00	0.010	687.86	2238700.00	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	100 - 86.8542 (1)	0.319	0.112	0.000	0.006	0.000	0.431 ✔	1.000	4.8.2 ✔
L2	86.8542 - 45.4742 (2)	0.078	0.794	0.000	0.015	0.001	0.872 ✔	1.000	4.8.2 ✔
L3	45.4742 - 0 (3)	0.045	0.808	0.000	0.010	0.000	0.854 ✔	1.000	4.8.2 ✔

ARMOR TOWER, INC
9 North Main
Cortland, NY 13045
Phone: 607-591-5381
FAX: 866-870-0840

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
L1	100 - 86.8542	Pole	TP16.3487x14.5x0.1875	1	-14846.10	46495.10	43.1	Pass
L2	86.8542 - 45.4742	Pole	TP21.7155x15.6221x0.25	2	-11348.90	145586.00	87.2	Pass
L3	45.4742 - 0	Pole	TP27.5x20.7642x0.3125	3	-17918.80	394093.00	85.4	Pass
							Summary	
						Pole (L2)	87.2	Pass
						Base Plate	84.8	Pass
						RATING =	**87.2**	**Pass**

Monopole Pad & Pier Calculations

Client: AT&T
Project: Unionville, CT
05/19/22 14:31

Applied Factored Loads:

OTM:	902	kip-ft
Shear:	10.1	kip
Deadload:	17.9	kip

Specific Gravity:	2.65	
Soil Unit Weight:	120	pcf
Submerged Unit Wt:	74.72	pcf
Soil Ang:	34	°
Concrete Unit Wt:	150	pcf
Concrete f`c:	3000	psi
Rebar Fy:	60000	psi

Pad Dimensions:

Width:	17	ft	
Thickness:	4.5	ft	
OADepth:	9.5	ft	
Abolt Circle	36.5	in	
ABolt QTY/ϕ:	6	2.25	in
Pier Diam:	6.5	ft	4.38 ft min
Pier Height:	0.5	ft	above Grade
Pier Depth:	5	ft	

Concrete Volume:	54.9	cuyd
Depth to Water:	9.5	ft

Total Moment:	958	kip-ft

Soil Resistance:

Soil1:	1473.9	kip-ft
Soil2:	604.1	kip-ft
Soil3:	77.3	kip-ft

Concrete Resistance: 1658 kip-ft
OTM Capacity: 3275 kip-ft
ϕs: TIA 222H 0.75 29.2% Loaded

Bearing Capacity: ϕs: 0.75

Soil Type @ Bearing Location:	Sand	
SPT-N @ Bearing Location:	50	

fb(max):	2460	psf
Fb:	15000	psf per geotech

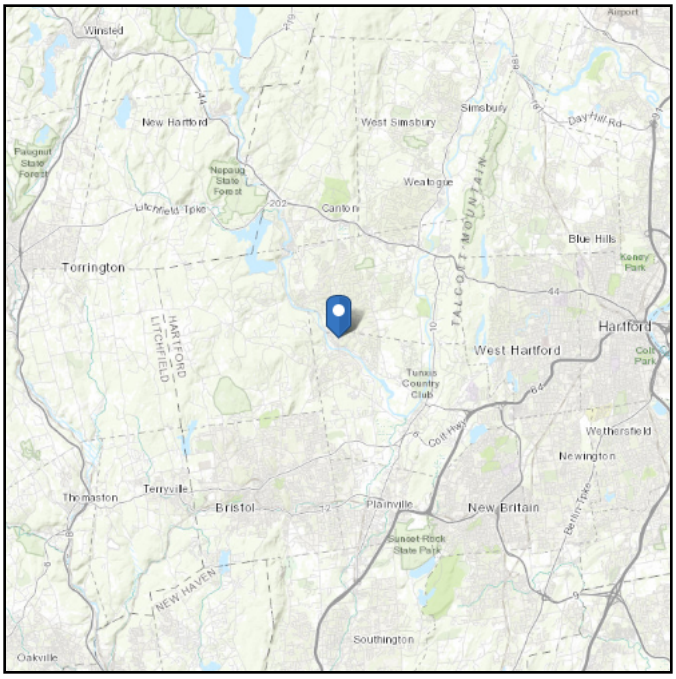
16.4% Loaded

ASCE 7 Hazards Report

Address:
82 Lovely St
Unionville, Connecticut
06085

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 257.03 ft (NAVD 88)
Latitude: 41.761284
Longitude: -72.887428



Wind

Results:

Wind Speed:	120 Vmph
10-year MRI	76 Vmph
25-year MRI	86 Vmph
50-year MRI	91 Vmph
100-year MRI	98 Vmph

2018 CT State Building Code
App.N - Hartford County Vult=120

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Mon Aug 30 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

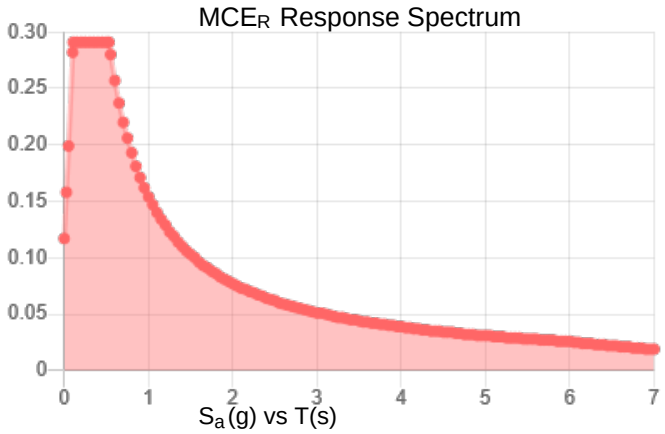
Seismic

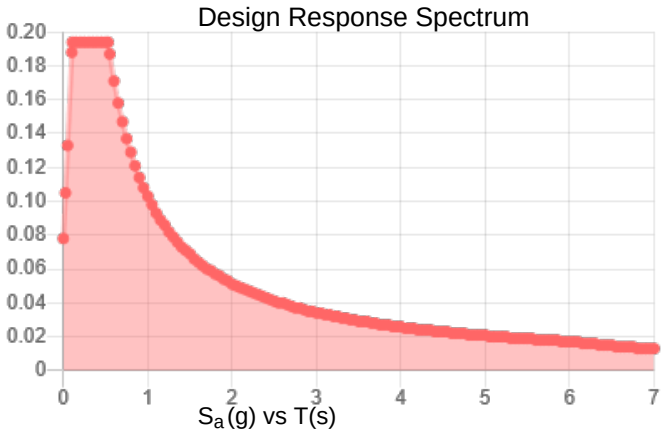
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.182	S_{DS} :	0.194
S_1 :	0.064	S_{D1} :	0.103
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.092
S_{MS} :	0.291	PGA_M :	0.147
S_{M1} :	0.154	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Mon Aug 30 2021

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Mon Aug 30 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

EXHIBIT 4

March 31, 2022

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

RE:		
	Site Number:	CT1061
	FA Number:	10035037
	PACE Number:	MRCTB056296
	PT Number:	2051A11N1G
	Site Name:	UNIONVILLE SBC CO
	Site Address:	82 Lovely Street Unionville, CT 06085

To Whom It May Concern:

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

- (2) TPA65R-BU8DA-K Antennas (96.0"x20.7"x7.7" – Wt. = 87 lbs. /each)
- (1) TPA65R-BU6DA-K Antenna (71.2"x20.7"x7.7" – Wt. = 69 lbs. /each)
- (3) 8843 B2/B66A RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)
- (3) 4449 B5/B12 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each)
- (2) DC6-48-60-18-8F Surge Arrestors (31.4"x10.2" Ø – Wt. = 33 lbs.)
- **(2) OPA65R-BU8DA Antennas (96.0"x21.0"x7.8" – Wt. = 77 lbs. /each)**
- **(1) OPA65R-BU6DA Antenna (71.2"x21.0"x7.8" – Wt. = 64 lbs. /each)**
- **(3) AIR6449 Antennas (30.6"x15.9"x10.6" – Wt. = 82 lbs. /each)**
- **(3) AIR6419 Antennas (31.0"x16.1"x7.3" – Wt. = 66 lbs. /each)**
- **(3) 4478 B14 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)**
- **(1) DC6-48-60-18-8F Surge Arrestor (31.4"x10.2" Ø – Wt. = 33 lbs.)**

*Proposed equipment shown in bold.

Mount fabrication drawings prepared by SitePro1, P/N VFA14-H10-2120, dated December 14, 2017, P/N MM02 dated May 10, 2010, and P/N LWRM dated August 24, 2012, were used to perform this analysis. HDG conducted a ground audit of the existing AT&T antenna mount on September 16, 2021.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R16.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 125 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.5 in. An escalated ice thickness of 1.67 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- HDG considers this site to have a spectral response acceleration parameter at short periods, S_S, of 0.183 and a spectral response acceleration parameter at a period of 1 second, S_1, of 0.064.
- The mounts have been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mounts have been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The proposed mounts are to be secured to the existing monopole with ring mounts and threaded rods. HDG considers the threaded rods to be the governing connection member.

Based on our evaluation, we have determined that the (3) Proposed SitePro1 VFA14-H10-2120 mounts, (6) Proposed SitePro1 MM02 standoffs, and (2) Proposed SitePro1 LWRM collar mounts **ARE CAPABLE** of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Proposed Mount Rating	9	LC83	61%	**PASS**

Reference Documents:

- Fabrication drawings prepared by SitePro1, P/N VFA14-H10-2120, dated December 14, 2017.
- Fabrication drawings prepared by SitePro1 P/N MM02, dated May 10, 2010
- Fabrication drawings prepared by SitePro1 LWRM, dated August 24, 2012

This determination was based on the following limitations and assumptions:

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

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

Respectfully Submitted,
Hudson Design Group LLC

Michael Cabral
Vice President

Daniel P. Hamm, PE
Principal

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

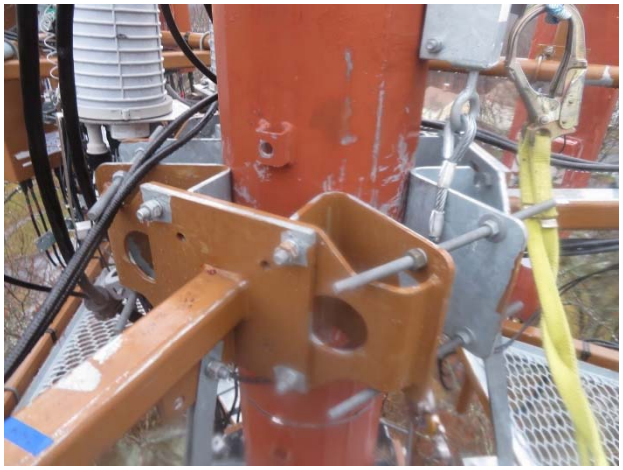





FIELD PHOTOS (CONT.):
*Note: Existing mount to be removed.





HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 3/29/2022
Project Name: UNIONVILLE SBC CO
Project No.: CT1061
Designed By: KSBM **Checked By:** MSC

HUDSON Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

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

z=	98	(ft)
z_g=	1200	(ft)
α=	7	

K_z= 0.983

Kzmin ≤ Kz ≤ 2.01

Table 2-4

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

2.6.6.2 Topographic Factor:

Table 2-5

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

$K_{zt} = [1+(K_c\ K_t/K_h)]^2$ $K_h = e^{(f*z/H)}$

K_{zt}= 1

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

Category= **1**

K_h=	1	
K_c=	0.9	(from Table 2-4)
K_t=	0	(from Table 2-5)
f=	0	(from Table 2-5)
z=	98	
z_s=	260	(Mean elevation of base of structure above sea level)
H=	0	(Ht. of the crest above surrounding terrain)
K_{zt}=	1.00	(from 2.6.6.2.1)
K_e=	0.99	(from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =	t_i =	1.50 in
Importance Factor =	I=	1.00 (from Table 2-3)
	K_{iz} =	1.11 (from Sec. 2.6.10)

$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$ t_{iz} = 1.67 in

Date: 3/29/2022
Project Name: UNIONVILLE SBC CO
Project No.: CT1061
Designed By: KSBM Checked By: MSC

HUDSON Design Group LLC

2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

G_h = 1.0 Latticed Structures > 600 ft

G_h = 0.85 Latticed Structures 450 ft or less

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

h=	100.0	G_h=	0.85

2.6.9.2 Guyed Masts G_h= 0.85

2.6.9.3 Pole Structures G_h= 1.1

2.6.9 Appurtenances G_h= 1.0

2.6.9.4 Structures Supported on Other Structures

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

G_h=	1.35	**Gh=**	**1.00**

2.6.11.2 Design Wind Force on Appurtenances

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

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

		K_z=	0.983	(from 2.6.5.2)
		K_{zt}=	1.0	(from 2.6.6.2.1)
		K_s=	1.0	(from 2.6.7)
q_z=	**36.99**	K_e=	0.99	(from 2.6.8)
$q_{z\ (ice)}$=	**5.92**	K_d=	0.95	(from Table 2-2)
$q_{z\ (30)}$=	**2.13**	V_{max}=	125	mph (Ultimate Wind Speed)
		$V_{max\ (ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

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

Date: 3/31/2022
Project Name: UNIONVILLE SBC CO
Project No.: CT1061
Designed By: KSBM Checked By: MSC

HUDSON Design Group LLC

Determine Ca:

Table 2-9

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

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
(Aspect ratio is independent of the spacing between support points of a linear appurtenance,

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.67** in | **Angle =** **0 (deg)** | **Equivalent Angle =** **180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	4.57	1.29	**669**	**128**	**39**
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.39	1.24	**476**	**92**	**27**
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.93	1.20	**154**	**33**	**9**
AIR6449 Antenna	30.6	15.9	10.6	3.38	1.92	1.20	**150**	**32**	**9**
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	4.64	1.30	**661**	**127**	**38**
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.44	1.24	**470**	**91**	**27**
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	2.18	1.20	**46**	**12**	**3**
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.20	**50**	**13**	**3**
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.90	1.20	**52**	**13**	**3**
DC6-48-60-18-8F Surge Arrestor	31.4	10.2	10.2	2.22	3.08	0.70	**58**	**14**	**3**
Plate 11-1/4x5/8	0.6	12.0		0.05	0.05	2.00	**4**		
Plate 3-1/2x5/8	0.6	12.0		0.05	0.05	2.00	**4**		
3/4" RoundBar	0.8	12.0		0.06	0.06	1.20	**3**		
5/8" RoundBar	0.6	12.0		0.05	0.05	1.20	**2**		
2" Pipe	2.4	12.0		0.20	0.20	1.20	**9**		
2-1/2" Pipe	2.9	12.0		0.24	0.24	1.20	**11**		
3" Pipe	3.5	12.0		0.29	0.29	1.20	**13**		
HSS 4x4	4.0	12.0		0.33	0.33	1.25	**15**		

Date: 3/31/2022
Project Name: UNIONVILLE SBC CO
Project No.: CT1061
Designed By: KSBM Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	30	(deg)	Ice Thickness =	1.67	in.	Equivalent Angle =	210	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	669	303	578
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	476	210	409
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	154	74	134
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	150	101	138
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	661	300	571
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	470	208	404
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	46	75	53
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	50	61	53
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	52	73	57
WIND LOADS WITH ICE:												
OPA65R-BU8DA Antenna	99.3	24.3	11.1	16.80	7.69	4.08	8.91	1.27	1.46	126	67	111
OPA65R-BU6DA Antenna	74.5	24.3	11.1	12.60	5.77	3.06	6.69	1.22	1.39	91	47	80
AIR6419 Antenna	34.3	19.4	10.6	4.64	2.54	1.77	3.23	1.20	1.23	33	19	29
AIR6449 Antenna	33.9	19.2	13.9	4.54	3.29	1.76	2.43	1.20	1.20	32	23	30
TPA65R-BU8DA-K Antenna	99.3	24.0	11.0	16.59	7.62	4.13	8.99	1.27	1.47	125	66	110
TPA65R-BU6DA-K Antenna	74.5	24.0	11.0	12.45	5.72	3.10	6.75	1.23	1.39	90	47	80
4478 B14 RRH (Side)	21.4	11.6	16.7	1.73	2.49	1.84	1.28	1.20	1.20	12	18	14
8843 B2/B66A RRH (Side)	18.2	14.2	16.5	1.80	2.10	1.28	1.10	1.20	1.20	13	15	13
4449 B5/B12 RRH (Side)	21.2	12.7	16.5	1.88	2.44	1.67	1.28	1.20	1.20	13	17	14
WIND LOADS AT 30 MPH:												
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	39	17	33
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	27	12	24
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	9	4	8
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	9	6	8
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	38	17	33
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	27	12	23
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	4	3
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	3	4	3

Date: 3/31/2022
Project Name: UNIONVILLE SBC CO
Project No.: CT1061
Designed By: KSBM Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	1.67	in.	Equivalent Angle =	240	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	669	303	395
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	476	210	276
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	154	74	94
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	150	101	114
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	661	300	391
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	470	208	273
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	46	75	68
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	50	61	58
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	52	73	68
WIND LOADS WITH ICE:												
OPA65R-BU8DA Antenna	99.3	24.3	11.1	16.80	7.69	4.08	8.91	1.27	1.46	126	67	82
OPA65R-BU6DA Antenna	74.5	24.3	11.1	12.60	5.77	3.06	6.69	1.22	1.39	91	47	58
AIR6419 Antenna	34.3	19.4	10.6	4.64	2.54	1.77	3.23	1.20	1.23	33	19	22
AIR6449 Antenna	33.9	19.2	13.9	4.54	3.29	1.76	2.43	1.20	1.20	32	23	26
TPA65R-BU8DA-K Antenna	99.3	24.0	11.0	16.59	7.62	4.13	8.99	1.27	1.47	125	66	81
TPA65R-BU6DA-K Antenna	74.5	24.0	11.0	12.45	5.72	3.10	6.75	1.23	1.39	90	47	58
4478 B14 RRH (Side)	21.4	11.6	16.7	1.73	2.49	1.84	1.28	1.20	1.20	12	18	16
8843 B2/B66A RRH (Side)	18.2	14.2	16.5	1.80	2.10	1.28	1.10	1.20	1.20	13	15	14
4449 B5/B12 RRH (Side)	21.2	12.7	16.5	1.88	2.44	1.67	1.28	1.20	1.20	13	17	16
WIND LOADS AT 30 MPH:												
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	39	17	23
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	27	12	16
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	9	4	5
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	9	6	7
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	38	17	22
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	27	12	16
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	4	4
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	3	4	4

Date: 3/31/2022
Project Name: UNIONVILLE SBC CO
Project No.: CT1061
Designed By: KSBM Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.67	in.	Equivalent Angle =	270	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	669	303	303
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	476	210	210
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	154	74	74
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	150	101	101
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	661	300	300
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	470	208	208
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	46	75	75
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	50	61	61
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	52	73	73

WIND LOADS WITH ICE:

OPA65R-BU8DA Antenna	99.3	24.3	11.1	16.80	7.69	4.08	8.91	1.27	1.46	126	67	67
OPA65R-BU6DA Antenna	74.5	24.3	11.1	12.60	5.77	3.06	6.69	1.22	1.39	91	47	47
AIR6419 Antenna	34.3	19.4	10.6	4.64	2.54	1.77	3.23	1.20	1.23	33	19	19
AIR6449 Antenna	33.9	19.2	13.9	4.54	3.29	1.76	2.43	1.20	1.20	32	23	23
TPA65R-BU8DA-K Antenna	99.3	24.0	11.0	16.59	7.62	4.13	8.99	1.27	1.47	125	66	66
TPA65R-BU6DA-K Antenna	74.5	24.0	11.0	12.45	5.72	3.10	6.75	1.23	1.39	90	47	47
4478 B14 RRH (Side)	21.4	11.6	16.7	1.73	2.49	1.84	1.28	1.20	1.20	12	18	18
8843 B2/B66A RRH (Side)	18.2	14.2	16.5	1.80	2.10	1.28	1.10	1.20	1.20	13	15	15
4449 B5/B12 RRH (Side)	21.2	12.7	16.5	1.88	2.44	1.67	1.28	1.20	1.20	13	17	17

WIND LOADS AT 30 MPH:

OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	39	17	17
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	27	12	12
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	9	4	4
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	9	6	6
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	38	17	17
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	27	12	12
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	4	4
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	3	4	4

Date: 3/31/2022
Project Name: UNIONVILLE SBC CO
Project No.: CT1061
Designed By: KSBM Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	120	(deg)	Ice Thickness =	1.67	in.	Equivalent Angle =	300	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	669	303	395
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	476	210	276
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	154	74	94
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	150	101	114
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	661	300	391
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	470	208	273
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	46	75	68
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	50	61	58
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	52	73	68

WIND LOADS WITH ICE:

OPA65R-BU8DA Antenna	99.3	24.3	11.1	16.80	7.69	4.08	8.91	1.27	1.46	126	67	82
OPA65R-BU6DA Antenna	74.5	24.3	11.1	12.60	5.77	3.06	6.69	1.22	1.39	91	47	58
AIR6419 Antenna	34.3	19.4	10.6	4.64	2.54	1.77	3.23	1.20	1.23	33	19	22
AIR6449 Antenna	33.9	19.2	13.9	4.54	3.29	1.76	2.43	1.20	1.20	32	23	26
TPA65R-BU8DA-K Antenna	99.3	24.0	11.0	16.59	7.62	4.13	8.99	1.27	1.47	125	66	81
TPA65R-BU6DA-K Antenna	74.5	24.0	11.0	12.45	5.72	3.10	6.75	1.23	1.39	90	47	58
4478 B14 RRH (Side)	21.4	11.6	16.7	1.73	2.49	1.84	1.28	1.20	1.20	12	18	16
8843 B2/B66A RRH (Side)	18.2	14.2	16.5	1.80	2.10	1.28	1.10	1.20	1.20	13	15	14
4449 B5/B12 RRH (Side)	21.2	12.7	16.5	1.88	2.44	1.67	1.28	1.20	1.20	13	17	16

WIND LOADS AT 30 MPH:

OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	39	17	23
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	27	12	16
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	9	4	5
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	9	6	7
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	38	17	22
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	27	12	16
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	4	4
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	3	4	4

Date: 3/31/2022
Project Name: UNIONVILLE SBC CO
Project No.: CT1061
Designed By: KSBM Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	150	(deg)	Ice Thickness =	1.67	in.	Equivalent Angle =	330	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	669	303	578
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	476	210	409
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	154	74	134
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	150	101	138
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	661	300	571
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	470	208	404
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	46	75	53
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	50	61	53
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	52	73	57

WIND LOADS WITH ICE:

OPA65R-BU8DA Antenna	99.3	24.3	11.1	16.80	7.69	4.08	8.91	1.27	1.46	126	67	111
OPA65R-BU6DA Antenna	74.5	24.3	11.1	12.60	5.77	3.06	6.69	1.22	1.39	91	47	80
AIR6419 Antenna	34.3	19.4	10.6	4.64	2.54	1.77	3.23	1.20	1.23	33	19	29
AIR6449 Antenna	33.9	19.2	13.9	4.54	3.29	1.76	2.43	1.20	1.20	32	23	30
TPA65R-BU8DA-K Antenna	99.3	24.0	11.0	16.59	7.62	4.13	8.99	1.27	1.47	125	66	110
TPA65R-BU6DA-K Antenna	74.5	24.0	11.0	12.45	5.72	3.10	6.75	1.23	1.39	90	47	80
4478 B14 RRH (Side)	21.4	11.6	16.7	1.73	2.49	1.84	1.28	1.20	1.20	12	18	14
8843 B2/B66A RRH (Side)	18.2	14.2	16.5	1.80	2.10	1.28	1.10	1.20	1.20	13	15	13
4449 B5/B12 RRH (Side)	21.2	12.7	16.5	1.88	2.44	1.67	1.28	1.20	1.20	13	17	14

WIND LOADS AT 30 MPH:

OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	39	17	33
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	27	12	24
AIR6419 Antenna	31.0	16.1	7.3	3.47	1.57	1.93	4.25	1.20	1.28	9	4	8
AIR6449 Antenna	30.6	15.9	10.6	3.38	2.25	1.92	2.89	1.20	1.22	9	6	8
TPA65R-BU8DA-K Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	38	17	33
TPA65R-BU6DA-K Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	27	12	23
4478 B14 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	4	3
8843 B2/B66A RRH (Side)	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
4449 B5/B12 RRH (Side)	17.9	9.4	13.2	1.17	1.64	1.90	1.36	1.20	1.20	3	4	3

