June 17, 2020

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

Re: Notice of Exempt Modification New Cingular Wireless PCS LLC ("AT&T") Site CT1272
150 Lost Acres Road, Granby, CT 06035 (the "Property")
Latitude: 42.00960 N Longitude: 72.86599 W

Dear Ms. Bachman:

AT&T currently maintains (9) antennas at the 170-foot level on the existing 170' self-support tower ("Tower") at 150 Lost Acres Road, Granby, CT. The Tower is owned by SBA Towers, Inc ("SBA") and the property is owned John G Lombardi & Deborah Lindsey Lombardi. AT&T intends to modify its facility by replacing (6) antennas with (3) DMP65R-BU8DA & (3) OPA65R-BU8DA antennas, replacing (3) RRUs with (3) B5/B12 4449 RRUs, installing (3) 8843 B2 B66A RRUs. The height of AT&Ts existing and proposed antennas & RRUs is 170'.

The facility received approval from the town of Granby in 1998. There were no conditions that could be feasibility be violated by this modification, including total facility height and mounting restrictions. The AT&T modification complies with the above-mentioned approval. AT&T received CT Siting Council Approval under Petition 916 on October 8, 2009.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies ("R.C.S.A") §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2). In accordance with to R.C.S.A §16-50j-73, a copy of this letter is being sent the Honorable B. Scott Kuhnly, First Selectman, Town of Granby, Mr. James Koplar, Building Official/Zoning Enforcement, Town of Granby, John G Lombardi & Deborah Lindsey Lombardi as property owners & SBA Towers, Inc. as tower owner.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require an extension of the site boundary.

3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

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

6. The existing structure and foundation can support the proposed loading.

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

Sincerely,

Hollis M. Redding

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

Enclosures

Cc: Honorable B. Scott Kuhnly, First Selectman, Town of Granby,
Mr. James Koplar, Building Official/Zoning Enforcement, Town of Granby
John G Lombardi & Deborah Lindsey Lombardi as property owners
SBA Towers, Inc. as tower owner

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							1.90%
AT&T UMTS	2	565	170	0.0151	880	0.5867	0.26%
AT&T LTE	2	875	170	0.0234	1900	1.0000	0.23%
AT&T GSM	1	283	170	0.0038	880	0.5867	0.06%
AT&T UMTS	4	525	170	0.0281	1900	1.0000	0.28%
AT&T LTE	1	1313	170	0.0176	734	0.4893	0.36%
Site Total							3.10%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							1.90%
AT&T UMTS	1	235	170	0.0031	850	0.5667	0.06%
AT&T LTE	1	1000	170	0.0134	850	0.5667	0.24%
AT&T 5G	1	1000	170	0.0134	850	0.5667	0.24%
AT&T LTE	1	1476	170	0.0197	700	0.4667	0.42%
AT&T LTE	2	3664	170	0.0980	1900	1.0000	0.98%
AT&T LTE AWS	1	3837	170	0.0513	2100	1.0000	0.51%
Site Total							4.34%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

PROJECT INFORMATION

SCOPE OF WORK:	ITEMS TO BE MOUNTED ON THE EXISTING SELF SUPPORT TOWER : • NEW AT&T ANTENNAS (DMP65R-BU8DA) @ POS. 1 (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T ANTENNAS (OPA65R-BU8DA)@ POS. 2 (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: 8843 B2/B66A (PCS/AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T DC FIBER SURGE ARRESTOR DC9-48-60-24-8C-EV (TOTAL OF 1) WITH (3) DC POWER AND (1) FIBER RUN (TO FOLLOW EXISTING ROUTING). • ADD HOME RUN RET WITH 3/8" LINE. • PROPOSED MOUNT MOD (SEE SHEET S-1). ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION: • ADD RBS 6630. • ADD IDLe. • ADD (1) FIBER MANAGEMENT BOX. • ADD (1) DC12. • INSTALL NETSURE 7100 WITH BATT 6 UP CONVERTER (TO REPLACE EXISTING). ITEMS TO BE REMOVED: • EXISTING AT&T ANTENNAS (AM-X-CD-17-65-00T-RET) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • EXISTING AT&T ANTENNAS (7770) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • EXISTING AT&T RRUS 11 B12 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3) • EXISTING AT&T TMA'S (TT08-19DB111-001) (TYP. OF 1 PER SECTOR, TOTAL OF 3). • EXISTING AT&T 1-5/8 COAX CABLES (TOTAL OF 6). ITEMS TO REMAIN: • (3) ANTENNAS, (3) TMA'S, (1) SURGE ARRESTOR, (6) 1-5/8 COAX CABLES, (2) DC POWER & (1) FIBER.
SITE ADDRESS:	150 LOST ACRES ROAD GRANBY, CT 06035
LATITUDE:	42.00960° N, 42° 00' 34.60" N
LONGITUDE:	72.86599° W, 72° 51' 57.60" W
TYPE OF SITE:	SELF SUPPORT TOWER / INDOOR EQUIPMENT
STRUCTURE HEIGHT:	170'-0"±
RAD CENTER:	170'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

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

SBA SITE #: CT10017

SITE NUMBER: CT1272

SITE NAME: NORTH GRANBY LOST ACRES RD

FA CODE: 10133873

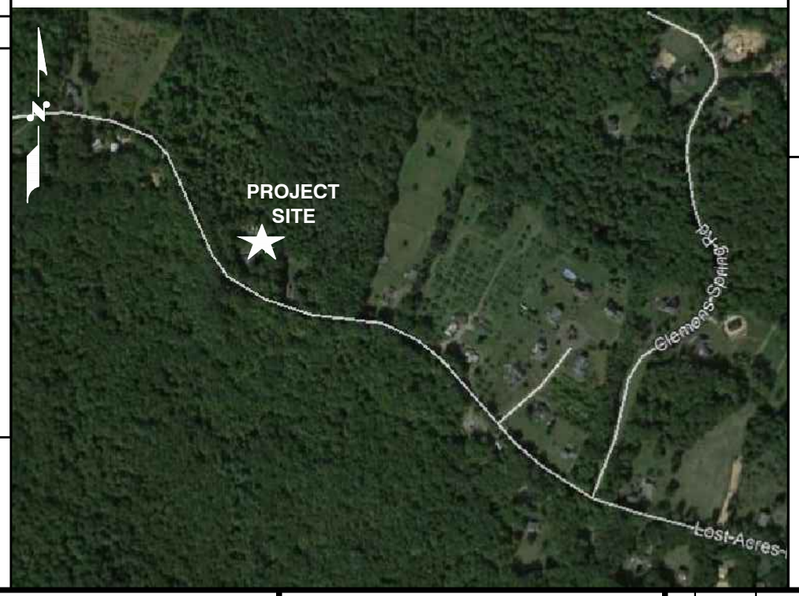
PACE ID: MRCTB046626, MRCTB046653, MRCTB046745, MRCTB046720

PROJECT: LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD 0.4 MI TURN LEFT ONTO CAPITOL BLVD 0.2 MI TURN LEFT ONTO WEST ST 0.2 MI TAKE RAMP LEFT FOR I-91 NORTH 18.9 MI AT EXIT 40, TAKE RAMP RIGHT FOR CT-20 TOWARD BRADLEY INTERNATIONAL AIRPORT 3.5 MI TAKE RAMP RIGHT FOR CT-20 WEST TOWARD E. GRANBY / GRANBY 0.4 MI KEEP STRAIGHT ONTO CT-20 PASS PHILLIPS 66 ON THE LEFT IN 0.8 MI 5.7 MI KEEP STRAIGHT ONTO CT-20 / CT-189 / N GRANBY RD 0.2 MI BEAR RIGHT ONTO CT-189 / N GRANBY RD 4.3 MI TURN LEFT ONTO LOST ACRES RD 1.4 MI ARRIVE AT 150 LOST ACRES RD, NORTH GRANBY, CT 06060



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

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

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: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

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

AT&T

TITLE SHEET
LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1272	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			

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

SITE NUMBER: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

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

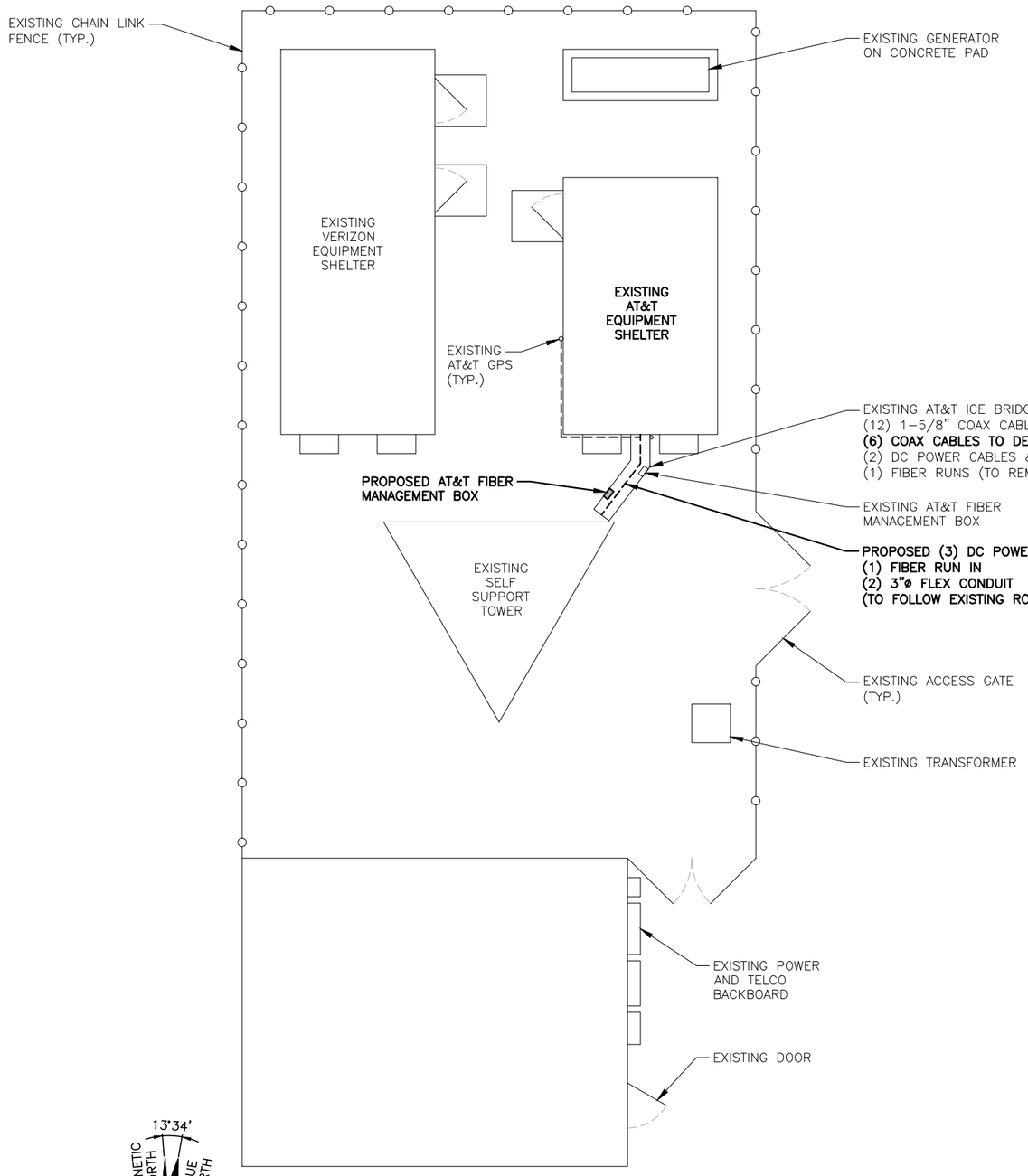
STATE OF CONNECTICUT DANIEL P. HAMM No.24178 LICENSED PROFESSIONAL ENGINEER

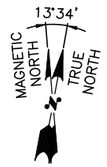
AT&T

GENERAL NOTES

LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1272	GN-1	1





COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"

0 2'-0" 4'-0" 8'-0" 12'-0"

NOTE:

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

NOTE:

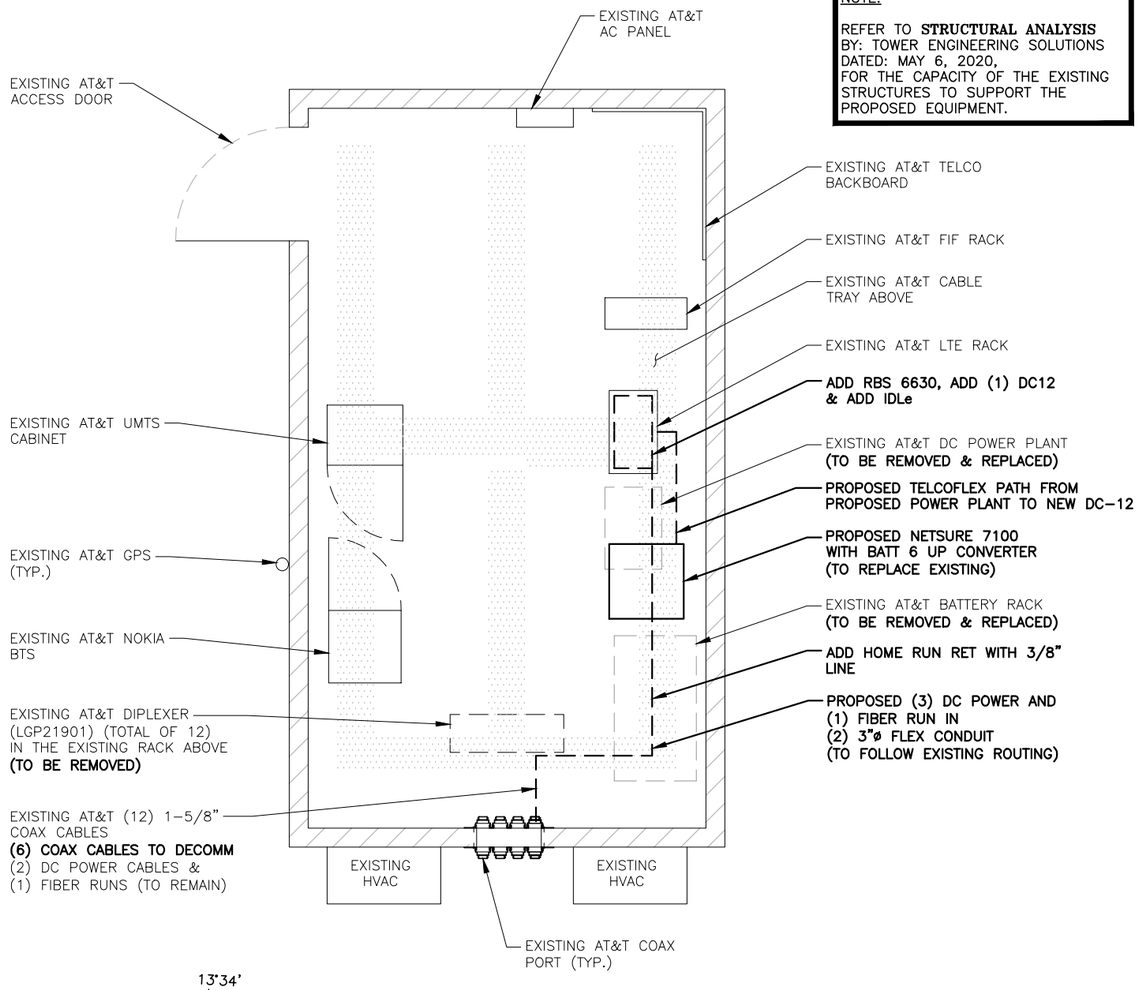
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

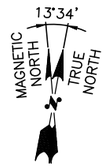
NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: APRIL 21, 2020

NOTE:

REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTIONS
DATED: MAY 6, 2020,
FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.





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

0 1'-0" 2'-0" 4'-0" 6'-0"

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: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

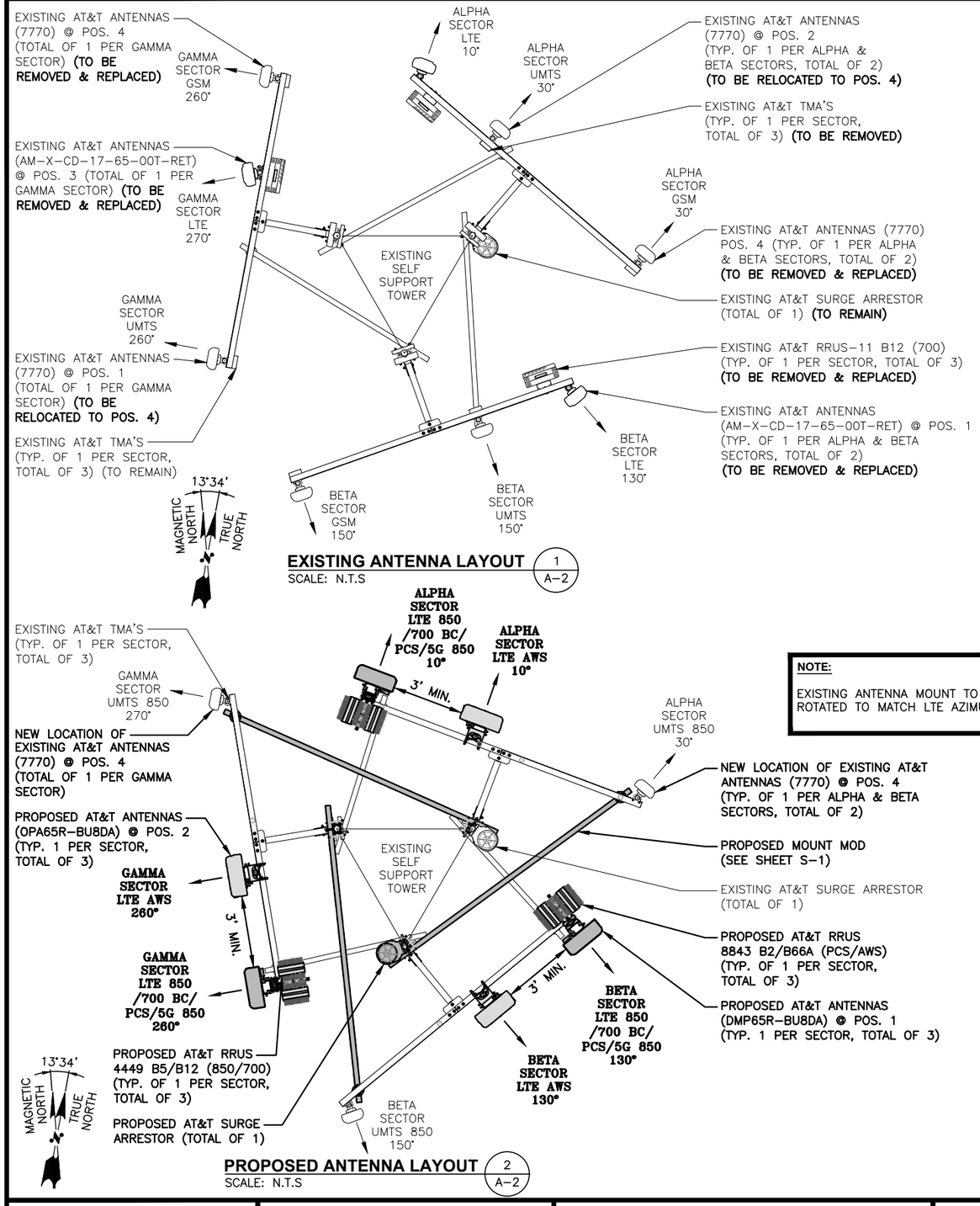
SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: AM

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

AT&T

COMPOUND & EQUIPMENT PLANS
LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1272	A-1	1



EXISTING ANTENNA LAYOUT

SCALE: N.T.S

1 / A-2

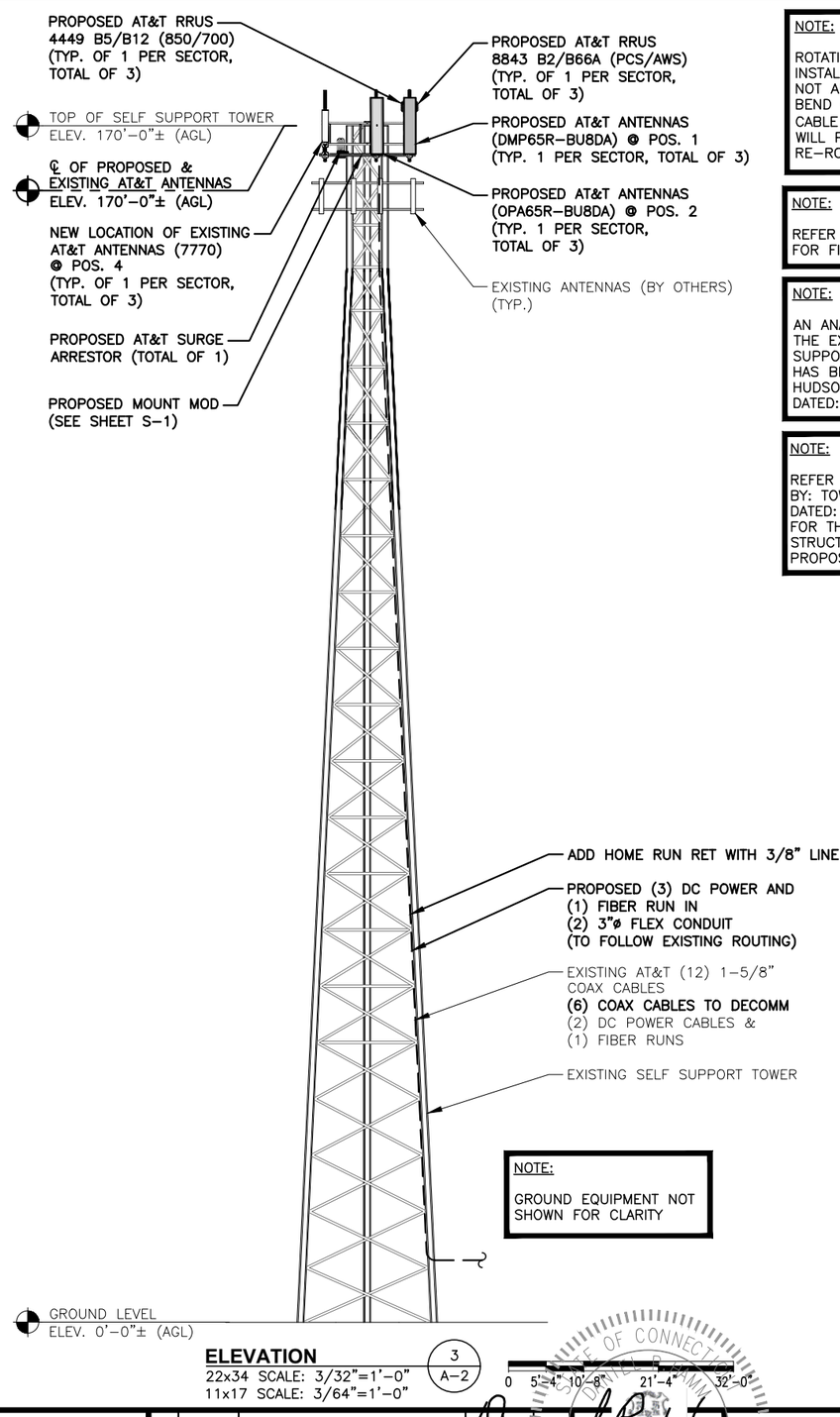
NOTE:

EXISTING ANTENNA MOUNT TO BE ROTATED TO MATCH LTE AZIMUTHS

PROPOSED ANTENNA LAYOUT

SCALE: N.T.S

2 / A-2



NOTE:

GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION

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

3 / A-2

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

NOTE:

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

NOTE:

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

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: APRIL 21, 2020

NOTE:

REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTIONS
DATED: MAY 6, 2020,
FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

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: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

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

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

AT&T

ANTENNA LAYOUTS & ELEVATION
LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

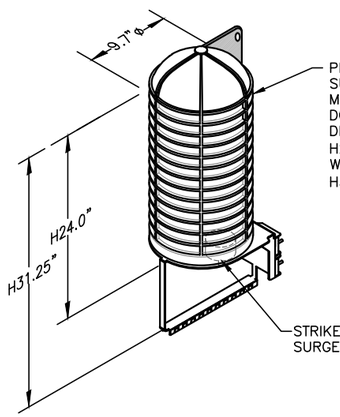
SITE NUMBER	DRAWING NUMBER	REV
CT1272	A-2	1

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	FREQUENCY	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	**PROPOSED**	**LTE 850/700 BC/ PCS/5G 850**	**DMP65R-BU8DA**	**96.0X20.7X7.7**	**170'-0"±**	**10°**	–	**(P)(1) 4449 B5/B12 (P)(1) 8843 B2/B66A**	**(850/700) (PCS/AWS)**	**17.9"x13.2"x10.4" 14.9"x13.2"x10.9"**	(2) DC & (1) FIBER	(E) (1) RAYCAP DC6-48-60-18-8F
A2	**PROPOSED**	**LTE AWS**	**OPA65R-BU8DA**	**96X21X7.8**	**170'-0"±**	**10°**	–	–	–	–	–	
A3	–	–	–	–	–	–	–	–	–	–	–	
A4	EXISTING	UMTS 850	7770	55X11X5	170'-0"±	30°	(E)(1) TT08-19DB111-001	–	–	–	(2)1-5/8 COAX	
B1	**PROPOSED**	**LTE 850/700 BC/ PCS/5G 850**	**DMP65R-BU8DA**	**96.0X20.7X7.7**	**170'-0"±**	**130°**	–	**(P)(1) 4449 B5/B12 (P)(1) 8843 B2/B66A**	**(850/700) (PCS/AWS)**	**17.9"x13.2"x10.4" 14.9"x13.2"x10.9"**	**(3) DC & (1) FIBER**	**(P) (1) RAYCAP DC9-48-60-24-8C-EV**
B2	**PROPOSED**	**LTE AWS**	**OPA65R-BU8DA**	**96X21X7.8**	**170'-0"±**	**130°**	–	–	–	–	–	
B3	–	–	–	–	–	–	–	–	–	–	–	
B4	EXISTING	UMTS 850	7770	55X11X5	170'-0"±	150°	(E)(1) TT08-19DB111-001	–	–	–	(2)1-5/8 COAX	
C1	**PROPOSED**	**LTE 850/700 BC/ PCS/5G 850**	**DMP65R-BU8DA**	**96.0X20.7X7.7**	**170'-0"±**	**260°**	–	**(P)(1) 4449 B5/B12 (P)(1) 8843 B2/B66A**	**(850/700) (PCS/AWS)**	**17.9"x13.2"x10.4" 14.9"x13.2"x10.9"**	–	**SHARED**
C2	**PROPOSED**	**LTE AWS**	**OPA65R-BU8DA**	**96X21X7.8**	**170'-0"±**	**260°**	–	–	–	–	–	
C3	–	–	–	–	–	–	–	–	–	–	–	
C4	EXISTING	UMTS 850	7770	55X11X5	170'-0"±	270°	(E)(1) TT08-19DB111-001	–	–	–	(2)1-5/8 COAX	

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

RRU CHART		
QUANTITY	**MODEL**	**SIZE (L x W x D)**
3(P)	**4449 B5/B12 (850/700)**	**17.9"x13.2"x10.4"**
3(P)	**8843 B2/B66A (PCS/AWS)**	**14.9"x13.2"x10.9"**
NOTE: MOUNT PER MANUFACTURER'S SPECIFICATIONS		



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (2 / A-3)
SCALE: N.T.S

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

PROPOSED NETSURE 7100 WITH BATT 6 UP CONVERTER (TO REPLACE EXISTING)

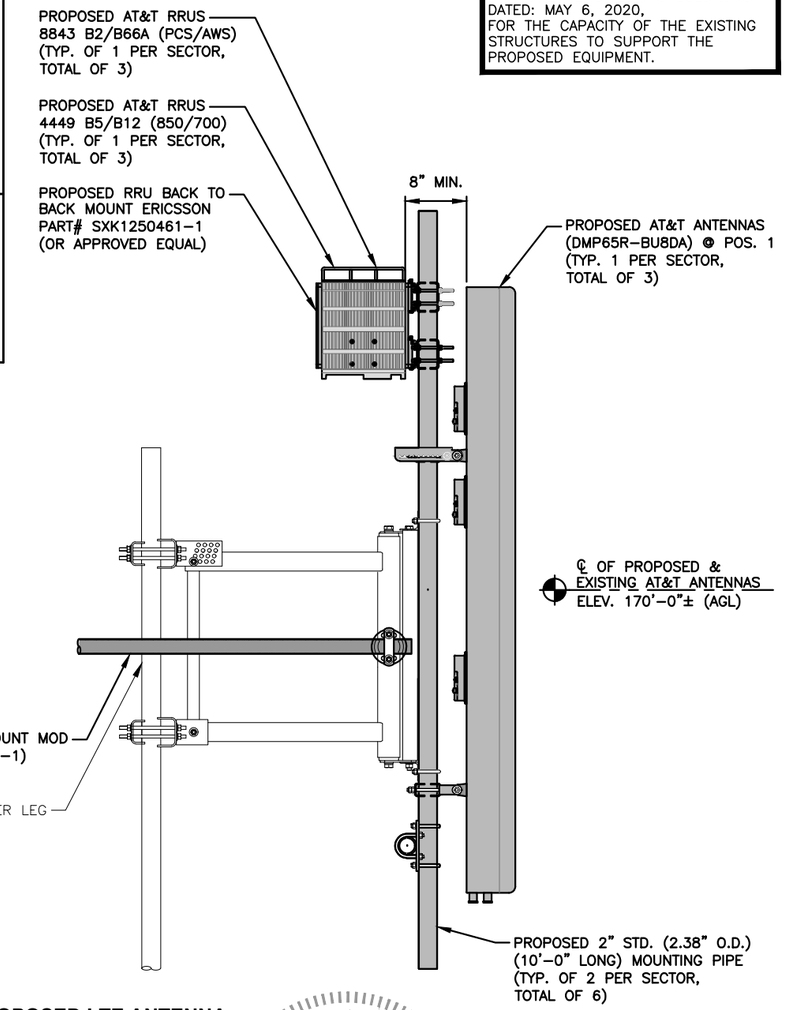
PROPOSED POWER PLANT DETAIL (4 / A-5)
22x34 SCALE: N.T.S

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

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

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: APRIL 21, 2020

NOTE:
REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTIONS
DATED: MAY 6, 2020,
FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



PROPOSED LTE ANTENNA & RRUS MOUNTING DETAIL (4 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

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

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

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

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

AT&T

DETAILS

LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1272	A-3	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 DI.I. 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.

