EMPIRE telecom

October 18, 2017

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

Regarding:	Notice of Exempt Modification – Swap of 3 Antennas, Addition of 3 Remote Radios, and Addition of 1 Squid.
Property Address:	47 Inwood Road; Rocky Hill, CT 06067 (the "Property")
Applicant:	AT&T Mobility ("AT&T", Site # CT5121)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 185-foot Monopole tower ("tower") at the above-referenced address, latitude 41.6382919, longitude -72.6799989. AT&T's facility consists of nine (9) wireless telecommunications antennas at 168 feet. The land is owned by MERRIFIELD LLC and the tower is controlled by American Tower Corporation. Assessor's information is attached hereto.

AT&T desires to modify its existing telecommunications facility by swapping (3) antennas, adding (3) remote radios, and adding (1) squid. The centerline height of said antennas is and will remain at 168 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 Town Manager of the Town of Rocky Hill, The Building Inspector of the Town of Rocky Hill, and the Director of Planning and Zoning for the Town of Rocky Hill. A copy of this letter is also being sent to American Tower, Corp., the owner of the structure that AT&T is located.

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

1. The planned modifications will not result in an increase in the height of the existing structure. AT&T's antennas and associated lines will be installed at the 168 foot level of the 185 Foot Monopole tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.

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

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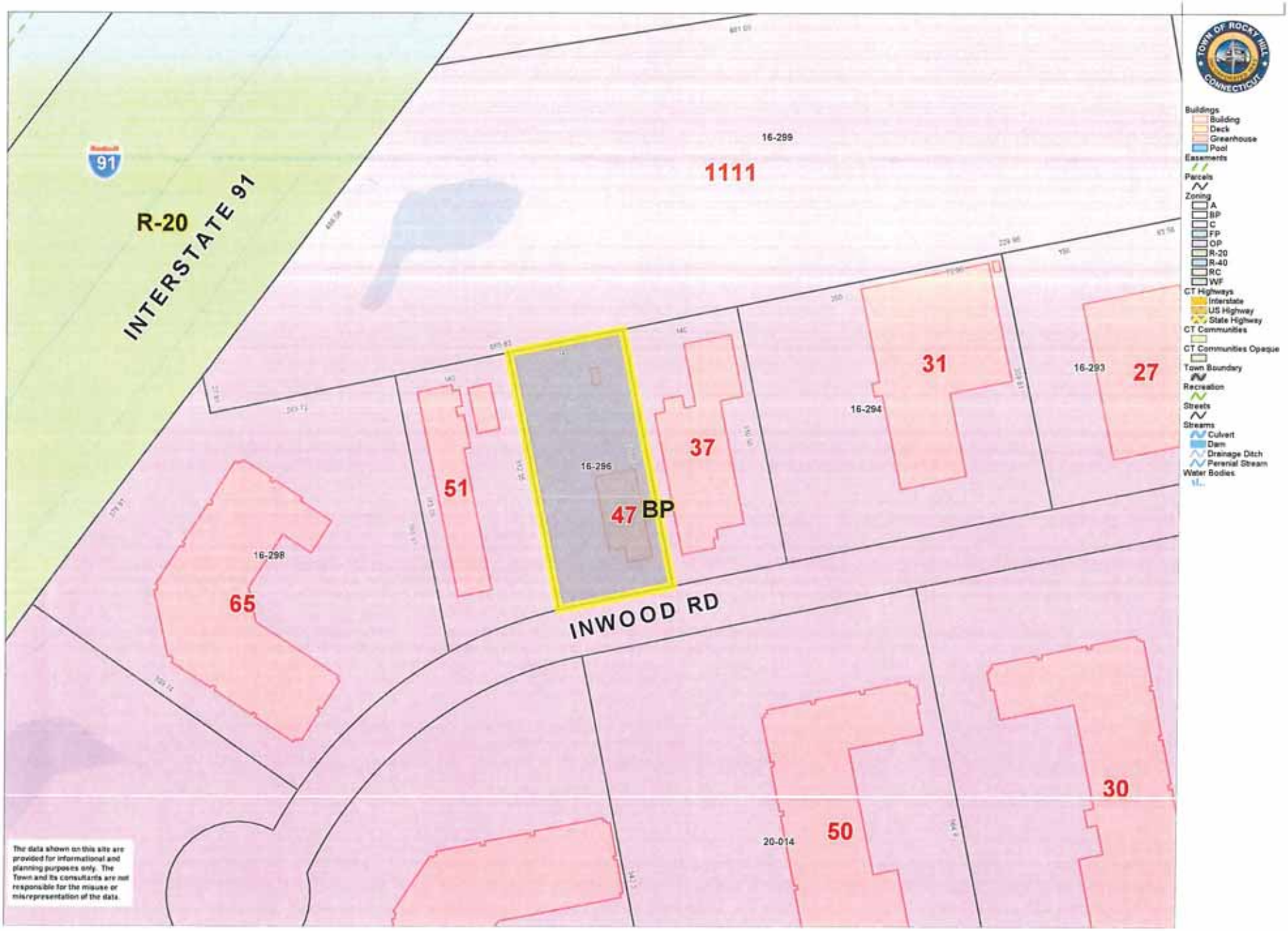
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. An RF emissions calculation is attached.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (Please see attached Structural analysis completed by Tower Engineering Professionals, Inc. dated October 11, 2017).

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

Sincerely,

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

CC: John Mehr, Interim Town Manager
J-P Langlois, Building Official
Kim Ricci, Zoning Enforcement Officer; Town Planner
Merrifield, LLC, Ground Owner
American Tower Corporation c/o Emily Ianotti, Landlord


16-299
1111
R-20
INTERSTATE 91
91
16-296
47 BP
51
37
31
16-294
16-293
27
16-298
65
INWOOD RD
20-014
50
30
Buildings
Building
Deck
Greenhouse
Pool
Easements
Parcels
Zoning
A
BP
C
FP
OP
R-20
R-40
RC
WF
CT Highways
Interstate
US Highway
State Highway
CT Communities
CT Communities Opaque
Town Boundary
Recreation
Streets
Streams
Culvert
Dam
Drainage Ditch
Perenial Stream
Water Bodies
The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.
0
200
400 ft
Printed on 10/18/2017 at 10:18 AM
MapsOnline by PeopleGIS

Town of Rocky Hill Property Summary Report

47 INWOOD ROAD

PARCEL ID:	16-296	**ACCOUNT NUMBER:**	004208
LOCATION:	47 INWOOD ROAD		
OWNER NAME:	MERRIFIELD LLC		

16-296-001 12/09/2012

OWNER OF RECORD
MERRIFIELD LLC
10 TALCOTT PLACE
WETHERSFIELD, CT 06109

LIVING AREA:	4998	**ZONING:**	BP	**ACREAGE:**	1.00

SALES HISTORY

OWNER	BOOK / PAGE	SALE DATE	SALE PRICE
MERRIFIELD LLC	503/ 959	08-May-2006	$0.00
MERRIFIELD BEVERLY	346/ 452	24-Jun-1998	$0.00

CURRENT PARCEL VALUE

TOTAL:	$345,940.00	**IMPROVEMENTS:**	$205,940.00	**LAND:**	$140,000.00

ASSESSING HISTORY

FISCAL YEAR	TOTAL VALUE	IMPROVEMENT VALUE	LAND VALUE
2014	$345,940.00	$205,940.00	$140,000.00
2013	$345,940.00	$205,940.00	$140,000.00
2012	$333,480.00	$53,480.00	$280,000.00
2011	$333,480.00	$53,480.00	$280,000.00
2010	$333,480.00	$53,480.00	$280,000.00
2009	$333,480.00	$53,480.00	$280,000.00
2008	$333,480.00	$53,480.00	$280,000.00
2007	$189,850.00	$84,850.00	$105,000.00
2006	$189,850.00	$0.00	$105,000.00

Town of Rocky Hill Property Summary Report

47 INWOOD ROAD

PARCEL ID:	16-296	**ACCOUNT NUMBER:**	004208
LOCATION:	47 INWOOD ROAD		
OWNER NAME:	MERRIFIELD LLC		

BUILDING # 1

YEAR BUILT	1962	**ROOF STRUCTURE**	Flat
STYLE	Warehouse	**ROOF COVER**	Tar + Gravel
MODEL	Ind/Comm	**FLOOR COVER 1**	Tile/Vinyl Cmp
GRADE	C	**FLOOR COVER 2**	
STORIES	1	**HEAT FUEL**	Oil
OCCUPANCY	Industrial 96	**HEAT TYPE**	Floor Furnace
EXT WALL 1	Concr/Cinder	**AC TYPE**	None
EXT WALL 2		**BEDROOMS**	
INT WALLS 1	Drywall/Sheetr	**FULL BATHS**	1
INT WALLS 2		**HALF BATHS**	
		TOT ROOMS	0

16-296-001 12/09/2012

EXTRA FEATURES

DESCRIPTION	CODE	UNITS
OVHD 12'	OD5	2 UNITS

OUTBUILDINGS

DESCRIPTION	CODE	UNITS
Cell Site	CELL	1 UNITS
Paving Asphalt	PAV1	6300 S.F.

WIRELESS COMMUNICATIONS FACILITY
CT5121 - LTE 4C/5C & BWE
CROMWELL EAST
AMERICAN TOWER SITE NO.: 302537
37 INWOOD ROAD
ROCKY HILL, CT 06067

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2014 CONNECTICUT STATE BUILDING CODE, INCLUDING THE TIA-222 REVISION "G" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2018 CONNECTICUT FIRE SAFETY CODE AND, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION POINT ARE PROVIDED BY SITE OWNER, AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS. COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO "EXTRA" WILL BE ALLOWED FOR MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
16. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

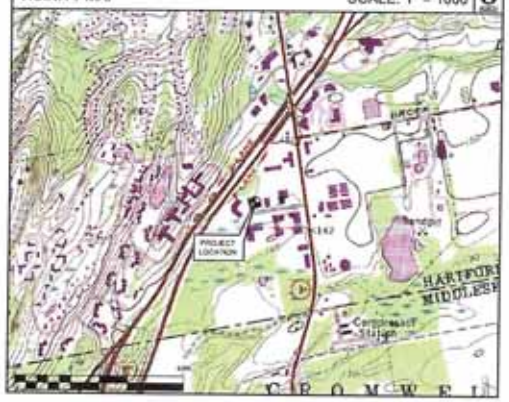
FROM: 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT

TO: 37 INWOOD ROAD, ROCKY HILL, CONNECTICUT

1.	HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD	0.36 MI
2.	TURN RIGHT ONTO CAPITAL BLVD	0.03 MI
3.	TAKE THE 1ST RIGHT ONTO WENKEL WAY.	0.05 MI
4.	TURN RIGHT ONTO BROOK ST.	0.75 MI
5.	TURN LEFT ONTO CROMWELL AVE/CT-3.	0.22 MI
6.	TAKE THE 1ST RIGHT ONTO INWOOD ROAD	0.13 MI
7.	37 INWOOD ROAD IS ON THE RIGHT	

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

I. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:

A. REMOVE AND REPLACE EXISTING P65-K ANTENNA FOR PROPOSED LTE HEXPORT ANTENNA (1) PER SECTOR.
B. INSTALL (3) NEW RRUS-13 AT TOWER LEVEL.
C. INSTALL (3) NEW RRUS-32 B66 AT TOWER LEVEL.
D. INSTALL (3) NEW RRUS-32 B2 AT TOWER LEVEL.
E. REMOVE AND REPLACE EXISTING (1900 MHz) RRUS-12 AT TOWER LEVEL.
F. ADD (1) NEW DC SQUID.
G. UPGRADE EXISTING DUO TO NEW 3216.
H. INSTALL 2ND XMU INSIDE EXISTING AT&T PURCELL CABINET.

PROJECT INFORMATION

AT&T SITE NUMBER:	CT5121
AT&T SITE NAME:	CROMWELL EAST
SITE ADDRESS:	AMERICAN TOWER SITE NO.: 302537 37 INWOOD ROAD ROCKY HILL, CT 06067
LESSEE/APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405
PROJECT COORDINATES:	LATITUDE: 41°-38'-18.80" N LONGITUDE: 72°-40'-49.46" W GROUND ELEVATION: ±153' AMSL SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
N-1	NOTES, SPECIFICATIONS AND DETAILS	0
C-1	PLANS AND ELEVATION	0
C-2	LTE 4C/5C & BWE EQUIPMENT DETAILS	0
E-1	LTE SCHEMATIC DIAGRAM AND NOTES	0
E-2	LTE WIRING DIAGRAM	0
E-3	TYPICAL ELECTRICAL DETAILS	0

REV.	DATE	DRAWN BY/CHK'D BY/DESCRIPTION
0	10/03/17	JPS PMG CONSTRUCTION SET - ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

at&t

EMPIRE telecom

CENTEK engineering

AT&T MOBILITY
WIRELESS TELECOMMUNICATIONS FACILITY

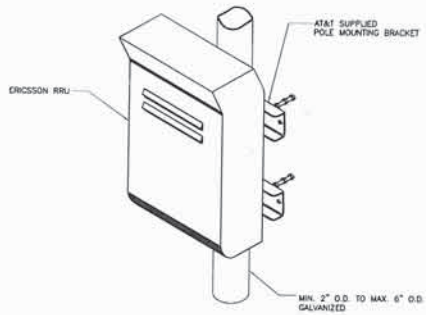
CROMWELL EAST
CT5121 - LTE 4C/5C & BWE
37 INWOOD ROAD
ROCKY HILL, CT 06067

DATE: 10/03/17
SCALE: AS NOTED
JOB NO: 17004.34

TITLE SHEET

T-1

Sheet No. 1 of 1



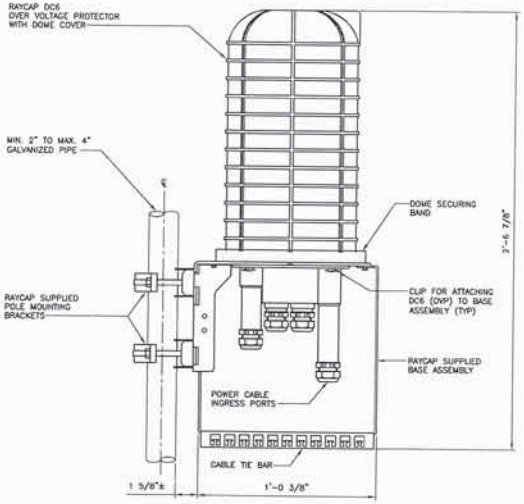
ISOMETRIC VIEW

NOTES:

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

1 N-1 TYPICAL RRUS MOUNTING DETAILS

SCALE: NTS



ELEVATION

NOTES:

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

2 N-1 RAYCAP DC6 MOUNTING DETAIL

SCALE: 3" = 1'-0"

NOTES AND SPECIFICATIONS

DESIGN BASIS:

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

1. DESIGN CRITERIA:

- WIND LOAD: PER TIA 222 G (ANTENNA MOUNTS): 90-105 MPH (3 SECOND GUST)
- RISK CATEGORY: II (BASED ON IBC TABLE 1604.5)
- NOMINAL DESIGN SPEED (OTHER STRUCTURE): 97 MPH (Vasd) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10) PER 2012 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

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

STRUCTURAL STEEL

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

PAINT NOTES

PAINTING SCHEDULE:

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

EXAMINATION AND PREPARATION:

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

CLEANING:

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

APPLICATION:

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

COMPLETED WORK:

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

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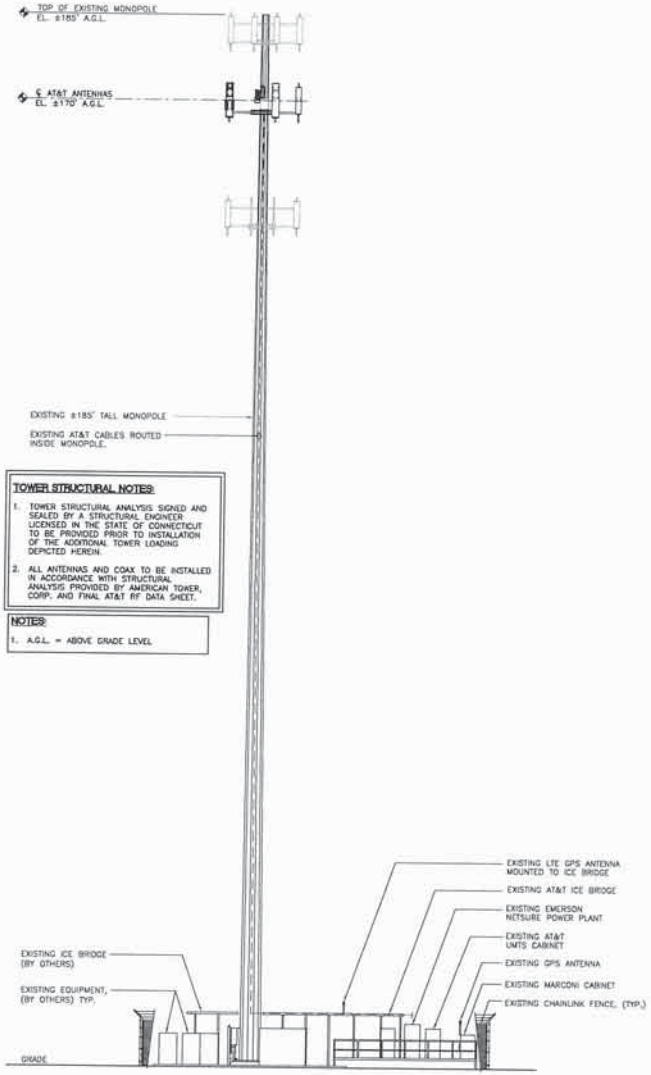
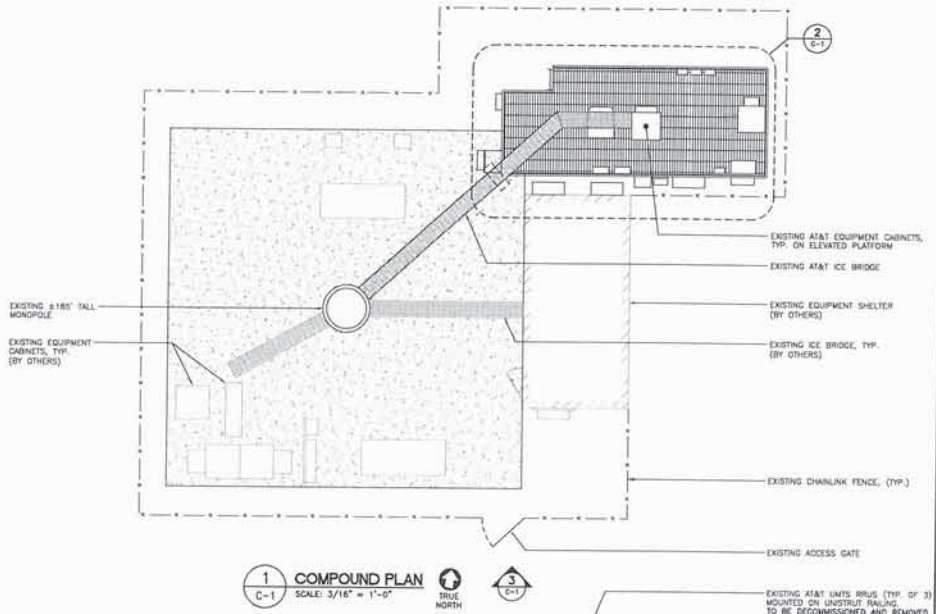
NOTES, SPECIFICATIONS AND DETAILS

N-1

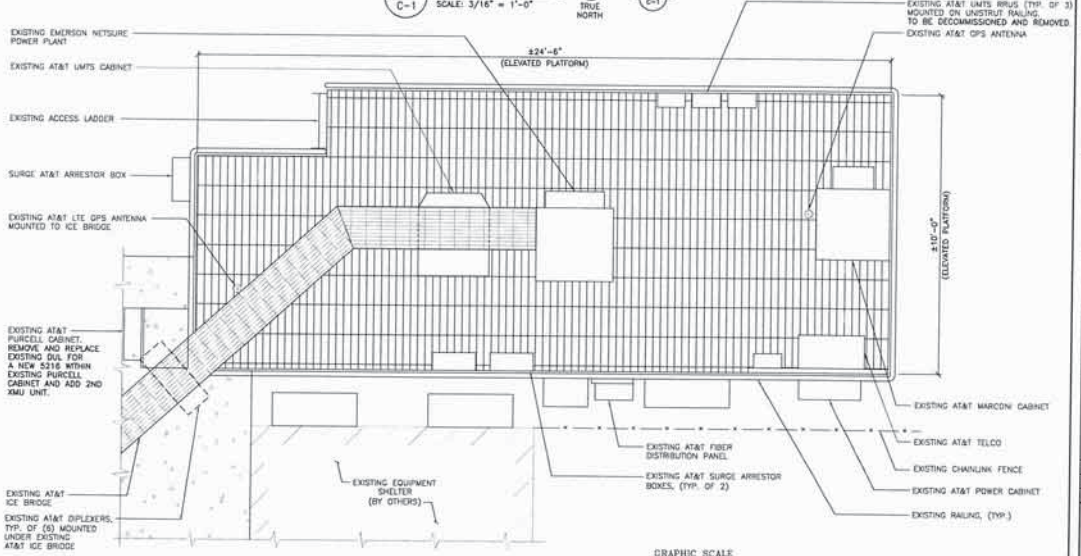
Sheet No. 2 of 2



3 C-1 **TOWER ELEVATION - PROPOSED**
SCALE: 1" = 10'-0"



1 C-1 **COMPOUND PLAN**
SCALE: 3/16" = 1'-0"
TRUE NORTH
3 C-1



2 C-1 **EQUIPMENT LAYOUT PLAN**
SCALE: 1/2" = 1'-0"
TRUE NORTH
GRAPHIC SCALE
2 0 1 2 4 8
(IN FEET)
1 inch = 2 ft.

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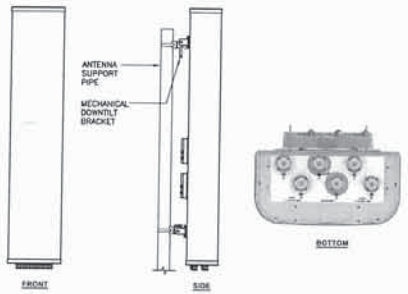
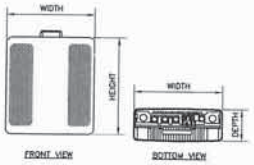
PLANS AND ELEVATION

C-1
Sheet No. 3 of 7



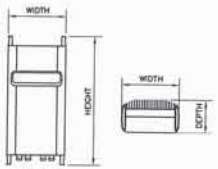
ALPHA/BETA/GAMMA ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: CCI MODEL: HPA-65R-BUU-H6	72"L x 14.8"W x 8"D	51 LBS.

5 / C-2 PROPOSED ANTENNA DETAIL
SCALE: 3/4 = 1'-0"



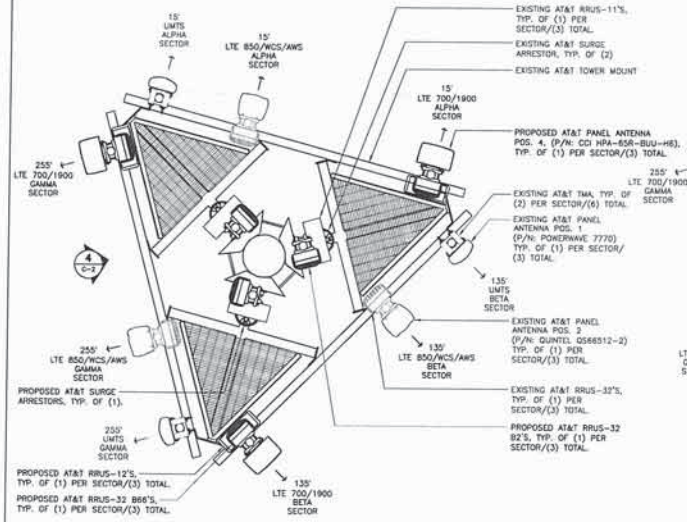
RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS 12	20.4"L x 18.5"W x 7.5"D	50 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.
NOTES: 1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.			

