EMPIRE telecom

November 6, 2017

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

Regarding:	Notice of Exempt Modification – Addition of (3) Panel Antennas; (6) Remote Radio Units; and (1) DC Fiber Squid Surge Suppressor.
Property Address:	20 Oxford Drive / Booth Hill Road; Shelton, CT 06484 (the "Property")
Applicant:	AT&T Mobility ("AT&T", Site # CT5542)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 200-foot Self-Support tower ("tower") at the above-referenced address, latitude 41.2801444, longitude - 73.18548333. AT&T's facility consists of six (6) wireless telecommunications antennas at 144 feet. The land and tower is controlled by American Tower Corporation. Assessor's information is attached hereto.

AT&T desires to modify its existing telecommunications facility by adding (3) panel antennas, (6) remote radio units, and (1) DC fiber squid surge suppressor. AT&T also proposes to replace (3) of the existing threaded rod standoff antenna mounts with (3) SitePro Ultimate Standoff Mount frames. The centerline height of said antennas is and will remain at 144 feet.

Please accept this application as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72 (b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter and enclosures is being sent to the Mayor, the Building Official, and the Planning & Zoning Administrator of the City of Shelton. A copy of this letter is also being sent to American Tower, Corp., the owner of the structure on which AT&T is located.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The planned modifications will not result in an increase in the height of the existing structure. AT&T's antennas and associated lines will be installed at the 144 foot level of the 200 Foot Self-Support tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.

16 Esquire Road, Billerica, MA 01862 Phone 978-284-3801 Email: kwhite@empiretelecomm.com

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4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. An RF emissions calculation is attached.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (Please see attached Structural analysis completed by American Tower Corporation dated October 18, 2017).

For the foregoing reasons AT&T respectfully requests that the proposed swap of antennas, addition of radios and addition of squids be allowed within the exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kristen White
Site Acquisition Specialist
Empire Telecom
kwhite@empiretelecomm.com
978-284-3801

CC: Mark A. Lauretti, Mayor
Joseph Ballaro, Building Official
Rick Schultz, AICP, Planning & Zoning Administrator
American Tower Corporation c/o Emily Ianotti, Account Project Manager; Owner

WIRELESS COMMUNICATIONS FACILITY
CT5542 - LTE 3C/4C
SHELTON SW
AMERICAN TOWER SITE NO.: 88017
14 BOOTH HILL ROAD
SHELTON, CT 06484

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE, INCLUDING THE TIA-222 REVISION "G" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2016 CONNECTICUT FIRE SAFETY CODE AND, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION POINT ARE PROVIDED BY SITE OWNER. AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR, SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO "EXTRA" WILL BE ALLOWED FOR MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
16. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

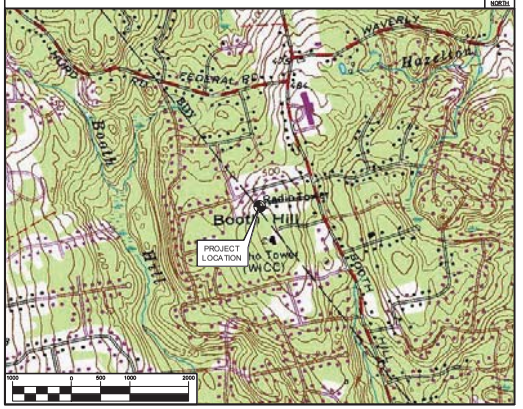
SITE DIRECTIONS

FROM: 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT
TO: 14 BOOTH HILL ROAD, SHELTON, CONNECTICUT

1.	HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD	0.36 MI
2.	TURN LEFT ONTO CAPITAL BLVD	0.27 MI
3.	TURN LEFT ONTO WEST ST	0.30 MI
4.	TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN	9.59 MI
5.	TAKE EXIT 17 FOR CT-15 S/W CROSS PKWY	21.86 MI
6.	MERGE ONTO CT-34 W VIA EXIT 58 TOWARD DERBY	3.17 MI
7.	TURN LEFT ONTO MAIN ST/CT-34.	0.50 MI
8.	TURN LEFT ONTO BRIDGE ST.	0.25 MI
9.	TAKE THE 1ST RIGHT ONTO HOWE AVE/CT-110. CONTINUE TO FOLLOW CT-110.	6.42 MI
10.	TURN LEFT ONTO WHEELER RD.	1.27 MI
11.	WHEELER RD BECOMES BOOTH HILL RD.	0.04 MI
12.	14 BOOTH HILL RD, SHELTON, CT 06484-2435, 14 BOOTH HILL RD IS ON THE LEFT.	

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
   - A. INSTALL (3) NEW 12-PORT ANTENNAS AT TOWER LEVEL
   - B. INSTALL (3) NEW RRUS-32"S AT TOWER LEVEL
   - C. INSTALL (3) NEW RRUS-32 B66'S AT TOWER LEVEL
   - D. INSTALL (1) NEW SURGE ARRESTOR AT TOWER LEVEL
   - E. DECOMMISSION AND REMOVE (3) UMTS RRH'S AT GRADE
   - F. DECOMMISSION AND REMOVE EXISTING NOKIA GSM CABINET AT GRADE
   - G. REMOVE AND REPLACE EXISTING DUL FOR A NEW 5216 WITHIN EXISTING PURCELL CABINET AT GRADE.

PROJECT INFORMATION

AT&T SITE NUMBER:	CT5542
AT&T SITE NAME:	SHELTON SW
SITE ADDRESS:	AMERICAN TOWER SITE NO.: 88017 14 BOOTH HILL ROAD SHELTON, CT 06484
LESSEE/APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06484
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405
PROJECT COORDINATES:	LATITUDE: 41°16'48.59" N LONGITUDE: 73°11'07.6" W GROUND ELEVATION: ±516.9' AMSL SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
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E-1	LTE SCHEMATIC DIAGRAM AND NOTES	1
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REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	11/01/17	FJP	CAG	CONSTRUCTION DRAWINGS - REVISED PER MOUNT ANALYSIS
0	10/13/17	JNS	KAW/JR	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

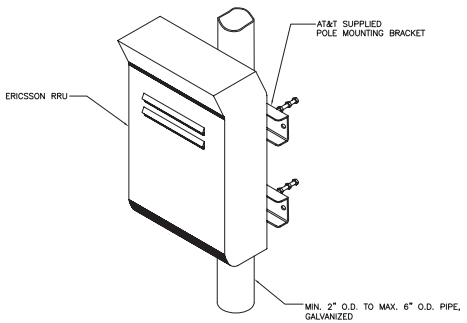
AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
SHELTON SW
CT5542 - LTE 3C/4C
14 BOOTH HILL ROAD
SHELTON, CT 06484

DATE: 09/29/17
SCALE: AS NOTED
JOB NO. 17004.56

TITLE SHEET

T-1

Sheet No. 1 of 7



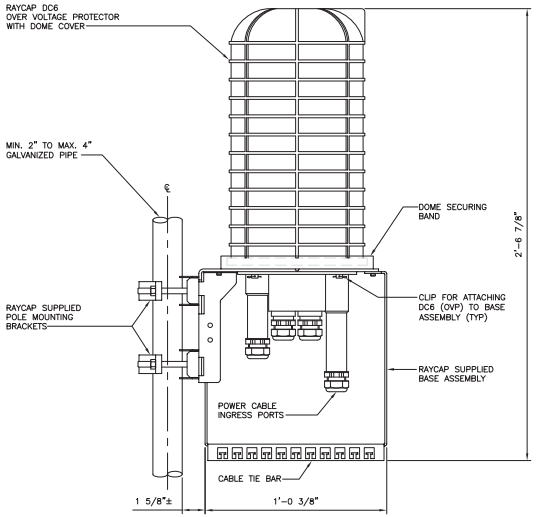
ISOMETRIC VIEW

NOTES:

1. AT&T SHALL SUPPLY RRU, AND RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL SUPPLY POLE/PIPE AND INSTALL ALL MOUNTING HARDWARE INCLUDING ERICSSON RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL INSTALLS RRU AND MAKES CABLE TERMINATIONS.
2. NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

1 N-1 TYPICAL RRUS MOUNTING DETAILS

SCALE: NTS



ELEVATION

NOTES:

1. RAYCAP VIA AT&T SUPPLIES THE DC6 OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE.

2 N-1 RAYCAP DC6 MOUNTING DETAIL

SCALE: 3" = 1'-0"

NOTES AND SPECIFICATIONS

DESIGN BASIS:

GOVERNING CODE: 2012 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2016 CT STATE BUILDING CODE AND AMENDMENTS.

1. DESIGN CRITERIA:

- WIND LOAD: PER TIA 222 G (ANTENNA MOUNTS): 89-105 MPH (3 SECOND GUST)
- RISK CATEGORY: II (BASED ON IBC TABLE 1604.5)
- NOMINAL DESIGN SPEED (OTHER STRUCTURE): 90-110 MPH (Vasd) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10) PER 2012 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE.
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
2. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
3. BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
4. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
5. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
6. ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
7. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHORING, BRACING, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES
10. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER FOUNDATION REMEDIATION WORK IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, GUYS OR TIEDOWNS, WHICH MIGHT BE NECESSARY.
11. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
12. SHOP DRAWINGS, CONCRETE MIX DESIGNS, TEST REPORTS, AND OTHER SUBMITTALS PERTAINING TO STRUCTURAL WORK SHALL BE FORWARDED TO THE OWNER FOR REVIEW BEFORE FABRICATION AND/OR INSTALLATION IS MADE. SHOP DRAWINGS SHALL INCLUDE ERECTION DRAWINGS AND COMPLETE DETAILS OF CONNECTIONS AS WELL AS MANUFACTURER'S SPECIFICATION DATA WHERE APPROPRIATE. SHOP DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR AND BEAR THE CHECKER'S INITIALS BEFORE BEING SUBMITTED FOR REVIEW.
13. NO DRILLING WELDING OR TAPING ON EVERSOURCE OWNED EQUIPMENT.
14. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
   - A. STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
   - B. STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
   - C. STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
   - D. STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
   - E. PIPE---ASTM A53 (FY = 35 KSI)
   - F. CONNECTION BOLTS---ASTM A325-N
   - G. U-BOLTS---ASTM A36
   - H. ANCHOR RODS---ASTM F 1554
   - I. WELDING ELECTRODE---ASTM E 70XX
2. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
3. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
4. PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
5. FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
6. INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
7. AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
8. ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
9. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".
10. THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
11. CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
12. STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS, UNLESS OTHERWISE ON THE DRAWINGS.
13. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
14. SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
15. MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
16. FABRICATE BEAMS WITH MILL CAMBER UP.
17. LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1:500, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
18. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
19. INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
20. FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

PAINT NOTES

PAINTING SCHEDULE:

1. ANTENNA PANELS:
   - A. SHERWIN WILLIAMS POLANE-B
   - B. COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.
2. COAXIAL CABLES:
   - A. ONE COAT OF DTM BONDING PRIMER (2-5 MILS. DRY FINISH)
   - B. TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5-5 MILS. DRY FINISH)
   - C. COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.

EXAMINATION AND PREPARATION:

1. DO NOT APPLY PAINT IN SNOW, RAIN, FOG OR MIST OR WHEN RELATIVE HUMIDITY EXCEEDS 85%. DO NOT APPLY PAINT TO DAMP OR WET SURFACES.
2. VERIFY THAT SUBSTRATE CONDITIONS ARE READY TO RECEIVE WORK. EXAMINE SURFACE SCHEDULED TO BE FINISHED PRIOR TO COMMENCEMENT OF WORK. REPORT ANY CONDITION THAT MAY POTENTIALLY AFFECT PROPER APPLICATION.
3. TEST SHOP APPLIED PRIMER FOR COMPATIBILITY WITH SUBSEQUENT COVER MATERIALS.
4. PERFORM PREPARATION AND CLEANING PROCEDURE IN STRICT ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS FOR EACH SUBSTRATE CONDITION.
5. CORRECT DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS SECTION. REMOVE EXISTING COATINGS THAT EXHIBIT LOOSE SURFACE DEFECTS.
6. IMPERVIOUS SURFACE: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRI-SODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW SURFACE TO DRY.
7. ALUMINUM SURFACE SCHEDULED FOR PAINT FINISH: REMOVE SURFACE CONTAMINATION BY STEAM OR HIGH-PRESSURE WATER. REMOVE OXIDATION WITH ACID ETCH AND SOLVENT WASHING. APPLY ETCHING PRIMER IMMEDIATELY FOLLOWING CLEANING.
8. FERROUS METALS: CLEAN UNGALVANIZED FERROUS METAL SURFACES THAT HAVE NOT BEEN SHOP COATED; REMOVE OIL, GREASE, DIRT, LOOSE MILL SCALE, AND OTHER FOREIGN SUBSTANCES. USE SOLVENT OR MECHANICAL CLEANING METHODS THAT COMPLY WITH THE STEEL STRUCTURES PAINTING COUNCIL'S (SSPC) RECOMMENDATIONS. TOUCH UP BARE AREAS AND SHOP APPLIED PRIME COATS THAT HAVE BEEN DAMAGED. WIRE BRUSH, CLEAN WITH SOLVENTS RECOMMENDED BY PAINT MANUFACTURER, AND TOUCH UP WITH THE SAME PRIMER AS THE SHOP COAT.
9. GALVANIZED SURFACES: CLEAN GALVANIZED SURFACES WITH NON-PETROLEUM-BASED SOLVENTS SO SURFACE IS FREE OF OIL AND SURFACE CONTAMINANTS. REMOVE PRETREATMENT FROM GALVANIZED SHEET METAL FABRICATED FROM COIL STOCK BY MECHANICAL METHODS.
10. ANTENNA PANELS: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION. PANELS MUST BE WIPED WITH METHYL ETHYL KETONE (MEK).
11. COAXIAL CABLES: REMOVE ALL OIL, DUST, GREASE. DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION.

CLEANING:

1. COLLECT WASTE MATERIAL, WHICH MAY CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS AND REMOVE DAILY FROM SITE.

APPLICATION:

1. APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
3. APPLY EACH COAT TO UNIFORM FINISH.
4. APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS OTHERWISE APPROVED.
5. SAND METAL LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
6. VACUUM CLEAN SURFACES FREE OF LOOSE PARTICLES. USE TACK CLOTH JUST PRIOR TO APPLYING NEXT COAT.
7. ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.

COMPLETED WORK:

1. SAMPLES: PREPARE 24" X 24" SAMPLE AREA FOR REVIEW.
2. MATCH APPROVED SAMPLES FOR COLOR, TEXTURE AND COVERAGE. REMOVE REFINISH OR REPAINT WORK NOT IN COMPLIANCE WITH SPECIFIED REQUIREMENTS.

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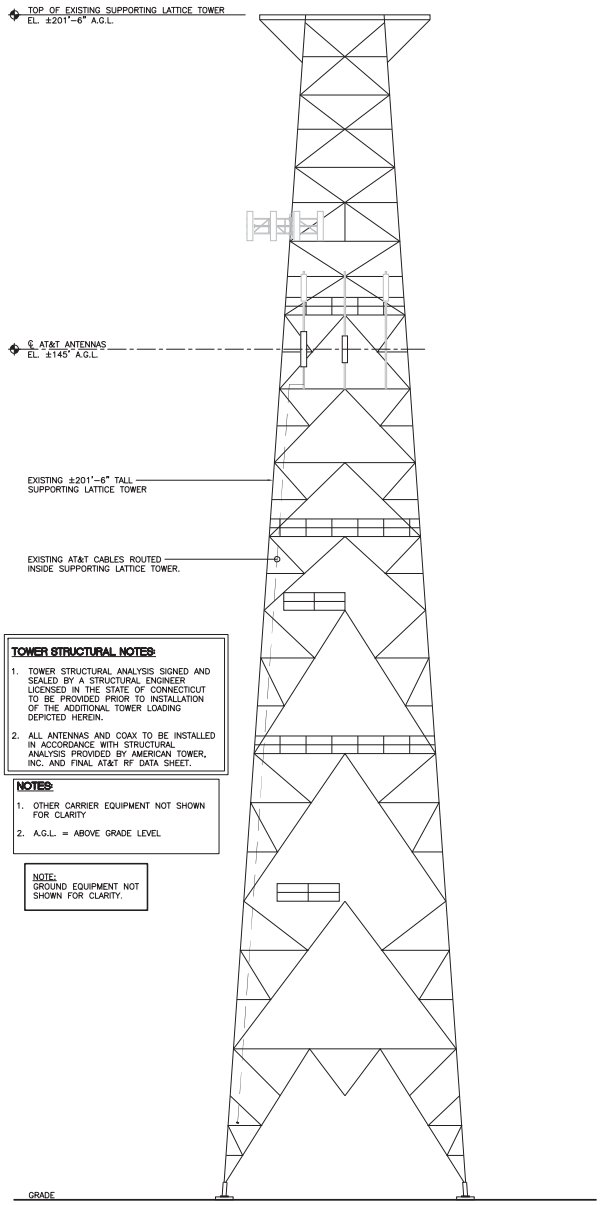
NOTES, SPECIFICATIONS AND DETAILS

N-1

Sheet No. 2 of 7



TOWER STRUCTURAL NOTES:

1. TOWER STRUCTURAL ANALYSIS SIGNED AND SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT TO BE PROVIDED PRIOR TO INSTALLATION OF THE ADDITIONAL TOWER LOADING DEPICTED HEREIN.
2. ALL ANTENNAS AND COAX TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY AMERICAN TOWER, INC. AND FINAL AT&T RF DATA SHEET.

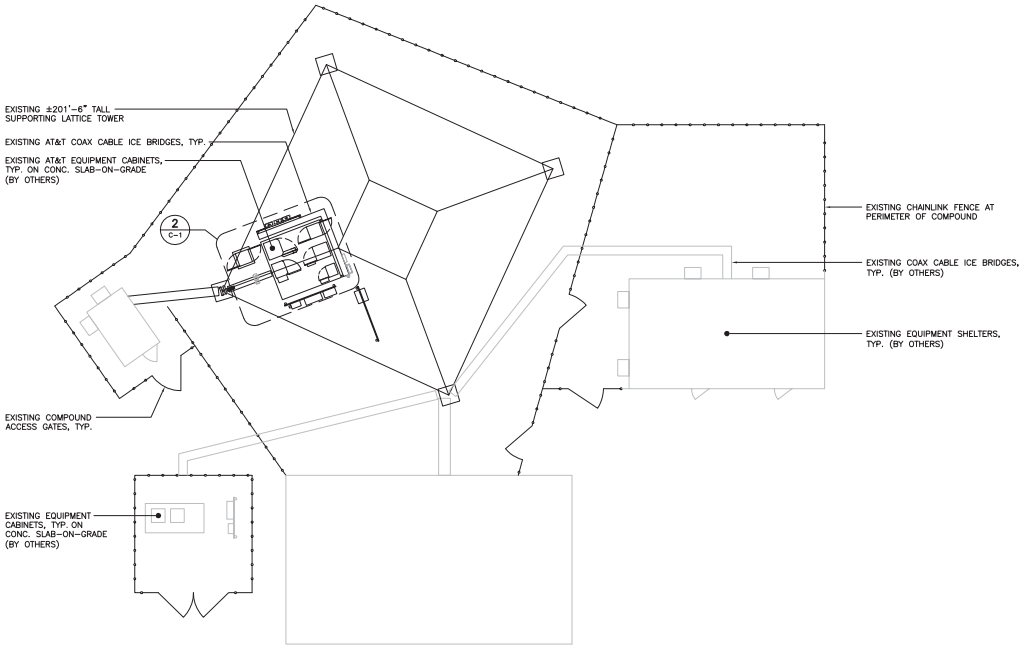
NOTES:

1. OTHER CARRIER EQUIPMENT NOT SHOWN FOR CLARITY
2. A.G.L. = ABOVE GRADE LEVEL

NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY.

