Greg Milano
SAI Group, LLC
12 Industrial Way
Salem, NH 03079
860-707-9001
gmilano@saigrp.com

October 18, 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) CT1288
38 Maple Street, Kent, CT 06757
N 41.721902
W -73.474963

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 140-foot level of the existing 150-foot monopole at 38 Maple Street, Kent, CT. The tower is owned by American Tower Corporation and the property is owned by the Town of Kent. AT&T now intends to remove three (3) Powerwave antennas and replace them with two (2) DMP65R-BU4DA CCI antennas and one (1) DMP65R-BU6DA CCI antennas. These antennas would be installed at the 185-foot level of the tower. AT&T also intends to remove three (3) Ericsson RRUS-11 remote radio units and install three (3) Ericsson 4449 B5/B12 RRUS and three (3) Ericsson B14 4478 RRUS.

This facility was approved by the Siting Council in docket #353 on April 24, 2008. This approval included the condition that the tower height be limited to 150 ft. Since no change to the existing tower height is proposed, therefore this modification complies with the aforementioned condition.

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 Bruce K. Adams, First Selectman for the Town of Kent, Kent Land Use Department, 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 with mount modifications 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).

Sincerely,

Greg Milano

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gmilano@saigrp.com

Attachments

cc: Bruce K. Adams - First Selectman
Donna Hayes – Land Use Administrator, Kent Land Use Department
Town of Kent- Property Owner
American Tower Corporation - Tower Owner (via e-mail: Ryan.Tierney@americantower.com)

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*							9.06%
AT&T GSM	1	325	140	0.0065	880	0.5867	0.22%
AT&T UMTS	2	325	140	0.0130	880	0.5867	0.20%
AT&T UMTS	1	425	140	0.0085	1900	1.0000	0.05%
AT&T LTE	1	1476	140	0.0296	700	0.4667	0.24%
AT&T LTE	1	2421	140	0.0485	1900	1.0000	0.37%
Site Total							10.60%

*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*							9.06%
AT&T UMTS	1	333	140	0.0067	850	0.5667	0.12%
AT&T LTE	2	4842	140	0.1939	1900	1.0000	1.94%
AT&T LTE	1	2951	140	0.0591	700	0.4667	1.27%
AT&T LTE	1	1476	140	0.0296	700	0.4667	0.63%
AT&T LTE	1	1000	140	0.0200	850	0.5667	0.35%
AT&T 5G	1	1000	140	0.0200	850	0.5667	0.35%
Site Total							13.73%

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

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

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:
- INSTALL NEW HANDRAIL KIT, SITEPRO1 P/N HRK14-3HD (OR APPROVED EQUAL)
- NEW AT&T ANTENNA (DMP65R-BU6DA) @ POS. 4 (TYP. OF ALPHA SECTOR, TOTAL OF 1)
- NEW AT&T ANTENNA (DMP65R-BU4DA) @ POS. 4 (TYP. OF BETA & GAMMA SECTORS, TOTAL OF 2)
- NEW AT&T RRUS: B14 4478 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 4449 B5/B12 (700/850) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- PROPOSED AT&T SURGE ARRESTOR (TOTAL OF 1) WITH (2) DC POWER CABLES & (1) FIBER IN 2" FLEX CONDUIT (TO FOLLOW EXISTING ROUTE).

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- SWAP DUS FOR RBS 6630.
- ADD IDLE.
- ADD 5G RBS 6630.
- ADD NETSURE 7100 POWER PLANT WITH BATTERY RACK (TO REPLACE EXISTING LINEAGE INFINITY POWER SYSTEM)

ITEMS TO BE REMOVED:
- (3) P90-14-XLH-RR POWERWAVE ANTENNAS
- (3) RRUS-11 B12
- (6) POWERWAVE CM1007-DBPXBC-003 DIPLEXERS
- (3) TT19-08BP111-001 TMAS
- RELOCATE (2) ANTENNAS (SBNHH-1D65A) FROM POSITION 4 TO POSITION 3 (TYP. OF BETA & GAMMA SECTORS)
- RELOCATE (1) ANTENNA (HPA-65R-BUU-H6) FROM POSITION 4 TO POSITION 3 (TYP. OF ALPHA SECTOR, TOTAL OF 1)

SITE ADDRESS:	38 MAPLE STREET KENT, CT 06757
LATITUDE:	41.721902° N, 41° 43' 18.85" N
LONGITUDE:	73.474963° W, 73° 28' 29.87" W
TYPE OF SITE:	MONOPOLE / INDOOR EQUIPMENT
MONOPOLE HEIGHT:	150'-0"±
RAD CENTER:	140'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SITE NUMBER: CT1288

SITE NAME: KENT CT MAPLE STREET

FA CODE: 10141334

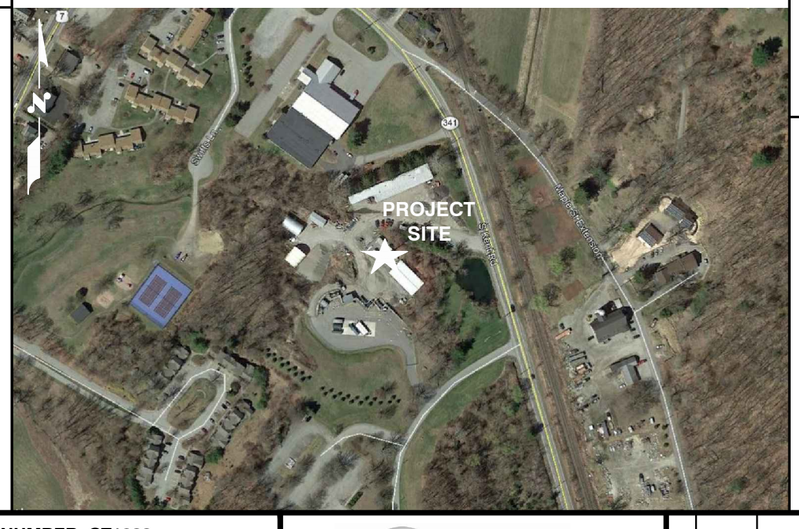
PACE ID: MRCTB040475, MRCTB040573, MRTCB040810

PROJECT: LTE 3C_4C 2020 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD 0.3 MI. TURN LEFT ONTO CAPITAL BLVD 0.3 MI. TURN LEFT ONTO WEST ST 0.3 MI .TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN 1.8 MI. TAKE EXIT 22N TO MERGE ONTO CT-9 N TOWARD NEW BRITAIN 6.5 MI. TAKE EXIT 28 ON THE LEFT TO MERGE ONTO CT-72 W TOWARD BRISTOL 3.2 MI. MERGE ONTO I-84 W 0.5 MI. TAKE EXIT 33 TO MERGE ONTO CT-72 W TOWARD BRISTOL 1.9 MI. TAKE EXIT 1 FOR CT-177/NORTH WASHINGTON STREET 0.2 MI. TURN RIGHT ONTO CT-177 N/N WASHINGTON ST CONTINUE TO FOLLOW CT-177 N 2.0 MI. TURN LEFT ONTO US-6 W/SCOTT SWAMP RD CONTINUE TO FOLLOW US-6 W 10.4 MI. CONTINUE ONTO E MAIN ST 0.8 MI. TURN RIGHT ONTO CT-254 N/NORTHFIELD RD 7.3 MI. TURN LEFT ONTO CT-118 W/EAST ST CONTINUE TO FOLLOW EAST ST 1.1 MI. CONTINUE ONTO US-202 W/WEST ST CONTINUE TO FOLLOW US-202 W 7.2 MI. TURN RIGHT ONTO CT-341 W/WARREN RD/WOODVILLE RD CONTINUE TO FOLLOW CT-341 W 12.6 MI. TURN RIGHT ONTO CT-341 W/S KENT RD DESTINATION WILL BE ON THE LEFT.



GENERAL NOTES

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

72 HOURS

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

UNDERGROUND SERVICE ALERT

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

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SALEM, NH 03079

SITE NUMBER: CT1288
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: AM

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

AT&T

TITLE SHEET
(LTE 3C_4C)

SITE NUMBER	DRAWING NUMBER	REV
CT1288	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

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

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

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. **APPLICABLE BUILDING CODES:**
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

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

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

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

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

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-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		

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45 BEECHWOOD DRIVE
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TEL: (978) 557-5553
FAX: (978) 336-5586

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SITE NUMBER: CT1288
SITE NAME: KENT CT MAPLE STREET

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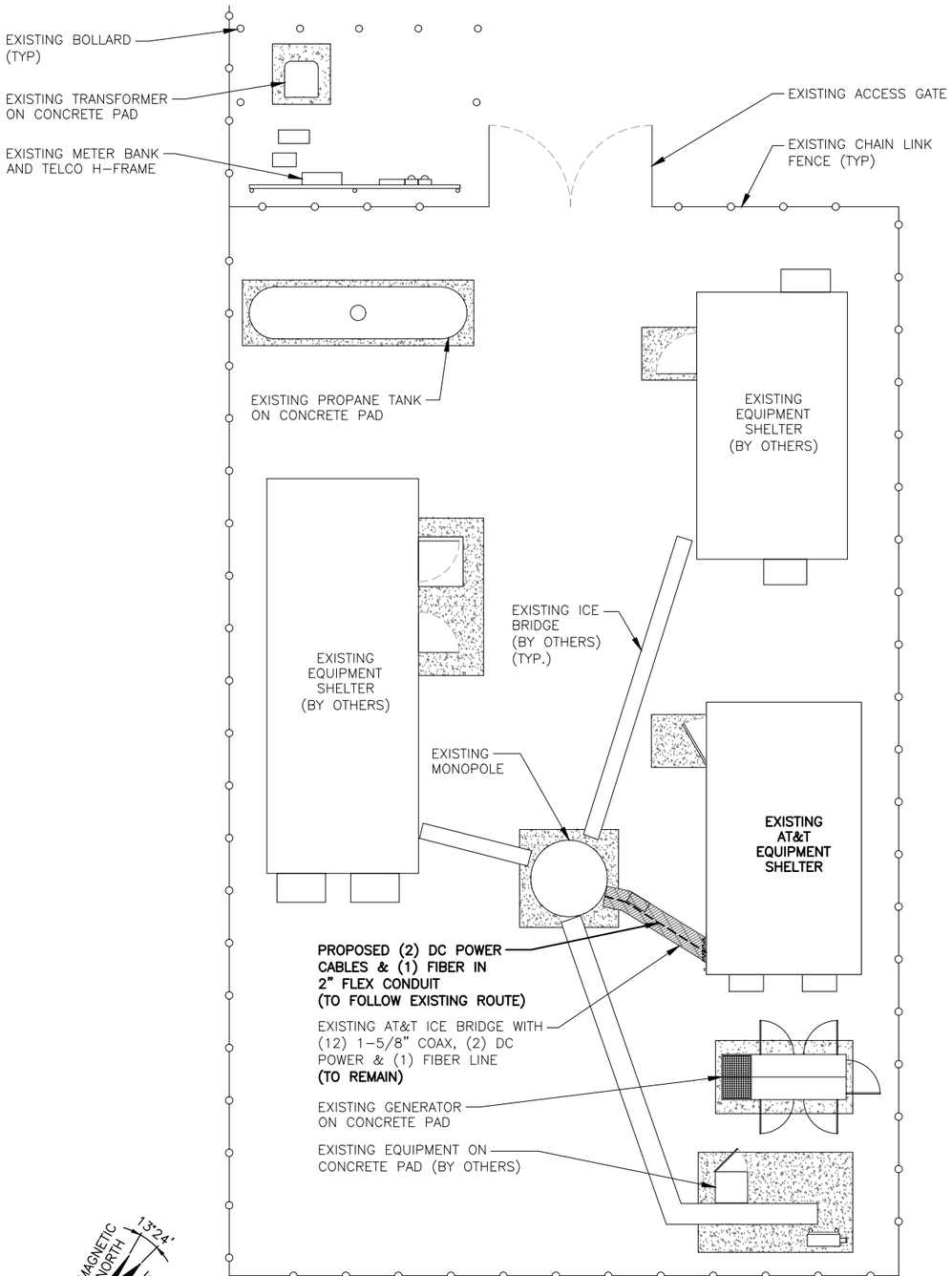
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: AM

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

AT&T

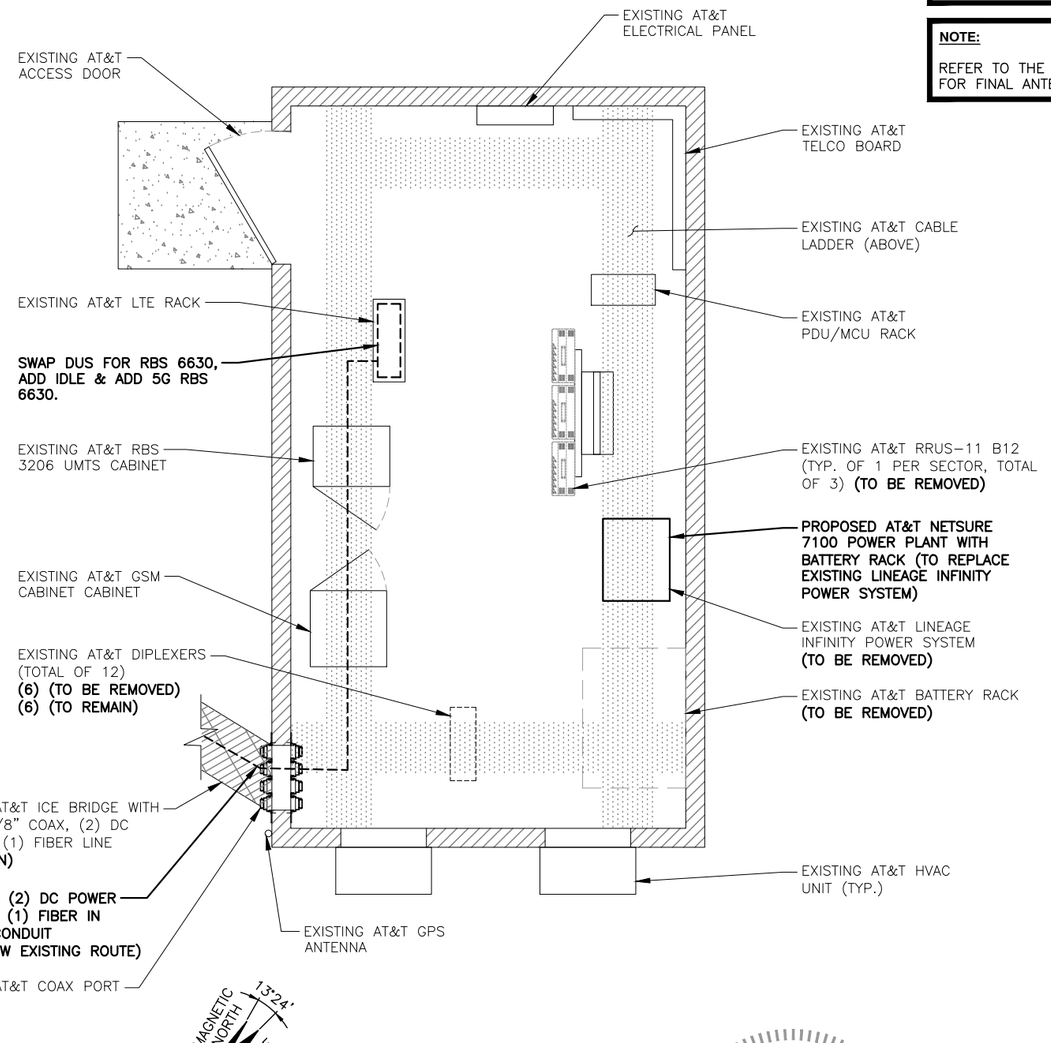
GENERAL NOTES
(LTE 3C_4C)

SITE NUMBER	DRAWING NUMBER	REV
CT1288	GN-1	1



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

0 2'-8" 5'-4" 10'-8" 16'-0"



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

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

NOTE:

ALL ANTENNAS AND RRHS TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY AMERICAN TOWER AND FINAL RF DATA SHEET

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: AUGUST 16, 2019

NOTE:

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

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

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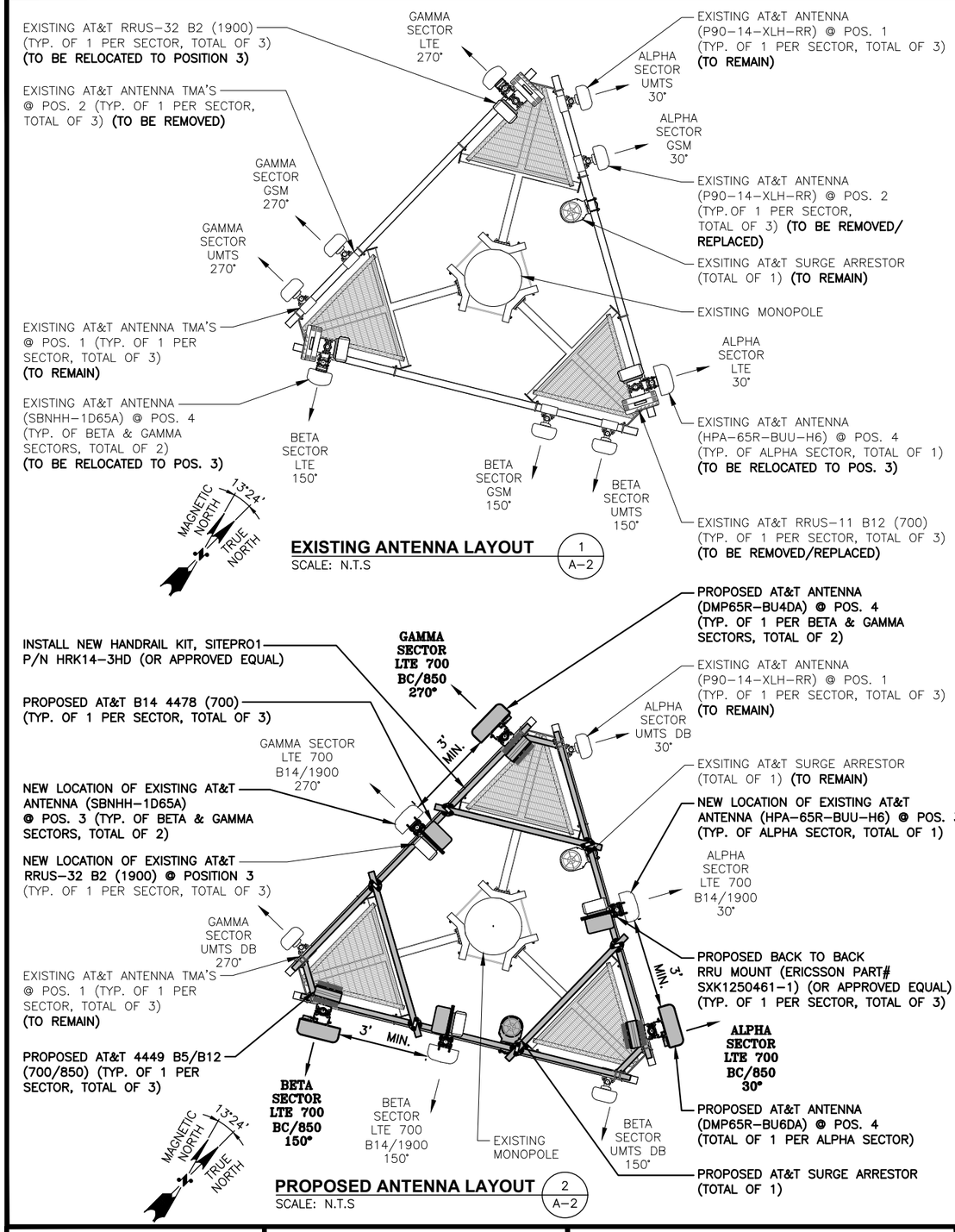
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: AM

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

AT&T

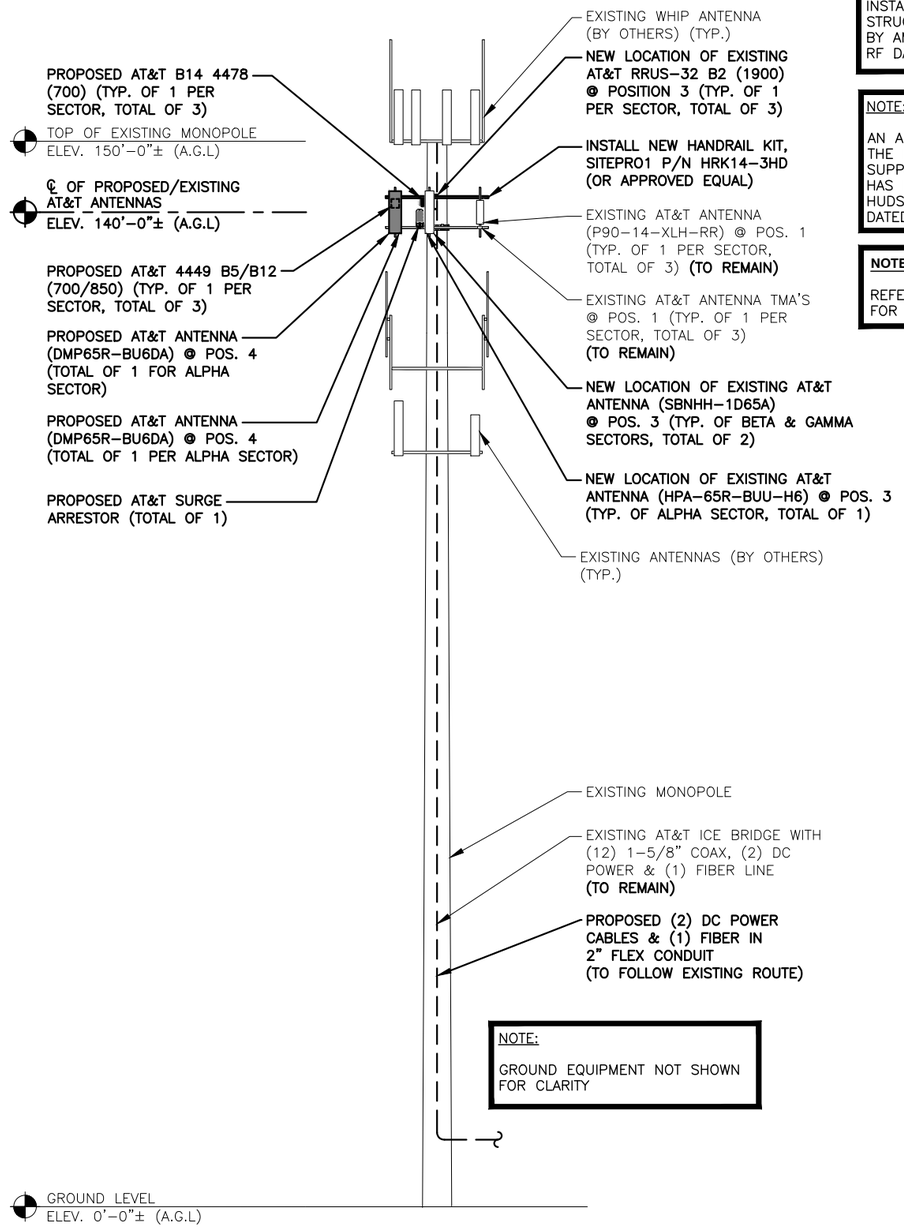
COMPOUND & EQUIPMENT PLANS
(LTE 3C_4C)

SITE NUMBER	DRAWING NUMBER	REV
CT1288	A-1	1



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

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



NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

ELEVATION (3 / A-2)
22x34 SCALE: 3/32"=1'-0"
11x17 SCALE: 3/64"=1'-0"
0 5'-4" 10'-8" 21'-4" 32'-0"

NOTE:
ALL ANTENNAS AND RRHS TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY AMERICAN TOWER AND FINAL RF DATA SHEET

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: AUGUST 16, 2019

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

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

12 INDUSTRIAL WAY
SALEM, NH 03079

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

SITE NUMBER: CT1288
SITE NAME: KENT CT MAPLE STREET

38 MAPLE STREET
KENT, CT 06757
LITCHFIELD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/16/19	ISSUED FOR CONSTRUCTION	VP	AT	DPH
0	10/10/19	ISSUED FOR REVIEW	VP	AT	DPH
A	08/30/19	ISSUED FOR REVIEW	AM	AT	DPH

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

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

AT&T

ANTENNA LAYOUTS & ELEVATION
(LTE 3C_4C)

SITE NUMBER	DRAWING NUMBER	REV
CT1288	A-2	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	EXISTING	UMTS DB	P90-14-XLH-RR	40X12X6	140'-0"±	30°	(E)(2)(G) POWERWAVE CM1007-DBPXBC-003 (E)(1) POWERWAVE TT19-08BP111-001	–	–	(2) 1-5/8" COAX (LENGTH 175'±)	(E) (1) RAYCAP DC6-48-60-18-8C
A2	–	–	–	–	–	–	–	–	–	(2) DC, (1) FIBER	
A3	EXISTING	LTE 700 B14/1900	HPA-65R-BUU-H6	72X14.8X9	140'-0"±	30°	–	(E)(1) RRUS 32 B2 (1900) **(P)(1) 4478 B14 (700)**	– **18.1x13.4x8.3**	(2) 1-5/8" COAX (LENGTH 175'±) (TO BE CAPPED)	
A4	**PROPOSED**	**LTE 700 BC/850**	**DMP65R-BU6DA**	**71.2X20.7X7.7**	**140'-0"±**	**30°**	–	**(P)(1) 4449 B5/B12 (700/850)**	**14.9X13.2X10.4**	–	
B1	EXISTING	UMTS DB	P90-14-XLH-RR	40X12X6	140'-0"±	150°	(E)(2)(G) POWERWAVE CM1007-DBPXBC-003 (E)(1) POWERWAVE TT19-08BP111-001	–	–	(2) 1-5/8" COAX (LENGTH 175'±)	**(P) (1) RAYCAP DC6-48-60-18-8C-EV**
B2	–	–	–	–	–	–	–	–	–	(P) (2) DC, (1) FIBER	
B3	EXISTING	LTE 700 B14/1900	SBNHH-1D65A	55X11.9X7.1	140'-0"±	150°	–	(E)(1) RRUS 32 B2 (1900) **(P)(1) 4478 B14 (700)**	– **18.1x13.4x8.3**	(2) 1-5/8" COAX (LENGTH 175'±) (TO BE CAPPED)	
B4	**PROPOSED**	**LTE 700 BC/850**	**DMP65R-BU4DA**	**48.0X20.7X7.7**	**140'-0"±**	**150°**	–	**(P)(1) 4449 B5/B12 (700/850)**	**14.9X13.2X10.4**	–	
C1	EXISTING	UMTS DB	P90-14-XLH-RR	40X12X6	140'-0"±	270°	(E)(2)(G) POWERWAVE CM1007-DBPXBC-003 (E)(1) POWERWAVE TT19-08BP111-001	–	–	(2) 1-5/8" COAX (LENGTH 175'±)	SHARED
C2	–	–	–	–	–	–	–	–	–	–	
C3	EXISTING	LTE 700 B14/1900	SBNHH-1D65A	55X11.9X7.1	140'-0"±	270°	–	(E)(1) RRUS 32 B2 (1900) **(P)(1) 4478 B14 (700)**	– **18.1x13.4x8.3**	(2) 1-5/8" COAX (LENGTH 175'±) (TO BE CAPPED)	
C4	**PROPOSED**	**LTE 700 BC/850**	**DMP65R-BU4DA**	**48.0X20.7X7.7**	**140'-0"±**	**270°**	–	**(P)(1) 4449 B5/B12 (700/850)**	**14.9X13.2X10.4**	–	

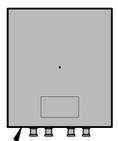
FINAL ANTENNA SCHEDULE (1 / A-3)
SCALE: N.T.S

RRU CHART

QUANTITY	MODEL	L	W	D
3(E)	RRUS-32 B2 (1900)	27.2"	12.1"	7.0"
3(P)	**B14 4478 (700)**	**18.1"**	**13.4"**	**8.3"**
3(P)	**4449 B5/B12 (700/850)**	**14.9"**	**13.2"**	**10.4"**

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

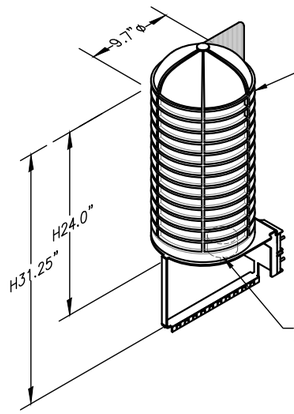
NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



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

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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



PROPOSED SURGE SUPPRESSOR
MODEL NUMBERS:
DC6-48-60-18-8C-EV
DIMENSIONS:
H24.0"x9.7"ø
WITH BRACKET:
H31.25"X9.7"ø

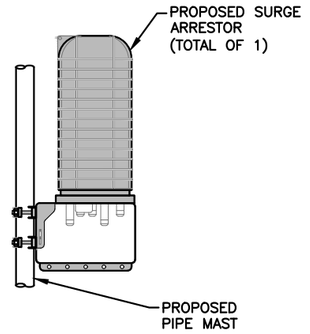
STRIKESORB 30-V1
SURGE PROTECTIVE DEVICE

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

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

PROPOSED AT&T NETSURE 7100 POWER PLANT WITH BATTERY RACK (TO REPLACE EXISTING LINEAGE INFINITY POWER SYSTEM)

PROPOSED NETSURE 7100 POWER PLANT DETAIL (5 / A-3)
SCALE: N.T.S



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

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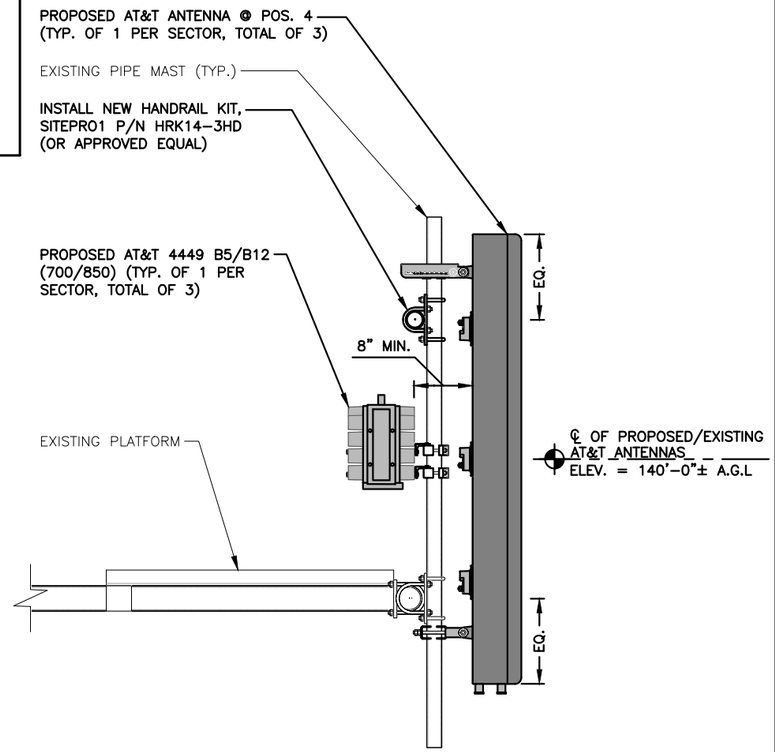

LTE ANTENNA & RRH MOUNTING DETAIL (6 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

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

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

AT&T

DETAILS
(LTE 3C_4C)

SITE NUMBER	DRAWING NUMBER	REV
CT1288	A-3	1

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.

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.

