EMPIRE telecom

May 1, 2019

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

Regarding:	Notice of Exempt Modification – Antenna Modification
Property Address:	14 Booth Hill Rd., Shelton, CT 06484 (the "Property")
Applicant:	AT&T Mobility ("AT&T", Site # CT5542)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 200-foot Self-Support tower ("tower") at the above-referenced address, latitude 41.2801444°, longitude -73. 18548333°. Said Support tower and property is owned by American Tower Corporation.

AT&T desires to modify its existing telecommunications facility by adding one (1) WCS Filter. The centerline height of the existing antennas and ancillary tower-mounted equipment is and will remain at 144 feet.

Please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72 (b)(2). In accordance with R.C.S.A. §16-50j-73, a copy of this letter is being sent to the Honorable Mark A. Lauretti, Mayor of the City of Shelton; Rick Schultz, as AICP, Planning & Zoning Administrator with the City of Shelton, and the property and tower 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 added accessory equipment will be installed at the existing height of 144 feet on the 200-foot Support tower.

2. The proposed modifications will not involve any changes to AT&T's ground-space footprint, and therefore 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 decibels 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 (enclosed) for AT&T's modified facility is herein provided.

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

6. The existing structure and its foundation can support AT&T's proposed modifications. Please see enclosed structural analysis completed by American Tower Corporation., dated March 26, 2019.

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

Sincerely,

Nicholas J. Danforth, Esq.

Nick Danforth
Site Acquisition Specialist
Empire Telecom USA, LLC
ndanforth@empiretelecomm.com

Enclosures: Exhibit 1 – Field Card and GIS Map
Exhibit 2 – Construction Drawings
Exhibit 3 – Structural Analysis
Exhibit 4 – RF Emissions Analysis Report Evaluation

cc:

Hon. Mark A. Lauretti
Shelton City Hall
54 Hill Street
Shelton, CT 06484

American Tower Corp.
10 Presidential Way
Woburn, MA 01801
Attn: Ryan Tierney

Rick Schultz
AICP, Planning & Zoning Administrator
Shelton City Hall
54 Hill Street
Third Floor
Shelton, CT 06484

City of Shelton, Connecticut

BUILDING ZONE MAP

Shelton Planning & Zoning Commission

This map is for Planning Purposes only. It is not for legal descriptions 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 hereon.

APPROVED BY: Shelton Planning and Zoning Commission

ADOPTED DATE: September 25th, 2007

EFFECTIVE DATE: October 11th, 2007

AMENDED ON:
- Dec 3rd, 2008
- July 24th, 2009
- Feb 24th, 2010
- July 14th, 2010
- Nov 17th, 2010
- Feb 11th, 2011
- Sept 30th, 2011
- Nov 30th, 2012
- Dec 21st, 2012
- May 17th, 2013
- Aug 29th, 2014
- Dec 12th, 2014
- Jan 30th, 2015
- Oct 23rd, 2015
- Nov 20th, 2015
- Sept 14th, 2016
- Dec 14th, 2016
- July 26th, 2017

OXFORD

SEYMOUR

MONROE

DERBY

TRUMBULL

MILFORD

ORANGE

STRATFORD

N

Legend

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

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

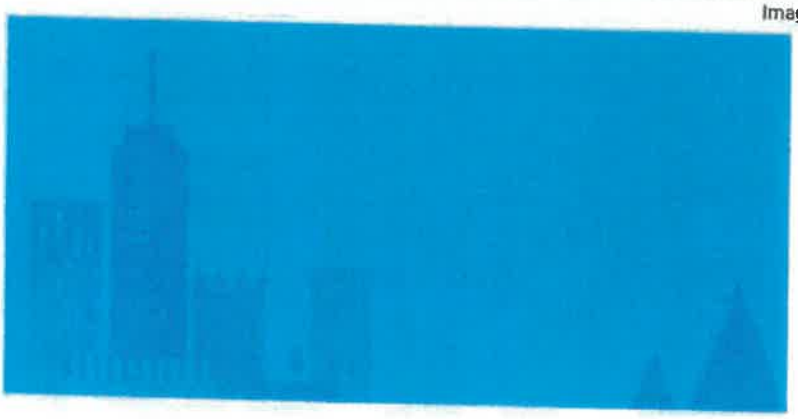
Map Printed
October 11th, 2017

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

Google Maps 41°16'48.5"N 73°11'07.7"W

20 Oxford Drive / Booth Hill Road, Shelton, CT

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



41°16'48.5"N 73°11'07.7"W

41.280140, -73.185480

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2016.

City of Shelton, Connecticut

Vision to See, Faith to Believe, Courage to Do...

Information on the Property Records for the Municipality of Shelton was last updated on 4/30/2019.

Parcel Information

Location:	20 OXFORD DR	Property Use:	Industrial	Primary Use:	Radio/TV Trans
Unique ID:	33 13	Map Block Lot:	33 13	Acres:	0.82
490 Acres:	0.00	Zone:	R-1	Volume / Page:	1680/0107
Developers Map / Lot:		Census:			

Value Information

	Appraised Value	Assessed Value
Land	110,300	77,210
Buildings	48,406	33,880
Detached Outbuildings	38,794	27,160
Total	183,632	138,250

Owner's Information

Owner's Data
AMERICAN TOWERS INC P O BOX 723597 ATLANTA GA 31139

Building 1

Category:	Retail	Use:	Mixed Use - Retail / Storage	GLA:	1,250
Stories:	1.00	Construction:	Wood Frame	Year Built:	1970
Heating:		Fuel:		Cooling Percent:	0
Siding:	Wood Frame	Roof Material:	Composite Built Up	Beds/Units:	0

Special Features

Attached Components

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
8 Ft Chain Fence	1970	230.00	8.00	1,840
Utility Storage	1952	0.00	0.00	38,500

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
AMERICAN TOWERS INC	1680	0107	04/11/2000	Quit Claim	No	$404,094
AMERICAN TELE & TELEGRAPH	0130	0440	04/14/1953		No	$0

Building Permits

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
18-156	Comm Renovations	01/31/2018		Closed	CELL TOWER MAINTENANCE

PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED COMMUNICATIONS FACILITY MODIFICATIONS INCLUDING: *(P) INSTALL NEW QUAD WCS FILTER CCI WCS-MFQ-AMT ON BETA SECTOR LTEWCS RRUS-32 RADIO (1 TOT.)* *(P) INSTALL NEW JUMPERS BETWEEN LTEWCS RRUS-32 RADIO AND CCI WCS FILTER (4 TOT.)* *(P) INSTALL NEW JUMPERS BETWEEN CCI WCS FILTER AND KAELUS QUADRUPLEXER (4 TOT.)*
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 FA: 10071232
SITE NAME: SHELTON - BOOTH HILL
PROJECT: LTE WCS Filter MRTCB028049

DRAWING INDEX

CONNECTICUT ONE CALL SYSTEM, INC. 1-800-922-4455 STOP! CALL BEFORE YOU DIG!

CONNECTICUT LAW REQUIRES TWO WORKING DAYS NOTICE PRIOR TO ANY EARTH MOVING ACTIVITIES BY CALLING 800-922-4455 OR DIAL 811

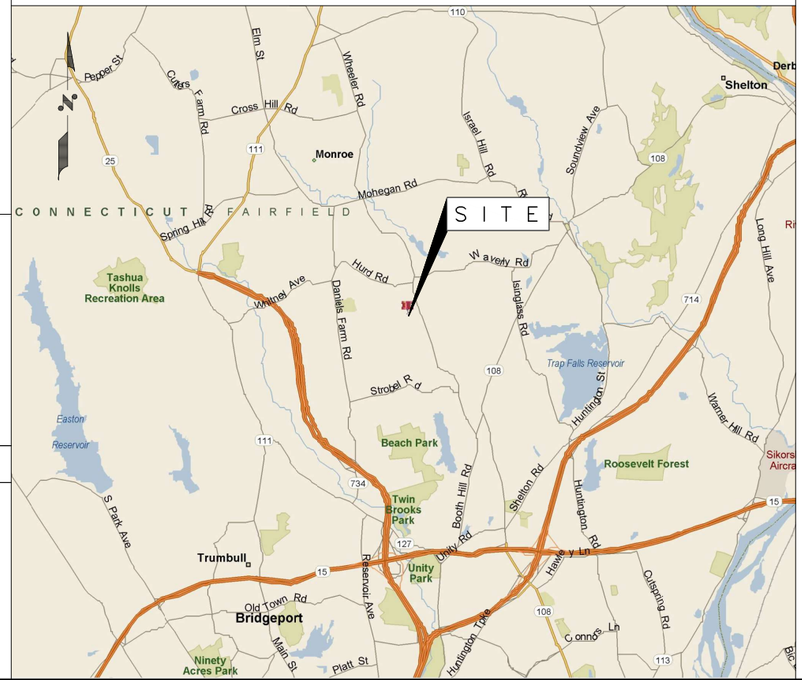
CONTACT & UTILITY INFORMATION

CONTACT	CONTACT	COMPANY	PHONE NO.
ENGINEERING:	MIGUEL NOBRE	VRG	(508) 981-9590
SITE ACQUISITION:	DAVID COOPER	EMPIRE	(617) 639-4908
CONSTRUCTION:	GREG DORMAN	EMPIRE	(484) 683-1750
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
PROJECT: LTE WCS Filter Add
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	04/18/19	GENERAL REVISIONS	G.A.M.		
0	03/27/19	FOR CONSTRUCTION	G.A.M.		

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

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

AT&T MOBILITY

TITLE SHEET

JOB NUMBER	DRAWING NUMBER	REV.
CT5542-LTEWCSFilter	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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EMPIRE TELECOM USA, LLC
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT5542
SITE NAME: SHELTON
BOOTH HILL RD
PROJECT: LTE WCS Filter Add
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	04/18/19	GENERAL REVISIONS	G.A.M.		
0	03/27/19	FOR CONSTRUCTION	G.A.M.		

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

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

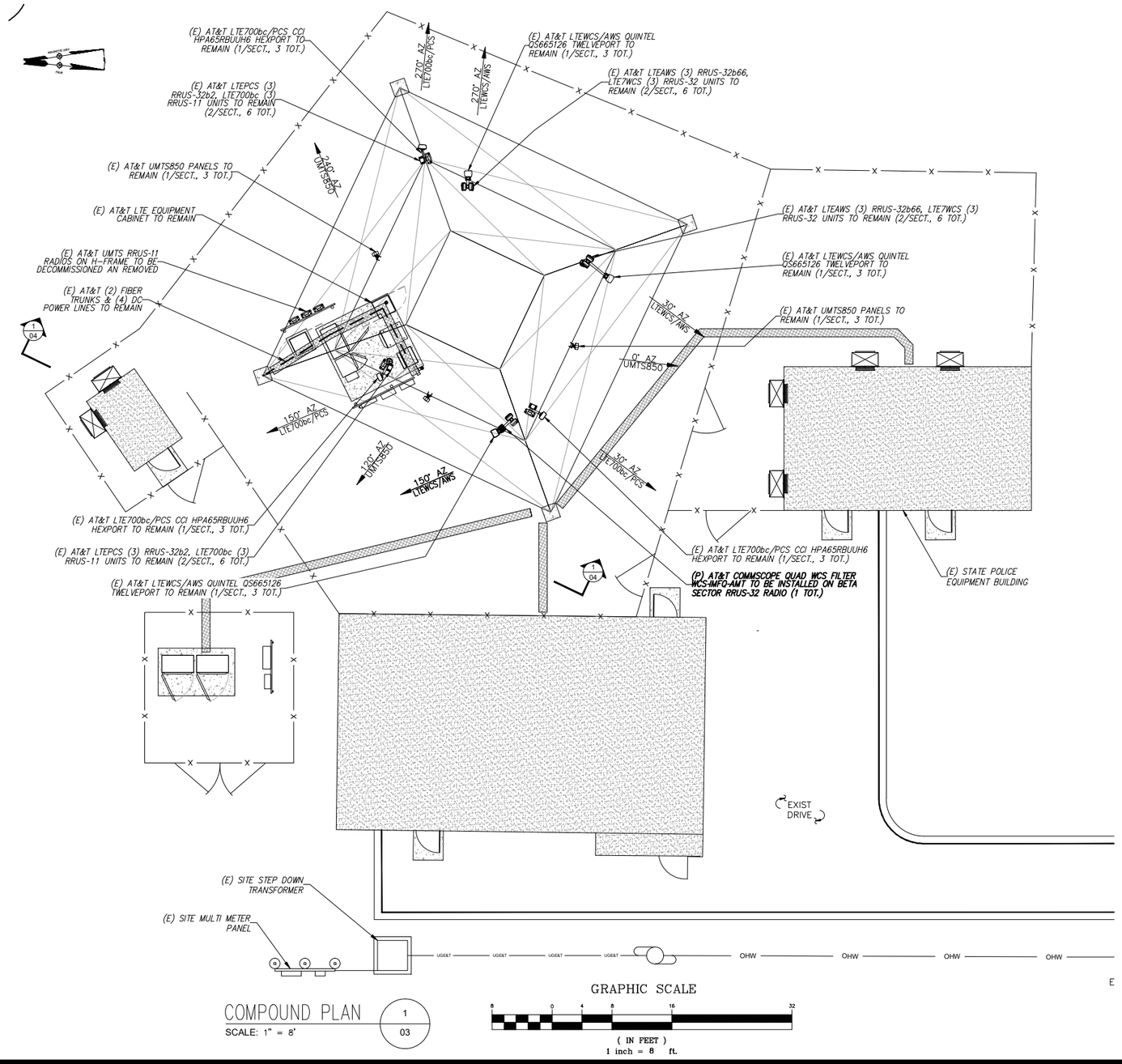
AT&T MOBILITY

NOTES

JOB NUMBER	DRAWING NUMBER	REV.
CT5542–LTEWCSFilter	02	1

GENERAL NOTES

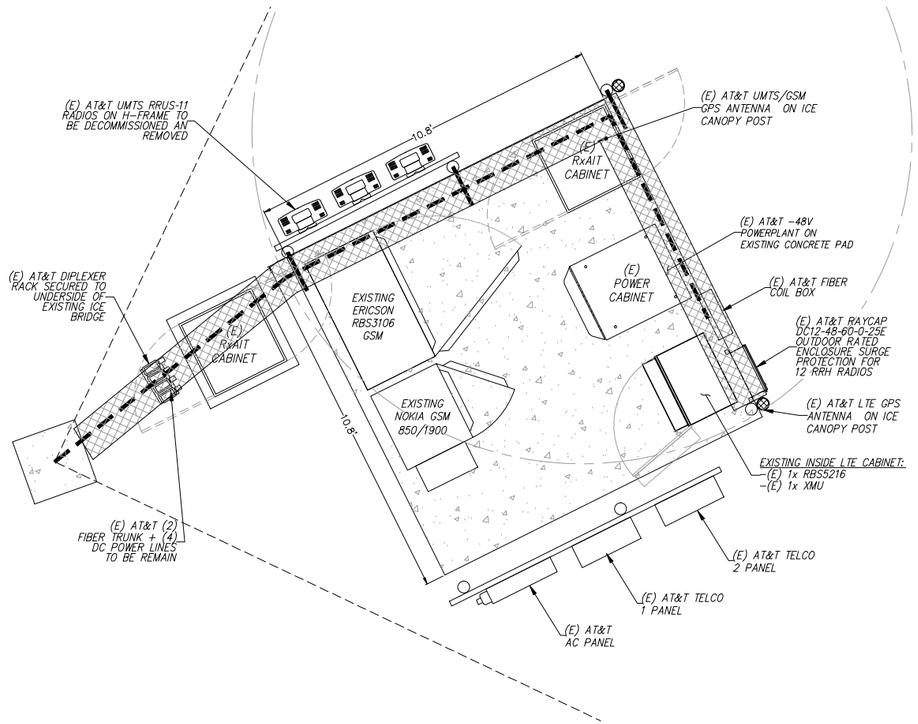
1. THE TYPE, DIMENSIONS, MOUNTING HARDWARE, AND THE POSITIONS OF ALL EQUIPMENT IN THE COMPOUND ARE SHOWN IN ILLUSTRATIVE FASHION. ACTUAL HARDWARE DETAILS AND FINAL LOCATIONS MAY DIFFER SLIGHTLY FROM WHAT IS SHOWN.
2. THE CELLULAR INSTALLATION IS AN UNMANNED PRIVATE AND SECURED COMPOUND. IT IS ONLY ACCESSED 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'