3 C-1 **TOWER ELEVATION**
SCALE: 1" = 10'

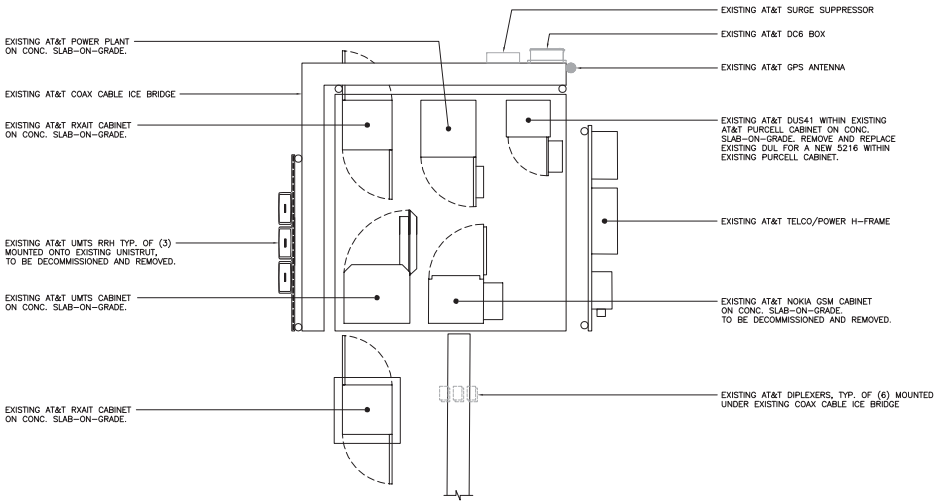
GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.



1 C-1 **COMPOUND PLAN**
SCALE: 1" = 10'

TRUE NORTH

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.



2 C-1 **EQUIPMENT LAYOUT PLAN**
SCALE: 1/2" = 1'-0"

TRUE NORTH

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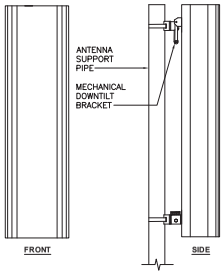
PLANS AND ELEVATION

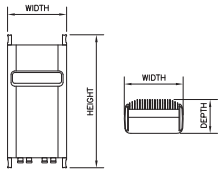
C-1

Sheet No. 3 of 7



ALPHA/BETA/GAMMA ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: QUINTEL MODEL: QS66512-6	72.0"L x 12.0"W x 9.6"D	111 LBS.

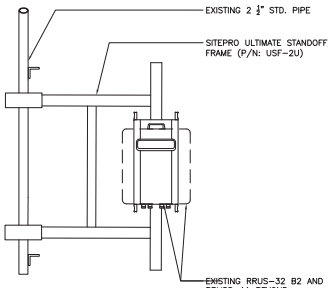
5 C-2 PROPOSED ANTENNA DETAIL
SCALE: 1/2" = 1'-0"



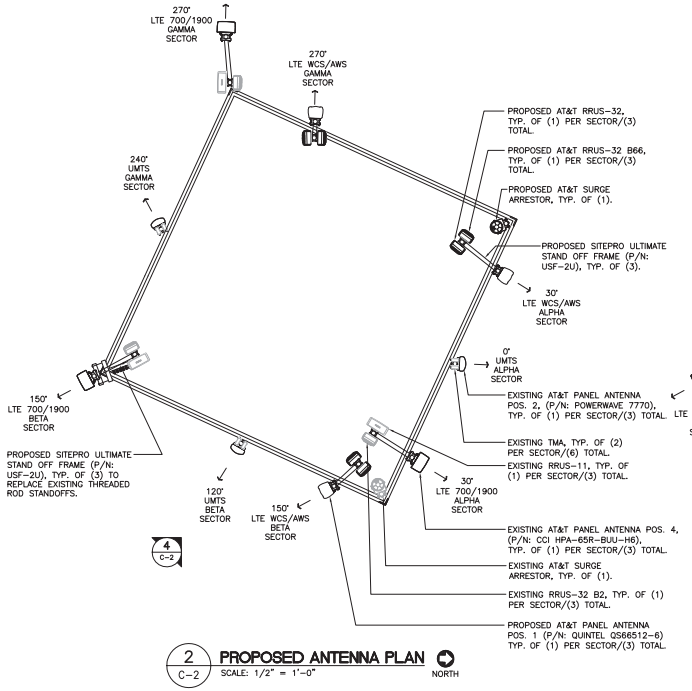
RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS 32 B66	27.17"H x 12.05"W x 7.01"D	52.91 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.
MAKE: ERICSSON MODEL: RRUS-32	27.17"H x 12.05"W x 7.01"D	52.91 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

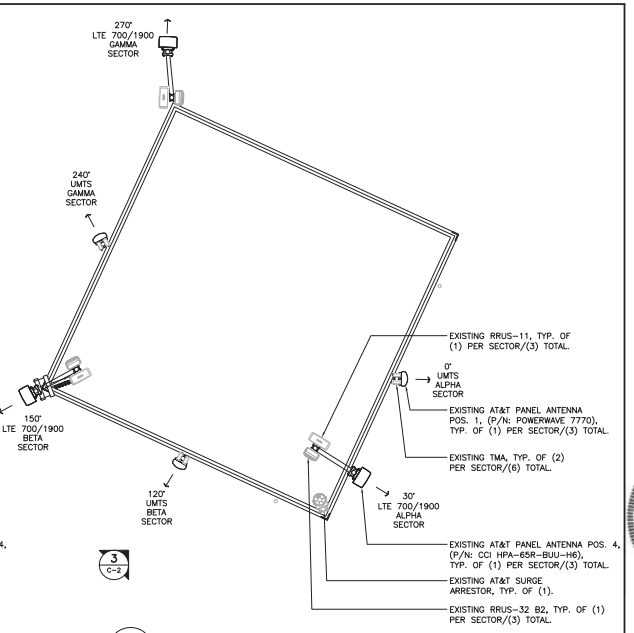
6 C-2 ERICSSON REMOTE RADIO UNITS
SCALE: 1" = 1'-0"



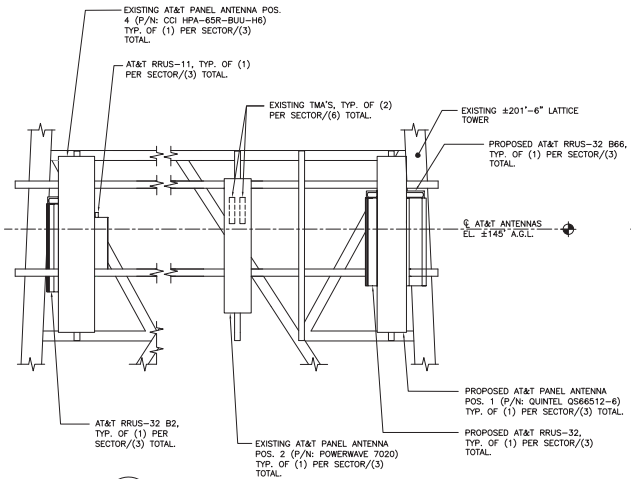
7 C-2 MOUNT STANDOFFS DETAIL
SCALE: 3/4" = 1'-0"



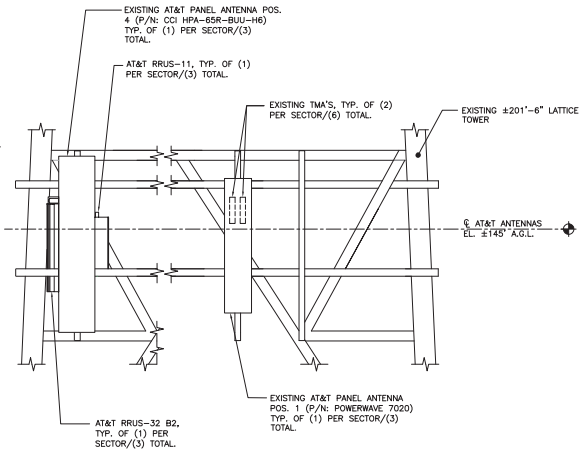
2 C-2 PROPOSED ANTENNA PLAN
SCALE: 1/2" = 1'-0" NORTH



1 C-2 EXISTING ANTENNA PLAN
SCALE: 1/2" = 1'-0" NORTH



4 C-2 PROPOSED ANTENNA ELEVATION
SCALE: 1/2" = 1'-0"



3 C-2 EXISTING ANTENNA ELEVATION
SCALE: 1/2" = 1'-0"

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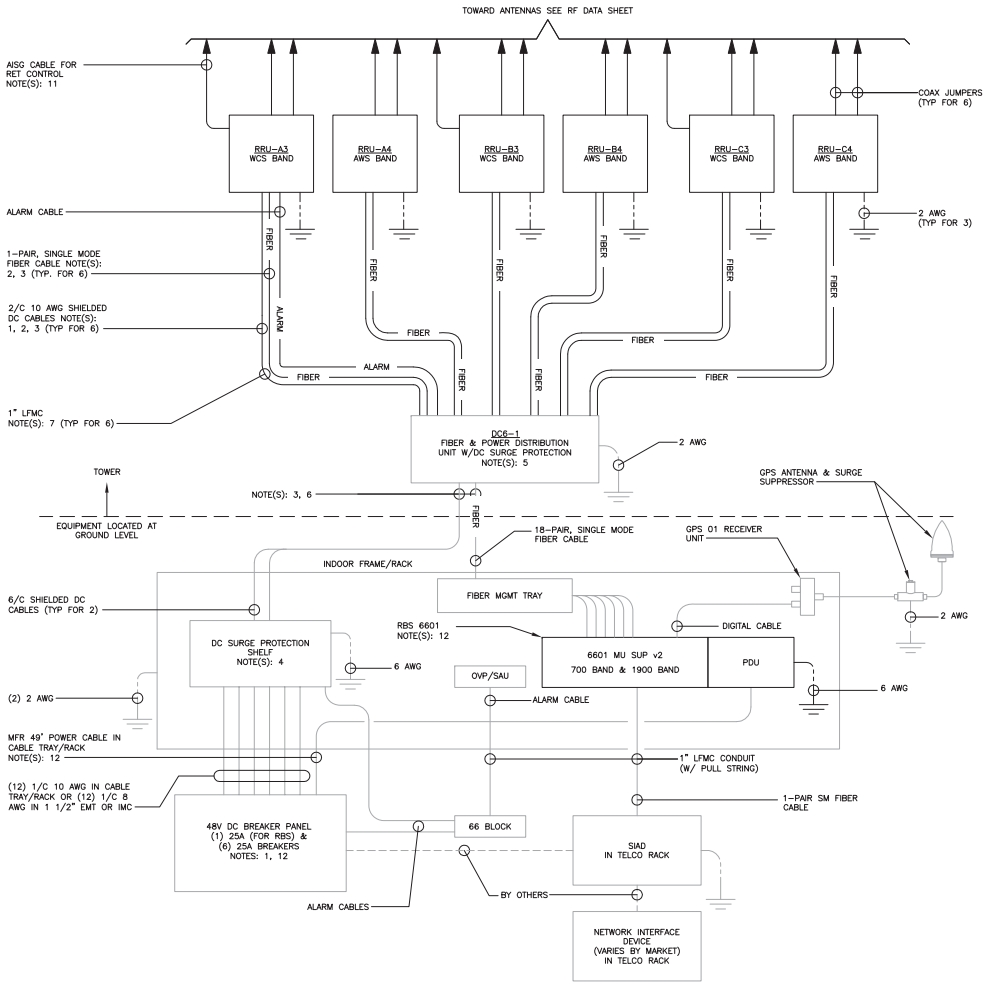
LTE 3C/4C EQUIPMENT DETAILS

C-2
Sheet No. 4 of 7



1 E-1 **LTE SCHEMATIC DIAGRAM**

NOT TO SCALE

LTE SCHEMATIC DIAGRAM NOTES:

1. BREAKERS TO BE TAGGED AND LOCKED OUT. A 20A (MIN.) OR 30A (MAX.) BREAKER FOR RRUs MAY BE SUBSTITUTED FOR THE RECOMMENDED 25A BREAKER. SIZE 12 CONDUCTORS MAY BE USED ONLY WITH 20A BREAKERS.
2. LEAVE COILED AND PROTECTED UNTIL TERMINATED.
3. DC AND FIBER CABLE SHALL BE ROUTED WITH THE EXISTING COAX CABLE.
4. DC SURGE PROTECTION SHELF SHALL BE RAYCAP DCX-48-60-RM.
5. FIBER & DC DISTRIBUTION BOX W/DC SURGE PROTECTION SHALL BE RAYCAP DC6-48-60-18-8F.
6. SUPPORT FIBER & DC POWER CABLES WITH SNAP-IN HANGERS SPACED NO GREATER THAN 3 FEET APART ON TOWER. SUPPORT FIBER AND DC POWER CABLES INSIDE MONOPOLE WITH CABLE HOISTING GRIPS AT 250 FT MAXIMUM INTERVALS. DRESS CABLES TO PREVENT CONTACT WITH ENTRANCE AND EXIT OPENINGS.
7. CONDUIT TO BE USED ON A TOWER IF THE RRU IS MORE THAN 10' FROM THE DISTRIBUTION UNITS. MAX CABLE LENGTH IS 16 FEET.
8. SINGLE-CONDUCTOR DC POWER CABLES SHALL BE TELCOFLEX® OR KS24194™, COPPER, UL LISTED RHH NON-HALOGEN, LOW SMOKE WITH BRAIDED COVER, TYPE TC (1/0 AND LARGER). UNLESS OTHERWISE NOTED, STRANDING SHALL BE CLASS B (TYPE III) FOR CABLES SIZES 14, 12 & 10 AWG AND CLASS I (TYPE IV) FOR SIZES 8 AWG AND LARGER. CABLES SHALL BE COLOR CODED RED FOR +24V, BLUE FOR -48V AND GRAY FOR 24V AND 48V RETURN CONDUCTORS. MULTI-CONDUCTOR DC POWER CABLES SHALL BE COPPER, CLASS B STRANDING WITH FLAME RETARDANT PVC JACKET, TYPE TC, UL LISTED FOR 90°C DRY/ 75°C WET INSTALLATION.
9. GROUNDING WIRES SHALL BE COPPER, GREEN THHN/THWN UL LISTED FOR 90°C DRY/75°C WET INSTALLATION. MINIMUM SIZE IS 6 AWG UNLESS NOTED OTHERWISE.
10. FIBER OPTIC CABLES SHALL BE INSTALLED IN FLEXIBLE CONDUIT AS SCOPED BY MARKET.
11. RET CONTROL FROM THE RRU IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
12. RBS 6601 VARIANT 2 REQUIRES A 25A BREAKER AND 10 AWG (MIN.) CONDUCTORS. REPLACE EXISTING 15A OR 20A BREAKERS AND 12 AWG CONDUCTORS WHEN UPGRADING AN EXISTING RBS 6601 VARIANT 1.

ELECTRICAL NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL CONSTRUCTION STANDARDS AND SPECIFICATIONS, AND ALL MANUFACTURER DOCUMENTATION FOR ALL EQUIPMENT TO BE INSTALLED.
2. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRIC CODE, OWNER AND MANUFACTURER'S SPECIFICATIONS.
3. CONNECT ALL NEW EQUIPMENT TO EXISTING TELCO AS REQUIRED BY MANUFACTURER.
4. MAINTAIN ALL CLEARANCES REQUIRED BY NEC AND EQUIPMENT MANUFACTURER.
5. PRIOR TO INSTALLATION CONTRACTOR SHALL MEASURE EXISTING ELECTRICAL LOAD AND VERIFY EXISTING AVAILABLE CAPACITY FOR PROPOSED INSTALLATION. IF INADEQUATE CAPACITY IS AVAILABLE, CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRIC UTILITY COMPANY TO UPGRADE EXISTING ELECTRIC SERVICE.
6. CONTRACTOR SHALL INSPECT EXISTING GROUNDING AND LIGHTNING PROTECTION SYSTEM AND ENSURE THAT IT IS IN COMPLIANCE WITH NEC, AND SITE OWNER'S SPECIFICATIONS. THE RESULTS OF THIS INSPECTION SHALL BE PRESENTED TO OWNERS REPRESENTATIVE, AND ANY DEFICIENCIES SHALL BE CORRECTED.
7. ALL TRANSMISSION TOWER SITES CONTAIN AN EXTENSIVE BURIED GROUNDING SYSTEM. ALL GROUNDING WORK MUST BE COORDINATED WITH, AND APPROVED BY, THE TOWER OWNER'S SITE REPRESENTATIVE. ALL OF THE TOWER OWNER'S SPECIFICATIONS MUST BE STRICTLY FOLLOWED.
8. PROVIDE AND INSTALL GROUND KITS FOR ALL NEW COAXIAL CABLES AND BOND TO EXISTING OWNERS GROUNDING SYSTEM PER OWNERS SPECIFICATIONS AND NEC.
9. ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDED COPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #6 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS, #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION:
10. MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.
11. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
12. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNER'S REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS AS MAY BE REQUIRED BY THE LOCAL AUTHORITY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE SITE AND/OR BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
15. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
16. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
17. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
18. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
19. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122. (MIN. #12 AWG).
20. CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 5 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16960).

TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

A. CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:

TEST 1: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM.

THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:

1. TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
2. CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
3. GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.

B. TESTING SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNERS CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE CONSTRUCTION AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.