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:	

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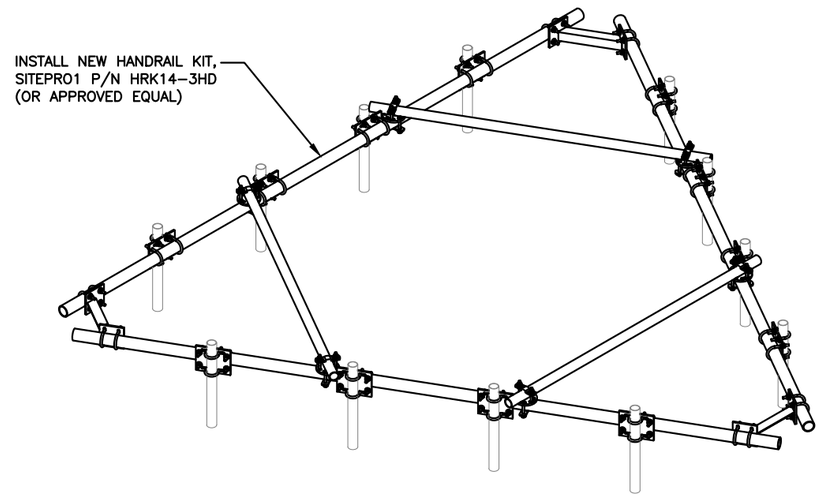
STRUCTURAL NOTES
(LTE 3C_4C)

SITE NUMBER	DRAWING NUMBER	REV
CT1288	SN-1	1



PROPOSED HANDRAIL KIT (1 / S-1)
SCALE: N.T.S

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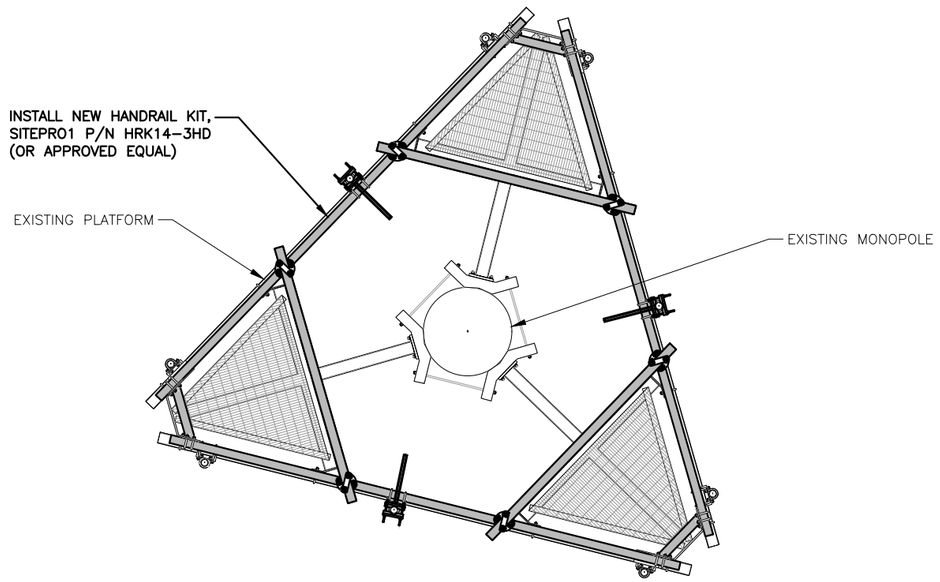
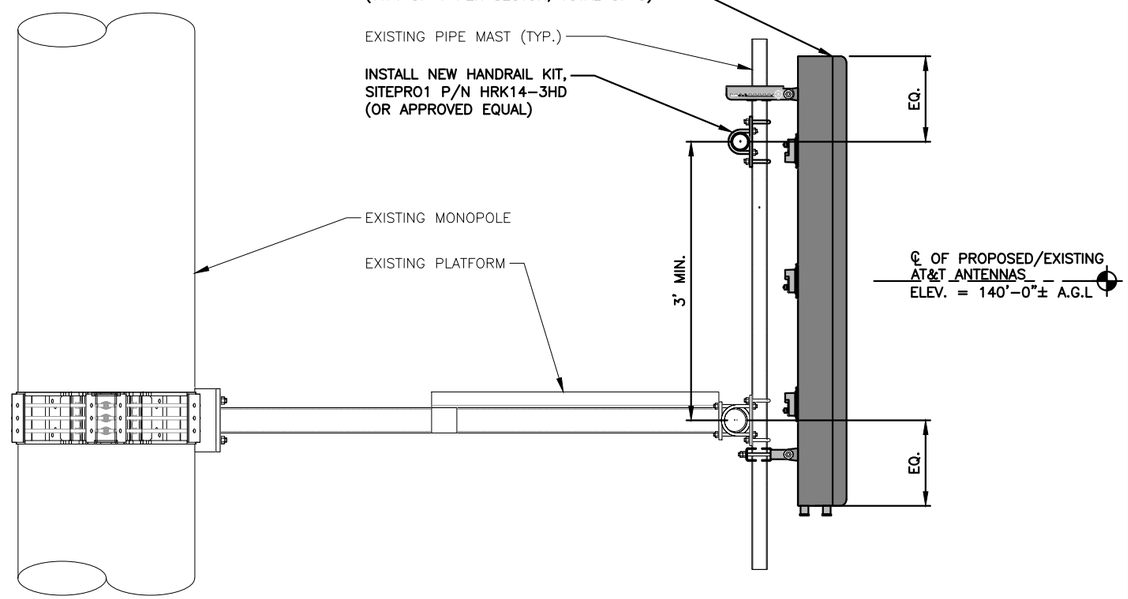


PROPOSED MOUNT MODIFICATIONS PLAN (2 / S-1)
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

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



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

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

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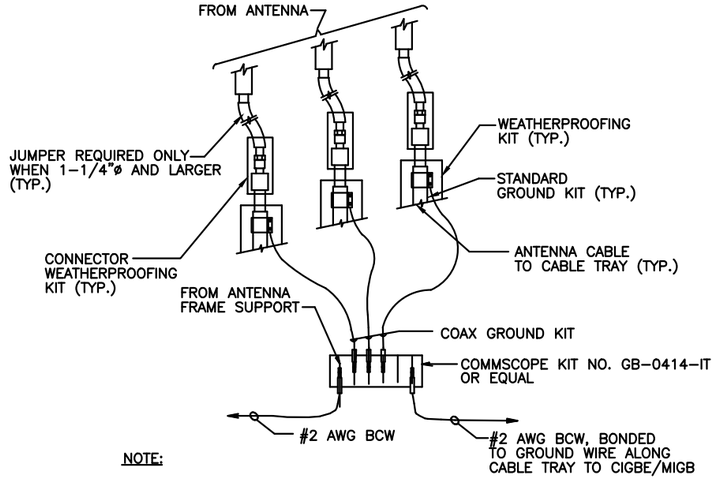
STATE OF CONNECTICUT · DANIEL P. HAMM · No.24178 · LICENSED PROFESSIONAL ENGINEER

Daniel P. Hamm

AT&T

MOUNT MODIFICATIOIN DESIGN
(LTE 3C_4C)

SITE NUMBER	DRAWING NUMBER	REV
CT1288	S-1	1

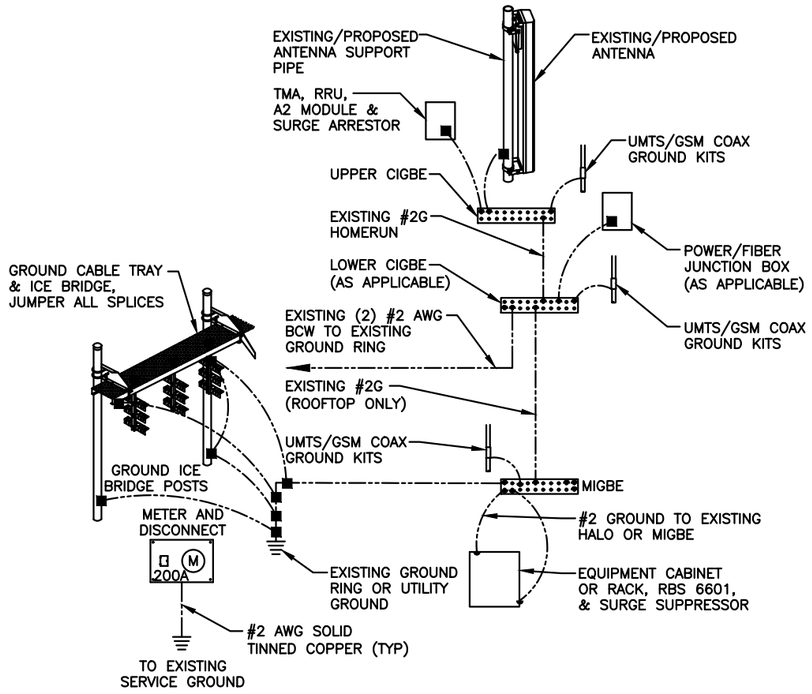


NOTE:

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

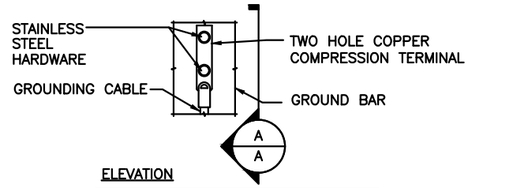
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

SCALE: N.T.S



GROUNDING RISER DIAGRAM (2 / G-1)

SCALE: N.T.S



NOTES:

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

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

SCALE: N.T.S

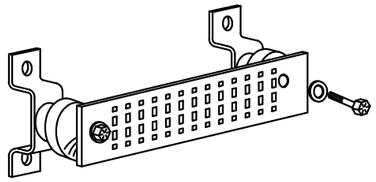
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL (4 / G-1)

SCALE: N.T.S

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: CT1288
SITE NAME: KENT CT MAPLE STREET

38 MAPLE STREET
KENT, CT 06757
LITCHFIELD COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	10/16/19	ISSUED FOR CONSTRUCTION	VP	AT	DPH
0	10/10/19	ISSUED FOR REVIEW	VP	AT	DPH
A	08/30/19	ISSUED FOR REVIEW	AM	AT	DPH

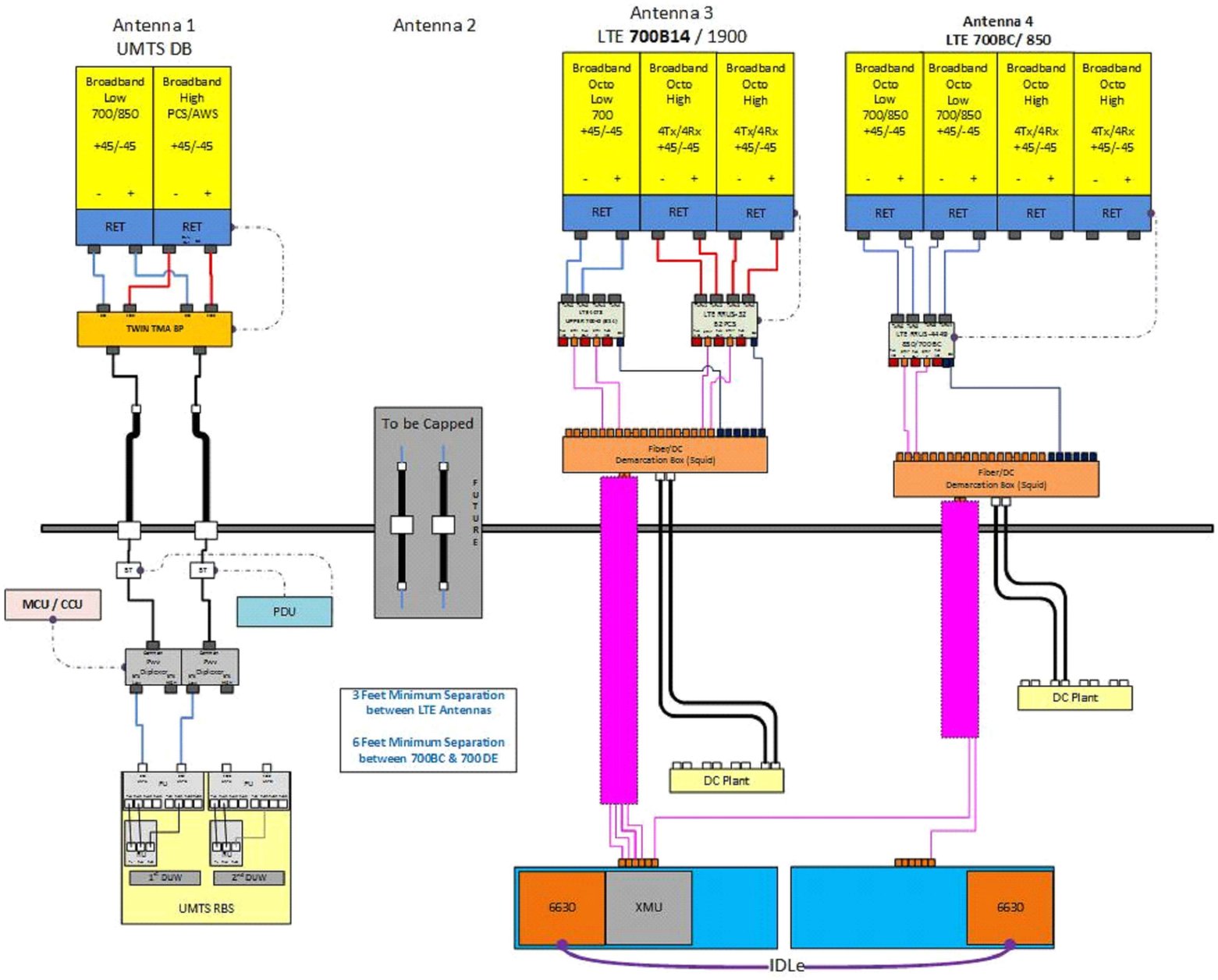
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: AM

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

AT&T

GROUNDING DETAILS
(LTE 3C_4C)

SITE NUMBER	DRAWING NUMBER	REV
CT1288	G-1	1



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

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

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

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

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1288
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: AM

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

AT&T

RF PLUMBING DIAGRAM
(LTE 3C_4C)

SITE NUMBER	DRAWING NUMBER	REV
CT1288	RF–1	1

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Structural Analysis Report

Structure	:	**149 ft Monopole**
ATC Site Name	:	**Kent Pcs CT, CT**
ATC Asset Number	:	**413783**
Engineering Number	:	**OAA751839_C3_01**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**KENT CT MAPLE STREET**
Carrier Site Number	:	**CT1288**
Site Location	:	**S KENT RD** **Kent, CT 06757-1709** **41.721900,-73.475000**
County	:	**Litchfield**
Date	:	**September 18, 2019**
Max Usage	:	**77%**
Result	:	**Pass**

Prepared By:
Lucas Tait
Structural Engineer

L Tait

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
9/18/19 5:37 PM

cosign

COA: PEC.0001553

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CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 149 ft monopole to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	EEI Project #15320, dated March 18, 2008
Foundation Drawing	EEI Project #15320, dated March 14, 2008
Geotechnical Report	Dr. Clarence Welti Report #15320, dated Janury 22, 2007
Mount Analysis	CLS Engineering PLLC Project #41124-12927150-01-MR-R1, dated July 3, 2019

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	90 mph (3-Second Gust Vasd) / 115 mph (3-Second Gust Vult)
Basic Wind Speed w/ Ice:	40 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.19, S_1 = 0.06
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
154.0	1	Generic 3' Yagi	Low Profile Platform	(3) 7/8" Coax	OTHER
	2	RFS Celwave PD220			
152.0	1	Raycap RVZDC-6627-PF-48	Low Profile Platform	(12) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	6	Commscope NHH-65B-R2B			
	6	Antel LPA-80080/6CF ___			
	3	Samsung PCS/AWS Dual Band RRH			
		VZW Unused Reserve: 17440 sq in			
	3	Samsung 700+850MHZ Dual Band RRH			
140.0	2	Andrew SBNHH-1D65A (33.5 lbs)	Platform w/ Handrails	(1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (18) 1 5/8" Coax	AT&T MOBILITY
	3	Powerwave Allgon TT08-19DB111-001			
	1	CCI HPA-65R-BUU-H6			
	3	Powerwave Allgon P90-15-XLH-RR			
	1	Raycap DC6-48-60-18-8F (23.5" Height)			
	3	Ericsson RRUS A2 Module			
	1	Andrew ABT-DFDM-ADB			
	6	Powerwave Allgon TT19-08BP111-001			
124.0	2	Decibel DB222	Stand-Off	(3) 7/8" Coax	OTHER
122.0	1	Generic 3' Yagi			
110.0	3	Commscope LNX-6515DS-A1M (50.3 lb)	T-Arm	(2) 1 5/8" (1.63"-41.3mm) Fiber (1) 1/2" Coax	T-MOBILE
	3	Ericsson RRUS 11 B2			
	1	Symmetricom 58532A			
	3	RFS APX16DWV-16DWVS-E-A20			
	3	Ericsson RRUS 11 B4			
	3	Ericsson RRUS 11 B12			
90.0	1	dbSpectra DS4C06F36D-D	Side Arm	(2) 7/8" Coax	EVERSOURCE ENERGY

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
140.0	3	Powerwave Allgon P90-15-XLH-RR	-	-	AT&T MOBILITY
	3	Ericsson RRUS-11			

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
140.0	3	Ericsson RRUS 4449 B5, B12	Platform w/ Handrails[2]	(1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (1) 2" conduit	AT&T MOBILITY
	3	Ericsson RRUS 4478 B14			
	1	Raycap DC6-48-60-18-8C			
	3	Ericsson RRUS 32 B2			
	3	CCI DMP65R-BU4D			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.
[2] Includes new handrail kit, SitePro1 P/N HRK14-3HD as specified in Mount Analysis by Hudson Design Group, dated August 16, 2019.

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	39%	Pass
Shaft	62%	Pass
Base Plate	28%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Moment (Kips-Ft)	4,897.9	3,423.2	70%
Shear (Kips)	39.5	30.4	77%

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
140.0	Ericsson RRUS 4449 B5, B12	AT&T MOBILITY	1.299	1.008
	Ericsson RRUS 4478 B14			
	Raycap DC6-48-60-18-8C			
	Ericsson RRUS 32 B2			
	CCI DMP65R-BU4D			

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

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Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

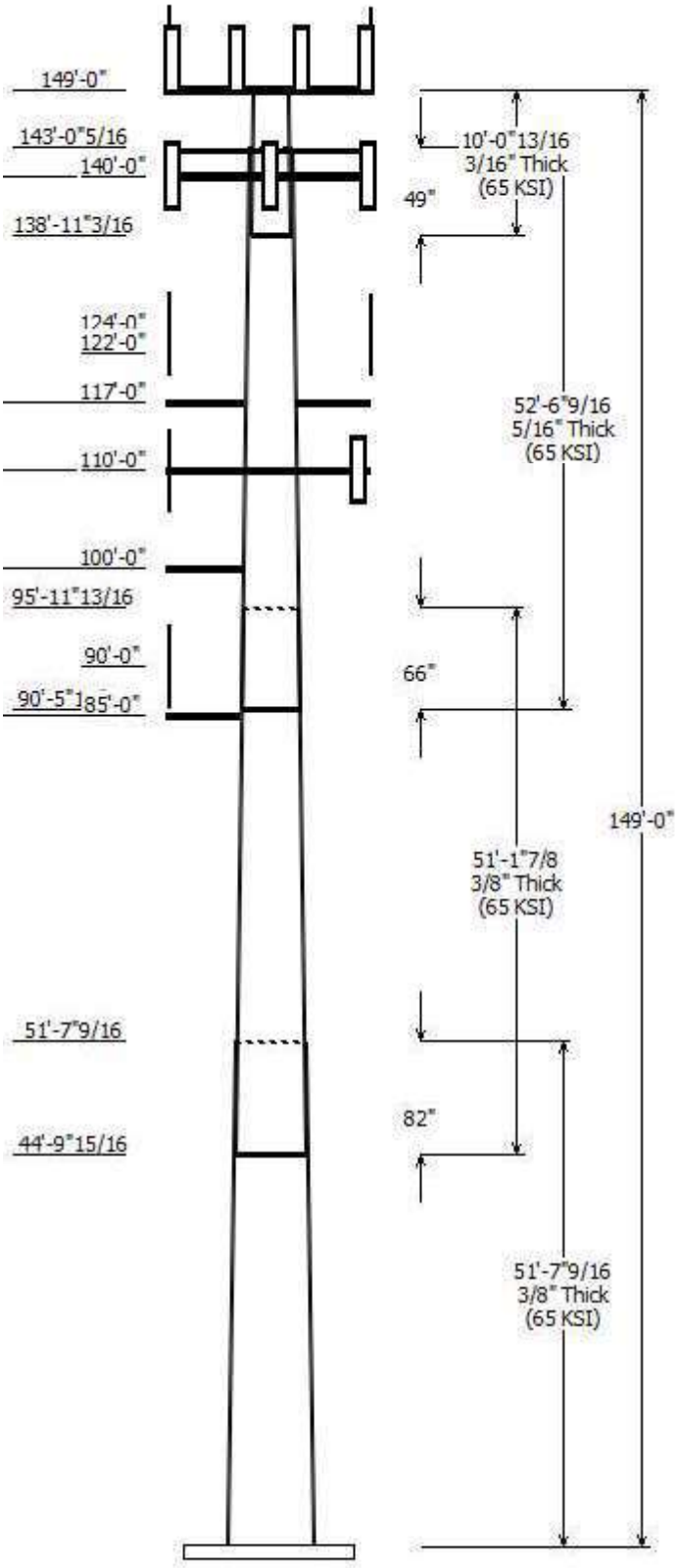
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Job Information

Client :	AT&T MOBILITY		
Pole :	413783	Code:	ANSI/TIA-222-G
Location :	Kent Pcs CT, CT		
Description :	ATC413783	Struct Class :	II
Shape :	18 Sides	Exposure :	C
Height :	149.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.241124 (in/ft)		

Sections Properties

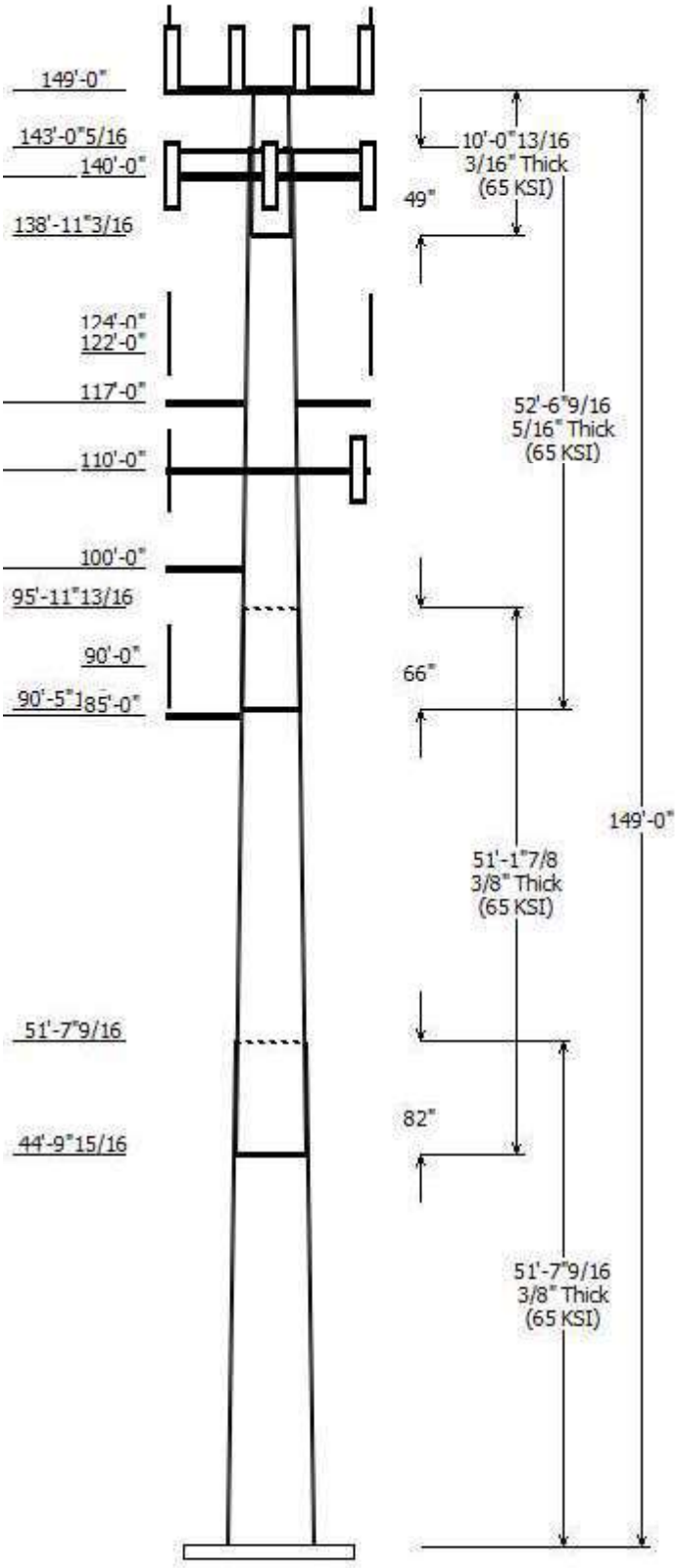
Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Steel Grade Shape	(ksi)
1	51.633	48.05	60.50	0.375		0.000	18 Sides	65
2	51.156	38.10	50.44	0.375	Slip Joint	81.656	18 Sides	65
3	52.550	27.38	40.05	0.313	Slip Joint	66.094	18 Sides	65
4	10.065	26.32	28.74	0.188	Slip Joint	49.094	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
149.000	152.000	1	VZW Unused Reserve: 17440
149.000	152.000	6	Antel LPA-80080/6CF ___
149.000	152.000	6	Commscope NHH-65B-R2B
149.000	152.000	1	Raycap RVZDC-6627-PF-48
149.000	152.000	3	Samsung PCS/AWS Dual Band
149.000	152.000	3	Samsung 700+850MHZ Dual
149.000	154.000	2	RFS Celwave PD220
149.000	154.000	1	Generic 3' Yagi
149.000	149.000	1	Flat Low Profile Platform
140.000	140.000	1	CCI HPA-65R-BUU-H6
140.000	140.000	3	CCI DMP65R-BU4D
140.000	140.000	3	Powerwave Allgon P90-15-
140.000	140.000	2	Andrew SBNHH-1D65A (33.5
140.000	140.000	3	Ericsson RRUS 32 B2
140.000	140.000	1	Raycap DC6-48-60-18-8C
140.000	140.000	3	Ericsson RRUS 4478 B14
140.000	140.000	3	Ericsson RRUS 4449 B5, B12
140.000	142.000	3	Ericsson RRUS A2 Module
140.000	142.000	1	Raycap DC6-48-60-18-8F (23.5"
140.000	142.000	3	Powerwave Allgon TT08-
140.000	142.000	6	Powerwave Allgon TT19-
140.000	142.000	1	Andrew ABT-DFDM-ADB
140.000	140.000	1	Round Platform w/ Handrails
124.000	124.000	2	Decibel DB222
122.000	122.000	1	Generic 3' Yagi
117.000	117.000	2	Stand Off
110.000	110.000	3	Commscope LNX-6515DS-A1M
110.000	110.000	3	RFS APX16DWV-16DWVS-E-A20
110.000	110.000	3	Ericsson RRUS 11 B4
110.000	110.000	3	Ericsson RRUS 11 B12
110.000	110.000	3	Ericsson RRUS 11 B2
110.000	110.000	1	Symmetricom 58532A
110.000	110.000	3	Flat T-Arm
100.000	100.000	1	Generic Flat Side Arm
90.000	90.000	1	dbSpectra DS4C06F36D-D
85.000	85.000	1	Generic Flat Side Arm

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	90.000	7/8" Coax	No
0.000	110.0	1 5/8" (1.63"-	No



0.000	110.0	1/2" Coax	No
0.000	122.0	7/8" Coax	No
0.000	124.0	7/8" Coax	No
0.000	140.0	0.39" (10mm)	No
0.000	140.0	0.39" (10mm)	No
0.000	140.0	0.78" (19.7mm) 8	No
0.000	140.0	0.78" (19.7mm) 8	No
0.000	140.0	1 5/8" Coax	No
0.000	140.0	2" conduit	No
0.000	152.0	1 5/8" Coax	No
0.000	152.0	1 5/8" Hybriflex	No
0.000	154.0	7/8" Coax	No

Load Cases

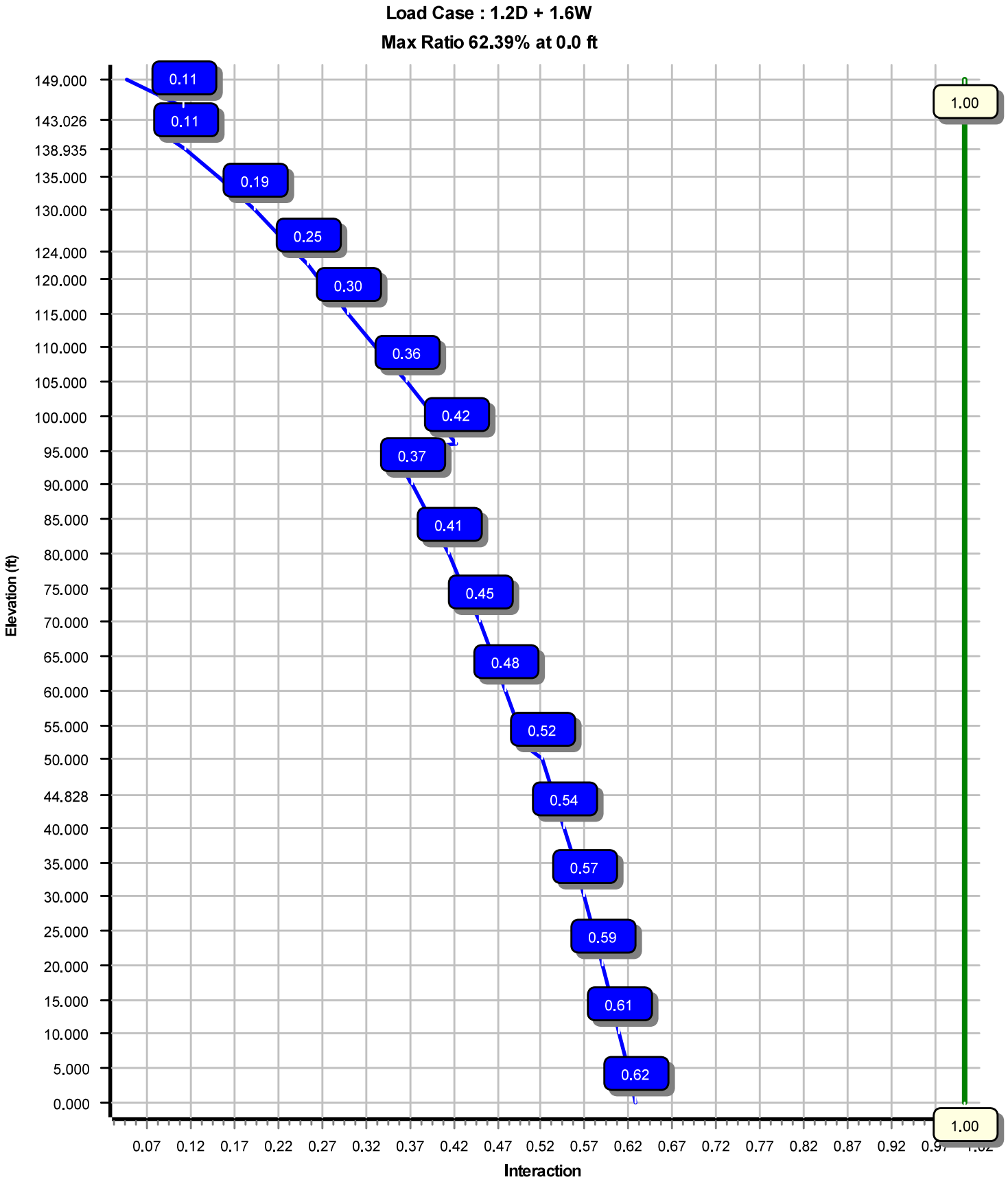
1.2D + 1.6W	90 mph with No Ice
0.9D + 1.6W	90 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3423.19	30.39	50.09
0.9D + 1.6W	3392.46	30.38	37.56
1.2D + 1.0Di + 1.0Wi	733.23	6.60	71.49
(1.2 + 0.2Sds) * DL + E ELFM	205.11	1.68	50.09
(1.2 + 0.2Sds) * DL + E EMAM	395.91	3.14	50.09
(0.9 - 0.2Sds) * DL + E ELFM	202.89	1.68	34.70
(0.9 - 0.2Sds) * DL + E EMAM	391.28	3.14	34.70
1.0D + 1.0W	846.22	7.55	41.77

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000


Load Case : 1.2D + 1.6W
Max Ratio 62.39% at 0.0 ft
Elevation (ft)
149.000
143.026
138.935
135.000
130.000
124.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
44.828
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
0.11
0.11
0.19
0.25
0.30
0.36
0.42
0.37
0.41
0.45
0.48
0.52
0.54
0.57
0.59
0.61
0.62
1.00
1.00
0.07
0.12
0.17
0.22
0.27
0.32
0.37
0.42
0.47
0.52
0.57
0.62
0.67
0.72
0.77
0.82
0.87
0.92
Interaction

Site Number: 413783 | Code: ANSI/TIA-222-G |

Site Name: Kent Pcs CT, CT | Engineering Number: | 9/18/2019 4:22:13 PM

Customer: AT&T MOBILITY

Analysis Parameters

Location :	Litchfield County, CT	Height (ft) :	149
Code :	ANSI/TIA-222-G	Base Diameter (in) :	60.50
Shape :	18 Sides	Top Diameter (in) :	26.32
Pole Type :	Taper	Taper (in/ft) :	0.241
Pole Manfacturer :	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	90 mph
Exposure Category:	C	Design Wind Speed With Ice:	40 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	2.07				
T_L (sec):	6	p:	1.3	C_s:	0.031
S_s:	0.190	S_1:	0.060	C_s Max:	0.031
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.203	S_{d1}:	0.096		

Load Cases

1.2D + 1.6W	90 mph with No Ice
0.9D + 1.6W	90 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	40 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 413783 Code: ANSI/TIA-222-G

Site Name: Kent Pcs CT, CT Engineering Number: 9/18/2019 4:22:13 PM

Customer: AT&T MOBILITY

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	51.633	0.3750	65		0.00	11,271	60.50	0.00	71.56	32684.4	26.68	161.33	48.05	51.63	56.74	16294.8	20.83	128.13	0.241124
2-18	51.156	0.3750	65	Slip	81.66	9,095	50.44	44.83	59.59	18871.2	21.95	134.51	38.10	95.98	44.91	8077.3	16.15	101.62	0.241124
3-18	52.549	0.3125	65	Slip	66.09	5,926	40.05	90.48	39.42	7868.4	20.84	128.19	27.38	143.03	26.85	2487.3	13.69	87.64	0.241124
4-18	10.065	0.1875	65	Slip	49.09	557	28.74	138.93	17.00	1751.9	25.27	153.33	26.32	149.00	15.55	1342.2	22.99	140.39	0.241124
				Shaft Weight		26,849													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
149.00	Samsung 700+850MHZ Dual	3	0.80	3.000	82.00	1.880	0.50	139.24	2.782	0.50
149.00	Samsung PCS/AWS Dual Band	3	0.80	3.000	84.40	1.880	0.50	148.32	2.782	0.50
149.00	Generic 3' Yagi	1	1.00	5.000	10.00	2.980	1.00	99.84	9.246	1.00
149.00	Raycap RVZDC-6627-PF-48	1	0.80	3.000	32.00	3.780	1.00	141.66	5.102	1.00
149.00	RFS Celwave PD220	2	1.00	5.000	25.00	5.400	1.00	164.56	12.349	1.00
149.00	Commscope NHH-65B-R2B	6	0.80	3.000	43.70	8.080	0.69	218.06	10.866	0.69
149.00	Antel LPA-80080/6CF ___	6	0.80	3.000	21.00	8.630	0.62	215.47	5.508	0.62
149.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,147.91	45.192	1.00
149.00	VZW Unused Reserve: 17440 sq	1	0.80	3.000	1,580.60	121.110	0.90	2,681.77	205.485	0.90
140.00	Andrew ABT-DFDM-ADB	1	0.75	2.000	1.10	0.050	1.00	3.31	0.241	1.00
140.00	Powerwave Allgon TT19-	6	0.75	2.000	16.00	0.550	0.50	36.09	1.056	0.50
140.00	Powerwave Allgon TT08-	3	0.75	2.000	22.00	0.790	0.50	48.42	1.420	0.50
140.00	Raycap DC6-48-60-18-8F (23.5"	1	0.75	2.000	20.00	1.260	1.00	72.38	1.915	1.00
140.00	Ericsson RRUS A2 Module	3	0.75	2.000	21.20	1.600	0.50	57.05	2.432	0.50
140.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.970	0.50	135.11	2.898	0.50
140.00	Ericsson RRUS 4478 B14	3	0.75	0.000	59.40	2.020	0.67	120.45	2.958	0.67
140.00	Raycap DC6-48-60-18-8C	1	0.75	0.000	16.00	2.030	1.00	73.91	2.785	1.00
140.00	Ericsson RRUS 32 B2	3	0.75	0.000	53.00	2.740	0.67	126.17	3.902	0.67
140.00	Andrew SBNHH-1D65A (33.5 lbs)	2	0.75	0.000	33.50	5.880	0.77	168.15	7.995	0.77
140.00	Powerwave Allgon P90-15-XLH-	3	0.75	0.000	53.00	8.130	0.67	216.85	10.902	0.67
140.00	CCI DMP65R-BU4D	3	0.75	0.000	67.90	8.280	0.62	247.56	10.294	0.62
140.00	CCI HPA-65R-BUU-H6	1	0.75	0.000	51.00	9.660	1.00	269.25	12.418	1.00
140.00	Round Platform w/ Handrails	1	1.00	0.000	2,000.00	27.200	1.00	3,289.02	51.517	1.00
124.00	Decibel DB222	2	1.00	0.000	16.00	2.250	1.00	83.94	8.192	1.00
122.00	Generic 3' Yagi	1	1.00	0.000	10.00	2.980	1.00	98.10	9.125	1.00
117.00	Stand Off	2	1.00	0.000	75.00	2.500	0.67	126.03	4.201	0.67
110.00	Symmetricom 58532A	1	0.80	0.000	0.40	0.190	1.00	8.14	0.499	1.00
110.00	Ericsson RRUS 11 B2	3	0.80	0.000	50.70	2.790	0.67	120.88	3.852	0.67
110.00	Ericsson RRUS 11 B12	3	0.80	0.000	50.70	2.790	0.67	120.88	3.852	0.67
110.00	Ericsson RRUS 11 B4	3	0.80	0.000	50.70	2.790	0.67	120.88	3.852	0.67
110.00	RFS APX16DWV-16DWVS-E-A20	3	0.80	0.000	40.70	6.590	0.60	153.92	8.690	0.60
110.00	Commscope LNX-6515DS-A1M	3	0.80	0.000	50.30	11.440	0.70	274.56	14.592	0.70
110.00	Flat T-Arm	3	0.75	0.000	250.00	12.900	0.67	452.56	20.826	0.67
100.00	Generic Flat Side Arm	1	1.00	0.000	187.50	6.300	1.00	315.44	9.292	1.00
90.00	dbSpectra DS4C06F36D-D	1	1.00	0.000	50.00	6.210	1.00	196.51	12.745	1.00
85.00	Generic Flat Side Arm	1	1.00	0.000	187.50	6.300	1.00	313.26	9.241	1.00
Totals	Num Loadings:36	85			9,450.30			21,062.14		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	154.00	3	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	OTHER