AT&T RF SYSTEM SCHEDULE

SECTOR	STATUS	BAND	ANTENNA MAKE	ANTENNA MODEL	SIZE(INCHES) (LxWxH)	RAD CTR. FT. AGL	AZIMUTH	TMA DIPLEXER	REMOTE RADIOS	RADIO LOCATION	SIZE(INCHES) (LxWxH)	FEEDER TYPE	FEEDER LENGTH	RAYCAP
A1	EXISTING	LTEWCS/AWS	QUINTEL	QS665126	72.0x12.0x9.6	±145'	30°		1 RRUS-32b66 1 RRUS-32	TOWER TOWER	27.2x12.1x7.0 27.2x12.1x7.0			
A2	EXISTING	UMTS850	POWERWAVE	7770	55.0x11.0x5.0	±145'	0°	2-DP21401 TOP 2-DP21901 BOT	---		---	(E2) 1-5/8" COAX	(E2) 151'	
A3														
A4	EXISTING	LTE700bc/PCS	CCI	HPA65RBUUH6	72.0x14.8x9.0	±145'	30°		1 RRUS-11 1 RRUS-32b2		19.7x17.0x7.2 27.2x12.1x7.0			
B1	EXISTING	LTEWCS/AWS	QUINTEL	QS665126	72.0x12.0x9.6	±145'	150°	1-WCS-IMFQ-AMT Top	1 RRUS-32b66 1 RRUS-32	TOWER TOWER	27.2x12.1x7.0 27.2x12.1x7.0			
B2	EXISTING	UMTS850	POWERWAVE	7770	55.0x11.0x5.0	±145'	120°	2-DP21401 TOP 2-DP21901 BOT				(E2) 1-5/8" COAX	(E2) 151'	(E2) DC6-48-60-18-8F
B3														
B4	EXISTING	LTE700bc/PCS	CCI	HPA65RBUUH6	72.0x14.8x9.0	±145'	150°		1 RRUS-11 1 RRUS-32b2		19.7x17.0x7.2 27.2x12.1x7.0			
C1	EXISTING	UMTS850	POWERWAVE	7770	55.0x11.0x5.0	±145'	240°	2-DP21401 TOP 2-DP21901 BOT	---		---	(E2) 1-5/8" COAX	(E2) 151'	
C2	EXISTING	LTE700bc/PCS	CCI	HPA65RBUUH6	72.0x14.8x9.0	±145'	270°		1 RRUS-11 1 RRUS-32b2		19.7x17.0x7.2 27.2x12.1x7.0			
C3														
C4	EXISTING	LTEWCS/AWS	QUINTEL	QS665126	72.0x12.0x9.6	±145'	270°		1 RRUS-32b66 1 RRUS-32	TOWER TOWER	27.2x12.1x7.0 27.2x12.1x7.0			



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

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

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

at&t Mobility
550 COCHITUATE RD
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0	03/27/19	FOR CONSTRUCTION	G.A.M.		

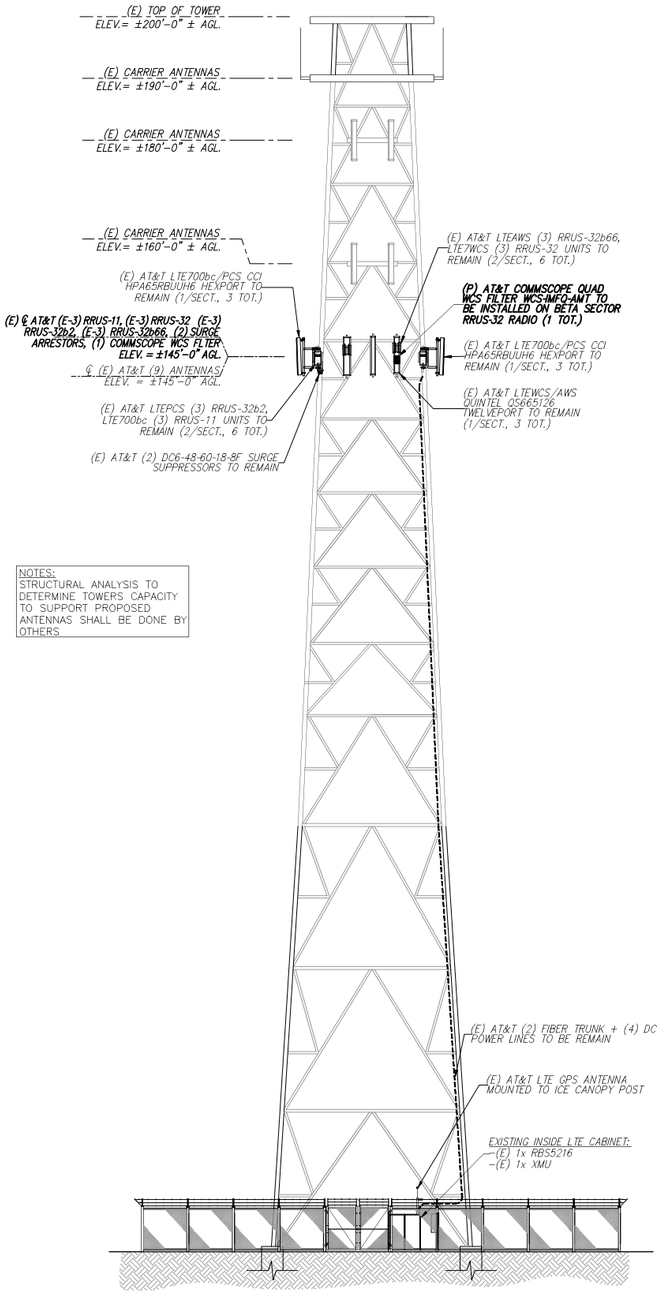
SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

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

AT&T MOBILITY

SITE PLAN & EQUIPMENT PLAN

JOB NUMBER	DRAWING NUMBER	REV
CT5542-LTEWCSFilter	03	1

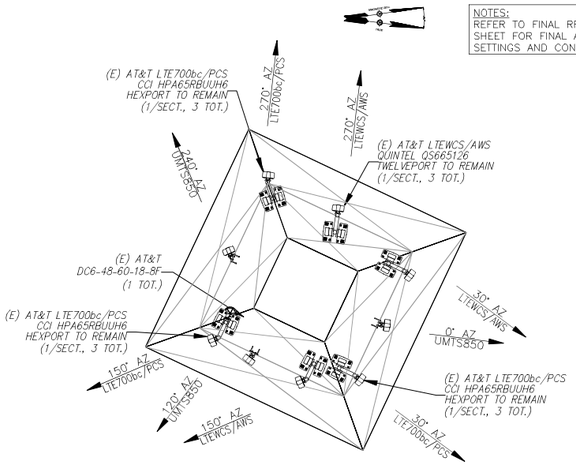


NOTES:
STRUCTURAL ANALYSIS TO DETERMINE TOWERS CAPACITY TO SUPPORT PROPOSED ANTENNAS SHALL BE DONE BY OTHERS.

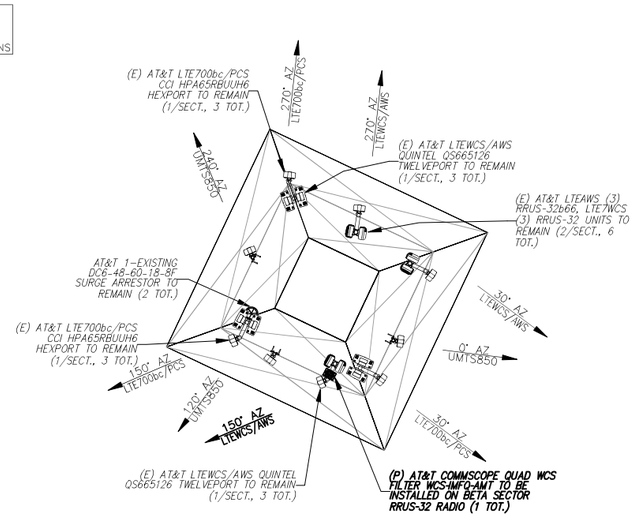
ELEVATION VIEW
SCALE: 1" = 12'
1 / 04

GRAPHIC SCALE
12 0 6 12 24 48
(IN FEET)
1 inch = 12 ft.

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

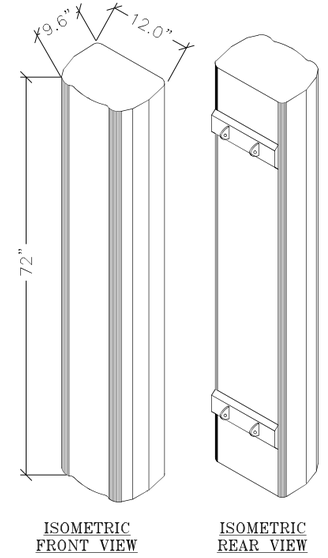


EXISTING



PROPOSED

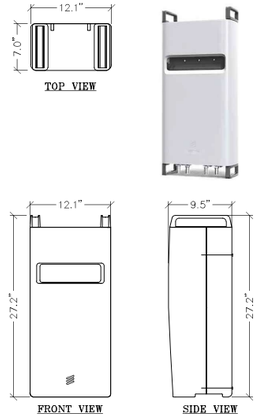
ANTENNA MOUNTING PLAN VIEW
SCALE: N.T.S.
2 / 04



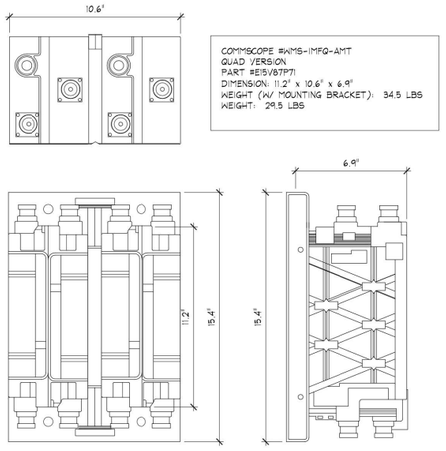
ISOMETRIC FRONT VIEW

ISOMETRIC REAR VIEW

LTEWCS/AWS QUINTEL TWELVEPORT DETAIL
SCALE: N.T.S.
3 / 04



(E) AT&T LTEWCS/PCS RRUS-32/RRUS32-b2
SCALE: N.T.S.
5 / 04



(P) COMMSCOPE QUAD WCS FILTER WCS-IMFQ-AMT
SCALE: N.T.S.
7 / 04

(P) BETA SECTOR WCS QUAD FILTER MOUNTING DETAIL
SCALE: N.T.S.
6 / 04

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0	03/27/19	FOR CONSTRUCTION	G.A.M.		

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

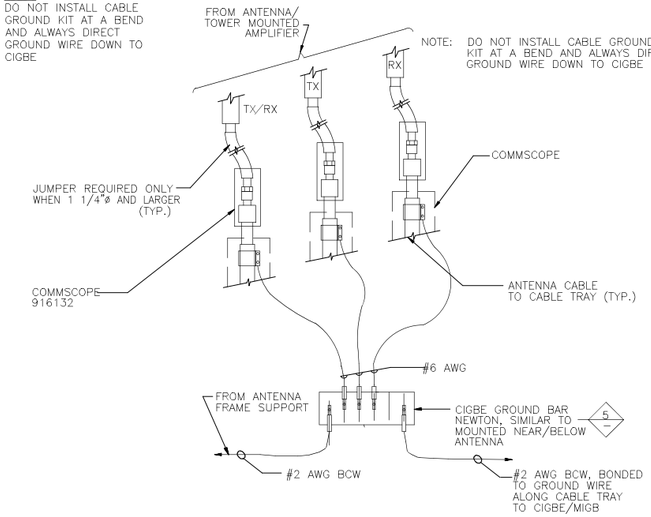
STATE OF CONNECTICUT
JAMES P. STROHE
No. 8637
REGISTERED PROFESSIONAL ENGINEER

AT&T MOBILITY

ELEVATION VIEW & ANTENNA LAYOUT

JOB NUMBER	DRAWING NUMBER	REV
CT5542-LTEWCSFilter	04	1

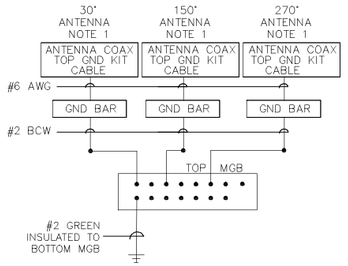
NOTE:
DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

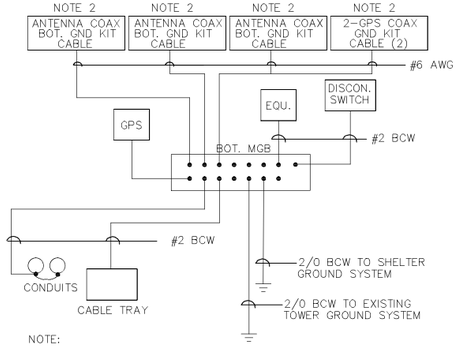


CONNECTION OF GROUND WIRES TO GROUNDING BAR (CIGBE)

1 / 05

SCALE: N.T.S.



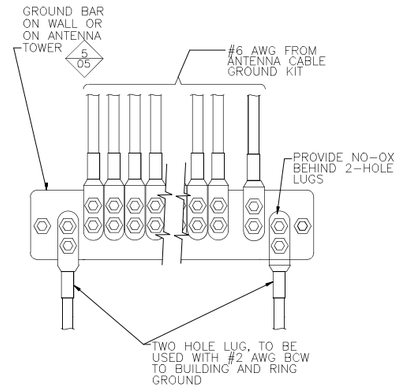


NOTE:
1. BOND ANTENNA GROUNDING KIT CABLE TO TOP CIGBE
2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIGBE

SCHEMATIC GROUNDING DIAGRAM

3 / 05

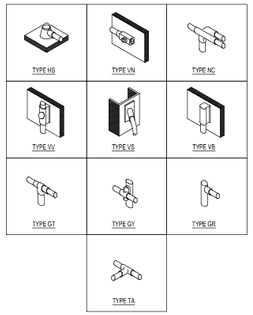
SCALE: N.T.S.