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

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

SITE NUMBER: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

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

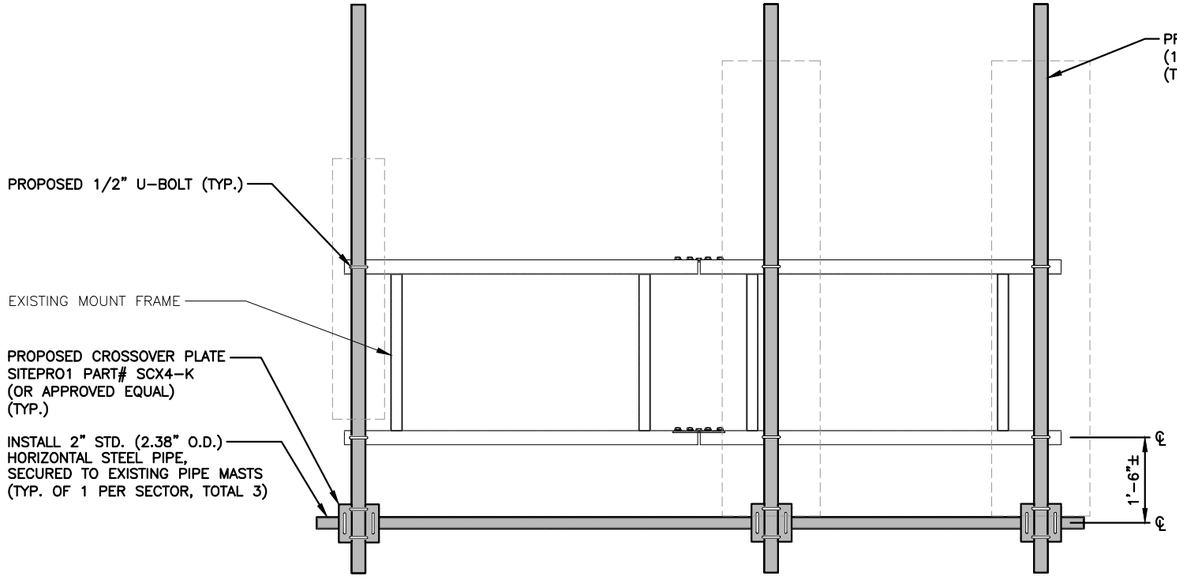
STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

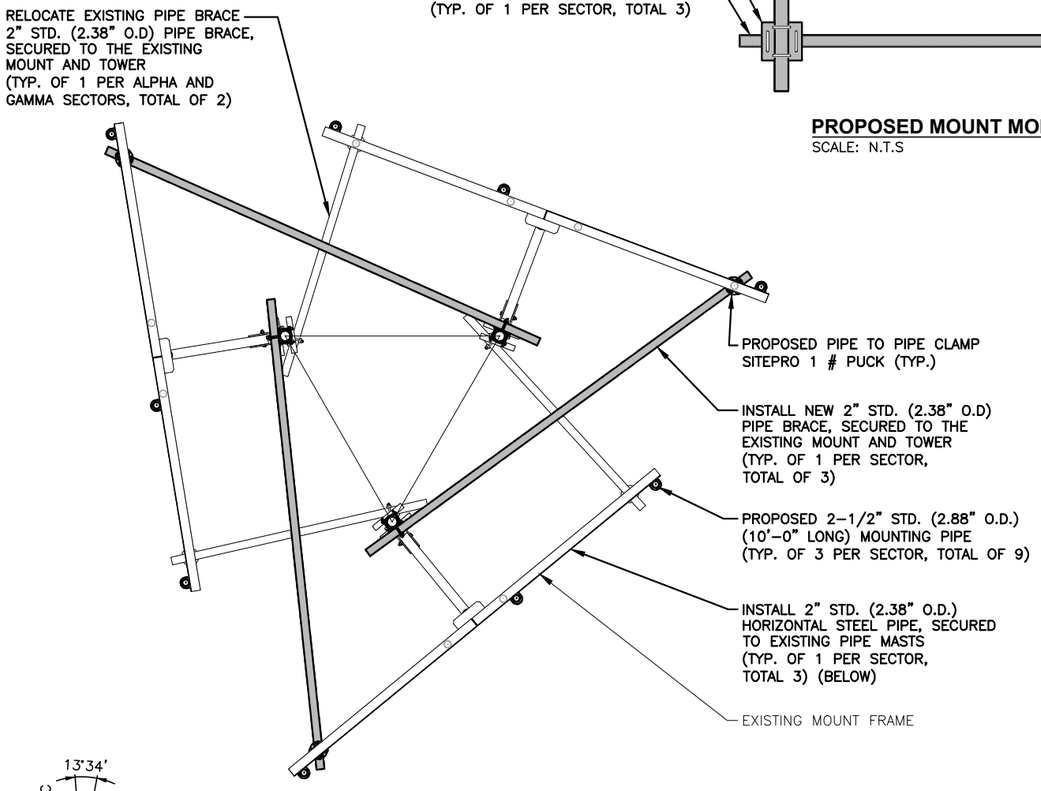
STRUCTURAL NOTES

LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

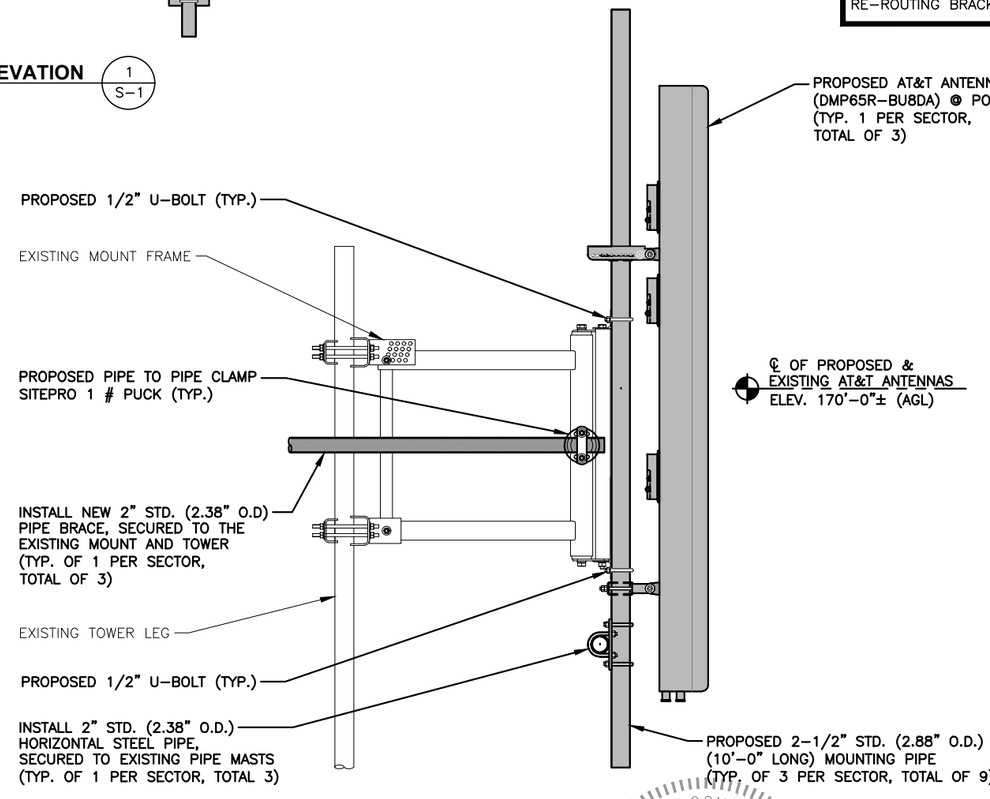
SITE NUMBER	DRAWING NUMBER	REV
CT1272	SN-1	1



PROPOSED MOUNT MODIFICATIONS FRONT ELEVATION (1 / S–1)
SCALE: N.T.S



PROPOSED MOUNT MODIFICATIONS PLAN (1 / S–1)
22x34 SCALE: 1/2"=1'–0"
11x17 SCALE: 1/4"=1'–0"
0 1'–0" 2'–0" 4'–0" 6'–0"



PROPOSED MOUNT MODIFICATION DETAIL (4 / S–1)
22x34 SCALE: 1"=1'–0"
11x17 SCALE: 1/2"=1'–0"
0 0'–6" 1'–0" 2'–0" 3'–0"

NOTE:

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

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: APRIL 21, 2020

NOTE:

REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTIONS
DATED: MAY 6, 2020,
FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

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

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: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

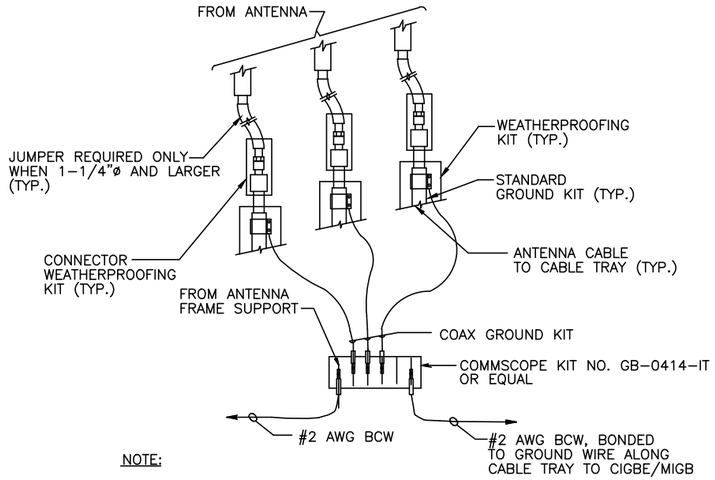
SCALE: AS SHOWN | DESIGNED BY: HC | DRAWN BY: AM

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

AT&T

MOUNT MODIFICATION DESIGN
LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1272	S–1	1



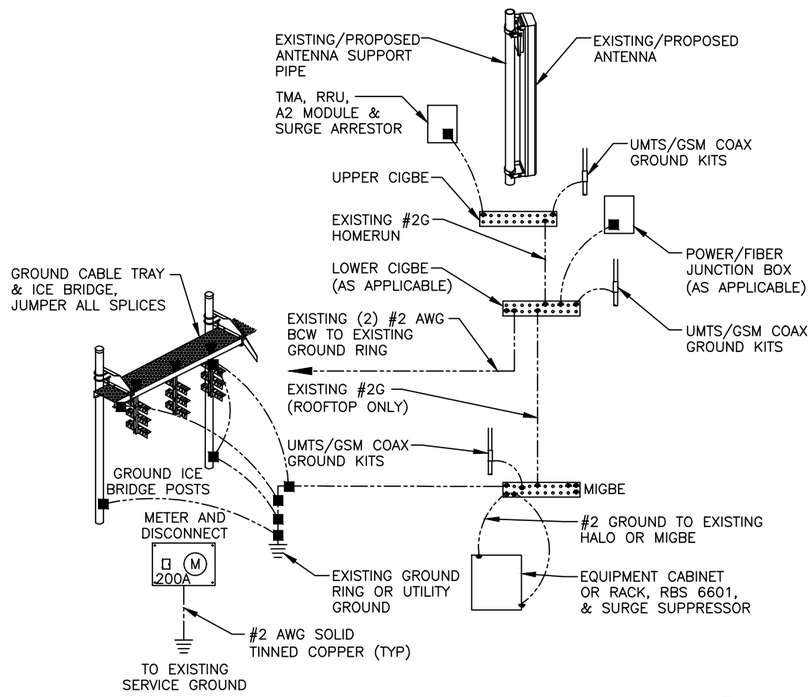
NOTE:

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

SCALE: N.T.S

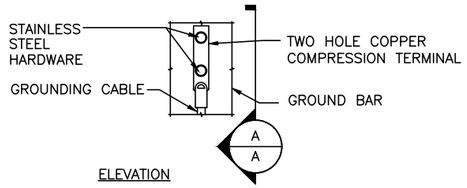
1 / G-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G-1



NOTES:

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

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3 / G-1

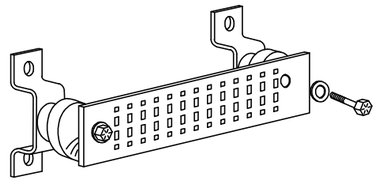
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL (AS REQUIRED)

SCALE: N.T.S

4 / G-1

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: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

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

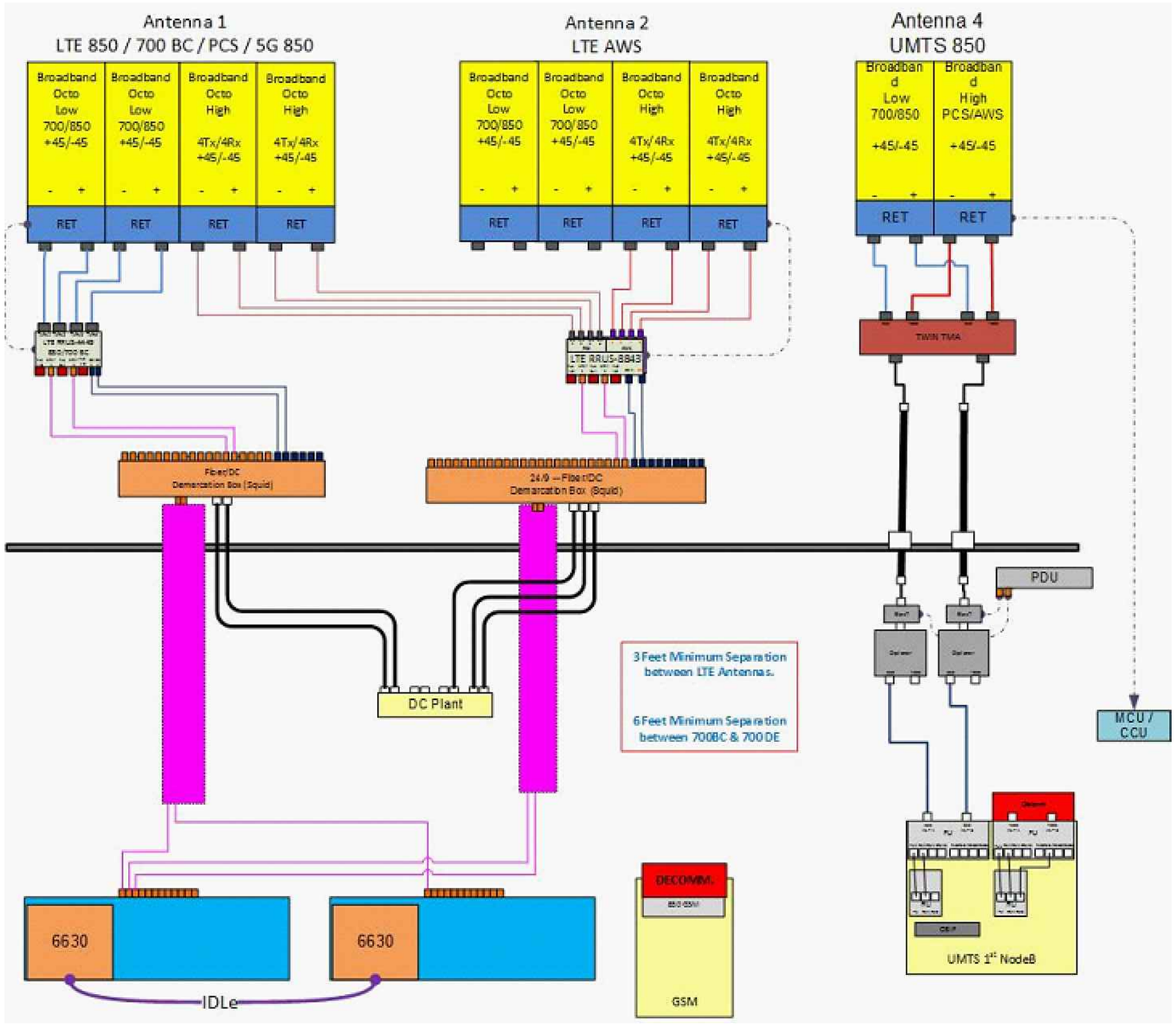
STATE OF CONNECTICUT — DANIEL P. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS

LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1272	G-1	1



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

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

NOTE:

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

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

SITE NUMBER: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

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

AT&T

RF PLUMBING DIAGRAM
LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1272	RF–1	1

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

Structural Analysis Report

Existing 170 ft Rohn Self Supporting Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT10017-A

Customer Site Name: North Granby

Carrier Name: AT&T (App#: 132676, V2)

Carrier Site ID / Name: CT1272 / NORTH GRANBY LOST ACRES RD

Site Location: 150 Lost Acres Road

North Granby, Connecticut

Hartford County

Latitude: 42.009600

Longitude: -72.866544

Analysis Result:

Max Structural Usage: 78.5% [Pass]

Max Foundation Usage: 62.9% [Pass]

Additional Usage Caused by Mount Modification: +3.5%

Report Prepared By: Stacey Hesselbein

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

Structural Analysis Report

Existing 170 ft Rohn Self Supporting Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT10017-A

Customer Site Name: North Granby

Carrier Name: AT&T (App#: 132676, V2)

Carrier Site ID / Name: CT1272 / NORTH GRANBY LOST ACRES RD

Site Location: 150 Lost Acres Road

North Granby, Connecticut

Hartford County

Latitude: 42.009600

Longitude: -72.866544

Analysis Result:

Max Structural Usage: 78.5% [Pass]

Max Foundation Usage: 62.9% [Pass]

Additional Usage Caused by Mount Modification: +3.5%

Report Prepared By: Stacey Hesselbein

Introduction

The purpose of this report is to summarize the analysis results on the 170 ft Rohn Self Supporting Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Rohn, Eng. File # 37696Mp Dated 08/03/1998
Foundation Drawing	N/A
Geotechnical Report	N/A
Modification Drawings	Extension Drawings by FDH, Project # 09-07094E S2 Dated 10/23/2009 PCI by FDH, Project # 09-07094E S2 Dated 01/06/2010

Analysis Criteria

The feasibility analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2**.** In accordance with this standard, the structure was analyzed using **TESTowers,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 120 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 93.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.176, S_1 = 0.065

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	170.0	6	Powerwave 7770 Panel	(3) T-Frames	(12) 1 5/8" (1) 3" Conduit Housing (2) 3/4" DC and (1) 7/16" Fiber	AT&T
-		3	KMW AM-X-CD-16-65-00T-RET Panel			
-		6	Powerwave LGP21401 TMA			
-		6	Ericsson RRUS 11 RRU			
-		1	Raycap DC6-48-60-18-8F - OVP			
-		3	Andrew ABT-DF-DMADBH Bias-T			
10	160.0	1	Antel BXA-70063-4CF Panel	(3) T-Frames	(12) 1 5/8" (1) 1/2"	Verizon
11		3	Antel BXA-171085-12BF Panel			
12		2	Antel BXA-70063-6CF Panel			
13		4	Antel LPA-80063/4CF Panel			
14		2	Antel LPA-80080/6CF Panel			
15		1	GPS			
16		6	RFS FD9R6004/2C-3L Diplexer			

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	170.0	3	Cci DMP65R-BU8DA Panel	(3) T-Frames w/ Modifications (3) Pipe Masts (5) PipeBraces	(12) 1 5/8" (3) 3/8" RET (1) 3" Conduit Housing (2) 3/4" DC and (1) 7/16" Fiber (2) 3" Conduit Housing (3) 1" DC and (1) 7/16" Fiber	AT&T
2		3	Powerwave 7770 Panel			
3		3	Cci OPA65R-BU8DA Panel			
4		6	Powerwave TT08-19DB111-001 TMA			
5		3	Ericsson 4449 B5/B12 RRU			
6		3	Ericsson RRUS 8843 B2 B66A RRU			
7		1	Raycap DC6-48-60-18-8F - OVP			
8		1	Raycap DC9-48-60-24-8C-EV - OVP			
9		3	Andrew ABT-DF-DMADBH Bias-T			

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

Analysis Results

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

Tower Component	Legs	Diagonals	Horizontals
Max. Usage:	**78.5%**	**58.9%**	**24.2%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Original Design Reactions	240.1	214.2	28.5
Analysis Reactions	203.9	173.8	18.9
Factored Reactions*	324.1	289.2	38.5
% of Design Reactions	62.9%	60.1%	49.1%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

No foundation drawing or geotechnical report is available for the analysis of the existing foundation. Since the reactions calculated from the current analysis are less than those indicated on the original structural design drawing, the foundations are assumed to be adequate to resist the reactions from the current analysis.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.2592 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Structure: CT10017-A-SBA

Site Name:	North Granby			**Code:**	EIA/TIA-222-G	5/6/2020
Type:	Self Support	**Base Shape:**	Triangle	**Basic WS:**	93.00	
Height:	170.00 (ft)	**Base Width:**	20.96	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	6.58	**Operational WS:**	60.00	Page: 1

IES Tower Engineering Solutions

Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1-2	PX 6" DIA PIPE	SAE 3.5X3.5X0.25	
3	PSP ROHN 6 EHS	SAE 3.5X3.5X0.25	
4	PX 5" DIA PIPE	SAE 3X3X0.25	
5	PX 4" DIA PIPE	SAE 2.5X2.5X0.1875	
6	PX 3-1/2" DIA PIPE	SAE 2.5X2.5X0.1875	
7	PST 3" DIA PIPE	SAE 2X2X0.1875	SAE 2X2X0.1875
8-9	PST 2-1/2" DIA PIPE	SAE 1.75X1.75X0.1875	SAE 1.75X1.75X0.1875

Discrete Appurtenances

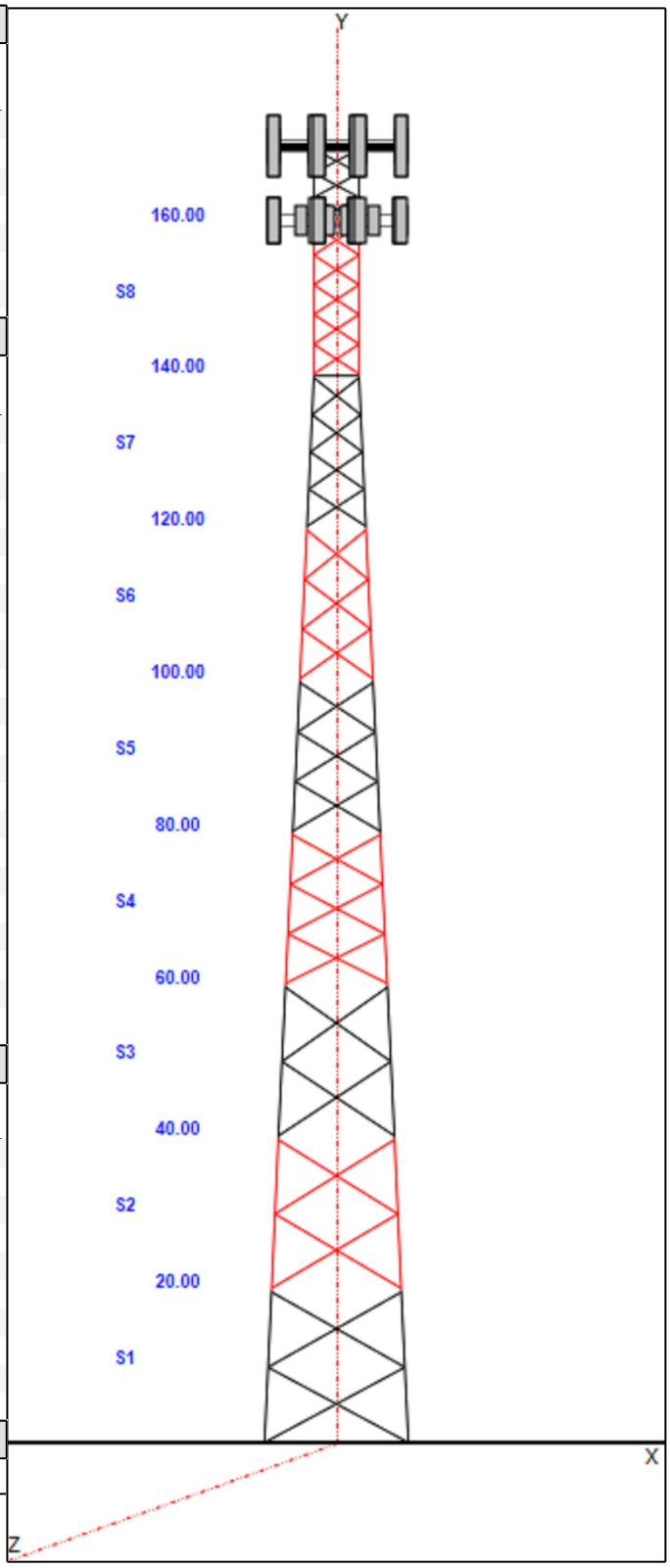
Attach Elev (ft)	Force Elev (ft)	Qty	Description
170.00	170.00	1	6' Lightning rod
170.00	170.00	1	Beacon
170.00	170.00	3	DMP65R-BU8DA
170.00	170.00	3	7770.00
170.00	170.00	3	OPA65R-BU8DA
170.00	170.00	6	TT08-19DB111-001
170.00	170.00	3	4449 B5/B12
170.00	170.00	3	B2 B66A 8843
170.00	170.00	1	DC6-48-60-18-8F
170.00	170.00	1	DC9-48-60-24-8C-EV
170.00	170.00	3	ABT-DMDF-ADBH
170.00	170.00	3	T-Frames
170.00	170.00	1	(3) 12.5' - 2" Horizontal Pipe
170.00	170.00	2	(3) Stabilizer Kit (12' FW)
160.00	160.00	3	T-Frames
160.00	160.00	1	BXA-70063-4CF-EDIN-10
160.00	160.00	3	BXA-171085-12BF-EDIN-X
160.00	160.00	2	BXA-70063-6CF-EDIN-X
160.00	160.00	4	LPA-80063/4CF
160.00	160.00	2	LPA-80080/6CF ___
160.00	160.00	1	GPS
160.00	160.00	6	FD9R6004/2C-3L 3.1#

