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Lucia Chiocchio
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3/26/20

VIA ELECTRONIC MAIL

Members of the Connecticut Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: Tower Sharing Request by New Cingular Wireless PCS, LLC (AT&T)
Premises: 435 Mill Street, Southington, CT 06489

Dear Members of the Connecticut Siting Council:

Pursuant to Connecticut General Statutes (C.G.S.) § 16-50aa, New Cingular Wireless PCS, LLC ("AT&T" or "the Applicant") hereby requests an order from the Connecticut Siting Council (the "Council") to approve the proposed shared use of a communications tower and associated compound at the parcel identified as 435 Mill Street in the Town of Southington (the "Southington Facility"). The tower owner is the Town of Southington (the "Town"). AT&T and the Town have agreed to share the use of the Southington Facility as detailed below. Additionally, annexed here as **Attachment 5** is the Letter of Authorization between the Applicant and the Town authorizing the Applicant to prepare and file this tower share request for the AT&T's use of the Southington Facility.

The Southington Facility

The Southington Facility consists of an approximately one-hundred and twenty (120) foot lattice tower (the "Tower") and associated equipment. The Tower and compound are located on an approximately 2.8-acre parcel owned by the Town of Southington. The Town of Southington Planning and Zoning Commission granted the Southington Water Department's site plan and special permit approval for the Tower by letters dated August 27, 2018 and August 28, 2018 which are enclosed as **Attachment 6**. The Tower was approved in conjunction with the approval of new water tank which will replace the two existing water tanks. The two existing water tanks currently house AT&T's equipment as well as equipment owned by the Town and T-Mobile. The Tower was proposed in addition to the new water tank in order to provide a more robust platform for the Town's own antennas and to accommodate the collocation of the wireless carriers' equipment.

AT&T's Wireless Facility

As depicted on the enclosed plans annexed hereto as **Attachment 1** prepared by Hudson Design Group, LLC last updated March 10, 2020, AT&T proposes to install 9 antennas, 6 remote radiohead units, and 3 surge arrestors on a proposed sector frame mount system at an approximately 98-foot centerline height on the Tower. AT&T currently maintains equipment shelters on a concrete pad within the fenced equipment compound for its facility on the water tank. AT&T proposes to use the same equipment shelters and will install a new 10' tall cable bridge between the Tower and the equipment shelter. AT&T will also install new equipment within the existing equipment shelter, including a new power plant.

Connecticut General Statutes § 16-50aa provides that, upon written request for shared use approval, an order approving such use shall be issued "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns." (C.G.S. § 16-50aa(c)(1)). Upon approval of such shared use, it is exclusive, and no local zoning or land use approvals are required. (C.G.S. § 16-50x). Shared use of the Southington Facility satisfies the approval criteria set forth in C.G.S. § 16-50aa as follows:

A. Technical Feasibility: As evidenced in the Structural Analysis Report prepared by Hudson Design Group, LLC dated March 12, 2020 annexed hereto as **Attachment 2** and the Mount Analysis prepared by Hudson Design Group, LLC last revised March 10, 2020 annexed hereto as **Attachment 3**, AT&T confirmed that the Tower is designed to support the addition of AT&T's antennas and tower mounted equipment in addition to the existing loading. The proposed shared use of this Tower is therefore technically feasible.

B. Legal Feasibility: Pursuant to C.G.S. § 16-50aa, the Council is authorized to issue an order approving shared use of the existing Southington Facility. (C.G.S. § 16-50aa(c)(1)). Under the authority vested in the Council by C.G.S. § 16-50aa, an order by the Council approving the shared use of a Tower would permit the Applicant to obtain a building permit for the proposed installation.

C. Environmental Feasibility: The proposed shared use would have a minimal environmental effect, for the following reasons:

1. AT&T's proposed installation would have a *de minimis* visual impact and would not cause any significant change or alteration in the physical or environmental characteristics of the facility;

2. The installation by AT&T will not increase the height of the Tower;

3. The proposed installation will not increase the noise levels at the site boundaries by six decibels or more;

4. Operation of AT&T's antennas at this site will not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. AT&T's proposed antenna installation along with the existing wireless carriers' facilities is calculated to be within 6.73% of FCC Standards for General Public/Uncontrolled Maximum Permissible Exposure (MPE). Please see the cumulative assessment of RF power density prepared by the SAI Group dated February 6, 2020 annexed hereto as **Attachment 4**; and

5. The proposed shared use would not require water or sanitary facilities or discharges into any waterbodies. The installation will not generate traffic other than periodic maintenance visits.

D. Economic Feasibility: The Applicant and the Tower owner entered into a mutual agreement to share use of the Southington Facility on terms agreeable to both parties. The proposed tower sharing is therefore economically feasible.

E. Public Safety: As stated above and evidenced in attachments hereto the Tower is structurally capable of supporting AT&T's installation and emissions are well within the maximum permitted by the FCC and the Connecticut Department of Health. Further, the addition of AT&T's telecommunications service in the Southington area through shared use of the Southington Facility is expected to enhance the safety and welfare of local residents and travelers through the area resulting in an improvement to public safety in this area of the State.

Notice of Tower Share Filing

Pursuant to the August 2013 Tower Share Filing Guide and the Exempt Modifications/Tower Share Filing Memorandum dated June 22, 2017, copies of AT&T's tower share filing request were sent to the property owner, which is the Town of Southington, by email to the chief elected official of the Town of Southington and the Southington Planning and Zoning Department. Copies of the cover letter and certification of delivery by email are included in **Attachment 7**.

Conclusion

As explained above, the proposed shared use of the Southington Facility satisfies the criteria set forth in C.G.S. §16-50aa and advances the General Assembly's and the Council's goal of preventing the proliferation of towers in the State of Connecticut. AT&T therefore requests the Siting Council issue an order approving the proposed shared use of the Southington Facility.

Very truly yours,

Lucia Chiocchio

Lucia Chiocchio

Attachments

cc: Melanie Bachman, Executive Director
Christopher Palmieri, Town Council Chairman, Town of Southington; CPalmieri@southington.org
Mark J. Sciota, Town Manager, Town of Southington; sciotam@southington.org
Rob Phillips, Planning Director, Town of Southington; rphillips@southington.org
AT&T
Daniel Patrick, Esq.
Julie Durkin

ATTACHMENT 1

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE PROPOSED SELF SUPPORT TOWER:
- NEW AT&T ANTENNAS: TPA65R-BU8D (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- NEW AT&T ANTENNAS: OPA65R-BU8D (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: B5/B12 4449 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: B2/B66A 8843 (AWS/PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T DC & FIBER SURGE ARRESTOR DC6-48-60-18-8C-EV (TOTAL OF 2) AND DC ONLY SURGE ARRESTOR DC6-48-60-0-8C-EV (TOTAL OF 1) WITH (6) DC POWER & (2) FIBER RUN.
- NEW SECTOR FRAME SITEPRO1 PART# VFA12-WLL-30120 (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- ADD (6) NEW COAX.

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- INSTALL (1) DC12.
- INSTALL ICE BRIDGE (39'-0"± LENGTH) WITH NEW (6) 1-5/8 COAX CABLES.
- INSTALL NETSURE 7100 POWER PLAN WITH BATTERIES.

ITEMS TO BE REMOVED:
- EXISTING AT&T ANTENNAS: SBNH-1D6565C (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNAS: P65-17-XLH-RR (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNAS: 800-10121 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: RRUS-11 B12 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: RRUS-12 B2 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: B5 4478 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T TMAS (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T (12) COAX CABLES.
- EXISTING AT&T (2) DC TRUNKS.
- EXISTING AT&T (1) FIBER LINE.

SITE ADDRESS:	435 MILL STREET SOUTHINGTON, CT 06489
PROPERTY OWNER:	TOWN OF SOUTHINGTON 75 MAIN STREET SOUTHINGTON, CT 06489
TOWER OWNER:	TOWN OF SOUTHINGTON 75 MAIN STREET SOUTHINGTON, CT 06489
LATITUDE:	41.604591° N, 41° 36' 16.53" N
LONGITUDE:	72.894336° W, 72° 53' 39.61" W
TYPE OF SITE:	SELF SUPPORT TOWER / EQUIPMENT SHELTER
STRUCTURE HEIGHT:	120'-0"±
RAD CENTER:	98'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

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SITE NUMBER: CT1030

SITE NAME: SOUTHINGTON MILL ST. H20 TANK

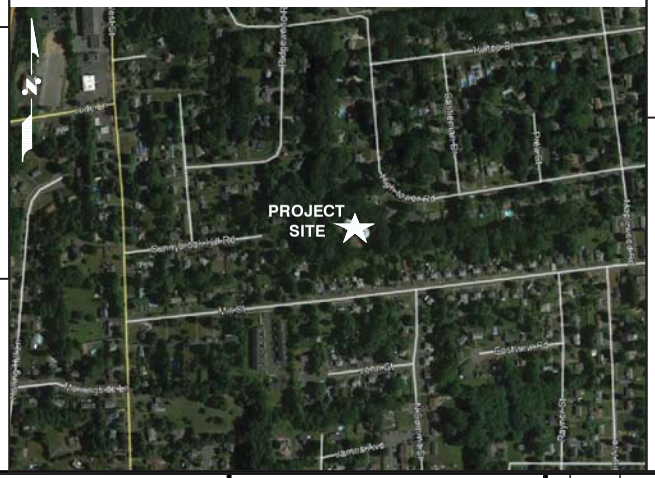
FA CODE: 10035264

PACE ID: MRCTB019550, MRCTB022080

PROJECT: RF MOD & 4TXRX ANTENNA UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:
HEAD SOUTH TOWARD ENTERPRISE DR. TURN LEFT ONTO ENTERPRISE DR. TURN LEFT ONTO CAPITAL BLVD. USE THE LEFT 2 LANES TO TURN LEFT ONTO STATE HWY 411. TURN LEFT TO MERGE ONTO I-91 S. MERGE ONTO I-91 S. TAKE EXIT 22N TO MERGE ONTO CT-9 N TOWARD NEW BRITAIN. USE THE LEFT 2 LANES TO TAKE EXIT 28 FOR CT-72 TOWARD BRISTOL. CONTINUE ONTO CT-72 W. MERGE ONTO I-84. TAKE EXIT 31 FOR CT-229/WEST STREET. USE ANY LANE TO TURN LEFT ONTO CT-229 S/WEST ST. CONTINUE TO FOLLOW WEST ST. TURN LEFT ONTO MILL ST. DESTINATION WILL BE ON THE LEFT.



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

12 INDUSTRIAL WAY
SALEM, NH 03079

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

SITE NUMBER: CT1030
SITE NAME: SOUTHINGTON MILL ST. H20 TANK

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

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

AT&T

TITLE SHEET
RF MOD & 4TXRX ANTENNA UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1030	T-1	1

GROUNDING NOTES

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

GENERAL NOTES

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

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

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. **APPLICABLE BUILDING CODES:**
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

    BUILDING CODE: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

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

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

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

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

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

ABBREVIATIONS

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

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

12 INDUSTRIAL WAY
SALEM, NH 03079

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SITE NAME: SOUTHINGTON MILL ST. H20 TANK

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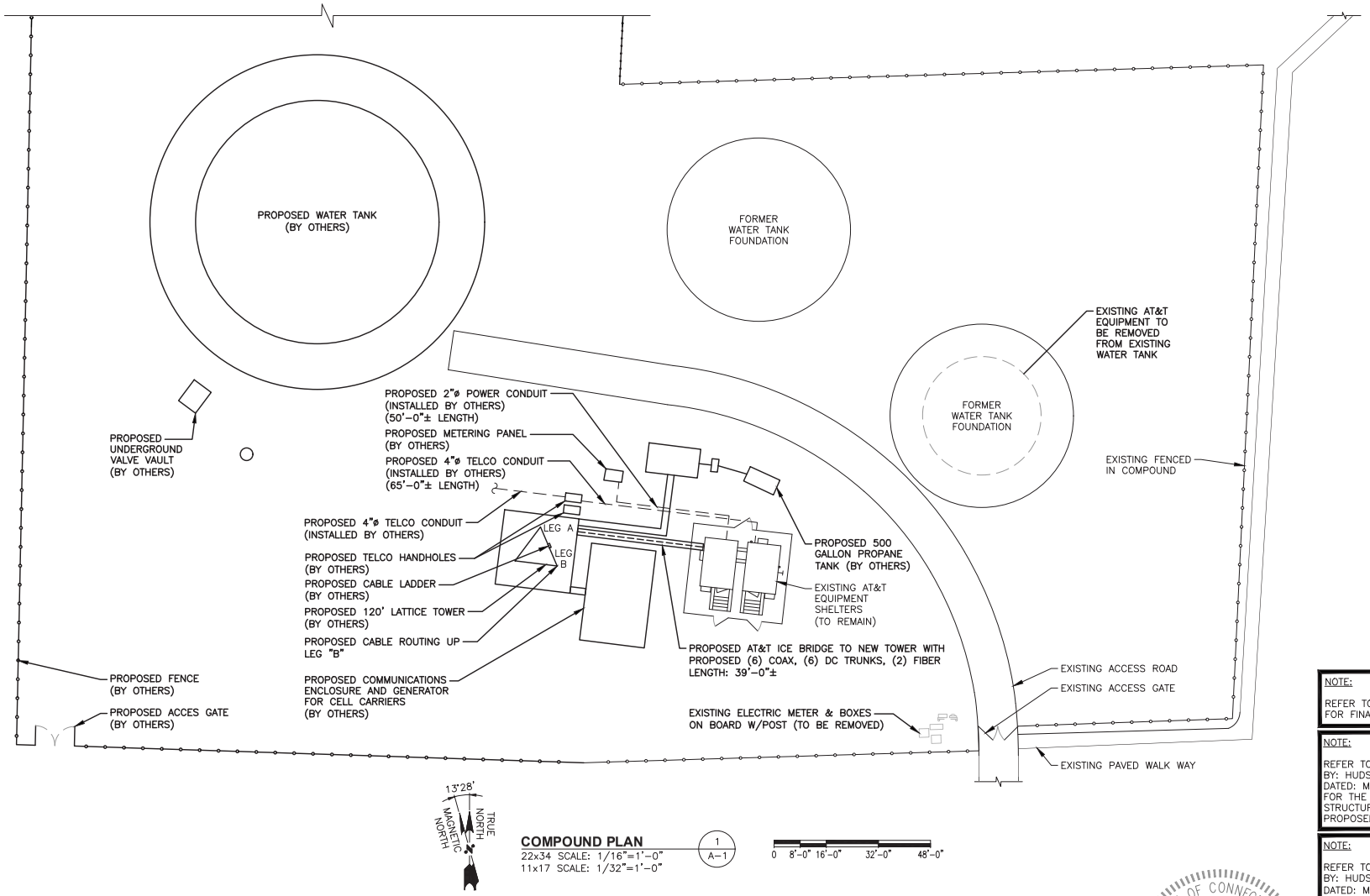
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SF

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

AT&T

GENERAL NOTES
RF MOD & 4TXRX ANTENNA UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1030	GN-1	1



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

NOTE:

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

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP LLC, DATED: MARCH 12, 2020, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

REFER TO MOUNT ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: MARCH 10, 2020, (REV 3) FOR THE CAPACITY OF THE PROPOSED MOUNT TO SUPPORT THE PROPOSED EQUIPMENT.

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

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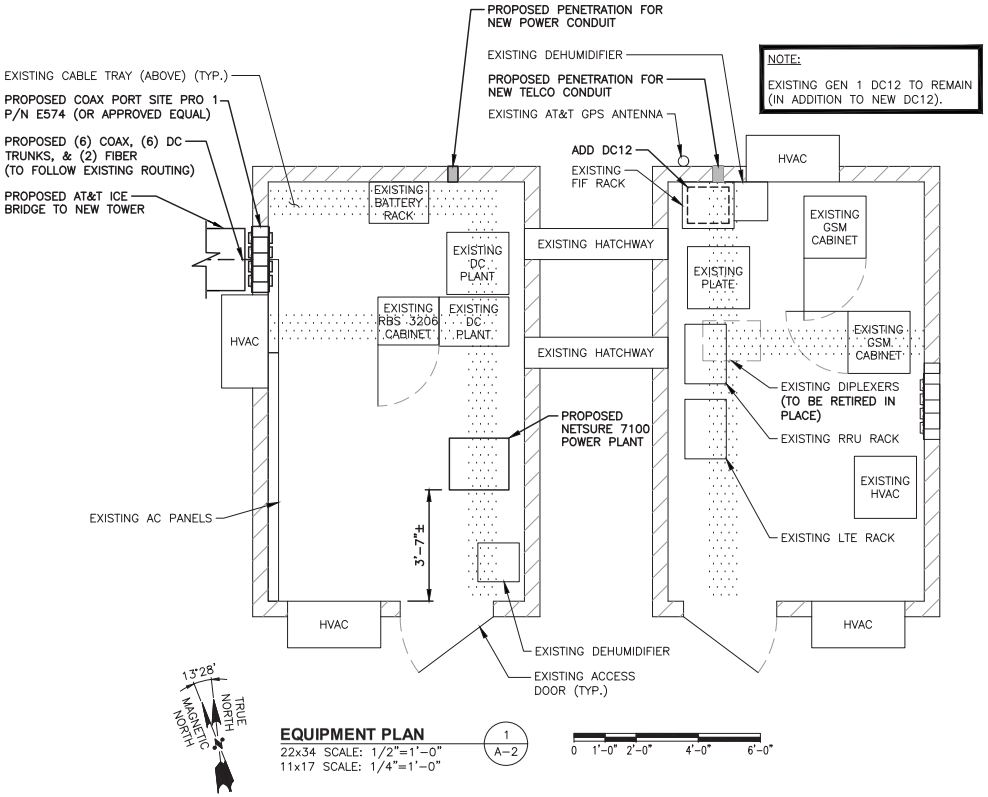
AT&T

COMPOUND PLAN
RF MOD & 4TXRX ANTENNA UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1030	A-1	1



NOTE:

EXISTING GEN 1 DC12 TO REMAIN (IN ADDITION TO NEW DC12).

EQUIPMENT PLAN (1 / A-2)

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

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

NOTE:

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

NOTE:

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NOTE:

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SITE NUMBER: CT1030
SITE NAME: SOUTHINGTON MILL ST. H20 TANK

435 MILL STREET
SOUTHINGTON, CT 06489
HARTFORD COUNTY

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

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A	12/27/19	ISSUED FOR REVIEW	SF	AT	DPH

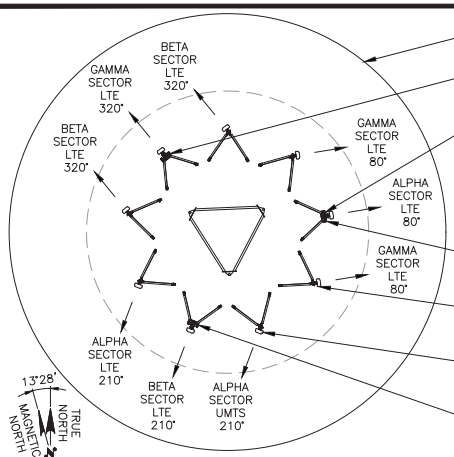
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SF

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

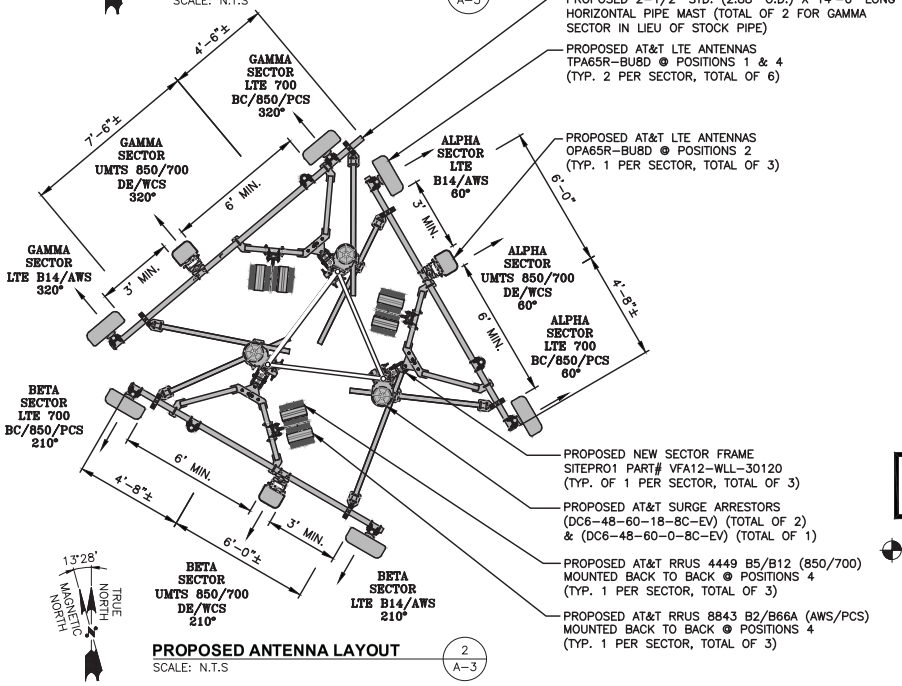
AT&T

EQUIPMENT PLAN
RF MOD & 4TXRX ANTENNA UPGRADE

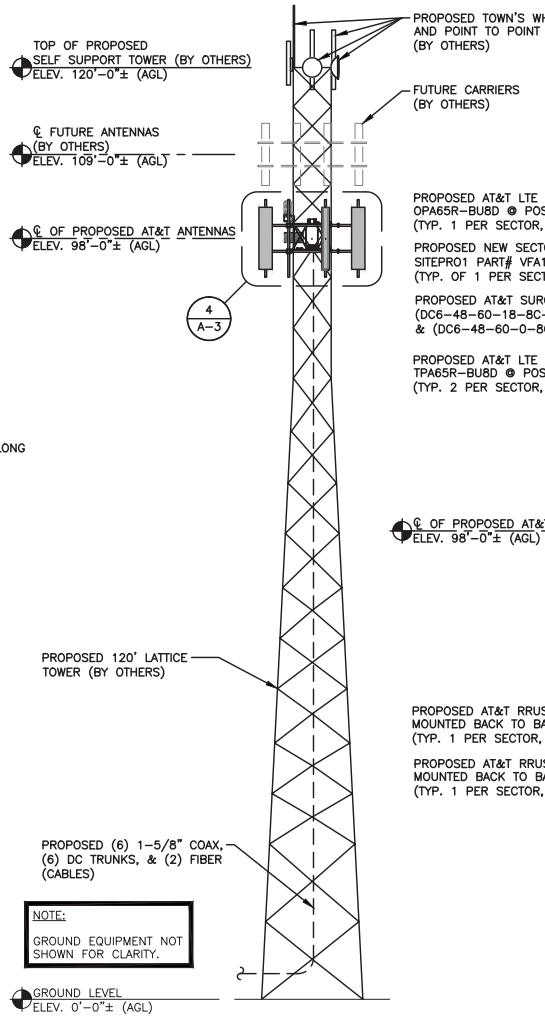
SITE NUMBER	DRAWING NUMBER	REV
CT1030	A-2	1



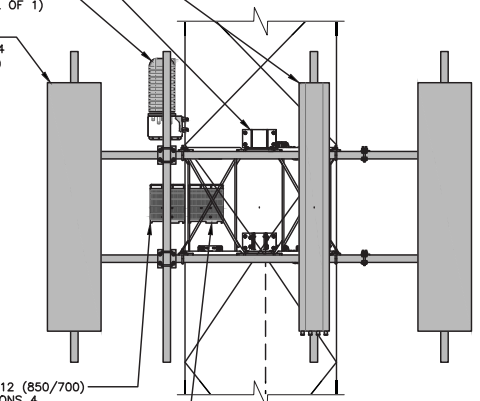
EXISTING ANTENNA LAYOUT (1 / A-3)
SCALE: N.T.S



PROPOSED ANTENNA LAYOUT (2 / A-3)
SCALE: N.T.S



ELEVATION (3 / A-3)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"
0 4'-0" 8'-0" 16'-0" 24'-0"