0.00	152.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	152.00	2	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	140.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	18	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	140.00	1	2" conduit	2.38	3.65	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	124.00	2	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	Other
0.00	122.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	Other
0.00	110.00	2	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	110.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	90.00	2	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	EVERSOURCE

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.3750	60.500	71.561	32,684.4	26.68	161.33	70.0	1064.	0.0	0.0
5.00		0.3750	59.294	70.126	30,757.4	26.12	158.12	70.7	1021.	0.0	1,205.3
10.00		0.3750	58.089	68.691	28,907.7	25.55	154.90	71.3	980.2	0.0	1,180.9
15.00		0.3750	56.883	67.256	27,133.7	24.98	151.69	72.0	939.5	0.0	1,156.5
20.00		0.3750	55.678	65.821	25,433.7	24.42	148.47	72.7	899.7	0.0	1,132.1
25.00		0.3750	54.472	64.387	23,806.3	23.85	145.26	73.3	860.8	0.0	1,107.7
30.00		0.3750	53.266	62.952	22,249.9	23.28	142.04	74.0	822.7	0.0	1,083.3
35.00		0.3750	52.061	61.517	20,762.8	22.72	138.83	74.7	785.5	0.0	1,058.8
40.00		0.3750	50.855	60.082	19,343.5	22.15	135.61	75.3	749.2	0.0	1,034.4
44.83	Bot - Section 2	0.3750	49.691	58.696	18,035.8	21.60	132.51	76.0	714.9	0.0	975.7
45.00		0.3750	49.649	58.647	17,990.4	21.58	132.40	76.0	713.7	0.0	69.2
50.00		0.3750	48.444	57.212	16,701.9	21.02	129.18	76.7	679.1	0.0	1,986.4
51.63	Top - Section 1	0.3750	48.800	57.636	17,076.0	21.18	130.13	76.5	689.2	0.0	638.1
55.00		0.3750	47.988	56.670	16,231.4	20.80	127.97	76.9	666.2	0.0	654.8
60.00		0.3750	46.783	55.235	15,029.4	20.23	124.75	77.6	632.8	0.0	952.0
65.00		0.3750	45.577	53.800	13,888.2	19.67	121.54	78.3	600.2	0.0	927.5
70.00		0.3750	44.371	52.365	12,806.3	19.10	118.32	78.9	568.5	0.0	903.1
75.00		0.3750	43.166	50.930	11,782.1	18.53	115.11	79.6	537.6	0.0	878.7
80.00		0.3750	41.960	49.495	10,814.0	17.97	111.89	80.3	507.6	0.0	854.3
85.00		0.3750	40.754	48.060	9,900.5	17.40	108.68	80.9	478.5	0.0	829.9
90.00		0.3750	39.549	46.625	9,039.9	16.83	105.46	81.6	450.2	0.0	805.5
90.48	Bot - Section 3	0.3750	39.434	46.488	8,960.6	16.78	105.16	81.7	447.6	0.0	75.5
95.00		0.3750	38.343	45.190	8,230.7	16.27	102.25	82.3	422.8	0.0	1,304.0
95.98	Top - Section 2	0.3125	38.731	38.105	7,105.8	20.09	123.94	77.8	361.4	0.0	278.9
100.0		0.3125	37.763	37.144	6,581.9	19.54	120.84	78.4	343.3	0.0	514.1
105.0		0.3125	36.557	35.949	5,966.5	18.86	116.98	79.2	321.5	0.0	621.8
110.0		0.3125	35.351	34.753	5,390.7	18.18	113.12	80.0	300.3	0.0	601.5
115.0		0.3125	34.146	33.557	4,853.2	17.50	109.27	80.8	279.9	0.0	581.1
117.0		0.3125	33.663	33.079	4,648.6	17.23	107.72	81.1	272.0	0.0	226.7
120.0		0.3125	32.940	32.361	4,352.6	16.82	105.41	81.6	260.3	0.0	334.0
122.0		0.3125	32.458	31.883	4,162.4	16.55	103.87	81.9	252.6	0.0	218.6
124.0		0.3125	31.976	31.405	3,977.9	16.28	102.32	82.3	245.0	0.0	215.4
125.0		0.3125	31.734	31.166	3,887.7	16.14	101.55	82.4	241.3	0.0	106.5
130.0		0.3125	30.529	29.970	3,457.2	15.46	97.69	82.6	223.0	0.0	520.1
135.0		0.3125	29.323	28.774	3,059.6	14.78	93.83	82.6	205.5	0.0	499.7
138.9	Bot - Section 4	0.3125	28.374	27.833	2,769.2	14.25	90.80	82.6	192.2	0.0	379.0
140.0		0.3125	28.118	27.578	2,693.8	14.10	89.98	82.6	188.7	0.0	161.7
143.0	Top - Section 3	0.1875	27.763	16.410	1,576.6	24.35	148.07	72.8	111.8	0.0	451.5
145.0		0.1875	27.287	16.127	1,496.3	23.90	145.53	73.3	108.0	0.0	109.3
149.0		0.1875	26.322	15.553	1,342.2	22.99	140.39	74.4	100.4	0.0	215.6
											26,849.2

Site Number: 413783 | Code: ANSI/TIA-222-G |

Site Name: Kent Pcs CT, CT | Engineering Number: | 9/18/2019 4:22:13 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W | 90 mph with No Ice | 22 Iterations

Gust Response Factor :1.10 | Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		242.7	0.0					0.0	0.0	242.7	0.0	0.0	0.0
5.00		480.6	1,446.4					0.0	236.0	480.6	1,682.4	0.0	0.0
10.00		470.8	1,417.1					0.0	236.0	470.8	1,653.1	0.0	0.0
15.00		468.2	1,387.8					0.0	236.0	468.2	1,623.8	0.0	0.0
20.00		478.0	1,358.5					0.0	236.0	478.0	1,594.5	0.0	0.0
25.00		490.4	1,329.2					0.0	236.0	490.4	1,565.2	0.0	0.0
30.00		498.5	1,299.9					0.0	236.0	498.5	1,535.9	0.0	0.0
35.00		503.4	1,270.6					0.0	236.0	503.4	1,506.7	0.0	0.0
40.00		497.1	1,241.3					0.0	236.0	497.1	1,477.4	0.0	0.0
44.83	Bot - Section 2	253.4	1,170.8					0.0	227.9	253.4	1,398.8	0.0	0.0
45.00		265.7	83.0					0.0	8.1	265.7	91.1	0.0	0.0
50.00		340.6	2,383.7					0.0	236.0	340.6	2,619.7	0.0	0.0
51.63	Top - Section 1	256.0	765.7					0.0	77.1	256.0	842.8	0.0	0.0
55.00		426.7	785.8					0.0	159.0	426.7	944.8	0.0	0.0
60.00		506.9	1,142.4					0.0	236.0	506.9	1,378.4	0.0	0.0
65.00		502.2	1,113.1					0.0	236.0	502.2	1,349.1	0.0	0.0
70.00		496.6	1,083.8					0.0	236.0	496.6	1,319.8	0.0	0.0
75.00		490.2	1,054.5					0.0	236.0	490.2	1,290.5	0.0	0.0
80.00		483.0	1,025.2					0.0	236.0	483.0	1,261.2	0.0	0.0
85.00	Appurtenance(s)	475.2	995.9	267.1	0.0	0.0	225.0	0.0	236.0	742.3	1,456.9	0.0	0.0
90.00	Appurtenance(s)	257.8	966.6	266.5	0.0	0.0	60.0	0.0	236.0	524.3	1,262.6	0.0	0.0
90.48	Bot - Section 3	234.5	90.6					0.0	22.1	234.5	112.7	0.0	0.0
95.00		258.0	1,564.8					0.0	210.0	258.0	1,774.8	0.0	0.0
95.98	Top - Section 2	230.3	334.7					0.0	45.7	230.3	380.4	0.0	0.0
100.00	Appurtenance(s)	409.9	616.9	276.4	0.0	0.0	225.0	0.0	186.4	686.4	1,028.3	0.0	0.0
105.00		445.6	746.2					0.0	232.1	445.6	978.2	0.0	0.0
110.00	Appurtenance(s)	435.2	721.7	2,765.2	0.0	0.0	1,775.6	0.0	232.1	3,200.4	2,729.5	0.0	0.0
115.00		299.4	697.3					0.0	211.9	299.4	909.2	0.0	0.0
117.00	Appurtenance(s)	209.4	272.1	151.9	0.0	0.0	180.0	0.0	84.7	361.3	536.8	0.0	0.0
120.00		207.1	400.8					0.0	127.1	207.1	527.9	0.0	0.0
122.00	Appurtenance(s)	163.4	262.3	136.4	0.0	0.0	12.0	0.0	84.7	299.7	359.1	0.0	0.0
124.00	Appurtenance(s)	121.5	258.4	206.6	0.0	0.0	38.4	0.0	84.0	328.1	380.8	0.0	0.0
125.00		238.0	127.7					0.0	41.2	238.0	168.9	0.0	0.0
130.00		389.3	624.1					0.0	205.9	389.3	830.0	0.0	0.0
135.00		338.0	599.7					0.0	205.9	338.0	805.6	0.0	0.0
138.93	Bot - Section 4	185.8	454.8					0.0	162.1	185.8	616.8	0.0	0.0
140.00	Appurtenance(s)	150.0	194.1	3,809.5	0.0	463.8	3,952.3	0.0	43.9	3,959.5	4,190.3	0.0	0.0
143.03	Top - Section 3	181.3	541.7					0.0	48.8	181.3	590.5	0.0	0.0
145.00		211.1	131.1					0.0	31.8	211.1	162.9	0.0	0.0
149.00	Appurtenance(s)	140.3	258.7	8,961.1	0.0	24,470.9	4,872.0	0.0	64.5	9,101.4	5,195.2	0.0	0.0
								Totals:		30,572.5	50,132.8	0.00	0.00

Site Number: 413783 Code: ANSI/TIA-222-G

Site Name: Kent Pcs CT, CT Engineering Number: 9/18/2019 4:22:17 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W 90 mph with No Ice 22 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-50.09	-30.39	0.00	-3,423.19	0.00	3,423.19	4,509.35	2,254.68	11,158.5	5,587.56	0.00	0.00	0.624
5.00	-48.33	-30.04	0.00	-3,271.22	0.00	3,271.22	4,461.01	2,230.51	10,816.2	5,416.14	0.08	-0.15	0.615
10.00	-46.61	-29.68	0.00	-3,121.05	0.00	3,121.05	4,410.95	2,205.48	10,474.5	5,245.08	0.31	-0.29	0.606
15.00	-44.91	-29.32	0.00	-2,972.65	0.00	2,972.65	4,359.17	2,179.58	10,133.9	5,074.52	0.70	-0.44	0.596
20.00	-43.24	-28.94	0.00	-2,826.06	0.00	2,826.06	4,305.66	2,152.83	9,794.63	4,904.59	1.25	-0.60	0.586
25.00	-41.60	-28.55	0.00	-2,681.35	0.00	2,681.35	4,250.43	2,125.22	9,456.78	4,735.42	1.95	-0.75	0.576
30.00	-40.00	-28.14	0.00	-2,538.63	0.00	2,538.63	4,193.48	2,096.74	9,120.71	4,567.13	2.82	-0.91	0.566
35.00	-38.42	-27.71	0.00	-2,397.95	0.00	2,397.95	4,134.81	2,067.40	8,786.66	4,399.86	3.85	-1.06	0.554
40.00	-36.88	-27.29	0.00	-2,259.39	0.00	2,259.39	4,074.41	2,037.21	8,454.90	4,233.73	5.05	-1.22	0.543
44.83	-35.45	-27.05	0.00	-2,127.65	0.00	2,127.65	4,014.46	2,007.23	8,136.95	4,074.52	6.37	-1.38	0.531
45.00	-35.33	-26.84	0.00	-2,123.00	0.00	2,123.00	4,012.29	2,006.15	8,125.68	4,068.88	6.42	-1.38	0.531
50.00	-32.67	-26.49	0.00	-1,988.82	0.00	1,988.82	3,948.45	1,974.23	7,799.26	3,905.43	7.96	-1.55	0.518
51.63	-31.79	-26.26	0.00	-1,945.57	0.00	1,945.57	3,967.50	1,983.75	7,895.42	3,953.58	8.50	-1.60	0.500
55.00	-30.80	-25.88	0.00	-1,857.15	0.00	1,857.15	3,923.88	1,961.94	7,676.69	3,844.05	9.67	-1.71	0.491
60.00	-29.37	-25.41	0.00	-1,727.77	0.00	1,727.77	3,857.67	1,928.83	7,354.55	3,682.74	11.55	-1.87	0.477
65.00	-27.97	-24.94	0.00	-1,600.73	0.00	1,600.73	3,789.73	1,894.87	7,035.83	3,523.15	13.59	-2.03	0.462
70.00	-26.60	-24.47	0.00	-1,476.05	0.00	1,476.05	3,720.08	1,860.04	6,720.79	3,365.39	15.80	-2.19	0.446
75.00	-25.27	-23.99	0.00	-1,353.73	0.00	1,353.73	3,648.70	1,824.35	6,409.67	3,209.60	18.17	-2.34	0.429
80.00	-23.96	-23.52	0.00	-1,233.76	0.00	1,233.76	3,575.60	1,787.80	6,102.74	3,055.91	20.71	-2.50	0.411
85.00	-22.48	-22.78	0.00	-1,116.15	0.00	1,116.15	3,500.77	1,750.39	5,800.26	2,904.44	23.41	-2.65	0.391
90.00	-21.21	-22.22	0.00	-1,002.27	0.00	1,002.27	3,424.23	1,712.11	5,502.49	2,755.33	26.27	-2.81	0.370
90.48	-21.08	-22.01	0.00	-991.68	0.00	991.68	3,416.84	1,708.42	5,474.36	2,741.25	26.55	-2.82	0.368
95.00	-19.29	-21.69	0.00	-892.12	0.00	892.12	3,345.96	1,672.98	5,209.67	2,608.71	29.29	-2.96	0.348
95.98	-18.90	-21.47	0.00	-870.77	0.00	870.77	2,667.09	1,333.55	4,209.17	2,107.71	29.90	-2.99	0.420
100.00	-17.86	-20.77	0.00	-784.57	0.00	784.57	2,621.36	1,310.68	4,031.88	2,018.94	32.46	-3.10	0.396
105.00	-16.85	-20.32	0.00	-680.72	0.00	680.72	2,562.85	1,281.43	3,813.95	1,909.81	35.80	-3.26	0.363
110.00	-14.27	-17.00	0.00	-579.14	0.00	579.14	2,502.63	1,251.31	3,599.38	1,802.37	39.30	-3.41	0.327
115.00	-13.35	-16.67	0.00	-494.16	0.00	494.16	2,440.68	1,220.34	3,388.44	1,696.74	42.94	-3.55	0.297
117.00	-12.82	-16.29	0.00	-460.82	0.00	460.82	2,415.42	1,207.71	3,305.13	1,655.02	44.44	-3.61	0.284
120.00	-12.28	-16.06	0.00	-411.96	0.00	411.96	2,377.01	1,188.51	3,181.38	1,593.05	46.74	-3.69	0.264
122.00	-11.93	-15.75	0.00	-379.84	0.00	379.84	2,351.06	1,175.53	3,099.69	1,552.15	48.29	-3.74	0.250
124.00	-11.56	-15.41	0.00	-348.34	0.00	348.34	2,324.84	1,162.42	3,018.69	1,511.59	49.87	-3.79	0.236
125.00	-11.39	-15.17	0.00	-332.93	0.00	332.93	2,311.62	1,155.81	2,978.45	1,491.44	50.67	-3.82	0.228
130.00	-10.57	-14.74	0.00	-257.08	0.00	257.08	2,226.60	1,113.30	2,757.75	1,380.92	54.72	-3.92	0.191
135.00	-9.77	-14.36	0.00	-183.36	0.00	183.36	2,137.76	1,068.88	2,540.99	1,272.38	58.88	-4.01	0.149
138.93	-9.16	-14.14	0.00	-126.85	0.00	126.85	2,067.85	1,033.92	2,376.65	1,190.09	62.21	-4.07	0.111
140.00	-5.25	-9.89	0.00	-111.32	0.00	111.32	2,048.92	1,024.46	2,333.11	1,168.29	63.12	-4.08	0.098
143.03	-4.67	-9.67	0.00	-81.38	0.00	81.38	1,074.70	537.35	1,219.01	610.41	65.71	-4.11	0.138
145.00	-4.52	-9.45	0.00	-62.28	0.00	62.28	1,063.79	531.90	1,185.67	593.71	67.42	-4.13	0.109
149.00	0.00	-9.10	0.00	-24.47	0.00	24.47	1,040.86	520.43	1,118.54	560.10	70.89	-4.16	0.044

Site Number: 413783 | Code: ANSI/TIA-222-G |

Site Name: Kent Pcs CT, CT | Engineering Number: | 9/18/2019 4:22:17 PM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W | 90 mph with No Ice (Reduced DL) | 22 Iterations

Gust Response Factor :1.10 | Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		242.7	0.0					0.0	0.0	242.7	0.0	0.0	0.0
5.00		480.6	1,084.8					0.0	177.0	480.6	1,261.8	0.0	0.0
10.00		470.8	1,062.8					0.0	177.0	470.8	1,239.9	0.0	0.0
15.00		468.2	1,040.8					0.0	177.0	468.2	1,217.9	0.0	0.0
20.00		478.0	1,018.9					0.0	177.0	478.0	1,195.9	0.0	0.0
25.00		490.4	996.9					0.0	177.0	490.4	1,173.9	0.0	0.0
30.00		498.5	974.9					0.0	177.0	498.5	1,152.0	0.0	0.0
35.00		503.4	953.0					0.0	177.0	503.4	1,130.0	0.0	0.0
40.00		497.1	931.0					0.0	177.0	497.1	1,108.0	0.0	0.0
44.83	Bot - Section 2	253.4	878.1					0.0	170.9	253.4	1,049.1	0.0	0.0
45.00		265.7	62.2					0.0	6.1	265.7	68.3	0.0	0.0
50.00		340.6	1,787.8					0.0	177.0	340.6	1,964.8	0.0	0.0
51.63	Top - Section 1	256.0	574.3					0.0	57.8	256.0	632.1	0.0	0.0
55.00		426.7	589.4					0.0	119.2	426.7	708.6	0.0	0.0
60.00		506.9	856.8					0.0	177.0	506.9	1,033.8	0.0	0.0
65.00		502.2	834.8					0.0	177.0	502.2	1,011.8	0.0	0.0
70.00		496.6	812.8					0.0	177.0	496.6	989.9	0.0	0.0
75.00		490.2	790.8					0.0	177.0	490.2	967.9	0.0	0.0
80.00		483.0	768.9					0.0	177.0	483.0	945.9	0.0	0.0
85.00	Appurtenance(s)	475.2	746.9	267.1	0.0	0.0	168.8	0.0	177.0	742.3	1,092.7	0.0	0.0
90.00	Appurtenance(s)	257.8	724.9	266.5	0.0	0.0	45.0	0.0	177.0	524.3	947.0	0.0	0.0
90.48	Bot - Section 3	234.5	67.9					0.0	16.6	234.5	84.5	0.0	0.0
95.00		258.0	1,173.6					0.0	157.5	258.0	1,331.1	0.0	0.0
95.98	Top - Section 2	230.3	251.0					0.0	34.3	230.3	285.3	0.0	0.0
100.00	Appurtenance(s)	409.9	462.7	276.4	0.0	0.0	168.8	0.0	139.8	686.4	771.2	0.0	0.0
105.00		445.6	559.6					0.0	174.1	445.6	733.7	0.0	0.0
110.00	Appurtenance(s)	435.2	541.3	2,765.2	0.0	0.0	1,331.7	0.0	174.1	3,200.4	2,047.1	0.0	0.0
115.00		299.4	523.0					0.0	158.9	299.4	681.9	0.0	0.0
117.00	Appurtenance(s)	209.4	204.1	151.9	0.0	0.0	135.0	0.0	63.6	361.3	402.6	0.0	0.0
120.00		207.1	300.6					0.0	95.3	207.1	396.0	0.0	0.0
122.00	Appurtenance(s)	163.4	196.7	136.4	0.0	0.0	9.0	0.0	63.6	299.7	269.3	0.0	0.0
124.00	Appurtenance(s)	121.5	193.8	206.6	0.0	0.0	28.8	0.0	63.0	328.1	285.6	0.0	0.0
125.00		238.0	95.8					0.0	30.9	238.0	126.7	0.0	0.0
130.00		389.3	468.1					0.0	154.4	389.3	622.5	0.0	0.0
135.00		338.0	449.8					0.0	154.4	338.0	604.2	0.0	0.0
138.93	Bot - Section 4	185.8	341.1					0.0	121.5	185.8	462.6	0.0	0.0
140.00	Appurtenance(s)	150.0	145.6	3,809.5	0.0	463.8	2,964.2	0.0	32.9	3,959.5	3,142.7	0.0	0.0
143.03	Top - Section 3	181.3	406.3					0.0	36.6	181.3	442.9	0.0	0.0
145.00		211.1	98.3					0.0	23.9	211.1	122.2	0.0	0.0
149.00	Appurtenance(s)	140.3	194.0	8,961.1	0.0	24,470.9	3,654.0	0.0	48.3	9,101.4	3,896.4	0.0	0.0
								Totals:		30,572.5	37,599.6	0.00	0.00

Site Number: 413783 | Code: ANSI/TIA-222-G |

Site Name: Kent Pcs CT, CT | Engineering Number: | 9/18/2019 4:22:20 PM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W — 90 mph with No Ice (Reduced DL) — 22 Iterations

Gust Response Factor :1.10 — Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-37.56	-30.38	0.00	-3,392.46	0.00	3,392.46	4,509.35	2,254.68	11,158.5	5,587.56	0.00	0.00	0.616
5.00	-36.22	-29.99	0.00	-3,240.57	0.00	3,240.57	4,461.01	2,230.51	10,816.2	5,416.14	0.08	-0.14	0.607
10.00	-34.91	-29.60	0.00	-3,090.64	0.00	3,090.64	4,410.95	2,205.48	10,474.5	5,245.08	0.31	-0.29	0.597
15.00	-33.62	-29.21	0.00	-2,942.63	0.00	2,942.63	4,359.17	2,179.58	10,133.9	5,074.52	0.69	-0.44	0.588
20.00	-32.35	-28.81	0.00	-2,796.57	0.00	2,796.57	4,305.66	2,152.83	9,794.63	4,904.59	1.23	-0.59	0.578
25.00	-31.11	-28.39	0.00	-2,652.52	0.00	2,652.52	4,250.43	2,125.22	9,456.78	4,735.42	1.93	-0.74	0.568
30.00	-29.89	-27.96	0.00	-2,510.57	0.00	2,510.57	4,193.48	2,096.74	9,120.71	4,567.13	2.79	-0.90	0.557
35.00	-28.69	-27.51	0.00	-2,370.80	0.00	2,370.80	4,134.81	2,067.40	8,786.66	4,399.86	3.82	-1.05	0.546
40.00	-27.52	-27.07	0.00	-2,233.24	0.00	2,233.24	4,074.41	2,037.21	8,454.90	4,233.73	5.00	-1.21	0.534
44.83	-26.44	-26.83	0.00	-2,102.55	0.00	2,102.55	4,014.46	2,007.23	8,136.95	4,074.52	6.31	-1.36	0.523
45.00	-26.34	-26.60	0.00	-2,097.94	0.00	2,097.94	4,012.29	2,006.15	8,125.68	4,068.88	6.36	-1.37	0.522
50.00	-24.33	-26.25	0.00	-1,964.95	0.00	1,964.95	3,948.45	1,974.23	7,799.26	3,905.43	7.88	-1.53	0.509
51.63	-23.67	-26.02	0.00	-1,922.08	0.00	1,922.08	3,967.50	1,983.75	7,895.42	3,953.58	8.41	-1.58	0.492
55.00	-22.91	-25.62	0.00	-1,834.49	0.00	1,834.49	3,923.88	1,961.94	7,676.69	3,844.05	9.57	-1.69	0.483
60.00	-21.83	-25.14	0.00	-1,706.38	0.00	1,706.38	3,857.67	1,928.83	7,354.55	3,682.74	11.43	-1.85	0.469
65.00	-20.77	-24.66	0.00	-1,580.67	0.00	1,580.67	3,789.73	1,894.87	7,035.83	3,523.15	13.45	-2.01	0.454
70.00	-19.73	-24.18	0.00	-1,457.36	0.00	1,457.36	3,720.08	1,860.04	6,720.79	3,365.39	15.63	-2.16	0.439
75.00	-18.72	-23.71	0.00	-1,336.44	0.00	1,336.44	3,648.70	1,824.35	6,409.67	3,209.60	17.98	-2.32	0.422
80.00	-17.73	-23.23	0.00	-1,217.91	0.00	1,217.91	3,575.60	1,787.80	6,102.74	3,055.91	20.49	-2.47	0.404
85.00	-16.61	-22.49	0.00	-1,101.75	0.00	1,101.75	3,500.77	1,750.39	5,800.26	2,904.44	23.16	-2.62	0.384
90.00	-15.66	-21.94	0.00	-989.32	0.00	989.32	3,424.23	1,712.11	5,502.49	2,755.33	25.99	-2.77	0.364
90.48	-15.56	-21.72	0.00	-978.86	0.00	978.86	3,416.84	1,708.42	5,474.36	2,741.25	26.26	-2.79	0.362
95.00	-14.21	-21.42	0.00	-880.60	0.00	880.60	3,345.96	1,672.98	5,209.67	2,608.71	28.97	-2.92	0.342
95.98	-13.91	-21.19	0.00	-859.52	0.00	859.52	2,667.09	1,333.55	4,209.17	2,107.71	29.57	-2.95	0.413
100.00	-13.13	-20.50	0.00	-774.42	0.00	774.42	2,621.36	1,310.68	4,031.88	2,018.94	32.11	-3.07	0.389
105.00	-12.37	-20.05	0.00	-671.94	0.00	671.94	2,562.85	1,281.43	3,813.95	1,909.81	35.40	-3.22	0.357
110.00	-10.47	-16.76	0.00	-571.71	0.00	571.71	2,502.63	1,251.31	3,599.38	1,802.37	38.86	-3.37	0.322
115.00	-9.78	-16.44	0.00	-487.92	0.00	487.92	2,440.68	1,220.34	3,388.44	1,696.74	42.46	-3.51	0.292
117.00	-9.38	-16.06	0.00	-455.05	0.00	455.05	2,415.42	1,207.71	3,305.13	1,655.02	43.95	-3.57	0.279
120.00	-8.98	-15.84	0.00	-406.87	0.00	406.87	2,377.01	1,188.51	3,181.38	1,593.05	46.21	-3.65	0.259
122.00	-8.72	-15.53	0.00	-375.19	0.00	375.19	2,351.06	1,175.53	3,099.69	1,552.15	47.75	-3.70	0.246
124.00	-8.44	-15.19	0.00	-344.13	0.00	344.13	2,324.84	1,162.42	3,018.69	1,511.59	49.31	-3.75	0.231
125.00	-8.31	-14.95	0.00	-328.94	0.00	328.94	2,311.62	1,155.81	2,978.45	1,491.44	50.09	-3.77	0.224
130.00	-7.69	-14.54	0.00	-254.17	0.00	254.17	2,226.60	1,113.30	2,757.75	1,380.92	54.10	-3.88	0.188
135.00	-7.10	-14.17	0.00	-181.48	0.00	181.48	2,137.76	1,068.88	2,540.99	1,272.38	58.21	-3.97	0.146
138.93	-6.64	-13.95	0.00	-125.73	0.00	125.73	2,067.85	1,033.92	2,376.65	1,190.09	61.50	-4.02	0.109
140.00	-3.78	-9.79	0.00	-110.41	0.00	110.41	2,048.92	1,024.46	2,333.11	1,168.29	62.40	-4.04	0.096
143.03	-3.35	-9.57	0.00	-80.80	0.00	80.80	1,074.70	537.35	1,219.01	610.41	64.96	-4.07	0.136
145.00	-3.24	-9.36	0.00	-61.90	0.00	61.90	1,063.79	531.90	1,185.67	593.71	66.65	-4.08	0.108
149.00	0.00	-9.10	0.00	-24.47	0.00	24.47	1,040.86	520.43	1,118.54	560.10	70.08	-4.11	0.044

Site Number: 413783 Code: ANSI/TIA-222-G

Site Name: Kent Pcs CT, CT Engineering Number: 9/18/2019 4:22:21 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph with 0.75 in Radial Ice 21 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00

Dead Load Factor :1.20 Ice Importance Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		57.4	0.0					0.0	0.0	57.4	0.0	0.0	0.0
5.00		114.0	1,885.3					0.0	236.0	114.0	2,121.3	0.0	0.0
10.00		112.1	1,898.3					0.0	236.0	112.1	2,134.3	0.0	0.0
15.00		111.8	1,884.5					0.0	236.0	111.8	2,120.5	0.0	0.0
20.00		114.5	1,861.9					0.0	236.0	114.5	2,098.0	0.0	0.0
25.00		117.7	1,834.9					0.0	236.0	117.7	2,070.9	0.0	0.0
30.00		119.9	1,805.0					0.0	236.0	119.9	2,041.0	0.0	0.0
35.00		121.3	1,773.1					0.0	236.0	121.3	2,009.1	0.0	0.0
40.00		120.0	1,739.7					0.0	236.0	120.0	1,975.8	0.0	0.0
44.83	Bot - Section 2	61.2	1,647.4					0.0	227.9	61.2	1,875.4	0.0	0.0
45.00		64.3	100.3					0.0	8.1	64.3	108.4	0.0	0.0
50.00		82.4	2,878.2					0.0	236.0	82.4	3,114.2	0.0	0.0
51.63	Top - Section 1	62.1	927.1					0.0	77.1	62.1	1,004.2	0.0	0.0
55.00		103.6	1,114.8					0.0	159.0	103.6	1,273.8	0.0	0.0
60.00		123.3	1,622.7					0.0	236.0	123.3	1,858.8	0.0	0.0
65.00		122.4	1,585.5					0.0	236.0	122.4	1,821.6	0.0	0.0
70.00		121.3	1,547.8					0.0	236.0	121.3	1,783.9	0.0	0.0
75.00		120.0	1,509.7					0.0	236.0	120.0	1,745.7	0.0	0.0
80.00		118.6	1,471.2					0.0	236.0	118.6	1,707.3	0.0	0.0
85.00	Appurtenance(s)	116.9	1,432.4	48.4	0.0	0.0	313.3	0.0	236.0	165.3	1,981.7	0.0	0.0
90.00	Appurtenance(s)	63.5	1,393.3	67.5	0.0	0.0	162.5	0.0	236.0	131.1	1,791.8	0.0	0.0
90.48	Bot - Section 3	57.9	131.3					0.0	22.1	57.9	153.4	0.0	0.0
95.00		63.7	1,947.7					0.0	210.0	63.7	2,157.7	0.0	0.0
95.98	Top - Section 2	57.0	417.8					0.0	45.7	57.0	463.5	0.0	0.0
100.00	Appurtenance(s)	101.6	948.7	50.3	0.0	0.0	315.4	0.0	186.4	152.0	1,450.5	0.0	0.0
105.00		110.8	1,148.5					0.0	232.1	110.8	1,380.5	0.0	0.0
110.00	Appurtenance(s)	108.5	1,113.3	483.1	0.0	0.0	3,397.1	0.0	232.1	591.6	4,742.5	0.0	0.0
115.00		74.8	1,077.9					0.0	211.9	74.8	1,289.8	0.0	0.0
117.00	Appurtenance(s)	52.5	422.8	31.5	0.0	0.0	252.1	0.0	84.7	84.0	759.6	0.0	0.0
120.00		52.0	622.7					0.0	127.1	52.0	749.8	0.0	0.0
122.00	Appurtenance(s)	41.1	408.5	51.5	0.0	0.0	48.6	0.0	84.7	92.6	541.9	0.0	0.0
124.00	Appurtenance(s)	30.6	402.8	92.9	0.0	0.0	167.9	0.0	84.0	123.5	654.6	0.0	0.0
125.00		60.1	199.5					0.0	41.2	60.1	240.7	0.0	0.0
130.00		98.6	970.8					0.0	205.9	98.6	1,176.7	0.0	0.0
135.00		85.9	934.8					0.0	205.9	85.9	1,140.7	0.0	0.0
138.93	Bot - Section 4	47.4	711.3					0.0	162.1	47.4	873.4	0.0	0.0
140.00	Appurtenance(s)	38.3	263.9	726.3	0.0	97.1	6,634.2	0.0	43.9	764.6	6,942.0	0.0	0.0
143.03	Top - Section 3	46.4	735.7					0.0	48.8	46.4	784.5	0.0	0.0
145.00		54.2	255.8					0.0	31.8	54.2	287.6	0.0	0.0
149.00	Appurtenance(s)	36.1	503.5	1,716.5	0.0	4,753.6	8,494.0	0.0	64.5	1,752.6	9,062.0	0.0	0.0
								Totals:		6,633.86	71,488.8	0.00	0.00