6 / C-2 ERICSSON RRUS 12 DETAIL
SCALE: 1" = 1'-0"

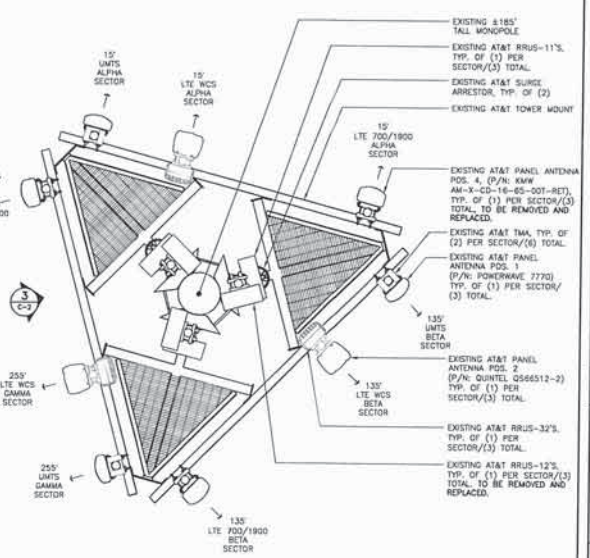


RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS-32 B2	27.17"H x 12.05"W x 7.01"D	52.91 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.
MAKE: ERICSSON MODEL: RRUS-32 B66	27.17"H x 12.05"W x 7.01"D	52.91 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.
NOTES: 1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.			

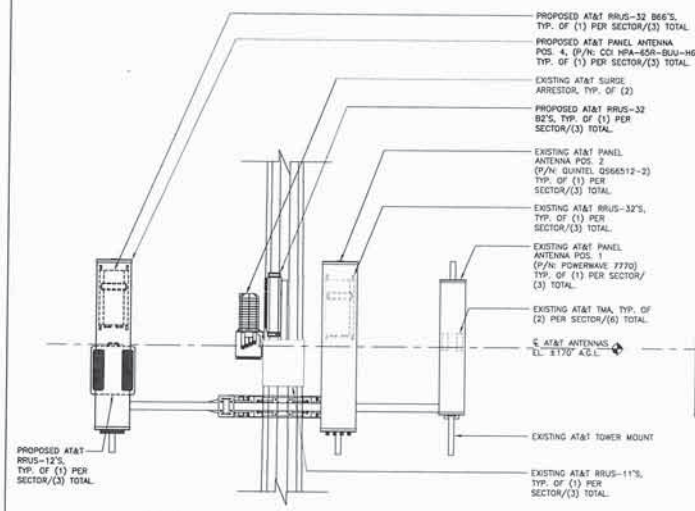
7 / C-2 ERICSSON RRUS 32 B2 DETAIL
SCALE: 1" = 1'-0"



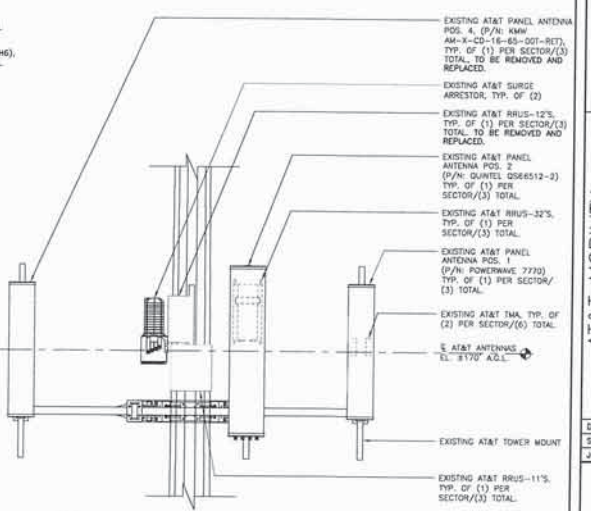
2 / C-2 PROPOSED ANTENNA PLAN
SCALE: 1/2" = 1'-0"
NORTH



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



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



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

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LTE 4C/5C & BWE EQUIPMENT DETAILS

C-2

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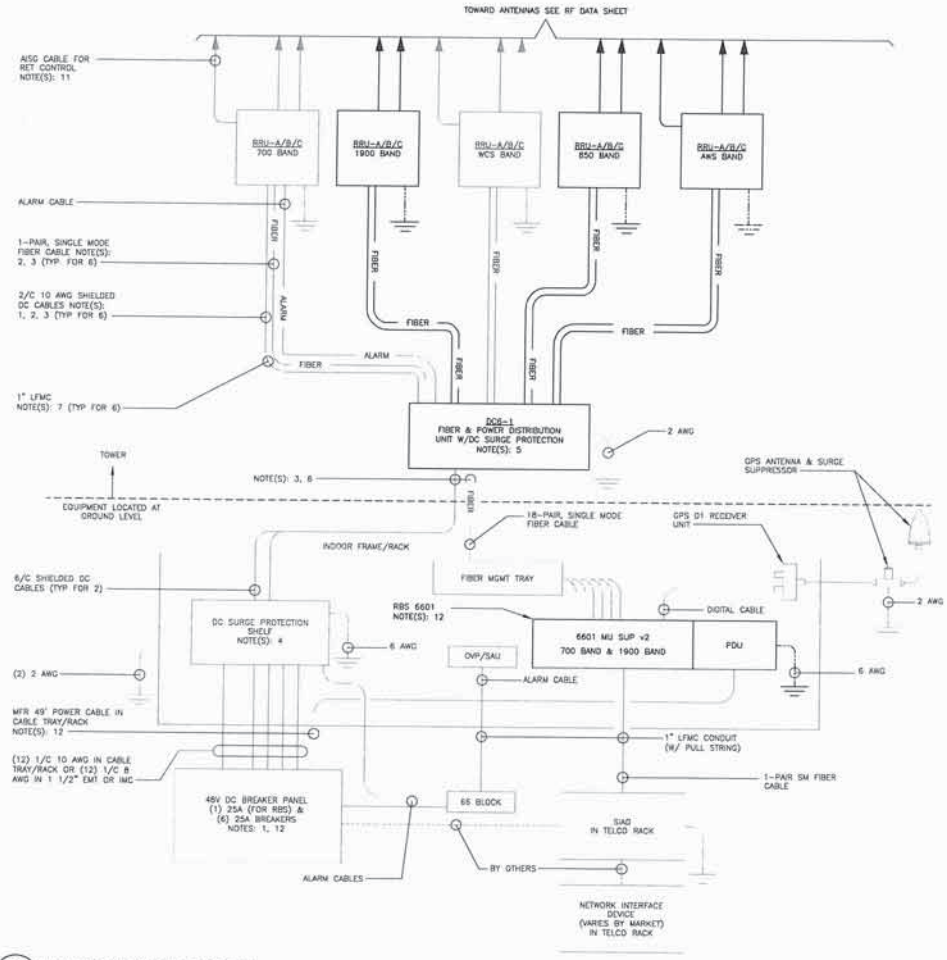

1 / E-1 LTE SCHEMATIC DIAGRAM

NOT TO SCALE

LTE SCHEMATIC DIAGRAM NOTES:

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

ELECTRICAL NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL CONSTRUCTION STANDARDS AND SPECIFICATIONS, AND ALL MANUFACTURER DOCUMENTATION FOR ALL EQUIPMENT TO BE INSTALLED.
2. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRIC CODE, OWNER AND MANUFACTURER'S SPECIFICATIONS.
3. CONNECT ALL NEW EQUIPMENT TO EXISTING TELCO AS REQUIRED BY MANUFACTURER.
4. MAINTAIN ALL CLEARANCES REQUIRED BY NEC AND EQUIPMENT MANUFACTURER.
5. PRIOR TO INSTALLATION CONTRACTOR SHALL MEASURE EXISTING ELECTRICAL LOAD AND VERIFY EXISTING AVAILABLE CAPACITY FOR PROPOSED INSTALLATION. IF INADEQUATE CAPACITY IS AVAILABLE, CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRIC UTILITY COMPANY TO UPGRADE EXISTING ELECTRIC SERVICE.
6. CONTRACTOR SHALL INSPECT EXISTING GROUNDING AND LIGHTNING PROTECTION SYSTEM AND ENSURE THAT IT IS IN COMPLIANCE WITH NEC, AND SITE OWNER'S SPECIFICATIONS. THE RESULTS OF THIS INSPECTION SHALL BE PRESENTED TO OWNERS REPRESENTATIVE, AND ANY DEFICIENCIES SHALL BE CORRECTED.
7. ALL TRANSMISSION TOWER SITES CONTAIN AN EXTENSIVE BURIED GROUNDING SYSTEM. ALL GROUNDING WORK MUST BE COORDINATED WITH, AND APPROVED BY, THE TOWER OWNER'S SITE REPRESENTATIVE. ALL OF THE TOWER OWNER'S SPECIFICATIONS MUST BE STRICTLY FOLLOWED.
8. PROVIDE AND INSTALL GROUND KITS FOR ALL NEW COAXIAL CABLES AND BOND TO EXISTING OWNERS GROUNDING SYSTEM PER OWNERS SPECIFICATIONS AND NEC.
9. ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, 50°T ANNEALED STRANDED COPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #8 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS. #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION.
10. MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.
11. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
12. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNER'S REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS AS MAY BE REQUIRED BY THE LOCAL AUTHORITY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE SITE AND/OR BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
15. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
16. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
17. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
18. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
19. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122. (MIN. #12 AWG).
20. CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 5 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16980).

TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

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

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

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

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

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

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

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

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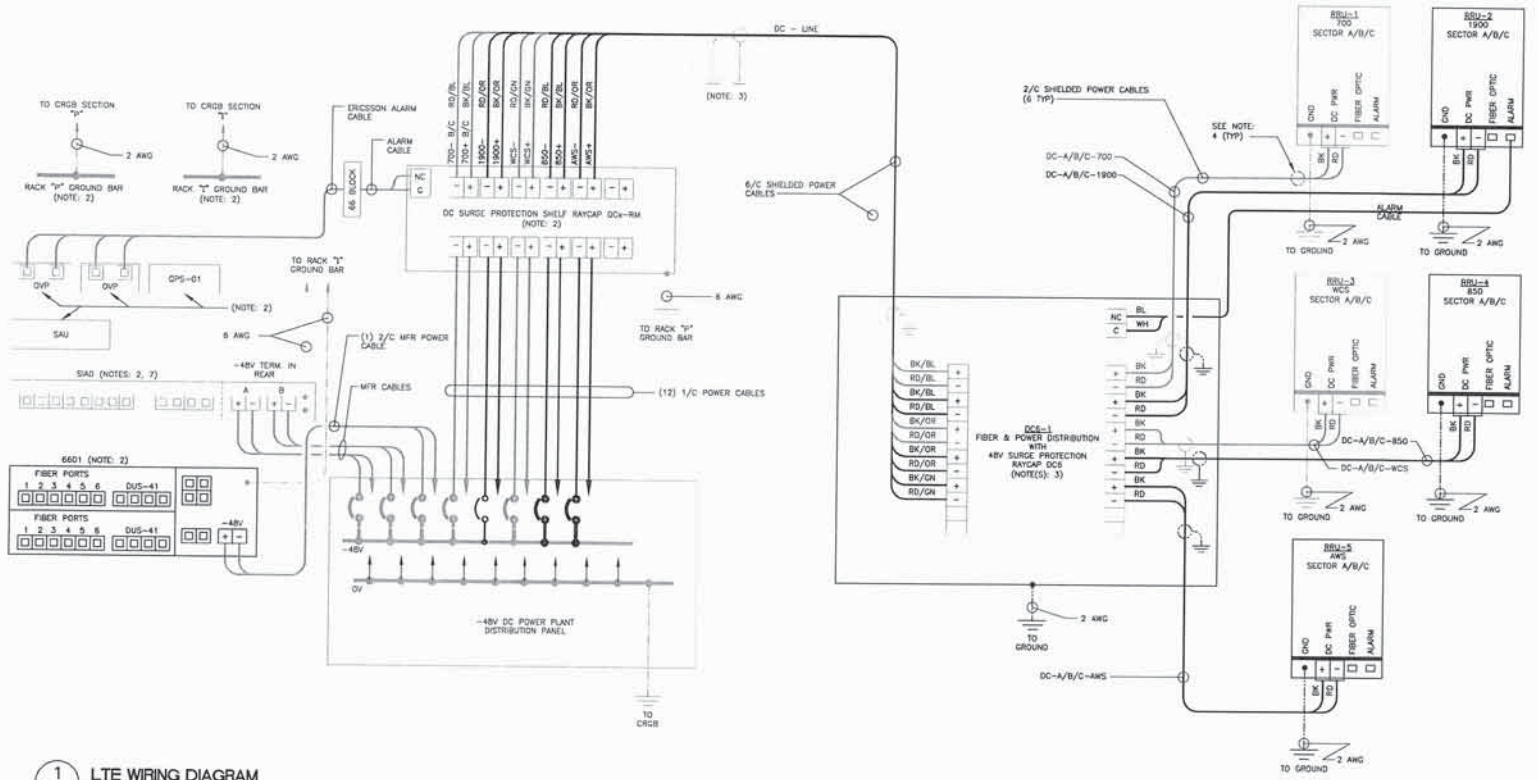
LTE SCHEMATIC DIAGRAM AND NOTES

E-1

Sheet No. 3 of 7



1/E-2 **LTE WIRING DIAGRAM**
NOT TO SCALE

LTE WIRING DIAGRAM NOTES:

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

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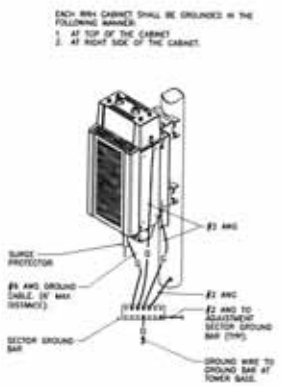
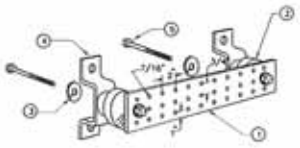
LTE WIRING DIAGRAM

E-2
Sheet No. 5 of 7



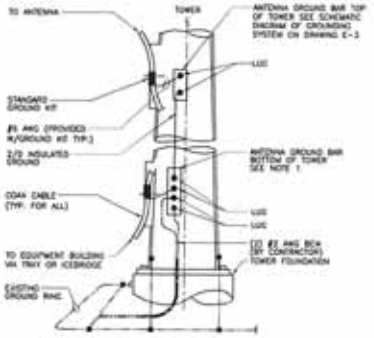
4 E-3 RRU POLE MOUNT GROUNDING
NOT TO SCALE



LEGEND

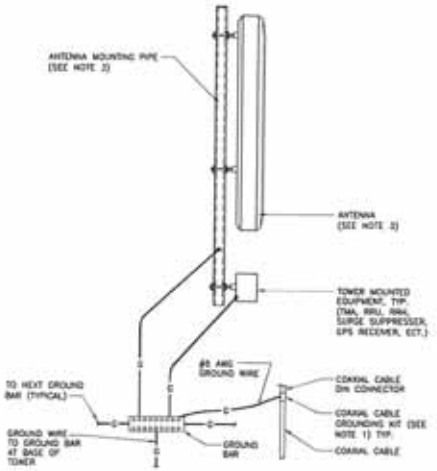
1. TINNED COPPER GROUND BAR, 1/4"x 4"x 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG .
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 2-3041-4.
3. 3, 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-6.
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. #, CAT NO. A-6056.
5. STAINLESS STEEL SECURITY SCREWS.

3 E-3 GROUND BAR DETAIL
NOT TO SCALE



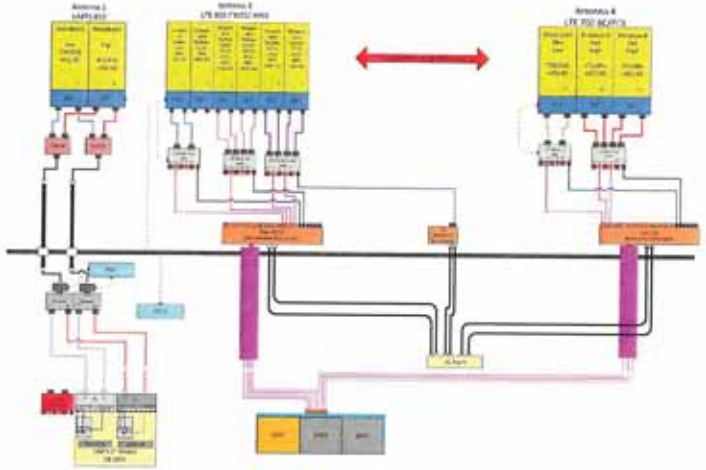
NOTES:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, LOCATION AND CONNECTION ORIENTATION. PHONGE AE REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

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

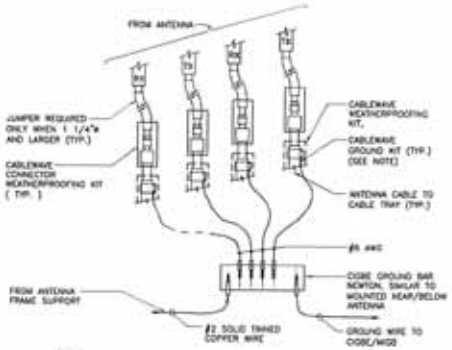


NOTES:
1. BOND COAXIAL CABLE GROUND KITS TO EACH OWNER'S GROUND BAR ALONG ENTIRE COAX RUN FROM ANTENNA TO SHELTER.
2. BOND ALL EQUIPMENT TO GROUND PER NEC AND MANUFACTURERS SPECIFICATIONS.
3. DETAIL IS TYPICAL FOR ALL ANTENNA SECTORS, INCLUDING GPS ANTENNA.

1 E-3 TYPICAL ANTENNA GROUNDING DETAIL
NOT TO SCALE

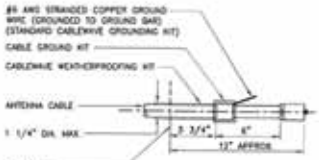


7 E-3 RF PLUMBING DIAGRAM
NOT TO SCALE



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

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



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

5 E-3 ANTENNA CABLE GROUNDING DETAIL
NOT TO SCALE

REV	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	10/13/17	JSD		CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

at&t

EMPIRE telecom

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

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
CROMWELL EAST
CT5121 - LTE 4C/5C & BWE
37 NIWOOD ROAD
ROCKY HILL, CT 06067

DATE:	10/13/17
SCALE:	AS NOTED
JOB NO:	17004.54

TYPICAL ELECTRICAL DETAILS

E-3

Sheet No. 1 of 1

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5121

Cromwell East
47 Inwood Road
Rocky Hill, CT 06067

October 16, 2017

Centerline Communications Project Number: 950006-077

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**4.53 %**

October 16, 2017

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

Emissions Analysis for Site: **CT5121 – Cromwell East**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **47 Inwood Road, Rocky Hill, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **47 Inwood Road, Rocky Hill, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

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

Table 1: Channel Data Table

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

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7770	168
A	2	Quintel QS66512-2	168
A	3	CCI HPA-65R-BUU-H6	168
B	1	Powerwave 7770	168
B	2	Quintel QS66512-2	168
B	3	CCI HPA-65R-BUU-H6	168
C	1	Powerwave 7770	168
C	2	Quintel QS66512-2	168
C	3	CCI HPA-65R-BUU-H6	168

Table 2: Antenna Data

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

RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Powerwave 7770	850 MHz / 1900 MHz (PCS)	11.4 / 13.4	4	120	2,140.89	0.38
Antenna A2	Quintel QS66512-2	850 MHz / 2300 MHz (WCS) / 2100 MHz (AWS)	11.35 / 14.85 / 14.35	6	360	8,570.65	1.35
Antenna A3	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	4	240	5,462.56	1.04
						Sector A Composite MPE%	2.77
Antenna B1	Powerwave 7770	850 MHz / 1900 MHz (PCS)	11.4 / 13.4	4	120	2,140.89	0.38
Antenna B2	Quintel QS66512-2	850 MHz / 2300 MHz (WCS) / 2100 MHz (AWS)	11.35 / 14.85 / 14.35	6	360	8,570.65	1.35
Antenna B3	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	4	240	5,462.56	1.04
						Sector B Composite MPE%	2.77
Antenna C1	Powerwave 7770	850 MHz / 1900 MHz (PCS)	11.4 / 13.4	4	120	2,140.89	0.38
Antenna C2	Quintel QS66512-2	850 MHz / 2300 MHz (WCS) / 2100 MHz (AWS)	11.35 / 14.85 / 14.35	6	360	8,570.65	1.35
Antenna C3	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	4	240	5,462.56	1.04
						Sector C Composite MPE%	2.77

Table 3: AT&T Emissions Levels

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

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max Sector Value	**2.77 %**
Nextel	0.79 %
Sprint	0.97 %
Site Total MPE %:	**4.53 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	2.77 %
AT&T Sector B Total:	2.77 %
AT&T Sector C Total:	2.77 %
Site Total:	4.53 %

Table 5: Site MPE Summary

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

AT&T _ Frequency Band / Technology (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	414.12	168	1.13	850 MHz	567	0.20%
AT&T 1900 MHz (PCS) UMTS	2	656.33	168	1.80	1900 MHz (PCS)	1000	0.18%
AT&T 850 MHz LTE	2	818.75	168	2.24	850 MHz	567	0.40%
AT&T 2300 MHz (WCS) LTE	2	1,832.95	168	5.02	2300 MHz (WCS)	1000	0.50%
AT&T 2100 MHz (AWS) LTE	2	1,633.62	168	4.48	2100 MHz (AWS)	1000	0.45%
AT&T 700 MHz LTE	2	940.05	168	2.58	700 MHz	467	0.55%
AT&T 1900 MHz (PCS) LTE	2	1,791.23	168	4.91	1900 MHz (PCS)	1000	0.49%
						Total:	**2.77%**

Table 6: AT&T Maximum Sector MPE Power Values

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	2.77 %
Sector B:	2.77 %
Sector C:	2.77 %
AT&T Maximum Total (per sector):	2.77 %
Site Total:	4.53 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **4.53 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

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

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

TOWER ENGINEERING PROFESSIONALS

Structural Analysis Report

Structure	:	**185 ft Monopole**
ATC Site Name	:	**Middletown CT 3, CT**
ATC Site Number	:	**302537**
Engineering Number	:	**OAA714183_C3_01**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**Rocky Hill CT**
Carrier Site Number	:	**CT5121**
Site Location	:	**47 Inwood Road** **Rocky Hill, CT 06067-3453** **41.638600,-72.679300**
County	:	**Hartford**
Date	:	**October 11, 2017**
Max Usage	:	**83%**
Result	:	**Pass**

Prepared By:
Charles Cages, E.I.
TEP

Charles Cages

Reviewed By:

STATE OF CONNECTICUT
AARON THOMAS RUCKER
32608
LICENSED
PROFESSIONAL ENGINEER

10/11/2017

COA: PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 185 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Valmont Drawing #DC1646Z, dated November 2, 1993
Foundation Drawing	H. Edmund Bergeron Civil Engineers Project #93127, dated December 21, 1993
Geotechnical Report	Materials Testing Inc File #99 GT 93, dated December 2, 1993
Modifications	ATC Project #51430332, dated December 12, 2012

Analysis

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

Basic Wind Speed:	97 mph (3-Second Gust, V_{ASD}) / 125 mph (3-Second Gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Spectral Response:	Ss = 0.18, S_1 = 0.06
Site Class:	D - Stiff Soil

Conclusion

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

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

Existing and Reserved Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
181.0	181.0	4	Decibel 844G90VTA-SX	Platform w/ Handrails	(12) 1 5/8" Coax	Sprint Nextel
		4	Decibel DB844H90E-XY			
		4	Decibel 844G65VTZASX			
168.0	168.0	6	Powerwave LGP21401	Low Profile Platform	(12) 1 5/8" Coax (4) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk (1) 3" conduit	AT&T Mobility
		2	Raycap DC6-48-60-18-8F (23.5" Height)			
		3	Ericsson RRUS 11 (Band 4) (17" Width)			
		3	Ericsson RRUS 12			
		3	Ericsson RRUS-32 (77 lbs)			
		3	Powerwave 7770.00			
		3	Quintel QS66512-2			
141.0	141.0	3	Alcatel-Lucent RRH2x50-08	Platform w/ Handrails	(4) 1 1/4" Hybriflex	Sprint Nextel
		3	Alcatel-Lucent 800MHz 2X50W RRH w/ Filter			
		3	Alcatel-Lucent 4x40W RRH (88 lb)			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		3	RFS APXVSPP18-C-A20			
		3	Commscope DT465B-2XR			
98.0	98.0	1	GPS	Stand-Off	-	

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
168.0	168.0	3	KMW AM-X-CD-16-65-00T-RET	-	-	AT&T Mobility

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
168.0	168.0	1	Raycap DC6-48-60-0-8F	Low Profile Platform	(2) 0.78" 8 AWG 6	AT&T Mobility
		3	Ericsson RRUS 32 B66			
		3	CCI HPA-65R-BUU-H6			

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

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	64%	Pass
Shaft	83%	Pass
Base Plate	40%	Pass
Reinforcement	60%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3,821.4	5,158.9	4,447.8	86%
Shear (Kips)	32.1	43.4	38.6	89%

*** The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1**

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
168.0	Raycap DC6-48-60-0-8F	AT&T Mobility	2.693	1.910
	Ericsson RRUS 32 B66			
	CCI HPA-65R-BUU-H6			