ELEVATION (4 / A-3)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"
0 1'-0" 2'-0" 4'-0" 6'-0"

NOTE:
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NOTE:
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AT&T

ANTENNA LAYOUTS & ELEVATION
RF MOD & 4TXRX ANTENNA UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1030	A-3	1

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (LxWxD)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	FREQUENCY	SIZE (INCHES) (LxWxD)	FEEDER	RAYCAP
A1	PROPOSED	LTE B14/AWS	TPA65R-BU8D	96X21X7.8	98'-0"±	60°	–	–	–	–	–	(P) (1) RAYCAP DC6-48-60-18-8C-EV
A2	PROPOSED	UMTS 850/700 DE/WCS	OPA65R-BU8D	95.9X11.7X8.4	98'-0"±	60°	–	–	–	–	(P)(2) 1-5/8 COAX	
A3	–	----	–	–	–	–	–	–	–	–	–	
A4	PROPOSED	LTE 700 BC/850/PCS	TPA65R-BU8D	96X21X7.8	98'-0"±	60°	–	4449 B5/B12 8843 B2/B66A	850/700 AWS/PCS	14.9"x13.2"x10.4" 14.9"x13.2"x10.9"	(P)(2) DC POWER & (1) FIBER	
B1	PROPOSED	LTE B14/AWS	TPA65R-BU8D	96X21X7.8	98'-0"±	210°	–	–	–	–	–	(P) (1) RAYCAP DC6-48-60-18-8C-EV
B2	PROPOSED	UMTS 850/700 DE/WCS	OPA65R-BU8D	95.9X11.7X8.4	98'-0"±	210°	–	–	–	–	(P)(2) 1-5/8 COAX	
B3	–	----	–	–	–	–	–	–	–	–	–	
B4	PROPOSED	LTE 700 BC/850/PCS	TPA65R-BU8D	96X21X7.8	98'-0"±	210°	–	4449 B5/B12 8843 B2/B66A	850/700 AWS/PCS	14.9"x13.2"x10.4" 14.9"x13.2"x10.9"	(P)(2) DC POWER & (1) FIBER	
C1	PROPOSED	LTE B14/AWS	TPA65R-BU8D	96X21X7.8	98'-0"±	320°	–	–	–	–	–	(P) (1) RAYCAP DC6-48-60-0-8C-EV
C2	PROPOSED	UMTS 850/700 DE/WCS	OPA65R-BU8D	95.9X11.7X8.4	98'-0"±	320°	–	–	–	–	(P)(2) 1-5/8 COAX	
C3	–	----	–	–	–	–	–	–	–	–	–	
C4	PROPOSED	LTE 700 BC/850/PCS	TPA65R-BU8D	96X21X7.8	98'-0"±	320°	–	4449 B5/B12 8843 B2/B66A	850/700 AWS/PCS	14.9"x13.2"x10.4" 14.9"x13.2"x10.9"	(P)(2) DC POWER	

NOTE:
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NOTE:
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NOTE:
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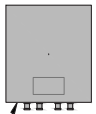
FINAL ANTENNA SCHEDULE (1 / A-4)
SCALE: N.T.S

RRU CHART

QUANTITY	MODEL	SIZE (LxWxD)
P(3)	B5/B12 4449 (850/700)	14.9"x13.2"x10.4"
P(3)	B2/B66A 8843 (AWS/PCS)	14.9"x13.2"x10.9"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

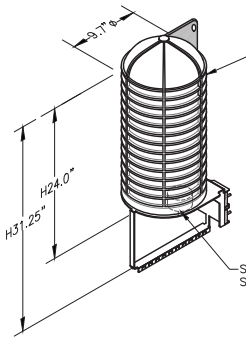
NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



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

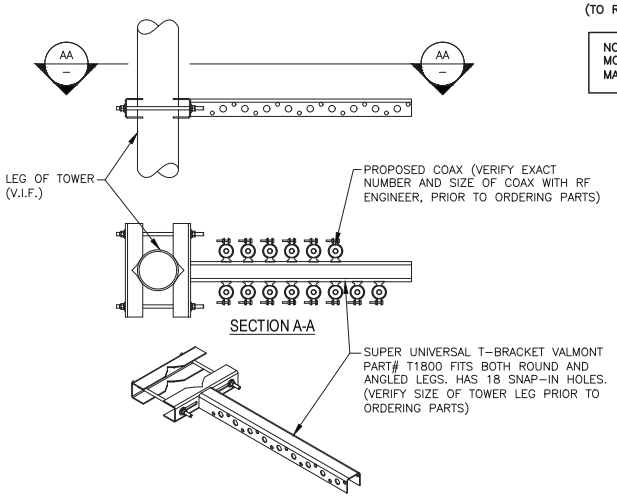
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL (2 / A-4)
SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (3 / A-4)
SCALE: N.T.S



COAX WAVE GUIDE LADDER DETAIL (4 / A-4)
SCALE: N.T.S

PROPOSED NETSURE 7100 POWER PLANT DETAIL (5 / A-4)
SCALE: N.T.S

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DETAILS
RF MOD & 4TXRX ANTENNA UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1030	A-4	1

NOTE:

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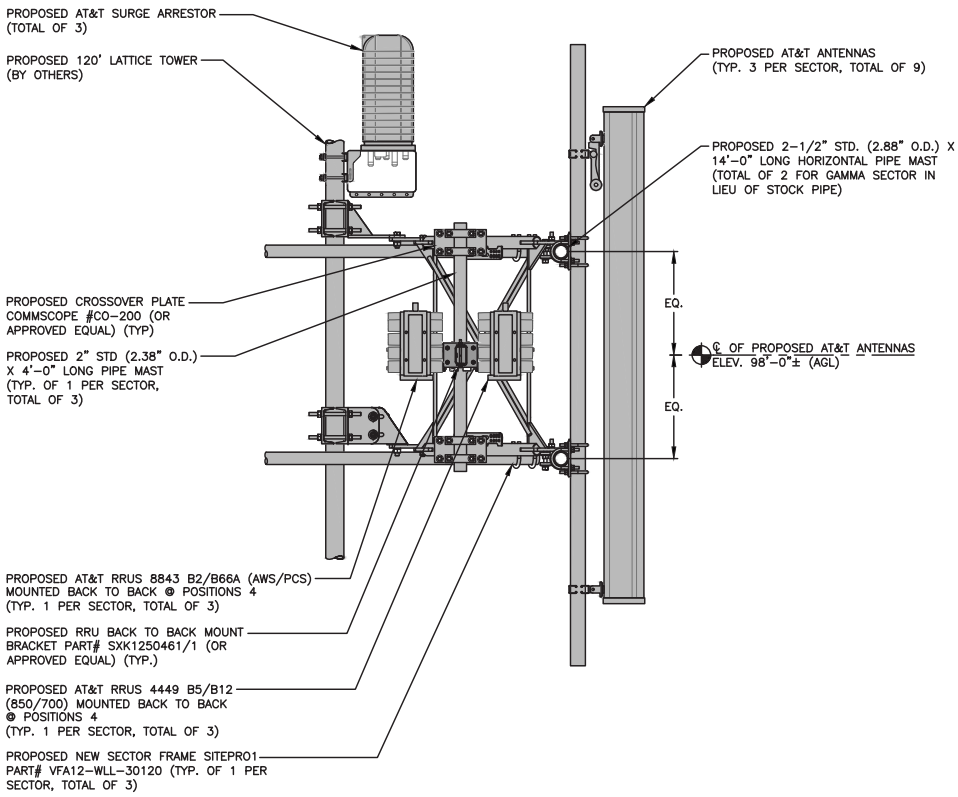
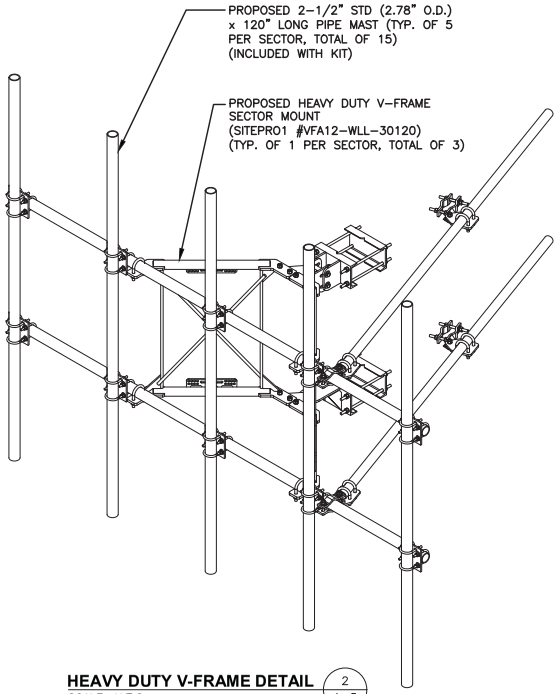


PROPOSED LTE ANTENNA, RRU, & SURGE ARRESTOR MOUNTING DETAIL (1 / A-5)

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

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



HEAVY DUTY V-FRAME DETAIL (2 / A-5)

SCALE: N.T.S

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STATE OF CONNECTICUT
DANIEL P. HAMM
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LICENSED PROFESSIONAL ENGINEER

Daniel P. Hamm

AT&T

DETAILS
RF MOD & 4TXRX ANTENNA UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1030	A-5	1

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

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

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

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

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

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

SPECIAL INSPECTION CHECKLIST

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

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

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1030
SITE NAME: SOUTHINGTON MILL ST. H20 TANK

435 MILL STREET
SOUTHINGTON, CT 06489
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	03/10/20	ISSUED FOR CONSTRUCTION	ET	HC	DPH
0	03/06/20	ISSUED FOR REVIEW	GA	HC	DPH
A	12/27/19	ISSUED FOR REVIEW	SF	AT	DPH

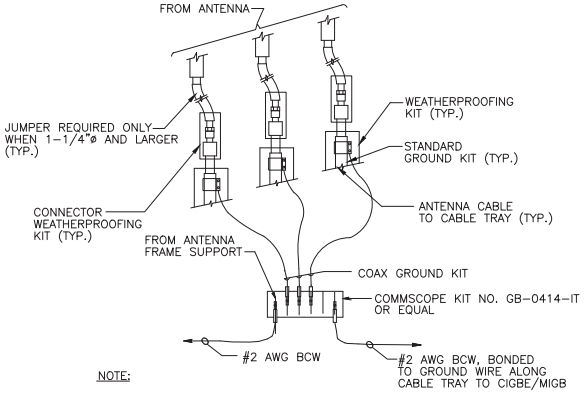
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SF

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

AT&T

STRUCTURAL NOTES
RF MOD & 4TXRX ANTENNA UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1030	SN-1	1

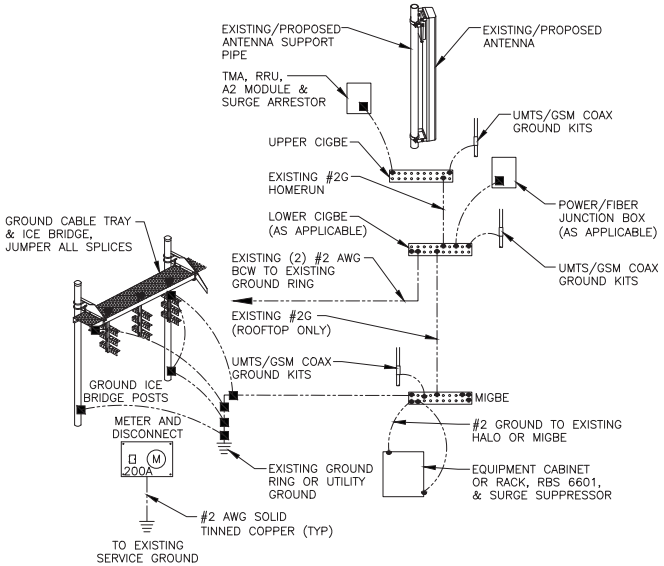


NOTE:

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

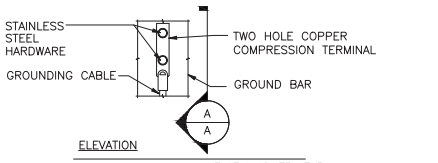
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

SCALE: N.T.S

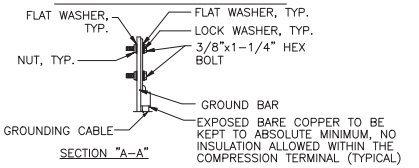


GROUNDING RISER DIAGRAM (2 / G-1)

SCALE: N.T.S



ELEVATION



SECTION "A-A"

NOTES:

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

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

SCALE: N.T.S

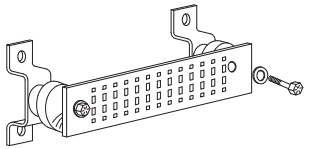
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL (AS REQUIRED) (4 / G-1)

SCALE: N.T.S

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
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12 INDUSTRIAL WAY
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500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

SITE NUMBER: CT1030
SITE NAME: SOUTHINGTON MILL ST. H20 TANK

435 MILL STREET
SOUTHINGTON, CT 06489
HARTFORD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	03/10/20	ISSUED FOR CONSTRUCTION	ET	HC	DPH
0	03/06/20	ISSUED FOR REVIEW	GA	HC	DPH
A	12/27/19	ISSUED FOR REVIEW	SF	AT	DPH

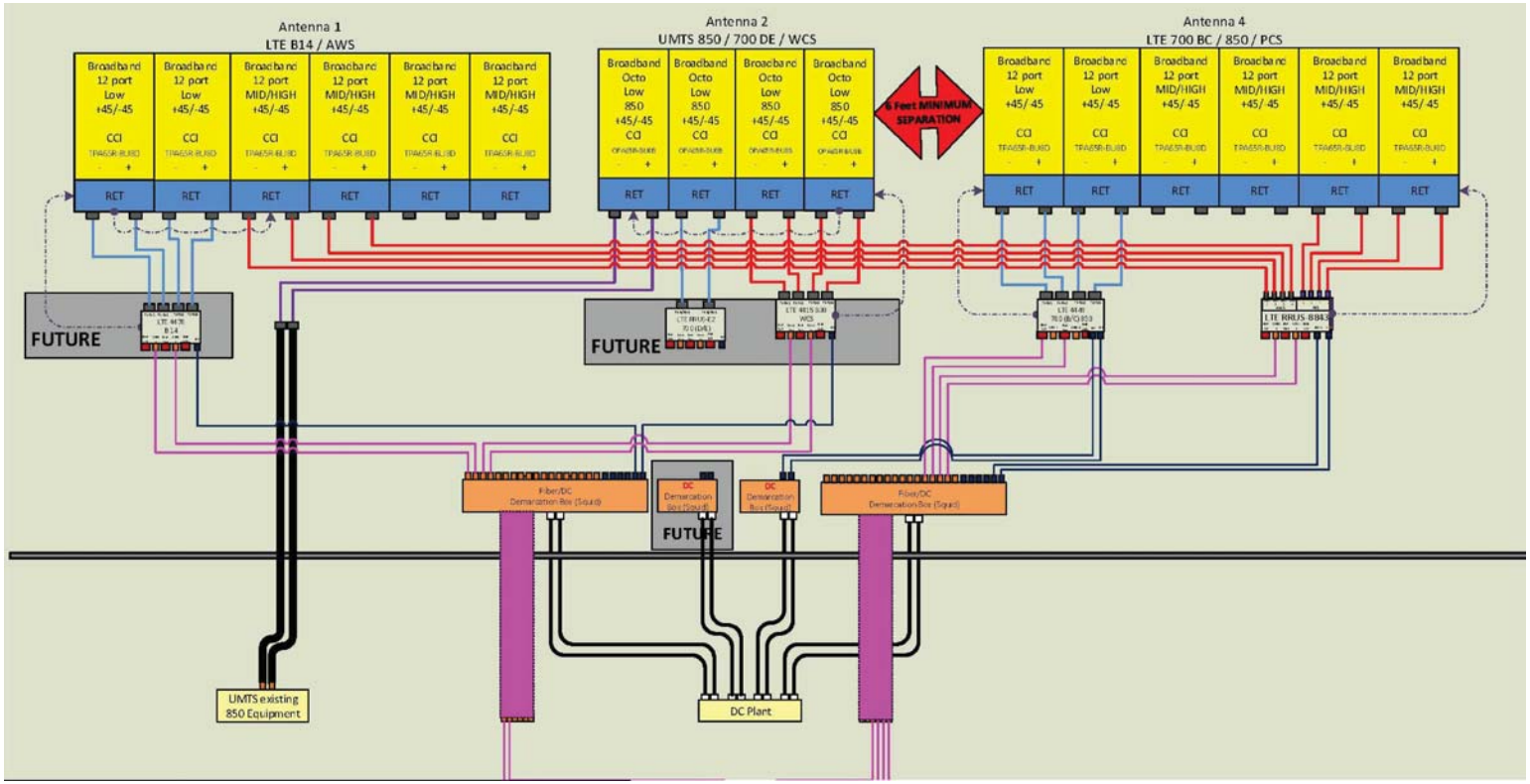
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: SF

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

AT&T

GROUNDING DETAILS
RF MOD & 4TXRX ANTENNA UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1030	G-1	1



RF PLUMBING DIAGRAM
SCALE: N.T.S

1
RF-1

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

AT&T

RF PLUMBING DIAGRAM
RF MOD & 4TXRX ANTENNA UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1030	RF-1	1

ATTACHMENT 2

STRUCTURAL ANALYSIS REPORT

For

SITE NUMBER: CT1030

SITE NAME: SOUTHINGTON MILL ST. H20 TANK

FA CODE: 10035264

435 MILL STREET
SOUTHINGTON, CT 06489

Prepared for:

SAI

at&t

Dated: March 12, 2020

Prepared by:

HUDSON Design Group LLC

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

STATE OF CONNECTICUT
GI KIN WONG
No. 22220
LICENSED
PROFESSIONAL ENGINEER

HUDSON
Design Group LLC

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by AT&T to conduct a structural evaluation of the 120' self-supporting tower supporting the proposed AT&T's antennas located at elevation 98' above the ground level.

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

Record drawings of the existing tower prepared by Valmont Structures, dated December 12, 2019, were available and obtained for our use.

CONCLUSION SUMMARY:

Based on our evaluation, we have determined that the existing tower and foundation **are in conformance** with the ANSI/TIA-222-H Standard for the loadings considered under the criteria listed in this report. The tower structure is rated at **53.9%** - (Legs at Tower Section T5 from EL.20' to EL.40' Controlling).

HUDSON Design Group LLC

APPURTENANCES CONFIGURATION:

Tenant	Appurtenances	Elev.	Mount
	(2) BA4040-67-DIN	120'	Tower Leg
	(1) DB404-B	120'	Tower Leg
	(1) G5R	120'	Tower Leg
	(3) PTP	120'	Tower Leg
	(2) VHLP800-11	120'	Tower Leg
AT&T	***(6) TPA65R-BU8D Antennas***	***98'***	***VFA12 – WLL - 30120***
AT&T	***(3) OPA65R-BU8D Antennas***	***98'***	***VFA12 – WLL - 30120***
AT&T	***(3) 4449 B5/B12***	***98'***	***VFA12 – WLL - 30120***
AT&T	***(3) 8843 B2/B66A***	***98'***	***VFA12 – WLL - 30120***
AT&T	***(2) DC6-48-60-18-8C-EV***	***98'***	Tower Leg
AT&T	***(1) DC6-48-60-0-8C-EV***	***98'***	Tower Leg

Proposed AT&T Appurtenances shown in Bold.