Site Number: 413783 Code: ANSI/TIA-222-G

Site Name: Kent Pcs CT, CT Engineering Number: 9/18/2019 4:22:24 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph with 0.75 in Radial Ice 21 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00

Dead Load Factor :1.20 Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-71.49	-6.60	0.00	-733.23	0.00	733.23	4,509.35	2,254.68	11,158.5	5,587.56	0.00	0.00	0.147
5.00	-69.36	-6.52	0.00	-700.26	0.00	700.26	4,461.01	2,230.51	10,816.2	5,416.14	0.02	-0.03	0.145
10.00	-67.22	-6.44	0.00	-667.66	0.00	667.66	4,410.95	2,205.48	10,474.5	5,245.08	0.07	-0.06	0.143
15.00	-65.10	-6.36	0.00	-635.45	0.00	635.45	4,359.17	2,179.58	10,133.9	5,074.52	0.15	-0.09	0.140
20.00	-63.00	-6.28	0.00	-603.63	0.00	603.63	4,305.66	2,152.83	9,794.63	4,904.59	0.27	-0.13	0.138
25.00	-60.92	-6.19	0.00	-572.23	0.00	572.23	4,250.43	2,125.22	9,456.78	4,735.42	0.42	-0.16	0.135
30.00	-58.88	-6.10	0.00	-541.26	0.00	541.26	4,193.48	2,096.74	9,120.71	4,567.13	0.60	-0.19	0.133
35.00	-56.87	-6.01	0.00	-510.75	0.00	510.75	4,134.81	2,067.40	8,786.66	4,399.86	0.82	-0.23	0.130
40.00	-54.89	-5.91	0.00	-480.71	0.00	480.71	4,074.41	2,037.21	8,454.90	4,233.73	1.08	-0.26	0.127
44.83	-53.01	-5.86	0.00	-452.18	0.00	452.18	4,014.46	2,007.23	8,136.95	4,074.52	1.36	-0.29	0.124
45.00	-52.90	-5.81	0.00	-451.17	0.00	451.17	4,012.29	2,006.15	8,125.68	4,068.88	1.37	-0.30	0.124
50.00	-49.79	-5.73	0.00	-422.13	0.00	422.13	3,948.45	1,974.23	7,799.26	3,905.43	1.70	-0.33	0.121
51.63	-48.78	-5.68	0.00	-412.78	0.00	412.78	3,967.50	1,983.75	7,895.42	3,953.58	1.82	-0.34	0.117
55.00	-47.51	-5.59	0.00	-393.67	0.00	393.67	3,923.88	1,961.94	7,676.69	3,844.05	2.07	-0.37	0.115
60.00	-45.64	-5.48	0.00	-365.73	0.00	365.73	3,857.67	1,928.83	7,354.55	3,682.74	2.47	-0.40	0.111
65.00	-43.82	-5.37	0.00	-338.34	0.00	338.34	3,789.73	1,894.87	7,035.83	3,523.15	2.90	-0.43	0.108
70.00	-42.04	-5.26	0.00	-311.50	0.00	311.50	3,720.08	1,860.04	6,720.79	3,365.39	3.37	-0.47	0.104
75.00	-40.29	-5.15	0.00	-285.21	0.00	285.21	3,648.70	1,824.35	6,409.67	3,209.60	3.88	-0.50	0.100
80.00	-38.58	-5.03	0.00	-259.48	0.00	259.48	3,575.60	1,787.80	6,102.74	3,055.91	4.42	-0.53	0.096
85.00	-36.60	-4.87	0.00	-234.31	0.00	234.31	3,500.77	1,750.39	5,800.26	2,904.44	4.99	-0.56	0.091
90.00	-34.80	-4.73	0.00	-209.95	0.00	209.95	3,424.23	1,712.11	5,502.49	2,755.33	5.60	-0.60	0.086
90.48	-34.65	-4.68	0.00	-207.70	0.00	207.70	3,416.84	1,708.42	5,474.36	2,741.25	5.66	-0.60	0.086
95.00	-32.49	-4.61	0.00	-186.52	0.00	186.52	3,345.96	1,672.98	5,209.67	2,608.71	6.24	-0.63	0.081
95.98	-32.03	-4.55	0.00	-181.99	0.00	181.99	2,667.09	1,333.55	4,209.17	2,107.71	6.37	-0.63	0.098
100.00	-30.58	-4.40	0.00	-163.71	0.00	163.71	2,621.36	1,310.68	4,031.88	2,018.94	6.91	-0.66	0.093
105.00	-29.19	-4.29	0.00	-141.72	0.00	141.72	2,562.85	1,281.43	3,813.95	1,909.81	7.62	-0.69	0.086
110.00	-24.46	-3.65	0.00	-120.28	0.00	120.28	2,502.63	1,251.31	3,599.38	1,802.37	8.36	-0.72	0.077
115.00	-23.17	-3.57	0.00	-102.02	0.00	102.02	2,440.68	1,220.34	3,388.44	1,696.74	9.13	-0.75	0.070
117.00	-22.41	-3.48	0.00	-94.89	0.00	94.89	2,415.42	1,207.71	3,305.13	1,655.02	9.45	-0.76	0.067
120.00	-21.66	-3.42	0.00	-84.45	0.00	84.45	2,377.01	1,188.51	3,181.38	1,593.05	9.93	-0.78	0.062
122.00	-21.12	-3.33	0.00	-77.60	0.00	77.60	2,351.06	1,175.53	3,099.69	1,552.15	10.26	-0.79	0.059
124.00	-20.46	-3.20	0.00	-70.95	0.00	70.95	2,324.84	1,162.42	3,018.69	1,511.59	10.60	-0.80	0.056
125.00	-20.22	-3.14	0.00	-67.75	0.00	67.75	2,311.62	1,155.81	2,978.45	1,491.44	10.76	-0.81	0.054
130.00	-19.05	-3.03	0.00	-52.07	0.00	52.07	2,226.60	1,113.30	2,757.75	1,380.92	11.62	-0.83	0.046
135.00	-17.91	-2.93	0.00	-36.92	0.00	36.92	2,137.76	1,068.88	2,540.99	1,272.38	12.50	-0.85	0.037
138.93	-17.03	-2.87	0.00	-25.39	0.00	25.39	2,067.85	1,033.92	2,376.65	1,190.09	13.20	-0.86	0.030
140.00	-10.10	-2.01	0.00	-22.23	0.00	22.23	2,048.92	1,024.46	2,333.11	1,168.29	13.39	-0.86	0.024
143.03	-9.32	-1.95	0.00	-16.16	0.00	16.16	1,074.70	537.35	1,219.01	610.41	13.94	-0.87	0.035
145.00	-9.03	-1.89	0.00	-12.31	0.00	12.31	1,063.79	531.90	1,185.67	593.71	14.30	-0.87	0.029
149.00	0.00	-1.75	0.00	-4.75	0.00	4.75	1,040.86	520.43	1,118.54	560.10	15.03	-0.88	0.008

Load Case: 1.0D + 1.0W Serviceability 60 mph 21 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		60.3	0.0					0.0	0.0	60.3	0.0	0.0	0.0
5.00		119.4	1,205.3					0.0	196.7	119.4	1,402.0	0.0	0.0
10.00		117.0	1,180.9					0.0	196.7	117.0	1,377.6	0.0	0.0
15.00		116.4	1,156.5					0.0	196.7	116.4	1,353.2	0.0	0.0
20.00		118.8	1,132.1					0.0	196.7	118.8	1,328.8	0.0	0.0
25.00		121.9	1,107.7					0.0	196.7	121.9	1,304.4	0.0	0.0
30.00		123.9	1,083.3					0.0	196.7	123.9	1,280.0	0.0	0.0
35.00		125.1	1,058.8					0.0	196.7	125.1	1,255.5	0.0	0.0
40.00		123.5	1,034.4					0.0	196.7	123.5	1,231.1	0.0	0.0
44.83	Bot - Section 2	63.0	975.7					0.0	189.9	63.0	1,165.6	0.0	0.0
45.00		66.0	69.2					0.0	6.8	66.0	75.9	0.0	0.0
50.00		84.7	1,986.4					0.0	196.7	84.7	2,183.1	0.0	0.0
51.63	Top - Section 1	63.6	638.1					0.0	64.2	63.6	702.3	0.0	0.0
55.00		106.1	654.8					0.0	132.5	106.1	787.3	0.0	0.0
60.00		126.0	952.0					0.0	196.7	126.0	1,148.7	0.0	0.0
65.00		124.8	927.5					0.0	196.7	124.8	1,124.2	0.0	0.0
70.00		123.4	903.1					0.0	196.7	123.4	1,099.8	0.0	0.0
75.00		121.8	878.7					0.0	196.7	121.8	1,075.4	0.0	0.0
80.00		120.1	854.3					0.0	196.7	120.1	1,051.0	0.0	0.0
85.00	Appurtenance(s)	118.1	829.9	66.4	0.0	0.0	187.5	0.0	196.7	184.5	1,214.1	0.0	0.0
90.00	Appurtenance(s)	64.1	805.5	66.2	0.0	0.0	50.0	0.0	196.7	130.3	1,052.2	0.0	0.0
90.48	Bot - Section 3	58.3	75.5					0.0	18.4	58.3	93.9	0.0	0.0
95.00		64.1	1,304.0					0.0	175.0	64.1	1,479.0	0.0	0.0
95.98	Top - Section 2	57.2	278.9					0.0	38.1	57.2	317.0	0.0	0.0
100.00	Appurtenance(s)	101.9	514.1	68.7	0.0	0.0	187.5	0.0	155.3	170.6	856.9	0.0	0.0
105.00		110.8	621.8					0.0	193.4	110.8	815.2	0.0	0.0
110.00	Appurtenance(s)	108.2	601.5	687.3	0.0	0.0	1,479.7	0.0	193.4	795.4	2,274.6	0.0	0.0
115.00		74.4	581.1					0.0	176.6	74.4	757.7	0.0	0.0
117.00	Appurtenance(s)	52.0	226.7	37.8	0.0	0.0	150.0	0.0	70.6	89.8	447.4	0.0	0.0
120.00		51.5	334.0					0.0	105.9	51.5	439.9	0.0	0.0
122.00	Appurtenance(s)	40.6	218.6	33.9	0.0	0.0	10.0	0.0	70.6	74.5	299.2	0.0	0.0
124.00	Appurtenance(s)	30.2	215.4	51.3	0.0	0.0	32.0	0.0	70.0	81.5	317.3	0.0	0.0
125.00		59.1	106.5					0.0	34.3	59.1	140.8	0.0	0.0
130.00		96.8	520.1					0.0	171.6	96.8	691.7	0.0	0.0
135.00		84.0	499.7					0.0	171.6	84.0	671.3	0.0	0.0
138.93	Bot - Section 4	46.2	379.0					0.0	135.0	46.2	514.0	0.0	0.0
140.00	Appurtenance(s)	37.3	161.7	946.8	0.0	115.3	3,293.6	0.0	36.6	984.1	3,491.9	0.0	0.0
143.03	Top - Section 3	45.1	451.5					0.0	40.6	45.1	492.1	0.0	0.0
145.00		52.5	109.3					0.0	26.5	52.5	135.8	0.0	0.0
149.00	Appurtenance(s)	34.9	215.6	2,227.2	0.0	6,082.0	4,060.0	0.0	53.7	2,262.0	4,329.3	0.0	0.0
								Totals:		7,598.45	41,777.4	0.00	0.00

Site Number: 413783 Code: ANSI/TIA-222-G

Site Name: Kent Pcs CT, CT Engineering Number: 9/18/2019 4:22:28 PM

Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W Serviceability 60 mph 21 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-41.77	-7.55	0.00	-846.22	0.00	846.22	4,509.35	2,254.68	11,158.5	5,587.56	0.00	0.00	0.161
5.00	-40.37	-7.46	0.00	-808.47	0.00	808.47	4,461.01	2,230.51	10,816.2	5,416.14	0.02	-0.04	0.158
10.00	-38.99	-7.36	0.00	-771.19	0.00	771.19	4,410.95	2,205.48	10,474.5	5,245.08	0.08	-0.07	0.156
15.00	-37.63	-7.27	0.00	-734.38	0.00	734.38	4,359.17	2,179.58	10,133.9	5,074.52	0.17	-0.11	0.153
20.00	-36.30	-7.17	0.00	-698.03	0.00	698.03	4,305.66	2,152.83	9,794.63	4,904.59	0.31	-0.15	0.151
25.00	-34.99	-7.07	0.00	-662.18	0.00	662.18	4,250.43	2,125.22	9,456.78	4,735.42	0.48	-0.19	0.148
30.00	-33.70	-6.96	0.00	-626.84	0.00	626.84	4,193.48	2,096.74	9,120.71	4,567.13	0.70	-0.22	0.145
35.00	-32.44	-6.85	0.00	-592.02	0.00	592.02	4,134.81	2,067.40	8,786.66	4,399.86	0.95	-0.26	0.142
40.00	-31.21	-6.75	0.00	-557.75	0.00	557.75	4,074.41	2,037.21	8,454.90	4,233.73	1.25	-0.30	0.139
44.83	-30.04	-6.69	0.00	-525.18	0.00	525.18	4,014.46	2,007.23	8,136.95	4,074.52	1.57	-0.34	0.136
45.00	-29.96	-6.63	0.00	-524.03	0.00	524.03	4,012.29	2,006.15	8,125.68	4,068.88	1.59	-0.34	0.136
50.00	-27.78	-6.55	0.00	-490.87	0.00	490.87	3,948.45	1,974.23	7,799.26	3,905.43	1.97	-0.38	0.133
51.63	-27.07	-6.49	0.00	-480.18	0.00	480.18	3,967.50	1,983.75	7,895.42	3,953.58	2.10	-0.40	0.128
55.00	-26.28	-6.39	0.00	-458.34	0.00	458.34	3,923.88	1,961.94	7,676.69	3,844.05	2.39	-0.42	0.126
60.00	-25.13	-6.27	0.00	-426.38	0.00	426.38	3,857.67	1,928.83	7,354.55	3,682.74	2.85	-0.46	0.122
65.00	-24.00	-6.16	0.00	-395.01	0.00	395.01	3,789.73	1,894.87	7,035.83	3,523.15	3.36	-0.50	0.118
70.00	-22.90	-6.04	0.00	-364.24	0.00	364.24	3,720.08	1,860.04	6,720.79	3,365.39	3.90	-0.54	0.114
75.00	-21.82	-5.92	0.00	-334.05	0.00	334.05	3,648.70	1,824.35	6,409.67	3,209.60	4.49	-0.58	0.110
80.00	-20.77	-5.80	0.00	-304.45	0.00	304.45	3,575.60	1,787.80	6,102.74	3,055.91	5.12	-0.62	0.105
85.00	-19.55	-5.62	0.00	-275.44	0.00	275.44	3,500.77	1,750.39	5,800.26	2,904.44	5.78	-0.66	0.100
90.00	-18.50	-5.48	0.00	-247.35	0.00	247.35	3,424.23	1,712.11	5,502.49	2,755.33	6.49	-0.69	0.095
90.48	-18.40	-5.43	0.00	-244.74	0.00	244.74	3,416.84	1,708.42	5,474.36	2,741.25	6.56	-0.70	0.095
95.00	-16.92	-5.35	0.00	-220.18	0.00	220.18	3,345.96	1,672.98	5,209.67	2,608.71	7.23	-0.73	0.089
95.98	-16.61	-5.30	0.00	-214.91	0.00	214.91	2,667.09	1,333.55	4,209.17	2,107.71	7.39	-0.74	0.108
100.00	-15.75	-5.12	0.00	-193.65	0.00	193.65	2,621.36	1,310.68	4,031.88	2,018.94	8.02	-0.77	0.102
105.00	-14.93	-5.01	0.00	-168.03	0.00	168.03	2,562.85	1,281.43	3,813.95	1,909.81	8.84	-0.81	0.094
110.00	-12.67	-4.19	0.00	-142.97	0.00	142.97	2,502.63	1,251.31	3,599.38	1,802.37	9.71	-0.84	0.084
115.00	-11.91	-4.11	0.00	-122.02	0.00	122.02	2,440.68	1,220.34	3,388.44	1,696.74	10.61	-0.88	0.077
117.00	-11.46	-4.02	0.00	-113.80	0.00	113.80	2,415.42	1,207.71	3,305.13	1,655.02	10.98	-0.89	0.074
120.00	-11.02	-3.96	0.00	-101.74	0.00	101.74	2,377.01	1,188.51	3,181.38	1,593.05	11.54	-0.91	0.069
122.00	-10.72	-3.89	0.00	-93.82	0.00	93.82	2,351.06	1,175.53	3,099.69	1,552.15	11.93	-0.92	0.065
124.00	-10.41	-3.80	0.00	-86.05	0.00	86.05	2,324.84	1,162.42	3,018.69	1,511.59	12.32	-0.94	0.061
125.00	-10.27	-3.74	0.00	-82.25	0.00	82.25	2,311.62	1,155.81	2,978.45	1,491.44	12.51	-0.94	0.060
130.00	-9.57	-3.64	0.00	-63.54	0.00	63.54	2,226.60	1,113.30	2,757.75	1,380.92	13.52	-0.97	0.050
135.00	-8.90	-3.55	0.00	-45.35	0.00	45.35	2,137.76	1,068.88	2,540.99	1,272.38	14.54	-0.99	0.040
138.93	-8.39	-3.49	0.00	-31.40	0.00	31.40	2,067.85	1,033.92	2,376.65	1,190.09	15.37	-1.00	0.030
140.00	-4.91	-2.45	0.00	-27.57	0.00	27.57	2,048.92	1,024.46	2,333.11	1,168.29	15.59	-1.01	0.026
143.03	-4.42	-2.39	0.00	-20.16	0.00	20.16	1,074.70	537.35	1,219.01	610.41	16.23	-1.02	0.037
145.00	-4.29	-2.34	0.00	-15.44	0.00	15.44	1,063.79	531.90	1,185.67	593.71	16.65	-1.02	0.030
149.00	0.00	-2.26	0.00	-6.08	0.00	6.08	1,040.86	520.43	1,118.54	560.10	17.51	-1.03	0.011

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coeffiecient F_v:	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.07
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.79
Total Unfactored Dead Load:	41.78 k
Seismic Base Shear (E):	1.68 k

Load Case (1.2 + 0.2Sds) * DL + E ELFM **Seismic Equivalent Lateral Forces Method**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	147.00	269	2,000	0.015	26	334
38	144.01	136	972	0.007	12	168
37	141.51	492	3,414	0.026	44	610
36	139.47	198	1,340	0.010	17	246
35	136.97	514	3,364	0.026	43	638
34	132.50	671	4,141	0.032	53	833
33	127.50	692	3,983	0.030	51	858
32	124.50	141	777	0.006	10	175
31	123.00	285	1,541	0.012	20	354
30	121.00	289	1,517	0.012	19	359
29	118.50	440	2,223	0.017	28	546
28	116.00	297	1,446	0.011	19	369
27	112.50	758	3,489	0.027	45	940
26	107.50	795	3,375	0.026	43	986
25	102.50	815	3,179	0.024	41	1,011
24	97.99	669	2,409	0.018	31	830
23	95.49	317	1,089	0.008	14	393
22	92.74	1,479	4,823	0.037	62	1,835
21	90.24	94	292	0.002	4	117
20	87.50	1,002	2,946	0.022	38	1,243
19	82.50	1,027	2,717	0.021	35	1,274
18	77.50	1,051	2,488	0.019	32	1,304
17	72.50	1,075	2,259	0.017	29	1,334

16	67.50	1,100	2,034	0.016	26	1,364
15	62.50	1,124	1,812	0.014	23	1,395
14	57.50	1,149	1,595	0.012	20	1,425
13	53.32	787	955	0.007	12	977
12	50.82	702	782	0.006	10	871
11	47.50	2,183	2,155	0.016	28	2,708
10	44.91	76	68	0.001	1	94
9	42.41	1,166	940	0.007	12	1,446
8	37.50	1,231	797	0.006	10	1,527
7	32.50	1,256	629	0.005	8	1,558
6	27.50	1,280	476	0.004	6	1,588
5	22.50	1,304	339	0.003	4	1,618
4	17.50	1,329	221	0.002	3	1,648
3	12.50	1,353	123	0.001	2	1,679
2	7.50	1,378	50	0.000	1	1,709
1	2.50	1,402	7	0.000	0	1,739
Samsung 700+850MHZ D	149.00	246	1,871	0.014	24	305
Samsung PCS/AWS Dual	149.00	253	1,926	0.015	25	314
Generic 3' Yagi	149.00	10	76	0.001	1	12
Raycap RVZDC-6627-PF	149.00	32	243	0.002	3	40
RFS Celwave PD220	149.00	50	380	0.003	5	62
Commscope NHH-65B-R2	149.00	262	1,994	0.015	26	325
Antel LPA-80080/6CF	149.00	126	958	0.007	12	156
Flat Low Profile Pla	149.00	1,500	11,409	0.087	146	1,861
VZW Unused Reserve:	149.00	1,581	12,022	0.092	154	1,961
Andrew ABT-DFDM-ADB	140.00	1	7	0.000	0	1
Powerwave Allgon TT1	140.00	96	653	0.005	8	119
Powerwave Allgon TT0	140.00	66	449	0.003	6	82
Raycap DC6-48-60-18-	140.00	20	136	0.001	2	25
Ericsson RRUS A2 Mod	140.00	64	433	0.003	6	79
Ericsson RRUS 4449 B	140.00	213	1,449	0.011	19	264
Ericsson RRUS 4478 B	140.00	178	1,213	0.009	16	221
Raycap DC6-48-60-18-	140.00	16	109	0.001	1	20
Ericsson RRUS 32 B2	140.00	159	1,082	0.008	14	197
Andrew SBNHH-1D65A (	140.00	67	456	0.003	6	83
Powerwave Allgon P90	140.00	159	1,082	0.008	14	197
CCI DMP65R-BU4D	140.00	204	1,386	0.011	18	253
CCI HPA-65R-BUU-H6	140.00	51	347	0.003	4	63
Round Platform w/ Ha	140.00	2,000	13,610	0.104	174	2,481
Decibel DB222	124.00	32	175	0.001	2	40
Generic 3' Yagi	122.00	10	53	0.000	1	12
Stand Off	117.00	150	741	0.006	9	186
Symmetricom 58532A	110.00	0	2	0.000	0	0
Ericsson RRUS 11 B2	110.00	152	673	0.005	9	189
Ericsson RRUS 11 B12	110.00	152	673	0.005	9	189
Ericsson RRUS 11 B4	110.00	152	673	0.005	9	189
RFS APX16DWV-16DWVS-	110.00	122	540	0.004	7	151
Commscope LNX-6515DS	110.00	151	668	0.005	9	187
Flat T-Arm	110.00	750	3,318	0.025	43	930
Generic Flat Side Ar	100.00	188	700	0.005	9	233
dbSpectra DS4C06F36D	90.00	50	155	0.001	2	62
Generic Flat Side Ar	85.00	188	523	0.004	7	233
		41,777	130,953	1.000	1,678	51,826

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	147.00	269	2,000	0.015	26	231
38	144.01	136	972	0.007	12	117

37	141.51	492	3,414	0.026	44	423
36	139.47	198	1,340	0.010	17	170
35	136.97	514	3,364	0.026	43	442
34	132.50	671	4,141	0.032	53	577
33	127.50	692	3,983	0.030	51	594
32	124.50	141	777	0.006	10	121
31	123.00	285	1,541	0.012	20	245
30	121.00	289	1,517	0.012	19	249
29	118.50	440	2,223	0.017	28	378
28	116.00	297	1,446	0.011	19	256
27	112.50	758	3,489	0.027	45	651
26	107.50	795	3,375	0.026	43	683
25	102.50	815	3,179	0.024	41	701
24	97.99	669	2,409	0.018	31	575
23	95.49	317	1,089	0.008	14	272
22	92.74	1,479	4,823	0.037	62	1,271
21	90.24	94	292	0.002	4	81
20	87.50	1,002	2,946	0.022	38	861
19	82.50	1,027	2,717	0.021	35	882
18	77.50	1,051	2,488	0.019	32	903
17	72.50	1,075	2,259	0.017	29	924
16	67.50	1,100	2,034	0.016	26	945
15	62.50	1,124	1,812	0.014	23	966
14	57.50	1,149	1,595	0.012	20	987
13	53.32	787	955	0.007	12	677
12	50.82	702	782	0.006	10	604
11	47.50	2,183	2,155	0.016	28	1,876
10	44.91	76	68	0.001	1	65
9	42.41	1,166	940	0.007	12	1,002
8	37.50	1,231	797	0.006	10	1,058
7	32.50	1,256	629	0.005	8	1,079
6	27.50	1,280	476	0.004	6	1,100
5	22.50	1,304	339	0.003	4	1,121
4	17.50	1,329	221	0.002	3	1,142
3	12.50	1,353	123	0.001	2	1,163
2	7.50	1,378	50	0.000	1	1,184
1	2.50	1,402	7	0.000	0	1,205
Samsung 700+850MHZ D	149.00	246	1,871	0.014	24	211
Samsung PCS/AWS Dual	149.00	253	1,926	0.015	25	218
Generic 3' Yagi	149.00	10	76	0.001	1	9
Raycap RVZDC-6627-PF	149.00	32	243	0.002	3	28
RFS Celwave PD220	149.00	50	380	0.003	5	43
Commscope NHH-65B-R2	149.00	262	1,994	0.015	26	225
Antel LPA-80080/6CF	149.00	126	958	0.007	12	108
Flat Low Profile Pla	149.00	1,500	11,409	0.087	146	1,289
VZW Unused Reserve:	149.00	1,581	12,022	0.092	154	1,358
Andrew ABT-DFDM-ADB	140.00	1	7	0.000	0	1
Powerwave Allgon TT1	140.00	96	653	0.005	8	83
Powerwave Allgon TT0	140.00	66	449	0.003	6	57
Raycap DC6-48-60-18-	140.00	20	136	0.001	2	17
Ericsson RRUS A2 Mod	140.00	64	433	0.003	6	55
Ericsson RRUS 4449 B	140.00	213	1,449	0.011	19	183
Ericsson RRUS 4478 B	140.00	178	1,213	0.009	16	153
Raycap DC6-48-60-18-	140.00	16	109	0.001	1	14
Ericsson RRUS 32 B2	140.00	159	1,082	0.008	14	137
Andrew SBNHH-1D65A (	140.00	67	456	0.003	6	58
Powerwave Allgon P90	140.00	159	1,082	0.008	14	137
CCI DMP65R-BU4D	140.00	204	1,386	0.011	18	175
CCI HPA-65R-BUU-H6	140.00	51	347	0.003	4	44
Round Platform w/ Ha	140.00	2,000	13,610	0.104	174	1,719
Decibel DB222	124.00	32	175	0.001	2	28
Generic 3' Yagi	122.00	10	53	0.000	1	9
Stand Off	117.00	150	741	0.006	9	129
Symmetricom 58532A	110.00	0	2	0.000	0	0

Ericsson RRUS 11 B2	110.00	152	673	0.005	9	131
Ericsson RRUS 11 B12	110.00	152	673	0.005	9	131
Ericsson RRUS 11 B4	110.00	152	673	0.005	9	131
RFS APX16DWV-16DWVS-	110.00	122	540	0.004	7	105
Commscope LNX-6515DS	110.00	151	668	0.005	9	130
Flat T-Arm	110.00	750	3,318	0.025	43	645
Generic Flat Side Ar	100.00	188	700	0.005	9	161
dbSpectra DS4C06F36D	90.00	50	155	0.001	2	43
Generic Flat Side Ar	85.00	188	523	0.004	7	161
		41,777	130,953	1.000	1,678	35,906

Load Case (1.2 + 0.2Sds) * DL + E ELFM **Seismic Equivalent Lateral Forces Method**

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-50.09	-1.68	0.00	-205.11	0.00	205.11	4,509.35	2,254.68	11,158.5	5,587.56	0.00	0.00	0.048
5.00	-48.38	-1.69	0.00	-196.71	0.00	196.71	4,461.01	2,230.51	10,816.2	5,416.14	0.00	-0.01	0.047
10.00	-46.70	-1.69	0.00	-188.27	0.00	188.27	4,410.95	2,205.48	10,474.5	5,245.08	0.02	-0.02	0.046
15.00	-45.05	-1.70	0.00	-179.81	0.00	179.81	4,359.17	2,179.58	10,133.9	5,074.52	0.04	-0.03	0.046
20.00	-43.43	-1.70	0.00	-171.33	0.00	171.33	4,305.66	2,152.83	9,794.63	4,904.59	0.07	-0.04	0.045
25.00	-41.84	-1.70	0.00	-162.84	0.00	162.84	4,250.43	2,125.22	9,456.78	4,735.42	0.12	-0.05	0.044
30.00	-40.29	-1.69	0.00	-154.35	0.00	154.35	4,193.48	2,096.74	9,120.71	4,567.13	0.17	-0.05	0.043
35.00	-38.76	-1.69	0.00	-145.88	0.00	145.88	4,134.81	2,067.40	8,786.66	4,399.86	0.23	-0.06	0.043
40.00	-37.31	-1.68	0.00	-137.43	0.00	137.43	4,074.41	2,037.21	8,454.90	4,233.73	0.31	-0.07	0.042
44.83	-37.22	-1.68	0.00	-129.31	0.00	129.31	4,014.46	2,007.23	8,136.95	4,074.52	0.38	-0.08	0.041
45.00	-34.51	-1.66	0.00	-129.02	0.00	129.02	4,012.29	2,006.15	8,125.68	4,068.88	0.39	-0.08	0.040
50.00	-33.64	-1.65	0.00	-120.74	0.00	120.74	3,948.45	1,974.23	7,799.26	3,905.43	0.48	-0.09	0.039
51.63	-32.66	-1.64	0.00	-118.05	0.00	118.05	3,967.50	1,983.75	7,895.42	3,953.58	0.51	-0.10	0.038
55.00	-31.24	-1.62	0.00	-112.53	0.00	112.53	3,923.88	1,961.94	7,676.69	3,844.05	0.58	-0.10	0.037
60.00	-29.84	-1.60	0.00	-104.44	0.00	104.44	3,857.67	1,928.83	7,354.55	3,682.74	0.70	-0.11	0.036
65.00	-28.48	-1.57	0.00	-96.45	0.00	96.45	3,789.73	1,894.87	7,035.83	3,523.15	0.82	-0.12	0.035
70.00	-27.14	-1.55	0.00	-88.58	0.00	88.58	3,720.08	1,860.04	6,720.79	3,365.39	0.96	-0.13	0.034
75.00	-25.84	-1.52	0.00	-80.85	0.00	80.85	3,648.70	1,824.35	6,409.67	3,209.60	1.10	-0.14	0.032
80.00	-24.56	-1.48	0.00	-73.27	0.00	73.27	3,575.60	1,787.80	6,102.74	3,055.91	1.25	-0.15	0.031
85.00	-23.09	-1.44	0.00	-65.86	0.00	65.86	3,500.77	1,750.39	5,800.26	2,904.44	1.42	-0.16	0.029
90.00	-22.91	-1.43	0.00	-58.68	0.00	58.68	3,424.23	1,712.11	5,502.49	2,755.33	1.59	-0.17	0.028
90.48	-21.08	-1.37	0.00	-58.00	0.00	58.00	3,416.84	1,708.42	5,474.36	2,741.25	1.61	-0.17	0.027
95.00	-20.68	-1.35	0.00	-51.81	0.00	51.81	3,345.96	1,672.98	5,209.67	2,608.71	1.77	-0.18	0.026
95.98	-19.85	-1.32	0.00	-50.48	0.00	50.48	2,667.09	1,333.55	4,209.17	2,107.71	1.81	-0.18	0.031
100.00	-18.61	-1.27	0.00	-45.17	0.00	45.17	2,621.36	1,310.68	4,031.88	2,018.94	1.96	-0.19	0.029
105.00	-17.62	-1.23	0.00	-38.82	0.00	38.82	2,562.85	1,281.43	3,813.95	1,909.81	2.16	-0.20	0.027
110.00	-14.85	-1.09	0.00	-32.69	0.00	32.69	2,502.63	1,251.31	3,599.38	1,802.37	2.37	-0.20	0.024
115.00	-14.48	-1.07	0.00	-27.23	0.00	27.23	2,440.68	1,220.34	3,388.44	1,696.74	2.59	-0.21	0.022
117.00	-13.75	-1.03	0.00	-25.09	0.00	25.09	2,415.42	1,207.71	3,305.13	1,655.02	2.68	-0.21	0.021
120.00	-13.39	-1.01	0.00	-21.99	0.00	21.99	2,377.01	1,188.51	3,181.38	1,593.05	2.82	-0.22	0.019
122.00	-13.02	-0.99	0.00	-19.96	0.00	19.96	2,351.06	1,175.53	3,099.69	1,552.15	2.91	-0.22	0.018
124.00	-12.81	-0.98	0.00	-17.98	0.00	17.98	2,324.84	1,162.42	3,018.69	1,511.59	3.00	-0.22	0.017
125.00	-11.95	-0.93	0.00	-17.00	0.00	17.00	2,311.62	1,155.81	2,978.45	1,491.44	3.05	-0.23	0.017
130.00	-11.12	-0.87	0.00	-12.38	0.00	12.38	2,226.60	1,113.30	2,757.75	1,380.92	3.29	-0.23	0.014
135.00	-10.48	-0.82	0.00	-8.03	0.00	8.03	2,137.76	1,068.88	2,540.99	1,272.38	3.53	-0.24	0.011
138.93	-10.23	-0.81	0.00	-4.78	0.00	4.78	2,067.85	1,033.92	2,376.65	1,190.09	3.73	-0.24	0.009
140.00	-5.54	-0.46	0.00	-3.92	0.00	3.92	2,048.92	1,024.46	2,333.11	1,168.29	3.78	-0.24	0.006
143.03	-5.37	-0.44	0.00	-2.54	0.00	2.54	1,074.70	537.35	1,219.01	610.41	3.93	-0.24	0.009
145.00	-5.03	-0.42	0.00	-1.67	0.00	1.67	1,063.79	531.90	1,185.67	593.71	4.03	-0.24	0.008
149.00	0.00	-0.40	0.00	0.00	0.00	0.00	1,040.86	520.43	1,118.54	560.10	4.23	-0.24	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM **Seismic (Reduced DL) Equivalent Lateral Forces Method**