Date: 3/31/2022
Project Name: UNIONVILLE SBC CO
Project No.: CT1061
Designed By: KSBM **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.67 in.
Density of ice: 56 pcf

OPA65R-BU8DA Antenna
Weight of ice based on total radial SF area:
Height (in): 96.0
Width (in): 21.0
Depth (in): 7.8
Total weight of ice on object: 393 lbs
Weight of object: 77.0 lbs
Combined weight of ice and object: 470 lbs

OPA65R-BU6DA Antenna
Weight of ice based on total radial SF area:
Height (in): 71.2
Width (in): 21.0
Depth (in): 7.8
Total weight of ice on object: 291 lbs
Weight of object: 64.0 lbs
Combined weight of ice and object: 355 lbs

AIR6419 Antenna
Weight of ice based on total radial SF area:
Height (in): 31.0
Width (in): 16.1
Depth (in): 7.3
Total weight of ice on object: 102 lbs
Weight of object: 66.0 lbs
Combined weight of ice and object: 168 lbs

AIR6449 Antenna
Weight of ice based on total radial SF area:
Height (in): 30.6
Width (in): 15.9
Depth (in): 10.6
Total weight of ice on object: 108 lbs
Weight of object: 82.0 lbs
Combined weight of ice and object: 190 lbs

TPA65R-BU8DA-K Antenna
Weight of ice based on total radial SF area:
Height (in): 96.0
Width (in): 20.7
Depth (in): 7.7
Total weight of ice on object: 388 lbs
Weight of object: 87.0 lbs
Combined weight of ice and object: 475 lbs

TPA65R-BU6DA-K Antenna
Weight of ice based on total radial SF area:
Height (in): 71.2
Width (in): 20.7
Depth (in): 7.7
Total weight of ice on object: 288 lbs
Weight of object: 69.0 lbs
Combined weight of ice and object: 357 lbs

4478 B14 RRH
Weight of ice based on total radial SF area:
Height (in): 18.1
Width (in): 13.4
Depth (in): 8.3
Total weight of ice on object: 54 lbs
Weight of object: 60.0 lbs
Combined weight of ice and object: 114 lbs

8843 B2/B66A RRH
Weight of ice based on total radial SF area:
Height (in): 14.9
Width (in): 13.2
Depth (in): 10.9
Total weight of ice on object: 48 lbs
Weight of object: 72.0 lbs
Combined weight of ice and object: 120 lbs

4449 B5/B12 RRH
Weight of ice based on total radial SF area:
Height (in): 17.9
Width (in): 13.2
Depth (in): 9.4
Total weight of ice on object: 54 lbs
Weight of object: 73.0 lbs
Combined weight of ice and object: 127 lbs

DC6-48-60-18-8F Surge Arrestor
Weight of ice based on total radial SF area:
Depth (in): 31.4
Diameter(in): 10.2
Total weight of ice on object: 63 lbs
Weight of object: 33 lbs
Combined weight of ice and object: 96 lbs

3/4" Round Bar
Per foot weight of ice:
diameter (in): 0.75
Per foot weight of ice on object: 5 plf

PL 3-1/2x5/8
Weight of ice based on total radial SF area:
Height (in): 3.5
Width (in): 0.63
Per foot weight of ice on object: 11 plf

5/8" Round Bar
Per foot weight of ice:
diameter (in): 0.63
Per foot weight of ice on object: 5 plf

PL 11-1/4x5/8
Weight of ice based on total radial SF area:
Height (in): 11.25
Width (in): 0.63
Per foot weight of ice on object: 26 plf

2" pipe
Per foot weight of ice:
diameter (in): 2.38
Per foot weight of ice on object: 8 plf

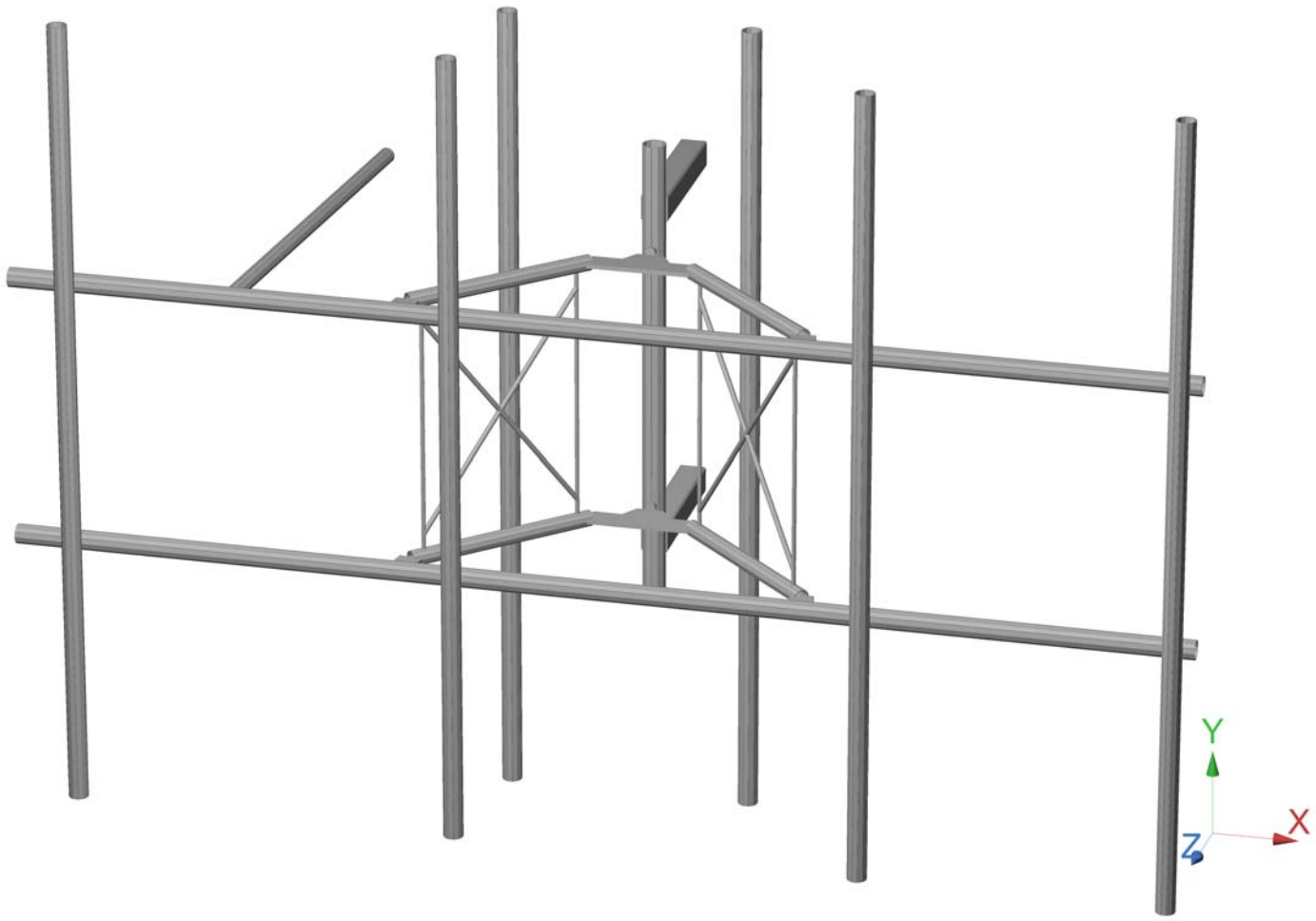
HSS 4x4
Weight of ice based on total radial SF area:
Height (in): 4
Width (in): 4
Per foot weight of ice on object: 15 plf

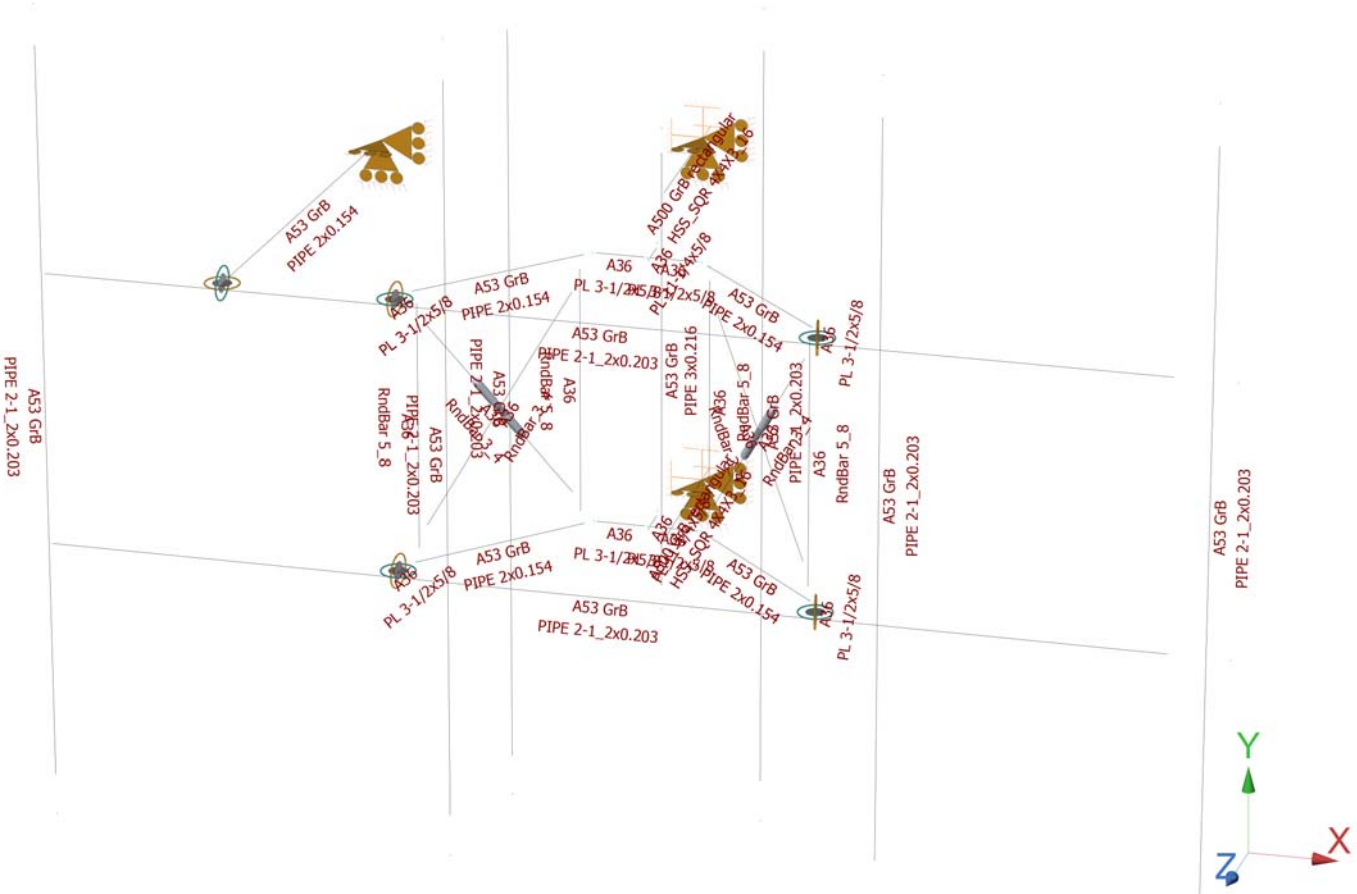
2-1/2" pipe
Per foot weight of ice:
diameter (in): 2.88
Per foot weight of ice on object: 9 plf