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

Standard Conditions

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

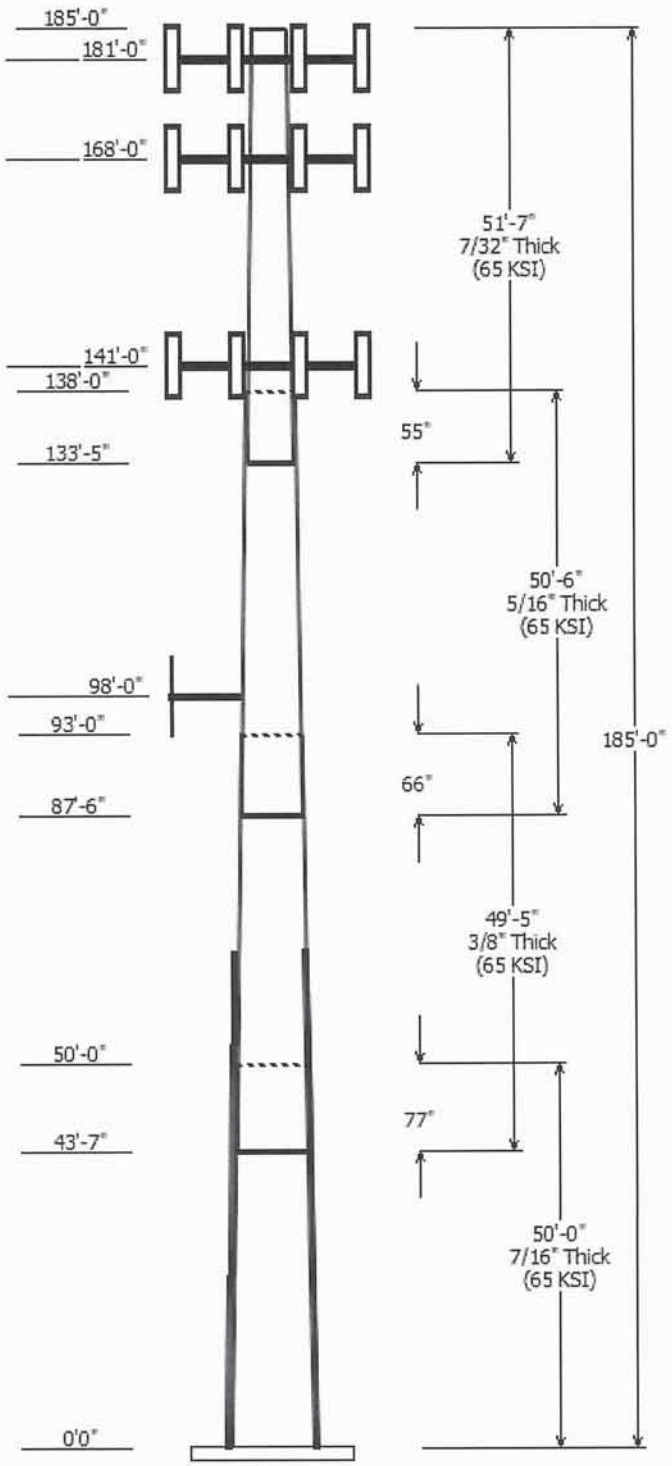
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

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

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

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

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



Job Information

Pole :	302537	Code:	ANSI/TIA-222-G
Description :	185 ft Valmont pole - Model verified 5/30/12		
Client :	AT&T MOBILITY	Struct Class :	II
Location :	Middletown CT 3, CT		
Shape :	12 Sides	Exposure :	B
Height :	185.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.188013 in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
1	50.000	42.59	52.00	0.438		0.000	0.188000	65
2	49.417	35.26	44.55	0.375	Slip Joint	77.000	0.188000	65
3	50.500	27.42	36.92	0.313	Slip Joint	66.000	0.188000	65
4	51.583	19.03	28.72	0.219	Slip Joint	55.000	0.188000	65

Discrete Appurtenance

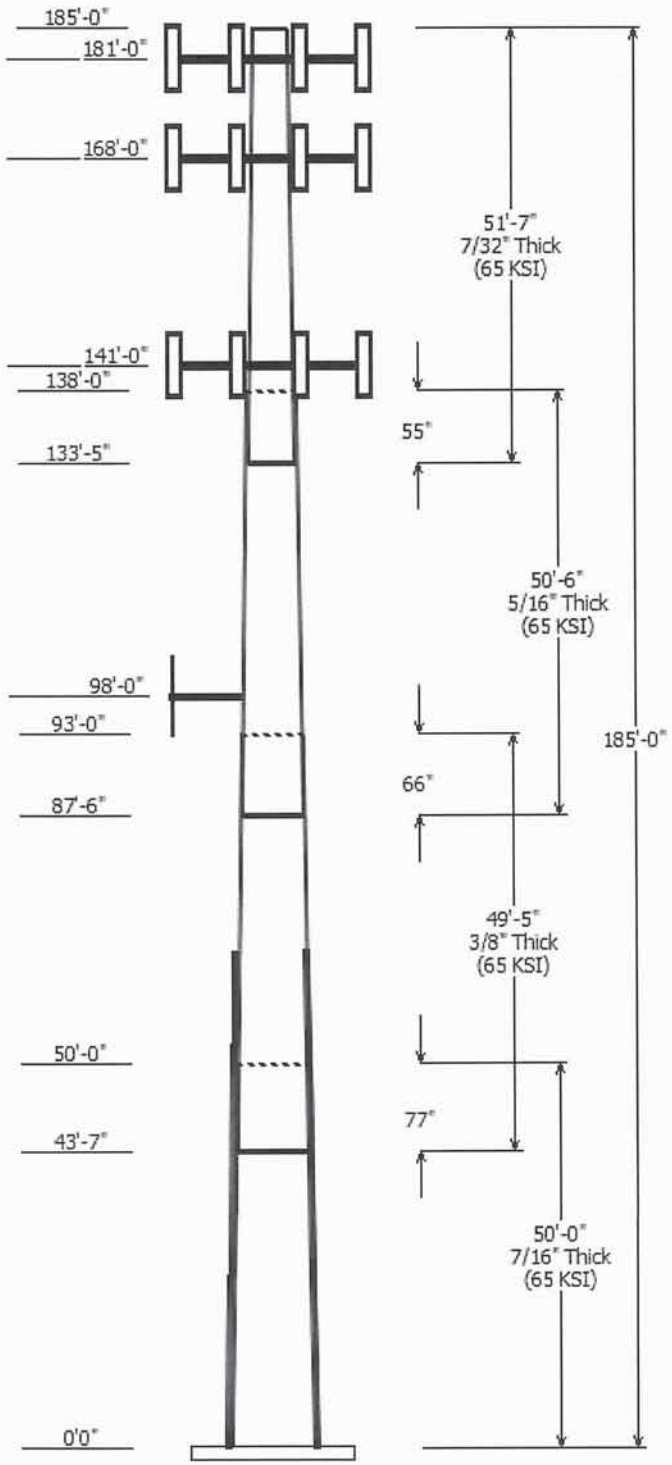
Attach Elev (ft)	Force Elev (ft)	Qty	Description
181.000	181.000	4	Decibel 844G65VTZASX
181.000	181.000	4	Decibel DB844H90E-XY
181.000	181.000	4	Decibel 844G90VTA-SX
181.000	181.000	1	Flat Platform w/ Handrails
168.000	168.000	3	CCI HPA-65R-BUU-H6
168.000	168.000	3	Ericsson RRUS 32 B66
168.000	168.000	1	Raycap DC6-48-60-0-8F
168.000	168.000	2	Raycap DC6-48-60-18-8F (23.5"
168.000	168.000	3	Powerwave Allgon 7770.00
168.000	168.000	3	Quintel QS66512-2
168.000	168.000	3	Ericsson RRUS 11 (Band 4) (17"
168.000	168.000	3	Ericsson RRUS 12
168.000	168.000	3	Ericsson RRUS-32 (77 lbs)
168.000	168.000	6	Powerwave Allgon LGP21401
168.000	168.000	1	Round Low Profile Platform
141.000	141.000	1	Flat Platform w/ Handrails
141.000	141.000	3	Commscope DT465B-2XR
141.000	141.000	3	RFS APXVSPP18-C-A20
141.000	141.000	3	Alcatel-Lucent TD-RRH8x20-25
141.000	141.000	3	Alcatel-Lucent 4x40W RRH (88 l
141.000	141.000	3	Alcatel-Lucent 800 MHz 2X50W
141.000	141.000	3	Alcatel-Lucent RRH2x50-08
98.000	98.000	1	Stand-Off
98.000	98.000	1	GPS

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	73.620	#20 Dywidag	Yes
0.000	141.0	1 1/4" Hybriflex	Yes
0.000	168.0	0.39" (10mm)	No
0.000	168.0	0.78" (19.7mm) 8	No
0.000	168.0	0.78" (19.7mm) 8	No
0.000	168.0	1 5/8" Coax	Yes
0.000	168.0	3" conduit	Yes
0.000	181.0	1 5/8" Coax	No

Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)



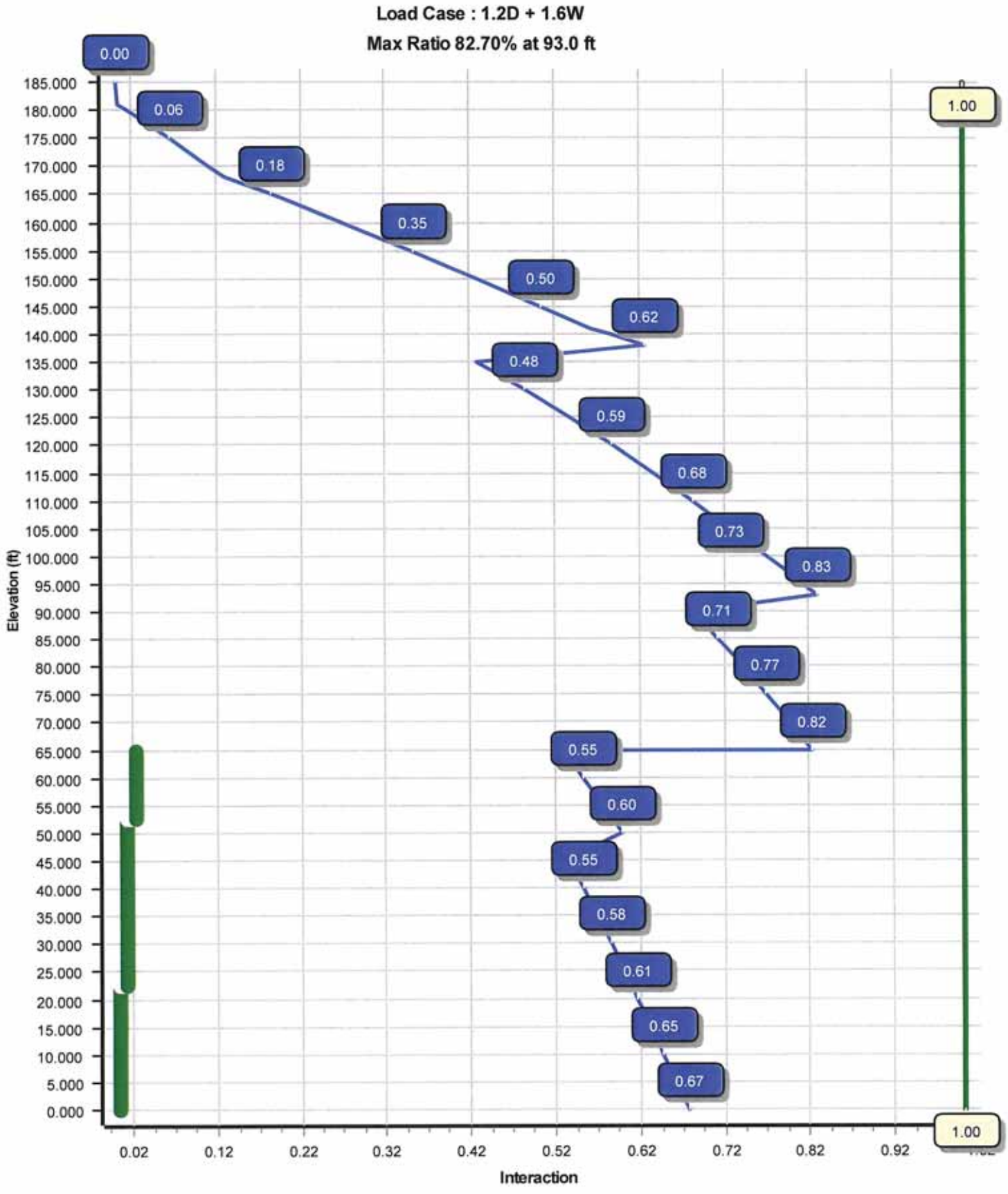
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	4447.84	38.59	55.47
0.9D + 1.6W	4359.26	37.31	41.59
1.2D + 1.0Di + 1.0Wi	1146.06	8.78	99.60
(1.2 + 0.2Sds) * DL + E ELFM	265.95	1.81	55.18
(1.2 + 0.2Sds) * DL + E EMAM	265.90	2.16	55.18
(0.9 - 0.2Sds) * DL + E ELFM	261.42	1.81	38.37
(0.9 - 0.2Sds) * DL + E EMAM	261.08	2.16	38.37
1.0D + 1.0W	1076.91	9.16	46.28

Dish Deflections

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


Load Case : 1.2D + 1.6W
Max Ratio 82.70% at 93.0 ft
0.00
0.06
0.18
0.35
0.50
0.62
0.48
0.59
0.68
0.73
0.83
0.71
0.77
0.82
0.55
0.60
0.55
0.58
0.61
0.65
0.67
1.00
1.00
Elevation (ft)
185.000
180.000
175.000
170.000
165.000
160.000
155.000
150.000
145.000
140.000
135.000
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number:	**302537**	**Code: ANSI/TIA-222-G**	
Site Name:	**Middletown CT 3, CT**	**Engineering Number:OAA714183_C3_01**	**10/11/2017 10:36:51 AM**
Customer:	**AT&T MOBILITY**		

Analysis Parameters

Location:	**HARTFORD County, CT**	**Height (ft):**	**185**
Code:	**ANSI/TIA-222-G**	**Base Diameter (in):**	**52.00**
Shape:	**12 Sides**	**Top Diameter (in):**	**19.03**
Pole Type:	**Taper**	**Taper (in/ft) :**	**0.188**
Pole Manfacturer:	**Valmont**	**Rotation (deg) :**	**0.00**

Ice & Wind Parameters

Structure Class:	**II**	**Design Wind Speed Without Ice:**	**97 mph**
Exposure Category:	**B**	**Design Wind Speed With Ice:**	**50 mph**
Topographic Category:	**1**	**Operational Wind Speed:**	**60 mph**
Crest Height:	**0.0 ft**	**Design Ice Thickness:**	**1.00 in**

Seismic Parameters

Analysis Method:	**Equivalent Modal Analysis & Equivalent Lateral Force Methods**				
Site Class:	**D - Stiff Soil**				
Period Based on Rayleigh Method (sec):	**2.78**				
T_L (sec):	**6**	**p:**	**1.3**	**C_s:**	**0.030**
S_s:	**0.181**	**S_1:**	**0.063**	**C_s Max:**	**0.030**
F_a:	**1.600**	**F_v:**	**2.400**	**C_s Min:**	**0.030**
S_{ds}:	**0.193**	**S_{d1}:**	**0.101**		

Load Cases

1.2D + 1.6W	**97 mph with No Ice**
0.9D + 1.6W	**97 mph with No Ice (Reduced DL)**
1.2D + 1.0Di + 1.0Wi	**50 mph with 1.00 in Radial Ice**
(1.2 + 0.2Sds) * DL + E ELFM	**Seismic Equivalent Lateral Forces Method**
(1.2 + 0.2Sds) * DL + E EMAM	**Seismic Equivalent Modal Analysis Method**
(0.9 - 0.2Sds) * DL + E ELFM	**Seismic (Reduced DL) Equivalent Lateral Forces Method**
(0.9 - 0.2Sds) * DL + E EMAM	**Seismic (Reduced DL) Equivalent Modal Analysis Method**
1.0D + 1.0W	**Serviceability 60 mph**

Site Number: 302537 Code: ANSI/TIA-222-G

Site Name: Middletown CT 3, CT Engineering Number:OAA714183_C3_01 10/11/2017 10:36:51 AM

Customer: AT&T MOBILITY

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-12	50.000	0.4375	65		0.00	11,232	52.00	0.00	72.64	24650.3	29.70	118.86	42.59	50.00	59.40	13476.5	23.95	97.37	0.188013
2-12	49.417	0.3750	65	Slip	77.00	8,028	44.55	43.58	53.35	13291.4	29.69	118.82	35.26	93.00	42.13	6545.8	23.05	94.04	0.188013
3-12	50.500	0.3125	65	Slip	66.00	5,510	36.92	87.50	36.84	6302.8	29.52	118.16	27.42	138.00	27.29	2560.9	21.38	87.77	0.188013
4-12	51.583	0.2188	65	Slip	55.00	2,925	28.72	133.42	20.08	2083.3	33.05	131.33	19.03	185.00	13.25	598.5	21.17	86.99	0.188013
				Shaft Weight		27,695													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
181.00	Decibel 844G65VTZASX	4	16.00	5.310	0.71	242.88	6.706	0.71	0.000	0.000
181.00	Decibel 844G90VTA-SX	4	11.50	3.610	0.74	136.18	6.150	0.74	0.000	0.000
181.00	Decibel DB844H90E-XY	4	14.00	3.610	0.74	177.90	4.271	0.74	0.000	0.000
181.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,934.25	70.943	1.00	0.000	0.000
168.00	CCI HPA-65R-BUU-H6	3	51.00	9.660	0.69	404.49	11.538	0.69	0.000	0.000
168.00	Ericsson RRUS 11 (Band 4)	3	50.00	2.520	0.67	140.86	3.923	0.67	0.000	0.000
168.00	Ericsson RRUS 12	3	50.00	3.150	0.67	159.20	4.717	0.67	0.000	0.000
168.00	Ericsson RRUS 32 B66	3	53.00	2.740	0.67	181.78	3.753	0.67	0.000	0.000
168.00	Ericsson RRUS-32 (77 lbs)	3	77.00	3.310	0.67	208.30	5.041	0.67	0.000	0.000
168.00	Powerwave Allgon 7770.00	3	35.00	5.510	0.65	231.75	6.968	0.65	0.000	0.000
168.00	Powerwave Allgon LGP21401	6	14.10	1.100	0.50	47.78	2.060	0.50	0.000	0.000
168.00	Quintel QS66512-2	3	111.00	8.130	0.74	380.04	11.892	0.74	0.000	0.000
168.00	Raycap DC6-48-60-0-8F	1	32.80	1.190	1.00	160.72	2.901	1.00	0.000	0.000
168.00	Raycap DC6-48-60-18-8F	2	20.00	1.110	1.00	91.09	1.893	1.00	0.000	0.000
168.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,374.71	47.620	1.00	0.000	0.000
141.00	Alcatel-Lucent 4x40W RRH	3	88.00	3.260	0.67	232.60	5.126	0.67	0.000	0.000
141.00	Alcatel-Lucent 800 MHz	3	64.00	2.060	0.67	166.27	3.332	0.67	0.000	0.000
141.00	Alcatel-Lucent RRH2x50-08	3	52.90	1.700	0.50	155.58	2.452	0.50	0.000	0.000
141.00	Alcatel-Lucent TD-RRH8x20-	3	70.00	4.050	0.67	195.45	5.814	0.67	0.000	0.000
141.00	Commscope DT465B-2XR	3	58.00	9.100	0.69	380.14	10.908	0.69	0.000	0.000
141.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,886.39	70.237	1.00	0.000	0.000
141.00	RFS APXVSPP18-C-A20	3	57.00	8.020	0.69	285.97	11.721	0.69	0.000	0.000
98.00	GPS	1	10.00	1.000	1.00	47.41	1.908	1.00	0.000	0.000
98.00	Stand-Off	1	75.00	2.500	1.00	121.76	4.170	0.67	0.000	0.000
	Totals	65	8359.10			22,589.23			Number of Loadings :	24

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	181.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	SPRINT NEXTEL
0.00	168.00	2	0.39" (10mm) Fiber	0.39	0.06	N	0.00	N	AT&T MOBILITY
0.00	168.00	4	0.78" (19.7mm) 8	0.78	0.59	N	0.00	N	AT&T MOBILITY
0.00	168.00	2	0.78" (19.7mm) 8	0.78	0.59	N	0.00	N	AT&T MOBILITY
0.00	168.00	12	1 5/8" Coax	1.98	0.82	N	5.94	Y	AT&T MOBILITY
0.00	168.00	1	3" conduit	3.50	7.58	N	0.00	Y	AT&T MOBILITY
0.00	141.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	3.08	Y	SPRINT NEXTEL
0.00	73.62	4	#20 Dywidag	0.00	0.00	N	0.00	Y	--

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Intermediate Connections — Description	Spacing (in)	Len (in)	Connectors	Continuation?
0.00	22.50	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	No
22.50	52.50	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes
52.50	65.00	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes

Site Number: 302537 Code: ANSI/TIA-222-G

Site Name: Middletown CT 3, CT Engineering Number:OAA714183_C3_01 10/11/2017 10:36:51 AM

Customer: AT&T MOBILITY

Segment Properties (Max Len : 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ix (in^4)	Additional Reinforcing Weight (lb)
0.00		0.4375	52.000	72.639	24,650.3	29.70	118.86	72.3	915.8	0.0	0.0	19.64	8,518	0.0
5.00		0.4375	51.060	71.314	23,326.5	29.13	116.71	72.9	882.6	0.0	1,224.6	19.64	8,249	334.0
10.00		0.4375	50.120	69.990	22,050.9	28.55	114.56	73.6	849.9	0.0	1,202.1	19.64	7,983	334.0
15.00		0.4375	49.180	68.666	20,822.7	27.98	112.41	74.2	817.9	0.0	1,179.5	19.64	7,723	334.0
20.00		0.4375	48.240	67.341	19,641.0	27.40	110.26	74.8	786.6	0.0	1,157.0	19.64	7,466	334.0
22.50	Reinf. Top Reinf	0.4375	47.770	66.679	19,067.3	27.11	109.19	75.1	771.1	0.0	570.1	19.64	7,339	167.0
25.00		0.4375	47.300	66.017	18,504.9	26.83	108.11	75.5	755.8	0.0	564.4	19.64	7,214	167.0
30.00		0.4375	46.360	64.693	17,413.5	26.25	105.96	76.1	725.6	0.0	1,111.9	19.64	6,966	334.0
35.00		0.4375	45.420	63.368	16,365.8	25.67	103.82	76.7	696.1	0.0	1,089.4	19.64	6,722	334.0
40.00		0.4375	44.479	62.044	15,361.0	25.10	101.67	77.3	667.2	0.0	1,066.9	19.64	6,483	334.0
43.58	Bot - Section 2	0.4375	43.806	61.095	14,666.8	24.69	100.13	77.8	646.8	0.0	750.7	19.64	6,314	239.4
45.00		0.4375	43.539	60.720	14,398.2	24.52	99.52	78.0	638.9	0.0	550.0	19.64	6,435	94.6
50.00	Top - Section 1	0.3750	43.349	51.891	12,232.1	28.83	115.60	73.3	545.1	0.0	1,914.3	19.64	6,201	334.0
52.50	Reinf. Top Reinf	0.3750	42.879	51.324	11,835.1	28.50	114.34	73.6	533.2	0.0	439.0	19.64	6,086	167.0
55.00		0.3750	42.409	50.756	11,446.8	28.16	113.09	74.0	521.4	0.0	434.2	19.64	5,971	167.0
60.00		0.3750	41.469	49.621	10,695.8	27.49	110.58	74.7	498.3	0.0	853.9	19.64	5,746	334.0
65.00	Reinf. Top	0.3750	40.529	48.486	9,978.5	26.82	108.08	75.5	475.6	0.0	834.6	19.64	5,525	334.0
70.00		0.3750	39.589	47.351	9,293.9	26.14	105.57	76.2	453.5	0.0	815.3			
75.00		0.3750	38.649	46.216	8,641.4	25.47	103.06	76.9	431.9	0.0	796.0			
80.00		0.3750	37.709	45.081	8,020.2	24.80	100.56	77.7	410.9	0.0	776.7			
85.00		0.3750	36.769	43.946	7,429.5	24.13	98.05	78.4	390.3	0.0	757.3			
87.50	Bot - Section 3	0.3750	36.299	43.378	7,145.3	23.79	96.80	78.8	380.3	0.0	371.5			
90.00		0.3750	35.829	42.810	6,868.5	23.46	95.54	79.1	370.3	0.0	677.9			
93.00	Top - Section 2	0.3125	35.890	35.800	5,783.7	28.63	114.85	73.5	311.3	0.0	802.0			
95.00		0.3125	35.514	35.421	5,602.3	28.31	113.64	73.8	304.7	0.0	242.3			
98.00		0.3125	34.950	34.854	5,337.3	27.82	111.84	74.4	295.0	0.0	358.7			
100.0		0.3125	34.574	34.475	5,165.3	27.50	110.64	74.7	288.6	0.0	235.9			
105.0		0.3125	33.634	33.529	4,751.7	26.70	107.63	75.6	272.9	0.0	578.5			
110.0		0.3125	32.694	32.583	4,360.8	25.89	104.62	76.5	257.7	0.0	562.4			
115.0		0.3125	31.753	31.637	3,991.9	25.08	101.61	77.4	242.9	0.0	546.3			
120.0		0.3125	30.813	30.692	3,644.4	24.28	98.60	78.2	228.5	0.0	530.2			
125.0		0.3125	29.873	29.746	3,317.7	23.47	95.59	79.1	214.6	0.0	514.1			
130.0		0.3125	28.933	28.800	3,011.2	22.66	92.59	80.0	201.1	0.0	498.0			
133.4	Bot - Section 4	0.3125	28.291	28.153	2,812.9	22.11	90.53	80.6	192.1	0.0	331.1			
135.0		0.3125	27.993	27.854	2,724.1	21.86	89.58	80.9	188.0	0.0	258.4			
138.0	Top - Section 3	0.2188	27.867	19.474	1,900.1	31.99	127.39	69.8	131.7	0.0	482.3			
140.0		0.2188	27.491	19.210	1,823.6	31.53	125.67	70.3	128.2	0.0	131.6			
141.0		0.2188	27.303	19.077	1,786.2	31.30	124.81	70.6	126.4	0.0	65.1			
145.0		0.2188	26.551	18.547	1,641.5	30.38	121.37	71.6	119.4	0.0	256.1			
150.0		0.2188	25.610	17.885	1,471.9	29.23	117.08	72.8	111.0	0.0	309.9			
155.0		0.2188	24.670	17.223	1,314.4	28.08	112.78	74.1	102.9	0.0	298.7			
160.0		0.2188	23.730	16.561	1,168.5	26.92	108.48	75.4	95.1	0.0	287.4			
165.0		0.2188	22.790	15.899	1,033.9	25.77	104.18	76.6	87.6	0.0	276.1			
168.0		0.2188	22.226	15.502	958.3	25.08	101.61	77.4	83.3	0.0	160.3			
170.0		0.2188	21.850	15.237	910.0	24.62	99.89	77.9	80.5	0.0	104.6			
175.0		0.2188	20.910	14.575	796.5	23.47	95.59	79.1	73.6	0.0	253.6			
180.0		0.2188	19.970	13.912	692.8	22.32	91.29	80.4	67.0	0.0	242.3			
181.0		0.2188	19.782	13.780	673.2	22.09	90.43	80.6	65.7	0.0	47.1			
185.0		0.2188	19.030	13.250	598.5	21.17	86.99	81.6	60.8	0.0	184.0			
											27,694.6			4,342.0