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	170.00	12	1 5/8" Coax
0.00	170.00	3	1" DC
0.00	170.00	3	3" Conduit
0.00	170.00	2	3/4" DC
0.00	170.00	3	3/8" RET
0.00	170.00	2	7/16" Fiber
0.00	170.00	1	W/G Ladder
0.00	160.00	12	1 5/8" Coax
0.00	160.00	1	1/2" Coax
0.00	160.00	1	W/G Ladder

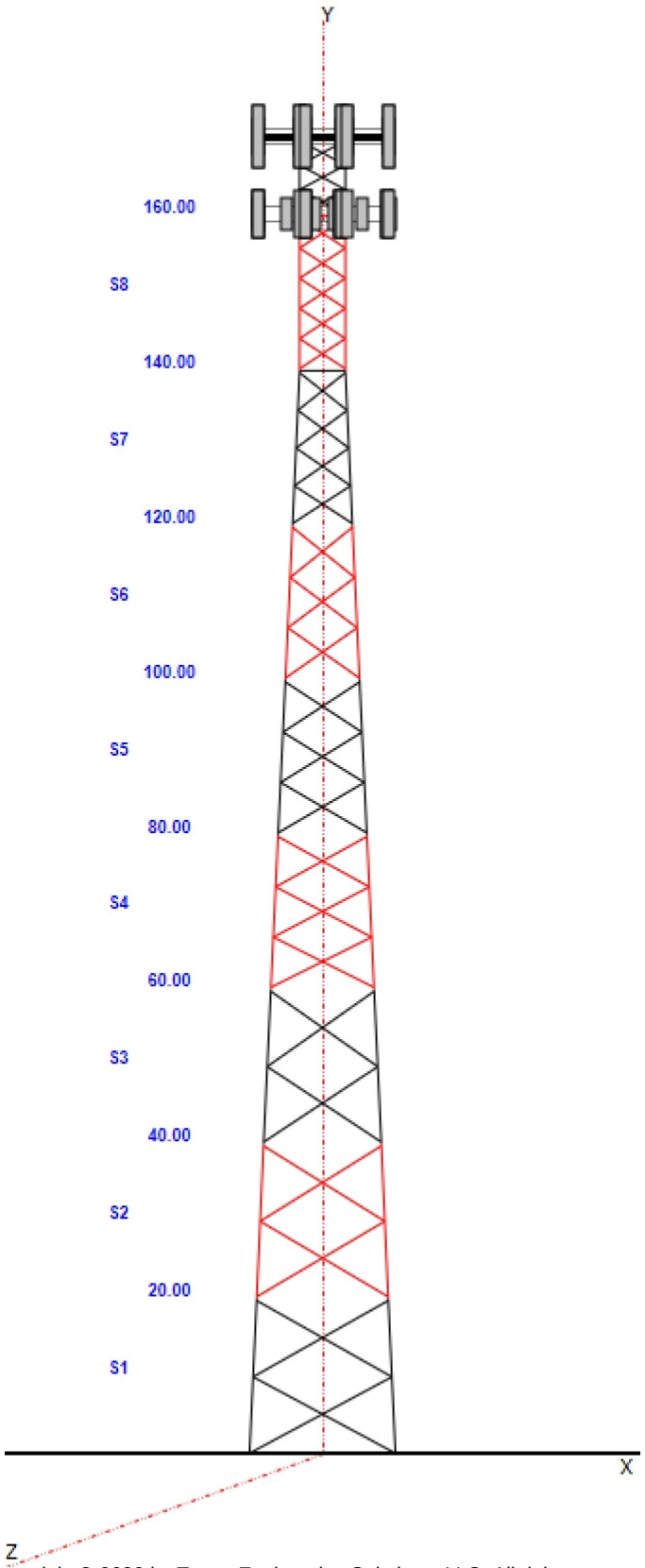
Base Reactions

Leg		Overturning	
Max Uplift:	-173.82 (kips	Moment:	3482.78 (ft-kips)
Max Down:	203.87 (kips	Total Down:	36.00 (kips)
Max Shear:	21.28 (kips	Total Shear:	34.65 (kips)



Structure: CT10017-A-SBA

Site Name:	North Granby			**Code:**	EIA/TIA-222-G	5/6/2020
Type:	Self Support	**Base Shape:**	Triangle	**Basic WS:**	93.00	
Height:	170.00 (ft)	**Base Width:**	20.96	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	6.58	**Operational WS:**	60.00	Page: 2

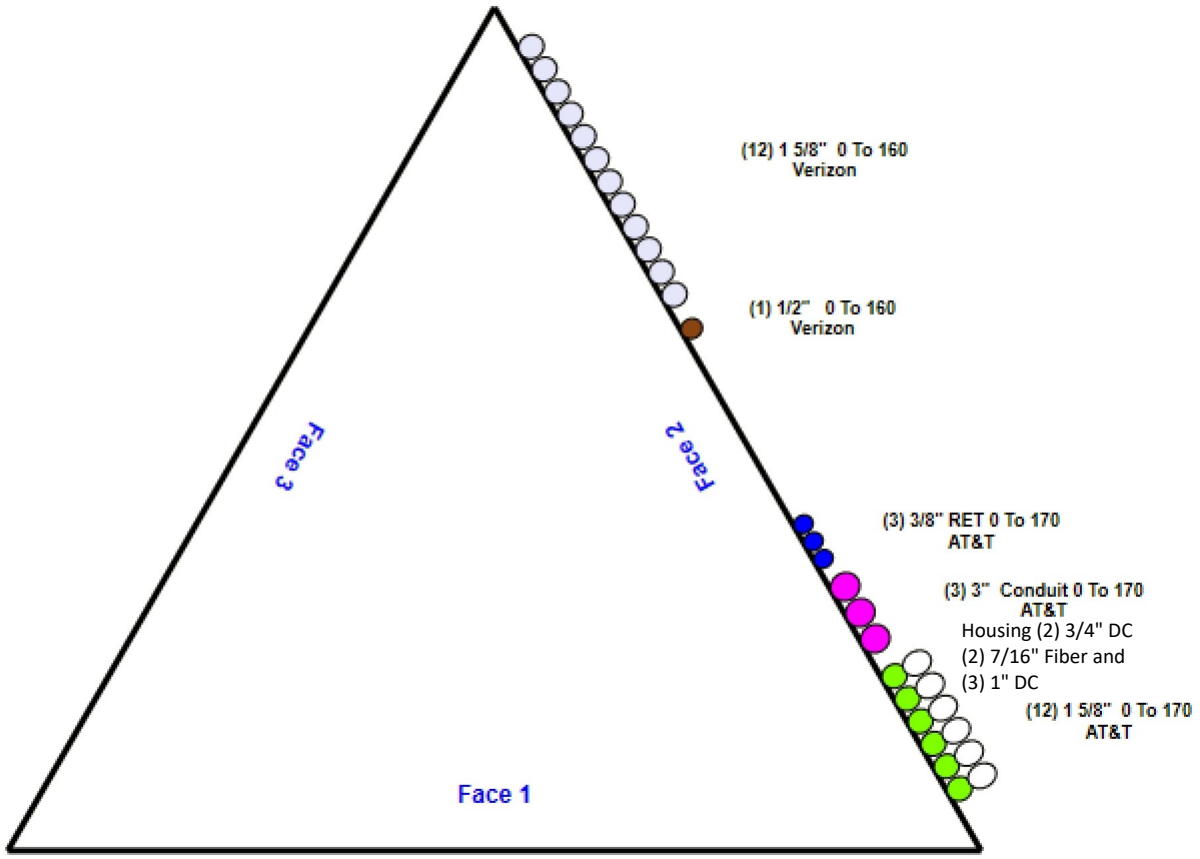


Structure: CT10017-A-SBA - Coax Line Placement

Type: Self Support
Site Name: North Granby
Height: 170.00 (ft)

5/6/2020

Tower Engineering Solutions



Loading Summary

Structure:	CT10017-A-SBA		**Code:**	EIA/TIA-222-G	5/6/2020
Site Name:	North Granby		**Exposure:**	B	
Height:	170.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 4

Tower Engineering Solutions

Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	Ice Weight (lb)	Ice CaAa (sf)	Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
170.00	6' Lightning rod	1	6.50	0.380	55.36	1.844	72.000	0.600	0.600	1.00	1.00	0.000
170.00	Beacon	1	36.00	2.720	215.29	3.998	28.000	17.500	17.500	1.00	1.00	0.000
170.00	DMP65R-BU8DA	3	95.70	17.870	714.95	20.288	96.000	20.700	7.700	0.80	0.72	0.000
170.00	7770.00	3	35.00	5.500	231.52	6.966	55.000	11.000	5.000	0.80	0.30	0.000
170.00	OPA65R-BU8DA	3	76.50	17.870	571.51	20.288	96.000	21.000	7.800	0.80	0.72	0.000
170.00	TT08-19DB111-001	6	22.00	0.920	57.83	1.915	14.200	6.700	5.400	0.80	0.75	0.000
170.00	4449 B5/B12	3	71.00	1.970	142.86	2.707	17.900	13.200	9.400	0.80	0.67	0.000
170.00	B2 B66A 8843	3	70.00	1.640	131.90	2.335	15.000	13.200	9.300	0.80	0.67	0.000
170.00	DC6-48-60-18-8F	1	31.80	0.920	115.02	1.510	24.000	11.000	11.000	0.80	1.00	0.000
170.00	DC9-48-60-24-8C-EV	1	26.20	1.140	168.87	3.276	31.400	10.200	18.200	0.80	1.00	0.000
170.00	ABT-DMDF-ADBH	3	1.10	0.050	4.10	0.309	1.700	1.600	3.200	0.80	0.98	0.000
170.00	T-Frames	3	525.00	16.000	1265.01	44.066	0.000	0.000	0.000	0.75	0.75	0.000
170.00	(3) 12.5' - 2" Horizontal Pipe	1	137.25	5.938	317.81	15.980	0.000	0.000	0.000	0.75	1.00	0.000
170.00	(3) Stabilizer Kit (12' FW)	2	180.00	6.100	484.46	14.698	0.000	0.000	0.000	0.75	1.00	0.000
160.00	T-Frames	3	525.00	16.000	1257.99	43.799	0.000	0.000	0.000	0.75	0.75	0.000
160.00	BXA-70063-4CF-EDIN-10	1	9.90	4.720	145.70	7.185	47.400	11.200	5.200	0.80	0.73	0.000
160.00	BXA-171085-12BF-EDIN-X	3	15.00	4.740	141.58	7.872	71.700	6.100	4.100	0.80	0.84	0.000
160.00	BXA-70063-6CF-EDIN-X	2	17.00	7.570	214.73	11.255	71.000	11.200	5.200	0.80	0.73	0.000
160.00	LPA-80063/4CF	4	20.00	6.150	309.76	7.559	47.400	15.200	13.200	0.80	0.93	0.000
160.00	LPA-80080/6CF ___	2	21.00	4.330	298.07	5.952	70.900	5.500	13.200	0.80	0.80	0.000
160.00	GPS	1	10.00	1.000	49.09	1.949	12.000	9.000	6.000	0.80	1.00	0.000
160.00	FD9R6004/2C-3L 3.1#	6	3.10	0.360	13.80	0.951	5.800	6.500	1.500	0.80	0.50	0.000
	Totals:	**56**	**5,167.15**		**18,114.75**						**Number of Appurtenances :**	**22**

Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	170.00	1 5/8" Coax	12	1.98	1.04	50.00	2	Block		N	0.50	1.00	
0.00	170.00	1" DC	3	0.00	1.00	100.00	2	Individual NR		N	1.00	1.00	0
0.00	170.00	3" Conduit	3	3.00	1.78	100.00	2	Individual NR		N	1.00	1.00	
0.00	170.00	3/4" DC	2	0.00	0.40	100.00	2	Individual NR		N	1.00	1.00	0
0.00	170.00	3/8" RET	3	0.38	0.06	100.00	2	Individual NR		N	1.00	1.00	
0.00	170.00	7/16" Fiber	2	0.00	0.08	100.00	2	Individual NR		N	1.00	1.00	0
0.00	170.00	W/G Ladder	1	3.00	6.00	100.00	2	Individual NR		N	1.00	1.00	
0.00	160.00	1 5/8" Coax	12	1.98	1.04	100.00	2	Individual NR		N	1.00	1.00	
0.00	160.00	1/2" Coax	1	0.65	0.16	100.00	2	Individual NR		N	1.00	1.00	
0.00	160.00	W/G Ladder	1	3.00	6.00	100.00	2	Individual NR		N	1.00	1.00	

Section Forces

Structure:	CT10017-A-SBA	**Code:**	EIA/TIA-222-G	5/6/2020	
Site Name:	North Granby	**Exposure:**	B		
Height:	170.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W Normal Wind — 1.2D + 1.6W 93 mph Wind at Normal To Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	13.17	25.312	22.12	0.00	0.12	2.90	1.00	1.00	0.00	36.58	91.53	0.00	5,037.3	0.0	1901.26	1343.98	3,245.23
2	30.0	13.19	23.140	22.12	0.00	0.12	2.87	1.00	1.00	0.00	34.43	91.53	0.00	4,881.4	0.0	1774.87	1345.11	3,119.98
3	50.0	15.26	21.096	22.12	0.00	0.13	2.84	1.00	1.00	0.00	32.08	91.53	0.00	4,322.2	0.0	1890.70	1556.48	3,447.18
4	70.0	16.80	22.170	18.58	0.00	0.14	2.80	1.00	1.00	0.00	31.93	91.53	0.00	4,230.7	0.0	2040.60	1713.54	3,754.14
5	90.0	18.05	16.261	15.03	0.00	0.13	2.85	1.00	1.00	0.00	24.60	91.53	0.00	3,086.4	0.0	1719.88	1841.11	3,560.99
6	110.0	19.11	14.103	13.36	0.00	0.14	2.82	1.00	1.00	0.00	21.67	91.53	0.00	2,790.3	0.0	1586.24	1949.75	3,535.99
7	130.0	20.05	12.689	11.69	0.00	0.15	2.75	1.00	1.00	0.00	19.33	91.53	0.00	2,356.9	0.0	1451.25	2045.07	3,496.32
8	150.0	20.88	11.730	9.58	0.00	0.16	2.75	1.00	1.00	0.00	17.18	91.53	0.00	2,169.3	0.0	1340.74	2130.42	3,471.16
9	165.0	21.46	7.105	4.79	0.00	0.17	2.68	1.00	1.00	0.00	9.84	22.92	0.00	928.6	0.0	770.52	579.62	1,350.14
														29,803.0	**0.0**			**28,981.14**

Load Case: 1.2D + 1.6W 60° Wind — 1.2D + 1.6W 93 mph Wind at 60° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	13.17	25.312	22.12	0.00	0.12	2.90	0.80	1.00	0.00	31.51	91.53	0.00	5,037.3	0.0	1638.12	1343.98	2,982.09
2	30.0	13.19	23.140	22.12	0.00	0.12	2.87	0.80	1.00	0.00	29.80	91.53	0.00	4,881.4	0.0	1536.30	1345.11	2,881.41
3	50.0	15.26	21.096	22.12	0.00	0.13	2.84	0.80	1.00	0.00	27.86	91.53	0.00	4,322.2	0.0	1642.01	1556.48	3,198.50
4	70.0	16.80	22.170	18.58	0.00	0.14	2.80	0.80	1.00	0.00	27.50	91.53	0.00	4,230.7	0.0	1757.24	1713.54	3,470.79
5	90.0	18.05	16.261	15.03	0.00	0.13	2.85	0.80	1.00	0.00	21.35	91.53	0.00	3,086.4	0.0	1492.54	1841.11	3,333.65
6	110.0	19.11	14.103	13.36	0.00	0.14	2.82	0.80	1.00	0.00	18.85	91.53	0.00	2,790.3	0.0	1379.76	1949.75	3,329.51
7	130.0	20.05	12.689	11.69	0.00	0.15	2.75	0.80	1.00	0.00	16.79	91.53	0.00	2,356.9	0.0	1260.69	2045.07	3,305.76
8	150.0	20.88	11.730	9.58	0.00	0.16	2.75	0.80	1.00	0.00	14.83	91.53	0.00	2,169.3	0.0	1157.61	2130.42	3,288.03
9	165.0	21.46	7.105	4.79	0.00	0.17	2.68	0.80	1.00	0.00	8.42	22.92	0.00	928.6	0.0	659.24	579.62	1,238.85
														29,803.0	**0.0**			**27,028.60**

Section Forces

Structure:	CT10017-A-SBA	**Code:**	EIA/TIA-222-G	5/6/2020	
Site Name:	North Granby	**Exposure:**	B		
Height:	170.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 7	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W 90° Wind — 1.2D + 1.6W 93 mph Wind at 90° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	13.17	25.312	22.12	0.00	0.12	2.90	0.85	1.00	0.00	32.78	91.53	0.00	5,037.3	0.0	1703.90	1343.98	3,047.88
2	30.0	13.19	23.140	22.12	0.00	0.12	2.87	0.85	1.00	0.00	30.96	91.53	0.00	4,881.4	0.0	1595.94	1345.11	2,941.05
3	50.0	15.26	21.096	22.12	0.00	0.13	2.84	0.85	1.00	0.00	28.91	91.53	0.00	4,322.2	0.0	1704.18	1556.48	3,260.67
4	70.0	16.80	22.170	18.58	0.00	0.14	2.80	0.85	1.00	0.00	28.61	91.53	0.00	4,230.7	0.0	1828.08	1713.54	3,541.63
5	90.0	18.05	16.261	15.03	0.00	0.13	2.85	0.85	1.00	0.00	22.17	91.53	0.00	3,086.4	0.0	1549.38	1841.11	3,390.49
6	110.0	19.11	14.103	13.36	0.00	0.14	2.82	0.85	1.00	0.00	19.55	91.53	0.00	2,790.3	0.0	1431.38	1949.75	3,381.13
7	130.0	20.05	12.689	11.69	0.00	0.15	2.75	0.85	1.00	0.00	17.42	91.53	0.00	2,356.9	0.0	1308.33	2045.07	3,353.40
8	150.0	20.88	11.730	9.58	0.00	0.16	2.75	0.85	1.00	0.00	15.42	91.53	0.00	2,169.3	0.0	1203.39	2130.42	3,333.81
9	165.0	21.46	7.105	4.79	0.00	0.17	2.68	0.85	1.00	0.00	8.77	22.92	0.00	928.6	0.0	687.06	579.62	1,266.67
														29,803.0	**0.0**			**27,516.73**

Load Case: 0.9D + 1.6W Normal Wind — 0.9D + 1.6W 93 mph Wind at Normal To Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	13.17	25.312	22.12	0.00	0.12	2.90	1.00	1.00	0.00	36.58	91.53	0.00	3,778.0	0.0	1901.26	1343.98	3,245.23
2	30.0	13.19	23.140	22.12	0.00	0.12	2.87	1.00	1.00	0.00	34.43	91.53	0.00	3,661.0	0.0	1774.87	1345.11	3,119.98
3	50.0	15.26	21.096	22.12	0.00	0.13	2.84	1.00	1.00	0.00	32.08	91.53	0.00	3,241.7	0.0	1890.70	1556.48	3,447.18
4	70.0	16.80	22.170	18.58	0.00	0.14	2.80	1.00	1.00	0.00	31.93	91.53	0.00	3,173.0	0.0	2040.60	1713.54	3,754.14
5	90.0	18.05	16.261	15.03	0.00	0.13	2.85	1.00	1.00	0.00	24.60	91.53	0.00	2,314.8	0.0	1719.88	1841.11	3,560.99
6	110.0	19.11	14.103	13.36	0.00	0.14	2.82	1.00	1.00	0.00	21.67	91.53	0.00	2,092.7	0.0	1586.24	1949.75	3,535.99
7	130.0	20.05	12.689	11.69	0.00	0.15	2.75	1.00	1.00	0.00	19.33	91.53	0.00	1,767.7	0.0	1451.25	2045.07	3,496.32
8	150.0	20.88	11.730	9.58	0.00	0.16	2.75	1.00	1.00	0.00	17.18	91.53	0.00	1,626.9	0.0	1340.74	2130.42	3,471.16
9	165.0	21.46	7.105	4.79	0.00	0.17	2.68	1.00	1.00	0.00	9.84	22.92	0.00	696.4	0.0	770.52	579.62	1,350.14
														22,352.3	**0.0**			**28,981.14**

Section Forces

Structure:	CT10017-A-SBA	**Code:**	EIA/TIA-222-G	5/6/2020	
Site Name:	North Granby	**Exposure:**	B		
Height:	170.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 8	

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 60° Wind — 0.9D + 1.6W 93 mph Wind at 60° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	13.17	25.312	22.12	0.00	0.12	2.90	0.80	1.00	0.00	31.51	91.53	0.00	3,778.0	0.0	1638.12	1343.98	2,982.09
2	30.0	13.19	23.140	22.12	0.00	0.12	2.87	0.80	1.00	0.00	29.80	91.53	0.00	3,661.0	0.0	1536.30	1345.11	2,881.41
3	50.0	15.26	21.096	22.12	0.00	0.13	2.84	0.80	1.00	0.00	27.86	91.53	0.00	3,241.7	0.0	1642.01	1556.48	3,198.50
4	70.0	16.80	22.170	18.58	0.00	0.14	2.80	0.80	1.00	0.00	27.50	91.53	0.00	3,173.0	0.0	1757.24	1713.54	3,470.79
5	90.0	18.05	16.261	15.03	0.00	0.13	2.85	0.80	1.00	0.00	21.35	91.53	0.00	2,314.8	0.0	1492.54	1841.11	3,333.65
6	110.0	19.11	14.103	13.36	0.00	0.14	2.82	0.80	1.00	0.00	18.85	91.53	0.00	2,092.7	0.0	1379.76	1949.75	3,329.51
7	130.0	20.05	12.689	11.69	0.00	0.15	2.75	0.80	1.00	0.00	16.79	91.53	0.00	1,767.7	0.0	1260.69	2045.07	3,305.76
8	150.0	20.88	11.730	9.58	0.00	0.16	2.75	0.80	1.00	0.00	14.83	91.53	0.00	1,626.9	0.0	1157.61	2130.42	3,288.03
9	165.0	21.46	7.105	4.79	0.00	0.17	2.68	0.80	1.00	0.00	8.42	22.92	0.00	696.4	0.0	659.24	579.62	1,238.85
														22,352.3	**0.0**			**27,028.60**

Load Case: 0.9D + 1.6W 90° Wind — 0.9D + 1.6W 93 mph Wind at 90° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	13.17	25.312	22.12	0.00	0.12	2.90	0.85	1.00	0.00	32.78	91.53	0.00	3,778.0	0.0	1703.90	1343.98	3,047.88
2	30.0	13.19	23.140	22.12	0.00	0.12	2.87	0.85	1.00	0.00	30.96	91.53	0.00	3,661.0	0.0	1595.94	1345.11	2,941.05
3	50.0	15.26	21.096	22.12	0.00	0.13	2.84	0.85	1.00	0.00	28.91	91.53	0.00	3,241.7	0.0	1704.18	1556.48	3,260.67
4	70.0	16.80	22.170	18.58	0.00	0.14	2.80	0.85	1.00	0.00	28.61	91.53	0.00	3,173.0	0.0	1828.08	1713.54	3,541.63
5	90.0	18.05	16.261	15.03	0.00	0.13	2.85	0.85	1.00	0.00	22.17	91.53	0.00	2,314.8	0.0	1549.38	1841.11	3,390.49
6	110.0	19.11	14.103	13.36	0.00	0.14	2.82	0.85	1.00	0.00	19.55	91.53	0.00	2,092.7	0.0	1431.38	1949.75	3,381.13
7	130.0	20.05	12.689	11.69	0.00	0.15	2.75	0.85	1.00	0.00	17.42	91.53	0.00	1,767.7	0.0	1308.33	2045.07	3,353.40
8	150.0	20.88	11.730	9.58	0.00	0.16	2.75	0.85	1.00	0.00	15.42	91.53	0.00	1,626.9	0.0	1203.39	2130.42	3,333.81
9	165.0	21.46	7.105	4.79	0.00	0.17	2.68	0.85	1.00	0.00	8.77	22.92	0.00	696.4	0.0	687.06	579.62	1,266.67
														22,352.3	**0.0**			**27,516.73**

Section Forces

Structure:	CT10017-A-SBA	**Code:**	EIA/TIA-222-G	5/6/2020	
Site Name:	North Granby	**Exposure:**	B		
Height:	170.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 9	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi Normal Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	3.81	25.312	60.30	38.18	0.21	2.58	1.00	1.00	1.77	60.02	109.27	153.8	14,039.	9002.2	500.39	697.57	1,197.97
2	30.0	3.81	23.140	62.27	40.15	0.23	2.51	1.00	1.00	1.98	59.24	111.34	171.6	15,008.	10126.9	481.18	730.86	1,212.04
3	50.0	4.41	21.096	61.95	39.82	0.25	2.44	1.00	1.00	2.08	57.30	112.37	180.6	14,874.	10552.0	525.14	855.76	1,380.90
4	70.0	4.86	22.170	65.85	47.27	0.30	2.29	1.00	1.00	2.16	61.63	113.09	186.8	15,437.	11207.2	583.13	910.62	1,493.75
5	90.0	5.22	16.261	59.39	44.36	0.30	2.29	1.00	1.00	2.21	51.91	113.64	191.6	13,636.	10550.5	525.95	991.10	1,517.04
6	110.0	5.52	14.103	54.63	41.27	0.33	2.21	1.00	1.00	2.26	47.41	114.08	195.5	13,162.	10371.7	492.62	1030.79	1,523.41
7	130.0	5.79	12.689	57.12	45.43	0.42	2.02	1.00	1.00	2.29	49.60	114.46	198.8	12,831.	10474.8	493.75	974.09	1,467.84
8	150.0	6.04	11.730	57.31	47.73	0.48	1.93	1.00	1.00	2.33	50.35	114.79	201.6	12,681.	10512.6	498.30	924.38	1,422.68
9	165.0	6.20	7.105	32.35	27.56	0.55	1.85	1.00	1.00	2.35	30.13	30.75	50.90	4,813.6	3885.0	293.26	180.78	474.04
														116,486.0	**86682.9**			**11,689.67**

