QC Development
PO Box 916
Storrs, CT 06268
860-670-9068
Mark.Roberts@QCDevelopment.net

July 19, 2019

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT1013
555 Main Street, Stamford, CT 06901
N 41.05338889
W 73.53564722

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 235' level of the rooftop mounted self-support tower at 555 Main Street, Stamford, CT (555 East Main Street per Stamford GIS). The property and tower are owned by AT&T (SNET). AT&T now intends to remove two (2) Powerwave, (3) KMW and (1) CCI antennas and install six (6) CCI OPA-65R-LCUU-H4 antennas, two (2) Kathrien 800-10965 and one (1) Kathrien 800-10964 antenna. AT&T will remove (3) Ericsson RRUS-12 Remote Radio Units (RRU) and install (3) Ericsson B14 4478, (3) RRUS-32 B66A and three (3) RRUS-32 B2 RRUs.

AT&T's use of this facility was approved by the Connecticut Siting Council in Petition # 154 on February 19, 1986. The approval included no conditions that could feasibly be violated by this proposed modification, including total facility height and mounting restrictions. This modification therefore complies with the aforementioned approvals.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Honorable David Martin, Mayor of the City of Stamford, and the Stamford Land Use Bureau as well

as the property and tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

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

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

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

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

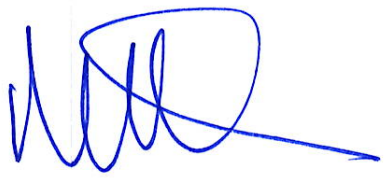
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

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

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

Please feel free to call me at (860) 670-9068 with any questions regarding this matter. Thank you for your consideration.

Sincerely,



Mark Roberts
QC Development
Consultant for AT&T

Attachments

cc: Mayor David Martin - Elected Official
Ms. Vineeta Mathur – Senior Planner
SNET - Property and 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*							2.03%
AT&T GSM	1	227	235	0.0016	850	0.5667	0.03%
AT&T UMTS	2	397	235	0.0054	850	0.5667	0.10%
AT&T UMTS	1	397	235	0.0027	1900	1.0000	0.03%
AT&T LTE	2	1032	235	0.0142	700	0.4667	0.30%
AT&T LTE	2	1032	235	0.0142	1900	1.0000	0.14%
AT&T LTE	2	397	235	0.0031	2300	1.0000	0.03%
Site Total							2.65%

*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*							2.03%
AT&T UMTS	1	397	235	0.0311	850	0.5667	0.55%
AT&T LTE	3	2951	235	0.0919	700	0.4667	1.97%
AT&T LTE	1	1000	235	0.0623	850	0.5667	1.10%
AT&T LTE	2	3664	235	0.4562	1900	1.0000	4.56%
AT&T LTE	1	5070	235	0.2389	2100	1.0000	2.39%
AT&T LTE	1	1285	235	0.2389	2300	1.0000	2.39%
Site Total							4.43%

*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 EXISTING SELF SUPPORT TOWER:
ALPHA & BETA SECTORS:
- SWAP (6) EXISTING ANTENNAS FOR (6) 6' HPA-45R-BUU-H6 CCI HEX.
- ADD (2) 6' 80010965 KATHREIN OCTO. ANTENNAS AT POS. 3
- RELOCATE UMTS TO POS. 1
- RELOCATE LTE 700 TO POS. 4
- RELOCATE WCS TO POS. 2
- SWAP (2) EXISTING 1900 RRUS-11S FOR (2) RRUS-32 B2 UP TOP.
- NEW AT&T RRUS B14 4478 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 2).
- NEW AT&T RRUS 32 B66 (AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 2).
- NEW AT&T RRUS 32 B2 (1900) (TYP. OF 1 PER SECTOR, TOTAL OF 2).

GAMMA SECTOR:
- SWAP (1) EXISTING LTE 700 ANTENNA FOR (1) 4' OPA-65R-LCUU-H4 CCI OCTO. AT POS. 4
- RELOCATE EXISTING LTE 700 RRU TO POS. 4
- RELOCATE EXISTING UMTS TO POS. 1
- RELOCATE EXISTING WCS TO POS. 2
- ADD (1) 4' 80010964 KATHREIN OCTO. ANTENNA TO POS. 3
- ADD (2) TRIPLEXERS UP TOP
- SWAP EXISTING 1900 RRUS-11 (TYP. OF 1 PER SECTOR, TOTAL OF 3) FOR RRUS B14 4478 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3), RRUS 32 B66 (AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3), & RRUS 32 BS (1900) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- NEW AT&T SURGE ARRESTOR (DC6-48-60-18-8C), (2) DC AND (1) FIBER (TOTAL OF 1) (TO FOLLOW EXISTING ROUTING).

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- NEW AT&T RRUS E2 B29 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS 11 850 (850) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T TRIPLEXERS (TPX-070821) (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- SWAP EXISTING DUS FOR 5216s.
- REPLACE IDL2 WITH IDLE.
- ADD 2ND XMU.
- ADD 2 GE RECTIFIERS TO EXISTING POWER PLANT.
- BASEBAND CONFIGURATION AS PER PD / SECTION-7.
- INSTALL DC12 RAYCAP.
- RE-CABLE EXISTING EQUIPMENT TO PROPOSED DC12
- INSTALL (12) TELCO FLEX FOR PROPOSED (2) DC TRUNK
- REMOVE EXISTING GEN. 1 RAYCAP

SITE ADDRESS:	555 MAIN STREET STAMFORD, CT 06901
LATITUDE:	41.053463 N, 41° 03' 12.47" N
LONGITUDE:	73.535666 W, 73° 32' 08.40" W
TYPE OF SITE:	SELF SUPPORT TOWER (ON ROOF) / INDOOR EQUIPMENT
STRUCTURE HEIGHT:	124'-6"± (TOP OF TOWER 231'-0" A.G.L.)
ROOFTOP:	106'-6"± (TOP OF PENTHOUSE 140'-0" A.G.L.)
RAD CENTER:	235'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

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SITE NUMBER: CT2118

SITE NAME: STAMFORD CENTRAL SBC CO

FA CODE: 10034983

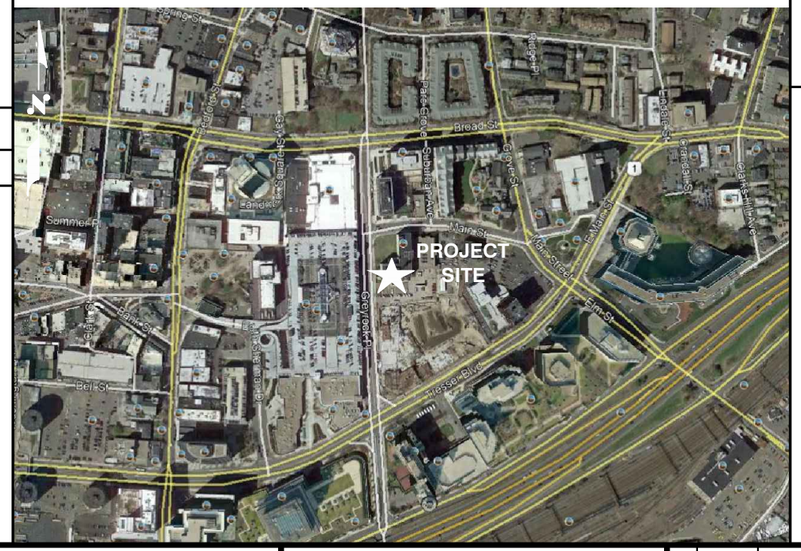
PACE ID: MRCTB022535, MRCTB026719, MRCTB018511, MRCTB014972

PROJECT: LTE 5C_6C_7C & BWE 2018 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING WEST ON COCHITUATE RD/MA-30 TOWARD BURR ST. 0.02 MI. MAKE A U-TURN AT BURR ST ONTO COCHITUATE RD/MA-30. 0.05 MI. MERGE ONTO I-90 W/MASSACHUSETTS TPKE W TOWARD SPRINGFIELD/BOSTON (PORTIONS TOLL). 38.8 MI. MERGE ONTO I-84 W/WILBUR CROSS HWY S VIA EXIT 9 TOWARD US-20/HARTFORD/NEW YORK CITY (PORTIONS TOLL) (CROSSING INTO CONNECTICUT). 41.7 MI. KEEP LEFT TO TAKE CT-15 S/WILBUR CROSS HWY S VIA EXIT 57 TOWARD I-91 S/CHARTER OAK BR/NY CITY. 2.0 MI. MERGE ONTO I-91 S VIA EXIT 86 TOWARD NEW HAVEN/NY CITY. 17.1 MI. MERGE ONTO CT-15 S VIA EXIT 17 TOWARD E MAIN ST. 30.2 MI. MERGE ONTO CT-8 S VIA EXIT 52 TOWARD BRIDGEPORT. 5.9 MI. MERGE ONTO I-95 S TOWARD NY CITY. 20.4 MI. TAKE THE ELM ST EXIT, EXIT 8. 0.6 MI. TURN RIGHT ONTO ELM ST. 0.1 MI. ELM ST BECOMES MAIN ST. 0.05 MI. TURN LEFT TO STAY ON MAIN ST. 0.1 MI. 555 MAIN ST IS ON THE LEFT.



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS

CALL
BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455
OR CALL 811

UNDERGROUND SERVICE ALERT

STATE OF CONNECTICUT · DEREK J. CREASEY · No. 28351 · LICENSED PROFESSIONAL ENGINEER

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: CT2118
SITE NAME: STAMFORD CENTRAL SBC CO

555 MAIN STREET
STAMFORD, CT 06901
FAIRFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	07/10/19	ISSUED FOR CONSTRUCTION	EB	AT	DJC
1	05/24/19	ISSUED FOR CONSTRUCTION	HC	AT	DJC
A	05/15/19	ISSUED FOR REVIEW	AM	AT	DJC

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

AT&T

TITLE SHEET
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	T-1	2

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) 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 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 AWS 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. TOUCHUP 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-G, STRUCTURAL STANDARDS FOR STEEL

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

ABBREVIATIONS

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

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2118
SITE NAME: STAMFORD CENTRAL SBC CO

555 MAIN STREET
STAMFORD, CT 06901
FAIRFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
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A	05/15/19	ISSUED FOR REVIEW	AM	AT	DJC

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

STATE OF CONNECTICUT · DEREK J. CREASEY · No. 29551 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	GN-1	2

NOTE:

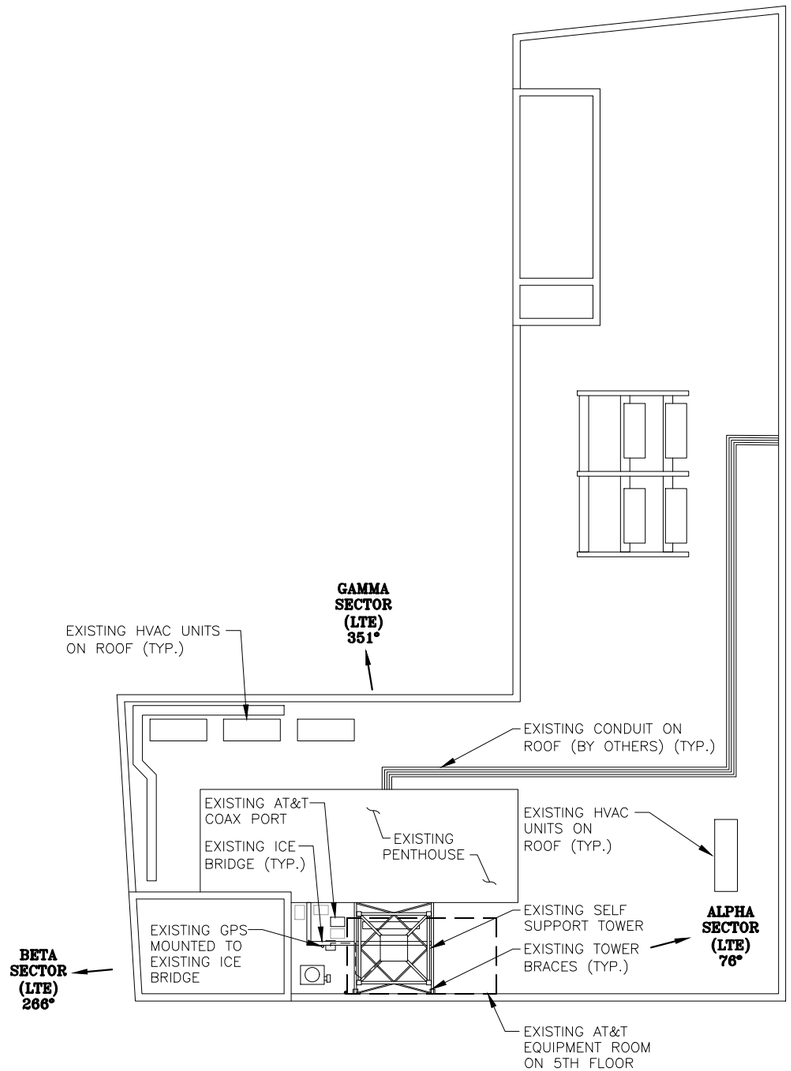
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

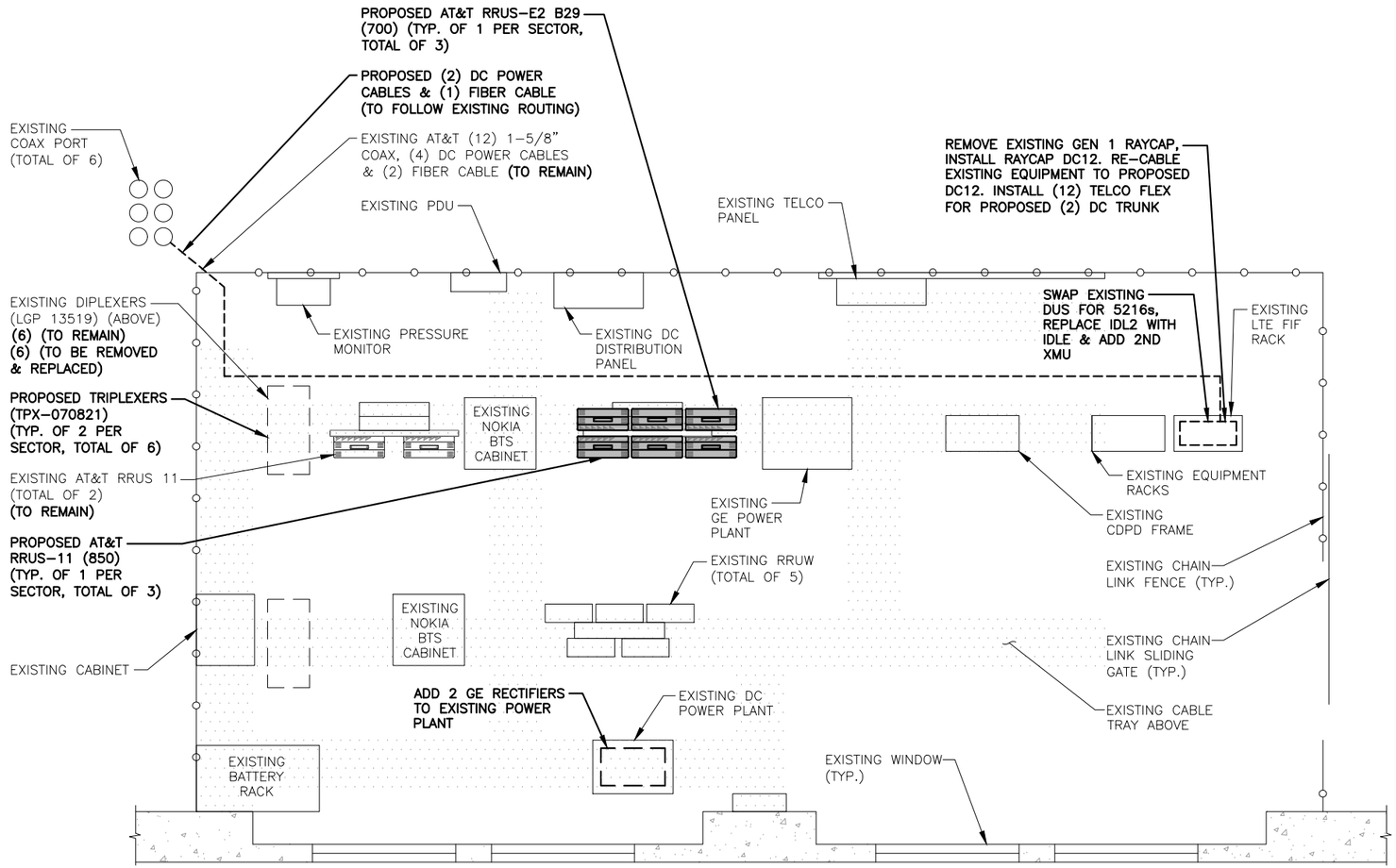
NOTE:

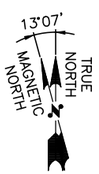
REFER TO **STRUCTURAL ANALYSIS** BY: MALOUF ENGINEERING INTL, INC, DATED: JULY 09, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: MAY 30, 2019 (REV. 1)







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

0 8'-0" 16'-0" 32'-0" 48'-0"

EQUIPMENT PLAN ON 5TH FLOOR (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

SITE NUMBER: CT2118
SITE NAME: STAMFORD CENTRAL SBC CO

555 MAIN STREET
STAMFORD, CT 06901
FAIRFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	07/10/19	ISSUED FOR CONSTRUCTION	EB	AT	DJC
1	05/24/19	ISSUED FOR CONSTRUCTION	HC	AT	DJC
A	05/15/19	ISSUED FOR REVIEW	AM	AT	DJC

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

STATE OF CONNECTICUT
DEREK J. CREASEY
No. 23541
LICENSED PROFESSIONAL ENGINEER

AT&T

ROOF & EQUIPMENT PLANS
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	A-1	2

NOTE:

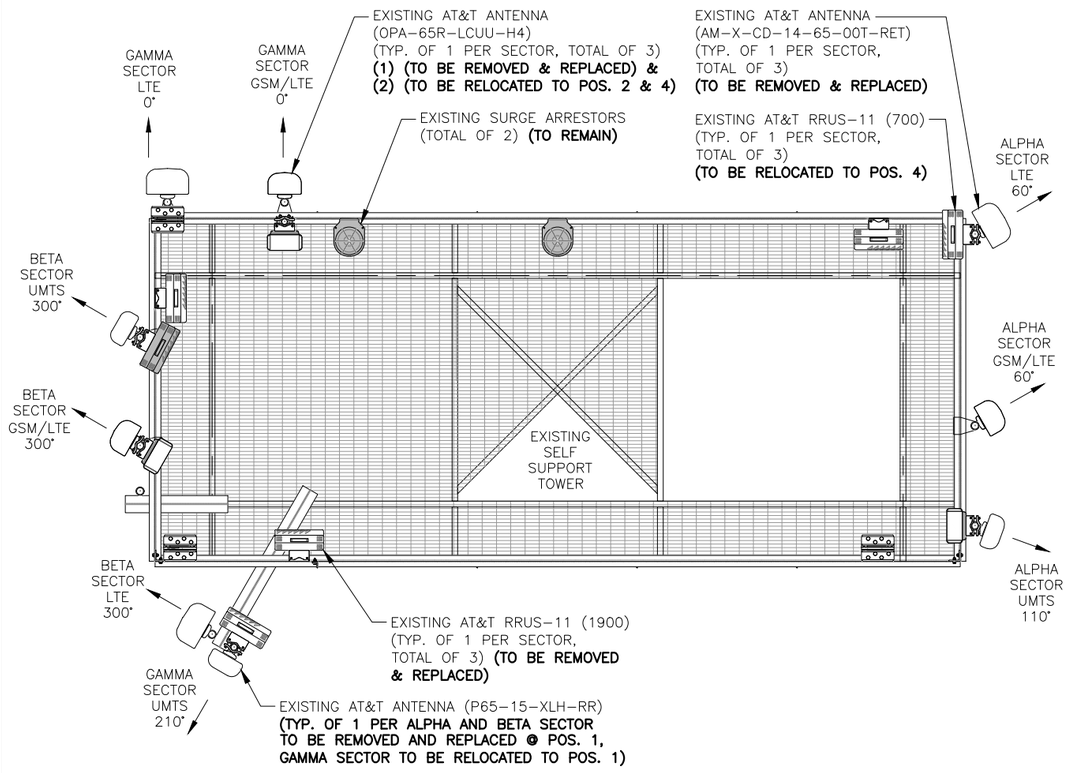
REFER TO **STRUCTURAL ANALYSIS** BY: MALOUF ENGINEERING INTL, INC, DATED: JULY 09, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

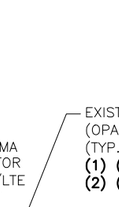
NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: MAY 30, 2019 (REV. 1)

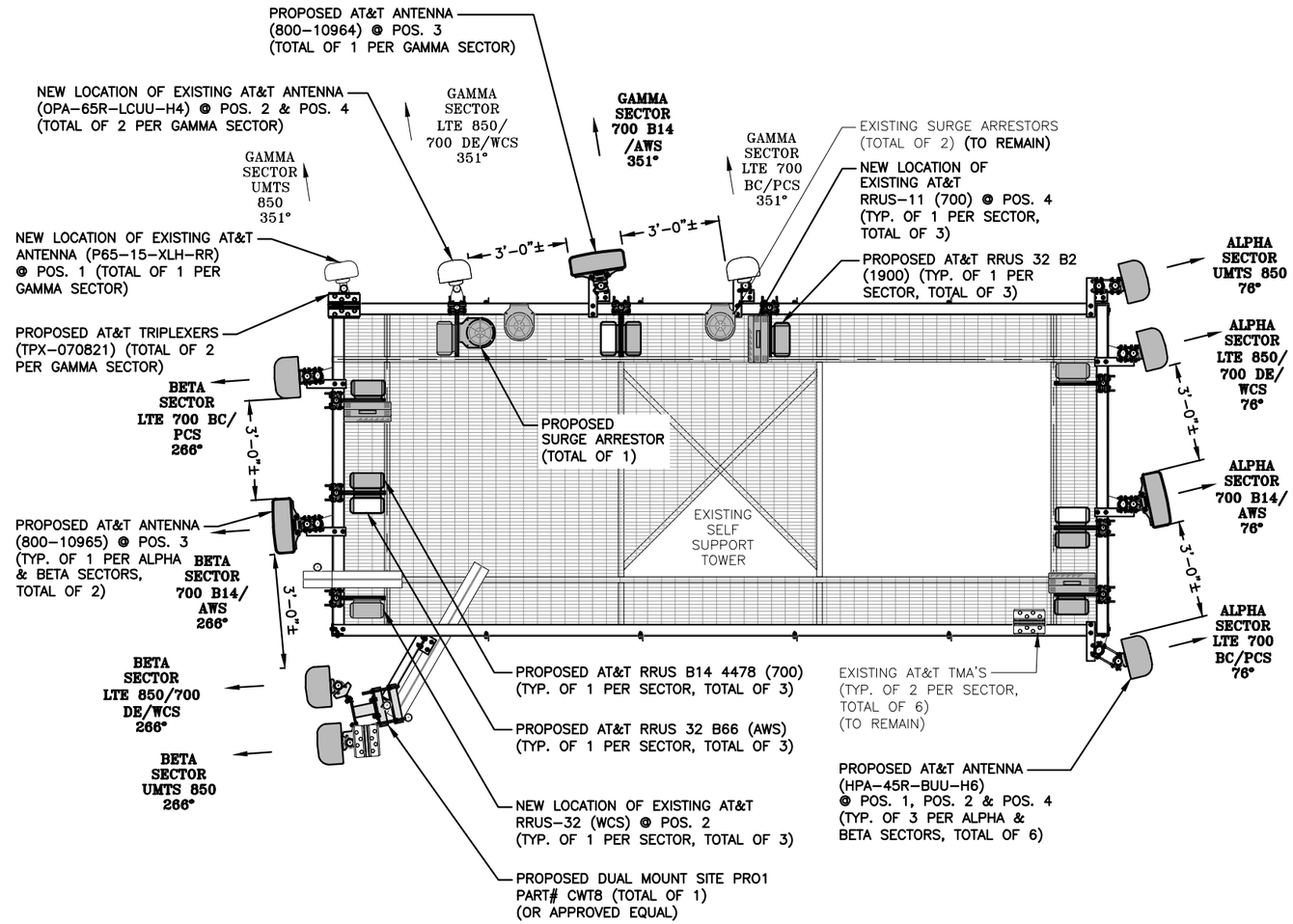
NOTE:

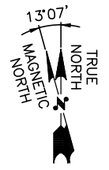
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.





EXISTING ANTENNA LAYOUT (1 / A-2)
SCALE: N.T.S





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

HDG 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: CT2118
SITE NAME: STAMFORD CENTRAL SBC CO

555 MAIN STREET
STAMFORD, CT 06901
FAIRFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
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A	05/15/19	ISSUED FOR REVIEW	AM	AT	DJC

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

STATE OF CONNECTICUT · DEREK J. CREASEY · No. 23551 · LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA LAYOUTS
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	A-2	2

NOTE:

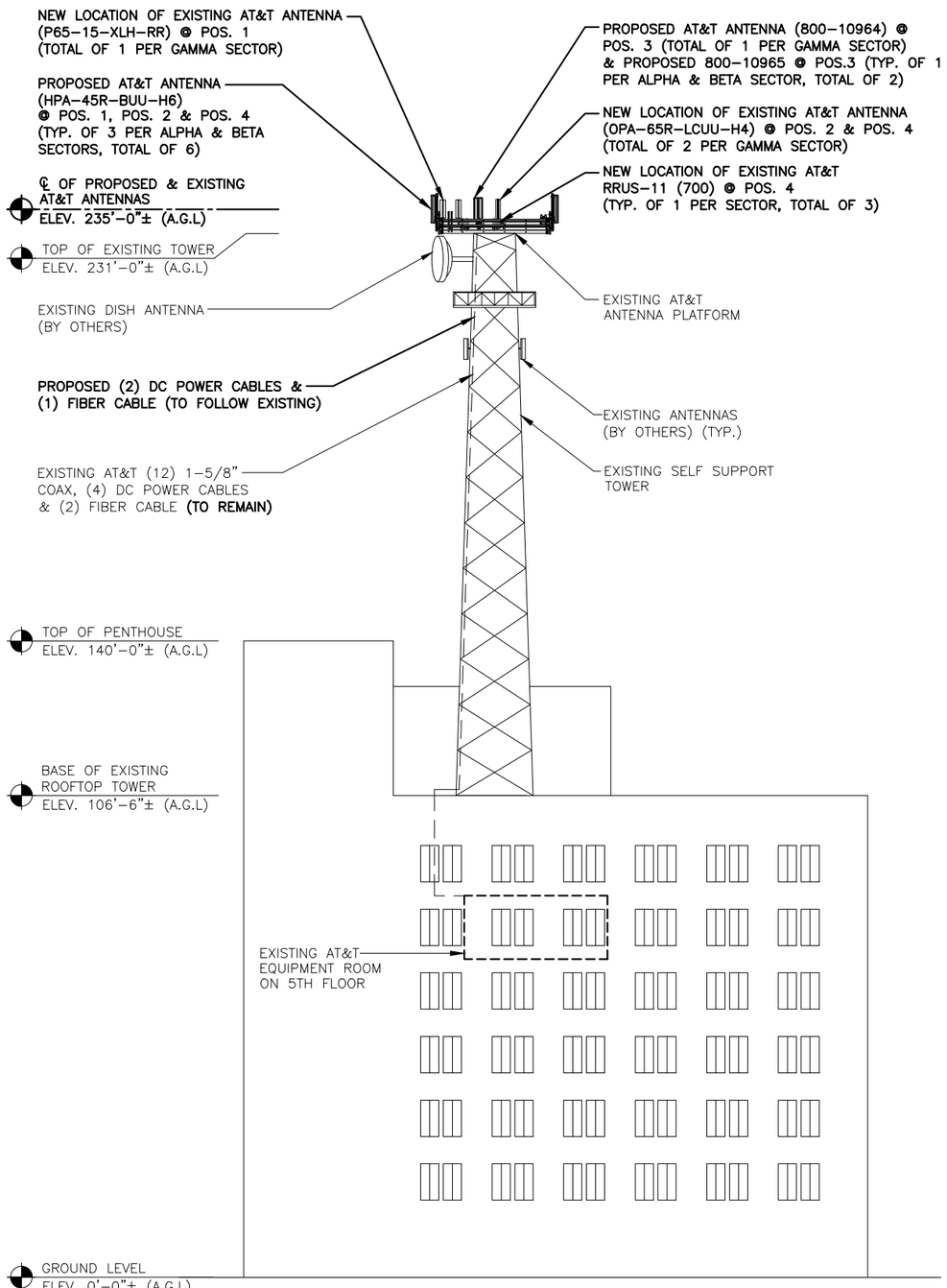
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

REFER TO **STRUCTURAL ANALYSIS** BY: MALOUF ENGINEERING INTL, INC, DATED: JULY 09, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: MAY 30, 2019 (REV. 1)



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

0 8'-0" 16'-0" 32'-0" 48'-0"

HUDSON Design Group LLC
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A	05/15/19	ISSUED FOR REVIEW	AM	AT	DJC

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

STATE OF CONNECTICUT · DEREK J. CREASEY · 18,235 · LICENSED PROFESSIONAL ENGINEER

AT&T

ELEVATION
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	A-3	2

NOTE:

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

NOTE:

REFER TO **STRUCTURAL ANALYSIS** BY: MALOUF ENGINEERING INTL, INC, DATED: JULY 09, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: MAY 30, 2019 (REV. 1)

ANTENNA SCHEDULE

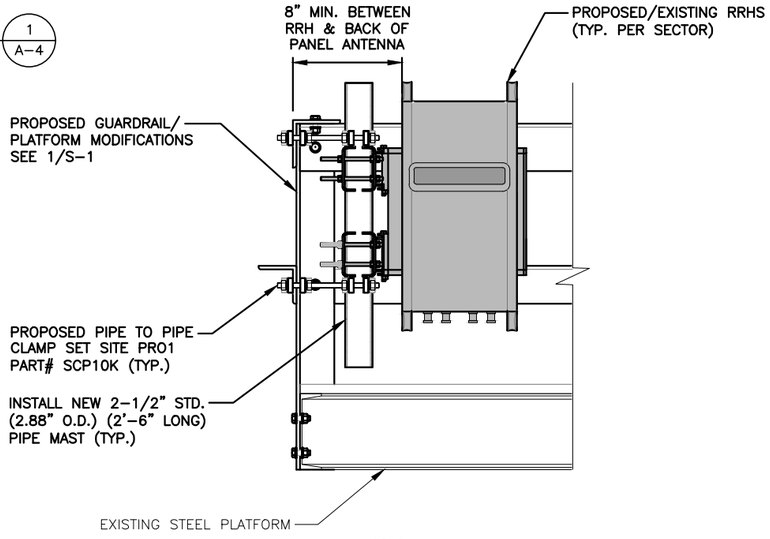
SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	**PROPOSED**	**UMTS 850**	**HPA-45R-BUU-H6**	**72.0X18.9X8.3**	**235'±**	**76°**	(E)(2)(G) POWERWAVE LGP13519 (E)(2) POWERWAVE LGP21401 **(P)(2)(G) TPX-070821**	–	–	(2) 1-5/8" COAX (LENGTH 285'±)	(E)(1) RAYCAP DC6-48-60-18-8C
A2	**PROPOSED**	**LTE 850/700DE/WCS**	**HPA-45R-BUU-H6**	**72.0X18.9X8.3**	**235'±**	**76°**	–	(E)(1) RRUS-32 (WCS) **(P)(1)(G) RRUS 11 (850)** **(P)(1)(G) RRUS E2 B29 (700)**	– **19.7X17.0X7.2** **20.4X18.5X7.5**	(2) 1-5/8" COAX (LENGTH 285'±)	
A3	**PROPOSED**	**700 B14/AWS**	**800-10965**	**78.7X20X6.9**	**235'±**	**76°**	–	**(P)(1) RRUS-32 B66 (AWS)** **(P)(1) B14 4478 (700)**	**20.4X18.5X7.5** **18.1X13.4X8.3**	–	
A4	**PROPOSED**	**LTE 700 BC/PCS**	**HPA-45R-BUU-H6**	**72.0X18.9X8.3**	**235'±**	**76°**	–	(E)(1) RRUS 11 (700) **(P)(1) RRUS-32 B2 (1900)**	– **27.2X12.1X7.0**	–	
B1	**PROPOSED**	**UMTS 850**	**HPA-45R-BUU-H6**	**72.0X18.9X8.3**	**235'±**	**266°**	(E)(2)(G) POWERWAVE LGP13519 (E)(2) POWERWAVE LGP21401 **(P)(2)(G) TPX-070821**	–	–	(2) 1-5/8" COAX (LENGTH 285'±)	(E)(1) RAYCAP DC6-48-60-18-8C
B2	**PROPOSED**	**LTE 850/700DE/WCS**	**HPA-45R-BUU-H6**	**72.0X18.9X8.3**	**235'±**	**266°**	–	(E)(1) RRUS-32 (WCS) **(P)(1)(G) RRUS 11 (850)** **(P)(1)(G) RRUS E2 B29 (700)**	– **19.7X17.0X7.2** **20.4X18.5X7.5**	(2) 1-5/8" COAX (LENGTH 285'±)	
B3	**PROPOSED**	**700 B14/AWS**	**800-10965**	**78.7X20X6.9**	**235'±**	**266°**	–	**(P)(1) RRUS-32 B66 (AWS)** **(P)(1) B14 4478 (700)**	**20.4X18.5X7.5** **18.1X13.4X8.3**	–	
B4	**PROPOSED**	**LTE 700 BC/PCS**	**HPA-45R-BUU-H6**	**72.0X18.9X8.3**	**235'±**	**266°**	–	(E)(1) RRUS 11 (700) **(P)(1) RRUS-32 B2 (1900)**	– **27.2X12.1X7.0**	–	
C1	EXISTING	UMTS 850	P65-15-XLH-RR	51X12X6	235'±	351°	(E)(2)(G) POWERWAVE LGP13519 (E)(2) POWERWAVE LGP21401 **(P)(2) TPX-070821** **(P)(2)(G) TPX-070821**	–	–	(2) 1-5/8" COAX (LENGTH 285'±)	**(P)(1) RAYCAP DC6-48-60-18-8C**
C2	EXISTING	LTE 850/700DE/WCS	OPA-65R-LCUU-H4	48X14.4X7.3	235'±	351°	–	(E)(1) RRUS-32 (WCS) **(P)(1)(G) RRUS 11 (850)** **(P)(1)(G) RRUS E2 B29 (700)**	– **19.7X17.0X7.2** **20.4X18.5X7.5**	(2) 1-5/8" COAX (LENGTH 285'±)	
C3	**PROPOSED**	**700 B14/AWS**	**800-10964**	**59X20X6.9**	**235'±**	**351°**	–	**(P)(1) RRUS-32 B66 (AWS)** **(P)(1) B14 4478 (700)**	**20.4X18.5X7.5** **18.1X13.4X8.3**	–	
C4	EXISTING	LTE 700 BC/PCS	OPA-65R-LCUU-H4	48X14.4X7.3	235'±	351°	–	(E)(1) RRUS 11 (700) **(P)(1) RRUS-32 B2 (1900)**	– **27.2X12.1X7.0**	–	

RRU CHART

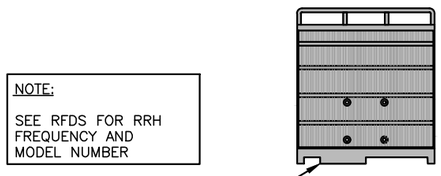
QUANTITY	MODEL	L	W	D
3(P)(G)	RRUS E2 B29 (700)	20.4"	18.5"	7.5"
3(P)(G)	RRUS 11 (850)	19.7"	17.0"	7.2"
3(E)	RRUS 11 (700)	19.7"	17.0"	7.2"
3(E)	RRUS 32 (WCS)	27.2"	12.1"	7.0"
3(P)	B14 4478 (700)	18.1"	13.4"	8.3"
3(P)	RRUS 32 B66 (AWS)	27.2"	12.1"	7.0"
3(P)	RRUS 32 B2 (1900)	27.2"	12.1"	7.0"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

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



PROPOSED RRH MOUNTING DETAIL (5 / A-4)
SCALE: N.T.S

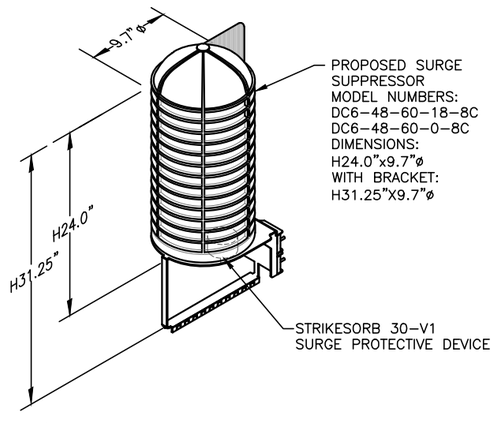


NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

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

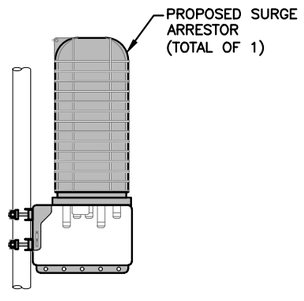
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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



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

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
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SITE NUMBER: CT2118
SITE NAME: STAMFORD CENTRAL SBC CO

555 MAIN STREET
STAMFORD, CT 06901
FAIRFIELD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: AM

AT&T

DETAILS
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	A-4	2

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G 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:	

NOTES:

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

NOTES:

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

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: CT2118
SITE NAME: STAMFORD CENTRAL SBC CO

555 MAIN STREET
STAMFORD, CT 06901
FAIRFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: AM

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STRUCTURAL NOTES
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	SN-1	2

NOTE:

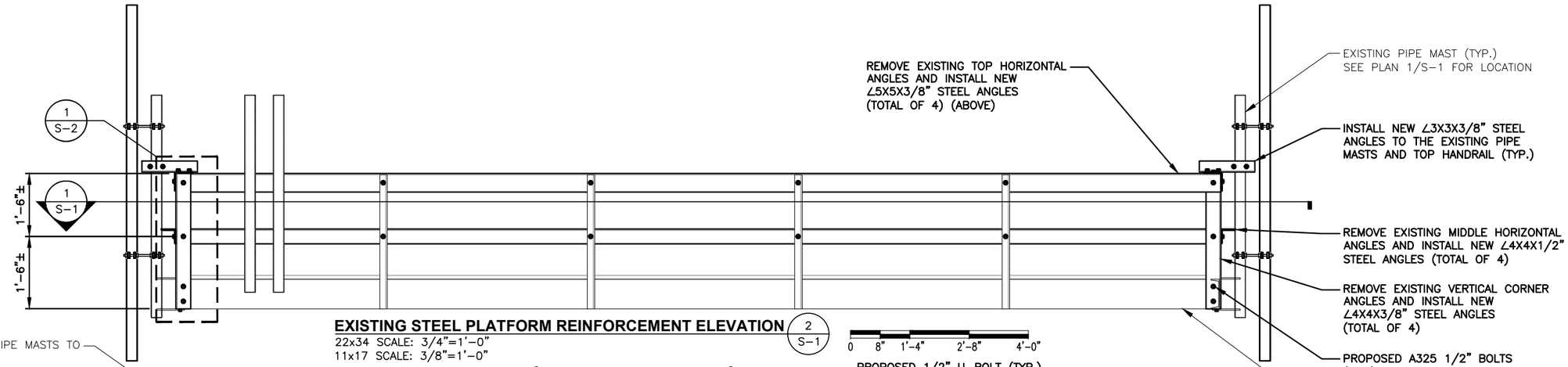
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

REFER TO **STRUCTURAL ANALYSIS** BY: MALOUF ENGINEERING INTL, INC, DATED: JULY 09, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: MAY 30, 2019 (REV. 1)

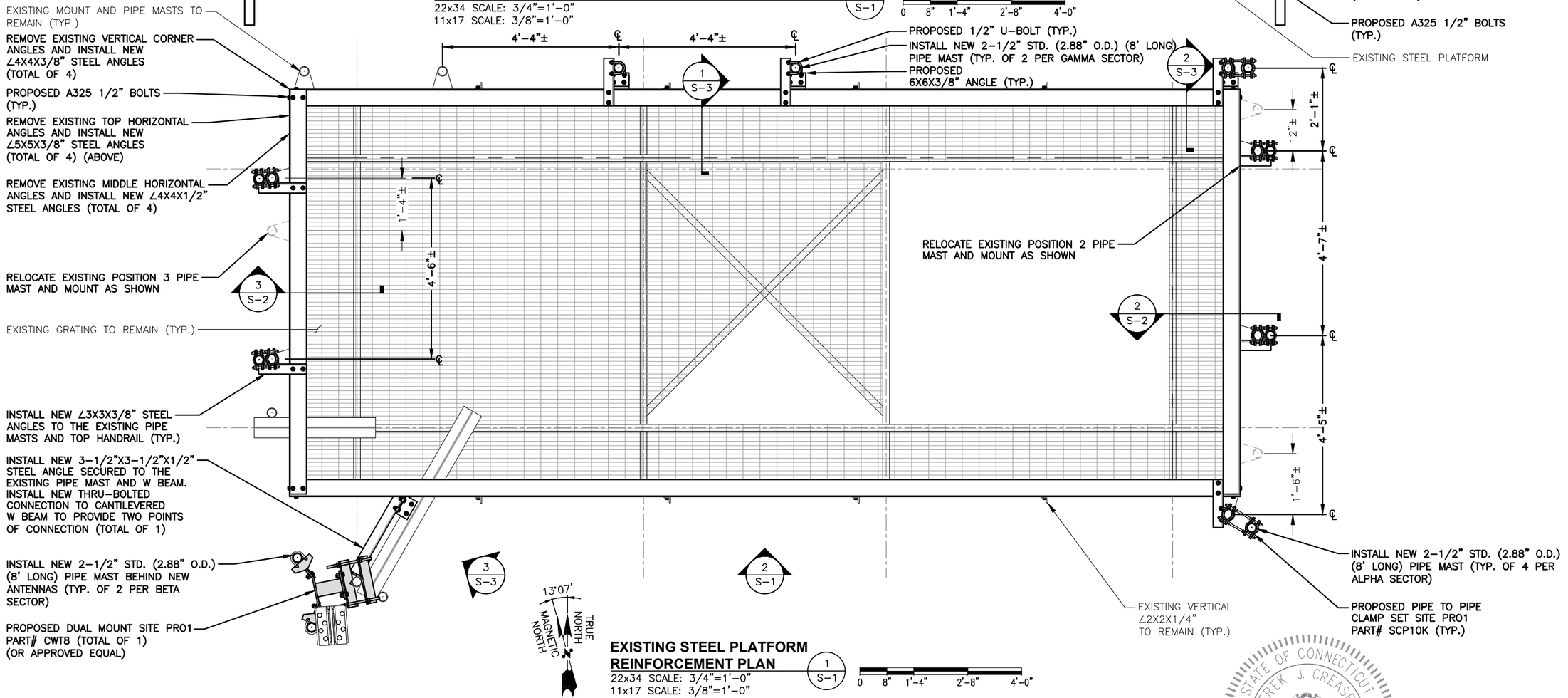


EXISTING STEEL PLATFORM REINFORCEMENT ELEVATION

2 S-1

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

0 8" 1'-4" 2'-8" 4'-0"