C. THE CONTRACTOR SHALL FORWARD SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.

D. CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

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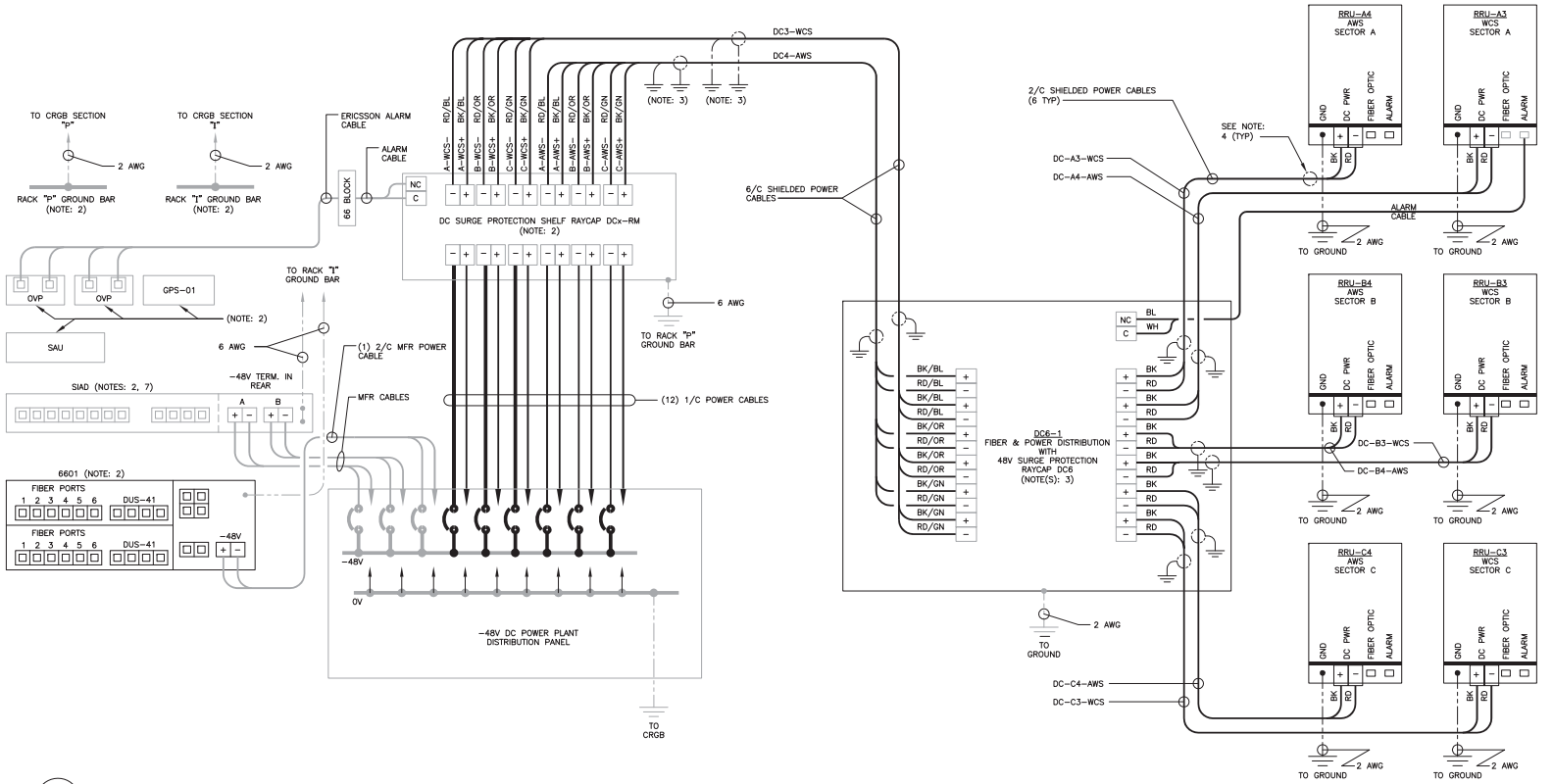
LTE SCHEMATIC DIAGRAM AND NOTES

E-1

Sheet No. 5 of 7



1 LTE WIRING DIAGRAM

E-2

NOT TO SCALE

LTE WIRING DIAGRAM NOTES:

1. LABEL THE DC POWER CABLES AT BOTH ENDS OF EVERY WIRE AND IN ANY PULL BOX IF USED. LABEL SHALL BE DURABLE, SELF ADHESIVE, WRAPPED LONGITUDINALLY ALONG THE CABLE AND STATE THE SECTOR, FREQUENCY BAND AND POLARITY; I.E. "A-1900+". CABLE AND WIRE LABELS SHOWN ARE REPRESENTATIVE AND MAY BE MODIFIED AS DIRECTED BY AT&T.
2. INSTALL ON BASEBAND EQUIPMENT RACK.
3. THE BARE GROUND WIRE OF EACH MULTI-CONDUCTOR CABLE SHALL BE CONNECTED TO THE "P" GROUND BAR ON THE RACK. WHEN A SHIELDED CABLE IS USED, THE DRAIN WIRE ALSO SHALL BE CONNECTED TO THE "P" GROUND BAR.
4. CABLE GROUND WIRE AND SHIELD DRAIN WIRE TO BE LEFT UN-TERMINATED AT RRU AND DC POWER PLANT.
5. SEE LTE SCHEMATIC DIAGRAM DETAIL 1/E-1 FOR BREAKER RATING.

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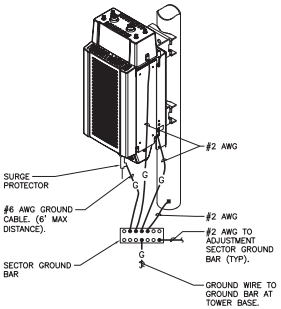
LTE WIRING DIAGRAM

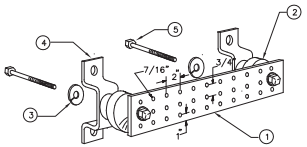
E-2

Sheet No. 6 of 7

EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:
1. AT TOP OF THE CABINET
2. AT RIGHT SIDE OF THE CABINET.



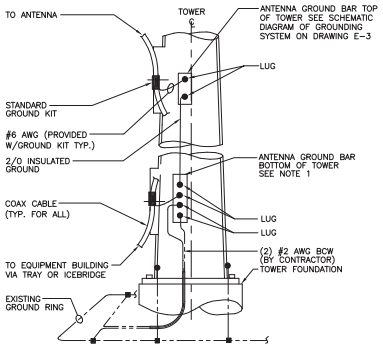
4 E-3 **RRU POLE MOUNT GROUNDING**
NOT TO SCALE



LEGEND

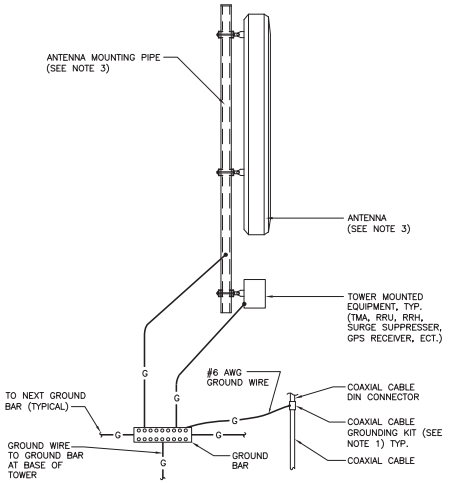
1. TINNED COPPER GROUND BAR, 1/4"x 4"x 20". NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG .
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 2. 3061-4.
3. 3. 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. 4. CAT NO. A-6056.
5. STAINLESS STEEL SECURITY SCREWS.

3 E-3 **GROUND BAR DETAIL**
NOT TO SCALE



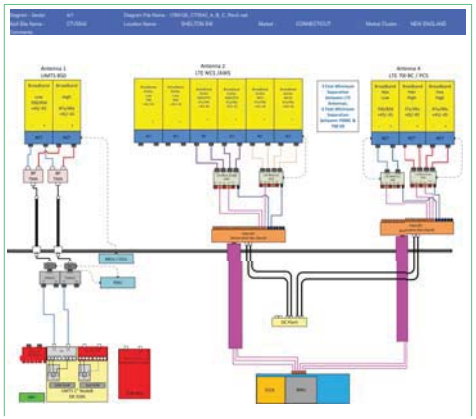
NOTES:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

2 E-3 **ANTENNA CABLE GROUNDING - TOWER**
NOT TO SCALE

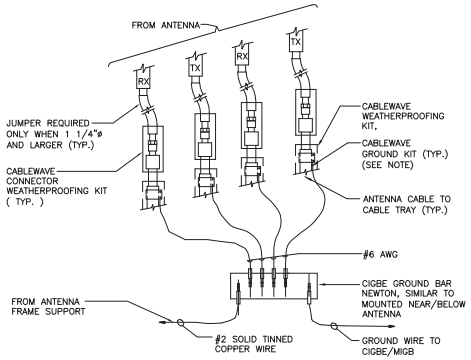


NOTES:
1. BOND COAXIAL CABLE GROUND KITS TO EACH OWNER'S GROUND BAR ALONG ENTIRE COAX RUN FROM ANTENNA TO SHELTER.
2. BOND ALL EQUIPMENT TO GROUND PER NEC AND MANUFACTURER'S SPECIFICATIONS.
3. DETAIL IS TYPICAL FOR ALL ANTENNA SECTORS, INCLUDING GPS ANTENNA.

1 E-3 **TYPICAL ANTENNA GROUNDING DETAIL**
NOT TO SCALE

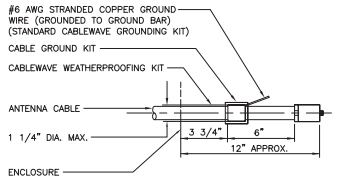


7 E-3 **RF PLUMBING DIAGRAM (ALL SECTORS)**
NOT TO SCALE



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

6 E-3 **CONNECTION OF GROUND WIRES TO GROUND BAR**
NOT TO SCALE



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

5 E-3 **ANTENNA CABLE GROUNDING DETAIL**
NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
1	11/01/17	FJP	CAG	CONSTRUCTION DRAWINGS – REVISED PER MOUNT ANALYSIS
0	10/13/17	JNS	KAW/JR	CONSTRUCTION DRAWINGS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

at&t

EMPIRE telecom

CENTEK engineering
Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY

SHELTON SW
CT5542 - LTE 3C/4C
14 BOOTH HILL ROAD
SHELTON, CT 06484

DATE: 09/29/17
SCALE: AS NOTED
JOB NO. 17004.56

TYPICAL ELECTRICAL DETAILS

E-3
Sheet No. 7 of 7

CITY OF SHELTON REAL PROPERTY DATA

PROPERTY LOCATION	ASSRS MAP - LOT	SURVEY MAP - LOT	ZONE	CENSUS TRACT	NBHD	SITE	CARD	RUNDATE	SIDE
20 OXFORD DR	33.-13		R-1	1104.	23000	01		06/26/2017	1

CURRENT OWNER

NAME 1 - AMERICAN TOWERS INC
NAME 2 -
ADDRESS - P O BOX 723597
ADDRESS - ATLANTA GA
ADDRESS -
ZIP - 31139

NAME OF BUSINESS

AT&T Transmission Tower

OWNER HISTORY

NAME	VOL	PAGE	DATE	SALE PRICE	VALID	DEED TYP
AMERICAN TOWERS INC	1680	107	04/11/2000	404094	N	Q
AMERICAN TELE & TELEGRAPH	130	440	04/14/1953		N	

LAND DESCRIPTION DATA

LAND TYPE	ACREAGE	INFL CODE	INFL FACT	USE CODE	UNIT PRICE	FULL VALUE	ASSESSED
PRIME SITE	.82		1.75	4-1	70000.00	110250	77175
					TOTAL	110250	77210

SITE

NBHD TYPE -	RESIDENTIAL	ELEVATION -		DESIRABILITY -	TYPICAL
ROAD -	PRIVATE	SEWER -	NO	LANDSCAPING -	TYPICAL
TRAFFIC -	LIGHT	WATER -	PRIVATE	DRIVEWAY -	
BLDG SET BACK -		UTILITIES -	ELECTRIC	MAJOR USE -	MULT USE & OCC,WAREH
VIEW -		COMPARED -			

BUILDING PERMITS

NUMBER	DATE	VALUE	DESCRIPTION	C.O. DATE	COMP DATE

ASSESSMENT INFORMATION

YEAR	CLASS	UNITS	FULL VALUE	ASSESSED
2016	4-1	1.00	110300	77210
	4-3	2.00	39070	27350
	4-2	1.00	48130	33690
	TOTAL		197500	138250
2011	4-1	1.00	106300	74410
	4-3	2.00	39070	27350
	4-2	1.00	53130	37190
	TOTAL		198500	138950
2006	4-1	1.00	76500	53550
	4-3	2.00	39070	27350
	4-2	1.00	92630	64840
	TOTAL		208200	145740

PROPERTY CLASSIFICATION CODES

COMMERCIAL 2-
2-1 LAND(EXCEPT APT.BLDS)
2-2 BUILDINGS
2-3 APARTMENTS
2-4 CONDOMINIUMS
2-5 OUTBUILDINGS
2-6 LAND (APT BUILDINGS)

INDUSTRIAL 3-
3-1 LAND
3-2 BUILDINGS
3-3 IMPROVEMENTS

PUBLIC UTILITY 4-
4-1 LAND
4-2 BUILDINGS
4-3 OUTBUILDINGS

VACANT LAND 5-
5-1 RESIDENTIAL
5-2 COMMERCIAL
5-3 INDUSTRIAL
5-4 WETLANDS
5-5 OUTBUILDINGS

CITY OF SHELTON REAL PROPERTY DATA

PROPERTY LOCATION	ASSRS MAP - LOT	SURVEY MAP - LOT	SIDE
20 OXFORD DR	33.-13		2

INTERIOR DESCRIPTION

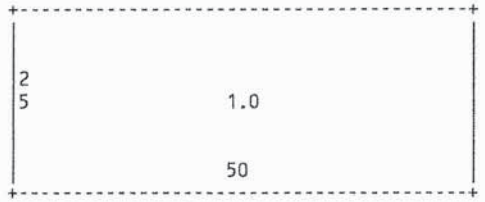
USED AS DESCRIPTION	UNIT TYPE	NO. UNIT	VALUE UNIT	CLASS	YEAR FIN	LOCATION FROM	LOCATION TO	HT PSTY	AREA	INT COND	FUNC UTIL	INT FIN	FLOOR CONSTR	LIGHT PCT	HEAT TYPE	HEAT PCT	A/C TYPE	A/C PCT	SPRINK TYPE	SPRINK PCT
MULT USE & OCC,WAREH	SQ FT		AREA	C	1970	01	01	12	1250	AVERA	1.00		CONC		HOT		NON		NON	

BUILDING DESCRIPTION DATA

BUILDING/SECT-	0101
EFF YR BUILT -	1970
BUILT AS -	MULT USE & OCC,WAREH
USED AS -	MULT USE & OCC,WAREH
EXTERIOR COND-	AVERAGE
FUNCT UTILITY-	NORMAL
ROOF TYPE -	FLAT
ROOF MATERIAL-	BUILT UP
GRADE -	III
GRADE MOD -	1.00
SECTION PERIM-	
YEAR BUILT -	1970
FUNC OBS MULT-	000
EXTWAL MAT -	FRAME
EXT LINFT -	150
EXT HT -	12
EXTFACE MAT -	WOOD/MTL
FCWALL LINFT -	150
SECT TOT AREA-	1250
PARTIAL CONST-	

NOTES

SKETCH



IMPROVEMENT DATA

DESCRIPTION	MEASURE	DIM 1	DIM 2	QTY	CLSS	COND	YR BLT	USE CD	RCN	PCT GD	COST MOD	RCNLD	ASSESSED
FENCE,CHN LK	DIMENSION	230	8	1	C	3	1970	4-3	3766	15		565	395
MISC STRUCTURE	DOLLARS	38500		1	C	3	1952	4-3	38500	100		38500	26950
								TOTAL				39065	27345


This map is for Planning Purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The City of Shelton and its mapping contractors assume no legal responsibility for the information contained herein.
1 2 3 4 5 6 7 8
A B C D E F G H I
City of Shelton, Connecticut
STREETMAP OF SHELTON
GRID: 5,000 Feet x 5,000 Feet
OXFORD
SEYMOUR
MONROE
DERBY
TRUMBULL
STRATFORD
NOTE ABOUT THE GRID
Length:
Side of grid square = 5,000 ft
or 95% of a mile = 5,280 ft
Area:
Area of grid square = 25.0000 million sq ft or
90% of square mile = 27.8784 million sq ft
N
W
E
S
Iroquois Gas Trans. 24"
Tennessee Gas Pipeline 8.63" Yankee Gas Services
Tennessee Gas Pipeline 8.63" Derby Delivery Line
Tennessee Gas Pipeline - 16"
Tennessee Gas Pipeline 16" Bpt - Norwalk - Stamford Line
Iroquois Gas Trans. - 24"
Iroquois Gas Trans. 12" - Stratford Line
Legend
Feet
0 2,125 4,250 8,500 12,750 17,000
Miles
0 0.35 0.7 1.4 2.1 2.8
Map Printed August 26th, 2015
Prepared by: Regis J. Dognin
CITY OF SHELTON
Finance - GIS Section
54 Hill Street
Shelton, CT 06484
203-924-1555 x1398
r.dognin@cityofshelton.org

City of Shelton, Connecticut

BUILDING ZONE MAP

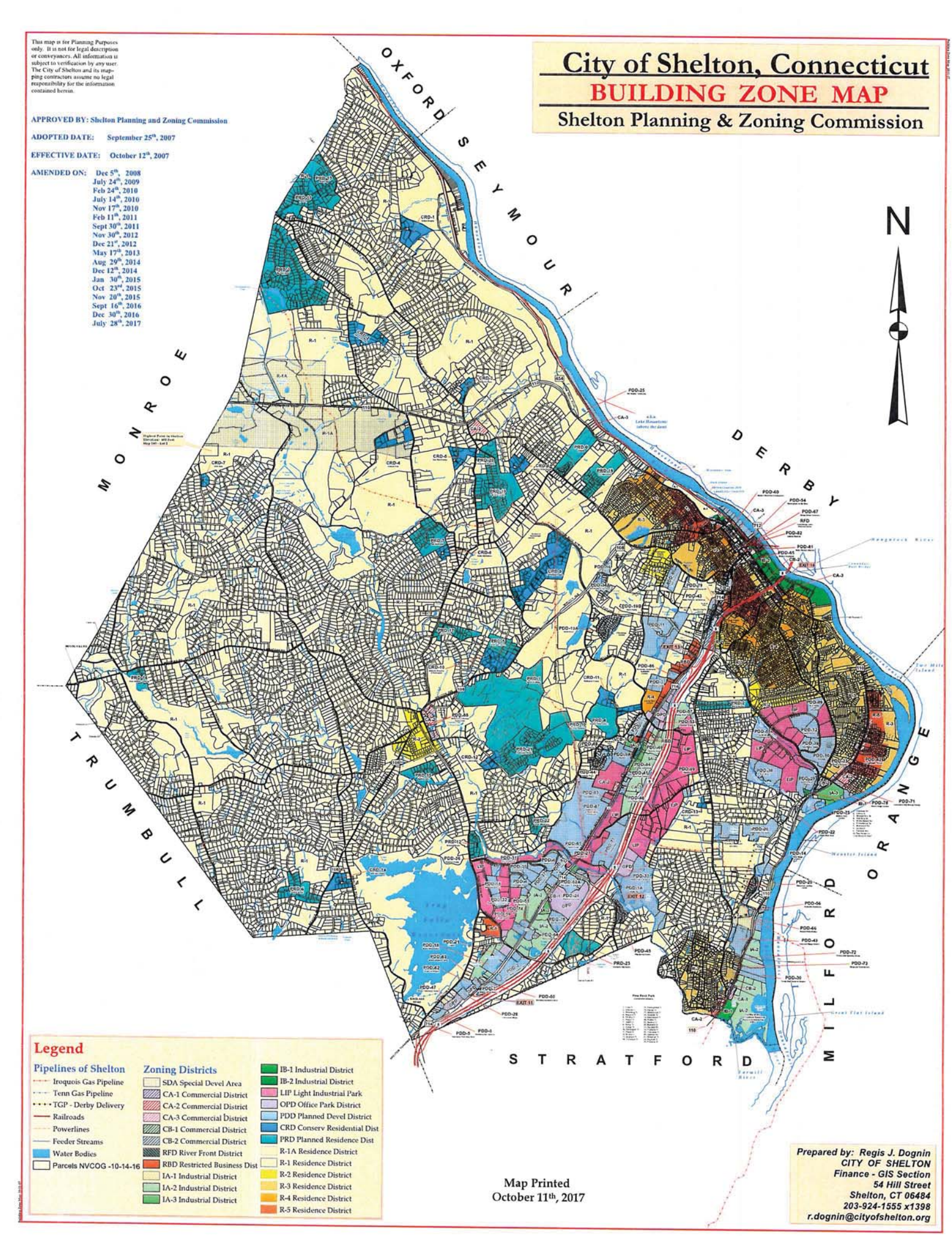
Shelton Planning & Zoning Commission

APPROVED BY: Shelton Planning and Zoning Commission

ADOPTED DATE: September 25th, 2007

EFFECTIVE DATE: October 12th, 2007

AMENDED ON:
Dec 5th, 2008
July 24th, 2009
Feb 24th, 2010
July 14th, 2010
Nov 17th, 2010
Feb 11th, 2011
Sept 30th, 2011
Nov 30th, 2012
Dec 21st, 2012
May 17th, 2013
Aug 29th, 2014
Dec 12th, 2014
Jan 30th, 2015
Oct 23rd, 2015
Nov 20th, 2015
Sept 16th, 2016
Dec 30th, 2016
July 28th, 2017