Site Number: 302537 | Code: ANSI/TIA-222-G |

Site Name: Middletown CT 3, CT | Engineering Number:OAA714183_C3_01 | 10/11/2017 10:36:51 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W | 97 mph with No Ice | 28 Iterations

Gust Response Factor :1.10 | Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		378.3	0.0					0.0	0.0	378.3	0.0	0.0	0.0
5.00		752.5	1,469.5					0.0	610.3	752.5	2,079.8	0.0	0.0
10.00		744.5	1,442.5					0.0	610.3	744.5	2,052.8	0.0	0.0
15.00		736.5	1,415.4					0.0	610.3	736.5	2,025.8	0.0	0.0
20.00		547.9	1,388.4					0.0	610.3	547.9	1,998.7	0.0	0.0
22.50	Reinf. Top Reinf	362.3	684.1					0.0	305.2	362.3	989.2	0.0	0.0
25.00		538.9	677.3					0.0	305.2	538.9	982.5	0.0	0.0
30.00		721.0	1,334.3					0.0	610.3	721.0	1,944.6	0.0	0.0
35.00		736.4	1,307.3					0.0	610.3	736.4	1,917.6	0.0	0.0
40.00		647.1	1,280.3					0.0	610.3	647.1	1,890.6	0.0	0.0
43.58	Bot - Section 2	384.6	900.9					0.0	437.4	384.6	1,338.3	0.0	0.0
45.00		476.1	660.0					0.0	172.9	476.1	832.9	0.0	0.0
50.00	Top - Section 1	548.3	2,297.2					120.8	610.3	669.1	2,907.5	0.0	0.0
52.50	Reinf. Top Reinf	367.4	526.8					61.3	305.2	428.7	832.0	0.0	0.0
55.00		552.8	521.0					61.9	305.2	614.7	826.2	0.0	0.0
60.00		738.1	1,024.7					125.6	610.3	863.6	1,635.0	0.0	0.0
65.00	Reinf. Top	738.1	1,001.5					127.7	610.3	865.8	1,611.8	0.0	0.0
70.00		736.4	978.3					129.7	209.5	866.1	1,187.9	0.0	0.0
75.00		733.2	955.2					131.6	209.5	864.8	1,164.7	0.0	0.0
80.00		728.7	932.0					133.4	209.5	862.1	1,141.5	0.0	0.0
85.00		543.5	908.8					135.1	209.5	678.6	1,118.3	0.0	0.0
87.50	Bot - Section 3	363.0	445.8					68.2	104.8	431.2	550.5	0.0	0.0
90.00		400.6	813.5					68.6	104.7	469.1	918.2	0.0	0.0
93.00	Top - Section 2	362.5	962.4					82.8	125.7	445.3	1,088.1	0.0	0.0
95.00		360.0	290.8					55.5	83.8	415.5	374.6	0.0	0.0
98.00	Appertunance(s)	358.4	430.4	138.5	0.0	0.0	102.0	83.7	125.7	580.6	658.1	0.0	0.0
100.00		496.6	283.1					56.1	83.8	552.7	366.9	0.0	0.0
105.00		702.5	694.2					141.3	209.5	843.8	903.7	0.0	0.0
110.00		692.0	674.9					142.6	209.5	834.7	884.4	0.0	0.0
115.00		680.7	655.6					144.0	209.5	824.7	865.1	0.0	0.0
120.00		668.7	636.3					145.3	209.5	813.9	845.8	0.0	0.0
125.00		655.9	617.0					146.5	209.5	802.4	826.5	0.0	0.0
130.00		542.6	597.6					147.7	209.5	690.3	807.2	0.0	0.0
133.42	Bot - Section 4	319.3	397.3					101.6	143.2	420.9	540.5	0.0	0.0
135.00		291.5	310.1					47.3	66.3	338.8	376.5	0.0	0.0
138.00	Top - Section 3	315.4	578.8					89.9	125.7	405.4	704.5	0.0	0.0
140.00		187.5	157.9					60.2	83.8	247.6	241.7	0.0	0.0
141.00	Appertunance(s)	308.0	78.2	3,732.6	0.0	0.0	3,803.6	30.1	41.9	4,070.8	3,923.7	0.0	0.0
145.00		546.0	307.3					66.7	148.4	612.7	455.7	0.0	0.0
150.00		592.4	371.9					83.8	185.5	676.1	557.4	0.0	0.0
155.00		576.0	358.4					84.2	185.5	660.2	543.9	0.0	0.0
160.00		559.1	344.9					84.6	185.5	643.6	530.4	0.0	0.0
165.00		436.2	331.4					84.9	185.5	521.1	516.9	0.0	0.0
168.00	Appertunance(s)	248.8	192.3	3,920.9	0.0	0.0	3,526.1	51.1	111.3	4,220.9	3,829.7	0.0	0.0
170.00		302.4	125.5					0.0	23.6	302.4	149.1	0.0	0.0
175.00		421.2	304.3					0.0	59.0	421.2	363.4	0.0	0.0
180.00		247.1	290.8					0.0	59.0	247.1	349.8	0.0	0.0
181.00	Appertunance(s)	198.8	56.5	3,288.3	0.0	0.0	2,599.2	0.0	11.8	3,487.1	2,667.5	0.0	0.0

Load Case: 1.2D + 1.6W — 97 mph with No Ice — 28 Iterations

Gust Response Factor :1.10 — Wind Importance Factor :1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

185.00	158.4	220.7	0.0	0.0	158.4	220.7	0.0	0.0
			Totals:		38,878.1	55,538.5	0.00	0.00

Site Number: 302537 Code: ANSI/TIA-222-G

Site Name: Middletown CT 3, CT Engineering Number:OAA714183_C3_01 10/11/2017 10:36:52 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W 97 mph with No Ice 28 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-55.47	-38.59	0.00	-4,447.84	0.00	4,447.84	4,727.77	2,363.89	10,057.5	4,967.06	0.00	0.00	0.675
5.00	-53.27	-38.01	0.00	-4,254.88	0.00	4,254.88	4,681.88	2,340.94	9,776.84	4,828.41	0.10	-0.19	0.660
10.00	-51.10	-37.42	0.00	-4,064.84	0.00	4,064.84	4,634.49	2,317.25	9,496.63	4,690.03	0.40	-0.37	0.645
15.00	-48.96	-36.83	0.00	-3,877.72	0.00	3,877.72	4,585.61	2,292.80	9,217.11	4,551.98	0.89	-0.56	0.630
20.00	-46.88	-36.38	0.00	-3,693.57	0.00	3,693.57	4,535.23	2,267.61	8,938.46	4,414.37	1.58	-0.75	0.615
22.50	-45.83	-36.08	0.00	-3,602.63	0.00	3,602.63	4,509.47	2,254.74	8,799.52	4,345.75	2.00	-0.85	0.607
22.50	-45.83	-36.08	0.00	-3,602.63	0.00	3,602.63	4,509.47	2,254.74	8,799.52	4,345.75	2.00	-0.85	0.607
25.00	-44.77	-35.64	0.00	-3,512.44	0.00	3,512.44	4,483.35	2,241.67	8,660.87	4,277.28	2.47	-0.94	0.599
30.00	-42.72	-35.02	0.00	-3,334.26	0.00	3,334.26	4,429.97	2,214.99	8,384.50	4,140.79	3.56	-1.13	0.583
35.00	-40.71	-34.38	0.00	-3,159.16	0.00	3,159.16	4,375.10	2,187.55	8,109.53	4,004.99	4.85	-1.32	0.566
40.00	-38.74	-33.79	0.00	-2,987.28	0.00	2,987.28	4,318.73	2,159.36	7,836.14	3,869.97	6.33	-1.51	0.550
43.58	-37.36	-33.43	0.00	-2,866.18	0.00	2,866.18	4,277.41	2,138.70	7,641.28	3,773.74	7.52	-1.65	0.538
45.00	-36.47	-33.01	0.00	-2,818.82	0.00	2,818.82	4,260.86	2,130.43	7,564.50	3,735.82	8.02	-1.70	0.528
50.00	-33.50	-32.33	0.00	-2,653.76	0.00	2,653.76	3,421.90	1,710.95	6,065.62	2,995.58	9.90	-1.89	0.595
52.50	-32.63	-31.93	0.00	-2,572.93	0.00	2,572.93	3,401.39	1,700.70	5,962.76	2,944.78	10.91	-1.98	0.584
52.50	-32.63	-31.93	0.00	-2,572.93	0.00	2,572.93	3,401.39	1,700.70	5,962.76	2,944.78	10.91	-1.98	0.584
55.00	-31.75	-31.37	0.00	-2,493.10	0.00	2,493.10	3,380.51	1,690.25	5,860.04	2,894.05	11.98	-2.08	0.573
60.00	-30.04	-30.55	0.00	-2,336.23	0.00	2,336.23	3,337.62	1,668.81	5,655.16	2,792.87	14.27	-2.28	0.551
65.00	-28.37	-29.71	0.00	-2,183.49	0.00	2,183.49	3,293.24	1,646.62	5,451.16	2,692.12	16.76	-2.48	0.528
65.00	-28.37	-29.71	0.00	-2,183.49	0.00	2,183.49	3,293.24	1,646.62	5,451.16	2,692.12	16.76	-2.48	0.820
70.00	-27.09	-28.91	0.00	-2,034.91	0.00	2,034.91	3,247.36	1,623.68	5,248.22	2,591.90	19.46	-2.67	0.794
75.00	-25.83	-28.13	0.00	-1,890.35	0.00	1,890.35	3,199.99	1,599.99	5,046.50	2,492.28	22.41	-2.97	0.767
80.00	-24.59	-27.33	0.00	-1,749.71	0.00	1,749.71	3,151.11	1,575.56	4,846.18	2,393.35	25.68	-3.27	0.739
85.00	-23.41	-26.68	0.00	-1,613.05	0.00	1,613.05	3,100.74	1,550.37	4,647.45	2,295.20	29.27	-3.57	0.711
87.50	-22.82	-26.28	0.00	-1,546.34	0.00	1,546.34	3,074.99	1,537.50	4,548.71	2,246.44	31.17	-3.72	0.696
90.00	-21.86	-25.81	0.00	-1,480.66	0.00	1,480.66	3,048.88	1,524.44	4,450.47	2,197.92	33.16	-3.87	0.681
93.00	-20.74	-25.34	0.00	-1,403.22	0.00	1,403.22	2,367.81	1,183.91	3,474.51	1,715.93	35.65	-4.05	0.827
95.00	-20.33	-24.96	0.00	-1,352.54	0.00	1,352.54	2,354.00	1,177.00	3,417.42	1,687.73	37.37	-4.17	0.810
98.00	-19.64	-24.39	0.00	-1,277.66	0.00	1,277.66	2,332.83	1,166.41	3,331.94	1,645.52	40.05	-4.37	0.785
100.00	-19.22	-23.89	0.00	-1,228.88	0.00	1,228.88	2,318.41	1,159.21	3,275.08	1,617.44	41.91	-4.50	0.768
105.00	-18.26	-23.08	0.00	-1,109.44	0.00	1,109.44	2,281.33	1,140.66	3,133.47	1,547.50	46.79	-4.82	0.725
110.00	-17.33	-22.26	0.00	-994.07	0.00	994.07	2,242.75	1,121.37	2,992.76	1,478.01	52.01	-5.14	0.681
115.00	-16.44	-21.45	0.00	-882.77	0.00	882.77	2,202.67	1,101.33	2,853.13	1,409.06	57.55	-5.45	0.634
120.00	-15.57	-20.63	0.00	-775.54	0.00	775.54	2,161.09	1,080.55	2,714.76	1,340.72	63.40	-5.74	0.586
125.00	-14.74	-19.82	0.00	-672.37	0.00	672.37	2,118.02	1,059.01	2,577.82	1,273.09	69.56	-6.02	0.535
130.00	-13.93	-19.10	0.00	-573.27	0.00	573.27	2,073.45	1,036.73	2,442.48	1,206.25	76.00	-6.29	0.482
133.42	-13.40	-18.65	0.00	-508.00	0.00	508.00	2,042.13	1,021.07	2,351.01	1,161.07	80.56	-6.47	0.444
135.00	-13.03	-18.30	0.00	-478.48	0.00	478.48	2,027.39	1,013.69	2,308.93	1,140.29	82.71	-6.54	0.426
138.00	-12.34	-17.84	0.00	-423.58	0.00	423.58	1,223.81	611.90	1,396.77	689.81	86.86	-6.69	0.625
140.00	-12.11	-17.58	0.00	-387.90	0.00	387.90	1,215.85	607.93	1,368.67	675.93	89.68	-6.78	0.585
141.00	-8.66	-13.10	0.00	-370.32	0.00	370.32	1,211.78	605.89	1,354.61	668.99	91.10	-6.83	0.561
145.00	-8.23	-12.47	0.00	-317.94	0.00	317.94	1,194.91	597.45	1,298.35	641.21	96.91	-7.05	0.503
150.00	-7.72	-11.76	0.00	-255.62	0.00	255.62	1,172.46	586.23	1,228.11	606.52	104.41	-7.30	0.428
155.00	-7.23	-11.06	0.00	-196.83	0.00	196.83	1,148.52	574.26	1,158.12	571.95	112.16	-7.52	0.351
160.00	-6.76	-10.37	0.00	-141.55	0.00	141.55	1,123.08	561.54	1,088.54	537.59	120.12	-7.70	0.270
165.00	-6.30	-9.79	0.00	-89.71	0.00	89.71	1,096.15	548.08	1,019.57	503.53	128.24	-7.85	0.184
168.00	-3.08	-5.09	0.00	-60.33	0.00	60.33	1,079.27	539.64	978.54	483.26	133.18	-7.91	0.128
170.00	-2.97	-4.77	0.00	-50.15	0.00	50.15	1,067.72	533.86	951.36	469.84	136.49	-7.94	0.110
175.00	-2.66	-4.31	0.00	-26.29	0.00	26.29	1,037.79	518.90	884.11	436.63	144.81	-8.00	0.063
180.00	-2.35	-4.01	0.00	-4.76	0.00	4.76	1,006.37	503.18	817.98	403.97	153.18	-8.03	0.014
181.00	-0.20	-0.19	0.00	-0.75	0.00	0.75	999.90	499.95	804.90	397.51	154.85	-8.03	0.002

Load Case: 1.2D + 1.6W 97 mph with No Ice 28 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

185.00	0.00	-0.16	0.00	0.00	0.00	0.00	973.45	486.72	753.15	371.95	161.56	-8.03	0.000

Load Case: 0.9D + 1.6W — 97 mph with No Ice (Reduced DL) — 28 Iterations

Gust Response Factor :1.10 — Wind Importance Factor :1.00
Dead Load Factor :0.90
Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		313.3	0.0					0.0	0.0	313.3	0.0	0.0	0.0
5.00		620.9	1,102.1					0.0	457.7	620.9	1,559.9	0.0	0.0
10.00		609.5	1,081.9					0.0	457.7	609.5	1,539.6	0.0	0.0
15.00		598.1	1,061.6					0.0	457.7	598.1	1,519.3	0.0	0.0
20.00		442.1	1,041.3					0.0	457.7	442.1	1,499.0	0.0	0.0
22.50	Reinf. Top Reinf	290.5	513.0					0.0	228.9	290.5	741.9	0.0	0.0
25.00		429.3	508.0					0.0	228.9	429.3	736.8	0.0	0.0
30.00		570.5	1,000.7					0.0	457.7	570.5	1,458.5	0.0	0.0
35.00		577.3	980.5					0.0	457.7	577.3	1,438.2	0.0	0.0
40.00		503.2	960.2					0.0	457.7	503.2	1,417.9	0.0	0.0
43.58	Bot - Section 2	297.3	675.7					0.0	328.0	297.3	1,003.7	0.0	0.0
45.00		450.5	495.0					0.0	129.7	450.5	624.7	0.0	0.0
50.00	Top - Section 1	548.3	1,722.9					120.8	457.7	669.1	2,180.7	0.0	0.0
52.50	Reinf. Top Reinf	367.4	395.1					61.3	228.9	428.7	624.0	0.0	0.0
55.00		552.8	390.8					61.9	228.9	614.7	619.6	0.0	0.0
60.00		738.1	768.5					125.6	457.7	863.6	1,226.3	0.0	0.0
65.00	Reinf. Top	738.1	751.1					127.7	457.7	865.8	1,208.9	0.0	0.0
70.00		736.4	733.8					129.7	157.1	866.1	890.9	0.0	0.0
75.00		733.2	716.4					131.6	157.1	864.8	873.5	0.0	0.0
80.00		728.7	699.0					133.4	157.1	862.1	856.1	0.0	0.0
85.00		543.5	681.6					135.1	157.1	678.6	838.7	0.0	0.0
87.50	Bot - Section 3	363.0	334.3					68.2	78.6	431.2	412.9	0.0	0.0
90.00		400.6	610.1					68.6	78.6	469.1	688.7	0.0	0.0
93.00	Top - Section 2	362.5	721.8					82.8	94.3	445.3	816.1	0.0	0.0
95.00		360.0	218.1					55.5	62.8	415.5	280.9	0.0	0.0
98.00	Appertunance(s)	358.4	322.8	138.5	0.0	0.0	76.5	83.7	94.3	580.6	493.6	0.0	0.0
100.00		496.6	212.3					56.1	62.9	552.7	275.2	0.0	0.0
105.00		702.5	520.7					141.3	157.1	843.8	677.8	0.0	0.0
110.00		692.0	506.2					142.6	157.1	834.7	663.3	0.0	0.0
115.00		680.7	491.7					144.0	157.1	824.7	648.8	0.0	0.0
120.00		668.7	477.2					145.3	157.1	813.9	634.3	0.0	0.0
125.00		655.9	462.7					146.5	157.1	802.4	619.9	0.0	0.0
130.00		542.6	448.2					147.7	157.1	690.3	605.4	0.0	0.0
133.42	Bot - Section 4	319.3	298.0					101.6	107.4	420.9	405.4	0.0	0.0
135.00		291.5	232.6					47.3	49.8	338.8	282.4	0.0	0.0
138.00	Top - Section 3	315.4	434.1					89.9	94.3	405.4	528.4	0.0	0.0
140.00		187.5	118.5					60.2	62.8	247.6	181.3	0.0	0.0
141.00	Appertunance(s)	308.0	58.6	3,732.6	0.0	0.0	2,852.7	30.1	31.4	4,070.8	2,942.8	0.0	0.0
145.00		546.0	230.5					66.7	111.3	612.7	341.8	0.0	0.0
150.00		592.4	278.9					83.8	139.1	676.1	418.1	0.0	0.0
155.00		576.0	268.8					84.2	139.1	660.2	407.9	0.0	0.0
160.00		559.1	258.7					84.6	139.1	643.6	397.8	0.0	0.0
165.00		436.2	248.5					84.9	139.1	521.1	387.7	0.0	0.0
168.00	Appertunance(s)	248.8	144.2	3,920.9	0.0	0.0	2,644.6	51.1	83.5	4,220.9	2,872.3	0.0	0.0
170.00		302.4	94.1					0.0	17.7	302.4	111.8	0.0	0.0
175.00		421.2	228.2					0.0	44.3	421.2	272.5	0.0	0.0
180.00		247.1	218.1					0.0	44.3	247.1	262.4	0.0	0.0
181.00	Appertunance(s)	198.8	42.4	3,288.3	0.0	0.0	1,949.4	0.0	8.9	3,487.1	2,000.7	0.0	0.0

Load Case: 0.9D + 1.6W — 97 mph with No Ice (Reduced DL) — 28 Iterations

Gust Response Factor :1.10 — Wind Importance Factor :1.00
Dead Load Factor :0.90
Wind Load Factor :1.60

185.00	158.4	165.6	0.0	0.0	158.4	165.6	0.0	0.0
			Totals:		37,554.5	41,653.9	0.00	0.00

Site Number: 302537 | Code: ANSI/TIA-222-G |

Site Name: Middletown CT 3, CT | Engineering Number:OAA714183_C3_01 | 10/11/2017 10:36:54 AM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W — 97 mph with No Ice (Reduced DL) — 28 Iterations