Load Case: 1.2D + 1.0Di + 1.0Wi 60° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	3.81	25.312	60.30	38.18	0.21	2.58	0.80	1.00	1.77	54.96	109.27	153.8	14,039.	9002.2	458.19	697.57	1,155.76
2	30.0	3.81	23.140	62.27	40.15	0.23	2.51	0.80	1.00	1.98	54.62	111.34	171.6	15,008.	10126.9	443.59	730.86	1,174.46
3	50.0	4.41	21.096	61.95	39.82	0.25	2.44	0.80	1.00	2.08	53.08	112.37	180.6	14,874.	10552.0	486.47	855.76	1,342.23
4	70.0	4.86	22.170	65.85	47.27	0.30	2.29	0.80	1.00	2.16	57.20	113.09	186.8	15,437.	11207.2	541.18	910.62	1,451.80
5	90.0	5.22	16.261	59.39	44.36	0.30	2.29	0.80	1.00	2.21	48.65	113.64	191.6	13,636.	10550.5	492.99	991.10	1,484.09
6	110.0	5.52	14.103	54.63	41.27	0.33	2.21	0.80	1.00	2.26	44.59	114.08	195.5	13,162.	10371.7	463.32	1030.79	1,494.10
7	130.0	5.79	12.689	57.12	45.43	0.42	2.02	0.80	1.00	2.29	47.07	114.46	198.8	12,831.	10474.8	468.49	974.09	1,442.58
8	150.0	6.04	11.730	57.31	47.73	0.48	1.93	0.80	1.00	2.33	48.01	114.79	201.6	12,681.	10512.6	475.09	924.38	1,399.47
9	165.0	6.20	7.105	32.35	27.56	0.55	1.85	0.80	1.00	2.35	28.71	30.75	50.90	4,813.6	3885.0	279.43	180.78	460.21
														116,486.0	**86682.9**			**11,404.69**

Section Forces

Structure:	CT10017-A-SBA	**Code:**	EIA/TIA-222-G	5/6/2020	
Site Name:	North Granby	**Exposure:**	B		
Height:	170.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 10	

TES Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 90° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	3.81	25.312	60.30	38.18	0.21	2.58	0.85	1.00	1.77	56.22	109.27	153.8	14,039.	9002.2	468.74	697.57	1,166.31
2	30.0	3.81	23.140	62.27	40.15	0.23	2.51	0.85	1.00	1.98	55.77	111.34	171.6	15,008.	10126.9	452.99	730.86	1,183.85
3	50.0	4.41	21.096	61.95	39.82	0.25	2.44	0.85	1.00	2.08	54.13	112.37	180.6	14,874.	10552.0	496.14	855.76	1,351.90
4	70.0	4.86	22.170	65.85	47.27	0.30	2.29	0.85	1.00	2.16	58.31	113.09	186.8	15,437.	11207.2	551.67	910.62	1,462.29
5	90.0	5.22	16.261	59.39	44.36	0.30	2.29	0.85	1.00	2.21	49.47	113.64	191.6	13,636.	10550.5	501.23	991.10	1,492.33
6	110.0	5.52	14.103	54.63	41.27	0.33	2.21	0.85	1.00	2.26	45.30	114.08	195.5	13,162.	10371.7	470.65	1030.79	1,501.43
7	130.0	5.79	12.689	57.12	45.43	0.42	2.02	0.85	1.00	2.29	47.70	114.46	198.8	12,831.	10474.8	474.81	974.09	1,448.89
8	150.0	6.04	11.730	57.31	47.73	0.48	1.93	0.85	1.00	2.33	48.59	114.79	201.6	12,681.	10512.6	480.89	924.38	1,405.27
9	165.0	6.20	7.105	32.35	27.56	0.55	1.85	0.85	1.00	2.35	29.06	30.75	50.90	4,813.6	3885.0	282.88	180.78	463.66
														116,486.0	**86682.9**			**11,475.94**

Load Case: 1.0D + 1.0W Normal Wind — 1.0D + 1.0W 60 mph Wind at Normal To Face

Wind Load Factor: 1.00
Dead Load Factor: 1.00
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	5.48	25.312	22.12	0.00	0.12	2.90	1.00	1.00	0.00	37.81	91.53	0.00	4,197.8	0.0	511.28	349.63	860.91
2	30.0	5.49	23.140	22.12	0.00	0.12	2.87	1.00	1.00	0.00	35.64	91.53	0.00	4,067.8	0.0	478.00	349.93	827.93
3	50.0	6.35	21.096	22.12	0.00	0.13	2.84	1.00	1.00	0.00	33.62	91.53	0.00	3,601.8	0.0	515.44	404.91	920.35
4	70.0	6.99	22.170	18.58	0.00	0.14	2.80	1.00	1.00	0.00	32.70	91.53	0.00	3,525.6	0.0	543.63	445.77	989.40
5	90.0	7.51	16.261	15.03	0.00	0.13	2.85	1.00	1.00	0.00	24.76	91.53	0.00	2,572.0	0.0	450.31	478.96	929.26
6	110.0	7.96	14.103	13.36	0.00	0.14	2.82	1.00	1.00	0.00	21.67	91.53	0.00	2,325.2	0.0	412.65	507.22	919.87
7	130.0	8.34	12.689	11.69	0.00	0.15	2.75	1.00	1.00	0.00	19.33	91.53	0.00	1,964.1	0.0	377.54	532.02	909.55
8	150.0	8.69	11.730	9.58	0.00	0.16	2.75	1.00	1.00	0.00	17.18	91.53	0.00	1,807.7	0.0	348.79	554.22	903.01
9	165.0	8.93	7.105	4.79	0.00	0.17	2.68	1.00	1.00	0.00	9.84	22.92	0.00	773.8	0.0	200.45	150.78	351.23
														24,835.9	**0.0**			**7,611.52**

Section Forces

Structure:	CT10017-A-SBA	**Code:**	EIA/TIA-222-G	5/6/2020	
Site Name:	North Granby	**Exposure:**	B		
Height:	170.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 11	

TES Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60° Wind — 1.0D + 1.0W 60 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	5.48	25.312	22.12	0.00	0.12	2.90	0.80	1.00	0.00	32.75	91.53	0.00	4,197.8	0.0	442.82	349.63	792.45
2	30.0	5.49	23.140	22.12	0.00	0.12	2.87	0.80	1.00	0.00	31.02	91.53	0.00	4,067.8	0.0	415.94	349.93	765.87
3	50.0	6.35	21.096	22.12	0.00	0.13	2.84	0.80	1.00	0.00	29.40	91.53	0.00	3,601.8	0.0	450.75	404.91	855.66
4	70.0	6.99	22.170	18.58	0.00	0.14	2.80	0.80	1.00	0.00	28.27	91.53	0.00	3,525.6	0.0	469.92	445.77	915.69
5	90.0	7.51	16.261	15.03	0.00	0.13	2.85	0.80	1.00	0.00	21.51	91.53	0.00	2,572.0	0.0	391.17	478.96	870.12
6	110.0	7.96	14.103	13.36	0.00	0.14	2.82	0.80	1.00	0.00	18.85	91.53	0.00	2,325.2	0.0	358.94	507.22	866.16
7	130.0	8.34	12.689	11.69	0.00	0.15	2.75	0.80	1.00	0.00	16.79	91.53	0.00	1,964.1	0.0	327.96	532.02	859.98
8	150.0	8.69	11.730	9.58	0.00	0.16	2.75	0.80	1.00	0.00	14.83	91.53	0.00	1,807.7	0.0	301.15	554.22	855.37
9	165.0	8.93	7.105	4.79	0.00	0.17	2.68	0.80	1.00	0.00	8.42	22.92	0.00	773.8	0.0	171.50	150.78	322.28
														24,835.9	**0.0**			**7,103.58**

Load Case: 1.0D + 1.0W 90° Wind — 1.0D + 1.0W 60 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	5.48	25.312	22.12	0.00	0.12	2.90	0.85	1.00	0.00	34.01	91.53	0.00	4,197.8	0.0	459.94	349.63	809.57
2	30.0	5.49	23.140	22.12	0.00	0.12	2.87	0.85	1.00	0.00	32.17	91.53	0.00	4,067.8	0.0	431.46	349.93	781.38
3	50.0	6.35	21.096	22.12	0.00	0.13	2.84	0.85	1.00	0.00	30.45	91.53	0.00	3,601.8	0.0	466.92	404.91	871.83
4	70.0	6.99	22.170	18.58	0.00	0.14	2.80	0.85	1.00	0.00	29.38	91.53	0.00	3,525.6	0.0	488.35	445.77	934.12
5	90.0	7.51	16.261	15.03	0.00	0.13	2.85	0.85	1.00	0.00	22.32	91.53	0.00	2,572.0	0.0	405.95	478.96	884.91
6	110.0	7.96	14.103	13.36	0.00	0.14	2.82	0.85	1.00	0.00	19.55	91.53	0.00	2,325.2	0.0	372.37	507.22	879.59
7	130.0	8.34	12.689	11.69	0.00	0.15	2.75	0.85	1.00	0.00	17.42	91.53	0.00	1,964.1	0.0	340.36	532.02	872.37
8	150.0	8.69	11.730	9.58	0.00	0.16	2.75	0.85	1.00	0.00	15.42	91.53	0.00	1,807.7	0.0	313.06	554.22	867.28
9	165.0	8.93	7.105	4.79	0.00	0.17	2.68	0.85	1.00	0.00	8.77	22.92	0.00	773.8	0.0	178.74	150.78	329.52
														24,835.9	**0.0**			**7,230.57**

Force/Stress Compression Summary

Structure:	CT10017-A-SBA	**Code:**	EIA/TIA-222-G	5/6/2020	
Site Name:	North Granby	**Exposure:**	B		
Height:	170.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 12	

TES Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	PX - 6" DIA PIPE	-198.87	1.2D + 1.6W Normal Wind	9.89	100	100	100	54.21	50.00	304.92	65.2	Member X
2	40	PX - 6" DIA PIPE	-176.95	1.2D + 1.6W Normal Wind	9.77	100	100	100	53.51	50.00	306.60	57.7	Member X
3	60	PSP - ROHN 6 EHS	-154.26	1.2D + 1.6W Normal Wind	9.77	100	100	100	52.68	50.00	246.61	62.6	Member X
4	80	PX - 5" DIA PIPE	-133.54	1.2D + 1.6W Normal Wind	6.51	100	100	100	42.47	50.00	240.98	55.4	Member X
5	100	PX - 4" DIA PIPE	-110.87	1.2D + 1.6W Normal Wind	6.51	100	100	100	52.80	50.00	161.86	68.5	Member X
6	120	PX - 3-1/2" DIA PIPE	-88.10	1.2D + 1.6W Normal Wind	6.51	100	100	100	59.65	50.00	127.67	69.0	Member X
7	140	PST - 3" DIA PIPE	-65.37	1.2D + 1.6W Normal Wind	4.88	100	100	100	50.52	50.00	83.27	78.5	Member X
8	160	PST - 2-1/2" DIA PIPE	-38.74	1.2D + 1.6W Normal Wind	3.90	100	100	100	49.42	50.00	64.14	60.4	Member X
9	170	PST - 2-1/2" DIA PIPE	-9.47	1.2D + 1.6W Normal Wind	0.25	100	100	100	3.17	50.00	76.62	12.4	Member X

Splices

Sect	Top Elev	Top Splice Load Case	Top Force (kips)	Top Cap (kips)	Top Use %	Top Bolt Type	Top Num Bolts	Bottom Splice Load Case	Bottom Force (kips)	Bottom Cap (kips)	Bottom Use %	Bottom Bolt Type	Bottom Num Bolts
1	20	1.2D + 1.6W Normal Wind	183.76	0.00	0.0			1.2D + 1.6W Normal Wind	204.34	0.00			
2	40	1.2D + 1.6W Normal Wind	160.60	0.00	0.0			1.2D + 1.6W Normal Wind	183.76	0.00		1 A325	6
3	60	1.2D + 1.6W Normal Wind	138.13	0.00	0.0			1.2D + 1.6W Normal Wind	160.60	0.00		1 A325	6
4	80	1.2D + 1.6W Normal Wind	115.31	0.00	0.0			1.2D + 1.6W Normal Wind	138.13	0.00		1 A325	6
5	100	1.2D + 1.6W Normal Wind	92.62	0.00	0.0			1.2D + 1.6W Normal Wind	115.31	0.00		1 A325	4
6	120	1.2D + 1.6W Normal Wind	68.85	0.00	0.0			1.2D + 1.6W Normal Wind	92.62	0.00		7/8 A325	4
7	140	1.2D + 1.6W Normal Wind	43.10	0.00	0.0			1.2D + 1.6W Normal Wind	68.85	0.00		7/8 A325	4
8	160	1.2D + 1.0Di + 1.0Wi Normal Wi	10.59	0.00	0.0			1.2D + 1.6W Normal Wind	43.10	0.00		3/4 A325	4
9	170	1.2D + 1.0Di + 1.0Wi 90° Wind	3.91	0.00	0.0			1.2D + 1.0Di + 1.0Wi Normal Wi	10.59	0.00		5/8 A325	4

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20										0.00	0	0				
2	40										0.00	0	0				
3	60										0.00	0	0				
4	80										0.00	0	0				
5	100										0.00	0	0				
6	120										0.00	0	0				
7	140	SAE - 2X2X0.1875	-0.12	1.2D + 1.0Di + 1.0Wi 60° Wind	6.58	100	100	100	200.41	36.00	3.99	1	1	12.43	7.84	3	Member Z
8	160	SAE - 1.75X1.75X0.187	-0.25	0.9D + 1.6W 60° Wind	6.58	100	100	100	230.20	36.00	2.64	1	1	12.43	7.82	10	Member Z
9	170	SAE - 1.75X1.75X0.187	-0.64	0.9D + 1.6W 60° Wind	6.58	100	100	100	230.20	36.00	2.64	1	1	12.43	7.82	24	Member Z

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20	SAE - 3.5X3.5X0.25	-5.98	1.2D + 1.6W 90° Wind	22.71	49	49	49	192.40	50.00	10.31	1	1	17.89	14.1	58	Member Z
2	40	SAE - 3.5X3.5X0.25	-6.21	1.2D + 1.6W 90° Wind	20.81	49	49	49	176.28	50.00	12.29	1	1	17.89	14.1	51	Member Z
3	60	SAE - 3.5X3.5X0.25	-5.62	1.2D + 1.6W 90° Wind	18.20	49	49	49	154.20	50.00	16.06	1	1	17.89	14.1	40	Bolt Bear
4	80	SAE - 3X3X0.25	-4.78	1.2D + 1.6W 90° Wind	14.63	49	49	49	145.32	50.00	15.41	1	1	12.43	11.7	41	Bolt Bear
5	100	SAE - 2.5X2.5X0.1875	-4.15	1.2D + 1.6W 90° Wind	13.98	49	49	49	166.05	36.00	7.39	1	1	12.43	7.84	56	Member Z
6	120	SAE - 2.5X2.5X0.1875	-4.02	1.2D + 1.6W 90° Wind	11.06	49	49	49	131.42	36.00	11.77	1	1	12.43	7.84	51	Bolt Bear
7	140	SAE - 2X2X0.1875	-3.55	1.2D + 1.6W 90° Wind	8.41	48	48	48	122.93	36.00	10.38	1	1	12.43	7.84	45	Bolt Bear
8	160	SAE - 1.75X1.75X0.187	-4.12	1.2D + 1.6W 90° Wind	7.65	46	46	46	123.10	36.00	9.05	1	1	12.43	7.84	53	Bolt Bear
9	170	SAE - 1.75X1.75X0.187	-1.99	1.2D + 1.6W 90° Wind	7.30	46	46	46	118.14	36.00	9.63	1	1	12.43	7.84	25	Bolt Bear

Force/Stress Compression Summary

Structure:	CT10017-A-SBA	**Code:**	EIA/TIA-222-G	5/6/2020	
Site Name:	North Granby	**Exposure:**	B		
Height:	170.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls

Force/Stress Tension Summary

Structure:	CT10017-A-SBA	**Code:**	EIA/TIA-222-G	5/6/2020	
Site Name:	North Granby	**Exposure:**	B		
Height:	170.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 14	

TES Tower Engineering Solutions

LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	PX - 6" DIA PIPE	169.96	0.9D + 1.6W 60° Wind	50	378.00	45.0	Member
2	40	PX - 6" DIA PIPE	157.45	0.9D + 1.6W 60° Wind	50	378.00	41.7	Member
3	60	PSP - ROHN 6 EHS	138.55	0.9D + 1.6W 60° Wind	50	302.09	45.9	Member
4	80	PX - 5" DIA PIPE	119.88	0.9D + 1.6W 60° Wind	50	274.95	43.6	Member
5	100	PX - 4" DIA PIPE	100.79	0.9D + 1.6W 60° Wind	50	198.45	50.8	Member
6	120	PX - 3-1/2" DIA PIPE	81.08	0.9D + 1.6W 60° Wind	50	165.60	49.0	Member
7	140	PST - 3" DIA PIPE	59.97	0.9D + 1.6W 60° Wind	50	100.35	59.8	Member
8	160	PST - 2-1/2" DIA PIPE	36.37	0.9D + 1.6W 60° Wind	50	76.68	47.4	Member
9	170	PST - 2-1/2" DIA PIPE	6.49	0.9D + 1.6W 60° Wind	50	76.68	8.5	Member

Splices

		Top Splice					Bottom Splice					
Sect	Top Elev	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	20	0.9D + 1.6W 60° Wind	157.18	0.00	0.0			0.9D + 1.6W 60° Wind	174.9	0.00			
2	40	0.9D + 1.6W 60° Wind	138.23	0.00	0.0			0.9D + 1.6W 60° Wind	157.1	318.06	49.4	1 A325	6
3	60	0.9D + 1.6W 60° Wind	119.62	0.00	0.0			0.9D + 1.6W 60° Wind	138.2	318.06	43.5	1 A325	6
4	80	0.9D + 1.6W 60° Wind	100.60	0.00	0.0			0.9D + 1.6W 60° Wind	119.6	318.06	37.6	1 A325	6
5	100	0.9D + 1.6W 60° Wind	80.94	0.00	0.0			0.9D + 1.6W 60° Wind	100.6	212.04	47.4	1 A325	4
6	120	0.9D + 1.6W 60° Wind	59.85	0.00	0.0			0.9D + 1.6W 60° Wind	80.94	166.24	48.7	7/8 A325	4
7	140	0.9D + 1.6W 60° Wind	36.53	0.00	0.0			0.9D + 1.6W 60° Wind	59.85	166.24	36.0	7/8 A325	4
8	160	0.9D + 1.6W 60° Wind	5.89	0.00	0.0			0.9D + 1.6W 60° Wind	36.53	120.40	30.3	3/4 A325	4
9	170		0.00	0.00	0.0			0.9D + 1.6W 60° Wind	5.89	82.80	7.1	5/8 A325	4

HORIZONTAL MEMBERS

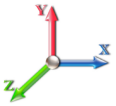
Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	-			50	0.00	0	0					
2	40	-			50	0.00	0	0					
3	60	-			50	0.00	0	0					
4	80	-			50	0.00	0	0					
5	100	-			36	0.00	0	0					
6	120	-			36	0.00	0	0					
7	140	SAE - 2X2X0.1875	0.04	0.9D + 1.6W Normal W	36	18.58	1	1	12.43	7.84	7.85	0.6	Bolt Bear
8	160	SAE - 1.75X1.75X0.1875	0.35	1.2D + 1.6W Normal W	36	15.64	1	1	12.43	7.82	6.83	5.2	Blck Shear
9	170	SAE - 1.75X1.75X0.1875	0.67	1.2D + 1.6W Normal W	36	15.64	1	1	12.43	7.82	6.83	9.9	Blck Shear

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	SAE - 3.5X3.5X0.25	6.18	0.9D + 1.6W 90° Wind	50	53.79	1	1	17.89	14.14	24.07	43.7	Bolt Bear
2	40	SAE - 3.5X3.5X0.25	6.13	0.9D + 1.6W 90° Wind	50	53.79	1	1	17.89	14.14	24.07	43.4	Bolt Bear
3	60	SAE - 3.5X3.5X0.25	5.45	0.9D + 1.6W 90° Wind	50	53.79	1	1	17.89	14.14	24.07	38.5	Bolt Bear
4	80	SAE - 3X3X0.25	4.67	0.9D + 1.6W 90° Wind	50	45.79	1	1	12.43	11.71	17.83	39.9	Bolt Bear
5	100	SAE - 2.5X2.5X0.1875	4.21	1.2D + 1.6W 90° Wind	36	24.84	1	1	12.43	7.84	9.89	53.7	Bolt Bear
6	120	SAE - 2.5X2.5X0.1875	3.89	0.9D + 1.6W 90° Wind	36	24.84	1	1	12.43	7.84	9.89	49.6	Bolt Bear
7	140	SAE - 2X2X0.1875	3.37	0.9D + 1.6W 90° Wind	36	18.58	1	1	12.43	7.84	7.85	43.0	Bolt Bear
8	160	SAE - 1.75X1.75X0.1875	4.02	1.2D + 1.6W 90° Wind	36	15.64	1	1	12.43	7.84	6.83	58.9	Blck Shear
9	170	SAE - 1.75X1.75X0.1875	1.95	1.2D + 1.6W 90° Wind	36	15.64	1	1	12.43	7.84	6.83	28.5	Blck Shear

Seismic Section Forces

Structure:	CT10017-A-SBA	**Code:**	EIA/TIA-222-G	5/6/2020	
Site Name:	North Granby	**Exposure:**	B		
Height:	170.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 15	



TES Tower Engineering Solutions

Load Case: 1.2D + 1.0E

Dead Load Factor	1.20	**Sds**	0.187	**Ss**	0.1760	**Fa**	1.6000	**Ke**	0.0000
Seismic Load Factor	1.00	**Sd1**	0.104	**S1**	0.0650	**Fv**	2.4000	**Kg**	0.0000
Seismic Importance Factor	1.00	**SA**	0.182	**R**	3.0000	**Vs**	2.1860	**f1**	1.7505

Sect #	Elev (ft)	Wz (lb)	a	b	c	Lateral Fsz (lb)
1	10.00	4197.7	0.01	0.05	0.03	14.62
2	30.00	4067.8	0.06	0.07	0.04	32.62
3	50.00	3601.8	0.16	0.07	0.03	50.52
4	70.00	3525.5	0.32	0.04	0.01	77.37
5	90.00	2572.0	0.53	-0.03	0.01	77.88
6	110.00	2325.2	0.79	-0.11	0.05	92.67
7	130.00	1964.0	1.11	-0.07	0.19	112.47
8	150.00	3622.2	1.47	0.43	0.51	342.21
9	165.00	4126.4	1.78	1.45	0.94	588.23

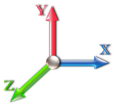
Load Case: 0.9D + 1.0E

Dead Load Factor	0.90	**Sds**	0.187	**Ss**	0.1760	**Fa**	1.6000	**Ke**	0.0000
Seismic Load Factor	1.00	**Sd1**	0.104	**S1**	0.0650	**Fv**	2.4000	**Kg**	0.0000
Seismic Importance Factor	1.00	**SA**	0.182	**R**	3.0000	**Vs**	2.1860	**f1**	1.7505

Sect #	Elev (ft)	Wz (lb)	a	b	c	Lateral Fsz (lb)
1	10.00	4197.7	0.01	0.05	0.03	14.62
2	30.00	4067.8	0.06	0.07	0.04	32.62
3	50.00	3601.8	0.16	0.07	0.03	50.52
4	70.00	3525.5	0.32	0.04	0.01	77.37
5	90.00	2572.0	0.53	-0.03	0.01	77.88
6	110.00	2325.2	0.79	-0.11	0.05	92.67
7	130.00	1964.0	1.11	-0.07	0.19	112.47
8	150.00	3622.2	1.47	0.43	0.51	342.21
9	165.00	4126.4	1.78	1.45	0.94	588.23

Support Forces Summary

Structure:	CT10017-A-SBA		**Code:**	EIA/TIA-222-G	5/6/2020
Site Name:	North Granby		**Exposure:**	B	
Height:	170.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 16



Tower Engineering Solutions

Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal Wind	1	0.00	203.87	-21.28	
	1a	7.21	-83.93	-6.68	
	1b	-7.21	-83.93	-6.68	
1.2D + 1.6W 60° Wind	1	-2.03	103.52	-10.44	
	1a	-10.05	103.52	3.46	
	1b	-16.23	-171.05	-9.37	
1.2D + 1.6W 90° Wind	1	-2.39	12.00	-0.70	
	1a	-16.01	172.43	7.86	
	1b	-14.78	-148.43	-7.16	
0.9D + 1.6W Normal Wind	1	0.00	200.64	-21.09	
	1a	7.37	-86.82	-6.78	
	1b	-7.37	-86.82	-6.78	
0.9D + 1.6W 60° Wind	1	-2.03	100.41	-10.25	
	1a	-9.89	100.41	3.36	
	1b	-16.40	-173.82	-9.47	
0.9D + 1.6W 90° Wind	1	-2.39	9.00	-0.51	
	1a	-15.85	169.24	7.77	
	1b	-14.95	-151.24	-7.25	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.00	119.62	-9.06	
	1a	2.19	7.07	-2.24	
	1b	-2.19	7.07	-2.24	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.82	81.47	-4.95	
	1a	-4.70	81.47	1.76	
	1b	-5.96	-29.18	-3.44	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.95	44.59	-1.01	
	1a	-7.06	108.77	3.52	
	1b	-5.31	-19.60	-2.52	
1.2D + 1.0E	1	0.00	22.35	2.40	
	1a	3.19	6.83	-1.88	
	1b	-3.19	6.83	-1.88	
0.9D + 1.0E	1	0.00	19.34	2.60	
	1a	3.36	3.83	-1.97	
	1b	-3.36	3.83	-1.97	
1.0D + 1.0W Normal Wind	1	0.00	59.79	-6.00	
	1a	1.49	-14.89	-1.53	
	1b	-1.49	-14.89	-1.53	
1.0D + 1.0W 60° Wind	1	-0.54	33.75	-3.17	
	1a	-3.01	33.75	1.12	
	1b	-3.85	-37.50	-2.22	
1.0D + 1.0W 90° Wind	1	-0.63	10.00	-0.63	
	1a	-4.57	51.64	2.27	
	1b	-3.47	-31.63	-1.64	

[Max Reactions]

Leg			Overturning		
Max Uplift:	-173.82	(kips)	Moment:	3482.78	(ft-kips)
Max Down:	203.87	(kips)	Total Down:	36.00	(kips)
Max Shear:	21.28	(kips)	Total Shear:	34.65	(kips)

Analysis Summary

Structure:	CT10017-A-SBA		**Code:**	EIA/TIA-222-G	5/6/2020
Site Name:	North Granby		**Exposure:**	B	
Height:	170.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 18

Tower Engineering Solutions

Max Reactions

Leg			Overturning		
Max Uplift:	-173.82	(kips)	Moment:	3482.78	(ft-kips)
Max Down:	203.87	(kips)	Total Down:	36.00	(kips)
Max Shear:	21.28	(kips)	Total Shear:	34.65	(kips)

Anchor Bolts

Bolt Size (in.):	1.00	Number Bolts:	8
Yield Strength (Ksi):	109.00	Tensile Strength (Ksi):	125.00
Detail Type:	C		