AT&T EXISTING/PROPOSED COAX CABLES:

Tenant	Coax Cables	Elev.	Mount
AT&T	***(6) 1 5/8" Cables***	***98'***	***Tower Leg B***
AT&T	***(6) DC Power Cables***	***98'***	***Tower Leg B***
AT&T	***(2) Fiber Cables***	***98'***	***Tower Leg B***

Proposed AT&T Coax Cables shown in Bold.

HUDSON Design Group LLC

ANALYSIS RESULTS SUMMARY:

Component	Max. Stress Ratio	Elev. of Component (ft)	Pass/Fail	Comments
Legs	**53.9 %**	20 – 40	PASS	**Controlling**
Diagonals	43.3 %	80 – 100	PASS	
Horizontal	24.8 %	80 – 100	PASS	
Top Girt	5.0 %	100 – 120	PASS	
Bottom Girt	8.6 %	100 – 120	PASS	
Mid Girt	5.2 %	80 – 100	PASS	

FOUNDATION ANALYSIS RESULTS SUMMARY:

	Design Reactions	Base Reactions	Pass/Fail	Comments
AXIAL	**40.9 k**	24.3 k	PASS	
SHEAR	**37.1 k**	21.6 k	PASS	
MOMENT	**2799 ft-k**	1595 ft-k	PASS	
COMP./LEG	**270.7 k**	161.3 k	PASS	
TENSION/LEG	**244.4 k**	145.7 k	PASS	

HUDSON Design Group LLC

DESIGN CRITERIA:

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

2. Connecticut State Building Code

   County: Hartford
   City/Town: Southington
   Wind Load: 125 mph
   Structural Class: II
   Exposure Category: B
   Topographic Category: 1
   Crest Height: 0 ft.
   Ice Thickness: 1.5 inch

3. Approximate height above grade to proposed antennas: 98'

ASSUMPTIONS:

1. The tower dimensions, member sizes and material strength are as indicated in the record drawings of the existing tower prepared by Valmont Structures, dated December 12, 2019.

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

3. The tower and foundation are properly constructed and maintained. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.

4. The support mounts and platforms are not analyzed and are considered adequate to support the loading. The analysis is limited to the primary support structure itself.

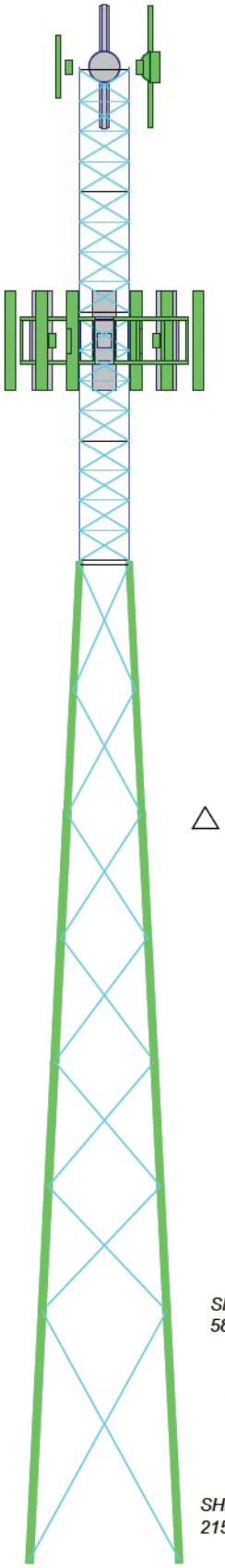
5. All prior structural modification, if any, are assumed to be as per the data supplied (if available), and installed properly.

SUPPORT RECOMMENDATIONS:

HDG recommends that the proposed antennas and RRHs be mounted on the proposed T-frame supported by the tower; the proposed surge arrestors be mounted on the tower leg.

HUDSON
Design Group LLC

CALCULATIONS



Section	T6	T5	T4	T3	T2	T1
Legs	Pirod 105219 mod	Pirod 105218 mod		Pirod 105217 mod	SR 2 1/4	SR 1 3/4
Leg Grade	A572-55					
Diagonals	2L3 1/2x3 1/2x1/4	L2 1/2x2 1/2x5/16	L2 1/2x2 1/2x3/16	L2 1/2x2 1/2x1/4	SR 7/8	SR 3/4
Diagonal Grade	A572-50					
Top Girts		N.A.		L3x3x3/16	SR 1	SR 7/8
Mid Girts		N.A.			SR 1	SR 7/8
Bottom Girts		N.A.			SR 1	SR 7/8
Horizontals		N.A.			SR 3/4	
Face Width (ft)	12	10	8	6	4	
# Panels @ (ft)	1 @ 20		6 @ 10		16 @ 2.42708	
Weight (lb)	14696.6	4278.1	2961.9	2693.3	2390.9	1475.8

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
BA4040-67-DIN	120	8843 B2/B66A	98
BA4040-67-DIN	120	DC6-48-60-18-8C-EV	98
DB404-B	120	DC6-48-60-18-8C-EV	98
10' Dipole	120	DC6-48-60-0-8C-EV	98
PTP 49400	120	SitePro VFA12 (ATI - proposed)	98
PTP 49400	120	SitePro VFA12	98
PTP 49400	120	SitePro VFA12	98
Andrew VHLP800-11	120	(2) TPA65R-BU8D w/mount pipe	98
Andrew VHLP800-11	120	(2) TPA65R-BU8D w/mount pipe	98
4449 B5/B12	98	(2) TPA65R-BU8D w/mount pipe	98
4449 B5/B12	98	OPA65R-BU8D w/mount pipe	98
4449 B5/B12	98	OPA65R-BU8D w/mount pipe	98
8843 B2/B66A	98	OPA65R-BU8D w/mount pipe	98
8843 B2/B66A	98		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-55	55 ksi	70 ksi	A572-50	50 ksi	65 ksi

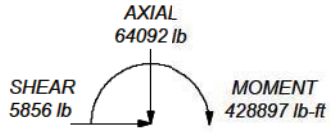
TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 53.9%

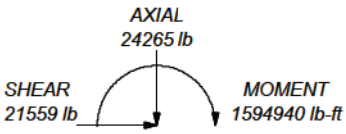
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 161317 lb
SHEAR: 17382 lb

UPLIFT: -145721 lb
SHEAR: 15475 lb



TORQUE 327 lb-ft
50 mph WIND - 1.5000 in ICE



TORQUE 1510 lb-ft
REACTIONS - 125 mph WIND

Hudson Design Group LLC
45 Beechwood Drive
North Andover, MA 01845
Phone: (P) 978.557.5553
FAX: (F) 978.336.5586

Job: *CT1030*			
Project: *120 ft Self Supporting Tower*			
Client: AT&T	Drawn by: kw	App'd:	
Code: TIA-222-H	Date: 03/12/20	Scale: NTS	
Path:		Dwg No. E-1	

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 120.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 4.00 ft at the top and 12.00 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Tower base elevation above sea level: 312.00 ft.
Basic wind speed of 125 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.5000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Tower Section Geometry

Tower Section	*Tower Elevation*	*Assembly Database*	*Description*	*Section Width*	*Number of Sections*	*Section Length*
	ft			*ft*		*ft*
T1	120.00-100.00			4.00	1	20.00
T2	100.00-80.00			4.00	1	20.00
T3	80.00-60.00			4.00	1	20.00
T4	60.00-40.00			6.00	1	20.00
T5	40.00-20.00			8.00	1	20.00
T6	20.00-0.00			10.00	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	*Tower Elevation*	*Diagonal Spacing*	*Bracing Type*	*Has K Brace End Panels*	*Has Horizontals*	*Top Girt Offset*	*Bottom Girt Offset*
	ft	*ft*				*in*	*in*
T1	120.00-100.00	2.43	X Brace	No	Yes	3.5000	3.5000
T2	100.00-80.00	2.43	X Brace	No	Yes	3.5000	3.5000
T3	80.00-60.00	10.00	X Brace	No	No	0.0000	0.0000
T4	60.00-40.00	10.00	X Brace	No	No	0.0000	0.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T5	40.00-20.00	10.00	X Brace	No	No	0.0000	0.0000
T6	20.00-0.00	20.00	X Brace	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 120.00-100.00	Solid Round	1 3/4	A572-55 (55 ksi)	Solid Round	3/4	A572-50 (50 ksi)
T2 100.00-80.00	Solid Round	2 1/4	A572-55 (55 ksi)	Solid Round	7/8	A572-50 (50 ksi)
T3 80.00-60.00	Truss Leg	Pirod 105217 mod	A572-55 (55 ksi)	Equal Angle	L2 1/2x2 1/2x1/4	A572-50 (50 ksi)
T4 60.00-40.00	Truss Leg	Pirod 105218 mod	A572-55 (55 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A572-50 (50 ksi)
T5 40.00-20.00	Truss Leg	Pirod 105218 mod	A572-55 (55 ksi)	Equal Angle	L2 1/2x2 1/2x5/16	A572-50 (50 ksi)
T6 20.00-0.00	Truss Leg	Pirod 105219 mod	A572-55 (55 ksi)	Double Equal Angle	2L3 1/2x3 1/2x1/4	A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 120.00-100.00	Solid Round	7/8	A572-50 (50 ksi)	Solid Round	7/8	A572-50 (50 ksi)
T2 100.00-80.00	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T3 80.00-60.00	Equal Angle	L3x3x3/16	A572-50 (50 ksi)	Solid Round		A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 120.00-100.00	1	Solid Round	7/8	A572-50 (50 ksi)	Solid Round	3/4	A572-50 (50 ksi)
T2 100.00-80.00	1	Solid Round	1	A572-50 (50 ksi)	Solid Round	3/4	A572-50 (50 ksi)

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1 5/8 (AT&T - proposed)	A	No	Yes	Ar (CaAa)	98.00 - 6.00	6	6	1.9800	1.9800		1.04
WR-VG122ST-BRDA	A	No	Yes	Ar (CaAa)	98.00 - 6.00	6	6	0.0000	0.4000		0.25
FB-L98B-002 **********	A	No	Yes	Ar (CaAa)	98.00 - 6.00	2	2	0.0000	0.4000		0.25
7/8	C	No	Yes	Ar (CaAa)	120.00 - 6.00	18	9	1.1100	1.1100		0.54

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
SitePro VFA12 (AT&T - proposed)	A	From Leg	2.00 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	15.40 21.30 27.20 39.00	14.00 20.81 27.62 41.24	558.00 741.00 924.00 1290.00
SitePro VFA12	B	From Leg	2.00 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	15.40 21.30 27.20 39.00	14.00 20.81 27.62 41.24	558.00 741.00 924.00 1290.00
SitePro VFA12	C	From Leg	2.00 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	15.40 21.30 27.20 39.00	14.00 20.81 27.62 41.24	558.00 741.00 924.00 1290.00
(2) TPA65R-BU8D w/mount pipe	A	From Leg	3.50 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	18.16 18.89 19.61 21.04	10.71 12.24 13.58 15.92	139.21 264.73 401.95 708.65
(2) TPA65R-BU8D w/mount pipe	B	From Leg	3.50 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	18.16 18.89 19.61 21.04	10.71 12.24 13.58 15.92	139.21 264.73 401.95 708.65
(2) TPA65R-BU8D w/mount pipe	C	From Leg	3.50 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	18.16 18.89 19.61 21.04	10.71 12.24 13.58 15.92	139.21 264.73 401.95 708.65
OPA65R-BU8D w/mount pipe	A	From Leg	3.50 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	18.38 19.11 19.84 21.26	10.79 12.31 13.66 16.00	132.11 259.03 397.67 707.30
OPA65R-BU8D w/mount pipe	B	From Leg	3.50 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	18.38 19.11 19.84 21.26	10.79 12.31 13.66 16.00	132.11 259.03 397.67 707.30
OPA65R-BU8D w/mount pipe	C	From Leg	3.50 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice 2" Ice	18.38 19.11 19.84 21.26	10.79 12.31 13.66 16.00	132.11 259.03 397.67 707.30
4449 B5/B12	A	From Leg	2.50 0.00 0.00	0.0000	98.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.29 1.44 1.59	74.00 91.12 110.94

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
						2" Ice	2.32	1.91	159.42
4449 B5/B12	B	From Leg	2.50	0.0000	98.00	No Ice	1.64	1.29	74.00
			0.00			1/2" Ice	1.80	1.44	91.12
			0.00			1" Ice	1.97	1.59	110.94
						2" Ice	2.32	1.91	159.42
4449 B5/B12	C	From Leg	2.50	0.0000	98.00	No Ice	1.64	1.29	74.00
			0.00			1/2" Ice	1.80	1.44	91.12
			0.00			1" Ice	1.97	1.59	110.94
						2" Ice	2.32	1.91	159.42
8843 B2/B66A	A	From Leg	2.50	0.0000	98.00	No Ice	1.64	1.35	74.00
			0.00			1/2" Ice	1.80	1.50	91.60
			0.00			1" Ice	1.97	1.65	111.91
						2" Ice	2.32	1.99	161.50
8843 B2/B66A	B	From Leg	2.50	0.0000	98.00	No Ice	1.64	1.35	74.00
			0.00			1/2" Ice	1.80	1.50	91.60
			0.00			1" Ice	1.97	1.65	111.91
						2" Ice	2.32	1.99	161.50
8843 B2/B66A	C	From Leg	2.50	0.0000	98.00	No Ice	1.64	1.35	74.00
			0.00			1/2" Ice	1.80	1.50	91.60
			0.00			1" Ice	1.97	1.65	111.91
						2" Ice	2.32	1.99	161.50
DC6-48-60-18-8C-EV	A	From Leg	1.00	0.0000	98.00	No Ice	0.81	0.81	33.00
			0.00			1/2" Ice	1.30	1.30	48.38
			0.00			1" Ice	1.48	1.48	66.11
						2" Ice	1.86	1.86	109.29
DC6-48-60-18-8C-EV	B	From Leg	1.00	0.0000	98.00	No Ice	0.81	0.81	33.00
			0.00			1/2" Ice	1.30	1.30	48.38
			0.00			1" Ice	1.48	1.48	66.11
						2" Ice	1.86	1.86	109.29
DC6-48-60-0-8C-EV	C	From Leg	1.00	0.0000	98.00	No Ice	0.81	0.81	33.00
			0.00			1/2" Ice	1.30	1.30	48.38
			0.00			1" Ice	1.48	1.48	66.11
						2" Ice	1.86	1.86	109.29
**********									
BA4040-67-DIN	A	From Leg	2.00	0.0000	120.00	No Ice	12.78	4.92	18.00
			0.00			1/2" Ice	13.51	6.04	72.96
			0.00			1" Ice	14.25	7.18	136.61
						2" Ice	15.75	8.91	290.74
BA4040-67-DIN	B	From Leg	2.00	0.0000	120.00	No Ice	12.78	4.92	18.00
			0.00			1/2" Ice	13.51	6.04	72.96
			0.00			1" Ice	14.25	7.18	136.61
						2" Ice	15.75	8.91	290.74
DB404-B	C	From Leg	2.00	0.0000	120.00	No Ice	5.65	2.29	14.00
			0.00			1/2" Ice	6.03	2.65	42.65
			0.00			1" Ice	6.42	3.02	76.22
						2" Ice	7.21	3.79	158.93
10' Dipole	A	From Leg	2.00	0.0000	120.00	No Ice	3.69	3.69	25.00
			0.00			1/2" Ice	4.97	4.97	53.13
			0.00			1" Ice	5.57	5.57	87.92
						2" Ice	6.81	6.81	178.12
PTP 49400	A	From Leg	1.00	0.0000	120.00	No Ice	1.75	0.48	12.10
			0.00			1/2" Ice	1.92	0.58	23.53
			0.00			1" Ice	2.09	0.69	37.28
						2" Ice	2.46	0.92	72.51
PTP 49400	B	From Leg	1.00	0.0000	120.00	No Ice	1.75	0.48	12.10
			0.00			1/2" Ice	1.92	0.58	23.53
			0.00			1" Ice	2.09	0.69	37.28

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
PTP 49400	C	From Leg	1.00 0.00 0.00	0.0000	120.00	2" Ice No Ice 1/2" Ice 1" Ice 2" Ice	2.46 1.75 1.92 2.09 2.46	0.92 0.48 0.58 0.69 0.92	72.51 12.10 23.53 37.28 72.51

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
Andrew VHLP800-11	A	Paraboloid w/Shroud (HP)	From Leg	1.00 0.00 0.00	0.0000		120.00	2.50	No Ice 1/2" Ice 1" Ice 2" Ice	6.00 6.40 6.80 7.60	49.00 77.00 105.00 161.00
Andrew VHLP800-11	B	Paraboloid w/Shroud (HP)	From Leg	1.00 0.00 0.00	0.0000		120.00	2.50	No Ice 1/2" Ice 1" Ice 2" Ice	6.00 6.40 6.80 7.60	49.00 77.00 105.00 161.00

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	20220.61	0.00	-0.00	-197.43	-155.36	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	24264.74	-113.36	-21558.82	-1592401.87	13477.82	1007.48
0.9 Dead+1.0 Wind 0 deg - No Ice	18198.55	-113.36	-21558.82	-1590818.31	13507.50	1006.83
1.2 Dead+1.0 Wind 30 deg - No Ice	24264.74	9933.91	-17283.45	-1302396.59	-746610.84	513.98
0.9 Dead+1.0 Wind 30 deg - No Ice	18198.55	9933.90	-17283.45	1301073.92	745839.14	513.79
1.2 Dead+1.0 Wind 60 deg - No Ice	24264.74	15589.71	-9000.72	-681360.71	-1179920.87	-411.01
0.9 Dead+1.0 Wind 60 deg - No Ice	18198.55	15589.71	-9000.72	-680637.08	-1178724.27	-410.68
1.2 Dead+1.0 Wind 90 deg - No Ice	24264.74	17373.28	38.71	4419.85	-1310201.22	-1220.56
0.9 Dead+1.0 Wind 90 deg - No Ice	18198.55	17373.28	38.71	4473.40	-1308886.25	-1219.94
1.2 Dead+1.0 Wind 120 deg - No Ice	24264.74	16493.46	9653.39	721495.83	-1222941.71	-1418.33
0.9 Dead+1.0 Wind 120 deg - No Ice	18198.55	16493.46	9653.39	720857.92	-1221720.46	-1417.41
1.2 Dead+1.0 Wind 150 deg - No Ice	24264.74	10749.79	18646.41	1381741.18	-796180.15	-1389.05

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
0.9 Dead+1.0 Wind 150 deg - No Ice	18198.55	10749.79	18646.41	1380474.60	-795371.83	-1388.14
1.2 Dead+1.0 Wind 180 deg - No Ice	24264.74	70.85	21145.24	1578877.66	-8741.38	-1099.14
0.9 Dead+1.0 Wind 180 deg - No Ice	18198.55	70.85	21145.24	1577413.64	-8683.03	-1098.50
1.2 Dead+1.0 Wind 210 deg - No Ice	24264.74	-9910.53	17348.30	1309751.74	743396.21	-530.14
0.9 Dead+1.0 Wind 210 deg - No Ice	18198.55	-9910.54	17348.30	1308537.19	742726.40	-529.93
1.2 Dead+1.0 Wind 240 deg - No Ice	24264.74	-15994.64	9234.51	690658.60	1196486.94	411.04
0.9 Dead+1.0 Wind 240 deg - No Ice	18198.55	-15994.64	9234.51	690050.95	1195377.51	410.70
1.2 Dead+1.0 Wind 270 deg - No Ice	24264.74	-17417.76	-91.37	-11270.55	1315189.56	1236.58
0.9 Dead+1.0 Wind 270 deg - No Ice	18198.55	-17417.76	-91.37	-11196.90	1313962.43	1235.83
1.2 Dead+1.0 Wind 300 deg - No Ice	24264.74	-16156.53	-9409.79	-711024.24	1213818.32	1509.97
0.9 Dead+1.0 Wind 300 deg - No Ice	18198.55	-16156.52	-9409.79	-710271.83	1212688.55	1509.05
1.2 Dead+1.0 Wind 330 deg - No Ice	24264.74	-10773.37	-18632.80	-1380578.20	798646.26	1389.04
0.9 Dead+1.0 Wind 330 deg - No Ice	18198.55	-10773.37	-18632.80	-1379195.72	797925.00	1388.14
1.2 Dead+1.0 Ice+1.0 Temp	64092.32	0.00	-0.00	-1176.98	-866.64	0.03
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	64092.32	-22.26	-5856.05	-428892.88	1829.39	192.88
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	64092.32	2738.51	-4758.44	-352762.24	-202787.91	75.37
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	64092.32	4453.34	-2571.13	-191312.86	-330162.64	-117.09
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	64092.32	5142.71	7.60	-278.07	-377170.96	-276.79
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	64092.32	4759.44	2773.57	200428.55	-344695.31	-309.13
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	64092.32	2902.79	5033.12	364935.12	-211894.94	-289.84
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	64092.32	13.92	5809.29	425262.61	-2577.71	-210.91
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	64092.32	-2733.92	4771.18	351910.05	200461.52	-78.56
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	64092.32	-4503.01	2599.81	190165.31	330577.67	116.53
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	64092.32	-5151.45	-17.95	-3390.38	376470.47	279.99
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	64092.32	-4723.12	-2742.96	-201341.42	342377.69	327.09
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	64092.32	-2907.42	-5030.45	-367013.56	210696.44	289.84
Dead+Wind 0 deg - Service	20220.61	-26.12	-4967.16	-366807.71	2990.74	232.18
Dead+Wind 30 deg - Service	20220.61	2288.77	-3982.11	-300027.46	-172020.53	114.88
Dead+Wind 60 deg - Service	20220.61	3591.87	-2073.77	-157027.92	-271792.10	-95.01
Dead+Wind 90 deg - Service	20220.61	4002.80	8.92	878.51	-301783.47	-279.57
Dead+Wind 120 deg - Service	20220.61	3800.09	2224.14	165986.06	-281703.12	-326.79
Dead+Wind 150 deg - Service	20220.61	2476.75	4296.13	318009.18	-183439.61	-323.97
Dead+Wind 180 deg - Service	20220.61	16.32	4871.86	363398.14	-2124.28	-253.22
Dead+Wind 210 deg - Service	20220.61	-2283.39	3997.05	301429.46	171060.03	-118.57
Dead+Wind 240 deg - Service	20220.61	-3685.17	2127.63	158884.60	275384.51	94.54
Dead+Wind 270 deg - Service	20220.61	-4013.05	-21.05	-2733.16	302704.77	283.30