Gust Response Factor :1.10 — Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-41.59	-37.31	0.00	-4,359.26	0.00	4,359.26	4,727.77	2,363.89	10,057.5	4,967.06	0.00	0.00	0.659
5.00	-39.92	-36.81	0.00	-4,172.71	0.00	4,172.71	4,681.88	2,340.94	9,776.84	4,828.41	0.10	-0.18	0.645
10.00	-38.26	-36.32	0.00	-3,988.65	0.00	3,988.65	4,634.49	2,317.25	9,496.63	4,690.03	0.39	-0.37	0.631
15.00	-36.63	-35.83	0.00	-3,807.05	0.00	3,807.05	4,585.61	2,292.80	9,217.11	4,551.98	0.87	-0.55	0.617
20.00	-35.05	-35.45	0.00	-3,627.91	0.00	3,627.91	4,535.23	2,267.61	8,938.46	4,414.37	1.55	-0.74	0.602
22.50	-34.26	-35.21	0.00	-3,539.28	0.00	3,539.28	4,509.47	2,254.74	8,799.52	4,345.75	1.96	-0.83	0.594
22.50	-34.26	-35.21	0.00	-3,539.28	0.00	3,539.28	4,509.47	2,254.74	8,799.52	4,345.75	1.96	-0.83	0.594
25.00	-33.44	-34.85	0.00	-3,451.26	0.00	3,451.26	4,483.35	2,241.67	8,660.87	4,277.28	2.42	-0.92	0.587
30.00	-31.88	-34.36	0.00	-3,277.00	0.00	3,277.00	4,429.97	2,214.99	8,384.50	4,140.79	3.49	-1.11	0.571
35.00	-30.35	-33.85	0.00	-3,105.21	0.00	3,105.21	4,375.10	2,187.55	8,109.53	4,004.99	4.76	-1.30	0.555
40.00	-28.85	-33.39	0.00	-2,935.96	0.00	2,935.96	4,318.73	2,159.36	7,836.14	3,869.97	6.21	-1.48	0.539
43.58	-27.80	-33.11	0.00	-2,816.30	0.00	2,816.30	4,277.41	2,138.70	7,641.28	3,773.74	7.38	-1.62	0.527
45.00	-27.12	-32.70	0.00	-2,769.39	0.00	2,769.39	4,260.86	2,130.43	7,564.50	3,735.82	7.87	-1.67	0.517
50.00	-24.88	-32.03	0.00	-2,605.87	0.00	2,605.87	3,421.90	1,710.95	6,065.62	2,995.58	9.72	-1.85	0.583
52.50	-24.22	-31.62	0.00	-2,525.81	0.00	2,525.81	3,401.39	1,700.70	5,962.76	2,944.78	10.71	-1.95	0.572
52.50	-24.22	-31.62	0.00	-2,525.81	0.00	2,525.81	3,401.39	1,700.70	5,962.76	2,944.78	10.71	-1.95	0.572
55.00	-23.54	-31.04	0.00	-2,446.76	0.00	2,446.76	3,380.51	1,690.25	5,860.04	2,894.05	11.76	-2.05	0.561
60.00	-22.25	-30.21	0.00	-2,291.55	0.00	2,291.55	3,337.62	1,668.81	5,655.16	2,792.87	14.01	-2.24	0.539
65.00	-20.98	-29.36	0.00	-2,140.51	0.00	2,140.51	3,293.24	1,646.62	5,451.16	2,692.12	16.46	-2.43	0.517
65.00	-20.98	-29.36	0.00	-2,140.51	0.00	2,140.51	3,293.24	1,646.62	5,451.16	2,692.12	16.46	-2.43	0.802
70.00	-20.01	-28.54	0.00	-1,993.69	0.00	1,993.69	3,247.36	1,623.68	5,248.22	2,591.90	19.10	-2.62	0.776
75.00	-19.03	-27.74	0.00	-1,850.97	0.00	1,850.97	3,199.99	1,599.99	5,046.50	2,492.28	22.00	-2.92	0.749
80.00	-18.09	-26.92	0.00	-1,712.29	0.00	1,712.29	3,151.11	1,575.56	4,846.18	2,393.35	25.21	-3.21	0.721
85.00	-17.19	-26.26	0.00	-1,577.68	0.00	1,577.68	3,100.74	1,550.37	4,647.45	2,295.20	28.73	-3.50	0.693
87.50	-16.74	-25.85	0.00	-1,512.02	0.00	1,512.02	3,074.99	1,537.50	4,548.71	2,246.44	30.60	-3.65	0.679
90.00	-16.01	-25.38	0.00	-1,447.40	0.00	1,447.40	3,048.88	1,524.44	4,450.47	2,197.92	32.55	-3.80	0.664
93.00	-15.16	-24.92	0.00	-1,371.25	0.00	1,371.25	2,367.81	1,183.91	3,474.51	1,715.93	34.99	-3.97	0.806
95.00	-14.85	-24.53	0.00	-1,321.42	0.00	1,321.42	2,354.00	1,177.00	3,417.42	1,687.73	36.68	-4.09	0.790
98.00	-14.33	-23.95	0.00	-1,247.84	0.00	1,247.84	2,332.83	1,166.41	3,331.94	1,645.52	39.31	-4.28	0.765
100.00	-14.00	-23.44	0.00	-1,199.94	0.00	1,199.94	2,318.41	1,159.21	3,275.08	1,617.44	41.13	-4.41	0.748
105.00	-13.27	-22.61	0.00	-1,082.76	0.00	1,082.76	2,281.33	1,140.66	3,133.47	1,547.50	45.91	-4.73	0.706
110.00	-12.57	-21.79	0.00	-969.70	0.00	969.70	2,242.75	1,121.37	2,992.76	1,478.01	51.03	-5.04	0.662
115.00	-11.89	-20.97	0.00	-860.74	0.00	860.74	2,202.67	1,101.33	2,853.13	1,409.06	56.45	-5.33	0.617
120.00	-11.24	-20.16	0.00	-755.88	0.00	755.88	2,161.09	1,080.55	2,714.76	1,340.72	62.19	-5.62	0.569
125.00	-10.61	-19.35	0.00	-655.10	0.00	655.10	2,118.02	1,059.01	2,577.82	1,273.09	68.21	-5.90	0.520
130.00	-10.01	-18.63	0.00	-558.36	0.00	558.36	2,073.45	1,036.73	2,442.48	1,206.25	74.52	-6.16	0.468
133.42	-9.61	-18.19	0.00	-494.69	0.00	494.69	2,042.13	1,021.07	2,351.01	1,161.07	78.98	-6.33	0.431
135.00	-9.34	-17.84	0.00	-465.90	0.00	465.90	2,027.39	1,013.69	2,308.93	1,140.29	81.09	-6.40	0.413
138.00	-8.82	-17.40	0.00	-412.37	0.00	412.37	1,223.81	611.90	1,396.77	689.81	85.15	-6.54	0.606
140.00	-8.65	-17.14	0.00	-377.58	0.00	377.58	1,215.85	607.93	1,368.67	675.93	87.90	-6.63	0.567
141.00	-6.17	-12.77	0.00	-360.44	0.00	360.44	1,211.78	605.89	1,354.61	668.99	89.30	-6.69	0.544
145.00	-5.85	-12.15	0.00	-309.36	0.00	309.36	1,194.91	597.45	1,298.35	641.21	94.98	-6.90	0.488
150.00	-5.48	-11.45	0.00	-248.63	0.00	248.63	1,172.46	586.23	1,228.11	606.52	102.32	-7.14	0.415
155.00	-5.12	-10.76	0.00	-191.40	0.00	191.40	1,148.52	574.26	1,158.12	571.95	109.90	-7.35	0.339
160.00	-4.78	-10.08	0.00	-137.62	0.00	137.62	1,123.08	561.54	1,088.54	537.59	117.68	-7.53	0.261
165.00	-4.45	-9.52	0.00	-87.23	0.00	87.23	1,096.15	548.08	1,019.57	503.53	125.62	-7.67	0.178
168.00	-2.17	-4.95	0.00	-58.67	0.00	58.67	1,079.27	539.64	978.54	483.26	130.45	-7.73	0.123
170.00	-2.09	-4.64	0.00	-48.76	0.00	48.76	1,067.72	533.86	951.36	469.84	133.69	-7.76	0.106
175.00	-1.88	-4.19	0.00	-25.56	0.00	25.56	1,037.79	518.90	884.11	436.63	141.82	-7.82	0.060
180.00	-1.65	-3.91	0.00	-4.62	0.00	4.62	1,006.37	503.18	817.98	403.97	150.01	-7.85	0.013
181.00	-0.14	-0.18	0.00	-0.72	0.00	0.72	999.90	499.95	804.90	397.51	151.64	-7.85	0.002

Load Case: 0.9D + 1.6W — 97 mph with No Ice (Reduced DL) — 28 Iterations

Gust Response Factor :1.10 — Wind Importance Factor :1.00
Dead Load Factor :0.90
Wind Load Factor :1.60

185.00	0.00	-0.16	0.00	0.00	0.00	0.00	973.45	486.72	753.15	371.95	158.20	-7.85	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 1.00 in Radial Ice — 27 Iterations

Gust Response Factor :1.10 — Ice Dead Load Factor :1.00 — Wind Importance Factor :1.00
Dead Load Factor :1.20 — Ice Importance Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		66.1	0.0					0.0	0.0	66.1	0.0	0.0	0.0
5.00		131.4	1,995.9					0.0	898.2	131.4	2,894.0	0.0	0.0
10.00		129.7	2,021.4					0.0	935.8	129.7	2,957.2	0.0	0.0
15.00		127.8	2,014.6					0.0	955.4	127.8	2,970.0	0.0	0.0
20.00		94.7	1,997.4					0.0	969.1	94.7	2,966.5	0.0	0.0
22.50	Reinf. Top Reinf	62.4	991.8					0.0	488.6	62.4	1,480.5	0.0	0.0
25.00		92.4	985.7					0.0	491.0	92.4	1,476.7	0.0	0.0
30.00		123.1	1,948.6					0.0	988.5	123.1	2,937.1	0.0	0.0
35.00		124.9	1,920.2					0.0	996.0	124.9	2,916.2	0.0	0.0
40.00		109.1	1,890.0					0.0	1,002.6	109.1	2,892.6	0.0	0.0
43.58	Bot - Section 2	64.5	1,336.4					0.0	722.1	64.5	2,058.6	0.0	0.0
45.00		84.7	835.1					0.0	286.3	84.7	1,121.3	0.0	0.0
50.00	Top - Section 1	99.5	2,907.0					46.3	1,013.7	145.7	3,920.7	0.0	0.0
52.50	Reinf. Top Reinf	66.8	831.0					23.7	508.7	90.5	1,339.6	0.0	0.0
55.00		100.7	823.5					24.1	509.9	124.8	1,333.3	0.0	0.0
60.00		134.7	1,621.0					49.3	1,023.0	184.0	2,644.0	0.0	0.0
65.00	Reinf. Top	135.1	1,590.0					50.7	1,027.1	185.8	2,617.2	0.0	0.0
70.00		135.2	1,558.5					52.0	630.2	187.2	2,188.8	0.0	0.0
75.00		135.0	1,526.5					53.3	625.9	188.3	2,152.5	0.0	0.0
80.00		134.6	1,494.1					54.5	608.3	189.1	2,102.4	0.0	0.0
85.00		100.6	1,461.3					55.6	611.1	156.2	2,072.4	0.0	0.0
87.50	Bot - Section 3	67.3	720.0					28.2	306.6	95.5	1,026.6	0.0	0.0
90.00		74.3	1,089.6					28.5	307.2	102.8	1,396.8	0.0	0.0
93.00	Top - Section 2	67.4	1,290.0					34.6	369.6	101.9	1,659.6	0.0	0.0
95.00		67.0	507.6					23.2	246.8	90.3	754.4	0.0	0.0
98.00	Appertunance(s)	66.8	751.7	30.9	0.0	0.0	103.2	35.2	371.1	132.9	1,225.9	0.0	0.0
100.00		92.9	495.7					23.7	247.9	116.5	743.5	0.0	0.0
105.00		131.7	1,214.0					59.8	621.3	191.6	1,835.3	0.0	0.0
110.00		130.2	1,183.6					60.8	623.6	191.0	1,807.2	0.0	0.0
115.00		128.6	1,153.0					61.7	625.8	190.4	1,778.7	0.0	0.0
120.00		126.9	1,122.1					62.6	627.9	189.5	1,750.0	0.0	0.0
125.00		125.0	1,091.1					63.5	629.9	188.5	1,720.9	0.0	0.0
130.00		103.8	1,059.8					64.4	631.8	168.2	1,691.7	0.0	0.0
133.42	Bot - Section 4	61.3	707.8					44.5	432.9	105.7	1,140.6	0.0	0.0
135.00		56.0	454.9					20.7	200.8	76.8	655.7	0.0	0.0
138.00	Top - Section 3	60.7	848.6					39.5	381.2	100.3	1,229.8	0.0	0.0
140.00		36.2	335.9					26.5	254.4	62.7	590.3	0.0	0.0
141.00	Appertunance(s)	59.6	166.7	945.2	0.0	0.0	7,928.4	13.3	127.3	1,018.1	8,222.4	0.0	0.0
145.00		106.0	653.0					31.0	417.0	137.0	1,070.0	0.0	0.0
150.00		115.6	791.3					39.1	522.5	154.7	1,313.8	0.0	0.0
155.00		113.1	765.1					39.5	523.7	152.7	1,288.9	0.0	0.0
160.00		110.5	738.8					39.9	525.0	150.5	1,263.7	0.0	0.0
165.00		86.7	712.3					40.4	526.1	127.1	1,238.5	0.0	0.0
168.00	Appertunance(s)	53.3	416.4	1,050.5	0.0	0.0	8,055.7	24.4	316.2	1,128.2	8,788.3	0.0	0.0
170.00		73.0	272.8					0.0	23.6	73.0	296.4	0.0	0.0
175.00		102.3	659.0					0.0	59.0	102.3	718.1	0.0	0.0
180.00		60.3	632.2					0.0	59.0	60.3	691.2	0.0	0.0
181.00	Appertunance(s)	48.9	124.4	848.5	0.0	0.0	6,040.1	0.0	11.8	897.4	6,176.2	0.0	0.0

Site Number:	**302537**	**Code: ANSI/TIA-222-G**	
Site Name:	**Middletown CT 3, CT**	**Engineering Number:OAA714183_C3_01**	**10/11/2017 10:36:56 AM**
Customer:	**AT&T MOBILITY**		

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 1.00 in Radial Ice — 27 Iterations

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

Dead Load Factor :1.20 — Ice Importance Factor :1.00

Wind Load Factor :1.00

185.00	39.0	483.2	0.0	0.0	39.0	483.2	0.0	0.0
			Totals:		8,807.37	99,599.4	0.00	0.00

Site Number: 302537 Code: ANSI/TIA-222-G

Site Name: Middletown CT 3, CT Engineering Number:OAA714183_C3_01 10/11/2017 10:36:56 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 27 Iterations

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

Dead Load Factor :1.20 Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-99.60	-8.78	0.00	-1,146.06	0.00	1,146.06	4,727.77	2,363.89	10,057.5	4,967.06	0.00	0.00	0.188
5.00	-96.69	-8.73	0.00	-1,102.14	0.00	1,102.14	4,681.88	2,340.94	9,776.84	4,828.41	0.03	-0.05	0.185
10.00	-93.73	-8.68	0.00	-1,058.48	0.00	1,058.48	4,634.49	2,317.25	9,496.63	4,690.03	0.10	-0.10	0.182
15.00	-90.75	-8.62	0.00	-1,015.08	0.00	1,015.08	4,585.61	2,292.80	9,217.11	4,551.98	0.23	-0.15	0.178
20.00	-87.78	-8.58	0.00	-971.97	0.00	971.97	4,535.23	2,267.61	8,938.46	4,414.37	0.41	-0.20	0.175
22.50	-86.30	-8.55	0.00	-950.53	0.00	950.53	4,509.47	2,254.74	8,799.52	4,345.75	0.52	-0.22	0.173
22.50	-86.30	-8.55	0.00	-950.53	0.00	950.53	4,509.47	2,254.74	8,799.52	4,345.75	0.52	-0.22	0.173
25.00	-84.82	-8.50	0.00	-929.16	0.00	929.16	4,483.35	2,241.67	8,660.87	4,277.28	0.64	-0.25	0.171
30.00	-81.87	-8.44	0.00	-886.64	0.00	886.64	4,429.97	2,214.99	8,384.50	4,140.79	0.93	-0.30	0.167
35.00	-78.95	-8.37	0.00	-844.45	0.00	844.45	4,375.10	2,187.55	8,109.53	4,004.99	1.26	-0.35	0.163
40.00	-76.05	-8.30	0.00	-802.61	0.00	802.61	4,318.73	2,159.36	7,836.14	3,869.97	1.65	-0.40	0.159
43.58	-73.99	-8.25	0.00	-772.88	0.00	772.88	4,277.41	2,138.70	7,641.28	3,773.74	1.97	-0.43	0.156
45.00	-72.86	-8.20	0.00	-761.19	0.00	761.19	4,260.86	2,130.43	7,564.50	3,735.82	2.10	-0.45	0.154
50.00	-68.94	-8.07	0.00	-720.19	0.00	720.19	3,421.90	1,710.95	6,065.62	2,995.58	2.60	-0.50	0.174
52.50	-67.60	-8.00	0.00	-700.02	0.00	700.02	3,401.39	1,700.70	5,962.76	2,944.78	2.86	-0.53	0.171
52.50	-67.60	-8.00	0.00	-700.02	0.00	700.02	3,401.39	1,700.70	5,962.76	2,944.78	2.86	-0.53	0.171
55.00	-66.26	-7.91	0.00	-680.03	0.00	680.03	3,380.51	1,690.25	5,860.04	2,894.05	3.15	-0.55	0.169
60.00	-63.61	-7.76	0.00	-640.50	0.00	640.50	3,337.62	1,668.81	5,655.16	2,792.87	3.75	-0.61	0.163
65.00	-60.99	-7.60	0.00	-601.72	0.00	601.72	3,293.24	1,646.62	5,451.16	2,692.12	4.42	-0.66	0.157
65.00	-60.99	-7.60	0.00	-601.72	0.00	601.72	3,293.24	1,646.62	5,451.16	2,692.12	4.42	-0.66	0.242
70.00	-58.79	-7.45	0.00	-563.74	0.00	563.74	3,247.36	1,623.68	5,248.22	2,591.90	5.14	-0.71	0.236
75.00	-56.63	-7.32	0.00	-526.46	0.00	526.46	3,199.99	1,599.99	5,046.50	2,492.28	5.93	-0.80	0.229
80.00	-54.52	-7.18	0.00	-489.86	0.00	489.86	3,151.11	1,575.56	4,846.18	2,393.35	6.81	-0.88	0.222
85.00	-52.44	-7.05	0.00	-453.96	0.00	453.96	3,100.74	1,550.37	4,647.45	2,295.20	7.78	-0.96	0.215
87.50	-51.41	-6.97	0.00	-436.34	0.00	436.34	3,074.99	1,537.50	4,548.71	2,246.44	8.29	-1.01	0.211
90.00	-50.01	-6.89	0.00	-418.91	0.00	418.91	3,048.88	1,524.44	4,450.47	2,197.92	8.83	-1.05	0.207
93.00	-48.35	-6.79	0.00	-398.25	0.00	398.25	2,367.81	1,183.91	3,474.51	1,715.93	9.51	-1.10	0.253
95.00	-47.59	-6.72	0.00	-384.67	0.00	384.67	2,354.00	1,177.00	3,417.42	1,687.73	9.98	-1.13	0.248
98.00	-46.37	-6.60	0.00	-364.51	0.00	364.51	2,332.83	1,166.41	3,331.94	1,645.52	10.71	-1.19	0.241
100.00	-45.62	-6.52	0.00	-351.30	0.00	351.30	2,318.41	1,159.21	3,275.08	1,617.44	11.22	-1.23	0.237
105.00	-43.78	-6.36	0.00	-318.69	0.00	318.69	2,281.33	1,140.66	3,133.47	1,547.50	12.55	-1.32	0.225
110.00	-41.96	-6.19	0.00	-286.89	0.00	286.89	2,242.75	1,121.37	2,992.76	1,478.01	13.99	-1.41	0.213
115.00	-40.18	-6.02	0.00	-255.93	0.00	255.93	2,202.67	1,101.33	2,853.13	1,409.06	15.51	-1.50	0.200
120.00	-38.43	-5.84	0.00	-225.85	0.00	225.85	2,161.09	1,080.55	2,714.76	1,340.72	17.13	-1.59	0.186
125.00	-36.71	-5.65	0.00	-196.66	0.00	196.66	2,118.02	1,059.01	2,577.82	1,273.09	18.84	-1.67	0.172
130.00	-35.01	-5.47	0.00	-168.41	0.00	168.41	2,073.45	1,036.73	2,442.48	1,206.25	20.63	-1.75	0.157
133.42	-33.87	-5.35	0.00	-149.71	0.00	149.71	2,042.13	1,021.07	2,351.01	1,161.07	21.90	-1.80	0.146
135.00	-33.22	-5.27	0.00	-141.24	0.00	141.24	2,027.39	1,013.69	2,308.93	1,140.29	22.50	-1.82	0.140
138.00	-31.99	-5.15	0.00	-125.41	0.00	125.41	1,223.81	611.90	1,396.77	689.81	23.66	-1.86	0.208
140.00	-31.40	-5.08	0.00	-115.11	0.00	115.11	1,215.85	607.93	1,368.67	675.93	24.45	-1.89	0.196
141.00	-23.21	-3.81	0.00	-110.02	0.00	110.02	1,211.78	605.89	1,354.61	668.99	24.84	-1.91	0.184
145.00	-22.14	-3.66	0.00	-94.78	0.00	94.78	1,194.91	597.45	1,298.35	641.21	26.47	-1.97	0.166
150.00	-20.83	-3.49	0.00	-76.46	0.00	76.46	1,172.46	586.23	1,228.11	606.52	28.58	-2.05	0.144
155.00	-19.55	-3.31	0.00	-59.01	0.00	59.01	1,148.52	574.26	1,158.12	571.95	30.76	-2.11	0.120
160.00	-18.29	-3.13	0.00	-42.46	0.00	42.46	1,123.08	561.54	1,088.54	537.59	33.00	-2.17	0.095
165.00	-17.05	-2.96	0.00	-26.82	0.00	26.82	1,096.15	548.08	1,019.57	503.53	35.30	-2.21	0.069
168.00	-8.31	-1.50	0.00	-17.93	0.00	17.93	1,079.27	539.64	978.54	483.26	36.69	-2.23	0.045
170.00	-8.02	-1.41	0.00	-14.93	0.00	14.93	1,067.72	533.86	951.36	469.84	37.63	-2.24	0.039
175.00	-7.31	-1.29	0.00	-7.86	0.00	7.86	1,037.79	518.90	884.11	436.63	39.98	-2.26	0.025
180.00	-6.62	-1.20	0.00	-1.43	0.00	1.43	1,006.37	503.18	817.98	403.97	42.35	-2.26	0.010
181.00	-0.48	-0.06	0.00	-0.23	0.00	0.23	999.90	499.95	804.90	397.51	42.82	-2.27	0.001

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 27 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00
Dead Load Factor :1.20 Ice Importance Factor :1.00
Wind Load Factor :1.00

185.00	0.00	-0.04	0.00	0.00	0.00	0.00	973.45	486.72	753.15	371.95	44.72	-2.27	0.000

Load Case: 1.0D + 1.0W Serviceability 60 mph 26 Iterations

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

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		74.9	0.0					0.0	0.0	74.9	0.0	0.0	0.0
5.00		148.5	1,224.6					0.0	508.6	148.5	1,733.2	0.0	0.0
10.00		145.8	1,202.1					0.0	508.6	145.8	1,710.7	0.0	0.0
15.00		143.0	1,179.5					0.0	508.6	143.0	1,688.1	0.0	0.0
20.00		105.7	1,157.0					0.0	508.6	105.7	1,665.6	0.0	0.0
22.50	Reinf. Top Reinf	69.5	570.1					0.0	254.3	69.5	824.4	0.0	0.0
25.00		102.6	564.4					0.0	254.3	102.6	818.7	0.0	0.0
30.00		136.4	1,111.9					0.0	508.6	136.4	1,620.5	0.0	0.0
35.00		138.0	1,089.4					0.0	508.6	138.0	1,598.0	0.0	0.0
40.00		120.3	1,066.9					0.0	508.6	120.3	1,575.5	0.0	0.0
43.58	Bot - Section 2	71.1	750.7					0.0	364.5	71.1	1,115.2	0.0	0.0
45.00		107.7	550.0					0.0	144.1	107.7	694.1	0.0	0.0
50.00	Top - Section 1	131.1	1,914.3					34.7	508.6	165.8	2,422.9	0.0	0.0
52.50	Reinf. Top Reinf	87.9	439.0					17.7	254.3	105.6	693.3	0.0	0.0
55.00		132.2	434.2					18.0	254.3	150.2	688.5	0.0	0.0
60.00		176.5	853.9					36.6	508.6	213.1	1,362.5	0.0	0.0
65.00	Reinf. Top	176.5	834.6					37.5	508.6	214.0	1,343.2	0.0	0.0
70.00		176.1	815.3					38.4	174.6	214.5	989.9	0.0	0.0
75.00		175.3	796.0					39.2	174.6	214.5	970.6	0.0	0.0
80.00		174.3	776.7					39.9	174.6	214.2	951.3	0.0	0.0
85.00		130.0	757.3					40.6	174.6	170.6	931.9	0.0	0.0
87.50	Bot - Section 3	86.8	371.5					20.6	87.3	107.4	458.8	0.0	0.0
90.00		95.8	677.9					20.7	87.3	116.5	765.2	0.0	0.0
93.00	Top - Section 2	86.7	802.0					25.1	104.8	111.8	906.8	0.0	0.0
95.00		86.1	242.3					16.9	69.8	103.0	312.1	0.0	0.0
98.00	Appertunance(s)	85.7	358.7	33.1	0.0	0.0	85.0	25.5	104.8	144.3	548.5	0.0	0.0
100.00		118.8	235.9					17.1	69.8	135.9	305.8	0.0	0.0
105.00		168.0	578.5					43.2	174.6	211.2	753.1	0.0	0.0
110.00		165.5	562.4					43.8	174.6	209.3	737.0	0.0	0.0
115.00		162.8	546.3					44.4	174.6	207.2	720.9	0.0	0.0
120.00		159.9	530.2					44.9	174.6	204.8	704.8	0.0	0.0
125.00		156.8	514.1					45.5	174.6	202.3	688.7	0.0	0.0
130.00		129.7	498.0					46.0	174.6	175.8	672.6	0.0	0.0
133.42	Bot - Section 4	76.4	331.1					31.7	119.3	108.1	450.4	0.0	0.0
135.00		69.7	258.4					14.8	55.3	84.5	313.7	0.0	0.0
138.00	Top - Section 3	75.4	482.3					28.2	104.8	103.6	587.1	0.0	0.0
140.00		44.8	131.6					18.9	69.8	63.7	201.4	0.0	0.0
141.00	Appertunance(s)	73.6	65.1	892.6	0.0	0.0	3,169.7	9.5	34.9	975.7	3,269.8	0.0	0.0
145.00		130.6	256.1					25.0	123.7	155.6	379.7	0.0	0.0
150.00		141.7	309.9					31.6	154.6	173.2	464.5	0.0	0.0
155.00		137.7	298.7					31.9	154.6	169.6	453.3	0.0	0.0
160.00		133.7	287.4					32.2	154.6	165.9	442.0	0.0	0.0
165.00		104.3	276.1					32.5	154.6	136.8	430.7	0.0	0.0
168.00	Appertunance(s)	59.5	160.3	937.6	0.0	0.0	2,938.4	19.6	92.8	1,016.8	3,191.4	0.0	0.0
170.00		72.3	104.6					0.0	19.7	72.3	124.3	0.0	0.0
175.00		100.7	253.6					0.0	49.2	100.7	302.8	0.0	0.0
180.00		59.1	242.3					0.0	49.2	59.1	291.5	0.0	0.0
181.00	Appertunance(s)	47.5	47.1	786.3	0.0	0.0	2,166.0	0.0	9.8	833.9	2,223.0	0.0	0.0