Interaction Ratio: 0.44

Max Usages

Max Leg: 78.5% (1.2D + 1.6W Normal Wind - Sect 7)
Max Diag: 58.9% (1.2D + 1.6W 90° Wind - Sect 8)
Max Horiz: 24.2% (0.9D + 1.6W 60° Wind - Sect 9)

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.0E - Normal To Face	160.00	0.0777	0.0011	0.0858
	170.00	0.0901	-0.0010	0.0729
0.9D + 1.6W 93 mph Wind at 60° From Face	160.00	1.1072	-0.0302	1.0881
	170.00	1.2712	-0.0298	1.0198
0.9D + 1.6W 93 mph Wind at 90° From Face	160.00	1.1174	-0.0342	1.0757
	170.00	1.2827	-0.0342	1.0190
0.9D + 1.6W 93 mph Wind at Normal To Face	160.00	1.1487	0.0311	1.1208
	170.00	1.3180	0.0314	1.0470
1.0D + 1.0W 60 mph Wind at 60° From Face	160.00	0.2866	-0.0050	0.2824
	170.00	0.3291	-0.0048	0.2651
1.0D + 1.0W 60 mph Wind at 90° From Face	160.00	0.2894	-0.0058	0.2791
	170.00	0.3322	-0.0056	0.2648
1.0D + 1.0W 60 mph Wind at Normal To Face	160.00	0.2976	0.0053	0.2894
	170.00	0.3414	0.0051	0.2701
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	160.00	0.4353	-0.0093	0.4143
	170.00	0.4978	-0.0091	0.3889
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	160.00	0.4368	-0.0116	0.4080
	170.00	0.4996	-0.0115	0.3869
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	160.00	0.4408	0.0101	0.4119
	170.00	0.5041	0.0100	0.3836
1.2D + 1.0E - Normal To Face	160.00	0.0778	0.0011	0.0858
	170.00	0.0903	0.0010	0.0729

1.2D + 1.6W 93 mph Wind at 60° From Face	160.00	1.1096	-0.0303	1.0917
	170.00	1.2741	-0.0299	1.0233
1.2D + 1.6W 93 mph Wind at 90° From Face	160.00	1.1198	-0.0343	1.0792
	170.00	1.2856	-0.0343	1.0224
1.2D + 1.6W 93 mph Wind at Normal To Face	160.00	1.1512	0.0312	1.1240
	170.00	1.3209	0.0315	1.0498

April 21, 2020

SAI Communications
12 Industrial Way
Salem NH, 03079

RE:		
	Site Number:	CT1272 (LTE 2C/3C/5G NR)
	SBA Site Number:	CT10017-A
	FA Number:	10133873
	PACE Number:	MRCTB046720
	PT Number:	2051A0V4BM
	Site Name:	NORTH GRANBY LOST ACRES RD
	Site Address:	150 Lost Acres Road Granby, CT 06035

To Whom It May Concern:

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

- (3) 7770 Antennas (55.0"x11.0"x5.0" - Wt. = 35 lbs. /each)
- (3) TT08-19DB111-001 TMA's (14.2"x6.7"x5.4" - Wt. = 22 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7" Ø – Wt. = 33 lbs.)
- **(3) DMP65R-BU8DA Antennas (96.0"x20.7"x7.7" – Wt. = 96 lbs. /each)**
- **(3) OPA65R-BU8DA Antennas (96.0"x21.0"x7.8" – Wt. = 77 lbs. /each)**
- **(3) 4449 B5/B12 RRH's (17.9"x13.2"x9.5" – Wt. = 71 lbs. /each)**
- **(3) B2/B66A 8843 RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7" Ø – Wt. = 33 lbs.)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mounts on April 7, 2020.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R13.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 120 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 1.77 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 1.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing tower with bent plates and thru bolts. The connection is considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mounts **ARE NOT CAPABLE** of supporting the proposed installation. HDG recommends the following modifications:

- **Install new 2" std. (2.38" O.D.) horizontal steel pipe, secured to the existing pipe masts (typ. 1 per sector, total of 3).**
- **Install new 2" std. (2.38" O.D.) pipe brace, secured to the existing mount and tower (typ. of 1 per sector, total of 3).**
- **Relocate existing pipe brace 2" std. (2.38" O.D.) pipe brace, secured to the existing mount and tower (typ. of 1 per Alpha and Gamma sector, total of 2).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 2C/3C/5G NR) Mount Rating	2	LC19	198%	**FAIL**
Modified (LTE 2C/3C/5G NR) Mount Rating	1	LC30	80%	**PASS**

Reference Documents:

- Mount mapping report prepared by ProVertic LLC dated April 16, 2020.

This determination was based on the following limitations and assumptions:

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

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

Respectfully Submitted,
Hudson Design Group LLC

Michael Cabral
Vice President

Daniel P. Hamm, PE
Principal

FIELD PHOTOS:






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






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

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 4/21/2020
Project Name: NORTH GRANBY LOST ACRES RD
Project No.: CT1272
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=	168	(ft)
z_g=	1200	(ft)
α=	7.0	

K_z= 1.146

Kzmin ≤ Kz ≤ 2.01

Table 2-4

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

2.6.6.2 Topographic Factor:

Table 2-5

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

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

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

K_{zt}= #DIV/0!

K_h=	#DIV/0!	
K_c=	0.9	(from Table 2-4)
K_t=	0	(from Table 2-5)
f=	0	(from Table 2-5)
z=	168	
z_s=	640	(Mean elevation of base of structure above sea level)
H=	0	(Ht. of the crest above surrounding terrain)
K_{zt}=	1.00	(from 2.6.6.2.1)
K_e=	0.98	(from 2.6.8)

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

Category= **1**

2.6.10 Design Ice Thickness

Max Ice Thickness =	t_i =	1.50	in
Importance Factor =	I=	1.00	(from Table 2-3)
	K_{iz} =	1.18	(from Sec. 2.6.10)

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

t_{iz} = 1.77 in

Date: 4/21/2020
Project Name: NORTH GRANBY LOST ACRES RD
Project No.: CT1272
Designed By: RL Checked By: MSC

HUDSON Design Group LLC

2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

G_h = 1.0 Latticed Structures > 600 ft

G_h = 0.85 Latticed Structures 450 ft or less

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

h=	170	G_h=	0.85

2.6.9.2 Guyed Masts G_h= 0.85

2.6.9.3 Pole Structures G_h= 1.1

2.6.9 Appurtenances G_h= 1.0

2.6.9.4 Structures Supported on Other Structures

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

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

2.6.11.2 Design Wind Force on Appurtenances

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

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

		K_z=	1.146	(from 2.6.5.2)
		K_{zt}=	1.0	(from 2.6.6.2.1)
		K_s=	1.0	(from 2.6.7)
q_z=	**35.09**	K_e=	0.98	(from 2.6.8)
$q_{z\ (ice)}$=	**6.09**	K_d=	0.85	(from Table 2-2)
$q_{z\ (30)}$=	**2.19**	V_{max}=	120	mph (Ultimate Wind Speed)
		$V_{max\ (ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

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

Date: 4/21/2020
Project Name: NORTH GRANBY LOST ACRES RD
Project No.: CT1272
Designed By: RL Checked By: MSC

HUDSON Design Group LLC

Determine Ca:

Table 2-9

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

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

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

Ice Thickness = **1.77** **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)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	**627**	**132**	**39**
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	4.57	1.29	**635**	**133**	**40**
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	**193**	**47**	**12**
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.88	1.20	**50**	**14**	**3**
4449 B5/B12 RRH (Shielded)	17.9	4.8	13.2	0.59	3.77	1.26	**26**	**9**	**2**
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.20	**47**	**14**	**3**
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	2.73	1.21	**24**	**8**	**1**
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	2.12	1.20	**28**	**9**	**2**
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	**40**	**11**	**2**
1-1/2" Pipe	1.9	12.0	-	0.16	0.16	1.20	**7**		
2" Pipe	2.4	12.0	-	0.20	0.20	1.20	**8**		
3-1/2" Pipe	4.0	12.0	-	0.33	0.33	1.20	**14**		
HSS 3x3	3.0	12.0	-	0.25	0.25	1.25	**11**		
3x3 Angle	3.0	12.0	-	0.25	0.25	2.00	**18**		
PL 6x1/4	0.3	12.0	-	0.02	0.02	1.20	**1**		

Date: 4/21/2020
Project Name: NORTH GRANBY LOST ACRES RD
Project No.: CT1272
Designed By: RL Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	30	(deg)	Ice Thickness =	1.77	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)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	627	285	542
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	635	288	548
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	193	103	171
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	50	69	55
4449 B5/B12 RRH (Shielded)	17.9	4.8	13.2	0.59	1.64	3.77	1.36	1.26	1.20	26	69	37
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	47	58	50
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	24	58	32
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	0.53	2.12	2.63	1.20	1.21	28	23	26

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	99.5	24.2	11.2	16.75	7.76	4.11	8.86	1.27	1.46	130	69	115
OPA65R-BU8DA Antenna	99.5	24.5	11.3	16.95	7.83	4.06	8.78	1.27	1.46	131	70	116
7770 Antenna	58.5	14.5	8.5	5.91	3.47	4.03	6.86	1.27	1.39	46	29	42
4449 B5/B12 RRH	21.4	13.0	16.7	1.94	2.49	1.64	1.28	1.20	1.20	14	18	15
4449 B5/B12 RRH (Shielded)	21.4	6.5	16.7	0.97	2.49	3.29	1.28	1.24	1.20	7	18	10
B2/B66A 8843 RRH	18.4	14.4	16.7	1.85	2.14	1.28	1.10	1.20	1.20	14	16	14
B2/B66A 8843 RRH (Shielded)	18.4	7.2	16.7	0.92	2.14	2.55	1.10	1.20	1.20	7	16	9
TT08-19DB111-001 TMA	17.7	10.2	8.9	1.26	1.10	1.73	1.99	1.20	1.20	9	8	9

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	39	18	34
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	40	18	34
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	11
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 (Shielded)	17.9	4.8	13.2	0.59	1.64	3.77	1.36	1.26	1.20	2	4	2
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	3
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	1	4	2
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	0.53	2.12	2.63	1.20	1.21	2	1	2

Date: 4/21/2020
Project Name: NORTH GRANBY LOST ACRES RD
Project No.: CT1272
Designed By: RL Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	1.77	in.	Equivalent Angle =	240	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	627	285	371
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	635	288	374
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	193	103	125
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	50	69	64
4449 B5/B12 RRH (Shielded)	17.9	7.1	13.2	0.89	1.64	2.51	1.36	1.20	1.20	37	69	61
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	47	58	55
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	36	58	52
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	0.53	2.12	2.63	1.20	1.21	28	23	24

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	99.5	24.2	11.2	16.75	7.76	4.11	8.86	1.27	1.46	130	69	84
OPA65R-BU8DA Antenna	99.5	24.5	11.3	16.95	7.83	4.06	8.78	1.27	1.46	131	70	85
7770 Antenna	58.5	14.5	8.5	5.91	3.47	4.03	6.86	1.27	1.39	46	29	33
4449 B5/B12 RRH	21.4	13.0	16.7	1.94	2.49	1.64	1.28	1.20	1.20	14	18	17
4449 B5/B12 RRH (Shielded)	21.4	9.8	16.7	1.45	2.49	2.19	1.28	1.20	1.20	11	18	16
B2/B66A 8843 RRH	18.4	14.4	16.7	1.85	2.14	1.28	1.10	1.20	1.20	14	16	15
B2/B66A 8843 RRH (Shielded)	18.4	10.8	16.7	1.39	2.14	1.70	1.10	1.20	1.20	10	16	14
TT08-19DB111-001 TMA	17.7	10.2	8.9	1.26	1.10	1.73	1.99	1.20	1.20	9	8	8

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	39	18	23
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	40	18	23
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	8
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 (Shielded)	17.9	7.1	13.2	0.89	1.64	2.51	1.36	1.20	1.20	2	4	4
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	3
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	2	4	3
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	0.53	2.12	2.63	1.20	1.21	2	1	1

Date: 4/21/2020
Project Name: NORTH GRANBY LOST ACRES RD
Project No.: CT1272
Designed By: RL Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.77	in.	Equivalent Angle =	270	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	627	285	285
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	635	288	288
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	193	103	103
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	50	69	69
4449 B5/B12 RRH (Shielded)	17.9	4.8	13.2	0.59	1.64	3.77	1.36	1.26	1.20	26	69	69
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	47	58	58
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	24	58	58
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	0.53	2.12	2.63	1.20	1.21	28	23	23

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	99.5	24.2	11.2	16.75	7.76	4.11	8.86	1.27	1.46	130	69	69
OPA65R-BU8DA Antenna	99.5	24.5	11.3	16.95	7.83	4.06	8.78	1.27	1.46	131	70	70
7770 Antenna	58.5	14.5	8.5	5.91	3.47	4.03	6.86	1.27	1.39	46	29	29
4449 B5/B12 RRH	21.4	13.0	16.7	1.94	2.49	1.64	1.28	1.20	1.20	14	18	18
4449 B5/B12 RRH (Shielded)	21.4	8.3	16.7	1.23	2.49	2.59	1.28	1.20	1.20	9	18	18
B2/B66A 8843 RRH	18.4	14.4	16.7	1.85	2.14	1.28	1.10	1.20	1.20	14	16	16
B2/B66A 8843 RRH (Shielded)	18.4	9.0	16.7	1.15	2.14	2.05	1.10	1.20	1.20	8	16	16
TT08-19DB111-001 TMA	17.7	10.2	8.9	1.26	1.10	1.73	1.99	1.20	1.20	9	8	8

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	39	18	18
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	40	18	18
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	6
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 (Shielded)	17.9	4.8	13.2	0.59	1.64	3.77	1.36	1.26	1.20	2	4	4
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	4
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	1	4	4
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	0.53	2.12	2.63	1.20	1.21	2	1	1

Date: 4/21/2020
Project Name: NORTH GRANBY LOST ACRES RD
Project No.: CT1272
Designed By: RL Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	120	(deg)	Ice Thickness =	1.77	in.	Equivalent Angle =	300	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	627	285	371
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	635	288	374
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	193	103	125
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	50	69	64
4449 B5/B12 RRH (Shielded)	17.9	7.1	13.2	0.89	1.64	2.51	1.36	1.20	1.20	37	69	61
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	47	58	55
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	36	58	52
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	0.53	2.12	2.63	1.20	1.21	28	23	24

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	99.5	24.2	11.2	16.75	7.76	4.11	8.86	1.27	1.46	130	69	84
OPA65R-BU8DA Antenna	99.5	24.5	11.3	16.95	7.83	4.06	8.78	1.27	1.46	131	70	85
7770 Antenna	58.5	14.5	8.5	5.91	3.47	4.03	6.86	1.27	1.39	46	29	33
4449 B5/B12 RRH	21.4	13.0	16.7	1.94	2.49	1.64	1.28	1.20	1.20	14	18	17
4449 B5/B12 RRH (Shielded)	21.4	9.8	16.7	1.45	2.49	2.19	1.28	1.20	1.20	11	18	16
B2/B66A 8843 RRH	18.4	14.4	16.7	1.85	2.14	1.28	1.10	1.20	1.20	14	16	15
B2/B66A 8843 RRH (Shielded)	18.4	10.8	16.7	1.39	2.14	1.70	1.10	1.20	1.20	10	16	14
TT08-19DB111-001 TMA	17.7	10.2	8.9	1.26	1.10	1.73	1.99	1.20	1.20	9	8	8

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	39	18	23
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	40	18	23
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	8
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 (Shielded)	17.9	7.1	13.2	0.89	1.64	2.51	1.36	1.20	1.20	2	4	4
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	3
B2/B66A 8843 RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	2	4	3
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	0.53	2.12	2.63	1.20	1.21	2	1	1

Date: 4/21/2020
Project Name: NORTH GRANBY LOST ACRES RD
Project No.: CT1272
Designed By: RL Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	150	(deg)	Ice Thickness =	1.77	in.	Equivalent Angle =	330	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	627	285	542
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	635	288	548
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	193	103	171
4449 B5/B12 RRH	17.9	9.5	13.2	1.18	1.64	1.88	1.36	1.20	1.20	50	69	55
4449 B5/B12 RRH (Shielded)	17.9	4.8	13.2	0.59	1.64	3.77	1.36	1.26	1.20	26	69	37
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	47	58	50
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	24	58	32
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	0.53	2.12	2.63	1.20	1.21	28	23	26

WIND LOADS WITH ICE:

DMP65R-BU8DA Antenna	99.5	24.2	11.2	16.75	7.76	4.11	8.86	1.27	1.46	130	69	115
OPA65R-BU8DA Antenna	99.5	24.5	11.3	16.95	7.83	4.06	8.78	1.27	1.46	131	70	116
7770 Antenna	58.5	14.5	8.5	5.91	3.47	4.03	6.86	1.27	1.39	46	29	42
4449 B5/B12 RRH	21.4	13.0	16.7	1.94	2.49	1.64	1.28	1.20	1.20	14	18	15
4449 B5/B12 RRH (Shielded)	21.4	6.5	16.7	0.97	2.49	3.29	1.28	1.24	1.20	7	18	10
B2/B66A 8843 RRH	18.4	14.4	16.7	1.85	2.14	1.28	1.10	1.20	1.20	14	16	14
B2/B66A 8843 RRH (Shielded)	18.4	7.2	16.7	0.92	2.14	2.55	1.10	1.20	1.20	7	16	9
TT08-19DB111-001 TMA	17.7	10.2	8.9	1.26	1.10	1.73	1.99	1.20	1.20	9	8	9

WIND LOADS AT 30 MPH:

DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	39	18	34
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	40	18	34
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	11
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 (Shielded)	17.9	4.8	13.2	0.59	1.64	3.77	1.36	1.26	1.20	2	4	2
B2/B66A 8843 RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	3
B2/B66A 8843 RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	1	4	2
TT08-19DB111-001 TMA	14.2	6.7	5.4	0.66	0.53	2.12	2.63	1.20	1.21	2	1	2

Date: 4/21/2020
Project Name: NORTH GRANBY LOST ACRES RD
Project No.: CT1272
Designed By: RL **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.77 in.
Density of ice: 56 pcf

DMP65R-BU8DA 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:		413 lbs
Weight of object:	96.0 lbs	
Combined weight of ice and object:		509 lbs

OPA65R-BU8DA Antenna

Weight of ice based on total radial SF area:

Height (in):	96.0	
Width (in):	21.0	
Depth (in):	7.8	
Total weight of ice on object:		418 lbs
Weight of object:	77.0 lbs	
Combined weight of ice and object:		495 lbs

7770 Antenna

Weight of ice based on total radial SF area:

Height (in):	55.0	
Width (in):	11.0	
Depth (in):	5.0	
Total weight of ice on object:		137 lbs
Weight of object:	35.0 lbs	
Combined weight of ice and object:		172 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:		58 lbs
Weight of object:	71.0 lbs	
Combined weight of ice and object:		129 lbs

B2/B66A 8843 RRH

Weight of ice based on total radial SF area:

Height (in):	14.9	
Width (in):	13.2	
Depth (in):	10.9	
Total weight of ice on object:		51 lbs
Weight of object:	72.0 lbs	
Combined weight of ice and object:		123 lbs

TT08-19DB111-001 TMA

Weight of ice based on total radial SF area:

Height (in):	14.2	
Width (in):	5.4	
Depth (in):	6.7	
Total weight of ice on object:		27 lbs
Weight of object:	22.0 lbs	
Combined weight of ice and object:		49 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:		50 lbs
Weight of object:	33 lbs	
Combined weight of ice and object:		83 lbs

2" pipe

Per foot weight of ice:

diameter (in):	2.38	
Per foot weight of ice on object:		9 plf

1-1/2" Pipe

Per foot weight of ice:

diameter (in):	1.9	
Per foot weight of ice on object:		8 plf

HSS 3x3

Weight of ice based on total radial SF area:

Height (in):	3	
Width (in):	3	
Per foot weight of ice on object:		13 plf

3-1/2" Pipe

Per foot weight of ice:

diameter (in):	4	
Per foot weight of ice on object:		12 plf

PL 6x1/4

Weight of ice based on total radial SF area:

Height (in):	6	
Width (in):	0.25	
Per foot weight of ice on object:		17 plf

L 3x3 Angles

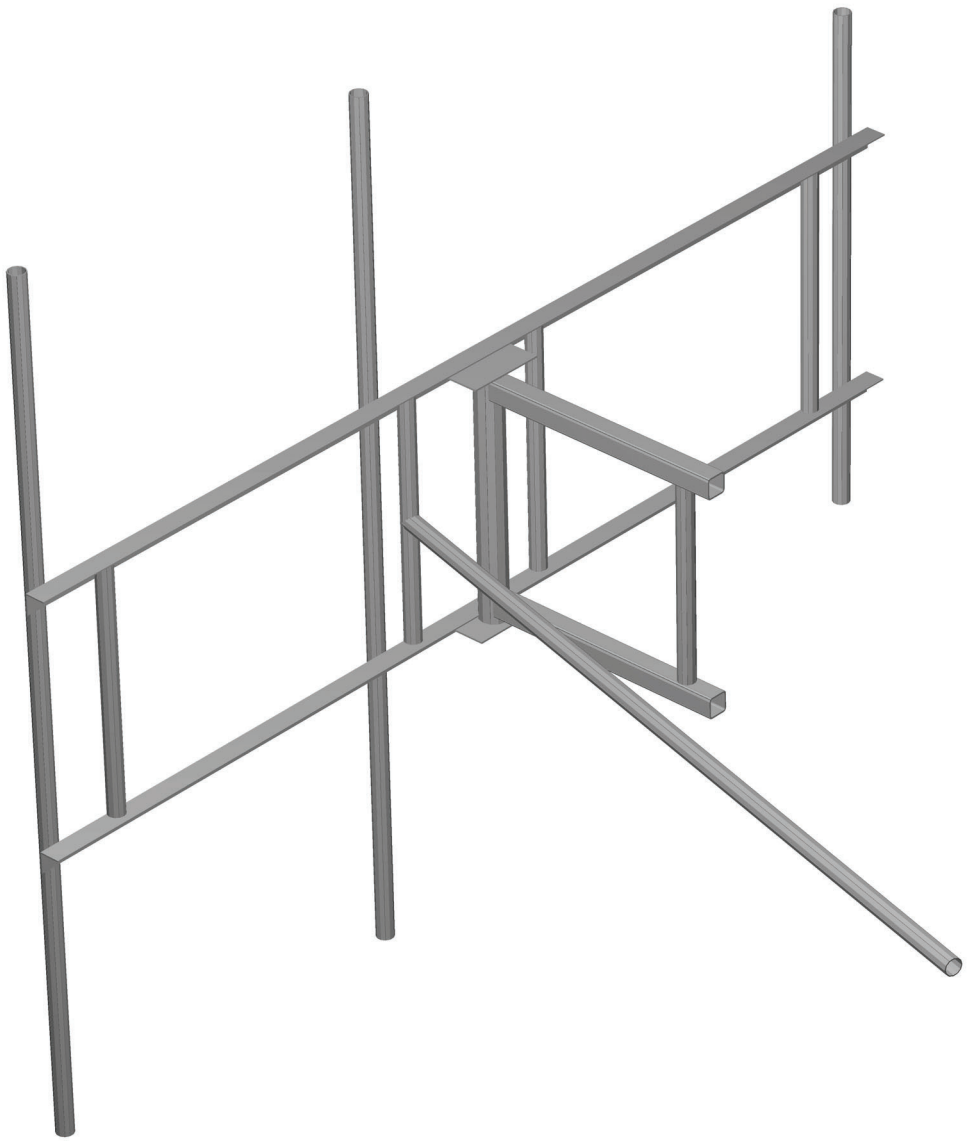
Weight of ice based on total radial SF area:

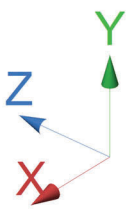
Height (in):	3	
Width (in):	3	
Per foot weight of ice on object:		13 plf

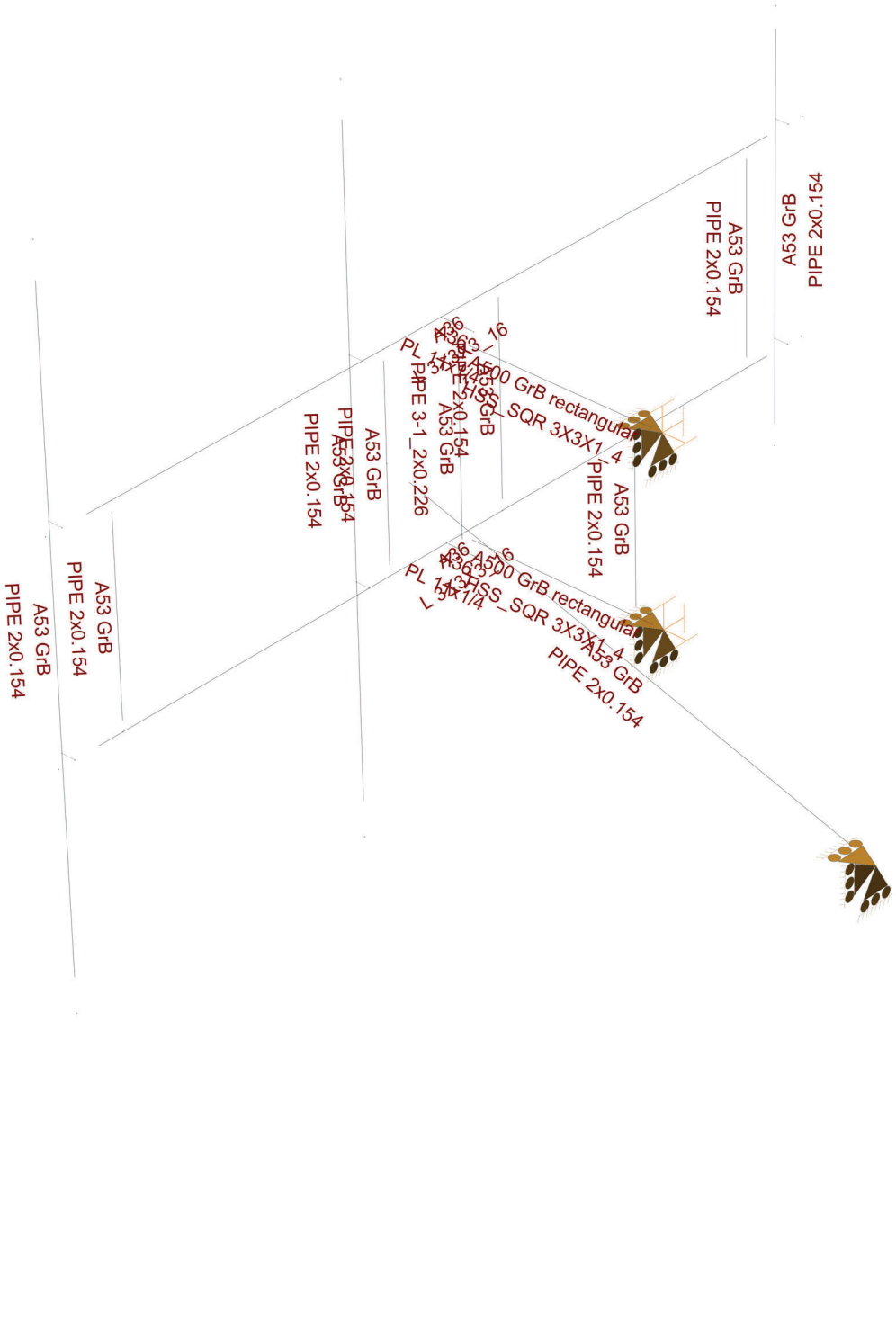
HUDSON
Design Group LLC

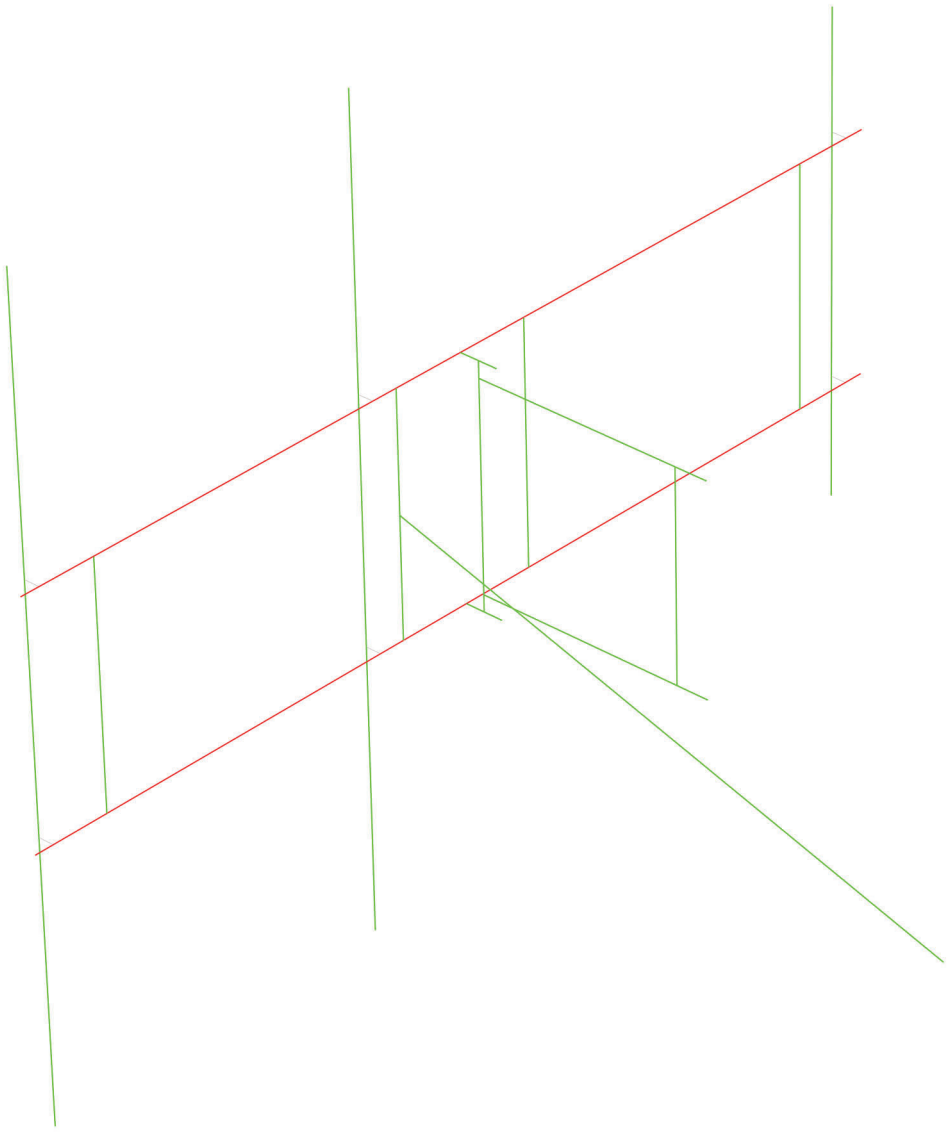
Mount Calculations
(Existing Conditions)