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.70	-1.68	0.00	-202.89	0.00	202.89	4,509.35	2,254.68	11,158.5	5,587.56	0.00	0.00	0.044
5.00	-33.52	-1.68	0.00	-194.49	0.00	194.49	4,461.01	2,230.51	10,816.2	5,416.14	0.00	-0.01	0.043
10.00	-32.35	-1.69	0.00	-186.07	0.00	186.07	4,410.95	2,205.48	10,474.5	5,245.08	0.02	-0.02	0.043
15.00	-31.21	-1.69	0.00	-177.64	0.00	177.64	4,359.17	2,179.58	10,133.9	5,074.52	0.04	-0.03	0.042
20.00	-30.09	-1.69	0.00	-169.20	0.00	169.20	4,305.66	2,152.83	9,794.63	4,904.59	0.07	-0.04	0.041
25.00	-28.99	-1.69	0.00	-160.75	0.00	160.75	4,250.43	2,125.22	9,456.78	4,735.42	0.12	-0.04	0.041
30.00	-27.91	-1.68	0.00	-152.32	0.00	152.32	4,193.48	2,096.74	9,120.71	4,567.13	0.17	-0.05	0.040
35.00	-26.85	-1.67	0.00	-143.92	0.00	143.92	4,134.81	2,067.40	8,786.66	4,399.86	0.23	-0.06	0.039
40.00	-25.85	-1.67	0.00	-135.54	0.00	135.54	4,074.41	2,037.21	8,454.90	4,233.73	0.30	-0.07	0.038
44.83	-25.78	-1.67	0.00	-127.50	0.00	127.50	4,014.46	2,007.23	8,136.95	4,074.52	0.38	-0.08	0.038
45.00	-23.91	-1.64	0.00	-127.21	0.00	127.21	4,012.29	2,006.15	8,125.68	4,068.88	0.38	-0.08	0.037
50.00	-23.30	-1.63	0.00	-119.02	0.00	119.02	3,948.45	1,974.23	7,799.26	3,905.43	0.48	-0.09	0.036
51.63	-22.63	-1.62	0.00	-116.35	0.00	116.35	3,967.50	1,983.75	7,895.42	3,953.58	0.51	-0.10	0.035
55.00	-21.64	-1.60	0.00	-110.90	0.00	110.90	3,923.88	1,961.94	7,676.69	3,844.05	0.58	-0.10	0.034
60.00	-20.67	-1.58	0.00	-102.90	0.00	102.90	3,857.67	1,928.83	7,354.55	3,682.74	0.69	-0.11	0.033
65.00	-19.73	-1.55	0.00	-95.01	0.00	95.01	3,789.73	1,894.87	7,035.83	3,523.15	0.81	-0.12	0.032
70.00	-18.80	-1.53	0.00	-87.24	0.00	87.24	3,720.08	1,860.04	6,720.79	3,365.39	0.94	-0.13	0.031
75.00	-17.90	-1.49	0.00	-79.61	0.00	79.61	3,648.70	1,824.35	6,409.67	3,209.60	1.09	-0.14	0.030
80.00	-17.02	-1.46	0.00	-72.13	0.00	72.13	3,575.60	1,787.80	6,102.74	3,055.91	1.24	-0.15	0.028
85.00	-16.00	-1.42	0.00	-64.83	0.00	64.83	3,500.77	1,750.39	5,800.26	2,904.44	1.40	-0.16	0.027
90.00	-15.87	-1.41	0.00	-57.75	0.00	57.75	3,424.23	1,712.11	5,502.49	2,755.33	1.57	-0.17	0.026
90.48	-14.60	-1.35	0.00	-57.08	0.00	57.08	3,416.84	1,708.42	5,474.36	2,741.25	1.59	-0.17	0.025
95.00	-14.33	-1.33	0.00	-50.99	0.00	50.99	3,345.96	1,672.98	5,209.67	2,608.71	1.75	-0.18	0.024
95.98	-13.75	-1.30	0.00	-49.68	0.00	49.68	2,667.09	1,333.55	4,209.17	2,107.71	1.78	-0.18	0.029
100.00	-12.89	-1.25	0.00	-44.45	0.00	44.45	2,621.36	1,310.68	4,031.88	2,018.94	1.94	-0.18	0.027
105.00	-12.21	-1.21	0.00	-38.19	0.00	38.19	2,562.85	1,281.43	3,813.95	1,909.81	2.13	-0.19	0.025
110.00	-10.28	-1.07	0.00	-32.16	0.00	32.16	2,502.63	1,251.31	3,599.38	1,802.37	2.34	-0.20	0.022
115.00	-10.03	-1.06	0.00	-26.79	0.00	26.79	2,440.68	1,220.34	3,388.44	1,696.74	2.56	-0.21	0.020
117.00	-9.52	-1.02	0.00	-24.68	0.00	24.68	2,415.42	1,207.71	3,305.13	1,655.02	2.64	-0.21	0.019
120.00	-9.27	-1.00	0.00	-21.63	0.00	21.63	2,377.01	1,188.51	3,181.38	1,593.05	2.78	-0.22	0.017
122.00	-9.02	-0.98	0.00	-19.64	0.00	19.64	2,351.06	1,175.53	3,099.69	1,552.15	2.87	-0.22	0.016
124.00	-8.87	-0.96	0.00	-17.69	0.00	17.69	2,324.84	1,162.42	3,018.69	1,511.59	2.96	-0.22	0.016
125.00	-8.28	-0.91	0.00	-16.72	0.00	16.72	2,311.62	1,155.81	2,978.45	1,491.44	3.01	-0.22	0.015
130.00	-7.70	-0.86	0.00	-12.17	0.00	12.17	2,226.60	1,113.30	2,757.75	1,380.92	3.24	-0.23	0.012
135.00	-7.26	-0.81	0.00	-7.90	0.00	7.90	2,137.76	1,068.88	2,540.99	1,272.38	3.49	-0.23	0.010
138.93	-7.09	-0.79	0.00	-4.71	0.00	4.71	2,067.85	1,033.92	2,376.65	1,190.09	3.68	-0.23	0.007
140.00	-3.84	-0.45	0.00	-3.86	0.00	3.86	2,048.92	1,024.46	2,333.11	1,168.29	3.73	-0.23	0.005
143.03	-3.72	-0.44	0.00	-2.50	0.00	2.50	1,074.70	537.35	1,219.01	610.41	3.88	-0.24	0.008
145.00	-3.49	-0.41	0.00	-1.64	0.00	1.64	1,063.79	531.90	1,185.67	593.71	3.98	-0.24	0.006
149.00	0.00	-0.40	0.00	0.00	0.00	0.00	1,040.86	520.43	1,118.54	560.10	4.17	-0.24	0.000

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.07
Redundancy Factor (p):	1.30

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
39	147.00	269	1.840	1.725	1.047	0.352	82	334
38	144.01	136	1.766	1.387	0.919	0.304	36	168
37	141.51	492	1.705	1.141	0.822	0.267	114	610
36	139.47	198	1.656	0.962	0.749	0.237	41	246
35	136.97	514	1.597	0.769	0.666	0.204	91	638
34	132.50	671	1.495	0.488	0.536	0.150	87	833
33	127.50	692	1.384	0.254	0.415	0.097	58	858
32	124.50	141	1.320	0.149	0.354	0.069	8	175
31	123.00	285	1.288	0.104	0.326	0.057	14	354
30	121.00	289	1.246	0.053	0.291	0.041	10	359
29	118.50	440	1.195	0.000	0.251	0.023	9	546
28	116.00	297	1.146	-0.041	0.216	0.008	2	369
27	112.50	758	1.077	-0.082	0.173	-0.011	-7	940
26	107.50	795	0.984	-0.114	0.123	-0.030	-21	986
25	102.50	815	0.894	-0.122	0.085	-0.041	-29	1,011
24	97.99	669	0.817	-0.115	0.059	-0.044	-25	830
23	95.49	317	0.776	-0.107	0.047	-0.043	-12	393
22	92.74	1,479	0.732	-0.096	0.037	-0.039	-50	1,835
21	90.24	94	0.693	-0.085	0.029	-0.035	-3	117
20	87.50	1,002	0.652	-0.071	0.021	-0.028	-24	1,243
19	82.50	1,027	0.579	-0.045	0.012	-0.012	-11	1,274
18	77.50	1,051	0.511	-0.020	0.008	0.005	5	1,304
17	72.50	1,075	0.447	0.002	0.006	0.022	20	1,334
16	67.50	1,100	0.388	0.022	0.007	0.035	33	1,364
15	62.50	1,124	0.333	0.037	0.010	0.045	43	1,395
14	57.50	1,149	0.281	0.049	0.014	0.050	50	1,425
13	53.32	787	0.242	0.057	0.018	0.053	36	977
12	50.82	702	0.220	0.060	0.021	0.054	33	871
11	47.50	2,183	0.192	0.064	0.024	0.054	102	2,708
10	44.91	76	0.172	0.066	0.027	0.054	4	94
9	42.41	1,166	0.153	0.068	0.030	0.054	54	1,446
8	37.50	1,231	0.120	0.070	0.034	0.052	56	1,527
7	32.50	1,256	0.090	0.071	0.038	0.051	56	1,558
6	27.50	1,280	0.064	0.072	0.041	0.050	55	1,588

5	22.50	1,304	0.043	0.071	0.042	0.048	54	1,618
4	17.50	1,329	0.026	0.067	0.040	0.046	53	1,648
3	12.50	1,353	0.013	0.059	0.034	0.041	48	1,679
2	7.50	1,378	0.005	0.044	0.025	0.032	39	1,709
1	2.50	1,402	0.001	0.018	0.010	0.015	18	1,739
Samsung 700+850MHZ	149.00	246	1.890	1.980	1.140	0.386	82	305
Samsung PCS/AWS	149.00	253	1.890	1.980	1.140	0.386	85	314
Generic 3' Yagi	149.00	10	1.890	1.980	1.140	0.386	3	12
Raycap RVZDC-6627-PF	149.00	32	1.890	1.980	1.140	0.386	11	40
RFS Celwave PD220	149.00	50	1.890	1.980	1.140	0.386	17	62
Commscope NHH-65B-	149.00	262	1.890	1.980	1.140	0.386	88	325
Antel LPA-80080/6CF	149.00	126	1.890	1.980	1.140	0.386	42	156
Flat Low Profile Pla	149.00	1,500	1.890	1.980	1.140	0.386	502	1,861
VZW Unused Reserve:	149.00	1,581	1.890	1.980	1.140	0.386	529	1,961
Andrew ABT-DFDM-ADB	140.00	1	1.669	1.007	0.767	0.245	0	1
Powerwave Allgon TT1	140.00	96	1.669	1.007	0.767	0.245	20	119
Powerwave Allgon TT0	140.00	66	1.669	1.007	0.767	0.245	14	82
Raycap DC6-48-60-18-	140.00	20	1.669	1.007	0.767	0.245	4	25
Ericsson RRUS A2 Mod	140.00	64	1.669	1.007	0.767	0.245	13	79
Ericsson RRUS 4449 B	140.00	213	1.669	1.007	0.767	0.245	45	264
Ericsson RRUS 4478 B	140.00	178	1.669	1.007	0.767	0.245	38	221
Raycap DC6-48-60-18-	140.00	16	1.669	1.007	0.767	0.245	3	20
Ericsson RRUS 32 B2	140.00	159	1.669	1.007	0.767	0.245	34	197
Andrew SBNHH-1D65A (	140.00	67	1.669	1.007	0.767	0.245	14	83
Powerwave Allgon P90	140.00	159	1.669	1.007	0.767	0.245	34	197
CCI DMP65R-BU4D	140.00	204	1.669	1.007	0.767	0.245	43	253
CCI HPA-65R-BUU-H6	140.00	51	1.669	1.007	0.767	0.245	11	63
Round Platform w/ Ha	140.00	2,000	1.669	1.007	0.767	0.245	424	2,481
Decibel DB222	124.00	32	1.309	0.133	0.344	0.065	2	40
Generic 3' Yagi	122.00	10	1.267	0.077	0.308	0.049	0	12
Stand Off	117.00	150	1.165	-0.025	0.230	0.014	2	186
Symmetricom 58532A	110.00	0	1.030	-0.101	0.147	-0.021	0	0
Ericsson RRUS 11 B2	110.00	152	1.030	-0.101	0.147	-0.021	-3	189
Ericsson RRUS 11 B12	110.00	152	1.030	-0.101	0.147	-0.021	-3	189
Ericsson RRUS 11 B4	110.00	152	1.030	-0.101	0.147	-0.021	-3	189
RFS APX16DWV-	110.00	122	1.030	-0.101	0.147	-0.021	-2	151
Commscope LNX-	110.00	151	1.030	-0.101	0.147	-0.021	-3	187
Flat T-Arm	110.00	750	1.030	-0.101	0.147	-0.021	-14	930
Generic Flat Side Ar	100.00	188	0.851	-0.119	0.070	-0.043	-7	233
dbSpectra DS4C06F36D	90.00	50	0.690	-0.084	0.028	-0.034	-1	62
Generic Flat Side Ar	85.00	188	0.615	-0.058	0.016	-0.020	-3	233
		41,777	81.622	38.160	30.632	9.066	3,150	51,826

Load Case (0.9 - 0.2Sds) * DL + E EMAM **Seismic (Reduced DL) Equivalent Modal Analysis Method**

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
39	147.00	269	1.840	1.725	1.047	0.352	82	231
38	144.01	136	1.766	1.387	0.919	0.304	36	117
37	141.51	492	1.705	1.141	0.822	0.267	114	423
36	139.47	198	1.656	0.962	0.749	0.237	41	170
35	136.97	514	1.597	0.769	0.666	0.204	91	442
34	132.50	671	1.495	0.488	0.536	0.150	87	577
33	127.50	692	1.384	0.254	0.415	0.097	58	594
32	124.50	141	1.320	0.149	0.354	0.069	8	121
31	123.00	285	1.288	0.104	0.326	0.057	14	245
30	121.00	289	1.246	0.053	0.291	0.041	10	249
29	118.50	440	1.195	0.000	0.251	0.023	9	378
28	116.00	297	1.146	-0.041	0.216	0.008	2	256

27	112.50	758	1.077	-0.082	0.173	-0.011	-7	651
26	107.50	795	0.984	-0.114	0.123	-0.030	-21	683
25	102.50	815	0.894	-0.122	0.085	-0.041	-29	701
24	97.99	669	0.817	-0.115	0.059	-0.044	-25	575
23	95.49	317	0.776	-0.107	0.047	-0.043	-12	272
22	92.74	1,479	0.732	-0.096	0.037	-0.039	-50	1,271
21	90.24	94	0.693	-0.085	0.029	-0.035	-3	81
20	87.50	1,002	0.652	-0.071	0.021	-0.028	-24	861
19	82.50	1,027	0.579	-0.045	0.012	-0.012	-11	882
18	77.50	1,051	0.511	-0.020	0.008	0.005	5	903
17	72.50	1,075	0.447	0.002	0.006	0.022	20	924
16	67.50	1,100	0.388	0.022	0.007	0.035	33	945
15	62.50	1,124	0.333	0.037	0.010	0.045	43	966
14	57.50	1,149	0.281	0.049	0.014	0.050	50	987
13	53.32	787	0.242	0.057	0.018	0.053	36	677
12	50.82	702	0.220	0.060	0.021	0.054	33	604
11	47.50	2,183	0.192	0.064	0.024	0.054	102	1,876
10	44.91	76	0.172	0.066	0.027	0.054	4	65
9	42.41	1,166	0.153	0.068	0.030	0.054	54	1,002
8	37.50	1,231	0.120	0.070	0.034	0.052	56	1,058
7	32.50	1,256	0.090	0.071	0.038	0.051	56	1,079
6	27.50	1,280	0.064	0.072	0.041	0.050	55	1,100
5	22.50	1,304	0.043	0.071	0.042	0.048	54	1,121
4	17.50	1,329	0.026	0.067	0.040	0.046	53	1,142
3	12.50	1,353	0.013	0.059	0.034	0.041	48	1,163
2	7.50	1,378	0.005	0.044	0.025	0.032	39	1,184
1	2.50	1,402	0.001	0.018	0.010	0.015	18	1,205
Samsung 700+850MHZ	149.00	246	1.890	1.980	1.140	0.386	82	211
Samsung PCS/AWS	149.00	253	1.890	1.980	1.140	0.386	85	218
Generic 3' Yagi	149.00	10	1.890	1.980	1.140	0.386	3	9
Raycap RVZDC-6627-PF	149.00	32	1.890	1.980	1.140	0.386	11	28
RFS Celwave PD220	149.00	50	1.890	1.980	1.140	0.386	17	43
Commscope NHH-65B-	149.00	262	1.890	1.980	1.140	0.386	88	225
Antel LPA-80080/6CF	149.00	126	1.890	1.980	1.140	0.386	42	108
Flat Low Profile Pla	149.00	1,500	1.890	1.980	1.140	0.386	502	1,289
VZW Unused Reserve:	149.00	1,581	1.890	1.980	1.140	0.386	529	1,358
Andrew ABT-DFDM-ADB	140.00	1	1.669	1.007	0.767	0.245	0	1
Powerwave Allgon TT1	140.00	96	1.669	1.007	0.767	0.245	20	83
Powerwave Allgon TT0	140.00	66	1.669	1.007	0.767	0.245	14	57
Raycap DC6-48-60-18-	140.00	20	1.669	1.007	0.767	0.245	4	17
Ericsson RRUS A2 Mod	140.00	64	1.669	1.007	0.767	0.245	13	55
Ericsson RRUS 4449 B	140.00	213	1.669	1.007	0.767	0.245	45	183
Ericsson RRUS 4478 B	140.00	178	1.669	1.007	0.767	0.245	38	153
Raycap DC6-48-60-18-	140.00	16	1.669	1.007	0.767	0.245	3	14
Ericsson RRUS 32 B2	140.00	159	1.669	1.007	0.767	0.245	34	137
Andrew SBNHH-1D65A (	140.00	67	1.669	1.007	0.767	0.245	14	58
Powerwave Allgon P90	140.00	159	1.669	1.007	0.767	0.245	34	137
CCI DMP65R-BU4D	140.00	204	1.669	1.007	0.767	0.245	43	175
CCI HPA-65R-BUU-H6	140.00	51	1.669	1.007	0.767	0.245	11	44
Round Platform w/ Ha	140.00	2,000	1.669	1.007	0.767	0.245	424	1,719
Decibel DB222	124.00	32	1.309	0.133	0.344	0.065	2	28
Generic 3' Yagi	122.00	10	1.267	0.077	0.308	0.049	0	9
Stand Off	117.00	150	1.165	-0.025	0.230	0.014	2	129
Symmetricom 58532A	110.00	0	1.030	-0.101	0.147	-0.021	0	0
Ericsson RRUS 11 B2	110.00	152	1.030	-0.101	0.147	-0.021	-3	131
Ericsson RRUS 11 B12	110.00	152	1.030	-0.101	0.147	-0.021	-3	131
Ericsson RRUS 11 B4	110.00	152	1.030	-0.101	0.147	-0.021	-3	131
RFS APX16DWV-	110.00	122	1.030	-0.101	0.147	-0.021	-2	105
Commscope LNX-	110.00	151	1.030	-0.101	0.147	-0.021	-3	130
Flat T-Arm	110.00	750	1.030	-0.101	0.147	-0.021	-14	645
Generic Flat Side Ar	100.00	188	0.851	-0.119	0.070	-0.043	-7	161
dbSpectra DS4C06F36D	90.00	50	0.690	-0.084	0.028	-0.034	-1	43
Generic Flat Side Ar	85.00	188	0.615	-0.058	0.016	-0.020	-3	161

41,777	81.622	38.160	30.632	9.066	3,150	35,906

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-50.09	-3.14	0.00	-395.91	0.00	395.91	4,509.35	2,254.68	11,158.54	5,587.56	0.00	0.00	0.082
5.00	-48.38	-3.11	0.00	-380.21	0.00	380.21	4,461.01	2,230.51	10,816.20	5,416.14	0.01	-0.02	0.081
10.00	-46.70	-3.08	0.00	-364.64	0.00	364.64	4,410.95	2,205.48	10,474.59	5,245.08	0.04	-0.03	0.080
15.00	-45.05	-3.04	0.00	-349.24	0.00	349.24	4,359.17	2,179.58	10,133.98	5,074.52	0.08	-0.05	0.079
20.00	-43.43	-3.00	0.00	-334.04	0.00	334.04	4,305.66	2,152.83	9,794.63	4,904.59	0.14	-0.07	0.078
25.00	-41.84	-2.95	0.00	-319.05	0.00	319.05	4,250.43	2,125.22	9,456.78	4,735.42	0.23	-0.09	0.077
30.00	-40.28	-2.91	0.00	-304.27	0.00	304.27	4,193.48	2,096.74	9,120.71	4,567.13	0.33	-0.11	0.076
35.00	-38.75	-2.86	0.00	-289.73	0.00	289.73	4,134.81	2,067.40	8,786.66	4,399.86	0.45	-0.13	0.075
40.00	-37.31	-2.82	0.00	-275.42	0.00	275.42	4,074.41	2,037.21	8,454.90	4,233.73	0.59	-0.14	0.074
44.83	-37.21	-2.82	0.00	-261.81	0.00	261.81	4,014.46	2,007.23	8,136.95	4,074.52	0.75	-0.16	0.074
45.00	-34.50	-2.72	0.00	-261.33	0.00	261.33	4,012.29	2,006.15	8,125.68	4,068.88	0.76	-0.16	0.073
50.00	-33.63	-2.69	0.00	-247.74	0.00	247.74	3,948.45	1,974.23	7,799.26	3,905.43	0.94	-0.18	0.072
51.63	-32.65	-2.66	0.00	-243.35	0.00	243.35	3,967.50	1,983.75	7,895.42	3,953.58	1.00	-0.19	0.070
55.00	-31.23	-2.61	0.00	-234.41	0.00	234.41	3,923.88	1,961.94	7,676.69	3,844.05	1.14	-0.21	0.069
60.00	-29.83	-2.57	0.00	-221.36	0.00	221.36	3,857.67	1,928.83	7,354.55	3,682.74	1.37	-0.23	0.068
65.00	-28.47	-2.54	0.00	-208.50	0.00	208.50	3,789.73	1,894.87	7,035.83	3,523.15	1.62	-0.25	0.067
70.00	-27.13	-2.53	0.00	-195.78	0.00	195.78	3,720.08	1,860.04	6,720.79	3,365.39	1.89	-0.27	0.065
75.00	-25.83	-2.53	0.00	-183.15	0.00	183.15	3,648.70	1,824.35	6,409.67	3,209.60	2.18	-0.29	0.064
80.00	-24.55	-2.54	0.00	-170.53	0.00	170.53	3,575.60	1,787.80	6,102.74	3,055.91	2.49	-0.31	0.063
85.00	-23.08	-2.57	0.00	-157.83	0.00	157.83	3,500.77	1,750.39	5,800.26	2,904.44	2.82	-0.33	0.061
90.00	-22.90	-2.57	0.00	-145.00	0.00	145.00	3,424.23	1,712.11	5,502.49	2,755.33	3.18	-0.35	0.059
90.48	-21.06	-2.62	0.00	-143.78	0.00	143.78	3,416.84	1,708.42	5,474.36	2,741.25	3.22	-0.35	0.059
95.00	-20.67	-2.63	0.00	-131.94	0.00	131.94	3,345.96	1,672.98	5,209.67	2,608.71	3.56	-0.37	0.057
95.98	-19.84	-2.65	0.00	-129.35	0.00	129.35	2,667.09	1,333.55	4,209.17	2,107.71	3.64	-0.38	0.069
100.00	-18.59	-2.69	0.00	-118.69	0.00	118.69	2,621.36	1,310.68	4,031.88	2,018.94	3.97	-0.40	0.066
105.00	-17.61	-2.71	0.00	-105.24	0.00	105.24	2,562.85	1,281.43	3,813.95	1,909.81	4.39	-0.42	0.062
110.00	-14.83	-2.73	0.00	-91.69	0.00	91.69	2,502.63	1,251.31	3,599.38	1,802.37	4.85	-0.44	0.057
115.00	-14.46	-2.73	0.00	-78.04	0.00	78.04	2,440.68	1,220.34	3,388.44	1,696.74	5.33	-0.47	0.052
117.00	-13.73	-2.72	0.00	-72.58	0.00	72.58	2,415.42	1,207.71	3,305.13	1,655.02	5.52	-0.48	0.050
120.00	-13.37	-2.70	0.00	-64.43	0.00	64.43	2,377.01	1,188.51	3,181.38	1,593.05	5.83	-0.49	0.046
122.00	-13.00	-2.69	0.00	-59.03	0.00	59.03	2,351.06	1,175.53	3,099.69	1,552.15	6.03	-0.50	0.044
124.00	-12.79	-2.68	0.00	-53.65	0.00	53.65	2,324.84	1,162.42	3,018.69	1,511.59	6.24	-0.50	0.041
125.00	-11.93	-2.61	0.00	-50.97	0.00	50.97	2,311.62	1,155.81	2,978.45	1,491.44	6.35	-0.51	0.039
130.00	-11.10	-2.52	0.00	-37.90	0.00	37.90	2,226.60	1,113.30	2,757.75	1,380.92	6.89	-0.52	0.032
135.00	-10.46	-2.43	0.00	-25.29	0.00	25.29	2,137.76	1,068.88	2,540.99	1,272.38	7.44	-0.54	0.025
138.93	-10.21	-2.39	0.00	-15.73	0.00	15.73	2,067.85	1,033.92	2,376.65	1,190.09	7.89	-0.54	0.018
140.00	-5.52	-1.53	0.00	-13.19	0.00	13.19	2,048.92	1,024.46	2,333.11	1,168.29	8.01	-0.55	0.014
143.03	-5.36	-1.49	0.00	-8.57	0.00	8.57	1,074.70	537.35	1,219.01	610.41	8.36	-0.55	0.019
145.00	-5.02	-1.41	0.00	-5.62	0.00	5.62	1,063.79	531.90	1,185.67	593.71	8.59	-0.55	0.014
149.00	0.00	-1.36	0.00	0.00	0.00	0.00	1,040.86	520.43	1,118.54	560.10	9.05	-0.55	0.000

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.70	-3.14	0.00	-391.28	0.00	391.28	4,509.35	2,254.68	11,158.54	5,587.56	0.00	0.00	0.078
5.00	-33.52	-3.11	0.00	-375.59	0.00	375.59	4,461.01	2,230.51	10,816.20	5,416.14	0.01	-0.02	0.077
10.00	-32.35	-3.07	0.00	-360.05	0.00	360.05	4,410.95	2,205.48	10,474.59	5,245.08	0.04	-0.03	0.076
15.00	-31.21	-3.03	0.00	-344.71	0.00	344.71	4,359.17	2,179.58	10,133.98	5,074.52	0.08	-0.05	0.075
20.00	-30.09	-2.98	0.00	-329.58	0.00	329.58	4,305.66	2,152.83	9,794.63	4,904.59	0.14	-0.07	0.074
25.00	-28.99	-2.93	0.00	-314.68	0.00	314.68	4,250.43	2,125.22	9,456.78	4,735.42	0.22	-0.09	0.073
30.00	-27.91	-2.88	0.00	-300.03	0.00	300.03	4,193.48	2,096.74	9,120.71	4,567.13	0.33	-0.11	0.072
35.00	-26.85	-2.83	0.00	-285.61	0.00	285.61	4,134.81	2,067.40	8,786.66	4,399.86	0.45	-0.12	0.071
40.00	-25.84	-2.79	0.00	-271.44	0.00	271.44	4,074.41	2,037.21	8,454.90	4,233.73	0.59	-0.14	0.070
44.83	-25.78	-2.79	0.00	-257.99	0.00	257.99	4,014.46	2,007.23	8,136.95	4,074.52	0.74	-0.16	0.070
45.00	-23.90	-2.68	0.00	-257.51	0.00	257.51	4,012.29	2,006.15	8,125.68	4,068.88	0.75	-0.16	0.069
50.00	-23.30	-2.65	0.00	-244.09	0.00	244.09	3,948.45	1,974.23	7,799.26	3,905.43	0.93	-0.18	0.068
51.63	-22.62	-2.62	0.00	-239.76	0.00	239.76	3,967.50	1,983.75	7,895.42	3,953.58	0.99	-0.19	0.066
55.00	-21.63	-2.57	0.00	-230.94	0.00	230.94	3,923.88	1,961.94	7,676.69	3,844.05	1.13	-0.20	0.066
60.00	-20.67	-2.53	0.00	-218.07	0.00	218.07	3,857.67	1,928.83	7,354.55	3,682.74	1.35	-0.22	0.065
65.00	-19.72	-2.50	0.00	-205.41	0.00	205.41	3,789.73	1,894.87	7,035.83	3,523.15	1.59	-0.24	0.064
70.00	-18.80	-2.49	0.00	-192.89	0.00	192.89	3,720.08	1,860.04	6,720.79	3,365.39	1.86	-0.26	0.062
75.00	-17.89	-2.48	0.00	-180.47	0.00	180.47	3,648.70	1,824.35	6,409.67	3,209.60	2.15	-0.28	0.061
80.00	-17.01	-2.49	0.00	-168.06	0.00	168.06	3,575.60	1,787.80	6,102.74	3,055.91	2.45	-0.30	0.060
85.00	-15.98	-2.52	0.00	-155.58	0.00	155.58	3,500.77	1,750.39	5,800.26	2,904.44	2.79	-0.33	0.058
90.00	-15.86	-2.53	0.00	-142.97	0.00	142.97	3,424.23	1,712.11	5,502.49	2,755.33	3.14	-0.35	0.057
90.48	-14.59	-2.58	0.00	-141.76	0.00	141.76	3,416.84	1,708.42	5,474.36	2,741.25	3.17	-0.35	0.056
95.00	-14.32	-2.59	0.00	-130.12	0.00	130.12	3,345.96	1,672.98	5,209.67	2,608.71	3.51	-0.37	0.054
95.98	-13.74	-2.61	0.00	-127.57	0.00	127.57	2,667.09	1,333.55	4,209.17	2,107.71	3.59	-0.37	0.066
100.00	-12.88	-2.65	0.00	-117.08	0.00	117.08	2,621.36	1,310.68	4,031.88	2,018.94	3.91	-0.39	0.063
105.00	-12.19	-2.67	0.00	-103.84	0.00	103.84	2,562.85	1,281.43	3,813.95	1,909.81	4.33	-0.41	0.059
110.00	-10.27	-2.69	0.00	-90.50	0.00	90.50	2,502.63	1,251.31	3,599.38	1,802.37	4.78	-0.44	0.054
115.00	-10.01	-2.69	0.00	-77.04	0.00	77.04	2,440.68	1,220.34	3,388.44	1,696.74	5.25	-0.46	0.050
117.00	-9.50	-2.68	0.00	-71.66	0.00	71.66	2,415.42	1,207.71	3,305.13	1,655.02	5.45	-0.47	0.047
120.00	-9.25	-2.67	0.00	-63.62	0.00	63.62	2,377.01	1,188.51	3,181.38	1,593.05	5.75	-0.48	0.044
122.00	-9.00	-2.65	0.00	-58.28	0.00	58.28	2,351.06	1,175.53	3,099.69	1,552.15	5.95	-0.49	0.041
124.00	-8.85	-2.64	0.00	-52.98	0.00	52.98	2,324.84	1,162.42	3,018.69	1,511.59	6.16	-0.50	0.039
125.00	-8.26	-2.58	0.00	-50.34	0.00	50.34	2,311.62	1,155.81	2,978.45	1,491.44	6.26	-0.50	0.037
130.00	-7.68	-2.49	0.00	-37.44	0.00	37.44	2,226.60	1,113.30	2,757.75	1,380.92	6.79	-0.52	0.031
135.00	-7.24	-2.40	0.00	-24.99	0.00	24.99	2,137.76	1,068.88	2,540.99	1,272.38	7.34	-0.53	0.023
138.93	-7.07	-2.35	0.00	-15.56	0.00	15.56	2,067.85	1,033.92	2,376.65	1,190.09	7.78	-0.54	0.016
140.00	-3.82	-1.51	0.00	-13.05	0.00	13.05	2,048.92	1,024.46	2,333.11	1,168.29	7.90	-0.54	0.013
143.03	-3.71	-1.47	0.00	-8.47	0.00	8.47	1,074.70	537.35	1,219.01	610.41	8.24	-0.54	0.017
145.00	-3.48	-1.39	0.00	-5.56	0.00	5.56	1,063.79	531.90	1,185.67	593.71	8.47	-0.54	0.013
149.00	0.00	-1.36	0.00	0.00	0.00	0.00	1,040.86	520.43	1,118.54	560.10	8.92	-0.55	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	30.39	0.00	50.09	0.00	0.00	3423.19	0.00	0.62
0.9D + 1.6W	30.38	0.00	37.56	0.00	0.00	3392.46	0.00	0.62
1.2D + 1.0Di + 1.0Wi	6.60	0.00	71.49	0.00	0.00	733.23	0.00	0.15
(1.2 + 0.2Sds) * DL + E ELFM	1.68	0.00	50.09	0.00	0.00	205.11	0.00	0.05
(1.2 + 0.2Sds) * DL + E EMAM	3.14	0.00	50.09	0.00	0.00	395.91	0.00	0.08
(0.9 - 0.2Sds) * DL + E ELFM	1.68	0.00	34.70	0.00	0.00	202.89	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	3.14	0.00	34.70	0.00	0.00	391.28	0.00	0.08
1.0D + 1.0W	7.55	0.00	41.77	0.00	0.00	846.22	0.00	0.16

Base Plate & Anchor Rod Analysis

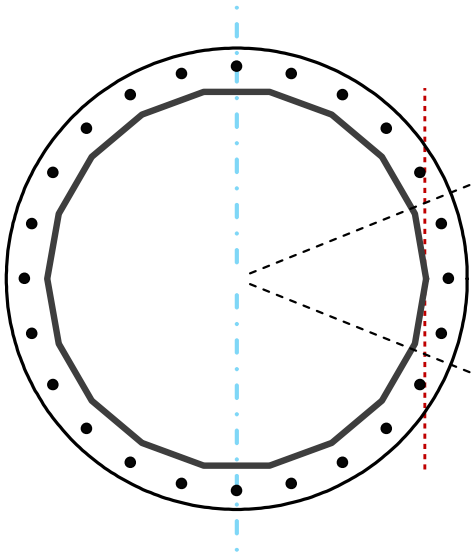
Pole Dimensions		
Number of Sides	18	-
Diameter	60.5	in
Thickness	0.375	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	3423.2	k-ft
Axial, Pu	50.1	k
Shear, Vu	30.4	k
Neutral Axis	270	°

Report Capacities		
Component	Capacity	Result
Base Plate	28%	Pass
Anchor Rods	39%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ø	75	in
Thickness	3 1/4	in
Grade	A572-50	
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	N/A	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	2	in
Applied Moment, Mu	995.2	k
Bending Stress, ϕMn	3501.5	k

Original Anchor Rods		
Arrangement	Radial	-
Quantity	24	-
Diameter, ø	2 1/4	in
Bolt Circle	69	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	9.0	in
Orientation Offset	0	°
Applied Force, Pu	101.3	k
Anchor Rods, ϕPn	259.8	k



August 16, 2019

SAI Communications
12 Industrial Way
Salem NH, 03079

RE:		
	Site Number:	CT1288 (LTE 3C/4C)
	FA Number:	10141334
	PACE Number:	MRCTB040475
	PT Number:	2051A0PQWZ
	Site Name:	KENT CT MAPLE STREET
	Site Address:	38 Maple Street Kent, CT 06757

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:

- (3) P90-14-XLH-RR Antennas (52.0"x11.0"x7.0" – Wt. = 41 lbs. /each)
- (1) HPA-65R-BUU-H6 Antennas (72.0"x14.8"x7.4" – Wt. = 51 lbs. /each)
- (2) SBNHH-1D65A Antennas (55.6"x11.9"x7.1" - Wt. = 34 lbs. /each)
- (3) RRUS-32 B2 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (6) TT19-08BP111-001 TMA's (9.9"x6.7"x5.4" - Wt. = 16 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each)
- **(3) DMP65R-BU6DA Antennas (71.2"x20.7"x7.7" – Wt. = 80 lbs. /each)**
- **(3) B14 4478 RRH's (18.1"x13.4"x8.3"– Wt. = 60 lbs. /each)**
- **(3) B5/B12 4449 RRH's (14.9"x13.2"x10.4" – Wt. = 73 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. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mount on May 29, 2019.