Legend

Pipelines of Shelton
- Iroquois Gas Pipeline
- Tenn Gas Pipeline
- TGP - Derby Delivery
- Railroads
- Powerlines
- Feeder Streams
- Water Bodies
- Parcels NVCOG -10-14-16

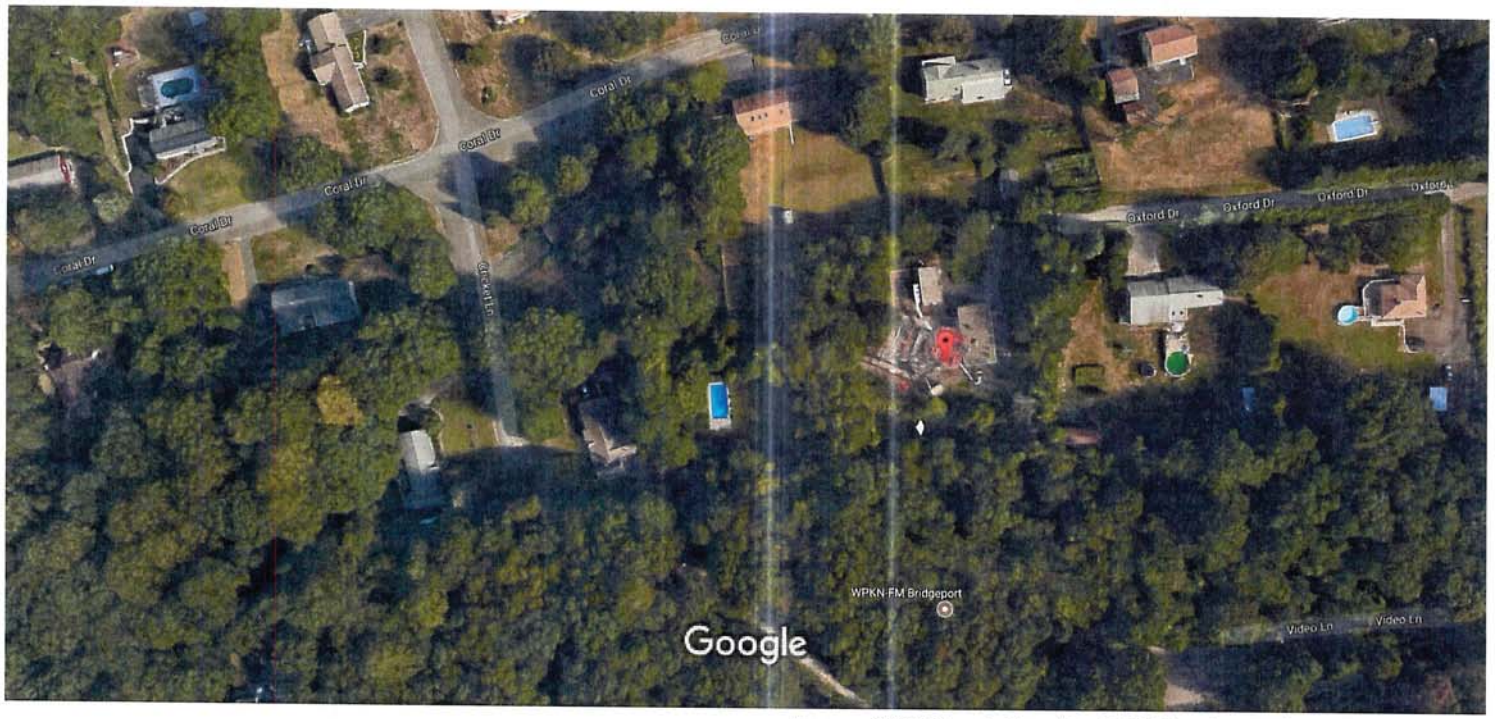
Zoning Districts
- SDA Special Devel Area
- CA-1 Commercial District
- CA-2 Commercial District
- CA-3 Commercial District
- CB-1 Commercial District
- CB-2 Commercial District
- RFD River Front District
- RBD Restricted Business Dist
- IA-1 Industrial District
- IA-2 Industrial District
- IA-3 Industrial District
- IB-1 Industrial District
- IB-2 Industrial District
- LIP Light Industrial Park
- OPD Office Park District
- PDD Planned Devel District
- CRD Conserv Residential Dist
- PRD Planned Residence Dist
- R-1A Residence District
- R-1 Residence District
- R-2 Residence District
- R-3 Residence District
- R-4 Residence District
- R-5 Residence District

Map Printed
October 11th, 2017

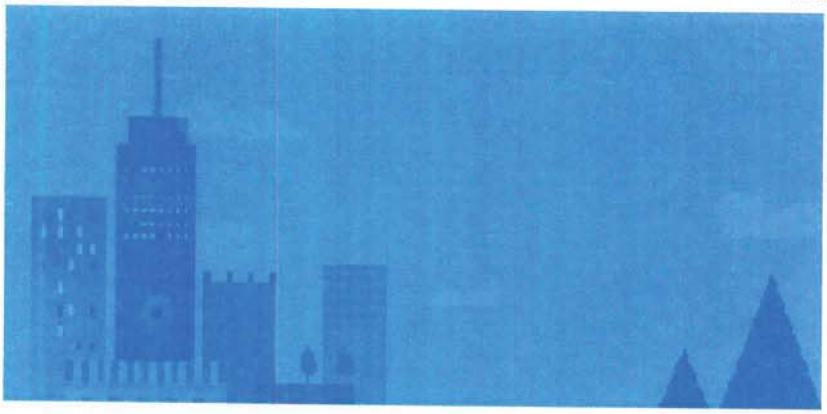
Prepared by: Regis J. Dognin
CITY OF SHELTON
Finance - GIS Section
54 Hill Street
Shelton, CT 06484
203-924-1555 x1398
r.dognin@cityofshelton.org

Google Maps 41°16'48.5"N 73°11'07.7"W

20 Oxford Drive / Booth Hill Road; Shelton, CT



Imagery ©2017 Google, Map data ©2017 Google 50 ft



41°16'48.5"N 73°11'07.7"W

41.280140, -73.185480

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5542

Shelton SW
14 Booth Hill Road
Shelton, CT 6484

October 27, 2017

Centerline Communications Project Number: 950006-082

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**5.61 %**

October 27, 2017

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT5542 – Shelton SW**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **14 Booth Hill Road, Shelton, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **14 Booth Hill Road, Shelton, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
LTE	2300 MHz (WCS)	2	60
LTE	2100 MHz (AWS)	2	60
LTE	700 MHz	2	60
LTE	1900 MHz (PCS)	2	60

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7770	145
A	2	Quintel QS66512-6	145
A	3	CCI HPA-65R-BUU-H6	145
B	1	Powerwave 7770	145
B	2	Quintel QS66512-6	145
B	3	CCI HPA-65R-BUU-H6	145
C	1	Powerwave 7770	145
C	2	Quintel QS66512-6	145
C	3	CCI HPA-65R-BUU-H6	145

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.

RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.27
Antenna A2	Quintel QS66512-6	2300 MHz (WCS) / 2100 MHz (AWS)	14.65 / 14.55	4	240	6,922.13	1.29
Antenna A3	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	4	240	5,462.56	1.42
						Sector A Composite MPE%	**2.98**
Antenna B1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.27
Antenna B2	Quintel QS66512-6	2300 MHz (WCS) / 2100 MHz (AWS)	14.65 / 14.55	4	240	6,922.13	1.29
Antenna B3	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	4	240	5,462.56	1.42
						Sector B Composite MPE%	**2.98**
Antenna C1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.27
Antenna C2	Quintel QS66512-6	2300 MHz (WCS) / 2100 MHz (AWS)	14.65 / 14.55	4	240	6,922.13	1.29
Antenna C3	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	4	240	5,462.56	1.42
						Sector C Composite MPE%	**2.98**

Table 3: AT&T Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max Sector Value	**2.98 %**
Clearwire	0.05 %
Clearwire Microwave	0.06 %
Dept. Pub. Safety	0.14 %
PageNet	0.13 %
Sprint	0.71 %
Nextel	0.56 %
Dept. Homeland Security	0.73 %
Light Squared, Inc.	0.25 %
Site Total MPE %:	**5.61 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	2.98 %
AT&T Sector B Total:	2.98 %
AT&T Sector C Total:	2.98 %
Site Total:	5.61 %

Table 5: Site MPE Summary

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

AT&T _ Frequency Band / Technology (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	414.12	145	1.54	850 MHz	567	0.27%
AT&T 2300 MHz (WCS) LTE	2	1,750.46	145	6.51	2300 MHz (WCS)	1000	0.65%
AT&T 2100 MHz (AWS) LTE	2	1,710.61	145	6.37	2100 MHz (AWS)	1000	0.64%
AT&T 700 MHz LTE	2	940.05	145	3.50	700 MHz	467	0.75%
AT&T 1900 MHz (PCS) LTE	2	1,791.23	145	6.67	1900 MHz (PCS)	1000	0.67%
						Total:	**2.98%**

Table 6: AT&T Maximum Sector MPE Power Values

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	2.98 %
Sector B:	2.98 %
Sector C:	2.98 %
AT&T Maximum Total (per sector):	2.98 %
Site Total:	5.61 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **5.61 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
RF Engineering Director
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**200 ft Self Supported Tower**
ATC Site Name	:	**Shelton-Trumbull, CT**
ATC Site Number	:	**88017**
Engineering Number	:	**OAA714492_C3_01**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**Shelton SW**
Carrier Site Number	:	**CT5542**
Site Location	:	**14 Oxford Drive-Booth Hill Rd** **Shelton, CT 06484-3455** **41.280200,-73.185500**
County	:	**Fairfield**
Date	:	**October 18, 2017**
Max Usage	:	**98%**
Result	:	**Pass**

Prepared By:
Charles Dalton Wally, E.I.
Structural Engineer I

Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 200 ft self supported tower to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	TEP Job #070851, dated May 30, 2007
Foundation Drawing	Radio Relay Drawing #MS 10478, dated January 27, 1965
Geotechnical Report	Radio Relay Drawing #MS 10478, dated January 27, 1965
Modifications	ATC Project #40480232, dated July 13, 2007

Analysis

The tower was analyzed using Power Line Systems, Inc.'s tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	97 mph (3-Second Gust, V_{asd}) / 125 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) with 1/2" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1

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

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
200.0	212.0	2	5' Yagi	Platform w/ Handrails	(2) EW65 (2) 1 5/8" Coax (1) 1/2" Coax	Other
	222.0	1	15' Dipole			State Of CT
	213.0	1	20' Omni			
	209.0	2	8' Dish w/ Radome			
182.0	189.0	3	Sinclair SC479-HF1LDF	Side Arms	(9) 1 5/8" Coax (5) 0.63" LDF4-50A	
	187.0	3	TX RX Systems 101-83B-09-0-03			
	184.0	5	TTA			
		2	Kathrein AP14-850/105			
	182.0	1	5' Dipole			
169.0	169.0	12	Decibel DB844H90E-A	Sector Frames	(12) 1 5/8" Coax	Sprint Nextel
158.0	158.0	4	DragonWave Horizon Compact	Side Arms	(6) 5/16" Coax (4) 1/2" Coax	Clearwire
		1	DragonWave A-ANT-11G-2-C			
		1	Andrew PX2F-52			
		2	DragonWave A-ANT-11G-3-C			
	156.0	3	NextNet BTS-2500			
		3	Argus LLPX310R			
156.0		6	Andrew DB980H90E-M	Sector Frames	(6) 1 5/8" Coax (3) 1 1/4" Hybriflex	Sprint Nextel
		3	RFS APXVSPP18-C-A20			
150.0	150.0	1	18" x 12" Junction Box	Leg	(2) 2" conduit	Clearwire
		3	Alcatel-Lucent 1900MHz 4X45 RRH			Sprint Nextel
		3	Alcatel-Lucent 800MHz RRH w/ Notch Filter			
145.0	144.0	6	Powerwave 7020.00 Dual Band RET	Sector Frames	(6) 1 5/8" Coax (2) 0.74" 8 AWG 7 (1) 3" conduit (1) 0.28" RG-6	AT&T Mobility
		6	Powerwave LGP21401			
		2	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS 11 (Band 12) (55 lb)			
		3	Ericsson RRUS 32 B2			
		3	Powerwave 7770.00			
		3	CCI HPA-65R-BUU-H6			
127.0	127.0	1	RFS PA6-65AC w/ Radome	Leg	(2) EW65	State Of CT
101.0	111.0	1	Andrew DB616E-BC	Leg	(1) 7/8" Coax	US Dept Of Homeland Security
82.0	86.0	1	Kathrein 750 10074	Stand-Off	(1) 1 5/8" Coax	Ligado Networks
56.0	56.0	1	GPS	Side Arm	(1) 1/2" Coax	Sprint Nextel

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
No loading considered as to be removed						

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
145.0	144.0	3	Ericsson RRUS 32	Sector Frames	(2) 0.78" 8 AWG 6 (1) 3" conduit (1) 0.39" Fiber Trunk	AT&T Mobility
		3	Ericsson RRUS 32 B66			
		3	Quintel QS66512-6			

[1]Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax alongside existing AT&T Mobility coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	64%	Pass
Diagonals	97%	Pass
Truss Diagonals	98%	Pass
Horizontals	91%	Pass
Truss Horizontals	49%	Pass
Anchor Bolts	45%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	191.9	55%
Axial (Kips)	298.3	10%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

AMERICAN TOWER®
CORPORATION

Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

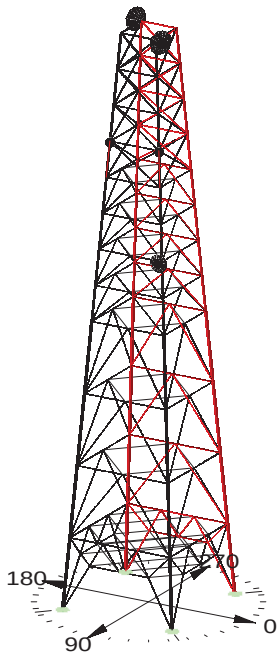
-- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

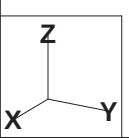
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

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 we supply.

American Tower Corp., Project: "2017.10.18 - AT&T Mobility - OAA714492"
Tower Version 14.20, 6:03:12 PM Wednesday, October 18, 2017
Undeformed geometry displayed





Project Name : 88017 - Shelton/Trumbull
Project Notes:
Project File : N:\L2 - ATC\88017\2017.10.18 - AT&T Mobility - OAA714492\2017.10.18 - AT&T Mobility - OAA714492.tow
Date run : 5:58:08 PM Wednesday, October 18, 2017
by : Tower Version 14.20
Licensed to : American Tower Corp.