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
Dead+Wind 300 deg - Service	20220.61	-3722.46	-2168.01	-163857.07	279372.12	347.82
Dead+Wind 330 deg - Service	20220.61	-2482.18	-4293.00	-318030.72	183778.30	323.97

Maximum Tower Deflections - Service Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
T1	120 - 100	2.395	50	0.1805	0.0294
T2	100 - 80	1.641	50	0.1703	0.0174
T3	80 - 60	0.962	50	0.1308	0.0092
T4	60 - 40	0.498	50	0.0834	0.0034
T5	40 - 20	0.203	50	0.0511	0.0011
T6	20 - 0	0.040	50	0.0203	0.0003

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
120.00	Andrew VHLP800-11	50	2.395	0.1805	0.0294	444607
98.00	SitePro VFA12	50	1.567	0.1677	0.0164	70548

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	120 - 100	Leg	1 3/4	3	-13006.30	83362.50	15.6	Pass
T2	100 - 80	Leg	2 1/4	81	-68527.70	158641.00	43.2	Pass
T3	80 - 60	Leg	Pirod 105217 mod	159	-91733.60	233885.00	39.2	Pass
T4	60 - 40	Leg	Pirod 105218 mod	177	-115901.00	328216.00	35.3	Pass
T5	40 - 20	Leg	Pirod 105218 mod	190	-122960.00	328216.00	53.9	Pass
T6	20 - 0	Leg	Pirod 105219 mod	207	-142761.00	385152.00	37.1	Pass
T1	120 - 100	Diagonal	3/4	16	-1556.10	5920.60	26.3	Pass
T2	100 - 80	Diagonal	7/8	93	-4825.83	11155.80	43.3	Pass
T3	80 - 60	Diagonal	L2 1/2x2 1/2x1/4	165	-5184.12	21163.90	24.5	Pass
T4	60 - 40	Diagonal	L2 1/2x2 1/2x3/16	180	-3837.99	12900.20	29.8	Pass
T5	40 - 20	Diagonal	L2 1/2x2 1/2x5/16	198	-4555.26	16246.80	28.0	Pass
T6	20 - 0	Diagonal	2L3 1/2x3 1/2x1/4	212	-11218.50	61226.70	18.3	Pass
T1	120 - 100	Horizontal	3/4	28	-152.57	3347.61	4.6	Pass
T2	100 - 80	Horizontal	3/4	97	-847.97	3421.18	24.8	Pass
T1	120 - 100	Top Girt	7/8	4	-308.19	6201.87	5.0	Pass
T2	100 - 80	Top Girt	1	82	-415.69	10812.60	3.8	Pass
T3	80 - 60	Top Girt	L3x3x3/16	160	-992.43	29513.20	3.4	Pass
T1	120 - 100	Bottom Girt	7/8	7	-534.75	6201.87	8.6	Pass
T2	100 - 80	Bottom Girt	1	85	-435.49	10812.60	4.0	Pass
T1	120 - 100	Mid Girt	7/8	10	-85.60	6201.87	1.4	Pass
T2	100 - 80	Mid Girt	1	88	-559.42	10812.60	5.2	Pass
							Summary	

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
						Leg (T5)	53.9	Pass
						Diagonal (T2)	43.3	Pass
						Horizontal (T2)	24.8	Pass
						Top Girt (T1)	5.0	Pass
						Bottom Girt (T1)	8.6	Pass
						Mid Girt (T2)	5.2	Pass
						RATING =	**53.9**	**Pass**

ATTACHMENT 3

May 30, 2019
July 30, 2019 (Rev. 1)
February 6, 2020 (Rev. 2)
March 10, 2020 (Rev. 3)

SAI Communications
12 Industrial Way
Salem NH, 03079

RE:		
	Site Number:	CT1030 (NSB)
	FA Number:	10035264
	PACE Number:	MRCTB022080
	PT Number:	2051A09FYH
	Site Name:	SOUTHINGTON MILL ST H20 TANK
	Site Address:	435 Mill Street Southington, CT 06489

To Whom It May Concern:

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

- **(6) TPA65R-BU8D Antenna (96.0"x20.7"x7.7"– Wt. = 88 lbs. /each)**
- **(3) OPA65R-BU8B Antenna (95.9"x11.7"x8.4"– Wt. = 69 lbs. /each)**
- **(3) 4449 B5/B12 RRH's (17.9"x13.2"x9.5" – Wt. = 73 lbs. /each)**
- **(3) 8843 B2/B66A RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)**
- **(3) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each)**

*Proposed equipment shown in bold

Mount fabrication drawings prepared by SitePro1 P/N VFA12-WLL-30120, dated May 3, 2018 were used to perform this analysis.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R13.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 125 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.5 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.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.

Based on our evaluation, we have determined that the New SitePro1 VFA12-WLL-30120 mounts **ARE CAPABLE** of supporting the proposed installation. HDG recommends the following:

- **Distance from end of face pipe to the center of the standoff to not exceed 4'-8". (typ. of 1 per sector, total of 3).**
- **Stiff-arm to be installed 6'-0" away from the center of the standoff. (typ. of 1 per Alpha and Beta sector).**
- **Stiff-arm to be installed 7'-6" away from the center of the standoff. (typ. of 1 per Gamma sector).**
- **Install new 2-1/2" std. (2.88" O. D.) x 14'-0" horizontal steel pipe mast secured to proposed mount face. (typ. of 2 per Gamma Sector).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
New Mount Rating Alpha and Beta Sector	96	LC30	68%	**PASS**
New Mount Rating Gamma Sector	96	LC30	88%	**PASS**

Reference Documents:

- Fabrication drawings prepared by SitePro1 P/N VFA12- WLL-30120, dated May 3, 2018.

This determination was based on the following limitations and assumptions:

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

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

Respectfully Submitted,
Hudson Design Group LLC

Michael Cabral
Vice President

STATE OF CONNECTICUT
DANIEL HAMM
24778
LICENSED
PROFESSIONAL ENGINEER

Daniel P. Hamm, PE
Principal

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 2/7/2020
Project Name: SOUTHINGTON MILL ST H20 TANK
Project No.: CT1030
Designed By: RL **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)
K_z=	**0.983**	α=	7.0

$Kzmin \le Kz \le 2.01$

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**	K_h=	1
		K_c=	0.9 (from Table 2-4)
(If Category 1 then K_{zt} =1.0)		K_t=	0 (from Table 2-5)
		f=	0 (from Table 2-5)
Category=	1	z=	98
		z_s=	318 (Mean elevation of base of structure above sea level)
		H=	50 (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=	1.0 (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

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2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

G_h = 1.0 Latticed Structures > 600 ft

G_h = 0.85 Latticed Structures 450 ft or less

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

h=	120	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

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

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

q_z=	**33.02**	K_z=	0.983	(from 2.6.5.2)
$q_{z\,(ice)}$=	**5.28**	K_{zt}=	1.0	(from 2.6.6.2.1)
$q_{z\,(30)}$=	**1.90**	K_s=	1.0	(from 2.6.7)
		K_e=	0.99	(from 2.6.8)
		K_d=	0.85	(from Table 2-2)
		V_{max}=	125	mph (Ultimate Wind Speed)
		$V_{max\,(ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

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

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Determine Ca:

Table 2-9

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

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

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

Ice Thickness = 1.67 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)
TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	4.64	1.30	590	114	34
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	8.20	1.44	371	79	21
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.88	1.20	47	12	3
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.36	1.20	65	15	4
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.20	45	11	3
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.20	54	13	3
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	37	9	2
PL 3-1/2x5/8	3.5	0.6	-	0.02	5.60	1.20	1		
PL 11-1/4x5/8	11.3	0.5	-	0.04	22.50	1.20	2		
5/8" Round Bar	0.6	12.0	-	0.05	0.05	1.20	2		
3/4" Round Bar	0.8	12.0	-	0.06	0.06	1.20	2		
2" Pipe	2.4	12.0	-	0.20	0.20	1.20	8		
2-1/2" Pipe	2.9	12.0	-	0.24	0.24	1.20	9		

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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) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	590	268	510
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	371	286	349
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	47	65	51
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	65	47	60
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	45	54	47
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	54	45	52

WIND LOADS WITH ICE:

TPA65R-BU8D Antenna	99.3	24.0	11.0	16.59	7.62	4.13	8.99	1.27	1.47	112	59	98
OPA65R-BU8B Antenna	99.2	15.0	11.7	10.37	8.09	6.60	8.45	1.38	1.45	76	62	72
4449 B5/B12 RRH	21.2	12.8	16.5	1.90	2.44	1.65	1.28	1.20	1.20	12	15	13
4449 B5/B12 RRH (Side)	21.2	16.5	12.8	2.44	1.90	1.28	1.65	1.20	1.20	15	12	15
8843 B2/B66A RRH	18.2	14.2	16.5	1.80	2.10	1.28	1.10	1.20	1.20	11	13	12
8843 B2/B66A RRH (Side)	18.2	16.5	14.2	2.10	1.80	1.10	1.28	1.20	1.20	13	11	13

WIND LOADS AT 30 MPH:

TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	34	15	29
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	21	16	20
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	3	4	3
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	4	3	3
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3

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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) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	590	268	349
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	371	286	307
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	47	65	60
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	65	47	51
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	45	54	52
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	54	45	47

WIND LOADS WITH ICE:

TPA65R-BU8D Antenna	99.3	24.0	11.0	16.59	7.62	4.13	8.99	1.27	1.47	112	59	72
OPA65R-BU8B Antenna	99.2	15.0	11.7	10.37	8.09	6.60	8.45	1.38	1.45	76	62	65
4449 B5/B12 RRH	21.2	12.8	16.5	1.90	2.44	1.65	1.28	1.20	1.20	12	15	15
4449 B5/B12 RRH (Side)	21.2	16.5	12.8	2.44	1.90	1.28	1.65	1.20	1.20	15	12	13
8843 B2/B66A RRH	18.2	14.2	16.5	1.80	2.10	1.28	1.10	1.20	1.20	11	13	13
8843 B2/B66A RRH (Side)	18.2	16.5	14.2	2.10	1.80	1.10	1.28	1.20	1.20	13	11	12

WIND LOADS AT 30 MPH:

TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	34	15	20
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	21	16	18
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	3	4	3
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	4	3	3
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3

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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) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	590	268	268
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	371	286	286
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	47	65	65
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	65	47	47
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	45	54	54
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	54	45	45

WIND LOADS WITH ICE:

TPA65R-BU8D Antenna	99.3	24.0	11.0	16.59	7.62	4.13	8.99	1.27	1.47	112	59	59
OPA65R-BU8B Antenna	99.2	15.0	11.7	10.37	8.09	6.60	8.45	1.38	1.45	76	62	62
4449 B5/B12 RRH	21.2	12.8	16.5	1.90	2.44	1.65	1.28	1.20	1.20	12	15	15
4449 B5/B12 RRH (Side)	21.2	16.5	12.8	2.44	1.90	1.28	1.65	1.20	1.20	15	12	12
8843 B2/B66A RRH	18.2	14.2	16.5	1.80	2.10	1.28	1.10	1.20	1.20	11	13	13
8843 B2/B66A RRH (Side)	18.2	16.5	14.2	2.10	1.80	1.10	1.28	1.20	1.20	13	11	11

WIND LOADS AT 30 MPH:

TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	34	15	15
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	21	16	16
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	3	4	4
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	4	3	3
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3

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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) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	590	268	349
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	371	286	307
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	47	65	60
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	65	47	51
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	45	54	52
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	54	45	47

WIND LOADS WITH ICE:

TPA65R-BU8D Antenna	99.3	24.0	11.0	16.59	7.62	4.13	8.99	1.27	1.47	112	59	72
OPA65R-BU8B Antenna	99.2	15.0	11.7	10.37	8.09	6.60	8.45	1.38	1.45	76	62	65
4449 B5/B12 RRH	21.2	12.8	16.5	1.90	2.44	1.65	1.28	1.20	1.20	12	15	15
4449 B5/B12 RRH (Side)	21.2	16.5	12.8	2.44	1.90	1.28	1.65	1.20	1.20	15	12	13
8843 B2/B66A RRH	18.2	14.2	16.5	1.80	2.10	1.28	1.10	1.20	1.20	11	13	13
8843 B2/B66A RRH (Side)	18.2	16.5	14.2	2.10	1.80	1.10	1.28	1.20	1.20	13	11	12

WIND LOADS AT 30 MPH:

TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	34	15	20
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	21	16	18
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	3	4	3
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	4	3	3
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3

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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) (normal)	Force (lbs) (side)	Force (lbs) (angle)
TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	590	268	510
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	371	286	349
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	47	65	51
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	65	47	60
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	45	54	47
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	54	45	52

WIND LOADS WITH ICE:

TPA65R-BU8D Antenna	99.3	24.0	11.0	16.59	7.62	4.13	8.99	1.27	1.47	112	59	98
OPA65R-BU8B Antenna	99.2	15.0	11.7	10.37	8.09	6.60	8.45	1.38	1.45	76	62	72
4449 B5/B12 RRH	21.2	12.8	16.5	1.90	2.44	1.65	1.28	1.20	1.20	12	15	13
4449 B5/B12 RRH (Side)	21.2	16.5	12.8	2.44	1.90	1.28	1.65	1.20	1.20	15	12	15
8843 B2/B66A RRH	18.2	14.2	16.5	1.80	2.10	1.28	1.10	1.20	1.20	11	13	12
8843 B2/B66A RRH (Side)	18.2	16.5	14.2	2.10	1.80	1.10	1.28	1.20	1.20	13	11	13

WIND LOADS AT 30 MPH:

TPA65R-BU8D Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	34	15	29
OPA65R-BU8B Antenna	95.9	11.7	8.4	7.79	5.59	8.20	11.42	1.44	1.55	21	16	20
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	3	4	3
4449 B5/B12 RRH (Side)	17.9	13.2	9.5	1.64	1.18	1.36	1.88	1.20	1.20	4	3	3
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	3	3
8843 B2/B66A RRH (Side)	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3

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Designed By: RL **Checked By:** MSC

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ICE WEIGHT CALCULATIONS

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

TPA65R-BU8D 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:	88.0 lbs	
Combined weight of ice and object:		476 lbs

OPA65R-BU8B Antenna

Weight of ice based on total radial SF area:

Height (in):	95.9	
Width (in):	11.7	
Depth (in):	8.4	
Total weight of ice on object:		262 lbs
Weight of object:	69.0 lbs	
Combined weight of ice and object:		331 lbs

4449 B5/B12 RRH

Weight of ice based on total radial SF area:

Height (in):	17.9	
Width (in):	13.2	
Depth (in):	9.5	
Total weight of ice on object:		55 lbs
Weight of object:	71.0 lbs	
Combined weight of ice and object:		126 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

Squid Surge Arrestor

Weight of ice based on total radial SF area:

Depth (in):	24.0	
Diameter(in):	9.7	
Total weight of ice on object:		46 lbs
Weight of object:	33 lbs	
Combined weight of ice and object:		79 lbs

PL 11-1/4x5/8

Weight of ice based on total radial SF area:

Height (in):	11.25	
Width (in):	0.625	
Per foot weight of ice on object:		26 plf

PL 3-1/2x5/8

Weight of ice based on total radial SF area:

Height (in):	3.5	
Width (in):	0.625	
Per foot weight of ice on object:		11 plf

3/4" Round Bar

Per foot weight of ice:

diameter (in):	0.75	
Per foot weight of ice on object:		5 plf

5/8" Round Bar

Per foot weight of ice:

diameter (in):	0.625	
Per foot weight of ice on object:		5 plf

2-1/2" pipe

Per foot weight of ice:

diameter (in):	2.88	
Per foot weight of ice on object:		9 plf

2" pipe

Per foot weight of ice:

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

HUDSON
Design Group LLC

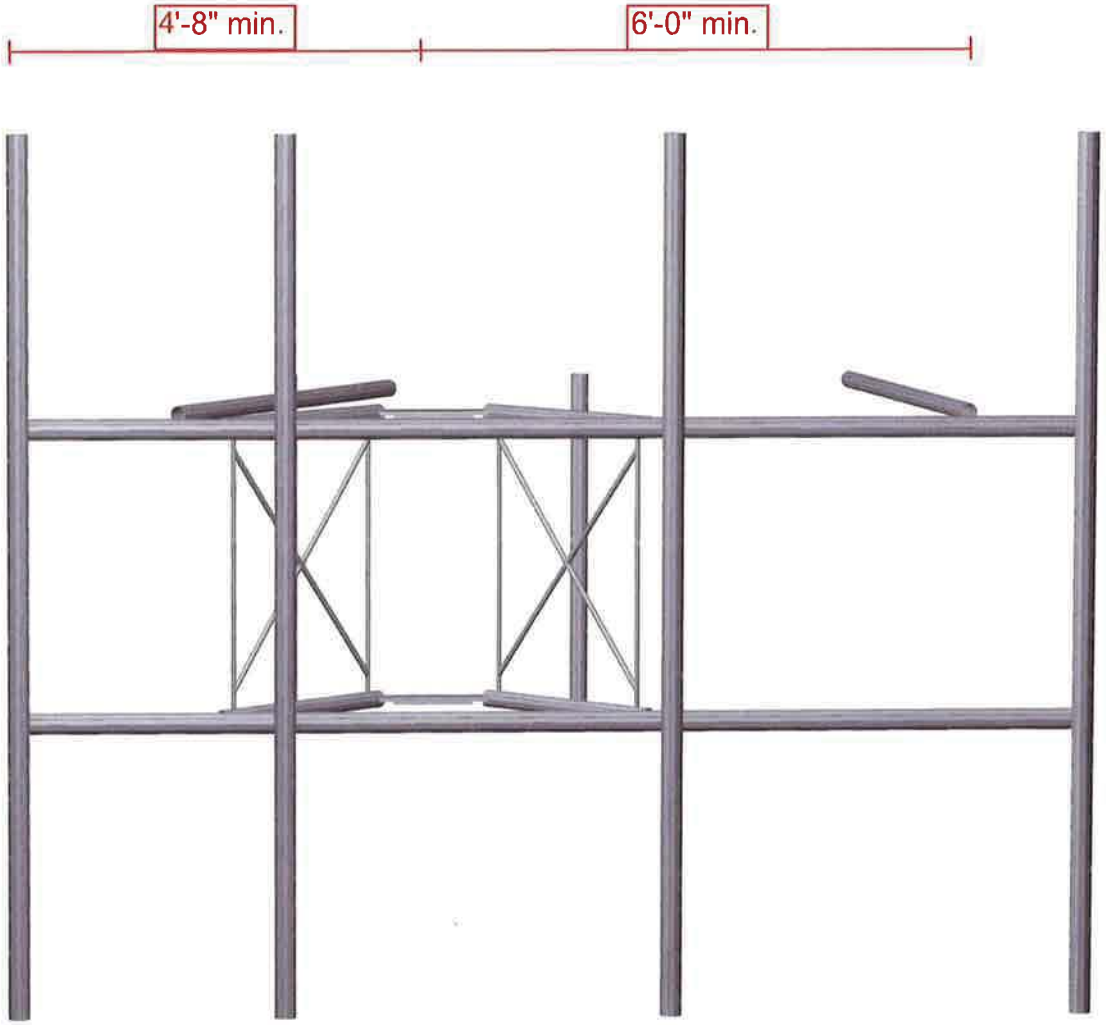
New Mount
Alpha and Beta Calculations

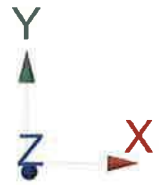
Bentley

Current Date: 3/10/2020 6:48 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1030\Rev. 3\CT1030 (Alpha and Beta Sector)(Rev. 3).r

Distance from end of face pipe to center of standoff to not exceed 4'-8".

Stiff-arm to be installed 6'-0" away from the center of the standoff. (typ. of 1 per Alpha and Beta sector).





