November 10, 2016

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

Regarding:	Notice of Exempt Modification – Antenna & Remote Radio Head (RRU) Swap; Replacement of Sector Frame Mount
Property Address:	14 Booth Hill Road, Shelton CT 06484 (AKA 14 Oxford Drive or 20 Oxford Drive)
AT&T Site:	CT5542 – Shelton SW

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 200-foot self-support tower at the above-referenced address, latitude 41.280164, longitude -73.185467. Said self-support tower is owned by American Tower Corporation. The existing equipment shelter is 20' x 12' totaling 240 square feet.

AT&T desires to modify its existing telecommunications facility by swapping three (3) panel antennas and three (3) remote-radio heads ("RRHs"). The centerline height of said antennas is and will remain at 144 feet. Antennas are mounted utilizing a sector frame, which will be replaced as part of this project.

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 is being sent to Mayor Mark A. Lauretti of the City of Shelton, as well as to the tower and land owner American Tower Corporation.

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). Specifically:

1. The planned modification will not result in an increase in the height of the existing structure. The antennas to be swapped will be installed at the existing height of 144 feet on 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.

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above Federal Communications Commission (FCC) safety standard. An RF emissions calculation (attached) for AT&T's modified facility is herein provided.

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

6. The self-support tower and its foundation can support AT&T's proposed modifications (please see attached structural analysis completed by American Tower dated October 31, 2016).

For the foregoing reasons, AT&T respectfully requests that the proposed antenna swap and remote radio head swap be allowed within the exempt modifications under R.C.S.A. §16-50j-72 (b)(2).

Sincerely,

Sarah Snell
Site Acquisition Specialist

cc: Mayor Mark A. Lauretti, City of Shelton (Municipality)
American Tower Corporation (Land and Tower Owner)

Sarah Snell • Empire Telecom USA, LLC • 16 Esquire Road Billerica, MA 01862 • T: 978-608-8146 •
E: ssnell@empiretelecomm.com

City of Shelton
Property Listing Report

Parcel ID 33.-13

Account 2031

Property Information

Owner	AMERICAN TOWERS INC
Address	20 OXFORD DR
Mailing Address	P O BOX 723597 ATLANTA , GA 31139
Land Use	- RESIDENTIAL
Land Class	4-2

Census Tract	1104
Neighborhood	
Zoning	R-1
Acreage	0.82
Utilities	ELECTRIC
Lot Setting/ Desc	/

Photo

PARCEL VALUATIONS (Assessed value = 70% of Appraised Value)

	Appraised	Assessed
Buildings		
Outbuildings		
Improvements		
Extras		
Land		
Total	198500	138950
Previous		

Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Total Rooms	
Bedrooms	
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

EXTERIOR WALLS:	
Primary	
Secondary	
INTERIOR WALLS:	
Primary	
Secondary	
FLOORS:	
Primary	
Secondary	
HEATING/AC:	
Heating Type	
Heating Fuel	
AC Type	

BUILDING AREA:	
Effective Building Area	
Gross Building Area	
Total Living Area	

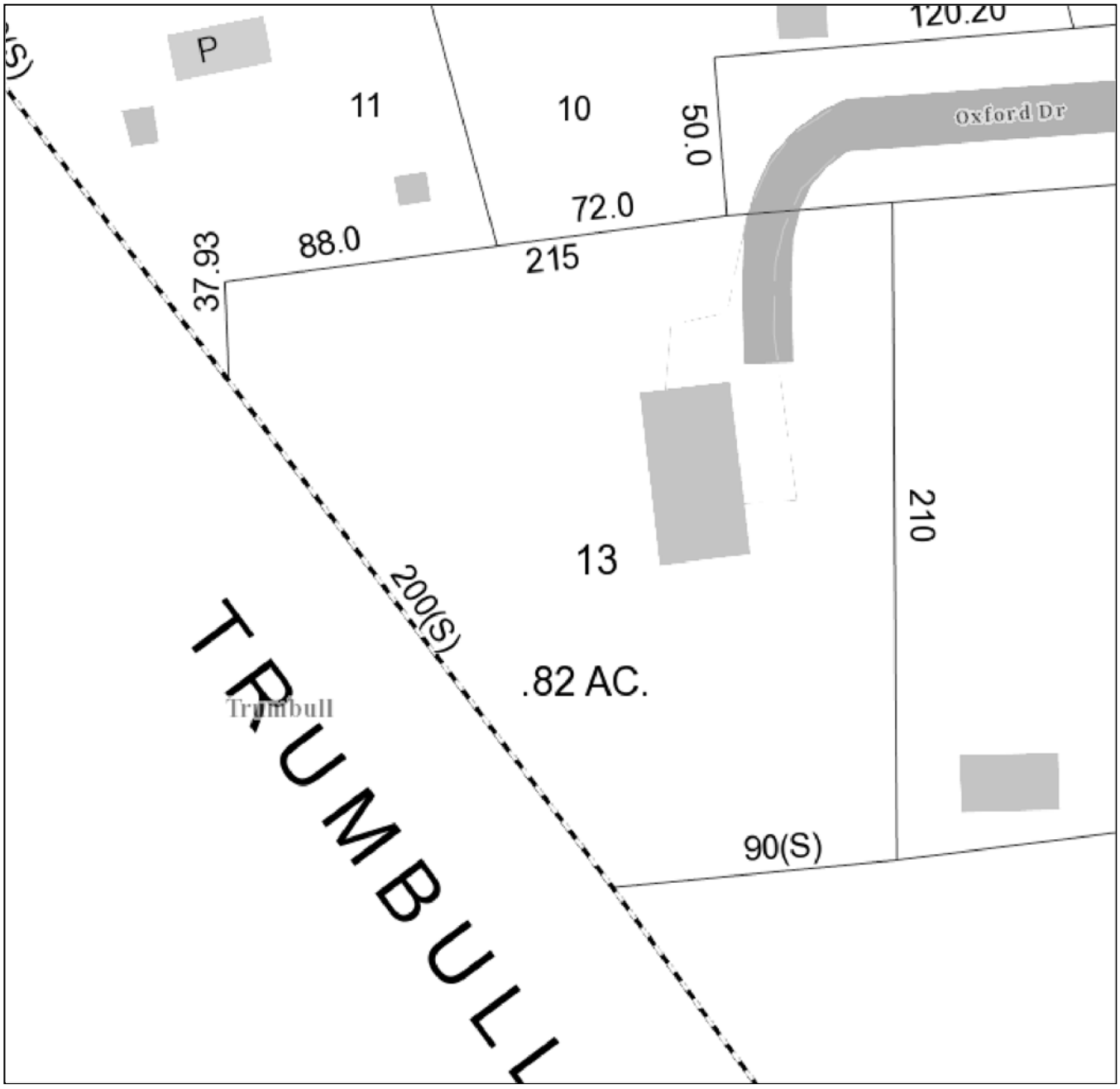
SALES HISTORY:	
Sale Date	20000411
Sale Price	404094
Book/ Page	1680/107

Report Created On 11/10/2016

City of Shelton

Geographic Information System (GIS)

Date Printed: 11/10/2016



MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment 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.

0 50 Feet

N W E S

PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED COMMUNICATIONS FACILITY MODIFICATIONS INCLUDING THE REPLACEMENT OF EXISTING THREE LTE PANELS WITH NEW CCI HEXPORT ANTENNAS, TOGETHER WITH THE REPLACEMENT OF EXISTING THREE RRUS-11 WITH NEW ERICSSON RRUS-32 B2, REUSING EXISTING SURGE ARRESTOR, FIBER & DC CABLES.
SITE NUMBER:	CT5542
SITE NAME:	SHELTON - BOOTH HILL
SITE ADDRESS:	BOOTH HILL RD (14 OXFORD DR.) SHELTON, CT 06484
TOWER OWNER:	AMERICAN TOWERS, LLC 10 PRESIDENTIAL WAY WOBURN, MA 01801
APPLICANT:	AT&T MOBILITY 550 COCHITUATE RD SUITES 13 & 14 FRAMINGHAM, MA 01701
CONTACT:	TEL 866-915-5600
COORDINATES	LAT. N41°16'48.59" LONG. W73°11'07.6"
GROUND LEVEL:	±516.9'
DEED REFERENCE:	N/A
SITE PARCEL NO.:	N/A
CURRENT ZONING:	N/A
HORIZONTAL DATUM:	(NAD) 1983

SITE NUMBER: CT5542
SITE NAME: SHELTON - BOOTH HILL
PROJECT: LTE BWE EXPANSION

DRAWING INDEX

ONE CALL 1-800-922-4455

AT LEAST 2 WORKING DAYS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CONNECTICUT ONE CALL SYSTEM AT 1-800-922-4455

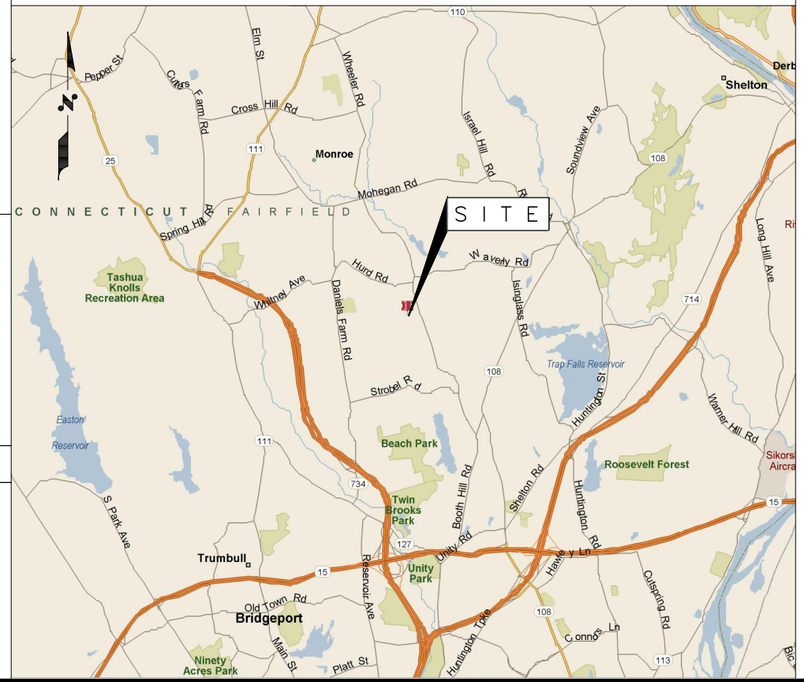
CONTACT & UTILITY INFORMATION

CONTACT	CONTACT	COMPANY	PHONE NO.
ENGINEERING:	MIGUEL NOBRE	VRG	(508) 981-9590
SITE ACQUISITION:	DAVID COOPER	EMPIRE	(484) 683-5349
CONSTRUCTION:	BILL DANIELS	EMPIRE	(484) 683-5349
UTILITIES			
POWER:	WORK REQUEST GROUP	NATIONAL GRID	(800) 375-7405
TELCO:	.	VERIZON	(800) 941-9900

LOCATION MAP

DIRECTIONS: FROM ROCKY HILL, TAKE I-91 SOUTH TOWARDS NEW HAVEN. TAKE EXIT 17(CT-15 SOUTH). TAKE EXIT 50. BEAR LEFT ON WHITE PLAINS RD. TURN LEFT ON UNITY RD. BEAR LEFT ON BOOTH HILL RD. TURN LEFT ON OXFORD DR. SITE IS ON THE LEFT.