Successfully performed nonlinear analysis

Member check option: ANSI/TIA 222-G-1
Connection rupture check: Not Checked
Crossing diagonal check: Fixed
Included angle check: None
Climbing load check: None
Redundant members checked with: Actual Force
Loads from file: n:\l2 - atc\88017\2017.10.18 - at&t mobility - oaa714492\2017.10.18 - at&t mobility - oaa714492.eia

*** Analysis Results:

Maximum element usage is 97.89% for Angle "LD 4Y" in load case "W 180"

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Bending Moment (ft-k)	Vert. Moment (ft-k)	Found. Usage %
W 0	0P	-28.15	-16.35	-218.25	32.56	-1.36	-5.37	5.54	-1.61	0.00
W 0	0X	-26.06	15.75	-201.74	30.45	-0.43	-4.90	4.92	1.54	0.00
W 0	0XY	-28.08	-9.18	113.73	29.54	0.39	-6.31	6.32	1.65	0.00
W 0	0Y	-30.55	9.49	120.97	31.99	-0.30	-6.91	6.92	-1.57	0.00
W 180	0P	31.04	9.04	119.27	32.33	-0.21	7.12	7.13	1.58	0.00
W 180	0X	28.01	-8.95	108.44	29.40	0.48	6.45	6.47	-1.68	0.00
W 180	0XY	25.88	15.70	-197.01	30.27	-0.60	5.03	5.06	-1.55	0.00
W 180	0Y	28.30	-15.64	-215.99	32.33	-1.53	5.56	5.76	1.62	0.00
W 45	0P	-30.22	30.46	-298.32	42.91	4.05	-3.90	5.62	-0.00	0.00
W 45	0X	-12.48	-12.24	-40.29	17.48	5.57	-3.48	6.57	2.37	0.00
W 45	0XY	-29.06	-28.66	191.85	40.82	4.40	-4.52	6.31	-0.00	0.00
W 45	0Y	-11.88	-12.16	-38.53	17.00	3.38	-5.40	6.37	-2.37	0.00
W -45	0P	-13.70	12.18	-50.16	18.33	-5.86	-3.76	6.97	-2.37	0.00
W -45	0X	-28.60	29.73	-283.19	41.25	-4.32	-3.62	5.64	-0.00	0.00
W -45	0XY	-10.39	12.38	-43.02	16.17	-3.34	-5.04	6.05	2.38	0.00
W -45	0Y	-30.08	28.44	191.08	41.39	-4.36	-4.87	6.54	0.02	0.00
W 90	0P	-15.97	-28.53	-221.05	32.70	5.45	1.58	5.68	1.61	0.00
W 90	0X	9.42	-31.10	123.24	32.49	7.02	0.22	7.02	1.56	0.00
W 90	0XY	-9.51	-27.84	114.41	29.42	6.21	-0.48	6.23	-1.66	0.00
W 90	0Y	16.06	-25.93	-201.89	30.50	4.82	0.62	4.85	-1.53	0.00
W -90	0P	9.37	30.96	122.04	32.35	-7.01	0.24	7.01	-1.58	0.00
W -90	0X	-15.86	28.21	-216.75	32.36	-5.46	1.48	5.66	-1.62	0.00
W -90	0XY	15.72	26.10	-198.51	30.47	-5.09	0.55	5.12	1.55	0.00
W -90	0Y	-8.82	28.20	107.92	29.55	-6.53	-0.46	6.55	1.67	0.00
W 0 Ice	0P	-11.63	-9.11	-107.57	14.78	-1.26	0.08	1.26	-0.34	0.00
W 0 Ice	0X	-11.02	8.78	-100.66	14.09	1.06	0.15	1.08	0.32	0.00
W 0 Ice	0XY	-1.04	2.66	-27.24	2.85	1.08	-2.27	2.52	0.34	0.00
W 0 Ice	0Y	-1.06	-2.37	-30.38	2.60	-1.28	-2.38	2.71	-0.33	0.00
W 180 Ice	0P	1.40	-3.15	-34.74	3.45	-1.16	2.63	2.88	0.34	0.00
W 180 Ice	0X	0.97	2.85	-33.06	3.01	1.20	2.44	2.72	-0.37	0.00
W 180 Ice	0XY	10.79	8.62	-94.90	13.81	0.93	-0.00	0.93	-0.34	0.00
W 180 Ice	0Y	11.65	-8.30	-103.15	14.30	-1.40	0.14	1.41	0.35	0.00
W 45 Ice	0P	-12.17	-12.35	-125.68	17.34	-0.29	0.39	0.49	-0.00	0.00
W 45 Ice	0X	-7.92	2.57	-65.49	8.32	2.18	0.45	2.23	0.49	0.00
W 45 Ice	0XY	-1.37	-1.13	-9.79	1.78	1.82	-1.90	2.63	-0.00	0.00
W 45 Ice	0Y	2.90	-7.62	-64.90	8.15	-0.53	-2.06	2.12	-0.50	0.00
W -45 Ice	0P	-8.47	-2.85	-71.33	8.94	-2.27	0.42	2.31	-0.51	0.00
W -45 Ice	0X	-11.63	11.94	-118.89	16.67	0.20	0.43	0.48	-0.01	0.00
W -45 Ice	0XY	2.76	7.93	-61.38	8.39	0.30	-1.99	2.01	0.51	0.00
W -45 Ice	0Y	-1.07	1.37	-14.25	1.74	-2.05	-1.94	2.82	0.02	0.00
W 90 Ice	0P	-8.77	-11.85	-108.16	14.74	0.02	1.40	1.40	0.34	0.00
W 90 Ice	0X	-2.59	-1.42	-30.17	2.96	2.49	1.20	2.77	0.32	0.00
W 90 Ice	0XY	2.41	-0.74	-27.19	2.52	2.17	-1.16	2.46	-0.35	0.00
W 90 Ice	0Y	8.95	-10.84	-100.33	14.06	-0.24	-0.95	0.98	-0.32	0.00
W -90 Ice	0P	-2.88	1.11	-34.28	3.09	-2.52	1.23	2.81	-0.35	0.00
W -90 Ice	0X	-8.60	11.51	-103.45	14.37	-0.05	1.31	1.31	-0.35	0.00
W -90 Ice	0XY	8.50	10.96	-95.22	13.87	-0.08	-1.01	1.01	0.34	0.00
W -90 Ice	0Y	3.06	1.27	-32.90	3.31	-2.53	-1.13	2.77	0.36	0.00

Summary of Joint Support Reactions For All Load Cases in Direction of Leg:

Load Case	Support Origin Joint	Joint	Leg Member	Force In Leg Dir. (kips)	Residual Shear Perpendicular To Leg (kips)	Residual Shear Horizontal To Leg - Res. (kips)	Residual Shear Horizontal To Leg - Long. (kips)	Residual Shear Horizontal To Leg - Tran. (kips)	Total Long. Force (kips)	Total Tran. Force (kips)	Total Vert. Force (kips)
W 0	0P	1P	L 1P	220.298	12.782	12.818	12.780	0.984	-28.15	-16.35	-218.25
W 0	0X	1X	L 1X	203.676	11.912	11.949	11.849	-1.542	-26.06	15.75	-201.74
W 0	0XY	1XY	L 1XY	-115.778	20.050	20.105	20.071	1.168	-28.08	-9.18	113.73
W 0	0Y	1Y	L 1Y	-123.183	21.993	22.052	22.031	-0.969	-30.55	9.49	120.97
W 180	0P	1P	L 1P	-121.496	22.591	22.650	-22.641	-0.643	31.04	9.04	119.27
W 180	0X	1X	L 1X	-110.493	20.357	20.414	-20.372	1.312	28.01	-8.95	108.44
W 180	0XY	1XY	L 1XY	198.954	12.106	12.145	-12.008	-1.822	25.88	15.70	-197.01
W 180	0Y	1Y	L 1Y	218.010	13.060	13.094	-13.087	0.431	28.30	-15.64	-215.99
W 45	0P	1P	L 1P	301.105	13.135	13.200	9.213	9.453	-30.22	-30.46	-298.32
W 45	0X	1X	L 1X	40.105	17.896	17.900	9.643	15.081	-12.48	-12.24	-40.29
W 45	0XY	1XY	L 1XY	-194.951	21.604	21.711	15.552	15.149	-29.06	-28.66	191.85
W 45	0Y	1Y	L 1Y	38.364	17.381	17.385	14.597	9.442	-11.88	-12.16	-38.53
W -45	0P	1P	L 1P	50.019	18.714	18.718	10.169	-15.715	-13.70	12.18	-50.16
W -45	0X	1X	L 1X	285.885	13.003	13.067	8.654	-9.791	-28.60	29.73	-283.19
W -45	0XY	1XY	L 1XY	42.952	16.358	16.360	13.423	-9.353	-10.39	12.38	-43.02
W -45	0Y	1Y	L 1Y	-194.242	22.265	22.375	16.618	-14.982	-30.08	28.44	191.08
W 90	0P	1P	L 1P	223.080	12.938	12.972	0.402	12.966	-15.97	-28.53	-221.05
W 90	0X	1X	L 1X	-125.471	22.371	22.430	-0.739	22.418	9.42	-31.10	123.24
W 90	0XY	1XY	L 1XY	-116.465	19.783	19.839	1.455	19.785	-9.51	-27.84	114.41
W 90	0Y	1Y	L 1Y	203.840	11.813	11.851	-1.838	11.707	16.06	-25.93	-201.89
W -90	0P	1P	L 1P	-124.269	22.318	22.376	-0.779	-22.363	9.37	30.96	122.04
W -90	0X	1X	L 1X	218.767	12.925	12.960	0.599	-12.946	-15.86	28.21	-216.75
W -90	0XY	1XY	L 1XY	200.461	12.203	12.242	-1.737	-12.118	15.72	26.10	-198.51
W -90	0Y	1Y	L 1Y	-109.981	20.578	20.635	1.225	-20.599	-8.82	28.20	107.92
W 0 Ice	0P	1P	L 1P	108.492	4.319	4.337	4.055	1.538	-11.63	-9.11	-107.57
W 0 Ice	0X	1X	L 1X	101.548	4.260	4.278	3.931	-1.687	-11.02	8.78	-100.66
W 0 Ice	0XY	1XY	L 1XY	27.221	3.045	3.049	2.958	-0.737	-1.04	2.66	-27.24
W 0 Ice	0Y	1Y	L 1Y	30.324	3.201	3.207	3.199	0.231	-1.06	-2.37	-30.38
W 180 Ice	0P	1P	L 1P	34.695	3.909	3.915	-3.852	0.703	1.40	-3.15	-34.74
W 180 Ice	0X	1X	L 1X	33.026	3.336	3.341	-3.301	-0.520	0.97	2.85	-33.06
W 180 Ice	0XY	1XY	L 1XY	95.791	4.523	4.543	-4.107	-1.940	10.79	8.62	-94.90
W 180 Ice	0Y	1Y	L 1Y	104.039	4.492	4.508	-4.388	1.033	11.65	-8.30	-103.15
W 45 Ice	0P	1P	L 1P	126.775	4.798	4.821	3.315	3.501	-12.17	-12.35	-125.68
W 45 Ice	0X	1X	L 1X	65.898	3.885	3.886	3.306	2.041	-7.92	2.57	-65.49
W 45 Ice	0XY	1XY	L 1XY	9.567	2.737	2.751	2.061	1.822	-1.37	-1.13	-9.79
W 45 Ice	0Y	1Y	L 1Y	65.314	3.479	3.480	1.674	3.051	2.90	-7.62	-64.90
W -45 Ice	0P	1P	L 1P	71.772	4.079	4.080	3.451	-2.177	-8.47	-2.85	-71.33
W -45 Ice	0X	1X	L 1X	119.954	4.808	4.832	3.254	-3.572	-11.63	11.94	-118.89
W -45 Ice	0XY	1XY	L 1XY	61.829	3.924	3.927	1.559	-3.604	2.76	7.93	-61.38
W -45 Ice	0Y	1Y	L 1Y	14.007	3.138	3.153	2.072	-2.377	-1.07	1.37	-14.25
W 90 Ice	0P	1P	L 1P	109.069	4.365	4.381	1.149	4.228	-8.77	-11.85	-108.16
W 90 Ice	0X	1X	L 1X	30.100	3.566	3.572	0.470	3.541	-2.59	-1.42	-30.17
W 90 Ice	0XY	1XY	L 1XY	27.177	2.697	2.701	-0.494	2.656	2.41	-0.74	-27.19
W 90 Ice	0Y	1Y	L 1Y	101.224	4.204	4.222	-1.885	3.778	8.95	-10.84	-100.33
W -90 Ice	0P	1P	L 1P	34.235	3.553	3.560	0.468	-3.529	-2.88	1.11	-34.28
W -90 Ice	0X	1X	L 1X	104.347	4.408	4.425	1.318	-4.224	-8.60	11.51	-103.45
W -90 Ice	0XY	1XY	L 1XY	96.118	4.598	4.617	-1.796	-4.254	8.50	10.96	-95.22
W -90 Ice	0Y	1Y	L 1Y	32.862	3.660	3.665	-0.740	-3.590	3.06	1.27	-32.90

Overturning Moment Summary For All Load Cases:

Load Case	Transverse Moment (ft-k)	Longitudinal Moment (ft-k)	Resultant Moment (ft-k)
W 0	192.329	13584.856	13586.217
W 180	169.056	-13294.829	13295.903
W 45	10134.689	10207.414	14384.131
W -45	-9693.121	9989.210	13919.085
W 90	13707.233	214.330	13708.909
W -90	-13388.211	85.316	13388.483
W 0 Ice	208.547	3124.967	3131.918
W 180 Ice	266.196	-2702.589	2710.444
W 45 Ice	2392.405	2416.831	3400.688
W -45 Ice	-1964.859	2377.686	3084.487
W 90 Ice	3135.883	224.068	3143.878
W -90 Ice	-2728.437	199.312	2735.708

EIA Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Top Width (ft)	Bottom Width (ft)	Gross Area (ft^2)	Face Af Adjust Factor	Face Ar Adjust Factor	Dead Load Factor
187.5-200.0	200.000	187.500	8	20	13.33	15.09	177.63	1.1270	1.1270	1.352
175.0-187.5	187.500	175.000	8	16	15.09	16.85	199.64	1.1800	1.1800	1.416
162.5-175.0	175.000	162.500	8	16	16.85	18.61	221.64	1.2080	1.2080	1.449
150.0-162.5	162.500	150.000	12	24	18.61	20.37	243.65	1.2150	1.2150	1.458
137.5-150.0	150.000	137.500	16	24	20.37	22.13	265.66	1.2180	1.2180	1.462

125.0-137.5	137.500	125.000	16	24	22.13	23.89	287.67	1.2240	1.2240	1.469
112.5-125.0	125.000	112.500	16	24	23.89	25.65	309.68	1.2390	1.2390	1.487
100.0-112.5	112.500	100.000	16	24	25.65	27.42	331.68	1.2450	1.2450	1.494
75.00-100.0	100.000	75.000	16	24	27.42	30.94	729.39	1.2770	1.2770	1.532
50.00-75.00	75.000	50.000	16	24	30.94	34.46	817.42	1.2930	1.2930	1.551
25.00-50.00	50.000	25.000	20	32	34.46	37.98	905.45	1.3350	1.3350	1.602
0.000-25.00	25.000	0.000	28	56	37.98	41.50	993.48	1.2150	1.2150	1.458

Printed capacities do not include the strength factor entered for each load case.
The Group Summary reports on the member and load case that resulted in maximum usage which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Cont-rol	Max Use In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	L/r Capacity (kips)	Comp. Connect. Shear Capacity (kips)	Comp. Connect. Bearing Capacity (kips)	RLX	RLY	RLZ	L/r	KL/r Length Comp. Member (ft)	Curve No.	No. Of Bolts Comp.
Leg S1	L 8" x 8" x 1.125"	SAE	8X8X1.13	33.0	64.46	Comp	64.46	L 1P	-262.181	W 45	406.720	0.000	0.000	0.333	0.333	0.333	64.41	64.41 25.124	1	0
Leg S2	L 8" x 8" x 1"	SAE	8X8X1	33.0	61.97	Comp	61.97	L 2P	-225.997	W 45	364.663	0.000	0.000	0.333	0.333	0.333	64.41	64.41 25.124	1	0
Leg S3	L 8" x 8" x 0.875"	SAE	8X8X0.88	33.0	58.10	Comp	58.10	L 3P	-187.351	W 45	322.451	0.000	0.000	0.333	0.333	0.333	64.00	64.00 25.124	1	0
Leg S4	L 8" x 8" x 0.75"	SAE	8X8X0.75	33.0	52.63	Comp	52.63	L 4P	-147.106	W 45	279.520	0.000	0.000	0.333	0.333	0.333	63.60	63.60 25.124	1	0
Leg S5	L 6" x 6" x 0.875"	SAE	6X6X0.88	33.0	53.69	Comp	53.69	L 5P	-126.992	W 45	236.535	0.000	0.000	0.500	0.500	0.500	64.42	64.42 12.562	1	0
Leg S6	L 6" x 6" x 0.875"	SAE	6X6X0.88	33.0	44.85	Comp	44.85	L 6P	-106.089	W 45	236.535	0.000	0.000	0.500	0.500	0.500	64.42	64.42 12.562	1	0
Leg S7	L 6" x 6" x 0.75"	SAE	6X6X0.75	33.0	42.64	Comp	42.64	L 7P	-87.488	W 45	205.175	0.000	0.000	0.500	0.500	0.500	64.42	64.42 12.562	1	0
Leg S8	L 6" x 6" x 0.75"	SAE	6X6X0.75	33.0	33.22	Comp	33.22	L 8P	-68.164	W 45	205.175	0.000	0.000	0.500	0.500	0.500	64.42	64.42 12.562	1	0
Leg S9	L 6" x 6" x 0.75"	SAE	6X6X0.75	33.0	31.97	Comp	31.97	L 9P	-65.603	W 45	205.175	0.000	0.000	0.500	0.500	0.500	64.42	64.42 12.562	1	0
Leg S10	L 6" x 6" x 0.75"	SAE	6X6X0.75	33.0	22.97	Comp	22.97	L 10P	-47.125	W 45	205.175	0.000	0.000	0.500	0.500	0.500	64.42	64.42 12.562	1	0
Leg S11	L 6" x 6" x 0.5"	SAE	6X6X0.5	33.0	20.76	Comp	20.76	L 11P	-29.120	W 45	140.255	0.000	0.000	0.500	0.500	0.500	63.87	63.87 12.562	1	0
Leg S12	**L 6" x 6" x 0.5"**	**SAE**	**6X6X0.5**	**33.0**	**9.69**	**Comp**	**9.69**	**L 12P**	**-13.591**	**W 45**	**140.255**	**0.000**	**0.000**	**0.500**	**0.500**	**0.500**	**63.87**	**63.87 12.562**	**1**	**0**
Diag S1	B/B L3"x3"x0.25"	DAE	3X3X0.25	33.0	74.84	Comp	74.84	D 1Y	-29.373	W 180	39.250	0.000	0.000	0.310	0.790	0.310	131.47	127.05 19.276	6	0
Diag S2	B/B L2.5"x3"x0.3125"	DAS	3X2.5X0.31	33.0	88.65	Comp	88.65	D 4Y	-30.973	W 180	34.937	0.000	0.000	0.310	0.620	0.310	160.23	144.74 31.444	6	0
Diag S3	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	33.0	97.38	Comp	97.38	D 6Y	-30.901	W 180	31.734	0.000	0.000	0.310	0.620	0.310	156.05	142.17 30.413	6	0
Diag S4	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	33.0	89.93	Comp	89.93	D 8Y	-29.668	W 180	32.989	0.000	0.000	0.310	0.620	0.310	151.11	139.14 29.451	6	0
Diag S5	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	92.18	Comp	92.18	D 10Y	-19.031	W 180	20.646	0.000	0.000	0.500	1.000	0.500	187.28	161.38 18.572	6	0
Diag S6	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	82.14	Comp	82.14	D 12Y	-17.824	W 180	21.700	0.000	0.000	0.500	1.000	0.500	180.83	157.41 17.932	6	0
Diag S7	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	75.65	Comp	75.65	D 13P	-17.248	W 90	22.798	0.000	0.000	0.500	1.000	0.500	174.59	153.57 17.313	6	0
Diag S8	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	73.08	Comp	73.08	D 15P	-17.492	W 90	23.935	0.000	0.000	0.500	1.000	0.500	168.59	149.88 16.718	6	0
Diag S9	L 3" x 4" x 0.25"	SAU	4X3X0.25	33.0	41.65	Tens	0.00	D 18Y	0.000		0.000	0.000	0.000	100.000	100.000	100.000	42714.51	32577.05 23.173	5	0
Diag S10	L 3" x 4" x 0.25"	SAU	4X3X0.25	33.0	35.52	Tens	0.00	D 20Y	0.000		0.000	0.000	0.000	100.000	100.000	100.000	40023.07	30526.18 21.713	5	0
Diag S11	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	33.0	27.91	Tens	0.00	D 22Y	0.000		0.001	0.000	0.000	100.000	100.000	100.000	35101.11	26775.65 20.300	5	0
Diag S12	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	33.0	18.59	Tens	0.00	D 24Y	0.000		0.001	0.000	0.000	100.000	100.000	100.000	32759.97	24991.70 18.946	5	0
Horiz 1	B/B L3"x3"x0.3125"	DAE	3X3X0.31	33.0	91.06	Comp	91.06	H 2P	-39.241	W 180	43.092	0.000	0.000	0.950	0.950	0.950	156.53	142.47 12.660	6	0
Horiz 2	B/B L3.5"x2.5"x0.3125"	DAL	3.5X2.5X0.31	33.0	54.21	Comp	54.21	H 4P	-16.611	W 180	30.639	0.000	0.000	1.000	1.000	1.000	187.95	161.79 17.229	6	0
Horiz 3	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	72.70	Comp	72.70	H 6P	-15.487	W 180	21.304	0.000	0.000	1.000	1.000	1.000	196.42	167.00 15.468	6	0
Horiz 4	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	55.82	Comp	55.82	H 8P	-14.121	W 180	25.299	0.000	0.000	1.000	1.000	1.000	174.06	153.25 13.708	6	0
Horiz 5	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	68.27	Comp	68.27	H 10P	-12.807	W 180	18.758	0.000	0.000	1.000	1.000	1.000	200.16	169.30 12.827	6	0
Horiz 6	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	56.60	Comp	56.60	H 12P	-11.761	W 180	20.781	0.000	0.000	1.000	1.000	1.000	186.43	160.85 11.947	6	0
Horiz 7	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	31.93	Comp	31.93	H 13X	-10.674	W 90	33.425	0.000	0.000	1.000	1.000	1.000	140.53	132.62 11.067	6	0
Horiz 8	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	52.67	Comp	52.67	H 15X	-19.180	W 90	36.417	0.000	0.000	1.000	1.000	1.000	129.35	125.75 10.186	6	0
Horiz 9	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	77.40	Comp	77.40	H 18P	-16.341	W 180	21.113	0.000	0.000	0.500	1.000	0.500	197.65	167.75 18.612	6	0
Horiz 10	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	29.56	Comp	29.56	H 20P	-13.292	W 180	44.957	0.000	0.000	0.500	0.500	0.500	106.99	106.99 16.851	1	0
Horiz 11	**L 4" x 3" x 0.3125"**	**SAU**	**4X3X0.31**	**33.0**	**40.59**	**Comp**	**40.59**	**H 22P**	**-10.424**	**W 180**	**25.680**	**0.000**	**0.000**	**0.500**	**0.500**	**0.500**	**139.94**	**135.24 15.091**	**5**	**0**
Horiz 12	**L 4" x 3" x 0.3125"**	**SAU**	**4X3X0.31**	**33.0**	**61.11**	**Comp**	**61.11**	**H 24P**	**-6.128**	**W 180**	**10.028**	**0.000**	**0.000**	**1.000**	**0.500**	**1.000**	**247.23**	**216.99 13.330**	**5**	**0**
LD 1	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	33.0	50.12	Tens	1.16	LD 1X	-0.246	W -90	21.135	0.000	0.000	0.970	0.970	0.970	170.23	150.89 11.465	6	0
LD 2	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	97.89	Comp	97.89	LD 4Y	-28.371	W 180	28.983	0.000	0.000	0.970	0.970	0.970	145.89	135.92 9.638	6	0
LD 3	B/B L3"x3"x0.25"	DAE	3X3X0.25	33.0	69.98	Comp	69.98	LD 6P	-27.527	W 180	39.334	0.000	0.000	0.970	0.970	0.970	131.18	126.88 10.481	6	0
LH 1	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	48.57	Tens	0.00	LH 2Y	0.000		0.003	0.000	0.000	100.000	100.000	100.000	17378.17	13270.76 11.137	5	0
DUM 1	Dummy Bracing Member	DUM	0.1X0.1X1	36.0	0.00		0.00	BR 5XY	-1.135	W 45	0.324	0.000	0.000	1.000	1.000	1.000	2.63	2.63 21.875	1	0