EXISTING STEEL PLATFORM REINFORCEMENT PLAN

1 S-1

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

0 8" 1'-4" 2'-8" 4'-0"

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

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STRUCTURAL DETAILS
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	S-1	2

NOTE:

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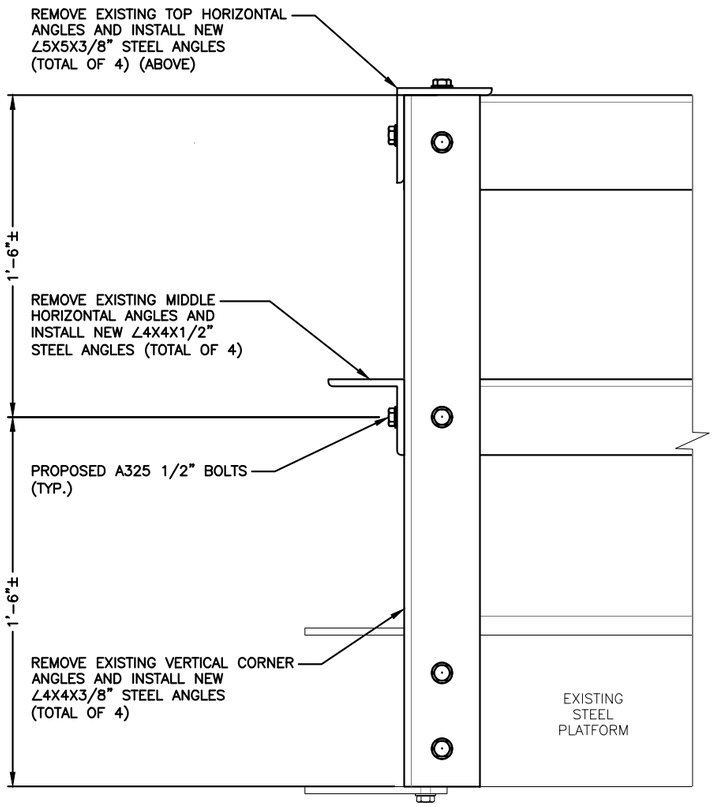

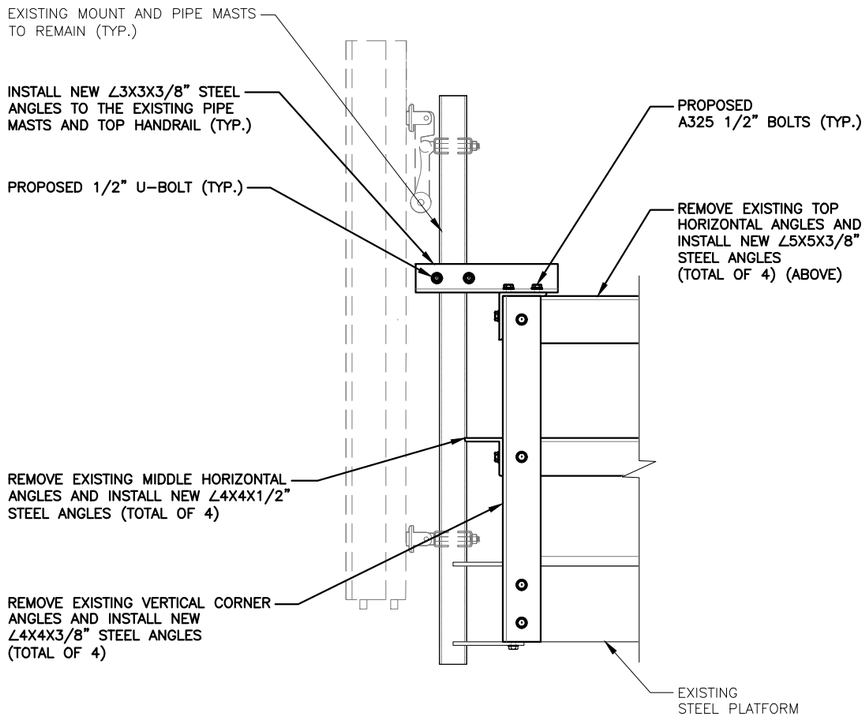

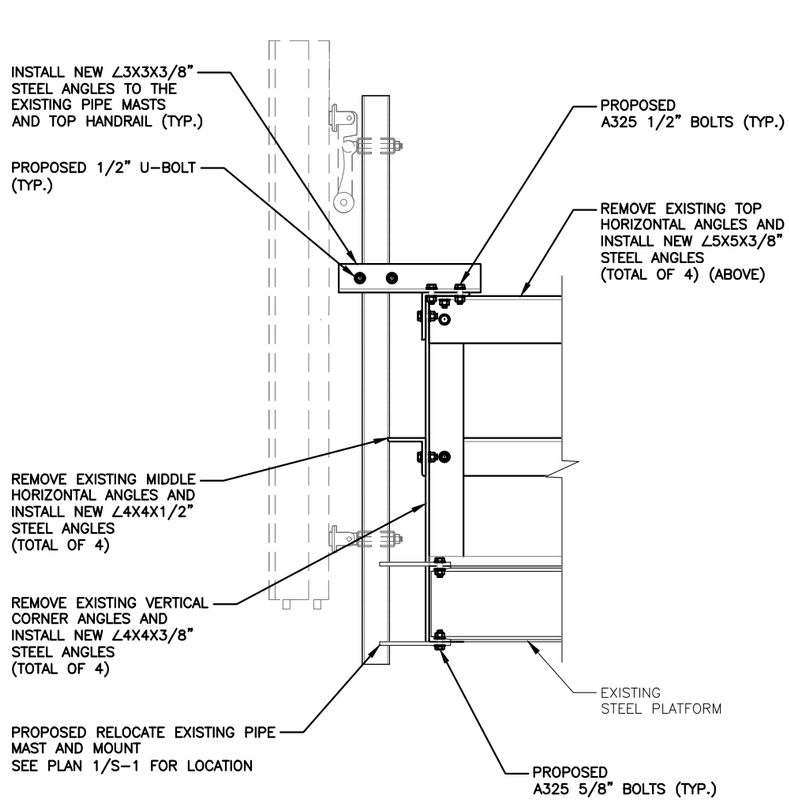

PRPOPOSED GUARDRAIL REINFORCEMENT DETAIL (1 / S-2)
22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"
0 0'-2" 0'-4" 0'-8" 1'-0"

PRPOPOSED ANTENNA MAST REINFORCEMENT DETAIL (2 / S-2)
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"
0 0'-4" 0'-8" 1'-4" 2'-0"

PROPOSED RELOCATED ANTENNA MAST REINFORCEMENT DETAIL (3 / S-2)
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"
0 0'-4" 0'-8" 1'-4" 2'-0"

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

12 INDUSTRIAL WAY
SALEM, NH 03079

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

SITE NUMBER: CT2118
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555 MAIN STREET
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: AM

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AT&T

STRUCTURAL DETAILS
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	S-2	2

NOTE:

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NOTE:

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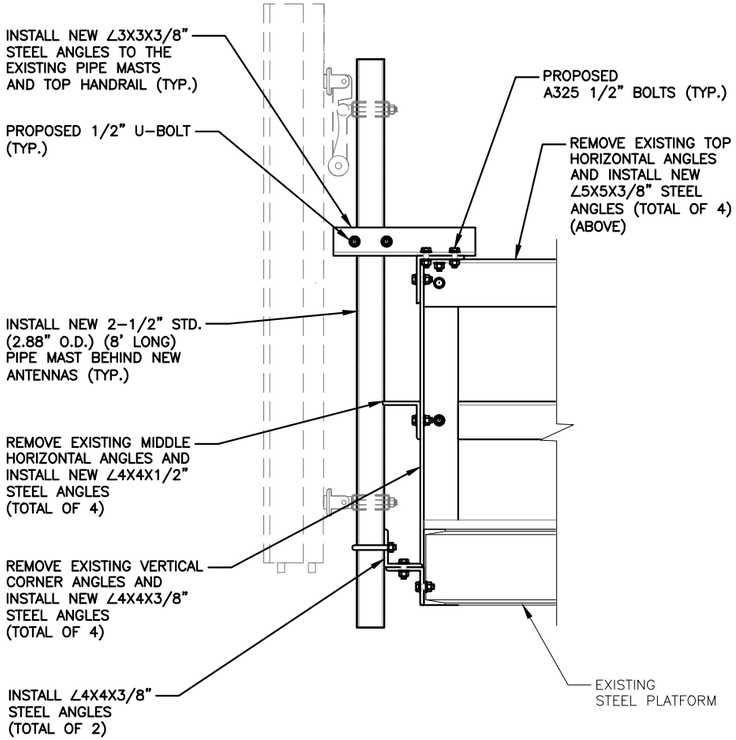
NOTE:

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

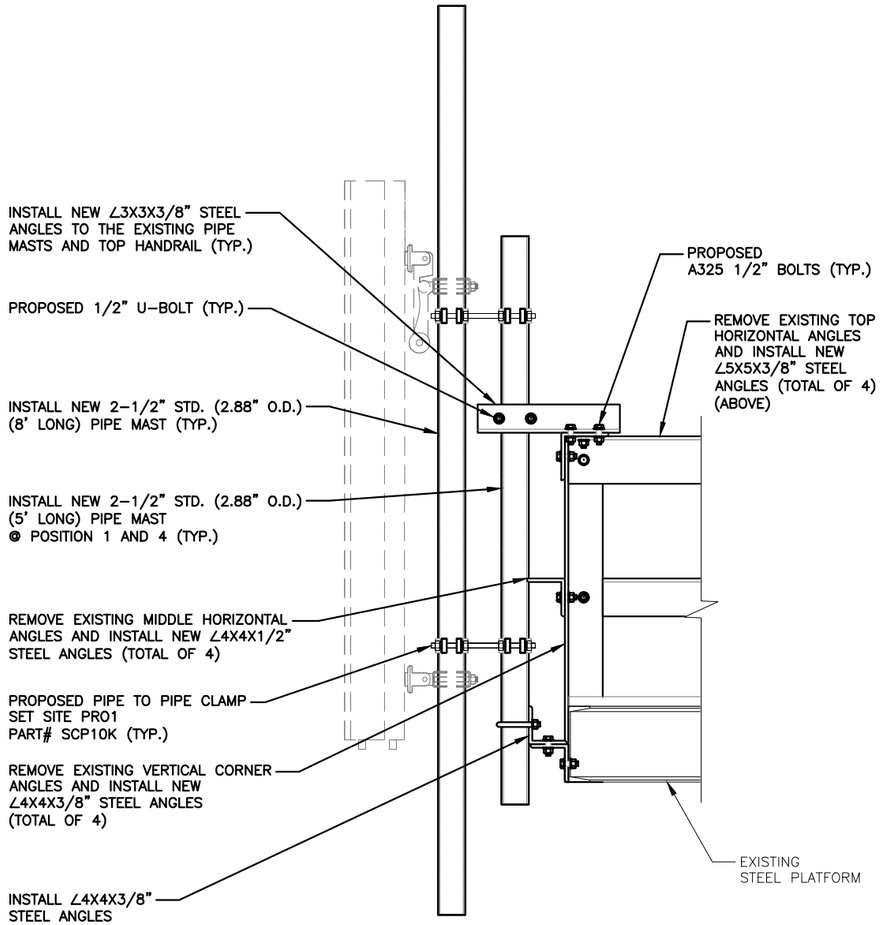


PROPOSED ANTENNA MOUNT DETAIL

1 S-3

22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"

0 0'-4" 0'-8" 1'-4" 2'-0"

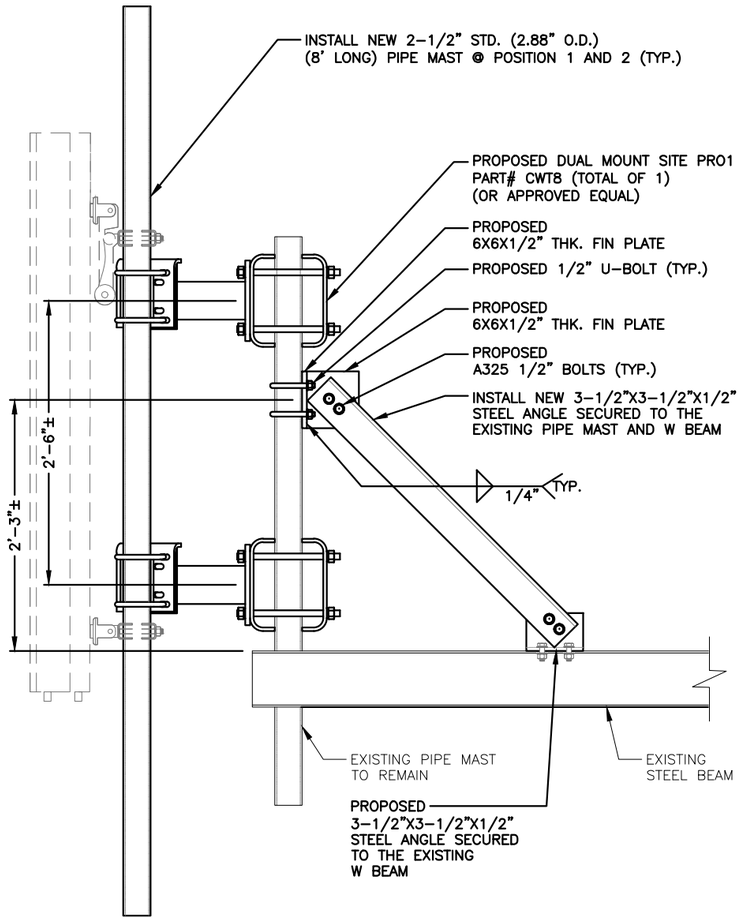


PROPOSED ANTENNA MOUNT DETAIL (ALPHA SECTOR)

2 S-3

22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"

0 0'-4" 0'-8" 1'-4" 2'-0"



PROPOSED ANTENNA MOUNT DETAIL (BETA SECTOR)

3 S-3

22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"

0 0'-4" 0'-8" 1'-4" 2'-0"

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45 BEECHWOOD DRIVE
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SITE NUMBER: CT2118
SITE NAME: STAMFORD CENTRAL SBC CO

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at&t
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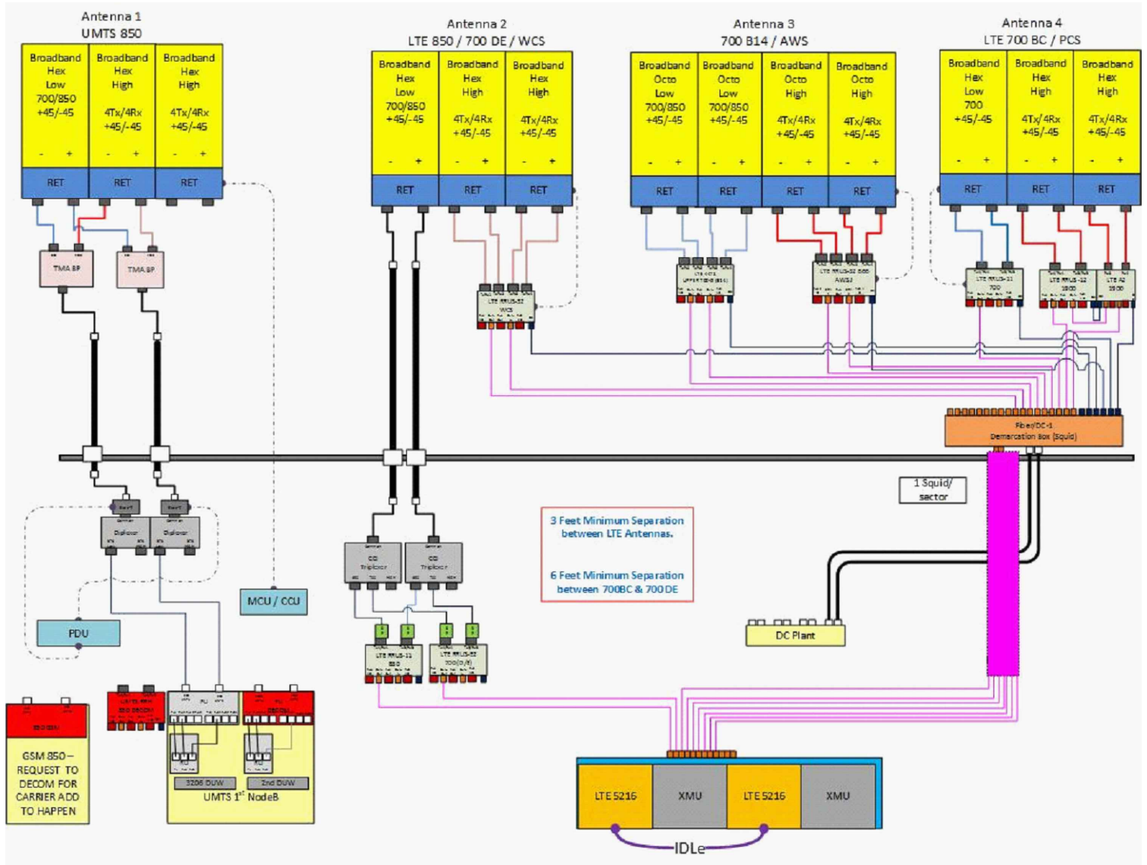
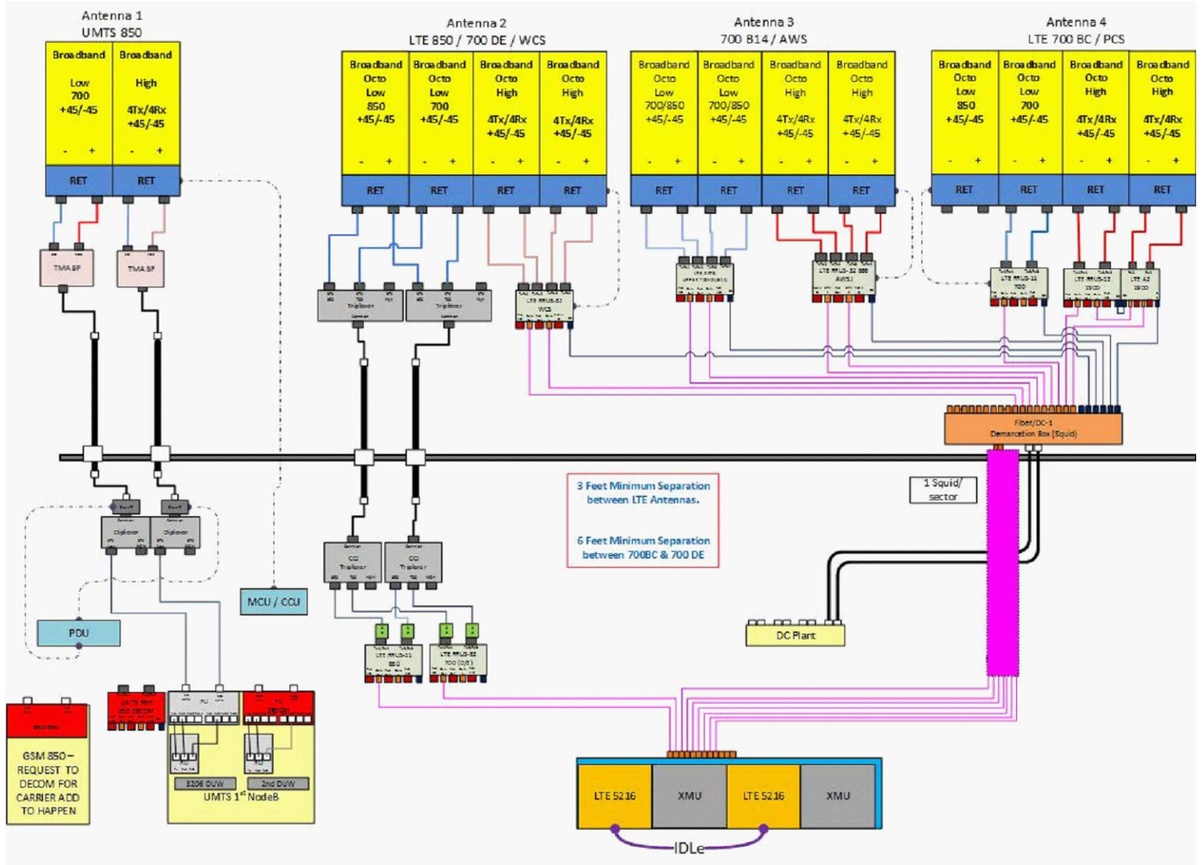
STRUCTURAL DETAILS
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	S-3	2

ALPHA & BETA SECTORS



GAMMA SECTOR



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

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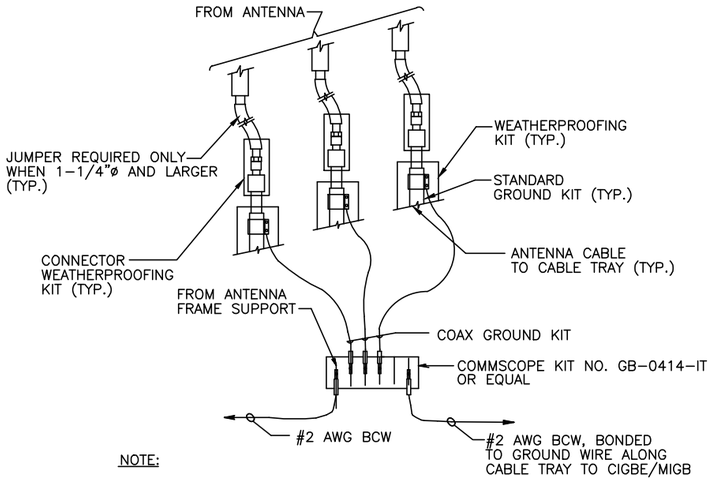
RF PLUMBING DIAGRAM
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	RF–1	2



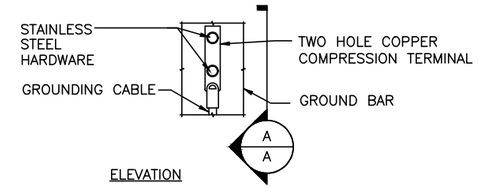
NOTE:

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



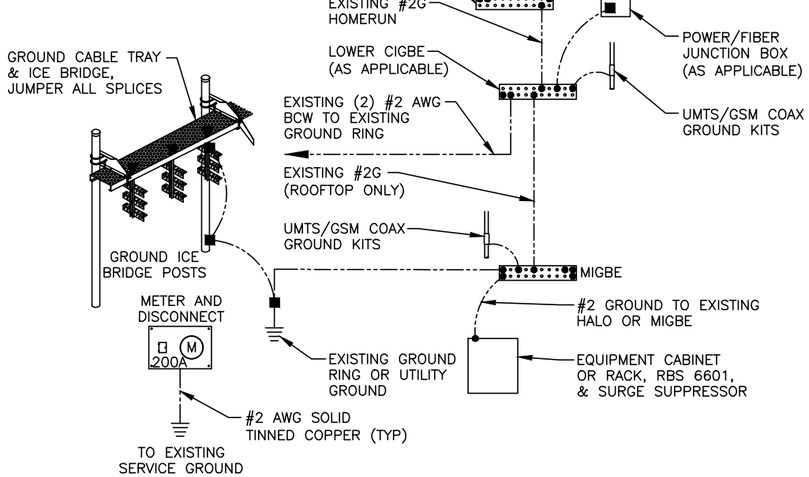
NOTE:

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



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G-1

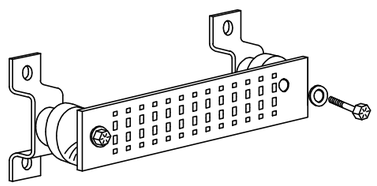
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL

SCALE: N.T.S

4 / G-1

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
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AT&T

GROUNDING DETAILS
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	G-1	2

Structural Analysis Report

AT&T

AT&T - Stamford Central SBC CO Site #CT2118 / FA 10034983

Owner: Everest Infrastructure - Stamford #1 Co Site

Stamford, Connecticut

July 09, 2019

MEI PROJECT ID: CT02768S-19V0

MALOUF ENGINEERING INTL., INC.

STRUCTURAL CONSULTANTS

17950 PRESTON ROAD, SUITE 720 ▪ DALLAS, TEXAS 75252 ▪ TEL. 972-783-2578 FAX 972-783-2583

www.maloufengineering.com

TIA ACEC

MALOUF ENGINEERING INTL., INC.

STRUCTURAL CONSULTANTS

July 09, 2019

Ms. Mary Caulfield
SAI – Site Acquisitions, LLC
Salem, NH 03079

STRUCTURAL ANALYSIS

Structure/Make/Model:	125 ft **Self-Supporting Tower** (onto 106.5ft Rooftop)		Not Known / Not Known	
Client/Site Name/#:	**SAI – Site Acquisitions, LLC | AT&T**		**Stamford Central SBC CO #CT2118 / FA 10034983**	
Owner/Site Name/#:	Everest Infrastructure		Stamford #1 Co	
MEI Project ID:	**CT02768S-19V0**			
Location:	555 Main Street Stamford, Connecticut 06901		Fairfield County FCC #1046319	
	LAT	41-03-12.74 N	LON	73-32-8.09 W

EXECUTIVE SUMMARY:

Malouf Engineering Int'l (MEI), as requested, has performed a structural analysis of the above-mentioned structure to assess the impact of the changed condition as noted in Table 1.

Based on the stress analysis performed, the existing structure **is in conformance** with the Int'l Building Code (IBC) / ANSI/TIA-**222-G** Standard for the loading considered under the criteria listed and referenced in the report sections – tower rated at 72.3% - Legs.

The installation of the proposed changed condition as noted in Table 1 is structurally acceptable. Please refer to Appendix 1 for Schematic Lines Layout.

MEI appreciates the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or other projects, please contact us.

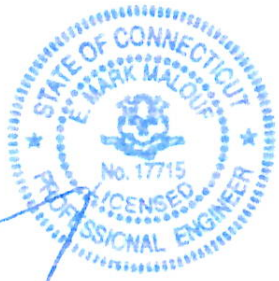
Respectfully submitted,

MALOUF ENGINEERING INT'L, INC.

Analysis performed by:

Helder Lopez, PE
Sr. Project Engineer

Reviewed & Approved by:



E. Mark Malouf, PE
Connecticut #17715
972-783-2578 ext. 106
mmalouf@maloufengineering.com

7/9/2019

TABLE OF CONTENTS

1. INTRODUCTION & SCOPE

A structural analysis was performed by Malouf Engineering Int'l (MEI), as requested and authorized by Ms. Mary Caulfield, SAI, on behalf of AT&T, to determine the acceptance of the proposed changed conditions in conformance with the IBC / ANSI/TIA-222-G Standard, "*Structural Standard for Antenna Supporting Structures and Antennas*".

The scope of this independent analysis is to determine the overall stability and the adequacy of structural members, foundations, and member connections, as available and stated. This analysis considers the structure to have been properly installed and maintained with no structural defects. Installation procedures and related loading are not within the scope of this analysis and should be performed and evaluated by a competent person of the erection contractor.

The different report sections detail the applicable information used in this evaluation, relating to the tower data, the appurtenances configuration and the wind and ice loading considered.

2. SOURCE OF DATA

The following information has been used in this evaluation as source data that accurately represent the existing structure and the related appurtenances:

	Source	Information	Reference
STRUCTURE			
Tower	MEI Records	Previous Structural Analysis	ID CT02768S-18V0 Dated 07/09/2018
Foundation	Tower is on a building rooftop – building members to be reviewed by others.		
Material Grade	Not available from supplied documents-Assumed based on typical towers of this type-refer to Appendix		
CURRENT APPURTENANCES			
	MEI Records	Previous Structural Analysis	ID CT02768S-18V0 Dated 07/09/2018
	SAI | Ms. Mary Caulfield	Email Instructions & AT&T RFDS	Dated 06/25/2019 | Dated 05/14/2019
CHANGED CONDITION			
	SAI | Ms. Mary Caulfield	Email Instructions & AT&T RFDS	Dated 06/25/2019 | Dated 05/14/2019

Background Information:

Based on available information, the following is known regarding this structure:

DESIGNER / FABRICATOR	Not Known / Not Known
ORIGINAL DESIGN CRITERIA	TIA/EIA 222-Unknown
PRIOR STRUCTURAL MODIFICATIONS	Mods as per MEI CT02768S-11V1; CT02768S-15V2 dated 06/24/2015 – considered properly installed.

3. ANALYSIS CRITERIA

The structural analysis performed used the following criteria:

CODE / STANDARD LOADING CASES	2018 CT St Bldg. Code / 2015 Int'l Building Code / ANSI/TIA-222-G Standard	
	Full Wind:	120 Mph ultimate gust [equiv. 93 Mph (3-sec gust)] w/No Radial Ice**
	Iced Case:	50 Mph + 3/4" Radial Ice
	Service:	60 Mph
	Seismic:	S_s = 0.249 / S_1 = 0.069 / Site Class: D – Stiff Soil
STRUCTURE CRITERIA	*Risk Category (Structural Class):* 2	
	Exposure Category: **'B'** – *Topographic Category:* 1	

Appurtenances Configuration

The following appurtenances configuration is denoted by the *summation of Tables 1 & 2*:

Table 1: Tenant with Changed Condition Appurtenances Configuration ^

Elev (ft)	Tenant	Ants Qty	Appurtenance Model / Description	Mount Description	Lines Qty	Line size & Location
235	AT&T	6	HPA-45R-BUU-H6 Panel Antennas	[Existing Top Platform + New Reinforcement]	1	0.625" Fiber Trunk Cable
		1	800-10964 Panel Antenna			
		2	800-10965 Panel Antennas		2	0.75" DC Power Trunk Cables
		3	RRUS-32 B66 Boxes			
		3	RRUS-4478 B14 Boxes			
		3	RRUS-32 B2 Boxes			
		1	DC6-48-60-18-8C Supressor Box			
		2	TPX-070821 Triplexers			
Appurtenances to Remain						
235	AT&T	1	P65-15-XLH-RR Panel Antenna	Top Rectangular Platform Mount **w/ New Reinforcement**	12	1-5/8"
		2	OPA-65R-LCUU-H4 Panel Antennas			
		3	RRUS-11 Boxes		2	0.625" Fiber Cable -(FZ)
		3	RRUS-32 Boxes			
		6	LCP21401 TMA'S			
232		2	DC6-48-60-18-8F DC Supressor Boxes		4	0.75" DC Power Trunk Cable

Table 2: Remaining Tenants Current and Reserved/Future Appurtenances

Elev (ft)	Tenant	Ants Qty	Appurtenance Model / Description	Mount Description	Lines Qty	Line size & Location
245.17		2	Top Small Beacons	13' T Beam Mount	1	1 1/4" R.C.-(FZ)
244.5		1	Top Lightning Rod			
231.5				Unused I-Beam Mount		
229	Frontier	1	1.5'x2-Element Yagi Antenna	[Onto Platform]	1	1/2"-(FZ)
223.5	Frontier	1	10ft Dia. HP Dish (Az. 210°±)	Dish Pipe Mount-DA Face	2	EW90-(FZ)
221.5	(Unused)				2	3/8"-(FZ)
221	Frontier	1	1ft Dia. HP Dish (Windstar 43029) (Az. 210°±)	Dish Pipe Mount-BC Face	1	3/8"-(FZ)
216.5				(2) 4'Lx6'W Rest Platforms		

Table 2: Remaining Tenants Current and Reserved/Future Appurtenances - Continued

Elev (ft)	Tenant	Ants Qty	Appurtenance Model / Description	Mount Description	Lines Qty	Line size & Location
210	T-Mobile	3	AIR21 B2A B4P Panel Antennas	(3) Sector Frame Mounts	29	1 5/8"
		3	AIR-32 B4A/B2P Panel Antennas		1	1 5/8 Hybrid
		3	KRY 112 71/2 TMA's		1	Fiber Cable
		3	RRUS-11 B12 Boxes			1 1/4 Hybrid
		3	RRUS-32 B2 Boxes			Fiber Cable-(FZ)
203		3	LNX-6515DS-VTM Panel Antennas	(3) Sector Frame Mounts		
132	Frontier	1	4'x7-Element Yagi Antenna	2ft Sidearm Mount	1	1/2"-(FZ)

Notes:

1. ^ *Existing AT&T appurtenances not listed above are considered to be removed.*
2. ***Tower Base elevation is at 106.5ft Above Ground Level - All above elevations are measured from AGL.***
3. **As per 2012 IBC for ultimate 3-sec gust wind speed converted to nominal 3-sec gust wind speed as per Sect. 1609.3.1 as required to be used in ANSI/TIA-222-G Standard per exception 5 of Sect. 1609.1.1.
4. Please note appurtenances not listed above are to be removed/not present as per data supplied.
5. (I) = Internal; (E) = External; (FZ) = Within Face Zone; (OFZ) = Outside Face Zone - as per TIA-222-G.
6. The above appurtenances represent MEI's understanding of the appurtenances configuration. If different than above, the analysis is invalid. Please contact MEI if any discrepancies are found.

4. ANALYSIS PROCEDURE

The subject structure is analyzed for feasibility of the installation of the proposed changed condition previously noted. The data records furnished were reviewed and a computer stress analysis was performed in accordance with the TIA-222 Standard provisions and with the agreed scope of work terms and the results of this analysis are reported.

Analysis Program

The computer program used to model the structure is a rigorous Finite Element Analysis program, tnxTower (ver. 8.05), a commercially available program by Tower Numerics Inc. The latticed structures members are modeled using beam/truss and cable members and the pole members using tubular beam elements. The structural parameters and geometry of the members are included in the model. The dead and temperature loads and the wind loads are internally calculated by the program for the different wind directions and then applied as external loads on the structure. Any applicable exemptions, as per Section 15.6 of the TIA-222-G Standard for existing structures originally designed in accordance with a previous revision of the TIA-222 Standard, have been taken.

Assumptions

This engineering study is based on the theoretical capacity of the members and is not a condition assessment of the structure. This analysis is based on information supplied, and therefore, its results are based on and as accurate as that supplied data. MEI has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural stress analysis:

- This existing tower is assumed, for the purpose of this analysis, to have been properly maintained and to be in good condition with no structural defects and with no deterioration to its member capacities ('as-new' condition).
- The tower member sizes and configuration are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated.
- The appurtenances configuration is as supplied and/or as stated in the report. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
- Some assumptions are made regarding antennas and mounts sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type & industry practice.
- Mounts/Platforms are considered adequate to support the loading. No actual analysis of the platform/mount itself is performed, with the analysis being limited to analyzing the structure.
- All welds and connections are assumed to develop at least the member capacity, unless determined otherwise and explicitly stated in this report.
- All prior structural modifications, if any, are assumed to be as per data supplied/available, and to have been properly installed and to be fully effective.

If any of the above assumptions are not valid or have been made in error, this analysis results may be invalided, MEI should be contacted to review any contradictory information to determine its effect.

5. ANALYSIS RESULTS

The results of the structural stress analysis based on data available and with the previous listed criteria, indicated the following:

Note: The Wind loading controls over the Seismic loading as per TIA Section 2.7.

Table 3: Stress Analysis Results

Component Type	Maximum Stress Ratio	Controlling Elev. (ft) / Component *	Pass/Fail	Comment
LEGS	**72.3%**	**131.5 - 119**	**Pass**	
DIAGONALS	70.9%	151.5 - 141.5	Pass	
HORIZONTALS	24.4%	141.5 - 131.5	**Pass**	
GIRTS	36.8%	161.5 - 151.5	**Pass**	
BRACING	52.9%	131.5 - 119	**Pass**	
INNER BRACING	3.8%	151.5 - 141.5	**Pass**	
BASE SUPPORT	N/A	-	-	Tower is on top of building. Scope is limited to tower. Building members to be reviewed by others. Refer to Appendix 1 for reactions

Table 4: Serviceability Requirements

	Maximum Value	TIA Requirement (10dB)	Pass/Fail	Comment
TWIST/SWAY	0.1226 Deg.	4.425 Deg.	**Pass**	1ft HP Dish (Windstar 43029) Elev. 221.00ft
	0.1243 Deg.	0.2957 Deg.	**Pass**	10ft HP Dish Elev. 223.50ft
	0.1274 Deg.	4 Deg. from Vert. or Horiz. Axis	**Pass**	
HORIZONTAL DISPLACEMENT	1.881 In./ 6.81% of Ht.	3.0% of Height	**Pass**	

Notes:
1. ** Elevation above is from rooftop level – add 106.5ft to get AGL elevation.
2. The Maximum Stress Ratio is the percentage that the maximum load in the member is relative to the allowable load as determined by Code requirements.
3. Refer to the Appendix 1 for more details on the member loads.
4. A maximum stress ratio between 100% and 105% may be considered as *Acceptable* according to industry standard practice.

6. FINDINGS & RECOMMENDATIONS

- Based on the stress analysis results, the subject structure is **rated at 72.3%** of its support capacity (controlling component: Legs) with the proposed changed condition considered. Please refer to Table 3 and to Appendix 1 for more details of the analysis results.
- Based on the stress analysis performed, the existing structure **is in conformance** with the IBC / ANSI/TIA **222-G** Standard for the loading considered under the criteria listed and referenced in the report sections.
- Please note that the tower is mounted on top of a building rooftop. Building rooftop is to be evaluated by others to determine its adequacy for the new base loads (not within scope). Refer to Appendix for tower base reactions.
- ***The installation of the proposed changed condition as noted in Table 1 is structurally acceptable***. Please refer to Appendix 1 for Schematic Lines Layout.
- This superstructure (above tower base) has additional support capacity for the appurtenances and loading criteria considered. However, no changes to the configuration considered should be made without performing a new proper evaluation.

Rigging and temporary supports required for the erection/modification shall be determined, documented, furnished and installed by the erector/contractor accounting for the loads imposed on the structure due to the proposed construction method.

7. REPORT DISCLAIMER

The engineering services rendered by **M**alouf **E**ngineering **I**nternational, Inc. *('MEI') in connection with this Structural Analysis are limited to a computer analysis of the tower structure, size and capacity of its members. MEI does not analyze the fabrication, including welding and connection capacities, except as included in this Report.*

The analysis performed and the conclusions contained herein are based on the assumption that the tower has been properly installed and maintained, including, but not limited to the following:

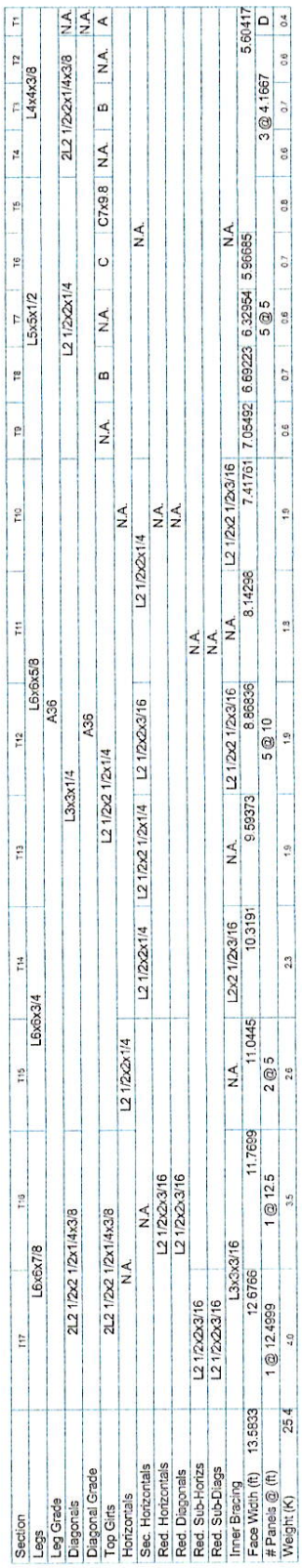
1. Proper alignment and plumbness.
2. Correct guy tensions, as applicable.
3. Correct bolt tightness or slip jacking of sleeved connections.
4. No significant deterioration or damage to any structural component.

Furthermore, the information and conclusions contained in this Report were determined by application of the current "state-of-the-art" engineering and analysis procedures and formulae. MALOUF ENGINEERING INTERNATIONAL, INC. assumes no obligation to revise any of the information or conclusions contained in this Report in the event that such engineering and analysis procedures and formulae are hereafter modified or revised. In addition, under no circumstances will MALOUF ENGINEERING INTERNATIONAL, INC. have any obligation or responsibility whatsoever for or on account of consequential or incidental damages sustained by any person, firm or organization as a result of any information or conclusions contained in the Report, and the maximum liability of MALOUF ENGINEERING INTERNATIONAL, INC., if any, pursuant to this Report shall be limited to the total funds actually received by MALOUF ENGINEERING INTERNATIONAL, INC. for preparation of this Report.

Customer has requested MALOUF ENGINEERING INTERNATIONAL, INC. to prepare and submit to Customer an engineering analysis with respect to the Subject Tower and has further requested MALOUF ENGINEERING INTERNATIONAL, INC. to make appropriate recommendations regarding suggested structural modifications and changes to the Subject Tower. In making such request of MALOUF ENGINEERING INTERNATIONAL, INC., Customer has informed MALOUF ENGINEERING INTERNATIONAL, INC. that Customer will make a determination as to whether or not to implement any of the changes or modifications which may be suggested by MALOUF ENGINEERING INTERNATIONAL, INC. and that Customer will have any such changes or modifications made by riggers, erectors and other subcontractors of Customer's choice. MALOUF ENGINEERING INTERNATIONAL, INC. shall have the right to rely upon the accuracy of the information supplied by the customer and shall not be held responsible for the Customer's misrepresentation or omission of relevant fact whether intentional or otherwise.

Customer hereby agrees and acknowledges that MALOUF ENGINEERING INTERNATIONAL, INC. shall have no liability whatsoever to Customer or to others for any work or services performed by any persons other than MALOUF ENGINEERING INTERNATIONAL, INC. in connection with the implementation of services including but not limited to any services rendered for Customer or for others by riggers, erectors or other subcontractors. Customer acknowledges and agrees that any riggers, erectors or subcontractors retained or employed by Customer shall be solely responsible to Customer and to others for the quality of work performed by them and that MALOUF ENGINEERING INTERNATIONAL, INC. shall have no liability or responsibility whatsoever as a result of any negligence or breach of contract by any such rigger, erector or subcontractor and that Customer and rigger, erector, or subcontractor will provide MALOUF ENGINEERING INTERNATIONAL, INC. with a Certificate of Insurance naming MALOUF ENGINEERING INTERNATIONAL, INC. as additional insured.