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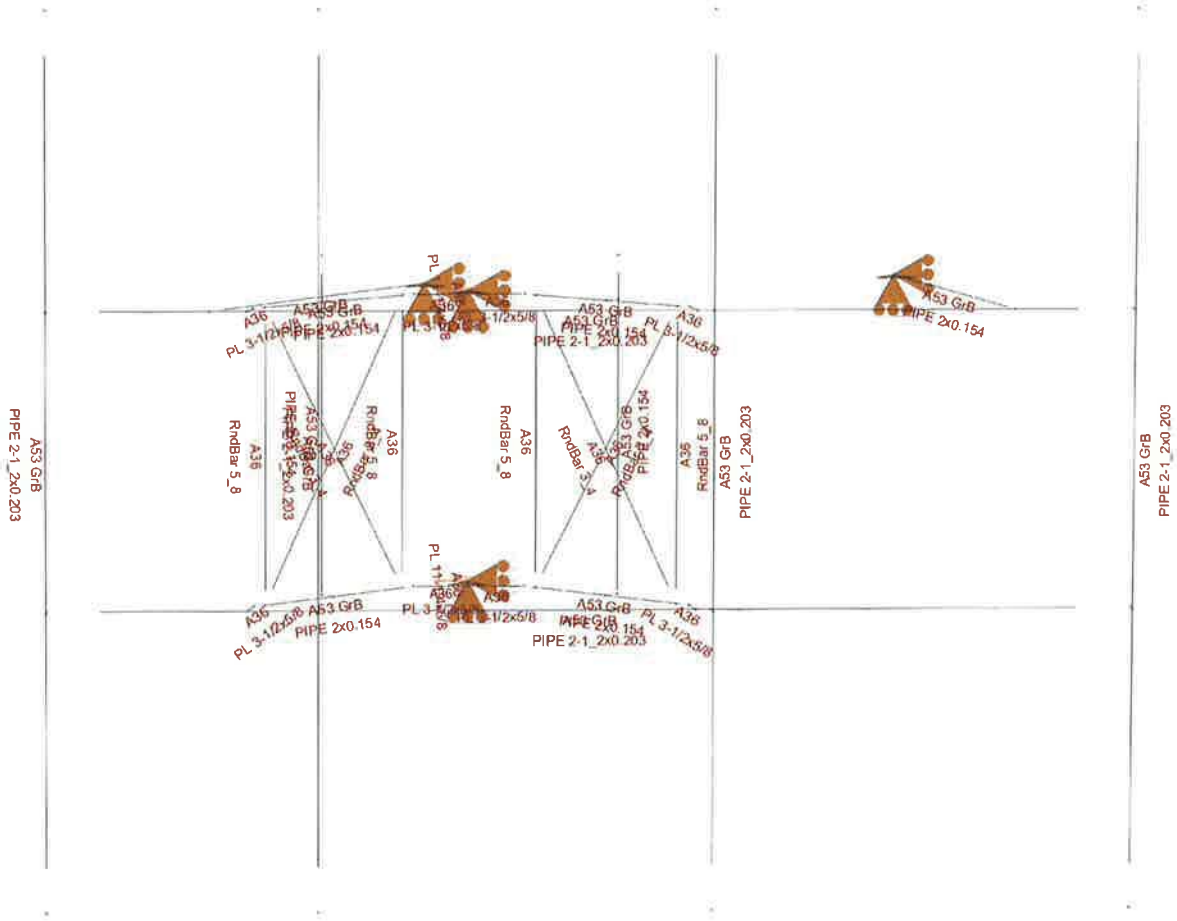
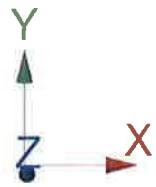
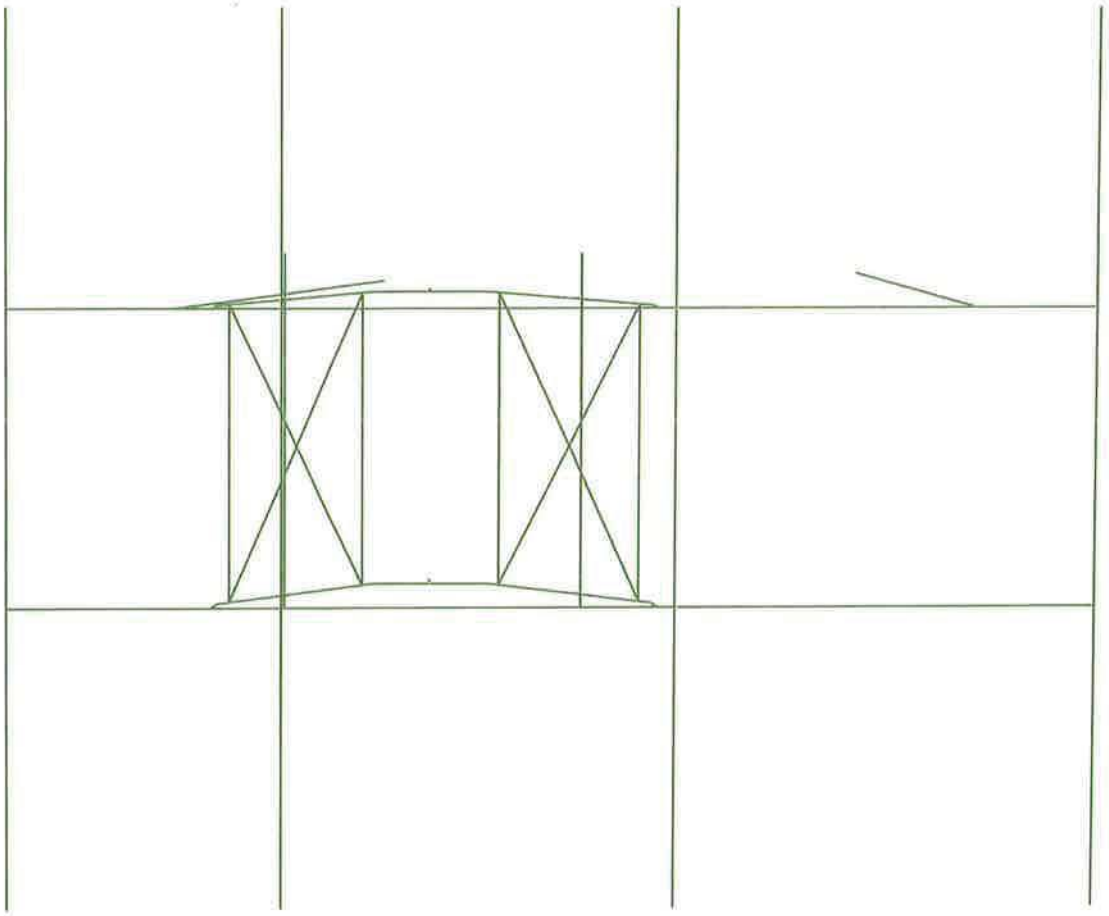
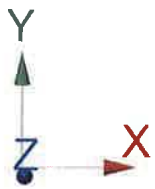




Design status
- Not designed
- Error on design
- Design O.K.
- With warnings





Bentley

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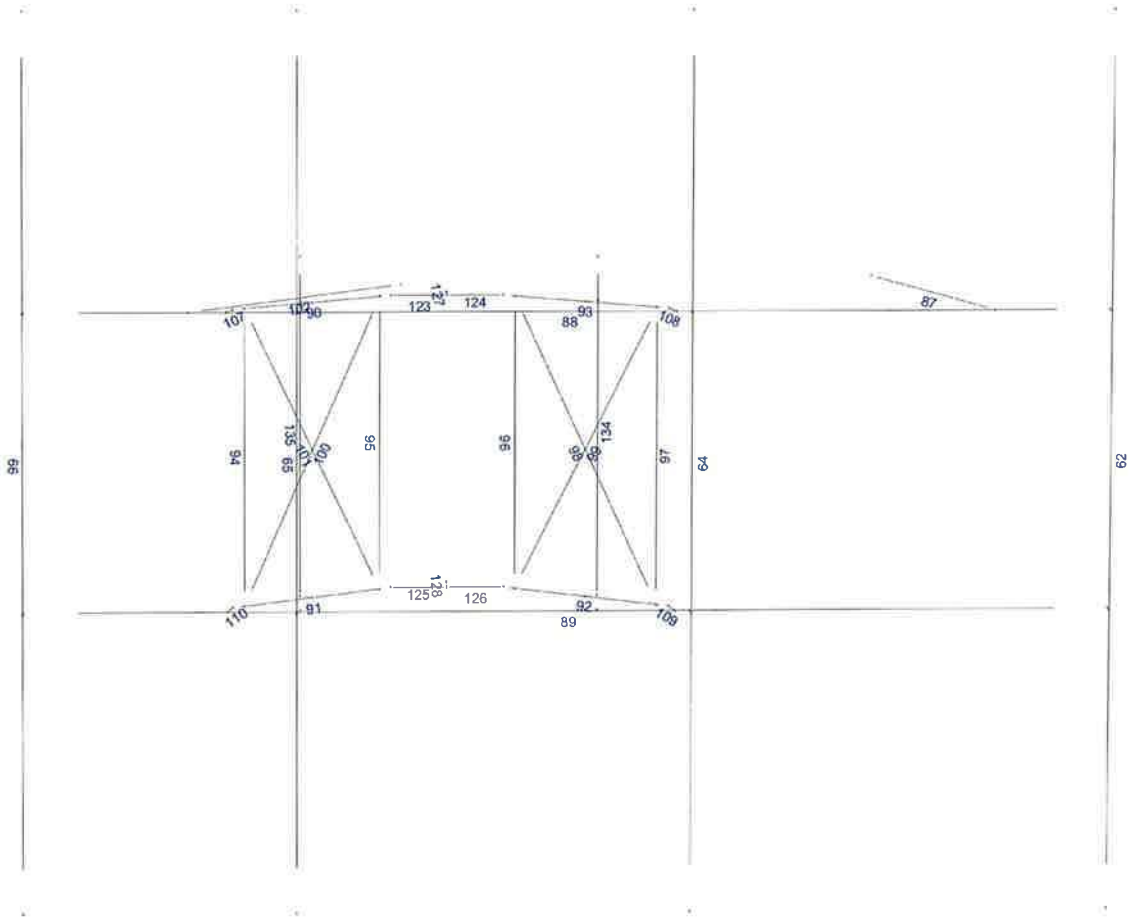

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Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1030\Rev. 3\CT1030 (Alpha and Beta Sector)(Rev. 3).retx

Load data

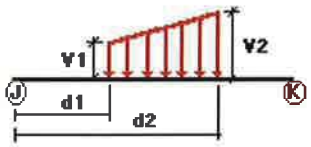
GLOSSARY

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

Distributed force on members



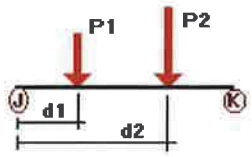
Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	64	z	-0.009	-0.009	0.00	No	100.00	Yes
	65	z	-0.009	-0.009	0.00	No	100.00	Yes
	94	z	-0.002	-0.002	0.00	No	100.00	Yes
	95	z	-0.002	-0.002	0.00	No	100.00	Yes
	96	z	-0.002	-0.002	0.00	No	100.00	Yes
	97	z	-0.002	-0.002	0.00	No	100.00	Yes
	98	z	-0.002	-0.002	0.00	No	100.00	Yes
	99	z	-0.002	-0.002	0.00	No	100.00	Yes
	100	z	-0.002	-0.002	0.00	No	100.00	Yes
	101	z	-0.002	-0.002	0.00	No	100.00	Yes
	134	z	-0.008	-0.008	0.00	No	100.00	Yes
	135	z	-0.008	-0.008	0.00	No	100.00	Yes
	88	z	-0.009	-0.009	0.00	No	100.00	Yes
	89	z	-0.009	-0.009	0.00	No	100.00	Yes
	87	z	-0.008	-0.008	0.00	No	100.00	Yes
	108	z	-0.001	-0.001	0.00	No	100.00	Yes
	109	z	-0.001	-0.001	0.00	No	100.00	Yes
	92	z	-0.008	-0.008	0.00	No	100.00	Yes
	93	z	-0.008	-0.008	0.00	No	100.00	Yes
	91	z	-0.008	-0.008	0.00	No	100.00	Yes
	90	z	-0.008	-0.008	0.00	No	100.00	Yes
	102	z	-0.008	-0.008	0.00	No	100.00	Yes
	123	z	-0.001	-0.001	0.00	No	100.00	Yes
	125	z	-0.001	-0.001	0.00	No	100.00	Yes
	124	z	-0.001	-0.001	0.00	No	100.00	Yes
	127	z	-0.002	-0.002	0.00	No	100.00	Yes
	126	z	-0.001	-0.001	0.00	No	100.00	Yes
	110	z	-0.001	-0.001	0.00	No	100.00	Yes
	107	z	-0.001	-0.001	0.00	No	100.00	Yes
	128	z	-0.002	-0.002	0.00	No	100.00	Yes
W30	62	z	-0.009	-0.009	0.00	No	100.00	Yes
	64	z	-0.009	-0.009	0.00	No	100.00	Yes
	65	z	-0.009	-0.009	0.00	No	100.00	Yes
	66	z	-0.009	-0.009	0.00	No	100.00	Yes
	94	z	-0.002	-0.002	0.00	No	100.00	Yes
	95	z	-0.002	-0.002	0.00	No	100.00	Yes
	96	z	-0.002	-0.002	0.00	No	100.00	Yes
	97	z	-0.002	-0.002	0.00	No	100.00	Yes
	98	z	-0.002	-0.002	0.00	No	100.00	Yes
	99	z	-0.002	-0.002	0.00	No	100.00	Yes
	100	z	-0.002	-0.002	0.00	No	100.00	Yes
	101	z	-0.002	-0.002	0.00	No	100.00	Yes
	134	z	-0.008	-0.008	0.00	No	100.00	Yes
	135	z	-0.008	-0.008	0.00	No	100.00	Yes
	88	z	-0.009	-0.009	0.00	No	100.00	Yes
	89	z	-0.009	-0.009	0.00	No	100.00	Yes
	87	z	-0.008	-0.008	0.00	No	100.00	Yes
	108	z	-0.001	-0.001	0.00	No	100.00	Yes
	109	z	-0.001	-0.001	0.00	No	100.00	Yes
	102	z	-0.008	-0.008	0.00	No	100.00	Yes
	123	z	-0.001	-0.001	0.00	No	100.00	Yes
	125	z	-0.001	-0.001	0.00	No	100.00	Yes
	124	z	-0.001	-0.001	0.00	No	100.00	Yes
	127	z	-0.002	-0.002	0.00	No	100.00	Yes
	126	z	-0.001	-0.001	0.00	No	100.00	Yes
	110	z	-0.001	-0.001	0.00	No	100.00	Yes
	107	z	-0.001	-0.001	0.00	No	100.00	Yes
	128	z	-0.002	-0.002	0.00	No	100.00	Yes
W60	62	x	-0.009	-0.009	0.00	No	100.00	Yes
	64	x	-0.009	-0.009	0.00	No	100.00	Yes

	65	x	-0.009	-0.009	0.00	No	100.00	Yes
	66	x	-0.009	-0.009	0.00	No	100.00	Yes
	94	x	-0.002	-0.002	0.00	No	100.00	Yes
	95	x	-0.002	-0.002	0.00	No	100.00	Yes
	96	x	-0.002	-0.002	0.00	No	100.00	Yes
	97	x	-0.002	-0.002	0.00	No	100.00	Yes
	98	x	-0.002	-0.002	0.00	No	100.00	Yes
	99	x	-0.002	-0.002	0.00	No	100.00	Yes
	100	x	-0.002	-0.002	0.00	No	100.00	Yes
	101	x	-0.002	-0.002	0.00	No	100.00	Yes
	134	x	-0.008	-0.008	0.00	No	100.00	Yes
	135	x	-0.008	-0.008	0.00	No	100.00	Yes
	88	x	-0.009	-0.009	0.00	No	100.00	Yes
	89	x	-0.009	-0.009	0.00	No	100.00	Yes
	87	x	-0.008	-0.008	0.00	No	100.00	Yes
	108	x	-0.001	-0.001	0.00	No	100.00	Yes
	109	x	-0.001	-0.001	0.00	No	100.00	Yes
	102	x	-0.008	-0.008	0.00	No	100.00	Yes
	123	x	-0.001	-0.001	0.00	No	100.00	Yes
	125	x	-0.001	-0.001	0.00	No	100.00	Yes
	124	x	-0.001	-0.001	0.00	No	100.00	Yes
	127	x	-0.002	-0.002	0.00	No	100.00	Yes
	126	x	-0.001	-0.001	0.00	No	100.00	Yes
	110	x	-0.001	-0.001	0.00	No	100.00	Yes
	107	x	-0.001	-0.001	0.00	No	100.00	Yes
	128	x	-0.002	-0.002	0.00	No	100.00	Yes
W90	62	x	-0.009	-0.009	0.00	No	100.00	Yes
	64	x	-0.009	-0.009	0.00	No	100.00	Yes
	65	x	-0.009	-0.009	0.00	No	100.00	Yes
	66	x	-0.009	-0.009	0.00	No	100.00	Yes
	94	x	-0.002	-0.002	0.00	No	100.00	Yes
	95	x	-0.002	-0.002	0.00	No	100.00	Yes
	96	x	-0.002	-0.002	0.00	No	100.00	Yes
	97	x	-0.002	-0.002	0.00	No	100.00	Yes
	98	x	-0.002	-0.002	0.00	No	100.00	Yes
	99	x	-0.002	-0.002	0.00	No	100.00	Yes
	100	x	-0.002	-0.002	0.00	No	100.00	Yes
	101	x	-0.002	-0.002	0.00	No	100.00	Yes
	134	x	-0.008	-0.008	0.00	No	100.00	Yes
	135	x	-0.008	-0.008	0.00	No	100.00	Yes
	87	x	-0.008	-0.008	0.00	No	100.00	Yes
	108	x	-0.001	-0.001	0.00	No	100.00	Yes
	109	x	-0.001	-0.001	0.00	No	100.00	Yes
	102	x	-0.008	-0.008	0.00	No	100.00	Yes
	127	x	-0.002	-0.002	0.00	No	100.00	Yes
	110	x	-0.001	-0.001	0.00	No	100.00	Yes
	107	x	-0.001	-0.001	0.00	No	100.00	Yes
	128	x	-0.002	-0.002	0.00	No	100.00	Yes
W120	62	x	-0.009	-0.009	0.00	No	100.00	Yes
	64	x	-0.009	-0.009	0.00	No	100.00	Yes
	65	x	-0.009	-0.009	0.00	No	100.00	Yes
	66	x	-0.009	-0.009	0.00	No	100.00	Yes
	94	x	-0.002	-0.002	0.00	No	100.00	Yes
	95	x	-0.002	-0.002	0.00	No	100.00	Yes
	96	x	-0.002	-0.002	0.00	No	100.00	Yes
	97	x	-0.002	-0.002	0.00	No	100.00	Yes
	98	x	-0.002	-0.002	0.00	No	100.00	Yes
	99	x	-0.002	-0.002	0.00	No	100.00	Yes
	100	x	-0.002	-0.002	0.00	No	100.00	Yes
	101	x	-0.002	-0.002	0.00	No	100.00	Yes

	134	x	-0.008	-0.008	0.00	No	100.00	Yes
	135	x	-0.008	-0.008	0.00	No	100.00	Yes
	88	x	-0.009	-0.009	0.00	No	100.00	Yes
	89	x	-0.009	-0.009	0.00	No	100.00	Yes
	87	x	-0.008	-0.008	0.00	No	100.00	Yes
	108	x	-0.001	-0.001	0.00	No	100.00	Yes
	109	x	-0.001	-0.001	0.00	No	100.00	Yes
	102	x	-0.008	-0.008	0.00	No	100.00	Yes
	123	x	-0.001	-0.001	0.00	No	100.00	Yes
	125	x	-0.001	-0.001	0.00	No	100.00	Yes
	124	x	-0.001	-0.001	0.00	No	100.00	Yes
	127	x	-0.002	-0.002	0.00	No	100.00	Yes
	126	x	-0.001	-0.001	0.00	No	100.00	Yes
	110	x	-0.001	-0.001	0.00	No	100.00	Yes
	107	x	-0.001	-0.001	0.00	No	100.00	Yes
	128	x	-0.002	-0.002	0.00	No	100.00	Yes
W150	62	z	0.009	0.009	0.00	No	100.00	Yes
	64	z	0.009	0.009	0.00	No	100.00	Yes
	65	z	0.009	0.009	0.00	No	100.00	Yes
	66	z	0.009	0.009	0.00	No	100.00	Yes
	94	z	0.002	0.002	0.00	No	100.00	Yes
	95	z	0.002	0.002	0.00	No	100.00	Yes
	96	z	0.002	0.002	0.00	No	100.00	Yes
	97	z	0.002	0.002	0.00	No	100.00	Yes
	98	z	0.002	0.002	0.00	No	100.00	Yes
	99	z	0.002	0.002	0.00	No	100.00	Yes
	100	z	0.002	0.002	0.00	No	100.00	Yes
	101	z	0.002	0.002	0.00	No	100.00	Yes
	134	z	0.008	0.008	0.00	No	100.00	Yes
	135	z	0.008	0.008	0.00	No	100.00	Yes
	88	z	0.009	0.009	0.00	No	100.00	Yes
	89	z	0.009	0.009	0.00	No	100.00	Yes
	87	z	0.008	0.008	0.00	No	100.00	Yes
	108	z	0.001	0.001	0.00	No	100.00	Yes
	109	z	0.001	0.001	0.00	No	100.00	Yes
	102	z	0.008	0.008	0.00	No	100.00	Yes
	123	z	0.001	0.001	0.00	No	100.00	Yes
	125	z	0.001	0.001	0.00	No	100.00	Yes
	124	z	0.001	0.001	0.00	No	100.00	Yes
	127	z	0.002	0.002	0.00	No	100.00	Yes
	126	z	0.001	0.001	0.00	No	100.00	Yes
	110	z	0.001	0.001	0.00	No	100.00	Yes
	107	z	0.001	0.001	0.00	No	100.00	Yes
	128	z	0.002	0.002	0.00	No	100.00	Yes
Di	62	y	-0.009	-0.009	0.00	No	100.00	Yes
	64	y	-0.009	-0.009	0.00	No	100.00	Yes
	65	y	-0.009	-0.009	0.00	No	100.00	Yes
	66	y	-0.009	-0.009	0.00	No	100.00	Yes
	94	y	-0.005	-0.005	0.00	No	100.00	Yes
	95	y	-0.005	-0.005	0.00	No	100.00	Yes
	96	y	-0.005	-0.005	0.00	No	100.00	Yes
	97	y	-0.005	-0.005	0.00	No	100.00	Yes
	98	y	-0.005	-0.005	0.00	No	100.00	Yes
	99	y	-0.005	-0.005	0.00	No	100.00	Yes
	100	y	-0.005	-0.005	0.00	No	100.00	Yes
	101	y	-0.005	-0.005	0.00	No	100.00	Yes
	134	y	-0.008	-0.008	0.00	No	100.00	Yes
	135	y	-0.008	-0.008	0.00	No	100.00	Yes
	88	y	-0.009	-0.009	0.00	No	100.00	Yes
	89	y	-0.009	-0.009	0.00	No	100.00	Yes