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 115 mph with a max basic wind speed with ice of 40 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.16 in was used for this analysis.
- HDG considers this site to be exposure category C; tower is located near large, flat, open, terrain/grasslands.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst-case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst-case location on the mount.
- The existing mount is secured to the existing monopole with a ring mount. 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 modification:

- **Install new handrail kit, SitePro1 P/N HRK14-3HD (or approved equal).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 3C/4C) Mount Rating	54	LC1	105%	**FAIL**
Modified (LTE 3C/4C) Mount Rating	60	LC2	97%	**PASS**

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

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

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

Respectfully Submitted,
Hudson Design Group LLC

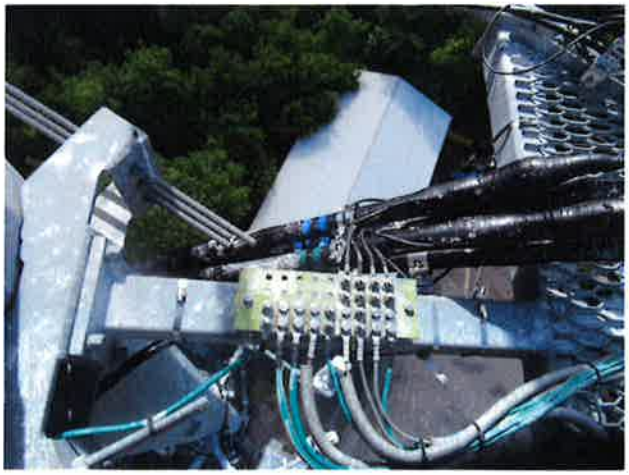
Michael Cabral
Vice President

Daniel P. Hamm, PE
Principal

FIELD PHOTOS:








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






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

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 8/16/2019
Project Name: KENT CT MAPLE STREET
Project No.: CT1288
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=	141	(ft)
z_g=	900	(ft)
α=	9.5	
K_z=	**1.361**	

$Kzmin \le Kz \le 2.01$

Table 2-4

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

2.6.6.2 Topographic Factor:

Table 2-5

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

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

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

K_{zt}= #DIV/0!

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

Category= 1

K_h=	#DIV/0!	
K_c=	1	(from Table 2-4)
K_t=	0	(from Table 2-5)
f=	0	(from Table 2-5)
z=	141	
z_s=	400	(Mean elevation of base of structure above sea level)
H=	0	(Ht. of the crest above surrounding terrain)
K_{zt}=	1.00	(from 2.6.6.2.1)
K_e=	0.99	(from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness = t_i =	1.00	in
Importance Factor = I=	1.0	(from Table 2-3)
K_{iz} =	1.16	(from Sec. 2.6.10)

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

t_{iz} = 1.16 in

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2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

G_h = 1.0 Latticed Structures > 600 ft

G_h = 0.85 Latticed Structures 450 ft or less

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

h=	150	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=	1.361	(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=	**43.13**	K_e=	0.99	(from 2.6.8)
$q_{z\ (ice)}$=	**5.22**	K_d=	0.95	(from Table 2-2)
$q_{z\ (30)}$=	**2.94**	V_{max}=	115	mph (Ultimate Wind Speed)
		$V_{max\ (ice)}$=	40	mph
		V_{30}=	30	mph

Table 2-2

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

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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 = **1.16 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)
P90-15-XLH-RR Antenna	72.0	11.0	7.0	5.50	6.55	1.38	327	49	22
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	4.86	1.31	417	60	28
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.44	1.24	548	76	37
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	2.25	1.20	118	18	8
RRUS-32 B2 RRH (Shielded)	27.2	0.0	7.0	0.00	0.00	1.20	0	3	0
B14 4478 RRH	18.1	13.4	8.3	1.68	1.35	1.20	87	14	6
B14 4478 RRH (Side)	18.1	8.3	13.4	1.04	2.18	1.20	54	9	4
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.13	1.20	71	12	5
B5/B12 4449 RRH (Side)	14.9	10.4	13.2	1.08	1.43	1.20	56	10	4
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	1.83	1.20	19	4	1
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	49	8	3
2" Pipe	2.4	12.0		0.20	0.20	1.20	10	3	1
3" Pipe	3.5	12.0		0.29	0.29	2.00	25	6	2
2x2 Angle	2.0	12.0		0.17	0.17	2.00	14	4	1
HSS 4x4	4.0	12.0		0.33	0.33	1.25	18	4	1

Date: 8/16/2019
Project Name: KENT CT MAPLE STREET
Project No.: CT1288
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	30	(deg)	Ice Thickness =	1.16	in.	Equivalent Angle =	210	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
P90-15-XLH-RR Antenna	72.0	11.0	7.0	5.50	3.50	6.55	10.29	1.38	1.51	327	228	302
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	417	238	372
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	548	242	472
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	118	72	107
RRUS-32 B2 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	64	72	66
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	87	54	79
B14 4478 RRH (Side)	18.1	6.7	13.4	0.84	1.68	2.70	1.35	1.21	1.20	44	87	55
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	71	56	67
B5/B12 4449 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	35	71	44
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	19	24	20

WIND LOADS WITH ICE:

P90-15-XLH-RR Antenna	74.3	13.3	9.3	6.87	4.81	5.58	7.98	1.34	1.43	48	36	45
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.83	5.01	4.34	7.65	1.28	1.42	59	37	54
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.75	5.11	3.19	7.34	1.23	1.41	75	38	66
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.91	2.05	3.17	1.20	1.23	18	12	17
RRUS-32 B2 RRH (Shielded)	29.5	7.2	9.3	1.48	1.91	4.10	3.17	1.27	1.23	10	12	10
B14 4478 RRH	20.4	15.7	10.6	2.23	1.50	1.30	1.92	1.20	1.20	14	9	13
B14 4478 RRH (Side)	20.4	7.9	15.7	1.11	2.23	2.60	1.30	1.20	1.20	7	14	9
B5/B12 4449 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	12	10	11
B5/B12 4449 RRH (Side)	17.2	7.8	15.5	0.93	1.85	2.22	1.11	1.20	1.20	6	12	7
TT19-08BP111-001 TMA	12.2	7.7	9.0	0.65	0.76	1.58	1.36	1.20	1.20	4	5	4

WIND LOADS AT 30 MPH:

P90-15-XLH-RR Antenna	72.0	11.0	7.0	5.50	3.50	6.55	10.29	1.38	1.51	22	16	21
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	28	16	25
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	37	16	32
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	7
RRUS-32 B2 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	5	4
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	5
B14 4478 RRH (Side)	18.1	6.7	13.4	0.84	1.68	2.70	1.35	1.21	1.20	3	6	4
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	5	4	5
B5/B12 4449 RRH (Side)	14.9	6.6	13.2	0.68	1.37	2.26	1.13	1.20	1.20	2	5	3
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	1	2	1

Date: 8/16/2019
Project Name: KENT CT MAPLE STREET
Project No.: CT1288
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	1.16	in.	Equivalent Angle =	240	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
P90-15-XLH-RR Antenna	72.0	11.0	7.0	5.50	3.50	6.55	10.29	1.38	1.51	327	228	253
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	417	238	283
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	548	242	319
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	118	72	84
RRUS-32 B2 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	90	72	77
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	87	54	62
B14 4478 RRH (Side)	18.1	10.1	13.4	1.26	1.68	1.80	1.35	1.20	1.20	65	87	82
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	71	56	59
B5/B12 4449 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	53	71	66
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	19	24	23

WIND LOADS WITH ICE:

P90-15-XLH-RR Antenna	74.3	13.3	9.3	6.87	4.81	5.58	7.98	1.34	1.43	48	36	39
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.83	5.01	4.34	7.65	1.28	1.42	59	37	43
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.75	5.11	3.19	7.34	1.23	1.41	75	38	47
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.91	2.05	3.17	1.20	1.23	18	12	14
RRUS-32 B2 RRH (Shielded)	29.5	10.8	9.3	2.22	1.91	2.73	3.17	1.21	1.23	14	12	13
B14 4478 RRH	20.4	15.7	10.6	2.23	1.50	1.30	1.92	1.20	1.20	14	9	11
B14 4478 RRH (Side)	20.4	11.8	15.7	1.67	2.23	1.73	1.30	1.20	1.20	10	14	13
B5/B12 4449 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	12	10	10
B5/B12 4449 RRH (Side)	17.2	11.6	15.5	1.39	1.85	1.48	1.11	1.20	1.20	9	12	11
TT19-08BP111-001 TMA	12.2	7.7	9.0	0.65	0.76	1.58	1.36	1.20	1.20	4	5	5

WIND LOADS AT 30 MPH:

P90-15-XLH-RR Antenna	72.0	11.0	7.0	5.50	3.50	6.55	10.29	1.38	1.51	22	16	17
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	28	16	19
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	37	16	22
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	6
RRUS-32 B2 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	6	5	5
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
B14 4478 RRH (Side)	18.1	10.1	13.4	1.26	1.68	1.80	1.35	1.20	1.20	4	6	6
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	5	4	4
B5/B12 4449 RRH (Side)	14.9	9.9	13.2	1.02	1.37	1.51	1.13	1.20	1.20	4	5	5
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	1	2	2

Date: 8/16/2019
Project Name: KENT CT MAPLE STREET
Project No.: CT1288
Designed By: LBW Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	1.16	in.	Equivalent Angle =	270	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
P90-15-XLH-RR Antenna	72.0	11.0	7.0	5.50	3.50	6.55	10.29	1.38	1.51	327	228	228
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	417	238	238
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	548	242	242
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	118	72	72
RRUS-32 B2 RRH (Shielded)	27.2	0.0	7.0	0.00	1.32	0.00	3.89	1.20	1.26	0	72	72
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	87	54	54
B14 4478 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	54	87	87
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	71	56	56
B5/B12 4449 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	56	71	71
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	19	24	24

WIND LOADS WITH ICE:

P90-15-XLH-RR Antenna	74.3	13.3	9.3	6.87	4.81	5.58	7.98	1.34	1.43	48	36	36
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.83	5.01	4.34	7.65	1.28	1.42	59	37	37
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.75	5.11	3.19	7.34	1.23	1.41	75	38	38
RRUS-32 B2 RRH	29.5	14.4	9.3	2.95	1.91	2.05	3.17	1.20	1.23	18	12	12
RRUS-32 B2 RRH (Shielded)	29.5	2.3	9.3	0.47	1.91	12.76	3.17	1.59	1.23	4	12	12
B14 4478 RRH	20.4	15.7	10.6	2.23	1.50	1.30	1.92	1.20	1.20	14	9	9
B14 4478 RRH (Side)	20.4	10.6	15.7	1.50	2.23	1.92	1.30	1.20	1.20	9	14	14
B5/B12 4449 RRH	17.2	15.5	12.7	1.85	1.52	1.11	1.35	1.20	1.20	12	10	10
B5/B12 4449 RRH (Side)	17.2	12.7	15.5	1.52	1.85	1.35	1.11	1.20	1.20	10	12	12
TT19-08BP111-001 TMA	12.2	7.7	9.0	0.65	0.76	1.58	1.36	1.20	1.20	4	5	5

WIND LOADS AT 30 MPH:

P90-15-XLH-RR Antenna	72.0	11.0	7.0	5.50	3.50	6.55	10.29	1.38	1.51	22	16	16
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	28	16	16
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	37	16	16
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	8	5	5
RRUS-32 B2 RRH (Shielded)	27.2	0.0	7.0	0.00	1.32	0.00	3.89	1.20	1.26	0	5	5
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	6	4	4
B14 4478 RRH (Side)	18.1	8.3	13.4	1.04	1.68	2.18	1.35	1.20	1.20	4	6	6
B5/B12 4449 RRH	14.9	13.2	10.4	1.37	1.08	1.13	1.43	1.20	1.20	5	4	4
B5/B12 4449 RRH (Side)	14.9	10.4	13.2	1.08	1.37	1.43	1.13	1.20	1.20	4	5	5
TT19-08BP111-001 TMA	9.9	5.4	6.7	0.37	0.46	1.83	1.48	1.20	1.20	1	2	2

Date: 8/16/2019
Project Name: KENT CT MAPLE STREET
Project No.: CT1288
Designed By: LBW **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1.16 in.
Density of ice: 56 pcf

P90-15-XLH-RR Antenna

Weight of ice based on total radial SF area:

Height (in):	72.0	
Width (in):	11.0	
Depth (in):	7.0	
Total weight of ice on object:		121 lbs
Weight of object:	49.0 lbs	
Combined weight of ice and object:		170 lbs

HPA-65R-BUU-H6 Antenna

Weight of ice based on total radial SF area:

Height (in):	72.0	
Width (in):	14.8	
Depth (in):	7.4	
Total weight of ice on object:		151 lbs
Weight of object:	51.0 lbs	
Combined weight of ice and object:		202 lbs

DMP65R-BU6DA Antenna

Weight of ice based on total radial SF area:

Height (in):	71.2	
Width (in):	20.7	
Depth (in):	7.7	
Total weight of ice on object:		195 lbs
Weight of object:	80.0 lbs	
Combined weight of ice and object:		275 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:		49 lbs
Weight of object:	60.0 lbs	
Combined weight of ice and object:		109 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:		36 lbs
Weight of object:	60.0 lbs	
Combined weight of ice and object:		96 lbs

B5/B12 4449 RRH

Weight of ice based on total radial SF area:

Height (in):	14.9	
Width (in):	13.2	
Depth (in):	10.4	
Total weight of ice on object:		32 lbs
Weight of object:	73.0 lbs	
Combined weight of ice and object:		105 lbs

TT19-08BP111-001 TMA

Weight of ice based on total radial SF area:

Height (in):	9.9	
Width (in):	5.4	
Depth (in):	6.7	
Total weight of ice on object:		11 lbs
Weight of object:	16.0 lbs	
Combined weight of ice and object:		27 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:		31 lbs
Weight of object:	33 lbs	
Combined weight of ice and object:		64 lbs

2" pipe

Per foot weight of ice:

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

3" Pipe

Per foot weight of ice:

diameter (in):	3.5	
Per foot weight of ice on object:		7 plf

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

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

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:		10 plf

HUDSON
Design Group LLC

Mount Calculations
(Existing Conditions)

Bentley Hewlett-Packard Company

Current Date: 8/16/2019 2:16 PM
Units system: English
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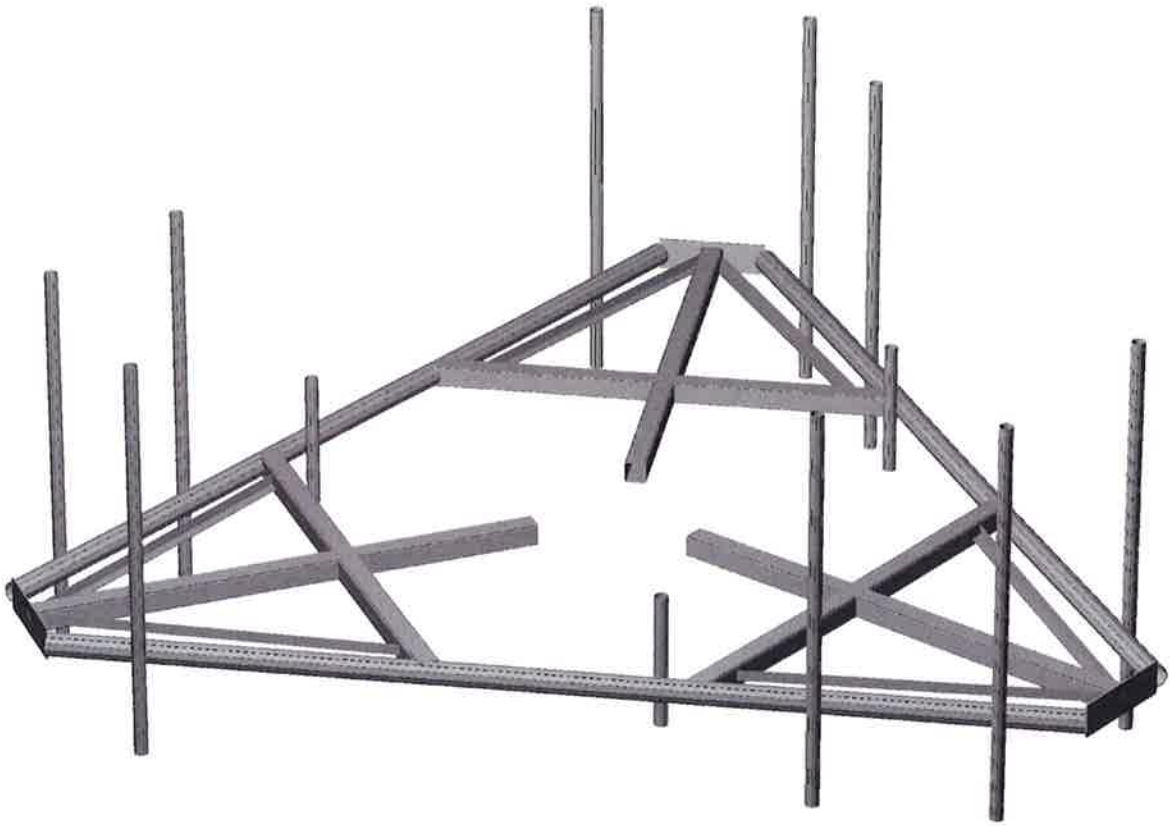

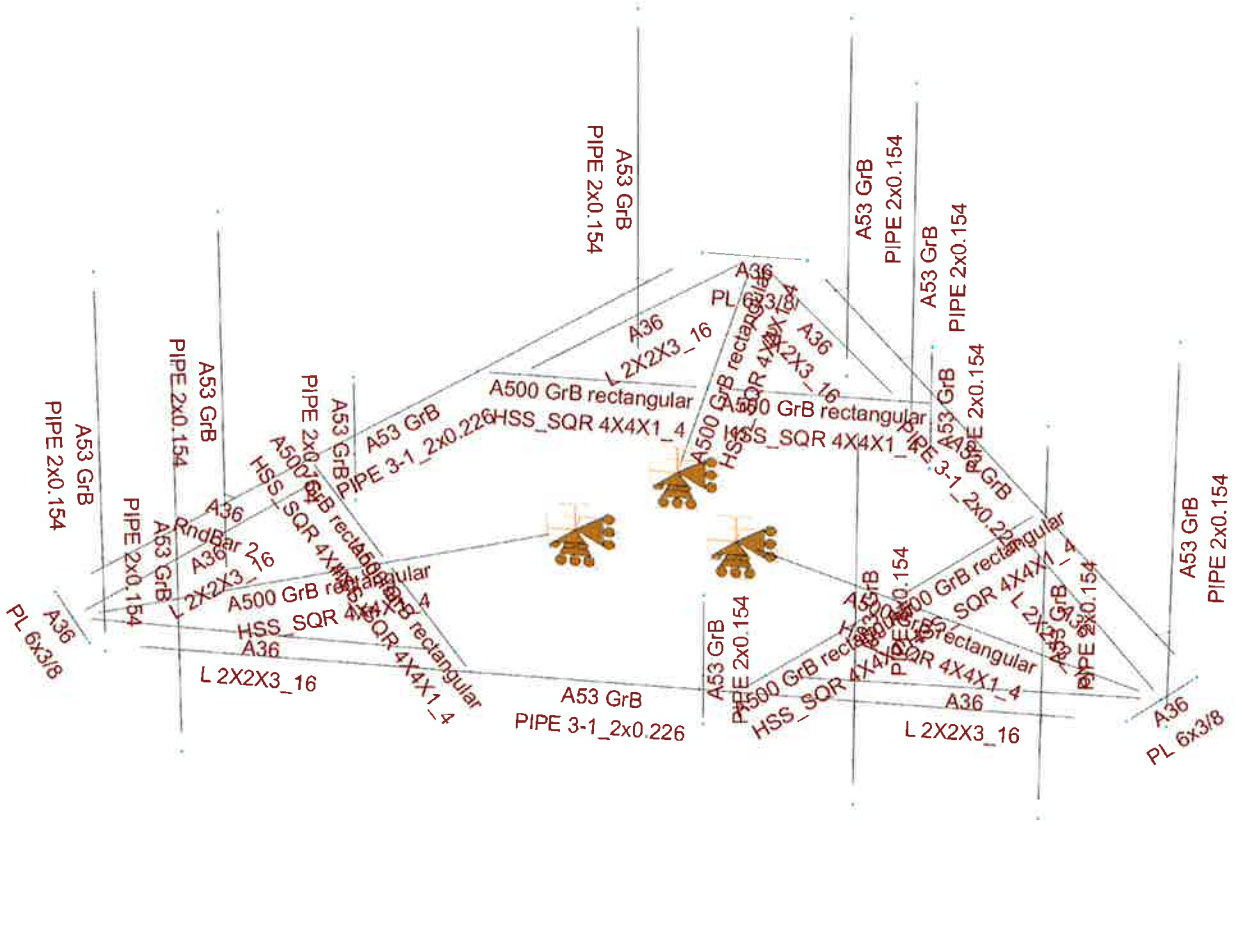
A53 GrB
PIPE 2x0.154
A36
PL 6x3/8
A36
L 2X2X3_16
A500 GrB rectangular
HSS_SQR 4X4X1_4
A53 GrB
PIPE 3-1_2x0.226
A36
RndBar 2
A36
L 2X2X3_16
A500 GrB rectangular
HSS_SQR 4X4X1_4
A36
L 2X2X3_16
A53 GrB
PIPE 3-1_2x0.226
A53 GrB
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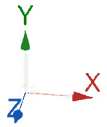
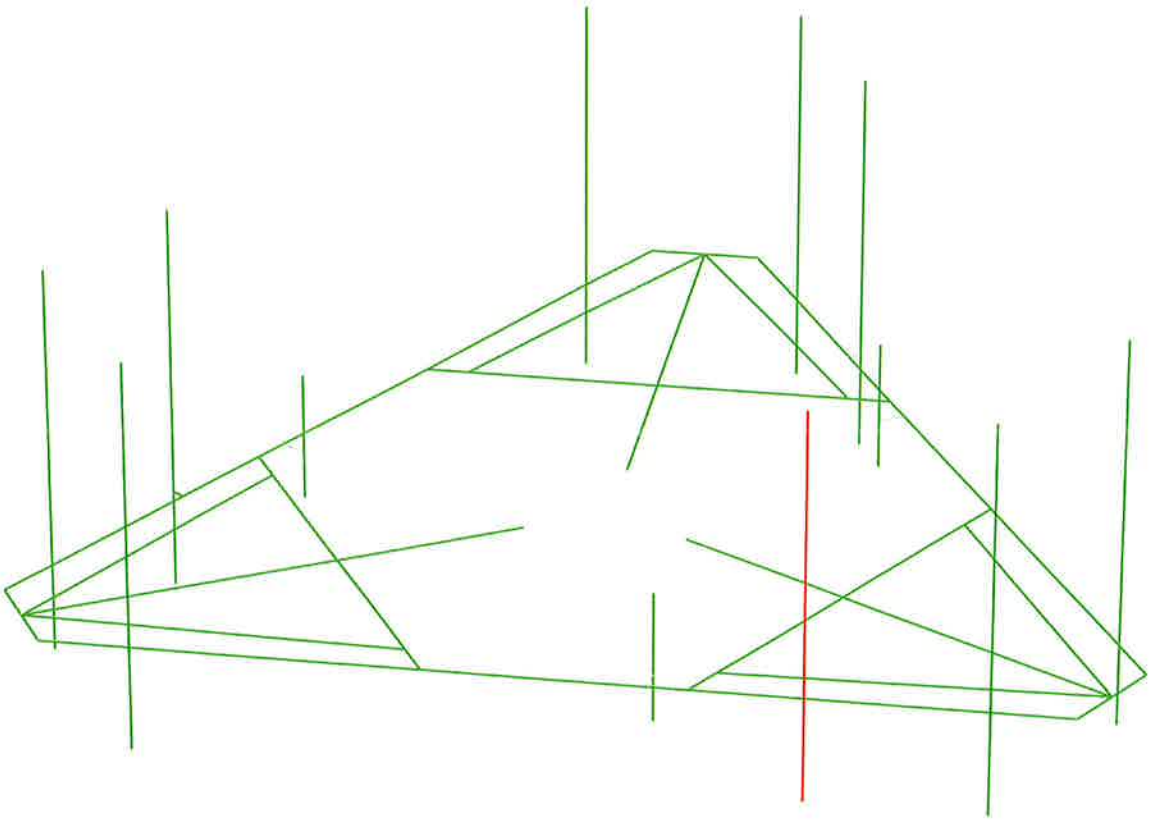
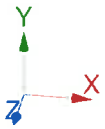
A36
L 2X2X3_16
A36
PL 6x3/8


Y
X
Z

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





Bentley Hewlett-Packard Company

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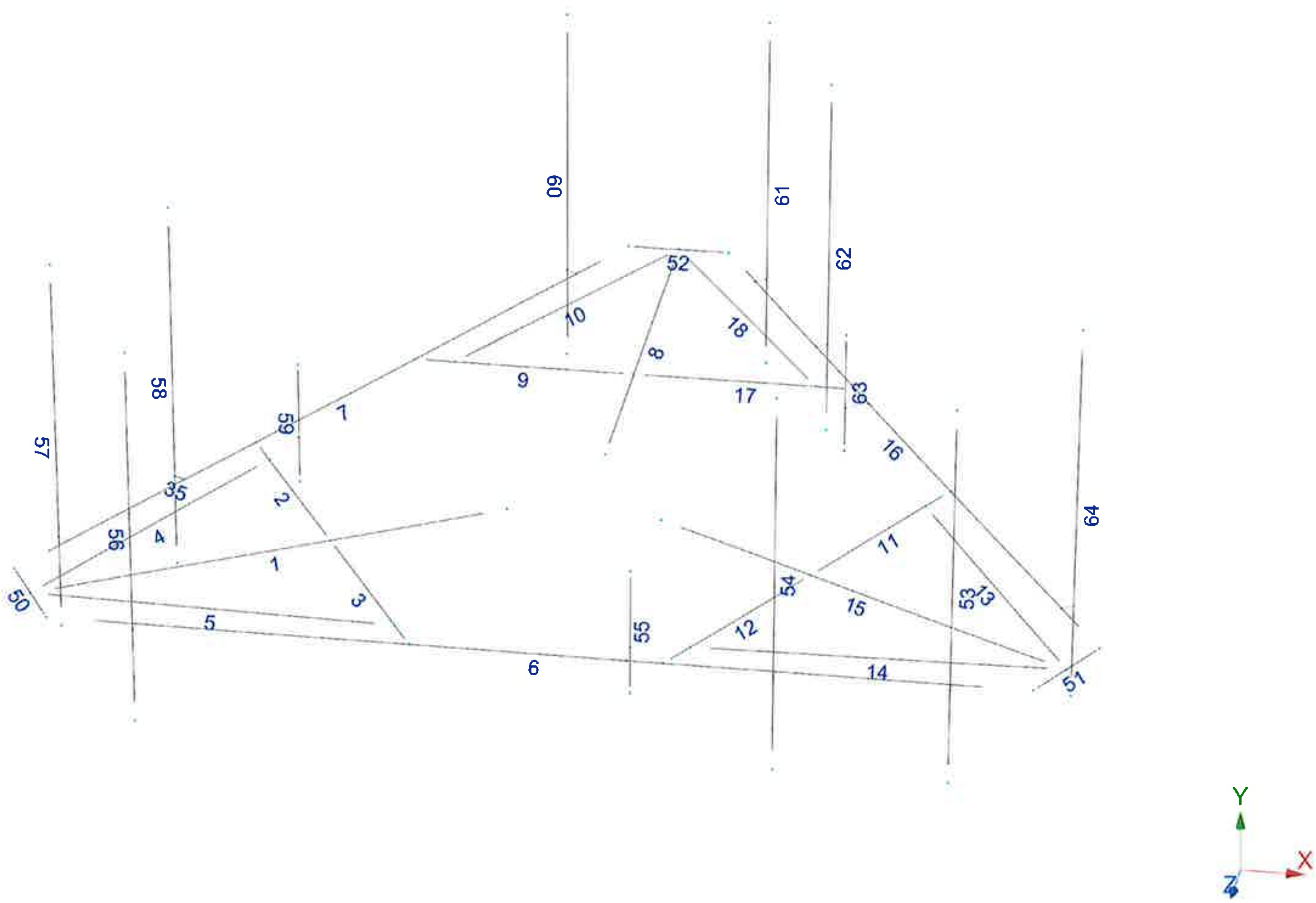

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Load data

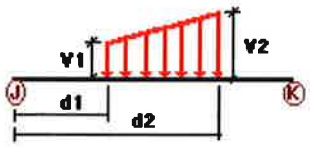
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load 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

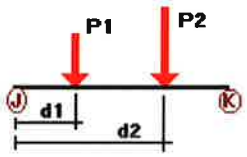


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	1	y	-0.01	0.00	0.00	No	0.00	No
	2	y	-0.01	0.00	0.00	No	0.00	No
	3	y	-0.01	0.00	0.00	No	0.00	No
	4	y	-0.01	0.00	0.00	No	0.00	No
	5	y	-0.01	0.00	0.00	No	0.00	No
	8	y	-0.01	0.00	0.00	No	0.00	No
	9	y	-0.01	0.00	0.00	No	0.00	No
	10	y	-0.01	0.00	0.00	No	0.00	No
	11	y	-0.01	0.00	0.00	No	0.00	No
	12	y	-0.01	0.00	0.00	No	0.00	No
	13	y	-0.01	0.00	0.00	No	0.00	No
	14	y	-0.01	0.00	0.00	No	0.00	No
	15	y	-0.01	0.00	0.00	No	0.00	No
	17	y	-0.01	0.00	0.00	No	0.00	No
	18	y	-0.01	0.00	0.00	No	0.00	No

W0	1	z	-0.018	0.00	0.00	No	0.00	No
	2	z	-0.018	0.00	0.00	No	0.00	No
	3	z	-0.018	0.00	0.00	No	0.00	No
	4	z	-0.014	0.00	0.00	No	0.00	No
	5	z	-0.014	0.00	0.00	No	0.00	No
	6	z	-0.025	0.00	0.00	No	0.00	No
	7	z	-0.025	0.00	0.00	No	0.00	No
	8	z	-0.018	0.00	0.00	No	0.00	No
	9	z	-0.018	0.00	0.00	No	0.00	No
	10	z	-0.014	0.00	0.00	No	0.00	No
	11	z	-0.018	0.00	0.00	No	0.00	No
	12	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	-0.018	0.00	0.00	No	0.00	No
	16	z	-0.025	0.00	0.00	No	0.00	No
	17	z	-0.018	0.00	0.00	No	0.00	No
	18	z	-0.014	0.00	0.00	No	0.00	No
	55	z	-0.01	0.00	0.00	No	0.00	No
	57	z	-0.01	0.00	0.00	No	0.00	No
	58	z	-0.01	0.00	0.00	No	0.00	No
	59	z	-0.01	0.00	0.00	No	0.00	No
	60	z	-0.01	0.00	0.00	No	0.00	No
	61	z	-0.01	0.00	0.00	No	0.00	No
	62	z	-0.01	0.00	0.00	No	0.00	No
	63	z	-0.01	0.00	0.00	No	0.00	No
	64	z	-0.01	0.00	0.00	No	0.00	No
W30	1	x	-0.018	0.00	0.00	No	0.00	No
	2	x	-0.018	0.00	0.00	No	0.00	No
	3	x	-0.018	0.00	0.00	No	0.00	No
	4	x	-0.014	0.00	0.00	No	0.00	No
	5	x	-0.014	0.00	0.00	No	0.00	No
	7	x	-0.025	0.00	0.00	No	0.00	No
	8	x	-0.018	0.00	0.00	No	0.00	No
	9	x	-0.018	0.00	0.00	No	0.00	No
	10	x	-0.014	0.00	0.00	No	0.00	No
	11	x	-0.018	0.00	0.00	No	0.00	No
	12	x	-0.018	0.00	0.00	No	0.00	No
	13	x	-0.014	0.00	0.00	No	0.00	No
	14	x	-0.014	0.00	0.00	No	0.00	No
	15	x	-0.018	0.00	0.00	No	0.00	No
	16	x	-0.025	0.00	0.00	No	0.00	No
	17	x	-0.018	0.00	0.00	No	0.00	No
	18	x	-0.014	0.00	0.00	No	0.00	No
	53	x	-0.01	0.00	0.00	No	0.00	No
	54	x	-0.01	0.00	0.00	No	0.00	No
	55	x	-0.01	0.00	0.00	No	0.00	No
	56	x	-0.01	0.00	0.00	No	0.00	No
	57	x	-0.01	0.00	0.00	No	0.00	No
	58	x	-0.01	0.00	0.00	No	0.00	No
	59	x	-0.01	0.00	0.00	No	0.00	No
	60	x	-0.01	0.00	0.00	No	0.00	No
	63	x	-0.01	0.00	0.00	No	0.00	No
Di	1	y	-0.01	0.00	0.00	No	0.00	No
	2	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	-0.006	0.00	0.00	No	0.00	No
	5	y	-0.006	0.00	0.00	No	0.00	No
	6	y	-0.007	0.00	0.00	No	0.00	No
	7	y	-0.007	0.00	0.00	No	0.00	No

8	y	-0.01	0.00	0.00	No	0.00	No
9	y	-0.01	0.00	0.00	No	0.00	No
10	y	-0.006	0.00	0.00	No	0.00	No
11	y	-0.01	0.00	0.00	No	0.00	No
12	y	-0.01	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	-0.01	0.00	0.00	No	0.00	No
16	y	-0.007	0.00	0.00	No	0.00	No
17	y	-0.01	0.00	0.00	No	0.00	No
18	y	-0.006	0.00	0.00	No	0.00	No
50	y	-0.01	0.00	0.00	No	0.00	No
51	y	-0.01	0.00	0.00	No	0.00	No
52	y	-0.01	0.00	0.00	No	0.00	No
53	y	-0.005	0.00	0.00	No	0.00	No
54	y	-0.005	0.00	0.00	No	0.00	No
55	y	0.00	0.00	0.00	No	0.00	No
56	y	-0.005	0.00	0.00	No	0.00	No
57	y	-0.005	0.00	0.00	No	0.00	No
58	y	-0.005	0.00	0.00	No	0.00	No
59	y	0.00	0.00	0.00	No	0.00	No
60	y	-0.005	0.00	0.00	No	0.00	No
61	y	-0.005	0.00	0.00	No	0.00	No
62	y	-0.005	0.00	0.00	No	0.00	No
63	y	0.00	0.00	0.00	No	0.00	No
64	y	-0.005	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	53	y	-0.025	1.00	No
		y	-0.025	4.00	No
		y	-0.032	2.50	No
	54	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.133	2.50	No
	55	y	-0.033	0.50	No
	56	y	-0.026	0.50	No
		y	-0.026	5.50	No
		y	-0.06	2.50	No
	57	y	-0.025	1.00	No
		y	-0.025	4.00	No
		y	-0.032	2.50	No
	58	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.133	2.50	No
	59	y	-0.033	0.50	No
	60	y	-0.026	0.50	No
		y	-0.026	5.50	No

		y	-0.06	2.50	No
	61	y	-0.025	1.00	No
		y	-0.025	4.00	No
		y	-0.032	2.50	No
	62	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.133	2.50	No
	64	y	-0.026	0.50	No
		y	-0.026	5.50	No
		y	-0.06	2.50	No
W0	53	z	-0.164	1.00	No
		z	-0.164	4.00	No
		z	-0.038	2.00	No
	54	z	-0.275	0.50	No
		z	-0.275	5.50	No
		z	-0.11	2.00	No
	55	z	-0.049	0.50	No
	56	z	-0.209	0.50	No
		z	-0.209	5.50	No
	57	z	-0.127	1.00	No
		z	-0.127	4.00	No
		z	-0.046	2.00	No
	58	z	-0.16	0.50	No
		z	-0.16	5.50	No
		z	-0.082	2.00	No
	59	z	-0.049	0.50	No
	60	z	-0.142	0.50	No
		z	-0.142	5.50	No
		z	-0.077	1.50	No
	61	z	-0.127	1.00	No
		z	-0.127	4.00	No
		z	-0.046	2.00	No
	62	z	-0.16	0.50	No
		z	-0.16	5.50	No
		z	-0.082	2.00	No
	64	z	-0.142	0.50	No
		z	-0.142	5.50	No
		z	-0.077	1.50	No
W30	53	x	-0.114	1.00	No
		x	-0.114	4.00	No
		x	-0.048	2.00	No
	54	x	-0.122	0.50	No
		x	-0.122	5.50	No
		x	-0.087	2.00	No
	55	x	-0.049	0.50	No
	56	x	-0.119	0.50	No
		x	-0.119	5.50	No
		x	-0.072	1.50	No
	57	x	-0.152	1.00	No
		x	-0.152	4.00	No
		x	-0.04	2.00	No
	58	x	-0.236	0.50	No
		x	-0.236	5.50	No
		x	-0.099	2.00	No
	59	x	-0.049	0.50	No
	60	x	-0.186	0.50	No
		x	-0.186	5.50	No
		x	-0.066	1.50	No
	61	x	-0.152	1.00	No
		x	-0.152	4.00	No

		x	-0.04	2.00	No
	62	x	-0.236	0.50	No
		x	-0.236	5.50	No
		x	-0.099	2.00	No
	64	x	-0.186	0.50	No
		x	-0.186	5.50	No
		x	-0.066	1.50	No
Di	53	y	-0.061	1.00	No
		y	-0.061	4.00	No
		y	-0.022	2.50	No
	54	y	-0.098	0.50	No
		y	-0.098	5.50	No
		y	-0.068	2.50	No
	55	y	-0.031	0.50	No
	56	y	-0.076	0.50	No
		y	-0.076	5.50	No
		y	-0.049	2.50	No
	57	y	-0.061	1.00	No
		y	-0.061	4.00	No
		y	-0.022	2.50	No
	58	y	-0.098	0.50	No
		y	-0.098	5.50	No
		y	-0.068	2.50	No
	59	y	-0.031	0.50	No
	60	y	-0.076	0.50	No
		y	-0.076	5.50	No
		y	-0.049	2.50	No
	61	y	-0.061	1.00	No
		y	-0.061	4.00	No
		y	-0.022	2.50	No
	62	y	-0.098	0.50	No
		y	-0.098	5.50	No
		y	-0.068	2.50	No
	64	y	-0.076	0.50	No
		y	-0.076	5.50	No
		y	-0.049	2.50	No
Wi0	53	z	-0.025	1.00	No
		z	-0.025	4.00	No
		z	-0.008	2.00	No
	54	z	-0.039	0.50	No
		z	-0.039	5.50	No
		z	-0.019	2.00	No
	55	z	-0.008	0.50	No
	56	z	-0.031	0.50	No
		z	-0.031	5.50	No
		z	-0.003	1.50	No
	57	z	-0.02	1.00	No
		z	-0.02	4.00	No
		z	-0.01	2.00	No
	58	z	-0.024	0.50	No
		z	-0.024	5.50	No
		z	-0.013	2.00	No
	59	z	-0.008	0.50	No
	60	z	-0.022	0.50	No
		z	-0.022	5.50	No
		z	-0.013	1.50	No
	61	z	-0.02	1.00	No
		z	-0.02	4.00	No
		z	-0.01	2.00	No
	62	z	-0.024	0.50	No

		z	-0.024	5.50	No
		z	-0.013	2.00	No
	64	z	-0.022	0.50	No
		z	-0.022	5.50	No
		z	-0.013	1.50	No
Wi30	53	x	-0.018	1.00	No
		x	-0.018	4.00	No
		x	-0.01	2.00	No
	54	x	-0.019	0.50	No
		x	-0.019	5.50	No
		x	-0.014	2.00	No
	55	x	-0.008	0.50	No
	56	x	-0.019	0.50	No
		x	-0.019	5.50	No
		x	-0.012	1.50	No
	57	x	-0.023	1.00	No
		x	-0.023	4.00	No
		x	-0.008	2.00	No
	58	x	-0.034	0.50	No
		x	-0.034	5.50	No
		x	-0.016	2.00	No
	59	x	-0.008	0.50	No
	60	x	-0.027	0.50	No
		x	-0.027	5.50	No
		x	-0.01	1.50	No
	61	x	-0.023	1.00	No
		x	-0.023	4.00	No
		x	-0.008	2.00	No
	62	x	-0.034	0.50	No
		x	-0.034	5.50	No
		x	-0.016	2.00	No
	64	x	-0.027	0.50	No
		x	-0.027	5.50	No
		x	-0.01	1.50	No
WL0	53	z	-0.012	1.00	No
		z	-0.012	4.00	No
	54	z	-0.019	0.50	No
		z	-0.019	5.50	No
		z	-0.008	2.00	No
	55	z	-0.003	0.50	No
	56	z	-0.015	0.50	No
		z	-0.015	5.50	No
		z	-0.002	2.00	No
	57	z	-0.009	1.00	No
		z	-0.009	4.00	No
		z	-0.004	2.00	No
	58	z	-0.011	0.50	No
		z	-0.011	5.50	No
		z	-0.006	2.00	No
	59	z	-0.003	0.50	No
	60	z	-0.01	0.50	No
		z	-0.01	5.50	No
		z	-0.005	1.50	No
	61	z	-0.009	1.00	No
		z	-0.009	4.00	No
		z	-0.004	2.00	No
	62	z	-0.011	0.50	No
		z	-0.011	5.50	No
		z	-0.006	2.00	No
	64	z	-0.01	0.50	No

		z	-0.01	5.50	No
		z	-0.005	1.50	No
WL30	53	x	-0.008	1.00	No
		x	-0.008	4.00	No
		x	-0.004	2.00	No
	54	x	-0.009	0.50	No
		x	-0.009	5.50	No
		x	-0.006	2.00	No
	55	x	-0.003	0.50	No
	56	x	-0.009	0.50	No
		x	-0.009	5.50	No
		x	-0.005	1.50	No
	57	x	-0.011	1.00	No
		x	-0.011	4.00	No
		x	-0.002	2.00	No
	58	x	-0.017	0.50	No
		x	-0.017	5.50	No
		x	-0.007	2.00	No
	59	x	-0.003	0.50	No
	60	x	-0.013	0.50	No
		x	-0.013	5.50	No
		x	-0.004	1.50	No
	61	x	-0.011	1.00	No
		x	-0.011	4.00	No
		x	-0.002	2.00	No
	62	x	-0.017	0.50	No
		x	-0.017	5.50	No
		x	-0.007	2.00	No
	64	x	-0.013	0.50	No
		x	-0.013	5.50	No
		x	-0.004	1.50	No
LL1	6	y	-0.25	7.00	No
LL2	6	y	-0.25	0.00	No
LLa1	53	y	-0.25	3.00	No
LLa2	54	y	-0.25	3.00	No
LLa3	55	y	-0.25	1.00	No
LLa4	56	y	-0.25	3.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	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 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. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	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
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	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

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Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2DL+W0
LC2=1.2DL+W30
LC3=1.2DL-W0
LC4=1.2DL-W30
LC5=0.9DL+W0
LC6=0.9DL+W30
LC7=0.9DL-W0
LC8=0.9DL-W30
LC9=1.2DL+Di+Wi0
LC10=1.2DL+Di+Wi30
LC11=1.2DL+Di-Wi0
LC12=1.2DL+Di-Wi30
LC13=1.2DL
LC15=1.2DL+1.5LL1
LC16=1.2DL+1.5LL2
LC17=1.2DL+WL0+1.5LLa1
LC18=1.2DL+WL30+1.5LLa1
LC19=1.2DL-WL0+1.5LLa1
LC20=1.2DL-WL30+1.5LLa1
LC21=1.2DL+WL0+1.5LLa2
LC22=1.2DL+WL30+1.5LLa2
LC23=1.2DL-WL0+1.5LLa2
LC24=1.2DL-WL30+1.5LLa2
LC25=1.2DL+WL0+1.5LLa3
LC26=1.2DL+WL30+1.5LLa3
LC27=1.2DL-WL0+1.5LLa3
LC28=1.2DL-WL30+1.5LLa3
LC29=1.2DL+WL0+1.5LLa4
LC30=1.2DL+WL30+1.5LLa4
LC31=1.2DL-WL0+1.5LLa4
LC32=1.2DL-WL30+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_4	**1**	LC10 at 100.00%	**0.73**	**OK**	Eq. H1-1b
		2	LC2 at 100.00%	0.29	OK	Eq. H1-1b
		3	LC10 at 0.00%	0.27	OK	Eq. H1-1b
		8	LC9 at 100.00%	0.71	OK	Eq. H1-1b
		9	LC9 at 100.00%	0.26	OK	Eq. H1-1b
		11	LC12 at 100.00%	0.26	OK	Eq. H1-1b
		12	LC3 at 0.00%	0.28	OK	Eq. H1-1b
		15	LC11 at 100.00%	0.72	OK	Eq. H1-1b
		17	LC9 at 100.00%	0.26	OK	Eq. H1-1b
	L 2X2X3_16	**4**	LC2 at 0.00%	**0.63**	**OK**	Eq. H2-1
		5	LC3 at 100.00%	0.54	OK	Eq. H2-1
		10	LC1 at 0.00%	0.59	OK	Eq. H2-1
		13	LC4 at 0.00%	0.62	OK	Eq. H2-1
		14	LC3 at 100.00%	0.54	OK	Eq. H2-1
		18	LC1 at 0.00%	0.57	OK	Eq. H2-1
	PIPE 2x0.154	**53**	LC3 at 71.88%	0.55	OK	Eq. H1-1b

	54	LC1 at 71.88%	**1.05**	**N.G.**	Eq. H1-1b
	55	LC1 at 59.38%	0.03	OK	Eq. H1-1b
	56	LC1 at 71.88%	0.64	OK	Eq. H1-1b
	57	LC2 at 71.88%	0.60	OK	Eq. H1-1b
	58	LC2 at 71.88%	0.99	OK	Eq. H1-1b
	59	LC2 at 59.38%	0.03	OK	Eq. H1-1b
	60	LC2 at 71.88%	0.80	OK	Eq. H1-1b
	61	LC3 at 71.88%	0.53	OK	Eq. H1-1b
	62	LC2 at 71.88%	0.91	OK	Eq. H1-1b
	63	LC4 at 59.38%	0.01	OK	Eq. H1-1b
	64	LC2 at 71.88%	0.72	OK	Eq. H1-1b
PIPE 3-1_2x0.226	**6**	LC10 at 37.50%	**0.46**	**OK**	Eq. H1-1b
	7	LC9 at 62.50%	0.45	OK	Eq. H1-1b
	16	LC12 at 37.50%	0.45	OK	Eq. H1-1b
PL 6x3/8	**50**	LC2 at 50.00%	**0.23**	**OK**	Eq. H1-1b
	51	LC3 at 53.13%	0.20	OK	Eq. H1-1b
	52	LC1 at 46.88%	0.19	OK	Eq. H1-1b
RndBar 2	**35**	LC2 at 0.00%	**0.57**	**OK**	Eq. H3-6

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Geometry data

GLOSSARY

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

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	-1.8737	0.00	0.00	0
2	-2.1901	0.00	-0.5495	0
3	-7.25	0.00	0.00	0
4	-7.6549	0.00	-0.7018	0
5	-8.0612	0.00	-1.4049	0
7	-5.056	0.00	-5.5117	0
8	-3.6231	0.00	-3.0306	0
9	-1.1693	0.00	-4.4466	0
10	7.25	0.00	0.00	0
11	-3.50	0.00	-9.306	0
12	-2.8646	0.00	-9.306	0
13	-0.8112	0.00	-13.9622	0
14	0.00	0.00	-13.9622	0
15	0.00	0.00	-9.306	0
16	0.00	0.00	-6.4727	0
17	2.1901	0.00	-0.5495	0
18	7.6549	0.00	-0.7018	0
19	8.0612	0.00	-1.4049	0
20	5.3724	0.00	-6.0612	0
21	5.056	0.00	-5.5117	0
22	3.6231	0.00	-3.0306	0
23	0.8112	0.00	-13.9622	0

24	1.8737	0.00	0.00	0
25	1.1693	0.00	-4.4466	0
26	3.50	0.00	-9.306	0
27	2.8646	0.00	-9.306	0
73	-5.9167	4.50	0.20	0
74	3.50	4.50	0.20	0
75	6.0833	4.50	0.20	0
76	-5.9167	-1.50	0.20	0
77	3.50	-1.50	0.20	0
78	6.0833	-1.50	0.20	0
89	-6.1838	0.00	-4.6485	0
91	-6.357	0.00	-4.7485	0
96	-7.6487	4.50	-2.5112	0
97	-6.357	4.50	-4.7485	0
98	-1.6487	4.50	-12.9035	0
99	1.5653	4.50	-13.0479	0
100	2.857	4.50	-10.8106	0
101	7.5653	4.50	-2.6556	0
102	-7.6487	-1.50	-2.5112	0
103	-6.357	-1.50	-4.7485	0
104	-1.6487	-1.50	-12.9035	0
105	1.5653	-1.50	-13.0479	0
106	2.857	-1.50	-10.8106	0
107	7.5653	-1.50	-2.6556	0
112	1.3384	1.25	-0.40	0
113	1.3384	-0.75	-0.40	0
118	3.4182	1.25	-8.6386	0
119	-4.7566	1.25	-6.3205	0
120	-4.7566	-0.75	-6.3205	0
121	3.4182	-0.75	-8.6386	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
9	1	1	1	1	1	1
16	1	1	1	1	1	1
25	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	4	9		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
2	6	8		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
3	8	1		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
4	7	4		L 2X2X3_16	A36	0.00	0.00	0.00
5	4	2		L 2X2X3_16	A36	0.00	0.00	0.00
6	3	10		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
7	5	13		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
8	14	16		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
9	11	15		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00

10	12	14	L 2X2X3_16	A36	0.00	0.00	0.00
11	20	22	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
12	22	24	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
13	21	18	L 2X2X3_16	A36	0.00	0.00	0.00
14	18	17	L 2X2X3_16	A36	0.00	0.00	0.00
15	18	25	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
16	19	23	PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
17	26	15	HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
18	27	14	L 2X2X3_16	A36	0.00	0.00	0.00
35	89	91	RndBar 2	A36	0.00	0.00	0.00
50	5	3	PL 6x3/8	A36	0.00	0.00	0.00
51	19	10	PL 6x3/8	A36	0.00	0.00	0.00
52	23	13	PL 6x3/8	A36	0.00	0.00	0.00
53	75	78	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
54	74	77	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
55	112	113	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
56	73	76	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
57	96	102	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
58	97	103	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
59	119	120	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
60	98	104	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
61	99	105	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
62	100	106	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
63	118	121	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
64	101	107	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
4	270.00	0	0.00	0.00	0.00
5	270.00	0	0.00	0.00	0.00
18	90.00	0	0.00	0.00	0.00

HUDSON
Design Group LLC

Mount Calculations
(Modified Conditions)

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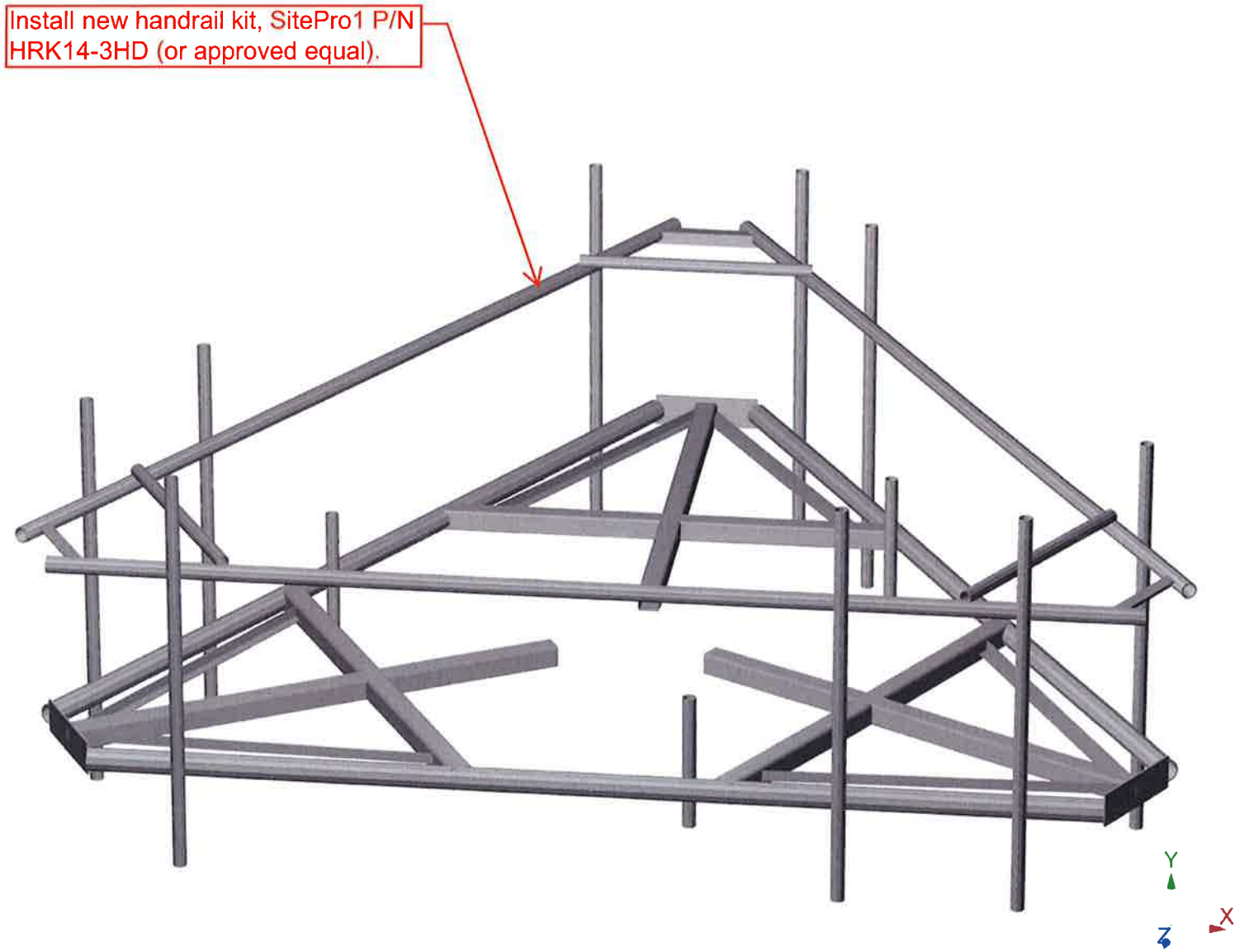

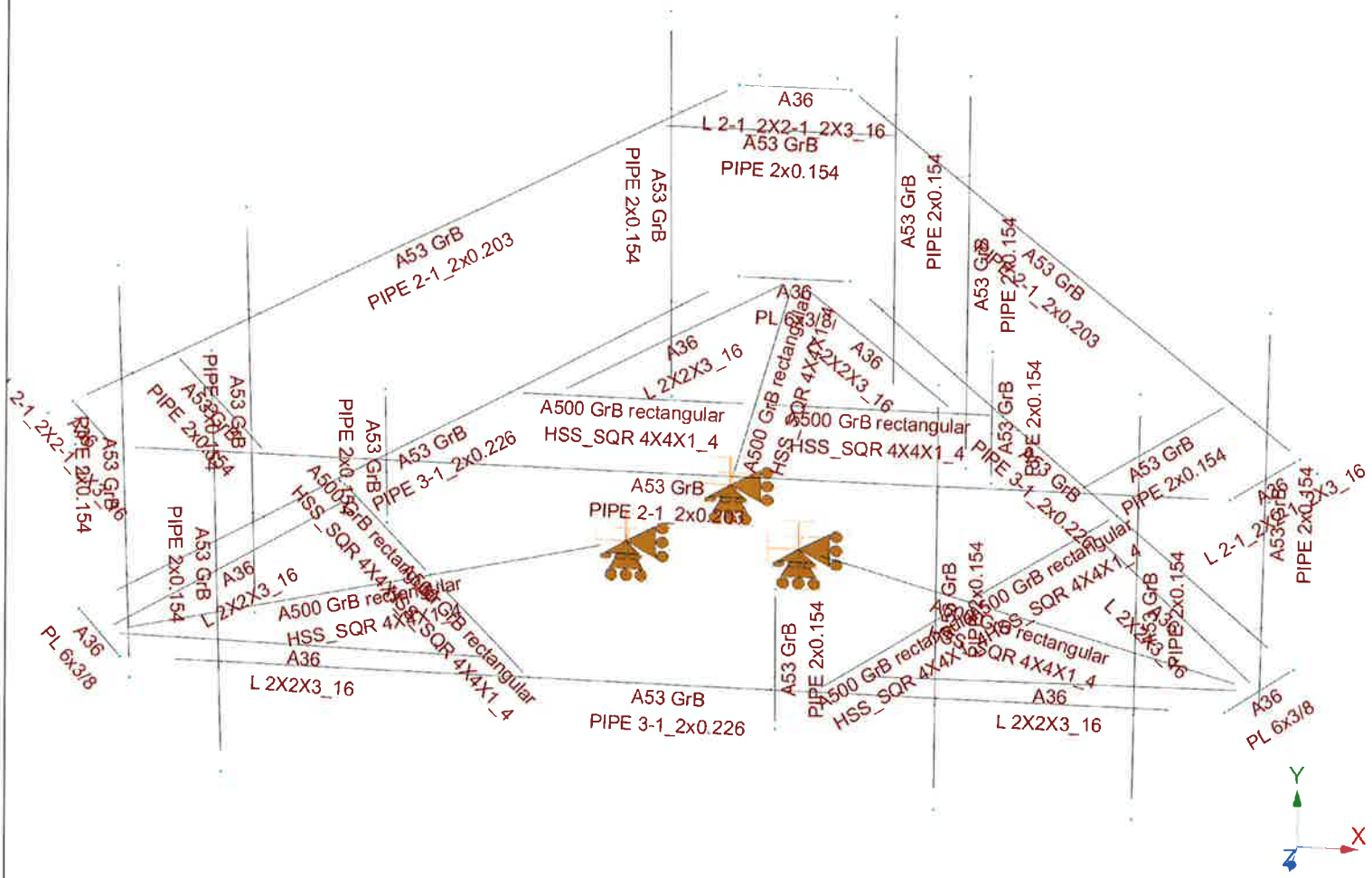
A36
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A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2-1_2x0.203
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2-1_2x0.203
A36
PL 6x3/8
A36
L 2X2X3_16
A500 GrB rectangular
HSS_SQR 4X4X1_4
A500 GrB rectangular
HSS_SQR 4X4X1_4
A53 GrB
PIPE 3-1_2x0.226
A53 GrB
PIPE 2-1_2x0.203
A53 GrB
PIPE 2x0.154
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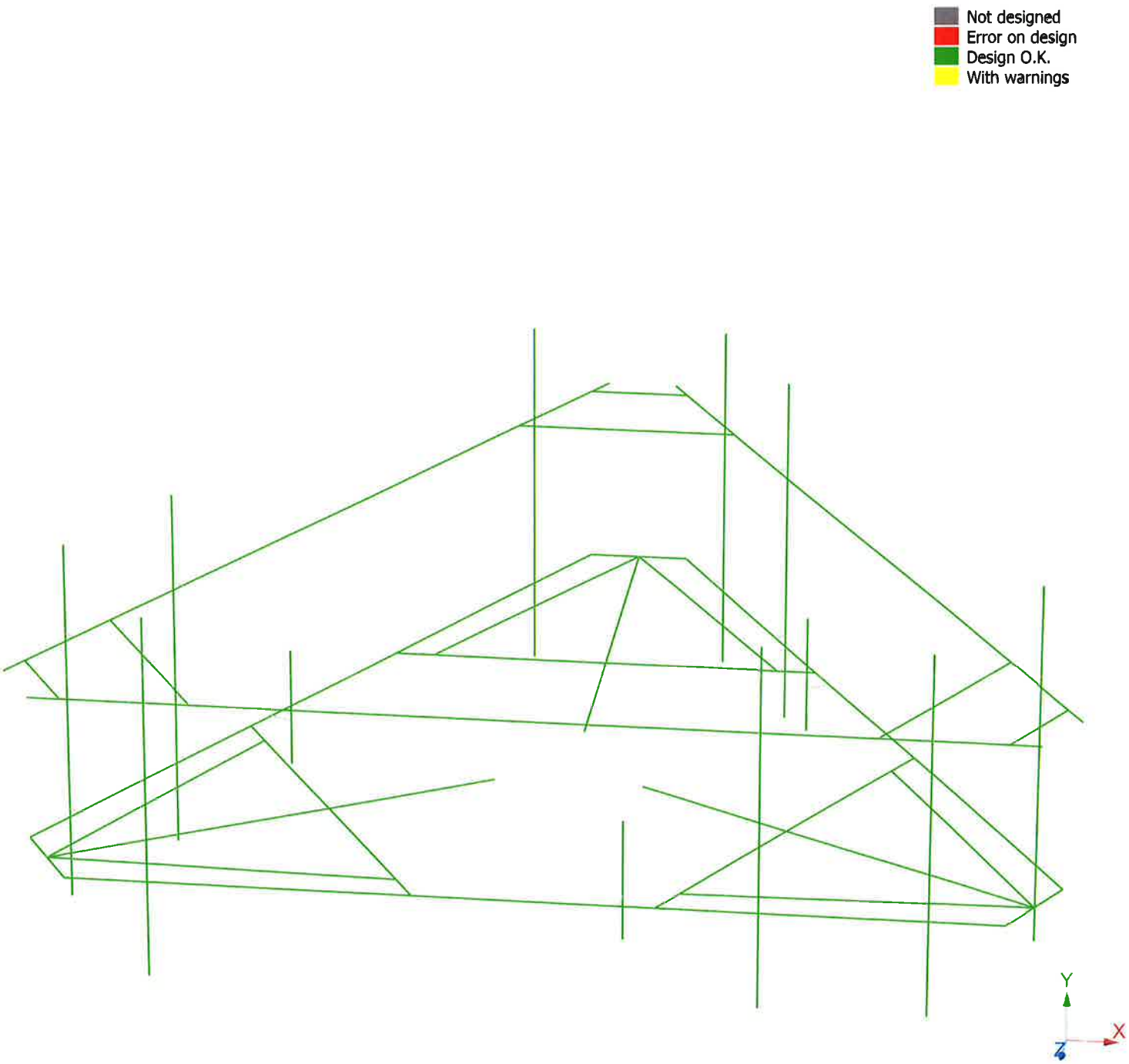
PIPE 2x0.154
A53 GrB
PIPE 3-1_2x0.226
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2x0.154
A53 GrB
PIPE 2x0.154
A36
L 2-1_2X2-1_2X3_16
A53 GrB
PIPE 2x0.154
A36
PL 6x3/8
A36
L 2X2X3_16
A500 GrB rectangular
HSS_SQR 4X4X1_4
A500 GrB rectangular
HSS_SQR 4X4X1_4
A53 GrB
PIPE 3-1_2x0.226
A36
L 2X2X3_16
A36
PL 6x3/8
Y
X
Z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With warnings
Y
X
Z

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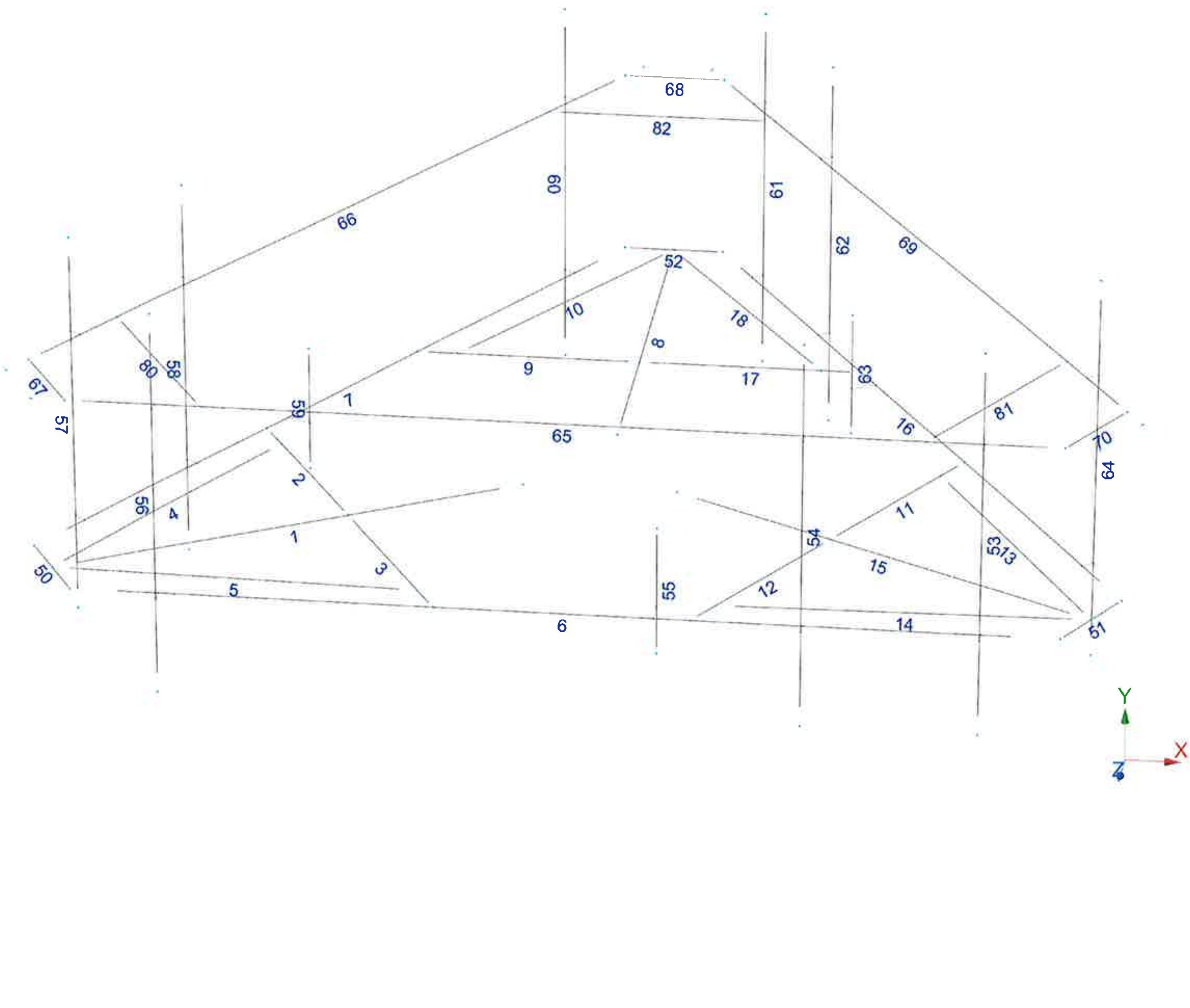