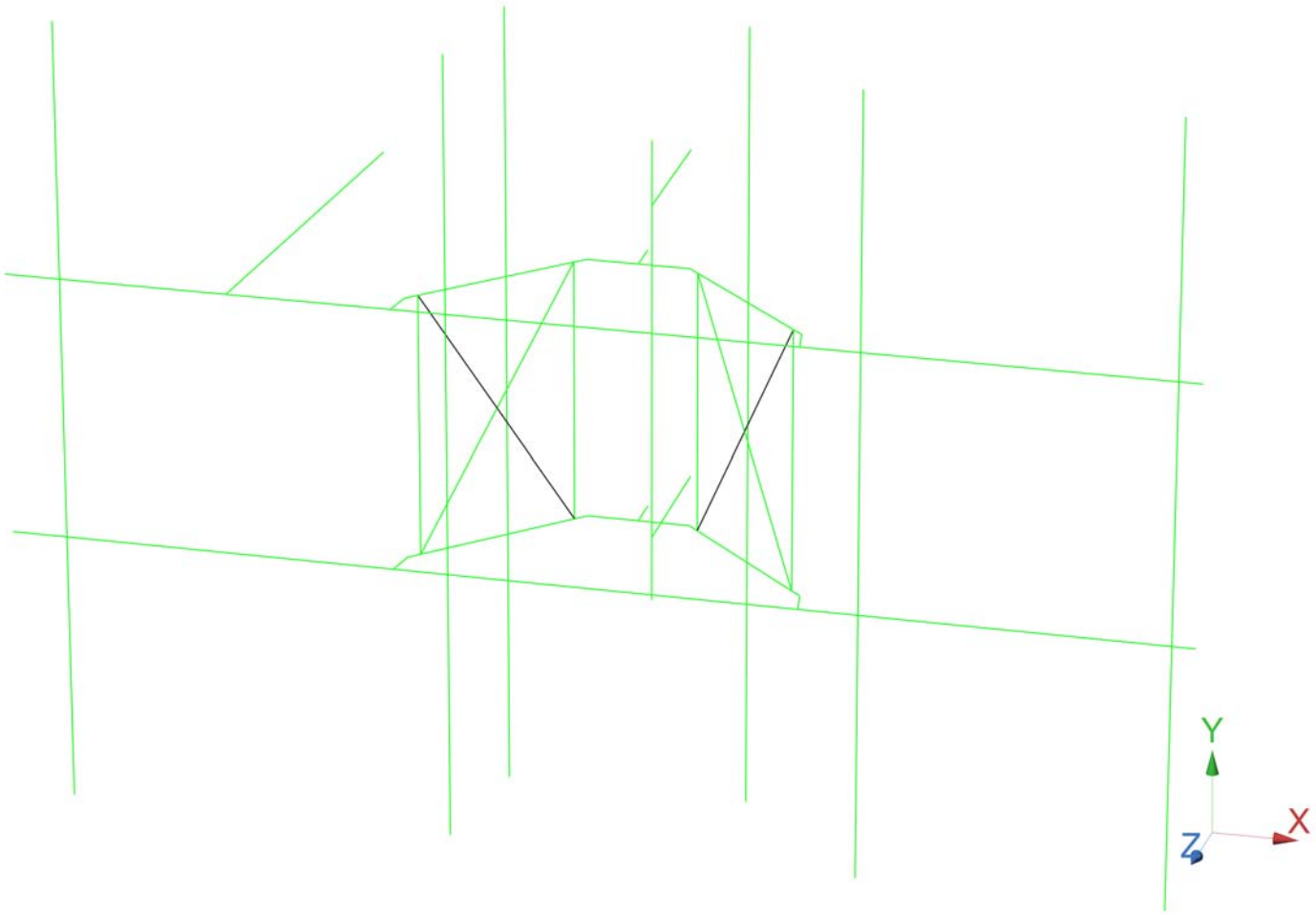
3" Pipe
Per foot weight of ice:
diameter (in): 3.5
Per foot weight of ice on object: 11 plf

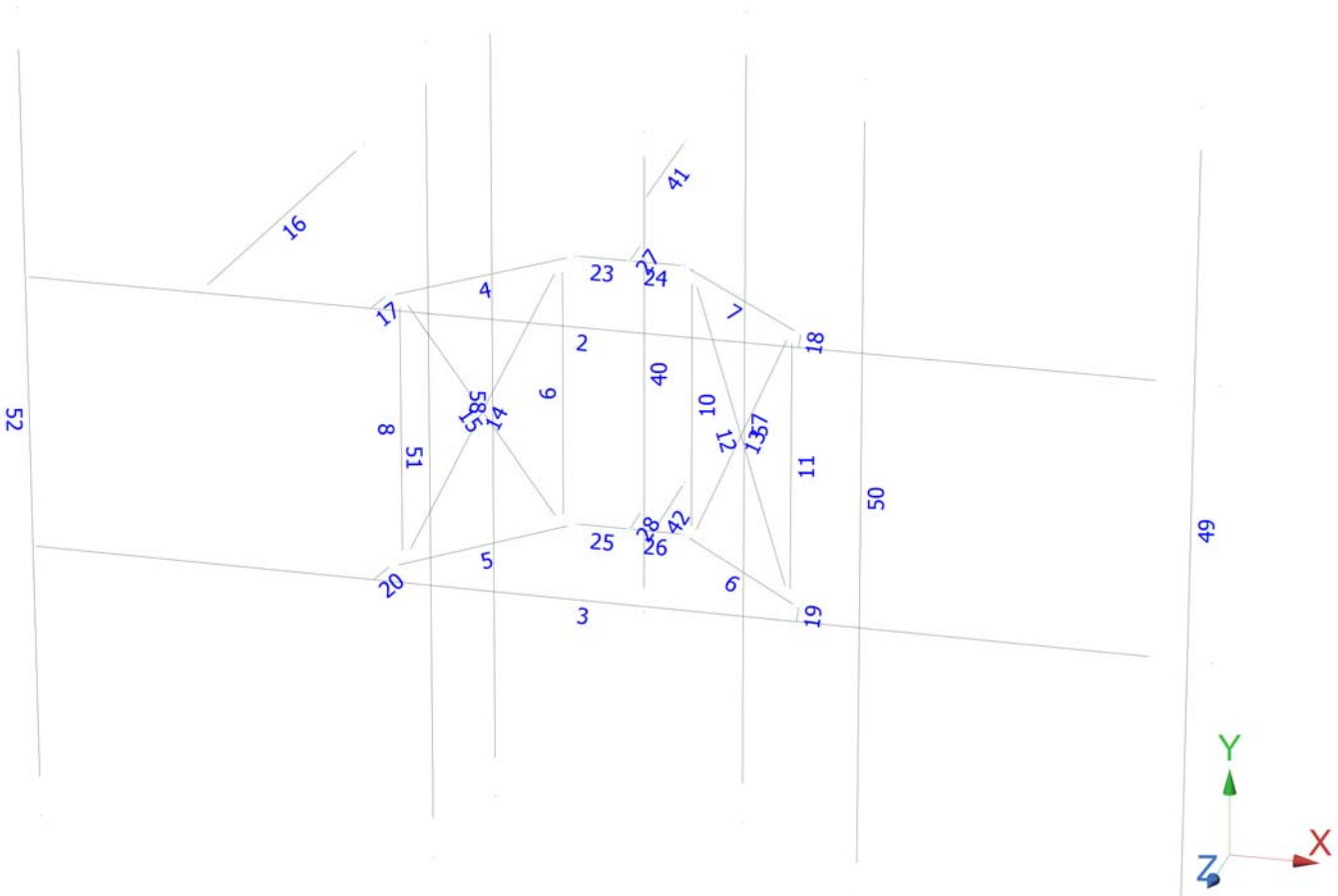
HUDSON
Design Group LLC

Mount Calculations
(Proposed Conditions)


Y
X
Z


A53 GrB
PIPE 2x0.154
A36
PL 3-1/2x5/8
A53 GrB
PIPE 2-1_2x0.203
A53 GrB
PIPE 3x0.216
A500 GrB Rect Tube
HSS_SQR
A36
RndBar 5_8
A53 GrB
PIPE 2-1_2x0.203


Y
X
Z


16
41
23
27
24
4
17
7
2
18
40
6
10
52
8
14
12
13
57
11
51
50
49
28
42
25
26
5
20
9
3
19
Y
X
Z

RAM® Elements
CONNECT Edition

Current Date: 3/31/2022 1:39 PM
Units system: English

Load data

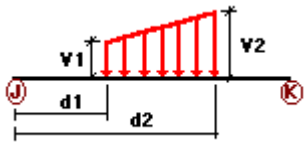
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
D	Dead Load	No	DL
Wo	Wind Load (NO ICE)	No	WIND
W30	WL 30deg	No	WIND
W60	WL 60deg	No	WIND
W90	WL 90deg	No	WIND
W120	WL 120deg	No	WIND
W150	WL 150deg	No	WIND
Di	Ice Load	No	LL
WI0	WL ICE 0deg	No	WIND
WI30	WL ICE 30deg	No	WIND
WI60	WL ICE 60deg	No	WIND
WI90	WL ICE 90deg	No	WIND
WI120	WL ICE 120deg	No	WIND
WI150	WL ICE 150deg	No	WIND
WL0	WL 30 mph 0deg	No	WIND
WL30	WL 30 mph 30deg	No	WIND
WL60	WL 30 mph 60deg	No	WIND
WL90	WL 30 mph 90deg	No	WIND
WL120	WL 30 mph 120deg	No	WIND
WL150	WL 30 mph 150deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load Right End of Mount	No	LL
LL3	250 lb Live Load Left End of Mount	No	LL
LLa1	500 lb Live Load Antenna 1	No	LL
LLa2	500 lb Live Load Antenna 2	No	LL
LLa3	500 lb Live Load Antenna 3	No	LL
LLa4	500 lb Live Load Antenna 4	No	LL

Distributed force on members



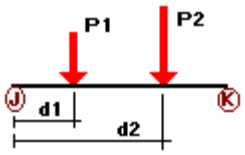
Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	2	z	-0.011	0.00	0.00	No	0.00	No
	3	z	-0.011	0.00	0.00	No	0.00	No
	4	z	-0.009	0.00	0.00	No	0.00	No
	5	z	-0.009	0.00	0.00	No	0.00	No
	6	z	-0.009	0.00	0.00	No	0.00	No
	7	z	-0.009	0.00	0.00	No	0.00	No
	8	z	-0.002	0.00	0.00	No	0.00	No
	9	z	-0.002	0.00	0.00	No	0.00	No
	10	z	-0.002	0.00	0.00	No	0.00	No
	11	z	-0.002	0.00	0.00	No	0.00	No
	12	z	-0.003	0.00	0.00	No	0.00	No
	13	z	-0.003	0.00	0.00	No	0.00	No
	14	z	-0.003	0.00	0.00	No	0.00	No
	15	z	-0.003	0.00	0.00	No	0.00	No
	16	z	-0.009	0.00	0.00	No	0.00	No
	17	z	-0.004	0.00	0.00	No	0.00	No
	18	z	-0.004	0.00	0.00	No	0.00	No
	19	z	-0.004	0.00	0.00	No	0.00	No
	20	z	-0.004	0.00	0.00	No	0.00	No
	23	z	-0.004	0.00	0.00	No	0.00	No
	24	z	-0.004	0.00	0.00	No	0.00	No
	25	z	-0.004	0.00	0.00	No	0.00	No
	26	z	-0.004	0.00	0.00	No	0.00	No
	27	z	-0.004	0.00	0.00	No	0.00	No
	28	z	-0.004	0.00	0.00	No	0.00	No
	40	z	-0.013	0.00	0.00	No	0.00	No
	41	z	-0.015	0.00	0.00	No	0.00	No
	42	z	-0.015	0.00	0.00	No	0.00	No
	49	z	-0.011	0.00	0.00	No	0.00	No
	57	z	-0.011	0.00	0.00	No	0.00	No
	58	z	-0.011	0.00	0.00	No	0.00	No
W30	2	z	-0.011	0.00	0.00	No	0.00	No
	3	z	-0.011	0.00	0.00	No	0.00	No
	4	z	-0.009	0.00	0.00	No	0.00	No
	5	z	-0.009	0.00	0.00	No	0.00	No
	6	z	-0.009	0.00	0.00	No	0.00	No
	7	z	-0.009	0.00	0.00	No	0.00	No
	8	z	-0.002	0.00	0.00	No	0.00	No
	9	z	-0.002	0.00	0.00	No	0.00	No
	10	z	-0.002	0.00	0.00	No	0.00	No
	11	z	-0.002	0.00	0.00	No	0.00	No
	12	z	-0.003	0.00	0.00	No	0.00	No
	13	z	-0.003	0.00	0.00	No	0.00	No
	14	z	-0.003	0.00	0.00	No	0.00	No
	15	z	-0.003	0.00	0.00	No	0.00	No
	16	z	-0.009	0.00	0.00	No	0.00	No
	17	z	-0.004	0.00	0.00	No	0.00	No
	18	z	-0.004	0.00	0.00	No	0.00	No
	19	z	-0.004	0.00	0.00	No	0.00	No
	20	z	-0.004	0.00	0.00	No	0.00	No
	23	z	-0.004	0.00	0.00	No	0.00	No
	24	z	-0.004	0.00	0.00	No	0.00	No
	25	z	-0.004	0.00	0.00	No	0.00	No
	26	z	-0.004	0.00	0.00	No	0.00	No
	27	z	-0.004	0.00	0.00	No	0.00	No
	28	z	-0.004	0.00	0.00	No	0.00	No
	40	z	-0.013	0.00	0.00	No	0.00	No
	41	z	-0.015	0.00	0.00	No	0.00	No
	42	z	-0.015	0.00	0.00	No	0.00	No
	49	z	-0.011	0.00	0.00	No	0.00	No