87	y	-0.008	-0.008	0.00	No	100.00	Yes
108	y	-0.005	-0.005	0.00	No	100.00	Yes
109	y	-0.005	-0.005	0.00	No	100.00	Yes
92	y	-0.008	-0.008	0.00	No	100.00	Yes
93	y	-0.008	-0.008	0.00	No	100.00	Yes
91	y	-0.008	-0.008	0.00	No	100.00	Yes
90	y	-0.008	-0.008	0.00	No	100.00	Yes
102	y	-0.008	-0.008	0.00	No	100.00	Yes
123	y	-0.005	-0.005	0.00	No	100.00	Yes
125	y	-0.005	-0.005	0.00	No	100.00	Yes
124	y	-0.005	-0.005	0.00	No	100.00	Yes
127	y	-0.011	-0.011	0.00	No	100.00	Yes
126	y	-0.005	-0.005	0.00	No	100.00	Yes
110	y	-0.005	-0.005	0.00	No	100.00	Yes
107	y	-0.005	-0.005	0.00	No	100.00	Yes
128	y	-0.011	-0.011	0.00	No	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	62	y	-0.044	1.50	No
		y	-0.044	8.50	No
	66	y	-0.044	1.50	No
		y	-0.044	8.50	No
	134	y	-0.072	2.50	No
		y	-0.071	2.50	No
	135	y	-0.033	2.50	No
Wo	62	z	-0.296	1.50	No
		z	-0.296	8.50	No
	66	z	-0.296	1.50	No
		z	-0.296	8.50	No
	134	z	-0.065	2.50	No
		z	-0.054	2.50	No
	135	z	-0.037	2.50	No
W30	62	3	-0.255	1.50	No
		3	-0.255	8.50	No
	66	3	-0.255	1.50	No
		3	-0.255	8.50	No
	134	3	-0.06	2.50	No
	135	3	-0.037	1.50	No
W60	62	3	-0.175	1.50	No
		3	-0.175	8.50	No
	66	3	-0.175	1.50	No
		3	-0.175	8.50	No
	134	3	-0.051	2.50	No
	135	3	-0.037	2.50	No
W90	62	x	-0.135	1.50	No
		x	-0.135	8.50	No
	66	x	-0.135	1.50	No

		x	-0.135	8.50	No
	134	x	-0.047	2.50	No
	135	x	-0.037	2.50	No
W120	62	2	-0.175	1.50	No
		2	-0.175	8.50	No
	66	2	-0.175	1.50	No
		2	-0.175	8.50	No
	134	2	-0.051	2.50	No
	135	2	-0.037	2.50	No
W150	62	2	-0.255	1.50	No
		2	-0.255	8.50	No
	66	2	-0.255	1.50	No
		2	-0.255	8.50	No
	134	2	-0.06	2.50	No
	135	2	-0.037	2.50	No
Di	62	y	-0.194	1.50	No
		y	-0.194	8.50	No
	66	y	-0.194	1.50	No
		y	-0.194	8.50	No
	134	y	-0.048	2.50	No
		y	-0.055	2.50	No
	135	y	-0.046	2.50	No
WI0	62	z	-0.057	1.50	No
		z	-0.057	8.50	No
	66	z	-0.057	1.50	No
		z	-0.057	8.50	No
	134	z	-0.015	2.50	No
		z	-0.013	2.50	No
	135	z	-0.009	2.50	No
WI30	62	3	-0.05	1.50	No
		3	-0.05	8.50	No
	66	3	-0.05	1.50	No
		3	-0.05	8.50	No
	134	3	-0.015	2.50	No
	135	3	-0.009	2.50	No
WI60	62	3	-0.037	1.50	No
		3	-0.037	8.50	No
	66	3	-0.037	1.50	No
		3	-0.037	8.50	No
	134	3	-0.013	2.50	No
	135	3	-0.009	2.50	No
WI90	62	x	-0.03	1.50	No
		x	-0.03	8.50	No
	66	x	-0.03	1.50	No
		x	-0.03	8.50	No
	134	x	-0.012	2.50	No
	135	x	-0.009	2.50	No
WI120	62	2	-0.037	1.50	No
		2	-0.037	8.50	No
	66	2	-0.037	1.50	No
		2	-0.037	8.50	No
	134	2	-0.013	2.50	No
	135	2	-0.009	2.50	No
WI150	62	2	-0.05	1.50	No
		2	-0.05	8.50	No
	66	2	-0.05	1.50	No
		2	-0.05	8.50	No
	134	2	-0.015	2.50	No
	135	2	-0.009	2.50	No
WL0	62	z	-0.017	1.50	No

		z	-0.017	8.50	No
	66	z	-0.017	1.50	No
		z	-0.017	8.50	No
	134	z	-0.004	2.50	No
		z	-0.003	2.50	No
	135	z	-0.002	2.50	No
WL30	62	3	-0.015	1.50	No
		3	-0.015	8.50	No
	66	3	-0.015	1.50	No
		3	-0.015	8.50	No
	134	3	-0.003	2.50	No
	135	3	-0.002	2.50	No
WL60	62	3	-0.011	1.50	No
		3	-0.011	8.50	No
	66	3	-0.011	1.50	No
		3	-0.011	8.50	No
	134	3	-0.003	2.50	No
	135	3	-0.002	2.50	No
WL90	62	x	-0.008	1.50	No
		x	-0.008	8.50	No
	66	x	-0.008	1.50	No
		x	-0.008	8.50	No
	134	x	-0.003	2.50	No
	135	x	-0.002	2.50	No
WL120	62	2	-0.011	1.50	No
		2	-0.011	8.50	No
	66	2	-0.011	1.50	No
		2	-0.011	8.50	No
	134	2	-0.003	2.50	No
	135	2	-0.002	2.50	No
WL150	62	2	-0.015	1.50	No
		2	-0.015	8.50	No
	66	2	-0.015	1.50	No
		2	-0.015	8.50	No
	134	2	-0.003	2.50	No
	135	2	-0.002	2.50	No
LL1	88	y	-0.25	50.00	Yes
LL2	88	y	-0.25	100.00	Yes
LL3	88	y	-0.25	0.00	Yes
LLa1	62	y	-0.25	5.00	No
LLa3	66	y	-0.25	5.00	No

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	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00

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

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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
LC38=1.2D+1.5LL1
LC39=1.2D+1.5LL2
LC40=1.2D+1.5LL3
LC41=1.2D+WL0+1.5LLa1
LC42=1.2D+WL30+1.5LLa1
LC43=1.2D+WL60+1.5LLa1
LC44=1.2D+WL90+1.5LLa1
LC45=1.2D+WL120+1.5LLa1
LC46=1.2D+WL150+1.5LLa1
LC47=1.2D-WL0+1.5LLa1
LC48=1.2D-WL30+1.5LLa1
LC49=1.2D-WL60+1.5LLa1
LC50=1.2D-WL90+1.5LLa1
LC51=1.2D-WL120+1.5LLa1
LC52=1.2D-WL150+1.5LLa1
LC53=1.2D+WL0+1.5LLa2

LC54=1.2D+WL30+1.5LLa2
LC55=1.2D+WL60+1.5LLa2
LC56=1.2D+WL90+1.5LLa2
LC57=1.2D+WL120+1.5LLa2
LC58=1.2D+WL150+1.5LLa2
LC59=1.2D-WL0+1.5LLa2
LC60=1.2D-WL30+1.5LLa2
LC61=1.2D-WL60+1.5LLa2
LC62=1.2D-WL90+1.5LLa2
LC63=1.2D-WL120+1.5LLa2
LC64=1.2D-WL150+1.5LLa2
LC65=1.2D+WL0+1.5LLa3
LC66=1.2D+WL30+1.5LLa3
LC67=1.2D+WL60+1.5LLa3
LC68=1.2D+WL90+1.5LLa3
LC69=1.2D+WL120+1.5LLa3
LC70=1.2D+WL150+1.5LLa3
LC71=1.2D-WL0+1.5LLa3
LC72=1.2D-WL30+1.5LLa3
LC73=1.2D-WL60+1.5LLa3
LC74=1.2D-WL90+1.5LLa3
LC75=1.2D-WL120+1.5LLa3
LC76=1.2D-WL150+1.5LLa3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 2-1_2x0.203	**62**	LC36 at 33.33%	0.39	OK	Eq. H1-1b
		64	LC36 at 33.33%	0.24	OK	Eq. H1-1b
		65	LC26 at 33.33%	0.17	OK	Eq. H1-1b
		66	LC7 at 66.67%	0.32	OK	Eq. H1-1b
		88	LC36 at 61.61%	0.42	OK	Eq. H1-1b
		89	LC25 at 61.25%	**0.53**	**OK**	Eq. H1-1b
	PIPE 2x0.154	**87**	LC13 at 100.00%	0.11	OK	Eq. H1-1b
		90	LC9 at 93.75%	0.23	OK	Eq. H1-1b
		91	LC25 at 93.75%	0.17	OK	Eq. H1-1b
		92	LC26 at 93.75%	0.32	OK	Eq. H1-1b
		93	LC32 at 93.75%	0.38	OK	Eq. H1-1b
		102	LC8 at 100.00%	**0.44**	**OK**	Eq. H1-1b
		134	LC32 at 12.50%	0.16	OK	Eq. H1-1b
		135	LC40 at 12.50%	0.08	OK	Eq. H1-1b
	PL 11-1/4x5/8	**127**	LC26 at 100.00%	**0.33**	**OK**	Eq. H1-1b
		128	LC31 at 100.00%	0.24	OK	Eq. H1-1b
	PL 3-1/2x5/8	**107**	LC9 at 100.00%	0.42	OK	Eq. H1-1b
		108	LC25 at 100.00%	0.35	OK	Eq. H1-1b
		109	LC30 at 100.00%	0.44	OK	Eq. H1-1b
		110	LC65 at 100.00%	0.25	OK	Eq. H1-1b
		123	LC9 at 100.00%	0.58	OK	Eq. H1-1b
		124	LC26 at 0.00%	**0.67**	**OK**	Eq. H1-1b
		125	LC36 at 100.00%	0.34	OK	Eq. H1-1b
		126	LC26 at 0.00%	0.65	OK	Eq. H1-1b
	RndBar 3_4	**98**	LC31 at 0.00%	0.25	OK	Eq. H1-1b
		99	LC26 at 0.00%	**0.26**	**OK**	Eq. H1-1b
		100	LC31 at 0.00%	0.13	OK	Eq. H1-1b
		101	LC76 at 100.00%	0.12	OK	Eq. H1-1b
	RndBar 5_8	**94**	LC36 at 87.50%	0.41	OK	Eq. H1-1a
		95	LC40 at 87.50%	0.37	OK	Eq. H1-1a
		96	LC30 at 87.50%	**0.68**	**OK**	Eq. H1-1a
		97	LC26 at 87.50%	0.65	OK	Eq. H1-1a

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Geometry data

GLOSSARY

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

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
175	-0.50	0.00	-1.00	0
142	0.00	0.00	0.00	0
144	0.00	-3.3333	0.00	0
157	5.00	0.00	-2.00	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
175	1	1	1	0	0	0
142	1	1	1	1	0	1
144	1	1	1	1	0	1
157	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
62	153	152		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
64	189	188		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
65	177	176		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
66	155	154		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
94	166	167		RndBar 5_8	A36	0.00	0.00	0.00
95	168	169		RndBar 5_8	A36	0.00	0.00	0.00
96	170	171		RndBar 5_8	A36	0.00	0.00	0.00
97	172	173		RndBar 5_8	A36	0.00	0.00	0.00
98	170	173		RndBar 3_4	A36	0.00	0.00	0.00
99	171	172		RndBar 3_4	A36	0.00	0.00	0.00
100	167	168		RndBar 3_4	A36	0.00	0.00	0.00
101	166	169		RndBar 3_4	A36	0.00	0.00	0.00
134	218	220		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
135	224	225		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
88	158	159		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
89	160	161		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
87	156	157		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
108	165	185		PL 3-1/2x5/8	A36	0.00	0.00	0.00
109	164	186		PL 3-1/2x5/8	A36	0.00	0.00	0.00
92	164	146		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
93	165	147		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
91	163	145		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
90	162	143		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
102	174	175		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
123	143	208		PL 3-1/2x5/8	A36	0.00	0.00	0.00
125	145	209		PL 3-1/2x5/8	A36	0.00	0.00	0.00
124	208	147		PL 3-1/2x5/8	A36	0.00	0.00	0.00
127	208	142		PL 11-1/4x5/8	A36	11.25	9.25	0.00
126	209	146		PL 3-1/2x5/8	A36	0.00	0.00	0.00
110	163	187		PL 3-1/2x5/8	A36	0.00	0.00	0.00
107	162	184		PL 3-1/2x5/8	A36	0.00	0.00	0.00
128	209	144		PL 11-1/4x5/8	A36	11.25	9.25	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
62	315.00	0	0.00	0.00	0.00
64	315.00	0	0.00	0.00	0.00
65	315.00	0	0.00	0.00	0.00
66	315.00	0	0.00	0.00	0.00
94	0.00	2	0.00	0.00	1.00
95	0.00	2	0.00	0.00	1.00
96	0.00	2	0.00	0.00	1.00
97	0.00	2	0.00	0.00	1.00
134	315.00	0	0.00	0.00	0.00
135	315.00	0	0.00	0.00	0.00
108	90.00	0	0.00	0.00	0.00
109	90.00	0	0.00	0.00	0.00
123	90.00	0	0.00	0.00	0.00
125	90.00	0	0.00	0.00	0.00
124	90.00	0	0.00	0.00	0.00
127	90.00	0	0.00	0.00	0.00
126	90.00	0	0.00	0.00	0.00
110	90.00	0	0.00	0.00	0.00
107	90.00	0	0.00	0.00	0.00

128	90.00	0	0.00	0.00	0.00

Rigid end offsets

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

Hinges

	Node-J				Node-K						
Member	M33	M22	V3	V2	M33	M22	V3	V2	TOR	AXL	Axial rigidity
99	0	0	0	0	0	0	0	0	0	0	Tension only
101	0	0	0	0	0	0	0	0	0	0	Tension only
87	1	1	0	0	0	0	0	0	0	0	Full
108	1	1	0	0	0	0	0	0	0	0	Full
109	1	1	0	0	0	0	0	0	0	0	Full
102	1	1	0	0	0	0	0	0	0	0	Full
110	1	1	0	0	0	0	0	0	0	0	Full
107	1	1	0	0	0	0	0	0	0	0	Full

HUDSON
Design Group LLC

New Mount
Gamma Calculations

Bentley

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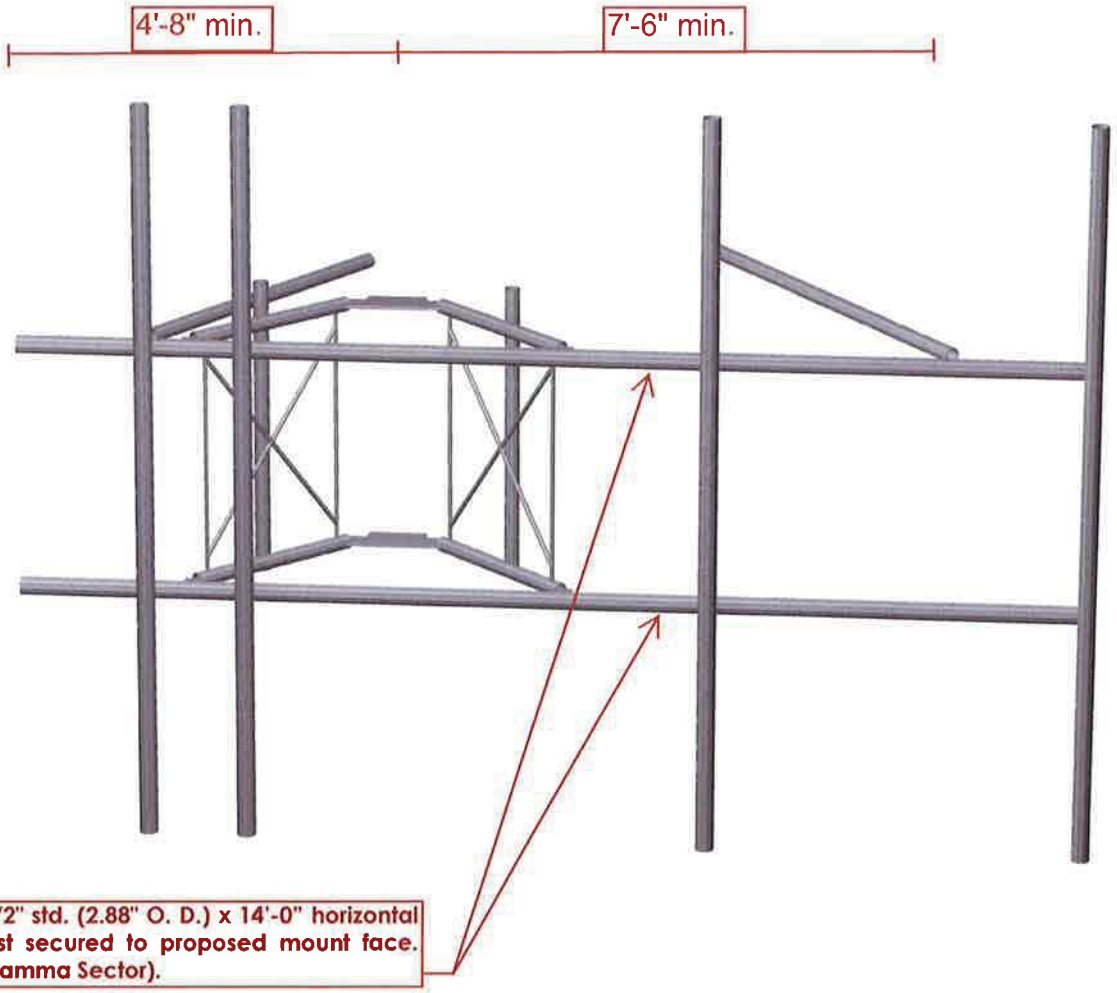
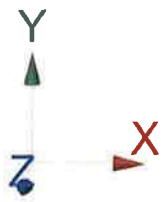
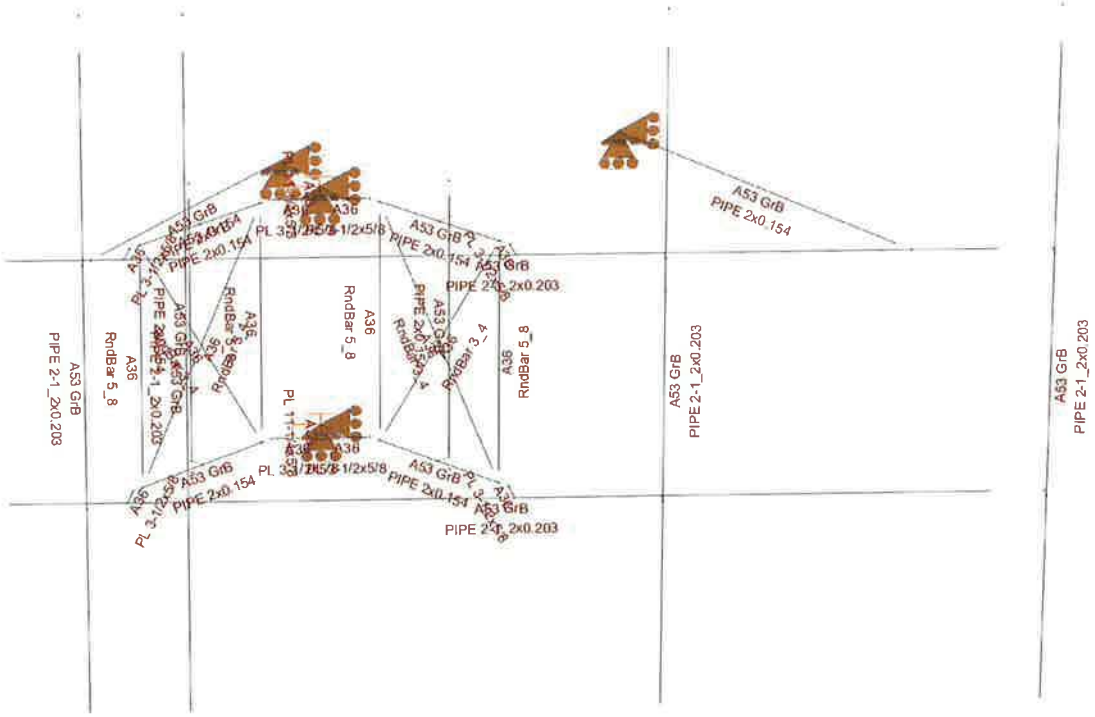
Distance from end of face pipe to center of standoff to not exceed 4'-8".

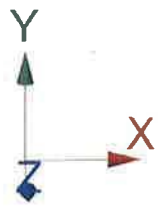
Stiff-arm to be installed 7'-6" away from the center of the standoff. (typ. of 1 per Gamma sector).



Install new 2-1/2" std. (2.88" O. D.) x 14'-0" horizontal steel pipe mast secured to proposed mount face. (typ. of 2 per Gamma Sector).