APPENDIX 1 - ANALYSIS PRINTOUT & GRAPHICS



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) TOP SMALL BEACONS (E)	245.17	1 FT HP DISH (WINDSTAR 43029) (E)	221
TOP LIGHTNING ROD (E)	244 5	4'Lx6'W REST PLATFORM (E)	216.5
P65-15-XLH-RR w/ Pipe Mount (ATT / E)	235	4'Lx6'W REST PLATFORM (E)	216.5
(2) OPA-65R-LCUU-H4 w/ Pipe Mounts (ATT / E)	235	AIR21 B2A B4P w/ pipe Mount (T-MOBILE / E)	210
800-10964 w/ Pipe Mount (ATT / P)	235	AIR-32 B4A/B2P Panel w/ Pipe Mount (T-MOBILE / N)	210
(3) HPA-45R-BUU-H6 w/ Pipe Mounts (ATT / P)	235	AIR-32 B4A/B2P Panel w/ Pipe Mount (T-MOBILE / N)	210
800-10965 w/ Pipe Mount (ATT / P)	235	AIR-32 B4A/B2P Panel w/ Pipe Mount (T-MOBILE / N)	210
(3) HPA-45R-BUU-H6 w/ Pipe Mounts (ATT / P)	235	KRY 112 71/2 (T-MOBILE / E)	210
800-10965 w/ Pipe Mount (ATT / P)	235	KRY 112 71/2 (T-MOBILE / E)	210
RRUS-32 (ATT / E)	235	KRY 112 71/2 (T-MOBILE / E)	210
RRUS-32 (ATT / E)	235	RRUS-11 B12 (T-MOBILE / E)	210
RRUS-32 (ATT / E)	235	RRUS-11 B12 (T-MOBILE / E)	210
RRUS-11 (ATT / E)	235	RRUS-11 B12 (T-MOBILE / E)	210
RRUS-11 (ATT / E)	235	RRUS-32 B2 (T-MOBILE / N)	210
RRUS-11 (ATT / E)	235	RRUS-32 B2 (T-MOBILE / N)	210
RRUS-32 B66 (ATT / P)	235	RRUS-32 B2 (T-MOBILE / N)	210
RRUS-32 B66 (ATT / P)	235	SECTOR FRAME MOUNT (T-MOBILE / E)	210
RRUS-32 B66 (ATT / P)	235	SECTOR FRAME MOUNT (T-MOBILE / E)	210
RRUS-4478 B14 (ATT / P)	235	SECTOR FRAME MOUNT (T-MOBILE / E)	210
RRUS-4478 B14 (ATT / P)	235	SECTOR FRAME MOUNT (T-MOBILE / E)	210
RRUS-4478 B14 (ATT / P)	235	AIR21 B2A B4P w/ pipe Mount (T-MOBILE / E)	210
RRUS-32 B2 (ATT / P)	235	AIR21 B2A B4P w/ pipe Mount (T-MOBILE / E)	210
RRUS-32 B2 (ATT / P)	235	LNX-6515DS-VTM w/ Pipe Mnt. (T-MOBILE / E)	203
RRUS-32 B2 (ATT / P)	235	SECTOR FRAME MOUNT (T-MOBILE / E)	203
(2) Raycap DC6-48-60-18-8C SUPRESSOR (ATT / E)	232.5	SECTOR FRAME MOUNT (T-MOBILE / E)	203
Raycap DC6-48-60-18-8C SUPRESSOR (ATT / P)	232.5	SECTOR FRAME MOUNT (T-MOBILE / E)	203
(2) LGP21401 TMA'S (ATT / E)	232	LNX-6515DS-VTM w/ Pipe Mnt. (T-MOBILE / E)	203
(2) LGP21401 TMA'S (ATT / E)	232	LNX-6515DS-VTM w/ Pipe Mnt. (T-MOBILE / E)	203
(2) LGP21401 TMA'S (ATT / E)	232	4'x7-ELEMENT YAGI (ATT / E)	132
(2) TPX-070821 Triplexer (ATT / P)	232	2FT SIDEARM MOUNT (ATT / E)	132
13' T BEAM MOUNT (E)	231.5		
UNUSED I-BEAM MOUNT (ATT / E)	231.5		
Top Rectangular Platform w/ Mods. (ATT / E)	231.5		
1.5'x2-ELEMENT YAGI AND MOUNT (ATT / E)	229		
PIPE DISH MOUNT (E)	223.5		
10 FT HP DISH (E)	223.5		
PIPE DISH MOUNT (E)	221		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	C8x11.5	C	L2 1/2x2x1/4
B	L2 1/2x2 1/2x1/4	D	1 @2.5

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 93 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. 2018 CTBC / IBC 2015 / ASCE 7-10 = 120 Mph (Ult) = 93 Mph (3-Sec)
9. TOWER RATING: 72.3%

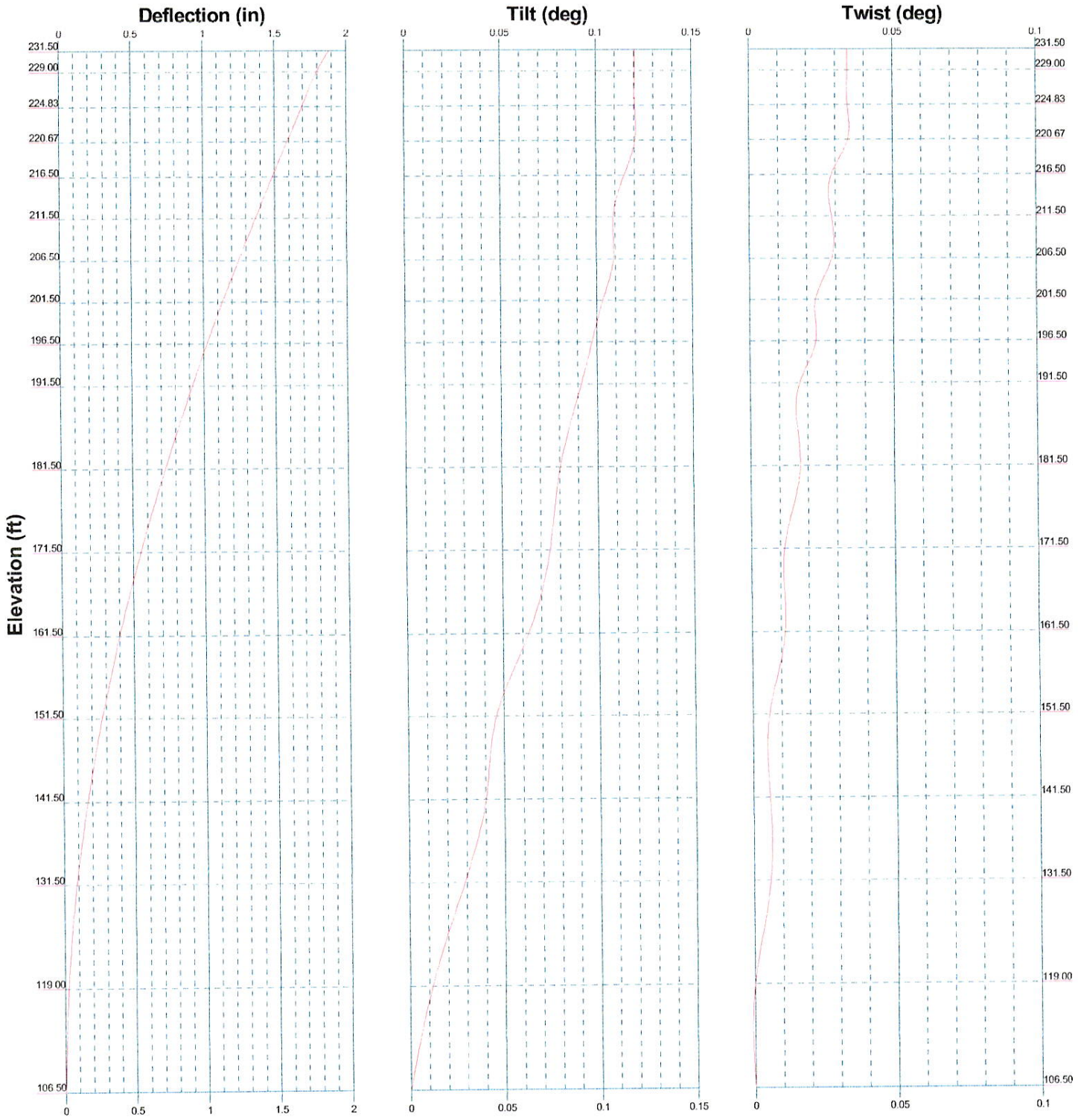
ALL R
ARE I
MAX.
DC
SH
UF
SHEAR: 20 K
SHEAR 16 K
TORC
50 mph WI
AXIAL 59 K
SHEAR 57 K
MOMENT 4179 kip-ft
TORQUE 52 kip-ft
REACTIONS - 93 mph WIND

MALOUF ENGINEERING INT'L, INC.
STRUCTURAL CONSULTANTS
maloufengineering.com
MALOUF ENGINEERING INT'L. INC.
17950 PRESTON RD. SUITE 720
DALLAS, TEXAS - 75252
Phone: (972) 783-2578
FAX: (972) 783-2583

Job: 125 ft. SST / Stamford Central SBC CO. Site #CT2118			
Project: CT02768S-19V0			
Client: SAI / AT&T	Drawn by: HML	App'd:	
Code: TIA-222-G	Date: 07/09/19	Scale: NTS	
Path: C:\ME\Projects\19files\SST\CT02768S-19V0\CT02768S-19V0.eri		Dwg No. E-1	

TIA-222-G - Service - 60 mph

Maximum Values



MALOUF ENGINEERING INT'L. INC.
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maloufengineering.com

MALOUF ENGINEERING INT'L. INC.
17950 PRESTON RD. SUITE 720
DALLAS, TEXAS - 75252
Phone: (972) 783-2578
FAX: (972) 783-2583

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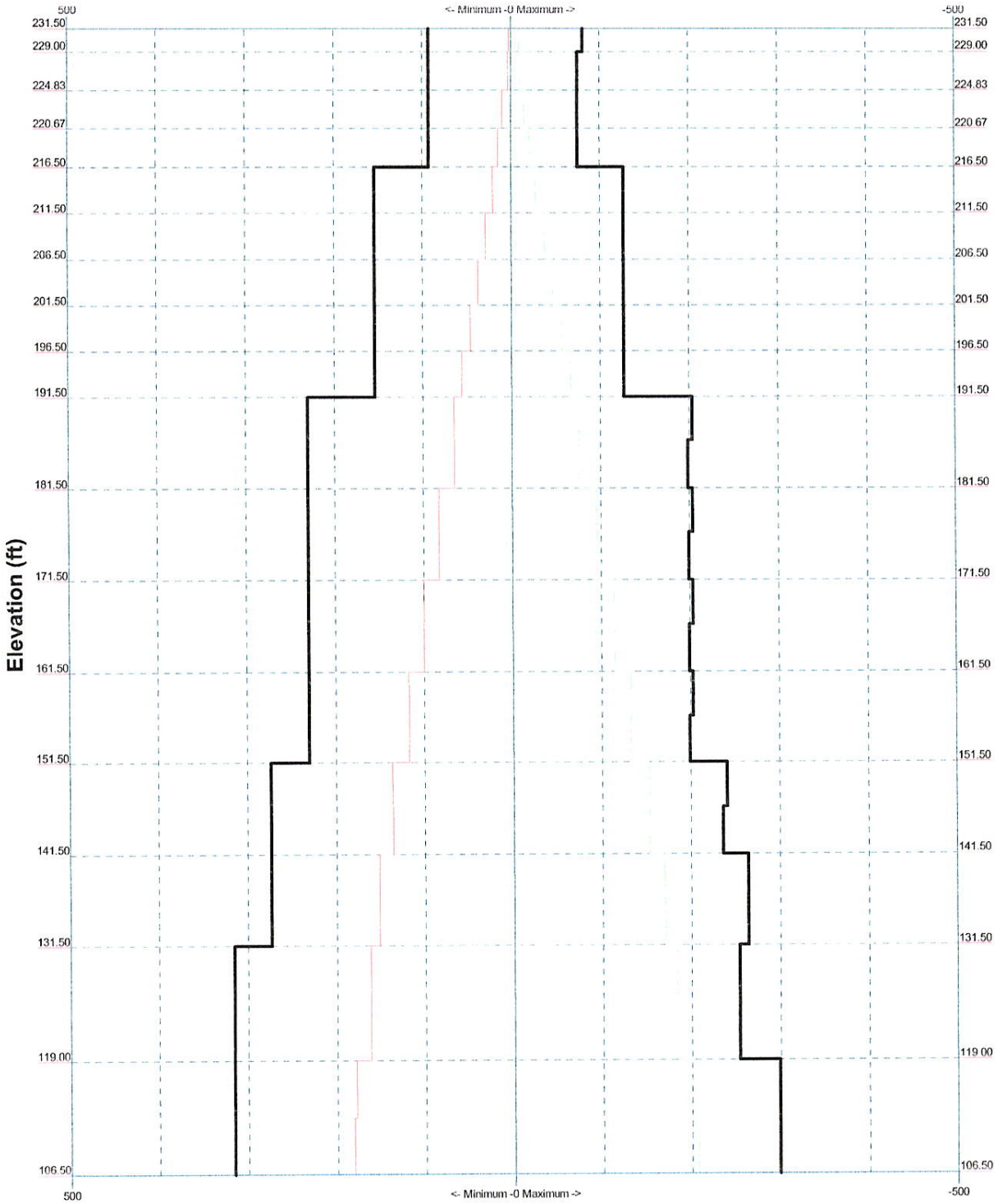
Project: *CT02768S-19V0*			
Client: SAI / AT&T	Drawn by: HML	App'd:	
Code: TIA-222-G	Date: 07/09/19	Scale: NTS	
Path: C:\MEIProjects\19files\SST\CT02768S-19V0\CT02768S-19V0.eri		Dwg No. E-5	

TIA-222-G - 93 mph/50 mph 0.7500 in Ice Exposure B

Leg Capacity ——— **Leg Compression (K)**



MALOUF ENGINEERING INT'L. INC.
17950 PRESTON RD. SUITE 720
DALLAS, TEXAS - 75252
Phone: (972) 783-2578
FAX: (972) 783-2583
maloufengineering.com

Job: *125 ft. SST / Stamford Central SBC CO. Site #CT2118*			
Project: *CT02768S-19V0*			
Client: SAI / AT&T	Drawn by: HML	App'd:	
Code: TIA-222-G	Date: 07/09/19	Scale: NTS	
Path: C:\MEIProjects\19files\SST\CT02768S-19V0\CT02768S-19V0.eri		Dwg No. E-3	

No.	QTY.	DESCRIPTION	ELEV.	TENANT
1	1	Safety Climb & Climbing Ladder	125'	E
2	1	1 1/4" Rigid Conduit	125'	E
3	12	1 5/8"	125'	AT&T / E
4	-	-	-	-
5	4 E + 2 Prop.	0.75" DC POWER TRUNK CABLES	125'	AT&T / E+P
6	2 E + 1 Prop.	0.625" FIBER TRUNK CABLE	125'	AT&T / E+P
7	2	3/8" (UNUSED)	115'	E
8	1	3/8"	114.5'	E
9	1	1/2"	122.5'	E
10	2	EW90	117'	E
11	1	1/2"	25.5'	E
12	29	1 5/8"	103.5'	T-MOBILE / E
13	1	1 5/8" HYBRID FIBER CABLE	103.5'	T-MOBILE / E
14	-	-	-	T-MOBILE / R
15	1	1 1/4" HYBRID FIBER CABLE	103.5'	T-MOBILE / E

LEGEND:

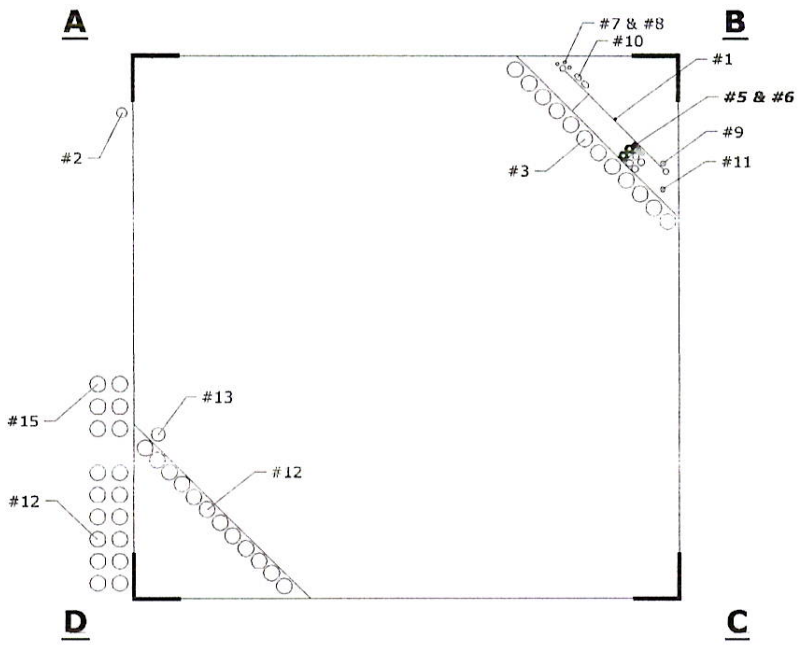
E = EXISTING #X

P = PROPOSED #X

F = FUTURE #X

R = REMOVE #X

TO RELOCATE



101 PLAN: SCHEMATIC Tx-LINE LAYOUT

SCALE: NOT TO SCALE

NOTE:

1. Tx LINE LAYOUT IS SCHEMATIC ONLY, BASED UPON MEI RECORDS. NO NEW SITE PHOTOS PROVIDED.
2. ELEVATIONS SHOWN ARE ABOVE ROOF LINE.

JUL 09, 2019

MALOUF ENGINEERING INTERNATIONAL, INC.
STRUCTURAL CONSULTANTS
17950 PRESTON ROAD SUITE 720
DALLAS, TEXAS 75252-5635
972-783-2578 (fax: 2583)
www.maloufengineering.com

AT&T

STAMFORD CENTRAL SBC CO SITE #CT2118

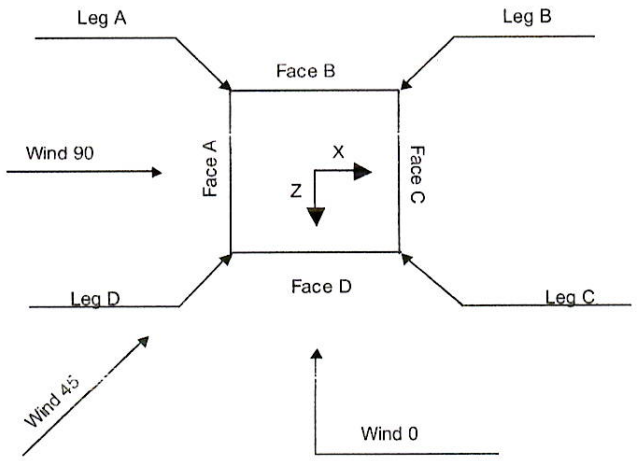
TOWER TxLINE LAYOUT

MEI PROJECT ID	SHEET NUMBER	REV.
CT02768S-19V0	L01	0

Tower Input Data

The main tower is a 4x free standing tower with an overall height of 231.50 ft above the ground line.
The base of the tower is set at an elevation of 106.50 ft above the ground line.
The face width of the tower is 5.60 ft at the top and 13.58 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
Basic wind speed of 93 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
2018 CTBC / IBC 2015 / ASCE 7-10 = 120 Mph (Ult) = 93 Mph (3-Sec).
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.



Square Tower

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Placement ft	#
Safety Line 3/8 (E)	B	231.50 - 106.50	1
Climbing Ladder (E)	B	231.50 - 106.50	1
W/G LADDER "A" (E)	B	212.50 - 106.50	1
W/G LADDER "B" (E)	D	206.50 - 106.50	1
W/G LADDER "C" (E)	A	200.50 - 106.50	1
1 1/4" Rigid Conduit (E)	A	231.50 - 106.50	1
0.625" Fiber Trunk Cable (AT&T / (2-E+1-P))	B	231.50 - 106.50	3
0.75" DC Power Trunk Cable (AT&T / (4-E+2-P))	B	231.50 - 106.50	6
1 5/8 (AT&T / E)	B	231.50 - 106.50	12
1/2 (E)	B	229.00 - 106.50	1
EW90 (E)	B	223.50 - 106.50	2
3/8 (E (Unused))	B	221.50 - 106.50	2
3/8 (E)	B	221.00 - 106.50	1
1 5/8 (T-Mobile / E)	A	210.00 - 106.50	12
1 1/4 Hybrid Fiber Cable (T-Mobile / E)	A	210.00 - 106.50	1
1 5/8 (T-Mobile / E)	A	210.00 - 106.50	5
1 5/8 (T-Mobile / E)	D	210.00 - 106.50	11
1 5/8 Hybrid Fiber Cable (T-Mobile / E)	D	210.00 - 106.50	1
1/2 (E)	B	132.00 - 106.50	1

Feed Line/Linear Appurtenances - Entered As Area

Description	Placement ft	Total Number
MISCELLANEOUS (E)	231.50 - 106.50	2
MISCELLANEOUS WEIGHT (E)	231.50 - 106.50	1

Discrete Tower Loads

Description	Face or Leg	Placement ft
(2) TOP SMALL BEACONS (E)	B	245.17
TOP LIGHTNING ROD (E)	B	244.50
13' T BEAM MOUNT (E)	B	231.50
P65-15-XLH-RR w/ Pipe Mount (AT&T / E)	A	235.00
(2) OPA-65R-LCUU-H4 w/ Pipe Mounts (AT&T / E)	A	235.00
800-10964 w/ Pipe Mount (AT&T / P)	A	235.00
(3) HPA-45R-BUU-H6 w/ Pipe Mounts (AT&T / P)	B	235.00
800-10965 w/ Pipe Mount (AT&T / P)	B	235.00
(3) HPA-45R-BUU-H6 w/ Pipe Mounts (AT&T / P)	D	235.00
800-10965 w/ Pipe Mount (AT&T / P)	D	235.00
(2) LGP21401 TMA'S (AT&T / E)	A	232.00
(2) LGP21401 TMA'S (AT&T / E)	B	232.00
(2) LGP21401 TMA'S (AT&T / E)	D	232.00
RRUS-32 (AT&T / E)	A	235.00
RRUS-32 (AT&T / E)	B	235.00
RRUS-32 (AT&T / E)	D	235.00
RRUS-11 (AT&T / E)	A	235.00
RRUS-11 (AT&T / E)	B	235.00
RRUS-11 (AT&T / E)	D	235.00
RRUS-32 B66 (AT&T / P)	A	235.00
RRUS-32 B66 (AT&T / P)	B	235.00
RRUS-32 B66 (AT&T / P)	D	235.00
RRUS-4478 B14 (AT&T / P)	A	235.00
RRUS-4478 B14 (AT&T / P)	B	235.00
RRUS-4478 B14 (AT&T / P)	D	235.00
RRUS-32 B2 (AT&T / P)	A	235.00
RRUS-32 B2 (AT&T / P)	B	235.00
RRUS-32 B2 (AT&T / P)	D	235.00
(2) Raycap DC6-48-60-18-8C SUPRESSOR (AT&T / E)	A	232.50
Raycap DC6-48-60-18-8C SUPRESSOR (AT&T / P)	A	232.50
(2) TPX-070821 Triplexer (AT&T / P)	A	232.00
UNUSED I-BEAM MOUNT (AT&T / E)	A	231.50
1.5'x2-ELEMENT YAGI AND MOUNT (AT&T / E)	A	229.00
Top Rectangular Platform w/ Mods. (AT&T / E)	A	231.50
PIPE DISH MOUNT (E)	A	223.50

Description	Face or Leg	Placement ft
PIPE DISH MOUNT (E)	C	221.00
4'Lx6'W REST PLATFORM (E)	A	216.50
4'Lx6'W REST PLATFORM (E)	C	216.50
AIR21 B2A B4P w/ pipe Mount (T-MOBILE / E)	A	210.00
AIR21 B2A B4P w/ pipe Mount (T-MOBILE / E)	B	210.00
AIR21 B2A B4P w/ pipe Mount (T-MOBILE / E)	D	210.00
AIR-32 B4A/B2P Panel w/ Pipe Mount (T-MOBILE / N)	A	210.00
AIR-32 B4A/B2P Panel w/ Pipe Mount (T-MOBILE / N)	B	210.00
AIR-32 B4A/B2P Panel w/ Pipe Mount (T-MOBILE / N)	D	210.00
KRY 112 71/2 (T-MOBILE / E)	A	210.00
KRY 112 71/2 (T-MOBILE / E)	B	210.00
KRY 112 71/2 (T-MOBILE / E)	D	210.00
RRUS-11 B12 (T-MOBILE / E)	A	210.00
RRUS-11 B12 (T-MOBILE / E)	B	210.00
RRUS-11 B12 (T-MOBILE / E)	D	210.00
RRUS-32 B2 (T-MOBILE / N)	A	210.00
RRUS-32 B2 (T-MOBILE / N)	B	210.00
RRUS-32 B2 (T-MOBILE / N)	D	210.00
SECTOR FRAME MOUNT (T-MOBILE / E)	A	210.00
SECTOR FRAME MOUNT (T-MOBILE / E)	B	210.00
SECTOR FRAME MOUNT (T-MOBILE / E)	D	210.00
LNX-6515DS-VTM w/ Pipe Mnt. (T-MOBILE / E)	A	203.00
LNX-6515DS-VTM w/ Pipe Mnt. (T-MOBILE / E)	B	203.00
LNX-6515DS-VTM w/ Pipe Mnt. (T-MOBILE / E)	D	203.00
SECTOR FRAME MOUNT (T-MOBILE / E)	A	203.00
SECTOR FRAME MOUNT (T-MOBILE / E)	B	203.00
SECTOR FRAME MOUNT (T-MOBILE / E)	D	203.00
4'x7-ELEMENT YAGI (AT&T / E)	B	132.00
2FT SIDEARM MOUNT (AT&T / E)	B	132.00

Dishes

Description	Face or Leg	Dish Type	Offset Type	Elevation ft	Outside Diameter ft
10 FT HP DISH (E)	A	Paraboloid w/Shroud (HP)	From Face	223.50	10.00
1 FT HP DISH (WINDSTAR 43029) (E)	C	Paraboloid w/Shroud (HP)	From Face	221.00	1.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg D	Max. Vert	12	229.16	13.71	-15.48
	Max. H_x	12	229.16	13.71	-15.48
	Max. H_z	5	-206.63	-12.83	14.80
	Min. Vert	5	-206.63	-12.83	14.80
	Min. H_x	5	-206.63	-12.83	14.80
	Min. H_z	12	229.16	13.71	-15.48
Leg C	Max. Vert	8	218.96	-14.77	-13.54
	Max. H_x	17	-195.60	13.78	12.66
	Max. H_z	17	-195.60	13.78	12.66
	Min. Vert	17	-195.60	13.78	12.66
	Min. H_x	8	218.96	-14.77	-13.54
	Min. H_z	8	218.96	-14.77	-13.54
Leg B	Max. Vert	4	231.88	-15.69	13.83
	Max. H_x	13	-203.56	14.42	-12.85
	Max. H_z	4	231.88	-15.69	13.83
	Min. Vert	13	-203.56	14.42	-12.85
	Min. H_x	4	231.88	-15.69	13.83
	Min. H_z	13	-203.56	14.42	-12.85
Leg A	Max. Vert	16	221.43	13.49	14.89
	Max. H_x	16	221.43	13.49	14.89
	Max. H_z	16	221.43	13.49	14.89
	Min. Vert	9	-193.84	-12.48	-13.92
	Min. H_x	9	-193.84	-12.48	-13.92
	Min. H_z	9	-193.84	-12.48	-13.92

tnxTower	Job: 125 ft. SST / Stamford Central SBC CO. Site #CT2118	Page: 5 of 9
MALOUF ENGINEERING INT'L. INC. 17950 PRESTON RD. SUITE 720 DALLAS, TEXAS - 75252 Phone: (972) 783-2578 FAX: (972) 783-2583	Project: CT02768S-19V0	Date: 16:57:18 07/09/19
	Client: SAI / AT&T	Designed by: HML

Tower Mast Reaction Summary

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead Only	49.18	0.00	0.00	-8.58	23.67	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	59.01	1.29	-53.08	-3987.50	-118.99	-49.27
0.9 Dead+1.6 Wind 0 deg - No Ice	44.26	1.29	-53.08	-3980.99	-125.99	-49.23
1.2 Dead+1.6 Wind 45 deg - No Ice	59.01	39.46	-40.65	-3046.40	-2860.55	-51.66
0.9 Dead+1.6 Wind 45 deg - No Ice	44.26	39.46	-40.65	-3040.82	-2864.93	-51.62
1.2 Dead+1.6 Wind 90 deg - No Ice	59.01	45.21	-1.87	-227.41	-3356.89	-9.91
0.9 Dead+1.6 Wind 90 deg - No Ice	44.26	45.21	-1.87	-224.55	-3360.74	-9.89
1.2 Dead+1.6 Wind 135 deg - No Ice	59.01	37.85	39.36	2878.20	-2676.65	35.93
0.9 Dead+1.6 Wind 135 deg - No Ice	44.26	37.85	39.36	2877.99	-2681.23	35.92
1.2 Dead+1.6 Wind 180 deg - No Ice	59.01	-1.10	52.45	3893.45	154.88	47.24
0.9 Dead+1.6 Wind 180 deg - No Ice	44.26	-1.10	52.45	3892.23	147.56	47.20
1.2 Dead+1.6 Wind 225 deg - No Ice	59.01	-39.09	40.08	2958.13	2874.71	45.45
0.9 Dead+1.6 Wind 225 deg - No Ice	44.26	-39.09	40.08	2957.84	2864.81	45.41
1.2 Dead+1.6 Wind 270 deg - No Ice	59.01	-45.08	1.28	136.44	3398.13	2.48
0.9 Dead+1.6 Wind 270 deg - No Ice	44.26	-45.08	1.28	138.87	3387.68	2.46
1.2 Dead+1.6 Wind 315 deg - No Ice	59.01	-37.74	-39.38	-2901.62	2720.56	-34.40
0.9 Dead+1.6 Wind 315 deg - No Ice	44.26	-37.74	-39.38	-2896.20	2710.84	-34.38
1.2 Dead+1.0 Ice+1.0 Temp	165.08	0.00	0.00	-36.74	102.06	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	165.08	0.28	-15.98	-1220.13	69.56	-11.08
1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp	165.08	11.18	-11.41	-890.67	-722.91	-13.64
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	165.08	13.63	-0.40	-82.93	-927.14	-7.38
1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp	165.08	10.82	11.12	782.57	-681.31	3.14
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	165.08	-0.25	15.86	1132.23	130.79	10.69
1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp	165.08	-11.11	11.31	804.14	919.13	12.45
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	165.08	-13.60	0.28	-4.24	1128.73	5.96
1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp	165.08	-10.80	-11.12	-856.85	883.34	-2.84
Dead+Wind 0 deg - Service	49.18	0.33	-13.81	-1042.55	-14.66	-12.81
Dead+Wind 45 deg - Service	49.18	10.26	-10.58	-797.85	-727.39	-13.43
Dead+Wind 90 deg - Service	49.18	11.76	-0.49	-65.02	-856.36	-2.58
Dead+Wind 135 deg - Service	49.18	9.85	10.24	742.31	-679.56	9.34
Dead+Wind 180 deg - Service	49.18	-0.29	13.65	1006.26	56.54	12.28
Dead+Wind 225 deg - Service	49.18	-10.17	10.43	763.15	763.64	11.82
Dead+Wind 270 deg - Service	49.18	-11.73	0.33	29.55	899.75	0.64
Dead+Wind 315 deg - Service	49.18	-9.82	-10.25	-760.28	723.60	-8.95

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	231.5 - 229	1.881	32	0.1222	0.0361
T2	229 - 224.833	1.796	32	0.1216	0.0330
T3	224.833 - 220.667	1.690	32	0.1205	0.0329
T4	220.667 - 216.5	1.586	32	0.1180	0.0321
T5	216.5 - 211.5	1.484	32	0.1145	0.0309
T6	211.5 - 206.5	1.363	32	0.1114	0.0284
T7	206.5 - 201.5	1.245	28	0.1072	0.0259
T8	201.5 - 196.5	1.131	28	0.1026	0.0235
T9	196.5 - 191.5	1.022	28	0.0970	0.0213
T10	191.5 - 181.5	0.919	28	0.0909	0.0192
T11	181.5 - 171.5	0.725	28	0.0823	0.0157
T12	171.5 - 161.5	0.550	28	0.0722	0.0128
T13	161.5 - 151.5	0.398	28	0.0609	0.0104
T14	151.5 - 141.5	0.271	28	0.0487	0.0083
T15	141.5 - 131.5	0.167	28	0.0376	0.0065
T16	131.5 - 119	0.087	28	0.0260	0.0050
T17	119 - 106.5	0.026	28	0.0133	0.0023

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
245.17	(2) TOP SMALL BEACONS	32	1.881	0.1222	0.0361	10157
244.50	TOP LIGHTNING ROD	32	1.881	0.1222	0.0361	10157
235.00	P65-15-XLH-RR w/ Pipe Mount	32	1.881	0.1222	0.0361	10157
232.50	(2) Raycap DC6-48-60-18-8C SUPRESSOR	32	1.881	0.1222	0.0361	10157
232.00	(2) LGP21401 TMA'S	32	1.881	0.1222	0.0361	10157
231.50	13'T BEAM MOUNT	32	1.881	0.1222	0.0361	10157
229.00	1.5'x2-ELEMENT YAGI AND MOUNT	32	1.796	0.1216	0.0330	10157
223.50	10 FT HP DISH	32	1.658	0.1199 (10 dB) 0.2957	0.0328 (10 dB) 0.2957	127705
221.00	1 FT HP DISH (WINDSTAR 43029)	32	1.595	0.1183	0.0321	242616
216.50	4'Lx6'W REST PLATFORM	32	1.484	0.1145	0.0309	150023
210.00	AIR21 B2A B4P w/ pipe Mount	32	1.327	0.1102	0.0276	72644
203.00	LNX-6515DS-VTM w/ Pipe Mnt.	28	1.164	0.1040	0.0242	60474
132.00	4'x7-ELEMENT YAGI	28	0.091	0.0266	0.0050	43680

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	231.5 - 229	Leg	L4x4x3/8	4	-5.62	80.91	59.6	Pass
T2	229 - 224.833	Leg	L4x4x3/8	12	-9.89	74.97	13.2	Pass
T3	224.833 - 220.667	Leg	L4x4x3/8	24	-15.69	74.97	20.9	Pass
T4	220.667 - 216.5	Leg	L4x4x3/8	37	-21.01	74.97	28.0	Pass
T5	216.5 - 211.5	Leg	L5x5x1/2	49	-27.55	126.43	21.8	Pass
T6	211.5 - 206.5	Leg	L5x5x1/2	67	-37.85	126.43	29.9	Pass
T7	206.5 - 201.5	Leg	L5x5x1/2	83	-47.10	126.43	37.3	Pass
T8	201.5 - 196.5	Leg	L5x5x1/2	95	-56.74	126.43	44.9	Pass
T9	196.5 - 191.5	Leg	L5x5x1/2	111	-67.00	126.43	53.0	Pass
T10	191.5 - 181.5	Leg	L6x6x5/8	123	-75.58	198.38	38.1	Pass
T11	181.5 - 171.5	Leg	L6x6x5/8	148	-95.05	198.60	47.9	Pass
T12	171.5 - 161.5	Leg	L6x6x5/8	168	-114.13	198.79	57.4	Pass
T13	161.5 - 151.5	Leg	L6x6x5/8	193	-132.95	198.95	66.8	Pass
T14	151.5 - 141.5	Leg	L6x6x3/4	213	-153.29	235.74	65.0	Pass
T15	141.5 - 131.5	Leg	L6x6x3/4	238	-170.28	264.13	64.5	Pass
T16	131.5 - 119	Leg	L6x6x7/8	306	-183.61	253.78	72.3	Pass
T17	119 - 106.5	Leg	L6x6x7/8	347	-206.64	298.61	69.2	Pass
T2	229 - 224.833	Diagonal	2L2 1/2x2x1/4x3/8	20	3.36	55.22	6.1 8.0 (b)	Pass
T3	224.833 - 220.667	Diagonal	2L2 1/2x2x1/4x3/8	36	4.51	55.22	8.2 10.8 (b)	Pass
T4	220.667 - 216.5	Diagonal	2L2 1/2x2x1/4x3/8	47	-5.96	53.51	11.1 14.0 (b)	Pass
T5	216.5 - 211.5	Diagonal	L2 1/2x2x1/4	63	-5.88	18.95	31.0	Pass
T6	211.5 - 206.5	Diagonal	L2 1/2x2x1/4	79	-6.13	18.34	33.4	Pass
T7	206.5 - 201.5	Diagonal	L2 1/2x2x1/4	91	-6.71	17.71	37.9	Pass
T8	201.5 - 196.5	Diagonal	L2 1/2x2x1/4	107	-6.99	17.08	40.9	Pass
T9	196.5 - 191.5	Diagonal	L2 1/2x2x1/4	119	-7.07	16.43	43.0	Pass
T10	191.5 - 181.5	Diagonal	L3x3x1/4	138	-11.86	20.33	58.4	Pass
T11	181.5 - 171.5	Diagonal	L3x3x1/4	158	-11.84	19.45	60.9	Pass
T12	171.5 - 161.5	Diagonal	L3x3x1/4	183	-12.11	18.53	65.3	Pass
T13	161.5 - 151.5	Diagonal	L3x3x1/4	203	-12.42	17.55	70.8	Pass
T14	151.5 - 141.5	Diagonal	L3x3x1/4	228	-11.77	16.58	70.9	Pass
T15	141.5 - 131.5	Diagonal	L3x3x1/4	260	-13.42	26.01	51.6 54.8 (b)	Pass
T16	131.5 - 119	Diagonal	2L2 1/2x2 1/2x1/4x3/8	337	-18.32	26.68	68.6	Pass
T17	119 - 106.5	Diagonal	2L2 1/2x2 1/2x1/4x3/8	404	-18.01	55.95	32.2 44.2 (b)	Pass
T15	141.5 - 131.5	Horizontal	L2 1/2x2x1/4	251	-2.56	10.48	24.4	Pass
T10	191.5 - 181.5	Secondary Horizontal	L2 1/2x2x1/4	143	-1.13	19.40	5.8	Pass
T11	181.5 - 171.5	Secondary Horizontal	L2 1/2x2x1/4	163	-1.43	18.47	7.7	Pass
T12	171.5 - 161.5	Secondary Horizontal	L2 1/2x2x3/16	188	-1.71	13.49	12.7	Pass
T13	161.5 - 151.5	Secondary Horizontal	L2 1/2x2 1/2x1/4	208	-2.00	21.77	9.2 9.2 (b)	Pass
T14	151.5 - 141.5	Secondary Horizontal	L2 1/2x2x1/4	233	-2.30	15.64	14.7	Pass
T1	231.5 - 229	Top Girt	C8x11.5	8	-0.54	63.87	15.2	Pass
T3	224.833 - 220.667	Top Girt	L2 1/2x2 1/2x1/4	25	-1.01	18.34	5.5	Pass
T5	216.5 - 211.5	Top Girt	C7x9.8	53	-1.02	49.83	2.1 2.7 (b)	Pass
T6	211.5 - 206.5	Top Girt	L2 1/2x2x1/4	69	-0.85	13.17	6.5	Pass
T8	201.5 - 196.5	Top Girt	L2 1/2x2 1/2x1/4	97	-0.72	15.06	4.8	Pass
T10	191.5 - 181.5	Top Girt	L2 1/2x2 1/2x1/4	127	3.22	31.69	10.2 15.4 (b)	Pass
T11	181.5 - 171.5	Top Girt	L2 1/2x2 1/2x1/4	150	-4.91	18.97	25.9 28.9 (b)	Pass
T12	171.5 - 161.5	Top Girt	L2 1/2x2 1/2x1/4	170	-5.33	24.97	21.4	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
							30.9 (b)	
T13	161.5 - 151.5	Top Girt	L2 1/2x2 1/2x1/4	195	-5.90	16.04	36.8	Pass
T14	151.5 - 141.5	Top Girt	L2 1/2x2 1/2x1/4	215	-5.50	23.61	23.3	Pass
							31.7 (b)	
T15	141.5 - 131.5	Top Girt	L2 1/2x2 1/2x1/4	240	-5.76	16.84	34.2	Pass
T16	131.5 - 119	Top Girt	2L2 1/2x2 1/2x1/4x3/8	311	-8.95	53.02	16.9	Pass
							22.4 (b)	
T17	119 - 106.5	Top Girt	2L2 1/2x2 1/2x1/4x3/8	352	-8.68	40.69	21.3	Pass
T15	141.5 - 131.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	256	-2.56	16.04	15.9	Pass
T16	131.5 - 119	Redund Horz 1 Bracing	L2 1/2x2x3/16	327	-2.76	15.84	17.4	Pass
T17	119 - 106.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	376	-3.10	15.20	20.4	Pass
T15	141.5 - 131.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	287	-1.73	13.94	12.4	Pass
T16	131.5 - 119	Redund Diag 1 Bracing	L2 1/2x2x3/16	328	-3.19	6.03	52.9	Pass
T17	119 - 106.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	360	-3.76	21.23	17.7	Pass
T15	141.5 - 131.5	Redund Hip 1 Bracing	L2x2x1/4	258	-0.02	13.57	0.3	Pass
T16	131.5 - 119	Redund Hip 1 Bracing	L2x2x1/4	344	-0.12	12.88	0.9	Pass
T17	119 - 106.5	Redund Hip 1 Bracing	L2x2x1/4	402	-0.17	11.20	1.5	Pass
T17	119 - 106.5	Redund Hip Diagonal 1 Bracing	L2x2x1/4	419	-0.11	2.48	4.6	Pass
T17	119 - 106.5	Redund Sub Horz Bracing	L2 1/2x2x3/16	365	-3.45	24.34	14.2	Pass
T17	119 - 106.5	Redund Sub Diagonal Bracing	L2 1/2x2x3/16	394	-4.20	17.87	23.5	Pass
T10	191.5 - 181.5	Inner Bracing	L2 1/2x2 1/2x3/16	133	-0.04	6.30	0.6	Pass
T12	171.5 - 161.5	Inner Bracing	L2 1/2x2 1/2x3/16	178	-0.08	4.41	1.8	Pass
T14	151.5 - 141.5	Inner Bracing	L2x2 1/2x3/16	223	-0.08	2.17	3.8	Pass
T16	131.5 - 119	Inner Bracing	L3x3x3/16	316	-0.13	4.38	3.0	Pass
T17	119 - 106.5	Inner Bracing	L3x3x3/16	357	-0.11	3.78	2.8	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
						Summary		
						Leg (T16)	72.3	Pass
						Diagonal (T14)	70.9	Pass
						Horizontal (T15)	24.4	Pass
						Secondary Horizontal (T14)	14.7	Pass
						Top Girt (T13)	36.8	Pass
						Redund Horz 1 Bracing (T17)	20.4	Pass
						Redund Diag 1 Bracing (T16)	52.9	Pass
						Redund Hip 1 Bracing (T17)	1.5	Pass
						Redund Hip Diagonal 1 Bracing (T17)	4.6	Pass
						Redund Sub Horz Bracing (T17)	14.2	Pass
						Redund Sub Diagonal Bracing (T17)	23.5	Pass
						Inner Bracing (T14)	3.8	Pass
						Bolt Checks	54.8	Pass
						RATING =	72.3	Pass

APPENDIX 2 – SOURCE / CHANGED CONDITION

From: Mary Caulfield <mcaulfield@saigrp.com>
Sent: Tuesday, June 25, 2019 9:30 AM
To: Mark Malouf <mmalouf@maloufengineering.com>
Subject: ATT CT2118 - 10034983 // LTE 5C/6C/7C // Everest SST // 555 Main St. Stamford CT //

Hi Mark,

Everest has advised us to reach out to you for a POR for a Structural at the referenced site. Could you please assist?