	50	z	-0.011	0.00	0.00	No	0.00	No
	51	z	-0.011	0.00	0.00	No	0.00	No
	52	z	-0.011	0.00	0.00	No	0.00	No
	57	z	-0.011	0.00	0.00	No	0.00	No
	58	z	-0.011	0.00	0.00	No	0.00	No
W60	2	x	-0.011	0.00	0.00	No	0.00	No
	3	x	-0.011	0.00	0.00	No	0.00	No
	4	x	-0.009	0.00	0.00	No	0.00	No
	5	x	-0.009	0.00	0.00	No	0.00	No
	6	x	-0.009	0.00	0.00	No	0.00	No
	7	x	-0.009	0.00	0.00	No	0.00	No
	8	x	-0.002	0.00	0.00	No	0.00	No
	9	x	-0.002	0.00	0.00	No	0.00	No
	10	x	-0.002	0.00	0.00	No	0.00	No
	11	x	-0.002	0.00	0.00	No	0.00	No
	12	x	-0.003	0.00	0.00	No	0.00	No
	13	x	-0.003	0.00	0.00	No	0.00	No
	14	x	-0.003	0.00	0.00	No	0.00	No
	15	x	-0.003	0.00	0.00	No	0.00	No
	16	x	-0.009	0.00	0.00	No	0.00	No
	17	x	-0.004	0.00	0.00	No	0.00	No
	18	x	-0.004	0.00	0.00	No	0.00	No
	19	x	-0.004	0.00	0.00	No	0.00	No
	20	x	-0.004	0.00	0.00	No	0.00	No
	23	x	-0.004	0.00	0.00	No	0.00	No
	24	x	-0.004	0.00	0.00	No	0.00	No
	25	x	-0.004	0.00	0.00	No	0.00	No
	26	x	-0.004	0.00	0.00	No	0.00	No
	27	x	-0.004	0.00	0.00	No	0.00	No
	28	x	-0.004	0.00	0.00	No	0.00	No
	40	x	-0.013	0.00	0.00	No	0.00	No
	41	x	-0.015	0.00	0.00	No	0.00	No
	42	x	-0.015	0.00	0.00	No	0.00	No
	49	x	-0.011	0.00	0.00	No	0.00	No
	50	x	-0.011	0.00	0.00	No	0.00	No
	51	x	-0.011	0.00	0.00	No	0.00	No
	52	x	-0.011	0.00	0.00	No	0.00	No
	57	x	-0.011	0.00	0.00	No	0.00	No
	58	x	-0.011	0.00	0.00	No	0.00	No
W90	4	x	-0.009	0.00	0.00	No	0.00	No
	5	x	-0.009	0.00	0.00	No	0.00	No
	6	x	-0.009	0.00	0.00	No	0.00	No
	7	x	-0.009	0.00	0.00	No	0.00	No
	8	x	-0.002	0.00	0.00	No	0.00	No
	9	x	-0.002	0.00	0.00	No	0.00	No
	10	x	-0.002	0.00	0.00	No	0.00	No
	11	x	-0.002	0.00	0.00	No	0.00	No
	12	x	-0.003	0.00	0.00	No	0.00	No
	13	x	-0.003	0.00	0.00	No	0.00	No
	14	x	-0.003	0.00	0.00	No	0.00	No
	15	x	-0.003	0.00	0.00	No	0.00	No
	16	x	-0.009	0.00	0.00	No	0.00	No
	17	x	-0.004	0.00	0.00	No	0.00	No
	18	x	-0.004	0.00	0.00	No	0.00	No
	19	x	-0.004	0.00	0.00	No	0.00	No
	20	x	-0.004	0.00	0.00	No	0.00	No
	23	x	-0.004	0.00	0.00	No	0.00	No
	24	x	-0.004	0.00	0.00	No	0.00	No
	25	x	-0.004	0.00	0.00	No	0.00	No
	26	x	-0.004	0.00	0.00	No	0.00	No

	27	x	-0.004	0.00	0.00	No	0.00	No
	28	x	-0.004	0.00	0.00	No	0.00	No
	40	x	-0.013	0.00	0.00	No	0.00	No
	41	x	-0.015	0.00	0.00	No	0.00	No
	42	x	-0.015	0.00	0.00	No	0.00	No
	49	x	-0.011	0.00	0.00	No	0.00	No
	50	x	-0.011	0.00	0.00	No	0.00	No
	51	x	-0.011	0.00	0.00	No	0.00	No
	52	x	-0.011	0.00	0.00	No	0.00	No
	57	x	-0.011	0.00	0.00	No	0.00	No
	58	x	-0.011	0.00	0.00	No	0.00	No
W120	2	x	-0.011	0.00	0.00	No	0.00	No
	3	x	-0.011	0.00	0.00	No	0.00	No
	4	x	-0.009	0.00	0.00	No	0.00	No
	5	x	-0.009	0.00	0.00	No	0.00	No
	6	x	-0.009	0.00	0.00	No	0.00	No
	7	x	-0.009	0.00	0.00	No	0.00	No
	8	x	-0.002	0.00	0.00	No	0.00	No
	9	x	-0.002	0.00	0.00	No	0.00	No
	10	x	-0.002	0.00	0.00	No	0.00	No
	11	x	-0.002	0.00	0.00	No	0.00	No
	12	x	-0.003	0.00	0.00	No	0.00	No
	13	x	-0.003	0.00	0.00	No	0.00	No
	14	x	-0.003	0.00	0.00	No	0.00	No
	15	x	-0.003	0.00	0.00	No	0.00	No
	16	x	-0.009	0.00	0.00	No	0.00	No
	17	x	-0.004	0.00	0.00	No	0.00	No
	18	x	-0.004	0.00	0.00	No	0.00	No
	19	x	-0.004	0.00	0.00	No	0.00	No
	20	x	-0.004	0.00	0.00	No	0.00	No
	23	x	-0.004	0.00	0.00	No	0.00	No
	24	x	-0.004	0.00	0.00	No	0.00	No
	25	x	-0.004	0.00	0.00	No	0.00	No
	26	x	-0.004	0.00	0.00	No	0.00	No
	27	x	-0.004	0.00	0.00	No	0.00	No
	28	x	-0.004	0.00	0.00	No	0.00	No
	40	x	-0.013	0.00	0.00	No	0.00	No
	41	x	-0.015	0.00	0.00	No	0.00	No
	42	x	-0.015	0.00	0.00	No	0.00	No
	49	x	-0.011	0.00	0.00	No	0.00	No
	50	x	-0.011	0.00	0.00	No	0.00	No
	51	x	-0.011	0.00	0.00	No	0.00	No
	52	x	-0.011	0.00	0.00	No	0.00	No
	57	x	-0.011	0.00	0.00	No	0.00	No
	58	x	-0.011	0.00	0.00	No	0.00	No
W150	2	z	0.011	0.00	0.00	No	0.00	No
	3	z	0.011	0.00	0.00	No	0.00	No
	4	z	0.009	0.00	0.00	No	0.00	No
	5	z	0.009	0.00	0.00	No	0.00	No
	6	z	0.009	0.00	0.00	No	0.00	No
	7	z	0.009	0.00	0.00	No	0.00	No
	8	z	0.002	0.00	0.00	No	0.00	No
	9	z	0.002	0.00	0.00	No	0.00	No
	10	z	0.002	0.00	0.00	No	0.00	No
	11	z	0.002	0.00	0.00	No	0.00	No
	12	z	0.003	0.00	0.00	No	0.00	No
	13	z	0.003	0.00	0.00	No	0.00	No
	14	z	0.003	0.00	0.00	No	0.00	No
	15	z	0.003	0.00	0.00	No	0.00	No
	16	z	0.009	0.00	0.00	No	0.00	No

	17	z	0.004	0.00	0.00	No	0.00	No
	18	z	0.004	0.00	0.00	No	0.00	No
	19	z	0.004	0.00	0.00	No	0.00	No
	20	z	0.004	0.00	0.00	No	0.00	No
	23	z	0.004	0.00	0.00	No	0.00	No
	24	z	0.004	0.00	0.00	No	0.00	No
	25	z	0.004	0.00	0.00	No	0.00	No
	26	z	0.004	0.00	0.00	No	0.00	No
	27	z	0.004	0.00	0.00	No	0.00	No
	28	z	0.004	0.00	0.00	No	0.00	No
	40	z	0.013	0.00	0.00	No	0.00	No
	41	z	0.015	0.00	0.00	No	0.00	No
	42	z	0.015	0.00	0.00	No	0.00	No
	49	z	0.011	0.00	0.00	No	0.00	No
	50	z	0.011	0.00	0.00	No	0.00	No
	51	z	0.011	0.00	0.00	No	0.00	No
	52	z	0.011	0.00	0.00	No	0.00	No
	57	z	0.011	0.00	0.00	No	0.00	No
	58	z	0.011	0.00	0.00	No	0.00	No
Di	2	y	-0.009	0.00	0.00	No	0.00	No
	3	y	-0.009	0.00	0.00	No	0.00	No
	4	y	-0.008	0.00	0.00	No	0.00	No
	5	y	-0.008	0.00	0.00	No	0.00	No
	6	y	-0.008	0.00	0.00	No	0.00	No
	7	y	-0.008	0.00	0.00	No	0.00	No
	8	y	-0.005	0.00	0.00	No	0.00	No
	9	y	-0.005	0.00	0.00	No	0.00	No
	10	y	-0.005	0.00	0.00	No	0.00	No
	11	y	-0.005	0.00	0.00	No	0.00	No
	12	y	-0.005	0.00	0.00	No	0.00	No
	13	y	-0.005	0.00	0.00	No	0.00	No
	14	y	-0.005	0.00	0.00	No	0.00	No
	15	y	-0.005	0.00	0.00	No	0.00	No
	16	y	-0.008	0.00	0.00	No	0.00	No
	17	y	-0.011	0.00	0.00	No	0.00	No
	18	y	-0.011	0.00	0.00	No	0.00	No
	19	y	-0.011	0.00	0.00	No	0.00	No
	20	y	-0.011	0.00	0.00	No	0.00	No
	23	y	-0.011	0.00	0.00	No	0.00	No
	24	y	-0.011	0.00	0.00	No	0.00	No
	25	y	-0.011	0.00	0.00	No	0.00	No
	26	y	-0.011	0.00	0.00	No	0.00	No
	27	y	-0.026	0.00	0.00	No	0.00	No
	28	y	-0.026	0.00	0.00	No	0.00	No
	40	y	-0.011	0.00	0.00	No	0.00	No
	41	y	-0.015	0.00	0.00	No	0.00	No
	42	y	-0.015	0.00	0.00	No	0.00	No
	49	y	-0.009	0.00	0.00	No	0.00	No
	50	y	-0.009	0.00	0.00	No	0.00	No
	51	y	-0.009	0.00	0.00	No	0.00	No
	52	y	-0.009	0.00	0.00	No	0.00	No
	57	y	-0.009	0.00	0.00	No	0.00	No
	58	y	-0.009	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	50	y	-0.039	1.50	No
		y	-0.039	8.50	No
	51	y	-0.033	2.25	No
		y	-0.033	4.00	No
		y	-0.041	6.00	No
		y	-0.041	7.75	No
	52	y	-0.044	1.50	No
		y	-0.044	8.50	No
	57	y	-0.06	5.00	No
		y	-0.072	5.00	No
		y	-0.073	5.00	No
	58	y	-0.033	9.00	No
Wo	50	z	-0.335	1.50	No
		z	-0.335	8.50	No
	51	z	-0.077	2.25	No
		z	-0.077	4.00	No
		z	-0.075	6.00	No
		z	-0.075	7.75	No
	52	z	-0.331	1.50	No
		z	-0.331	8.50	No
	57	z	-0.046	5.00	No
		z	-0.052	5.00	No
	58	z	-0.058	9.00	No
W30	50	3	-0.289	1.50	No
		3	-0.289	8.50	No
	51	3	-0.067	2.25	No
		3	-0.067	4.00	No
		3	-0.069	6.00	No
		3	-0.069	7.75	No
	52	3	-0.286	1.50	No
		3	-0.286	8.50	No
	57	3	-0.057	5.00	No
	58	3	-0.058	9.00	No
W60	50	3	-0.198	1.50	No
		3	-0.198	8.50	No
	51	3	-0.048	2.25	No
		3	-0.048	4.00	No
		3	-0.057	6.00	No
		3	-0.057	7.75	No
	52	3	-0.196	1.50	No
		3	-0.196	8.50	No
	57	3	-0.068	5.00	No
	58	3	-0.058	9.00	No
W90	50	x	-0.152	1.50	No
		x	-0.152	8.50	No
	51	x	-0.038	2.25	No
		x	-0.038	4.00	No
		x	-0.051	6.00	No
		x	-0.051	7.75	No
	52	x	-0.151	1.50	No
		x	-0.151	8.50	No
	57	x	-0.075	5.00	No
	58	x	-0.058	9.00	No
W120	50	2	-0.198	1.50	No