INSTALLATION OF GROUND WIRE TO GROUND BAR

2 / 05

SCALE: N.T.S.

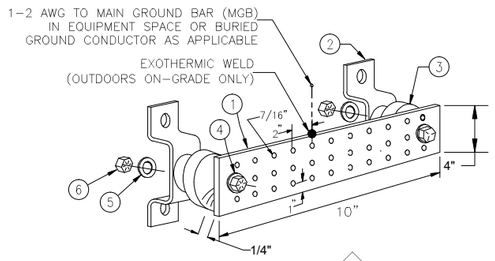


GROUNDING CONNECTION DETAIL

4 / 05

SCALE: N.T.S.

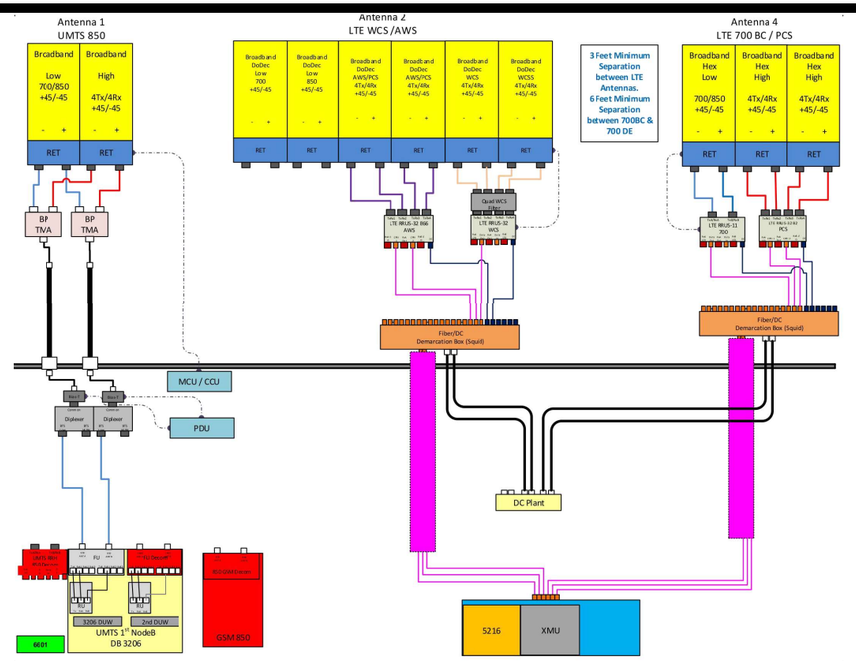
NEWTON INSTRUMENT COMPANY, INC. BUTNER, N.C. OR APPROVED EQUAL			
ITEM	REQ.	PART NO.	DESCRIPTION
1	1	1/4"x4"x12"	PRE DRILLED GND. BAR
2	2	A-6056	WALL MTG. BRKT.
3	2	3061-4	INSULATORS
4	2	3012-13	5/8"-11x4" H.H.C.S.
5	4	3015-8	5/8 LOCKWASHER
6	2	3014-8	5/8"-11 HEX NUT



GROUND BAR DETAIL

5 / 05

SCALE: N.T.S.

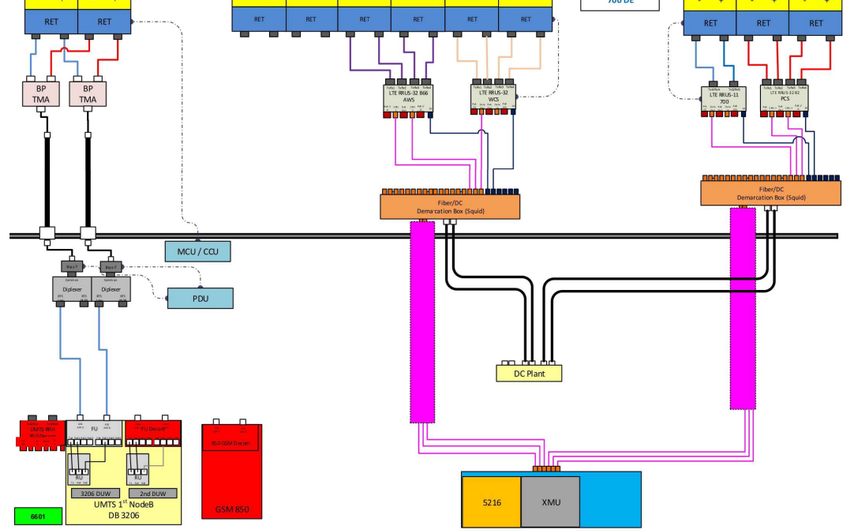


(P) BETA PLUMBING DIAGRAM

6 / 05

SCALE: N.T.S.

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



(E) ALPHA/GAMMA PLUMBING DIAGRAM

7 / 05

SCALE: N.T.S.

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

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

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

AT&T MOBILITY

GROUNDING DETAILS

JOB NUMBER	DRAWING NUMBER	REV.
CT5542-LTEWCSFilter	05	1

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**200 ft Self Supported Tower**
ATC Site Name	:	**SHELTON-TRUMBULL, CT**
ATC Site Number	:	**88017**
Engineering Number	:	**OAA746949_C3_01**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**SHELTON BOOTH HILL**
Carrier Site Number	:	**CT5542**
Site Location	:	**14 OXFORD DRIVE-BOOTH HILL RD** **SHELTON, CT 06484-3455** **41.280200, -73.185500**
County	:	**Fairfield**
Date	:	**March 22, 2019**
Max Usage	:	**94%**
Result	:	**Pass**

Prepared By:
Isaac P. Dodson
Structural Engineer III

Isaac P. Dodson

Reviewed By:

STATE OF CONNECTICUT
SCOTT A. WIRGAU
30575
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
Mar 26 2019 5:11 PM cosign

COA: PEC.0001553

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CORPORATION

Table of Contents

Introduction

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

Supporting Documents

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

Analysis

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

Basic Wind Speed:	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft

Conclusion

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

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

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
211.0	1	Generic 15' Dipole	Platform with Handrails	(2) 1 5/8" Coax (2) EW65	STATE OF CT
210.0	1	Telewave ANT900D6-9			
206.0	1	Andrew DB809K			
	2	RFS PA6-65AC w/ Radome			
191.0	1	Generic 20' Omni	Side Arms	(12) 1 5/8" Coax (5) 0.63" (16mm) LDF4-50A	
190.0	1	Sinclair SC479-HF1LDF			
	1	Sinclair SC442D-HF1LDF(DXX-I30-G9-NUFP)			
189.0	1	Sinclair SC479-HF1LDF			
187.0	1	Sinclair SC479-HF1LDF			
185.0	1	Generic TTA			
	2	Kathrein Scala AP14-850/105			
180.0	2	Generic TTA			
	1	Generic 5' Dipole			
	1	Sinclair SC479-HF1LDF			
177.0	1	TX RX Systems 101-83B-09-0-03			
175.0	2	Sinclair SC479-HF1LDF			
168.0	12	Decibel DB844H90E-A	Sector Frame	(15) 1 1/4" Coax	SPRINT NEXTEL
162.0	4	DragonWave Horizon Compact	Stand-Off	(4) 1/2" Coax	CLEARWIRE CORPORATION
	1	DragonWave A-ANT-11G-2-C			
	1	Andrew Microwaves PX2F-52			
	2	DragonWave A-ANT-11G-3-C			
156.0	3	NextNet BTS-2500		(6) 5/16" Coax	
	3	Argus LLPX310R			
155.0	3	Commscope NNVV-65B-R4	Sector Frame	(3) 1 1/4" Hybriflex Cable (1) 1.7" (43.2mm) Hybrid	SPRINT NEXTEL
	3	Nokia 2.5G MAA - AAHC(64T64R)			
	3	Alcatel-Lucent RRH2x50-08			
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
148.0	3	Alcatel-Lucent 800 MHz RRH w/ Notch Filter			
144.0	3	Powerwave Allgon 7770.00	Sector Frame	(1) 0.28" RG-6 (1) 0.39" Fiber Trunk (2) 0.74" 8 AWG 7 (2) 0.78" 8 AWG 6 (6) 1 5/8" Coax (1) 3" conduit	AT&T MOBILITY
	3	Quintel QS66512-6			
	3	CCI HPA-65R-BUU-H6			
	3	Ericsson RRUS 32 B66			
	3	Ericsson RRUS 32 (50.8 lbs)			
	3	Ericsson RRUS 11 (Band 12) (55 lb)			
	2	Raycap DC6-48-60-18-8F ("Squid")			
	6	Powerwave Allgon LGP21401			
	6	Powerwave Allgon 7020.00 Dual Band RET			
	3	Ericsson RRUS 32 B2			

Existing and Reserved Equipment cont.

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
135.0	1	Generic 5" x 3" x 2" Cavity Filter	Side Arm	(1) 1/2" Coax	SIGFOX S.A.
	1	Generic Low Noise Amplifier			
	1	Procom CXL 900-3LW			
124.0	1	RFS PA6-65AC w/ Radome	Side Arm	(1) EW65	STATE OF CT
110.0	1	Andrew DB616E-BC	Side Arm	(1) 7/8" Coax	US DEPT OF HOMELAND SECURITY
90.0	1	Kathrein Scala 750 10074	Stand-Off	(1) 1 5/8" Coax	LIGADO NETWORKS LLC
56.0	1	Generic GPS	Side Arm	(1) 1/2" Coax	SPRINT NEXTEL

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
No equipment considered as to be removed					

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
144.0	1	Commscope WCS-IMFQ-AMT	Sector Frame	-	AT&T MOBILITY

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	63%	Pass
Diagonals	93%	Pass
Truss Diagonals	94%	Pass
Horizontals	87%	Pass
Truss Horizontals	46%	Pass
Anchor Bolts	43%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	185.15	53%
Axial (Kips)	290.49	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.

Standard Conditions

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

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

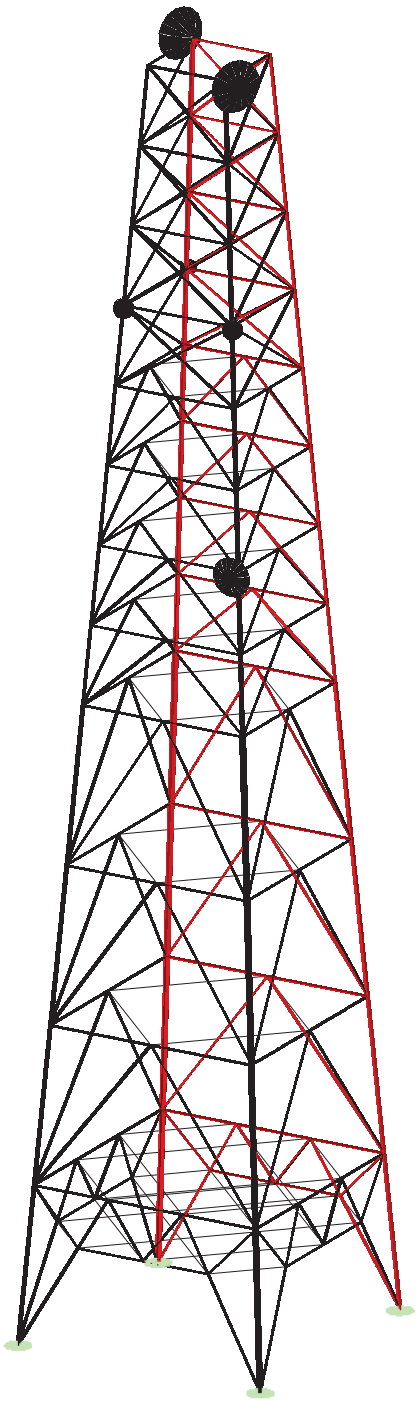
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

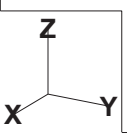
All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

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

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

American Tower Corp., Project: "2019.03.22 - ATT - OAA746949"
Tower Version 15.30, 4:29:51 PM Friday, March 22, 2019
Undeformed geometry displayed





Project Name : 88017 - Shelton/Trumbull
Project Notes:
Project File : N:\L2 - ATC\88017\2019.03.22 - ATT - OAA746949\2019.03.22 - ATT - OAA746949.tow
Date run : 4:24:46 PM Friday, March 22, 2019
by : Tower Version 15.30
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\2019.03.22 - ATT - OAA746949\2019.03.22 - ATT - OAA746949.eia

*** Analysis Results:

Maximum element usage is 93.60% for Angle "LD 3X" in load case "W -90"

Foundation Design Forces For All Load Cases:

Note: loads are factored.

Load Case	Foundation Description	Axial Force (kips)	Shear Force (kips)	Bending Moment (ft-k)	Foundation Usage %
W 0	0P	213.17	31.60	5.35	0.00
W 0	0X	197.07	29.51	4.64	0.00
W 0	0XY	-109.31	28.13	5.99	0.00
W 0	0Y	-114.43	30.63	6.69	0.00
W 180	0P	-113.05	30.73	6.80	0.00
W 180	0X	-103.27	28.22	6.26	0.00
W 180	0XY	192.91	29.45	4.87	0.00
W 180	0Y	209.91	31.31	5.46	0.00
W 45	0P	290.49	41.65	5.40	0.00
W 45	0X	41.00	16.63	6.25	0.00
W 45	0XY	-185.15	39.13	6.01	0.00
W 45	0Y	40.16	16.47	6.18	0.00
W -45	0P	51.04	17.76	6.76	0.00
W -45	0X	276.13	40.05	5.40	0.00
W -45	0XY	42.55	15.36	5.73	0.00
W -45	0Y	-183.21	39.67	6.28	0.00
W 90	0P	215.40	31.77	5.39	0.00
W 90	0X	-117.43	31.00	6.71	0.00
W 90	0XY	-109.24	28.13	5.99	0.00
W 90	0Y	197.78	29.62	4.64	0.00
W -90	0P	-115.34	31.00	6.80	0.00
W -90	0X	211.52	31.40	5.49	0.00
W -90	0XY	193.57	29.51	4.84	0.00
W -90	0Y	-103.25	28.11	6.22	0.00
W 0 Ice	0P	105.52	14.30	1.32	0.00
W 0 Ice	0X	98.27	13.59	1.06	0.00
W 0 Ice	0XY	27.75	2.62	2.39	0.00
W 0 Ice	0Y	31.40	2.64	2.66	0.00
W 180 Ice	0P	36.11	3.21	2.76	0.00
W 180 Ice	0X	33.85	3.11	2.67	0.00
W 180 Ice	0XY	92.49	13.36	0.97	0.00
W 180 Ice	0Y	100.49	13.82	1.34	0.00
W 45 Ice	0P	122.81	16.79	0.56	0.00
W 45 Ice	0X	64.78	8.00	2.14	0.00
W 45 Ice	0XY	10.98	1.44	2.54	0.00
W 45 Ice	0Y	64.37	7.96	2.12	0.00
W -45 Ice	0P	70.98	8.79	2.30	0.00
W -45 Ice	0X	115.86	16.09	0.58	0.00
W -45 Ice	0XY	69.24	8.11	1.90	0.00
W -45 Ice	0Y	15.86	1.41	2.75	0.00
W 90 Ice	0P	105.93	14.32	1.33	0.00
W 90 Ice	0X	31.12	2.64	2.66	0.00
W 90 Ice	0XY	27.79	2.62	2.39	0.00
W 90 Ice	0Y	98.10	13.59	1.04	0.00
W -90 Ice	0P	35.66	3.19	2.76	0.00
W -90 Ice	0X	101.05	13.84	1.36	0.00
W -90 Ice	0XY	92.57	13.37	0.96	0.00
W -90 Ice	0Y	33.66	3.08	2.66	0.00