Please find attached the RFDS, SOW, Mount Analysis (please note mount mods are required and will need to be included in the Structural). Please also find attached the CD's and the mount mod design included (see page SN-1, S-1, S-2, S-3).

SOW:
Alpha & Beta Sector:
Swap (6) Existing Antennas for (6) 6' HPA-45R-BUU-H6 CCI Hex. Antennas
Add (2) 6' 80010965 Kathrein Octo. Antennas at Pos. 3
Relocate UMTS to Pos. 1
Relocate LTE 700 to Pos. 4
Relocate WCS to Pos. 2
Swap (2) Existing 1900 RRUS-11s for (2) RRUS-32 B2 Up Top
Add (2) B14-4478 Up Top
Add (2) RRUS-32 B66 Up Top
Ground – Add (2) RRUS-E2 B29 Bottom, Add (2) 850 RRUS-11s Bottom, Swap (4) Existing Diplexer for Triplexer at Bottom

Gamma Sector:
Swap (1) Existing LTE 700 Antenna for (1) 4' OPA-65R-LCUU-H4 CCI Octo. Antenna and install at Pos. 4
Relocate existing LTE 700 RRU to Pos. 4
Relocate existing UMTS to Pos. 1
Relocate existing WCS to Pos. 2
Add (1) 4' 80010964 Kathrein Octo. Antenna to Pos. 3
Add (2) Triplexers Up Top
Add (1) B14-4478 Up Top
Add (1) RRU32-B66 Up Top
Swap Existing (1) 1900 RRUS-11 for (1) RRUS-32 B2 Up Top
Add (1) DC6-48-60-18-8C DC/Fiber Squid w/ (1) Fiber & (2) DC lines
Ground – Add (1) RRUS-E2 B29 Bottom, Add (1) 850 RRUS-11 Bottom, Swap (2) Existing Diplexers for (2) Triplexers Bottom
*****3' Sep. Between Ant. Pos. 2 & 3 and 3 &4*****

Ground: Swap Existing DUS for 5216s, Replace IDL2 with IDLe, Add 2nd XMU, Add 2 GE Rectifiers to existing PP.

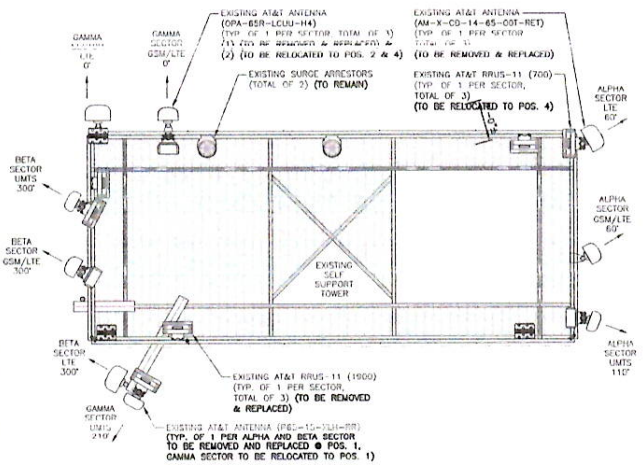
FA Code	Gold ID	Polygon	PACE Number	Project ID	Parent/Child	Civil Vendor PACE	Structure Type	Tower Owner
10034983	CT2118	LTE 7C	MRCTB026719	2051A0EDXK	Parent	Empire Telecom	SST	Everest/Frontier
10034983	CT2118	LTE 5C	MRCTB018511	2051A066E4	Child	Empire Telecom	SST	Everest/Frontier
10034983	CT2118	LTE 6C	MRCTB022535	2051A0AD05	Child	Empire Telecom	SST	Everest/Frontier

Let me know if you have any questions or concerns.

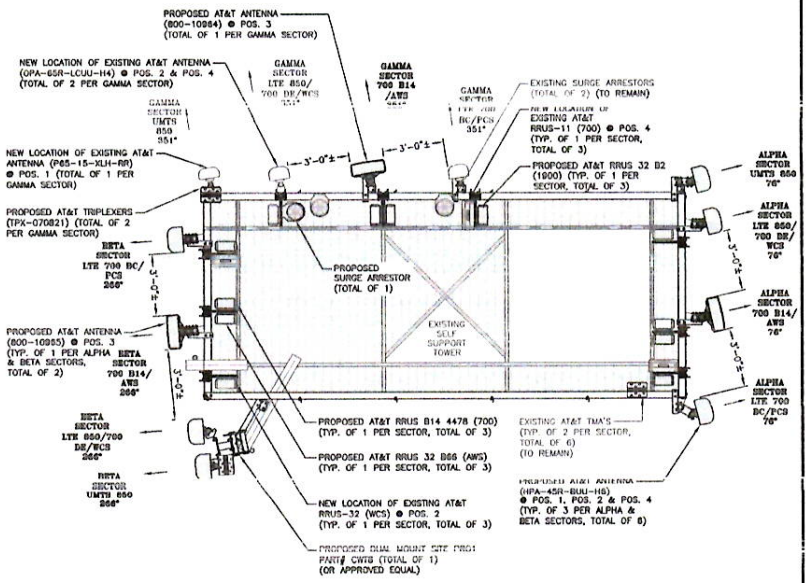
NOTE:
REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: MAY 30, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

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

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



EXISTING ANTENNA LAYOUT (1 / A-2)
SCALE: N.T.S



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

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

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2118
SITE NAME: STAMFORD CENTRAL SBC CO

555 MAIN STREET
STAMFORD, CT 06901
FAIRFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	06/19/19	ISSUED FOR CONSTRUCTION	EB	AT	DJC
1	05/24/19	ISSUED FOR CONSTRUCTION	MD	AT	DJC
A	05/15/19	ISSUED FOR REVIEW	AM	AT	DJC

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

AT&T

ANTENNA LAYOUTS
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	A-2	2

NOTE:

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

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: MAY 30, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

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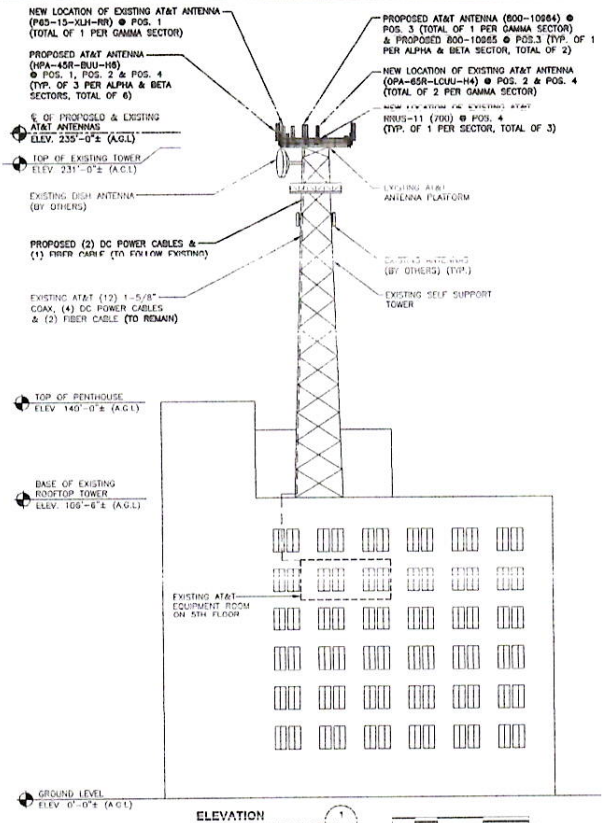

ELEVATION
22x34 SCALE: 1/16"=1'-0" (1 / A-3)
11x17 SCALE: 1/32"=1' 0"

0 8'-0" 16'-0" 32'-0" 48'-0"

HUDSON Design Group LLC
41 BIRCHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 552-1550
FAX: (978) 336-5586

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

AT&T

ELEVATION
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	A-3	2

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

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: MAY 30, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

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

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	PROPOSED	UMTS 850	HPA-45R-BUU-H6	72.0X16.9X8.3	235'±	76°	(E)(2)(G) POWERWAVE LGP13519 (E)(2) POWERWAVE LGP21401 (P)(2)(G) TPX-070821	–	–	(2) 1-5/8" COAX (LENGTH 285'±)	(E)(1) RAYCAP DC6-48-60-18-8C
A2	PROPOSED	LTE 850/700DE/WCS	HPA-45R-BUU-H6	72.0X16.9X8.3	235'±	76°	–	(E)(1) RRUS-32 (WCS) (P)(1)(G) RRUS 11 (850) (P)(1)(G) RRUS E2 B29 (700)	– 19.7X17.0X7.2 20.4X16.5X7.5	(2) 1-5/8" COAX (LENGTH 285'±)	
A3	PROPOSED	700 B14/AWS	800-10965	78.7X20X6.9	235'±	76°	–	(P)(1) RRUS-32 B66 (AWS) (P)(1) B14 4478 (700)	20.4X16.5X7.5 16.1X13.4X8.3	–	
A4	PROPOSED	LTE 700 BC/PCS	HPA-45R-BUU-H6	72.0X16.9X8.3	235'±	76°	–	(E)(1) RRUS 11 (700) (P)(1) RRUS-32 B2 (1900)	– 27.2X12.1X7.0	–	
B1	PROPOSED	UMTS 850	HPA-45R-BUU-H6	72.0X16.9X8.3	235'±	266°	(E)(2)(G) POWERWAVE LGP13519 (E)(2) POWERWAVE LGP21401 (P)(2)(G) TPX-070821	–	–	(2) 1-5/8" COAX (LENGTH 285'±)	(E)(1) RAYCAP DC6-48-60-18-8C
B2	PROPOSED	LTE 850/700DE/WCS	HPA-45R-BUU-H6	72.0X16.9X8.3	235'±	266°	–	(E)(1) RRUS-32 (WCS) (P)(1)(G) RRUS 11 (850) (P)(1)(G) RRUS E2 B29 (700)	– 19.7X17.0X7.2 20.4X16.5X7.5	(2) 1-5/8" COAX (LENGTH 285'±)	
B3	PROPOSED	700 B14/AWS	800-10965	78.7X20X6.9	235'±	266°	–	(P)(1) RRUS-32 B66 (AWS) (P)(1) B14 4478 (700)	20.4X16.5X7.5 16.1X13.4X8.3	–	
B4	PROPOSED	LTE 700 BC/PCS	HPA-45R-BUU-H6	72.0X16.9X8.3	235'±	266°	–	(E)(1) RRUS 11 (700) (P)(1) RRUS-32 B2 (1900)	– 27.2X12.1X7.0	–	
C1	EXISTING	UMTS 850	P65-15-XLH-RR	51X12X6	235'±	351°	(E)(2)(G) POWERWAVE LGP13519 (E)(2) POWERWAVE LGP21401 (P)(2) TPX-070821 (P)(2)(G) TPX-070821	–	–	(2) 1-5/8" COAX (LENGTH 285'±)	(P)(1) RAYCAP DC6-48-60-18-8C
C2	EXISTING	LTE 850/700DE/WCS	OPA-65R-LCUU-H4	48X14.4X7.3	235'±	351°	–	(E)(1) RRUS-32 (WCS) (P)(1)(G) RRUS 11 (850) (P)(1)(G) RRUS E2 B29 (700)	– 19.7X17.0X7.2 20.4X16.5X7.5	(2) 1-5/8" COAX (LENGTH 285'±)	
C3	PROPOSED	700 B14/AWS	800-10964	59X20X6.9	235'±	351°	–	(P)(1) RRUS-32 B66 (AWS) (P)(1) B14 4478 (700)	20.4X16.5X7.5 16.1X13.4X8.3	–	
C4	EXISTING	LTE 700 BC/PCS	OPA-65R-LCUU-H4	48X14.4X7.3	235'±	351°	–	(E)(1) RRUS 11 (700) (P)(1) RRUS-32 B2 (1900)	– 27.2X12.1X7.0	–	

RRU CHART

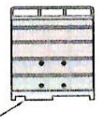
QUANTITY	MODEL	L	W	D
3(P)(C)	RRUS E2 B29 (700)	20.4"	16.5"	7.5"
3(P)(G)	RRUS 11 (850)	19.7"	17.0"	7.2"
3(E)	RRUS 11 (700)	19.7"	17.0"	7.2"
3(E)	RRUS 32 (WCS)	27.2"	12.1"	7.0"
3(P)	B14 4478 (700)	18.1"	13.4"	8.3"
3(P)	RRUS 32 B66 (AWS)	27.2"	12.1"	7.0"
3(P)	RRUS 32 B2 (1900)	27.2"	12.1"	7.0"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

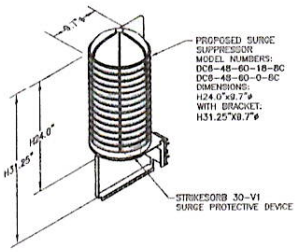
NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER.

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

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.



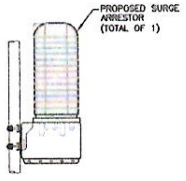
PROPOSED RRUS DETAIL (2 / A-4)
SCALE: N.T.S



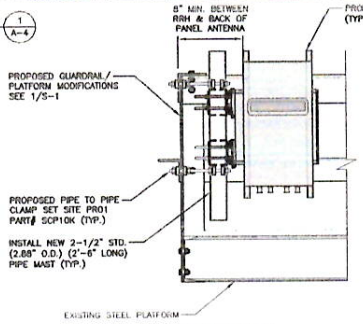
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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

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



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



PROPOSED RRH MOUNTING DETAIL (5 / A-4)
SCALE: N.T.S

HUDSON Design Group LLC
45 RIVERWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-0001
FAX: (978) 336-5586

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT2118
SITE NAME: STAMFORD CENTRAL SBC CO

555 MAIN STREET
STAMFORD, CT 06901
FAIRFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APVD
2	06/19/19	ISSUED FOR CONSTRUCTION	EB	AT	DJC
1	06/24/19	ISSUED FOR CONSTRUCTION	HC	AT	DJC
A	05/15/19	ISSUED FOR REVIEW	AM	AT	DJC

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

AT&T

DETAILS
(LTE 5C_6C_7C)

SITE NUMBER	DRAWING NUMBER	REV
CT2118	A-4	2

May 23, 2019
May 24, 2019 (Rev. 1)
May 30, 2019 (Rev. 1)

SAI Communications
12 Industrial Way
Salem NH, 03079

RE:		
	Site Number:	CT2118 (LTE 5C/6C/7C)
	FA Number:	10034983
	PACE Number:	MRCTB026719
	PT Number:	2051A0EDXK
	Site Name:	STAMFORD CENTRAL SBC CO
	Site Address:	555 Main Street Stamford, CT 06901

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 mount to determine their capability of supporting the following additional loading:

- (1) P65-15-XLH-RR Antennas (51.0"x12.0"x6.0"– Wt. = 30 lbs. /each)
- (2) OPA-65R-LCUU-H4 Antennas (48.0"x14.4"x7.3"– Wt. = 57 lbs. /each)
- (3) RRUS-11 RRH's (19.7"x17.0"x7.2" – Wt. = 51 lbs. /each)
- (3) RRUS-32 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (6) LGP21401 TMA's (14.4"x9.0"x2.7" – Wt. = 19 lbs. /each)
- (2) TPX-070821 Triplexers (5.9"x9.7"x2.1" – Wt. = 8 lbs. /each)
- (2) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each)
- **(6) HPA-45R-BUU-H6 Antennas (72.0"x18.9"x8.3" – Wt. = 50 lbs. /each)**
- **(2) 800-10965 Antennas (78.7"x20.0"x6.9"– Wt. = 109 lbs. /each)**
- **(1) 800-10964 Antennas (59.0"x20.0"x6.9" – Wt. = 95 lbs. /each)**
- **(3) B14 4478 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)**
- **(3) RRUS-32 B66 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)**
- **(3) RRUS-32 B2 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mount. Com Ex Consultants conducted a survey climb and mapping of the existing AT&T antenna mount on October 4, 2016.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R13.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 125 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.22 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 3.
- 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 threaded rods. The connection is considered OK by visual inspection.

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

- **Remove existing top horizontal angles and install new L5x5x3/8 steel angles (total of 4).**
- **Remove existing middle horizontal angles and install new L4x4x1/2 steel angles (total of 4).**
- **Remove existing vertical corner angles and install new L4x4x3/8 steel angles (total of 4).**
- **Install new thru-bolted connections to cantilevered W beam to provide two points of connection.**
- **Install new L3-1/2x3-1/2x1/2 steel angle secured to the existing pipe mast and W beam (total of 1).**
- **Install new L3x3x3/8 steel angles secured to the existing pipe masts and top handrail (typ. of 3 per Alpha and Beta sector, 4 per Gamma sector total of 10).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 5C/6C/7C) Mount Rating	174	LC4	2357%	**FAIL**
Modified (LTE 5C/6C/7C) Mount Rating	199	LC4	82%	**PASS**

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 mount must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

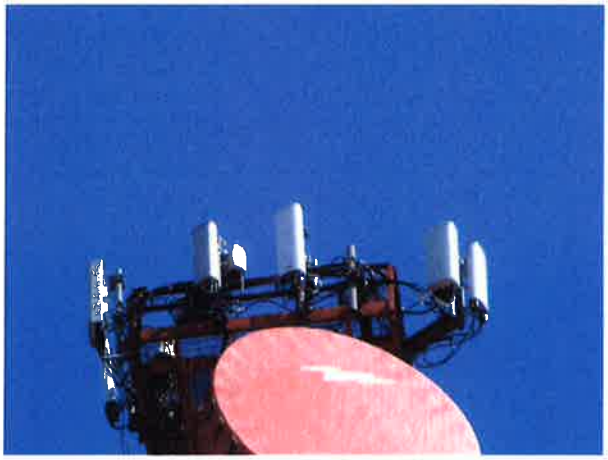
Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC

Michael Cabral
Structural Dept. Head

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

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 5/21/2019
Project Name: STAMFORDCENTRAL SBC CO
Project No.: CT2118
Designed By: LBW **Checked By:** MSC

HUDSON Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

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

	z=	235 (ft)
	z_g=	1200 (ft)
K_z= 1.261	α=	7.0

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)
(If Category 1 then K_{zt} =1.0)	K_t=	0 (from Table 2-5)
	f=	0 (from Table 2-5)
Category= 1	z=	235
	z_s=	120 (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=	1.00 (from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =	t_i =	1.00 in
Importance Factor =	I=	1.0 (from Table 2-3)
	K_{iz} =	1.22 (from Sec. 2.6.10)

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

t_{iz} = 1.22 in

Date: 5/21/2019
Project Name: STAMFORDCENTRAL SBC CO
Project No.: CT2118
Designed By: LBW 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=	231	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=	1.261	(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=	**42.70**	K_e=	1.00	(from 2.6.8)
$q_{z\ (Ice)}$=	**6.83**	K_d=	0.85	(from Table 2-2)
$q_{z\ (30)}$=	**2.46**	V_{max}=	125	mph (Ultimate Wind Speed)
		$V_{max\ (ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

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

Date: 5/21/2019
Project Name: STAMFORDCENTRAL SBC CO
Project No.: CT2118
Designed By: LBW 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 = 1.22 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)
P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	4.25	1.28	232	47	13
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	3.33	1.24	254	50	15
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	3.81	1.26	508	95	29
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	8.67	1.46	258	55	15
800-10965 Antenna	78.7	20.0	6.9	10.93	3.94	1.26	590	109	34
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	11.41	1.55	249	56	14
800-10964 Antenna	59.0	20.0	6.9	8.19	2.95	1.22	427	80	25
RRUS-11 RRH	19.7	17.0	7.2	2.33	1.16	1.20	119	24	7
RRUS-11 RRH (Shielded)	19.7	5.0	7.2	0.68	3.94	1.26	37	10	2
RRUS-11 RRH (Side)	19.7	7.2	17.0	0.99	2.74	1.21	51	12	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	2.25	1.20	117	25	7
RRUS-32 RRH (Shielded)	27.2	-2.3	7.0	-0.43	-11.83	1.20	-22	0	-1
RRUS-32 RRH (Side)	27.2	7.0	12.1	1.32	3.89	1.26	71	17	4
B14 4478 RRH	18.1	13.4	8.3	1.68	1.35	1.20	86	19	5
B14 4478 RRH (Shielded)	18.1	-5.5	8.3	-0.69	-3.29	1.20	-35	-4	-2
B14 4478 RRH (Side)	18.1	8.3	13.4	1.04	2.18	1.20	53	13	3
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	2.25	1.20	117	25	7
RRUS-32 B66 RRH (Shielded)	27.2	-7.9	7.0	-1.49	-3.44	1.20	-76	-9	-4
RRUS-32 B66 RRH (Side)	27.2	7.0	12.1	1.32	3.89	1.26	71	17	4
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	2.25	1.20	117	25	7
RRUS-32 B2 RRH (Shielded)	27.2	-7.9	7.0	-1.49	-3.44	1.20	-76	-9	-4
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	3.89	1.26	71	17	4
LGP21401 TMA	14.4	2.7	9.0	0.27	5.33	1.33	15	5	1
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.61	1.20	20	6	1
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	48	11	3
2" Pipe	2.4	12.0		0.20	0.20	1.20	10	4	1
2-1/2" Pipe	2.9	12.0		0.24	0.24	1.20	12	4	1
2x2 Angle	2.0	12.0		0.17	0.17	2.00	14	6	1
2-1/2x2 Angle	2.5	12.0		0.21	0.21	2.00	18	7	1
8x2 Channel	8.0	12.0		0.67	0.67	2.00	57	14	3
5x6 W	5.0	12.0		0.42	0.42	2.00	36	10	2
6x3/8 Plate	6.0	12.0		0.50	0.50	2.00	43	12	2
HSS 4x4	4.0	12.0		0.33	0.33	1.25	18	6	1

Date: 5/21/2019
Project Name: STAMFORDCENTRAL SBC CO
Project No.: CT2118
Designed By: LBW Checked By: MJC

HUDSON Design Group LLC

WIND LOADS

Angle = 30 (deg) | Ice Thickness = 1.22 in. | Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	2.13	4.25	8.50	1.28	1.45	232	132	207
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	254	144	226
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	4.15	3.81	8.67	1.26	1.46	508	258	445
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	9.45	8.67	3.81	1.46	1.26	258	508	320
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	590	249	505
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	10.93	11.41	3.94	1.55	1.26	249	590	334
800-10964 Antenna	59.0	20.0	6.9	8.19	2.83	2.95	8.55	1.22	1.45	427	175	364
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	119	51	102
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	60	51	57
RRUS-11 RRH (Side)	19.7	4.3	17.0	0.58	2.33	4.64	1.16	1.29	1.20	32	119	54
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	106
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	63	71	65
RRUS-32 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	36	117	56
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	86	53	78
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	43	53	46
B14 4478 RRH (Side)	18.1	3.4	13.4	0.42	1.68	5.40	1.35	1.33	1.20	24	86	40
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	106
RRUS-32 B66 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	63	71	65
RRUS-32 B66 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	36	117	56
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	106
RRUS-32 B2 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	63	71	65
RRUS-32 B2 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	36	117	56
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	46	23
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.09	0.61	2.81	1.20	1.21	20	4	16

WIND LOADS WITH ICE:

P65-15-XLH-RR Antenna	53.4	14.4	8.4	5.36	3.13	3.70	6.34	1.25	1.37	46	29	42
OPA-65R-LCUU-H4 Antenna	50.4	16.8	9.7	5.90	3.41	3.00	5.18	1.22	1.32	49	31	45
HPA-45R-BUU-H6 Antenna	74.4	21.3	10.7	11.03	5.55	3.49	6.93	1.24	1.40	94	53	84
HPA-45R-BUU-H6 Antenna (Side)	74.4	10.7	21.3	5.55	11.03	6.93	3.49	1.40	1.24	53	94	63
800-10965 Antenna	81.1	22.4	9.3	12.64	5.26	3.62	8.69	1.25	1.46	108	52	94
800-10965 Antenna (Side)	81.1	9.3	22.4	5.26	12.64	8.69	3.62	1.46	1.25	52	108	66
800-10964 Antenna	61.4	22.4	9.3	9.57	3.98	2.74	6.58	1.21	1.38	79	38	69
RRUS-11 RRH	22.1	19.4	9.6	2.99	1.48	1.14	2.30	1.20	1.20	24	12	21
RRUS-11 RRH (Shielded)	22.1	9.7	9.6	1.49	1.48	2.28	2.30	1.20	1.20	12	12	12
RRUS-11 RRH (Side)	22.1	4.9	19.4	0.75	2.99	4.56	1.14	1.29	1.20	7	24	11
RRUS-32 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	22
RRUS-32 RRH (Shielded)	29.6	7.3	9.4	1.50	1.94	4.08	3.14	1.27	1.23	13	16	14
RRUS-32 RRH (Side)	29.6	3.6	14.5	0.75	2.99	8.16	2.04	1.44	1.20	7	25	12
B14 4478 RRH	20.5	15.8	10.7	2.26	1.53	1.30	1.91	1.20	1.20	19	13	17
B14 4478 RRH (Shielded)	20.5	7.9	10.7	1.13	1.53	2.59	1.91	1.20	1.20	9	13	10
B14 4478 RRH (Side)	20.5	4.0	15.8	0.56	2.26	5.19	1.30	1.32	1.20	5	19	8
RRUS-32 B66 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	22
RRUS-32 B66 RRH (Shielded)	29.6	7.3	9.4	1.50	1.94	4.08	3.14	1.27	1.23	13	16	14
RRUS-32 B66 RRH (Side)	29.6	3.6	14.5	0.75	2.99	8.16	2.04	1.44	1.20	7	25	12
RRUS-32 B2 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	22
RRUS-32 B2 RRH (Shielded)	29.6	7.3	9.4	1.50	1.94	4.08	3.14	1.27	1.23	13	16	14
RRUS-32 B2 RRH (Side)	29.6	3.6	14.5	0.75	2.99	8.16	2.04	1.44	1.20	7	25	12
LGP21401 TMA	16.8	5.1	11.4	0.60	1.34	3.28	1.47	1.23	1.20	5	11	7
TPX-070821 Triplexer	8.3	12.1	4.5	0.70	0.26	0.69	1.84	1.20	1.20	6	2	5

WIND LOADS AT 30 MPH:

P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	2.13	4.25	8.50	1.28	1.45	13	8	12
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	15	8	13
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	4.15	3.81	8.67	1.26	1.46	29	15	26
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	9.45	8.67	3.81	1.46	1.26	15	29	18
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	34	14	29
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	10.93	11.41	3.94	1.55	1.26	14	34	19
800-10964 Antenna	59.0	20.0	6.9	8.19	2.83	2.95	8.55	1.22	1.45	25	10	21
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	6
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3
RRUS-11 RRH (Side)	19.7	4.3	17.0	0.58	2.33	4.64	1.16	1.29	1.20	2	7	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	4	4
RRUS-32 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	2	7	3
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	3	3	3
B14 4478 RRH (Side)	18.1	3.4	13.4	0.42	1.68	5.40	1.35	1.33	1.20	1	5	2
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	6
RRUS-32 B66 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	4	4
RRUS-32 B66 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	2	7	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	6
RRUS-32 B2 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	4	4
RRUS-32 B2 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	2	7	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	1
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.09	0.61	2.81	1.20	1.21	1	0	1

Date: 5/21/2019
Project Name: STAMFORDCENTRAL SBC CO
Project No: C72118
Designed By: LBW Checked By: MJC

HUDSON Design Group LLC

WIND LOADS

Angle = 60 (deg) | Ice Thickness = 1.22 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)
P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	2.13	4.25	8.50	1.28	1.45	232	132	157
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	254	144	171
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	4.15	3.81	8.67	1.26	1.46	508	258	320
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	9.45	8.67	3.81	1.46	1.26	258	508	445
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	590	249	334
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	10.93	11.41	3.94	1.55	1.26	249	590	505
800-10964 Antenna	59.0	20.0	6.9	8.19	2.83	2.95	8.55	1.22	1.45	427	175	238
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	119	51	68
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	89	51	61
RRUS-11 RRH (Side)	19.7	9.6	17.0	1.31	2.33	2.06	1.16	1.20	1.20	67	119	106
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	83
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	89	71	76
RRUS-32 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	70	117	105
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	86	53	62
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	65	53	56
B14 4478 RRH (Side)	18.1	7.5	13.4	0.95	1.68	2.40	1.35	1.20	1.20	49	86	77
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	83
RRUS-32 B66 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	89	71	76
RRUS-32 B66 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	70	117	105
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	83
RRUS-32 B2 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	89	71	76
RRUS-32 B2 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	70	117	105
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	48	38
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.09	0.61	2.81	1.20	1.21	20	4	8

WIND LOADS WITH ICE:

P65-15-XLH-RR Antenna	53.4	14.4	8.4	5.36	3.13	3.70	6.34	1.25	1.37	46	29	33
OPA-65R-LCUU-H4 Antenna	50.4	16.8	9.7	5.90	3.41	3.00	5.18	1.22	1.32	49	31	35
HPA-45R-BUU-H6 Antenna	74.4	21.3	10.7	11.03	5.55	3.49	6.93	1.24	1.40	94	53	63
HPA-45R-BUU-H6 Antenna (Side)	74.4	10.7	21.3	5.55	11.03	6.93	3.49	1.40	1.24	53	94	84
800-10965 Antenna	81.1	22.4	9.3	12.64	5.26	3.62	8.69	1.25	1.46	108	52	66
800-10965 Antenna (Side)	81.1	9.3	22.4	5.26	12.64	8.69	3.62	1.46	1.25	52	108	94
800-10964 Antenna	61.4	22.4	9.3	9.57	3.98	2.74	6.58	1.21	1.38	79	38	48
RRUS-11 RRH	22.1	19.4	9.6	2.99	1.48	1.14	2.30	1.20	1.20	24	12	15
RRUS-11 RRH (Shielded)	22.1	14.6	9.6	2.24	1.48	1.52	2.30	1.20	1.20	18	12	14
RRUS-11 RRH (Side)	22.1	10.9	19.4	1.68	2.99	2.02	1.14	1.20	1.20	14	24	22
RRUS-32 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	18
RRUS-32 RRH (Shielded)	29.6	10.9	9.4	2.24	1.94	2.72	3.14	1.21	1.23	19	16	17
RRUS-32 RRH (Side)	29.6	8.2	14.5	1.68	2.99	3.62	2.04	1.25	1.20	14	25	22
B14 4478 RRH	20.5	15.8	10.7	2.26	1.53	1.30	1.91	1.20	1.20	19	13	14
B14 4478 RRH (Shielded)	20.5	11.9	10.7	1.69	1.53	1.73	1.91	1.20	1.20	14	13	13
B14 4478 RRH (Side)	20.5	8.9	15.8	1.27	2.26	2.31	1.30	1.20	1.20	10	19	16
RRUS-32 B66 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	18
RRUS-32 B66 RRH (Shielded)	29.6	10.9	9.4	2.24	1.94	2.72	3.14	1.21	1.23	19	16	17
RRUS-32 B66 RRH (Side)	29.6	8.2	14.5	1.68	2.99	3.62	2.04	1.25	1.20	14	25	22
RRUS-32 B2 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	18
RRUS-32 B2 RRH (Shielded)	29.6	10.9	9.4	2.24	1.94	2.72	3.14	1.21	1.23	19	16	17
RRUS-32 B2 RRH (Side)	29.6	8.2	14.5	1.68	2.99	3.62	2.04	1.25	1.20	14	25	22
LGP21401 TMA	16.8	5.1	11.4	0.60	1.34	3.28	1.47	1.23	1.20	5	11	9
TPX-070821 Triplexer	8.3	12.1	4.5	0.70	0.26	0.69	1.84	1.20	1.20	6	2	3

WIND LOADS AT 30 MPH:

P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	2.13	4.25	8.50	1.28	1.45	13	8	9
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	15	8	10
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	4.15	3.81	8.67	1.26	1.46	29	15	18
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	9.45	8.67	3.81	1.46	1.26	15	29	26
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	34	14	19
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	10.93	11.41	3.94	1.55	1.26	14	34	29
800-10964 Antenna	59.0	20.0	6.9	8.19	2.83	2.95	8.55	1.22	1.45	25	10	14
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	4
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-11 RRH (Side)	19.7	9.6	17.0	1.31	2.33	2.06	1.16	1.20	1.20	4	7	6
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	5
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	4	7	6
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
B14 4478 RRH (Side)	18.1	7.5	13.4	0.95	1.68	2.40	1.35	1.20	1.20	3	5	4
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	5
RRUS-32 B66 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 B66 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	4	7	6
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	5
RRUS-32 B2 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 B2 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	4	7	6
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	2
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.09	0.61	2.81	1.20	1.21	1	0	0

Date: 5/21/2019
Project Name: STAMFORDCENTRAL SEC CO
Project No.: CT2118
Designed By: LBW Checked By: MJC

HUDSON Design Group LLC

WIND LOADS

Angle = 90 (deg) | Ice Thickness = 1.22 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)
P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	2.13	4.25	8.50	1.28	1.45	232	132	132
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	254	144	144
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	4.15	3.81	8.67	1.26	1.46	508	258	258
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	9.45	8.67	3.81	1.46	1.26	258	508	508
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	590	249	249
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	10.93	11.41	3.94	1.55	1.26	249	590	590
800-10964 Antenna	59.0	20.0	6.9	8.19	2.83	2.95	8.55	1.22	1.45	427	175	175
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	119	51	51
RRUS-11 RRH (Shielded)	19.7	5.0	7.2	0.68	0.99	3.94	2.74	1.26	1.21	37	51	51
RRUS-11 RRH (Side)	19.7	7.2	17.0	0.99	2.33	2.74	1.16	1.21	1.20	51	119	119
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	71
RRUS-32 RRH (Shielded)	27.2	-2.3	7.0	-0.43	1.32	-11.83	3.89	1.20	1.26	-22	71	71
RRUS-32 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	71	117	117
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	86	53	53
B14 4478 RRH (Shielded)	18.1	-5.5	8.3	-0.69	1.04	-3.29	2.18	1.20	1.20	-35	53	53
B14 4478 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	53	86	86
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	71
RRUS-32 B66 RRH (Shielded)	27.2	-7.9	7.0	-1.49	1.32	-3.44	3.89	1.20	1.26	-76	71	71
RRUS-32 B66 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	71	117	117
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	71
RRUS-32 B2 RRH (Shielded)	27.2	-7.9	7.0	-1.49	1.32	-3.44	3.89	1.20	1.26	-76	71	71
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	71	117	117
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	46	46
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.09	0.61	2.81	1.20	1.21	20	4	4

WIND LOADS WITH ICE:

P65-15-XLH-RR Antenna	53.4	14.4	8.4	5.36	3.13	3.70	6.34	1.25	1.37	46	29	29
OPA-65R-LCUU-H4 Antenna	50.4	16.8	9.7	5.90	3.41	3.00	5.18	1.22	1.32	49	31	31
HPA-45R-BUU-H6 Antenna	74.4	21.3	10.7	11.03	5.55	3.49	6.93	1.24	1.40	94	53	53
HPA-45R-BUU-H6 Antenna (Side)	74.4	10.7	21.3	5.55	11.03	6.93	3.49	1.40	1.24	53	94	94
800-10965 Antenna	81.1	22.4	9.3	12.64	5.26	3.62	8.69	1.25	1.46	108	52	52
800-10965 Antenna (Side)	81.1	9.3	22.4	5.26	12.64	8.69	3.62	1.46	1.25	52	108	108
800-10964 Antenna	61.4	22.4	9.3	9.57	3.98	2.74	6.58	1.21	1.38	79	38	38
RRUS-11 RRH	22.1	19.4	9.6	2.99	1.48	1.14	2.30	1.20	1.20	24	12	12
RRUS-11 RRH (Shielded)	22.1	7.4	9.6	1.14	1.48	2.98	2.30	1.22	1.20	10	12	12
RRUS-11 RRH (Side)	22.1	9.6	19.4	1.48	2.99	2.30	1.14	1.20	1.20	12	24	24
RRUS-32 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	16
RRUS-32 RRH (Shielded)	29.6	0.1	9.4	0.03	1.94	221.47	3.14	8.55	1.23	2	16	16
RRUS-32 RRH (Side)	29.6	9.4	14.5	1.94	2.99	3.14	2.04	1.23	1.20	16	25	25
B14 4478 RRH	20.5	15.8	10.7	2.26	1.53	1.30	1.91	1.20	1.20	19	13	13
B14 4478 RRH (Shielded)	20.5	-3.1	10.7	-0.44	1.53	-6.70	1.91	1.20	1.20	-4	13	13
B14 4478 RRH (Side)	20.5	10.7	15.8	1.53	2.26	1.91	1.30	1.20	1.20	13	19	19
RRUS-32 B66 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	16
RRUS-32 B66 RRH (Shielded)	29.6	-5.5	9.4	-1.12	1.94	-5.42	3.14	1.20	1.23	-9	16	16
RRUS-32 B66 RRH (Side)	29.6	9.4	14.5	1.94	2.99	3.14	2.04	1.23	1.20	16	25	25
RRUS-32 B2 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	16
RRUS-32 B2 RRH (Shielded)	29.6	-5.5	9.4	-1.12	1.94	-5.42	3.14	1.20	1.23	-9	16	16
RRUS-32 B2 RRH (Side)	29.6	9.4	14.5	1.94	2.99	3.14	2.04	1.23	1.20	16	25	25
LGP21401 TMA	16.8	5.1	11.4	0.60	1.34	3.28	1.47	1.23	1.20	5	11	11
TPX-070821 Triplexer	8.3	12.1	4.5	0.70	0.26	0.69	1.84	1.20	1.20	6	2	2

WIND LOADS AT 30 MPH:

P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	2.13	4.25	8.50	1.28	1.45	13	8	8
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	15	8	8
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	4.15	3.81	8.67	1.26	1.46	29	15	15
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	9.45	8.67	3.81	1.46	1.26	15	29	29
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	34	14	14
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	10.93	11.41	3.94	1.55	1.26	14	34	34
800-10964 Antenna	59.0	20.0	6.9	8.19	2.83	2.95	8.55	1.22	1.45	25	10	10
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	3
RRUS-11 RRH (Shielded)	19.7	5.0	7.2	0.68	0.99	3.94	2.74	1.26	1.21	2	3	3
RRUS-11 RRH (Side)	19.7	7.2	17.0	0.99	2.33	2.74	1.16	1.21	1.20	3	7	7
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	4
RRUS-32 RRH (Shielded)	27.2	-2.3	7.0	-0.43	1.32	-11.83	3.89	1.20	1.26	-1	4	4
RRUS-32 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	7	7
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
B14 4478 RRH (Shielded)	18.1	-5.5	8.3	-0.69	1.04	-3.29	2.18	1.20	1.20	-2	3	3
B14 4478 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	3	5	5
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	4
RRUS-32 B66 RRH (Shielded)	27.2	-7.9	7.0	-1.49	1.32	-3.44	3.89	1.20	1.26	-4	4	4
RRUS-32 B66 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	7	7
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	4
RRUS-32 B2 RRH (Shielded)	27.2	-7.9	7.0	-1.49	1.32	-3.44	3.89	1.20	1.26	-4	4	4
RRUS-32 B2 RRH (Side)	27.2	7.0	12.1	1.32	2.29	3.89	2.25	1.26	1.20	4	7	7
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	3
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.09	0.61	2.81	1.20	1.21	1	0	0

Date: 5/21/2019
Project Name: STAMFORDCENTRAL S&C CO
Project No.: CT2118
Designed By: LBW Checked By: MJC

HUDSON Design Group LLC

WIND LOADS

Angle = 120 (deg) | Ice Thickness = 1.22 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)
P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	2.13	4.25	8.50	1.28	1.45	232	192	157
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	254	144	171
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	4.15	3.81	8.67	1.26	1.46	508	258	320
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	9.45	8.67	3.81	1.46	1.26	258	508	445
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	590	249	334
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	10.93	11.41	3.94	1.55	1.26	249	590	505
800-10964 Antenna	59.0	20.0	6.9	8.19	2.83	2.95	8.55	1.22	1.45	427	175	238
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	119	51	68
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	89	51	61
RRUS-11 RRH (Side)	19.7	9.6	17.0	1.31	2.33	2.06	1.16	1.20	1.20	67	119	106
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	83
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	89	71	76
RRUS-32 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	70	117	105
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	86	53	62
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	65	53	56
B14 4478 RRH (Side)	18.1	7.5	13.4	0.95	1.68	2.40	1.35	1.20	1.20	49	86	77
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	83
RRUS-32 B66 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	89	71	76
RRUS-32 B66 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	70	117	105
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	83
RRUS-32 B2 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	89	71	76
RRUS-32 B2 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	70	117	105
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	46	38
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.09	0.61	2.81	1.20	1.21	20	4	8

WIND LOADS WITH ICE:

P65-15-XLH-RR Antenna	53.4	14.4	8.4	5.36	3.13	3.70	6.34	1.25	1.37	46	29	33
OPA-65R-LCUU-H4 Antenna	50.4	16.8	9.7	5.90	3.41	3.00	5.18	1.22	1.32	49	31	35
HPA-45R-BUU-H6 Antenna	74.4	21.3	10.7	11.03	5.55	3.49	6.93	1.24	1.40	94	53	63
HPA-45R-BUU-H6 Antenna (Side)	74.4	10.7	21.3	5.55	11.03	6.93	3.49	1.40	1.24	53	94	84
800-10965 Antenna	81.1	22.4	9.3	12.64	5.26	3.62	8.69	1.25	1.46	108	52	66
800-10965 Antenna (Side)	81.1	9.3	22.4	5.26	12.64	8.69	3.62	1.46	1.25	52	108	94
800-10964 Antenna	61.4	22.4	9.3	9.57	3.98	2.74	6.58	1.21	1.38	79	38	48
RRUS-11 RRH	22.1	19.4	9.6	2.99	1.48	1.14	2.30	1.20	1.20	24	12	15
RRUS-11 RRH (Shielded)	22.1	14.6	9.6	2.24	1.48	1.52	2.30	1.20	1.20	18	12	14
RRUS-11 RRH (Side)	22.1	10.9	19.4	1.68	2.99	2.02	1.14	1.20	1.20	14	24	22
RRUS-32 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	18
RRUS-32 RRH (Shielded)	29.6	10.9	9.4	2.24	1.94	2.72	3.14	1.21	1.23	19	16	17
RRUS-32 RRH (Side)	29.6	8.2	14.5	1.68	2.99	3.62	2.04	1.25	1.20	14	25	22
B14 4478 RRH	20.5	15.8	10.7	2.26	1.53	1.30	1.91	1.20	1.20	19	13	14
B14 4478 RRH (Shielded)	20.5	11.9	10.7	1.69	1.53	1.73	1.91	1.20	1.20	14	13	13
B14 4478 RRH (Side)	20.5	8.9	15.8	1.27	2.26	2.31	1.30	1.20	1.20	10	19	16
RRUS-32 B66 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	18
RRUS-32 B66 RRH (Shielded)	29.6	10.9	9.4	2.24	1.94	2.72	3.14	1.21	1.23	19	16	17
RRUS-32 B66 RRH (Side)	29.6	8.2	14.5	1.68	2.99	3.62	2.04	1.25	1.20	14	25	22
RRUS-32 B2 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	18
RRUS-32 B2 RRH (Shielded)	29.6	10.9	9.4	2.24	1.94	2.72	3.14	1.21	1.23	19	16	17
RRUS-32 B2 RRH (Side)	29.6	8.2	14.5	1.68	2.99	3.62	2.04	1.25	1.20	14	25	22
LGP21401 TMA	16.8	5.1	11.4	0.60	1.34	3.28	1.47	1.23	1.20	5	11	9
TPX-070821 Triplexer	8.3	12.1	4.5	0.70	0.26	0.69	1.84	1.20	1.20	6	2	3