		2	-0.198	8.50	No
	51	2	-0.048	2.25	No
		2	-0.048	4.00	No
		2	-0.057	6.00	No
		2	-0.057	7.75	No
	52	2	-0.196	1.50	No
		2	-0.196	8.50	No
	57	2	-0.068	5.00	No
	58	2	-0.058	9.00	No
W150	50	2	-0.289	1.50	No
		2	-0.289	8.50	No
	51	2	-0.067	2.25	No
		2	-0.067	4.00	No
		2	-0.069	6.00	No
		2	-0.069	7.75	No
	52	2	-0.286	1.50	No
		2	-0.286	8.50	No
	57	2	-0.057	5.00	No
	58	2	-0.058	9.00	No
Di	50	y	-0.197	1.50	No
		y	-0.197	8.50	No
	51	y	-0.051	2.25	No
		y	-0.051	4.00	No
		y	-0.055	6.00	No
		y	-0.055	7.75	No
	52	y	-0.194	1.50	No
		y	-0.194	8.50	No
	57	y	-0.054	5.00	No
		y	-0.048	5.00	No
		y	-0.054	5.00	No
	58	y	-0.063	9.00	No
WI0	50	z	-0.065	1.50	No
		z	-0.065	8.50	No
	51	z	-0.017	2.25	No
		z	-0.017	4.00	No
		z	-0.017	6.00	No
		z	-0.017	7.75	No
	52	z	-0.064	1.50	No
		z	-0.064	8.50	No
	57	z	-0.012	5.00	No
		z	-0.013	5.00	No
	58	z	-0.014	9.00	No
WI30	50	3	-0.056	1.50	No
		3	-0.056	8.50	No
	51	3	-0.015	2.25	No
		3	-0.015	4.00	No
		3	-0.015	6.00	No
		3	-0.015	7.75	No
	52	3	-0.056	1.50	No
		3	-0.056	8.50	No
	57	3	-0.014	5.00	No
	58	3	-0.014	9.00	No
WI60	50	3	-0.041	1.50	No
		3	-0.041	8.50	No
	51	3	-0.012	2.25	No
		3	-0.012	4.00	No
		3	-0.013	6.00	No
		3	-0.013	7.75	No
	52	3	-0.041	1.50	No
		3	-0.041	8.50	No

	57	3	-0.016	5.00	No
	58	3	-0.014	9.00	No
WI90	50	x	-0.034	1.50	No
		x	-0.034	8.50	No
	51	x	-0.01	2.25	No
		x	-0.01	4.00	No
		x	-0.012	6.00	No
		x	-0.012	7.75	No
	52	x	-0.034	1.50	No
		x	-0.034	8.50	No
	57	x	-0.018	5.00	No
	58	x	-0.014	9.00	No
WI120	50	2	-0.041	1.50	No
		2	-0.041	8.50	No
	51	2	-0.012	2.25	No
		2	-0.012	4.00	No
		2	-0.013	6.00	No
		2	-0.013	7.75	No
	52	2	-0.041	1.50	No
		2	-0.041	8.50	No
	57	2	-0.016	5.00	No
	58	2	-0.014	9.00	No
WI150	50	2	-0.056	1.50	No
		2	-0.056	8.50	No
	51	2	-0.015	2.25	No
		2	-0.015	4.00	No
		2	-0.015	6.00	No
		2	-0.015	7.75	No
	52	2	-0.056	1.50	No
		2	-0.056	8.50	No
	57	2	-0.014	5.00	No
	58	2	-0.014	9.00	No
WL0	50	z	-0.02	1.50	No
		z	-0.02	8.50	No
	51	z	-0.005	2.25	No
		z	-0.005	4.00	No
		z	-0.005	6.00	No
		z	-0.005	7.75	No
	52	z	-0.02	1.50	No
		z	-0.02	8.50	No
	57	z	-0.003	5.00	No
		z	-0.003	5.00	No
	58	z	-0.003	9.00	No
WL30	50	3	-0.017	1.50	No
		3	-0.017	8.50	No
	51	3	-0.004	2.25	No
		3	-0.004	4.00	No
		3	-0.004	6.00	No
		3	-0.004	7.75	No
	52	3	-0.017	1.50	No
		3	-0.017	8.50	No
	57	3	-0.003	5.00	No
	58	3	-0.003	9.00	No
WL60	50	3	-0.012	1.50	No
		3	-0.012	8.50	No
	51	3	-0.003	2.25	No
		3	-0.003	4.00	No
		3	-0.004	6.00	No
		3	-0.004	7.75	No
	52	3	-0.012	1.50	No

		3	-0.012	8.50	No
	57	3	-0.004	5.00	No
	58	3	-0.004	9.00	No
WL90	50	x	-0.009	1.50	No
		x	-0.009	8.50	No
	51	x	-0.003	2.25	No
		x	-0.003	4.00	No
		x	-0.003	6.00	No
		x	-0.003	7.75	No
	52	x	-0.009	1.50	No
		x	-0.009	8.50	No
	57	x	-0.004	5.00	No
	58	x	-0.004	9.00	No
WL120	50	2	-0.012	1.50	No
		2	-0.012	8.50	No
	51	2	-0.003	2.25	No
		2	-0.003	4.00	No
		2	-0.004	6.00	No
		2	-0.004	7.75	No
	52	2	-0.012	1.50	No
		2	-0.012	8.50	No
	57	2	-0.004	5.00	No
	58	2	-0.004	9.00	No
WL150	50	2	-0.017	1.50	No
		2	-0.017	8.50	No
	51	2	-0.004	2.25	No
		2	-0.004	4.00	No
		2	-0.004	6.00	No
		2	-0.004	7.75	No
	52	2	-0.017	1.50	No
		2	-0.017	8.50	No
	57	2	-0.003	5.00	No
	58	2	-0.003	9.00	No
LL1	2	y	-0.25	50.00	Yes
LL2	2	y	-0.25	100.00	Yes
LL3	2	y	-0.25	0.00	Yes
LLa1	49	y	-0.50	50.00	Yes
LLa2	50	y	-0.50	50.00	Yes
LLa3	51	y	-0.50	50.00	Yes
LLa4	52	y	-0.50	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00

WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load Right End of Mount	No	0.00	0.00	0.00
LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	500 lb Live Load Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00
WI60	0.00	0.00	0.00
WI90	0.00	0.00	0.00
WI120	0.00	0.00	0.00
WI150	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
WL60	0.00	0.00	0.00
WL90	0.00	0.00	0.00
WL120	0.00	0.00	0.00
WL150	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LL3	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00

RAM® Elements
CONNECT Edition

Current Date: 3/31/2022 1:40 PM
Units system: English

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+WI0
LC26=1.2D+Di+WI30
LC27=1.2D+Di+WI60
LC28=1.2D+Di+WI90
LC29=1.2D+Di+WI120
LC30=1.2D+Di+WI150
LC31=1.2D+Di-WI0
LC32=1.2D+Di-WI30
LC33=1.2D+Di-WI60
LC34=1.2D+Di-WI90
LC35=1.2D+Di-WI120
LC36=1.2D+Di-WI150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+WL0+1.6LLa1
LC41=1.2D+WL30+1.6LLa1
LC42=1.2D+WL60+1.6LLa1
LC43=1.2D+WL90+1.6LLa1
LC44=1.2D+WL120+1.6LLa1
LC45=1.2D+WL150+1.6LLa1
LC46=1.2D-WL0+1.6LLa1
LC47=1.2D-WL30+1.6LLa1
LC48=1.2D-WL60+1.6LLa1
LC49=1.2D-WL90+1.6LLa1
LC50=1.2D-WL120+1.6LLa1
LC51=1.2D-WL150+1.6LLa1
LC52=1.2D+WL0+1.6LLa2
LC53=1.2D+WL30+1.6LLa2
LC54=1.2D+WL60+1.6LLa2

LC55=1.2D+WL90+1.6LLa2
LC56=1.2D+WL120+1.6LLa2
LC57=1.2D+WL150+1.6LLa2
LC58=1.2D-WL0+1.6LLa2
LC59=1.2D-WL30+1.6LLa2
LC60=1.2D-WL60+1.6LLa2
LC61=1.2D-WL90+1.6LLa2
LC62=1.2D-WL120+1.6LLa2
LC63=1.2D-WL150+1.6LLa2
LC64=1.2D+WL0+1.6LLa3
LC65=1.2D+WL30+1.6LLa3
LC66=1.2D+WL60+1.6LLa3
LC67=1.2D+WL90+1.6LLa3
LC68=1.2D+WL120+1.6LLa3
LC69=1.2D+WL150+1.6LLa3
LC70=1.2D-WL0+1.6LLa3
LC71=1.2D-WL30+1.6LLa3
LC72=1.2D-WL60+1.6LLa3
LC73=1.2D-WL90+1.6LLa3
LC74=1.2D-WL120+1.6LLa3
LC75=1.2D-WL150+1.6LLa3
LC76=1.2D+WL0+1.6LLa4
LC77=1.2D+WL30+1.6LLa4
LC78=1.2D+WL60+1.6LLa4
LC79=1.2D+WL90+1.6LLa4
LC80=1.2D+WL120+1.6LLa4
LC81=1.2D+WL150+1.6LLa4
LC82=1.2D-WL0+1.6LLa4
LC83=1.2D-WL30+1.6LLa4
LC84=1.2D-WL60+1.6LLa4
LC85=1.2D-WL90+1.6LLa4
LC86=1.2D-WL120+1.6LLa4
LC87=1.2D-WL150+1.6LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X3_16	**41**	LC81 at 100.00%	0.31	OK	
		42	LC87 at 100.00%	**0.31**	**OK**	
	PIPE 2-1_2x0.203	**2**	LC12 at 32.81%	**0.46**	**OK**	
		3	LC87 at 32.14%	0.43	OK	
		49	LC46 at 33.33%	0.30	OK	
		50	LC7 at 66.67%	0.24	OK	
		51	LC76 at 64.58%	0.13	OK	
		52	LC77 at 33.33%	0.35	OK	
		57	LC40 at 33.33%	0.08	OK	
		58	LC85 at 33.33%	0.08	OK	
	PIPE 2x0.154	**4**	LC30 at 93.75%	**0.33**	**OK**	
		5	LC12 at 93.75%	0.28	OK	
		6	LC41 at 93.75%	0.28	OK	
		7	LC41 at 93.75%	0.29	OK	
		16	LC15 at 0.00%	0.05	OK	
	PIPE 3x0.216	**40**	LC25 at 85.42%	**0.19**	**OK**	
	PL 11-1/4x5/8	**27**	LC26 at 100.00%	**0.52**	**OK**	
		28	LC26 at 100.00%	0.39	OK	
	PL 3-1/2x5/8	**17**	LC76 at 100.00%	0.36	OK	
		18	LC40 at 100.00%	0.33	OK	
		19	LC46 at 100.00%	0.38	OK	
		20	LC83 at 100.00%	0.42	OK	
		23	LC77 at 100.00%	0.51	OK	
		24	LC45 at 0.00%	0.51	OK	