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Load data

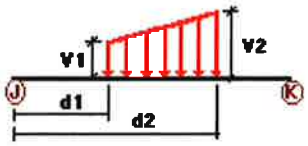
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load 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

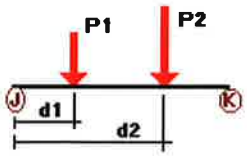


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	1	y	-0.01	0.00	0.00	No	0.00	No
	2	y	-0.01	0.00	0.00	No	0.00	No
	3	y	-0.01	0.00	0.00	No	0.00	No
	4	y	-0.01	0.00	0.00	No	0.00	No
	5	y	-0.01	0.00	0.00	No	0.00	No
	8	y	-0.01	0.00	0.00	No	0.00	No
	9	y	-0.01	0.00	0.00	No	0.00	No
	10	y	-0.01	0.00	0.00	No	0.00	No
	11	y	-0.01	0.00	0.00	No	0.00	No
	12	y	-0.01	0.00	0.00	No	0.00	No
	13	y	-0.01	0.00	0.00	No	0.00	No
	14	y	-0.01	0.00	0.00	No	0.00	No
	15	y	-0.01	0.00	0.00	No	0.00	No
	17	y	-0.01	0.00	0.00	No	0.00	No
	18	y	-0.01	0.00	0.00	No	0.00	No

W0	1	z	-0.018	0.00	0.00	No	0.00	No
	2	z	-0.018	0.00	0.00	No	0.00	No
	3	z	-0.018	0.00	0.00	No	0.00	No
	4	z	-0.014	0.00	0.00	No	0.00	No
	5	z	-0.014	0.00	0.00	No	0.00	No
	6	z	-0.025	0.00	0.00	No	0.00	No
	7	z	-0.025	0.00	0.00	No	0.00	No
	8	z	-0.018	0.00	0.00	No	0.00	No
	9	z	-0.018	0.00	0.00	No	0.00	No
	10	z	-0.014	0.00	0.00	No	0.00	No
	11	z	-0.018	0.00	0.00	No	0.00	No
	12	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	-0.018	0.00	0.00	No	0.00	No
	16	z	-0.025	0.00	0.00	No	0.00	No
	17	z	-0.018	0.00	0.00	No	0.00	No
	18	z	-0.014	0.00	0.00	No	0.00	No
	55	z	-0.01	0.00	0.00	No	0.00	No
	57	z	-0.01	0.00	0.00	No	0.00	No
	58	z	-0.01	0.00	0.00	No	0.00	No
	59	z	-0.01	0.00	0.00	No	0.00	No
	60	z	-0.01	0.00	0.00	No	0.00	No
	61	z	-0.01	0.00	0.00	No	0.00	No
	62	z	-0.01	0.00	0.00	No	0.00	No
	63	z	-0.01	0.00	0.00	No	0.00	No
	64	z	-0.01	0.00	0.00	No	0.00	No
	65	z	-0.025	0.00	0.00	No	0.00	No
	66	z	-0.025	0.00	0.00	No	0.00	No
	69	z	-0.025	0.00	0.00	No	0.00	No
W30	1	x	-0.018	0.00	0.00	No	0.00	No
	2	x	-0.018	0.00	0.00	No	0.00	No
	3	x	-0.018	0.00	0.00	No	0.00	No
	4	x	-0.014	0.00	0.00	No	0.00	No
	5	x	-0.014	0.00	0.00	No	0.00	No
	7	x	-0.025	0.00	0.00	No	0.00	No
	8	x	-0.018	0.00	0.00	No	0.00	No
	9	x	-0.018	0.00	0.00	No	0.00	No
	10	x	-0.014	0.00	0.00	No	0.00	No
	11	x	-0.018	0.00	0.00	No	0.00	No
	12	x	-0.018	0.00	0.00	No	0.00	No
	13	x	-0.014	0.00	0.00	No	0.00	No
	14	x	-0.014	0.00	0.00	No	0.00	No
	15	x	-0.018	0.00	0.00	No	0.00	No
	16	x	-0.025	0.00	0.00	No	0.00	No
	17	x	-0.018	0.00	0.00	No	0.00	No
	18	x	-0.014	0.00	0.00	No	0.00	No
	53	x	-0.01	0.00	0.00	No	0.00	No
	54	x	-0.01	0.00	0.00	No	0.00	No
	55	x	-0.01	0.00	0.00	No	0.00	No
	56	x	-0.01	0.00	0.00	No	0.00	No
	57	x	-0.01	0.00	0.00	No	0.00	No
	58	x	-0.01	0.00	0.00	No	0.00	No
	59	x	-0.01	0.00	0.00	No	0.00	No
	60	x	-0.01	0.00	0.00	No	0.00	No
	63	x	-0.01	0.00	0.00	No	0.00	No
	66	x	-0.025	0.00	0.00	No	0.00	No
	69	x	-0.025	0.00	0.00	No	0.00	No
Di	1	y	-0.01	0.00	0.00	No	0.00	No
	2	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	-0.006	0.00	0.00	No	0.00	No
5	y	-0.006	0.00	0.00	No	0.00	No
6	y	-0.007	0.00	0.00	No	0.00	No
7	y	-0.007	0.00	0.00	No	0.00	No
8	y	-0.01	0.00	0.00	No	0.00	No
9	y	-0.01	0.00	0.00	No	0.00	No
10	y	-0.006	0.00	0.00	No	0.00	No
11	y	-0.01	0.00	0.00	No	0.00	No
12	y	-0.01	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	-0.01	0.00	0.00	No	0.00	No
16	y	-0.007	0.00	0.00	No	0.00	No
17	y	-0.01	0.00	0.00	No	0.00	No
18	y	-0.006	0.00	0.00	No	0.00	No
50	y	-0.01	0.00	0.00	No	0.00	No
51	y	-0.01	0.00	0.00	No	0.00	No
52	y	-0.01	0.00	0.00	No	0.00	No
53	y	-0.005	0.00	0.00	No	0.00	No
54	y	-0.005	0.00	0.00	No	0.00	No
55	y	0.00	0.00	0.00	No	0.00	No
56	y	-0.005	0.00	0.00	No	0.00	No
57	y	-0.005	0.00	0.00	No	0.00	No
58	y	-0.005	0.00	0.00	No	0.00	No
59	y	0.00	0.00	0.00	No	0.00	No
60	y	-0.005	0.00	0.00	No	0.00	No
61	y	-0.005	0.00	0.00	No	0.00	No
62	y	-0.005	0.00	0.00	No	0.00	No
63	y	0.00	0.00	0.00	No	0.00	No
64	y	-0.005	0.00	0.00	No	0.00	No
65	y	-0.007	0.00	0.00	No	0.00	No
66	y	-0.007	0.00	0.00	No	0.00	No
67	y	-0.01	0.00	0.00	No	0.00	No
68	y	-0.01	0.00	0.00	No	0.00	No
69	y	-0.007	0.00	0.00	No	0.00	No
70	y	-0.01	0.00	0.00	No	0.00	No

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	53	y	-0.025	1.00	No
		y	-0.025	4.00	No
		y	-0.032	2.50	No
	54	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.133	2.50	No
	55	y	-0.033	0.50	No
	56	y	-0.026	0.50	No

		y	-0.026	5.50	No
		y	-0.06	2.50	No
	57	y	-0.025	1.00	No
		y	-0.025	4.00	No
		y	-0.032	2.50	No
	58	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.133	2.50	No
	59	y	-0.033	0.50	No
	60	y	-0.026	0.50	No
		y	-0.026	5.50	No
		y	-0.06	2.50	No
	61	y	-0.025	1.00	No
		y	-0.025	4.00	No
		y	-0.032	2.50	No
	62	y	-0.04	0.50	No
		y	-0.04	5.50	No
		y	-0.133	2.50	No
	64	y	-0.026	0.50	No
		y	-0.026	5.50	No
		y	-0.06	2.50	No
W0	53	z	-0.164	1.00	No
		z	-0.164	4.00	No
		z	-0.038	2.00	No
	54	z	-0.275	0.50	No
		z	-0.275	5.50	No
		z	-0.11	2.00	No
	55	z	-0.049	0.50	No
	56	z	-0.209	0.50	No
		z	-0.209	5.50	No
	57	z	-0.127	1.00	No
		z	-0.127	4.00	No
		z	-0.046	2.00	No
	58	z	-0.16	0.50	No
		z	-0.16	5.50	No
		z	-0.082	2.00	No
	59	z	-0.049	0.50	No
	60	z	-0.142	0.50	No
		z	-0.142	5.50	No
		z	-0.077	1.50	No
	61	z	-0.127	1.00	No
		z	-0.127	4.00	No
		z	-0.046	2.00	No
	62	z	-0.16	0.50	No
		z	-0.16	5.50	No
		z	-0.082	2.00	No
	64	z	-0.142	0.50	No
		z	-0.142	5.50	No
		z	-0.077	1.50	No
W30	53	x	-0.114	1.00	No
		x	-0.114	4.00	No
		x	-0.048	2.00	No
	54	x	-0.122	0.50	No
		x	-0.122	5.50	No
		x	**-0.087**	**2.00**	**No**
	55	x	**-0.049**	**0.50**	**No**
	56	x	**-0.119**	**0.50**	**No**
		x	**-0.119**	**5.50**	**No**
		x	**-0.072**	**1.50**	**No**
	57	x	**-0.152**	**1.00**	**No**

		x	-0.152	4.00	No
		x	-0.04	2.00	No
	58	x	-0.236	0.50	No
		x	-0.236	5.50	No
		x	-0.099	2.00	No
	59	x	-0.049	0.50	No
	60	x	-0.186	0.50	No
		x	-0.186	5.50	No
		x	-0.066	1.50	No
	61	x	-0.152	1.00	No
		x	-0.152	4.00	No
		x	-0.04	2.00	No
	62	x	-0.236	0.50	No
		x	-0.236	5.50	No
		x	-0.099	2.00	No
	64	x	-0.186	0.50	No
		x	-0.186	5.50	No
		x	-0.066	1.50	No
Di	53	y	-0.061	1.00	No
		y	-0.061	4.00	No
		y	-0.022	2.50	No
	54	y	-0.098	0.50	No
		y	-0.098	5.50	No
		y	-0.068	2.50	No
	55	y	-0.031	0.50	No
	56	y	-0.076	0.50	No
		y	-0.076	5.50	No
		y	-0.049	2.50	No
	57	y	-0.061	1.00	No
		y	-0.061	4.00	No
		y	-0.022	2.50	No
	58	y	-0.098	0.50	No
		y	-0.098	5.50	No
		y	-0.068	2.50	No
	59	y	-0.031	0.50	No
	60	y	-0.076	0.50	No
		y	-0.076	5.50	No
		y	-0.049	2.50	No
	61	y	-0.061	1.00	No
		y	-0.061	4.00	No
		y	-0.022	2.50	No
	62	y	-0.098	0.50	No
		y	-0.098	5.50	No
		y	-0.068	2.50	No
	64	y	-0.076	0.50	No
		y	-0.076	5.50	No
		y	-0.049	2.50	No
Wi0	53	z	-0.025	1.00	No
		z	-0.025	4.00	No
		z	-0.008	2.00	No
	54	z	-0.039	0.50	No
		z	-0.039	5.50	No
		z	-0.019	2.00	No
	55	z	-0.008	0.50	No
	56	z	-0.031	0.50	No
		z	-0.031	5.50	No
		z	-0.003	1.50	No
	57	z	-0.02	1.00	No
		z	-0.02	4.00	No
		z	-0.01	2.00	No

	58	z	-0.024	0.50	No
		z	-0.024	5.50	No
		z	-0.013	2.00	No
	59	z	-0.008	0.50	No
	60	z	-0.022	0.50	No
		z	-0.022	5.50	No
		z	-0.013	1.50	No
	61	z	-0.02	1.00	No
		z	-0.02	4.00	No
		z	-0.01	2.00	No
	62	z	-0.024	0.50	No
		z	-0.024	5.50	No
		z	-0.013	2.00	No
	64	z	-0.022	0.50	No
		z	-0.022	5.50	No
		z	-0.013	1.50	No
Wi30	53	x	-0.018	1.00	No
		x	-0.018	4.00	No
		x	-0.01	2.00	No
	54	x	-0.019	0.50	No
		x	-0.019	5.50	No
		x	-0.014	2.00	No
	55	x	-0.008	0.50	No
	56	x	-0.019	0.50	No
		x	-0.019	5.50	No
		x	-0.012	1.50	No
	57	x	-0.023	1.00	No
		x	-0.023	4.00	No
		x	-0.008	2.00	No
	58	x	-0.034	0.50	No
		x	-0.034	5.50	No
		x	-0.016	2.00	No
	59	x	-0.008	0.50	No
	60	x	-0.027	0.50	No
		x	-0.027	5.50	No
		x	-0.01	1.50	No
	61	x	-0.023	1.00	No
		x	-0.023	4.00	No
		x	-0.008	2.00	No
	62	x	-0.034	0.50	No
		x	-0.034	5.50	No
		x	-0.016	2.00	No
	64	x	-0.027	0.50	No
		x	-0.027	5.50	No
		x	-0.01	1.50	No
WL0	53	z	-0.012	1.00	No
		z	-0.012	4.00	No
	54	z	-0.019	0.50	No
		z	-0.019	5.50	No
		z	-0.008	2.00	No
	55	z	-0.003	0.50	No
	56	z	-0.015	0.50	No
		z	-0.015	5.50	No
		z	-0.002	2.00	No
	57	z	-0.009	1.00	No
		z	-0.009	4.00	No
		z	-0.004	2.00	No
	58	z	-0.011	0.50	No
		z	-0.011	5.50	No
		z	-0.006	2.00	No

	59	z	-0.003	0.50	No
	60	z	-0.01	0.50	No
		z	-0.01	5.50	No
		z	-0.005	1.50	No
	61	z	-0.009	1.00	No
		z	-0.009	4.00	No
		z	-0.004	2.00	No
	62	z	-0.011	0.50	No
		z	-0.011	5.50	No
		z	-0.006	2.00	No
	64	z	-0.01	0.50	No
		z	-0.01	5.50	No
		z	-0.005	1.50	No
WL30	53	x	-0.008	1.00	No
		x	-0.008	4.00	No
		x	-0.004	2.00	No
	54	x	-0.009	0.50	No
		x	-0.009	5.50	No
		x	-0.006	2.00	No
	55	x	-0.003	0.50	No
	56	x	-0.009	0.50	No
		x	-0.009	5.50	No
		x	-0.005	1.50	No
	57	x	-0.011	1.00	No
		x	-0.011	4.00	No
		x	-0.002	2.00	No
	58	x	-0.017	0.50	No
		x	-0.017	5.50	No
		x	-0.007	2.00	No
	59	x	-0.003	0.50	No
	60	x	-0.013	0.50	No
		x	-0.013	5.50	No
		x	-0.004	1.50	No
	61	x	-0.011	1.00	No
		x	-0.011	4.00	No
		x	-0.002	2.00	No
	62	x	-0.017	0.50	No
		x	-0.017	5.50	No
		x	-0.007	2.00	No
	64	x	-0.013	0.50	No
		x	-0.013	5.50	No
		x	-0.004	1.50	No
LL1	6	y	-0.25	7.00	No
LL2	6	y	-0.25	0.00	No
LLa1	53	y	-0.25	3.00	No
LLa2	54	y	-0.25	3.00	No
LLa3	55	y	-0.25	1.00	No
LLa4	56	y	-0.25	3.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	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 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. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	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
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	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 Hewlett-Packard Company

Current Date: 8/16/2019 2:22 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1288\CT1288 (LTE 3C 4C)(MODS).r

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2DL+W0
LC2=1.2DL+W30
LC3=1.2DL-W0
LC4=1.2DL-W30
LC5=0.9DL+W0
LC6=0.9DL+W30
LC7=0.9DL-W0
LC8=0.9DL-W30
LC9=1.2DL+Di+Wi0
LC10=1.2DL+Di+Wi30
LC11=1.2DL+Di-Wi0
LC12=1.2DL+Di-Wi30
LC13=1.2DL
LC15=1.2DL+1.5LL1
LC16=1.2DL+1.5LL2
LC17=1.2DL+WL0+1.5LLa1
LC18=1.2DL+WL30+1.5LLa1
LC19=1.2DL-WL0+1.5LLa1
LC20=1.2DL-WL30+1.5LLa1
LC21=1.2DL+WL0+1.5LLa2
LC22=1.2DL+WL30+1.5LLa2
LC23=1.2DL-WL0+1.5LLa2
LC24=1.2DL-WL30+1.5LLa2
LC25=1.2DL+WL0+1.5LLa3
LC26=1.2DL+WL30+1.5LLa3
LC27=1.2DL-WL0+1.5LLa3
LC28=1.2DL-WL30+1.5LLa3
LC29=1.2DL+WL0+1.5LLa4
LC30=1.2DL+WL30+1.5LLa4
LC31=1.2DL-WL0+1.5LLa4
LC32=1.2DL-WL30+1.5LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_4	**1**	LC10 at 100.00%	0.68	OK	Eq. H1-1b
		2	LC2 at 100.00%	0.35	OK	Eq. H1-1b
		3	LC10 at 0.00%	0.31	OK	Eq. H1-1b
		8	LC1 at 100.00%	**0.72**	**OK**	Eq. H1-1b
		9	LC1 at 100.00%	0.31	OK	Eq. H1-1b
		11	LC4 at 100.00%	0.31	OK	Eq. H1-1b
		12	LC3 at 0.00%	0.34	OK	Eq. H1-1b
		15	LC4 at 100.00%	0.71	OK	Eq. H1-1b
		17	LC9 at 100.00%	0.32	OK	Eq. H1-1b
	L 2-1_2X2-1_2X3_16	**67**	LC4 at 0.00%	0.35	OK	Sec. F1
		68	LC2 at 0.00%	0.40	OK	Sec. F1
		70	LC1 at 100.00%	**0.42**	**OK**	Sec. F1
	L 2X2X3_16	**4**	LC2 at 0.00%	0.60	OK	Eq. H2-1
		5	LC3 at 100.00%	0.53	OK	Eq. H2-1
		10	LC1 at 0.00%	0.59	OK	Eq. H2-1
		13	LC4 at 0.00%	**0.61**	**OK**	Eq. H2-1

	14	LC3 at 100.00%	0.49	OK	Eq. H2-1
	18	LC1 at 0.00%	0.57	OK	Eq. H2-1
PIPE 2-1_2x0.203	**65**	LC11 at 72.66%	0.38	OK	Eq. H1-1b
	66	LC9 at 72.66%	0.38	OK	Eq. H1-1b
	69	LC12 at 72.66%	**0.39**	**OK**	Eq. H1-1b
PIPE 2x0.154	**53**	LC2 at 72.92%	0.61	OK	Eq. H1-1b
	54	LC1 at 72.92%	0.86	OK	Eq. H1-1b
	55	LC4 at 59.38%	0.03	OK	Eq. H1-1b
	56	LC12 at 72.92%	0.79	OK	Eq. H1-1b
	57	LC1 at 72.92%	0.71	OK	Eq. H1-1b
	58	LC1 at 72.92%	0.90	OK	Eq. H1-1b
	59	LC1 at 59.38%	0.03	OK	Eq. H1-1b
	60	LC2 at 72.92%	**0.97**	**OK**	Eq. H1-1b
	61	LC4 at 72.92%	0.68	OK	Eq. H1-1b
	62	LC4 at 72.92%	0.89	OK	Eq. H1-1b
	63	LC2 at 59.38%	0.01	OK	Eq. H1-1b
	64	LC1 at 72.92%	0.97	OK	Eq. H1-1b
	80	LC1 at 100.00%	0.41	OK	Eq. H1-1b
	81	LC3 at 0.00%	0.44	OK	Eq. H1-1b
	82	LC4 at 100.00%	0.47	OK	Eq. H1-1b
PIPE 3-1_2x0.226	**6**	LC10 at 37.50%	0.38	OK	Eq. H1-1b
	7	LC9 at 62.50%	0.37	OK	Eq. H1-1b
	16	LC4 at 37.50%	**0.41**	**OK**	Eq. H1-1b
PL 6x3/8	**50**	LC4 at 50.00%	**0.18**	**OK**	Eq. H1-1b
	51	LC3 at 53.13%	0.15	OK	Eq. H1-1b
	52	LC1 at 50.00%	0.17	OK	Eq. H1-1b

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Geometry data

GLOSSARY

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

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	-1.8737	0.00	0.00	0
2	-2.1901	0.00	-0.5495	0
3	-7.25	0.00	0.00	0
4	-7.6549	0.00	-0.7018	0
5	-8.0612	0.00	-1.4049	0
6	-5.3724	0.00	-6.0612	0
7	-5.056	0.00	-5.5117	0
8	-3.6231	0.00	-3.0306	0
9	-1.1693	0.00	-4.4466	0
10	7.25	0.00	0.00	0
11	-3.50	0.00	-9.306	0
12	-2.8646	0.00	-9.306	0
13	-0.8112	0.00	-13.9622	0
14	0.00	0.00	-13.9622	0
15	0.00	0.00	-9.306	0
16	0.00	0.00	-6.4727	0
17	2.1901	0.00	-0.5495	0
18	7.6549	0.00	-0.7018	0
19	8.0612	0.00	-1.4049	0
20	5.3724	0.00	-6.0612	0
21	5.056	0.00	-5.5117	0
22	3.6231	0.00	-3.0306	0

23	0.8112	0.00	-13.9622	0
24	1.8737	0.00	0.00	0
25	1.1693	0.00	-4.4466	0
26	3.50	0.00	-9.306	0
27	2.8646	0.00	-9.306	0
73	-5.9167	4.50	0.20	0
74	3.50	4.50	0.20	0
75	6.0833	4.50	0.20	0
76	-5.9167	-1.50	0.20	0
77	3.50	-1.50	0.20	0
78	6.0833	-1.50	0.20	0
96	-7.6487	4.50	-2.5112	0
97	-6.357	4.50	-4.7485	0
98	-1.6487	4.50	-12.9035	0
99	1.5653	4.50	-13.0479	0
100	2.857	4.50	-10.8106	0
101	7.5653	4.50	-2.6556	0
102	-7.6487	-1.50	-2.5112	0
103	-6.357	-1.50	-4.7485	0
104	-1.6487	-1.50	-12.9035	0
105	1.5653	-1.50	-13.0479	0
106	2.857	-1.50	-10.8106	0
107	7.5653	-1.50	-2.6556	0
112	1.3384	1.25	-0.40	0
113	1.3384	-0.75	-0.40	0
118	3.4182	1.25	-8.6386	0
119	-4.7566	1.25	-6.3205	0
120	-4.7566	-0.75	-6.3205	0
121	3.4182	-0.75	-8.6386	0
140	-7.25	3.00	0.00	0
141	7.25	3.00	0.00	0
142	-8.0612	3.00	-1.4049	0
143	-0.8112	3.00	-13.9622	0
144	0.8112	3.00	-13.9622	0
145	8.0612	3.00	-1.4049	0
146	-5.25	3.00	0.00	0
147	5.25	3.00	0.00	0
148	-1.8112	3.00	-12.2301	0
149	-7.0612	3.00	-3.137	0
150	7.0612	3.00	-3.137	0
151	1.8112	3.00	-12.2301	0
152	-7.75	3.00	0.00	0
153	7.75	3.00	0.00	0
154	-0.5612	3.00	-14.3952	0
155	-8.3112	3.00	-0.9719	0
156	8.3112	3.00	-0.9719	0
157	0.5612	3.00	-14.3952	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
9	1	1	1	1	1	1
16	1	1	1	1	1	1
25	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	4	9		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
2	6	8		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
3	8	1		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
4	7	4		L 2X2X3_16	A36	0.00	0.00	0.00
5	4	2		L 2X2X3_16	A36	0.00	0.00	0.00
6	3	10		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
7	5	13		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
8	14	16		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
9	11	15		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
10	12	14		L 2X2X3_16	A36	0.00	0.00	0.00
11	20	22		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
12	22	24		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
13	21	18		L 2X2X3_16	A36	0.00	0.00	0.00
14	18	17		L 2X2X3_16	A36	0.00	0.00	0.00
15	18	25		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
16	19	23		PIPE 3-1_2x0.226	A53 GrB	0.00	0.00	0.00
17	26	15		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
18	27	14		L 2X2X3_16	A36	0.00	0.00	0.00
50	5	3		PL 6x3/8	A36	0.00	0.00	0.00
51	19	10		PL 6x3/8	A36	0.00	0.00	0.00
52	23	13		PL 6x3/8	A36	0.00	0.00	0.00
53	75	78		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
54	74	77		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
55	112	113		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
56	73	76		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
57	96	102		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
58	97	103		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
59	119	120		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
60	98	104		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
61	99	105		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
62	100	106		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
63	118	121		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
64	101	107		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
65	152	153		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
66	154	155		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
67	142	140		L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
68	144	143		L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
69	156	157		PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
70	145	141		L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
80	149	146		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
81	147	150		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
82	151	148		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
4	270.00	0	0.00	0.00	0.00
5	270.00	0	0.00	0.00	0.00
18	90.00	0	0.00	0.00	0.00
53	0.00	2	1.00	0.00	0.00
54	0.00	2	1.00	0.00	0.00
55	0.00	2	1.00	0.00	0.00
56	0.00	2	1.00	0.00	0.00
57	0.00	2	1.00	0.00	0.00
58	0.00	2	1.00	0.00	0.00
59	0.00	2	1.00	0.00	0.00
60	0.00	2	1.00	0.00	0.00
61	0.00	2	1.00	0.00	0.00
62	0.00	2	1.00	0.00	0.00
63	0.00	2	1.00	0.00	0.00
64	0.00	2	1.00	0.00	0.00
67	90.00	0	0.00	0.00	0.00
68	90.00	0	0.00	0.00	0.00
70	180.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
80	0.00	2.00	0.00	0.00	2.00	0.00
81	0.00	2.00	0.00	0.00	2.00	0.00
82	0.00	2.00	0.00	0.00	2.00	0.00

38 MAPLE ST

Location	38 MAPLE ST	**Mblu**	4/ 12/ 4/ /
Acct#	00129900	**Owner**	KENT TOWN OF
Assessment	$667,600	**Appraisal**	$953,600
PID	246	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$617,900	$335,700	$953,600
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$432,600	$235,000	$667,600

Owner of Record

Owner	KENT TOWN OF	**Sale Price**	$0
Co-Owner	(TOWN GARAGE)	**Certificate**	
		Book & Page	0061/0346
		Sale Date	01/15/1973

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
KENT TOWN OF	$0		0061/0346	01/15/1973

Building Information

Building 1 : Section 1

Year Built: 1974
Living Area: 6,400
Replacement Cost: $274,564
Replacement Cost Less Depreciation: $214,200

Building Attributes	
Field	**Description**
STYLE	Warehouse
MODEL	Commercial
Grade	Average
Stories:	1
Occupancy	1.00
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	

Building Layout

(http://images.vgsi.com/photos/KentCTPhotos//Sketches/246_24

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	6,400	6,400
UST	Utility, Storage, Unfinished	800	0

Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Struct Class	
Bldg Use	Com/Res MDL96
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	
Usrfld 219	
1st Floor Use:	2-1I
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	NONE
Rooms/Prtns	LIGHT
Wall Height	14.00
% Comn Wall	0.00

		7,200	6,400

Extra Features

Extra Features	Legend

No Data for Extra Features

Land

Land Use

Use Code	920C
Description	Town MDL94
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	10.19
Frontage	0
Depth	0
Assessed Value	$235,000
Appraised Value	$335,700

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHP5	WRK SHP W/IMP GD			3360.00 S.F.	$65,500	1
TEN	TENNIS COURT			2.00 UNITS	$45,000	1
IMP	IMPLEMENT SHED			800.00 S.F.	$3,600	1
IMP	IMPLEMENT SHED			1650.00 S.F.	$7,400	1
SHD1	SHED FRAME			192.00 S.F.	$2,900	1
CB3	PreCastConcCel			240.00 S.F.	$79,800	1
CB3	PreCastConcCel			240.00 S.F.	$79,800	1
CB3	PreCastConcCel			360.00 S.F.	$119,700	1

Valuation History

Appraisal

Valuation Year	Improvements	Land	Total
2018	$617,900	$335,700	$953,600

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$432,600	$235,000	$667,600

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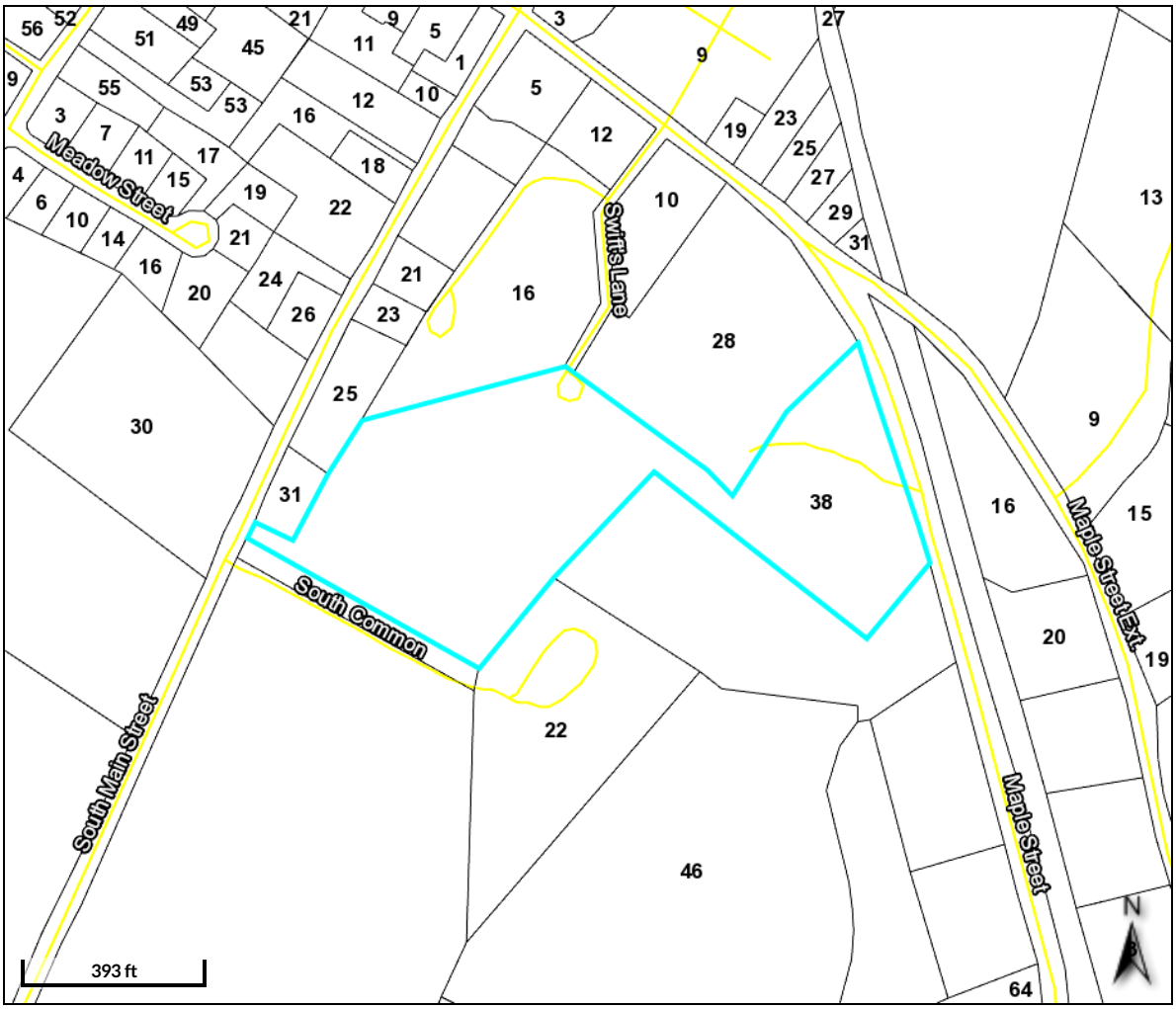

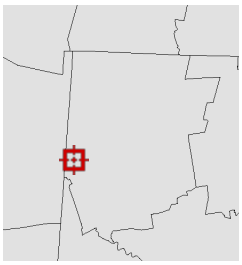

Legend

- Parcels
- Address Numbers
- Roads

Parcel ID	246	**Alternate ID**	00129900	**Owner Address**	KENT TOWN OF
Sec/Twp/Rng	4-12-4	**Class**	E		(TOWN GARAGE)
Property Address	38 MAPLE ST	**Acreage**	10.18999082		
District	0001A				
Brief Tax Description	n/a				
	(Note: Not to be used on legal documents)				

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DOCKET NO. 353 - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 38 Maple Street, Kent, Connecticut.	}	Connecticut Siting Council April 24, 2008

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Cellco Partnership d/b/a Verizon Wireless (Cellco), hereinafter referred to as the Certificate Holder, for a telecommunications facility at 38 Maple Street, Kent, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Cellco and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level. The height at the top of the Certificate Holder's antennas shall not exceed 153 above ground level.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Kent for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping;
    b) antenna mounting configuration; and
    c) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Kent public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.

8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Kent. Any proposed modifications to this Decision and Order shall likewise be so served.

9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Republican-American and The Hartford Courant.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant	**Representative**
Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP

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