Load Case: 1.0D + 1.0W Serviceability 60 mph 26 Iterations

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

185.00	37.9	184.0	0.0	0.0	37.9	184.0	0.0	0.0
				Totals:	9,212.90	46,282.1	0.00	0.00

Site Number: 302537 Code: ANSI/TIA-222-G

Site Name: Middletown CT 3, CT Engineering Number:OAA714183_C3_01 10/11/2017 10:36:58 AM

Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W Serviceability 60 mph 26 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-46.28	-9.16	0.00	-1,076.91	0.00	1,076.91	4,727.77	2,363.89	10,057.5	4,967.06	0.00	0.00	0.169
5.00	-44.54	-9.04	0.00	-1,031.13	0.00	1,031.13	4,681.88	2,340.94	9,776.84	4,828.41	0.02	-0.05	0.165
10.00	-42.82	-8.93	0.00	-985.92	0.00	985.92	4,634.49	2,317.25	9,496.63	4,690.03	0.10	-0.09	0.162
15.00	-41.13	-8.81	0.00	-941.28	0.00	941.28	4,585.61	2,292.80	9,217.11	4,551.98	0.22	-0.14	0.158
20.00	-39.46	-8.73	0.00	-897.21	0.00	897.21	4,535.23	2,267.61	8,938.46	4,414.37	0.38	-0.18	0.154
22.50	-38.63	-8.67	0.00	-875.39	0.00	875.39	4,509.47	2,254.74	8,799.52	4,345.75	0.48	-0.21	0.152
22.50	-38.63	-8.67	0.00	-875.39	0.00	875.39	4,509.47	2,254.74	8,799.52	4,345.75	0.48	-0.21	0.152
25.00	-37.80	-8.59	0.00	-853.72	0.00	853.72	4,483.35	2,241.67	8,660.87	4,277.28	0.60	-0.23	0.150
30.00	-36.18	-8.47	0.00	-810.77	0.00	810.77	4,429.97	2,214.99	8,384.50	4,140.79	0.86	-0.27	0.146
35.00	-34.57	-8.36	0.00	-768.41	0.00	768.41	4,375.10	2,187.55	8,109.53	4,004.99	1.18	-0.32	0.142
40.00	-32.99	-8.25	0.00	-726.63	0.00	726.63	4,318.73	2,159.36	7,836.14	3,869.97	1.54	-0.37	0.138
43.58	-31.87	-8.18	0.00	-697.07	0.00	697.07	4,277.41	2,138.70	7,641.28	3,773.74	1.82	-0.40	0.135
45.00	-31.18	-8.09	0.00	-685.48	0.00	685.48	4,260.86	2,130.43	7,564.50	3,735.82	1.95	-0.41	0.132
50.00	-28.75	-7.92	0.00	-645.05	0.00	645.05	3,421.90	1,710.95	6,065.62	2,995.58	2.40	-0.46	0.149
52.50	-28.06	-7.82	0.00	-625.26	0.00	625.26	3,401.39	1,700.70	5,962.76	2,944.78	2.65	-0.48	0.146
52.50	-28.06	-7.82	0.00	-625.26	0.00	625.26	3,401.39	1,700.70	5,962.76	2,944.78	2.65	-0.48	0.146
55.00	-27.36	-7.68	0.00	-605.71	0.00	605.71	3,380.51	1,690.25	5,860.04	2,894.05	2.91	-0.51	0.143
60.00	-26.00	-7.48	0.00	-567.31	0.00	567.31	3,337.62	1,668.81	5,655.16	2,792.87	3.46	-0.55	0.138
65.00	-24.65	-7.27	0.00	-529.92	0.00	529.92	3,293.24	1,646.62	5,451.16	2,692.12	4.07	-0.60	0.132
65.00	-24.65	-7.27	0.00	-529.92	0.00	529.92	3,293.24	1,646.62	5,451.16	2,692.12	4.07	-0.60	0.204
70.00	-23.65	-7.07	0.00	-493.58	0.00	493.58	3,247.36	1,623.68	5,248.22	2,591.90	4.73	-0.65	0.198
75.00	-22.68	-6.87	0.00	-458.24	0.00	458.24	3,199.99	1,599.99	5,046.50	2,492.28	5.44	-0.72	0.191
80.00	-21.72	-6.67	0.00	-423.88	0.00	423.88	3,151.11	1,575.56	4,846.18	2,393.35	6.24	-0.79	0.184
85.00	-20.79	-6.51	0.00	-390.52	0.00	390.52	3,100.74	1,550.37	4,647.45	2,295.20	7.11	-0.87	0.177
87.50	-20.32	-6.41	0.00	-374.25	0.00	374.25	3,074.99	1,537.50	4,548.71	2,246.44	7.57	-0.90	0.173
90.00	-19.56	-6.29	0.00	-358.24	0.00	358.24	3,048.88	1,524.44	4,450.47	2,197.92	8.05	-0.94	0.169
93.00	-18.65	-6.18	0.00	-339.36	0.00	339.36	2,367.81	1,183.91	3,474.51	1,715.93	8.66	-0.98	0.206
95.00	-18.33	-6.08	0.00	-327.01	0.00	327.01	2,354.00	1,177.00	3,417.42	1,687.73	9.08	-1.01	0.202
98.00	-17.78	-5.94	0.00	-308.77	0.00	308.77	2,332.83	1,166.41	3,331.94	1,645.52	9.73	-1.06	0.195
100.00	-17.48	-5.81	0.00	-296.90	0.00	296.90	2,318.41	1,159.21	3,275.08	1,617.44	10.18	-1.09	0.191
105.00	-16.72	-5.61	0.00	-267.83	0.00	267.83	2,281.33	1,140.66	3,133.47	1,547.50	11.36	-1.17	0.180
110.00	-15.98	-5.41	0.00	-239.78	0.00	239.78	2,242.75	1,121.37	2,992.76	1,478.01	12.63	-1.25	0.169
115.00	-15.26	-5.20	0.00	-212.75	0.00	212.75	2,202.67	1,101.33	2,853.13	1,409.06	13.97	-1.32	0.158
120.00	-14.55	-5.00	0.00	-186.74	0.00	186.74	2,161.09	1,080.55	2,714.76	1,340.72	15.40	-1.39	0.146
125.00	-13.86	-4.79	0.00	-161.75	0.00	161.75	2,118.02	1,059.01	2,577.82	1,273.09	16.89	-1.46	0.134
130.00	-13.19	-4.61	0.00	-137.78	0.00	137.78	2,073.45	1,036.73	2,442.48	1,206.25	18.45	-1.52	0.121
133.42	-12.74	-4.50	0.00	-122.01	0.00	122.01	2,042.13	1,021.07	2,351.01	1,161.07	19.56	-1.57	0.111
135.00	-12.43	-4.41	0.00	-114.89	0.00	114.89	2,027.39	1,013.69	2,308.93	1,140.29	20.08	-1.58	0.107
138.00	-11.84	-4.30	0.00	-101.65	0.00	101.65	1,223.81	611.90	1,396.77	689.81	21.09	-1.62	0.157
140.00	-11.64	-4.23	0.00	-93.05	0.00	93.05	1,215.85	607.93	1,368.67	675.93	21.77	-1.64	0.147
141.00	-8.40	-3.17	0.00	-88.82	0.00	88.82	1,211.78	605.89	1,354.61	668.99	22.11	-1.65	0.140
145.00	-8.02	-3.01	0.00	-76.14	0.00	76.14	1,194.91	597.45	1,298.35	641.21	23.52	-1.71	0.125
150.00	-7.56	-2.83	0.00	-61.09	0.00	61.09	1,172.46	586.23	1,228.11	606.52	25.34	-1.77	0.107
155.00	-7.11	-2.65	0.00	-46.94	0.00	46.94	1,148.52	574.26	1,158.12	571.95	27.22	-1.82	0.088
160.00	-6.67	-2.48	0.00	-33.68	0.00	33.68	1,123.08	561.54	1,088.54	537.59	29.15	-1.86	0.069
165.00	-6.24	-2.33	0.00	-21.29	0.00	21.29	1,096.15	548.08	1,019.57	503.53	31.12	-1.90	0.048
168.00	-3.09	-1.21	0.00	-14.31	0.00	14.31	1,079.27	539.64	978.54	483.26	32.31	-1.91	0.032
170.00	-2.96	-1.13	0.00	-11.89	0.00	11.89	1,067.72	533.86	951.36	469.84	33.11	-1.92	0.028
175.00	-2.67	-1.02	0.00	-6.23	0.00	6.23	1,037.79	518.90	884.11	436.63	35.13	-1.93	0.017
180.00	-2.38	-0.95	0.00	-1.13	0.00	1.13	1,006.37	503.18	817.98	403.97	37.16	-1.94	0.005
181.00	-0.18	-0.04	0.00	-0.18	0.00	0.18	999.90	499.95	804.90	397.51	37.56	-1.94	0.001

Site Number: 302537 Code: ANSI/TIA-222-G

Site Name: Middletown CT 3, CT Engineering Number:OAA714183_C3_01 10/11/2017 10:36:58 AM

Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W Serviceability 60 mph 26 Iterations

Gust Response Factor :1.10 Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

185.00	0.00	-0.04	0.00	0.00	0.00	0.00	973.45	486.72	753.15	371.95	39.19	-1.94	0.000

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coeffiecient F_v:	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.78
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	46.28 k
Seismic Base Shear (E):	1.81 k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
48	183.00	184	6,160	0.013	24	228
47	180.50	57	1,856	0.004	7	71
46	177.50	292	9,185	0.020	35	361
45	172.50	303	9,010	0.019	35	375
44	169.00	124	3,549	0.008	14	154
43	166.50	253	7,015	0.015	27	313
42	162.50	431	11,374	0.024	44	534
41	157.50	442	10,964	0.023	42	547
40	152.50	453	10,541	0.022	40	561
39	147.50	465	10,106	0.022	39	575
38	143.00	380	7,765	0.017	30	470
37	140.50	100	1,975	0.004	8	124
36	139.00	201	3,892	0.008	15	250
35	136.50	587	10,939	0.023	42	727
34	134.21	314	5,651	0.012	22	389
33	131.71	450	7,814	0.017	30	558
32	127.50	673	10,935	0.023	42	833
31	122.50	689	10,335	0.022	40	853
30	117.50	705	9,731	0.021	37	873
29	112.50	721	9,124	0.019	35	893
28	107.50	737	8,517	0.018	33	913
27	102.50	753	7,912	0.017	30	933
26	99.00	306	2,997	0.006	12	379

25	96.50	463	4,316	0.009	17	574
24	94.00	312	2,758	0.006	11	387
23	91.50	907	7,592	0.016	29	1,123
22	88.75	765	6,027	0.013	23	948
21	86.25	459	3,413	0.007	13	568
20	82.50	932	6,343	0.013	24	1,154
19	77.50	951	5,713	0.012	22	1,178
18	72.50	971	5,102	0.011	20	1,202
17	67.50	990	4,510	0.010	17	1,226
16	62.50	1,343	5,247	0.011	20	1,664
15	57.50	1,363	4,505	0.010	17	1,688
14	53.75	688	1,989	0.004	8	853
13	51.25	693	1,821	0.004	7	859
12	47.50	2,423	5,467	0.012	21	3,001
11	44.29	694	1,362	0.003	5	860
10	41.79	1,115	1,948	0.004	7	1,381
9	37.50	1,575	2,216	0.005	9	1,951
8	32.50	1,598	1,688	0.004	6	1,979
7	27.50	1,621	1,226	0.003	5	2,007
6	23.75	819	462	0.001	2	1,014
5	21.25	824	372	0.001	1	1,021
4	17.50	1,666	510	0.001	2	2,063
3	12.50	1,688	264	0.001	1	2,091
2	7.50	1,711	96	0.000	0	2,119
1	2.50	1,733	11	0.000	0	2,147
Decibel 844G90VTA-SX	181.00	46	1,507	0.003	6	57
Decibel DB844H90E-XY	181.00	56	1,835	0.004	7	69
Decibel 844G65VTZASX	181.00	64	2,097	0.004	8	79
Flat Platform w/ Han	181.00	2,000	65,522	0.139	252	2,477
Powerwave Allgon LGP	168.00	85	2,388	0.005	9	105
Raycap DC6-48-60-18-	168.00	40	1,129	0.002	4	50
Raycap DC6-48-60-0-8	168.00	33	926	0.002	4	41
Ericsson RRUS 11 (Ba	168.00	150	4,234	0.009	16	186
Ericsson RRUS 32 B66	168.00	159	4,488	0.010	17	197
Ericsson RRUS 12	168.00	150	4,234	0.009	16	186
Ericsson RRUS-32 (77	168.00	231	6,520	0.014	25	286
Powerwave Allgon 777	168.00	105	2,964	0.006	11	130
Quintel QS66512-2	168.00	333	9,399	0.020	36	412
CCI HPA-65R-BUU-H6	168.00	153	4,318	0.009	17	190
Round Low Profile Pl	168.00	1,500	42,336	0.090	163	1,858
Alcatel-Lucent RRH2x	141.00	159	3,155	0.007	12	197
Alcatel-Lucent 800 M	141.00	192	3,817	0.008	15	238
Alcatel-Lucent 4x40W	141.00	264	5,249	0.011	20	327
Alcatel-Lucent TD-RR	141.00	210	4,175	0.009	16	260
RFS APXVSPP18-C-A20	141.00	171	3,400	0.007	13	212
Commscope DT465B-2XR	141.00	174	3,459	0.007	13	216
Flat Platform w/ Han	141.00	2,000	39,762	0.085	153	2,477
GPS	98.00	10	96	0.000	0	12
Stand-Off	98.00	75	720	0.002	3	93
		46,282	470,031	1.000	1,805	57,326

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
48	183.00	184	6,160	0.013	24	158
47	180.50	57	1,856	0.004	7	49
46	177.50	292	9,185	0.020	35	251
45	172.50	303	9,010	0.019	35	261
44	169.00	124	3,549	0.008	14	107

43	166.50	253	7,015	0.015	27	218
42	162.50	431	11,374	0.024	44	371
41	157.50	442	10,964	0.023	42	381
40	152.50	453	10,541	0.022	40	390
39	147.50	465	10,106	0.022	39	400
38	143.00	380	7,765	0.017	30	327
37	140.50	100	1,975	0.004	8	86
36	139.00	201	3,892	0.008	15	174
35	136.50	587	10,939	0.023	42	506
34	134.21	314	5,651	0.012	22	270
33	131.71	450	7,814	0.017	30	388
32	127.50	673	10,935	0.023	42	579
31	122.50	689	10,335	0.022	40	593
30	117.50	705	9,731	0.021	37	607
29	112.50	721	9,124	0.019	35	621
28	107.50	737	8,517	0.018	33	635
27	102.50	753	7,912	0.017	30	649
26	99.00	306	2,997	0.006	12	263
25	96.50	463	4,316	0.009	17	399
24	94.00	312	2,758	0.006	11	269
23	91.50	907	7,592	0.016	29	781
22	88.75	765	6,027	0.013	23	659
21	86.25	459	3,413	0.007	13	395
20	82.50	932	6,343	0.013	24	803
19	77.50	951	5,713	0.012	22	819
18	72.50	971	5,102	0.011	20	836
17	67.50	990	4,510	0.010	17	853
16	62.50	1,343	5,247	0.011	20	1,157
15	57.50	1,363	4,505	0.010	17	1,174
14	53.75	688	1,989	0.004	8	593
13	51.25	693	1,821	0.004	7	597
12	47.50	2,423	5,467	0.012	21	2,087
11	44.29	694	1,362	0.003	5	598
10	41.79	1,115	1,948	0.004	7	961
9	37.50	1,575	2,216	0.005	9	1,357
8	32.50	1,598	1,688	0.004	6	1,377
7	27.50	1,621	1,226	0.003	5	1,396
6	23.75	819	462	0.001	2	705
5	21.25	824	372	0.001	1	710
4	17.50	1,666	510	0.001	2	1,435
3	12.50	1,688	264	0.001	1	1,454
2	7.50	1,711	96	0.000	0	1,474
1	2.50	1,733	11	0.000	0	1,493
Decibel 844G90VTA-SX	181.00	46	1,507	0.003	6	40
Decibel DB844H90E-XY	181.00	56	1,835	0.004	7	48
Decibel 844G65VTZASX	181.00	64	2,097	0.004	8	55
Flat Platform w/ Han	181.00	2,000	65,522	0.139	252	1,723
Powerwave Allgon LGP	168.00	85	2,388	0.005	9	73
Raycap DC6-48-60-18-	168.00	40	1,129	0.002	4	34
Raycap DC6-48-60-0-8	168.00	33	926	0.002	4	28
Ericsson RRUS 11 (Ba	168.00	150	4,234	0.009	16	129
Ericsson RRUS 32 B66	168.00	159	4,488	0.010	17	137
Ericsson RRUS 12	168.00	150	4,234	0.009	16	129
Ericsson RRUS-32 (77	168.00	231	6,520	0.014	25	199
Powerwave Allgon 777	168.00	105	2,964	0.006	11	90
Quintel QS66512-2	168.00	333	9,399	0.020	36	287
CCI HPA-65R-BUU-H6	168.00	153	4,318	0.009	17	132
Round Low Profile Pl	168.00	1,500	42,336	0.090	163	1,292
Alcatel-Lucent RRH2x	141.00	159	3,155	0.007	12	137
Alcatel-Lucent 800 M	141.00	192	3,817	0.008	15	165
Alcatel-Lucent 4x40W	141.00	264	5,249	0.011	20	227
Alcatel-Lucent TD-RR	141.00	210	4,175	0.009	16	181
RFS APXVSPP18-C-A20	141.00	171	3,400	0.007	13	147
Commscope DT465B-2XR	141.00	174	3,459	0.007	13	150

Flat Platform w/ Han	141.00	2,000	39,762	0.085	153	1,723
GPS	98.00	10	96	0.000	0	9
Stand-Off	98.00	75	720	0.002	3	65
		46,282	470,031	1.000	1,805	39,867

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-55.18	-1.81	0.00	-265.95	0.00	265.95	4,727.77	2,363.89	10,057.5	4,967.06	0.00	0.00	0.049
5.00	-53.06	-1.82	0.00	-256.90	0.00	256.90	4,681.88	2,340.94	9,776.84	4,828.41	0.01	-0.01	0.048
10.00	-50.97	-1.83	0.00	-247.80	0.00	247.80	4,634.49	2,317.25	9,496.63	4,690.03	0.02	-0.02	0.047
15.00	-48.90	-1.83	0.00	-238.66	0.00	238.66	4,585.61	2,292.80	9,217.11	4,551.98	0.05	-0.03	0.047
20.00	-47.88	-1.84	0.00	-229.49	0.00	229.49	4,535.23	2,267.61	8,938.46	4,414.37	0.10	-0.05	0.046
22.50	-46.87	-1.84	0.00	-224.89	0.00	224.89	4,509.47	2,254.74	8,799.52	4,345.75	0.12	-0.05	0.045
22.50	-46.87	-1.84	0.00	-224.89	0.00	224.89	4,509.47	2,254.74	8,799.52	4,345.75	0.12	-0.05	0.045
25.00	-44.86	-1.84	0.00	-220.28	0.00	220.28	4,483.35	2,241.67	8,660.87	4,277.28	0.15	-0.06	0.045
30.00	-42.88	-1.84	0.00	-211.07	0.00	211.07	4,429.97	2,214.99	8,384.50	4,140.79	0.22	-0.07	0.044
35.00	-40.93	-1.84	0.00	-201.85	0.00	201.85	4,375.10	2,187.55	8,109.53	4,004.99	0.30	-0.08	0.043
40.00	-39.55	-1.84	0.00	-192.65	0.00	192.65	4,318.73	2,159.36	7,836.14	3,869.97	0.39	-0.09	0.042
43.58	-38.69	-1.84	0.00	-186.06	0.00	186.06	4,277.41	2,138.70	7,641.28	3,773.74	0.46	-0.10	0.041
45.00	-35.69	-1.81	0.00	-183.46	0.00	183.46	4,260.86	2,130.43	7,564.50	3,735.82	0.49	-0.11	0.040
50.00	-34.83	-1.81	0.00	-174.39	0.00	174.39	3,421.90	1,710.95	6,065.62	2,995.58	0.61	-0.12	0.046
52.50	-33.98	-1.81	0.00	-169.87	0.00	169.87	3,401.39	1,700.70	5,962.76	2,944.78	0.67	-0.12	0.045
52.50	-33.98	-1.81	0.00	-169.87	0.00	169.87	3,401.39	1,700.70	5,962.76	2,944.78	0.67	-0.12	0.045
55.00	-32.29	-1.79	0.00	-165.35	0.00	165.35	3,380.51	1,690.25	5,860.04	2,894.05	0.74	-0.13	0.044
60.00	-30.62	-1.77	0.00	-156.40	0.00	156.40	3,337.62	1,668.81	5,655.16	2,792.87	0.89	-0.14	0.043
65.00	-29.40	-1.76	0.00	-147.54	0.00	147.54	3,293.24	1,646.62	5,451.16	2,692.12	1.04	-0.16	0.042
65.00	-29.40	-1.76	0.00	-147.54	0.00	147.54	3,293.24	1,646.62	5,451.16	2,692.12	1.04	-0.16	0.064
70.00	-28.19	-1.74	0.00	-138.74	0.00	138.74	3,247.36	1,623.68	5,248.22	2,591.90	1.22	-0.17	0.062
75.00	-27.02	-1.73	0.00	-130.02	0.00	130.02	3,199.99	1,599.99	5,046.50	2,492.28	1.41	-0.19	0.061
80.00	-25.86	-1.71	0.00	-121.38	0.00	121.38	3,151.11	1,575.56	4,846.18	2,393.35	1.62	-0.21	0.059
85.00	-25.29	-1.70	0.00	-112.83	0.00	112.83	3,100.74	1,550.37	4,647.45	2,295.20	1.85	-0.23	0.057
87.50	-24.34	-1.68	0.00	-108.58	0.00	108.58	3,074.99	1,537.50	4,548.71	2,246.44	1.98	-0.24	0.056
90.00	-23.22	-1.65	0.00	-104.38	0.00	104.38	3,048.88	1,524.44	4,450.47	2,197.92	2.11	-0.25	0.055
93.00	-22.83	-1.64	0.00	-99.44	0.00	99.44	2,367.81	1,183.91	3,474.51	1,715.93	2.27	-0.27	0.068
95.00	-22.26	-1.63	0.00	-96.15	0.00	96.15	2,354.00	1,177.00	3,417.42	1,687.73	2.38	-0.28	0.066
98.00	-21.78	-1.61	0.00	-91.28	0.00	91.28	2,332.83	1,166.41	3,331.94	1,645.52	2.56	-0.29	0.065
100.00	-20.84	-1.58	0.00	-88.05	0.00	88.05	2,318.41	1,159.21	3,275.08	1,617.44	2.68	-0.30	0.063
105.00	-19.93	-1.55	0.00	-80.13	0.00	80.13	2,281.33	1,140.66	3,133.47	1,547.50	3.01	-0.32	0.061
110.00	-19.04	-1.52	0.00	-72.35	0.00	72.35	2,242.75	1,121.37	2,992.76	1,478.01	3.36	-0.34	0.057
115.00	-18.16	-1.49	0.00	-64.74	0.00	64.74	2,202.67	1,101.33	2,853.13	1,409.06	3.73	-0.37	0.054
120.00	-17.31	-1.45	0.00	-57.31	0.00	57.31	2,161.09	1,080.55	2,714.76	1,340.72	4.13	-0.39	0.051
125.00	-16.48	-1.41	0.00	-50.07	0.00	50.07	2,118.02	1,059.01	2,577.82	1,273.09	4.55	-0.41	0.047
130.00	-15.92	-1.38	0.00	-43.05	0.00	43.05	2,073.45	1,036.73	2,442.48	1,206.25	4.99	-0.43	0.043
133.42	-15.53	-1.35	0.00	-38.34	0.00	38.34	2,042.13	1,021.07	2,351.01	1,161.07	5.30	-0.44	0.041
135.00	-14.80	-1.31	0.00	-36.20	0.00	36.20	2,027.39	1,013.69	2,308.93	1,140.29	5.45	-0.45	0.039
138.00	-14.55	-1.29	0.00	-32.27	0.00	32.27	1,223.81	611.90	1,396.77	689.81	5.74	-0.46	0.059
140.00	-14.43	-1.29	0.00	-29.69	0.00	29.69	1,215.85	607.93	1,368.67	675.93	5.93	-0.47	0.056
141.00	-10.03	-0.98	0.00	-28.40	0.00	28.40	1,211.78	605.89	1,354.61	668.99	6.03	-0.47	0.051
145.00	-9.46	-0.94	0.00	-24.48	0.00	24.48	1,194.91	597.45	1,298.35	641.21	6.43	-0.49	0.046
150.00	-8.90	-0.90	0.00	-19.78	0.00	19.78	1,172.46	586.23	1,228.11	606.52	6.95	-0.51	0.040
155.00	-8.35	-0.85	0.00	-15.29	0.00	15.29	1,148.52	574.26	1,158.12	571.95	7.49	-0.52	0.034
160.00	-7.82	-0.81	0.00	-11.02	0.00	11.02	1,123.08	561.54	1,088.54	537.59	8.05	-0.54	0.027
165.00	-7.50	-0.78	0.00	-6.99	0.00	6.99	1,096.15	548.08	1,019.57	503.53	8.62	-0.55	0.021
168.00	-3.71	-0.41	0.00	-4.66	0.00	4.66	1,079.27	539.64	978.54	483.26	8.97	-0.55	0.013
170.00	-3.34	-0.37	0.00	-3.84	0.00	3.84	1,067.72	533.86	951.36	469.84	9.20	-0.56	0.011
175.00	-2.98	-0.33	0.00	-1.99	0.00	1.99	1,037.79	518.90	884.11	436.63	9.78	-0.56	0.007
180.00	-2.91	-0.32	0.00	-0.32	0.00	0.32	1,006.37	503.18	817.98	403.97	10.37	-0.56	0.004
181.00	0.00	0.00	0.00	0.00	0.00	0.00	999.90	499.95	804.90	397.51	10.49	-0.56	0.000
185.00	0.00	0.00	0.00	0.00	0.00	0.00	973.45	486.72	753.15	371.95	10.96	-0.56	0.000