	25	LC87 at 100.00%	**0.51**	**OK**
	26	LC41 at 0.00%	0.51	OK
RndBar 3_4	**12**	LC45 at 100.00%	0.18	OK
	13	LC41 at 0.00%	**0.20**	**With warnings**
	14	LC85 at 0.00%	0.18	OK
	15	LC83 at 100.00%	0.17	With warnings
RndBar 5_8	**8**	LC87 at 87.50%	0.57	OK
	9	LC83 at 87.50%	**0.61**	**OK**
	10	LC41 at 87.50%	0.58	OK
	11	LC40 at 87.50%	0.53	OK

RAM® Elements
CONNECT Edition

Current Date: 3/31/2022 1:40 PM
Units system: English

Geometry data

GLOSSARY

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

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
142	0.00	0.00	0.1833	0
143	-0.6362	0.00	0.6617	0
144	0.00	-3.3333	0.1833	0
145	-0.6362	-3.3333	0.6617	0
146	0.6362	-3.3333	0.6617	0
147	0.6362	0.00	0.6617	0
158	-7.25	0.00	2.8133	0
159	7.25	0.00	2.8133	0
160	-7.25	-3.3333	2.8133	0
161	7.25	-3.3333	2.8133	0
162	-2.4126	0.00	2.4208	0
163	-2.4126	-3.3333	2.4208	0
164	2.4126	-3.3333	2.4208	0
165	2.4126	0.00	2.4208	0
166	-2.2835	0.00	2.2929	0
167	-2.2835	-3.3333	2.2929	0
168	-0.7653	0.00	0.7895	0
169	-0.7653	-3.3333	0.7895	0
170	0.7653	0.00	0.7895	0
171	0.7653	-3.3333	0.7895	0
172	2.2835	0.00	2.2929	0
173	2.2835	-3.3333	2.2929	0
174	-4.50	0.00	2.8133	0

175	-4.00	0.00	-2.3167	0
184	-2.4792	0.00	2.8133	0
185	2.4792	0.00	2.8133	0
186	2.4792	-3.3333	2.8133	0
187	-2.4792	-3.3333	2.8133	0
208	0.00	0.00	0.6617	0
209	0.00	-3.3333	0.6617	0
234	0.00	1.3333	-0.0167	0
235	0.00	-4.6667	-0.0167	0
236	0.00	0.50	-0.0167	0
237	0.00	-3.8333	-0.0167	0
238	0.00	0.50	-2.0167	0
239	0.00	-3.8333	-2.0167	0
254	7.00	3.3333	3.0133	0
255	7.00	-6.6667	3.0133	0
256	3.25	3.3333	3.0133	0
257	3.25	-6.6667	3.0133	0
258	-1.75	3.3333	3.0133	0
259	-1.75	-6.6667	3.0133	0
260	-6.50	3.3333	3.0133	0
261	-6.50	-6.6667	3.0133	0
270	1.4875	3.3333	1.2232	0
271	1.4875	-6.6667	1.2232	0
272	-1.4875	3.3333	1.2232	0
273	-1.4875	-6.6667	1.2232	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
175	1	1	1	0	0	0
238	1	1	1	1	1	1
239	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
2	158	159		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
3	160	161		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
4	162	143		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
5	163	145		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
6	164	146		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	165	147		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	166	167		RndBar 5_8	A36	0.00	0.00	0.00
9	168	169		RndBar 5_8	A36	0.00	0.00	0.00
10	170	171		RndBar 5_8	A36	0.00	0.00	0.00
11	172	173		RndBar 5_8	A36	0.00	0.00	0.00
12	170	173		RndBar 3_4	A36	0.00	0.00	0.00
13	171	172		RndBar 3_4	A36	0.00	0.00	0.00
14	167	168		RndBar 3_4	A36	0.00	0.00	0.00
15	166	169		RndBar 3_4	A36	0.00	0.00	0.00

16	174	175	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
17	162	184	PL 3-1/2x5/8	A36	0.00	0.00	0.00
18	165	185	PL 3-1/2x5/8	A36	0.00	0.00	0.00
19	164	186	PL 3-1/2x5/8	A36	0.00	0.00	0.00
20	163	187	PL 3-1/2x5/8	A36	0.00	0.00	0.00
23	143	208	PL 3-1/2x5/8	A36	0.00	0.00	0.00
24	208	147	PL 3-1/2x5/8	A36	0.00	0.00	0.00
25	145	209	PL 3-1/2x5/8	A36	0.00	0.00	0.00
26	209	146	PL 3-1/2x5/8	A36	0.00	0.00	0.00
27	208	142	PL 11-1/4x5/8	A36	11.25	4.00	0.00
28	209	144	PL 11-1/4x5/8	A36	11.25	4.00	0.00
40	234	235	PIPE 3x0.216	A53 GrB	0.00	0.00	0.00
41	236	238	HSS_SQR 4X4X3_16	A500 GrB rectangular	0.00	0.00	0.00
42	237	239	HSS_SQR 4X4X3_16	A500 GrB rectangular	0.00	0.00	0.00
49	254	255	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
50	256	257	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
51	258	259	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
52	260	261	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
57	270	271	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
58	272	273	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00

Orientation of local axes

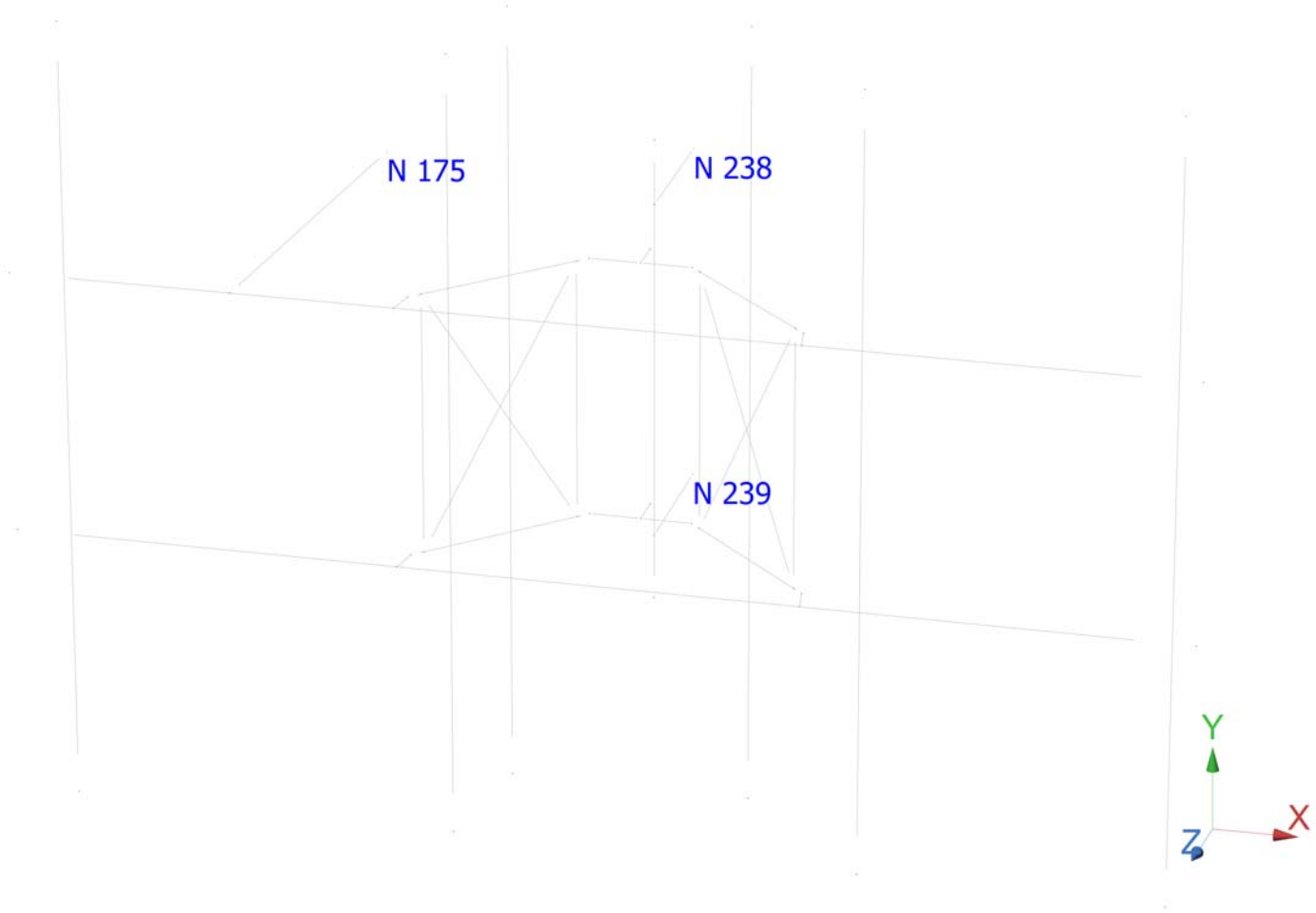
Member	Rotation [Deg]	Axes23	NX	NY	NZ
8	0.00	2	0.00	0.00	1.00
9	0.00	2	0.00	0.00	1.00
10	0.00	2	0.00	0.00	1.00
11	0.00	2	0.00	0.00	1.00
17	90.00	0	0.00	0.00	0.00
18	90.00	0	0.00	0.00	0.00
19	90.00	0	0.00	0.00	0.00
20	90.00	0	0.00	0.00	0.00
23	90.00	0	0.00	0.00	0.00
24	90.00	0	0.00	0.00	0.00
25	90.00	0	0.00	0.00	0.00
26	90.00	0	0.00	0.00	0.00
27	90.00	0	0.00	0.00	0.00
28	90.00	0	0.00	0.00	0.00
49	315.00	0	0.00	0.00	0.00
50	315.00	0	0.00	0.00	0.00
51	315.00	0	0.00	0.00	0.00
52	315.00	0	0.00	0.00	0.00
57	315.00	0	0.00	0.00	0.00
58	315.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
12	0.00	-3.50	0.00	0.00	3.50	0.00
13	0.00	3.50	0.00	0.00	-3.50	0.00
14	0.00	3.50	0.00	0.00	-3.50	0.00
15	0.00	-3.50	0.00	0.00	3.50	0.00
27	0.00	-0.625	0.00	0.00	-0.625	0.00
28	0.00	-0.625	0.00	0.00	-0.625	0.00

Hinges

	Node-J				Node-K						
Member	**M33**	**M22**	**V3**	**V2**	**M33**	**M22**	**V3**	**V2**	**TOR**	**AXL**	**Axial rigidity**
13	0	0	0	0	0	0	0	0	0	0	Tension only
15	0	0	0	0	0	0	0	0	0	0	Tension only
16	1	1	0	0	0	0	0	0	0	0	Full
17	1	1	0	0	0	0	0	0	0	0	Full
18	1	1	0	0	0	0	0	0	0	0	Full
19	1	1	0	0	0	0	0	0	0	0	Full
20	1	1	0	0	0	0	0	0	0	0	Full


N 175
N 238
N 239
Y
X
Z

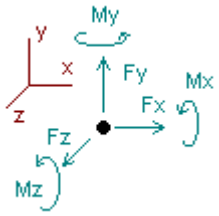
RAM® Elements
CONNECT Edition

Current Date: 3/31/2022 1:41 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=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+WI0
LC26=1.2D+Di+WI30
LC27=1.2D+Di+WI60
LC28=1.2D+Di+WI90
LC29=1.2D+Di+WI120
LC30=1.2D+Di+WI150
LC31=1.2D+Di-WI0
LC32=1.2D+Di-WI30
LC33=1.2D+Di-WI60
LC34=1.2D+Di-WI90
LC35=1.2D+Di-WI120
LC36=1.2D+Di-WI150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+WL0+1.6LLa1
LC41=1.2D+WL30+1.6LLa1
LC42=1.2D+WL60+1.6LLa1