Group Summary (Tension Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Cont-rol	Max Use In Tens. %	Tension Control Member	Tension Force (kips)	Tension Control Load Case	Net Section Capacity (kips)	Tension Connect. Shear Capacity (kips)	Tension Connect. Bearing Capacity (kips)	Tension Connect. Rupture Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts	No. Of Holes Tens.	Hole Diameter (in)
Leg S1	L 8" x 8" x 1.125"	SAE	8X8X1.13	33.0	64.46	Comp	27.35	L 1XY	135.921	W 45	496.880	0.000	0.000	0.000	25.124	0	0.000	0
Leg S2	L 8" x 8" x 1"	SAE	8X8X1	33.0	61.97	Comp	31.52	L 2XY	140.421	W 45	445.499	0.000	0.000	0.000	25.124	0	0.000	0
Leg S3	L 8" x 8" x 0.875"	SAE	8X8X0.88	33.0	58.10	Comp	28.53	L 3XY	112.107	W 45	392.930	0.000	0.000	0.000	25.124	0	0.000	0
Leg S4	L 8" x 8" x 0.75"	SAE	8X8X0.75	33.0	52.63	Comp	24.37	L 4XY	82.809	W 45	339.767	0.000	0.000	0.000	25.124	0	0.000	0
Leg S5	L 6" x 6" x 0.875"	SAE	6X6X0.88	33.0	53.69	Comp	23.82	L 5XY	68.846	W 45	288.981	0.000	0.000	0.000	12.562	0	0.000	0
Leg S6	L 6" x 6" x 0.875"	SAE	6X6X0.88	33.0	44.85	Comp	18.96	L 6Y	54.778	W -45	288.981	0.000	0.000	0.000	12.562	0	0.000	0
Leg S7	L 6" x 6" x 0.75"	SAE	6X6X0.75	33.0	42.64	Comp	16.28	L 7XY	40.813	W 45	250.668	0.000	0.000	0.000	12.562	0	0.000	0
Leg S8	L 6" x 6" x 0.75"	SAE	6X6X0.75	33.0	33.22	Comp	10.95	L 8XY	27.448	W 45	250.668	0.000	0.000	0.000	12.562	0	0.000	0
Leg S9	L 6" x 6" x 0.75"	SAE	6X6X0.75	33.0	31.97	Comp	6.33	L 9XY	15.873	W 45	250.668	0.000	0.000	0.000	12.562	0	0.000	0
Leg S10	L 6" x 6" x 0.75"	SAE	6X6X0.75	33.0	22.97	Comp	2.44	L 10XY	6.117	W 45	250.668	0.000	0.000	0.000	12.562	0	0.000	0
Leg S11	L 6" x 6" x 0.5"	SAE	6X6X0.5	33.0	20.76	Comp	0.03	L 11XY	0.048	W 45	170.775	0.000	0.000	0.000	12.562	0	0.000	0
Leg S12	**L 6" x 6" x 0.5"**	**SAE**	**6X6X0.5**	**33.0**	**9.69**	**Comp**	**0.00**	**L 12Y**	**0.000**		**170.775**	**0.000**	**0.000**	**0.000**	**12.562**	**0**	**0.000**	**0**
Diag S1	B/B L3"x3"x0.25"	DAE	3X3X0.25	33.0	74.84	Comp	57.64	D 1P	49.303	W 180	85.536	0.000	0.000	0.000	19.276	0	0.000	0
Diag S2	B/B L2.5"x3"x0.3125"	DAS	3X2.5X0.31	33.0	88.65	Comp	29.26	D 4P	28.157	W 180	96.228	0.000	0.000	0.000	31.444	0	0.000	0
Diag S3	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	33.0	97.38	Comp	36.24	D 6P	28.304	W 180	78.111	0.000	0.000	0.000	30.413	0	0.000	0
Diag S4	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	33.0	89.93	Comp	35.71	D 8P	27.894	W 180	78.111	0.000	0.000	0.000	29.451	0	0.000	0
Diag S5	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	92.18	Comp	24.79	D 10P	17.525	W 180	70.686	0.000	0.000	0.000	18.572	0	0.000	0
Diag S6	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	82.14	Comp	23.29	D 12P	16.463	W 180	70.686	0.000	0.000	0.000	17.932	0	0.000	0
Diag S7	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	75.65	Comp	22.65	D 13X	16.008	W 90	70.686	0.000	0.000	0.000	17.313	0	0.000	0
Diag S8	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	73.08	Comp	22.90	D 15X	16.184	W 90	70.686	0.000	0.000	0.000	16.718	0	0.000	0
Diag S9	L 3" x 4" x 0.25"	SAU	4X3X0.25	33.0	41.65	Tens	41.65	D 18X	20.908	W 90	50.193	0.000	0.000	0.000	23.173	0	0.000	0
Diag S10	L 3" x 4" x 0.25"	SAU	4X3X0.25	33.0	35.52	Tens	35.52	D 20X	17.830	W 90	50.193	0.000	0.000	0.000	21.713	0	0.000	0
Diag S11	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	33.0	27.91	Tens	27.91	D 22X	14.011	W 90	50.193	0.000	0.000	0.000	20.300	0	0.000	0
Diag S12	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	33.0	18.59	Tens	18.59	D 23P	9.330	W 180	50.193	0.000	0.000	0.000	18.946	0	0.000	0
Horiz 1	B/B L3"x3"x0.3125"	DAE	3X3X0.31	33.0	91.06	Comp	16.75	H 2Y	17.663	W 180	105.435	0.000	0.000	0.000	12.660	0	0.000	0
Horiz 2	B/B L3.5"x2.5"x0.3125"	DAL	3.5X2.5X0.31	33.0	54.21	Comp	16.28	H 3P	17.169	W 90	105.435	0.000	0.000	0.000	17.229	0	0.000	0
Horiz 3	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	72.70	Comp	19.86	H 6Y	15.511	W 180	78.111	0.000	0.000	0.000	15.468	0	0.000	0
Horiz 4	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	55.82	Comp	18.79	H 7P	14.676	W 90	78.111	0.000	0.000	0.000	13.708	0	0.000	0
Horiz 5	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	68.27	Comp	18.49	H 9P	13.068	W 90	70.686	0.000	0.000	0.000	12.827	0	0.000	0
Horiz 6	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	56.60	Comp	17.11	H 11P	12.096	W 90	70.686	0.000	0.000	0.000	11.947	0	0.000	0
Horiz 7	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	31.93	Comp	14.47	H 13P	11.303	W 90	78.111	0.000	0.000	0.000	11.067	0	0.000	0
Horiz 8	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	52.67	Comp	2.69	H 15Y	2.100	W 90	78.111	0.000	0.000	0.000	10.186	0	0.000	0
Horiz 9	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	77.40	Comp	0.00	H 18X	0.000		78.111	0.000	0.000	0.000	18.612	0	0.000	0
Horiz 10	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	29.56	Comp	0.00	H 20X	0.000		78.111	0.000	0.000	0.000	16.851	0	0.000	0
Horiz 11	**L 4" x 3" x 0.3125"**	**SAU**	**4X3X0.31**	**33.0**	**40.59**	**Comp**	**0.21**	**H 21P**	**0.128**	**W 0**	**62.073**	**0.000**	**0.000**	**0.000**	**15.091**	**0**	**0.000**	**0**
Horiz 12	**L 4" x 3" x 0.3125"**	**SAU**	**4X3X0.31**	**33.0**	**61.11**	**Comp**	**0.04**	**H 23P**	**0.025**	**W 180**	**62.073**	**0.000**	**0.000**	**0.000**	**13.330**	**0**	**0.000**	**0**
LD 1	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	33.0	50.12	Tens	50.12	LD 2P	31.709	W 180	63.261	0.000	0.000	0.000	11.465	0	0.000	0
LD 2	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	97.89	Comp	32.94	LD 4P	23.284	W 180	70.686	0.000	0.000	0.000	9.638	0	0.000	0
LD 3	B/B L3"x3"x0.25"	DAE	3X3X0.25	33.0	69.98	Comp	33.21	LD 6Y	28.405	W 180	85.536	0.000	0.000	0.000	10.481	0	0.000	0
LH 1	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	48.57	Tens	48.57	LH 2P	34.331	W 180	70.686	0.000	0.000	0.000	11.137	0	0.000	0
DUM 1	Dummy Bracing Member	DUM	0.1X0.1X1	36.0	0.00		0.00	BR 5X	0.852	W -45	0.324	0.000	0.000	0.000	21.875	0	0.000	0

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
W 0	95.54	LD 4P	Angle
W 180	97.89	LD 4Y	Angle
W 45	70.92	LD 3P	Angle
W -45	74.43	LD 4P	Angle
W 90	97.02	LD 3P	Angle
W -90	96.79	LD 3X	Angle
W 0 Ice	29.63	LD 4P	Angle
W 180 Ice	32.16	LD 4Y	Angle
W 45 Ice	27.46	L 1P	Angle
W -45 Ice	26.37	LD 3XY	Angle
W 90 Ice	30.96	LD 3P	Angle
W -90 Ice	31.13	LD 3XY	Angle

*** Weight of structure (lbs):

Weight of Angles*Section DLF:	91885.3
Weight of Equipment:	1444.0
Total:	93329.3

*** End of Report

Site #:	88017			Engineer:	CDW	Windspeed:	No Ice:	97 mph	Ice:	50 mph		Taper:	-0.14085		Taper Change:	200	ft			
Name:	Shelton/Trumbull. CT			Date:	10/18/17	Carrier	AT&T Mobility					FW @ Base:	41.50	ft	FW @ Top:	13.33	ft			

Spreadsheet Version Last Updated: 11/12/2014

Joint Label	Symmetry Code	X Coord. (ft)	Y Coord. (ft)	Z Coord. (ft)	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.	Drop Sub-Brace (Y or Blank)	# Vert	Drop (ft)	Height (ft)	Type	Count	Z-Elev. (ft)	FW (ft)	# Sub-Brace
0	XY-Symmetry	20.75	20.75	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed			8.333	25	2	1	0	41.5	3
1	XY-Symmetry	18.989375	18.989375	25	Free	Free	Free	Free	Free	Free				25	A	2	25	37.97875	2
2	XY-Symmetry	17.22875	17.22875	50	Free	Free	Free	Free	Free	Free				25	A	3	50	34.4575	2
3	XY-Symmetry	15.468125	15.468125	75	Free	Free	Free	Free	Free	Free				25	A	4	75	30.93625	2
4	XY-Symmetry	13.7075	13.7075	100	Free	Free	Free	Free	Free	Free				12.5	A	5	100	27.415	1
5	XY-Symmetry	12.8271875	12.8271875	112.5	Free	Free	Free	Free	Free	Free				12.5	A	6	112.5	25.654375	1
6	XY-Symmetry	11.946875	11.946875	125	Free	Free	Free	Free	Free	Free				12.5	A	7	125	23.89375	1
7	XY-Symmetry	11.0665625	11.0665625	137.5	Free	Free	Free	Free	Free	Free				12.5	A	8	137.5	22.133125	1
8	XY-Symmetry	10.18625	10.18625	150	Free	Free	Free	Free	Free	Free		1		12.5	X	9	150	20.3725	1
9	XY-Symmetry	9.3059375	9.3059375	162.5	Free	Free	Free	Free	Free	Free		1		12.5	X	10	162.5	18.611875	1
10	XY-Symmetry	8.425625	8.425625	175	Free	Free	Free	Free	Free	Free		1		12.5	X	11	175	16.85125	1
11	XY-Symmetry	7.5453125	7.5453125	187.5	Free	Free	Free	Free	Free	Free				12.5	X	12	187.5	15.090625	1
12	XY-Symmetry	6.665	6.665	200	Free	Free	Free	Free	Free	Free						13	200	13.33	
A1	XY-Symmetry	18.989375	6.329791667	25	Free	Free	Free	Free	Free	Free									
A2	XY-Symmetry	6.329791667	18.989375	25	Free	Free	Free	Free	Free	Free									
A3	Y-Symmetry	17.22875	0	50	Free	Free	Free	Free	Free	Free									
A4	X-Symmetry	0	17.22875	50	Free	Free	Free	Free	Free	Free									
A5	Y-Symmetry	15.468125	0	75	Free	Free	Free	Free	Free	Free									
A6	X-Symmetry	0	15.468125	75	Free	Free	Free	Free	Free	Free									
A7	Y-Symmetry	13.7075	0	100	Free	Free	Free	Free	Free	Free									
A8	X-Symmetry	0	13.7075	100	Free	Free	Free	Free	Free	Free									
A9	Y-Symmetry	12.8271875	0	112.5	Free	Free	Free	Free	Free	Free									
A10	X-Symmetry	0	12.8271875	112.5	Free	Free	Free	Free	Free	Free									
A11	Y-Symmetry	11.946875	0	125	Free	Free	Free	Free	Free	Free									
A12	X-Symmetry	0	11.946875	125	Free	Free	Free	Free	Free	Free									
A13	Y-Symmetry	11.0665625	0	137.5	Free	Free	Free	Free	Free	Free									
A14	X-Symmetry	0	11.0665625	137.5	Free	Free	Free	Free	Free	Free									
A15	Y-Symmetry	10.18625	0	150	Free	Free	Free	Free	Free	Free									
A16	X-Symmetry	0	10.18625	150	Free	Free	Free	Free	Free	Free									
H1	XY-Symmetry	19.57624765	11.13650855	16.6667	Free	Free	Free	Free	Free	Free									
H2	XY-Symmetry	11.13650855	19.57624765	16.6667	Free	Free	Free	Free	Free	Free									
H3	Y-Symmetry	19.57624765	0	16.6667	Free	Free	Free	Free	Free	Free									
H4	X-Symmetry	0	19.57624765	16.6667	Free	Free	Free	Free	Free	Free									

NOTES	
Types:	
1:	Built up Horizs. w/ A
2:	Built up Horizs. w/ M
A:	Typical A brace
X:	Typical X brace
Drop:	Use only for types 1 & 2

# Sections:	12

Legs

Site No.:	88017
Engineer:	CDW
Date:	10/18/2017
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations *(ft)*	Type of Shape [1]	Diameter or Length *(in)*	Thickness [2] *(in)*	F_Y *(ksi)*
1	0.000-25.00	L	8	1.125	33
2	25.00-50.00	L	8	1	33
3	50.00-75.00	L	8	0.875	33
4	75.00-100.0	L	8	0.75	33
5	100.0-112.5	L	6	0.875	33
6	112.5-125.0	L	6	0.875	33
7	125.0-137.5	L	6	0.75	33
8	137.5-150.0	L	6	0.75	33
9	150.0-162.5	L	6	0.75	33
10	162.5-175.0	L	6	0.75	33
11	175.0-187.5	L	6	0.5	33
12	187.5-200.0	L	6	0.5	33

Notes:

[1] Type of Leg Shape: **R** = Round or **P** = Bent Plate or **S** = Schifflerized Angle. **L** = Even Leg

[2] For Solid Round Leg Shapes Thickness Equals Zero.

[3] Adjust for Bent Plate Leg Shapes.