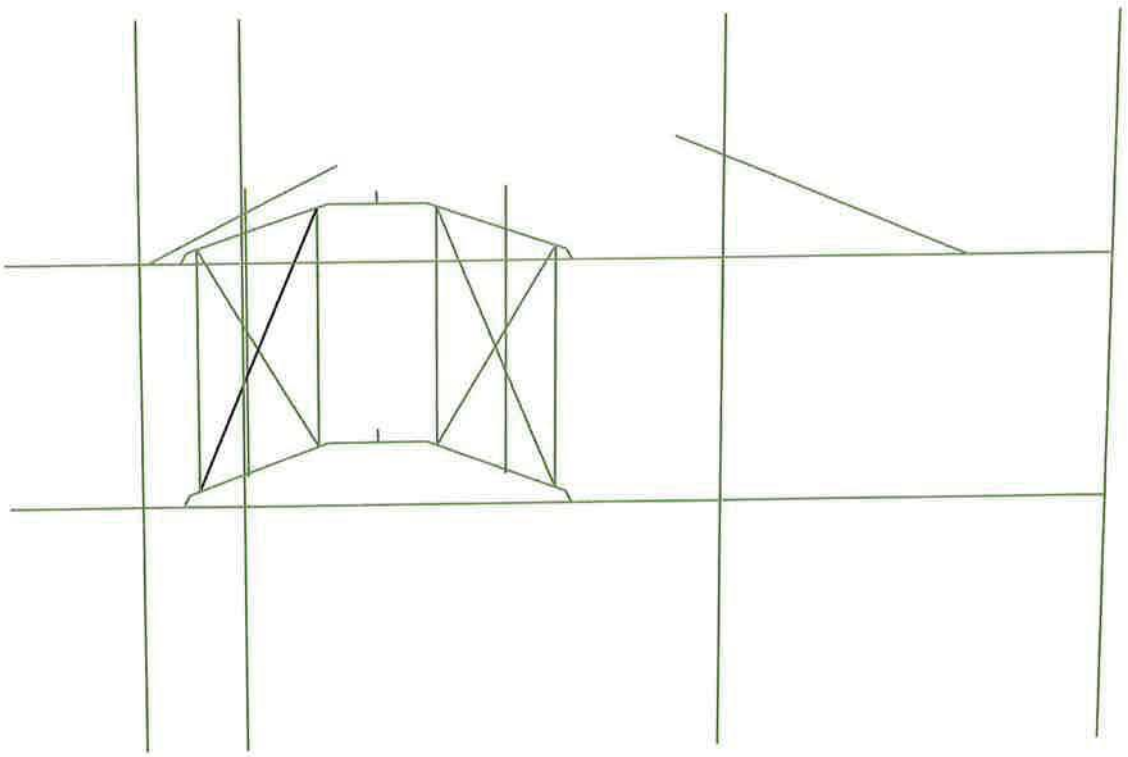

A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2-1_2x0.203
A36
RndBar 5_8
A36
RndBar 3_4
A36
PL 3-1/2x5/8
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2-1_2x0.203
A36
RndBar 5_8
A53 GrB
PIPE 2-1_2x0.203
A53 GrB
PIPE 2-1_2x0.203

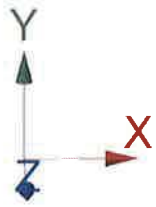

Y
X
Z

Bentley

Current Date: 3/10/2020 6:10 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1030\Rev. 3\CT1030 (Gamma Sector)(Rev.

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





Bentley

Current Date: 3/10/2020 6:10 PM
Units system: English
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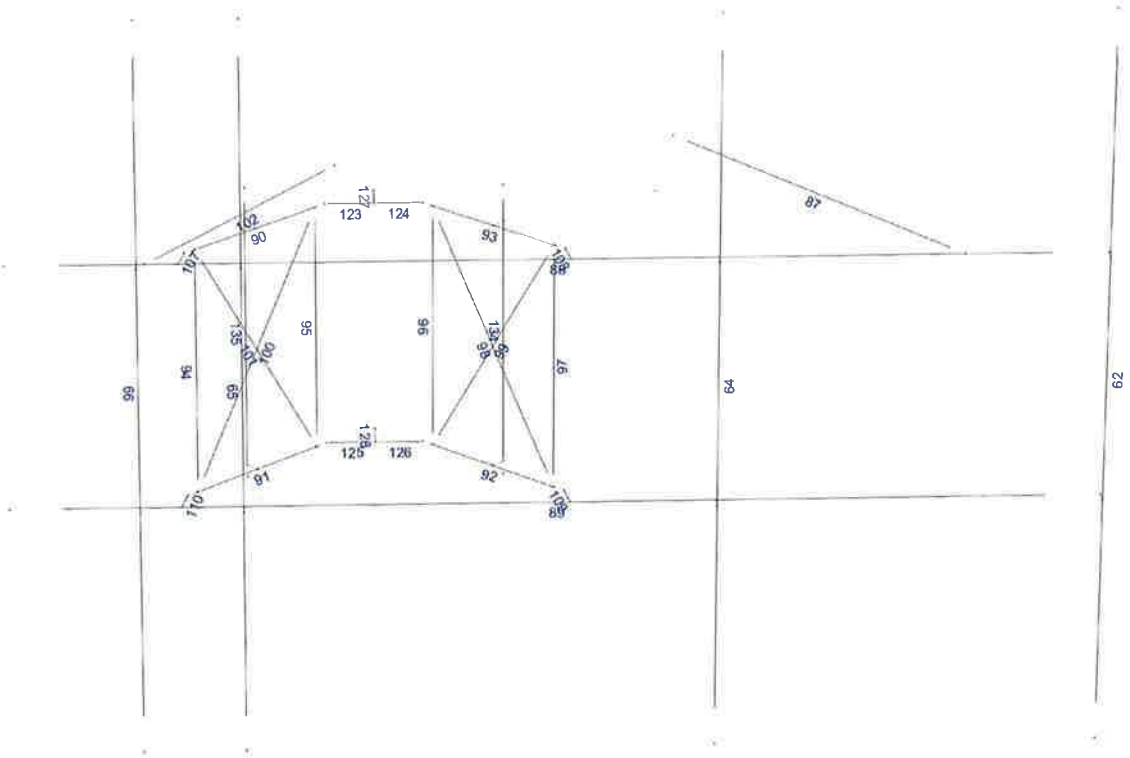
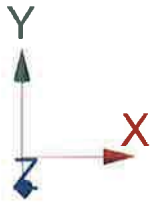




Current Date: 3/10/2020 5:26 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1030\Rev. 3\CT1030 (Gamma Sector)(Rev. 3).retx

Load data

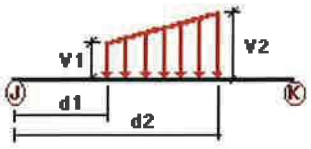
GLOSSARY

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

Distributed force on members



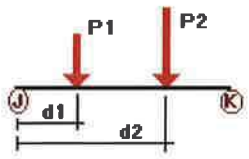
Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	64	z	-0.009	-0.009	0.00	No	100.00	Yes
	65	z	-0.009	-0.009	0.00	No	100.00	Yes
	94	z	-0.002	-0.002	0.00	No	100.00	Yes
	95	z	-0.002	-0.002	0.00	No	100.00	Yes
	96	z	-0.002	-0.002	0.00	No	100.00	Yes
	97	z	-0.002	-0.002	0.00	No	100.00	Yes
	98	z	-0.002	-0.002	0.00	No	100.00	Yes
	99	z	-0.002	-0.002	0.00	No	100.00	Yes
	100	z	-0.002	-0.002	0.00	No	100.00	Yes
	101	z	-0.002	-0.002	0.00	No	100.00	Yes
	134	z	-0.008	-0.008	0.00	No	100.00	Yes
	135	z	-0.008	-0.008	0.00	No	100.00	Yes
	102	z	-0.008	-0.008	0.00	No	100.00	Yes
	87	z	-0.008	-0.008	0.00	No	100.00	Yes
	124	z	-0.001	-0.001	0.00	No	100.00	Yes
	126	z	-0.001	-0.001	0.00	No	100.00	Yes
	123	z	-0.001	-0.001	0.00	No	100.00	Yes
	125	z	-0.001	-0.001	0.00	No	100.00	Yes
	127	z	-0.002	-0.002	0.00	No	100.00	Yes
	128	z	-0.002	-0.002	0.00	No	100.00	Yes
	91	z	-0.008	-0.008	0.00	No	100.00	Yes
	90	z	-0.008	-0.008	0.00	No	100.00	Yes
	93	z	-0.008	-0.008	0.00	No	100.00	Yes
	92	z	-0.008	-0.008	0.00	No	100.00	Yes
	88	z	-0.009	-0.009	0.00	No	100.00	Yes
	89	z	-0.009	-0.009	0.00	No	100.00	Yes
	108	z	-0.001	-0.001	0.00	No	100.00	Yes
	109	z	-0.001	-0.001	0.00	No	100.00	Yes
	110	z	-0.001	-0.001	0.00	No	100.00	Yes
	107	z	-0.001	-0.001	0.00	No	100.00	Yes
W30	62	z	-0.009	-0.009	0.00	No	100.00	Yes
	64	z	-0.009	-0.009	0.00	No	100.00	Yes
	65	z	-0.009	-0.009	0.00	No	100.00	Yes
	66	z	-0.009	-0.009	0.00	No	100.00	Yes
	94	z	-0.002	-0.002	0.00	No	100.00	Yes
	95	z	-0.002	-0.002	0.00	No	100.00	Yes
	96	z	-0.002	-0.002	0.00	No	100.00	Yes
	97	z	-0.002	-0.002	0.00	No	100.00	Yes
	98	z	-0.002	-0.002	0.00	No	100.00	Yes
	99	z	-0.002	-0.002	0.00	No	100.00	Yes
	100	z	-0.002	-0.002	0.00	No	100.00	Yes
	101	z	-0.002	-0.002	0.00	No	100.00	Yes
	134	z	-0.008	-0.008	0.00	No	100.00	Yes
	135	z	-0.008	-0.008	0.00	No	100.00	Yes
	102	z	-0.008	-0.008	0.00	No	100.00	Yes
	87	z	-0.008	-0.008	0.00	No	100.00	Yes
	124	z	-0.001	-0.001	0.00	No	100.00	Yes
	126	z	-0.001	-0.001	0.00	No	100.00	Yes
	123	z	-0.001	-0.001	0.00	No	100.00	Yes
	125	z	-0.001	-0.001	0.00	No	100.00	Yes
	127	z	-0.002	-0.002	0.00	No	100.00	Yes
	128	z	-0.002	-0.002	0.00	No	100.00	Yes
	88	z	-0.009	-0.009	0.00	No	100.00	Yes
	89	z	-0.009	-0.009	0.00	No	100.00	Yes
	108	z	-0.001	-0.001	0.00	No	100.00	Yes
	109	z	-0.001	-0.001	0.00	No	100.00	Yes
	110	z	-0.001	-0.001	0.00	No	100.00	Yes
	107	z	-0.001	-0.001	0.00	No	100.00	Yes
W60	62	x	-0.009	-0.009	0.00	No	100.00	Yes
	64	x	-0.009	-0.009	0.00	No	100.00	Yes

	65	x	-0.009	-0.009	0.00	No	100.00	Yes
	66	x	-0.009	-0.009	0.00	No	100.00	Yes
	94	x	-0.002	-0.002	0.00	No	100.00	Yes
	95	x	-0.002	-0.002	0.00	No	100.00	Yes
	96	x	-0.002	-0.002	0.00	No	100.00	Yes
	97	x	-0.002	-0.002	0.00	No	100.00	Yes
	98	x	-0.002	-0.002	0.00	No	100.00	Yes
	99	x	-0.002	-0.002	0.00	No	100.00	Yes
	100	x	-0.002	-0.002	0.00	No	100.00	Yes
	101	x	-0.002	-0.002	0.00	No	100.00	Yes
	134	x	-0.008	-0.008	0.00	No	100.00	Yes
	135	x	-0.008	-0.008	0.00	No	100.00	Yes
	102	x	-0.008	-0.008	0.00	No	100.00	Yes
	87	x	-0.008	-0.008	0.00	No	100.00	Yes
	124	x	-0.001	-0.001	0.00	No	100.00	Yes
	126	x	-0.001	-0.001	0.00	No	100.00	Yes
	123	x	-0.001	-0.001	0.00	No	100.00	Yes
	125	x	-0.001	-0.001	0.00	No	100.00	Yes
	127	x	-0.002	-0.002	0.00	No	100.00	Yes
	128	x	-0.002	-0.002	0.00	No	100.00	Yes
	88	x	-0.009	-0.009	0.00	No	100.00	Yes
	89	x	-0.009	-0.009	0.00	No	100.00	Yes
	108	x	-0.001	-0.001	0.00	No	100.00	Yes
	109	x	-0.001	-0.001	0.00	No	100.00	Yes
	110	x	-0.001	-0.001	0.00	No	100.00	Yes
	107	x	-0.001	-0.001	0.00	No	100.00	Yes
W90	62	x	-0.009	-0.009	0.00	No	100.00	Yes
	64	x	-0.009	-0.009	0.00	No	100.00	Yes
	65	x	-0.009	-0.009	0.00	No	100.00	Yes
	66	x	-0.009	-0.009	0.00	No	100.00	Yes
	94	x	-0.002	-0.002	0.00	No	100.00	Yes
	95	x	-0.002	-0.002	0.00	No	100.00	Yes
	96	x	-0.002	-0.002	0.00	No	100.00	Yes
	97	x	-0.002	-0.002	0.00	No	100.00	Yes
	98	x	-0.002	-0.002	0.00	No	100.00	Yes
	99	x	-0.002	-0.002	0.00	No	100.00	Yes
	100	x	-0.002	-0.002	0.00	No	100.00	Yes
	101	x	-0.002	-0.002	0.00	No	100.00	Yes
	134	x	-0.008	-0.008	0.00	No	100.00	Yes
	135	x	-0.008	-0.008	0.00	No	100.00	Yes
	102	x	-0.008	-0.008	0.00	No	100.00	Yes
	87	x	-0.008	-0.008	0.00	No	100.00	Yes
	127	x	-0.002	-0.002	0.00	No	100.00	Yes
	128	x	-0.002	-0.002	0.00	No	100.00	Yes
	108	x	-0.001	-0.001	0.00	No	100.00	Yes
	109	x	-0.001	-0.001	0.00	No	100.00	Yes
	110	x	-0.001	-0.001	0.00	No	100.00	Yes
	107	x	-0.001	-0.001	0.00	No	100.00	Yes
W120	62	x	-0.009	-0.009	0.00	No	100.00	Yes
	64	x	-0.009	-0.009	0.00	No	100.00	Yes
	65	x	-0.009	-0.009	0.00	No	100.00	Yes
	66	x	-0.009	-0.009	0.00	No	100.00	Yes
	94	x	-0.002	-0.002	0.00	No	100.00	Yes
	95	x	-0.002	-0.002	0.00	No	100.00	Yes
	96	x	-0.002	-0.002	0.00	No	100.00	Yes
	97	x	-0.002	-0.002	0.00	No	100.00	Yes
	98	x	-0.002	-0.002	0.00	No	100.00	Yes
	99	x	-0.002	-0.002	0.00	No	100.00	Yes
	100	x	-0.002	-0.002	0.00	No	100.00	Yes
	101	x	-0.002	-0.002	0.00	No	100.00	Yes

	134	x	-0.008	-0.008	0.00	No	100.00	Yes
	135	x	-0.008	-0.008	0.00	No	100.00	Yes
	102	x	-0.008	-0.008	0.00	No	100.00	Yes
	87	x	-0.008	-0.008	0.00	No	100.00	Yes
	124	x	-0.001	-0.001	0.00	No	100.00	Yes
	126	x	-0.001	-0.001	0.00	No	100.00	Yes
	123	x	-0.001	-0.001	0.00	No	100.00	Yes
	125	x	-0.001	-0.001	0.00	No	100.00	Yes
	127	x	-0.002	-0.002	0.00	No	100.00	Yes
	128	x	-0.002	-0.002	0.00	No	100.00	Yes
	88	x	-0.009	-0.009	0.00	No	100.00	Yes
	89	x	-0.009	-0.009	0.00	No	100.00	Yes
	108	x	-0.001	-0.001	0.00	No	100.00	Yes
	109	x	-0.001	-0.001	0.00	No	100.00	Yes
	110	x	-0.001	-0.001	0.00	No	100.00	Yes
	107	x	-0.001	-0.001	0.00	No	100.00	Yes
W150	62	z	0.009	0.009	0.00	No	100.00	Yes
	64	z	0.009	0.009	0.00	No	100.00	Yes
	65	z	0.009	0.009	0.00	No	100.00	Yes
	66	z	0.009	0.009	0.00	No	100.00	Yes
	94	z	0.002	0.002	0.00	No	100.00	Yes
	95	z	0.002	0.002	0.00	No	100.00	Yes
	96	z	0.002	0.002	0.00	No	100.00	Yes
	97	z	0.002	0.002	0.00	No	100.00	Yes
	98	z	0.002	0.002	0.00	No	100.00	Yes
	99	z	0.002	0.002	0.00	No	100.00	Yes
	100	z	0.002	0.002	0.00	No	100.00	Yes
	101	z	0.002	0.002	0.00	No	100.00	Yes
	134	z	0.008	0.008	0.00	No	100.00	Yes
	135	z	0.008	0.008	0.00	No	100.00	Yes
	102	z	0.008	0.008	0.00	No	100.00	Yes
	87	z	0.008	0.008	0.00	No	100.00	Yes
	124	z	0.001	0.001	0.00	No	100.00	Yes
	126	z	0.001	0.001	0.00	No	100.00	Yes
	123	z	0.001	0.001	0.00	No	100.00	Yes
	125	z	0.001	0.001	0.00	No	100.00	Yes
	127	z	0.002	0.002	0.00	No	100.00	Yes
	128	z	0.002	0.002	0.00	No	100.00	Yes
	88	z	0.009	0.009	0.00	No	100.00	Yes
	89	z	0.009	0.009	0.00	No	100.00	Yes
	108	z	0.001	0.001	0.00	No	100.00	Yes
	109	z	0.001	0.001	0.00	No	100.00	Yes
	110	z	0.001	0.001	0.00	No	100.00	Yes
	107	z	0.001	0.001	0.00	No	100.00	Yes
Di	62	y	-0.009	-0.009	0.00	No	100.00	Yes
	64	y	-0.009	-0.009	0.00	No	100.00	Yes
	65	y	-0.009	-0.009	0.00	No	100.00	Yes
	66	y	-0.009	-0.009	0.00	No	100.00	Yes
	94	y	-0.005	-0.005	0.00	No	100.00	Yes
	95	y	-0.005	-0.005	0.00	No	100.00	Yes
	96	y	-0.005	-0.005	0.00	No	100.00	Yes
	97	y	-0.005	-0.005	0.00	No	100.00	Yes
	98	y	-0.005	-0.005	0.00	No	100.00	Yes
	99	y	-0.005	-0.005	0.00	No	100.00	Yes
	100	y	-0.005	-0.005	0.00	No	100.00	Yes
	101	y	-0.005	-0.005	0.00	No	100.00	Yes
	134	y	-0.008	-0.008	0.00	No	100.00	Yes
	135	y	-0.008	-0.008	0.00	No	100.00	Yes
	102	y	-0.008	-0.008	0.00	No	100.00	Yes
	87	y	-0.008	-0.008	0.00	No	100.00	Yes