WIND LOADS AT 30 MPH:

P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	2.13	4.25	8.50	1.28	1.45	13	8	9
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	15	8	10
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	4.15	3.81	8.67	1.26	1.46	29	15	18
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	9.45	8.67	3.81	1.46	1.26	15	29	26
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	34	14	19
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	10.93	11.41	3.94	1.55	1.26	14	34	29
800-10964 Antenna	59.0	20.0	6.9	8.19	2.83	2.95	8.55	1.22	1.45	25	10	14
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	4
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-11 RRH (Side)	19.7	9.6	17.0	1.31	2.33	2.06	1.16	1.20	1.20	4	7	6
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	5
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	4	7	6
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
B14 4478 RRH (Side)	18.1	7.5	13.4	0.95	1.68	2.40	1.35	1.20	1.20	3	5	4
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	5
RRUS-32 B66 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 B66 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	4	7	6
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	5
RRUS-32 B2 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 B2 RRH (Side)	27.2	6.8	12.1	1.29	2.29	4.00	2.25	1.27	1.20	4	7	6
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	2
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.09	0.61	2.81	1.20	1.21	1	0	0

Date: 5/21/2019
Project Name: STAMFORDCENTRAL SBC CO
Project No.: CT2118
Designed By: LBW Checked By: MJC

HUDSON Design Group LLC

WIND LOADS

Angle = 150 (deg) | Ice Thickness = 1.22 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)
P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	2.13	4.25	8.50	1.28	1.45	232	232	207
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	254	144	226
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	4.15	3.81	8.67	1.26	1.46	508	258	445
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	9.45	8.67	3.81	1.46	1.26	258	508	320
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	590	249	505
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	10.93	11.41	3.94	1.55	1.26	249	590	334
800-10964 Antenna	59.0	20.0	6.9	8.19	2.83	2.95	8.55	1.22	1.45	427	175	364
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	119	51	102
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	60	51	57
RRUS-11 RRH (Side)	19.7	4.3	17.0	0.58	2.33	4.64	1.16	1.29	1.20	32	119	54
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	106
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	63	71	65
RRUS-32 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	36	117	56
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	88	53	78
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	43	53	46
B14 4478 RRH (Side)	18.1	3.4	13.4	0.42	1.68	5.40	1.35	1.33	1.20	24	86	40
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	106
RRUS-32 B66 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	63	71	65
RRUS-32 B66 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	36	117	56
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	117	71	106
RRUS-32 B2 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	63	71	65
RRUS-32 B2 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	36	117	56
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	15	46	23
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.09	0.61	2.81	1.20	1.21	20	4	16

WIND LOADS WITH ICE:

P65-15-XLH-RR Antenna	53.4	14.4	8.4	5.36	3.13	3.70	6.34	1.25	1.37	46	29	42
OPA-65R-LCUU-H4 Antenna	50.4	16.8	9.7	5.90	3.41	3.00	5.18	1.22	1.32	49	31	45
HPA-45R-BUU-H6 Antenna	74.4	21.3	10.7	11.03	5.55	3.49	6.93	1.24	1.40	94	53	84
HPA-45R-BUU-H6 Antenna (Side)	74.4	10.7	21.3	5.55	11.03	6.93	3.49	1.40	1.24	53	94	63
800-10965 Antenna	81.1	22.4	9.3	12.64	5.26	3.62	8.69	1.25	1.46	108	52	94
800-10965 Antenna (Side)	81.1	9.3	22.4	5.26	12.64	8.69	3.62	1.46	1.25	52	108	66
800-10964 Antenna	61.4	22.4	9.3	9.57	3.98	2.74	6.58	1.21	1.38	79	38	69
RRUS-11 RRH	22.1	19.4	9.6	2.99	1.48	1.14	2.30	1.20	1.20	24	12	21
RRUS-11 RRH (Shielded)	22.1	9.7	9.6	1.49	1.48	2.28	2.30	1.20	1.20	12	12	12
RRUS-11 RRH (Side)	22.1	4.9	19.4	0.75	2.99	4.56	1.14	1.29	1.20	7	24	11
RRUS-32 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	22
RRUS-32 RRH (Shielded)	29.6	7.3	9.4	1.50	1.94	4.08	3.14	1.27	1.23	13	16	14
RRUS-32 RRH (Side)	29.6	3.6	14.5	0.75	2.99	8.16	2.04	1.44	1.20	7	25	12
B14 4478 RRH	20.5	15.8	10.7	2.26	1.53	1.30	1.91	1.20	1.20	19	13	17
B14 4478 RRH (Shielded)	20.5	7.9	10.7	1.13	1.53	2.59	1.91	1.20	1.20	9	13	10
B14 4478 RRH (Side)	20.5	4.0	15.8	0.56	2.26	5.19	1.30	1.32	1.20	5	19	8
RRUS-32 B66 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	22
RRUS-32 B66 RRH (Shielded)	29.6	7.3	9.4	1.50	1.94	4.08	3.14	1.27	1.23	13	16	14
RRUS-32 B66 RRH (Side)	29.6	3.6	14.5	0.75	2.99	8.16	2.04	1.44	1.20	7	25	12
RRUS-32 B2 RRH	29.6	14.5	9.4	2.99	1.94	2.04	3.14	1.20	1.23	25	16	22
RRUS-32 B2 RRH (Shielded)	29.6	7.3	9.4	1.50	1.94	4.08	3.14	1.27	1.23	13	16	14
RRUS-32 B2 RRH (Side)	29.6	3.6	14.5	0.75	2.99	8.16	2.04	1.44	1.20	7	25	12
LGP21401 TMA	16.8	5.1	11.4	0.60	1.34	3.28	1.47	1.23	1.20	5	11	7
TPX-070821 Triplexer	8.3	12.1	4.5	0.70	0.26	0.69	1.84	1.20	1.20	6	2	5

WIND LOADS AT 30 MPH:

P65-15-XLH-RR Antenna	51.0	12.0	6.0	4.25	2.13	4.25	8.50	1.28	1.45	13	8	12
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	15	8	13
HPA-45R-BUU-H6 Antenna	72.0	18.9	8.3	9.45	4.15	3.81	8.67	1.26	1.46	29	15	26
HPA-45R-BUU-H6 Antenna (Side)	72.0	8.3	18.9	4.15	9.45	8.67	3.81	1.46	1.26	15	29	18
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	34	14	29
800-10965 Antenna (Side)	78.7	6.9	20.0	3.77	10.93	11.41	3.94	1.55	1.26	14	34	19
800-10964 Antenna	59.0	20.0	6.9	8.19	2.83	2.95	8.55	1.22	1.45	25	10	21
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	7	3	6
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3
RRUS-11 RRH (Side)	19.7	4.3	17.0	0.58	2.33	4.64	1.16	1.29	1.20	2	7	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	4	4
RRUS-32 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	2	7	3
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	3	3	3
B14 4478 RRH (Side)	18.1	3.4	13.4	0.42	1.68	5.40	1.35	1.33	1.20	1	5	2
RRUS-32 B66 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	6
RRUS-32 B66 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	4	4
RRUS-32 B66 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	2	7	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	6
RRUS-32 B2 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	4	4
RRUS-32 B2 RRH (Side)	27.2	3.0	12.1	0.57	2.29	8.99	2.25	1.47	1.20	2	7	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	1
TPX-070821 Triplexer	5.9	9.7	2.1	0.40	0.09	0.61	2.81	1.20	1.21	1	0	1

Date: 5/20/2019
Project Name: STAMFORDCENTRAL SBC CO
Project No.: CT2118
Designed By: LBW **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.22 in.
Density of ice: 56 pcf

P65-15-XLH-RR Antenna

Weight of ice based on total radial SF area:

Height (in):	72.0	
Width (in):	18.9	
Depth (in):	8.3	
Total weight of ice on object:		196 lbs
Weight of object:	20.0 lbs	
Combined weight of ice and object:		216 lbs

OPA-65R-LCUU-H4 Antenna

Weight of ice based on total radial SF area:

Height (in):	48.0	
Width (in):	14.4	
Depth (in):	7.3	
Total weight of ice on object:		104 lbs
Weight of object:	57.0 lbs	
Combined weight of ice and object:		161 lbs

HPA-45R-BUU-H6 Antenna

Weight of ice based on total radial SF area:

Height (in):	72.0	
Width (in):	18.9	
Depth (in):	8.3	
Total weight of ice on object:		196 lbs
Weight of object:	50.0 lbs	
Combined weight of ice and object:		246 lbs

800-10965 Antenna

Weight of ice based on total radial SF area:

Height (in):	78.7	
Width (in):	20.0	
Depth (in):	6.9	
Total weight of ice on object:		219 lbs
Weight of object:	109.0 lbs	
Combined weight of ice and object:		328 lbs

800-10964 Antenna

Weight of ice based on total radial SF area:

Height (in):	59.0	
Width (in):	20.0	
Depth (in):	6.9	
Total weight of ice on object:		164 lbs
Weight of object:	84.0 lbs	
Combined weight of ice and object:		248 lbs

RRUS-11 RRH

Weight of ice based on total radial SF area:

Height (in):	19.7	
Width (in):	17.0	
Depth (in):	7.2	
Total weight of ice on object:		48 lbs
Weight of object:	51.0 lbs	
Combined weight of ice and object:		99 lbs

RRUS-32 RRH

Weight of ice based on total radial SF area:

Height (in):	27.2	
Width (in):	12.1	
Depth (in):	7.0	
Total weight of ice on object:		51 lbs
Weight of object:	60.0 lbs	
Combined weight of ice and object:		111 lbs

B14 4478 RRH

Weight of ice based on total radial SF area:

Height (in):	18.1	
Width (in):	13.4	
Depth (in):	8.3	
Total weight of ice on object:		38 lbs
Weight of object:	60.0 lbs	
Combined weight of ice and object:		98 lbs

RRUS-32 B66 RRH

Weight of ice based on total radial SF area:

Height (in):	27.2	
Width (in):	12.1	
Depth (in):	7.0	
Total weight of ice on object:		51 lbs
Weight of object:	60.0 lbs	
Combined weight of ice and object:		111 lbs

RRUS-32 B2 RRH

Weight of ice based on total radial SF area:

Height (in):	27.2	
Width (in):	12.1	
Depth (in):	7.0	
Total weight of ice on object:		51 lbs
Weight of object:	60.0 lbs	
Combined weight of ice and object:		111 lbs

Date: 5/20/2019
Project Name: STAMFORDCENTRAL SBC CO
Project No.: CT2118
Designed By: LBW **Checked By:** MSC

HUDSON Design Group LLC

LGP21401 TMA

Weight of ice based on total radial SF area:		
Height (in):	14.4	
Width (in):	2.7	
Depth (in):	9.0	
Total weight of ice on object:		19 lbs
Weight of object:	19.0 lbs	
Combined weight of ice and object:		38 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:		33 lbs
Weight of object:	33 lbs	
Combined weight of ice and object:		66 lbs

L 2x2 Angles

Weight of ice based on total radial SF area:		
Height (in):	2	
Width (in):	2	
Per foot weight of ice on object:		6 plf

PL 6x3/8

Weight of ice based on total radial SF area:		
Height (in):	6	
Width (in):	0.375	
Per foot weight of ice on object:		11 plf

2" pipe

Per foot weight of ice:		
diameter (in):	2.38	
Per foot weight of ice on object:		5 plf

HSS 4x4

Weight of ice based on total radial SF area:		
Height (in):	4	
Width (in):	4	
Per foot weight of ice on object:		10 plf

TPX-070821 Triplexer

Weight of ice based on total radial SF area:		
Height (in):	5.9	
Width (in):	9.7	
Depth (in):	2.1	
Total weight of ice on object:		8 lbs
Weight of object:	8.0 lbs	
Combined weight of ice and object:		16 lbs

C 8x2

Weight of ice based on total radial SF area:		
Height (in):	8	
Width (in):	2	
Per foot weight of ice on object:		14 plf

LU 2-1/2x2 Angles

Weight of ice based on total radial SF area:		
Height (in):	2.5	
Width (in):	2	
Per foot weight of ice on object:		7 plf

W 5x3/8

Weight of ice based on total radial SF area:		
Height (in):	5	
Width (in):	6	
Per foot weight of ice on object:		13 plf

2-1/2" pipe

Per foot weight of ice:		
diameter (in):	2.88	
Per foot weight of ice on object:		6 plf

PL 6x1/2

Weight of ice based on total radial SF area:		
Height (in):	6	
Width (in):	0.5	
Per foot weight of ice on object:		11 plf

HUDSON
Design Group LLC

Mount Calculations
(Existing Conditions)

Bentley

Current Date: 5/30/2019 10:26 AM
Units system: English
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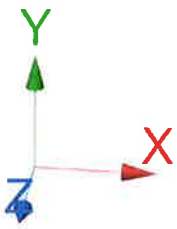
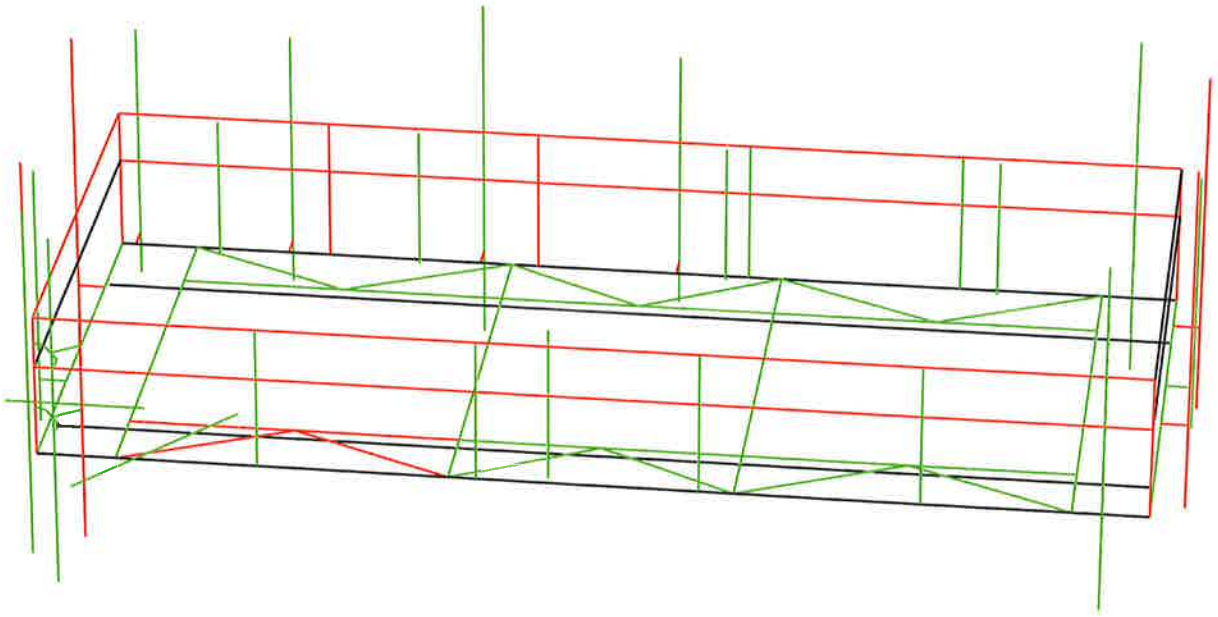
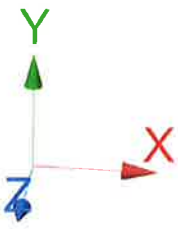



PIPE 2-1_2x0.203
A53 GrB
PIPE 2x0.154
A36
L 2X2X1_4
C 8X11.5
Y
X
Z




Y
X
Z

Bentley

Current Date: 5/30/2019 10:26 AM
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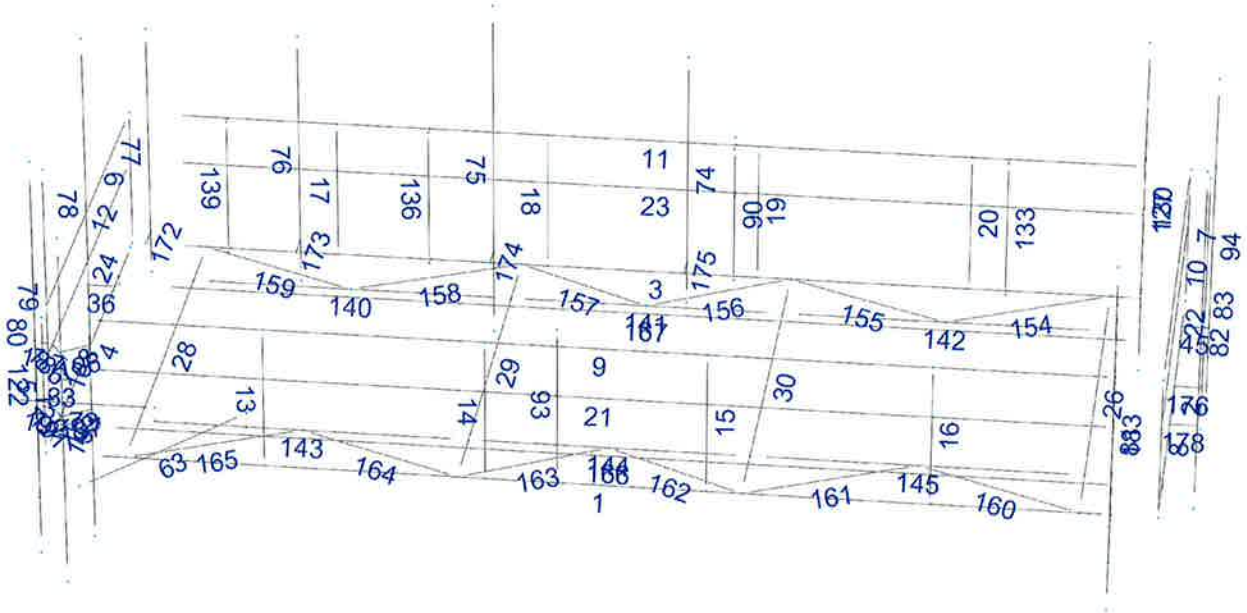

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Load data

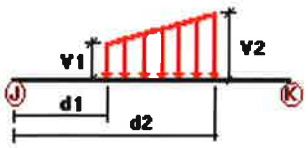
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
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
LLa4	250 lb Live Load Antenna 4	No	LL

Distributed force on members

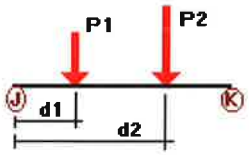


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
D	1	y	-0.01	0.00	0.00	No	0.00	No
	3	y	-0.01	0.00	0.00	No	0.00	No
	4	y	-0.01	0.00	0.00	No	0.00	No
	26	y	-0.01	0.00	0.00	No	0.00	No
	28	y	-0.01	0.00	0.00	No	0.00	No
	29	y	-0.01	0.00	0.00	No	0.00	No
Wo	1	z	-0.057	0.00	0.00	No	0.00	No
	3	z	-0.057	0.00	0.00	No	0.00	No
	5	z	-0.014	0.00	0.00	No	0.00	No
	8	z	-0.014	0.00	0.00	No	0.00	No
	9	z	-0.018	0.00	0.00	No	0.00	No
	11	z	-0.018	0.00	0.00	No	0.00	No
	13	z	-0.014	0.00	0.00	No	0.00	No
	14	z	-0.014	0.00	0.00	No	0.00	No
	15	z	-0.014	0.00	0.00	No	0.00	No
	16	z	-0.014	0.00	0.00	No	0.00	No
	17	z	-0.014	0.00	0.00	No	0.00	No
	18	z	-0.014	0.00	0.00	No	0.00	No
	19	z	-0.014	0.00	0.00	No	0.00	No
	20	z	-0.014	0.00	0.00	No	0.00	No
	21	z	-0.018	0.00	0.00	No	0.00	No
	23	z	-0.018	0.00	0.00	No	0.00	No
	33	z	-0.043	0.00	0.00	No	0.00	No
	36	z	-0.043	0.00	0.00	No	0.00	No
	45	z	-0.043	0.00	0.00	No	0.00	No
	63	z	-0.036	0.00	0.00	No	0.00	No
	72	z	-0.036	0.00	0.00	No	0.00	No
	74	z	-0.012	0.00	0.00	No	0.00	No
	75	z	-0.012	0.00	0.00	No	0.00	No
	76	z	-0.012	0.00	0.00	No	0.00	No
	77	z	-0.012	0.00	0.00	No	0.00	No
	81	z	-0.012	0.00	0.00	No	0.00	No
	90	z	-0.01	0.00	0.00	No	0.00	No
	93	z	-0.01	0.00	0.00	No	0.00	No
	123	z	-0.012	0.00	0.00	No	0.00	No
	127	z	-0.01	0.00	0.00	No	0.00	No
	130	z	-0.012	0.00	0.00	No	0.00	No
	133	z	-0.01	0.00	0.00	No	0.00	No
	136	z	-0.01	0.00	0.00	No	0.00	No
	139	z	-0.01	0.00	0.00	No	0.00	No
	176	z	-0.043	0.00	0.00	No	0.00	No
	178	z	-0.043	0.00	0.00	No	0.00	No
	183	z	-0.01	0.00	0.00	No	0.00	No
	186	z	-0.043	0.00	0.00	No	0.00	No
	187	z	-0.043	0.00	0.00	No	0.00	No
	188	z	-0.043	0.00	0.00	No	0.00	No
	191	z	-0.043	0.00	0.00	No	0.00	No
	192	z	-0.043	0.00	0.00	No	0.00	No
	193	z	-0.043	0.00	0.00	No	0.00	No
	196	z	-0.018	0.00	0.00	No	0.00	No
W90	2	x	-0.057	0.00	0.00	No	0.00	No
	4	x	-0.057	0.00	0.00	No	0.00	No
	5	x	-0.014	0.00	0.00	No	0.00	No
	6	x	-0.014	0.00	0.00	No	0.00	No
	7	x	-0.014	0.00	0.00	No	0.00	No
	8	x	-0.014	0.00	0.00	No	0.00	No
	10	x	-0.018	0.00	0.00	No	0.00	No
	12	x	-0.018	0.00	0.00	No	0.00	No
	22	x	-0.018	0.00	0.00	No	0.00	No
	24	x	-0.018	0.00	0.00	No	0.00	No

	26	x	-0.057	0.00	0.00	No	0.00	No
	28	x	-0.057	0.00	0.00	No	0.00	No
	29	x	-0.057	0.00	0.00	No	0.00	No
	30	x	-0.057	0.00	0.00	No	0.00	No
	45	x	-0.043	0.00	0.00	No	0.00	No
	63	x	-0.036	0.00	0.00	No	0.00	No
	77	x	-0.012	0.00	0.00	No	0.00	No
	78	x	-0.012	0.00	0.00	No	0.00	No
	79	x	-0.012	0.00	0.00	No	0.00	No
	80	x	-0.012	0.00	0.00	No	0.00	No
	81	x	-0.012	0.00	0.00	No	0.00	No
	82	x	-0.012	0.00	0.00	No	0.00	No
	94	x	-0.012	0.00	0.00	No	0.00	No
	97	x	-0.012	0.00	0.00	No	0.00	No
	122	x	-0.012	0.00	0.00	No	0.00	No
	123	x	-0.012	0.00	0.00	No	0.00	No
	130	x	-0.012	0.00	0.00	No	0.00	No
	176	x	-0.043	0.00	0.00	No	0.00	No
	178	x	-0.043	0.00	0.00	No	0.00	No
	186	x	-0.043	0.00	0.00	No	0.00	No
	187	x	-0.043	0.00	0.00	No	0.00	No
	188	x	-0.043	0.00	0.00	No	0.00	No
	191	x	-0.043	0.00	0.00	No	0.00	No
	192	x	-0.043	0.00	0.00	No	0.00	No
	193	x	-0.043	0.00	0.00	No	0.00	No
	196	x	-0.018	0.00	0.00	No	0.00	No
Di	1	y	-0.014	0.00	0.00	No	0.00	No
	2	y	-0.014	0.00	0.00	No	0.00	No
	3	y	-0.014	0.00	0.00	No	0.00	No
	4	y	-0.014	0.00	0.00	No	0.00	No
	5	y	-0.006	0.00	0.00	No	0.00	No
	6	y	-0.006	0.00	0.00	No	0.00	No
	7	y	-0.006	0.00	0.00	No	0.00	No
	8	y	-0.006	0.00	0.00	No	0.00	No
	9	y	-0.007	0.00	0.00	No	0.00	No
	10	y	-0.007	0.00	0.00	No	0.00	No
	11	y	-0.007	0.00	0.00	No	0.00	No
	12	y	-0.007	0.00	0.00	No	0.00	No
	13	y	-0.006	0.00	0.00	No	0.00	No
	14	y	-0.006	0.00	0.00	No	0.00	No
	15	y	-0.006	0.00	0.00	No	0.00	No
	16	y	-0.006	0.00	0.00	No	0.00	No
	17	y	-0.006	0.00	0.00	No	0.00	No
	18	y	-0.006	0.00	0.00	No	0.00	No
	19	y	-0.006	0.00	0.00	No	0.00	No
	20	y	-0.006	0.00	0.00	No	0.00	No
	21	y	-0.007	0.00	0.00	No	0.00	No
	22	y	-0.007	0.00	0.00	No	0.00	No
	23	y	-0.007	0.00	0.00	No	0.00	No
	24	y	-0.007	0.00	0.00	No	0.00	No
	26	y	-0.014	0.00	0.00	No	0.00	No
	28	y	-0.014	0.00	0.00	No	0.00	No
	29	y	-0.014	0.00	0.00	No	0.00	No
	30	y	-0.014	0.00	0.00	No	0.00	No
	33	y	-0.011	0.00	0.00	No	0.00	No
	36	**y**	**-0.011**	**0.00**	**0.00**	**No**	**0.00**	**No**
	45	**y**	**-0.011**	**0.00**	**0.00**	**No**	**0.00**	**No**
	63	**y**	**-0.013**	**0.00**	**0.00**	**No**	**0.00**	**No**
	72	**y**	**-0.013**	**0.00**	**0.00**	**No**	**0.00**	**No**
	74	**y**	**-0.006**	**0.00**	**0.00**	**No**	**0.00**	**No**

75	y	-0.006	0.00	0.00	No	0.00	No
76	y	-0.006	0.00	0.00	No	0.00	No
77	y	-0.006	0.00	0.00	No	0.00	No
78	y	-0.006	0.00	0.00	No	0.00	No
79	y	-0.006	0.00	0.00	No	0.00	No
80	y	-0.006	0.00	0.00	No	0.00	No
81	y	-0.006	0.00	0.00	No	0.00	No
82	y	-0.006	0.00	0.00	No	0.00	No
83	y	-0.006	0.00	0.00	No	0.00	No
90	y	-0.005	0.00	0.00	No	0.00	No
93	y	-0.005	0.00	0.00	No	0.00	No
94	y	-0.006	0.00	0.00	No	0.00	No
97	y	-0.006	0.00	0.00	No	0.00	No
122	y	-0.006	0.00	0.00	No	0.00	No
123	y	-0.006	0.00	0.00	No	0.00	No
127	y	-0.005	0.00	0.00	No	0.00	No
130	y	-0.006	0.00	0.00	No	0.00	No
133	y	-0.005	0.00	0.00	No	0.00	No
136	y	-0.005	0.00	0.00	No	0.00	No
139	y	-0.005	0.00	0.00	No	0.00	No
176	y	-0.011	0.00	0.00	No	0.00	No
178	y	-0.011	0.00	0.00	No	0.00	No
183	y	-0.005	0.00	0.00	No	0.00	No
186	y	-0.011	0.00	0.00	No	0.00	No
187	y	-0.011	0.00	0.00	No	0.00	No
188	y	-0.011	0.00	0.00	No	0.00	No
191	y	-0.011	0.00	0.00	No	0.00	No
192	y	-0.011	0.00	0.00	No	0.00	No
193	y	-0.011	0.00	0.00	No	0.00	No
196	y	-0.01	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	9	y	-0.06	3.50	No
		y	-0.038	2.50	No
	74	y	-0.029	1.50	No
		y	-0.029	4.00	No
	75	y	-0.042	2.00	No
		y	-0.042	7.00	No
		y	-0.12	0.50	No
	76	y	-0.029	1.50	No
		y	-0.029	4.00	No
		y	-0.051	0.50	No
		y	-0.038	5.50	No
	77	y	-0.01	0.50	No
		y	-0.01	5.50	No
		y	-0.016	4.00	No
	78	y	-0.025	1.00	No

		y	-0.025	7.00	No
		y	-0.111	2.00	No
	80	y	-0.055	2.00	No
		y	-0.055	7.00	No
		y	-0.12	1.00	No
	81	y	-0.025	1.00	No
		y	-0.025	7.00	No
		y	-0.111	2.00	No
	82	y	-0.055	2.00	No
		y	-0.055	7.00	No
		y	-0.12	1.00	No
	90	y	-0.033	0.50	No
	93	y	-0.033	1.00	No
	94	y	-0.025	1.00	No
		y	-0.025	7.00	No
		y	-0.06	2.00	No
		y	-0.038	5.50	No
	122	y	-0.025	1.00	No
		y	-0.025	7.00	No
	123	y	-0.025	1.00	No
		y	-0.025	7.00	No
	130	y	-0.025	1.00	No
		y	-0.025	7.00	No
	133	y	-0.111	0.50	No
	136	y	-0.033	0.50	No
	139	y	-0.033	0.50	No
Wo	9	z	-0.071	3.50	No
		z	-0.03	2.50	No
	74	z	-0.127	1.50	No
		z	-0.127	4.00	No
	75	z	-0.214	2.00	No
		z	-0.214	7.00	No
		z	-0.124	0.50	No
	76	z	-0.127	1.50	No
		z	-0.127	4.00	No
		z	-0.117	0.50	No
		z	-0.03	5.50	No
	77	z	-0.116	0.50	No
		z	-0.116	5.50	No
		z	-0.04	4.00	No
	78	z	-0.13	1.00	No
		z	-0.13	7.00	No
		z	-0.122	2.00	No
	80	z	-0.125	2.00	No
		z	-0.125	7.00	No
		z	-0.124	1.00	No
	81	z	-0.13	1.00	No
		z	-0.13	7.00	No
		z	-0.122	2.00	No
	82	z	-0.125	2.00	No
		z	-0.125	7.00	No
		z	-0.124	1.00	No
	90	z	-0.048	0.50	No
	93	z	-0.048	1.00	No
	94	z	-0.13	1.00	No
		z	-0.13	7.00	No
		z	-0.071	2.00	No
		z	-0.03	5.50	No
	122	z	-0.13	1.00	No
		z	-0.13	7.00	No

	123	z	-0.13	1.00	No
		z	-0.13	7.00	No
	130	z	-0.13	1.00	No
		z	-0.13	7.00	No
	133	z	-0.122	0.50	No
	136	z	-0.048	0.50	No
	139	z	-0.048	0.50	No
W30	9	3	-0.056	3.50	No
		3	-0.046	2.50	No
	74	3	-0.114	1.50	No
		3	-0.114	4.00	No
	75	3	-0.183	2.00	No
		3	-0.183	7.00	No
		3	-0.106	0.50	No
	76	3	-0.114	1.50	No
		3	-0.114	4.00	No
		3	-0.106	0.50	No
		3	-0.046	5.50	No
	77	3	-0.104	0.50	No
		3	-0.104	5.50	No
		3	-0.032	4.00	No
	78	3	-0.161	1.00	No
		3	-0.161	7.00	No
		3	-0.11	2.00	No
	80	3	-0.168	2.00	No
		3	-0.168	7.00	No
		3	-0.096	1.00	No
	81	3	-0.161	1.00	No
		3	-0.161	7.00	No
		3	-0.11	2.00	No
	82	3	-0.168	2.00	No
		3	-0.168	7.00	No
		3	-0.096	1.00	No
	90	3	-0.048	0.50	No
	93	3	-0.048	1.00	No
	94	3	-0.161	1.00	No
		3	-0.161	7.00	No
		3	-0.056	2.00	No
		3	-0.046	5.50	No
	122	3	-0.161	1.00	No
		3	-0.161	7.00	No
	123	3	-0.161	1.00	No
		3	-0.161	7.00	No
	130	3	-0.161	1.00	No
		3	-0.161	7.00	No
	133	3	-0.11	0.50	No
	136	3	-0.048	0.50	No
	139	3	-0.048	0.50	No
W60	9	3	-0.105	3.50	No
		3	-0.072	2.50	No
	74	3	-0.086	1.50	No
		3	-0.086	4.00	No
	75	3	-0.12	2.00	No
		3	-0.12	7.00	No
		3	-0.182	0.50	No
	76	3	-0.086	1.50	No
		3	-0.086	4.00	No
		3	-0.083	0.50	No
		3	-0.076	5.50	No
	77	3	-0.079	0.50	No

		3	-0.079	5.50	No
		3	-0.016	4.00	No
	78	3	-0.223	1.00	No
		3	-0.223	7.00	No
		3	-0.211	2.00	No
	80	3	-0.253	2.00	No
		3	-0.253	7.00	No
		3	-0.21	1.00	No
	81	3	-0.223	1.00	No
		3	-0.223	7.00	No
		3	-0.211	2.00	No
	82	3	-0.253	2.00	No
		3	-0.253	7.00	No
		3	-0.21	1.00	No
	90	3	-0.048	0.50	No
	93	3	-0.048	1.00	No
	94	3	-0.223	1.00	No
		3	-0.223	7.00	No
		3	-0.105	2.00	No
		3	-0.072	5.50	No
	122	3	-0.223	1.00	No
		3	-0.223	7.00	No
	123	3	-0.223	1.00	No
		3	-0.223	7.00	No
	130	3	-0.223	1.00	No
		3	-0.223	7.00	No
	133	3	-0.211	0.50	No
	136	3	-0.048	0.50	No
	139	3	-0.048	0.50	No
W90	9	x	-0.117	3.50	No
		x	-0.092	2.50	No
	74	x	-0.072	1.50	No
		x	-0.072	4.00	No
	75	x	-0.088	2.00	No
		x	-0.088	7.00	No
		x	-0.203	0.50	No
	76	x	-0.072	1.50	No
		x	-0.072	4.00	No
		x	-0.071	0.50	No
		x	-0.092	5.50	No
	77	x	-0.066	0.50	No
		x	-0.066	5.50	No
		x	-0.008	4.00	No
	78	x	-0.254	1.00	No
		x	-0.254	7.00	No
		x	-0.236	2.00	No
	80	x	-0.295	2.00	No
		x	-0.295	7.00	No
		x	-0.203	1.00	No
	81	x	-0.254	1.00	No
		x	-0.254	7.00	No
		x	-0.236	2.00	No
	82	x	-0.295	2.00	No
		x	-0.295	7.00	No
		x	-0.203	1.00	No
	90	x	-0.048	0.50	No
	93	x	-0.048	1.00	No
	94	x	-0.254	1.00	No
		x	-0.254	7.00	No
		x	-0.117	2.00	No

		x	-0.092	5.50	No
	122	x	-0.254	1.00	No
		x	-0.254	7.00	No
	123	x	-0.254	1.00	No
		x	-0.254	7.00	No
	130	x	-0.254	1.00	No
		x	-0.254	7.00	No
	133	x	-0.236	0.50	No
	136	x	-0.048	0.50	No
	139	x	-0.048	0.50	No
W120	9	2	-0.105	3.50	No
		2	-0.072	2.50	No
	74	2	-0.086	1.50	No
		2	-0.086	4.00	No
	75	2	-0.12	2.00	No
		2	-0.12	7.00	No
		2	-0.211	0.50	No
	76	2	-0.086	1.50	No
		2	-0.086	4.00	No
		2	-0.083	0.50	No
		2	-0.076	5.50	No
	77	2	-0.079	0.50	No
		2	-0.079	5.50	No
		2	-0.016	4.00	No
	78	2	-0.223	1.00	No
		2	-0.223	7.00	No
		2	-0.21	2.00	No
	80	2	-0.253	2.00	No
		2	-0.253	7.00	No
		2	-0.182	1.00	No
	81	2	-0.223	1.00	No
		2	-0.223	7.00	No
		2	-0.21	2.00	No
	82	2	-0.253	2.00	No
		2	-0.253	7.00	No
		2	-0.182	1.00	No
	90	2	-0.048	0.50	No
	93	2	-0.048	1.00	No
	94	2	-0.223	1.00	No
		2	-0.223	7.00	No
		2	-0.105	2.00	No
		2	-0.072	5.50	No
	122	2	-0.223	1.00	No
		2	-0.223	7.00	No
	123	2	-0.223	1.00	No
		2	-0.223	7.00	No
	130	2	-0.223	1.00	No
		2	-0.223	7.00	No
	133	2	-0.182	0.50	No
	136	2	-0.048	0.50	No
	139	2	-0.048	0.50	No
W150	9	2	-0.056	3.50	No
		2	-0.046	2.50	No
	74	2	-0.114	1.50	No
		2	-0.114	4.00	No
	75	2	-0.183	2.00	No
		2	-0.183	7.00	No
		2	-0.106	0.50	No
	76	2	-0.114	1.50	No
		2	-0.114	4.00	No

		2	-0.106	0.50	No
		2	-0.046	5.50	No
	77	2	-0.104	0.50	No
		2	-0.104	5.50	No
		2	-0.032	4.00	No
	78	2	-0.161	1.00	No
		2	-0.161	7.00	No
		2	-0.11	2.00	No
	80	2	-0.168	2.00	No
		2	-0.168	7.00	No
		2	-0.104	1.00	No
	81	2	-0.161	1.00	No
		2	-0.161	7.00	No
		2	-0.104	2.00	No
	82	2	-0.168	2.00	No
		2	-0.168	7.00	No
	90	2	-0.048	0.50	No
	93	2	-0.048	1.00	No
	94	2	-0.161	1.00	No
		2	-0.161	7.00	No
		2	-0.056	2.00	No
		2	-0.046	5.50	No
	122	2	-0.161	1.00	No
		2	-0.161	7.00	No
	123	2	-0.161	1.00	No
		2	-0.161	7.00	No
	130	2	-0.161	1.00	No
		2	-0.161	7.00	No
	133	2	-0.11	0.50	No
	136	2	-0.048	0.50	No
	139	2	-0.048	0.50	No
Di	9	y	-0.051	3.50	No
		y	-0.038	2.50	No
	74	y	-0.052	1.50	No
		y	-0.052	4.00	No
	75	y	-0.082	2.00	No
		y	-0.082	7.00	No
		y	-0.089	0.50	No
	76	y	-0.052	1.50	No
		y	-0.052	4.00	No
		y	-0.051	0.50	No
		y	-0.038	5.50	No
	77	y	-0.098	0.50	No
		y	-0.098	5.50	No
		y	-0.016	4.00	No
	78	y	-0.098	1.00	No
		y	-0.098	7.00	No
		y	-0.099	2.00	No
	80	y	-0.11	2.00	No
		y	-0.11	7.00	No
		y	-0.089	1.00	No
	81	y	-0.098	1.00	No
		y	-0.098	7.00	No
		y	-0.099	2.00	No
	82	y	-0.11	2.00	No
		y	-0.11	7.00	No
		y	-0.089	1.00	No
	90	y	-0.033	0.50	No
	93	y	-0.033	1.00	No
	94	y	-0.098	1.00	No

		y	-0.098	7.00	No
		y	-0.051	2.00	No
		y	-0.038	5.50	No
	122	y	-0.098	1.00	No
		y	-0.098	7.00	No
	123	y	-0.098	1.00	No
		y	-0.098	7.00	No
	130	y	-0.098	1.00	No
		y	-0.098	7.00	No
	133	y	-0.099	0.50	No
	136	y	-0.033	0.50	No
	139	y	-0.033	0.50	No
WI0	9	z	-0.017	3.50	No
		z	-0.01	2.50	No
	74	z	-0.025	1.50	No
		z	-0.025	4.00	No
	75	z	-0.04	2.00	No
		z	-0.04	7.00	No
		z	-0.03	0.50	No
	76	z	-0.025	1.50	No
		z	-0.025	4.00	No
		z	-0.025	0.50	No
		z	-0.01	5.50	No
	77	z	-0.024	0.50	No
		z	-0.024	5.50	No
		z	-0.012	4.00	No
	78	z	-0.028	1.00	No
		z	-0.028	7.00	No
		z	-0.029	2.00	No
	80	z	-0.028	2.00	No
		z	-0.028	7.00	No
		z	-0.03	1.00	No
	81	z	-0.028	1.00	No
		z	-0.028	7.00	No
		z	-0.029	2.00	No
	82	z	-0.028	2.00	No
		z	-0.028	7.00	No
		z	-0.03	1.00	No
	90	z	-0.011	0.50	No
	93	z	-0.011	1.00	No
	94	z	-0.028	1.00	No
		z	-0.028	7.00	No
		z	-0.017	2.00	No
		z	-0.01	5.50	No
	122	z	-0.028	1.00	No
		z	-0.028	7.00	No
	123	z	-0.028	1.00	No
		z	-0.028	7.00	No
	130	z	-0.028	1.00	No
		z	-0.028	7.00	No
	133	z	-0.029	0.50	No
	136	z	-0.011	0.50	No
	139	z	-0.011	0.50	No
WI30	9	3	-0.012	3.50	No
		3	-0.014	2.50	No
	74	3	-0.023	1.50	No
		3	-0.023	4.00	No
	75	3	-0.035	2.00	No
		3	-0.035	7.00	No
		3	-0.02	0.50	No

	76	3	-0.023	1.50	No
		3	-0.023	4.00	No
		3	-0.022	0.50	No
		3	-0.014	5.50	No
	77	3	-0.021	0.50	No
		3	-0.021	5.50	No
		3	-0.01	4.00	No
	78	3	-0.032	1.00	No
		3	-0.032	7.00	No
		3	-0.023	2.00	No
	80	3	-0.034	2.00	No
		3	-0.034	7.00	No
		3	-0.02	1.00	No
	81	3	-0.032	1.00	No
		3	-0.032	7.00	No
		3	-0.023	2.00	No
	82	3	-0.034	2.00	No
		3	-0.034	7.00	No
		3	-0.02	1.00	No
	90	3	-0.011	0.50	No
	93	3	-0.011	1.00	No
	94	3	-0.032	1.00	No
		3	-0.032	7.00	No
		3	-0.012	2.00	No
		3	-0.014	5.50	No
	122	3	-0.032	1.00	No
		3	-0.032	7.00	No
	123	3	-0.032	1.00	No
		3	-0.032	7.00	No
	130	3	-0.032	1.00	No
		3	-0.032	7.00	No
	133	3	-0.023	0.50	No
	136	3	-0.011	0.50	No
	139	3	-0.011	0.50	No
WI60	9	3	-0.022	3.50	No
		3	-0.018	2.50	No
	74	3	-0.018	1.50	No
		3	-0.018	4.00	No
	75	3	-0.024	2.00	No
		3	-0.024	7.00	No
		3	-0.038	0.50	No
	76	3	-0.018	1.50	No
		3	-0.018	4.00	No
		3	-0.018	0.50	No
		3	-0.018	5.50	No
	77	3	-0.017	0.50	No
		3	-0.017	5.50	No
		3	-0.006	4.00	No
	78	3	-0.042	1.00	No
		3	-0.042	7.00	No
		3	-0.044	2.00	No
	80	3	-0.048	2.00	No
		3	-0.048	7.00	No
		3	-0.038	1.00	No
	81	3	-0.042	1.00	No
		3	-0.042	7.00	No
		3	-0.044	2.00	No
	82	3	-0.048	2.00	No
		3	-0.048	7.00	No
		3	-0.038	1.00	No