Diagonals

Site No.:	88017
Engineer:	CDW
Date:	10/18/2017
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape [1]	Diameter [2] (in)	Web Length [3] (in)	Flange Length [3] (in)	Thickness (in)	F_y (ksi)	Is Diag. Tension Only? (Y/N)
1	0.000-25.00	2L		3	3	0.25	33	
2	25.00-50.00	2L		2.5	3	0.3125	33	
3	50.00-75.00	2L		2.5	3	0.25	33	
4	75.00-100.0	2L		2.5	3	0.25	33	
5	100.0-112.5	2L		2.5	2.5	0.25	33	
6	112.5-125.0	2L		2.5	2.5	0.25	33	
7	125.0-137.5	2L		2.5	2.5	0.25	33	
8	137.5-150.0	2L		2.5	2.5	0.25	33	
9	150.0-162.5	L		3	4	0.25	33	Y
10	162.5-175.0	L		3	4	0.25	33	Y
11	175.0-187.5	L		3.5	3.5	0.25	33	Y
12	187.5-200.0	L		3.5	3.5	0.25	33	Y

Notes:

[1] Type of Diagonal Shape: **R** = Round, **L** = Single-Angle or **2L** = Double-Angle.

[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

[3] Applies to Single-Angle and Double-Angle Shapes only.

[4] Applies to Double-Angle Shapes only.

[5] Applies to Single-Angle Shapes only.

Horizontals

Site No.:	88017
Engineer:	CDW
Date:	10/18/2017
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape [1]	Diameter [2] (in)	Web Length [3] (in)	Flange Length [3] (in)	Thickness (in)	F_y (ksi)	
1	0.000-25.00	2L		3	3	0.3125	33	
2	25.00-50.00	2L		3.5	2.5	0.3125	33	
3	50.00-75.00	2L		3	2.5	0.25	33	
4	75.00-100.0	2L		3	2.5	0.25	33	
5	100.0-112.5	2L		2.5	2.5	0.25	33	
6	112.5-125.0	2L		2.5	2.5	0.25	33	
7	125.0-137.5	2L		3	2.5	0.25	33	
8	137.5-150.0	2L		3	2.5	0.25	33	
9	150.0-162.5	2L		3	2.5	0.25	33	
10	162.5-175.0	2L		3	2.5	0.25	33	
11	175.0-187.5	L		4	3	0.3125	33	
12	187.5-200.0	L		4	3	0.3125	33	

Notes:

[1] Type of Horizontal Shape: **R** = Round, **L** = Single-Angle, **2L** = Double-Angle, **C** = Channel, **W** = W Shape

[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

[3] Applies to Single-Angle and Double-Angle Shapes only.

[4] Applies to Double-Angle Shapes only.

[5] Applies to Single-Angle Shapes only.

Built-up Diagonals

Site No.:	88017
Engineer:	CDW
Date:	10/18/2017
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.
Input diags. from left to center & from base section upward.

Tower Built-up Diag. #	Section Elevations *(ft)*	Type of Shape [1]	Diameter [2] *(in)*	Web Length [3] *(in)*	Flange Length [3] *(in)*	Thickness *(in)*	F_y *(ksi)*
1	0.000-25.00	2L		2.5	2	0.25	33
2	0.000-25.00	2L		2.5	2.5	0.25	33
3	0.000-25.00	2L		3	3	0.25	33

Notes:

[1] Type of Diagonal Shape: **R** = Round, **L** = Single-Angle or **2L** = Double-Angle.

[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

[3] Applies to Single-Angle and Double-Angle Shapes only.

[4] Applies to Double-Angle Shapes only.

[5] Applies to Single-Angle Shapes only.

Built-up Horizontals

Site No.:	88017
Engineer:	CDW
Date:	10/18/2017
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations *(ft)*	Type of Shape [1]	Diameter [2] *(in)*	Web Length [3] *(in)*	Flange Length [3] *(in)*	Thickness *(in)*	F_y *(ksi)*	Is Horiz. Tension Only? *(Y/N)*
1	0.000-25.00	2L		2.5	2.5	0.25	33	Y

Notes:

[1] Type of Horizontal Shape: **R** = Round, **L** = Single-Angle or **2L** = Double-Angle.

[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

[3] Applies to Single-Angle and Double-Angle Shapes only.

[4] Applies to Double-Angle Shapes only.

[5] Applies to Single-Angle Shapes only.

Coax (p. 1 of 2)

Orig by MED, Improved by ABL. Last update 6/25/13 MED

Site No.:	88017
Engineer:	CDW
Date:	10/18/17
Carrier:	AT&T Mobility

Description	From (ft)	To (ft)	Quantity	Shape	Width or Diameter (in)	Perimeter (in)	Unit Weight (lb/ft)	Part of Face Solidity Ratio (Yes/No)	Include in Wind Load (Yes/No)
1 Ladder	0	200	1	Flat	2	8.0	6	Yes	Yes
2 OTHER	10	200	1	Round	0.63	2.0	0.15	Yes	Yes
3 STATE OF CT	10	200	1	Round	1.98	6.2	0.82	Yes	Yes
4 STATE OF CT	10	200	1	Round	1.98	6.2	0.82	Yes	Yes
5 STATE OF CT	10	200	2	Round	2.01	6.3	0.57	Yes	Yes
6 STATE OF CT	10	182	1	Flat	4.8375	25.8	4.1	Yes	Yes
7 STATE OF CT	10	182	1	Flat	2.30625	12.3	0.75	Yes	Yes
8 STATE OF CT	10	182	1	Flat	3.72	19.8	3.28	Yes	Yes
9 SPRINT NEXTEL	10	169	1	Flat	12.66	43.7	9.84	Yes	Yes
10 CLEARWIRE	10	158	1	Round	2.52	5.8	0.6	No	No
11 CLEARWIRE	10	158	1	Round	1.86	4.1	0.3	No	No
12 SPRINT NEXTEL	10	156	3	Round	1.54	4.8	1	Yes	Yes
13 SPRINT NEXTEL	10	156	6	Round	1.98	6.2	0.82	Yes	Yes
14 CLEARWIRE	10	150	1	Round	2.38	14.3	7.3	Yes	Yes
15 AT&T MOBILITY	10	145	6	Round	1.98	6.2	0.82	Yes	Yes
16 AT&T MOBILITY	10	145	2	Round	0.78	2.5	0.59	Yes	Yes
17 AT&T MOBILITY	10	145	1	Round	1.11	3.8	0.98	No	No
18 AT&T MOBILITY	10	145	2	Round	3.5	11.0	7.58	Yes	Yes
19 AT&T MOBILITY	10	145	1	Round	0.28	0.9	0.03	No	No
20 AT&T MOBILITY	10	145	1	Round	0.39	1.2	0.17	Yes	Yes
21 STATE OF CT	10	127	2	Round	2.01	6.3	0.57	Yes	Yes
22 US DEPT OF HS	10	101	1	Round	1.09	4.4	0.33	Yes	Yes
23 LIGADO	10	82	1	Round	1.98	7.9	0.82	Yes	Yes
24 SPRINT NEXTEL	10	56	1	Round	0.63	2.0	0.15	Yes	Yes
41 Waveguide	10	176	1	Flat	2	8.0	6.0	Yes	Yes
42 Waveguide	10	165	1	Flat	2	8.0	6.0	Yes	Yes
43 Waveguide	10	155	1	Flat	2	8.0	6.0	Yes	Yes
44 Waveguide	10	143	1	Flat	2	8.0	6.0	Yes	Yes

Coax (p. 2 of 2)

Site No.:	88017
Engineer:	CDW
Date:	10/18/17
Carrier:	AT&T Mobility

		Exposure	B	α	7	$k_{z\,max}$	2.01
Tia Code:	TIA-222-G	Topo Cat:	1	z_g	1200	$k_{z\,min}$	0.7
f				K_e	0.9	K_t	

Description	From (ft)	To (ft)	Quantity	Face # (1-4, A-D)	Coax Width (in)	Coax Shape (Block / Flat / Ind)	% Exposed	Spacing (in)	Shape (Round/Flat)	Block Width (# coax)	Block Depth (# coax)	Perimeter (in)	Unit Weight (lb/ft)	In Face Zone (Yes/No)	Include in Wind Load (Yes/No)
Ladder	0	200	1	A	2.00	Flat	100		Flat	1	1	8.0	6	Yes	Yes
OTHER	10	200	1	B	0.63	Ind	100	1	Round	1	1	2.0	0.15	Yes	Yes
STATE OF CT	10	200	1	B	1.98	Ind	100		Round	1	1	6.2	0.82	Yes	Yes
STATE OF CT	10	200	1	B	1.98	Ind	100	1	Round	1	1	6.2	0.82	Yes	Yes
STATE OF CT	10	200	2	B	2.01	Ind	100		Round	2	1	6.3	0.57	Yes	Yes
STATE OF CT	10	182	5	B	1.98	Block	50	1	Flat	3	2	25.8	4.1	Yes	Yes
STATE OF CT	10	182	5	B	0.63	Block	50	1	Flat	3	2	12.3	0.75	Yes	Yes
STATE OF CT	10	182	4	B	1.98	Block	50	1	Flat	2	2	19.8	3.28	Yes	Yes
SPRINT NEXTEL	10	169	12	3	1.98	Block	50	1	Flat	6	2	43.7	9.84	Yes	Yes
CLEARWIRE	10	158	4	2	0.63	Ind	0	1	Round	1	4	5.8	0.6	No	No
CLEARWIRE	10	158	6	2	0.31	Ind	0		Round	1	6	4.1	0.3	No	No
SPRINT NEXTEL	10	156	3	3	1.54	Ind	100	1	Round	3	1	4.8	1	Yes	Yes
SPRINT NEXTEL	10	156	6	3	1.98	Ind	100		Round	6	1	6.2	0.82	Yes	Yes
CLEARWIRE	10	150	2	2	2.38	Ind	100	1	Round	2	1	7.5	3.65	Yes	Yes
AT&T MOBILITY	10	145	6	C	1.98	Ind	100		Round	6	1	6.2	0.82	Yes	Yes
AT&T MOBILITY	10	145	2	C	0.78	Ind	100	1	Round	2	1	2.5	0.59	Yes	Yes
AT&T MOBILITY	10	145	2	C	0.74	Ind	0		Round	1	2	3.8	0.98	No	No
AT&T MOBILITY	10	145	2	C	3.50	Ind	100	1	Round	2	1	11.0	7.58	Yes	Yes
AT&T MOBILITY	10	145	1	C	0.28	Ind	0		Round	1	1	0.9	0.03	No	No
AT&T MOBILITY	10	145	1	C	0.39	Ind	100	1	Round	1	1	1.2	0.17	Yes	Yes
STATE OF CT	10	127	2	B	2.01	Ind	100		Round	2	1	6.3	0.57	Yes	Yes
US DEPT OF HS	10	101	1	4	1.09	Ind	100	1	Round	1	1	3.4	0.33	Yes	Yes
LIGADO	10	82	1	2	1.98	Ind	100		Round	1	1	6.2	0.82	Yes	Yes
SPRINT NEXTEL	10	56	1	3	0.63	Ind	100	1	Round	1	1	2.0	0.15	Yes	Yes
														No	No
								1						No	No
														No	No
								1						No	No
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								1						No	No
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								1						No	No
														No	No
								1						No	No
														No	No
								1						No	No
Waveguide	10	176	1	A	2.00	Flat	100		Flat	1	1	8.0	6	Yes	Yes
Waveguide	10	165	1	2	2.00	Flat	100	1	Flat	1	1	8.0	6	Yes	Yes
Waveguide	10	155	1	2	2.00	Flat	100		Flat	1	1	8.0	6	Yes	Yes
Waveguide	10	143	1	D	2.00	Flat	100	1	Flat	1	1	8.0	6	Yes	Yes
														No	No
								1						No	No
														No	No
								1						No	No
														No	No
								1						No	No
														No	No
								1						No	No
														No	No
								1						No	No
														No	No
								1						No	No
														No	No
								1						No	No

Dishes

Site No.:	88017
Engineer:	CDW
Date:	10/18/17
Carrier:	AT&T Mobility

Dish Types	
S	Standard
R	Standard w/ Radome
H	High Performance
G	Grid

Dish Number	Dish Elevation (ft)	Dish Dia. (ft)	Dish Angle (deg)	Dish Type	Joint Orientation	Equipment Staus
1	200	8	68	R	XY	
2	200	8	240	R	P	
3	158	2	343.6664	H	XY	
4	158	2	126.6024	S	XY	
5	158	3	212.6351	H	P	
6	158	3	212.6351	H	X	
7	127	6	182	R	P	
8						
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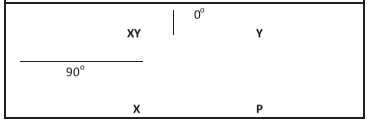
Equipment Label	Attach Label	Equipment Property Set	EIA Antenna Orientation Angle *(deg)*
8' RAD 1 @ 200'	12XY	8 ft RAD Dish	68
8' RAD 2 @ 200'	12P	8 ft RAD Dish	240
2' HP 3 @ 158'	9XY	2 ft HP Dish	343.6664
2' STD 4 @ 158'	9XY	2 ft STD Dish	126.6024
3' HP 5 @ 158'	9P	3 ft HP Dish	212.6351
3' HP 6 @ 158'	9X	3 ft HP Dish	212.6351
6' RAD 7 @ 127'	6P	6 ft RAD Dish	182

Joint Orientation



Task:	Determine Point Loads	
Tower Height:	200	ft
Gh:	0.85	
Wind Speed:	97	mph, Vasd
Ice Wind Speed:	50	
Ice Density:	56	
Tower Type:	S	

Ice Thick:	0.5	in
Topographic Category (1-4):	1	
Exposure Category (B-D):	B	
Structure Class (1-3):	2	
Height of Crest (H) if Topo Cat. >1:	0	ft
Load Factor; Wind:	1.6	
Load Factor; Dead:	1.2	

Site No.:	88017
Engineer:	CDW
Date:	10/18/2017
Carrier:	AT&T Mobility

No.	Carrier	Elevation (ft)	Quantity	# of Azimuths		Manufacturer	Model	Height (in)	Width (in)	Depth (in)	Weight (lbs/ea)	Flat/Round (F/R)	Reduction	C_AA_C (ft^2)	Weight (k)	Ka
1		200	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		200	1	4			Platform w/ HR						1.000	80.00	9.00	1
2		200	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		200	4	4			Mounting Frames						1.000	20.00	0.20	1
3		187.5	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		187.5	1	4			Access Platform						1.000	45.00	5.00	1
4		175	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		175	1	4			Catwalk						1.000	55.00	5.00	1
5		112.5	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		112.5	1	3			Catwalk						1.000	60.00	6.00	1
6		100	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		100	1	1			Rest Platform						1.000	15.00	0.50	1
7		75	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		75	1	3			Catwalk						1.000	70.00	8.00	1
8		50	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		50	1	1			Rest Platform						1.000	15.00	0.50	1
9	OTHER	212	1	1		Generic	5' Yagi	60	60	3	20	F	1.000			1
	OTHER	200	1	1			-						0.001	0.00	0.00	1
10	OTHER	210	1	1		Generic	5' Yagi	60	60	3	20	F	1.000			1
	OTHER	200	1	1			-						0.001	0.00	0.00	1
11	STATE OF CT	222	1	1		Generic	15' Dipole	180	3	3	45	R	1.000			1
	STATE OF CT	200	1	1			-						0.001	0.00	0.00	1
12	STATE OF CT	213	1	1		Generic	20' Omni	240	3	3	55	R	1.000			1
	STATE OF CT	200	1	1			-						0.001	0.00	0.00	1
13	STATE OF CT	184	1	1		Generic	TTA	12	12	6	10	F	1.000			1
	STATE OF CT	182	2	2			Side Arm						1.000	6.30	0.15	1
14	STATE OF CT	184	2	2		Generic	TTA	12	12	6	10	F	1.000			1
	STATE OF CT	182	1	1			Flat Sector Frames						1.000	17.90	0.40	1
15	STATE OF CT	184	2	2		Generic	TTA	12	12	6	10	F	1.000			1
	STATE OF CT	182	1	1			-						0.001	0.00	0.00	1
16	STATE OF CT	182	1	1		Generic	5' Dipole	60	3	3	15	R	1.000			1
	STATE OF CT	182	1	1			-						0.001	0.00	0.00	1
17	STATE OF CT	187	1	1		TX RX Systems	101-83B-09-0-03	120	3.6	3.6	45	R	1.000			1
	STATE OF CT	182	1	1			-						0.001	0.00	0.00	1
18	STATE OF CT	187	1	1		TX RX Systems	101-83B-09-0-03	120	3.6	3.6	45	R	1.000			1
	STATE OF CT	182	1	1			-						0.001	0.00	0.00	1
19	STATE OF CT	173	1	1		TX RX Systems	101-83B-09-0-03	120	3.6	3.6	45	R	1.000			1
	STATE OF CT	182	1	1			-						0.001	0.00	0.00	1
20	STATE OF CT	189	1	1		Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	182	1	1			-						0.001	0.00	0.00	1
21	STATE OF CT	171	1	1		Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	182	1	1			-						0.001	0.00	0.00	1
22	STATE OF CT	171	1	1		Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	182	1	1			-						0.001	0.00	0.00	1
23	STATE OF CT	184	2	2		Kathrein Scala	AP14-850/105	101.5	10	4	26.8	F	1.000			1
	STATE OF CT	182	1	1			-						0.001	0.00	0.00	1
24	SPRINT NEXTEL	169	12	3		Decibel	DB844H90E-A	48	6	8.5	10	F	0.861			0.8
	SPRINT NEXTEL	169	3	3			Flat Sector Frames						0.750	17.90	0.40	0.75
25	CLEARWIRE CORPORATION	158	4	3		DragonWave	Horizon Compact	4.7	9.3	9.3	10.6	F	0.929			0.8
	CLEARWIRE CORPORATION	158	3	3			Flat Sector Frames						0.750	17.90	0.40	0.75
26	CLEARWIRE CORPORATION	156	3	3		NextNet	BTS-2500	19.3	11.3	5.1	35	F	0.763			0.8
	CLEARWIRE CORPORATION	158	1	1			-						0.001	0.00	0.00	1
27	CLEARWIRE CORPORATION	156	3	3		Argus	LLPX310R	42	11.8	4.5	28.6	F	0.726			0.8
	CLEARWIRE CORPORATION	158	1	1			-						0.001	0.00	0.00	1
28	SPRINT NEXTEL	156	6	3		Andrew	DB980H90E-M	60	6.3	3	8.5	F	0.794			0.8
	SPRINT NEXTEL	156	3	3			Flat Sector Frames						0.750	17.90	0.40	0.75
29	SPRINT NEXTEL	156	3	3		RFS	APXVSPP18-C-A20	72	11.8	7	57	F	0.829			0.8
	SPRINT NEXTEL	156	1	1			-						0.001	0.00	0.00	1
30	CLEARWIRE CORPORATION	150	1	1		Generic	18" x 12" Junction Box	18	12	8	15	F	1.000			1
	CLEARWIRE CORPORATION	150	1	1			-						0.001	0.00	0.00	1
31	SPRINT NEXTEL	150	3	3		Alcatel-Lucent	1900 MHz 4X45 RRH	25.1	11.1	10.7	60	F	0.945			1
	SPRINT NEXTEL	150	1	1			-						0.001	0.00	0.00	1
32	SPRINT NEXTEL	150	3	3		Alcatel-Lucent	800 MHz RRH w/ Notch Filter	19.7	13	15.2	61.8	F	0.867			1
	SPRINT NEXTEL	150	1	1			-						0.001	0.00	0.00	1
33	AT&T MOBILITY	144	6	3		Powerwave Allgon	7020.00 Dual Band RET	4.9	8.3	2.4	2.2	F	0.669			0.8
	AT&T MOBILITY	144	3	3			Round Sector Frames						0.750	14.40	0.30	0.75
34	AT&T MOBILITY	144	6	3		Powerwave Allgon	LGP21401	14.4	9.2	2.6	14.1	F	0.665			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
35	AT&T MOBILITY	144	2	2		Raycap	DC6-48-60-18-8F ("Squid")	24	11	11	31.8	R	1.000			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
36	AT&T MOBILITY	144	3	3		Ericsson	RRUS 11 (Band 12) (55 lb)	17.8	17	7.2	55	F	0.747			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
37	AT&T MOBILITY	144	3	3	Proposed	Ericsson	RRUS 32 (50.8 lbs)	26.7	12.1	6.7	50.8	F	0.823			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
38	AT&T MOBILITY	144	3	3		Ericsson	RRUS 32 B2	27.2	12.1	7	53	F	0.837			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
39	AT&T MOBILITY	144	3	3	Proposed	Ericsson	RRUS 32 B66	27.2	12.1	7	53	F	0.837			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
40	AT&T MOBILITY	144	3	3		Powerwave Allgon	7770	55	11	5	35	F	0.766			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
41	AT&T MOBILITY	144	3	3	Proposed	Quintel	QS66512-6	72	12	9.6	111	F	0.918			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
42	AT&T MOBILITY	144	3	3		CCI	HPA-65R-BUU-H6	72	14.8	9	51	F	0.834			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
43	US DEPT OF HS	111	1	1		Andrew	DB616E-BC	231	3.5	3.5	51	R	1.000			1
	US DEPT OF HS	111	1	1			-						0.001	0.00	0.00	1
44	LIGADO NETWORKS LLC	86	1	1		Kathrein Scala	750 10074	104.3	2	2	17.6	R	1.000			1
	LIGADO NETWORKS LLC	86	1	1			Side Arm						1.000	6.30	0.15	1
45	SPRINT NEXTEL	56	1	1		Generic	GPS	12	9	6	10	F	1.000			1
	SPRINT NEXTEL	56	1	1			Stand-Off						1.000	2.50	0.08	1
46																1
																1
47																1
																1
48																1
																1
49																1
																1
50																1
																1