SITE ACCESS: LOCKED GATE



APPLICABLE BUILDING CODES AND STANDARDS

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

BUILDING CODE:
CONNECTICUT STATE BUILDING CODE

ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE LATEST EDITION
SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
AMERICAN NATIONAL STANDARDS INSTITUTE/TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA) 222-F OR G AS APPLICABLE, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

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

VRG
VERTICAL RESOURCES GRP.
489 Washington Street
Auburn, MA 01501
Tel. (508) 981- 9590
Fax (508) 519 - 8939
mnobre@verticalresourcesgrp.com

EMPIRE telecom
EMPIRE TELECOM USA, LLC
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT5542
SITE NAME: SHELTON
BOOTH HILL RD
BOOTH HILL RD (14 OXFORD DR.)
SHELTON, CT 06484
FAIRFIELD COUNTY

at&t Mobility
550 COCHITUATE RD
SUITES 13 & 14
FRAMINGHAM, MA 01701

NO.	DATE	REVISION	BY	CHK	APP'D
1	10/05/16	FOR CONSTRUCTION	G.A.M.		
0	09/30/16	FOR REVIEW	G.A.M.		

SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

STATE OF CONNECTICUT JAMES G. STONE No. 8657 REGISTERED PROFESSIONAL ENGINEER

AT&T MOBILITY

TITLE SHEET

JOB NUMBER	DRAWING NUMBER	REV.
50-145	01	1

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – PRIME CONTRACTOR
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – AT&T WIRELESS
OEM – ORIGINAL EQUIPMENT MANUFACTURER

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

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

ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.

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

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

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

8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. ROUTING OF CONDUIT FOR POWER AND TELCO SHALL BE APPROVED BY OWNER OF SITE.

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

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

11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

SITE WORK GENERAL NOTES

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES, TOP SOIL AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.

6. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.

7. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE OWNER SPECIFICATION FOR SITE SIGNAGE.

8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE TRANSMISSION EQUIPMENT AND TOWER AREAS.

9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION, SEE DETAIL 303.

11. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.

12. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

13. ALL EARTH WORK SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 (HOT–DIP) UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE PERFORMED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. STEEL FASTENER HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT–DIP)

4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.

5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD, HILTI OR APPROVED EQUAL.

6. ALL STRUCTURAL STEEL SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000 PSI) MAY BE USED.

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:

#6 AND LARGER .....2 INCH
#5 AND SMALLER & WWF.....1 1/2 INCH

CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:

SLAB AND WALL .....3/4 INCH
BEAMS AND COLUMNS.....1 1/2 INCH

5. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD HILTI OR APPROVED EQUAL.

7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC 1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TESTS PERFORMED AT THE SUPPLIER'S PLANT,

(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.

FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. AS AN ALTERNATIVE TO ITEM 7, TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

10. ALL CONCRETE SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL, EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING 1" SIEVE.

5. AS AN ALTERNATIVE TO ITEMS 2 AND 3 PROOF ROLL THE SUBGRADE SOILS WITH 5 PASSES OF A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). ANY SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL, AND COMPACTED AS STATED ABOVE.

6. COMPACTION CRITERIA FOR OTHER FILL AREAS ON SITE SHALL MEET THE SAME REQUIREMENTS AS NOTED ABOVE.

7. SOIL COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

COMPACTION EQUIPMENT:

HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

ELECTRICAL INSTALLATION NOTES

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

5. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.

6. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PERMANENT LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S). NO HAND WRITTEN LABELS ALLOWED.

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED. NO HAND WRITTEN LABELS ALLOWED.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (SIZE 6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

13. ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

ELECTRICAL INSTALLATION NOTES (cont.)

15. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

17. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

18. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

19. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

20. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

21. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

22. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS

24. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

25. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

27. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

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SITE NUMBER: CT5542
SITE NAME: SHELTON
BOOTH HILL RD
BOOTH HILL RD (14 OXFORD DR.)
SHELTON, CT 06484
FAIRFIELD COUNTY

at&t Mobility
550 COCHITUATE RD
SUITES 13 & 14
FRAMINGHAM, MA 01701

NO.	DATE	REVISION	BY	CHK	APP'D
1	10/05/16	FOR CONSTRUCTION	G.A.M.		
0	09/30/16	FOR REVIEW	G.A.M.		

SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

JAMES P. STONE No. 8657 REGISTERED PROFESSIONAL ENGINEER

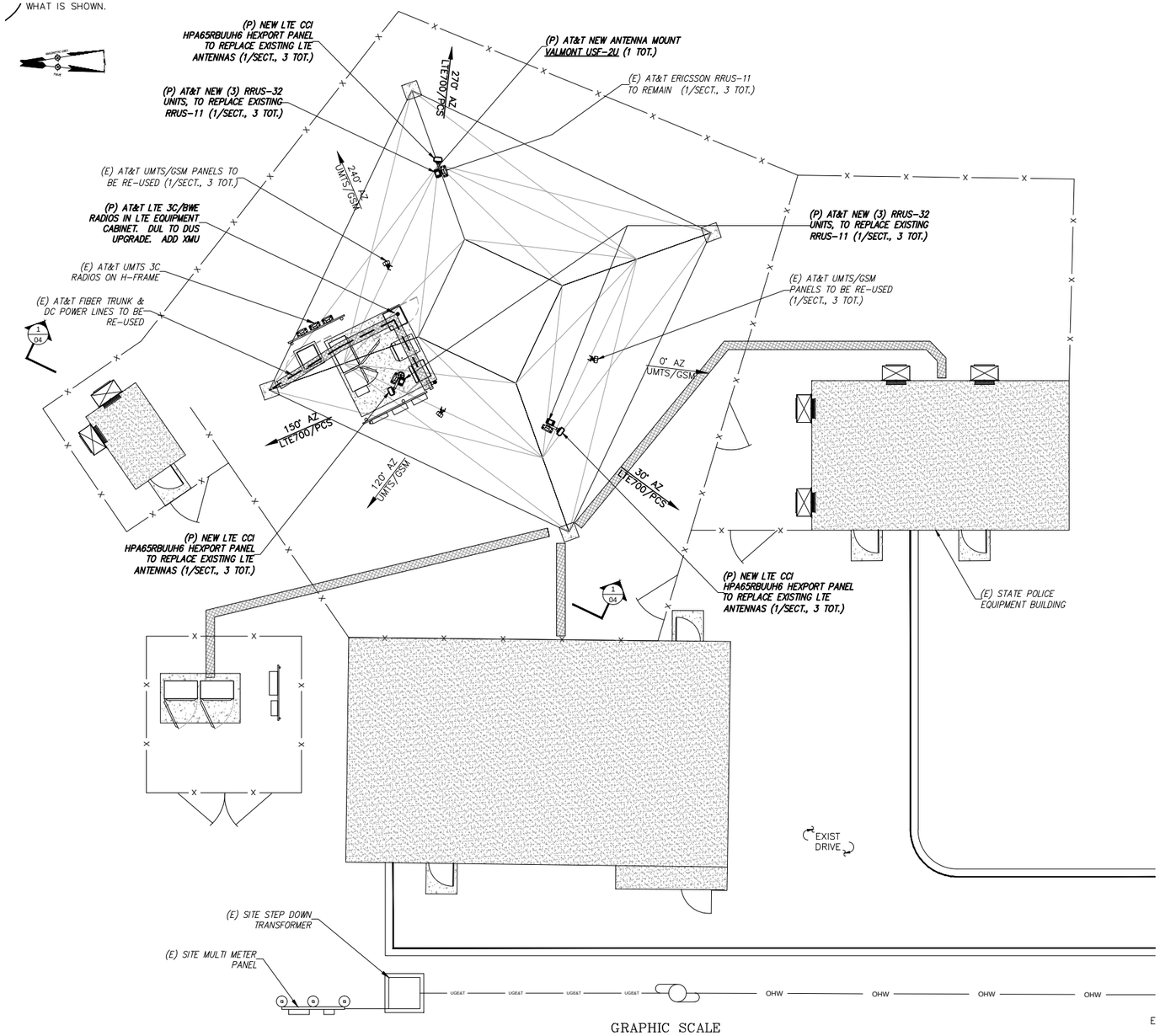
AT&T MOBILITY

NOTES

JOB NUMBER	DRAWING NUMBER	REV.
50–145	02	1

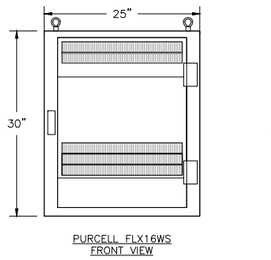
GENERAL NOTES

1. THE TYPE, DIMENSIONS, MOUNTING HARDWARE, AND THE POSITIONS OF ALL EQUIPMENT IN THE COMPOUND ARE SHOWN IN ILLUSTRATIVE FASHION. THESE DRAWINGS ARE NOT INTENDED FOR CONSTRUCTION. ACTUAL HARDWARE DETAILS AND FINAL LOCATIONS MAY DIFFER SLIGHTLY FROM WHAT IS SHOWN.
2. THE CELLULAR INSTALLATION IS AN UNMANNED PRIVATE AND SECURED COMPOUND. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONSTRUCTION, MAINTENANCE & OPERATION OF PROPOSED TOWER FACILITY WILL BE HELD IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE & FEDERAL REGULATIONS AND GUIDELINES.



COMPOUND PLAN 1/03
SCALE: 1" = 8'

GRAPHIC SCALE
8 0 4 8 16 32
(IN FEET)
1 inch = 8 ft.

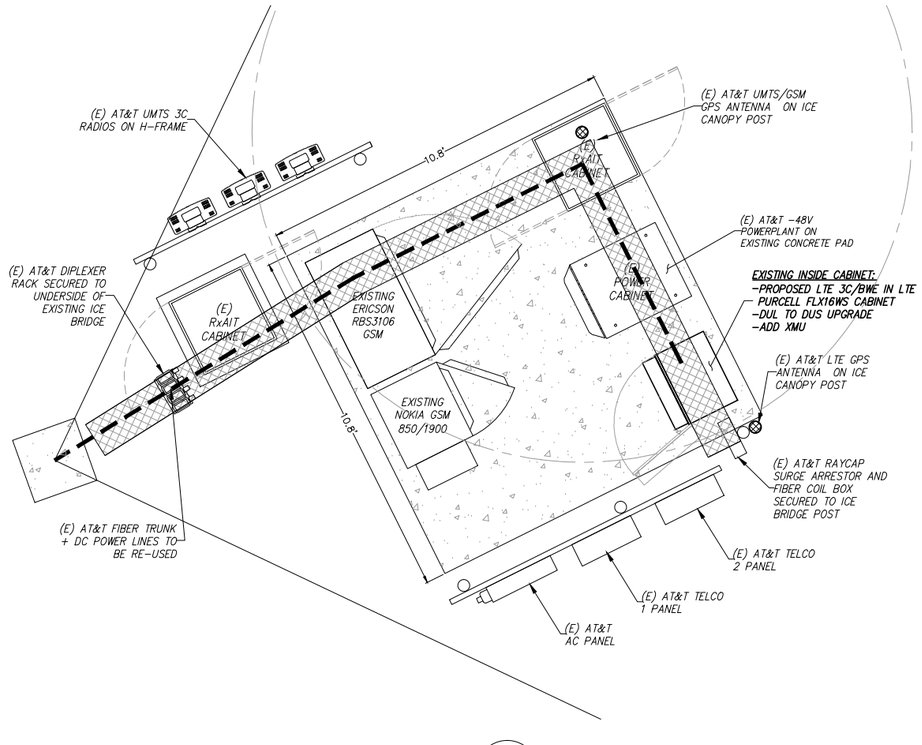


ERICSSON RBS6601 RADIO SPECS	
HEIGHT	2.59"
WIDTH	18.97"
DEPTH	13.78"
WEIGHT (TYP.)	23Lbs
POWER REQUIREMENTS DC	-48V DC (-40 to -57.6)
POWER REQUIREMENTS AC	100 to 250 V AC
IN USE REQUIREMENTS	OPER. TEMP: 41F to 122F

STANDARD INSTALLATION NOTES

1. CHANGE OUT EXISTING ANTENNAS, INSTALL TMAS & RET SYSTEMS WITH CONTROLS
2. INSTALL NEW SURGE ARRESTORS ON GSM, UMTS AND TDMA LINES.
3. INSTALL DIPLEXERS, CIU & PDU AND RECONFIGURE GSM & UMTS JUMPERS TO RF REQUIREMENTS.
4. PROVIDE SWEEP TESTS AND CLOSEOUT DOCUMENTATION.