	90	3	-0.011	0.50	No
	93	3	-0.011	1.00	No
	94	3	-0.042	1.00	No
		3	-0.042	7.00	No
		3	-0.022	2.00	No
		3	-0.018	5.50	No
	122	3	-0.042	1.00	No
		3	-0.042	7.00	No
	123	3	-0.042	1.00	No
		3	-0.042	7.00	No
	130	3	-0.042	1.00	No
		3	-0.042	7.00	No
	133	3	-0.044	0.50	No
	136	3	-0.011	0.50	No
	139	3	-0.011	0.50	No
WI90	9	x	-0.025	3.50	No
		x	-0.022	2.50	No
	74	x	-0.016	1.50	No
		x	-0.016	4.00	No
	75	x	-0.019	2.00	No
		x	-0.019	7.00	No
		x	-0.044	0.50	No
	76	x	-0.016	1.50	No
		x	-0.016	4.00	No
		x	-0.016	0.50	No
		x	-0.022	5.50	No
	77	x	-0.015	0.50	No
		x	-0.015	5.50	No
		x	-0.004	4.00	No
	78	x	-0.047	1.00	No
		x	-0.047	7.00	No
		x	-0.049	2.00	No
	80	x	-0.054	2.00	No
		x	-0.054	7.00	No
		x	-0.044	1.00	No
	81	x	-0.047	1.00	No
		x	-0.047	7.00	No
		x	-0.049	2.00	No
	82	x	-0.054	2.00	No
		x	-0.054	7.00	No
		x	-0.044	1.00	No
	90	x	-0.011	0.50	No
	93	x	-0.011	1.00	No
	94	x	-0.047	1.00	No
		x	-0.047	7.00	No
		x	-0.025	2.00	No
		x	-0.022	5.50	No
	122	x	-0.047	1.00	No
		x	-0.047	7.00	No
	123	x	-0.047	1.00	No
		x	-0.047	7.00	No
	130	x	-0.047	1.00	No
		x	-0.047	7.00	No
	133	x	-0.049	0.50	No
	136	x	-0.011	0.50	No
	139	x	-0.011	0.50	No
WI120	9	2	-0.022	3.50	No
		2	-0.018	2.50	No
	74	2	-0.018	1.50	No
		2	-0.018	4.00	No

	75	2	-0.024	2.00	No
		2	-0.024	7.00	No
		2	-0.038	0.50	No
	76	2	-0.018	1.50	No
		2	-0.018	4.00	No
		2	-0.018	0.50	No
		2	-0.018	5.50	No
	77	2	-0.017	0.50	No
		2	-0.017	5.50	No
		2	-0.006	4.00	No
	78	2	-0.042	1.00	No
		2	-0.042	7.00	No
		2	-0.044	2.00	No
	80	2	-0.048	2.00	No
		2	-0.048	7.00	No
		2	-0.038	1.00	No
	81	2	-0.042	1.00	No
		2	-0.042	7.00	No
		2	-0.044	2.00	No
	82	2	-0.048	2.00	No
		2	-0.048	7.00	No
		2	-0.038	1.00	No
	90	2	-0.011	0.50	No
	93	2	-0.011	1.00	No
	94	2	-0.042	1.00	No
		2	-0.042	7.00	No
		2	-0.022	2.00	No
		2	-0.018	5.50	No
	122	2	-0.042	1.00	No
		2	-0.042	7.00	No
	123	2	-0.042	1.00	No
		2	-0.042	7.00	No
	130	2	-0.042	1.00	No
		2	-0.042	7.00	No
	133	2	-0.044	0.50	No
	136	2	-0.011	0.50	No
	139	2	-0.011	0.50	No
WI150	9	2	-0.012	3.50	No
		2	-0.014	2.50	No
	74	2	-0.023	1.50	No
		2	-0.023	4.00	No
	75	2	-0.035	2.00	No
		2	-0.035	7.00	No
		2	-0.02	0.50	No
	76	2	-0.023	1.50	No
		2	-0.023	4.00	No
		2	-0.022	0.50	No
		2	-0.014	5.50	No
	77	2	-0.021	0.50	No
		2	-0.021	5.50	No
		2	-0.01	4.00	No
	78	2	-0.032	1.00	No
		2	-0.032	7.00	No
		2	-0.023	2.00	No
	80	2	-0.034	2.00	No
		2	-0.034	7.00	No
		2	-0.02	1.00	No
	81	2	-0.032	1.00	No
		2	-0.032	7.00	No
		2	-0.023	2.00	No

	82	2	-0.034	2.00	No
		2	-0.034	7.00	No
		2	-0.02	1.00	No
	90	2	-0.011	0.50	No
	93	2	-0.011	1.00	No
	94	2	-0.032	1.00	No
		2	-0.032	7.00	No
		2	-0.012	2.00	No
		2	-0.014	5.50	No
	122	2	-0.032	1.00	No
		2	-0.032	7.00	No
	123	2	-0.032	1.00	No
		2	-0.032	7.00	No
	130	2	-0.032	1.00	No
		2	-0.032	7.00	No
	133	2	-0.023	0.50	No
	136	2	-0.011	0.50	No
	139	2	-0.011	0.50	No
WL0	9	z	-0.004	3.50	No
		z	-0.002	2.50	No
	74	z	-0.008	1.50	No
		z	-0.008	4.00	No
	75	z	-0.013	2.00	No
		z	-0.013	7.00	No
		z	-0.007	0.50	No
	76	z	-0.008	1.50	No
		z	-0.008	4.00	No
		z	-0.007	0.50	No
		z	-0.002	5.50	No
	77	z	-0.007	0.50	No
		z	-0.007	5.50	No
		z	-0.002	4.00	No
	78	z	-0.008	1.00	No
		z	-0.008	7.00	No
		z	-0.007	2.00	No
	80	z	-0.008	2.00	No
		z	-0.008	7.00	No
		z	-0.007	1.00	No
	81	z	-0.008	1.00	No
		z	-0.008	7.00	No
		z	-0.007	2.00	No
	82	z	-0.008	2.00	No
		z	-0.008	7.00	No
		z	-0.007	1.00	No
	90	z	-0.003	0.50	No
	93	z	-0.003	1.00	No
	94	z	-0.008	1.00	No
		z	-0.008	7.00	No
		z	-0.004	2.00	No
		z	-0.002	5.50	No
	122	z	-0.008	1.00	No
		z	-0.008	7.00	No
	123	z	-0.008	1.00	No
		z	-0.008	7.00	No
	130	z	-0.008	1.00	No
		z	-0.008	7.00	No
	133	z	-0.007	0.50	No
	136	z	-0.003	0.50	No
	139	z	-0.003	0.50	No
WL30	9	3	-0.003	3.50	No

		3	-0.002	2.50	No
	74	3	-0.007	1.50	No
		3	-0.007	4.00	No
	75	3	-0.011	2.00	No
		3	-0.011	7.00	No
		3	-0.005	0.50	No
	76	3	-0.007	1.50	No
		3	-0.007	4.00	No
		3	-0.006	0.50	No
		3	-0.002	5.50	No
	77	3	-0.006	0.50	No
		3	-0.006	5.50	No
		3	-0.002	4.00	No
	78	3	-0.01	1.00	No
		3	-0.01	7.00	No
		3	-0.006	2.00	No
	80	3	-0.01	2.00	No
		3	-0.01	7.00	No
		3	-0.005	1.00	No
	81	3	-0.01	1.00	No
		3	-0.01	7.00	No
		3	-0.006	2.00	No
	82	3	-0.01	2.00	No
		3	-0.01	7.00	No
		3	-0.005	1.00	No
	90	3	-0.003	0.50	No
	93	3	-0.003	1.00	No
	94	3	-0.01	1.00	No
		3	-0.01	7.00	No
		3	-0.003	2.00	No
		3	-0.002	5.50	No
	122	3	-0.01	1.00	No
		3	-0.01	7.00	No
	123	3	-0.01	1.00	No
		3	-0.01	7.00	No
	130	3	-0.01	1.00	No
		3	-0.01	7.00	No
	133	3	-0.006	0.50	No
	136	3	-0.003	0.50	No
	139	3	-0.003	0.50	No
WL60	9	3	-0.006	3.50	No
		3	-0.004	2.50	No
	74	3	-0.005	1.50	No
		3	-0.005	4.00	No
	75	3	-0.007	2.00	No
		3	-0.007	7.00	No
		3	-0.01	0.50	No
	76	3	-0.005	1.50	No
		3	-0.005	4.00	No
		3	-0.005	0.50	No
		3	-0.004	5.50	No
	77	3	-0.005	0.50	No
		3	-0.005	5.50	No
	78	3	-0.013	1.00	No
		3	-0.013	7.00	No
		3	-0.012	2.00	No
	80	3	-0.015	2.00	No
		3	-0.015	7.00	No
		3	-0.01	1.00	No
	81	3	-0.013	1.00	No

		3	-0.013	7.00	No
		3	-0.012	2.00	No
	82	3	-0.015	2.00	No
		3	-0.015	7.00	No
		3	-0.01	1.00	No
	90	3	-0.003	0.50	No
	93	3	-0.003	1.00	No
	94	3	-0.013	1.00	No
		3	-0.013	7.00	No
		3	-0.006	2.00	No
		3	-0.004	5.50	No
	122	3	-0.013	1.00	No
		3	-0.013	7.00	No
	123	3	-0.013	1.00	No
		3	-0.013	7.00	No
	130	3	-0.013	1.00	No
		3	-0.013	7.00	No
	133	3	-0.012	0.50	No
	136	3	-0.003	0.50	No
	139	3	-0.003	0.50	No
WL90	9	x	-0.007	3.50	No
		x	-0.006	2.50	No
	74	x	-0.005	1.50	No
		x	-0.005	4.00	No
	75	x	-0.006	2.00	No
		x	-0.006	7.00	No
		x	-0.012	0.50	No
	76	x	-0.005	1.50	No
		x	-0.005	4.00	No
		x	-0.004	0.50	No
		x	-0.006	5.50	No
	77	x	-0.004	0.50	No
		x	-0.004	5.50	No
	78	x	-0.015	1.00	No
		x	-0.015	7.00	No
		x	-0.014	2.00	No
	80	x	-0.017	2.00	No
		x	-0.017	7.00	No
		x	-0.012	1.00	No
	81	x	-0.015	1.00	No
		x	-0.015	7.00	No
		x	-0.014	2.00	No
	82	x	-0.017	2.00	No
		x	-0.017	7.00	No
		x	-0.012	1.00	No
	90	x	-0.003	0.50	No
	93	x	-0.003	1.00	No
	94	x	-0.015	1.00	No
		x	-0.015	7.00	No
		x	-0.007	2.00	No
		x	-0.006	5.50	No
	122	x	-0.015	1.00	No
		x	-0.015	7.00	No
	123	x	-0.015	1.00	No
		x	-0.015	7.00	No
	130	x	-0.015	1.00	No
		x	-0.015	7.00	No
	133	x	-0.014	0.50	No
	136	x	-0.003	0.50	No
	139	x	-0.003	0.50	No

WL120	9	2	-0.006	3.50	No
		2	-0.004	2.50	No
	74	2	-0.005	1.50	No
		2	-0.005	4.00	No
	75	2	-0.007	2.00	No
		2	-0.007	7.00	No
		2	-0.009	0.50	No
	76	2	-0.005	1.50	No
		2	-0.005	4.00	No
		2	-0.005	0.50	No
		2	-0.004	5.50	No
	77	2	-0.005	0.50	No
		2	-0.005	5.50	No
	78	2	-0.013	1.00	No
		2	-0.013	7.00	No
		2	-0.012	2.00	No
	80	2	-0.015	2.00	No
		2	-0.015	7.00	No
		2	-0.01	1.00	No
	81	2	-0.013	1.00	No
		2	-0.013	7.00	No
		2	-0.012	2.00	No
	82	2	-0.015	2.00	No
		2	-0.015	7.00	No
		2	-0.01	1.00	No
	90	2	-0.003	0.50	No
	93	2	-0.003	1.00	No
	94	2	-0.013	1.00	No
		2	-0.013	7.00	No
		2	-0.006	2.00	No
		2	-0.004	5.50	No
	122	2	-0.013	1.00	No
		2	-0.013	7.00	No
	123	2	-0.013	1.00	No
		2	-0.013	7.00	No
	130	2	-0.013	1.00	No
		2	-0.013	7.00	No
	133	2	-0.012	0.50	No
	136	2	-0.003	0.50	No
	139	2	-0.003	0.50	No
WL150	9	2	-0.003	3.50	No
		2	-0.002	2.50	No
	74	2	-0.007	1.50	No
		2	-0.007	4.00	No
	75	2	-0.011	2.00	No
		2	-0.011	7.00	No
		2	-0.005	0.50	No
	76	2	-0.007	1.50	No
		2	-0.007	4.00	No
		2	-0.003	0.50	No
		2	-0.002	5.50	No
	77	2	-0.006	0.50	No
		2	-0.006	5.50	No
		2	-0.002	4.00	No
	78	2	-0.01	1.00	No
		2	-0.01	7.00	No
		2	-0.006	2.00	No
	80	2	-0.01	2.00	No
		2	-0.01	7.00	No
		2	-0.005	1.00	No

	81	2	-0.01	1.00	No
		2	-0.01	7.00	No
		2	-0.006	2.00	No
	82	2	-0.01	2.00	No
		2	-0.01	7.00	No
		2	-0.005	1.00	No
	90	2	-0.003	0.50	No
	93	2	-0.003	1.00	No
	94	2	-0.01	1.00	No
		2	-0.01	7.00	No
		2	-0.003	2.00	No
		2	-0.002	5.50	No
	122	2	-0.01	1.00	No
		2	-0.01	7.00	No
	123	2	-0.01	1.00	No
		2	-0.01	7.00	No
	130	2	-0.01	1.00	No
		2	-0.01	7.00	No
	133	2	-0.006	0.50	No
	136	2	-0.003	0.50	No
	139	2	-0.003	0.50	No
LL1	3	y	-0.25	11.75	No
LL2	3	y	-0.25	0.00	No
LL3	3	y	-0.25	23.50	No
LLa1	77	y	-0.25	3.50	No
LLa2	76	y	-0.25	3.50	No
LLa3	75	y	-0.25	4.00	No
LLa4	74	y	-0.25	3.50	No

Self weight multipliers for load conditions

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

LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	250 lb Live Load Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

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

Bentley

Current Date: 5/30/2019 10:26 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2118\LTE 5C-6C-7C\Rev. 2\CT2118 (LTE 5C-6C-7C)(Rev. 2).etz\

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
	C 8X11.5	**1**	LC4 at 95.63%	0.34	With warnings	Eq. H1-1a
		2	LC4 at 17.71%	0.47	OK	Eq. H1-1b
		3	LC13 at 4.17%	0.38	With warnings	Eq. H1-1a
		4	LC4 at 16.96%	0.26	OK	Eq. H1-1b
		26	LC4 at 81.25%	0.07	OK	Eq. H1-1b
		28	LC4 at 83.33%	0.60	OK	Eq. H1-1b
		29	LC7 at 0.00%	0.18	OK	Eq. H1-1b
		30	LC10 at 81.25%	0.08	OK	
		140	LC10 at 0.00%	0.04	OK	Eq. H1-1b
		141	LC7 at 50.00%	0.00	OK	Eq. H1-1b
		142	LC10 at 100.00%	0.03	OK	Eq. H1-1b
		143	LC4 at 32.81%	**1.60**	**N.G.**	Eq. H1-1b
		144	LC7 at 50.00%	0.00	OK	Eq. H1-1b
		145	LC10 at 100.00%	0.03	OK	Eq. H1-1b
		166	LC1 at 0.00%	0.05	With warnings	Eq. H1-1b
		167	LC1 at 100.00%	0.05	With warnings	Eq. H1-1b
	HSS_SQR 4X4X1_4	**196**	LC16 at 0.00%	0.04	OK	Eq. H1-1b
		197	LC4 at 0.00%	**0.10**	**OK**	Eq. H1-1b
	L 2-1_2X2-1_2X1_4	**9**	LC1 at 48.21%	1.90	N.G.	Eq. H2-1
		10	LC1 at 100.00%	**0.62**	With warnings	Eq. H2-1
		11	LC19 at 71.88%	**2.90**	**N.G.**	Eq. H2-1
		12	LC1 at 0.00%	1.05	N.G.	Eq. H2-1
		21	LC13 at 100.00%	1.62	N.G.	Eq. H2-1
		22	LC7 at 0.00%	0.98	With warnings	Sec. F1
		23	LC1 at 79.46%	2.54	N.G.	Eq. H2-1

	24	LC1 at 0.00%	0.96	With warnings	Sec. F1
L 2X2X1_4	**5**	LC1 at 0.00%	1.67	N.G.	Sec. F1
	6	LC1 at 0.00%	1.62	N.G.	Sec. F1
	7	LC7 at 0.00%	1.97	N.G.	Sec. F1
	8	LC7 at 0.00%	2.01	N.G.	Sec. F1
	13	LC7 at 65.63%	0.45	OK	Sec. F1
	14	LC1 at 0.00%	1.00	OK	Sec. F1
	15	LC1 at 0.00%	0.81	OK	Sec. F1
	16	LC10 at 0.00%	0.42	OK	Eq. H2-1
	17	LC1 at 0.00%	1.48	N.G.	Sec. F1
	18	LC1 at 0.00%	1.17	N.G.	Sec. F1
	19	LC7 at 0.00%	0.49	OK	Sec. F1
	20	LC1 at 65.63%	0.40	OK	Eq. H2-1
	154	LC1 at 0.00%	0.03	OK	Eq. H2-1
	155	LC1 at 100.00%	0.03	OK	Sec. F1
	156	LC5 at 0.00%	0.02	OK	Sec. F1
	157	LC3 at 100.00%	0.03	OK	Eq. H2-1
	158	LC1 at 0.00%	0.03	OK	Eq. H2-1
	159	LC7 at 100.00%	0.06	OK	Sec. F1
	160	LC7 at 0.00%	0.04	OK	Sec. F1
	161	LC7 at 100.00%	0.02	OK	Eq. H2-1
	162	LC1 at 0.00%	0.01	OK	Eq. H2-1
	163	LC33 at 100.00%	0.07	OK	Sec. F1
	164	LC33 at 100.00%	2.82	N.G.	Eq. H2-1
	165	LC29 at 0.00%	**2.83**	**N.G.**	Eq. H2-1
PIPE 2-1_2x0.203	**74**	LC1 at 81.25%	0.41	OK	Eq. H1-1b
	75	LC1 at 71.88%	0.98	OK	Eq. H1-1b
	76	LC7 at 81.25%	0.71	OK	Eq. H1-1b
	77	LC7 at 81.25%	0.41	OK	Eq. H1-1b
	78	LC4 at 71.88%	1.36	N.G.	Eq. H1-1b
	79	LC4 at 81.25%	0.06	OK	Eq. H1-1b
	80	LC10 at 68.75%	1.26	N.G.	Eq. H1-1b
	81	LC4 at 33.33%	0.37	OK	Eq. H1-1b
	82	LC10 at 71.88%	1.35	N.G.	Eq. H1-1b
	83	LC5 at 81.25%	0.00	OK	Sec. E1
	94	LC10 at 71.88%	1.11	N.G.	Eq. H1-1b
	97	LC4 at 72.50%	**1.48**	**N.G.**	Eq. H3-6
	122	LC4 at 56.25%	0.42	OK	Eq. H1-1b
	123	LC4 at 56.25%	0.42	OK	Eq. H1-1b
	130	LC10 at 33.33%	0.28	OK	
PIPE 2x0.154	**90**	LC1 at 34.38%	0.15	OK	Eq. H1-1b
	93	LC4 at 39.58%	0.13	OK	Eq. H1-1b
	127	LC7 at 48.44%	0.41	OK	Eq. H1-1b
	133	LC1 at 0.00%	0.31	OK	Eq. H3-1
	136	LC1 at 100.00%	0.28	OK	Eq. H3-6
	139	LC1 at 100.00%	**0.43**	**OK**	Eq. H3-6
	183	LC7 at 48.44%	0.33	OK	Eq. H1-1b
PL 6x1/2	**186**	LC4 at 50.00%	0.29	OK	Eq. H1-1b
	187	LC11 at 0.00%	0.13	OK	Eq. H1-1b
	188	LC10 at 0.00%	0.18	OK	Eq. H1-1b
	191	LC10 at 50.00%	**0.41**	**OK**	Eq. H1-1b
	192	LC5 at 0.00%	0.14	OK	Eq. H1-1b
	193	LC4 at 0.00%	0.21	OK	Eq. H1-1b
PL 6x3/8	**33**	LC4 at 0.00%	0.44	OK	Eq. H1-1b
	36	LC3 at 0.00%	21.65	N.G.	Eq. H3-6
	45	LC9 at 0.00%	13.79	N.G.	Eq. H3-6
	172	LC10 at 0.00%	2.55	N.G.	Eq. H3-6
	173	LC12 at 0.00%	6.33	N.G.	Eq. H3-6
	174	LC4 at 0.00%	**23.57**	**N.G.**	Eq. H3-6

	175	LC12 at 0.00%	2.01	N.G.	Eq. H3-6
	176	LC29 at 100.00%	0.07	OK	Sec. F1
	178	LC9 at 0.00%	23.49	N.G.	Eq. H3-6
W 5X16	**63**	LC4 at 0.00%	**0.65**	**OK**	Eq. H1-1b
	72	LC5 at 100.00%	0.20	OK	Eq. H1-1b

Bentley

Current Date: 5/30/2019 10:26 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2118\LTE 5C-6C-7C\Rev. 2\CT2118 (LTE 5C-6C-7C)(Rev. 2).etz\

Geometry data

GLOSSARY

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

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	0.00	0
2	23.50	0.00	0.00	0
3	23.50	0.00	10.00	0
4	0.00	0.00	10.00	0
5	0.00	3.21	0.00	0
6	23.50	3.21	0.00	0
7	23.50	3.21	10.00	0
8	0.00	3.21	10.00	0
9	4.67	0.00	10.00	0
10	4.67	3.21	10.00	0
11	9.34	0.00	10.00	0
12	9.34	3.21	10.00	0
13	14.01	0.00	10.00	0
14	14.01	3.21	10.00	0
15	18.68	0.00	10.00	0
16	18.68	3.21	10.00	0
17	4.67	0.00	0.00	0
18	9.34	0.00	0.00	0
19	14.01	0.00	0.00	0
20	18.68	0.00	0.00	0
21	4.67	3.21	0.00	0

22	9.34	3.21	0.00	0
23	14.01	3.21	0.00	0
24	18.68	3.21	0.00	0
25	0.00	2.05	0.00	0
26	23.50	2.05	0.00	0
27	23.50	2.05	10.00	0
28	0.00	2.05	10.00	0
29	4.67	2.05	10.00	0
30	9.34	2.05	10.00	0
31	14.01	2.05	10.00	0
32	18.68	2.05	10.00	0
33	4.67	2.05	0.00	0
34	9.34	2.05	0.00	0
35	14.01	2.05	0.00	0
36	18.68	2.05	0.00	0
46	1.67	0.00	8.33	0
47	1.67	0.00	1.66	0
48	21.83	0.00	8.33	0
49	21.83	0.00	1.67	0
50	1.67	0.00	10.00	0
51	1.67	0.00	0.00	0
52	21.83	0.00	0.00	0
53	21.83	0.00	10.00	0
55	14.75	0.00	10.00	0
56	8.75	0.00	10.00	0
57	8.75	0.00	0.00	0
58	14.75	0.00	0.00	0
63	0.00	0.00	6.10	0
69	-0.58	0.00	6.67	0
72	-0.58	0.00	2.17	0
81	23.50	0.00	1.25	0
87	24.08	0.00	1.25	0
123	-0.50	0.33	8.33	0
127	1.10	0.333	11.9743	0
130	2.50	0.00	0.00	0
144	-1.00	0.33	8.33	0
148	1.3275	0.33	11.6857	0
154	-0.50	-2.00	8.33	0
155	-0.58	-1.00	6.67	0
156	-0.58	-2.00	2.17	0
157	0.30	-1.00	-0.58	0
164	-0.50	6.00	8.33	0
165	-0.58	5.00	6.67	0
166	-0.58	6.00	2.17	0
167	0.30	5.00	-0.58	0
180	13.51	0.00	0.20	0
183	13.51	3.50	0.20	0
188	10.84	0.00	9.80	0
189	10.84	3.50	9.80	0
190	24.08	-2.00	1.25	0
191	24.08	6.00	1.25	0
192	8.75	0.00	8.33	0
193	8.75	0.00	1.67	0
194	14.75	0.00	1.67	0
195	14.75	0.00	8.33	0
200	1.3275	-1.00	11.6857	0
201	1.3275	4.00	11.6857	0
233	0.1875	-1.50	11.6157	0
234	0.9575	-1.50	12.7857	0
235	0.1875	6.50	11.6157	0

236	0.9575	6.50	12.7857	0
243	22.50	-1.00	-0.20	0
244	22.50	5.00	-0.20	0
247	22.50	6.00	-0.40	0
248	22.50	-2.00	-0.40	0
277	5.21	0.00	1.665	0
278	11.75	0.00	1.67	0
279	18.29	0.00	1.67	0
280	18.29	0.00	8.33	0
281	11.75	0.00	8.33	0
282	5.21	0.00	8.33	0
292	0.00	0.00	2.17	0
296	0.00	0.00	6.67	0
297	0.30	0.00	0.00	0
298	0.30	0.00	-0.58	0
299	3.72	5.00	-0.58	0
300	3.72	-1.00	-0.58	0
301	3.72	0.00	0.00	0
302	3.72	0.00	-0.58	0
303	8.05	6.00	-0.58	0
304	12.38	5.00	-0.58	0
305	8.05	0.00	0.00	0
306	12.38	0.00	0.00	0
307	8.05	0.00	-0.58	0
308	12.38	0.00	-0.58	0
309	8.05	-2.00	-0.58	0
310	12.38	-1.00	-0.58	0
319	23.50	0.00	4.08	0
320	24.08	0.00	4.08	0
321	24.08	-1.00	4.08	0
322	24.08	5.00	4.08	0
323	23.50	0.00	5.83	0
324	24.08	0.00	5.83	0
325	24.08	-2.00	5.83	0
326	24.08	6.00	5.83	0
337	22.50	-1.00	10.25	0
338	22.50	5.00	10.25	0
341	22.50	6.00	10.50	0
342	22.50	-2.00	10.50	0
343	0.00	0.00	0.20	0
344	0.9875	3.50	12.3657	0
345	0.5875	3.50	11.7657	0
350	1.3275	0.50	11.6857	0
351	0.9875	2.00	12.3657	0
352	0.5875	2.00	11.7657	0
357	1.3275	3.50	11.6857	0
358	0.7875	3.50	12.0657	0
359	1.3275	2.00	11.6857	0
360	0.7875	2.00	12.0657	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
46	1	1	1	0	0	0
47	1	1	1	0	0	0
48	1	1	1	0	0	0
49	1	1	1	0	0	0
50	1	1	1	0	0	0
51	1	1	1	0	0	0
52	1	1	1	0	0	0
53	1	1	1	0	0	0
55	1	1	1	0	0	0
56	1	1	1	0	0	0
57	1	1	1	0	0	0
58	1	1	1	0	0	0
192	1	1	1	1	1	1
193	1	1	1	1	1	1
194	1	1	1	1	1	1
195	1	1	1	1	1	1
277	1	1	1	0	0	0
278	1	1	1	0	0	0
279	1	1	1	0	0	0
280	1	1	1	0	0	0
281	1	1	1	0	0	0
282	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	4	3		C 8X11.5	A36	0.00	0.00	0.00
2	3	2		C 8X11.5	A36	0.00	0.00	0.00
3	2	1		C 8X11.5	A36	0.00	0.00	0.00
4	1	4		C 8X11.5	A36	0.00	0.00	0.00
5	4	8		L 2X2X1_4	A36	0.00	0.00	0.00
6	1	5		L 2X2X1_4	A36	0.00	0.00	0.00
7	2	6		L 2X2X1_4	A36	0.00	0.00	0.00
8	3	7		L 2X2X1_4	A36	0.00	0.00	0.00
9	8	7		L 2-1_2X2-1_2X1_4	A36	0.00	0.00	0.00
10	7	6		L 2-1_2X2-1_2X1_4	A36	0.00	0.00	0.00
11	6	5		L 2-1_2X2-1_2X1_4	A36	0.00	0.00	0.00
12	5	8		L 2-1_2X2-1_2X1_4	A36	0.00	0.00	0.00
13	9	10		L 2X2X1_4	A36	0.00	0.00	0.00
14	11	12		L 2X2X1_4	A36	0.00	0.00	0.00
15	13	14		L 2X2X1_4	A36	0.00	0.00	0.00
16	15	16		L 2X2X1_4	A36	0.00	0.00	0.00
17	17	21		L 2X2X1_4	A36	0.00	0.00	0.00
18	18	22		L 2X2X1_4	A36	0.00	0.00	0.00
19	19	23		L 2X2X1_4	A36	0.00	0.00	0.00
20	20	24		L 2X2X1_4	A36	0.00	0.00	0.00
21	28	27		L 2-1_2X2-1_2X1_4	A36	0.00	0.00	0.00
22	27	26		L 2-1_2X2-1_2X1_4	A36	0.00	0.00	0.00
23	26	25		L 2-1_2X2-1_2X1_4	A36	0.00	0.00	0.00
24	25	28		L 2-1_2X2-1_2X1_4	A36	0.00	0.00	0.00
26	52	53		C 8X11.5	A36	0.00	0.00	0.00
28	51	50		C 8X11.5	A36	0.00	0.00	0.00
29	56	57		C 8X11.5	A36	0.00	0.00	0.00
30	58	55		C 8X11.5	A36	0.00	0.00	0.00
33	296	69		PL 6x3/8	A36	0.00	0.00	0.00

36	292	72	PL 6x3/8	A36	0.00	0.00	0.00
45	81	87	PL 6x3/8	A36	0.00	0.00	0.00
63	272	127	W 5X16	A992 Gr50	0.00	0.00	0.00
72	144	273	W 5X16	A992 Gr50	0.00	0.00	0.00
74	304	310	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
75	303	309	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
76	299	300	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
77	167	157	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
78	166	156	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
79	165	155	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
80	164	154	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
81	341	342	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
82	326	325	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
83	322	321	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
90	181	180	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
93	189	188	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
94	191	190	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
97	201	200	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
122	235	233	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
123	236	234	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
127	244	243	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
130	247	248	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
133	262	263	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
136	266	267	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
139	270	271	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
140	47	193	C 8X11.5	A36	0.00	0.00	0.00
141	193	194	C 8X11.5	A36	0.00	0.00	0.00
142	194	49	C 8X11.5	A36	0.00	0.00	0.00
143	46	192	C 8X11.5	A36	0.00	0.00	0.00
144	192	195	C 8X11.5	A36	0.00	0.00	0.00
145	195	48	C 8X11.5	A36	0.00	0.00	0.00
154	52	279	L 2X2X1_4	A36	0.00	0.00	0.00
155	279	58	L 2X2X1_4	A36	0.00	0.00	0.00
156	58	278	L 2X2X1_4	A36	0.00	0.00	0.00
157	278	57	L 2X2X1_4	A36	0.00	0.00	0.00
158	57	277	L 2X2X1_4	A36	0.00	0.00	0.00
159	277	51	L 2X2X1_4	A36	0.00	0.00	0.00
160	53	280	L 2X2X1_4	A36	0.00	0.00	0.00
161	280	55	L 2X2X1_4	A36	0.00	0.00	0.00
162	55	281	L 2X2X1_4	A36	0.00	0.00	0.00
163	281	56	L 2X2X1_4	A36	0.00	0.00	0.00
164	56	282	L 2X2X1_4	A36	0.00	0.00	0.00
165	282	50	L 2X2X1_4	A36	0.00	0.00	0.00
166	288	287	C 8X11.5	A36	0.00	0.00	0.00
167	289	290	C 8X11.5	A36	0.00	0.00	0.00
172	297	298	PL 6x3/8	A36	0.00	0.00	0.00
173	301	302	PL 6x3/8	A36	0.00	0.00	0.00
174	305	307	PL 6x3/8	A36	0.00	0.00	0.00
175	306	308	PL 6x3/8	A36	0.00	0.00	0.00
176	320	319	PL 6x3/8	A36	0.00	0.00	0.00
178	323	324	PL 6x3/8	A36	0.00	0.00	0.00
183	338	337	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
186	345	344	PL 6x1/2	A36	0.00	0.00	0.00
187	345	346	PL 6x1/2	A36	0.00	0.00	0.00
188	344	347	PL 6x1/2	A36	0.00	0.00	0.00
191	352	351	PL 6x1/2	A36	0.00	0.00	0.00
192	352	353	PL 6x1/2	A36	0.00	0.00	0.00
193	351	354	PL 6x1/2	A36	0.00	0.00	0.00
196	357	358	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
197	359	360	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	180.00	0	0.00	0.00	0.00
2	180.00	0	0.00	0.00	0.00
3	180.00	0	0.00	0.00	0.00
4	180.00	0	0.00	0.00	0.00
5	0.00	2	1.00	0.00	0.00
6	0.00	2	0.00	0.00	1.00
7	0.00	2	-1.00	0.00	0.00
8	0.00	2	0.00	0.00	-1.00
9	90.00	0	0.00	0.00	0.00
10	90.00	0	0.00	0.00	0.00
11	90.00	0	0.00	0.00	0.00
12	90.00	0	0.00	0.00	0.00
13	0.00	2	-1.00	0.00	0.00
14	0.00	2	-1.00	0.00	0.00
15	0.00	2	0.00	0.00	1.00
16	0.00	2	0.00	0.00	1.00
17	0.00	2	0.00	0.00	-1.00
18	0.00	2	0.00	0.00	-1.00
19	0.00	2	1.00	0.00	0.00
20	0.00	2	1.00	0.00	0.00
21	180.00	0	0.00	0.00	0.00
22	180.00	0	0.00	0.00	0.00
23	180.00	0	0.00	0.00	0.00
24	180.00	0	0.00	0.00	0.00
33	90.00	0	0.00	0.00	0.00
36	90.00	0	0.00	0.00	0.00
45	90.00	0	0.00	0.00	0.00
74	315.00	0	0.00	0.00	0.00
75	315.00	0	0.00	0.00	0.00
76	315.00	0	0.00	0.00	0.00
77	315.00	0	0.00	0.00	0.00
78	315.00	0	0.00	0.00	0.00
80	315.00	0	0.00	0.00	0.00
81	315.00	0	0.00	0.00	0.00
82	315.00	0	0.00	0.00	0.00
90	315.00	0	0.00	0.00	0.00
93	315.00	0	0.00	0.00	0.00
94	315.00	0	0.00	0.00	0.00
122	315.00	0	0.00	0.00	0.00
123	315.00	0	0.00	0.00	0.00
130	315.00	0	0.00	0.00	0.00
133	315.00	0	0.00	0.00	0.00
136	315.00	0	0.00	0.00	0.00
139	315.00	0	0.00	0.00	0.00
140	180.00	0	0.00	0.00	0.00
141	180.00	0	0.00	0.00	0.00
142	180.00	0	0.00	0.00	0.00
176	90.00	0	0.00	0.00	0.00
178	90.00	0	0.00	0.00	0.00

Rigid end offsets

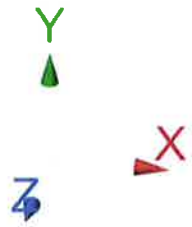
Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
21	0.00	0.00	-2.00	0.00	0.00	-2.00
23	0.00	0.00	2.00	0.00	0.00	2.00
63	0.00	2.00	0.00	0.00	2.00	0.00
72	0.00	2.00	0.00	0.00	2.00	0.00
74	0.00	0.00	-3.00	0.00	0.00	-3.00
75	0.00	0.00	-3.00	0.00	0.00	-3.00
76	0.00	0.00	-3.00	0.00	0.00	-3.00
77	0.00	0.00	-3.00	0.00	0.00	-3.00
80	0.00	0.00	-3.50	0.00	0.00	-3.50
81	0.00	0.00	3.00	0.00	0.00	3.00
90	0.00	0.00	2.00	0.00	0.00	2.00
93	0.00	0.00	-2.00	0.00	0.00	-2.00
97	-2.50	0.00	2.50	-2.50	0.00	2.50
122	-2.50	0.00	2.50	-2.50	0.00	2.50
123	-2.50	0.00	2.50	-2.50	0.00	2.50
133	0.00	0.00	2.00	0.00	0.00	2.00
136	0.00	0.00	2.00	0.00	0.00	2.00
139	0.00	0.00	2.00	0.00	0.00	2.00
154	0.00	-1.00	0.00	0.00	-1.00	0.00
155	0.00	-1.00	0.00	0.00	-1.00	0.00
156	0.00	-1.00	0.00	0.00	-1.00	0.00
157	0.00	-1.00	0.00	0.00	-1.00	0.00
158	0.00	-1.00	0.00	0.00	-1.00	0.00
159	0.00	-1.00	0.00	0.00	-1.00	0.00
160	0.00	-1.00	0.00	0.00	-1.00	0.00
161	0.00	-1.00	0.00	0.00	-1.00	0.00
162	0.00	-1.00	0.00	0.00	-1.00	0.00
163	0.00	-1.00	0.00	0.00	-1.00	0.00
164	0.00	-1.00	0.00	0.00	-1.00	0.00
165	0.00	-1.00	0.00	0.00	-1.00	0.00
166	0.00	-8.00	0.00	0.00	-8.00	0.00
167	0.00	-8.00	0.00	0.00	-8.00	0.00
186	-2.50	0.00	2.50	-2.50	0.00	2.50
187	-2.50	0.00	2.50	-2.50	0.00	2.50
188	-2.50	0.00	2.50	-2.50	0.00	2.50
191	-2.50	0.00	2.50	-2.50	0.00	2.50
192	-2.50	0.00	2.50	-2.50	0.00	2.50
193	-2.50	0.00	2.50	-2.50	0.00	2.50
196	-2.50	0.00	2.50	-2.50	0.00	2.50
197	-2.50	0.00	2.50	-2.50	0.00	2.50

HUDSON
Design Group LLC

Mount Calculations
(Modified Conditions)

Bentley

Current Date: 5/30/2019 10:15 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2118\LTE 5C-6C-7C\Rev. 2\CT2118 (LTE 5C-6C-7C)(R



Bentley

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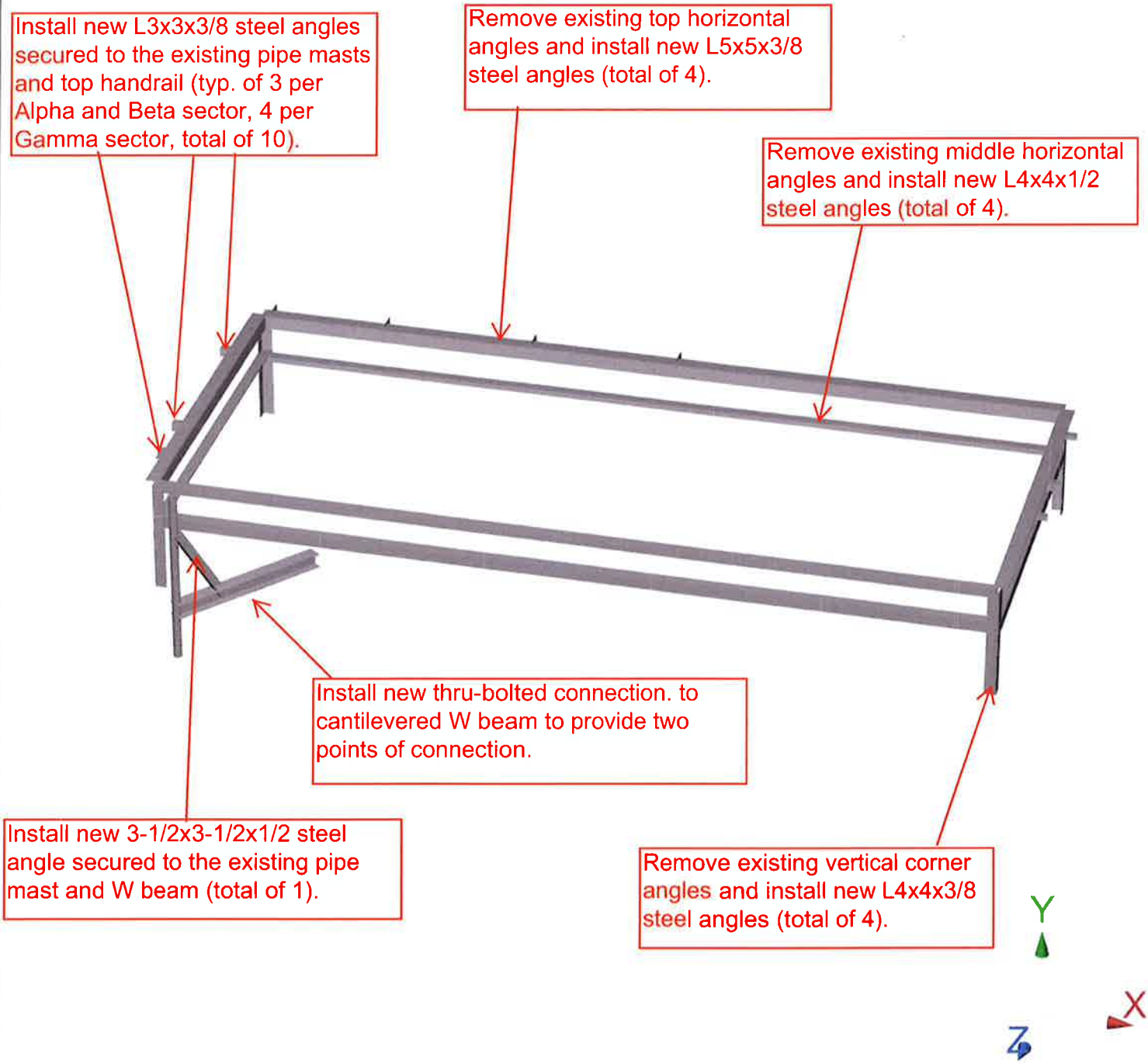
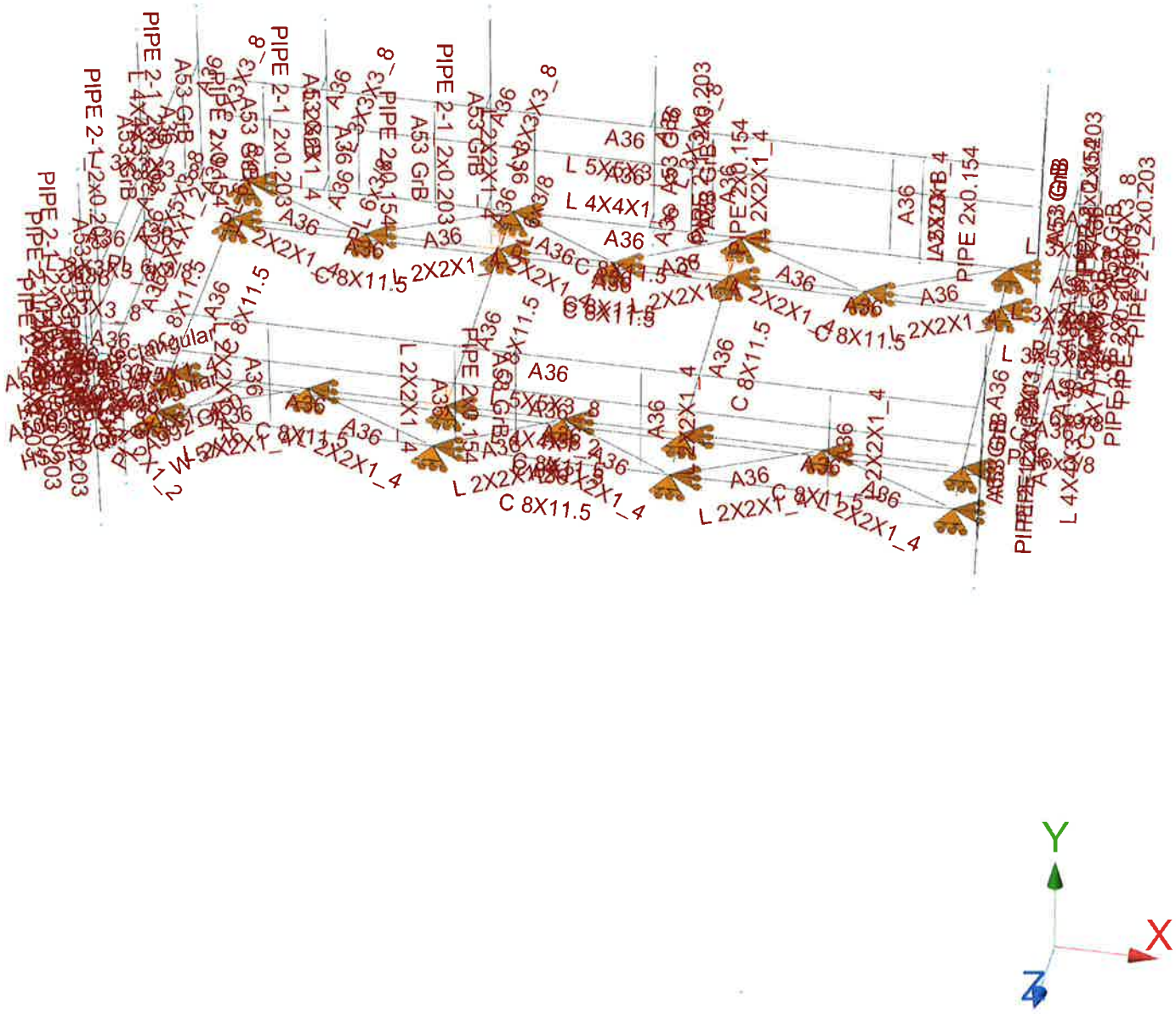