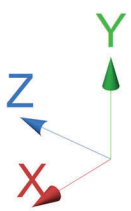
Current Date: 4/21/2020 3:09 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1272\CT1272.retx



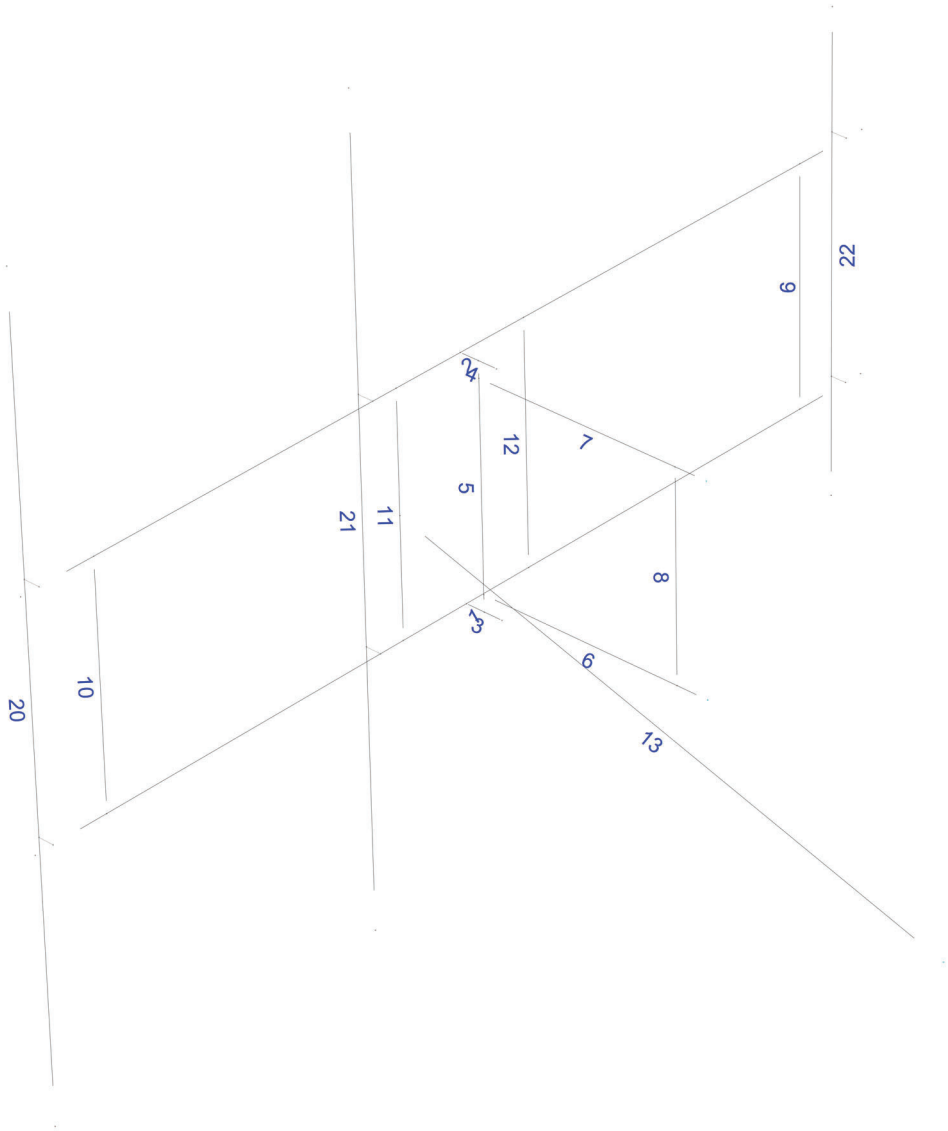


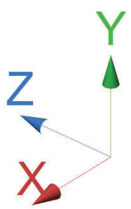

A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2x0.154
A500 GrB rectangular
HSS_SQR 3X3X1_4
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 3-1_2x0.226
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2x0.154
A500 GrB rectangular
HSS_SQR 3X3X1_4
A53 GrB
PIPE 2x0.154
Y
Z
X




Y
Z
X

Current Date: 4/21/2020 3:11 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1272\CT1272.retx





Current Date: 4/21/2020 5:40 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1272\CT1272.retx

Load data

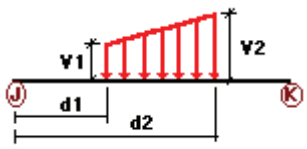
GLOSSARY

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

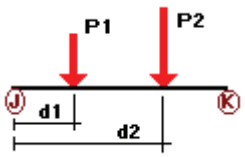
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	5	z	-0.014	-0.014	0.00	No	100.00	Yes
	10	z	-0.008	-0.008	0.00	No	100.00	Yes
	12	z	-0.008	-0.008	0.00	No	100.00	Yes
	13	z	-0.008	-0.008	0.00	No	100.00	Yes
	1	z	-0.018	-0.018	0.00	No	100.00	Yes
	2	z	-0.018	-0.018	0.00	No	100.00	Yes
	11	z	-0.008	-0.008	0.00	No	100.00	Yes
	9	z	-0.008	-0.008	0.00	No	100.00	Yes
W30	5	z	-0.014	-0.014	0.00	No	100.00	Yes
	8	z	-0.007	-0.007	0.00	No	100.00	Yes
	10	z	-0.008	-0.008	0.00	No	100.00	Yes
	12	z	-0.008	-0.008	0.00	No	100.00	Yes
	13	z	-0.008	-0.008	0.00	No	100.00	Yes
	1	z	-0.018	-0.018	0.00	No	100.00	Yes
	2	z	-0.018	-0.018	0.00	No	100.00	Yes
	11	z	-0.008	-0.008	0.00	No	100.00	Yes
	9	z	-0.008	-0.008	0.00	No	100.00	Yes
W60	5	x	-0.014	-0.014	0.00	No	100.00	Yes
	8	x	-0.007	-0.007	0.00	No	100.00	Yes
	10	x	-0.008	-0.008	0.00	No	100.00	Yes
	12	x	-0.008	-0.008	0.00	No	100.00	Yes
	13	x	-0.008	-0.008	0.00	No	100.00	Yes
	20	x	-0.008	-0.008	0.00	No	100.00	Yes
	21	x	-0.008	-0.008	0.00	No	100.00	Yes
	22	x	-0.008	-0.008	0.00	No	100.00	Yes
	6	x	-0.011	-0.011	0.00	No	100.00	Yes
	7	x	-0.011	-0.011	0.00	No	100.00	Yes
	11	x	-0.008	-0.008	0.00	No	100.00	Yes
	9	x	-0.008	-0.008	0.00	No	100.00	Yes
	4	x	-0.001	-0.001	0.00	No	100.00	Yes
	3	x	-0.001	-0.001	0.00	No	100.00	Yes
W90	5	x	-0.014	-0.014	0.00	No	100.00	Yes
	8	x	-0.007	-0.007	0.00	No	100.00	Yes
	10	x	-0.008	-0.008	0.00	No	100.00	Yes
	12	x	-0.008	-0.008	0.00	No	100.00	Yes
	13	x	-0.008	-0.008	0.00	No	100.00	Yes
	20	x	-0.008	-0.008	0.00	No	100.00	Yes
	21	x	-0.008	-0.008	0.00	No	100.00	Yes
	22	x	-0.008	-0.008	0.00	No	100.00	Yes
	6	x	-0.011	-0.011	0.00	No	100.00	Yes
	7	x	-0.011	-0.011	0.00	No	100.00	Yes
	11	x	-0.008	-0.008	0.00	No	100.00	Yes
	9	x	-0.008	-0.008	0.00	No	100.00	Yes
	4	x	-0.001	-0.001	0.00	No	100.00	Yes
	3	x	-0.001	-0.001	0.00	No	100.00	Yes
W120	5	x	-0.014	-0.014	0.00	No	100.00	Yes
	8	x	-0.007	-0.007	0.00	No	100.00	Yes
	10	x	-0.008	-0.008	0.00	No	100.00	Yes
	12	x	-0.008	-0.008	0.00	No	100.00	Yes
	13	x	-0.008	-0.008	0.00	No	100.00	Yes
	20	x	-0.008	-0.008	0.00	No	100.00	Yes
	21	x	-0.008	-0.008	0.00	No	100.00	Yes
	22	x	-0.008	-0.008	0.00	No	100.00	Yes
	6	x	-0.011	-0.011	0.00	No	100.00	Yes
	7	x	-0.011	-0.011	0.00	No	100.00	Yes
	11	x	-0.008	-0.008	0.00	No	100.00	Yes
	9	x	-0.008	-0.008	0.00	No	100.00	Yes
	4	x	-0.001	-0.001	0.00	No	100.00	Yes
	3	x	-0.001	-0.001	0.00	No	100.00	Yes
W150	5	z	0.014	0.014	0.00	No	100.00	Yes

	8	z	0.007	0.007	0.00	No	100.00	Yes
	10	z	0.008	0.008	0.00	No	100.00	Yes
	12	z	0.008	0.008	0.00	No	100.00	Yes
	13	z	0.008	0.008	0.00	No	100.00	Yes
	1	z	0.018	0.018	0.00	No	100.00	Yes
	2	z	0.018	0.018	0.00	No	100.00	Yes
	6	z	0.011	0.011	0.00	No	100.00	Yes
	7	z	0.011	0.011	0.00	No	100.00	Yes
	11	z	0.008	0.008	0.00	No	100.00	Yes
	9	z	0.008	0.008	0.00	No	100.00	Yes
	4	z	0.001	0.001	0.00	No	100.00	Yes
	3	z	0.001	0.001	0.00	No	100.00	Yes
Di	5	y	-0.012	-0.012	0.00	No	100.00	Yes
	8	y	-0.008	-0.008	0.00	No	100.00	Yes
	10	y	-0.009	-0.009	0.00	No	100.00	Yes
	12	y	-0.009	-0.009	0.00	No	100.00	Yes
	13	y	-0.009	-0.009	0.00	No	100.00	Yes
	20	y	-0.009	-0.009	0.00	No	100.00	Yes
	21	y	-0.009	-0.009	0.00	No	100.00	Yes
	22	y	-0.009	-0.009	0.00	No	100.00	Yes
	1	y	-0.013	-0.013	0.00	No	100.00	Yes
	2	y	-0.013	-0.013	0.00	No	100.00	Yes
	6	y	-0.013	-0.013	0.00	No	100.00	Yes
	7	y	-0.013	-0.013	0.00	No	100.00	Yes
	11	y	-0.009	-0.009	0.00	No	100.00	Yes
	9	y	-0.009	-0.009	0.00	No	100.00	Yes
	4	y	-0.017	-0.017	0.00	No	100.00	Yes
	3	y	-0.017	-0.017	0.00	No	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	8	y	-0.033	1.50	No
	20	y	-0.048	1.00	No
		y	-0.048	8.00	No
		y	-0.071	2.50	No
		y	-0.071	2.50	No
	21	y	-0.039	1.00	No
		y	-0.039	8.00	No
	22	y	-0.018	0.50	No
		y	-0.018	4.00	No
	9	y	-0.022	1.50	No
Wo	8	z	-0.04	1.50	No
	20	z	-0.314	1.00	No
		z	-0.314	8.00	No
		z	-0.026	2.50	No
		z	-0.024	2.50	No
	21	z	-0.318	1.00	No
		z	-0.318	8.00	No

	22	z	-0.097	0.50	No
		z	-0.097	4.00	No
	9	z	-0.028	1.50	No
W30	8	3	-0.04	1.50	No
	20	3	-0.271	1.00	No
		3	-0.271	8.00	No
		3	-0.037	2.50	No
	21	3	-0.275	1.00	No
		3	-0.275	8.00	No
	22	3	-0.086	0.50	No
		3	-0.086	4.00	No
	9	3	-0.026	1.50	No
W60	8	3	-0.04	1.50	No
	20	3	-0.186	1.00	No
		3	-0.186	8.00	No
		3	-0.061	2.50	No
	21	3	-0.188	1.00	No
		3	-0.188	8.00	No
	22	3	-0.063	0.50	No
		3	-0.063	4.00	No
	9	3	-0.024	1.50	No
W90	8	x	-0.04	1.50	No
	20	x	-0.143	1.00	No
		x	-0.143	8.00	No
		x	-0.069	2.50	No
	21	x	-0.144	1.00	No
		x	-0.144	8.00	No
	22	x	-0.052	0.50	No
		x	-0.052	4.00	No
	9	x	-0.023	1.50	No
W120	8	2	-0.04	1.50	No
	20	2	-0.186	1.00	No
		2	-0.186	8.00	No
		2	-0.061	2.50	No
	21	2	-0.188	1.00	No
		2	-0.188	8.00	No
	22	2	-0.063	0.50	No
		2	-0.063	4.00	No
	9	2	-0.024	1.50	No
W150	8	2	-0.04	1.50	No
	20	2	-0.271	1.00	No
		2	-0.271	8.00	No
		2	-0.037	2.50	No
	21	2	-0.275	1.00	No
		2	-0.275	8.00	No
	22	2	-0.086	0.50	No
		2	-0.086	4.00	No
	9	2	-0.026	1.50	No
Di	8	y	-0.05	1.50	No
	20	y	-0.206	1.00	No
		y	-0.206	8.00	No
		y	-0.058	2.50	No
		y	-0.051	2.50	No
	21	y	-0.209	1.00	No
		y	-0.209	8.00	No
	22	y	-0.069	0.50	No
		y	-0.069	4.00	No
	9	y	-0.027	1.50	No
WI0	8	z	-0.011	1.50	No
	20	z	-0.067	1.00	No

		z	-0.067	8.00	No
		z	-0.009	2.50	No
		z	-0.008	2.50	No
	21	z	-0.067	1.00	No
		z	-0.067	8.00	No
	22	z	-0.024	0.50	No
		z	-0.024	4.00	No
	9	z	-0.009	1.50	No
WI30	8	3	-0.011	1.50	No
	20	3	-0.058	1.00	No
		3	-0.058	8.00	No
		3	-0.01	2.50	No
	21	3	-0.058	1.00	No
		3	-0.058	8.00	No
	22	3	-0.021	0.50	No
		3	-0.021	4.00	No
	9	3	-0.009	1.50	No
WI60	8	3	-0.011	1.50	No
	20	3	-0.043	1.00	No
		3	-0.043	8.00	No
		3	-0.016	2.50	No
	21	3	-0.043	1.00	No
		3	-0.043	8.00	No
	22	3	-0.017	0.50	No
		3	-0.017	4.00	No
	9	3	-0.008	1.50	No
WI90	8	x	-0.011	1.50	No
	20	x	-0.035	1.00	No
		x	-0.035	8.00	No
		x	-0.018	2.50	No
	21	x	-0.035	1.00	No
		x	-0.035	8.00	No
	22	x	-0.015	0.50	No
		x	-0.015	4.00	No
	9	x	-0.008	1.50	No
WI120	8	2	-0.011	1.50	No
	20	2	-0.043	1.00	No
		2	-0.043	8.00	No
		2	-0.016	2.50	No
	21	2	-0.043	1.00	No
		2	-0.043	8.00	No
	22	2	-0.017	0.50	No
		2	-0.017	4.00	No
	9	2	-0.008	1.50	No
WI150	8	2	-0.011	1.50	No
	20	2	-0.058	1.00	No
		2	-0.058	8.00	No
		2	-0.01	2.50	No
	21	2	-0.058	1.00	No
		2	-0.058	8.00	No
	22	2	-0.021	0.50	No
		2	-0.021	4.00	No
	9	2	-0.009	1.50	No
WL0	8	z	-0.002	1.50	No
	20	z	-0.02	1.00	No
		z	-0.02	8.00	No
		z	-0.002	2.50	No
		z	-0.001	2.50	No
	21	z	-0.02	1.00	No
		z	-0.02	8.00	No

	22	z	-0.007	0.50	No
		z	-0.007	4.00	No
	9	z	-0.002	1.50	No
WL30	8	3	-0.002	1.50	No
	20	3	-0.017	1.00	No
		3	-0.017	8.00	No
		3	-0.002	2.50	No
	21	3	-0.018	1.00	No
		3	-0.018	8.00	No
	22	3	-0.006	0.50	No
		3	-0.006	4.00	No
	9	3	-0.002	1.50	No
WL60	8	3	-0.002	1.50	No
	20	3	-0.012	1.00	No
		3	-0.012	8.00	No
		3	-0.004	2.50	No
	21	3	-0.012	1.00	No
		3	-0.012	8.00	No
	22	3	-0.004	0.50	No
		3	-0.004	4.00	No
	9	3	-0.001	1.50	No
WL90	8	x	-0.002	1.50	No
	20	x	-0.009	1.00	No
		x	-0.009	8.00	No
		x	-0.004	2.50	No
	21	x	-0.009	1.00	No
		x	-0.009	8.00	No
	22	x	-0.004	0.50	No
		x	-0.004	4.00	No
	9	x	-0.001	1.50	No
WL120	8	2	-0.002	1.50	No
	20	2	-0.012	1.00	No
		2	-0.012	8.00	No
		2	-0.004	2.50	No
	21	2	-0.012	1.00	No
		2	-0.012	8.00	No
	22	2	-0.004	0.50	No
		2	-0.004	4.00	No
	9	2	-0.001	1.50	No
WL150	8	2	-0.002	1.50	No
	20	2	-0.017	1.00	No
		2	-0.017	8.00	No
		2	-0.002	2.50	No
	21	2	-0.018	1.00	No
		2	-0.018	8.00	No
	22	2	-0.006	0.50	No
		2	-0.006	4.00	No
	9	2	-0.002	1.50	No
LL1	2	y	-0.25	50.00	Yes
LL2	2	y	-0.25	0.00	Yes
LL3	2	y	-0.25	100.00	Yes
LLa1	20	y	-0.25	50.00	Yes
LLa2	21	y	-0.25	50.00	Yes
LLa3	22	y	-0.25	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load Right End of Mount	No	0.00	0.00	0.00
LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	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

Current Date: 4/21/2020 5:41 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1272\CT1272.retx

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
	HSS_SQR 3X3X1_4	**6**	LC30 at 100.00%	**0.49**	**OK**	
		7	LC36 at 100.00%	0.48	OK	
	L 3X3X3_16	**1**	LC1 at 42.36%	1.56	N.G.	
		2	LC19 at 42.36%	**1.98**	**N.G.**	
	PIPE 2x0.154	**8**	LC25 at 100.00%	0.23	OK	
		9	LC40 at 0.00%	0.42	OK	
		10	LC25 at 100.00%	0.58	OK	
		11	LC1 at 50.00%	**0.84**	**OK**	
		12	LC1 at 100.00%	0.28	OK	
		13	LC1 at 0.00%	0.32	OK	
		20	LC1 at 33.33%	0.60	OK	
		21	LC7 at 33.33%	0.56	OK	
		22	LC40 at 25.00%	0.17	OK	
	PIPE 3-1_2x0.226	**5**	LC32 at 91.67%	**0.28**	**OK**	
	PL 11x1/4	**3**	LC25 at 46.88%	0.53	OK	
		4	LC31 at 46.88%	**0.54**	**OK**	

Current Date: 4/21/2020 3:13 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1272\CT1272.retx

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 [in]	Y [in]	Z [in]	Rigid Floor
14	0.00	2.50	-40.00	0
15	0.00	33.50	-40.00	0
29	42.00	18.00	-112.7461	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
14	1	1	1	1	1	1
15	1	1	1	1	1	1
29	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [ft]	dL [ft]	lg factor
5	10	9		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
9	18	19		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
10	20	21		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
11	22	23		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
12	24	25		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
13	26	29		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
20	45	46		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
21	47	50		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
22	48	49		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
1	2	3		L 3X3X3_16	A36	0.00	0.00	0.00
6	13	14		HSS_SQR 3X3X1_4	A500 GrB rectangular	0.00	0.00	0.00
3	1	7		PL 11x1/4	A36	0.00	0.00	0.00
2	5	6		L 3X3X3_16	A36	0.00	0.00	0.00
4	4	8		PL 11x1/4	A36	0.00	0.00	0.00
7	12	15		HSS_SQR 3X3X1_4	A500 GrB rectangular	0.00	0.00	0.00
8	17	16		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

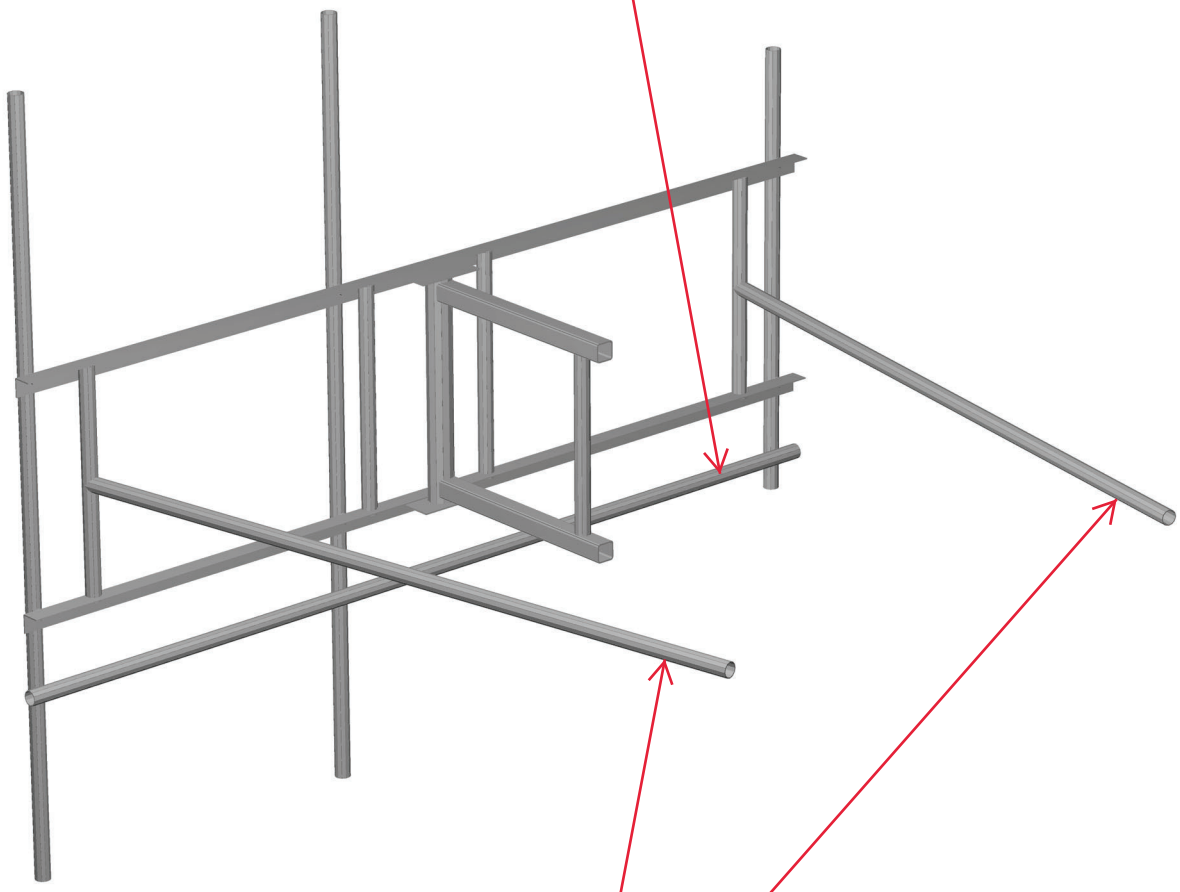
Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
20	315.00	0	0.00	0.00	0.00
21	315.00	0	0.00	0.00	0.00
22	315.00	0	0.00	0.00	0.00
1	90.00	0	0.00	0.00	0.00
3	90.00	0	0.00	0.00	0.00
2	90.00	0	0.00	0.00	0.00
4	90.00	0	0.00	0.00	0.00
8	315.00	0	0.00	0.00	0.00

HUDSON
Design Group LLC

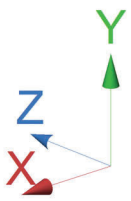
Mount Calculations
(Modified Conditions)

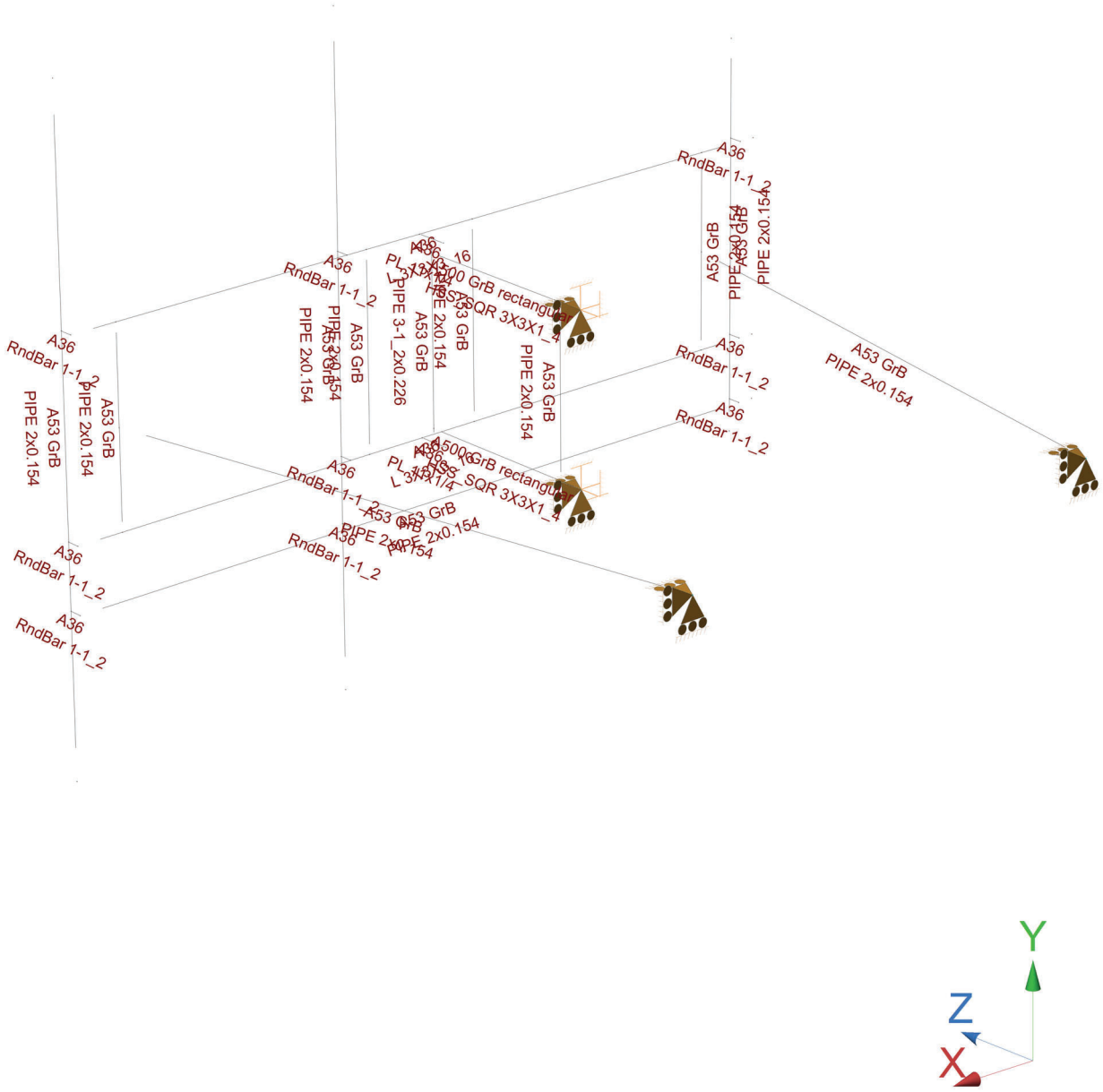
Install new 2" std. (2.38" O.D.) horizontal steel pipe, secured to the existing pipe masts (typ. 1 per sector, total of 3).