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	-27.35	-15.83	-213.17	31.60	-1.38	-5.17	5.35	-1.52	0.00
W 0	0X	-25.15	15.44	-197.07	29.51	-0.46	-4.61	4.64	1.45	0.00
W 0	0XY	-26.70	-8.85	109.31	28.13	0.38	-5.98	5.99	1.57	0.00
W 0	0Y	-29.29	8.94	114.43	30.63	-0.29	-6.68	6.69	-1.49	0.00
W 180	0P	29.48	8.68	113.05	30.73	-0.25	6.79	6.80	1.50	0.00
W 180	0X	26.94	-8.39	103.27	28.22	0.43	6.25	6.26	-1.59	0.00
W 180	0XY	25.19	15.25	-192.91	29.45	-0.51	4.85	4.87	-1.47	0.00
W 180	0Y	27.27	-15.39	-209.91	31.31	-1.43	5.27	5.46	1.54	0.00
W 45	0P	-29.42	-29.49	-290.49	41.65	3.84	-3.80	5.40	0.00	0.00
W 45	0X	-12.05	-11.46	-41.00	16.63	5.33	-3.27	6.25	2.25	0.00
W 45	0XY	-27.74	-27.59	185.15	39.13	4.22	-4.27	6.01	-0.00	0.00
W 45	0Y	-11.37	-11.91	-40.16	16.47	3.23	-5.27	6.18	-2.25	0.00
W -45	0P	-13.41	11.65	-51.04	17.76	-5.71	-3.62	6.76	-2.25	0.00
W -45	0X	-27.67	28.95	-276.13	40.05	-4.19	-3.41	5.40	-0.00	0.00
W -45	0XY	-9.68	11.92	-42.55	15.36	-3.16	-4.78	5.73	2.27	0.00
W -45	0Y	-28.93	27.15	183.21	39.67	-4.15	-4.71	6.28	0.02	0.00
W 90	0P	-15.79	-27.56	-215.40	31.77	5.18	1.46	5.39	1.53	0.00
W 90	0X	9.13	-29.63	117.43	31.00	6.70	0.27	6.71	1.48	0.00
W 90	0XY	-8.92	-26.68	109.24	28.13	5.97	-0.41	5.99	-1.58	0.00
W 90	0Y	15.59	-25.19	-197.78	29.62	4.61	0.52	4.64	-1.45	0.00
W -90	0P	8.80	29.73	115.34	31.00	-6.80	0.22	6.80	-1.50	0.00
W -90	0X	-15.31	27.42	-211.52	31.40	-5.28	1.50	5.49	-1.54	0.00
W -90	0XY	15.40	25.17	-193.57	29.51	-4.81	0.58	4.84	1.47	0.00
W -90	0Y	-8.48	26.80	103.25	28.11	-6.20	-0.46	6.22	1.59	0.00
W 0 Ice	0P	-11.32	-8.73	-105.52	14.30	-1.31	0.11	1.32	-0.31	0.00
W 0 Ice	0X	-10.52	8.60	-98.27	13.59	1.02	0.29	1.06	0.29	0.00
W 0 Ice	0XY	-0.58	2.55	-27.75	2.62	1.10	-2.12	2.39	0.32	0.00
W 0 Ice	0Y	-0.91	-2.48	-31.40	2.64	-1.25	-2.34	2.66	-0.30	0.00
W 180 Ice	0P	0.90	-3.08	-36.11	3.21	-1.20	2.49	2.76	0.32	0.00
W 180 Ice	0X	0.88	2.98	-33.85	3.11	1.16	2.41	2.67	-0.34	0.00
W 180 Ice	0XY	10.48	8.30	-92.49	13.36	0.97	-0.03	0.97	-0.31	0.00
W 180 Ice	0Y	11.14	-8.18	-100.49	13.82	-1.34	0.02	1.34	0.33	0.00
W 45 Ice	0P	-11.86	-11.88	-122.81	16.79	-0.39	0.40	0.56	0.00	0.00
W 45 Ice	0X	-7.49	2.81	-64.78	8.00	2.06	0.55	2.14	0.46	0.00
W 45 Ice	0XY	-1.02	-1.01	-10.98	1.44	1.79	-1.80	2.54	-0.00	0.00
W 45 Ice	0Y	2.82	-7.44	-64.37	7.96	-0.55	-2.05	2.12	-0.46	0.00
W -45 Ice	0P	-8.33	-2.80	-70.98	8.79	-2.26	0.43	2.30	-0.47	0.00
W -45 Ice	0X	-11.13	11.62	-115.86	16.09	0.21	0.55	0.58	-0.01	0.00
W -45 Ice	0XY	3.01	7.53	-60.24	8.11	0.38	-1.86	1.90	0.47	0.00
W -45 Ice	0Y	-0.95	1.04	-15.86	1.41	-1.96	-1.93	2.75	0.02	0.00
W 90 Ice	0P	-8.71	-11.37	-105.93	14.32	-0.11	1.33	1.33	0.31	0.00
W 90 Ice	0X	-2.46	-0.96	-31.12	2.64	2.35	1.25	2.66	0.30	0.00
W 90 Ice	0XY	2.55	-0.58	-27.79	2.62	2.12	-1.10	2.39	-0.32	0.00
W 90 Ice	0Y	8.62	-10.51	-98.10	13.59	-0.28	-1.00	1.04	-0.29	0.00
W -90 Ice	0P	-3.05	0.94	-35.66	3.19	-2.48	1.20	2.76	-0.32	0.00
W -90 Ice	0X	-8.16	11.18	-101.05	13.84	-0.02	1.36	1.36	-0.33	0.00
W -90 Ice	0XY	8.33	10.46	-92.57	13.37	0.04	-0.96	0.96	0.31	0.00
W -90 Ice	0Y	2.96	0.85	-33.66	3.08	-2.39	-1.16	2.66	0.34	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	215.150	12.330	12.365	12.338	0.813	-27.35	-15.83	-213.17
W 0	0X	1X	L 1X	198.945	11.341	11.377	11.269	-1.561	-25.15	15.44	-197.07
W 0	0XY	1XY	L 1XY	-111.263	18.986	19.039	19.004	1.149	-26.70	-8.85	109.31
W 0	0Y	1Y	L 1Y	-116.544	21.195	21.251	21.233	-0.880	-29.29	8.94	114.43
W 180	0P	1P	L 1P	-115.164	21.478	21.534	-21.522	-0.720	29.48	8.68	113.05
W 180	0X	1X	L 1X	-105.238	19.644	19.698	-19.667	1.117	26.94	-8.39	103.27
W 180	0XY	1XY	L 1XY	194.797	11.687	11.724	-11.606	-1.664	25.19	15.25	-192.91
W 180	0Y	1Y	L 1Y	211.868	12.468	12.502	-12.487	0.609	27.27	-15.39	-209.91
W 45	0P	1P	L 1P	293.191	12.659	12.722	8.959	9.032	-29.42	-29.49	-290.49
W 45	0X	1X	L 1X	40.836	17.016	17.020	9.161	14.344	-12.05	-11.46	-41.00
W 45	0XY	1XY	L 1XY	-188.112	20.584	20.685	14.704	14.550	-27.74	-27.59	185.15
W 45	0Y	1Y	L 1Y	40.005	16.851	16.855	14.198	9.084	-11.37	-11.91	-40.16
W -45	0P	1P	L 1P	50.911	18.128	18.132	9.816	-15.245	-13.41	11.65	-51.04
W -45	0X	1X	L 1X	278.737	12.506	12.567	8.226	-9.500	-27.67	28.95	-276.13
W -45	0XY	1XY	L 1XY	42.500	15.504	15.506	12.679	-8.927	-9.68	11.92	-42.55
W -45	0Y	1Y	L 1Y	-186.240	21.335	21.440	16.026	-14.243	-28.93	27.15	183.21
W 90	0P	1P	L 1P	217.377	12.376	12.410	0.625	12.394	-15.79	-27.56	-215.40
W 90	0X	1X	L 1X	-119.566	21.319	21.376	-0.856	21.359	9.13	-29.63	117.43
W 90	0XY	1XY	L 1XY	-111.200	18.969	19.021	1.230	18.982	-8.92	-26.68	109.24
W 90	0Y	1Y	L 1Y	199.663	11.342	11.378	-1.657	11.257	15.59	-25.19	-197.78
W -90	0P	1P	L 1P	-117.469	21.559	21.615	-0.675	-21.605	8.80	29.73	115.34
W -90	0X	1X	L 1X	213.473	12.497	12.530	0.412	-12.524	-15.31	27.42	-211.52

W -90	0XY	1XY	L 1XY	195.460	11.635	11.672	-1.764	-11.538	15.40	25.17	-193.57
W -90	0Y	1Y	L 1Y	-105.211	19.515	19.569	1.211	-19.531	-8.48	26.80	103.25
W 0 Ice	0P	1P	L 1P	106.407	4.088	4.104	3.892	1.300	-11.32	-8.73	-105.52
W 0 Ice	0X	1X	L 1X	99.121	3.953	3.970	3.595	-1.683	-10.52	8.60	-98.27
W 0 Ice	0XY	1XY	L 1XY	27.756	2.602	2.606	2.535	-0.600	-0.58	2.55	-27.75
W 0 Ice	0Y	1Y	L 1Y	31.358	3.123	3.129	3.118	0.268	-0.91	-2.48	-31.40
W 180 Ice	0P	1P	L 1P	36.083	3.483	3.489	-3.448	0.538	0.90	-3.08	-36.11
W 180 Ice	0X	1X	L 1X	33.831	3.309	3.314	-3.259	-0.601	0.88	2.98	-33.85
W 180 Ice	0XY	1XY	L 1XY	93.352	4.328	4.347	-3.965	-1.783	10.48	8.30	-92.49
W 180 Ice	0Y	1Y	L 1Y	101.352	4.192	4.208	-4.062	1.098	11.14	-8.18	-100.49
W 45 Ice	0P	1P	L 1P	123.869	4.533	4.555	3.210	3.232	-11.86	-11.88	-122.81
W 45 Ice	0X	1X	L 1X	65.188	3.413	3.414	2.929	1.754	-7.49	2.81	-64.78
W 45 Ice	0XY	1XY	L 1XY	10.783	2.522	2.534	1.797	1.787	-1.02	-1.01	-10.98
W 45 Ice	0Y	1Y	L 1Y	64.770	3.375	3.376	1.711	2.910	2.82	-7.44	-64.37
W -45 Ice	0P	1P	L 1P	71.413	3.988	3.989	3.329	-2.198	-8.33	-2.80	-70.98
W -45 Ice	0X	1X	L 1X	116.880	4.535	4.557	2.967	-3.459	-11.13	11.62	-115.86
W -45 Ice	0XY	1XY	L 1XY	60.682	3.511	3.514	1.237	-3.289	3.01	7.53	-60.24
W -45 Ice	0Y	1Y	L 1Y	15.646	2.976	2.991	2.068	-2.160	-0.95	1.04	-15.86
W 90 Ice	0P	1P	L 1P	106.817	4.089	4.105	1.250	3.910	-8.71	-11.37	-105.93
W 90 Ice	0X	1X	L 1X	31.069	3.158	3.164	0.269	3.153	-2.46	-0.96	-31.12
W 90 Ice	0XY	1XY	L 1XY	27.793	2.607	2.610	-0.596	2.541	2.55	-0.58	-27.79
W 90 Ice	0Y	1Y	L 1Y	98.959	3.966	3.984	-1.709	3.598	8.62	-10.51	-98.10
W -90 Ice	0P	1P	L 1P	35.635	3.487	3.493	0.537	-3.451	-3.05	0.94	-35.66
W -90 Ice	0X	1X	L 1X	101.910	4.181	4.196	1.047	-4.064	-8.16	11.18	-101.05
W -90 Ice	0XY	1XY	L 1XY	93.433	4.321	4.340	-1.809	-3.945	8.33	10.46	-92.57
W -90 Ice	0Y	1Y	L 1Y	33.638	3.268	3.273	-0.587	-3.220	2.96	0.85	-33.66

Overturning Moment Summary For All Load Cases:

Load Case	Transverse Moment (ft-k)	Longitudinal Moment (ft-k)	Torsional Moment (ft-k)	Resultant Moment (ft-k)	Transverse Force (kips)	Longitudinal Force (kips)	Vertical Force (kips)
W 0	227.917	-13155.146	89.535	13157.120	0.294	108.492	186.508
W 180	149.885	12847.187	-86.908	12848.061	-0.149	-108.884	186.508
W 45	9852.257	-9886.775	-9.362	13957.625	80.448	80.577	186.508
W -45	-9355.215	-9707.419	135.111	13481.619	-79.667	79.694	186.508
W 90	13276.895	-195.747	-102.092	13278.338	109.053	0.007	186.508
W -90	-12941.217	-121.594	102.646	12941.788	-109.119	-0.403	186.508
W 0 Ice	226.227	-3001.058	19.303	3009.573	0.053	23.327	262.942
W 180 Ice	212.906	2552.810	-18.819	2561.673	-0.025	-23.397	262.942
W 45 Ice	2311.797	-2329.128	-1.934	3281.653	17.529	17.552	262.942
W -45 Ice	-1851.934	-2297.730	29.055	2951.140	-17.391	17.400	262.942
W 90 Ice	3011.325	-231.474	-21.897	3020.208	23.423	0.000	262.942
W -90 Ice	-2579.312	-217.597	22.029	2588.474	-23.434	-0.073	262.942

EIA Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Top Width (ft)	Bottom Width (ft)	Gross Area (ft^2)	Face Adjust Factor	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	1.1270	1.352
175.0-187.5	187.500	175.000	8	16	15.09	16.85	199.64	1.1800	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	1.2080	1.449
150.0-162.5	162.500	150.000	12	24	18.61	20.37	243.65	1.2150	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	1.2180	1.462
125.0-137.5	137.500	125.000	16	24	22.13	23.89	287.67	1.2240	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	1.2390	1.487
100.0-112.5	112.500	100.000	16	24	25.65	27.42	331.68	1.2450	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	1.2770	1.532
50.00-75.00	75.000	50.000	16	24	30.94	34.46	817.42	1.2930	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	1.3350	1.602
0.000-25.00	25.000	0.000	28	56	37.98	41.50	993.48	1.2150	1.2150	1.2150	1.458