LC43=1.2D+WL90+1.6LLa1
LC44=1.2D+WL120+1.6LLa1
LC45=1.2D+WL150+1.6LLa1
LC46=1.2D-WL0+1.6LLa1
LC47=1.2D-WL30+1.6LLa1
LC48=1.2D-WL60+1.6LLa1
LC49=1.2D-WL90+1.6LLa1
LC50=1.2D-WL120+1.6LLa1
LC51=1.2D-WL150+1.6LLa1
LC52=1.2D+WL0+1.6LLa2
LC53=1.2D+WL30+1.6LLa2
LC54=1.2D+WL60+1.6LLa2
LC55=1.2D+WL90+1.6LLa2
LC56=1.2D+WL120+1.6LLa2
LC57=1.2D+WL150+1.6LLa2
LC58=1.2D-WL0+1.6LLa2
LC59=1.2D-WL30+1.6LLa2
LC60=1.2D-WL60+1.6LLa2
LC61=1.2D-WL90+1.6LLa2
LC62=1.2D-WL120+1.6LLa2
LC63=1.2D-WL150+1.6LLa2
LC64=1.2D+WL0+1.6LLa3
LC65=1.2D+WL30+1.6LLa3
LC66=1.2D+WL60+1.6LLa3
LC67=1.2D+WL90+1.6LLa3
LC68=1.2D+WL120+1.6LLa3
LC69=1.2D+WL150+1.6LLa3
LC70=1.2D-WL0+1.6LLa3
LC71=1.2D-WL30+1.6LLa3
LC72=1.2D-WL60+1.6LLa3
LC73=1.2D-WL90+1.6LLa3
LC74=1.2D-WL120+1.6LLa3
LC75=1.2D-WL150+1.6LLa3
LC76=1.2D+WL0+1.6LLa4
LC77=1.2D+WL30+1.6LLa4
LC78=1.2D+WL60+1.6LLa4
LC79=1.2D+WL90+1.6LLa4
LC80=1.2D+WL120+1.6LLa4
LC81=1.2D+WL150+1.6LLa4
LC82=1.2D-WL0+1.6LLa4
LC83=1.2D-WL30+1.6LLa4
LC84=1.2D-WL60+1.6LLa4
LC85=1.2D-WL90+1.6LLa4
LC86=1.2D-WL120+1.6LLa4
LC87=1.2D-WL150+1.6LLa4

		Forces						Moments					
Node		**Fx** [Kip]	**lc**	**Fy** [Kip]	**lc**	**Fz** [Kip]	**lc**	**Mx** [Kip*ft]	**lc**	**My** [Kip*ft]	**lc**	**Mz** [Kip*ft]	**lc**
175	Max	0.103	LC8	0.032	LC32	1.094	LC15	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-0.103	LC14	0.007	LC15	-1.096	LC9	0.00000	LC1	0.00000	LC1	0.00000	LC1
238	Max	1.238	LC77	1.664	LC30	0.557	LC24	-0.57840	LC13	2.36284	LC4	0.26013	LC16
	Min	-1.193	LC47	0.244	LC24	-2.347	LC30	-2.22972	LC31	-2.14857	LC51	-0.26693	LC10
239	Max	1.187	LC41	1.649	LC36	2.394	LC25	-0.57579	LC18	2.34325	LC16	0.20829	LC22
	Min	-1.234	LC87	0.243	LC18	-0.623	LC19	-2.21425	LC36	-2.53667	LC10	-0.21754	LC4

HUDSON
Design Group LLC

Connection Check

Date: 3/31/2022
Project Name: UNIONVILLE SBC CO
Project No.: CT1061
Designed By: KSBM **Checked By:** MSC

HUDSON Design Group LLC

CHECK CONNECTION CAPACITY (Worst Case)

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 =** 2394 lbs. (See Bentley Output)

SHEAR FORCES

Reactions in X direction: 1234 lbs. (See Bentley Output)
Reactions in Y direction: 1649 lbs. (See Bentley Output)

Resultant: 2060 lbs.

No. of Supports = 1
No. of Bolts / Support = 3

Tension Design Load /Bolts =

f_t = 798.00 lbs. < 13806 lbs. **Therefore, OK !**

Shear Design Load / Bolts=

f_v = 686.53 lbs. < 8283 lbs. **Therefore, OK !**

CHECK COMBINED TENSION AND SHEAR

f_t / F_T	+	f_v / F_V	≤	1.0			
0.058	+	0.083	=	0.141	<	1.0	**Therefore, OK !**

EXHIBIT 5

Radio Frequency Exposure Analysis Report

April 18, 2022

Centerline on behalf of AT&T
Centerline Communications Project Number: 566602

AT&T Site Name: UNIONVILLE SBC CO
Site Number: CT1061
FA#: 10035037
USID: 59358

Site Address: 82 LOVELY STREET, UNIONVILLE, CT 06085

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	51.51150 µW/cm^2
Cumulative General Population % MPE (Ground Level):	5.1512399999999996%

April 18, 2022

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

RF Exposure Analysis for Site: **UNIONVILLE SBC CO**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed AT&T facility at **82 LOVELY STREET, UNIONVILLE, CT 06085** 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 level.

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 278' north 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 ($\mu W/cm^2$)	General Population MPE Limit ($\mu W/cm^2$)	General Population % MPE
AT&T A 1	CCI OPA65R-BU8D	700	12.95	98.00	4.00	40.00	3155.88	0.00029	466.67	0.00006
AT&T A 1	CCI OPA65R-BU8D	850	13.75	98.00	4.00	40.00	3794.20	0.00010	566.67	0.00002
AT&T A 2	ERICSSON AIR6449	3700	23.55	96.00	1.00	108.40	24548.74	0.00197	1000.00	0.00020
AT&T A 3	ERICSSON AIR6419	3450	22.85	100.00	1.00	54.20	10447.19	12.86930	1000.00	1.28693
AT&T A 3	ERICSSON AIR6419	3450	22.85	100.00	1.00	54.20	10447.19	12.86930	1000.00	1.28693
AT&T A 4	CCI TPA65R-BU8D	700	12.95	98.00	4.00	40.00	3155.88	0.00016	466.67	0.00004
AT&T A 4	CCI TPA65R-BU8D	1900	15.35	98.00	4.00	40.00	5484.28	0.00014	1000.00	0.00001
AT&T A 4	CCI TPA65R-BU8D	2100	15.85	98.00	4.00	40.00	6153.47	0.00011	1000.00	0.00001
AT&T B 5	CCI OPA65R-BU8D	700	12.95	98.00	4.00	40.00	3155.88	0.00000	466.67	0.00000
AT&T B 5	CCI OPA65R-BU8D	850	13.75	0.00	4.00	40.00	3794.20	0.00000	566.67	0.00000
AT&T B 6	ERICSSON AIR6449	3700	23.55	96.00	1.00	108.40	24548.74	0.00000	1000.00	0.00000
AT&T B 7	ERICSSON AIR6419	3450	22.85	100.00	1.00	54.20	10447.19	0.01474	1000.00	0.00147
AT&T B 7	ERICSSON AIR6419	3450	22.85	100.00	1.00	54.20	10447.19	0.01474	1000.00	0.00147
AT&T B 8	CCI TPA65R-BU8D	700	12.95	98.00	4.00	40.00	3155.88	0.00000	466.67	0.00000
AT&T B 8	CCI TPA65R-BU8D	1900	15.35	98.00	4.00	40.00	5484.28	0.00000	1000.00	0.00000
AT&T B 8	CCI TPA65R-BU8D	2100	15.85	98.00	4.00	40.00	6153.47	0.00000	1000.00	0.00000
AT&T C 9	CCI OPA65R-BU8D	700	12.95	98.00	4.00	40.00	3155.88	0.00017	466.67	0.00004
AT&T C 9	CCI OPA65R-BU8D	850	13.75	98.00	4.00	40.00	3794.20	0.00010	566.67	0.00002
AT&T C 10	ERICSSON AIR6449	3700	23.55	96.00	1.00	108.40	24548.74	0.00158	1000.00	0.00016
AT&T C 11	ERICSSON AIR6419	3450	22.85	100.00	1.00	54.20	10447.19	12.86930	1000.00	1.28693
AT&T C 11	ERICSSON AIR6419	3450	22.85	100.00	1.00	54.20	10447.19	12.86930	1000.00	1.28693
AT&T C 12	CCI TPA65R-BU8D	700	12.95	98.00	4.00	40.00	3155.88	0.00007	466.67	0.00002
AT&T C 12	CCI TPA65R-BU8D	1900	15.35	98.00	4.00	40.00	5484.28	0.00007	1000.00	0.00001
AT&T C 12	CCI TPA65R-BU8D	2100	15.85	98.00	4.00	40.00	6153.47	0.00006	1000.00	0.00001
							Cumulative Power Density:	**51.51150 $\mu W/cm^2$**	**Cumulative % MPE:**	**5.15124%**

Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level 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

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z9Y45030325177410

Weight

1.00 LBS

Service

UPS Ground

Shipped / Billed On

04/19/2022

Delivered On

06/06/2022 12:35 P.M.

Delivered To

1 MONTIETH DR
FARMINGTON, CT, 06032, US

Received By

NANCY

Left At

Front Desk

Reference Number(s)

CT1061-CSC TOWN MANAGER

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 06/08/2022 9:28 A.M. EST

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z9Y45030334875630

Weight

1.00 LBS

Service

UPS Ground

Shipped / Billed On

04/19/2022

Delivered On

06/06/2022 12:35 P.M.

Delivered To

1 MONTIETH DR
FARMINGTON, CT, 06032, US

Received By

NANCY

Left At

Front Desk

Reference Number(s)

CT1061-CSC TOWN PLANNER

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 06/08/2022 9:30 A.M. EST

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z9Y45030335830024

Weight

1.00 LBS

Service

UPS Ground

Shipped / Billed On

04/19/2022

Delivered On

06/06/2022 12:35 P.M.

Delivered To

1 MONTIETH DR
FARMINGTON, CT, 06032, US

Received By

NANCY

Left At

Front Desk

Reference Number(s)

CT1061-CSC ZEO

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 06/08/2022 9:33 A.M. EST

From: UPS
To: Evan Renwick
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030332737533
Date: Monday, June 6, 2022 12:37:41 PM

Hello, your package has been delivered.

Delivery Date: Monday, 06/06/2022
Delivery Time: 12:35 PM
Signed by: FRONT DOOR

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030332737533
Ship To:	SOTHERN NEW ENGLAND TELECOMM. 401 MERRITT 7 NORWALK, CT 068511000 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	2.8 LBS
Reference Number:	CT1061-CSC SNET

Discover more about UPS:

Visit https://link.edgepilot.com/s/80132b2e/1adhA3S8j0SVf3gGvaf6FA?u=http://www.ups.com/

Sign Up For Additional E-Mail From UPS

Read Compass Online

Download the UPS mobile app

property of their respective owners.

Please do not reply directly to this email. UPS will not receive any reply message.

Review the UPS Privacy Notice

For Questions, Visit Our Help and Support Center

Links contained in this email have been replaced. If you click on a link in the email above, the link will be analyzed for known threats. If a known threat is found, you will not be able to proceed to the destination. If suspicious content is detected, you will see a warning.

Your shipment from
CENTERLINE SITE ACQUISITION

Estimated delivery

Tomorrow, June 10 **between** 9:15 A.M. - 11:15 A.M.

Label Created

On the Way

Out for Delivery

Delivery

Ship To
EIP COMMUNICATIONS I, LLC
MS. MICHAEL ASHLEY CULBERT
TWO ALLEGHENY CENTER, NOVA TOWER 2
SUITE 703
PITTSBURGH, PA 152125402 US

Get Updates

Change My Delivery

View Details

Track Another Package

Ask UPS

Track

UPS Freight Less-than-Truckload (“LTL”) transportation services are offered by TFI International Inc., its affiliates or divisions (including without limitation TForce Freight), which are not affiliated with United Parcel Service, Inc. or any of its affiliates, subsidiaries or related entities (“UPS”). UPS assumes no liability in connection with UPS Freight LTL transportation services or any other services offered or provided by TFI International Inc. or its affiliates, divisions, subsidiaries or related entities.

Legal

Ask UPS