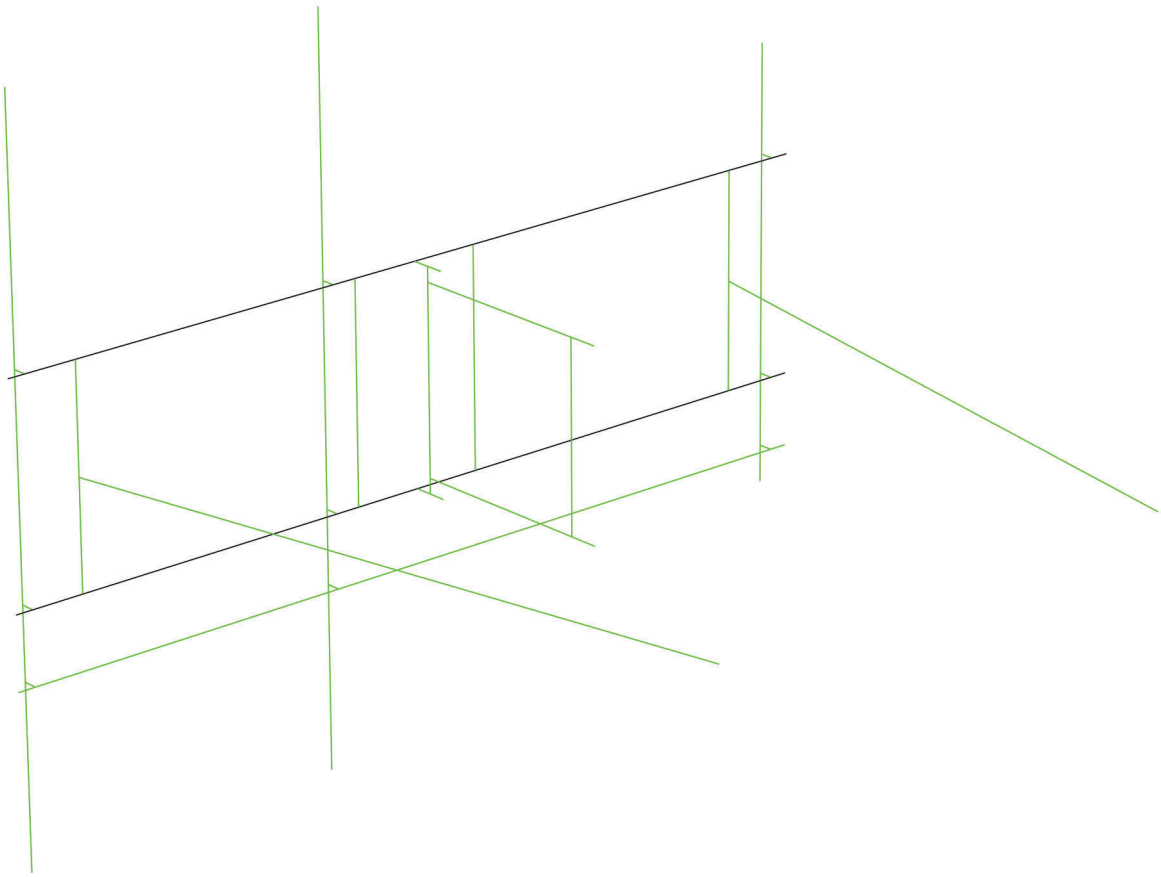


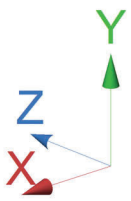
Relocate existing pipe brace 2" std. (2.38" O.D.) pipe brace, secured to the existing mount and tower (typ. of 1 per Alpha and Gamma sector, total of 2).

Install new 2" std. (2.38" O.D.) pipe brace, secured to the existing mount and tower (typ. of 1 per sector, total of 3).

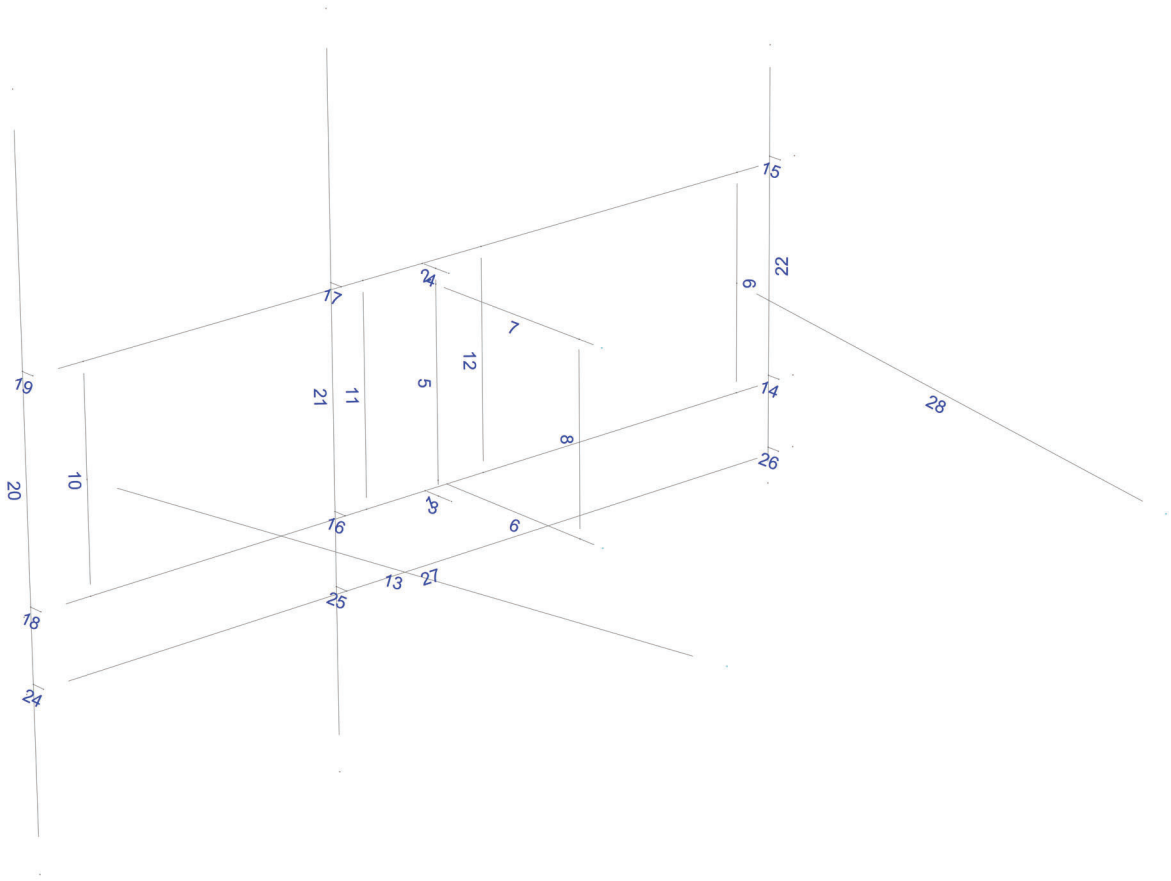


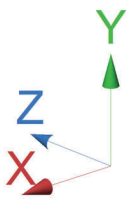

A36
RndBar 1-1_2
A53 GrB
PIPE 2x0.154
PIPE 3-1_2x0.226
L 3X3X1/4
SQR 3X3X1_4
Y
Z
X




Y
Z
X

Current Date: 4/21/2020 3:43 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1272\CT1272 (MOD).retx





Current Date: 4/21/2020 4:41 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1272\CT1272 (MOD).retx

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
LC77=1.2D+WL0+1.5LLa4
LC78=1.2D+WL30+1.5LLa4
LC79=1.2D+WL60+1.5LLa4
LC80=1.2D+WL90+1.5LLa4
LC81=1.2D+WL120+1.5LLa4
LC82=1.2D+WL150+1.5LLa4
LC83=1.2D-WL0+1.5LLa4
LC84=1.2D-WL30+1.5LLa4
LC85=1.2D-WL60+1.5LLa4
LC86=1.2D-WL90+1.5LLa4
LC87=1.2D-WL120+1.5LLa4
LC88=1.2D-WL150+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 3X3X1_4	**6**	LC30 at 100.00%	0.51	OK	
		7	LC36 at 100.00%	**0.52**	**OK**	
	L 3X3X3_16	**1**	LC30 at 49.31%	**0.80**	**With warnings**	
		2	LC31 at 39.58%	0.73	With warnings	
	PIPE 2x0.154	**8**	LC31 at 0.00%	0.24	OK	
		9	LC40 at 100.00%	0.24	OK	
		10	LC1 at 50.00%	0.50	OK	
		11	LC36 at 0.00%	0.48	OK	
		12	LC70 at 0.00%	0.21	OK	
		13	LC1 at 0.00%	0.17	OK	
		20	LC7 at 34.38%	**0.63**	**OK**	
		21	LC7 at 34.38%	0.59	OK	
		22	LC30 at 75.00%	0.32	OK	
		27	LC31 at 39.06%	0.39	OK	
		28	LC31 at 0.00%	0.11	OK	
	PIPE 3-1_2x0.226	**5**	LC31 at 8.33%	**0.29**	**OK**	
	PL 11x1/4	**3**	LC25 at 46.88%	0.57	OK	
		4	LC31 at 46.88%	**0.58**	**OK**	
	RndBar 1-1_2	**14**	LC30 at 0.00%	0.09	OK	
		15	LC40 at 100.00%	0.04	OK	
		16	LC7 at 100.00%	0.28	OK	
		17	LC1 at 100.00%	**0.33**	**OK**	
		18	LC7 at 100.00%	0.14	OK	

19	LC1 at 100.00%	0.19	OK
24	LC31 at 0.00%	0.14	OK
25	LC7 at 0.00%	0.09	OK
26	LC7 at 0.00%	0.10	OK

Current Date: 4/21/2020 5:49 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1272\CT1272 (MOD).retx

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
	HSS_SQR 3X3X1_4	**6**	LC30 at 100.00%	0.50	OK	
		7	LC36 at 100.00%	**0.51**	**OK**	
	L 3X3X3_16	**1**	LC30 at 49.31%	**0.80**	**With warnings**	
		2	LC31 at 39.58%	0.73	With warnings	
	PIPE 2x0.154	**8**	LC31 at 0.00%	0.25	OK	
		9	LC40 at 0.00%	0.36	OK	
		10	LC1 at 50.00%	0.50	OK	
		11	LC36 at 0.00%	0.47	OK	
		12	LC70 at 0.00%	0.22	OK	
		13	LC1 at 0.00%	0.17	OK	
		20	LC7 at 34.38%	**0.63**	**OK**	
		21	LC7 at 34.38%	0.59	OK	
		22	LC30 at 75.00%	0.32	OK	
		27	LC31 at 39.06%	0.39	OK	
		28	LC30 at 0.00%	0.11	OK	
	PIPE 3-1_2x0.226	**5**	LC30 at 8.33%	**0.30**	**OK**	
	PL 11x1/4	**3**	LC25 at 46.88%	0.58	OK	
		4	LC31 at 46.88%	**0.59**	**OK**	

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 DI.I. 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.

SPECIAL INSPECTION CHECKLIST

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

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

SITE NUMBER: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

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

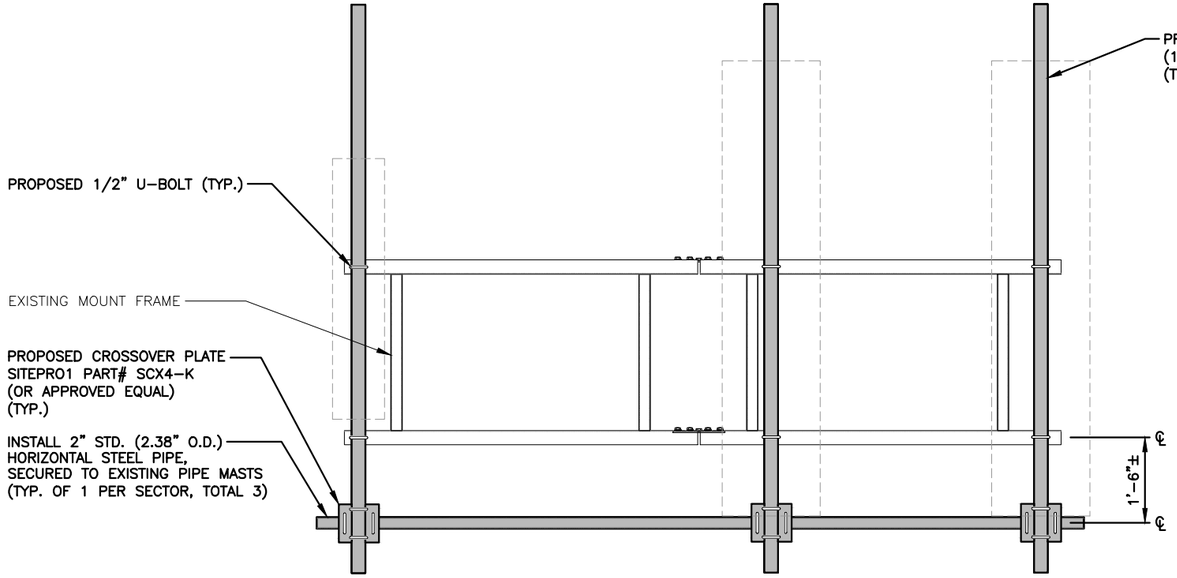
STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

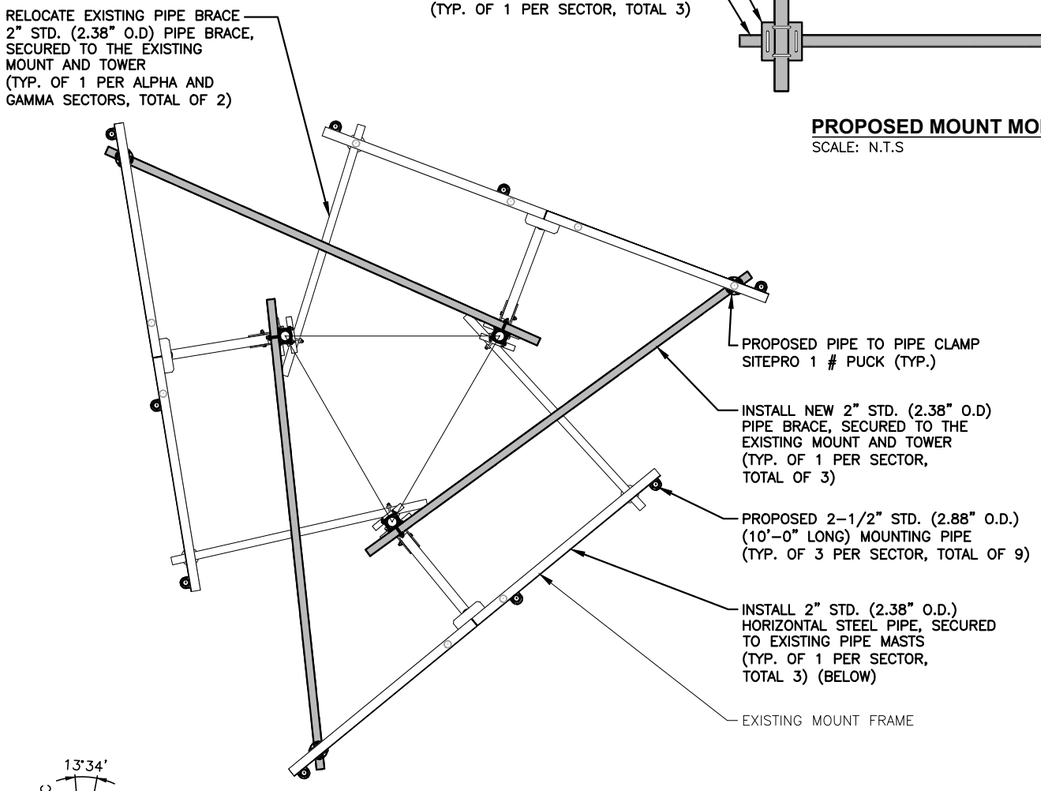
STRUCTURAL NOTES

LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

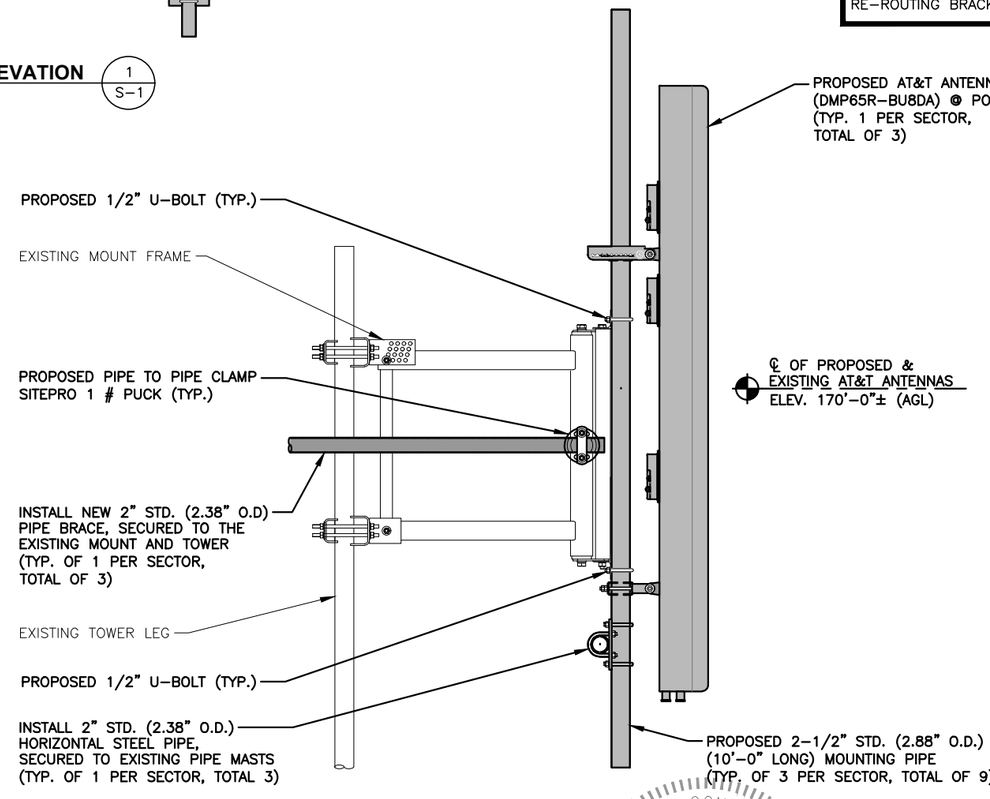
SITE NUMBER	DRAWING NUMBER	REV
CT1272	SN-1	1



PROPOSED MOUNT MODIFICATIONS FRONT ELEVATION (1 / S–1)
SCALE: N.T.S



PROPOSED MOUNT MODIFICATIONS PLAN (1 / S–1)
22x34 SCALE: 1/2"=1'–0"
11x17 SCALE: 1/4"=1'–0"
0 1'–0" 2'–0" 4'–0" 6'–0"



PROPOSED MOUNT MODIFICATION DETAIL (4 / S–1)
22x34 SCALE: 1"=1'–0"
11x17 SCALE: 1/2"=1'–0"
0 0'–6" 1'–0" 2'–0" 3'–0"

NOTE:

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

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: APRIL 21, 2020

NOTE:

REFER TO **STRUCTURAL ANALYSIS** BY: TOWER ENGINEERING SOLUTIONS
DATED: MAY 6, 2020,
FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

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

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

SITE NUMBER: CT1272
SITE NAME: NORTH GRANBY LOST ACRES RD
SBA SITE # ID: CT10017

150 LOST ACRES ROAD
GRANBY, CT 06035
HARTFORD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	06/01/20	ISSUED FOR CONSTRUCTION	AM/ET	HC	DPH
A	04/28/20	ISSUED FOR REVIEW	AM	HC	DPH

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

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

AT&T

MOUNT MODIFICATION DESIGN
LTE 2C_3C_4TX4RX_5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1272	S–1	1

150 LOST ACRES RD

Location	150 LOST ACRES RD	**Mblu**	C-20/ 6/ 82/ /
Acct#	09000150	**Owner**	LOMBARDI JOHN G &
Assessment	$198,310	**Appraisal**	$283,300
PID	1748	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$215,000	$68,300	$283,300
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$150,500	$47,810	$198,310

Owner of Record

Owner	LOMBARDI JOHN G &	**Sale Price**	$0
Co-Owner	LOMBARDI DEBORAH LINDSEY	**Certificate**	
Address	150 LOST ACRES RD NORTH GRANBY, CT 06060	**Book & Page**	414/0219

Sale Date 07/12/2016

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
LOMBARDI JOHN G &	$0		414/0219	07/12/2016
LOMBARDI JOHN G &	$260,000		336/ 706	09/13/2006
KEMP MARGARET W	$0		251/0786	07/06/2001
KEMP MARGARET W	$0		166/0026	01/26/1990
KEMP GEORGE L & MARGARET W	$0		097/0655	05/06/1976

Building Information

Building 1 : Section 1

Year Built: 1953
Living Area: 2,295
Replacement Cost: $217,402
Building Percent Good: 70
Replacement Cost Less Depreciation: $152,200

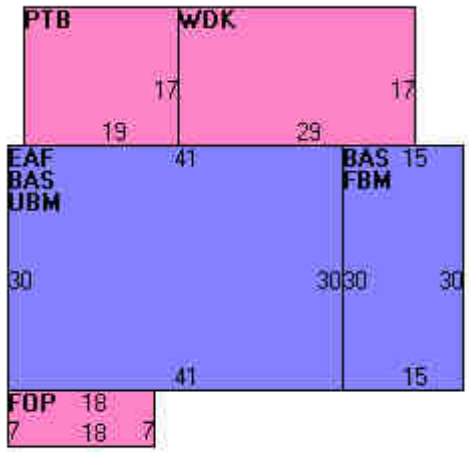
Building Attributes	
Field	**Description**
Style	Cape Cod
Model	Residential
Grade:	Average
Stories:	1 1/4 Stories

Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asphalt
Interior Wall 1	Plastered
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Carpet
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	6 Bedrooms
Total Bthrms:	2
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	9 Rooms
Bath Style:	Average
Kitchen Style:	Average
Extra Kitchens	
Solar Panels	

Building Photo

(http://images.vgsi.com/photos2/GranbyCTPhotos//\00\01\16/17.jpg)

Building Layout



(http://images.vgsi.com/photos2/GranbyCTPhotos//Sketches/1748_1748.jp

Building Sub-Areas (sq ft)	Legend

Code	Description	Gross Area	Living Area
BAS	First Floor	1,680	1,680
EAF	Attic, Expansion, Finished	1,230	615
FBM	Basement, Finished	450	0
FOP	Porch, Open	126	0
PTB	Patio, Brick	323	0
UBM	Basement, Unfinished	1,230	0
WDK	Deck, Wood	493	0
		5,532	2,295

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
FPL2	FIREPLACE 1.5 ST	1 UNITS	$2,300	1

Land

Land Use

Use Code	1010
Description	Single Fam M01
Zone	R2A
Neighborhood	400
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	1.22
Frontage	0
Depth	0
Assessed Value	$47,810
Appraised Value	$68,300