Site Number: 302537 | Code: ANSI/TIA-222-G |

Site Name: Middletown CT 3, CT | Engineering Number:OAA714183_C3_01 | 10/11/2017 10:36:58 AM

Customer: AT&T MOBILITY

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-38.37	-1.81	0.00	-261.42	0.00	261.42	4,727.77	2,363.89	10,057.5	4,967.06	0.00	0.00	0.046
5.00	-36.90	-1.81	0.00	-252.38	0.00	252.38	4,681.88	2,340.94	9,776.84	4,828.41	0.01	-0.01	0.045
10.00	-35.45	-1.82	0.00	-243.31	0.00	243.31	4,634.49	2,317.25	9,496.63	4,690.03	0.02	-0.02	0.044
15.00	-34.01	-1.82	0.00	-234.21	0.00	234.21	4,585.61	2,292.80	9,217.11	4,551.98	0.05	-0.03	0.043
20.00	-33.30	-1.83	0.00	-225.09	0.00	225.09	4,535.23	2,267.61	8,938.46	4,414.37	0.09	-0.04	0.043
22.50	-32.59	-1.83	0.00	-220.52	0.00	220.52	4,509.47	2,254.74	8,799.52	4,345.75	0.12	-0.05	0.042
22.50	-32.59	-1.83	0.00	-220.52	0.00	220.52	4,509.47	2,254.74	8,799.52	4,345.75	0.12	-0.05	0.042
25.00	-31.20	-1.83	0.00	-215.95	0.00	215.95	4,483.35	2,241.67	8,660.87	4,277.28	0.15	-0.06	0.042
30.00	-29.82	-1.83	0.00	-206.82	0.00	206.82	4,429.97	2,214.99	8,384.50	4,140.79	0.21	-0.07	0.041
35.00	-28.46	-1.82	0.00	-197.69	0.00	197.69	4,375.10	2,187.55	8,109.53	4,004.99	0.29	-0.08	0.040
40.00	-27.50	-1.82	0.00	-188.59	0.00	188.59	4,318.73	2,159.36	7,836.14	3,869.97	0.38	-0.09	0.039
43.58	-26.90	-1.81	0.00	-182.08	0.00	182.08	4,277.41	2,138.70	7,641.28	3,773.74	0.45	-0.10	0.038
45.00	-24.82	-1.79	0.00	-179.51	0.00	179.51	4,260.86	2,130.43	7,564.50	3,735.82	0.48	-0.10	0.038
50.00	-24.22	-1.79	0.00	-170.55	0.00	170.55	3,421.90	1,710.95	6,065.62	2,995.58	0.60	-0.12	0.043
52.50	-23.63	-1.78	0.00	-166.08	0.00	166.08	3,401.39	1,700.70	5,962.76	2,944.78	0.66	-0.12	0.042
52.50	-23.63	-1.78	0.00	-166.08	0.00	166.08	3,401.39	1,700.70	5,962.76	2,944.78	0.66	-0.12	0.042
55.00	-22.45	-1.77	0.00	-161.63	0.00	161.63	3,380.51	1,690.25	5,860.04	2,894.05	0.73	-0.13	0.041
60.00	-21.30	-1.75	0.00	-152.80	0.00	152.80	3,337.62	1,668.81	5,655.16	2,792.87	0.87	-0.14	0.040
65.00	-20.44	-1.73	0.00	-144.06	0.00	144.06	3,293.24	1,646.62	5,451.16	2,692.12	1.02	-0.15	0.039
65.00	-20.44	-1.73	0.00	-144.06	0.00	144.06	3,293.24	1,646.62	5,451.16	2,692.12	1.02	-0.15	0.060
70.00	-19.61	-1.72	0.00	-135.40	0.00	135.40	3,247.36	1,623.68	5,248.22	2,591.90	1.19	-0.17	0.058
75.00	-18.79	-1.70	0.00	-126.82	0.00	126.82	3,199.99	1,599.99	5,046.50	2,492.28	1.38	-0.19	0.057
80.00	-17.98	-1.68	0.00	-118.33	0.00	118.33	3,151.11	1,575.56	4,846.18	2,393.35	1.59	-0.21	0.055
85.00	-17.59	-1.67	0.00	-109.94	0.00	109.94	3,100.74	1,550.37	4,647.45	2,295.20	1.81	-0.23	0.054
87.50	-16.93	-1.64	0.00	-105.78	0.00	105.78	3,074.99	1,537.50	4,548.71	2,246.44	1.94	-0.24	0.053
90.00	-16.15	-1.62	0.00	-101.66	0.00	101.66	3,048.88	1,524.44	4,450.47	2,197.92	2.06	-0.25	0.052
93.00	-15.88	-1.61	0.00	-96.82	0.00	96.82	2,367.81	1,183.91	3,474.51	1,715.93	2.22	-0.26	0.063
95.00	-15.48	-1.59	0.00	-93.61	0.00	93.61	2,354.00	1,177.00	3,417.42	1,687.73	2.33	-0.27	0.062
98.00	-15.14	-1.58	0.00	-88.83	0.00	88.83	2,332.83	1,166.41	3,331.94	1,645.52	2.51	-0.28	0.060
100.00	-14.49	-1.55	0.00	-85.68	0.00	85.68	2,318.41	1,159.21	3,275.08	1,617.44	2.63	-0.29	0.059
105.00	-13.86	-1.52	0.00	-77.94	0.00	77.94	2,281.33	1,140.66	3,133.47	1,547.50	2.95	-0.31	0.056
110.00	-13.24	-1.48	0.00	-70.35	0.00	70.35	2,242.75	1,121.37	2,992.76	1,478.01	3.29	-0.34	0.053
115.00	-12.63	-1.45	0.00	-62.93	0.00	62.93	2,202.67	1,101.33	2,853.13	1,409.06	3.65	-0.36	0.050
120.00	-12.03	-1.41	0.00	-55.69	0.00	55.69	2,161.09	1,080.55	2,714.76	1,340.72	4.04	-0.38	0.047
125.00	-11.46	-1.37	0.00	-48.64	0.00	48.64	2,118.02	1,059.01	2,577.82	1,273.09	4.45	-0.40	0.044
130.00	-11.07	-1.34	0.00	-41.81	0.00	41.81	2,073.45	1,036.73	2,442.48	1,206.25	4.88	-0.42	0.040
133.42	-10.80	-1.32	0.00	-37.24	0.00	37.24	2,042.13	1,021.07	2,351.01	1,161.07	5.18	-0.43	0.037
135.00	-10.29	-1.27	0.00	-35.16	0.00	35.16	2,027.39	1,013.69	2,308.93	1,140.29	5.33	-0.44	0.036
138.00	-10.12	-1.26	0.00	-31.35	0.00	31.35	1,223.81	611.90	1,396.77	689.81	5.61	-0.45	0.054
140.00	-10.03	-1.25	0.00	-28.83	0.00	28.83	1,215.85	607.93	1,368.67	675.93	5.80	-0.46	0.051
141.00	-6.98	-0.95	0.00	-27.59	0.00	27.59	1,211.78	605.89	1,354.61	668.99	5.89	-0.46	0.047
145.00	-6.58	-0.91	0.00	-23.77	0.00	23.77	1,194.91	597.45	1,298.35	641.21	6.28	-0.48	0.043
150.00	-6.19	-0.87	0.00	-19.20	0.00	19.20	1,172.46	586.23	1,228.11	606.52	6.79	-0.49	0.037
155.00	-5.81	-0.83	0.00	-14.84	0.00	14.84	1,148.52	574.26	1,158.12	571.95	7.32	-0.51	0.031
160.00	-5.43	-0.78	0.00	-10.70	0.00	10.70	1,123.08	561.54	1,088.54	537.59	7.86	-0.52	0.025
165.00	-5.22	-0.75	0.00	-6.79	0.00	6.79	1,096.15	548.08	1,019.57	503.53	8.42	-0.54	0.018
168.00	-2.58	-0.40	0.00	-4.53	0.00	4.53	1,079.27	539.64	978.54	483.26	8.76	-0.54	0.012
170.00	-2.32	-0.36	0.00	-3.73	0.00	3.73	1,067.72	533.86	951.36	469.84	8.98	-0.54	0.010
175.00	-2.07	-0.32	0.00	-1.93	0.00	1.93	1,037.79	518.90	884.11	436.63	9.55	-0.55	0.006
180.00	-2.02	-0.32	0.00	-0.32	0.00	0.32	1,006.37	503.18	817.98	403.97	10.13	-0.55	0.003
181.00	0.00	0.00	0.00	0.00	0.00	0.00	999.90	499.95	804.90	397.51	10.24	-0.55	0.000
185.00	0.00	0.00	0.00	0.00	0.00	0.00	973.45	486.72	753.15	371.95	10.70	-0.55	0.000

Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.78
Redundancy Factor (p):	1.30

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
48	183.00	184	1.849	1.772	1.065	0.338	54	228
47	180.50	57	1.799	1.535	0.976	0.307	15	71
46	177.50	292	1.740	1.279	0.877	0.271	68	361
45	172.50	303	1.643	0.919	0.730	0.215	57	375
44	169.00	124	1.577	0.710	0.640	0.180	19	154
43	166.50	253	1.531	0.580	0.580	0.156	34	313
42	162.50	431	1.458	0.403	0.494	0.121	45	534
41	157.50	442	1.370	0.229	0.401	0.081	31	547
40	152.50	453	1.284	0.099	0.322	0.047	18	561
39	147.50	465	1.201	0.006	0.256	0.017	7	575
38	143.00	380	1.129	-0.052	0.205	-0.005	-2	470
37	140.50	100	1.090	-0.075	0.181	-0.015	-1	124
36	139.00	201	1.067	-0.087	0.167	-0.021	-4	250
35	136.50	587	1.029	-0.102	0.146	-0.030	-15	727
34	134.21	314	0.995	-0.111	0.129	-0.036	-10	389
33	131.71	450	0.958	-0.118	0.112	-0.042	-17	558
32	127.50	673	0.898	-0.122	0.086	-0.050	-29	833
31	122.50	689	0.829	-0.117	0.062	-0.054	-32	853
30	117.50	705	0.762	-0.104	0.044	-0.053	-32	873
29	112.50	721	0.699	-0.087	0.030	-0.047	-29	893
28	107.50	737	0.638	-0.067	0.019	-0.036	-23	913
27	102.50	753	0.580	-0.046	0.012	-0.022	-15	933
26	99.00	306	0.541	-0.031	0.009	-0.011	-3	379
25	96.50	463	0.514	-0.021	0.008	-0.003	-1	574
24	94.00	312	0.488	-0.012	0.007	0.005	1	387
23	91.50	907	0.462	-0.003	0.006	0.013	10	1,123
22	88.75	765	0.435	0.007	0.006	0.021	14	948
21	86.25	459	0.411	0.015	0.006	0.028	11	568
20	82.50	932	0.376	0.025	0.007	0.036	29	1,154
19	77.50	951	0.332	0.038	0.010	0.045	37	1,178
18	72.50	971	0.290	0.047	0.013	0.051	43	1,202
17	67.50	990	0.252	0.055	0.017	0.054	46	1,226
16	62.50	1,343	0.216	0.061	0.021	0.056	65	1,664
15	57.50	1,363	0.183	0.065	0.026	0.056	66	1,688

14	53.75	688	0.160	0.067	0.029	0.056	33	853
13	51.25	693	0.145	0.068	0.031	0.055	33	859
12	47.50	2,423	0.125	0.070	0.034	0.054	114	3,001
11	44.29	694	0.108	0.071	0.036	0.054	32	860
10	41.79	1,115	0.096	0.071	0.038	0.053	52	1,381
9	37.50	1,575	0.078	0.072	0.040	0.052	72	1,951
8	32.50	1,598	0.058	0.072	0.041	0.051	71	1,979
7	27.50	1,621	0.042	0.070	0.042	0.050	70	2,007
6	23.75	819	0.031	0.068	0.041	0.049	35	1,014
5	21.25	824	0.025	0.066	0.039	0.048	34	1,021
4	17.50	1,666	0.017	0.062	0.037	0.045	65	2,063
3	12.50	1,688	0.009	0.053	0.030	0.040	58	2,091
2	7.50	1,711	0.003	0.038	0.021	0.031	46	2,119
1	2.50	1,733	0.000	0.015	0.008	0.014	21	2,147
Decibel 844G90VTA-SX	181.00	46	1.809	1.580	0.993	0.313	12	57
Decibel DB844H90E-XY	181.00	56	1.809	1.580	0.993	0.313	15	69
Decibel 844G65VTZASX	181.00	64	1.809	1.580	0.993	0.313	17	79
Flat Platform w/ Han	181.00	2,000	1.809	1.580	0.993	0.313	543	2,477
Powerwave Allgon LGP	168.00	85	1.559	0.656	0.615	0.170	12	105
Raycap DC6-48-60-18-	168.00	40	1.559	0.656	0.615	0.170	6	50
Raycap DC6-48-60-0-8	168.00	33	1.559	0.656	0.615	0.170	5	41
Ericsson RRUS 11 (Ba	168.00	150	1.559	0.656	0.615	0.170	22	186
Ericsson RRUS 32 B66	168.00	159	1.559	0.656	0.615	0.170	23	197
Ericsson RRUS 12	168.00	150	1.559	0.656	0.615	0.170	22	186
Ericsson RRUS-32 (77	168.00	231	1.559	0.656	0.615	0.170	34	286
Powerwave Allgon 777	168.00	105	1.559	0.656	0.615	0.170	15	130
Quintel QS66512-2	168.00	333	1.559	0.656	0.615	0.170	49	412
CCI HPA-65R-BUU-H6	168.00	153	1.559	0.656	0.615	0.170	23	190
Round Low Profile Pl	168.00	1,500	1.559	0.656	0.615	0.170	221	1,858
Alcatel-Lucent RRH2x	141.00	159	1.098	-0.071	0.186	-0.013	-2	197
Alcatel-Lucent 800 M	141.00	192	1.098	-0.071	0.186	-0.013	-2	238
Alcatel-Lucent 4x40W	141.00	264	1.098	-0.071	0.186	-0.013	-3	327
Alcatel-Lucent TD-RR	141.00	210	1.098	-0.071	0.186	-0.013	-2	260
RFS APXVSPP18-C-A20	141.00	171	1.098	-0.071	0.186	-0.013	-2	212
Commscope DT465B-	141.00	174	1.098	-0.071	0.186	-0.013	-2	216
Flat Platform w/ Han	141.00	2,000	1.098	-0.071	0.186	-0.013	-23	2,477
GPS	98.00	10	0.530	-0.027	0.009	-0.008	0	12
Stand-Off	98.00	75	0.530	-0.027	0.009	-0.008	-1	93
		46,282	64.651	20.540	20.195	5.337	2,178	57,326

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
48	183.00	184	1.849	1.772	1.065	0.338	54	158
47	180.50	57	1.799	1.535	0.976	0.307	15	49
46	177.50	292	1.740	1.279	0.877	0.271	68	251
45	172.50	303	1.643	0.919	0.730	0.215	57	261
44	169.00	124	1.577	0.710	0.640	0.180	19	107
43	166.50	253	1.531	0.580	0.580	0.156	34	218
42	162.50	431	1.458	0.403	0.494	0.121	45	371
41	157.50	442	1.370	0.229	0.401	0.081	31	381
40	152.50	453	1.284	0.099	0.322	0.047	18	390
39	147.50	465	1.201	0.006	0.256	0.017	7	400
38	143.00	380	1.129	-0.052	0.205	-0.005	-2	327
37	140.50	100	1.090	-0.075	0.181	-0.015	-1	86
36	139.00	201	1.067	-0.087	0.167	-0.021	-4	174
35	136.50	587	1.029	-0.102	0.146	-0.030	-15	506
34	134.21	314	0.995	-0.111	0.129	-0.036	-10	270

33	131.71	450	0.958	-0.118	0.112	-0.042	-17	388
32	127.50	673	0.898	-0.122	0.086	-0.050	-29	579
31	122.50	689	0.829	-0.117	0.062	-0.054	-32	593
30	117.50	705	0.762	-0.104	0.044	-0.053	-32	607
29	112.50	721	0.699	-0.087	0.030	-0.047	-29	621
28	107.50	737	0.638	-0.067	0.019	-0.036	-23	635
27	102.50	753	0.580	-0.046	0.012	-0.022	-15	649
26	99.00	306	0.541	-0.031	0.009	-0.011	-3	263
25	96.50	463	0.514	-0.021	0.008	-0.003	-1	399
24	94.00	312	0.488	-0.012	0.007	0.005	1	269
23	91.50	907	0.462	-0.003	0.006	0.013	10	781
22	88.75	765	0.435	0.007	0.006	0.021	14	659
21	86.25	459	0.411	0.015	0.006	0.028	11	395
20	82.50	932	0.376	0.025	0.007	0.036	29	803
19	77.50	951	0.332	0.038	0.010	0.045	37	819
18	72.50	971	0.290	0.047	0.013	0.051	43	836
17	67.50	990	0.252	0.055	0.017	0.054	46	853
16	62.50	1,343	0.216	0.061	0.021	0.056	65	1,157
15	57.50	1,363	0.183	0.065	0.026	0.056	66	1,174
14	53.75	688	0.160	0.067	0.029	0.056	33	593
13	51.25	693	0.145	0.068	0.031	0.055	33	597
12	47.50	2,423	0.125	0.070	0.034	0.054	114	2,087
11	44.29	694	0.108	0.071	0.036	0.054	32	598
10	41.79	1,115	0.096	0.071	0.038	0.053	52	961
9	37.50	1,575	0.078	0.072	0.040	0.052	72	1,357
8	32.50	1,598	0.058	0.072	0.041	0.051	71	1,377
7	27.50	1,621	0.042	0.070	0.042	0.050	70	1,396
6	23.75	819	0.031	0.068	0.041	0.049	35	705
5	21.25	824	0.025	0.066	0.039	0.048	34	710
4	17.50	1,666	0.017	0.062	0.037	0.045	65	1,435
3	12.50	1,688	0.009	0.053	0.030	0.040	58	1,454
2	7.50	1,711	0.003	0.038	0.021	0.031	46	1,474
1	2.50	1,733	0.000	0.015	0.008	0.014	21	1,493
Decibel 844G90VTA-SX	181.00	46	1.809	1.580	0.993	0.313	12	40
Decibel DB844H90E-XY	181.00	56	1.809	1.580	0.993	0.313	15	48
Decibel 844G65VTZASX	181.00	64	1.809	1.580	0.993	0.313	17	55
Flat Platform w/ Han	181.00	2,000	1.809	1.580	0.993	0.313	543	1,723
Powerwave Allgon LGP	168.00	85	1.559	0.656	0.615	0.170	12	73
Raycap DC6-48-60-18-	168.00	40	1.559	0.656	0.615	0.170	6	34
Raycap DC6-48-60-0-8	168.00	33	1.559	0.656	0.615	0.170	5	28
Ericsson RRUS 11 (Ba	168.00	150	1.559	0.656	0.615	0.170	22	129
Ericsson RRUS 32 B66	168.00	159	1.559	0.656	0.615	0.170	23	137
Ericsson RRUS 12	168.00	150	1.559	0.656	0.615	0.170	22	129
Ericsson RRUS-32 (77	168.00	231	1.559	0.656	0.615	0.170	34	199
Powerwave Allgon 777	168.00	105	1.559	0.656	0.615	0.170	15	90
Quintel QS66512-2	168.00	333	1.559	0.656	0.615	0.170	49	287
CCI HPA-65R-BUU-H6	168.00	153	1.559	0.656	0.615	0.170	23	132
Round Low Profile Pl	168.00	1,500	1.559	0.656	0.615	0.170	221	1,292
Alcatel-Lucent RRH2x	141.00	159	1.098	-0.071	0.186	-0.013	-2	137
Alcatel-Lucent 800 M	141.00	192	1.098	-0.071	0.186	-0.013	-2	165
Alcatel-Lucent 4x40W	141.00	264	1.098	-0.071	0.186	-0.013	-3	227
Alcatel-Lucent TD-RR	141.00	210	1.098	-0.071	0.186	-0.013	-2	181
RFS APXVSPP18-C-A20	141.00	171	1.098	-0.071	0.186	-0.013	-2	147
Commscope DT465B-	141.00	174	1.098	-0.071	0.186	-0.013	-2	150
Flat Platform w/ Han	141.00	2,000	1.098	-0.071	0.186	-0.013	-23	1,723
GPS	98.00	10	0.530	-0.027	0.009	-0.008	0	9
Stand-Off	98.00	75	0.530	-0.027	0.009	-0.008	-1	65
		46,282	64.651	20.540	20.195	5.337	2,178	39,867

Site Number: 302537 | Code: ANSI/TIA-222-G |

Site Name: Middletown CT 3, CT | Engineering Number:OAA714183_C3_01 | 10/11/2017 10:36:58 AM