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

Group Summary (Compression Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage Cont-rol %	Max Use In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	L/r Capacity (kips)	Comp. Connect. Shear Capacity (kips)	Comp. Connect. Bearing Capacity (kips)	RLX	RLY	RLZ	L/r	KL/r Comp. Member (ft)	Length	Curve No.	No. Of Bolts Comp.
Leg S1	L 8" x 8" x 1.125"	SAE	8X8X1.13	33.0	62.87	Comp 62.87	L 1P	-255.697	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	60.54	Comp 60.54	L 2P	-220.750	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	56.85	Comp 56.85	L 3P	-183.305	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	51.53	Comp 51.53	L 4P	-144.030	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	52.56	Comp 52.56	L 5P	-124.323	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	43.56	Comp 43.56	L 6P	-103.046	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	41.33	Comp 41.33	L 7P	-84.792	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	32.02	Comp 32.02	L 8P	-65.691	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	30.88	Comp 30.88	L 9P	-63.363	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	21.71	Comp 21.71	L 10P	-44.537	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	18.79	Comp 18.79	L 11P	-26.351	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	8.12	Comp 8.12	L 12P	-11.392	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	71.59	Comp 71.59	D 2X	-28.098	W -90	39.249	0.000	0.000	0.310	0.790	0.310	131.47	127.05	19.277	6	0
Diag S2	B/B L2.5"x3"x0.3125"	DAS	3X2.5X0.31	33.0	84.79	Comp 84.79	D 3X	-29.623	W -90	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	93.32	Comp 93.32	D 5X	-29.614	W -90	31.734	0.000	0.000	0.310	0.620	0.310	156.05	142.17	30.413	6	0
Diag S4	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	33.0	86.46	Comp 86.46	D 7X	-28.522	W -90	32.989	0.000	0.000	0.310	0.620	0.310	151.11	139.14	29.451	6	0
Diag S5	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	88.96	Comp 88.96	D 9X	-18.367	W -90	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	78.84	Comp 78.84	D 11X	-17.109	W -90	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	73.62	Comp 73.62	D 13X	-16.784	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	71.04	Comp 71.04	D 15X	-17.003	W -90	23.935	0.000	0.000	0.500	1.000	0.500	168.59	149.88	16.718	6	0
Diag S9	L 3" x 4" x 0.25"	SAU	4X3X0.25	33.0	41.38	Tens 0.00	D 18Y	0.000		0.000	0.000	0.000	100.000	100.000	100.000	42714.51	32577.05	23.173	5	0
Diag S10	L 3" x 4" x 0.25"	SAU	4X3X0.25	33.0	34.41	Tens 0.00	D 20Y	0.000		0.000	0.000	0.000	100.000	100.000	100.000	40023.07	30526.18	21.713	5	0
Diag S11	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	33.0	25.77	Tens 0.00	D 22Y	0.000		0.001	0.000	0.000	100.000	100.000	100.000	35101.11	26775.65	20.300	5	0
Diag S12	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	33.0	15.25	Tens 0.00	D 24Y	0.000		0.001	0.000	0.000	100.000	100.000	100.000	32759.97	24991.70	18.946	5	0
Horiz 1	B/B L3"x3"x0.3125"	DAE	3X3X0.31	33.0	87.04	Comp 87.04	H 1P	-37.509	W -90	43.092	0.000	0.000	0.950	0.950	0.950	156.53	142.47	12.660	6	0
Horiz 2	B/B L3.5"x2.5"x0.3125"	DAL	3.5X2.5X0.31	33.0	51.96	Comp 51.96	H 3P	-15.921	W -90	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	69.89	Comp 69.89	H 5P	-14.891	W -90	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	53.87	Comp 53.87	H 7P	-13.629	W -90	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	66.47	Comp 66.47	H 9P	-12.469	W -90	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	53.95	Comp 53.95	H 12P	-11.211	W 180	20.781	0.000	0.000	1.000	1.000	1.000	186.43	160.85	11.947	6	0
Horiz 7	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	31.60	Comp 31.60	H 13P	-10.563	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	51.98	Comp 51.98	H 15P	-18.928	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	75.92	Comp 75.92	H 17P	-16.028	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	28.00	Comp 28.00	H 19P	-12.586	W -90	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	34.94	Comp 34.94	H 21P	-8.972	W -90	25.680	0.000	0.000	0.500	0.500	0.500	139.94	135.24	15.091	5	0
Horiz 12	L 4" x 3" x 0.3125"	SAU	4X3X0.31	33.0	45.85	Comp 45.85	H 23P	-4.597	W -90	10.028	0.000	0.000	1.000	0.500	1.000	247.23	216.99	13.330	5	0
LD 1	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	33.0	47.90	Tens 1.07	LD 1X	-0.227	W -90	21.135	0.000	0.000	0.970	0.970	0.970	170.22	150.89	11.465	6	0
LD 2	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	33.0	93.60	Comp 93.60	LD 3X	-27.130	W -90	28.984	0.000	0.000	0.970	0.970	0.970	145.88	135.92	9.638	6	0
LD 3	B/B L3"x3"x0.25"	DAE	3X3X0.25	33.0	66.83	Comp 66.83	LD 5P	-26.286	W -90	39.335	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	46.40	Tens 0.00	LH 2Y	0.000		0.003	0.000	0.000	100.000	100.000	100.000	17377.90	13270.56	11.136	5	0
DUM 1	Dummy Bracing Member	DUM	0.1X0.1X1	36.0	0.00	0.00	BR 5XY	-1.070	W 45	0.324	0.000	0.000	1.000	1.000	1.000	2.63	2.63	21.875	1	0

Group Summary (Tension Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage Cont-rol %	Max Use In Tens. %	Tension Control Member	Tension Force (kips)	Tension Control Load Case	Net Section Capacity (kips)	Tension Connect. Shear Capacity (kips)	Tension Connect. Bearing Capacity (kips)	Tension Connect. Rupture Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts Tens.	No. Of Holes	Hole Diameter (in)
Leg S1	L 8" x 8" x 1.125"	SAE	8X8X1.13	33.0	62.87	Comp 26.54	L 1XY	131.848	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	60.54	Comp 30.57	L 2XY	136.204	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	56.85	Comp 27.77	L 3XY	109.114	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	51.53	Comp 23.83	L 4XY	80.955	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	52.56	Comp 23.34	L 5XY	67.449	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	43.56	Comp 18.60	L 6XY	53.738	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	41.33	Comp 16.00	L 7XY	41.106	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	32.02	Comp 10.70	L 8XY	26.827	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	30.88	Comp 5.99	L 9XY	15.016	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	21.71	Comp 2.00	L 10XY	5.022	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	18.79	Comp 0.00	L 11Y	0.000		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	8.12	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	71.59	Comp 55.02	D 2P	47.062	W -90	85.536	0.000	0.000	0.000	19.277	0	0.000	0
Diag S2	B/B L2.5"x3"x0.3125"	DAS	3X2.5X0.31	33.0	84.79	Comp 27.98	D 3P	26.928	W -90	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	93.32	Comp 34.75	D 5P	27.145	W -90	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	86.46	Comp 34.36	D 7P	26.840	W -90	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	88.96	Comp 23.97	D 9P	16.940	W -90	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	78.84	Comp 22.39	D 11P	15.823	W -90	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	73.62	Comp 22.08	D 13P	15.609	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	71.04	Comp 22.29	D 15P	15.756	W -90	70.686	0.000	0.000	0.000	16.718	0	0.000	0
Diag S9	L 3" x 4" x 0.25"	SAU	4X3X0.25	33.0	41.38	Tens 41.38	D 18P	20.768	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	34.41	Tens 34.41	D 20P	17.271	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	25.77	Tens 25.77	D 22P	12.936	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	15.25	Tens 15.25	D 24P	7.655	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	87.04	Comp 16.00	H 1X	16.875	W -90	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	51.96	Comp 15.59	H 3P	16.433	W 90	105.435	0.000	0.000	0.000	17.229	0	0.000	0
Horiz 3	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	69.89	Comp 19.06	H 5X	14.886	W -90	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	53.87	Comp 18.10	H 7P	14.140	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	66.47	Comp 17.78	H 9P	12.570	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	53.95	Comp 16.45	H 11P	11.626	W 90	70.686	0.000	0.000	0.000	11.947	0	0.000	0
Horiz 7	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	31.60	Comp 14.06	H 13P	10.985	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	51.98	Comp 2.47	H 15Y	1.929	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	75.92	Comp	0.00	H 18X	0.000		78.111	0.000	0.000	0.000	18.612	0	0.000	0
Horiz 10	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0	28.00	Comp	0.00	H 20X	0.000		78.111	0.000	0.000	0.000	16.851	0	0.000	0
Horiz 11	L 4" x 3" x 0.3125"	SAU	4X3X0.31	33.0	34.94	Comp	0.00	H 22X	0.000		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	45.85	Comp	0.00	H 24X	0.000		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	47.90	Tens	47.90	LD 1P	30.304	W -90	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	93.60	Comp	31.43	LD 3P	22.217	W -90	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	66.83	Comp	31.73	LD 5X	27.142	W -90	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	46.40	Tens	46.40	LH 1P	32.796	W -90	70.686	0.000	0.000	0.000	11.136	0	0.000	0
DUM 1	Dummy Bracing Member	DUM	0.1X0.1X1	36.0	0.00		0.00	BR 5X	0.797	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	92.20	LD 4P	Angle
W 180	93.30	LD 4Y	Angle
W 45	67.67	LD 3P	Angle
W -45	71.88	LD 4P	Angle
W 90	92.67	LD 3P	Angle
W -90	93.60	LD 3X	Angle
W 0 Ice	28.47	LD 4P	Angle
W 180 Ice	29.74	LD 4Y	Angle
W 45 Ice	26.94	L 1P	Angle
W -45 Ice	25.23	L 1X	Angle
W 90 Ice	28.60	LD 3P	Angle
W -90 Ice	29.75	LD 3X	Angle

*** Weight of structure (lbs):

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

*** End of Report

Site #:	88017	Engineer:	I. Dodson	Windspeed:	No Ice: 97 mph	Ice: 50 mph	
Name:	Shelton/Trumbull, CT	Date:	03/22/19	Carrier	AT&T Mobility		

Taper:	-0.14085	Taper Change:	200 ft
FW @ Base:	41.50 ft	FW @ Top:	13.33 ft

Spreadsheet Version Last Updated: 11/12/2014

Joint Label	Symmetry Code	X Coord. *(ft)*	Y Coord. *(ft)*	Z Coord. *(ft)*	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.	Drop Sub-Brace *(Y or Blank)*
0	XY-Symmetry	20.75	20.75	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	
1	XY-Symmetry	18.989375	18.989375	25	Free	Free	Free	Free	Free	Free	
2	XY-Symmetry	17.22875	17.22875	50	Free	Free	Free	Free	Free	Free	
3	XY-Symmetry	15.468125	15.468125	75	Free	Free	Free	Free	Free	Free	
4	XY-Symmetry	13.7075	13.7075	100	Free	Free	Free	Free	Free	Free	
5	XY-Symmetry	12.8271875	12.8271875	112.5	Free	Free	Free	Free	Free	Free	
6	XY-Symmetry	11.946875	11.946875	125	Free	Free	Free	Free	Free	Free	
7	XY-Symmetry	11.0665625	11.0665625	137.5	Free	Free	Free	Free	Free	Free	
8	XY-Symmetry	10.18625	10.18625	150	Free	Free	Free	Free	Free	Free	
9	XY-Symmetry	9.3059375	9.3059375	162.5	Free	Free	Free	Free	Free	Free	
10	XY-Symmetry	8.425625	8.425625	175	Free	Free	Free	Free	Free	Free	
11	XY-Symmetry	7.5453125	7.5453125	187.5	Free	Free	Free	Free	Free	Free	
12	XY-Symmetry	6.665	6.665	200	Free	Free	Free	Free	Free	Free	
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	19.57622653	11.13633551	16.667	Free	Free	Free	Free	Free	Free	
H2	XY-Symmetry	11.13633551	19.57622653	16.667	Free	Free	Free	Free	Free	Free	
H3	Y-Symmetry	19.57622653	0	16.667	Free	Free	Free	Free	Free	Free	
H4	X-Symmetry	0	19.57622653	16.667	Free	Free	Free	Free	Free	Free	

# Vert	Drop (ft)	Height (ft)	Type	Count	Z-Elev. (ft)	FW (ft)	# Sub-Brace
	8.333	25	2	1	0	41.5	3
		25	A	2	25	37.97875	2
		25	A	3	50	34.4575	2
		25	A	4	75	30.93625	2
		12.5	A	5	100	27.415	1
		12.5	A	6	112.5	25.654375	1
		12.5	A	7	125	23.89375	1
		12.5	A	8	137.5	22.133125	1
1		12.5	X	9	150	20.3725	1
1		12.5	X	10	162.5	18.611875	1
1		12.5	X	11	175	16.85125	1
		12.5	X	12	187.5	15.090625	1
				13	200	13.33	

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:	I. Dodson
Date:	03/22/2019
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:	I. Dodson
Date:	03/22/2019
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.

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

Notes:

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

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

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

[4] Applies to Double-Angle Shapes only.

[5] Applies to Single-Angle Shapes only.

Horizontals

Site No.:	88017
Engineer:	I. Dodson
Date:	03/22/2019
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:	I. Dodson
Date:	03/22/2019
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:	I. Dodson
Date:	03/22/2019
Carrier:	AT&T Mobility

When inputting thickness values, include all decimal places.

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

Notes:

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

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

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

[4] Applies to Double-Angle Shapes only.

[5] Applies to Single-Angle Shapes only.

Coax (p. 1 of 2)

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

Site No.:	88017
Engineer:	I. Dodson
Date:	03/22/19
Carrier:	AT&T Mobility

Description	From (ft)	To (ft)	Quantity	Shape	Width or Diameter (in)	Perimeter (in)	Unit Weight (lb/ft)	Part of Face Solidity Ratio (Yes/No)	Include in Wind Load (Yes/No)
1 Ladder	0	200	1	Flat	2	8.0	6	Yes	Yes
2 OTHER	10	200	1	Round	0.63	2.0	0.15	Yes	Yes
3 STATE OF CT	10	200	1	Round	1.98	6.2	0.82	Yes	Yes
4 STATE OF CT	10	200	1	Round	1.98	6.2	0.82	Yes	Yes
5 STATE OF CT	10	200	2	Round	2.01	6.3	0.57	Yes	Yes
6 STATE OF CT	10	182	1	Flat	4.8375	25.8	4.1	Yes	Yes
7 STATE OF CT	10	182	1	Flat	2.30625	12.3	0.75	Yes	Yes
8 STATE OF CT	10	182	1	Flat	3.72	19.8	3.28	Yes	Yes
9 SPRINT NEXTEL	10	169	1	Flat	14.55	47.0	9.45	Yes	Yes
10 CLEARWIRE	10	158	1	Round	2.52	5.8	0.6	No	No
11 CLEARWIRE	10	158	1	Round	1.86	4.1	0.3	No	No
12 SPRINT NEXTEL	10	155	3	Round	1.54	4.8	1	Yes	Yes
13 SPRINT NEXTEL	10	155	1	Round	1.7	5.3	1.78	No	No
14 CLEARWIRE	10	150	1	Round	2.38	14.3	7.3	Yes	Yes
15 AT&T MOBILITY	10	145	6	Round	1.98	6.2	0.82	Yes	Yes
16 AT&T MOBILITY	10	145	2	Round	0.78	2.5	0.59	Yes	Yes
18 AT&T MOBILITY	10	145	2	Round	3.5	11.0	7.58	Yes	Yes
20 AT&T MOBILITY	10	145	1	Round	0.39	1.2	0.17	Yes	Yes
21 STATE OF CT	10	127	2	Round	2.01	6.3	0.57	Yes	Yes
22 US DEPT OF HS	10	101	1	Round	1.09	4.4	0.33	Yes	Yes
23 LIGADO	10	82	1	Round	1.98	7.9	0.82	Yes	Yes
24 SPRINT NEXTEL	10	56	1	Round	0.63	2.0	0.15	Yes	Yes
25 SIGFOX	10	135	1	Round	0.63	2.0	0.15	Yes	Yes
35 Waveguide	10	176	1	Flat	2	8.0	6	Yes	Yes
36 Waveguide	10	165	1	Flat	2	8.0	6	Yes	Yes
37 Waveguide	10	155	1	Flat	2	8.0	6	Yes	Yes
38 Waveguide	10	143	1	Flat	2	8.0	6	Yes	Yes

Coax (p. 2 of 2)

Site No.:	88017
Engineer:	I. Dodson
Date:	03/22/19
Carrier:	AT&T Mobility

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

Description	From (ft)	To (ft)	Quantity	Face # (1-4, A-D)	Coax Width (in)	Coax Shape (Block / Flat / Ind)	% Exposed	Spacing (in)	Shape (Round/Flat)	Block Width (# coax)	Block Depth (# coax)	Perimeter (in)	Unit Weight (lb/ft)	In Face Zone (Yes/No)	Include in Wind Load (Yes/No)
Ladder	0	200	1	A	2.00	**Flat**	100	1	**Flat**	**1**	**1**	**8.0**	**6**	Yes	Yes
OTHER	10	200	1	B	0.63	**Ind**	100	1	**Round**	**1**	**1**	**2.0**	**0.15**	Yes	Yes
STATE OF CT	10	200	1	B	1.98	**Ind**	100	1	**Round**	**1**	**1**	**6.2**	**0.82**	Yes	Yes
STATE OF CT	10	200	1	B	1.98	**Ind**	100	1	**Round**	**1**	**1**	**6.2**	**0.82**	Yes	Yes
STATE OF CT	10	200	2	B	2.01	**Ind**	100	1	**Round**	**2**	**1**	**6.3**	**0.57**	Yes	Yes
STATE OF CT	10	182	5	B	1.98	**Block**	50	1	**Flat**	**3**	**2**	**25.8**	**4.1**	Yes	Yes
STATE OF CT	10	182	5	B	0.63	**Block**	50	1	**Flat**	**3**	**2**	**12.3**	**0.75**	Yes	Yes
STATE OF CT	10	182	4	B	1.98	**Block**	50	1	**Flat**	**2**	**2**	**19.8**	**3.28**	Yes	Yes
SPRINT NEXTEL	10	169	15	3	1.55	**Block**	50	1	**Flat**	**8**	**2**	**47.0**	**9.45**	Yes	Yes
CLEARWIRE	10	158	4	2	0.63	**Ind**	0	1	**Round**	**1**	**4**	**5.8**	**0.6**	No	No
CLEARWIRE	10	158	6	2	0.31	**Ind**	0	1	**Round**	**1**	**6**	**4.1**	**0.3**	No	No
SPRINT NEXTEL	10	155	3	3	1.54	**Ind**	100	1	**Round**	**3**	**1**	**4.8**	**1**	Yes	Yes
SPRINT NEXTEL	10	155	1	3	1.70	**Ind**	0	1	**Round**	**1**	**1**	**5.3**	**1.78**	No	No
CLEARWIRE	10	150	2	2	2.38	**Ind**	100	1	**Round**	**2**	**1**	**7.5**	**3.65**	Yes	Yes
AT&T MOBILITY	10	145	6	C	1.98	**Ind**	100	1	**Round**	**6**	**1**	**6.2**	**0.82**	Yes	Yes
AT&T MOBILITY	10	145	2	C	0.78	**Ind**	100	1	**Round**	**2**	**1**	**2.5**	**0.59**	Yes	Yes
								1						No	No
AT&T MOBILITY	10	145	2	C	3.50	**Ind**	100	1	**Round**	**2**	**1**	**11.0**	**7.58**	Yes	Yes
								1						No	No
AT&T MOBILITY	10	145	1	C	0.39	**Ind**	100	1	**Round**	**1**	**1**	**1.2**	**0.17**	Yes	Yes
STATE OF CT	10	127	2	B	2.01	**Ind**	100	1	**Round**	**2**	**1**	**6.3**	**0.57**	Yes	Yes
US DEPT OF HS	10	101	1	4	1.09	**Ind**	100	1	**Round**	**1**	**1**	**3.4**	**0.33**	Yes	Yes
LIGADO	10	82	1	2	1.98	**Ind**	100	1	**Round**	**1**	**1**	**6.2**	**0.82**	Yes	Yes
SPRINT NEXTEL	10	56	1	3	0.63	**Ind**	100	1	**Round**	**1**	**1**	**2.0**	**0.15**	Yes	Yes
SIGFOX	10	135	1	1	0.63	**Ind**	100	1	**Round**	**1**	**1**	**2.0**	**0.15**	Yes	Yes
								1						No	No
								1						No	No
								1						No	No
								1						No	No
								1						No	No
								1						No	No
								1						No	No
								1						No	No
								1						No	No
Waveguide	10	176	1	A	2.00	**Flat**	100	1	**Flat**	**1**	**1**	**8.0**	**6**	Yes	Yes
Waveguide	10	165	1	2	2.00	**Flat**	100	1	**Flat**	**1**	**1**	**8.0**	**6**	Yes	Yes
Waveguide	10	155	1	2	2.00	**Flat**	100	1	**Flat**	**1**	**1**	**8.0**	**6**	Yes	Yes
Waveguide	10	143	1	D	2.00	**Flat**	100	1	**Flat**	**1**	**1**	**8.0**	**6**	Yes	Yes
								1						No	No
								1						No	No
								1						No	No
								1						No	No
								1						No	No
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								1						No	No
								1						No	No
								1						No	No
								1						No	No
								1						No	No
								1						No	No
								1						No	No

Dishes

Site No.:	88017
Engineer:	I. Dodson
Date:	03/22/19
Carrier:	AT&T Mobility

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

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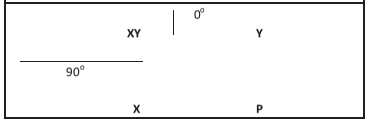
Equipment Label	Attach Label	Equipment Property Set	EIA Antenna Orientation Angle *(deg)*
8' RAD 1 @ 200'	12XY	8 ft RAD Dish	68
8' RAD 2 @ 200'	12P	8 ft RAD Dish	240
2' HP 3 @ 158'	9XY	2 ft HP Dish	343.6664
2' STD 4 @ 158'	9XY	2 ft STD Dish	126.6024
3' HP 5 @ 158'	9P	3 ft HP Dish	212.6351
3' HP 6 @ 158'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

Joint Orientation



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

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

Site No.:	88017
Engineer:	I. Dodson
Date:	03/22/2019
Carrier:	AT&T Mobility

No.	Carrier	Elevation (ft)	Quantity	# of Azimuths		Manufacturer	Model	Height (in)	Width (in)	Depth (in)	Weight (lbs/ea)	Flat/Round (F/R)	Reduction	C_AA_C (ft^2)	Weight (k)	Ka
1		200	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		200	1	4			Platform w/ HR						1.000	80.00	9.00	1
2		200	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		200	4	4			Mounting Frames						1.000	20.00	0.20	1
3		187.5	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		187.5	1	4			Access Platform						1.000	45.00	5.00	1
4		175	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		175	1	4			Catwalk						1.000	70.00	8.00	1
5		112.5	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		112.5	1	3			Catwalk						1.000	70.00	8.00	1
6		100	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		100	1	1			Rest Platform						1.000	15.00	0.50	1
7		75	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		75	1	3			Catwalk						1.000	70.00	8.00	1
8		50	1	1			-	0.001	0.001	0.001	0.001	F	1.000			1
		50	1	1			Rest Platform						1.000	15.00	0.50	1
9	STATE OF CT	200	1	1		Generic	20' Omni	240	3	3	55	R	1.000			1
	STATE OF CT	200	1	1			-						0.001	0.00	0.00	1
10	OTHER	212	1	1		Generic	-	0.001	0.001	0.001	0.001	F	1.000			1
	OTHER	212	1	1			5' Yagi						1.000	7.29	0.02	1
11	OTHER	210	1	1		Generic	-	0.001	0.001	0.001	0.001	F	1.000			1
	OTHER	210	1	1			5' Yagi						1.000	7.29	0.02	1
12	STATE OF CT	210	1	1		Telewave	-	0.001	0.001	0.001	0.001	F	1.000			1
	STATE OF CT	210	1	1			ANT900D6-9						1.000	0.98	0.01	1
13	STATE OF CT	205	1	1		Sinclair	SC442D-HF1LDF(DXX-I30-G9-NUFP)	251.5	5	5	79	R	1.000			1
	STATE OF CT	205	1	1			-						0.001	0.00	0.00	1
14	STATE OF CT	190	1	1		Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	190	2	2			Side Arm						1.000	6.30	0.15	1
15	STATE OF CT	189	1	1		Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	189	1	1			Flat Sector Frames						1.000	17.90	0.40	1
16	STATE OF CT	187	1	1		Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	187	1	1			-						0.001	0.00	0.00	1
17	STATE OF CT	185	1	1		Generic	TTA	12	12	6	10	F	1.000			1
	STATE OF CT	185	1	1			-						0.001	0.00	0.00	1
18	STATE OF CT	185	2	2		Kathrein Scala	AP14-850/105	101.5	10	4	26.8	F	1.000			1
	STATE OF CT	185	1	1			-						0.001	0.00	0.00	1
19	STATE OF CT	182	2	2		Generic	TTA	12	12	6	10	F	1.000			1
	STATE OF CT	182	1	1			-						0.001	0.00	0.00	1
20	STATE OF CT	180	2	2		Generic	TTA	12	12	6	10	F	1.000			1
	STATE OF CT	180	1	1			-						0.001	0.00	0.00	1
21	STATE OF CT	180	1	1		Generic	-	0.001	0.001	0.001	0.001	R	1.000			1
	STATE OF CT	180	1	1			5' Dipole						1.000	1.75	0.02	1
22	STATE OF CT	180	1	1		Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	180	1	1			-						0.001	0.00	0.00	1
23	STATE OF CT	177	1	1		TX RX Systems	101-83B-09-0-03	120	3.6	3.6	45	R	1.000			1
	STATE OF CT	177	1	1			-						0.001	0.00	0.00	1
24	STATE OF CT	175	2	2		Sinclair	SC479-HF1LDF	172.5	3.5	3.5	34	R	1.000			1
	STATE OF CT	175	1	1			-						0.001	0.00	0.00	1
25	SPRINT NEXTEL	169	12	3		Decibel	DB844H90E-A	48	6	8.5	10	F	0.861			0.8
	SPRINT NEXTEL	169	3	3			Flat Sector Frames						0.750	17.90	0.40	0.75
26	CLEARWIRE CORPORATION	158	4	3		DragonWave	Horizon Compact	4.7	9.3	9.3	10.6	F	0.929			0.8
	CLEARWIRE CORPORATION	158	3	3			Flat Sector Frames						0.750	17.90	0.40	0.75
27	CLEARWIRE CORPORATION	156	3	3		NextNet	BTS-2500	19.3	11.3	5.1	35	F	0.763			0.8
	CLEARWIRE CORPORATION	156	1	1			-						0.001	0.00	0.00	1
28	CLEARWIRE CORPORATION	156	3	3		Argus	LLPX310R	42	11.8	4.5	28.6	F	0.726			0.8
	CLEARWIRE CORPORATION	156	1	1			-						0.001	0.00	0.00	1
29	SPRINT NEXTEL	155	3	3	Proposed	Alcatel-Lucent	RRH2x50-08	15.7	13	9.8	52.9	F	0.940			0.8
	SPRINT NEXTEL	155	3	3			Flat Sector Frames						0.750	17.90	0.40	0.75
30	SPRINT NEXTEL	155	3	3		Alcatel-Lucent	1900 MHz 4X45 RRH	25.1	11.1	10.7	60	F	0.945			0.8
	SPRINT NEXTEL	155	1	1			-						0.001	0.00	0.00	1
31	SPRINT NEXTEL	155	3	3		Alcatel-Lucent	800 MHz RRH w/ Notch Filter	19.7	13	15.2	61.8	F	0.867			0.8
	SPRINT NEXTEL	155	1	1			-						0.001	0.00	0.00	1
32	SPRINT NEXTEL	155	3	3	Proposed	Nokia	2.5G MAA - AAHC(64T64R)	25.6	19.7	9.6	103.6	F	0.784			0.8
	SPRINT NEXTEL	155	1	1			-						0.001	0.00	0.00	1
33	SIGFOX S.A.	135	1	1	Proposed	Procom	CXL 900-3LW	27.6	0.6	0.6	1.5	R	1.000			0.001
	SIGFOX S.A.	135	1	1			Side Arm						1.000	6.30	0.15	1
34	SPRINT NEXTEL	155	3	3	Proposed	Commscope	NNVV-65B-R4	72	19.6	7.8	77.4	F	0.734			0.8
	SPRINT NEXTEL	155	1	1			-						0.001	0.00	0.00	1
35	CLEARWIRE CORPORATION	150	1	1		Generic	18" x 12" Junction Box	18	12	8	15	F	1.000			1
	CLEARWIRE CORPORATION	150	1	1			-						0.001	0.00	0.00	1
36	AT&T MOBILITY	144	9	3		Powerwave Allgon	7020.00 Dual Band RET	4.9	8.3	2.4	2.2	F	0.669			0.8
	AT&T MOBILITY	144	3	3			Round Sector Frames						0.750	14.40	0.30	0.75
37	AT&T MOBILITY	144	6	3		Powerwave Allgon	LGP21401	14.4	9.2	2.6	14.1	F	0.665			0.8
	AT&T MOBILITY	144	1	1		Commscope	WCS-IMFQ-AMT						0.500	0.99	0.03	0.8
38	AT&T MOBILITY	144	3	3		Raycap	DC6-48-60-18-8F ("Squid")	24	11	11	31.8	R	0.938			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
39	AT&T MOBILITY	144	3	3		Ericsson	RRUS 11 (Band 12) (55 lb)	17.8	17	7.2	55	F	0.747			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
40	AT&T MOBILITY	144	3	3		Ericsson	RRUS 32 (50.8 lbs)	26.7	12.1	6.7	50.8	F	0.823			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
41	AT&T MOBILITY	144	3	3		Ericsson	RRUS 32 B2	27.2	12.1	7	53	F	0.837			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
42	AT&T MOBILITY	144	3	3		Ericsson	RRUS 32 B66	27.2	12.1	7	53	F	0.837			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
43	AT&T MOBILITY	144	3	3		Powerwave Allgon	7770.00	55	11	5	35	F	0.766			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
44	AT&T MOBILITY	144	3	3		Quintel	QS66512-6	72	12	9.6	111	F	0.918			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
45	AT&T MOBILITY	144	3	3		CCI	HPA-65R-BUU-H6	72	14.8	9	51	F	0.834			0.8
	AT&T MOBILITY	144	1	1			-						0.001	0.00	0.00	1
46	US DEPT OF HOMELAND SECURITY	111	1	1		Andrew	DB616E-BC	231	3.5	3.5	51	R	1.000			1
	US DEPT OF HOMELAND SECURITY	101	1	1			-						0.001	0.00	0.00	1
47	LIGADO NETWORKS LLC	86	1	1		Kathrein Scala	750 10074	104.3	2	2	17.6	R	1.000			1
	LIGADO NETWORKS LLC	82	1	1			Side Arm						1.000	6.30	0.15	1
48	SPRINT NEXTEL	56	1	1	Proposed	Generic	GPS	12	9	6	10	F	1.000			1
	SPRINT NEXTEL	56	1	1			Stand-Off						1.000	2.50	0.08	1
49	SIGFOX S.A.	135	1	1	Proposed	Generic	5" x 3" x 2" Cavity Filter	5.3	3.2	1.9	1.5	F	1.000			1
	SIGFOX S.A.	135	1	1			-						0.001	0.00	0.00	1
50	SIGFOX S.A.	135	1	1	Proposed	Generic	Low Noise Amplifier	5	4	2	2	F	1.000			1
	SIGFOX S.A.	135	1	1			-						0.001	0.00	0.00	1