EQUIPMENT DETAIL 4/03
SCALE: N.T.S.



EQUIPMENT PLAN 2/03
SCALE: 1" = 2'

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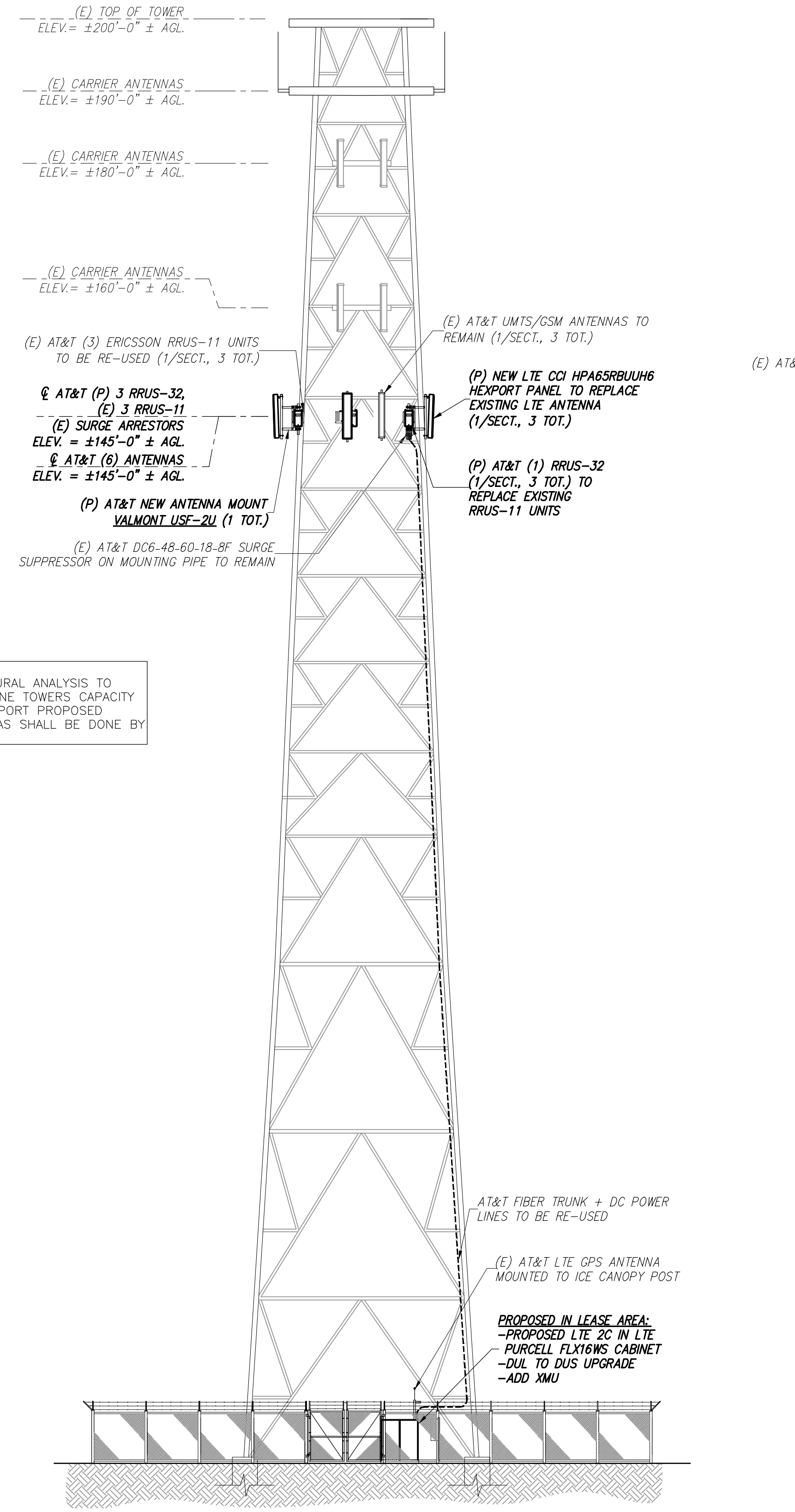
SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

STATE OF CONNECTICUT JAMES P. STONE No. 8657 REGISTERED PROFESSIONAL ENGINEER

AT&T MOBILITY

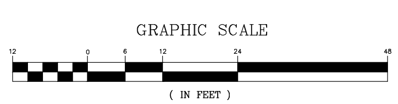
SITE PLAN & EQUIPMENT PLAN

JOB NUMBER	DRAWING NUMBER	REV.
50-145	03	1

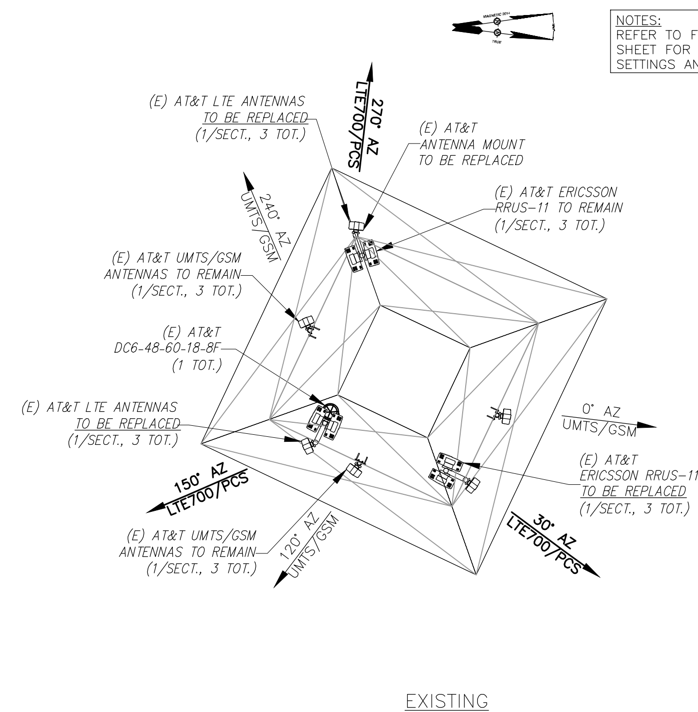


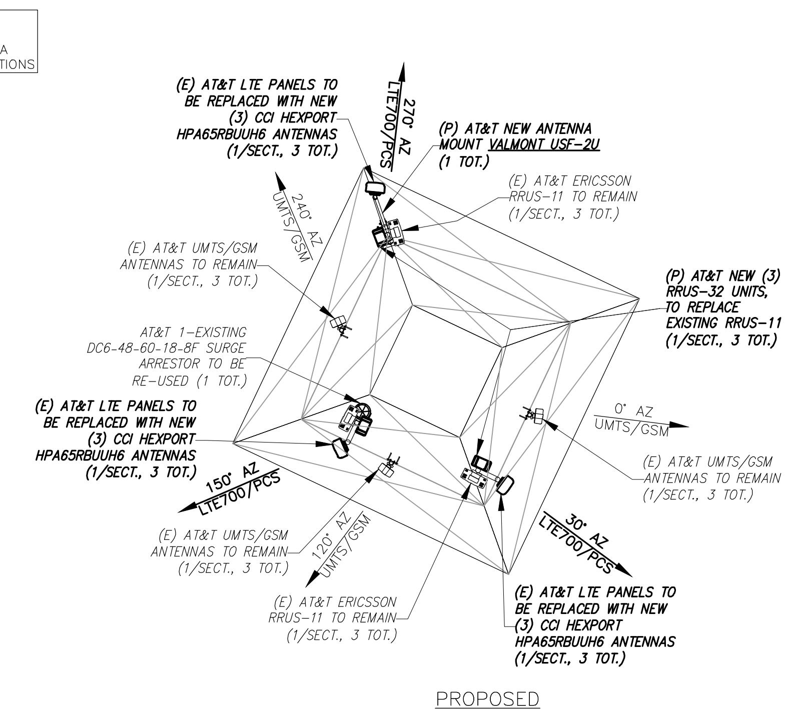
NOTES:
STRUCTURAL ANALYSIS TO DETERMINE TOWERS CAPACITY TO SUPPORT PROPOSED ANTENNAS SHALL BE DONE BY OTHERS

ELEVATION VIEW (1 / 04)
SCALE: 1" = 12'

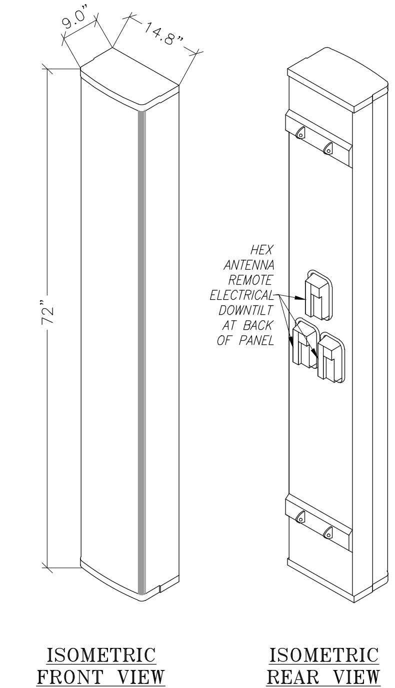


NOTES:
REFER TO FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS AND CONFIGURATIONS

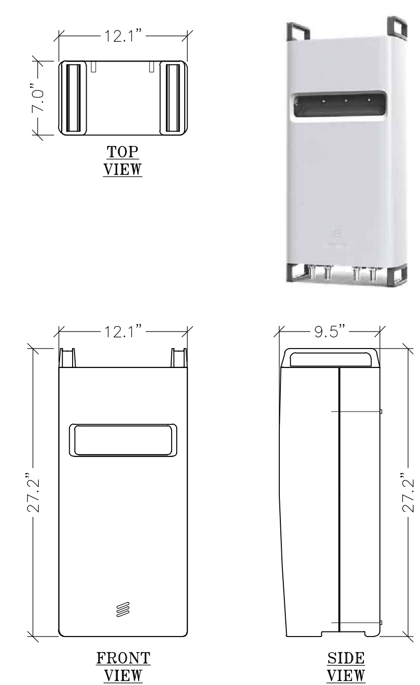




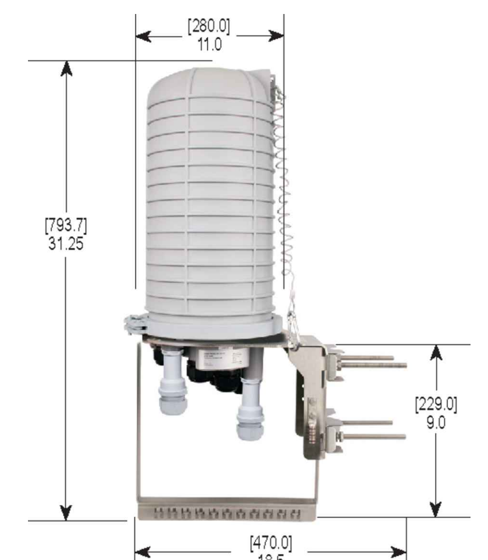
ANTENNA MOUNTING PLAN VIEW (2 / 04)
SCALE: N.T.S.