Outbuildings

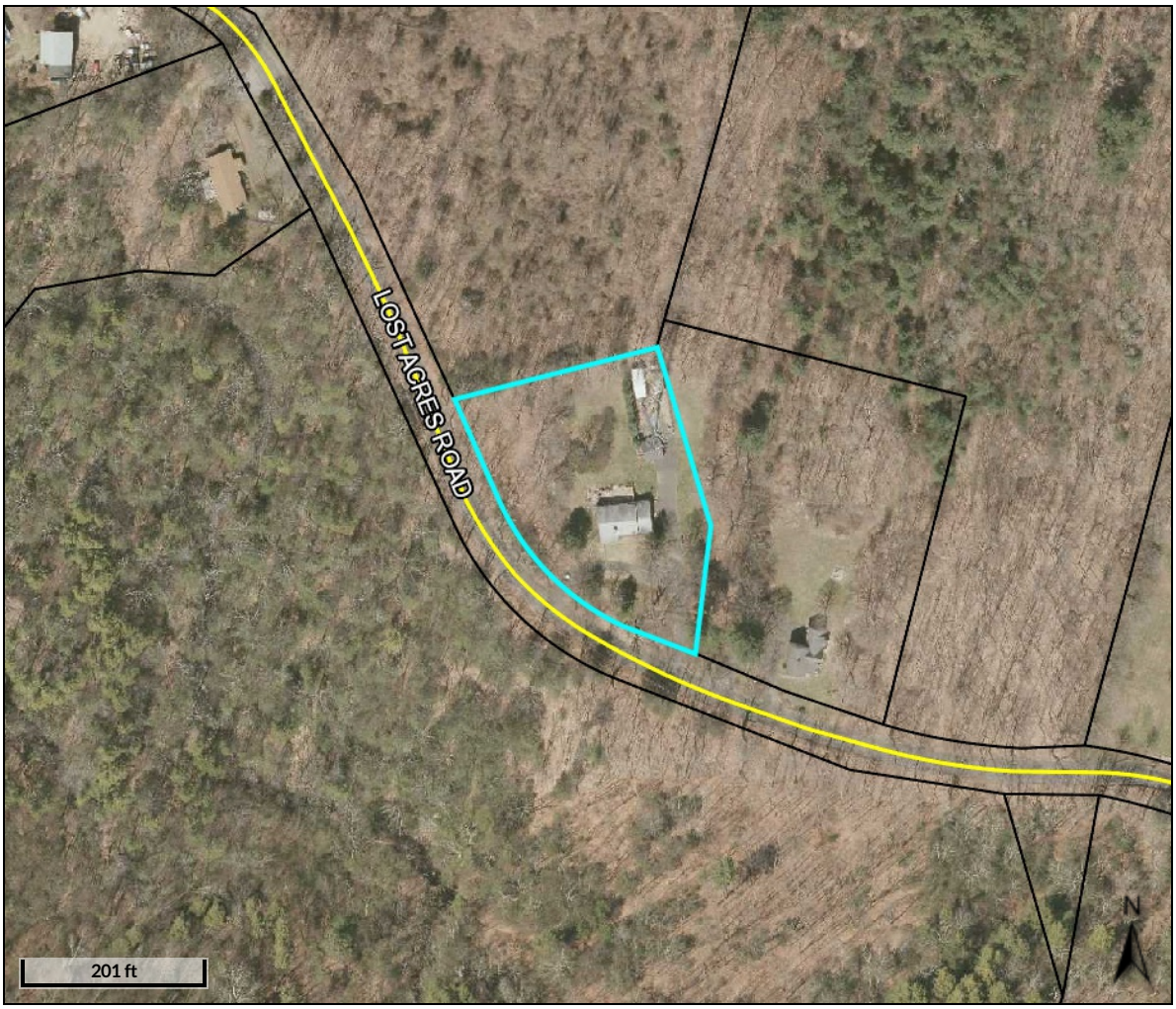
Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FGR1	GARAGE-AVE			400 S.F.	$5,800	1
SHP5	W/IMPROV GOOD			360 S.F.	$10,800	1
FN3	FENCE-6' CHAIN			240 L.F.	$2,900	1
SHP5	W/IMPROV GOOD			240 S.F.	$7,200	1
CELL	CELL TOWER			1 UNITS	$33,800	1

Valuation History

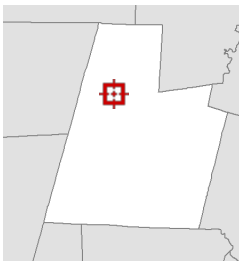
Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$215,000	$68,300	$283,300
2018	$215,000	$68,300	$283,300
2017	$215,000	$68,300	$283,300

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$150,500	$47,810	$198,310
2018	$150,500	$47,810	$198,310
2017	$150,500	$47,810	$198,310

qPublic.net™ Town of Granby, CT



Overview



Legend

- Parcels
- Roads

Parcel ID 1748
Location 150 LOST ACRES RD
View Assessor website

Date created: 5/11/2020

Developed by Schneider GEOSPATIAL

SITE NAME: NORTH GRANBY SITE ID: CT10017-A

Transaction: Mariner Tower

ZONING/PERMITTING COMPLETION FORM

Address: 150 Lost Acres Road, North Granby,CT

Jurisdiction: Town of Granby (time tower constructed) Zoning District:
Connecticut Siting Council (currently)

Zoning Approval Type: Planning & Zoning Commission approval Case #:

Approval Date: 5/12/98 (original) Approved Height: 150 Tower Build Date: 2002
11/12/02 (rebuild)

If tower is destroyed or drop/swap required, tower can likely be rebuilt? ☐ YES ☐ NO

Conditions of Approval:	Yes	No	N/A
Removal Bond	☐	☒	☐
Site Plan Submittal	☐	☒	☐
Fall Zone	☐	☒	☐
Periodic Inspections	☐	☒	☐
Periodic Reporting	☐	☒	☐
Approval Renewal	☐	☒	☐
Additional Conditions	☐	☒	☐

Cell towers currently fall under complete jurisdiction of Connecticut Siting Council (CSD). Tower build pre-dates CSC & obtained Town of Granby zoning approvals. No CSC Review on this tower & no Cert. of Environmental Compatibility & Public Need issued. Any modifications/collocations must go through CSC Review.

JURISDICTION POC/DEPT.

Planning/Zoning: Fran Armentano (Town of Granby)

Phone: 860-844-5319 Fax:

Bldg./Code Enforcement: Henry Miga

Phone: 860-844-5318 Fax: 860-844-5325

Submitted by: Patches Estes Date: 2/4/08
Zoning Compliance

TO BE COMPLETED BY CORPORATE

	Yes	No	N/A	
Zoning Approval Attached (required)	☒	☐	☐	
Ordinance Attached (required)	☐	☒	☐	
Building Permit Attached (required) 19338	☒	☐	☐	Date Recd 7/20/98
Certificate of Occupancy or Compliance (CO) attached (required)	☒	☐	☐	4/17/07

Zoning Manager Approval: FINAL Date 2/4/2008
Diane E. Borchardt, AICP

April 27, 2007

PLANNING & ZONING COMMISSION
Town of Granby
Minutes
May 12, 1998

Present: Paula Johnson, Chairwoman, Put Brown, Margaret Chapple, Charles Kraiza, Eric Lukingbeal, John Morgan, Fred Wilhelm. Francis Armentano, Director of Community Development and Ed Sweeney, Town Engineer.

The meeting opened at 7:06 p.m.

Public session: There was no public comment.

ON A MOTION by Put Brown, seconded by Fred Wilhelm, the Commission voted to approve the minutes of April 28, 1998. All approved. Margaret Chapple and Eric Lukingbeal abstained.

The Commission held an informal public information session and continuation of a discussion of the proposed reconstruction of a communications tower at 150 Lost Acres Road. Mr. Wayne Kemp, business owner and the Zoning Enforcement Officer are seeking a determination regarding the non-conforming use of the property. The use of the property by Kemp Communications predates the current Zoning prohibitions of this type of commercial use within residential zones. At issue is whether the replacement of the existing tower with a new modern design, of the same height and with supporting accessory components is a illegal extension of the use or a permissible intensification of the use. Notices of the hearing were sent throughout the Lost Acres Road area. An abutting neighbor questioned the maintenance of the tower and if the proposed changes would increased traffic to the area. A resident commented that the existing tower is not visible from the road. The public information session was closed as no further comments were forthcoming.

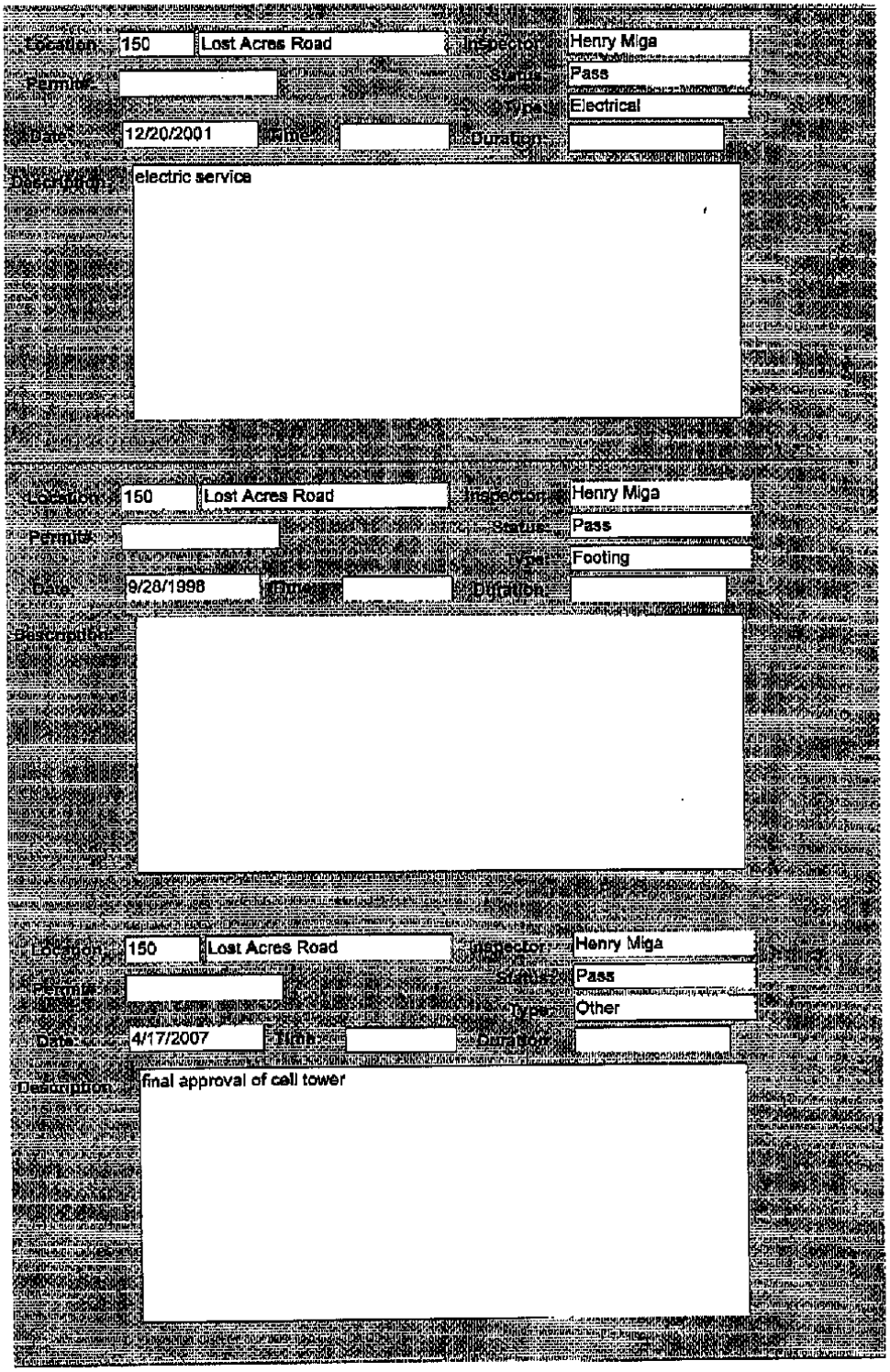
The Commission opened a continuation of a discussion with Ed Lally, Engineer, representing Tom Fredo Builders, regarding the development of property located on Mountain Road, FRD subdivision. Fred Wilhelm and Put Brown abstained from any discussion. Mr. Lally continued to discuss the evolving design of the proposed development. Mr. Lally outlined property which could be donated to the Granby Land Trust, Homeowners Association and the Town of Granby, sequence of the building plan and schedule, landscaping, road elevation and grade. Mr. Lally also discussed the elimination of lots, changed lot numbers, storm water management, private drives and easements, driveway drains, fire pond and road entrance plans. Mr. Lally invited the members to walk the site. The public questioned various aspects of the proposal including increased traffic, trucks, the need for a public works facility, the preservation of ridge lines, driveways and future access to abutting property. One abutter expressed his displeasure for the location of the proposed new road, which would make his property a corner lot. The public hearing is set for May 26, 1998. Commission members intend to walk the property before the next meeting.

ON A MOTION by Fred Wilhelm, seconded by Put Brown, the Commission voted to inform the Zoning Enforcement Officer that, based on their review of the matter, the proposed replacement of the existing tower at 150 Lost Acres Road with a new modern design, of the same height and with supporting accessory components is a permissible intensification of the use. The vote was 4-2. Paula Johnson, Put Brown, John Morgan, Fred Wilhelm approved. Margaret Chapple and Eric Lukingbeal opposed.

The meeting adjourned at 9:50 p.m.

Respectfully submitted,

Dorcus S. Forsyth
Recording Secretary


Location: 150 Lost Acres Road
Inspector: Henry Miga
Permit#:
Status: Pass
Type: Electrical
Date: 12/20/2001
Time:
Duration:
Description: electric service
Location: 150 Lost Acres Road
Inspector: Henry Miga
Permit#:
Status: Pass
Type: Footing
Date: 9/28/1998
Time:
Duration:
Description:
Location: 150 Lost Acres Road
Inspector: Henry Miga
Permit#:
Status: Pass
Type: Other
Date: 4/17/2007
Time:
Duration:
Description: final approval of cell tower

PHONE (203) 653-8945
FAX (203) 653-4769

TOWN OF GRANBY
PERMIT APPLICATION

15 NORTH GRANBY ROAD
Granby, CT 06035

PROPERTY ADDRESS 150 Lost Acres Rd.

EST. COST OF JOB 32,000 COST OF PERMIT 944 CHECK# 6873 RCPT# 6499 BLANKET _____

TYPE OF PERMIT: BUILDING ☒ MECHANICAL ☐ PLUMBING ☐ ELECTRICAL ☒ OTHER ☐

DESCRIPTION OF WORK: Build 30X30 ft Garage - Install new electric Service Replace Existing Tower

NEW HOME ☐ ADDITION ☐ ROOF ☐ SIDING ☐ POOL ☐ DECK ☐ SHED ☐

BUILDING OFFICIAL COMMENTS: Min. 30' to Side & ~~Rear~~ 50' to Rear

OWNER(S) Margaret W. Kemp	CONTRACTOR Wayne Kemp
ADDRESS 150 Lost Acres Rd	ADDRESS 1050 Buckley Highway
TOWN North Granby ST CT ZIP 06060	TOWN Union ST CT ZIP 06076
HOME PHONE # 653-6097 WORK PHONE #	LICENSE # WORK PHONE # 684-3060

AFFIDAVIT AND AGREEMENT

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY WHICH IS THE SUBJECT OF THIS APPLICATION OR THE AUTHORIZED AGENT OF THE PROPERTY OWNER; I AGREE TO CALL AT LEAST 24 HRS. IN ADVANCE FOR EACH INSPECTION INDICATED ON THE PERMIT; I AGREE TO UNCOVER AND EXPOSE ANY WORK WHICH IS COVERED OR CONCEALED WITHOUT INSPECTOR'S APPROVAL; I UNDERSTAND THAT WHEN A PERMIT IS ISSUED IT GRANTS NO RIGHT TO VIOLATE ANY CODE, ORDINANCE OR STATUTE, REGARDLESS OF WHAT MAY BE SHOWN OR OMITTED ON THE APPROVED PLANS AND SPECIFICATIONS AND REGARDLESS OF ANY AGREEMENT WITH ANY OFFICIAL.

I HAVE READ AND AGREE TO ALL THE ABOVE

SIGNATURE: Wayne Kemp DATE: 7-20-98

TOWN OF GRANBY BUILDING PERMIT

DATE ISSUED 7/30/98 BUILDING PERMIT # 19338

DATE CLOSED _____

BUILDING OFFICIAL SIGNATURE

** OTHER APPROVALS OR PERMITS REQUIRED **

FIRE MARSHAL ☐ FVHD ☐ WETLANDS ☐ DRIVEWAY ☐ P&Z ☐ ZBA ☐ ZONING ☐ TAX ☐
WATER ☐ SEWER ☐

REQUIRED INSPECTIONS

- ☑ FOOTING (FORMS IN PLACE BEFORE CONCRETE)
- ☐ DAMPPROOF/DRAINS
- ☐ INGROUND MECHANICALS
- ☐ FIREPLACE/THROAT
- ☐ CERTIFICATE OF OCCUPANCY
- ☐ ROUGH FRAME/MECHANICALS
- ☐ INSULATION
- ☐ DRIVEWAY
- ☑ FINAL INSPECTION

** THIS PERMIT IS NOT VALID UNLESS PERTINENT INFORMATION IS ATTACHED **

CT10017-A; North Granby

PHONE (860) 653-8945
FAX (860) 653-4769

TOWN OF GRANBY
PERMIT APPLICATION

15 NORTH GRANBY ROAD
Granby, CT 06035

PROPERTY ADDRESS 150 LOST ACRES Rd.

EST. COST OF JOB $2800.00 COST OF PERMIT 36.00 CHECK# 5553 RCPT# 6359 ✓

TYPE OF PERMIT: BLANKET ( ) NON-BLANKET ( )

BUILDING ( ) HEATING ( ) PLUMBING ( ) ELECTRICAL (X) OTHER ( )

DESCRIPTION OF WORK: WIRING FOR NEW 4 METER LOOP / DISCONNECT
POWER FOR COMMUNICATION COMPANIES

NEW HOME ( ) ADDITION ( ) ROOF ( ) SIDING ( ) POOL ( ) DECK ( ) SHED ( ) OTHER (X)

BUILDING OFFICIAL COMMENTS:

OWNER(S)		CONTRACTOR	
NEW ENGLAND SITE MANAGEMENT		ASHMORE ELECTRIC INC.	
ADDRESS 1515 NORTH STONE RD.		ADDRESS 173 HARTFORD AVE.	
TOWN SUFFIELD	ST CT. ZIP	TOWN EAST GRANBY	ST CT. ZIP 06026
HOME PHONE #	WORK PHONE # 668-6208	LICENSE # 125326	WORK PHONE # 653-6320

AFFIDAVIT AND AGREEMENT

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY WHICH IS THE SUBJECT OF THIS APPLICATION OR THE AUTHORIZED AGENT OF THE PROPERTY OWNER; I AGREE TO CALL AT LEAST 24 HRS. IN ADVANCE FOR EACH INSPECTION INDICATED ON THE PERMIT; I AGREE TO UNCOVER AND EXPOSE ANY WORK WHICH IS COVERED OR CONCEALED WITHOUT INSPECTOR'S APPROVAL; I UNDERSTAND THAT WHEN A PERMIT IS ISSUED IT GRANTS NO RIGHT TO VIOLATE ANY CODE, ORDINANCE OR STATUTE, REGARDLESS OF WHAT MAY BE SHOWN OR OMITTED ON THE APPROVED PLANS AND SPECIFICATIONS AND REGARDLESS OF ANY AGREEMENT WITH ANY OFFICIAL.

I HAVE READ AND AGREE TO ALL THE ABOVE

SIGNATURE: Joseph Ashmore DATE: 12/14/01

TOWN OF GRANBY BUILDING PERMIT

DATE ISSUED 12/19/01 BUILDING PERMIT # 22613

DATE CLOSED _____

Thomas L. Mezzo
BUILDING OFFICIAL SIGNATURE

** OTHER APPROVALS OR PERMITS REQUIRED **

FIRE MARSHAL ( ) FVHD ( ) WETLANDS ( ) DRIVEWAY ( ) P&Z ( ) ZBA ( ) ZONING ( ) TAX ( )
WATER ( ) SEWER ( )

REQUIRED INSPECTIONS

( ) FOOTING (FORMS IN PLACE BEFORE CONCRETE)
( ) DAMPPROOF/ WATERPROOF/DRAINS
( ) INGROUND MECHANICALS
( ) FIREPLACE/THROAT
( ) CERTIFICATE OF OCCUPANCY
( ) ROUGH FRAME/MECHANICALS
( ) INSULATION
( ) DRIVEWAY
( ) FINAL INSPECTION

** THIS PERMIT IS NOT VALID UNLESS PERTINENT INFORMATION IS ATTACHED **

Pd
#20.00
chk#3557
rcp # 0157

TOWN OF GRANBY
PERMIT FOR EXCAVATION
WITHIN
TOWN RIGHT-OF-WAY

Permit Fee: $20.00
Permit #_____

RECEIVED
MAY 14 2002

Nature of Work: Road Crossing for Utilities

Location: 150 Lost Acres Rd.

Start Date: A.S.A.P **Completion Date:**_____

Contractor: Copper Hill Exc. L.L.C

Address: Po Box 246 Suffield CT.

Phone: 860-668-7171

Permission Granted: Yes ✓ No_____

By: James Klasl

Title: Public Works Superint. **Date:** 5-17-02

- ✓ **Please note that you must contact Call Before You Dig at 1(800) 922-4455, before you start work.**
- ✓ **The Town may require a plan of the construction before issuing the permit.**
- ✓ **Construction, which is done in conjunction with a Building Permit, may be exempt from this permit.**
- ✓ **All contractors shall have a minimum $1,000 bond, or a bond in an amount as directed by the Town Engineer.**

AVON
BERKHAMSTED
CANTON
COLEBROOK
EAST GRANBY
FARMINGTON
GRANBY
HARTLAND
NEW HARTFORD
SIMSBURY

FVHD

FEE: $25.00

christin
Susan

FARMINGTON VALLEY HEALTH DISTRICT

50 SIMSBURY ROAD, AVON, CONNECTICUT 06001 Telephone (860) 676-1953 Fax (860) 676-2131 800# 1-800-909-FVHD

APPLICATION FOR LOCATION APPROVAL/ADDITION

PROPERTY OWNER: Margaret W. Kemp PHONE # (H): 653-6097

ADDRESS: 150 Lost Acres Rd. N. Granby CT (W): _____

CONTRACTOR: Wayne Kemp PHONE #: 860-614-3060

***YOU MUST PROVIDE A PLAN OR A SKETCH SHOWING THE EXISTING AND PROPOSED STRUCTURES AND THEIR SEPARATING DISTANCES TO THE SEPTIC SYSTEM AND WELL**

RECEIVED OCT 16 1998 FVHD

I. TYPE OF ADDITION: Garage

Detached Building? X YES ☐ NO Plumbing: ☐ YES X NO

Size of addition: 28X28 Garage Is this an Accessory Apartment? no

Number of rooms in addition: 1 Use of rooms: Garage + Equip storage

Number of bedrooms in existing home: _____ Number of bedrooms after addition: _____

Please check: ☐ Full foundation ☐ Crawl Space X Slab ☐ Piers ☐ None Footing Drains: ☐ Yes X No

II. SWIMMING POOL

Please check: ☐ In-ground ☐ Above ground Deck provided ☐ Yes ☐ No

Type of filter system: _____

Filter backwash & pool water discharge to: _____

III. DISTANCE BETWEEN ADDITION AND/OR POOL AND:

Septic system: 17 ft. (NA if sewers) Well: 70 ft. (NA if public water)

Size of septic tank: 1,000 gallons; Please check: X concrete ☐ metal

SIGNED: Wayne Kemp DATE: 10-13-98

I certify that I am the owner or the owners contractual representative and that the information above is accurate to the best of my knowledge and that I have received the attached information sheet.

FOR OFFICE USE ONLY: Soil testing required? no Date of testing: _____ Observed By: _____

THE FVHD ASSUMES NO RESPONSIBILITY OF THE PRESENT OR FUTURE OPERATION OF THE SEPTIC SYSTEM OR FOR ANY DAMAGE TO THE SEPTIC SYSTEM CAUSED BY THE NEW CONSTRUCTION OR ANY NECESSARY TESTING.

APPROVED BY: Dustin M. Hallgren DATE: 10/15/98

NOTES:

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

T + 561.995.7670
F + 561.995.7626

sbasite.com

LETTER OF AUTHORIZATION

SBA Site ID: CT10017-A, North Granby

Property Located at: 150 Lost Acres Road, North Granby, CT, 06035

THE CITY/COUNTY OF: North Granby / Hartford

APPLICATION FOR ZONING/USE/BUILDING PERMIT

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

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

SBA Towers II LLC

Jason Silberstein

Executive VP, Site Leasing

Date: 5/22/2020

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

P

usps.com
$7.75
US POSTAGE
Flat Rate Env

9405 5036 9930 0420 2687 20 0077 5000 0010 6035

06/17/2020 Mailed from 06450 062S0000000309

PRIORITY MAIL 1-DAY™

HOLLIS REDDING
39 WESTVIEW DR
MERIDEN CT 06450-4723

Expected Delivery Date: 06/18/20

0005

R003

SHIP TO: B. SCOTT KUHNLY
TOWN OF GRANBY 1ST SELECTMAN'S OFFICE
15 N GRANBY RD
GRANBY CT 06035-2102

USPS TRACKING #

9405 5036 9930 0420 2687 20

Electronic Rate Approved #038555749

Cut on dotted line.

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

P

usps.com
$7.75
US POSTAGE
Flat Rate Env

9405 5036 9930 0420 2687 37 0077 5000 0010 6035

06/17/2020 Mailed from 06450 062S0000000101

PRIORITY MAIL 1-DAY™

HOLLIS REDDING
39 WESTVIEW DR
MERIDEN CT 06450-4723

Expected Delivery Date: 06/18/20

0005

R003

SHIP TO: JAMES KOPLAR
TOWN OF GRANBY BUILDING/ZONING DEPT
15 N GRANBY RD
GRANBY CT 06035-2102

USPS TRACKING #

9405 5036 9930 0420 2687 37

Electronic Rate Approved #038555749

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

P

usps.com
$7.75
US POSTAGE
Flat Rate Env

9405 5036 9930 0420 2687 51 0077 5000 0010 6051

06/16/2020 Mailed from 06450 062S0000000309

PRIORITY MAIL 1-DAY™

HOLLIS REDDING
39 WESTVIEW DR
MERIDEN CT 06450-4723

Expected Delivery Date: 06/17/20

0005

Carrier -- Leave if No Response

C006

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

USPS TRACKING #

9405 5036 9930 0420 2687 51

Electronic Rate Approved #038555749

Cut on dotted line.

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

P

usps.com
$7.75
US POSTAGE
Flat Rate Env

9405 5036 9930 0420 2687 68 0077 5000 0010 6060

06/17/2020 Mailed from 06450 062S0000000101

PRIORITY MAIL 1-DAY™

HOLLIS REDDING
39 WESTVIEW DR
MERIDEN CT 06450-4723

Expected Delivery Date: 06/18/20

0005

Carrier -- Leave if No Response

R011

SHIP TO:
JOHN G & DEBORAH L LOMBARDI
150 LOST ACRES RD
NORTH GRANBY CT 06060-1313

USPS TRACKING #

9405 5036 9930 0420 2687 68

Electronic Rate Approved #038555749

Hollis Redding

To: Michael McNamara
Subject: CT10017-A-03 - AT&T - CT1272 North Granby 150 Lost Acres Rd, Granby

Hello Mike-

Attached please find the exempt modification filing that was filed with the CT Siting Council today, June 17, 2020. Thank you. Hollis

Hollis M. Redding

SAI Communications LLC
Mobile: 860-834-6964
hredding@saigrp.com