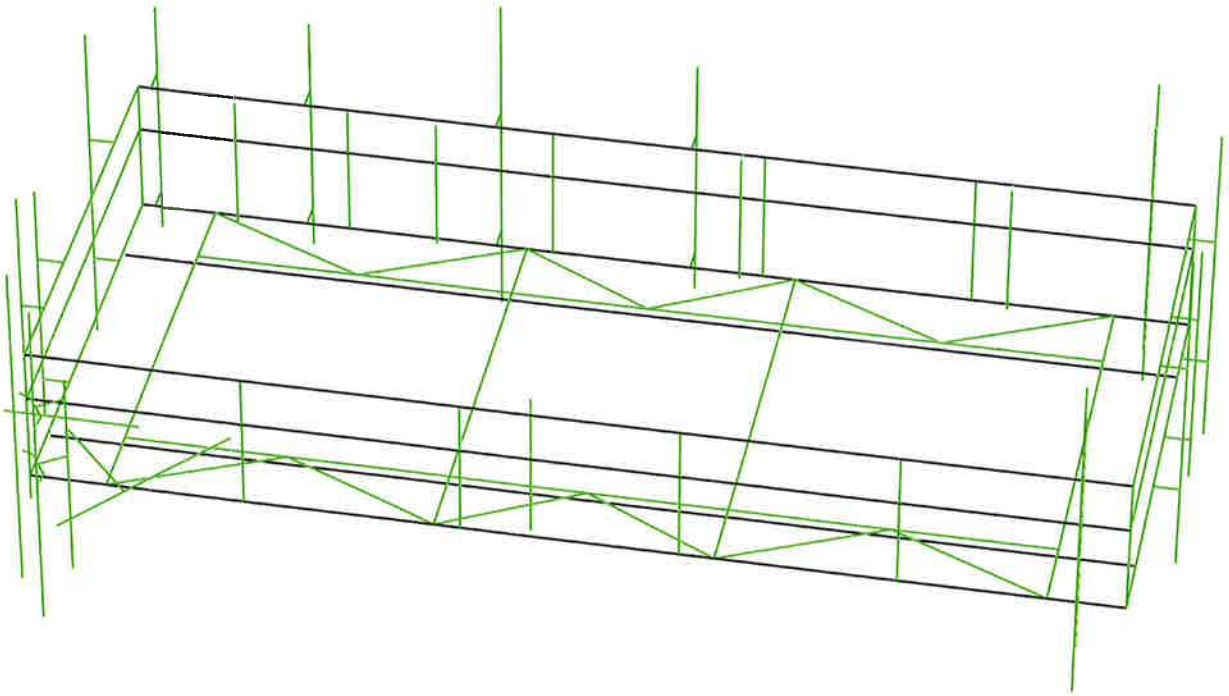

PIPE 2-1_2x0.203
A53 GrB
A36
L 5X5X3
L 4X4X1
PIPE 2-1 2x0.203
PIPE 2x0.154
L 2X2X1_4
C 8X11.5
Rectangular 4X2
Y
X
Z

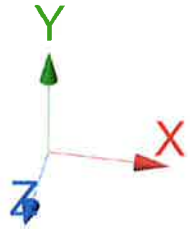
Bentley

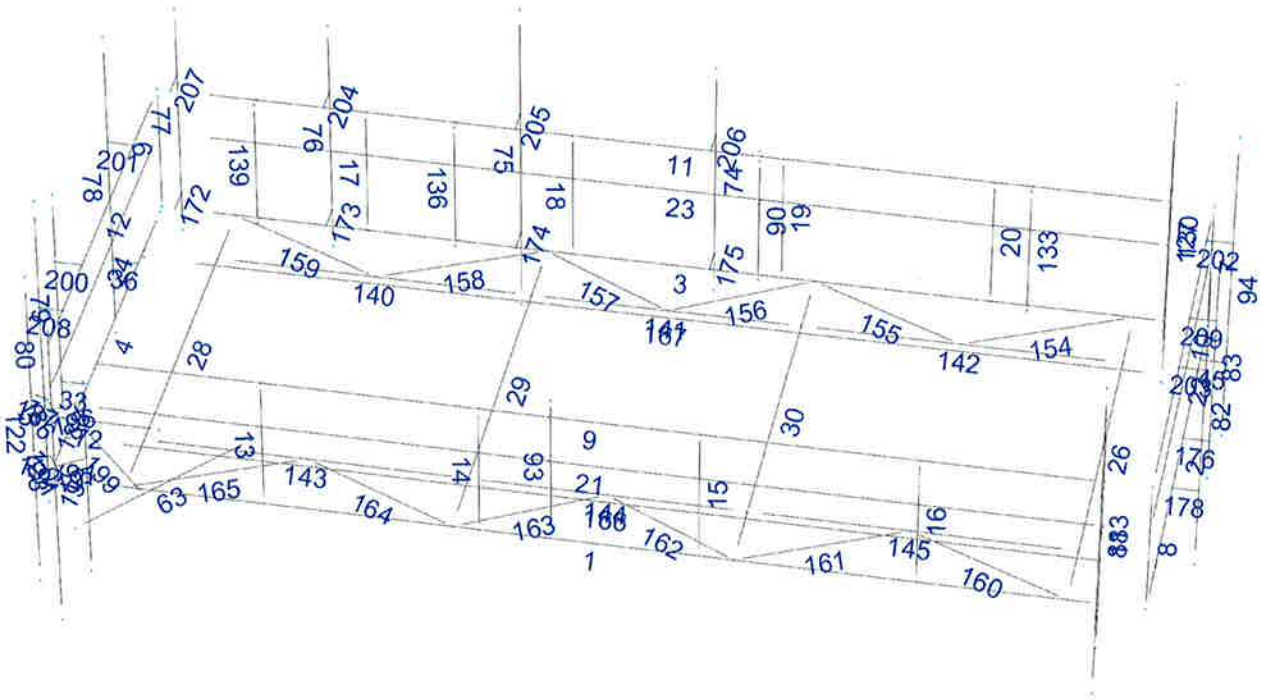
Current Date: 5/30/2019 10:27 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2118\LTE 5C-6C-7C\Rev. 2\CT2118 (LTE 5

Design status

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



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208
4
28
29
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9
13
143
14
36
21
15
16
145
160
63
165
164
163
162
161
1
26
178
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33
82
83


Y
X
Z

Bentley

Current Date: 5/30/2019 10:27 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2118\LTE 5C-6C-7C\Rev. 2\CT2118 (LTE 5C-6C-7C)(Rev. 2)(MODS).etz\

Load data

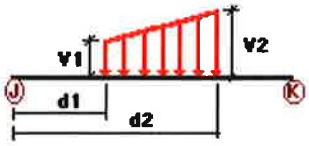
GLOSSARY

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
LLa4	250 lb Live Load Antenna 4	No	LL

Distributed force on members

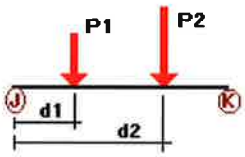


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
D	1	y	-0.01	0.00	0.00	No	0.00	No
	3	y	-0.01	0.00	0.00	No	0.00	No
	4	y	-0.01	0.00	0.00	No	0.00	No
	26	y	-0.01	0.00	0.00	No	0.00	No
	28	y	-0.01	0.00	0.00	No	0.00	No
	29	y	-0.01	0.00	0.00	No	0.00	No
Wo	1	z	-0.057	0.00	0.00	No	0.00	No
	3	z	-0.057	0.00	0.00	No	0.00	No
	5	z	-0.014	0.00	0.00	No	0.00	No
	8	z	-0.014	0.00	0.00	No	0.00	No
	9	z	-0.018	0.00	0.00	No	0.00	No
	11	z	-0.018	0.00	0.00	No	0.00	No
	13	z	-0.014	0.00	0.00	No	0.00	No
	14	z	-0.014	0.00	0.00	No	0.00	No
	15	z	-0.014	0.00	0.00	No	0.00	No
	16	z	-0.014	0.00	0.00	No	0.00	No
	17	z	-0.014	0.00	0.00	No	0.00	No
	18	z	-0.014	0.00	0.00	No	0.00	No
	19	z	-0.014	0.00	0.00	No	0.00	No
	20	z	-0.014	0.00	0.00	No	0.00	No
	21	z	-0.018	0.00	0.00	No	0.00	No
	23	z	-0.018	0.00	0.00	No	0.00	No
	33	z	-0.043	0.00	0.00	No	0.00	No
	36	z	-0.043	0.00	0.00	No	0.00	No
	45	z	-0.043	0.00	0.00	No	0.00	No
	63	z	-0.036	0.00	0.00	No	0.00	No
	72	z	-0.036	0.00	0.00	No	0.00	No
	74	z	-0.012	0.00	0.00	No	0.00	No
	75	z	-0.012	0.00	0.00	No	0.00	No
	76	z	-0.012	0.00	0.00	No	0.00	No
	77	z	-0.012	0.00	0.00	No	0.00	No
	81	z	-0.012	0.00	0.00	No	0.00	No
	90	z	-0.01	0.00	0.00	No	0.00	No
	93	z	-0.01	0.00	0.00	No	0.00	No
	123	z	-0.012	0.00	0.00	No	0.00	No
	127	z	-0.01	0.00	0.00	No	0.00	No
	130	z	-0.012	0.00	0.00	No	0.00	No
	133	z	-0.01	0.00	0.00	No	0.00	No
	136	z	-0.01	0.00	0.00	No	0.00	No
	139	z	-0.01	0.00	0.00	No	0.00	No
	176	z	-0.043	0.00	0.00	No	0.00	No
	178	z	-0.043	0.00	0.00	No	0.00	No
	183	z	-0.01	0.00	0.00	No	0.00	No
	186	z	-0.043	0.00	0.00	No	0.00	No
	187	z	-0.043	0.00	0.00	No	0.00	No
	188	z	-0.043	0.00	0.00	No	0.00	No
	191	z	-0.043	0.00	0.00	No	0.00	No
	192	z	-0.043	0.00	0.00	No	0.00	No
	193	z	-0.043	0.00	0.00	No	0.00	No
	196	z	-0.018	0.00	0.00	No	0.00	No
	200	z	-0.043	0.00	0.00	No	0.00	No
	201	z	-0.043	0.00	0.00	No	0.00	No
	202	z	-0.043	0.00	0.00	No	0.00	No
	203	z	-0.043	0.00	0.00	No	0.00	No
	209	z	-0.043	0.00	0.00	No	0.00	No
W90	2	x	-0.057	0.00	0.00	No	0.00	No
	4	x	-0.057	0.00	0.00	No	0.00	No
	5	x	-0.014	0.00	0.00	No	0.00	No
	6	x	-0.014	0.00	0.00	No	0.00	No
	7	x	-0.014	0.00	0.00	No	0.00	No

	8	x	-0.014	0.00	0.00	No	0.00	No
	10	x	-0.018	0.00	0.00	No	0.00	No
	12	x	-0.018	0.00	0.00	No	0.00	No
	22	x	-0.018	0.00	0.00	No	0.00	No
	24	x	-0.018	0.00	0.00	No	0.00	No
	26	x	-0.057	0.00	0.00	No	0.00	No
	28	x	-0.057	0.00	0.00	No	0.00	No
	29	x	-0.057	0.00	0.00	No	0.00	No
	30	x	-0.057	0.00	0.00	No	0.00	No
	45	x	-0.043	0.00	0.00	No	0.00	No
	63	x	-0.036	0.00	0.00	No	0.00	No
	77	x	-0.012	0.00	0.00	No	0.00	No
	78	x	-0.012	0.00	0.00	No	0.00	No
	79	x	-0.012	0.00	0.00	No	0.00	No
	80	x	-0.012	0.00	0.00	No	0.00	No
	81	x	-0.012	0.00	0.00	No	0.00	No
	82	x	-0.012	0.00	0.00	No	0.00	No
	94	x	-0.012	0.00	0.00	No	0.00	No
	97	x	-0.012	0.00	0.00	No	0.00	No
	122	x	-0.012	0.00	0.00	No	0.00	No
	123	x	-0.012	0.00	0.00	No	0.00	No
	130	x	-0.012	0.00	0.00	No	0.00	No
	176	x	-0.043	0.00	0.00	No	0.00	No
	178	x	-0.043	0.00	0.00	No	0.00	No
	186	x	-0.043	0.00	0.00	No	0.00	No
	187	x	-0.043	0.00	0.00	No	0.00	No
	188	x	-0.043	0.00	0.00	No	0.00	No
	191	x	-0.043	0.00	0.00	No	0.00	No
	192	x	-0.043	0.00	0.00	No	0.00	No
	193	x	-0.043	0.00	0.00	No	0.00	No
	196	x	-0.018	0.00	0.00	No	0.00	No
	202	x	-0.043	0.00	0.00	No	0.00	No
	203	x	-0.043	0.00	0.00	No	0.00	No
	209	x	-0.043	0.00	0.00	No	0.00	No
Di	1	y	-0.014	0.00	0.00	No	0.00	No
	2	y	-0.014	0.00	0.00	No	0.00	No
	3	y	-0.014	0.00	0.00	No	0.00	No
	4	y	-0.014	0.00	0.00	No	0.00	No
	5	y	-0.006	0.00	0.00	No	0.00	No
	6	y	-0.006	0.00	0.00	No	0.00	No
	7	y	-0.006	0.00	0.00	No	0.00	No
	8	y	-0.006	0.00	0.00	No	0.00	No
	9	y	-0.007	0.00	0.00	No	0.00	No
	10	y	-0.007	0.00	0.00	No	0.00	No
	11	y	-0.007	0.00	0.00	No	0.00	No
	12	y	-0.007	0.00	0.00	No	0.00	No
	13	y	-0.006	0.00	0.00	No	0.00	No
	14	y	-0.006	0.00	0.00	No	0.00	No
	15	y	-0.006	0.00	0.00	No	0.00	No
	16	y	-0.006	0.00	0.00	No	0.00	No
	17	y	-0.006	0.00	0.00	No	0.00	No
	18	y	-0.006	0.00	0.00	No	0.00	No
	19	y	-0.006	0.00	0.00	No	0.00	No
	20	y	-0.006	0.00	0.00	No	0.00	No
	21	y	-0.007	0.00	0.00	No	0.00	No
	22	y	-0.007	0.00	0.00	No	0.00	No
	23	y	-0.007	0.00	0.00	No	0.00	No
	24	y	-0.007	0.00	0.00	No	0.00	No
	26	y	-0.014	0.00	0.00	No	0.00	No
	28	y	-0.014	0.00	0.00	No	0.00	No

29	y	-0.014	0.00	0.00	No	0.00	No
30	y	-0.014	0.00	0.00	No	0.00	No
33	y	-0.011	0.00	0.00	No	0.00	No
36	y	-0.011	0.00	0.00	No	0.00	No
45	y	-0.011	0.00	0.00	No	0.00	No
63	y	-0.013	0.00	0.00	No	0.00	No
72	y	-0.013	0.00	0.00	No	0.00	No
74	y	-0.006	0.00	0.00	No	0.00	No
75	y	-0.006	0.00	0.00	No	0.00	No
76	y	-0.006	0.00	0.00	No	0.00	No
77	y	-0.006	0.00	0.00	No	0.00	No
78	y	-0.006	0.00	0.00	No	0.00	No
79	y	-0.006	0.00	0.00	No	0.00	No
80	y	-0.006	0.00	0.00	No	0.00	No
81	y	-0.006	0.00	0.00	No	0.00	No
82	y	-0.006	0.00	0.00	No	0.00	No
83	y	-0.006	0.00	0.00	No	0.00	No
90	y	-0.005	0.00	0.00	No	0.00	No
93	y	-0.005	0.00	0.00	No	0.00	No
94	y	-0.006	0.00	0.00	No	0.00	No
97	y	-0.006	0.00	0.00	No	0.00	No
122	y	-0.006	0.00	0.00	No	0.00	No
123	y	-0.006	0.00	0.00	No	0.00	No
127	y	-0.005	0.00	0.00	No	0.00	No
130	y	-0.006	0.00	0.00	No	0.00	No
133	y	-0.005	0.00	0.00	No	0.00	No
136	y	-0.005	0.00	0.00	No	0.00	No
139	y	-0.005	0.00	0.00	No	0.00	No
176	y	-0.011	0.00	0.00	No	0.00	No
178	y	-0.011	0.00	0.00	No	0.00	No
183	y	-0.005	0.00	0.00	No	0.00	No
186	y	-0.011	0.00	0.00	No	0.00	No
187	y	-0.011	0.00	0.00	No	0.00	No
188	y	-0.011	0.00	0.00	No	0.00	No
191	y	-0.011	0.00	0.00	No	0.00	No
192	y	-0.011	0.00	0.00	No	0.00	No
193	y	-0.011	0.00	0.00	No	0.00	No
196	y	-0.01	0.00	0.00	No	0.00	No
200	y	-0.011	0.00	0.00	No	0.00	No
201	y	-0.011	0.00	0.00	No	0.00	No
202	y	-0.011	0.00	0.00	No	0.00	No
203	y	-0.011	0.00	0.00	No	0.00	No
209	y	-0.011	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	9	y	-0.06	3.50	No
		y	-0.038	2.50	No
	74	y	-0.029	1.50	No
		y	-0.029	4.00	No
	75	y	-0.042	2.00	No
		y	-0.042	7.00	No
		y	-0.12	0.50	No
	76	y	-0.029	1.50	No
		y	-0.029	4.00	No
		y	-0.051	0.50	No
		y	-0.038	5.50	No
	77	y	-0.01	0.50	No
		y	-0.01	5.50	No
		y	-0.016	4.00	No
	78	y	-0.025	1.00	No
		y	-0.025	7.00	No
		y	-0.111	2.00	No
	80	y	-0.055	2.00	No
		y	-0.055	7.00	No
		y	-0.12	1.00	No
	81	y	-0.025	1.00	No
		y	-0.025	7.00	No
		y	-0.111	2.00	No
	82	y	-0.055	2.00	No
		y	-0.055	7.00	No
		y	-0.12	1.00	No
	90	y	-0.033	0.50	No
	93	y	-0.033	1.00	No
	94	y	-0.025	1.00	No
		y	-0.025	7.00	No
		y	-0.06	2.00	No
		y	-0.038	5.50	No
	122	y	-0.025	1.00	No
		y	-0.025	7.00	No
	123	y	-0.025	1.00	No
		y	-0.025	7.00	No
	130	y	-0.025	1.00	No
		y	-0.025	7.00	No
	133	y	-0.111	0.50	No
	136	y	-0.033	0.50	No
	139	y	-0.033	0.50	No
Wo	9	z	-0.071	3.50	No
		z	-0.03	2.50	No
	74	z	-0.127	1.50	No
		z	-0.127	4.00	No
	75	z	-0.214	2.00	No
		z	-0.214	7.00	No
		z	-0.124	0.50	No
	76	z	-0.127	1.50	No
		z	-0.127	4.00	No
		z	-0.117	0.50	No
		z	-0.03	5.50	No
	77	z	-0.116	0.50	No
		z	-0.116	5.50	No
		z	-0.04	4.00	No
	78	z	-0.13	1.00	No
		z	-0.13	7.00	No
		z	-0.122	2.00	No
	80	z	-0.125	2.00	No
		z	-0.125	7.00	No

		z	-0.124	1.00	No
	81	z	-0.13	1.00	No
		z	-0.13	7.00	No
		z	-0.122	2.00	No
	82	z	-0.125	2.00	No
		z	-0.125	7.00	No
		z	-0.124	1.00	No
	90	z	-0.048	0.50	No
	93	z	-0.048	1.00	No
	94	z	-0.13	1.00	No
		z	-0.13	7.00	No
		z	-0.071	2.00	No
		z	-0.03	5.50	No
	122	z	-0.13	1.00	No
		z	-0.13	7.00	No
	123	z	-0.13	1.00	No
		z	-0.13	7.00	No
	130	z	-0.13	1.00	No
		z	-0.13	7.00	No
	133	z	-0.122	0.50	No
	136	z	-0.048	0.50	No
	139	z	-0.048	0.50	No
W30	9	3	-0.056	3.50	No
		3	-0.046	2.50	No
	74	3	-0.114	1.50	No
		3	-0.114	4.00	No
	75	3	-0.183	2.00	No
		3	-0.183	7.00	No
		3	-0.106	0.50	No
	76	3	-0.114	1.50	No
		3	-0.114	4.00	No
		3	-0.106	0.50	No
		3	-0.046	5.50	No
	77	3	-0.104	0.50	No
		3	-0.104	5.50	No
		3	-0.032	4.00	No
	78	3	-0.161	1.00	No
		3	-0.161	7.00	No
		3	-0.11	2.00	No
	80	3	-0.168	2.00	No
		3	-0.168	7.00	No
		3	-0.096	1.00	No
	81	3	-0.161	1.00	No
		3	-0.161	7.00	No
		3	-0.11	2.00	No
	82	3	-0.168	2.00	No
		3	-0.168	7.00	No
		3	-0.096	1.00	No
	90	3	-0.048	0.50	No
	93	3	-0.048	1.00	No
	94	3	-0.161	1.00	No
		3	-0.161	7.00	No
		3	-0.056	2.00	No
		3	-0.046	5.50	No
	122	3	-0.161	1.00	No
		3	-0.161	7.00	No
	123	3	-0.161	1.00	No
		3	-0.161	7.00	No
	130	3	-0.161	1.00	No
		3	-0.161	7.00	No

	133	3	-0.11	0.50	No
	136	3	-0.048	0.50	No
	139	3	-0.048	0.50	No
W60	9	3	-0.105	3.50	No
		3	-0.072	2.50	No
	74	3	-0.086	1.50	No
		3	-0.086	4.00	No
	75	3	-0.12	2.00	No
		3	-0.12	7.00	No
		3	-0.182	0.50	No
	76	3	-0.086	1.50	No
		3	-0.086	4.00	No
		3	-0.083	0.50	No
		3	-0.076	5.50	No
	77	3	-0.079	0.50	No
		3	-0.079	5.50	No
		3	-0.016	4.00	No
	78	3	-0.223	1.00	No
		3	-0.223	7.00	No
		3	-0.211	2.00	No
	80	3	-0.253	2.00	No
		3	-0.253	7.00	No
		3	-0.21	1.00	No
	81	3	-0.223	1.00	No
		3	-0.223	7.00	No
		3	-0.211	2.00	No
	82	3	-0.253	2.00	No
		3	-0.253	7.00	No
		3	-0.21	1.00	No
	90	3	-0.048	0.50	No
	93	3	-0.048	1.00	No
	94	3	-0.223	1.00	No
		3	-0.223	7.00	No
		3	-0.105	2.00	No
		3	-0.072	5.50	No
	122	3	-0.223	1.00	No
		3	-0.223	7.00	No
	123	3	-0.223	1.00	No
		3	-0.223	7.00	No
	130	3	-0.223	1.00	No
		3	-0.223	7.00	No
	133	3	-0.211	0.50	No
	136	3	-0.048	0.50	No
	139	3	-0.048	0.50	No
W90	9	x	-0.117	3.50	No
		x	-0.092	2.50	No
	74	x	-0.072	1.50	No
		x	-0.072	4.00	No
	75	x	-0.088	2.00	No
		x	-0.088	7.00	No
		x	-0.203	0.50	No
	76	x	-0.072	1.50	No
		x	-0.072	4.00	No
		x	-0.071	0.50	No
		x	-0.092	5.50	No
	77	x	-0.066	0.50	No
		x	-0.066	5.50	No
		x	-0.008	4.00	No
	78	x	-0.254	1.00	No
		x	-0.254	7.00	No

		x	-0.236	2.00	No
	80	x	-0.295	2.00	No
		x	-0.295	7.00	No
		x	-0.203	1.00	No
	81	x	-0.254	1.00	No
		x	-0.254	7.00	No
		x	-0.236	2.00	No
	82	x	-0.295	2.00	No
		x	-0.295	7.00	No
		x	-0.203	1.00	No
	90	x	-0.048	0.50	No
	93	x	-0.048	1.00	No
	94	x	-0.254	1.00	No
		x	-0.254	7.00	No
		x	-0.117	2.00	No
		x	-0.092	5.50	No
	122	x	-0.254	1.00	No
		x	-0.254	7.00	No
	123	x	-0.254	1.00	No
		x	-0.254	7.00	No
	130	x	-0.254	1.00	No
		x	-0.254	7.00	No
	133	x	-0.236	0.50	No
	136	x	-0.048	0.50	No
	139	x	-0.048	0.50	No
W120	9	2	-0.105	3.50	No
		2	-0.072	2.50	No
	74	2	-0.086	1.50	No
		2	-0.086	4.00	No
	75	2	-0.12	2.00	No
		2	-0.12	7.00	No
		2	-0.211	0.50	No
	76	2	-0.086	1.50	No
		2	-0.086	4.00	No
		2	-0.083	0.50	No
		2	-0.076	5.50	No
	77	2	-0.079	0.50	No
		2	-0.079	5.50	No
		2	-0.016	4.00	No
	78	2	-0.223	1.00	No
		2	-0.223	7.00	No
		2	-0.21	2.00	No
	80	2	-0.253	2.00	No
		2	-0.253	7.00	No
		2	-0.182	1.00	No
	81	2	-0.223	1.00	No
		2	-0.223	7.00	No
		2	-0.21	2.00	No
	82	2	-0.253	2.00	No
		2	-0.253	7.00	No
		2	-0.182	1.00	No
	90	2	-0.048	0.50	No
	93	2	-0.048	1.00	No
	94	2	-0.223	1.00	No
		2	-0.223	7.00	No
		2	-0.105	2.00	No
		2	-0.072	5.50	No
	122	2	-0.223	1.00	No
		2	-0.223	7.00	No
	123	2	-0.223	1.00	No

		2	-0.223	7.00	No
	130	2	-0.223	1.00	No
		2	-0.223	7.00	No
	133	2	-0.182	0.50	No
	136	2	-0.048	0.50	No
	139	2	-0.048	0.50	No
W150	9	2	-0.056	3.50	No
		2	-0.046	2.50	No
	74	2	-0.114	1.50	No
		2	-0.114	4.00	No
	75	2	-0.183	2.00	No
		2	-0.183	7.00	No
		2	-0.106	0.50	No
	76	2	-0.114	1.50	No
		2	-0.114	4.00	No
		2	-0.106	0.50	No
		2	-0.046	5.50	No
	77	2	-0.104	0.50	No
		2	-0.104	5.50	No
		2	-0.032	4.00	No
	78	2	-0.161	1.00	No
		2	-0.161	7.00	No
		2	-0.11	2.00	No
	80	2	-0.168	2.00	No
		2	-0.168	7.00	No
		2	-0.104	1.00	No
	81	2	-0.161	1.00	No
		2	-0.161	7.00	No
		2	-0.104	2.00	No
	82	2	-0.168	2.00	No
		2	-0.168	7.00	No
	90	2	-0.048	0.50	No
	93	2	-0.048	1.00	No
	94	2	-0.161	1.00	No
		2	-0.161	7.00	No
		2	-0.056	2.00	No
		2	-0.046	5.50	No
	122	2	-0.161	1.00	No
		2	-0.161	7.00	No
	123	2	-0.161	1.00	No
		2	-0.161	7.00	No
	130	2	-0.161	1.00	No
		2	-0.161	7.00	No
	133	2	-0.11	0.50	No
	136	2	-0.048	0.50	No
	139	2	-0.048	0.50	No
Di	9	y	-0.051	3.50	No
		y	-0.038	2.50	No
	74	y	-0.052	1.50	No
		y	-0.052	4.00	No
	75	y	-0.082	2.00	No
		y	-0.082	7.00	No
		y	-0.089	0.50	No
	76	y	-0.052	1.50	No
		y	-0.052	4.00	No
		y	-0.051	0.50	No
		y	-0.038	5.50	No
	77	y	-0.098	0.50	No
		y	-0.098	5.50	No
		y	-0.016	4.00	No

	78	y	-0.098	1.00	No
		y	-0.098	7.00	No
		y	-0.099	2.00	No
	80	y	-0.11	2.00	No
		y	-0.11	7.00	No
		y	-0.089	1.00	No
	81	y	-0.098	1.00	No
		y	-0.098	7.00	No
		y	-0.099	2.00	No
	82	y	-0.11	2.00	No
		y	-0.11	7.00	No
		y	-0.089	1.00	No
	90	y	-0.033	0.50	No
	93	y	-0.033	1.00	No
	94	y	-0.098	1.00	No
		y	-0.098	7.00	No
		y	-0.051	2.00	No
		y	-0.038	5.50	No
	122	y	-0.098	1.00	No
		y	-0.098	7.00	No
	123	y	-0.098	1.00	No
		y	-0.098	7.00	No
	130	y	-0.098	1.00	No
		y	-0.098	7.00	No
	133	y	-0.099	0.50	No
	136	y	-0.033	0.50	No
	139	y	-0.033	0.50	No
WI0	9	z	-0.017	3.50	No
		z	-0.01	2.50	No
	74	z	-0.025	1.50	No
		z	-0.025	4.00	No
	75	z	-0.04	2.00	No
		z	-0.04	7.00	No
		z	-0.03	0.50	No
	76	z	-0.025	1.50	No
		z	-0.025	4.00	No
		z	-0.025	0.50	No
		z	-0.01	5.50	No
	77	z	-0.024	0.50	No
		z	-0.024	5.50	No
		z	-0.012	4.00	No
	78	z	-0.028	1.00	No
		z	-0.028	7.00	No
		z	-0.029	2.00	No
	80	z	-0.028	2.00	No
		z	-0.028	7.00	No
		z	-0.03	1.00	No
	81	z	-0.028	1.00	No
		z	-0.028	7.00	No
		z	-0.029	2.00	No
	82	z	-0.028	2.00	No
		z	-0.028	7.00	No
		z	-0.03	1.00	No
	90	z	-0.011	0.50	No
	93	z	-0.011	1.00	No
	94	z	-0.028	1.00	No
		z	-0.028	7.00	No
		z	-0.017	2.00	No
		z	-0.01	5.50	No
	122	z	-0.028	1.00	No

		z	-0.028	7.00	No
	123	z	-0.028	1.00	No
		z	-0.028	7.00	No
	130	z	-0.028	1.00	No
		z	-0.028	7.00	No
	133	z	-0.029	0.50	No
	136	z	-0.011	0.50	No
	139	z	-0.011	0.50	No
WI30	9	3	-0.012	3.50	No
		3	-0.014	2.50	No
	74	3	-0.023	1.50	No
		3	-0.023	4.00	No
	75	3	-0.035	2.00	No
		3	-0.035	7.00	No
		3	-0.02	0.50	No
	76	3	-0.023	1.50	No
		3	-0.023	4.00	No
		3	-0.022	0.50	No
		3	-0.014	5.50	No
	77	3	-0.021	0.50	No
		3	-0.021	5.50	No
		3	-0.01	4.00	No
	78	3	-0.032	1.00	No
		3	-0.032	7.00	No
		3	-0.023	2.00	No
	80	3	-0.034	2.00	No
		3	-0.034	7.00	No
		3	-0.02	1.00	No
	81	3	-0.032	1.00	No
		3	-0.032	7.00	No
		3	-0.023	2.00	No
	82	3	-0.034	2.00	No
		3	-0.034	7.00	No
		3	-0.02	1.00	No
	90	3	-0.011	0.50	No
	93	3	-0.011	1.00	No
	94	3	-0.032	1.00	No
		3	-0.032	7.00	No
		3	-0.012	2.00	No
		3	-0.014	5.50	No
	122	3	-0.032	1.00	No
		3	-0.032	7.00	No
	123	3	-0.032	1.00	No
		3	-0.032	7.00	No
	130	3	-0.032	1.00	No
		3	-0.032	7.00	No
	133	3	-0.023	0.50	No
	136	3	-0.011	0.50	No
	139	3	-0.011	0.50	No
WI60	9	3	-0.022	3.50	No
		3	-0.018	2.50	No
	74	3	-0.018	1.50	No
		3	-0.018	4.00	No
	75	3	-0.024	2.00	No
		3	-0.024	7.00	No
		3	-0.038	0.50	No
	76	3	-0.018	1.50	No
		3	-0.018	4.00	No
		3	-0.018	0.50	No
		3	-0.018	5.50	No

	77	3	-0.017	0.50	No
		3	-0.017	5.50	No
		3	-0.006	4.00	No
	78	3	-0.042	1.00	No
		3	-0.042	7.00	No
		3	-0.044	2.00	No
	80	3	-0.048	2.00	No
		3	-0.048	7.00	No
		3	-0.038	1.00	No
	81	3	-0.042	1.00	No
		3	-0.042	7.00	No
		3	-0.044	2.00	No
	82	3	-0.048	2.00	No
		3	-0.048	7.00	No
		3	-0.038	1.00	No
	90	3	-0.011	0.50	No
	93	3	-0.011	1.00	No
	94	3	-0.042	1.00	No
		3	-0.042	7.00	No
		3	-0.022	2.00	No
		3	-0.018	5.50	No
	122	3	-0.042	1.00	No
		3	-0.042	7.00	No
	123	3	-0.042	1.00	No
		3	-0.042	7.00	No
	130	3	-0.042	1.00	No
		3	-0.042	7.00	No
	133	3	-0.044	0.50	No
	136	3	-0.011	0.50	No
	139	3	-0.011	0.50	No
WI90	9	x	-0.025	3.50	No
		x	-0.022	2.50	No
	74	x	-0.016	1.50	No
		x	-0.016	4.00	No
	75	x	-0.019	2.00	No
		x	-0.019	7.00	No
		x	-0.044	0.50	No
	76	x	-0.016	1.50	No
		x	-0.016	4.00	No
		x	-0.016	0.50	No
		x	-0.022	5.50	No
	77	x	-0.015	0.50	No
		x	-0.015	5.50	No
		x	-0.004	4.00	No
	78	x	-0.047	1.00	No
		x	-0.047	7.00	No
		x	-0.049	2.00	No
	80	x	-0.054	2.00	No
		x	-0.054	7.00	No
		x	-0.044	1.00	No
	81	x	-0.047	1.00	No
		x	-0.047	7.00	No
		x	-0.049	2.00	No
	82	x	-0.054	2.00	No
		x	-0.054	7.00	No
		x	-0.044	1.00	No
	90	x	-0.011	0.50	No
	93	x	-0.011	1.00	No
	94	x	-0.047	1.00	No
		x	-0.047	7.00	No

		x	-0.025	2.00	No
		x	-0.022	5.50	No
	122	x	-0.047	1.00	No
		x	-0.047	7.00	No
	123	x	-0.047	1.00	No
		x	-0.047	7.00	No
	130	x	-0.047	1.00	No
		x	-0.047	7.00	No
	133	x	-0.049	0.50	No
	136	x	-0.011	0.50	No
	139	x	-0.011	0.50	No
WI120	9	2	-0.022	3.50	No
		2	-0.018	2.50	No
	74	2	-0.018	1.50	No
		2	-0.018	4.00	No
	75	2	-0.024	2.00	No
		2	-0.024	7.00	No
		2	-0.038	0.50	No
	76	2	-0.018	1.50	No
		2	-0.018	4.00	No
		2	-0.018	0.50	No
		2	-0.018	5.50	No
	77	2	-0.017	0.50	No
		2	-0.017	5.50	No
		2	-0.006	4.00	No
	78	2	-0.042	1.00	No
		2	-0.042	7.00	No
		2	-0.044	2.00	No
	80	2	-0.048	2.00	No
		2	-0.048	7.00	No
		2	-0.038	1.00	No
	81	2	-0.042	1.00	No
		2	-0.042	7.00	No
		2	-0.044	2.00	No
	82	2	-0.048	2.00	No
		2	-0.048	7.00	No
		2	-0.038	1.00	No
	90	2	-0.011	0.50	No
	93	2	-0.011	1.00	No
	94	2	-0.042	1.00	No
		2	-0.042	7.00	No
		2	-0.022	2.00	No
		2	-0.018	5.50	No
	122	2	-0.042	1.00	No
		2	-0.042	7.00	No
	123	2	-0.042	1.00	No
		2	-0.042	7.00	No
	130	2	-0.042	1.00	No
		2	-0.042	7.00	No
	133	2	-0.044	0.50	No
	136	2	-0.011	0.50	No
	139	2	-0.011	0.50	No
WI150	9	2	-0.012	3.50	No
		2	-0.014	2.50	No
	74	2	-0.023	1.50	No
		2	-0.023	4.00	No
	75	2	-0.035	2.00	No
		2	-0.035	7.00	No
		2	-0.02	0.50	No
	76	2	-0.023	1.50	No

		2	-0.023	4.00	No
		2	-0.022	0.50	No
		2	-0.014	5.50	No
	77	2	-0.021	0.50	No
		2	-0.021	5.50	No
		2	-0.01	4.00	No
	78	2	-0.032	1.00	No
		2	-0.032	7.00	No
		2	-0.023	2.00	No
	80	2	-0.034	2.00	No
		2	-0.034	7.00	No
		2	-0.02	1.00	No
	81	2	-0.032	1.00	No
		2	-0.032	7.00	No
		2	-0.023	2.00	No
	82	2	-0.034	2.00	No
		2	-0.034	7.00	No
		2	-0.02	1.00	No
	90	2	-0.011	0.50	No
	93	2	-0.011	1.00	No
	94	2	-0.032	1.00	No
		2	-0.032	7.00	No
		2	-0.012	2.00	No
		2	-0.014	5.50	No
	122	2	-0.032	1.00	No
		2	-0.032	7.00	No
	123	2	-0.032	1.00	No
		2	-0.032	7.00	No
	130	2	-0.032	1.00	No
		2	-0.032	7.00	No
	133	2	-0.023	0.50	No
	136	2	-0.011	0.50	No
	139	2	-0.011	0.50	No
WL0	9	z	-0.004	3.50	No
		z	-0.002	2.50	No
	74	z	-0.008	1.50	No
		z	-0.008	4.00	No
	75	z	-0.013	2.00	No
		z	-0.013	7.00	No
		z	-0.007	0.50	No
	76	z	-0.008	1.50	No
		z	-0.008	4.00	No
		z	-0.007	0.50	No
		z	-0.002	5.50	No
	77	z	-0.007	0.50	No
		z	-0.007	5.50	No
		z	-0.002	4.00	No
	78	z	-0.008	1.00	No
		z	-0.008	7.00	No
		z	-0.007	2.00	No
	80	z	-0.008	2.00	No
		z	-0.008	7.00	No
		z	-0.007	1.00	No
	81	z	-0.008	1.00	No
		z	-0.008	7.00	No
		z	-0.007	2.00	No
	82	z	-0.008	2.00	No
		z	-0.008	7.00	No
		z	-0.007	1.00	No
	90	z	-0.003	0.50	No

	93	z	-0.003	1.00	No
	94	z	-0.008	1.00	No
		z	-0.008	7.00	No
		z	-0.004	2.00	No
		z	-0.002	5.50	No
	122	z	-0.008	1.00	No
		z	-0.008	7.00	No
	123	z	-0.008	1.00	No
		z	-0.008	7.00	No
	130	z	-0.008	1.00	No
		z	-0.008	7.00	No
	133	z	-0.007	0.50	No
	136	z	-0.003	0.50	No
	139	z	-0.003	0.50	No
WL30	9	3	-0.003	3.50	No
		3	-0.002	2.50	No
	74	3	-0.007	1.50	No
		3	-0.007	4.00	No
	75	3	-0.011	2.00	No
		3	-0.011	7.00	No
		3	-0.005	0.50	No
	76	3	-0.007	1.50	No
		3	-0.007	4.00	No
		3	-0.006	0.50	No
		3	-0.002	5.50	No
	77	3	-0.006	0.50	No
		3	-0.006	5.50	No
		3	-0.002	4.00	No
	78	3	-0.01	1.00	No
		3	-0.01	7.00	No
		3	-0.006	2.00	No
	80	3	-0.01	2.00	No
		3	-0.01	7.00	No
		3	-0.005	1.00	No
	81	3	-0.01	1.00	No
		3	-0.01	7.00	No
		3	-0.006	2.00	No
	82	3	-0.01	2.00	No
		3	-0.01	7.00	No
		3	-0.005	1.00	No
	90	3	-0.003	0.50	No
	93	3	-0.003	1.00	No
	94	3	-0.01	1.00	No
		3	-0.01	7.00	No
		3	-0.003	2.00	No
		3	-0.002	5.50	No
	122	3	-0.01	1.00	No
		3	-0.01	7.00	No
	123	3	-0.01	1.00	No
		3	-0.01	7.00	No
	130	3	-0.01	1.00	No
		3	-0.01	7.00	No
	133	3	-0.006	0.50	No
	136	3	-0.003	0.50	No
	139	3	-0.003	0.50	No
WL60	9	3	-0.006	3.50	No
		3	-0.004	2.50	No
	74	3	-0.005	1.50	No
		3	-0.005	4.00	No
	75	3	-0.007	2.00	No