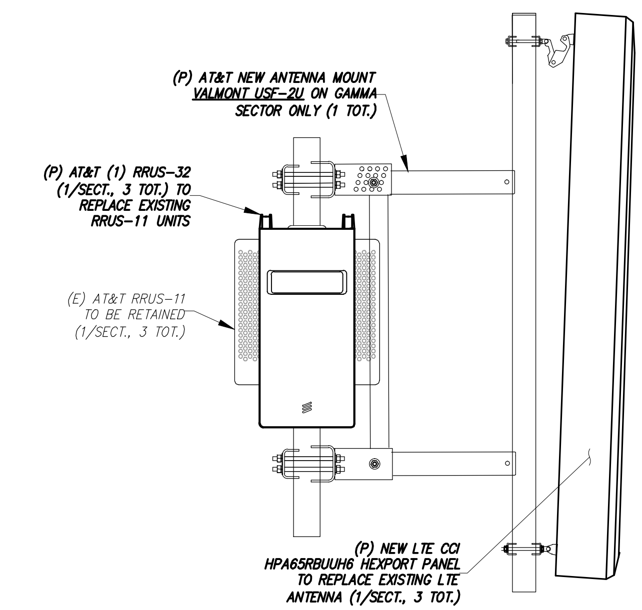
LTE CCI HEXPORT PANEL & RET DETAIL (3 / 04)
SCALE: N.T.S.



PROPOSED ERICSSON DUAL PA RRUS-32 (6 / 04)
SCALE: N.T.S.



RAYCAP SURGE SUPPRESSOR DC64860188F (6 / 04)
SCALE: N.T.S.



PROPOSED RRH & SURGE ARRESTOR MOUNTING DETAIL (6 / 04)
SCALE: N.T.S.

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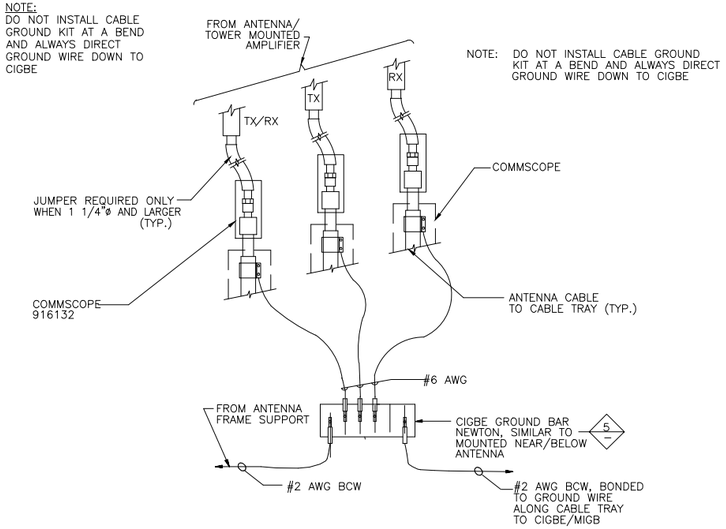
SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

STATE OF CONNECTICUT — JAMES P. STROKE — No. 8657 — REGISTERED PROFESSIONAL ENGINEER

AT&T MOBILITY
ELEVATION VIEW & ANTENNA LAYOUT

JOB NUMBER	DRAWING NUMBER	REV
50-145	04	1

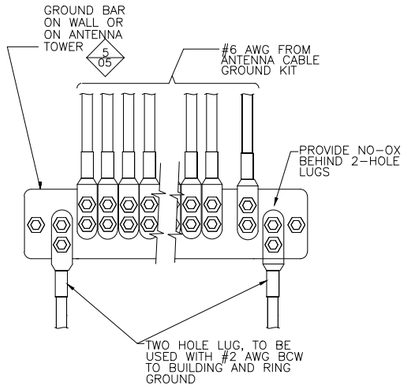
NOTE:
DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE



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

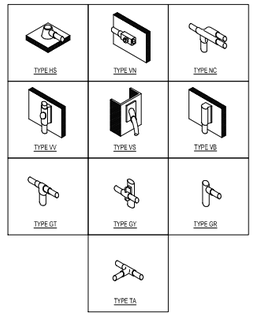
CONNECTION OF GROUND WIRES TO GROUNDING BAR (CIGBE) 1/05

SCALE: N.T.S.



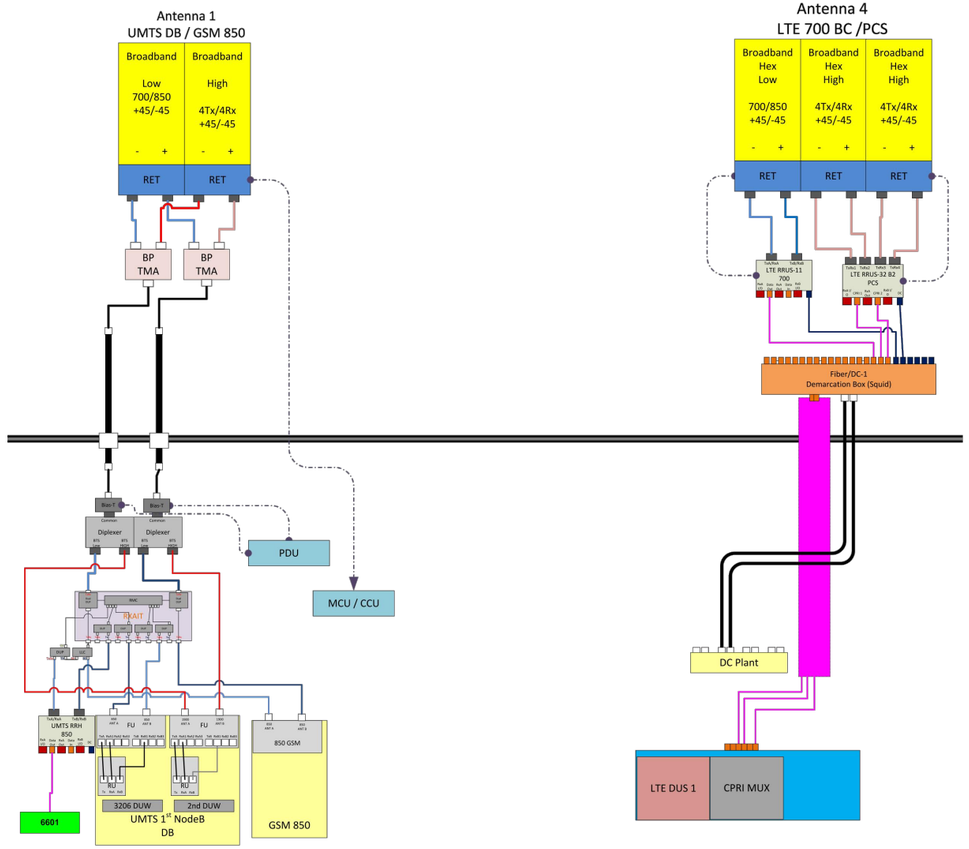
INSTALLATION OF GROUND WIRE TO GROUND BAR 2/05

SCALE: N.T.S.



GROUNDING CONNECTION DETAIL 5/05

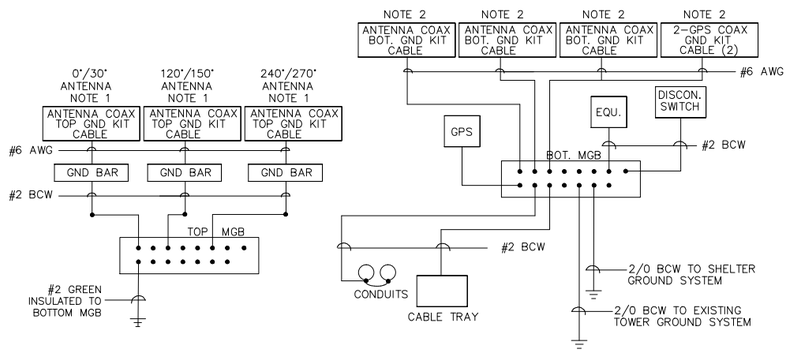
SCALE: N.T.S.



NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS
2. INSTALL ALL EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS

PLUMBING DIAGRAM FACE 3/05

SCALE: N.T.S.



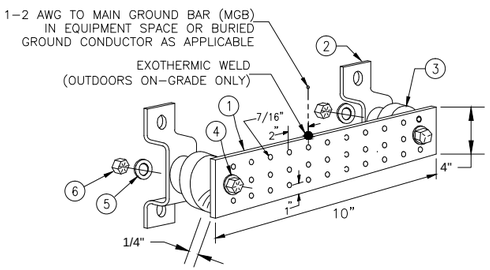
NOTE:
1. BOND ANTENNA GROUNDING KIT CABLE TO TOP CIGBE
2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIGBE

SCHEMATIC GROUNDING DIAGRAM 4/05

SCALE: N.T.S.

NEWTON INSTRUMENT COMPANY, INC.
BUTNER, N.C. OR APPROVED EQUAL

ITEM	REQ.	PART NO.	DESCRIPTION
1	1	1/4"x4"x12"	PRE DRILLED GND. BAR
2	2	A-6056	WALL MTG. BRKT.
3	2	3061-4	INSULATORS
4	2	3012-13	5/8"-11x4" H.H.C.S.
5	4	3015-8	5/8 LOCKWASHER
6	2	3014-8	5/8"-11 HEX NUT



GROUND BAR DETAIL 6/05

SCALE: N.T.S.

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STATE OF CONNECTICUT JAMES P. STROHE No. 8657 REGISTERED PROFESSIONAL ENGINEER

AT&T MOBILITY

GROUNDING DETAILS

JOB NUMBER	DRAWING NUMBER	REV
50-145	05	1

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**200 ft AT&T TAG Tower**
ATC Site Name	:	**Shelton-Trumbull, CT**
ATC Site Number	:	**88017**
Engineering Number	:	**OAA687899_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** **41.280164,-73.185467**
County	:	**Fairfield**
Date	:	**October 31, 2016**
Max Usage	:	**93%**
Result	:	**Pass**

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

Charles D. Wally

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 200 ft AT&T TAG 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 PLS. 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:	No Ice Considered
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.

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Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
200.0	212.0	1	Decibel DB420MS-E	Platform w/ Handrails	(2) 1 5/8" Coax (2) EW65	State Of CT
	208.0	1	15' Omni			
		2	RFS PA6-65AC w/ Radome			
185.0	189.0	1	Sinclair SC479-HF1LDF	Side Arm	(4) 1 5/8" Coax	
	187.0	1	TX RX Systems 101-83B-09-0-03			
		2	Kathrein AP14-850/105			
180.0	184.0	1	5' Dipole	Side Arm	(5) 1 5/8" Coax (5) 0.63" LDF4-50A	
	182.0	5	TTA			
	180.0	2	TX RX Systems 101-83B-09-0-03			
	175.0	2	Sinclair SC479-HF1LDF			
168.0	168.0	12	Decibel DB844H90E-A	Sector Frame	(12) 1 5/8" Coax	Sprint Nextel
162.0	165.0	4	DragonWave Horizon Compact	Side Arm	(6) 5/16" (0.31") Coax (4) 1/2" Coax (2) 2" conduit	Clearwire
		1	DragonWave A-ANT-11G-2-C	Leg		
		1	Andrew PX2F·52			
		2	DragonWave A-ANT-11G-3-C			
	162.0	1	BTS	Side Arm		
		3	NextNet BTS-2500			
		3	Argus LLPX310R			
155.0	155.0	3	Alcatel-Lucent 1900MHz 4X45 RRH	Sector Frame	(6) 1 5/8" Coax (3) 1 1/4" Hybriflex	Sprint Nextel
		3	Alcatel-Lucent 800MHz RRH w/ Notch Filter			
		6	Andrew DB980H90E-M			
		3	RFS APXVSPP18-C-A20			
144.0	144.0	6	Powerwave LGP21401	Sector Frame	(6) 1 5/8" Coax (2) 0.74" 8 AWG 7 (1) 3" conduit (1) 0.28" RG-6	AT&T Mobility
		3	Ericsson RRUS 11 (Band 12) (55 lb)	Flush		
		3	Powerwave 7770.00	Sector Frame		
126.0	126.0	1	RFS PA6-65AC w/ Radome	Leg	(2) EW65	State Of CT
100.0	109.0	1	Andrew DB616E-BC	Leg	(1) 7/8" Coax	US Dept Of Homeland Security
84.0	90.0	1	Kathrein 750 10074	Stand-Off	(1) 1 5/8" Coax	Lightsquared LP
55.0	55.0	1	2" x 4" GPS	Side Arm	(1) 1/2" Coax	Sprint Nextel

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
144.0	144.0	3	Powerwave P65-16-XLH-RR	-	(1) 3" conduit	AT&T Mobility

AMERICAN TOWER®
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Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
144.0	144.0	1	Raycap DC6-48-60-18-8F	Leg	-	AT&T Mobility
		3	Ericsson RRUS 32 B2	Sector Frame		
		3	CCI HPA-65R-BUU-H6			

[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).