No.	Elevation	C_AA_C	C_AA_C (Ice)	Force	Force (Ice)	Weight	Weight (Ice)	60 Azi	Force	F (Ice)	Height	Sum of Forces (No I	
	(ft)	(ft^2)	(ft^2)	(lb)	(lb)	(lb)	(lb)	Mult.	mean	mean	Flag	60 Azi.	180 Azi.
1	200	0.00	0.01	0.000	0.054	0	0	1.00	0.00	0.03			
	200	80.00	108.00	2683.480	601.601	10800	14040	1.00	1475.91	330.88	0.0000010	2683.480129	
2	200	0.00	0.01	0.000	0.054	0	0	1.00	0.00	0.03	0.0000020		
	200	80.00	108.00	2683.480	601.601	960	1248	1.00	1475.91	330.88	1.5050000	5366.960258	
3	187.5	0.00	0.01	0.000	0.053	0	0	1.00	0.00	0.03	1.5050010		
	187.5	45.00	60.75	1481.879	332.218	6000	7800	1.00	815.03	182.72	1.5053333	1481.878864	
4	175	0.00	0.01	0.000	0.052	0	0	1.00	0.00	0.03	1.5053343		
	175	70.00	94.50	2260.150	506.696	9600	12480	1.00	1243.08	278.68	1.5057143	2260.150239	
5	112.5	0.00	0.01	0.000	0.046	0	0	1.00	0.00	0.03	1.5057153		
	112.5	70.00	94.50	1992.108	446.605	9600	12480	1.00	1095.66	245.63	1.5088889	1992.10797	
6	100	0.00	0.01	0.000	0.045	0	0	1.00	0.00	0.02	1.5088899		
	100	15.00	20.25	412.754	92.534	600	780	1.00	227.01	50.89	1.5100000	412.7538053	
7	75	0.00	0.01	0.000	0.041	0	0	1.00	0.00	0.02	1.5100010		
	75	70.00	94.50	1774.194	397.751	9600	12480	1.00	975.81	218.76	1.5133333	1774.193912	
8	50	0.00	0.01	0.000	0.037	0	0	1.00	0.00	0.02	1.5133343		
	50	15.00	20.25	338.597	75.909	600	780	1.00	186.23	41.75	1.5200000	338.5965398	
9	200	6.00	8.03	201.261	44.749	66	270	1.00	110.69	24.61	1.5200010		
	200	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5050000	201.2610432	
10	212	0.00	0.01	0.000	0.055	0	0	1.00	0.00	0.03	1.5050010		
	212	7.29	9.84	248.637	55.741	24	31	1.00	136.75	30.66	1.5047170	248.637238	
11	210	0.00	0.01	0.000	0.055	0	0	1.00	0.00	0.03	1.5047180		
	210	7.29	9.84	247.965	55.590	24	31	1.00	136.38	30.57	1.5047180	247.9647865	
12	210	0.00	0.01	0.000	0.055	0	0	1.00	0.00	0.03	1.5047190		
	210	0.98	1.32	33.334	7.473	13	17	1.00	18.33	4.11	1.5047619	281.2988733	
13	205	10.48	12.63	353.997	70.824	95	419	1.00	194.70	38.95	1.5047629		
	205	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5048780	353.9966461	
14	190	5.03	6.51	166.310	35.715	41	203	1.00	91.47	19.64	1.5048790		
	190	12.60	17.01	416.499	93.374	360	468	1.00	229.07	51.36	1.5052632	582.8097599	
15	189	5.03	6.51	166.060	35.661	41	203	1.00	91.33	19.61	1.5052642		
	189	17.90	24.17	590.802	132.450	480	624	1.00	324.94	72.85	1.5052910	756.861898	
16	187	5.03	6.51	165.556	35.553	41	203	1.00	91.06	19.55	1.5052920		
	187	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5053476	165.555968	
17	185	1.20	1.64	39.366	8.951	12	40	1.00	21.65	4.92	1.5053486		
	185	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5054054	39.36554006	
18	185	21.22	23.13	695.993	126.025	64	253	1.00	382.80	69.31	1.5054064		
	185	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5054054	735.3582204	
19	182	2.40	3.29	78.364	17.818	24	54	1.00	43.10	9.80	1.5054064		
	182	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5054945	78.36413787	
20	180	2.40	3.29	78.117	17.762	24	54	1.00	42.96	9.77	1.5054955		
	180	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5055556	78.11712488	
21	180	0.00	0.01	0.000	0.030	0	0	1.00	0.00	0.02	1.5055566		
	180	1.75	2.36	56.960	12.770	18	23	1.00	31.33	7.02	1.5055556	135.0775049	
22	180	5.03	6.51	163.761	35.168	41	202	1.00	90.07	19.34	1.5055566		
	180	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5055556	298.8386294	
23	177	3.60	4.64	116.614	24.951	54	174	1.00	64.14	13.72	1.5055566		
	177	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5056497	116.6143384	
24	175	10.06	13.01	324.897	69.771	82	251	1.00	178.69	38.37	1.5056507		
	175	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5057143	324.8966291	
25	169	32.80	37.42	1048.538	198.664	144	253	1.00	576.70	109.27	1.5057153		
	169	40.28	54.37	965.622	216.480	1440	1872	1.00	531.09	119.06	1.5059172	2014.159901	
26	158	1.26	1.70	39.598	8.832	51	71	1.00	21.78	4.86	1.5059182		
	158	40.28	54.37	947.231	212.357	1440	1872	1.00	520.98	116.80	1.5063291	986.8285523	
27	156	3.33	4.45	104.022	23.073	126	189	1.00	57.21	12.69	1.5063301		
	156	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5064103	104.0219096	
28	156	7.48	9.32	233.647	48.375	103	206	1.00	128.51	26.61	1.5064113		
	156	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5064103	337.6691067	
29	155	3.84	5.13	119.636	26.551	190	268	1.00	65.80	14.60	1.5064113		
	155	40.28	54.37	942.057	211.197	1440	1872	1.00	518.13	116.16	1.5064516	1061.693097	
30	155	5.92	6.96	184.612	36.050	216	319	1.00	101.54	19.83	1.5064526		
	155	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5064516	1246.304829	
31	155	6.05	6.78	188.824	35.116	222	326	1.00	103.85	19.31	1.5064526		
	155	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5064516	1435.12843	
32	155	7.91	10.08	246.705	52.185	373	532	1.00	135.69	28.70	1.5064526		
	155	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5064516	1681.833918	
33	135	0.00	0.00	0.004	0.002	2	10	1.00	0.00	0.00	1.5064526		
	135	6.30	8.51	188.877	42.344	180	234	1.00	103.88	23.29	1.5074074	188.8809283	
34	155	21.63	25.77	674.440	133.442	279	563	1.00	370.94	73.39	1.5074084		
	155	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5064516	674.4397243	
35	150	1.80	2.40	55.614	12.321	18	61	1.00	30.59	6.78	1.5064526		
	150	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5066667	55.61402928	
36	144	1.63	2.57	49.830	13.025	24	35	1.00	27.41	7.16	1.5066677		
	144	32.40	43.74	742.083	166.365	1080	1404	1.00	408.15	91.50	1.5069444	791.9125789	
37	144	3.52	4.87	107.593	24.716	102	144	1.00	59.18	13.59	1.5069454		
	144	0.50	0.67	12.093	2.711	35	46	1.00	6.65	1.49	1.5069444	911.5986689	
38	144	3.30	3.75	100.777	19.018	114	194	1.00	55.43	10.46	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5069444	1012.375413	
39	144	4.52	5.90	138.070	29.915	198	287	1.00	75.94	16.45	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5069444	1150.445649	
40	144	5.32	6.97	162.396	35.339	183	276	1.00	89.32	19.44	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5069444	1312.841247	
41	144	5.51	7.22	168.344	36.609	191	287	1.00	92.59	20.13	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5069444	1481.185215	
42	144	5.51	7.22	168.344	36.609	191	287	1.00	92.59	20.13	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5069444	1649.529183	
43	144	10.12	12.01	309.173	60.895	126	254	1.00	170.05	33.49	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5069444	1958.702218	
44	144	17.92	20.33	547.248	103.092	400	648	1.00	300.99	56.70	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5069444	2505.950344	
45	144	19.33	22.44	590.287	113.817	184	409	1.00	324.66	62.60	1.5069454		
	144	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5069444	3096.237251	
46	111	6.74	8.70	191.006	40.959	61	267	1.00	105.05	22.53	1.5069454		
	101	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5099010	191.0064751	
47	86	1.74	2.63	45.816	11.522	21	80	1.00	25.20	6.34	1.5099020		
	82	6.30	8.51	163.801	36.722	180	234	1.00	90.09	20.20	1.5121951	209.6168074	
48	56	0.90	1.26	20.984	4.894	12	33	1.00	11.54	2.69	1.5121961		
	56	2.50	3.38	58.290	13.068	90	117	1.00	32.06	7.19	1.5178571	79.27430907	
49	135	0.14	0.26	4.237	1.281	2	6	1.00	2.33	0.70	1.5178581		
	135	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5074074	4.237265927	
50	135	0.17	0.29	4.997	1.452	2	7	1.00	2.75	0.80	1.5074084		
	135	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5074074	9.23403641	

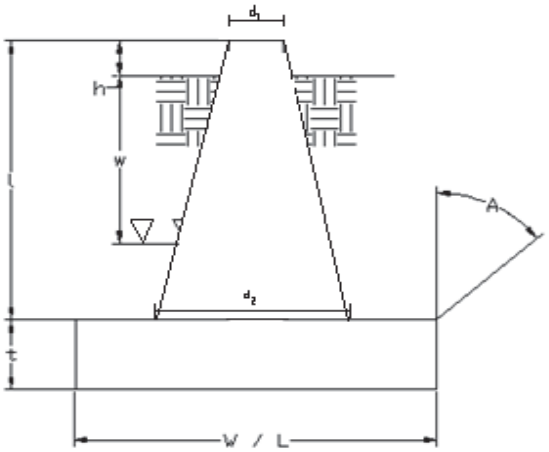
Foundation

Site No.:	88017
Engineer:	I. Dodson
Date:	03/22/19
Carrier:	AT&T Mobility

Design Loads (Factored)

Compression/Leg:	290.49	k
Uplift/Leg:	185.15	k
Shear/Leg	41.65	k

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



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

Uplift Check

ϕs Uplift Resistance (k)	Ratio	Result
350.73	0.53	**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
0.43	**OK**

RF EMISSIONS COMPLIANCE REPORT

Empire Telecom on behalf of AT&T Mobility LLC

AT&T Mobility LLC Site Name – SHELTON - BOOTH HILL
AT&T Mobility LLC Site FA – 10071232
AT&T Mobility LLC USID – 26165
AT&T Mobility LLC Site ID – CT5542
AT&T Mobility LLC Pace ID – MRCTBO28049

14 BOOXFORD DRIVE
SHELTON, CT
5/2/2019

Report Status:

AT&T MOBILITY, LLC Is Compliant

Prepared By:

Sitesafe, LLC

8618 Westwood Center Drive,
Suite 315

Vienna, VA 22182

Voice 703-276-1100
Fax 703-276-1169

Engineering Statement in Re:
Electromagnetic Energy Analysis
Empire Telecom
SHELTON, CT

The reviewer whose signature appears below, hereby certifies and affirms:

That I have extensive professional experience in the wireless communications engineering industry; and

That I am an employee of Sitesafe, LLC in Arlington, Virginia; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission ("the FCC" and "the FCC Rules") both in general and specifically as they apply to the FCC's Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; and

That the technical information serving as the basis for this report was supplied by Empire Telecom (See attached Site Summary and Carrier documents), and that AT&T MOBILITY, LLC's installations involve communications equipment, antennas and associated technical equipment at a location referred to as the "SHELTON - BOOTH HILL" ("the site"); and

That AT&T MOBILITY, LLC proposes to operate at the site with transmit antennas listed in the carrier summary and with a maximum effective radiated power as specified by AT&T MOBILITY, LLC and shown on the worksheet, and that worst-case 100% duty cycle have been assumed; and

That this analysis has been performed with the assumption that the ground immediately surrounding the tower is primarily flat or falling; and

That at this time, the FCC requires that certain licensees address specific levels of radio-frequency energy to which workers or members of the public might possibly be exposed (at §1.1307(b) of the FCC Rules); and

That such consideration of possible exposure of humans to radio-frequency radiation must utilize the standards set by the FCC, which is the Federal Agency having jurisdiction over communications facilities; and

That the FCC rules define two tiers of permissible exposure guidelines: 1) "uncontrolled environments," defined as situations in which persons may not be aware of (the "general public"), or may not be able to control their exposure to a transmission facility; and (2) "controlled environments," which defines situations in which persons are aware of their potential for exposure (industry personnel); and

That this statement specifically addresses the uncontrolled environment (which is more conservative than the controlled environment) and the limit set forth in the FCC rules for licensees of AT&T MOBILITY, LLC's operating frequency as shown on the attached antenna worksheet; and

That when applying the uncontrolled environment standards, the predicted Maximum Power Density at two meters above ground level from the proposed AT&T MOBILITY, LLC operation is no more than 0.555% of the maximum in any accessible area on the ground and

That it is understood per FCC Guidelines and OET65 Appendix A, that regardless of the existent radio-frequency environment, only those licenses whose contributions exceed five percent of the exposure limit pertinent to their operation(s) bear any responsibility for bringing any non-compliant area(s) into compliance; and

That when applying the uncontrolled environment standards, the cumulative predicted energy density from the proposed operation is no more than 1.098% of the maximum in any accessible area up to two meters above the ground per OET-65; and

That the calculations provided in this report are based on data provided by the client and antenna pattern data supplied by the antenna manufacturer, in accordance with FCC guidelines listed in OET-65. Horizontal and vertical antenna patterns are combined for modeling purposes to accurately reflect the energy two meters above ground level where on-axis energy refers to maximum energy two meters above the ground along the azimuth of the antenna and where area energy refers to the maximum energy anywhere two meters above the ground regardless of the antenna azimuth, accounting for cumulative energy from multiple antennas for the carrier and frequency range indicated; and

That the Occupational Safety and Health Administration has policies in place which address worker safety in and around communications sites, thus individual companies will be responsible for their employees' training regarding Radio Frequency Safety.

In summary, it is stated here that the proposed operation at the site would not result in exposure of the Public to excessive levels of radio-frequency energy as defined in the FCC Rules and Regulations, specifically 47 CFR 1.1307 and that AT&T MOBILITY, LLC's proposed operation is completely compliant.

Finally, it is stated that access to the tower should be restricted to communication industry professionals, and approved contractor personnel trained in radio-frequency safety; and that the instant analysis addresses exposure levels at two meters above ground level and does not address exposure levels on the tower, or in the immediate proximity of the antennas.

Young Min Kim

Empire Telecom
SHELTON - BOOTH HILL
Site Summary

Carrier	Area Maximum Percentage MPE
AT&T MOBILITY, LLC	0.095 %
AT&T MOBILITY, LLC	0.17 %
AT&T MOBILITY, LLC	0.053 %
AT&T MOBILITY, LLC	0.156 %
AT&T MOBILITY, LLC	0.081 %
Unknown	0.04 %
Unknown	0.18 %
Unknown	0.343 %

Composite Site MPE: 1.098 %

AT&T MOBILITY, LLC
SHELTON - BOOTH HILL
Carrier Summary

Frequency:	737	MHz
Maximum Permissible Exposure (MPE):	491.33	µW/cm^2
Maximum power density at ground level:	0.46522	µW/cm^2
Highest percentage of Maximum Permissible Exposure:	0.09469	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density (µW/cm^2)**	**Percent of MPE**	**Max Power Density (µW/cm^2)**	**Percent of MPE**
CCI Antennas	HPA-65R-BUU-H6	145	30	1057	0.25309	0.051511	0.253271	0.051548
CCI Antennas	HPA-65R-BUU-H6	145	150	1057	0.338368	0.068867	0.338891	0.068974
CCI Antennas	HPA-65R-BUU-H6	145	270	1057	0.371884	0.075689	0.372551	0.075824

AT&T MOBILITY, LLC
SHELTON - BOOTH HILL
Carrier Summary

Frequency:	1900	MHz
Maximum Permissible Exposure (MPE):	1000	µW/cm^2
Maximum power density at ground level:	1.70426	µW/cm^2
Highest percentage of Maximum Permissible Exposure:	0.17043	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density (µW/cm^2)**	**Percent of MPE**	**Max Power Density (µW/cm^2)**	**Percent of MPE**
CCI Antennas	HPA-65R-BUU-H6	145	30	4788	1.5601	0.15601	1.5601	0.15601
CCI Antennas	HPA-65R-BUU-H6	145	150	4788	1.5601	0.15601	1.5601	0.15601
CCI Antennas	HPA-65R-BUU-H6	145	270	4788	1.5601	0.15601	1.5601	0.15601

AT&T MOBILITY, LLC
SHELTON - BOOTH HILL
Carrier Summary

Frequency:	2300	MHz
Maximum Permissible Exposure (MPE):	1000	µW/cm^2
Maximum power density at ground level:	0.52753	µW/cm^2
Highest percentage of Maximum Permissible Exposure:	0.05275	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density (µW/cm^2)**	**Percent of MPE**	**Max Power Density (µW/cm^2)**	**Percent of MPE**
Quintel	QS66512-6	145	30	2858	0.510422	0.051042	0.511082	0.051108
Quintel	QS66512-6	145	150	2858	0.510422	0.051042	0.511082	0.051108
Quintel	QS66512-6	145	270	2858	0.510422	0.051042	0.511082	0.051108

AT&T MOBILITY, LLC
SHELTON - BOOTH HILL
Carrier Summary

Frequency:	2100	MHz
Maximum Permissible Exposure (MPE):	1000	µW/cm^2
Maximum power density at ground level:	1.56332	µW/cm^2
Highest percentage of Maximum Permissible Exposure:	0.15633	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density (µW/cm^2)**	**Percent of MPE**	**Max Power Density (µW/cm^2)**	**Percent of MPE**
Quintel	QS66512-6	145	30	4788	1.140225	0.114023	1.142287	0.114229
Quintel	QS66512-6	145	150	4788	1.494967	0.149497	1.5601	0.15601
Quintel	QS66512-6	145	270	4788	1.494967	0.149497	1.5601	0.15601

AT&T MOBILITY, LLC
SHELTON - BOOTH HILL
Carrier Summary

Frequency:	850	MHz
Maximum Permissible Exposure (MPE):	566.67	µW/cm^2
Maximum power density at ground level:	0.46162	µW/cm^2
Highest percentage of Maximum Permissible Exposure:	0.08146	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density (µW/cm^2)**	**Percent of MPE**	**Max Power Density (µW/cm^2)**	**Percent of MPE**
Powerwave	7770	145	0	547	0.20663	0.036464	0.293434	0.051783
Powerwave	7770	145	120	547	0.45835	0.080885	0.45835	0.080885
Powerwave	7770	145	240	547	0.45835	0.080885	0.45835	0.080885

Unknown
SHELTON - BOOTH HILL
Carrier Summary

Frequency:	101.1	MHz
Maximum Permissible Exposure (MPE):	200	µW/cm^2
Maximum power density at ground level:	0.0791	µW/cm^2
Highest percentage of Maximum Permissible Exposure:	0.03955	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density (µW/cm^2)**	**Percent of MPE**	**Max Power Density (µW/cm^2)**	**Percent of MPE**
Generic	450 Mhz	190	0	100	0.039548	0.019774	0.039548	0.019774
Generic	450 Mhz	190	0	100	0.039548	0.019774	0.039548	0.019774

Unknown
SHELTON - BOOTH HILL
Carrier Summary

Frequency:	1900	MHz
Maximum Permissible Exposure (MPE):	1000	µW/cm^2
Maximum power density at ground level:	1.80207	µW/cm^2
Highest percentage of Maximum Permissible Exposure:	0.18021	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density (µW/cm^2)**	**Percent of MPE**	**Max Power Density (µW/cm^2)**	**Percent of MPE**
Generic	6 Foot/65 Degree	160	0	6747	0.785443	0.078544	0.785443	0.078544
Generic	6 Foot/65 Degree	160	120	6747	0.785443	0.078544	0.785443	0.078544
Generic	6 Foot/65 Degree	160	240	6747	0.785443	0.078544	0.785443	0.078544
Generic	6 Foot/65 Degree	180	0	6747	0.681533	0.068153	0.681533	0.068153
Generic	6 Foot/65 Degree	180	120	6747	0.681533	0.068153	0.681533	0.068153
Generic	6 Foot/65 Degree	180	240	6747	0.681533	0.068153	0.681533	0.068153

Unknown
SHELTON - BOOTH HILL
Carrier Summary

Frequency:	700	MHz
Maximum Permissible Exposure (MPE):	466.67	µW/cm^2
Maximum power density at ground level:	1.59846	µW/cm^2
Highest percentage of Maximum Permissible Exposure:	0.34253	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density (µW/cm^2)**	**Percent of MPE**	**Max Power Density (µW/cm^2)**	**Percent of MPE**
Generic	6 Foot/65 Degree	160	0	2878	0.621978	0.133281	0.799308	0.17128
Generic	6 Foot/65 Degree	160	120	2878	0.62849	0.134676	0.799308	0.17128
Generic	6 Foot/65 Degree	160	240	2878	0.631134	0.135243	0.799308	0.17128
Generic	6 Foot/65 Degree	180	0	2878	0.494034	0.105864	0.678593	0.145413
Generic	6 Foot/65 Degree	180	120	2878	0.494034	0.105864	0.678593	0.145413
Generic	6 Foot/65 Degree	180	240	2878	0.501212	0.107403	0.678593	0.145413

First-Class Package International Service® is temporarily unavailable on Click-N-Ship®. Please select a different Service Type or visit a Post Office™ location to complete your shipment.

Create Label | Preferences | Shipping History | Address Book

Account # 161958927

Label Details

Label Number:
9405503699300494195199

SCAN® Form: 947570369930031299538 6

Terms
Acceptance Cutoff: 05/01/2019 4:30 PM
Acceptance Time: 05/01/2019 4:01 PM
Expected Date: 05/02/2019 11:59 PM
Delivery Status: Delivered, Front Desk/Reception/Mail Room 2019-05-02 10:44:00.0

Label Actions
USPS Tracking®
Ship Again

Need help

File an insurance claim
Request A Service Refund

Return Address:
NICK DANFORTH
EMPIRE TELECOM
16 ESQUIRE RD
N BILLERICA, MA 01862-2527
ndanforth@empiretelecomm.com

Delivery Address:
RYAN TIERNEY
AMERICAN TOWER CORP.
10 PRESIDENTIAL WAY
WOBURN, MA 01801-1053

Package:
Ship Date: 05/01/19
Value: $50.00
From: 01862

Service:
Priority Mail® 1-Day
Flat Rate Envelope
USPS Tracking®

Feedback

Transaction Number: 462969110
Transaction Type: Label
Payment Method: AMEX-1005
Payment Status: Account Charged

Postage Cost	$7.35
USPS Tracking®	Free
Label Total:	**$7.35**
Order Total:	**$22.05**

Timestamp	Message
05-01-2019 12:47:36	LABEL REPRINTED
05-01-2019 12:46:38	LABEL PRINTED
05-01-2019 12:46:21	Getting Payment
05-01-2019 12:46:01	Setting Payment

Back to Shipping History

First-Class Package International Service® is temporarily unavailable on Click-N-Ship®. Please select a different Service Type or visit a Post Office™ location to complete your shipment.

Account # 161958927

Label Details

Label Number:
9405503699300494195175

SCAN® Form: 947570369930031299538 6

Terms
Acceptance Cutoff: 05/01/2019 4:30 PM
Acceptance Time: 05/01/2019 4:01 PM
Expected Date: 05/03/2019 11:59 PM
Delivery Status: Delivered, In/At Mailbox
Label Actions 2019-05-03 12:33:00.0

USPS Tracking®
Ship Again

Need help

File an insurance claim
Request A Service Refund

Return Address:
NICK DANFORTH
EMPIRE TELECOM
16 ESQUIRE RD
N BILLERICA, MA 01862-2527
ndanforth@empiretelecomm.com

Delivery Address:
MAYOR MARK A LAURETTI
SHELTON CITY HALL
54 HILL ST
SHELTON, CT 06484-3207

Package:
Ship Date: 05/01/19
Value: $50.00
From: 01862

Service:
Priority Mail® 2-Day
Flat Rate Envelope
USPS Tracking®

Feedback

Transaction Number: 462969110
Transaction Type: Label
Payment Method: AMEX-1005
Payment Status: Account Charged

Postage Cost	$7.35
USPS Tracking®	Free
Label Total:	**$7.35**
Order Total:	**$22.05**

Timestamp	Message
05-01-2019 12:47:36	LABEL REPRINTED
05-01-2019 12:46:36	LABEL PRINTED
05-01-2019 12:46:21	Getting Payment
05-01-2019 12:46:01	Setting Payment

Back to Shipping History

First-Class Package International Service® is temporarily unavailable on Click-N-Ship®. Please select a different Service Type or visit a Post Office™ location to complete your shipment.

Create Label | Preferences | Shipping History | Address Book

Account # 161958927

Label Details

Label Number:
9405503699300494195182

SCAN® Form: 9475703699300312995386

Terms
Acceptance Cutoff: 05/01/2019 4:30 PM
Acceptance Time: 05/01/2019 4:01 PM
Expected Date: 05/03/2019 11:59 PM
Delivery Status: Delivered, In/At Mailbox
Label Actions 2019-05-03 12:33:00.0

USPS Tracking®
Ship Again

Need help

File an insurance claim
Request A Service Refund

Return Address:
NICK DANFORTH
EMPIRE TELECOM
16 ESQUIRE RD
N BILLERICA, MA 01862-2527
ndanforth@empiretelecomm.com

Delivery Address:
RICK SCHULTZ
AICP, PLANNING & ZONING ADMINISTRATOR
54 HILL ST
3
SHELTON, CT 06484-3207

Package:
Ship Date: 05/01/19
Value: $50.00
From: 01862

Service:
Priority Mail® 2-Day
Flat Rate Envelope
USPS Tracking®

Feedback

Transaction Number: 462969110
Transaction Type: Label
Payment Method: AMEX-1005
Payment Status: Account Charged

Postage Cost	$7.35
USPS Tracking®	Free
Label Total:	**$7.35**
Order Total:	**$22.05**

Timestamp	Message
05-01-2019 12:47:36	LABEL REPRINTED
05-01-2019 12:46:37	LABEL PRINTED
05-01-2019 12:46:21	Getting Payment
05-01-2019 12:46:01	Setting Payment

Back to Shipping History

Nicholas Danforth

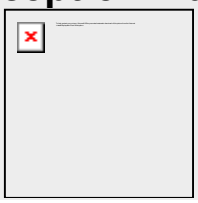
From: auto-reply@usps.com
Sent: Thursday, May 2, 2019 10:56 AM
To: Nicholas Danforth
Subject: USPS® Item Delivered, Front Desk/Reception/Mail Room 9405503699300494195199

Hello **NICK DANFORTH**,

Your item was delivered to the front desk, reception area, or mail room at 10:44 am on May 2, 2019 in WOBURN, MA 01801.

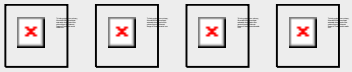
Tracking Number:
9405503699300494195199

Delivered, Front Desk/Reception/Mail Room



Visit **USPS Tracking**® to check the most up-to-date status of your package. Sign up for **Informed Delivery**® to digitally preview the address side of your incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your **USPS.com** account.

Want regular updates on your package? **Set up text alerts**.



Nicholas Danforth

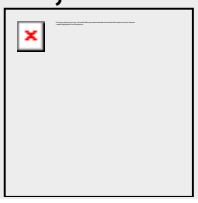
From: auto-reply@usps.com
Sent: Friday, May 3, 2019 12:39 PM
To: Nicholas Danforth
Subject: USPS® Item Delivered, In/At Mailbox 9405503699300494195182

Hello **NICK DANFORTH**,

Your item was delivered in or at the mailbox at 12:33 pm on May 3, 2019 in SHELTON, CT 06484.

Tracking Number:
9405503699300494195182

Delivered, In/At Mailbox



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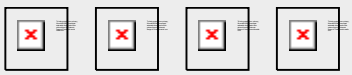
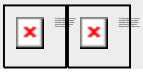
Want regular updates on your package? **Set up text alerts**.



Download USPS Mobile®



Nicholas Danforth

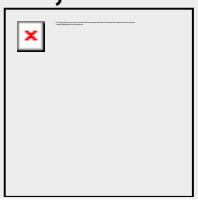
From: auto-reply@usps.com
Sent: Friday, May 3, 2019 12:39 PM
To: Nicholas Danforth
Subject: USPS® Item Delivered, In/At Mailbox 9405503699300494195175

Hello **NICK DANFORTH**,

Your item was delivered in or at the mailbox at 12:33 pm on May 3, 2019 in SHELTON, CT 06484.

Tracking Number:
9405503699300494195175

Delivered, In/At Mailbox



Visit **USPS Tracking**® to check the most up-to-date status of your package. Sign up for **Informed Delivery**® to digitally preview the address side of your incoming letter-sized mail and manage your packages scheduled to arrive soon! To update how frequently you receive emails from USPS, log in to your **USPS.com** account.

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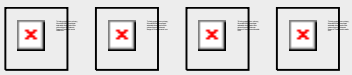

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