		3	-0.007	7.00	No
		3	-0.01	0.50	No
	76	3	-0.005	1.50	No
		3	-0.005	4.00	No
		3	-0.005	0.50	No
		3	-0.004	5.50	No
	77	3	-0.005	0.50	No
		3	-0.005	5.50	No
	78	3	-0.013	1.00	No
		3	-0.013	7.00	No
		3	-0.012	2.00	No
	80	3	-0.015	2.00	No
		3	-0.015	7.00	No
		3	-0.01	1.00	No
	81	3	-0.013	1.00	No
		3	-0.013	7.00	No
		3	-0.012	2.00	No
	82	3	-0.015	2.00	No
		3	-0.015	7.00	No
		3	-0.01	1.00	No
	90	3	-0.003	0.50	No
	93	3	-0.003	1.00	No
	94	3	-0.013	1.00	No
		3	-0.013	7.00	No
		3	-0.006	2.00	No
		3	-0.004	5.50	No
	122	3	-0.013	1.00	No
		3	-0.013	7.00	No
	123	3	-0.013	1.00	No
		3	-0.013	7.00	No
	130	3	-0.013	1.00	No
		3	-0.013	7.00	No
	133	3	-0.012	0.50	No
	136	3	-0.003	0.50	No
	139	3	-0.003	0.50	No
WL90	9	x	-0.007	3.50	No
		x	-0.006	2.50	No
	74	x	-0.005	1.50	No
		x	-0.005	4.00	No
	75	x	-0.006	2.00	No
		x	-0.006	7.00	No
		x	-0.012	0.50	No
	76	x	-0.005	1.50	No
		x	-0.005	4.00	No
		x	-0.004	0.50	No
		x	-0.006	5.50	No
	77	x	-0.004	0.50	No
		x	-0.004	5.50	No
	78	x	-0.015	1.00	No
		x	-0.015	7.00	No
		x	-0.014	2.00	No
	80	x	-0.017	2.00	No
		x	-0.017	7.00	No
		x	-0.012	1.00	No
	81	x	-0.015	1.00	No
		x	-0.015	7.00	No
		x	-0.014	2.00	No
	82	x	-0.017	2.00	No
		x	-0.017	7.00	No
		x	-0.012	1.00	No

	90	x	-0.003	0.50	No
	93	x	-0.003	1.00	No
	94	x	-0.015	1.00	No
		x	-0.015	7.00	No
		x	-0.007	2.00	No
		x	-0.006	5.50	No
	122	x	-0.015	1.00	No
		x	-0.015	7.00	No
	123	x	-0.015	1.00	No
		x	-0.015	7.00	No
	130	x	-0.015	1.00	No
		x	-0.015	7.00	No
	133	x	-0.014	0.50	No
	136	x	-0.003	0.50	No
	139	x	-0.003	0.50	No
WL120	9	2	-0.006	3.50	No
		2	-0.004	2.50	No
	74	2	-0.005	1.50	No
		2	-0.005	4.00	No
	75	2	-0.007	2.00	No
		2	-0.007	7.00	No
		2	-0.009	0.50	No
	76	2	-0.005	1.50	No
		2	-0.005	4.00	No
		2	-0.005	0.50	No
		2	-0.004	5.50	No
	77	2	-0.005	0.50	No
		2	-0.005	5.50	No
	78	2	-0.013	1.00	No
		2	-0.013	7.00	No
		2	-0.012	2.00	No
	80	2	-0.015	2.00	No
		2	-0.015	7.00	No
		2	-0.01	1.00	No
	81	2	-0.013	1.00	No
		2	-0.013	7.00	No
		2	-0.012	2.00	No
	82	2	-0.015	2.00	No
		2	-0.015	7.00	No
		2	-0.01	1.00	No
	90	2	-0.003	0.50	No
	93	2	-0.003	1.00	No
	94	2	-0.013	1.00	No
		2	-0.013	7.00	No
		2	-0.006	2.00	No
		2	-0.004	5.50	No
	122	2	-0.013	1.00	No
		2	-0.013	7.00	No
	123	2	-0.013	1.00	No
		2	-0.013	7.00	No
	130	2	-0.013	1.00	No
		2	-0.013	7.00	No
	133	2	-0.012	0.50	No
	136	2	-0.003	0.50	No
	139	2	-0.003	0.50	No
WL150	9	2	-0.003	3.50	No
		2	-0.002	2.50	No
	74	2	-0.007	1.50	No
		2	-0.007	4.00	No
	75	2	-0.011	2.00	No

		2	-0.011	7.00	No
		2	-0.005	0.50	No
	76	2	-0.007	1.50	No
		2	-0.007	4.00	No
		2	-0.003	0.50	No
		2	-0.002	5.50	No
	77	2	-0.006	0.50	No
		2	-0.006	5.50	No
		2	-0.002	4.00	No
	78	2	-0.01	1.00	No
		2	-0.01	7.00	No
		2	-0.006	2.00	No
	80	2	-0.01	2.00	No
		2	-0.01	7.00	No
		2	-0.005	1.00	No
	81	2	-0.01	1.00	No
		2	-0.01	7.00	No
		2	-0.006	2.00	No
	82	2	-0.01	2.00	No
		2	-0.01	7.00	No
		2	-0.005	1.00	No
	90	2	-0.003	0.50	No
	93	2	-0.003	1.00	No
	94	2	-0.01	1.00	No
		2	-0.01	7.00	No
		2	-0.003	2.00	No
		2	-0.002	5.50	No
	122	2	-0.01	1.00	No
		2	-0.01	7.00	No
	123	2	-0.01	1.00	No
		2	-0.01	7.00	No
	130	2	-0.01	1.00	No
		2	-0.01	7.00	No
	133	2	-0.006	0.50	No
	136	2	-0.003	0.50	No
	139	2	-0.003	0.50	No
LL1	3	y	-0.25	11.75	No
LL2	3	y	-0.25	0.00	No
LL3	3	y	-0.25	23.50	No
LLa1	77	y	-0.25	3.50	No
LLa2	76	y	-0.25	3.50	No
LLa3	75	y	-0.25	4.00	No
LLa4	74	y	-0.25	3.50	No

Self weight multipliers for load conditions

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

Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load Right End of Mount	No	0.00	0.00	0.00
LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	250 lb Live Load Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

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

Bentley

Current Date: 5/30/2019 10:27 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2118\LTE 5C-6C-7C\Rev. 2\CT2118 (LTE 5C-6C-7C)(Rev. 2)(MODS).etz\

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
	C 8X11.5	**1**	LC4 at 95.45%	0.60	With warnings	Eq. H1-1a
		2	LC4 at 17.71%	0.21	OK	Eq. H1-1b
		3	LC4 at 4.51%	**0.71**	**With warnings**	Eq. H1-1a
		4	LC1 at 100.00%	0.18	OK	Eq. H1-1b
		26	LC4 at 18.75%	0.07	OK	Eq. H1-1b
		28	LC4 at 16.67%	0.09	OK	Eq. H1-1b
		29	LC10 at 81.25%	0.08	OK	
		30	LC10 at 81.25%	0.08	OK	
		140	LC10 at 0.00%	0.03	OK	Eq. H1-1b
		141	LC7 at 50.00%	0.00	OK	Eq. H1-1b
		142	LC10 at 100.00%	0.03	OK	Eq. H1-1b
		143	LC5 at 4.69%	0.12	OK	Eq. H1-1b
		144	LC1 at 50.00%	0.00	OK	Eq. H1-1b
		145	LC10 at 100.00%	0.03	OK	Eq. H1-1b
		166	LC1 at 0.00%	0.05	With warnings	Eq. H1-1b
		167	LC1 at 100.00%	0.05	With warnings	Eq. H1-1b
	HSS_SQR 4X4X1_4	**196**	**LC10 at 0.00%**	0.04	**OK**	**Eq. H1-1b**
		197	**LC4 at 0.00%**	**0.08**	**OK**	**Eq. H1-1b**
	L 2X2X1_4	**13**	**LC10 at 100.00%**	0.48	**OK**	**Eq. H2-1**
		14	**LC4 at 100.00%**	0.33	**OK**	**Eq. H2-1**
		15	**LC10 at 100.00%**	0.34	**OK**	**Eq. H2-1**
		16	**LC4 at 100.00%**	0.41	**OK**	**Eq. H2-1**
		17	**LC10 at 100.00%**	**0.52**	**OK**	**Eq. H2-1**
		18	LC1 at 0.00%	0.49	OK	Sec. F1
		19	LC4 at 100.00%	0.40	OK	Eq. H2-1

	20	LC4 at 100.00%	0.50	OK	Eq. H2-1
	154	LC11 at 0.00%	0.03	OK	Eq. H2-1
	155	LC1 at 100.00%	0.02	OK	Eq. H2-1
	156	LC7 at 0.00%	0.02	OK	Sec. F1
	157	LC7 at 100.00%	0.02	OK	Eq. H2-1
	158	LC38 at 0.00%	0.02	OK	Sec. F1
	159	LC7 at 100.00%	0.03	OK	Eq. H2-1
	160	LC7 at 0.00%	0.04	OK	Sec. F1
	161	LC7 at 100.00%	0.02	OK	Sec. F1
	162	LC1 at 0.00%	0.02	OK	Sec. F1
	163	LC10 at 100.00%	0.02	OK	Sec. F1
	164	LC4 at 0.00%	0.03	OK	Eq. H2-1
	165	LC7 at 100.00%	0.03	OK	Eq. H2-1
L 3-1_2X3-1_2X1_2	**199**	LC4 at 0.00%	**0.82**	**OK**	Eq. H2-1
L 3X3X3_8	**200**	LC7 at 100.00%	0.12	OK	Eq. H3-8
	201	LC1 at 0.00%	0.32	OK	Eq. H3-8
	202	LC4 at 100.00%	0.20	OK	Eq. H2-1
	203	LC7 at 0.00%	0.29	OK	Eq. H3-8
	204	LC12 at 0.00%	0.15	OK	Eq. H2-1
	205	LC10 at 0.00%	**0.33**	**OK**	Eq. H3-8
	206	LC10 at 0.00%	0.09	OK	Eq. H3-8
	207	LC4 at 0.00%	0.10	OK	Eq. H2-1
	208	LC3 at 0.00%	0.23	OK	Eq. H3-8
	209	LC7 at 0.00%	0.16	OK	Eq. H3-8
L 4X4X1_2	**21**	LC1 at 100.00%	0.40	With warnings	Eq. H2-1
	22	LC1 at 100.00%	0.36	OK	Sec. F1
	23	LC1 at 100.00%	**0.46**	**With warnings**	Eq. H2-1
	24	LC1 at 0.00%	0.39	OK	Sec. F1
L 4X4X3_8	**5**	LC1 at 0.00%	**0.67**	**OK**	Sec. F1
	6	LC1 at 0.00%	0.64	OK	Sec. F1
	7	LC7 at 0.00%	0.60	OK	Sec. F1
	8	LC7 at 0.00%	0.62	OK	Sec. F1
L 5X5X3_8	**9**	LC13 at 0.00%	0.29	With warnings	Eq. H2-1
	10	LC1 at 100.00%	0.47	OK	Eq. H2-1
	11	LC19 at 54.91%	**0.65**	**With warnings**	Eq. H2-1
	12	LC1 at 0.00%	0.57	OK	Eq. H2-1
PIPE 2-1_2x0.203	**74**	LC83 at 81.25%	0.12	OK	Eq. H1-1b
	75	LC10 at 33.33%	0.30	OK	Eq. H1-1b
	76	LC53 at 81.25%	0.15	OK	Eq. H1-1b
	77	LC51 at 81.25%	0.10	OK	Eq. H1-1b
	78	LC4 at 33.33%	0.37	OK	Eq. H1-1b
	79	LC1 at 31.25%	0.05	OK	Eq. H1-1b
	80	LC4 at 35.42%	0.36	OK	Eq. H1-1b
	81	LC4 at 33.33%	0.37	OK	Eq. H1-1b
	82	LC10 at 33.33%	0.35	OK	Eq. H1-1b
	83	LC7 at 31.25%	0.04	OK	Eq. H1-1b
	94	LC10 at 33.33%	0.32	OK	Eq. H1-1b
	97	LC3 at 40.00%	0.30	OK	Eq. H3-6
	122	LC4 at 56.25%	0.42	OK	Eq. H1-1b
	123	LC10 at 56.25%	**0.42**	**OK**	Eq. H1-1b
	130	LC10 at 33.33%	0.28	OK	
PIPE 2x0.154	**90**	LC4 at 0.00%	0.14	OK	Eq. H1-1b
	93	LC4 at 8.33%	0.11	OK	Eq. H1-1b
	127	LC4 at 82.81%	**0.27**	**OK**	Eq. H1-1b
	133	LC4 at 100.00%	0.17	OK	Eq. H1-1b
	136	LC10 at 100.00%	0.16	OK	Eq. H1-1b
	139	LC10 at 100.00%	0.15	OK	Eq. H1-1b

	183	LC4 at 82.81%	0.25	OK	Eq. H1-1b
PL 6x1/2	**186**	LC4 at 50.00%	0.30	OK	Eq. H1-1b
	187	LC11 at 0.00%	0.13	OK	Eq. H1-1b
	188	LC10 at 0.00%	0.18	OK	Eq. H1-1b
	191	LC10 at 50.00%	**0.40**	**OK**	Eq. H1-1b
	192	LC5 at 0.00%	0.13	OK	Eq. H1-1b
	193	LC4 at 0.00%	0.22	OK	Eq. H1-1b
PL 6x3/8	**33**	LC25 at 100.00%	0.23	OK	Eq. H1-1b
	36	LC4 at 100.00%	0.48	OK	Eq. H1-1b
	45	LC10 at 100.00%	0.42	OK	Eq. H1-1b
	172	LC1 at 0.00%	0.13	OK	Eq. H1-1b
	173	LC3 at 0.00%	0.15	OK	Eq. H1-1b
	174	LC2 at 0.00%	0.15	OK	Eq. H1-1b
	175	LC12 at 0.00%	0.08	OK	Eq. H1-1b
	176	LC33 at 0.00%	0.26	OK	Eq. H1-1b
	178	LC10 at 100.00%	**0.55**	**OK**	Eq. H1-1b
W 5X16	**63**	LC4 at 46.88%	**0.40**	**OK**	Eq. H1-1b
	72	LC5 at 100.00%	0.05	OK	Eq. H1-1b

Bentley

Current Date: 5/30/2019 10:27 AM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2118\LTE 5C-6C-7C\Rev. 2\CT2118 (LTE 5C-6C-7C)(Rev. 2)(MODS).etz\

Geometry data

GLOSSARY

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

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	0.00	0.00	0.00	0
2	23.50	0.00	0.00	0
3	23.50	0.00	10.00	0
4	0.00	0.00	10.00	0
5	0.00	3.21	0.00	0
6	23.50	3.21	0.00	0
7	23.50	3.21	10.00	0
8	0.00	3.21	10.00	0
9	4.67	0.00	10.00	0
10	4.67	3.21	10.00	0
11	9.34	0.00	10.00	0
12	9.34	3.21	10.00	0
13	14.01	0.00	10.00	0
14	14.01	3.21	10.00	0
15	18.68	0.00	10.00	0
16	18.68	3.21	10.00	0
17	4.67	0.00	0.00	0
18	9.34	0.00	0.00	0
19	14.01	0.00	0.00	0
20	18.68	0.00	0.00	0
21	4.67	3.21	0.00	0

22	9.34	3.21	0.00	0
23	14.01	3.21	0.00	0
24	18.68	3.21	0.00	0
25	0.00	2.05	0.00	0
26	23.50	2.05	0.00	0
27	23.50	2.05	10.00	0
28	0.00	2.05	10.00	0
29	4.67	2.05	10.00	0
30	9.34	2.05	10.00	0
31	14.01	2.05	10.00	0
32	18.68	2.05	10.00	0
33	4.67	2.05	0.00	0
34	9.34	2.05	0.00	0
35	14.01	2.05	0.00	0
36	18.68	2.05	0.00	0
46	1.67	0.00	8.33	0
47	1.67	0.00	1.66	0
48	21.83	0.00	8.33	0
49	21.83	0.00	1.67	0
50	1.67	0.00	10.00	0
51	1.67	0.00	0.00	0
52	21.83	0.00	0.00	0
53	21.83	0.00	10.00	0
55	14.75	0.00	10.00	0
56	8.75	0.00	10.00	0
57	8.75	0.00	0.00	0
58	14.75	0.00	0.00	0
63	0.00	0.00	6.10	0
69	-0.58	0.00	6.67	0
72	-0.58	0.00	2.17	0
81	23.50	0.00	1.25	0
87	24.08	0.00	1.25	0
123	-0.50	0.33	8.33	0
127	1.10	0.333	11.9743	0
130	2.50	0.00	0.00	0
144	-1.00	0.33	8.33	0
154	-0.50	-2.00	8.33	0
155	-0.58	-1.00	6.67	0
156	-0.58	-2.00	2.17	0
157	0.30	-1.00	-0.58	0
164	-0.50	6.00	8.33	0
165	-0.58	5.00	6.67	0
166	-0.58	6.00	2.17	0
167	0.30	5.00	-0.58	0
180	13.51	0.00	0.20	0
183	13.51	3.50	0.20	0
188	10.84	0.00	9.80	0
189	10.84	3.50	9.80	0
190	24.08	-2.00	1.25	0
191	24.08	6.00	1.25	0
192	8.75	0.00	8.33	0
193	8.75	0.00	1.67	0
194	14.75	0.00	1.67	0
195	14.75	0.00	8.33	0
200	1.3275	-1.00	11.6857	0
201	1.3275	4.00	11.6857	0
233	0.1875	-1.50	11.6157	0
234	0.9575	-1.50	12.7857	0
235	0.1875	6.50	11.6157	0
236	0.9575	6.50	12.7857	0

243	22.50	-1.00	-0.20	0
244	22.50	5.00	-0.20	0
247	22.50	6.00	-0.40	0
248	22.50	-2.00	-0.40	0
277	5.21	0.00	1.665	0
278	11.75	0.00	1.67	0
279	18.29	0.00	1.67	0
280	18.29	0.00	8.33	0
281	11.75	0.00	8.33	0
282	5.21	0.00	8.33	0
292	0.00	0.00	2.17	0
296	0.00	0.00	6.67	0
297	0.30	0.00	0.00	0
298	0.30	0.00	-0.58	0
299	3.72	5.00	-0.58	0
300	3.72	-1.00	-0.58	0
301	3.72	0.00	0.00	0
302	3.72	0.00	-0.58	0
303	8.05	6.00	-0.58	0
304	12.38	5.00	-0.58	0
305	8.05	0.00	0.00	0
306	12.38	0.00	0.00	0
307	8.05	0.00	-0.58	0
308	12.38	0.00	-0.58	0
309	8.05	-2.00	-0.58	0
310	12.38	-1.00	-0.58	0
319	23.50	0.00	4.08	0
320	24.08	0.00	4.08	0
321	24.08	-1.00	4.08	0
322	24.08	5.00	4.08	0
323	23.50	0.00	5.83	0
324	24.08	0.00	5.83	0
325	24.08	-2.00	5.83	0
326	24.08	6.00	5.83	0
337	22.50	-1.00	10.25	0
338	22.50	5.00	10.25	0
341	22.50	6.00	10.50	0
342	22.50	-2.00	10.50	0
343	0.00	0.00	0.20	0
344	0.9875	3.50	12.3657	0
345	0.5875	3.50	11.7657	0
351	0.9875	2.00	12.3657	0
352	0.5875	2.00	11.7657	0
357	1.3275	3.50	11.6857	0
358	0.7875	3.50	12.0657	0
359	1.3275	2.00	11.6857	0
360	0.7875	2.00	12.0657	0
363	1.3275	2.75	11.6857	0
368	2.2221	0.3309	10.5641	0
369	-0.58	3.21	6.67	0
370	0.00	3.21	6.67	0
371	-0.58	3.21	2.17	0
372	0.00	3.21	2.17	0
373	23.50	3.21	1.25	0
374	24.08	3.21	1.25	0
375	23.50	3.21	5.83	0
376	24.08	3.21	5.83	0
377	3.72	3.21	0.00	0
378	3.72	3.21	-0.58	0
379	8.05	3.21	0.00	0

380	8.05	3.21	-0.58	0
381	12.38	3.21	0.00	0
382	12.38	3.21	-0.58	0
383	0.30	3.21	0.00	0
384	0.30	3.21	-0.58	0
385	-0.50	3.21	8.33	0
386	0.00	3.21	8.33	0
387	23.50	3.21	4.08	0
388	24.08	3.21	4.08	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
46	1	1	1	0	0	0
47	1	1	1	0	0	0
48	1	1	1	0	0	0
49	1	1	1	0	0	0
50	1	1	1	0	0	0
51	1	1	1	0	0	0
52	1	1	1	0	0	0
53	1	1	1	0	0	0
55	1	1	1	0	0	0
56	1	1	1	0	0	0
57	1	1	1	0	0	0
58	1	1	1	0	0	0
192	1	1	1	1	1	1
193	1	1	1	1	1	1
194	1	1	1	1	1	1
195	1	1	1	1	1	1
277	1	1	1	0	0	0
278	1	1	1	0	0	0
279	1	1	1	0	0	0
280	1	1	1	0	0	0
281	1	1	1	0	0	0
282	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	4	3		C 8X11.5	A36	0.00	0.00	0.00
2	3	2		C 8X11.5	A36	0.00	0.00	0.00
3	2	1		C 8X11.5	A36	0.00	0.00	0.00
4	1	4		C 8X11.5	A36	0.00	0.00	0.00
5	4	8		L 4X4X3_8	A36	0.00	0.00	0.00
6	1	5		L 4X4X3_8	A36	0.00	0.00	0.00
7	2	6		L 4X4X3_8	A36	0.00	0.00	0.00
8	3	7		L 4X4X3_8	A36	0.00	0.00	0.00
9	8	7		L 5X5X3_8	A36	0.00	0.00	0.00
10	7	6		L 5X5X3_8	A36	0.00	0.00	0.00
11	6	5		L 5X5X3_8	A36	0.00	0.00	0.00

12	5	8	L 5X5X3_8	A36	0.00	0.00	0.00
13	9	10	L 2X2X1_4	A36	0.00	0.00	0.00
14	11	12	L 2X2X1_4	A36	0.00	0.00	0.00
15	13	14	L 2X2X1_4	A36	0.00	0.00	0.00
16	15	16	L 2X2X1_4	A36	0.00	0.00	0.00
17	17	21	L 2X2X1_4	A36	0.00	0.00	0.00
18	18	22	L 2X2X1_4	A36	0.00	0.00	0.00
19	19	23	L 2X2X1_4	A36	0.00	0.00	0.00
20	20	24	L 2X2X1_4	A36	0.00	0.00	0.00
21	28	27	L 4X4X1_2	A36	0.00	0.00	0.00
22	27	26	L 4X4X1_2	A36	0.00	0.00	0.00
23	26	25	L 4X4X1_2	A36	0.00	0.00	0.00
24	25	28	L 4X4X1_2	A36	0.00	0.00	0.00
26	52	53	C 8X11.5	A36	0.00	0.00	0.00
28	51	50	C 8X11.5	A36	0.00	0.00	0.00
29	56	57	C 8X11.5	A36	0.00	0.00	0.00
30	58	55	C 8X11.5	A36	0.00	0.00	0.00
33	296	69	PL 6x3/8	A36	0.00	0.00	0.00
36	292	72	PL 6x3/8	A36	0.00	0.00	0.00
45	81	87	PL 6x3/8	A36	0.00	0.00	0.00
63	272	127	W 5X16	A992 Gr50	0.00	0.00	0.00
72	144	273	W 5X16	A992 Gr50	0.00	0.00	0.00
74	304	310	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
75	303	309	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
76	299	300	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
77	167	157	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
78	166	156	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
79	165	155	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
80	164	154	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
81	341	342	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
82	326	325	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
83	322	321	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
90	181	180	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
93	189	188	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
94	191	190	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
97	201	200	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
122	235	233	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
123	236	234	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
127	244	243	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
130	247	248	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
133	262	263	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
136	266	267	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
139	270	271	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
140	47	193	C 8X11.5	A36	0.00	0.00	0.00
141	193	194	C 8X11.5	A36	0.00	0.00	0.00
142	194	49	C 8X11.5	A36	0.00	0.00	0.00
143	46	192	C 8X11.5	A36	0.00	0.00	0.00
144	192	195	C 8X11.5	A36	0.00	0.00	0.00
145	195	48	C 8X11.5	A36	0.00	0.00	0.00
154	52	279	L 2X2X1_4	A36	0.00	0.00	0.00
155	279	58	L 2X2X1_4	A36	0.00	0.00	0.00
156	58	278	L 2X2X1_4	A36	0.00	0.00	0.00
157	278	57	L 2X2X1_4	A36	0.00	0.00	0.00
158	57	277	L 2X2X1_4	A36	0.00	0.00	0.00
159	277	51	L 2X2X1_4	A36	0.00	0.00	0.00
160	53	280	L 2X2X1_4	A36	0.00	0.00	0.00
161	280	55	L 2X2X1_4	A36	0.00	0.00	0.00
162	55	281	L 2X2X1_4	A36	0.00	0.00	0.00
163	281	56	L 2X2X1_4	A36	0.00	0.00	0.00
164	56	282	L 2X2X1_4	A36	0.00	0.00	0.00

165	282	50	L 2X2X1_4	A36	0.00	0.00	0.00
166	288	287	C 8X11.5	A36	0.00	0.00	0.00
167	289	290	C 8X11.5	A36	0.00	0.00	0.00
172	297	298	PL 6x3/8	A36	0.00	0.00	0.00
173	301	302	PL 6x3/8	A36	0.00	0.00	0.00
174	305	307	PL 6x3/8	A36	0.00	0.00	0.00
175	306	308	PL 6x3/8	A36	0.00	0.00	0.00
176	320	319	PL 6x3/8	A36	0.00	0.00	0.00
178	323	324	PL 6x3/8	A36	0.00	0.00	0.00
183	338	337	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
186	345	344	PL 6x1/2	A36	0.00	0.00	0.00
187	345	346	PL 6x1/2	A36	0.00	0.00	0.00
188	344	347	PL 6x1/2	A36	0.00	0.00	0.00
191	352	351	PL 6x1/2	A36	0.00	0.00	0.00
192	352	353	PL 6x1/2	A36	0.00	0.00	0.00
193	351	354	PL 6x1/2	A36	0.00	0.00	0.00
196	357	358	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
197	359	360	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
199	368	363	L 3-1_2X3-1_2X1_2	A36	0.00	0.00	0.00
200	370	369	L 3X3X3_8	A36	0.00	0.00	0.00
201	372	371	L 3X3X3_8	A36	0.00	0.00	0.00
202	373	374	L 3X3X3_8	A36	0.00	0.00	0.00
203	375	376	L 3X3X3_8	A36	0.00	0.00	0.00
204	377	378	L 3X3X3_8	A36	0.00	0.00	0.00
205	379	380	L 3X3X3_8	A36	0.00	0.00	0.00
206	381	382	L 3X3X3_8	A36	0.00	0.00	0.00
207	383	384	L 3X3X3_8	A36	0.00	0.00	0.00
208	385	386	L 3X3X3_8	A36	0.00	0.00	0.00
209	388	387	L 3X3X3_8	A36	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	180.00	0	0.00	0.00	0.00
2	180.00	0	0.00	0.00	0.00
3	180.00	0	0.00	0.00	0.00
4	180.00	0	0.00	0.00	0.00
5	0.00	2	1.00	0.00	0.00
6	0.00	2	0.00	0.00	1.00
7	0.00	2	-1.00	0.00	0.00
8	0.00	2	0.00	0.00	-1.00
9	90.00	0	0.00	0.00	0.00
10	90.00	0	0.00	0.00	0.00
11	90.00	0	0.00	0.00	0.00
12	90.00	0	0.00	0.00	0.00
13	0.00	2	-1.00	0.00	0.00
14	0.00	2	-1.00	0.00	0.00
15	0.00	2	0.00	0.00	1.00
16	0.00	2	0.00	0.00	1.00
17	0.00	2	0.00	0.00	-1.00
18	0.00	2	0.00	0.00	-1.00
19	0.00	2	1.00	0.00	0.00
20	0.00	2	1.00	0.00	0.00
21	180.00	0	0.00	0.00	0.00
22	180.00	0	0.00	0.00	0.00

23	180.00	0	0.00	0.00	0.00
24	180.00	0	0.00	0.00	0.00
33	90.00	0	0.00	0.00	0.00
36	90.00	0	0.00	0.00	0.00
45	90.00	0	0.00	0.00	0.00
74	315.00	0	0.00	0.00	0.00
75	315.00	0	0.00	0.00	0.00
76	315.00	0	0.00	0.00	0.00
77	315.00	0	0.00	0.00	0.00
78	315.00	0	0.00	0.00	0.00
80	315.00	0	0.00	0.00	0.00
81	315.00	0	0.00	0.00	0.00
82	315.00	0	0.00	0.00	0.00
90	315.00	0	0.00	0.00	0.00
93	315.00	0	0.00	0.00	0.00
94	315.00	0	0.00	0.00	0.00
122	315.00	0	0.00	0.00	0.00
123	315.00	0	0.00	0.00	0.00
130	315.00	0	0.00	0.00	0.00
133	315.00	0	0.00	0.00	0.00
136	315.00	0	0.00	0.00	0.00
139	315.00	0	0.00	0.00	0.00
140	180.00	0	0.00	0.00	0.00
141	180.00	0	0.00	0.00	0.00
142	180.00	0	0.00	0.00	0.00
176	90.00	0	0.00	0.00	0.00
178	90.00	0	0.00	0.00	0.00
199	270.00	0	0.00	0.00	0.00
200	90.00	0	0.00	0.00	0.00
201	90.00	0	0.00	0.00	0.00
202	90.00	0	0.00	0.00	0.00
203	90.00	0	0.00	0.00	0.00
209	90.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
21	0.00	0.00	-2.00	0.00	0.00	-2.00
23	0.00	0.00	2.00	0.00	0.00	2.00
63	0.00	2.00	0.00	0.00	2.00	0.00
72	0.00	2.00	0.00	0.00	2.00	0.00
74	0.00	0.00	-3.00	0.00	0.00	-3.00
75	0.00	0.00	-3.00	0.00	0.00	-3.00
76	0.00	0.00	-3.00	0.00	0.00	-3.00
77	0.00	0.00	-3.00	0.00	0.00	-3.00
80	0.00	0.00	-3.50	0.00	0.00	-3.50
81	0.00	0.00	3.00	0.00	0.00	3.00
90	0.00	0.00	2.00	0.00	0.00	2.00
93	0.00	0.00	-2.00	0.00	0.00	-2.00
97	-2.50	0.00	2.50	-2.50	0.00	2.50
122	-2.50	0.00	2.50	-2.50	0.00	2.50
123	-2.50	0.00	2.50	-2.50	0.00	2.50
133	0.00	0.00	2.00	0.00	0.00	2.00
136	0.00	0.00	2.00	0.00	0.00	2.00
139	0.00	0.00	2.00	0.00	0.00	2.00

154	0.00	-1.00	0.00	0.00	-1.00	0.00
155	0.00	-1.00	0.00	0.00	-1.00	0.00
156	0.00	-1.00	0.00	0.00	-1.00	0.00
157	0.00	-1.00	0.00	0.00	-1.00	0.00
158	0.00	-1.00	0.00	0.00	-1.00	0.00
159	0.00	-1.00	0.00	0.00	-1.00	0.00
160	0.00	-1.00	0.00	0.00	-1.00	0.00
161	0.00	-1.00	0.00	0.00	-1.00	0.00
162	0.00	-1.00	0.00	0.00	-1.00	0.00
163	0.00	-1.00	0.00	0.00	-1.00	0.00
164	0.00	-1.00	0.00	0.00	-1.00	0.00
165	0.00	-1.00	0.00	0.00	-1.00	0.00
166	0.00	-8.00	0.00	0.00	-8.00	0.00
167	0.00	-8.00	0.00	0.00	-8.00	0.00
186	-2.50	0.00	2.50	-2.50	0.00	2.50
187	-2.50	0.00	2.50	-2.50	0.00	2.50
188	-2.50	0.00	2.50	-2.50	0.00	2.50
191	-2.50	0.00	2.50	-2.50	0.00	2.50
192	-2.50	0.00	2.50	-2.50	0.00	2.50
193	-2.50	0.00	2.50	-2.50	0.00	2.50
196	-2.50	0.00	2.50	-2.50	0.00	2.50
197	-2.50	0.00	2.50	-2.50	0.00	2.50
199	-2.50	2.00	2.50	-2.50	2.00	2.50

555 EAST MAIN STREET

Location	555 EAST MAIN STREET	**Mblu**	002/ 1816/ / /
Acct#	002-1816	**Owner**	SOUTHERN NEW ENGLAND TELE CO
Assessment	$6,095,090	**Appraisal**	$8,707,260
PID	7839	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$2,085,780	$6,621,480	$8,707,260
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$1,460,050	$4,635,040	$6,095,090

Owner of Record

Owner	SOUTHERN NEW ENGLAND TELE CO	**Sale Price**	$0
Co-Owner		**Book & Page**	1251/ 284
Address	401 MERRITT 7 C/O TAX DEPT NORWALK, CT 06851	**Sale Date**	02/28/1972
		Instrument	25

Ownership History

Ownership History				
Owner	**Sale Price**	**Book & Page**	**Instrument**	**Sale Date**
SOUTHERN NEW ENGLAND TELE CO	$0	1251/ 284	25	02/28/1972

Building Information

Building 1 : Section 1

Year Built: 1949
Living Area: 99,506

Building Attributes	
Field	**Description**
STYLE	Off/Warehouse
MODEL	Comm/Ind
Grade	C+
Stories:	6
Occupancy	1
Exterior Wall 1	Brick
Exterior Wall 2	Stucco Mas
Roof Structure	Flat
Roof Cover	T&G/Rubber
Interior Wall 1	Drywall/Plaste
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Gas/LP
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	Commercial MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	300C
Heat/AC	None
Frame Type	FireProofSteel
Baths/Plumbing	Average
Ceiling/Wall	Sus-Ceil&Wall
Rooms/Prtns	Average
Wall Height	16
% Comn Wall	9

Building Photo

(http://images.vgsi.com/photos/StamfordCTPhotos//\00\13\04/20.jpg)

Building Layout

(http://images.vgsi.com/photos/StamfordCTPhotos//Sketches/78

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
FUS	Upper Story, Finished	84,263	84,263
BAS	First Floor	15,243	15,243
UBM	Basement, Unfinished	16,131	0
		115,637	99,506

Extra Features

Extra Features	Legend

Code	Description	Size	Value	Bldg #
EL2	Elev Pass	24 STOPS	$216,000	1

Land

Land Use

Use Code	300C
Description	Industrial MDL-94
Zone	CCN
Neighborhood	1000
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	1.19
Depth	
Assessed Value	$4,635,040
Appraised Value	$6,621,480

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
AP1	Fence Chn Lk			3510 L.F.	$30,270	1
FC5	Shed Conc Blk			320 S.F.	$5,040	1
LP4	Pavng Asphlt			8000 S.F	$9,600	1
CEL2	Cell - Roof Top			1 SITES	$138,750	1

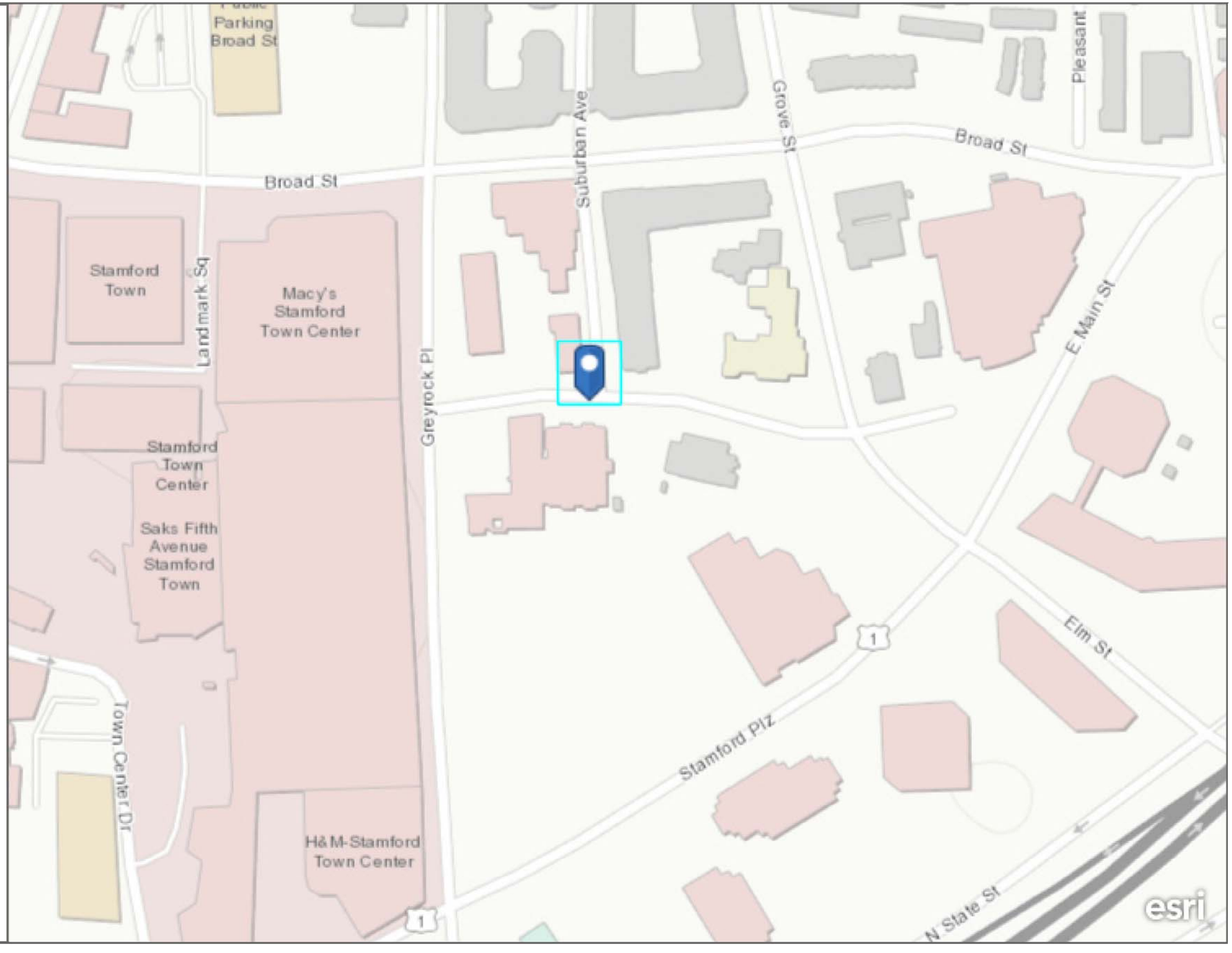
Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$2,085,780	$6,621,480	$8,707,260
2017	$2,085,780	$6,621,480	$8,707,260
2016	$2,382,080	$6,675,340	$9,057,420

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$1,460,050	$4,635,040	$6,095,090
2017	$1,460,050	$4,635,040	$6,095,090
2016	$1,667,460	$4,672,740	$6,340,200

Stamford, CT Tax Maps

555 EAST MAIN STREET



UNITED STATES POSTAL SERVICE®

Click-N-Ship®

9405 5036 9930 0063 7757 53 0073 5000 0020 6851

usps.com
$7.35
US POSTAGE
Flat Rate Env

P

07/22/2019 Mailed from 06268 062S0000000311

PRIORITY MAIL 2-DAY™

Expected Delivery Date: 07/24/19

MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

0004

Carrier -- Leave if No Response

C007

SHIP TO: SOUTHERN NEW ENGLAND TELEPHONE
C/O FRONTIER COMMUNICATIONS
401 MERRITT 7
NORWALK CT 06851-1000

USPS TRACKING #

9405 5036 9930 0063 7757 53

Electronic Rate Approved #038555749

Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0063 7757 53

Trans. #:	468625509
Print Date:	07/20/2019
Ship Date:	07/22/2019
Expected Delivery Date:	07/24/2019

Priority Mail® Postage:	**$7.35**
Total	**$7.35**

From: MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

To: SOUTHERN NEW ENGLAND TELEPHONE
C/O FRONTIER COMMUNICATIONS
401 MERRITT 7
NORWALK CT 06851-1000

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

UNITED STATES POSTAL SERVICE®

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

9405 5036 9930 0063 7757 84 0073 5000 0020 6901

usps.com
$7.35
US POSTAGE
Flat Rate Env

07/22/2019 Mailed from 06268 062S0000000312

P

PRIORITY MAIL 2-DAY™

MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

Expected Delivery Date: 07/24/19

0004

Carrier -- Leave if No Response

C024

SHIP TO: MAYOR DAVID MARTIN
CITY OF STAMFORD
888 WASHINGTON BLVD
CC: MS VINEETA MATHUR
STAMFORD CT 06901-2902

USPS TRACKING #

9405 5036 9930 0063 7757 84

Electronic Rate Approved #038555749

Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0063 7757 84

Trans. #:	468625509
Print Date:	07/20/2019
Ship Date:	07/22/2019
Expected Delivery Date:	07/24/2019

Priority Mail® Postage:	**$7.35**
Total	**$7.35**

From: MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

To: MAYOR DAVID MARTIN
CITY OF STAMFORD
888 WASHINGTON BLVD
CC: MS VINEETA MATHUR
STAMFORD CT 06901-2902

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

UNITED STATES POSTAL SERVICE®

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

UNITED STATES POSTAL SERVICE®

Shipment Confirmation Acceptance Notice

A. Mailer Action

Note To Mailer: The labels and volume associated to this form online, **must** match the labeled packages being presented to the USPS® employee with this form.

Shipment Date: 07/20/19

Shipped From:

MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

Type of Mail	Volume
Priority Mail®	4
Priority Mail Express™*	0
International Mail*	0
Other	0
Total Volume	4

*Start time for products with service guarantees will begin when mail arrives at the local Post Office™ and items receive individual processing and acceptance scans.

B. USPS Action

- USPS EMPLOYEE: Please scan upon pickup or receipt of mail. Leave form with customer or in customer's mail receptacle.
- Employee verifies the package volume count on the Package Pickup Carrier Manifest.
  - If the volume on the manifest matches the volume being collected from the customer, the employee should make the **1:YES** selection by pressing the number 1 on the keypad of the handheld scanner, or on the keyboard of the POS ONE terminal.
  - If the volume on the manifest does not match the volume being collected from the customer, the employee should make the **2:NO** selection**.** The mail should still be collected and dispatched as normal.

USPS SCAN

9475 7036 9930 0321 0878 29