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	58%	Pass
Diagonals	89%	Pass
Truss Diagonals	93%	Pass
Horizontals	86%	Pass
Truss Horizontals	46%	Pass
Anchor Bolts	55%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	171.9	56%
Axial (Kips)	268.8	9%

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®
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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.

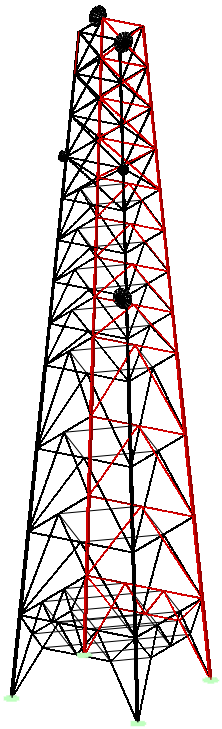
-- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

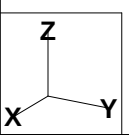
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance 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: "2016.04.18 - State of CT - 66038221"
Tower Version 12.50, 10:03:52 AM Monday, October 31, 2016
Undeformed geometry displayed





Project Name : 88017 - Shelton/Trumbull
Project Notes:
Project File : N:\L2 - ATC\88017\2016.10.29 - AT&T Mobility - OAA687899\2016.04.18 - State of CT - 66038221.tow
Date run : 9:36:04 AM Monday, October 31, 2016
by : Tower Version 12.50
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\2016.10.29 - at&t mobility - oaa687899\2016.10.29 - at&t mobility - oaa687899.eia

*** Analysis Results:

Maximum element usage is 92.89% 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	-26.44	-14.95	-200.55	30.38	-1.31	-5.19	5.35	-1.62	0.00
W 0	0X	-24.63	14.76	-186.55	28.71	-0.41	-4.76	4.78	1.55	0.00
W 0	0XY	-26.51	-8.27	103.53	27.77	0.38	-6.13	6.14	1.66	0.00
W 0	0Y	-28.56	8.34	107.91	29.75	-0.30	-6.68	6.69	-1.58	0.00
W 180	0P	28.78	8.05	104.90	29.89	-0.30	6.85	6.85	1.60	0.00
W 180	0X	26.63	-7.83	98.98	27.76	0.38	6.31	6.32	-1.68	0.00
W 180	0XY	24.62	14.54	-183.22	28.59	-0.41	4.92	4.94	-1.57	0.00
W 180	0Y	26.37	-14.61	-196.32	30.15	-1.30	5.34	5.50	1.63	0.00
W 45	0P	-28.22	-28.24	-272.55	39.92	3.84	-3.83	5.43	-0.00	0.00
W 45	0X	-12.01	-11.39	-39.33	16.55	5.29	-3.33	6.26	2.38	0.00
W 45	0XY	-27.03	-27.00	175.64	38.21	4.34	-4.35	6.15	-0.00	0.00
W 45	0Y	-11.33	-12.00	-39.42	16.50	3.32	-5.28	6.24	-2.38	0.00
W -45	0P	-13.18	11.66	-49.13	17.60	-5.69	-3.59	6.73	-2.38	0.00
W -45	0X	-26.82	27.87	-260.30	38.68	-4.20	-3.55	5.50	-0.01	0.00
W -45	0XY	-10.11	11.97	-41.15	15.67	-3.25	-4.93	5.90	2.40	0.00
W -45	0Y	-27.96	26.66	174.92	38.63	-4.26	-4.67	6.32	0.02	0.00
W 90	0P	-14.97	-26.51	-201.41	30.45	5.19	1.33	5.35	1.62	0.00
W 90	0X	8.46	-28.67	109.22	29.89	6.68	0.30	6.68	1.58	0.00
W 90	0XY	-8.32	26.58	104.13	27.85	6.13	-0.38	6.14	-1.67	0.00
W 90	0Y	14.85	-24.71	-187.60	28.83	4.76	0.43	4.78	-1.55	0.00
W -90	0P	8.12	28.78	105.47	29.91	-6.83	0.31	6.83	-1.60	0.00
W -90	0X	-14.62	26.38	-196.74	30.16	-5.33	1.30	5.48	-1.63	0.00
W -90	0XY	14.59	24.65	-183.84	28.65	-4.91	0.42	4.93	1.56	0.00
W -90	0Y	-7.85	26.65	99.45	27.78	-6.30	-0.37	6.31	1.68	0.00
W 0 Ice	0P	-11.07	-8.43	-100.96	13.92	-1.31	0.14	1.31	-0.34	0.00
W 0 Ice	0X	-10.39	8.41	-93.46	13.37	1.02	0.23	1.05	0.32	0.00
W 0 Ice	0XY	-0.71	2.53	-27.25	2.63	1.13	-2.18	2.46	0.34	0.00
W 0 Ice	0Y	-0.78	-2.53	-30.49	2.65	-1.24	-2.31	2.62	-0.32	0.00
W 180 Ice	0P	0.88	-3.06	-36.16	3.19	-1.24	2.52	2.81	0.35	0.00
W 180 Ice	0X	0.87	3.01	-32.14	3.13	1.13	2.40	2.65	-0.36	0.00
W 180 Ice	0XY	10.32	8.09	-88.79	13.11	1.04	-0.04	1.04	-0.34	0.00
W 180 Ice	0Y	10.92	-8.01	-95.07	13.54	-1.27	0.05	1.27	0.35	0.00
W 45 Ice	0P	-11.55	-11.55	-117.16	16.34	-0.42	0.42	0.59	-0.00	0.00
W 45 Ice	0X	-7.43	2.79	-61.90	7.94	2.02	0.51	2.09	0.49	0.00
W 45 Ice	0XY	-1.04	-1.04	-11.27	1.48	1.85	-1.85	2.62	-0.00	0.00
W 45 Ice	0Y	2.80	-7.43	-61.82	7.94	-0.51	-2.02	2.08	-0.49	0.00
W -45 Ice	0P	-8.20	-2.67	-68.81	8.63	-2.28	0.47	2.33	-0.51	0.00
W -45 Ice	0X	-10.92	11.35	-109.81	15.75	0.19	0.49	0.52	-0.02	0.00
W -45 Ice	0XY	2.77	7.44	-58.27	7.94	0.38	-1.92	1.96	0.51	0.00
W -45 Ice	0Y	-0.78	1.03	-15.26	1.29	-1.97	-1.89	2.73	0.02	0.00
W 90 Ice	0P	-8.43	-11.09	-101.11	13.93	-0.13	1.31	1.32	0.34	0.00
W 90 Ice	0X	-2.52	-0.80	-30.34	2.64	2.31	1.24	2.62	0.32	0.00
W 90 Ice	0XY	2.53	-0.72	-27.15	2.63	2.19	-1.13	2.46	-0.34	0.00
W 90 Ice	0Y	8.43	-10.40	-93.55	13.39	-0.22	-1.02	1.04	-0.32	0.00
W -90 Ice	0P	-3.04	0.88	-36.05	3.17	-2.52	1.24	2.81	-0.34	0.00
W -90 Ice	0X	-8.01	10.92	-95.23	13.55	-0.05	1.27	1.27	-0.35	0.00
W -90 Ice	0XY	8.10	10.32	-88.90	13.12	0.04	-1.03	1.04	0.34	0.00
W -90 Ice	0Y	3.00	0.87	-31.97	3.13	-2.39	-1.12	2.64	0.36	0.00

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

Load Case	Support Joint	Origin 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	202.460	12.314	12.348	12.320	0.829	-26.44	-14.95	-200.55
W 0	0X	1X	L 1X	188.394	11.565	11.602	11.488	-1.619	-24.63	14.76	-186.55
W 0	0XY	1XY	L 1XY	-105.453	19.193	19.245	19.220	0.976	-26.51	-8.27	103.53
W 0	0Y	1Y	L 1Y	-109.969	20.913	20.968	20.955	-0.737	-28.56	8.34	107.91
W 180	0P	1P	L 1P	-106.965	21.351	21.407	-21.397	-0.661	28.78	8.05	104.90
W 180	0X	1X	L 1X	-100.905	19.629	19.682	-19.663	0.859	26.63	-7.83	98.98
W 180	0XY	1XY	L 1XY	185.063	11.792	11.829	-11.715	-1.639	24.62	14.54	-183.22
W 180	0Y	1Y	L 1Y	198.221	12.536	12.571	-12.547	0.786	26.37	-14.61	-196.32
W 45	0P	1P	L 1P	275.165	12.711	12.774	9.021	9.045	-28.22	-28.24	-272.55
W 45	0X	1X	L 1X	39.181	16.898	16.902	9.236	14.155	-12.01	-11.39	-39.33
W 45	0XY	1XY	L 1XY	-178.564	20.615	20.717	14.664	14.634	-27.03	-27.00	175.64
W 45	0Y	1Y	L 1Y	39.271	16.850	16.854	14.108	9.221	-11.33	-12.00	-39.42
W -45	0P	1P	L 1P	48.993	17.971	17.975	9.719	-15.121	-13.18	11.66	-49.13
W -45	0X	1X	L 1X	262.848	12.711	12.774	8.491	-9.543	-26.82	27.87	-260.30
W -45	0XY	1XY	L 1XY	41.079	15.856	15.859	13.009	-9.070	-10.11	11.97	-41.15
W -45	0Y	1Y	L 1Y	-177.884	21.115	21.219	15.640	-14.340	-27.96	26.66	174.92
W 90	0P	1P	L 1P	203.322	12.321	12.355	0.787	12.330	-14.97	-26.51	-201.41
W 90	0X	1X	L 1X	-111.284	20.938	20.994	-0.764	20.980	8.46	-28.67	109.22
W 90	0XY	1XY	L 1XY	-106.060	19.220	19.272	0.987	19.247	-8.32	-26.58	104.13
W 90	0Y	1Y	L 1Y	189.448	11.580	11.616	-1.640	11.500	14.85	-24.71	-187.60
W -90	0P	1P	L 1P	-107.541	21.310	21.366	-0.696	-21.355	8.12	28.78	105.47
W -90	0X	1X	L 1X	198.646	12.514	12.548	0.769	-12.525	-14.62	26.38	-196.74
W -90	0XY	1XY	L 1XY	185.682	11.783	11.820	-1.648	-11.704	14.59	24.65	-183.84
W -90	0Y	1Y	L 1Y	-101.374	19.609	19.662	0.848	-19.644	-7.85	26.65	99.45
W 0 Ice	0P	1P	L 1P	101.826	4.162	4.178	3.963	1.325	-11.07	-8.43	-100.96
W 0 Ice	0X	1X	L 1X	94.314	4.208	4.226	3.809	-1.831	-10.39	8.41	-93.46
W 0 Ice	0XY	1XY	L 1XY	27.246	2.691	2.695	2.624	-0.613	-0.71	2.53	-27.25
W 0 Ice	0Y	1Y	L 1Y	30.458	2.943	2.948	2.923	0.386	-0.78	-2.53	-30.49
W 180 Ice	0P	1P	L 1P	36.130	3.463	3.469	-3.431	0.514	0.88	-3.06	-36.16
W 180 Ice	0X	1X	L 1X	32.127	3.216	3.220	-3.132	-0.748	0.87	3.01	-32.14
W 180 Ice	0XY	1XY	L 1XY	89.646	4.443	4.462	-4.068	-1.832	10.32	8.09	-88.79
W 180 Ice	0Y	1Y	L 1Y	95.924	4.405	4.422	-4.223	1.314	10.92	-8.01	-95.07
W 45 Ice	0P	1P	L 1P	118.204	4.644	4.667	3.297	3.304	-11.55	-11.55	-117.16
W 45 Ice	0X	1X	L 1X	62.309	3.449	3.451	3.074	1.568	-7.43	2.79	-61.90
W 45 Ice	0XY	1XY	L 1XY	11.065	2.587	2.600	1.838	1.838	-1.04	-1.04	-11.27
W 45 Ice	0Y	1Y	L 1Y	62.237	3.441	3.443	1.554	3.072	2.80	-7.43	-61.82
W -45 Ice	0P	1P	L 1P	69.235	4.000	4.001	3.357	-2.177	-8.20	-2.67	-68.81
W -45 Ice	0X	1X	L 1X	110.834	4.793	4.816	3.183	-3.614	-10.92	11.35	-109.81
W -45 Ice	0XY	1XY	L 1XY	58.697	3.594	3.597	1.337	-3.339	2.77	7.44	-58.27
W -45 Ice	0Y	1Y	L 1Y	15.054	2.793	2.806	1.857	-2.104	-0.78	1.03	-15.26
W 90 Ice	0P	1P	L 1P	101.984	4.162	4.179	1.313	3.967	-8.43	-11.09	-101.11
W 90 Ice	0X	1X	L 1X	30.309	2.951	2.956	0.379	2.932	-2.52	-0.80	-30.34
W 90 Ice	0XY	1XY	L 1XY	27.139	2.700	2.704	-0.614	2.633	2.53	-0.72	-27.15
W 90 Ice	0Y	1Y	L 1Y	94.411	4.214	4.233	-1.837	3.813	8.43	-10.40	-93.55
W -90 Ice	0P	1P	L 1P	36.026	3.450	3.456	0.504	-3.419	-3.04	0.88	-36.05
W -90 Ice	0X	1X	L 1X	96.090	4.398	4.415	1.307	-4.217	-8.01	10.92	-95.23
W -90 Ice	0XY	1XY	L 1XY	89.751	4.440	4.460	-1.836	-4.064	8.10	10.32	-88.90
W -90 Ice	0Y	1Y	L 1Y	31.960	3.209	3.213	-0.752	-3.124	3.00	0.87	-31.97

Overturning Moment Summary For All Load Cases:

Load Case	Transverse Moment (ft-k)	Longitudinal Moment (ft-k)	Resultant Moment (ft-k)
W 0	199.276	12419.680	12421.279
W 180	148.805	-12105.835	12106.749
W 45	9301.798	9298.191	13152.178
W -45	-8865.183	9196.206	12773.476
W 90	12498.802	180.826	12500.110
W -90	-12149.089	142.657	12149.927
W 0 Ice	222.695	2836.007	2844.737
W 180 Ice	213.553	-2398.045	2407.535
W 45 Ice	2195.811	2198.815	3107.470
W -45 Ice	-1743.316	2180.854	2792.002
W 90 Ice	2846.518	223.128	2855.250
W -90 Ice	-2409.261	216.164	2418.939

EIA Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Top Width (ft)	Bottom Width (ft)	Gross Face Area (ft^2)	Af Face Adjust Factor	Ar Face 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 %	Use Control In Comp. %	Comp. 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 Comp. Member (ft)	Length	Curve No.	No. Of Bolts Comp.
Leg S1	L 8" x 8" x 1.125"	SAE	8X8X1.13	33.0	58.45	Comp 58.45	L 1P	-237.722	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	55.88	Comp 55.88	L 2P	-203.775	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	50.98	Comp 50.98	L 3P	-164.380	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	45.54	Comp 45.54	L 4P	-127.293	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	46.03	Comp 46.03	L 5P	-108.870	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	37.74	Comp 37.74	L 6P	-89.274	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	35.18	Comp 35.18	L 7P	-72.176	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	26.73	Comp 26.73	L 8P	-54.846	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	21.89	Comp 21.89	L 9P	-44.911	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	14.65	Comp 14.65	L 10P	-30.058	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	11.28	Comp 11.28	L 11P	-15.818	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	4.17	Comp 4.17	L 12P	-5.854	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	71.26	Comp 71.26	D 1Y	-27.971	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	82.39	Comp 82.39	D 4Y	-28.785	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	89.40	Comp 89.40	D 6Y	-28.369	W 180	29.395	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	81.54	Comp 81.54	D 8Y	-26.901	W 180	30.690	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	84.12	Comp 84.12	D 10Y	-17.366	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	73.52	Comp 73.52	D 12Y	-15.954	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	67.01	Comp 67.01	D 13X	-15.276	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	63.30	Comp 63.30	D 15X	-15.152	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	82.85	Comp 82.85	D 18X	-9.466	W -90	11.425	0.000	0.000	0.520	0.500	0.520	222.12	182.80	23.173	6	0
Diag S10	L 3" x 4" x 0.25"	SAU	4X3X0.25	33.0	62.42	Comp 62.42	D 20X	-7.854	W -90	12.582	0.000	0.000	0.520	0.500	0.520	208.12	174.19	21.713	6	0
Diag S11	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	33.0	36.46	Comp 36.46	D 22X	-5.545	W -90	15.206	0.000	0.000	0.520	0.500	0.520	182.53	158.45	20.300	6	0
Diag S12	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	33.0	20.14	Comp 20.14	D 24X	-3.374	W -90	16.752	0.000	0.000	0.520	0.500	0.520	170.35	150.97	18.946	6	0
Horiz 1	B/B L3"x3"x0.3125"	DAE	3X3X0.31	33.0	85.81	Comp 85.81	H 2P	-36.976	W 180	39.514	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	50.27	Comp 50.27	H 4P	-15.401	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	65.95	Comp 65.95	H 6P	-14.051	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	49.26	Comp 49.26	H 8P	-12.463	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	61.80	Comp 61.80	H 10P	-11.593	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	50.23	Comp 50.23	H 12P	-10.438	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	27.83	Comp 27.83	H 13P	-9.302	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	24.12	Comp 24.12	H 15P	-8.783	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	2.51	Comp 2.51	H 18P	-0.530	W -90	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	1.51	Tens 0.76	H 19Y	-0.341	W -45	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	1.70	Tens 0.51	H 22P	-0.135	W 180	26.685	0.000	0.000	0.500	0.600	0.500	139.94	132.27	15.091	6	0
Horiz 12	L 4" x 3" x 0.3125"	SAU	4X3X0.31	33.0	3.43	Comp 3.43	H 23P	-0.413	W -90	12.013	0.000	0.000	1.000	0.500	1.000	247.23	198.25	13.330	6	0
LD 1	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	33.0	47.63	Tens 1.33	LD 1P	-0.281	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	92.89	Comp 92.89	LD 4Y	-26.922	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	65.97	Comp 65.97	LD 6P	-25.951	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	45.98	Tens 0.00	LH 2Y	0.000		0.001	0.000	0.000	100.000	200.000	100.000	22460.19	22460.19	11.137	4	0
DUM 1	Dummy Bracing Member	DUM	0.1X0.1X1	36.0	0.00	0.00	BR 5XY	-1.084	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 %	Use Control In Tens. %	Tension 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 Tens.	No. Of Holes	Hole Diameter (in)
Leg S1	L 8" x 8" x 1.125"	SAE	8X8X1.13	33.0	58.45	Comp 24.63	L 1XY	122.404	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	55.88	Comp 28.64	L 2XY	127.576	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	50.98	Comp 25.80	L 3XY	101.386	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	45.54	Comp 21.93	L 4XY	74.510	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	46.03	Comp 21.40	L 5XY	61.834	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	37.74	Comp 17.02	L 6Y	49.187	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	35.18	Comp 14.56	L 7XY	36.488	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	26.73	Comp 9.76	L 8XY	24.453	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	21.89	Comp 7.70	L 9XY	19.304	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	14.65	Comp 3.95	L 10XY	9.908	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	11.28	Comp 2.17	L 11XY	3.708	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	4.17	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	71.26	Comp 54.36	D 1P	46.496	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	82.39	Comp 27.03	D 4P	26.015	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	89.40	Comp 33.05	D 6P	25.818	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	81.54	Comp 32.21	D 8P	25.160	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	84.12	Comp 22.48	D 10P	15.891	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	73.52	Comp 20.68	D 12P	14.621	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	67.01	Comp 19.89	D 13P	14.060	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	63.30	Comp 19.60	D 15P	13.856	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	82.85	Comp 16.94	D 18P	8.502	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	62.42	Comp 13.94	D 20P	6.995	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	36.46	Comp 8.76	D 22X	4.395	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	20.14	Comp 5.17	D 24X	2.595	W 90	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	85.81	Comp 15.68	H 2Y	16.529	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	50.27	Comp 14.82	H 4Y	15.625	W 180	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	65.95	Comp 18.17	H 6Y	14.191	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	49.26	Comp 16.73	H 7P	13.065	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	61.80	Comp 16.73	H 9P	11.822	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	50.23	Comp 15.26	H 12P	10.790	W 0	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	27.83	Comp 12.72	H 13X	9.937	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	24.12	Comp 11.89	H 15X	9.287	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	2.51	Comp 2.22	H 18P	1.736	W 90	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	1.51	Tens 1.51	H 20P	1.177	W 90	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	1.70	Tens 1.70	H 21P	1.055	W 45	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	3.43	Comp 0.48	H 23P	0.301	W 45	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	47.63	Tens 47.63	LD 2P	30.133	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	92.89	Comp 30.89	LD 4P	21.836	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	65.97	Comp 31.39	LD 6Y	26.847	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	45.98	Tens 45.98	LH 2P	32.499	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	0.820	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	91.17	LD 4P	Angle
W 180	92.89	LD 4Y	Angle
W 45	67.06	LD 3P	Angle
W -45	70.85	LD 3X	Angle
W 90	91.26	LD 3P	Angle
W -90	92.72	LD 3X	Angle
W 0 Ice	28.70	LD 4P	Angle
W 180 Ice	30.69	LD 4Y	Angle
W 45 Ice	25.44	L 1P	Angle
W -45 Ice	26.15	LD 3X	Angle
W 90 Ice	28.74	LD 3P	Angle
W -90 Ice	30.65	LD 3X	Angle

*** Weight of structure (lbs):

Weight of Angles*Section DLF:	91885.3
Weight of Equipment:	1163.0
Total:	93048.3

*** End of Report

Site #:	88017	Engineer:	CDW	Windspeed: No Ice:	97 mph
Name:	Shelton/Trumbull, CT	Date:	10/31/16	Ice:	50 mph
				Carrier	AT&T Mobility

Taper:	-0.14085	
FW @ Base:	41.5	ft
Taper Change:	200	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			8.3333	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	

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.
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:	10/31/2016
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:	10/31/2016
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	
10	162.5-175.0	L		3	4	0.25	33	
11	175.0-187.5	L		3.5	3.5	0.25	33	
12	187.5-200.0	L		3.5	3.5	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.

Horizontals

Site No.:	88017
Engineer:	CDW
Date:	10/31/2016
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:	10/31/2016
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:	10/31/2016
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.

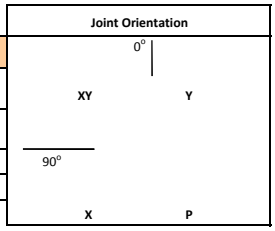
[5] Applies to Single-Angle Shapes only.

Coax and Dishes (p. 1 of 2)

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

Site No.:	88017
Engineer:	CDW
Date:	10/31/16
Carrier:	AT&T Mobility

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



Dish Elevation (ft)	Dish Dia. (ft)	Dish Angle (deg)	Dish Type	Joint Orientation
208	6	68	R	XY
208	6	240	R	P
165	2.18	343.6664	H	XY
165	2	126.6024	S	XY
165	2.92	212.6351	H	P
165	2.92	212.6351	H	X
126	6	182	R	P

Equipment Label	Attach Label	Equipment Property Set	EIA Antenna Orientation Angle
6' RAD " @ 208	0XY	6 ft RAD Dish	68
6' RAD " @ 208	0P	6 ft RAD Dish	240
2.18' HP " @ 16	0XY	2.18 ft HP Dish	343.6664
2' STD " @ 165'	0XY	2 ft STD Dish	126.6024
2.92' HP " @ 16	0P	2.92 ft HP Dish	212.6351
2.92' HP " @ 16	0X	2.92 ft HP Dish	212.6351
6' RAD " @ 126	0P	6 ft RAD Dish	182

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)
State of CT 1	0	200	2	Round	2.01	6.3	0.52	Yes	Yes
State of CT 2	0	200	2	Round	1.98	6.2	0.82	Yes	Yes
State of CT 3	0	185	1	Flat	3.72	19.8	2.08	Yes	Yes
State of CT 5	0	180	1	Flat	4.8375	25.8	4.1	Yes	Yes
State of CT 6	0	180	1	Flat	2.30625	12.3	0.75	Yes	Yes
Sprint 1	0	168	1	Flat	12.66	43.7	9.84	Yes	Yes
Clearwire 1	0	162	1	Round	0.63	6.3	0.6	No	No
Clearwire 2	0	162	1	Round	0.31	4.3	0.3	No	No
Clearwire 3	0	162	1	Round	2.38	14.3	7.3	Yes	Yes
Sprint 2	0	155	3	Round	1.54	4.8	1	Yes	Yes
Sprint 3	0	155	6	Round	1.98	6.2	0.82	Yes	Yes
AT&T 1	0	144	1	Round	0.28	0.9	0.03	No	No
AT&T 2	0	144	6	Round	1.98	6.2	0.82	Yes	Yes
AT&T 3	0	144	2	Round	0.74	2.3	0.49	No	No
AT&T 4	0	144	1	Round	3.5	11.0	7.58	Yes	Yes
State of CT 7	0	124	2	Round	2.01	6.3	0.57	Yes	Yes
US DHS	0	100	1	Round	1.09	4.4	0.33	Yes	Yes
WG 1	1	155.5	1	Flat	1.5	6.0	6	Yes	Yes
WG 2	8	165.5	1	Flat	1.5	6.0	6	Yes	Yes
WG 3	8	143	1	Flat	1.5	6.0	6	Yes	Yes
WG 4	25	176	1	Flat	1.5	6.0	6	Yes	Yes
Ladder	0	200	1	Round	1.5	4.7	6	Yes	Yes
Lightsquared	0	84	1	Round	1.98	7.9	0.82	Yes	Yes
Sprint 4	0	55	1	Round	0.63	2.0	0.15	Yes	Yes

Coax and Dishes (p. 2 of 2) **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 **Crest Ht:** 0 K_e 0.9 K_t

Description	From (ft)	To (ft)	Quantity	Face # (1-4, A-D)	Coax Width (in)	Considered 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)
State of CT 1	0	200	2	B	2.01	**Ind**	100		**Round**	**2**	**1**	**6.3**	**6**	Yes	Yes
State of CT 2	0	200	2	B	1.98	**Ind**	100	0	**Round**	**2**	**1**	**6.2**	**0.82**	Yes	Yes
State of CT 3	0	185	4	B	1.98	**Block**	50	1	**Flat**	**2**	**2**	**19.8**	**3.28**	Yes	Yes
State of CT 5	0	180	5	B	1.98	**Block**	50	1	**Flat**	**3**	**2**	**25.8**	**4.1**	Yes	Yes
State of CT 6	0	180	5	B	0.63	**Block**	50	1	**Flat**	**3**	**2**	**12.3**	**#N/A**	Yes	Yes
Sprint 1	0	168	12	3	1.98	**Block**	50	1	**Flat**	**6**	**2**	**43.7**	**9.84**	Yes	Yes
Clearwire 1	0	162	4	2	0.63	**Ind**	100		**Round**	**4**	**1**	**2.0**	**#N/A**	Yes	Yes
Clearwire 2	0	162	6	2	0.31	**Ind**	100	0	**Round**	**6**	**1**	**1.0**	**#N/A**	Yes	Yes
Clearwire 3	0	162	2	2	2.38	**Ind**	100		**Round**	**2**	**1**	**7.5**	**6**	Yes	Yes
Sprint 2	0	155	3	3	1.54	**Ind**	100	0	**Round**	**3**	**1**	**4.8**	**0.33**	Yes	Yes
Sprint 3	0	155	6	3	1.98	**Ind**	100		**Round**	**6**	**1**	**6.2**	**0.82**	Yes	Yes
AT&T 1	0	144	1	C	0.28	**Ind**	100	0	**Round**	**1**	**1**	**0.9**	**#N/A**	Yes	Yes
AT&T 2	0	144	6	C	1.98	**Ind**	100		**Round**	**6**	**1**	**6.2**	**0.82**	Yes	Yes
AT&T 3	0	144	2	C	0.74	**Ind**	100	0	**Round**	**2**	**1**	**2.3**	**#N/A**	Yes	Yes
AT&T 4	0	144	1	C	3.50	**Ind**	100		**Round**	**1**	**1**	**11.0**	**6**	Yes	Yes
State of CT 7	0	124	2	B	2.01	**Ind**	100	0	**Round**	**2**	**1**	**6.3**	**6**	Yes	Yes
US DHS	0	100	1	4	1.09	**Ind**	100		**Round**	**1**	**1**	**3.4**	**0.33**	Yes	Yes
WG 1	1	155.5	1	2	1.50	**Flat**	100	0	**Flat**	**1**	**1**	**6.0**	**0.33**	Yes	Yes
WG 2	8	165.5	1	2	1.50	**Flat**	100		**Flat**	**1**	**1**	**6.0**	**0.33**	Yes	Yes
WG 3	8	143	1	D	1.50	**Flat**	100	0	**Flat**	**1**	**1**	**6.0**	**0.33**	Yes	Yes
WG 4	25	176	1	A	1.50	**Flat**	100		**Flat**	**1**	**1**	**6.0**	**0.33**	Yes	Yes
Ladder	0	200	1	A	1.50	**Ind**	100	0	**Round**	**1**	**1**	**4.7**	**0.33**	Yes	Yes
Lightsquared	0	84	1	2	1.98	**Ind**	100		**Round**	**1**	**1**	**6.2**	**0.82**	Yes	Yes
Sprint 4	0	55	1	3	0.63	**Ind**	100	0	**Round**	**1**	**1**	**2.0**	**#N/A**	Yes	Yes
							100							No	Yes
							100	0						No	Yes
							100							No	Yes
							100	0						No	Yes
							100							No	Yes
							100	0						No	Yes
							100							No	Yes
							100	0						No	Yes
							100							No	Yes
							100	0						No	Yes
							100							No	Yes
							100	0						No	Yes
							100							No	Yes
							100	0						No	Yes
							100							No	Yes
							100	0						No	Yes

Task:	Determine Point Loads	
Tower Height:	200	ft
Gh:	0.85	
Wind Speed:	97	mph
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:	10/31/2016
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/ Handrails						1.000	75.00	7.00	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		Platform w/ Handrails						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		Platform w/ Handrails						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		Platform w/ Handrails						1.000	65.00	6.00	1
6	-	75	1	1		-	0.001	0.001	0.001	0.001	F	1.000			1
	-	75	1	3		Platform w/ Handrails						1.000	65.00	6.00	1
7	-	50	1	1		-	0.001	0.001	0.001	0.001	F	1.000			1
	-	50	1	1		Rest Platform						1.000	15.00	3.00	1
8															1
															1
9	STATE OF CT	212	1	1	Decibel	DB420MS-E	188	3	3	30	R	1.000			1
	STATE OF CT	200	1	1		-						1.000			1
10	STATE OF CT	208	1	1	Generic	15' Omni	180	3	3	40	R	1.000			1
	STATE OF CT	200	1	1		-						1.000			1
11	STATE OF CT	189	1	1	Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	185	1	1		Side Arms						1.000	5.20	0.05	1
12	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	185	1	1		-						1.000			1
13	STATE OF CT	187	2	1	Kathrein Scala	AP14-850/105	101.5	10	4	26.8	F	1.000			1
	STATE OF CT	185	1	1		-						1.000			1
14	STATE OF CT	184	1	1	Generic	5' Dipole	60	3	3	15	R	1.000			1
	STATE OF CT	180	1	1		-						1.000			1
15	STATE OF CT	181	5	1	Generic	TTA	12	12	6	10	F	1.000			0.75
	STATE OF CT	180	1	1		-						1.000			1
16	STATE OF CT	180	1	1	TX RX Systems	101-83B-09-0-03	120	3.6	3.6	45	R	1.000			1
	STATE OF CT	180	1	1		-						1.000			1
17	STATE OF CT	175	1	1	TX RX Systems	101-83B-09-0-03	120	3.6	3.6	45	R	1.000			1
	STATE OF CT	180	1	1		-						1.000			1
18	STATE OF CT	175	1	1	Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	180	1	1		-						1.000			1
19	STATE OF CT	175	1	1	Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	180	1	1		-						1.000			1
20	SPRINT NEXTEL	168	12	3	Decibel	DB844H90E-A	48	6	8.5	10	F	0.861			0.8
	SPRINT NEXTEL	168	3	3		Sector Frame						1.000	17.90	0.40	0.75
21	CLEARWIRE CORPORATION	165	4	3	DragonWave	Horizon Compact	4.7	9.3	9.3	10.6	F	0.929			0.8
	CLEARWIRE CORPORATION	162	3	3		Side Arms						0.670	6.50	0.15	1
22	CLEARWIRE CORPORATION	162	1	3	Generic	BTS	18	12	6	20	F	0.792			0.8
	CLEARWIRE CORPORATION	162	1	3		-						1.000			1
23	CLEARWIRE CORPORATION	162	3	3	NextNet	BTS-2500	19.3	11.3	5.1	35	F	0.763			0.8
	CLEARWIRE CORPORATION	162	1	3		-						1.000			1
24	CLEARWIRE CORPORATION	162	3	3	Argus	LLPX310R	42	11.8	4.5	28.6	F	0.726			0.8
	CLEARWIRE CORPORATION	162	1	3		-						1.000			1
25	SPRINT NEXTEL	155	3	3	Alcatel-Lucent	1900 MHz 4X45 RRH	25.1	11.1	10.7	60	F	0.945			1
	SPRINT NEXTEL	155	1	3		-						1.000			1
26	SPRINT NEXTEL	155	3	3	Alcatel-Lucent	800 MHz RRH w/ Notch Filter	19.7	13	15.2	61.8	F	0.867			1
	SPRINT NEXTEL	155	1	3		-						1.000			1
27	SPRINT NEXTEL	155	6	3	Andrew	DB980H90E-M	60	6.3	3	8.5	F	0.794			1
	SPRINT NEXTEL	155	1	3		-						1.000			1
28	SPRINT NEXTEL	155	3	3	RFS	APXVSPP18-C-A20	72	11.8	7	57	F	0.829			1
	SPRINT NEXTEL	155	1	3		-						1.000			1
29	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	3	3		Sector Frame						1.000	15.00	0.30	0.75
30	**AT&T MOBILITY**	**144**	**1**	**3**	**Raycap**	**DC6-48-60-18-8F ("Squid")**	24	11	11	31.8	F	0.929			0.8
	AT&T MOBILITY	144	1	3		-						1.000			1
31	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	3		-						1.000			1
32	**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	3		-						1.000			1
33	AT&T MOBILITY	144	3	3	Powerwave Allgon	7770.00	55	11	5	35	F	0.766			0.8
	AT&T MOBILITY	144	1	3		-						1.000			1
34	**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	3		-						1.000			1
35	US DEPT OF HOMELAND SECURITY	109	1	1	Andrew	DB616E-BC	231	3.5	3.5	51	R	1.000			1
	US DEPT OF HOMELAND SECURITY	100	1	1		-						1.000			1
36	LIGHTSQUARED LP	90	1	1	Kathrein Scala	750 10074	104.3	2	2	17.6	R	1.000			1
	LIGHTSQUARED LP	84	1	1		Side Arm						1.000	5.20	0.15	1
37	SPRINT NEXTEL	55	1	1	Generic	2" x 4" GPS	2	4	2	5	R	1.000			1
	SPRINT NEXTEL	55	1	1		-						1.000			1
38															1
															1
39															1
															1
40															1
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41															1
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															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	75.00	101.25	2515.763	564.001	8400	10920	**1.00**	**1383.67**	**310.20**	0.0000010	2515.762621	
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	5199.24275	
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	65.00	87.75	1849.815	414.704	7200	9360	**1.00**	**1017.40**	**228.09**	1.5088889	1849.814543	
6	75	0.00	0.01	0.000	0.041	0	0	**1.00**	**0.00**	**0.02**	1.5088899		
	75	65.00	87.75	1647.466	369.340	7200	9360	**1.00**	**906.11**	**203.14**	1.5133333	1647.465775	
7	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	3600	4680	**1.00**	**186.23**	**41.75**	1.5200000	338.5965398	
8					#VALUE!			**1.00**	**#VALUE!**	**#VALUE!**	1.5200010		
								1.00	**0.00**	**0.00**	#DIV/0!	#VALUE!	
9	212	4.70	6.30	160.301	35.683	36	194	**1.00**	**88.17**	**19.63**	#DIV/0!		
	200	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	#DIV/0!	160.3044541	
10	208	4.50	6.03	152.647	33.987	48	202	**1.00**	**83.96**	**18.69**	#DIV/0!		
	200	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5050000	312.9545643	
11	189	5.03	6.51	166.060	35.661	41	203	**1.00**	**91.33**	**19.61**	1.5050010		
	185	5.20	7.02	170.584	38.243	60	78	**1.00**	**93.82**	**21.03**	1.5050010	336.6437797	
12	187	3.60	4.64	118.460	25.346	54	174	**1.00**	**65.15**	**13.94**	1.5050020		
	185	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5050020	455.1069591	
13	187	21.22	23.13	698.134	126.413	64	254	**1.00**	**383.97**	**69.53**	1.5050030		
	185	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5054054	1153.244422	
14	184	1.36	1.67	44.582	9.063	18	69	**1.00**	**24.52**	**4.98**	1.5054064		
	180	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5055556	44.58485385	
15	181	4.50	6.16	146.702	33.357	60	97	**1.00**	**80.69**	**18.35**	1.5055566		
	180	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5055556	191.2896884	
16	180	3.60	4.64	117.176	25.071	54	174	**1.00**	**64.45**	**13.79**	1.5055566		
	180	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5055556	308.4685817	
17	175	3.60	4.64	116.236	24.870	54	173	**1.00**	**63.93**	**13.68**	1.5055566		
	180	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5055556	424.7081346	
18	175	5.03	6.51	162.448	34.886	41	202	**1.00**	**89.35**	**19.19**	1.5055566		
	180	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5055556	587.1596879	
19	175	5.03	6.51	162.448	34.886	41	202	**1.00**	**89.35**	**19.19**	1.5055566		
	180	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5055556	749.6112412	
20	168	32.80	37.42	1046.762	198.328	144	253	**1.00**	**575.72**	**109.08**	1.5055566		
	168	53.70	72.50	1713.753	288.151	1440	1872	**1.00**	**942.56**	**158.48**	1.5059524	2760.514384	
21	165	1.26	1.70	40.091	8.942	51	71	**1.00**	**22.05**	**4.92**	1.5059534		
	162	13.07	17.64	412.639	92.508	540	702	**1.00**	**226.95**	**50.88**	1.5061728	452.7306443	
22	162	1.14	1.52	36.005	7.977	24	66	**1.00**	**19.80**	**4.39**	1.5061738		
	162	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5061728	488.7390758	
23	162	3.33	4.45	105.150	23.324	126	189	**1.00**	**57.83**	**12.83**	1.5061738		
	162	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5061728	593.8918445	
24	162	7.48	9.32	236.180	48.899	103	207	**1.00**	**129.90**	**26.89**	1.5061738		
	162	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5061728	830.0752069	
25	155	7.40	8.70	230.765	45.062	216	319	**1.00**	**126.92**	**24.78**	1.5061738		
	155	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5064516	230.7677443	
26	155	7.57	8.48	236.029	43.895	222	326	**1.00**	**129.82**	**24.14**	1.5064526		
	155	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5064516	466.8003255	
27	155	18.56	21.29	578.918	110.284	61	143	**1.00**	**318.40**	**60.66**	1.5064526		
	155	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5064516	1045.721078	
28	155	19.96	22.60	622.554	117.041	205	399	**1.00**	**342.40**	**64.37**	1.5064526		
	155	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5064516	1668.278316	
29	144	3.52	4.87	107.593	24.716	102	144	**1.00**	**59.18**	**13.59**	1.5064526		
	144	45.00	60.75	1374.228	231.063	1080	1404	**1.00**	**755.83**	**127.08**	1.5069444	1481.8208	
30	144	1.91	2.17	58.227	10.988	38	103	**1.00**	**32.02**	**6.04**	1.5069454		
	144	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5069444	1540.0504	
31	144	4.52	5.90	138.070	29.915	198	287	**1.00**	**75.94**	**16.45**	1.5069454		
	144	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5069444	1678.12366	
32	144	5.51	7.22	168.344	36.609	191	287	**1.00**	**92.59**	**20.13**	1.5069454		
	144	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5069444	1846.470651	
33	144	10.12	12.01	309.173	60.895	126	254	**1.00**	**170.05**	**33.49**	1.5069454		
	144	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5069444	2155.64671	
34	144	19.33	22.44	590.287	113.817	184	409	**1.00**	**324.66**	**62.60**	1.5069454		
	144	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5069444	2745.936641	
35	109	6.74	8.70	190.017	40.746	61	267	**1.00**	**104.51**	**22.41**	1.5069454		
	100	0.00	0.00	0.003	0.001	0	0	**1.00**	**0.00**	**0.00**	1.5100000	190.0195035	

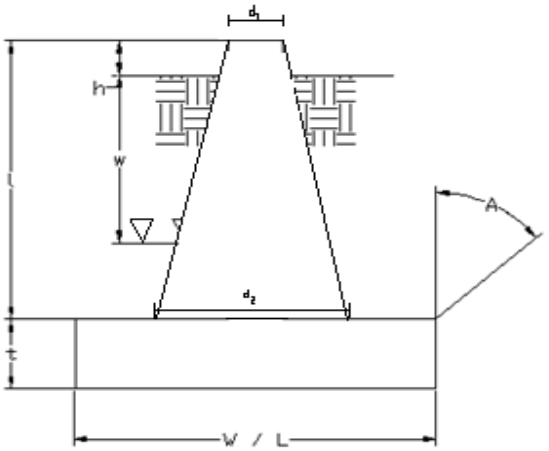
Foundation

Site No.:	88017
Engineer:	CDW
Date:	10/31/16
Carrier:	AT&T Mobility

Design Loads (Factored)

Compression/Leg:	268.84	k
Uplift/Leg:	171.91	k
Shear/Leg	39.26	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):	55.0	pcf
Friction Angle of Uplift (A):	30	°
Ultimate Compressive Bearing Pressure:	16000	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 Check

ϕs Uplift Resistance (k)	Ratio	Result
305.73	0.56	**OK**

Axial Check

ϕs Axial Resistance (k)	Ratio	Result
3072.00	0.09	**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
0.40	**OK**

EBI Consulting
environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

AT&T Existing Facility

Site ID: CT5542

Shelton - Booth Hill
Booth Hill Rd (14 Oxford Dr.)
Shelton, CT 06484

October 29, 2016

EBI Project Number: 6216004899

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	4.83 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

October 29, 2016

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

Emissions Analysis for Site: **CT5542 – Shelton - Booth Hill**

EBI Consulting was directed to analyze the proposed AT&T facility located at **Booth Hill Rd (14 Oxford Dr.), 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 public 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 public 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.

Public 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 done for the proposed AT&T Wireless antenna facility located at **Booth Hill Rd (14 Oxford Dr.), 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.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. 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. This is rarely the case, and if so, is never continuous.

7) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antennas used in this modeling are the **Powerwave 7770 and the CCI HPA-65R-BUU-H6** for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) 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.

9) The antenna mounting height centerlines of the proposed antennas are **145 feet** above ground level (AGL) for **Sector A**, **145 feet** above ground level (AGL) for **Sector B** and **145 feet** above ground level (AGL) for Sector C.

10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 / 13.4 / 11.4 dBd	Gain:	11.4 / 13.4 / 11.4 dBd	Gain:	11.4 / 13.4 / 11.4 dBd
Height (AGL):	**145 feet**	Height (AGL):	**145 feet**	Height (AGL):	**145 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts
ERP (W):	2,969.12	ERP (W):	2,969.12	ERP (W):	2,969.12
Antenna A1 MPE%	**0.79 %**	Antenna B1 MPE%	**0.79 %**	Antenna C1 MPE%	**0.79 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H6
Gain:	11.95 / 14.75 dBd	Gain:	11.95 / 14.75 dBd	Gain:	11.95 / 14.75 dBd
Height (AGL):	**145 feet**	Height (AGL):	**145 feet**	Height (AGL):	**145 feet**
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	5,462.56	ERP (W):	5,462.56	ERP (W):	5,462.56
Antenna A2 MPE%	**1.42 %**	Antenna B2 MPE%	**1.42 %**	Antenna C2 MPE%	**1.42 %**

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max per sector	**2.20 %**
Clearwire	0.05 %
Clearwire MW	0.06 %
Dept Public 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 %:	**4.83 %**

AT&T Sector A Total:	2.20 %
AT&T Sector B Total:	2.20 %
AT&T Sector C Total:	2.20 %
Site Total:	4.83 %

AT&T _ Frequency Band / Technology	# 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 1900 MHz (PCS) UMTS	2	656.33	145	2.44	1900 MHz (PCS)	1000	0.24%
AT&T 850 MHz GSM	2	414.12	145	1.54	850 MHz	567	0.27%
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*:	2.20%

*NOTE: Totals may vary by 0.01% due to summing of remainders

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public 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 public exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	2.20 %
Sector B:	2.20 %
Sector C:	2.20 %
AT&T Maximum Total (per sector):	2.20 %
Site Total:	4.83 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **4.83 %** of the allowable FCC established general public 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.