Customer: AT&T MOBILITY

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-55.18	-2.16	0.00	-265.90	0.00	265.90	4,727.77	2,363.89	10,057.5	4,967.06	0.00	0.00	0.049
5.00	-53.06	-2.13	0.00	-255.09	0.00	255.09	4,681.88	2,340.94	9,776.84	4,828.41	0.01	-0.01	0.048
10.00	-50.97	-2.08	0.00	-244.46	0.00	244.46	4,634.49	2,317.25	9,496.63	4,690.03	0.02	-0.02	0.047
15.00	-48.90	-2.02	0.00	-234.08	0.00	234.08	4,585.61	2,292.80	9,217.11	4,551.98	0.05	-0.03	0.046
20.00	-47.88	-1.99	0.00	-223.98	0.00	223.98	4,535.23	2,267.61	8,938.46	4,414.37	0.09	-0.05	0.045
22.50	-46.87	-1.96	0.00	-219.00	0.00	219.00	4,509.47	2,254.74	8,799.52	4,345.75	0.12	-0.05	0.044
22.50	-46.87	-1.96	0.00	-219.00	0.00	219.00	4,509.47	2,254.74	8,799.52	4,345.75	0.12	-0.05	0.044
25.00	-44.86	-1.90	0.00	-214.09	0.00	214.09	4,483.35	2,241.67	8,660.87	4,277.28	0.15	-0.06	0.044
30.00	-42.88	-1.83	0.00	-204.61	0.00	204.61	4,429.97	2,214.99	8,384.50	4,140.79	0.21	-0.07	0.043
35.00	-40.93	-1.77	0.00	-195.44	0.00	195.44	4,375.10	2,187.55	8,109.53	4,004.99	0.29	-0.08	0.042
40.00	-39.55	-1.72	0.00	-186.61	0.00	186.61	4,318.73	2,159.36	7,836.14	3,869.97	0.38	-0.09	0.041
43.58	-38.69	-1.69	0.00	-180.45	0.00	180.45	4,277.41	2,138.70	7,641.28	3,773.74	0.45	-0.10	0.040
45.00	-35.69	-1.58	0.00	-178.05	0.00	178.05	4,260.86	2,130.43	7,564.50	3,735.82	0.48	-0.10	0.039
50.00	-34.83	-1.55	0.00	-170.17	0.00	170.17	3,421.90	1,710.95	6,065.62	2,995.58	0.60	-0.12	0.045
52.50	-33.98	-1.52	0.00	-166.31	0.00	166.31	3,401.39	1,700.70	5,962.76	2,944.78	0.66	-0.12	0.045
52.50	-33.98	-1.52	0.00	-166.31	0.00	166.31	3,401.39	1,700.70	5,962.76	2,944.78	0.66	-0.12	0.045
55.00	-32.29	-1.45	0.00	-162.52	0.00	162.52	3,380.51	1,690.25	5,860.04	2,894.05	0.73	-0.13	0.044
60.00	-30.62	-1.39	0.00	-155.27	0.00	155.27	3,337.62	1,668.81	5,655.16	2,792.87	0.87	-0.14	0.043
65.00	-29.40	-1.35	0.00	-148.32	0.00	148.32	3,293.24	1,646.62	5,451.16	2,692.12	1.02	-0.15	0.042
65.00	-29.40	-1.35	0.00	-148.32	0.00	148.32	3,293.24	1,646.62	5,451.16	2,692.12	1.02	-0.15	0.064
70.00	-28.20	-1.31	0.00	-141.59	0.00	141.59	3,247.36	1,623.68	5,248.22	2,591.90	1.19	-0.17	0.063
75.00	-27.02	-1.28	0.00	-135.04	0.00	135.04	3,199.99	1,599.99	5,046.50	2,492.28	1.38	-0.19	0.063
80.00	-25.86	-1.26	0.00	-128.65	0.00	128.65	3,151.11	1,575.56	4,846.18	2,393.35	1.59	-0.21	0.062
85.00	-25.29	-1.25	0.00	-122.37	0.00	122.37	3,100.74	1,550.37	4,647.45	2,295.20	1.82	-0.23	0.061
87.50	-24.35	-1.24	0.00	-119.25	0.00	119.25	3,074.99	1,537.50	4,548.71	2,246.44	1.95	-0.24	0.061
90.00	-23.22	-1.23	0.00	-116.16	0.00	116.16	3,048.88	1,524.44	4,450.47	2,197.92	2.08	-0.26	0.060
93.00	-22.84	-1.23	0.00	-112.48	0.00	112.48	2,367.81	1,183.91	3,474.51	1,715.93	2.24	-0.27	0.075
95.00	-22.26	-1.23	0.00	-110.02	0.00	110.02	2,354.00	1,177.00	3,417.42	1,687.73	2.36	-0.28	0.075
98.00	-21.78	-1.24	0.00	-106.33	0.00	106.33	2,332.83	1,166.41	3,331.94	1,645.52	2.54	-0.30	0.074
100.00	-20.84	-1.26	0.00	-103.85	0.00	103.85	2,318.41	1,159.21	3,275.08	1,617.44	2.67	-0.31	0.073
105.00	-19.93	-1.28	0.00	-97.57	0.00	97.57	2,281.33	1,140.66	3,133.47	1,547.50	3.00	-0.34	0.072
110.00	-19.04	-1.32	0.00	-91.16	0.00	91.16	2,242.75	1,121.37	2,992.76	1,478.01	3.37	-0.36	0.070
115.00	-18.16	-1.35	0.00	-84.58	0.00	84.58	2,202.67	1,101.33	2,853.13	1,409.06	3.77	-0.39	0.068
120.00	-17.31	-1.39	0.00	-77.81	0.00	77.81	2,161.09	1,080.55	2,714.76	1,340.72	4.19	-0.42	0.066
125.00	-16.47	-1.42	0.00	-70.88	0.00	70.88	2,118.02	1,059.01	2,577.82	1,273.09	4.65	-0.45	0.063
130.00	-15.92	-1.44	0.00	-63.79	0.00	63.79	2,073.45	1,036.73	2,442.48	1,206.25	5.14	-0.48	0.061
133.42	-15.53	-1.45	0.00	-58.88	0.00	58.88	2,042.13	1,021.07	2,351.01	1,161.07	5.49	-0.50	0.058
135.00	-14.80	-1.46	0.00	-56.59	0.00	56.59	2,027.39	1,013.69	2,308.93	1,140.29	5.65	-0.51	0.057
138.00	-14.55	-1.46	0.00	-52.21	0.00	52.21	1,223.81	611.90	1,396.77	689.81	5.98	-0.53	0.088
140.00	-14.43	-1.47	0.00	-49.28	0.00	49.28	1,215.85	607.93	1,368.67	675.93	6.20	-0.54	0.085
141.00	-10.03	-1.47	0.00	-47.81	0.00	47.81	1,211.78	605.89	1,354.61	668.99	6.31	-0.54	0.080
145.00	-9.45	-1.46	0.00	-41.94	0.00	41.94	1,194.91	597.45	1,298.35	641.21	6.78	-0.57	0.073
150.00	-8.89	-1.44	0.00	-34.64	0.00	34.64	1,172.46	586.23	1,228.11	606.52	7.40	-0.61	0.065
155.00	-8.34	-1.41	0.00	-27.44	0.00	27.44	1,148.52	574.26	1,158.12	571.95	8.05	-0.64	0.055
160.00	-7.81	-1.36	0.00	-20.40	0.00	20.40	1,123.08	561.54	1,088.54	537.59	8.73	-0.66	0.045
165.00	-7.50	-1.32	0.00	-13.60	0.00	13.60	1,096.15	548.08	1,019.57	503.53	9.44	-0.68	0.034
168.00	-3.71	-0.83	0.00	-9.63	0.00	9.63	1,079.27	539.64	978.54	483.26	9.87	-0.69	0.023
170.00	-3.33	-0.77	0.00	-7.97	0.00	7.97	1,067.72	533.86	951.36	469.84	10.16	-0.70	0.020
175.00	-2.97	-0.69	0.00	-4.14	0.00	4.14	1,037.79	518.90	884.11	436.63	10.90	-0.71	0.012
180.00	-2.90	-0.68	0.00	-0.68	0.00	0.68	1,006.37	503.18	817.98	403.97	11.64	-0.71	0.005
181.00	0.00	0.00	0.00	0.00	0.00	0.00	999.90	499.95	804.90	397.51	11.79	-0.71	0.000
185.00	0.00	0.00	0.00	0.00	0.00	0.00	973.45	486.72	753.15	371.95	12.38	-0.71	0.000

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-38.37	-2.16	0.00	-261.08	0.00	261.08	4,727.77	2,363.89	10,057.5	4,967.06	0.00	0.00	0.045
5.00	-36.90	-2.12	0.00	-250.28	0.00	250.28	4,681.88	2,340.94	9,776.84	4,828.41	0.01	-0.01	0.044
10.00	-35.45	-2.07	0.00	-239.68	0.00	239.68	4,634.49	2,317.25	9,496.63	4,690.03	0.02	-0.02	0.043
15.00	-34.01	-2.01	0.00	-229.33	0.00	229.33	4,585.61	2,292.80	9,217.11	4,551.98	0.05	-0.03	0.043
20.00	-33.30	-1.98	0.00	-219.28	0.00	219.28	4,535.23	2,267.61	8,938.46	4,414.37	0.09	-0.04	0.042
22.50	-32.59	-1.95	0.00	-214.33	0.00	214.33	4,509.47	2,254.74	8,799.52	4,345.75	0.12	-0.05	0.041
22.50	-32.59	-1.95	0.00	-214.33	0.00	214.33	4,509.47	2,254.74	8,799.52	4,345.75	0.12	-0.05	0.041
25.00	-31.20	-1.88	0.00	-209.46	0.00	209.46	4,483.35	2,241.67	8,660.87	4,277.28	0.15	-0.06	0.041
30.00	-29.82	-1.81	0.00	-200.05	0.00	200.05	4,429.97	2,214.99	8,384.50	4,140.79	0.21	-0.07	0.040
35.00	-28.46	-1.75	0.00	-190.98	0.00	190.98	4,375.10	2,187.55	8,109.53	4,004.99	0.29	-0.08	0.039
40.00	-27.50	-1.70	0.00	-182.24	0.00	182.24	4,318.73	2,159.36	7,836.14	3,869.97	0.37	-0.09	0.038
43.58	-26.91	-1.67	0.00	-176.16	0.00	176.16	4,277.41	2,138.70	7,641.28	3,773.74	0.45	-0.10	0.037
45.00	-24.82	-1.55	0.00	-173.79	0.00	173.79	4,260.86	2,130.43	7,564.50	3,735.82	0.47	-0.10	0.037
50.00	-24.22	-1.52	0.00	-166.02	0.00	166.02	3,421.90	1,710.95	6,065.62	2,995.58	0.59	-0.11	0.042
52.50	-23.63	-1.49	0.00	-162.22	0.00	162.22	3,401.39	1,700.70	5,962.76	2,944.78	0.65	-0.12	0.041
52.50	-23.63	-1.49	0.00	-162.22	0.00	162.22	3,401.39	1,700.70	5,962.76	2,944.78	0.65	-0.12	0.041
55.00	-22.45	-1.43	0.00	-158.49	0.00	158.49	3,380.51	1,690.25	5,860.04	2,894.05	0.71	-0.13	0.041
60.00	-21.30	-1.36	0.00	-151.35	0.00	151.35	3,337.62	1,668.81	5,655.16	2,792.87	0.85	-0.14	0.040
65.00	-20.44	-1.32	0.00	-144.53	0.00	144.53	3,293.24	1,646.62	5,451.16	2,692.12	1.00	-0.15	0.039
65.00	-20.44	-1.32	0.00	-144.53	0.00	144.53	3,293.24	1,646.62	5,451.16	2,692.12	1.00	-0.15	0.060
70.00	-19.61	-1.28	0.00	-137.93	0.00	137.93	3,247.36	1,623.68	5,248.22	2,591.90	1.17	-0.16	0.059
75.00	-18.79	-1.25	0.00	-131.53	0.00	131.53	3,199.99	1,599.99	5,046.50	2,492.28	1.35	-0.18	0.059
80.00	-17.98	-1.22	0.00	-125.28	0.00	125.28	3,151.11	1,575.56	4,846.18	2,393.35	1.55	-0.21	0.058
85.00	-17.59	-1.22	0.00	-119.17	0.00	119.17	3,100.74	1,550.37	4,647.45	2,295.20	1.78	-0.23	0.058
87.50	-16.93	-1.20	0.00	-116.13	0.00	116.13	3,074.99	1,537.50	4,548.71	2,246.44	1.90	-0.24	0.057
90.00	-16.15	-1.19	0.00	-113.12	0.00	113.12	3,048.88	1,524.44	4,450.47	2,197.92	2.03	-0.25	0.057
93.00	-15.88	-1.19	0.00	-109.54	0.00	109.54	2,367.81	1,183.91	3,474.51	1,715.93	2.19	-0.26	0.071
95.00	-15.48	-1.20	0.00	-107.16	0.00	107.16	2,354.00	1,177.00	3,417.42	1,687.73	2.31	-0.27	0.070
98.00	-15.14	-1.20	0.00	-103.57	0.00	103.57	2,332.83	1,166.41	3,331.94	1,645.52	2.48	-0.29	0.069
100.00	-14.49	-1.22	0.00	-101.17	0.00	101.17	2,318.41	1,159.21	3,275.08	1,617.44	2.61	-0.30	0.069
105.00	-13.86	-1.24	0.00	-95.08	0.00	95.08	2,281.33	1,140.66	3,133.47	1,547.50	2.94	-0.33	0.068
110.00	-13.24	-1.28	0.00	-88.86	0.00	88.86	2,242.75	1,121.37	2,992.76	1,478.01	3.29	-0.35	0.066
115.00	-12.63	-1.31	0.00	-82.48	0.00	82.48	2,202.67	1,101.33	2,853.13	1,409.06	3.68	-0.38	0.064
120.00	-12.03	-1.34	0.00	-75.92	0.00	75.92	2,161.09	1,080.55	2,714.76	1,340.72	4.10	-0.41	0.062
125.00	-11.45	-1.38	0.00	-69.20	0.00	69.20	2,118.02	1,059.01	2,577.82	1,273.09	4.54	-0.44	0.060
130.00	-11.07	-1.39	0.00	-62.32	0.00	62.32	2,073.45	1,036.73	2,442.48	1,206.25	5.02	-0.47	0.057
133.42	-10.79	-1.40	0.00	-57.56	0.00	57.56	2,042.13	1,021.07	2,351.01	1,161.07	5.36	-0.49	0.055
135.00	-10.29	-1.42	0.00	-55.34	0.00	55.34	2,027.39	1,013.69	2,308.93	1,140.29	5.52	-0.50	0.054
138.00	-10.11	-1.42	0.00	-51.09	0.00	51.09	1,223.81	611.90	1,396.77	689.81	5.84	-0.51	0.082
140.00	-10.03	-1.42	0.00	-48.25	0.00	48.25	1,215.85	607.93	1,368.67	675.93	6.05	-0.52	0.080
141.00	-6.97	-1.44	0.00	-46.82	0.00	46.82	1,211.78	605.89	1,354.61	668.99	6.17	-0.53	0.076
145.00	-6.57	-1.43	0.00	-41.08	0.00	41.08	1,194.91	597.45	1,298.35	641.21	6.62	-0.56	0.070
150.00	-6.18	-1.41	0.00	-33.94	0.00	33.94	1,172.46	586.23	1,228.11	606.52	7.23	-0.59	0.061
155.00	-5.80	-1.38	0.00	-26.89	0.00	26.89	1,148.52	574.26	1,158.12	571.95	7.86	-0.62	0.052
160.00	-5.43	-1.33	0.00	-20.00	0.00	20.00	1,123.08	561.54	1,088.54	537.59	8.53	-0.65	0.042
165.00	-5.21	-1.30	0.00	-13.35	0.00	13.35	1,096.15	548.08	1,019.57	503.53	9.21	-0.67	0.031
168.00	-2.58	-0.81	0.00	-9.46	0.00	9.46	1,079.27	539.64	978.54	483.26	9.64	-0.68	0.022
170.00	-2.32	-0.75	0.00	-7.84	0.00	7.84	1,067.72	533.86	951.36	469.84	9.92	-0.68	0.019
175.00	-2.07	-0.68	0.00	-4.07	0.00	4.07	1,037.79	518.90	884.11	436.63	10.64	-0.69	0.011
180.00	-2.02	-0.67	0.00	-0.67	0.00	0.67	1,006.37	503.18	817.98	403.97	11.37	-0.69	0.004
181.00	0.00	0.00	0.00	0.00	0.00	0.00	999.90	499.95	804.90	397.51	11.51	-0.69	0.000
185.00	0.00	0.00	0.00	0.00	0.00	0.00	973.45	486.72	753.15	371.95	12.09	-0.69	0.000

Analysis Summary

Load Case	Reactions Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Max Usage Elev (ft)	Interaction Ratio
1.2D + 1.6W	38.59	0.00	55.47	0.00	0.00	4447.84	93.00	0.83
0.9D + 1.6W	37.31	0.00	41.59	0.00	0.00	4359.26	93.00	0.81
1.2D + 1.0Di + 1.0Wi	8.78	0.00	99.60	0.00	0.00	1146.06	93.00	0.25
(1.2 + 0.2Sds) * DL + E ELFM	1.81	0.00	55.18	0.00	0.00	265.95	93.00	0.07
(1.2 + 0.2Sds) * DL + E EMAM	2.16	0.00	55.18	0.00	0.00	265.90	138.00	0.09
(0.9 - 0.2Sds) * DL + E ELFM	1.81	0.00	38.37	0.00	0.00	261.42	93.00	0.06
(0.9 - 0.2Sds) * DL + E EMAM	2.16	0.00	38.37	0.00	0.00	261.08	138.00	0.08
1.0D + 1.0W	9.16	0.00	46.28	0.00	0.00	1076.91	93.00	0.21

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	Upper Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Lower Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Max Member Pu (kip)	phiPn (kip)	Ratio
0.00	22.5	(4) SOL-#20 All Thre	183.3	5.5	16.8	0.0	12.0	0	0	0.0	12.0	0	0	235.6	330.5	0.713
22.5	52.5	(4) SOL-#20 All Thre	217.7	6.5	16.8	0.0	12.0	0	0	0.0	12.0	0	0	222.3	330.5	0.673
52.5	65.0	(4) SOL-#20 All Thre	223.1	6.7	16.8	196.7	12.0	17	24	0.0	12.0	0	0	212.7	330.5	0.644

Base/Flange Plate	Plate Type	*Baseplate*	
	Pole Diameter	52	in
	Pole Thickness	0.4375	in
	Plate Diameter	66.34	in
	Plate Thickness	2.75	in
	Plate Fy	60	ksi
	Weld Length	0.3125	in
	ϕ_s Resistance	1042.40	k-in
	Applied	421.95	k-in
Stiffeners	#		

Bolts	#	*16*	
	Bolt Circle	60.34	in
	(R)adial / (S)quare	R	
●	Diameter	2.25	in
	Hole Diameter	2.625	in
	Type	A615-75	
	Fy	75	ksi
	Fu	100	ksi
	ϕ_s Resistance	259.82	k
	Applied	165.80	k
Reinforcement ●	#	*4*	
	DYW. Circle	58.875	in
	Offset Angle	11	°
	Type	#20	
	Diameter	2.5	in
	Fu	100	ksi
	ϕ_s Resistance	392.70	k
	Applied	236.08	k
Extra Bolts O	#	*0*	

Code Rev.	*G*	Date	10/11/2017
		Engineer	Charles.Cages
		Site #	302537
Moment	4447.8 k-ft	Carrier	AT&T MOBILITY
Axial	55.5 k		

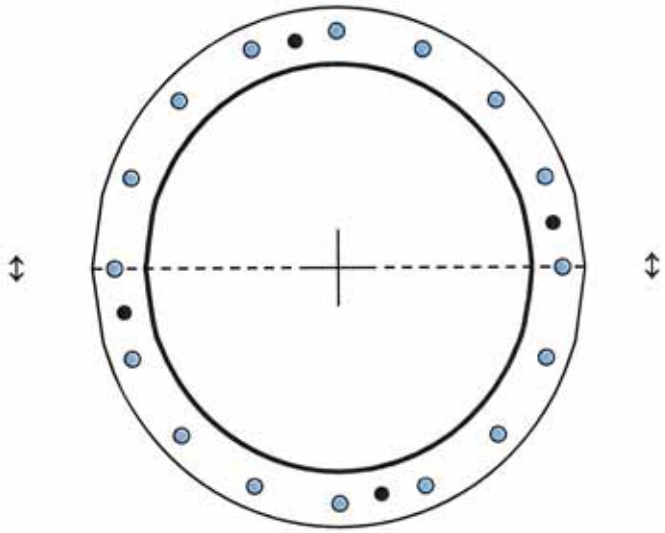


Plate Stress Ratio:
0.40 (Pass)

Bolt Stress Ratio:
0.64 (Pass)

Reinforcement Stress Ratio:
0.60 (Pass)

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

J-P Langlois, Building Official
Town of Rocky Hill
761 Old Main St.
Rocky Hill, CT 06067

9590 9402 1271 5246 8900 89

2. Article Number (Transfer from service label)
7016 2140 0000 9458 5804

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery
10/23/17

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

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

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

7016 2140 0000 9458 5804

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
ROCKY HILL, CT 06067

OFFICIAL USE

Certified Mail Fee	$3.35
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$2.45
Total Postage and Fees	$8.55

NORTH BILLERICA MA 01862
08/21/17
OCT 18 2017
Postmark Here
10/18/2017
USPS

Sent To J PLanglois Town of Rockyhill
Street and Apt. No., or PO Box No. 761 Old Main St
City, State, ZIP+4® Rocky Hill, CT 06067-1519

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

John Mehr, Interim Town Manager
Town of Rocky Hill
761 Old Main St.
Rocky Hill, CT 060067

9590 9402 1271 5246 8900 72

2. Article Number *(Transfer from service label)*

7015 1730 0001 6487 2323

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature]

☐ Agent
☐ Addressee

B. Received by *(Printed Name)*

C. Date of Delivery
10/23/17

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

3. Service Type

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

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

7015 1730 0001 6487 2323

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

ROCKY HILL, CT 06067

OFFICIAL USE

Certified Mail Fee	$3.35
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$2.75
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$2.45
Total Postage and Fees	$8.55

0862
04

Postmark Here

OCT 18 2017
10/18/2017

NORTH AMERICA MA 1862

USPS

Sent To: John Mehr, Interim Town Mgr.
Street and Apt. No., or PO Box No.: 761 Old Main St.
City, State, ZIP+4®: Rocky Hill CT 060067-1519

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

Kim Ricci, Town Planner
Town of Rocky Hill
761 Old Main St.
Rocky Hill, CT 06067

9590 9402 1271 5246 8900 96

2. Article Number *(Transfer from service label)*
7015 1730 0001 6487 2316

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X J. Letourneau ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 10/23/17

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

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

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

7015 1730 0001 6487 2316

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
ROCKY HILL, CT 06067

Certified Mail Fee	$3.35
Extra Services & Fees (check box, add fee as appropriate)	
☐ Return Receipt (hardcopy)	$0.00
☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$2.45
Total Postage and Fees	$8.55

NORTH BILLERICA MA 01862 0862 04
OCT 18 2017 Postmark Here
10/18/2017 USPS

Sent To: Kim Ricci Town of Rocky Hill
Street and Apt. No., or PO Box No.: 761 Old Main St.
City, State, ZIP+4: Rocky Hill, CT 06067-1519

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION

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

1. Article Addressed to:

American Tower Corp.
10 Presidential Way
Woburn, MA 01801
Attn: Emily Ianotti

9590 9402 1271 5246 8901 19

2. Article Number (Transfer from service label)
7016 2140 0000 9458 5781

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Amari ☒ Agent ☐ Addressee

B. Received by (Printed Name) Amari
C. Date of Delivery 10·23

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

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

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

7016 2140 0000 9458 5781

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.
WOBURN, MA 01801

OFFICIAL USE

Certified Mail Fee $3.35
$ $2.75

Extra Services & Fees (check box, add fee as appropriate)
- ☐ Return Receipt (hardcopy) $ $0.00
- ☐ Return Receipt (electronic) $ $0.00
- ☐ Certified Mail Restricted Delivery $ $0.00
- ☐ Adult Signature Required $ $0.00
- ☐ Adult Signature Restricted Delivery $

Postage $2.45
$

Total Postage and Fees $8.55
$

Postmark Here
OCT 18 2017
10/18/2017

USPS BILLERICA MA 01862 0042 04

Sent To American tower
Street and Apt. No., or PO Box No. 10 Presidential Way
City, State, ZIP+4® Woburn, MA 01801

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

USPS Tracking® Results

FAQs > (http://faq.usps.com/?articleId=220900)

Track Another Package +

Remove ×

Tracking Number: 70162140000094585798

Delivered

Product & Tracking Information

See Available Actions

Postal Product:
First-Class Mail®

Features:
Certified Mail™

See tracking for related item: 9590940212715246890102 (/go/TrackConfirmAction?tLabels=9590940212715246890102)

DATE & TIME	STATUS OF ITEM	LOCATION
October 23, 2017, 3:42 pm	**Delivered, Left with Individual**	**WETHERSFIELD, CT 06109**
Your item was delivered to an individual at the address at 3:42 pm on October 23, 2017 in WETHERSFIELD, CT 06109.		
October 21, 2017, 9:14 am	In Transit to Destination	ON ITS WAY TO WETHERSFIELD, CT 06109
October 20, 2017, 9:14 am	In Transit to Destination	ON ITS WAY TO WETHERSFIELD, CT 06109
October 19, 2017, 9:14 am	In Transit to Destination	ON ITS WAY TO WETHERSFIELD, CT 06109

See More

Available Actions

Text & Email Updates

See Less