124	y	-0.005	-0.005	0.00	No	100.00	Yes
126	y	-0.005	-0.005	0.00	No	100.00	Yes
123	y	-0.005	-0.005	0.00	No	100.00	Yes
125	y	-0.005	-0.005	0.00	No	100.00	Yes
127	y	-0.011	-0.011	0.00	No	100.00	Yes
128	y	-0.011	-0.011	0.00	No	100.00	Yes
91	y	-0.008	-0.008	0.00	No	100.00	Yes
90	y	-0.008	-0.008	0.00	No	100.00	Yes
93	y	-0.008	-0.008	0.00	No	100.00	Yes
92	y	-0.008	-0.008	0.00	No	100.00	Yes
88	y	-0.009	-0.009	0.00	No	100.00	Yes
89	y	-0.009	-0.009	0.00	No	100.00	Yes
108	y	-0.005	-0.005	0.00	No	100.00	Yes
109	y	-0.005	-0.005	0.00	No	100.00	Yes
110	y	-0.005	-0.005	0.00	No	100.00	Yes
107	y	-0.005	-0.005	0.00	No	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	62	y	-0.044	1.50	No
		y	-0.044	8.50	No
	66	y	-0.044	1.50	No
		y	-0.044	8.50	No
	134	y	-0.072	2.50	No
		y	-0.071	2.50	No
	135	y	-0.033	2.50	No
Wo	62	z	-0.296	1.50	No
		z	-0.296	8.50	No
	66	z	-0.296	1.50	No
		z	-0.296	8.50	No
	134	z	-0.065	2.50	No
		z	-0.054	2.50	No
	135	z	-0.037	2.50	No
W30	62	3	-0.255	1.50	No
		3	-0.255	8.50	No
	66	3	-0.255	1.50	No
		3	-0.255	8.50	No
	134	3	-0.06	2.50	No
	135	3	-0.037	1.50	No
W60	62	3	-0.175	1.50	No
		3	-0.175	8.50	No
	66	3	-0.175	1.50	No
		3	-0.175	8.50	No
	134	3	-0.051	2.50	No
	135	3	-0.037	2.50	No
W90	62	x	-0.135	1.50	No
		x	-0.135	8.50	No
	66	x	-0.135	1.50	No

		x	-0.135	8.50	No
	134	x	-0.047	2.50	No
	135	x	-0.037	2.50	No
W120	62	2	-0.175	1.50	No
		2	-0.175	8.50	No
	66	2	-0.175	1.50	No
		2	-0.175	8.50	No
	134	2	-0.051	2.50	No
	135	2	-0.037	2.50	No
W150	62	2	-0.255	1.50	No
		2	-0.255	8.50	No
	66	2	-0.255	1.50	No
		2	-0.255	8.50	No
	134	2	-0.06	2.50	No
	135	2	-0.037	2.50	No
Di	62	y	-0.194	1.50	No
		y	-0.194	8.50	No
	66	y	-0.194	1.50	No
		y	-0.194	8.50	No
	134	y	-0.048	2.50	No
		y	-0.055	2.50	No
	135	y	-0.046	2.50	No
WI0	62	z	-0.057	1.50	No
		z	-0.057	8.50	No
	66	z	-0.057	1.50	No
		z	-0.057	8.50	No
	134	z	-0.015	2.50	No
		z	-0.013	2.50	No
	135	z	-0.009	2.50	No
WI30	62	3	-0.05	1.50	No
		3	-0.05	8.50	No
	66	3	-0.05	1.50	No
		3	-0.05	8.50	No
	134	3	-0.015	2.50	No
	135	3	-0.009	2.50	No
WI60	62	3	-0.037	1.50	No
		3	-0.037	8.50	No
	66	3	-0.037	1.50	No
		3	-0.037	8.50	No
	134	3	-0.013	2.50	No
	135	3	-0.009	2.50	No
WI90	62	x	-0.03	1.50	No
		x	-0.03	8.50	No
	66	x	-0.03	1.50	No
		x	-0.03	8.50	No
	134	x	-0.012	2.50	No
	135	x	-0.009	2.50	No
WI120	62	2	-0.037	1.50	No
		2	-0.037	8.50	No
	66	2	-0.037	1.50	No
		2	-0.037	8.50	No
	134	2	-0.013	2.50	No
	135	2	-0.009	2.50	No
WI150	62	2	-0.05	1.50	No
		2	-0.05	8.50	No
	66	2	-0.05	1.50	No
		2	-0.05	8.50	No
	134	2	-0.015	2.50	No
	135	2	-0.009	2.50	No
WL0	62	z	-0.017	1.50	No

		z	-0.017	8.50	No
	66	z	-0.017	1.50	No
		z	-0.017	8.50	No
	134	z	-0.004	2.50	No
		z	-0.003	2.50	No
	135	z	-0.002	2.50	No
WL30	62	3	-0.015	1.50	No
		3	-0.015	8.50	No
	66	3	-0.015	1.50	No
		3	-0.015	8.50	No
	134	3	-0.003	2.50	No
	135	3	-0.002	2.50	No
WL60	62	3	-0.011	1.50	No
		3	-0.011	8.50	No
	66	3	-0.011	1.50	No
		3	-0.011	8.50	No
	134	3	-0.003	2.50	No
	135	3	-0.002	2.50	No
WL90	62	x	-0.008	1.50	No
		x	-0.008	8.50	No
	66	x	-0.008	1.50	No
		x	-0.008	8.50	No
	134	x	-0.003	2.50	No
	135	x	-0.002	2.50	No
WL120	62	2	-0.011	1.50	No
		2	-0.011	8.50	No
	66	2	-0.011	1.50	No
		2	-0.011	8.50	No
	134	2	-0.003	2.50	No
	135	2	-0.002	2.50	No
WL150	62	2	-0.015	1.50	No
		2	-0.015	8.50	No
	66	2	-0.015	1.50	No
		2	-0.015	8.50	No
	134	2	-0.003	2.50	No
	135	2	-0.002	2.50	No
LL1	88	y	-0.25	50.00	Yes
LL2	88	y	-0.25	100.00	Yes
LL3	88	y	-0.25	0.00	Yes
LLa1	62	y	-0.25	5.00	No
LLa3	66	y	-0.25	5.00	No

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	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00

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

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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
LC38=1.2D+1.5LL1
LC39=1.2D+1.5LL2
LC40=1.2D+1.5LL3
LC41=1.2D+WL0+1.5LLa1
LC42=1.2D+WL30+1.5LLa1
LC43=1.2D+WL60+1.5LLa1
LC44=1.2D+WL90+1.5LLa1
LC45=1.2D+WL120+1.5LLa1
LC46=1.2D+WL150+1.5LLa1
LC47=1.2D-WL0+1.5LLa1
LC48=1.2D-WL30+1.5LLa1
LC49=1.2D-WL60+1.5LLa1
LC50=1.2D-WL90+1.5LLa1
LC51=1.2D-WL120+1.5LLa1
LC52=1.2D-WL150+1.5LLa1
LC53=1.2D+WL0+1.5LLa2

LC54=1.2D+WL30+1.5LLa2
LC55=1.2D+WL60+1.5LLa2
LC56=1.2D+WL90+1.5LLa2
LC57=1.2D+WL120+1.5LLa2
LC58=1.2D+WL150+1.5LLa2
LC59=1.2D-WL0+1.5LLa2
LC60=1.2D-WL30+1.5LLa2
LC61=1.2D-WL60+1.5LLa2
LC62=1.2D-WL90+1.5LLa2
LC63=1.2D-WL120+1.5LLa2
LC64=1.2D-WL150+1.5LLa2
LC65=1.2D+WL0+1.5LLa3
LC66=1.2D+WL30+1.5LLa3
LC67=1.2D+WL60+1.5LLa3
LC68=1.2D+WL90+1.5LLa3
LC69=1.2D+WL120+1.5LLa3
LC70=1.2D+WL150+1.5LLa3
LC71=1.2D-WL0+1.5LLa3
LC72=1.2D-WL30+1.5LLa3
LC73=1.2D-WL60+1.5LLa3
LC74=1.2D-WL90+1.5LLa3
LC75=1.2D-WL120+1.5LLa3
LC76=1.2D-WL150+1.5LLa3

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	PIPE 2-1_2x0.203	**62**	LC36 at 33.33%	0.48	OK	Eq. H1-1b
		64	LC36 at 33.33%	0.45	OK	Eq. H1-1b
		65	LC30 at 33.33%	0.21	OK	Eq. H1-1b
		66	LC7 at 66.67%	0.32	OK	Eq. H1-1b
		88	LC7 at 86.72%	0.50	OK	Eq. H1-1b
		89	LC26 at 52.08%	**0.69**	**OK**	Eq. H1-1b
	PIPE 2x0.154	**87**	LC13 at 100.00%	0.18	OK	Eq. H1-1b
		90	LC10 at 93.75%	0.23	OK	Eq. H1-1b
		91	LC40 at 93.75%	0.13	OK	Eq. H1-1b
		92	LC26 at 93.75%	0.41	OK	Eq. H1-1b
		93	LC36 at 93.75%	**0.47**	**OK**	Eq. H1-1b
		102	LC10 at 100.00%	0.38	OK	Eq. H1-1b
		134	LC32 at 12.50%	0.20	OK	Eq. H1-1b
		135	LC30 at 12.50%	0.07	OK	Eq. H3-1
	PL 11-1/4x5/8	**127**	LC26 at 100.00%	**0.33**	**OK**	Eq. H1-1b
		128	LC31 at 100.00%	0.25	OK	Eq. H1-1b
	PL 3-1/2x5/8	**107**	LC12 at 100.00%	0.51	OK	Eq. H1-1b
		108	LC26 at 100.00%	0.50	OK	Eq. H1-1b
		109	LC26 at 100.00%	0.57	OK	Eq. H1-1b
		110	LC7 at 100.00%	0.24	OK	Eq. H1-1b
		123	LC10 at 100.00%	0.55	OK	Eq. H1-1b
		124	LC26 at 0.00%	0.83	OK	Eq. H1-1b
		125	LC40 at 100.00%	0.27	OK	Eq. H1-1b
		126	LC26 at 0.00%	**0.84**	**OK**	Eq. H1-1b
	RndBar 3_4	**98**	LC30 at 0.00%	**0.41**	**OK**	Eq. H1-1a
		99	LC26 at 0.00%	0.34	OK	Eq. H1-1b
		100	LC30 at 46.88%	0.10	With warnings	Eq. H1-1b
		101	LC40 at 100.00%	0.10	OK	Eq. H1-1b
	RndBar 5_8	**94**	LC12 at 50.00%	0.48	OK	Eq. H1-1a
		95	LC40 at 87.50%	0.31	OK	Eq. H1-1a
		96	LC30 at 87.50%	**0.88**	**OK**	Eq. H1-1a
		97	LC30 at 87.50%	0.84	OK	Eq. H1-1a

Bentley

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Geometry data

GLOSSARY

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

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
144	0.00	-3.3333	0.00	0
142	0.00	0.00	0.00	0
175	-0.50	0.00	-1.00	0
157	4.00	0.00	-2.00	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
144	1	1	1	1	0	1
142	1	1	1	1	0	1
175	1	1	1	0	0	0
157	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
62	153	152		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
64	189	188		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
65	177	176		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
66	155	154		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
94	166	167		RndBar 5_8	A36	0.00	0.00	0.00
95	168	169		RndBar 5_8	A36	0.00	0.00	0.00
96	170	171		RndBar 5_8	A36	0.00	0.00	0.00
97	172	173		RndBar 5_8	A36	0.00	0.00	0.00
98	170	173		RndBar 3_4	A36	0.00	0.00	0.00
99	171	172		RndBar 3_4	A36	0.00	0.00	0.00
100	167	168		RndBar 3_4	A36	0.00	0.00	0.00
101	166	169		RndBar 3_4	A36	0.00	0.00	0.00
134	218	220		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
135	224	225		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
102	174	175		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
87	156	157		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
124	208	147		PL 3-1/2x5/8	A36	0.00	0.00	0.00
126	209	146		PL 3-1/2x5/8	A36	0.00	0.00	0.00
123	143	208		PL 3-1/2x5/8	A36	0.00	0.00	0.00
125	145	209		PL 3-1/2x5/8	A36	0.00	0.00	0.00
127	208	142		PL 11-1/4x5/8	A36	11.25	9.25	0.00
128	209	144		PL 11-1/4x5/8	A36	11.25	9.25	0.00
91	163	145		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
90	162	143		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
93	165	147		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
92	164	146		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
88	226	159		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
89	227	161		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
108	165	185		PL 3-1/2x5/8	A36	0.00	0.00	0.00
109	164	186		PL 3-1/2x5/8	A36	0.00	0.00	0.00
110	163	187		PL 3-1/2x5/8	A36	0.00	0.00	0.00
107	162	184		PL 3-1/2x5/8	A36	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
62	315.00	0	0.00	0.00	0.00
64	315.00	0	0.00	0.00	0.00
65	315.00	0	0.00	0.00	0.00
66	315.00	0	0.00	0.00	0.00
94	0.00	2	0.00	0.00	1.00
95	0.00	2	0.00	0.00	1.00
96	0.00	2	0.00	0.00	1.00
97	0.00	2	0.00	0.00	1.00
134	315.00	0	0.00	0.00	0.00
135	315.00	0	0.00	0.00	0.00
124	90.00	0	0.00	0.00	0.00
126	90.00	0	0.00	0.00	0.00
123	90.00	0	0.00	0.00	0.00
125	90.00	0	0.00	0.00	0.00
127	90.00	0	0.00	0.00	0.00
128	90.00	0	0.00	0.00	0.00
108	90.00	0	0.00	0.00	0.00
109	90.00	0	0.00	0.00	0.00
110	90.00	0	0.00	0.00	0.00

107	90.00	0	0.00	0.00	0.00

Rigid end offsets

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

Hinges

	Node-J				Node-K						
Member	M33	M22	V3	V2	M33	M22	V3	V2	TOR	AXL	Axial rigidity
99	0	0	0	0	0	0	0	0	0	0	Tension only
101	0	0	0	0	0	0	0	0	0	0	Tension only
102	1	1	0	0	0	0	0	0	0	0	Full
87	1	1	0	0	0	0	0	0	0	0	Full
108	1	1	0	0	0	0	0	0	0	0	Full
109	1	1	0	0	0	0	0	0	0	0	Full
110	1	1	0	0	0	0	0	0	0	0	Full
107	1	1	0	0	0	0	0	0	0	0	Full

ATTACHMENT 4

Sanket Joshi
SAI Group
12 Industrial Way
Salem, NH 03079
sjoshi@saigrp.com

March 12, 2020

Connecticut Siting Council

Subject: AT&T Wireless, CT1030 – Southington, CT

Dear Connecticut Siting Council:

At the request of AT&T Wireless, SAI Group has performed an assessment of the RF Power Density at the proposed site located at 435 Mill Street, Southington, CT.
AT&T's calculations were done in compliance with FCC OET Bulletin 65 and incorporating an additional 10 dB Off-Beam Pattern Adjustment which results in a number that is 10 percent of the standard "Worst-Case" calculation. This report provides an FCC compliance assessment based on an analysis that all transmitters are simultaneously operating at full power and pointing directly at the ground.

Power Density formula:

$$S = \frac{2.56 * 1.64 * ERP * 0.1}{4 * \pi * R^2}$$

Transmission Mode	Antenna Centerline AGL (ft)	Frequency (MHz)	Number of Channels	Effective Radiated Power per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	% MPE (Uncontrolled/ General Public)
AT&T UMTS	98	850	1	1,211	0.0045	0.5667	0.80%
AT&T LTE	98	770	1	1,603	0.0060	0.5133	1.17%
AT&T LTE	98	850	1	1,641	0.0061	0.5667	1.08%
AT&T LTE	98	1930	2	2,483	0.0186	1	1.86%
Others							1.82%
Total							**6.73%**

Conclusion: AT&T's proposed antenna installation along with other carriers is calculated to be within 6.73% of FCC Standard for General Public/Uncontrolled Maximum Permissible Exposure (MPE).

Sincerely,

Sanket Y Joshi
SAI Group

ATTACHMENT 5

March 16, 2020

Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Letter of Authorization

Applicant: AT&T Mobility

Site Address: 435 Mill Street, Southington, CT 06489

To Whom it May Concern:

AT&T Mobility is seeking to install an antenna facility at the above referenced location. As the owner of the tower, permission is hereby granted to AT&T Mobility and its agents for the purpose of consummating any applications necessary to gain the required land use approvals or permits on the above-referenced structure from the CT Siting Council and/or Town of Southington.

Any fees or charges associated with all applications or permits and any conditions placed on the Applicant shall be the responsibility of AT&T Mobility, its subsidiaries and agents.

Sincerely,

By: William M. Casarella

Name: William M. Casarella

Title: Superintendent
Hereunto Duly Authorized

ATTACHMENT 6

PLANNING AND ZONING DEPARTMENT

JOHN WEICHSEL MUNICIPAL CENTER – 196 NORTH MAIN STREET
SOUTHINGTON, CONNECTICUT 06489
Phone: (860)276-6248 / Fax: (860)628-3511

August 27, 2018

Southington Water Department
605 West Queen Street
PO Box 111
Southington, CT 06489

RE: Site plan application – 435 and 471 (rear) Mill Street (SPR #1760)

Dear Sir:

Please be advised that on August 21, 2018, the Southington Planning and Zoning Commission voted to approve your site plan application to construct a new 65 ft tall water storage tank and a 120' tall communications tower. The Commission also granted a waiver of the communications tower fall radius.

Please submit six sets of revised plans addressing Engineering comments prior to bidding. Building and zoning permits and a preconstruction meeting will also be required. Please note that this approval is good for a period of five (5) years, which will expire on August 21, 2023. You can request a five year extension prior to the expiration date if the work has not been completed.

Respectfully,

Robert A. Phillips, AICP
Director of Planning and Community Development

cc: Engineering Dept.
Building Dept.
Assessor's Dept.

PLANNING AND ZONING DEPARTMENT

JOHN WEICHSEL MUNICIPAL CENTER – 196 NORTH MAIN STREET
SOUTHINGTON, CONNECTICUT 06489

Phone: (860)276-6248 / Fax: (860)628-3511

August 28, 2018

Southington Water Department
605 West Queen Street
PO Box 111
Southington, CT 06489

RE: Special Permit Approval – 435 and 471 (rear) Mill Street (SPU #605)

Dear Sir:

On August 21, 2018, the Planning and Zoning Commission voted to approve your Special Permit Application to construct a new 65-ft water storage tank and a 120-ft tall communications tower on properties located at 435 and 471 (rear) Mill Street.

The special permit use becomes effective upon the filing of the approved special permit use plan with the Town Planner's office and the filing **of this original approval letter in the office of the Town Clerk**, pursuant to Section 8-3d of the General Statutes of Connecticut. Such plan shall be certified by the Planning and Zoning Commission prior to filing. An approved special permit use not put into effect within one year becomes null and void. A single one year extension may be granted before the approval's first anniversary date (Section 8-03.3).

Respectfully,

Robert A. Phillips, AICP
Director of Planning and Community Development

cc: Town Engineer
Building Dept.
Town Assessor

ATTACHMENT 7

CUDDY +FEDER LLP

445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
T 914 761 1300
F 914 761 5372
cuddyfeder.com

Lucia Chiocchio
lchiocchio@cuddyfeder.com

3/26/20

VIA ELECTRONIC MAIL RPHILLIPS@SOUTHINGTON.ORG
Rob Phillips
Planning Director
Town of Southington
Town Hall
75 Main Street
P.O. Box 152
Southington, CT 06489

Re: Tower Sharing Request by New Cingular Wireless PCS, LLC
Premises: 435 Mill Street, Southington, CT 06489

Dear Mr. Phillips:

We are writing to you on behalf of our client New Cingular Wireless PCS, LLC ("AT&T") with respect to the above referenced request to the Connecticut Siting Council ("Council") for shared use approval to allow AT&T to install its wireless communications equipment on the existing communications tower and at the associated compound owned by the Town of Southington and located at 435 Mill Street. AT&T proposes to install 9 antennas, 6 remote radiohead units, and 3 surge arrestors on a proposed sector frame mount system at an approximately 98-foot centerline height on the Tower. AT&T currently maintains equipment shelters on a concrete pad within the fenced equipment compound for its facility on the water tank. AT&T proposes to use the same equipment shelters and will install a new 10' tall cable bridge between the tower and the equipment shelter. AT&T will also install new equipment within the existing equipment shelter, including a new power plant.

Enclosed herein is a copy of the submission made to the Council requesting approval of the tower share which includes information regarding the technical, legal, environmental, and economic feasibility of AT&T's proposed installation.

Should you have any questions please feel free to contact me at the address above or the Council at 860.827.2935.

Very truly yours,

Lucia Chiocchio

Lucia Chiocchio
Enclosure

CUDDY +FEDER LLP

445 Hamilton Avenue, 14th Floor
White Plains, New York 10601
T 914 761 1300
F 914 761 5372
cuddyfeder.com

Lucia Chiocchio
lchiocchio@cuddyfeder.com

3/26/20

VIA ELECTRONIC MAIL SCIOTAM@SOUTHINGTON.ORG
Mark J. Sciota
Town Manager
Town of Southington
Town Hall
75 Main Street
P.O. Box 152
Southington, CT 06489

Re: Tower Sharing Request by New Cingular Wireless PCS, LLC
Premises: 435 Mill Street, Southington, CT 06489

Dear Mr. Sciota:

We are writing to you on behalf of our client New Cingular Wireless PCS, LLC ("AT&T") with respect to the above referenced request to the Connecticut Siting Council ("Council") for shared use approval to allow AT&T to install its wireless communications equipment on the existing communications tower and at the associated compound owned by the Town of Southington and located at 435 Mill Street. AT&T proposes to install 9 antennas, 6 remote radiohead units, and 3 surge arrestors on a proposed sector frame mount system at an approximately 98-foot centerline height on the Tower. AT&T currently maintains equipment shelters on a concrete pad within the fenced equipment compound for its facility on the water tank. AT&T proposes to use the same equipment shelters and will install a new 10' tall cable bridge between the tower and the equipment shelter. AT&T will also install new equipment within the existing equipment shelter, including a new power plant.

Enclosed herein is a copy of the submission made to the Council requesting approval of the tower share which includes information regarding the technical, legal, environmental, and economic feasibility of AT&T's proposed installation.

Should you have any questions please feel free to contact me at the address above or the Council at 860.827.2935.

Very truly yours,

Lucia Chiocchio

Lucia Chiocchio
Enclosure

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cuddyfeder.com

Lucia Chiocchio
lchiocchio@cuddyfeder.com

3/26/20

VIA ELECTRONIC MAIL CPALMIERI@SOUTHINGTON.ORG
Chairman Christopher Palmieri
Town Council
Town of Southington
Town Hall
75 Main Street
P.O. Box 152
Southington, CT 06489

Re: Tower Sharing Request by New Cingular Wireless PCS, LLC
Premises: 435 Mill Street, Southington, CT 06489

Dear Chairman Palmieri:

We are writing to you on behalf of our client New Cingular Wireless PCS, LLC ("AT&T") with respect to the above referenced request to the Connecticut Siting Council ("Council") for shared use approval to allow AT&T to install its wireless communications equipment on the existing communications tower and at the associated compound owned by the Town of Southington and located at 435 Mill Street. AT&T proposes to install 9 antennas, 6 remote radiohead units, and 3 surge arrestors on a proposed sector frame mount system at an approximately 98-foot centerline height on the Tower. AT&T currently maintains equipment shelters on a concrete pad within the fenced equipment compound for its facility on the water tank. AT&T proposes to use the same equipment shelters and will install a new 10' tall cable bridge between the tower and the equipment shelter. AT&T will also install new equipment within the existing equipment shelter, including a new power plant.

Enclosed herein is a copy of the submission made to the Council requesting approval of the tower share which includes information regarding the technical, legal, environmental, and economic feasibility of AT&T's proposed installation.

Should you have any questions please feel free to contact me at the address above or the Council at 860.827.2935.

Very truly yours,

Lucia Chiocchio

Lucia Chiocchio
Enclosure

CERTIFICATION

I hereby certify that on the 26th day of March 2020, a copy of AT&T's Tower Share Request to the Connecticut Siting Council was sent by electronic mail to the chief elected official and the planning and zoning department of the municipality in which the facility is located as well as by email to the property owner and tower/facility owner.

Dated: March 26, 2020

Cuddy & Feder LLP
445 Hamilton Ave, 14th Floor
White Plains, NY 10601
Attorneys for:
New Cingular Wireless PCS, LLC (AT&T)