No.	Elevation	C_AA_C	C_AA_C (Ice)	Force	Force (Ice)	Weight	Weight (Ice)	60 Azi	Force	F (Ice)	Height	Sum of Forces (No I	
	(ft)	(ft^2)	(ft^2)	(lb)	(lb)	(lb)	(lb)	Mult.	mean	mean	Flag	60 Azi.	180 Azi.
1	200	0.00	0.01	0.000	0.054	0	0	**1.00**	**0.00**	**0.03**			
	200	80.00	108.00	2683.480	601.601	10800	14040	**1.00**	**1475.91**	**330.88**	0.0000010	2683.480129	
2	200	0.00	0.01	0.000	0.054	0	0	**1.00**	**0.00**	**0.03**	0.0000020		
	200	80.00	108.00	2683.480	601.601	960	1248	**1.00**	**1475.91**	**330.88**	1.5050000	5366.960258	
3	187.5	0.00	0.01	0.000	0.053	0	0	**1.00**	**0.00**	**0.03**	1.5050010		
	187.5	45.00	60.75	1481.879	332.218	6000	7800	**1.00**	**815.03**	**182.72**	1.5053333	1481.878864	
4	175	0.00	0.01	0.000	0.052	0	0	**1.00**	**0.00**	**0.03**	1.5053343		
	175	55.00	74.25	1775.832	398.118	6000	7800	**1.00**	**976.71**	**218.97**	1.5057143	1775.832331	
5	112.5	0.00	0.01	0.000	0.046	0	0	**1.00**	**0.00**	**0.03**	1.5057153		
	112.5	60.00	81.00	1707.521	382.804	7200	9360	**1.00**	**939.14**	**210.54**	1.5088889	1707.521117	
6	100	0.00	0.01	0.000	0.045	0	0	**1.00**	**0.00**	**0.02**	1.5088899		
	100	15.00	20.25	412.754	92.534	600	780	**1.00**	**227.01**	**50.89**	1.5100000	412.7538053	
7	75	0.00	0.01	0.000	0.041	0	0	**1.00**	**0.00**	**0.02**	1.5100010		
	75	70.00	94.50	1774.194	397.751	9600	12480	**1.00**	**975.81**	**218.76**	1.5133333	1774.193912	
8	50	0.00	0.01	0.000	0.037	0	0	**1.00**	**0.00**	**0.02**	1.5133343		
	50	15.00	20.25	338.597	75.909	600	780	**1.00**	**186.23**	**41.75**	1.5200000	338.5965398	
9	212	30.00	36.18	1023.199	204.899	24	570	**1.00**	**562.76**	**112.69**	1.5200010		
	200	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5200010	1023.198543	
10	210	30.00	36.18	1020.431	204.345	24	569	**1.00**	**561.24**	**112.39**	1.5200020		
	200	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5200020	2043.629795	
11	222	4.50	6.03	155.514	34.625	54	210	**1.00**	**85.53**	**19.04**	1.5200030		
	200	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5200030	2199.14413	
12	213	6.00	8.03	204.915	45.561	66	272	**1.00**	**112.70**	**25.06**	1.5200040		
	200	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5050000	2404.059196	
13	184	1.20	1.64	39.305	8.937	12	40	**1.00**	**21.62**	**4.92**	1.5050010		
	182	12.60	17.01	411.412	92.233	360	468	**1.00**	**226.28**	**50.73**	1.5050010	450.7161457	
14	184	2.40	3.29	78.609	17.874	24	54	**1.00**	**43.24**	**9.83**	1.5050020		
	182	17.90	24.17	584.466	131.030	480	624	**1.00**	**321.46**	**72.07**	1.5054945	1113.790951	
15	184	2.40	3.29	78.609	17.874	24	54	**1.00**	**43.24**	**9.83**	1.5054955		
	182	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5054945	1192.40017	
16	182	1.36	1.67	44.443	9.035	18	69	**1.00**	**24.44**	**4.97**	1.5054955		
	182	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5054945	1236.842809	
17	187	3.60	4.64	118.460	25.346	54	174	**1.00**	**65.15**	**13.94**	1.5054955		
	182	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5054945	1355.30274	
18	187	3.60	4.64	118.460	25.346	54	174	**1.00**	**65.15**	**13.94**	1.5054955		
	182	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5054945	1473.762672	
19	173	3.60	4.64	115.855	24.789	54	173	**1.00**	**63.72**	**13.63**	1.5054955		
	182	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5054945	1589.617896	
20	189	5.03	6.51	166.060	35.661	41	203	**1.00**	**91.33**	**19.61**	1.5054955		
	182	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5054945	1755.677843	
21	171	5.03	6.51	161.379	34.656	41	201	**1.00**	**88.76**	**19.06**	1.5054955		
	182	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5054945	1917.056513	
22	171	5.03	6.51	161.379	34.656	41	201	**1.00**	**88.76**	**19.06**	1.5054955		
	182	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5054945	2078.435182	
23	184	21.22	23.13	694.916	125.830	64	253	**1.00**	**382.20**	**69.21**	1.5054955		
	182	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5054945	2773.350888	
24	169	32.80	37.42	1048.538	198.664	144	253	**1.00**	**576.70**	**109.27**	1.5054955		
	169	40.28	54.37	965.622	216.480	1440	1872	**1.00**	**531.09**	**119.06**	1.5059172	2014.159901	
25	158	1.26	1.70	39.598	8.832	51	71	**1.00**	**21.78**	**4.86**	1.5059182		
	158	40.28	54.37	947.231	212.357	1440	1872	**1.00**	**520.98**	**116.80**	1.5063291	986.8285523	
26	156	3.33	4.45	104.022	23.073	126	189	**1.00**	**57.21**	**12.69**	1.5063301		
	158	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5063291	1090.850462	
27	156	7.48	9.32	233.647	48.375	103	206	**1.00**	**128.51**	**26.61**	1.5063301		
	158	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5063291	1324.497659	
28	156	14.85	17.04	463.986	88.390	61	143	**1.00**	**255.19**	**48.61**	1.5063301		
	156	40.28	54.37	943.789	211.585	1440	1872	**1.00**	**519.08**	**116.37**	1.5064103	1407.775251	
29	156	15.97	18.08	498.959	93.805	205	399	**1.00**	**274.43**	**51.59**	1.5064113		
	156	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5064103	1906.734522	
30	150	1.80	2.40	55.614	12.321	18	61	**1.00**	**30.59**	**6.78**	1.5064113		
	150	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5066667	55.61402928	
31	150	7.40	8.70	228.613	44.642	216	318	**1.00**	**125.74**	**24.55**	1.5066677		
	150	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5066667	284.226858	
32	150	7.57	8.48	233.829	43.486	222	326	**1.00**	**128.61**	**23.92**	1.5066677		
	150	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5066667	518.0554302	
33	144	1.09	1.71	33.220	8.683	16	26	**1.00**	**18.27**	**4.78**	1.5066677		
	144	32.40	43.74	742.083	166.365	1080	1404	**1.00**	**408.15**	**91.50**	1.5069444	775.3027442	
34	144	3.52	4.87	107.593	24.716	102	144	**1.00**	**59.18**	**13.59**	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5069444	882.895659	
35	144	2.35	2.67	71.663	13.524	76	148	**1.00**	**39.41**	**7.44**	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5069444	954.5591305	
36	144	4.52	5.90	138.070	29.915	198	287	**1.00**	**75.94**	**16.45**	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5069444	1092.629367	
37	144	5.32	6.97	162.396	35.339	183	276	**1.00**	**89.32**	**19.44**	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5069444	1255.024964	
38	144	5.51	7.22	168.344	36.609	191	287	**1.00**	**92.59**	**20.13**	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5069444	1423.368932	
39	144	5.51	7.22	168.344	36.609	191	287	**1.00**	**92.59**	**20.13**	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5069444	1591.7129	
40	144	10.12	12.01	309.173	60.895	126	254	**1.00**	**170.05**	**33.49**	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5069444	1900.885936	
41	144	17.92	20.33	547.248	103.092	400	648	**1.00**	**300.99**	**56.70**	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5069444	2448.134061	
42	144	19.33	22.44	590.287	113.817	184	409	**1.00**	**324.66**	**62.60**	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5069444	3038.420968	
43	111	6.74	8.70	191.006	40.959	61	267	**1.00**	**105.05**	**22.53**	1.5069454		
	111	0.00	0.00	0.000	0.000	1	2	**1.00**	**0.00**	**0.00**	1.5090090	191.0064758	
44	86	1.74	2.63	45.816	11.522	21	80	**1.00**	**25.20**	**6.34**	1.5090100		
	86	6.30	8.51	166.045	37.225	180	234	**1.00**	**91.32**	**20.47**	1.5116279	211.8610449	
45	56	0.90	1.26	20.984	4.894	12	33	**1.00**	**11.54**	**2.69**	1.5116289		
	56	2.50	3.38	58.290	13.068	90	117	**1.00**	**32.06**	**7.19**	1.5178571	79.27430907	
46					#VALUE!			**1.00**	**#VALUE!**	**#VALUE!**	1.5178581		
								1.00	**#VALUE!**	**#VALUE!**	1.5178581	#VALUE!	
47					#VALUE!			**1.00**	**#VALUE!**	**#VALUE!**	1.5178591		
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48					#VALUE!			**1.00**	**#VALUE!**	**#VALUE!**	1.5178601		
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49					#VALUE!			**1.00**	**#VALUE!**	**#VALUE!**	1.5178611		
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50					#VALUE!			**1.00**	**#VALUE!**	**#VALUE!**	1.5178621		
								1.00	**#VALUE!**	**#VALUE!**	1.5178621	#VALUE!	

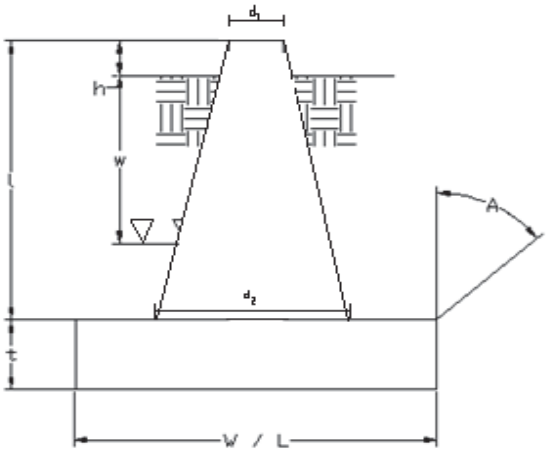
Foundation

Site No.:	88017
Engineer:	CDW
Date:	10/18/17
Carrier:	AT&T Mobility

Design Loads (Factored)

Compression/Leg:	298.32	k
Uplift/Leg:	191.85	k
Shear/Leg	42.91	k

Face Width @ Top of Pier (d_1):	3.50	ft
Face Width @ Bottom of Pier (d_2):	7.00	ft
Total Length of Pier (l):	7.00	ft
Height of Pedestal Above Ground (h):	0.50	ft
Width of Pad (W):	16.00	ft
Length of Pad (L):	16.00	ft
Thickness of Pad (t):	2.50	ft
Water Table Depth (w):	99.00	ft
Unit Weight of Concrete:	150.0	pcf
Unit Weight of Soil (Above Water Table):	120.0	pcf
Unit Weight of Soil (Below Water Table):	57.6	pcf
Friction Angle of Uplift (A):	30	°
Ultimate Compressive Bearing Pressure:	16000	psf
Ultimate Skin Friction:	500	psf



Volume Pier (Total):	200.08	ft³
Volume Pad (Total):	640.00	ft³
Volume Soil (Total):	2346.93	ft³
Volume Pier (Buoyant):	0.00	ft³
Volume Pad (Buoyant):	0.00	ft³
Volume Soil (Buoyant):	0.00	ft³
Weight Pier:	30.01	k
Weight Pad:	96.00	k
Weight Soil:	281.63	k
Uplift Skin Friction:	60.00	k

Uplift Check

ϕs Uplift Resistance (k)	Ratio	Result
350.73	0.55	**OK**

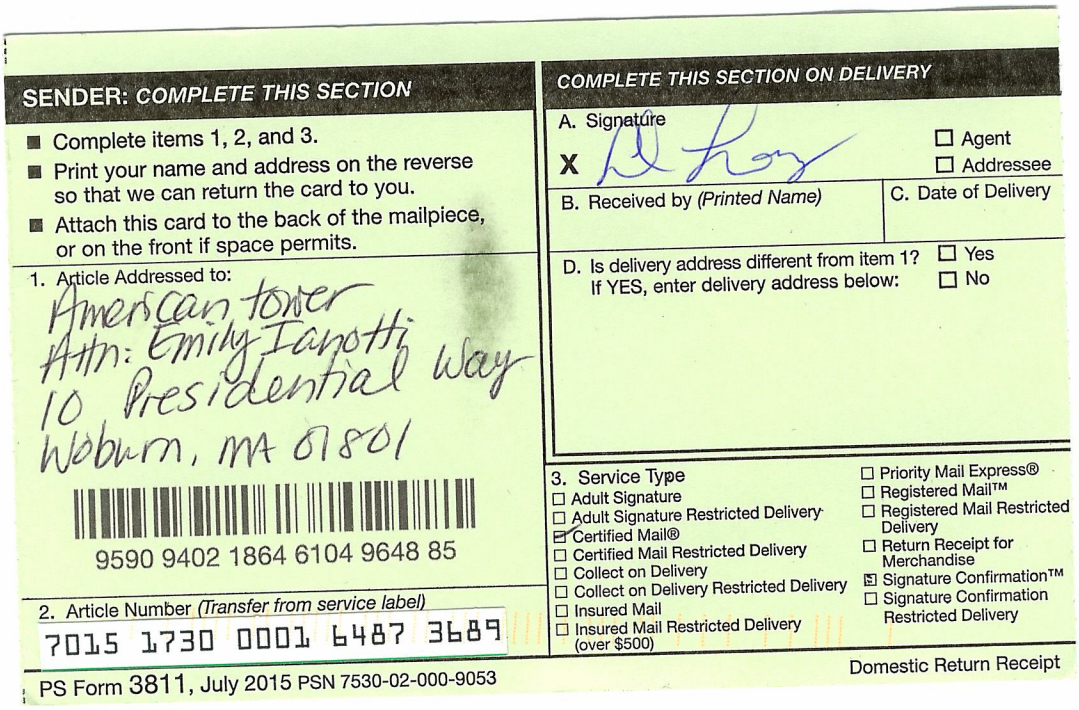
Axial Check

ϕs Axial Resistance (k)	Ratio	Result
3072.00	0.10	**OK**

Anchor Bolt Check

Bolt Diameter (in)	2.25
# of Bolts	4
Steel Grade	A36
Steel Fy	36
Steel Fu	58
Detail Type	C

Usage Ratio	Result
0.45	**OK**



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

American Tower
Attn: Emily Iarotti
10 Presidential Way
Woburn, MA 01801

9590 9402 1864 6104 9648 85

2. Article Number *(Transfer from service label)*
7015 1730 0001 6487 3689

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* | C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☑ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

Remove ×

Tracking Number: 70151730000164873689

Expected Delivery on

TUESDAY

14 NOVEMBER 2017 ⓘ

by **8:00pm** ⓘ

Delivered

November 14, 2017 at 11:43 am
DELIVERED, FRONT DESK/RECEPTION
WOBURN, MA 01801

Get Updates ⌄

See More ⌄

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mayor Mark Lauretti
City Hall - Shelton Ct.
54 Hill St.
Shelton, CT 06484

9590 9402 1864 6104 9648 61

2. Article Number (Transfer from service label)

7016 2140 0000 9458 7495

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X BA Lang ☐ Agent ☐ Addressee

B. Received by (Printed Name) BA LANG

C. Date of Delivery 11/13/17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

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SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Joseph Ballaro
Building Dept - City Hall
54 Hill St. 3rd. Flor
Shelton, CT 06484

9590 9402 1864 6104 9539 33

2. Article Number (Transfer from service label)

7015 1730 0001 6487 3658

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X BA Lang ☐ Agent ☐ Addressee

B. Received by (Printed Name) BA LANG

C. Date of Delivery 11/13/17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

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SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Rick Schultz, AICP
Planning + Zoning Dept.
54 Hill St. - 3rd Floor
Shelton, CT 06484

9590 9402 1864 6104 9648 54

2. Article Number (Transfer from service label)

7016 2140 0000 9458 5866

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X BA Lang ☐ Agent ☐ Addressee

B. Received by (Printed Name) BA LANG

C. Date of Delivery 11/13/17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☑ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt