



Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

July 27, 2016

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

RE: Notice of Exempt Modification for AT&T/ LTE 2C Crown Site BU:806953
AT&T Site ID: CT2208
69 Guinea Road, Stamford, CT 06903
Latitude: 41° 6' 6.35"/ Longitude: -73° 35' 41.45"

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 151-foot level of the existing 160-foot monopole tower at 69 Guinea Road in Stamford, CT. The tower and property is owned by Crown Castle. AT&T now intends to install three (3) RRU12/A2s and three (3) Bias-Tees.

This facility was approved by the by the Connecticut Siting Council on April 2, 1998. This approval included the conditions that:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of BAM, Springwich Cellular Limited Partnership (Springwich), Sprint PCS (Sprint), and Nextel Communications of the Mid-Atlantic, Inc. (Nextel); and such tower shall not exceed a height of 160 feet above ground level (AGL).

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.S.C.A. § 16-50j-73, a copy of this letter is being sent to The Honorable David Martin, Mayor, City of Stamford, and Crown Castle is the tower and property owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Jeffrey Barbadora.

Sincerely,

Jeffrey Barbadora
Real Estate Specialist
12 Gill Street, Suite 5800, Woburn, MA 01801
781-729-0053
Jeff.Barbadora@crowncastle.com

Attachments:

Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes

Tab 2: Exhibit-2: Structural Modification Report

Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: The Honorable David Martin, Mayor
City of Stamford
888 Washington Blvd.
Stamford, CT 06901



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Melanie Bachman,
Acting Executive Director

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DOCKET NO. 180 - Cellco Partnership d/b/a Bell Atlantic Mobile application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a cellular telecommunications tower and associated equipment located immediately north of the Merritt Parkway off Guinea Road (prime and alternate one sites), or 141 Den Road (alternate two site) in Stamford, Connecticut.

Connecticut Siting Council

April 2, 1998

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications tower and equipment buildings at the proposed prime site in Stamford, Connecticut, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Bell Atlantic Mobile (BAM) for the construction, operation, and maintenance of a telecommunications tower, associated equipment, and buildings at the proposed prime site, located within a 28-acre parcel at Guinea Road, Stamford, Connecticut. We find the effects on scenic resources and adjacent land uses of the first alternate site and second alternate site to be significant, and therefore deny certification of these sites.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of BAM, Springwiche Cellular Limited Partnership (Springwiche), Sprint PCS (Sprint), and Nextel Communications of the Mid-Atlantic, Inc. (Nextel); and such tower shall not exceed a height of 160 feet above ground level (AGL).
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include: adjustment of the tower location within the leased parcel to protect a nearby stream and minimize grade; a final site plan(s) for site development to include the location and specifications for the tower foundation, antennas, equipment buildings, emergency generator and fuel tank, security fence, access road, and utility line; construction plans for site clearing, tree trimming, water drainage, and erosion and sedimentation controls consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; provisions for the tower finish that may include painting; and provisions for the prevention and containment of spills and/or other discharge into surface water and ground water bodies.
3. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
4. The Certificate Holder shall provide the Council a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels originally calculated and provided in the application.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. If the facility does not initially provide, or permanently ceases to provide cellular services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapplication for any continued or new use shall be made to the Council before any such use is made.
7. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.
8. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction

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authorized herein is not completed within three years of the effective date of this Decision and Order or within three years after all appeals to this Decision and Order have been resolved.

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

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

The parties and intervenors to this proceeding are:

APPLICANT

Bell Atlantic Mobile

ITS REPRESENTATIVE

Kenneth C. Baldwin, Esq.
Brian C. S. Freeman, Esq.
Robinson & Cole
One Commercial Plaza
Hartford, CT 06103-3597

Mr. David S. Malko, P.E.
Jennifer Young Gaudet
Bell Atlantic Mobile
20 Alexander Drive
Wallingford, CT 06492

INTERVENORS

Sprint Spectrum, L.P. d/b/a Sprint PCS

ITS REPRESENTATIVE

Elias A. Alexiades
John W. Knuff
Harris, Beach & Wilcox, LLP
147 North Broad Street
Milford, CT 06460

Nextel Communications of the
Mid-Atlantic, Inc.d/b/a Nextel
Communications

Christopher B. Fisher, Esq.
Cuddy, Feder & Worby, Esq.
90 Maple Avenue
White Plains, NY 10601

Springwich Cellular Limited Partnership

Peter J. Tyrrell, Esq.
General Counsel
500 Enterprise Drive
Rocky Hill, CT 06067-3900

PARTIES

Charles H. Nobs, Maurice Lucas, and
Ben and Myrna Raphan

ITS REPRESENTATIVE

Jeffrey J. Mirman, Esq.
Levy & Droney, P.C.
P.O. Box 887
Farmington, CT 06034

Content Last Modified on 8/9/2002 1:30:07 PM

Ten Franklin Square New Britain, CT 06051 / 860- 827-2935

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69 GUINEA ROAD**Location** 69 GUINEA ROAD**Mblu** 002/ 6848/ / /**Acct#** 002-6848**Owner** GIRL SCOUTS OF
CONNECTICUT INC**Assessment** \$1,003,970**Appraisal** \$1,434,230**PID** 24323**Building Count** 1**Current Value**

| Appraisal | | | |
|----------------|--------------|-----------|-------------|
| Valuation Year | Improvements | Land | Total |
| 2015 | \$438,650 | \$995,580 | \$1,434,230 |
| Assessment | | | |
| Valuation Year | Improvements | Land | Total |
| 2015 | \$307,060 | \$696,910 | \$1,003,970 |

Owner of Record

Owner GIRL SCOUTS OF CONNECTICUT INC
Co-Owner
Address 340 WASHINGTON STREET
 HARTFORD, CT 06106-3317

Sale Price \$0
Certificate
Book & Page 9322/ 308
Sale Date 04/16/2008
Instrument 25

Ownership History

| Ownership History | | | | | |
|--------------------------------|------------|-------------|-------------|------------|------------|
| Owner | Sale Price | Certificate | Book & Page | Instrument | Sale Date |
| GIRL SCOUTS OF CONNECTICUT INC | \$0 | | 9322/ 308 | 25 | 04/16/2008 |
| GIRL SCOUT COUNCIL SW CT INC | \$0 | | 4405/ 321 | | 05/12/1995 |
| SOUTHWESTERN CT GIRL SCT | \$0 | | 1035/ 131 | 25 | 12/29/1964 |

Building Information**Building 1 : Section 1**

Year Built: 1963
Living Area: 1,960

Building Photo

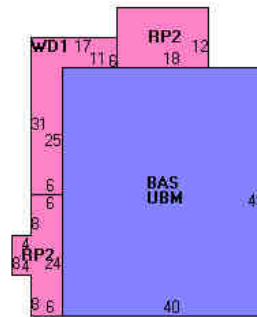
| Building Attributes | |
|---------------------|-------------|
| Field | Description |
| Style | Ranch |
| Stories: | 1 Story |
| Occupancy | 1 |

| | |
|--------------------|----------------|
| Exterior Wall 1 | Cement fiberbd |
| Exterior Wall 2 | |
| Roof Structure: | Gable/Hip |
| Roof Cover | Asph/F GlS/Cmp |
| Interior Wall 1 | Drywall |
| Interior Wall 2 | |
| Interior Flr 1 | Hardwood |
| Interior Flr 2 | |
| Heat Fuel | Electric |
| Heat Type: | Electr Basebrd |
| AC Type: | Central |
| Total Bedrooms: | 00 |
| Total Bthrms: | 1 |
| Total Half Baths: | 0 |
| Total Xtra Fixtrs: | 3 |
| Total Rooms: | 4 |
| Fireplace Msnry. | |
| Fpl. Gas/Prefab | 1 |
| Fpl. Outdoor | |
| Fpl. Addnl. Open | |
| Bsmt. Garage | |



(<http://images.vgsi.com/photos/StamfordCTPhotos//\00\11\94\79.jpg>)

Building Layout



| Building Sub-Areas (sq ft) | | | Legend |
|----------------------------|----------------------|------------|-------------|
| Code | Description | Gross Area | Living Area |
| BAS | First Floor | 1,960 | 1,960 |
| RP2 | Porch Covered | 392 | 0 |
| UBM | Basement, Unfinished | 1,960 | 0 |
| WD1 | Deck, Wood | 252 | 0 |
| | | 4,564 | 1,960 |

Extra Features

| Extra Features | | | | Legend |
|----------------|--------------|----------|----------|--------|
| Code | Description | Size | Value | Bldg # |
| RP2 | Porch Coverd | 1056 S.F | \$26,290 | 1 |
| RP2 | Porch Coverd | 756 S.F | \$18,820 | 1 |
| RP2 | Porch Coverd | 672 S.F | \$16,730 | 1 |
| RP2 | Porch Coverd | 216 S.F | \$5,380 | 1 |
| RP2 | Porch Coverd | 176 S.F | \$4,380 | 1 |

Land

Land Use

Land Line Valuation

Use Code 901
Description Exmpt Res MDL-01
Zone RA3
Neighborhood 1100
Alt Land Appr No
Category

Size (Acres) 16.86
Depth
Assessed Value \$696,910
Appraised Value \$995,580

Outbuildings

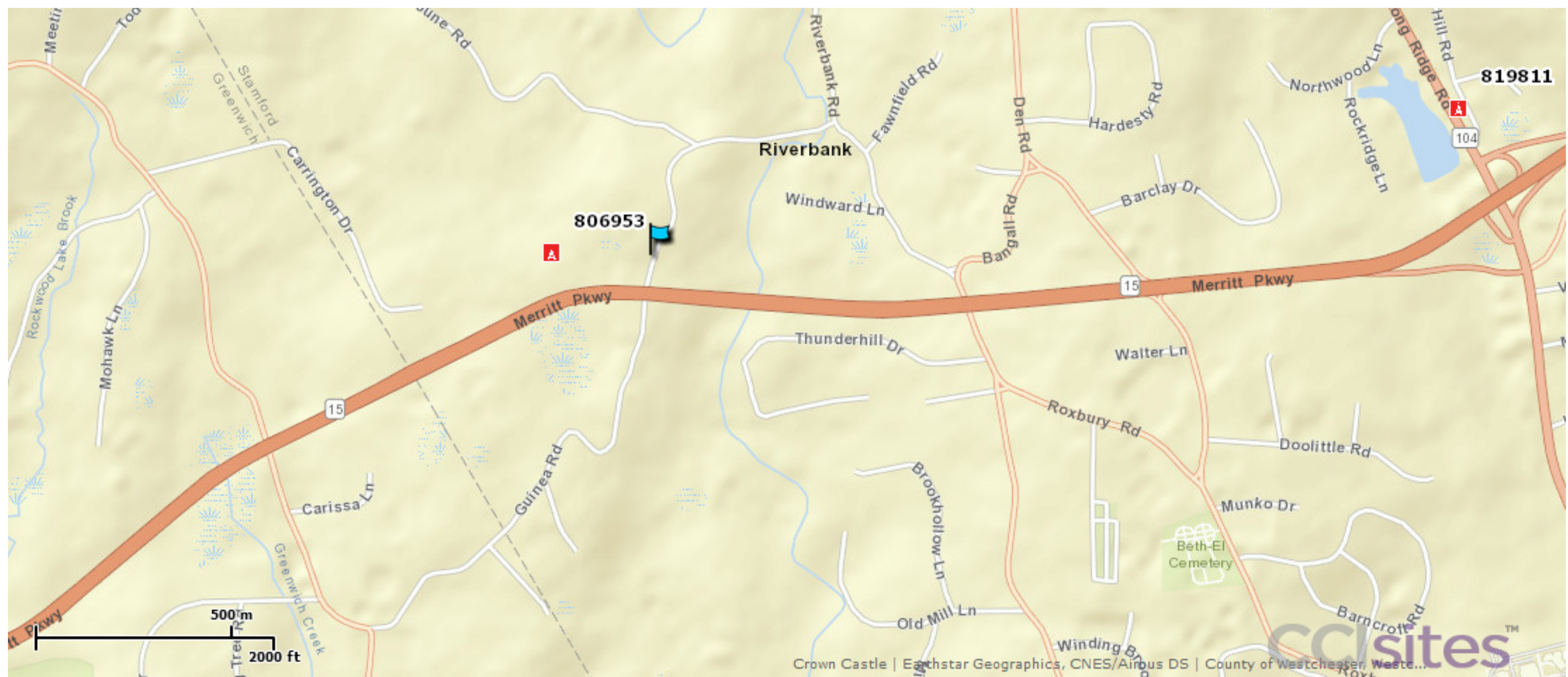
| Outbuildings | | | | | | <u>Legend</u> |
|--------------|----------------|----------|-----------------|----------|-----------|---------------|
| Code | Description | Sub Code | Sub Description | Size | Value | Bldg # |
| FC1 | Shed Wood | | | 240 S.F. | \$2,700 | 1 |
| MS1 | Misc Structure | | | 528 S.F. | \$3,050 | 1 |
| WD1 | Wood Deck | | | 252 S.F. | \$5,290 | 1 |
| CEL1 | Cell Tower | | | 1 SITES | \$139,880 | 1 |

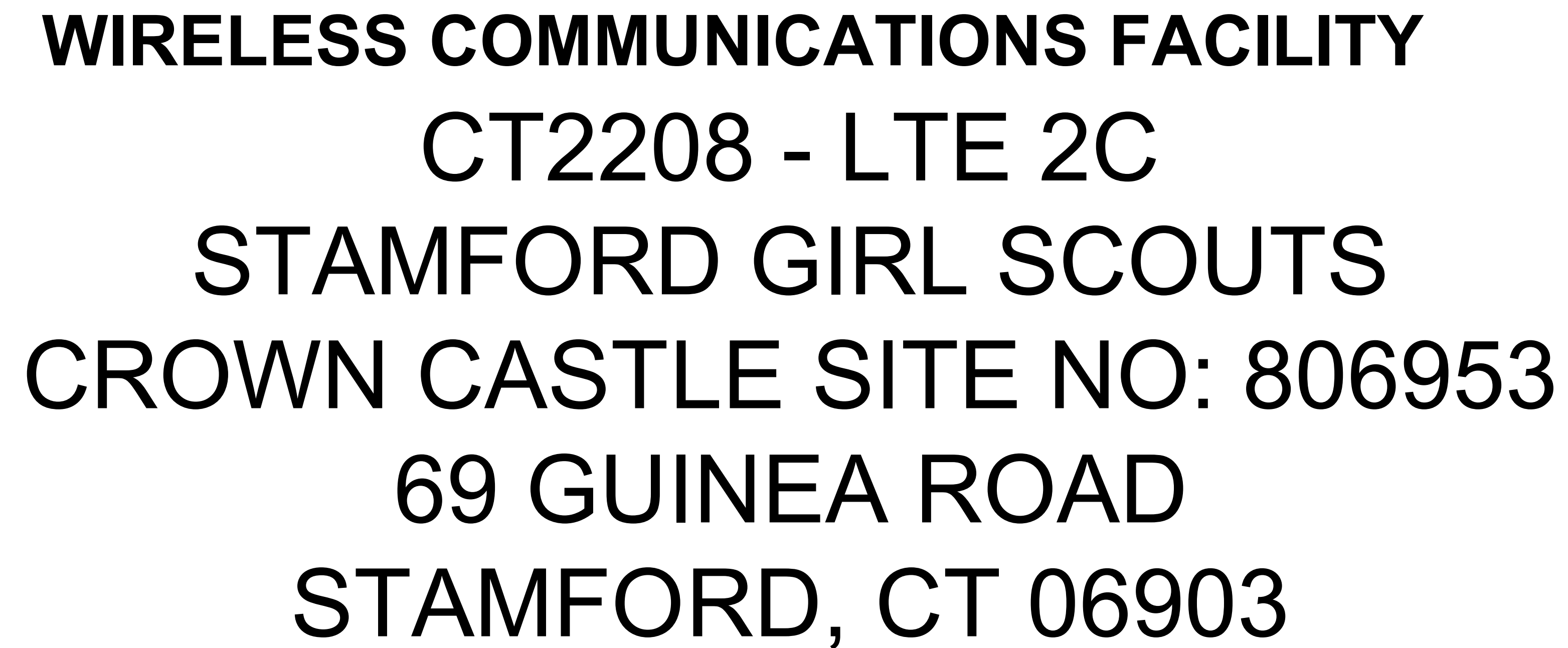
Valuation History

| Appraisal | | | |
|----------------|--------------|-----------|-------------|
| Valuation Year | Improvements | Land | Total |
| 2015 | \$438,650 | \$995,580 | \$1,434,230 |
| 2014 | \$438,650 | \$995,580 | \$1,434,230 |
| 2013 | \$438,650 | \$995,580 | \$1,434,230 |

| Assessment | | | |
|----------------|--------------|-----------|-------------|
| Valuation Year | Improvements | Land | Total |
| 2015 | \$307,060 | \$696,910 | \$1,003,970 |
| 2014 | \$307,060 | \$696,910 | \$1,003,970 |
| 2013 | \$307,060 | \$696,910 | \$1,003,970 |

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3. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2005 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2009 CONNECTICUT SUPPLEMENT, INCLUDING THE TIA/EIA-222 REVISION "f" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2005 CONNECTICUT FIRE SAFETY CODE AND 2009 AMENDMENTS, 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 REMOVED AND VOID AWAY 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

| | | | |
|---|---|------------|---|
| FROM: | 500 ENTERPRISE DRIVE ROCKY HILL, CONNECTICUT | TO: | 69 GUINEA ROAD STAMFORD, CONNECTICUT |
| DEPART ENTERPRISE DR TOWARD CAPITOL BLVD | 0.4 | | |
| TURN LEFT ONTO CAPITOL BLVD | 0.2 | | |
| TURN LEFT ONTO WEST ST | 0.3 | | |
| TAKE RAMP LEFT FOR I-91 SOUTH | 9.7 | | |
| TAKE EXIT 17, WILBUR CROSS PKWY TOWARDS E MAIN ST | 55.9 | | |
| TAKE EXIT 33 | <0.1 | | |
| KEEP STRAIGHT ONTO DEN RD | 0.2 | | |
| TURN LEFT ONTO BANGALL RD | 0.2 | | |
| TURN RIGHT ONTO RIVERBANK RD | 0.3 | | |
| TURN LEFT ONTO JUNE RD | 0.2 | | |
| KEEP LEFT ONTO GUINEA RD | 0.2 | | |
| ARRIVE AT 69 GUINEA RD ON THE RIGHT | | | |

1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
 - A. REMOVE AND REPLACE EXISTING POSITION 3 LTE ANTENNA FOR PROPOSED HEXPORT ANTENNA, (1) PER SECTOR.
 - B. INSTALL (3) NEW RRUS-12+A2 BEHIND EXISTING ANTENNAS WITHIN EXISTING TOWER MOUNT.

| | |
|----------------------|--|
| AT&T SITE NUMBER: | CT2208 |
| AT&T SITE NAME: | STAMFORD GIRL SCOUTS |
| SITE ADDRESS: | CROWN CASTLE SITE NO: 806953 69 GUINEA ROAD STAMFORD, CT 06903 |
| 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°-6'-6.35" N LONGITUDE: 73°-35'-41.45" W GROUND ELEVATION: ±230' AMSL |
| | GROUND ELEVATION REFERENCED FROM GOOGLE EARTH. COORDINATES REFERENCED FROM RFDS DOCUMENTS. |

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

[illegible]

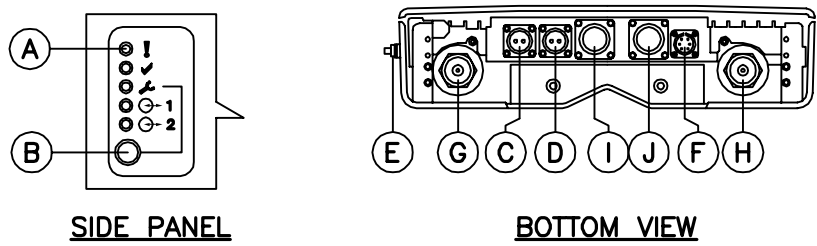
Cententek
Centered on Solutions™
engineering

(203) 488-0580
(203) 488-8587 Fax
53-2 North Branford Road
Branford, CT 06405
www.Cententek.com

| | |
|---------|----------|
| DATE: | 06/13/16 |
| SCALE: | AS NOTED |
| JOB NO. | 16071.18 |

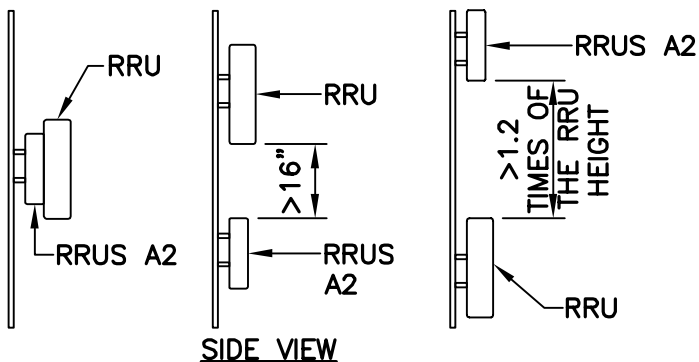
T-1

Sheet No. 1 of 7

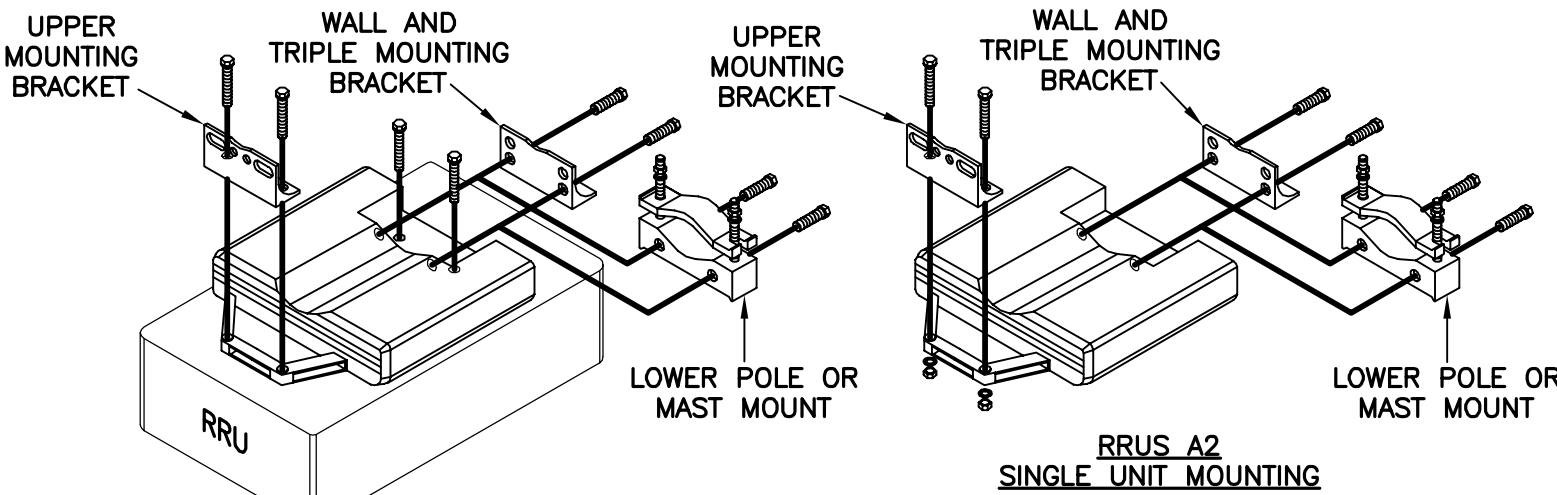


| CONNECTION INTERFACE | | |
|----------------------|-----------------------------|---|
| POSITION (ID) | DESCRIPTION | MARKING |
| A | OPTICAL INDICATORS | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 |
| B | MAINTENANCE | |
| C | -48V DC POWER SUPPLY | POW IN |
| D | -48V DC POWER SUPPLY TO RRU | POW OUT |
| E | GROUNDING | |
| F | RET | RET |
| G | ANTENNA B | B - B |
| H | ANTENNA A | A - A |
| I | OPTICAL CABLE 1 | Q-1 |
| J | OPTICAL CABLE 2 | Q-2 |

- NOTES:
1. STACKING OF RRU's IS NOT PERMITTED.
 2. NO PAINTING OF RRU OR THE SOLAR SHIELD IS ALLOWED.
 3. A SINGLE RRUS A2 CAN BE INSTALLED AS A STAND ALONE UNIT OR MOUNTED TO THE BACK OF ITS ASSOCIATED RRU.



RRUS A2 MANUFACTURER INSTALLATION REQUIREMENTS

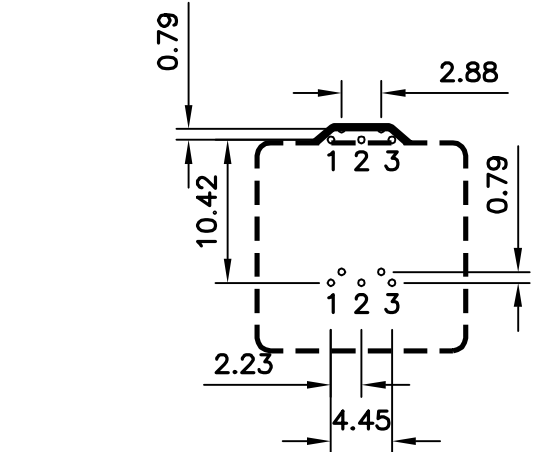


RRUS A2 W/ASSOCIATED RRU MOUNTING

1
N-1

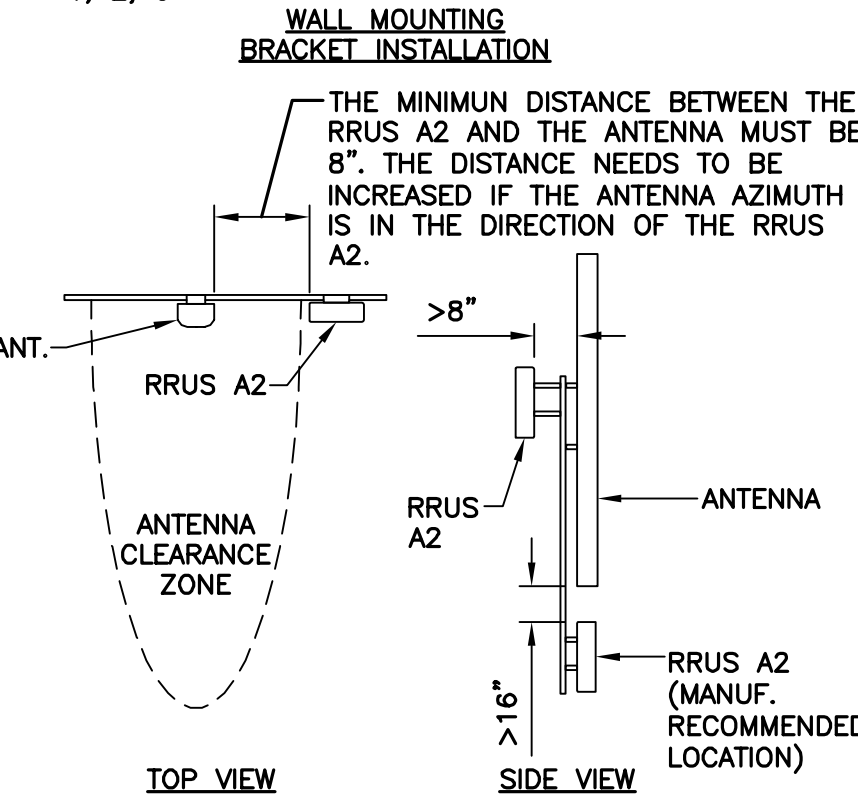
ERICSSON RRU A2 DETAILS

NOT TO SCALE



THE NUMBER OF BOLT HOLES DEPENDS ON THE WALL MATERIAL AS SPECIFIED BY THE SITE ENGINEER. A MINIMUM OF TWO BOLT HOLES ARE RECOMMENDED FOR EACH BRACKET.

- ONE OF THE FOLLOWING SOLUTIONS FOR HOLE POSITIONS MUST BE USED:
- 1, 3
 - 1, 2, 3



TOP VIEW

SIDE VIEW

NOTES AND SPECIFICATIONS

DESIGN BASIS:

GOVERNING CODE: 2003 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2005 CT STATE BUILDING CODE AND 2009 AMENDMENTS.

1. DESIGN CRITERIA:

- WIND LOAD: PER EIA/TIA 222 F-96 (ANTENNA MOUNTS): 85 MPH (FASTEST MILE), EQUIVALENT TO 105 MPH (3 SECOND GUST)
- BUILDING CLASSIFICATION: II (BASED ON IBC TABLE 1604.5)
- BASIC WIND SPEED (OTHER STRUCTURE): 105 MPH (3 SECOND GUST) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-02) PER 2003 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2009 AMMENDMENT.
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-02 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 CL&P OWNED EQUIPMENT.
14. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)

- A. STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
- B. STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
- C. STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
- D. STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
- E. PIPE---ASTM A53 (FY = 35 KSI)
- F. CONNECTION BOLTS---ASTM A325-N
- G. U-BOLTS---ASTM A36
- H. ANCHOR RODS---ASTM F 1554
- I. WELDING ELECTRODE---ASTM E 70XX

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

PAINT NOTES

PAINTING SCHEDULE:

1. ANTENNA PANELS:

- A. SHERWIN WILLIAMS POLANE-B
- B. COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.

2. COAXIAL CABLES:

- A. ONE COAT OF DTM BONDING PRIMER (2-5 MILS. DRY FINISH)
- B. TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5-5 MILS. DRY FINISH)
- C. COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.

EXAMINATION AND PREPARATION:

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

CLEANING:

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

APPLICATION:

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

COMPLETED WORK:

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

PROFESSIONAL ENGINEER SEAL

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AT&T MOBILITY

WIRELESS COMMUNICATIONS FACILITY

STAMFORD GIRL SCOUTS

CT2208 - LTE 2C

69 GUINEA ROAD

STAMFORD, CT 06903

DATE: 06/13/16

SCALE: AS NOTED

JOB NO. 16071.18

NOTES AND SPECIFICATIONS

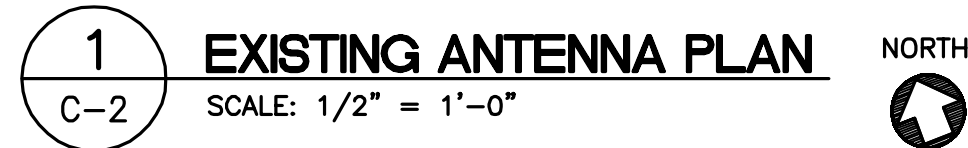
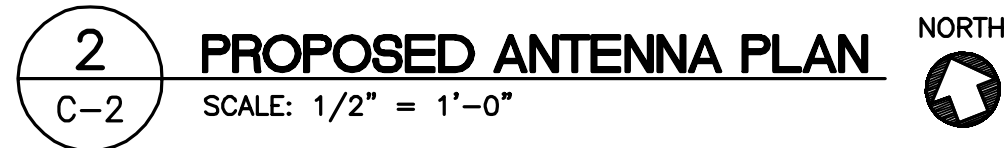
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Diagram illustrating the connection of the RRUS 12 UNIT. (Typical (1) per sector) to the DUS41 and DC6 components. The unit is connected to the DUS41 and DC6 via dashed lines. An ALARM CABLE is also connected to the unit.

6 ERICSSON RRUS 12 DETAIL





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

TO ANTENNA

STANDARD GROUND KIT

#6 AWG (PROVIDED W/GROUND KIT TYP.)

2/0 INSULATED GROUND

COAX CABLE (TYP. FOR ALL)

TO EQUIPMENT BUILDING VIA TRAY OR ICEBRIDGE

EXISTING GROUND RING

TOWER

ANTENNA GROUND BAR TOP OF TOWER SEE SCHEMATIC DIAGRAM OF GROUNDING SYSTEM ON DRAWING E-3

LUG

ANTENNA GROUND BAR BOTTOM OF TOWER SEE NOTE 1

LUG

LUG

(2) #2 AWG BCW (BY CONTRACTOR)

TOWER FOUNDATION

NOTES:

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

Diagram illustrating the tower mounting hardware and grounding connections:

- ANTENNA MOUNTING PIPE (SEE NOTE 3)
- ANTENNA (SEE NOTE 3)
- TOWER MOUNTED EQUIPMENT, TYP. (TMA, RRU, RRH, SURGE SUPPRESSER, GPS RECEIVER, ECT.)
- #6 AWG GROUND WIRE
- COAXIAL CABLE DIN CONNECTOR
- COAXIAL CABLE GROUNDING KIT (SEE NOTE 1) TYP.
- COAXIAL CABLE
- GROUND BAR
- GROUND WIRE TO GROUND BAR AT BASE OF TOWER
- TO NEXT GROUND BAR (TYPICAL)

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.

FROM ANTENNA

RX TX

JUMPER REQUIRED ONLY WHEN 1 1/4"Ø AND LARGER (TYP.)

CABLEWAVE CONNECTOR WEATHERPROOFING KIT (TYP.)

CABLEWAVE WEATHERPROOFING KIT,

CABLEWAVE GROUND KIT (TYP.) (SEE NOTE)

ANTENNA CABLE TO CABLE TRAY (TYP.)

#6 AWG

CIGBE GROUND BAR NEWTON, SIMILAR TO MOUNTED NEAR/BELOW ANTENNA

FROM ANTENNA FRAME SUPPORT

#2 SOLID TINNED COPPER WIRE

GROUND WIRE TO CIGRE/MIGRE

NOTE

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

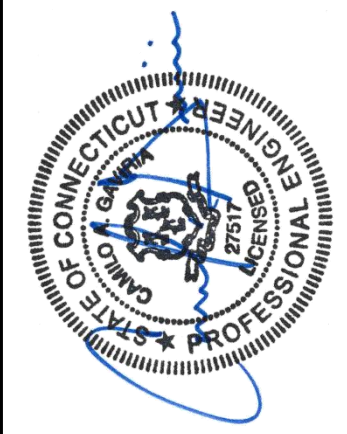
Diagram illustrating the antenna assembly components and dimensions:

- #6 AWG STRANDED COPPER GROUND WIRE (GROUNDED TO GROUND BAR) (STANDARD CABLEWAVE GROUNDING KIT)
- CABLE GROUND KIT
- CABLEWAVE WEATHERPROOFING KIT
- ANTENNA CABLE
- 1 1/4" DIA. MAX.
- 3 3/4"
- 6"
- 12" APPROX.
- ENCLOSURE

NOTE:

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

PROFESSIONAL ENGINEER SEAL



AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
STAMFORD GIRL SCOUTS
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DATE: 06/13/16

SCALE: AS NOTED

JOB NO. 16071.18

LTE WIRING DIAGRAM

E-3

Sheet No. 7 of 7

Sheet No. 7 of 7

Date: July 08, 2016

Charles McGuirt
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

Paul J. Ford and Company
250 E. Broad Street, Suite 600
Columbus, OH 43215
mscroggy@pjfweb.com

Subject: Structural Analysis Report

Carrier Designation:

AT&T Mobility Co-Locate

Carrier Site Number:

CTL02208

Carrier Site Name:

Stamford-Guinea Road

Crown Castle Designation:

Crown Castle BU Number:

806953

Crown Castle Site Name:

BRG 2044 (A) 943097

Crown Castle JDE Job Number:

385787

Crown Castle Work Order Number:

1264485

Crown Castle Application Number:

345676 Rev. 3

Engineering Firm Designation:

Paul J. Ford and Company Project Number: 37516-0250.004.7805

Site Data:

**69 GUINEA RD(CAMP ROCKY CRAIG), STAMFORD, Fairfield
County, CT: Latitude 41° 6' 6.35", Longitude -73° 35' 41.45"
160 Foot - Monopole Tower**

Dear Charles McGuirt,

Paul J. Ford and Company is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 922581, in accordance with application 345676, revision 3.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Existing + Reserved + Proposed Equipment

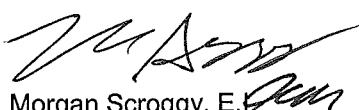
Sufficient Capacity

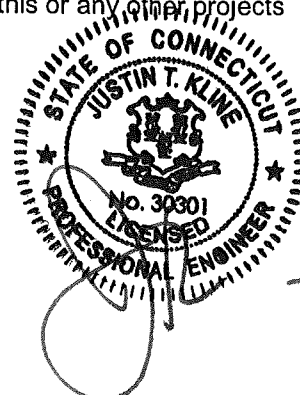
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

This analysis has been performed in accordance with the TIA-222-G, as allowed by Sections 104.10 and 104.11 of the 2005 Connecticut Building Code and the 2012 International Building Code based upon an ultimate 3-second gust wind speed of 117 mph converted to a nominal 3-second gust wind speed of 91 mph per section 1609.3.1 as required for use in the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. Risk Category II, Exposure Category B and Topographic Category 1 with a maximum Topographic Factor, Kzt, of 1.0 were used in this analysis.

We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:


Morgan Scroggy, E.
Structural Designer



Date: **July 08, 2016**

Charles McGuirt
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

Paul J. Ford and Company
250 E. Broad Street, Suite 600
Columbus, OH 43215
mscroggy@pjfweb.com

Subject: Structural Analysis Report

| | | |
|--------------------------------------|---|----------------------|
| Carrier Designation: | AT&T Mobility Co-Locate | |
| | Carrier Site Number: | CTL02208 |
| | Carrier Site Name: | Stamford-Guinea Road |
| Crown Castle Designation: | Crown Castle BU Number: | 806953 |
| | Crown Castle Site Name: | BRG 2044 (A) 943097 |
| | Crown Castle JDE Job Number: | 385787 |
| | Crown Castle Work Order Number: | 1264485 |
| | Crown Castle Application Number: | 345676 Rev. 3 |
| Engineering Firm Designation: | Paul J. Ford and Company Project Number: | 37516-0250.004.7805 |
| Site Data: | 69 GUINEA RD(CAMP ROCKY CRAIG), STAMFORD, Fairfield | |
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| | 160 Foot - Monopole Tower | |

Dear Charles McGuirt,

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Sufficient Capacity

Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

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1) INTRODUCTION

This tower is a 160 ft Monopole tower designed by VALMONT in August of 1999. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

This analysis has been performed in accordance with the TIA-222-G, as allowed by Sections 104.10 and 104.11 of the 2005 Connecticut Building Code and the 2012 International Building Code based upon an ultimate 3-second gust wind speed of 117 mph converted to a nominal 3-second gust wind speed of 91 mph per section 1609.3.1 as required for use in the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. Risk Category II, Exposure Category B and Topographic Category 1 with a maximum Topographic Factor, Kzt, of 1.0 were used in this analysis.

Table 1 - Proposed Antenna and Cable Information

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Number of Feed Lines | Feed Line Size (in) | Note |
|---------------------|----------------------------|--------------------|------------------------|------------------------------|----------------------|---------------------|------|
| 149.0 | 151.0 | 3 | cci antennas | HPA-65R-BUU-H6 w/ Mount Pipe | - | - | - |
| | | 3 | ericsson | RRUS 12 B2/RRUS A2 | | | |
| | | 3 | powerwave technologies | 1001983 | | | |

Table 2 - Existing and Reserved Antenna and Cable Information

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Number of Feed Lines | Feed Line Size (in) | Note |
|---------------------|----------------------------|--------------------|------------------------|------------------------------|----------------------|---------------------|------|
| 157.0 | 158.0 | 3 | alcatel lucent | 800 EXTERNAL NOTCH FILTER | 3 | 1-1/4 | 1 |
| | | 9 | rfs celwave | ACU-A20-N | | | |
| | | 3 | rfs celwave | APXVSP18-C-A20 w/ Mount Pipe | | | |
| | 157.0 | 1 | tower mounts | Platform Mount [LP 713-1] | | | |
| 156.0 | 158.0 | 3 | alcatel lucent | TME-800MHz RRH | - | - | 1 |
| | 156.0 | 3 | alcatel lucent | TME-1900MHz RRH (65 MHz) | | | |
| | | 2 | tower mounts | Pipe Mount [PM 601-3] | | | |
| 149.0 | 151.0 | 6 | powerwave technologies | 7770.00 w/ Mount Pipe | 1 2 12 | 3/8 5/8 1-5/8 | 1 |
| | | 6 | | LGP21401 | | | |
| | | 6 | | LGP21901 | | | |
| | | 3 | ericsson | RRUS-11 | | | |
| | | 1 | raycap | DC6-48-60-18-8F | | | |
| | 149.0 | 1 | tower mounts | Platform Mount [LP 713-1] | | | |
| | | 3 | powerwave technologies | P65-16-XLH-RR w/ Mount Pipe | - | - | 3 |

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Number of Feed Lines | Feed Line Size (in) | Note |
|---------------------|----------------------------|--------------------|------------------------|---------------------------------------|----------------------|-------------------------|------------|
| 139.0 | 142.0 | 3 | alcatel lucent | RRH2X40-AWS | 1 1 12 | 1/2 1-1/4 1-5/8 | 1 |
| | | 6 | andrew | DB846F65ZAXY w/ Mount Pipe | | | |
| | | 3 | powerwave technologies | P65.16.XL.2 w/ Mount Pipe | | | |
| | | 1 | rfs celwave | DB-T1-6Z-8AB-0Z | | | |
| | | 6 | rfs celwave | FD9R6004/2C-3L | | | |
| | | 3 | rymsa wireles | MG D3-800TV w/ Mount Pipe | | | |
| | | 3 | rymsa wireles | MG D3-800Tx w/ Mount Pipe | | | |
| | 139.0 | 1 | tower mounts | Platform Mount [LP 713-1] | | | |
| 116.0 | 118.0 | 3 | ericsson | RRUS 11 B12 | - 1 12 | - 1-1/4 1-5/8 | 2 1 |
| | | 3 | commscope | LNx-6515DS-VTM w/ Mount Pipe | | | |
| | | 3 | ericsson | ERICSSON AIR 21 B2A B4P w/ Mount Pipe | | | |
| | | 3 | ericsson | ERICSSON AIR 21 B4A B2P w/ Mount Pipe | | | |
| | | 3 | ericsson | KRY 112 144/1 | | | |
| | 116.0 | 1 | tower mounts | Platform Mount [LP 712-1] | | | |
| 84.0 | 84.0 | 1 | gps | GPS_A | - | - | 1 |
| | | 1 | tower mounts | Side Arm Mount [SO 701-1] | | | |
| 45.0 | 45.0 | 1 | tower mounts | Pipe Mount [PM 601-1] | - | - | 1 |
| | | 1 | trimble | BULLET III | | | |
| 40.0 | 40.0 | 1 | andrew | GPS-QBW-20N | - | - | 1 |
| | | 1 | tower mounts | Pipe Mount [PM 601-1] | | | |

Notes:

- 1) Existing Equipment
- 2) Reserved Equipment
- 3) Equipment to be Removed, Not Considered in this SA

Table 3 - Design Antenna and Cable Information

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Number of Feed Lines | Feed Line Size (in) |
|---------------------|----------------------------|--------------------|----------------------|---------------|----------------------|---------------------|
| - | - | - | - | - | - | - |

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

| Document | Remarks | Reference | Source |
|---|-----------------------------|-----------|----------|
| 4-GEOTECHNICAL REPORTS | Dr. Clarence Welti, 7/20/98 | 1104116 | CCISITES |
| 4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS | Towerkraft, 2622, 7/30/98 | 1104113 | CCISITES |
| 4-TOWER MANUFACTURER DRAWINGS | Valmont, 18917-69, 8/5/99 | 823122 | CCISITES |
| 4-POST-MODIFICATION INSPECTION | TEP, 1210025, 8/10/2013 | 4015064 | CCISITES |
| 4-POST-MODIFICATION INSPECTION | SGS, 140526, 8/13/2014 | 5577141 | CCISITES |
| 4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA | PJF, 41705-162, 8/30/2009 | 1251715 | CCISITES |

3.1) Analysis Method

tnxTower (version 7.0.5.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Monopole was fabricated and installed in accordance with the manufacturer's specifications.
- 2) Monopole has been properly maintained in accordance with manufacturer's specifications.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) Monopole was modified in conformance with the referenced modification drawings.
- 5) The existing monopole shaft has been reinforced using a Crown-approved system in accordance with the above referenced documents. However, in this analysis we found that the existing pole shaft without modifications has adequate capacity according to TIA-222-G-2 (addendum 2) and therefore, we did not consider the existing reinforcing elements in the strength calculations.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

| Section No. | Elevation (ft) | Component Type | Size | Critical Element | P (K) | SF*P_allow (K) | % Capacity | Pass / Fail |
|-------------|----------------|----------------|-------------------------|------------------|--------|-----------------|-------------|-------------|
| L1 | 160 - 111.33 | Pole | TP31.29x19.6x0.25 | 1 | -12.74 | 1568.58 | 51.1 | Pass |
| L2 | 111.33 - 73.25 | Pole | TP39.912x29.6683x0.3438 | 2 | -23.29 | 2848.48 | 58.7 | Pass |
| L3 | 73.25 - 36.33 | Pole | TP48.088x37.8467x0.4063 | 3 | -34.29 | 4024.95 | 59.3 | Pass |
| L4 | 36.33 - 0 | Pole | TP56x45.6746x0.4375 | 4 | -50.89 | 4947.02 | 63.6 | Pass |
| | | | | | | | Summary | |
| | | | | | | Pole (L4) | 63.6 | Pass |
| | | | | | | RATING = | 63.6 | Pass |

Table 6 - Tower Component Stresses vs. Capacity

| Notes | Component | Elevation (ft) | % Capacity | Pass / Fail |
|-------|----------------------------------|----------------|------------|-------------|
| 1 | Anchor Rods | 0 | 52.3 | Pass |
| 1 | Base Plate | 0 | 45.9 | Pass |
| 1 | Base Foundation – Steel | 0 | 39.5 | Pass |
| 1 | Base Foundation Soil Interaction | 0 | 56.9 | Pass |

| | |
|---|--------------|
| Structure Rating (max from all components) = | 63.6% |
|---|--------------|

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

APPENDIX A

TNXTOWER OUTPUT

Tower Input Data

There is a pole section.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

- 1) Tower is located in Fairfield County, Connecticut.
- 2) ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
- 3) Basic wind speed of 91 mph.
- 4) Structure Class II.
- 5) Exposure Category B.
- 6) Topographic Category 1.
- 7) Crest Height 0.0000 ft.
- 8) Nominal ice thickness of 0.7500 in.
- 9) Ice thickness is considered to increase with height.
- 10) Ice density of 56.00 pcf.
- 11) A wind speed of 50 mph is used in combination with ice.
- 12) Temperature drop of 50 °F.
- 13) Deflections calculated using a wind speed of 60 mph.
- 14) A non-linear (P-delta) analysis was used.
- 15) Pressures are calculated at each section.
- 16) Stress ratio used in pole design is 1.
- 17) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

| | | |
|-------------------------------------|-------------------------------------|-------------------------------------|
| Consider Moments - Legs | Distribute Leg Loads As Uniform | Use ASCE 10 X-Brace Ly Rules |
| Consider Moments - Horizontals | Assume Legs Pinned | Calculate Redundant Bracing Forces |
| Consider Moments - Diagonals | √ Assume Rigid Index Plate | Ignore Redundant Members in FEA |
| Use Moment Magnification | √ Use Clear Spans For Wind Area | SR Leg Bolts Resist Compression |
| √ Use Code Stress Ratios | Use Clear Spans For KL/r | All Leg Panels Have Same Allowable |
| √ Use Code Safety Factors - Guys | Retension Guys To Initial Tension | Offset Girt At Foundation |
| Escalate Ice | √ Bypass Mast Stability Checks | √ Consider Feed Line Torque |
| Always Use Max Kz | √ Use Azimuth Dish Coefficients | Include Angle Block Shear Check |
| Use Special Wind Profile | √ Project Wind Area of Appurt. | Use TIA-222-G Bracing Resist. |
| Include Bolts In Member Capacity | Autocalc Torque Arm Areas | Exemption |
| Leg Bolts Are At Top Of Section | Add IBC .6D+W Combination | Use TIA-222-G Tension Splice |
| Secondary Horizontal Braces Leg | Sort Capacity Reports By Component | Exemption |
| Use Diamond Inner Bracing (4 Sided) | Triangulate Diamond Inner Bracing | Poles |
| SR Members Have Cut Ends | Treat Feed Line Bundles As Cylinder | √ Include Shear-Torsion Interaction |
| SR Members Are Concentric | | Always Use Sub-Critical Flow |
| | | Use Top Mounted Sockets |

Tapered Pole Section Geometry

| Section | Elevation ft | Section Length ft | Splice Length ft | Number of Sides | Top Diameter in | Bottom Diameter in | Wall Thickness in | Bend Radius in | Pole Grade |
|---------|-----------------------|-------------------------|------------------------|-----------------------|-----------------------|--------------------------|-------------------------|----------------------|---------------------|
| L1 | 160.0000- 111.3300 | 48.6700 | 4.67 | 12 | 19.6000 | 31.2900 | 0.2500 | 1.0000 | A572-65 (65 ksi) |
| L2 | 111.3300- 73.2500 | 42.7500 | 5.75 | 12 | 29.6683 | 39.9120 | 0.3438 | 1.3750 | A572-65 (65 ksi) |
| L3 | 73.2500- 36.3300 | 42.6700 | 6.67 | 12 | 37.8467 | 48.0880 | 0.4063 | 1.6250 | A572-65 (65 ksi) |
| L4 | 36.3300- 0.0000 | 43.0000 | | 12 | 45.6746 | 56.0000 | 0.4375 | 1.7500 | A572-65 (65 ksi) |

Tapered Pole Properties

| Section | Tip Dia. in | Area in ² | I in ⁴ | r in | C in | I/C in ³ | J in ⁴ | I/Q in ² | w in | w/t |
|---------|----------------|-------------------------|----------------------|---------|---------|------------------------|----------------------|------------------------|---------|--------|
| L1 | 20.2914 | 15.5768 | 744.4315 | 6.9273 | 10.1528 | 73.3228 | 1508.4200 | 7.6664 | 4.5828 | 18.331 |
| | 32.3938 | 24.9872 | 3072.8897 | 11.1123 | 16.2082 | 189.5883 | 6226.5076 | 12.2979 | 7.7157 | 30.863 |
| L2 | 31.8734 | 32.4586 | 3562.7008 | 10.4982 | 15.3682 | 231.8231 | 7218.9977 | 15.9752 | 7.0299 | 20.45 |
| | 41.3199 | 43.7971 | 8752.3577 | 14.1654 | 20.6744 | 423.3424 | 17734.649 | 21.5556 | 9.7752 | 28.437 |
| L3 | 40.6105 | 48.9768 | 8763.1088 | 13.4037 | 19.6046 | 446.9928 | 17756.434 | 24.1049 | 9.0542 | 22.287 |
| | 49.7844 | 62.3737 | 18100.549 | 17.0701 | 24.9096 | 726.6500 | 36676.620 | 30.6984 | 11.7988 | 29.043 |
| L4 | 48.9440 | 63.7278 | 16645.803 | 16.1949 | 23.6595 | 703.5582 | 33728.909 | 31.3649 | 11.0683 | 25.299 |
| | 57.9755 | 78.2737 | 30843.610 | 19.8914 | 29.0080 | 1063.2795 | 62497.517 | 38.5239 | 13.8355 | 31.624 |

Feed Line/Linear Appurtenances - Entered As Area

| Description | Face or Leg | Allow Shield | Component Type | Placement ft | Total Number | | C _A A _A ft ² /ft | Weight klf |
|--|-------------------|-----------------|--------------------|-------------------|-----------------|------------------------------|--|----------------------|
| HB114-1-0813U4-M5J(1 1/4") | A | No | CaAa (Out Of Face) | 157.0000 - 0.0000 | 1 | No Ice 1/2" Ice 1" Ice | 0.1540 0.2540 0.3540 | 0.00 0.00 0.00 |
| HB114-1-0813U4-M5J(1 1/4") | A | No | CaAa (Out Of Face) | 157.0000 - 0.0000 | 2 | No Ice 1/2" Ice 1" Ice | 0.0000 0.0000 0.0000 | 0.00 0.00 0.00 |
| *** | | | | | | | | |
| LCF158-50JA-A0(1 5/8") | C | No | Inside Pole | 149.0000 - 0.0000 | 12 | No Ice 1/2" Ice 1" Ice | 0.0000 0.0000 0.0000 | 0.00 0.00 0.00 |
| FB-L98B-002-75000(3/8") | C | No | Inside Pole | 149.0000 - 0.0000 | 1 | No Ice 1/2" Ice 1" Ice | 0.0000 0.0000 0.0000 | 0.00 0.00 0.00 |
| WR-VG82ST-BRDA(5/8") | C | No | Inside Pole | 149.0000 - 0.0000 | 2 | No Ice 1/2" Ice 1" Ice | 0.0000 0.0000 0.0000 | 0.00 0.00 0.00 |
| 2" (Nominal) Conduit | C | No | Inside Pole | 149.0000 - 0.0000 | 1 | No Ice 1/2" Ice 1" Ice | 0.0000 0.0000 0.0000 | 0.00 0.00 0.00 |
| *** | | | | | | | | |
| 561(1-5/8") | B | No | Inside Pole | 139.0000 - 0.0000 | 12 | No Ice 1/2" Ice 1" Ice | 0.0000 0.0000 0.0000 | 0.00 0.00 0.00 |
| LDF6-50A(1-1/4") | C | No | CaAa (Out Of Face) | 139.0000 - 0.0000 | 1 | No Ice 1/2" Ice 1" Ice | 0.1550 0.2550 0.3550 | 0.00 0.00 0.00 |
| LDF4-50A(1/2") | C | No | CaAa (Out Of Face) | 139.0000 - 0.0000 | 1 | No Ice 1/2" Ice 1" Ice | 0.0000 0.0000 0.0000 | 0.00 0.00 0.00 |
| *** | | | | | | | | |
| MLE Hybrid 3Power/6Fiber RL 2(1 1/4") | A | No | Inside Pole | 116.0000 - 0.0000 | 1 | No Ice 1/2" Ice 1" Ice | 0.0000 0.0000 0.0000 | 0.00 0.00 0.00 |
| LDF7-50A(1-5/8") | A | No | Inside Pole | 116.0000 - 0.0000 | 12 | No Ice 1/2" Ice 1" Ice | 0.0000 0.0000 0.0000 | 0.00 0.00 0.00 |
| *** | | | | | | | | |
| 3/4" Flat Reinforcement | C | No | CaAa (Out Of Face) | 12.2500 - 1.7500 | 1 | No Ice 1/2" Ice 1" Ice | 0.1250 0.2361 0.3472 | 0.00 0.00 0.00 |
| 3/4" Flat Reinforcement | C | No | CaAa (Out Of Face) | 78.5000 - 77.0000 | 1 | No Ice 1/2" Ice 1" Ice | 0.1250 0.2361 0.3472 | 0.00 0.00 0.00 |
| 1" Flat Reinforcement | C | No | CaAa (Out Of Face) | 52.2500 - 12.2500 | 1 | No Ice 1/2" Ice 1" Ice | 0.1667 0.2778 0.3889 | 0.00 0.00 0.00 |
| 1" Flat Reinforcement | C | No | CaAa (Out Of Face) | 88.5000 - 78.5000 | 1 | No Ice 1/2" Ice 1" Ice | 0.1667 0.2778 0.3889 | 0.00 0.00 0.00 |

Discrete Tower Loads

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral Vert ft ft ft | Azimuth Adjustmen t ° | Placement ft | | C _A A _A Front ft ² | C _A A _A Side ft ² | Weight K |
|---------------------------------|-------------------|----------------|---|--------------------------------|---------------------|---------------------------------|---|--|----------------------|
| APXVSP18-C-A20 w/ Mount Pipe | A | From Face | 4.0000 0.00 1.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 8.2619 8.8215 9.3462 | 6.9458 8.1266 9.0212 | 0.08 0.15 0.23 |
| APXVSP18-C-A20 w/ Mount Pipe | B | From Face | 4.0000 0.00 1.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 8.2619 8.8215 9.3462 | 6.9458 8.1266 9.0212 | 0.08 0.15 0.23 |
| APXVSP18-C-A20 w/ Mount Pipe | C | From Face | 4.0000 0.00 1.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 8.2619 8.8215 9.3462 | 6.9458 8.1266 9.0212 | 0.08 0.15 0.23 |
| 800 EXTERNAL NOTCH FILTER | A | From Face | 4.0000 0.00 1.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 0.6601 0.7627 0.8727 | 0.3211 0.3983 0.4830 | 0.01 0.02 0.02 |
| 800 EXTERNAL NOTCH FILTER | B | From Face | 4.0000 0.00 1.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 0.6601 0.7627 0.8727 | 0.3211 0.3983 0.4830 | 0.01 0.02 0.02 |
| 800 EXTERNAL NOTCH FILTER | C | From Face | 4.0000 0.00 1.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 0.6601 0.7627 0.8727 | 0.3211 0.3983 0.4830 | 0.01 0.02 0.02 |
| (3) ACU-A20-N | A | From Face | 4.0000 0.00 1.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 0.0667 0.1037 0.1481 | 0.1167 0.1620 0.2148 | 0.00 0.00 0.00 |
| (3) ACU-A20-N | B | From Face | 4.0000 0.00 1.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 0.0667 0.1037 0.1481 | 0.1167 0.1620 0.2148 | 0.00 0.00 0.00 |
| (3) ACU-A20-N | C | From Face | 4.0000 0.00 1.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 0.0667 0.1037 0.1481 | 0.1167 0.1620 0.2148 | 0.00 0.00 0.00 |
| (2) 4' x 2" Pipe Mount | A | From Face | 4.0000 0.00 0.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 0.7852 1.0284 1.2809 | 0.7852 1.0284 1.2809 | 0.03 0.04 0.04 |
| (2) 4' x 2" Pipe Mount | B | From Face | 4.0000 0.00 0.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 0.7852 1.0284 1.2809 | 0.7852 1.0284 1.2809 | 0.03 0.04 0.04 |
| (2) 4' x 2" Pipe Mount | C | From Face | 4.0000 0.00 0.00 | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 0.7852 1.0284 1.2809 | 0.7852 1.0284 1.2809 | 0.03 0.04 0.04 |
| Platform Mount [LP 713-1] | A | None | | 0.00 | 157.0000 | No Ice 1/2" Ice 1" Ice | 31.2700 39.6800 48.0900 | 31.2700 39.6800 48.0900 | 1.51 1.93 2.35 |
| *** | | | | | | | | | |
| TME-800MHz RRH | A | From Face | 2.0000 0.00 2.00 | 0.00 | 156.0000 | No Ice 1/2" Ice 1" Ice | 2.1342 2.3195 2.5123 | 1.7730 1.9461 2.1267 | 0.05 0.07 0.10 |
| TME-800MHz RRH | B | From Face | 2.0000 0.00 2.00 | 0.00 | 156.0000 | No Ice 1/2" Ice 1" Ice | 2.1342 2.3195 2.5123 | 1.7730 1.9461 2.1267 | 0.05 0.07 0.10 |

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral Vert ft ft ft | Azimuth Adjustmen t ° | Placement ft | | C _{AA} Front ft ² | C _{AA} Side ft ² | Weight K |
|-----------------------------|-------------------|----------------|---|--------------------------------|-----------------|---------------------------------|---|--|----------------------|
| TME-800MHz RRH | C | From Face | 2.0000 0.00 2.00 | 0.00 | 156.0000 | No Ice 1/2" Ice 1" Ice | 2.1342 2.3195 2.5123 | 1.7730 1.9461 2.1267 | 0.05 0.07 0.10 |
| TME-1900MHz RRH (65 MHz) | A | From Face | 2.0000 0.00 0.00 | 0.00 | 156.0000 | No Ice 1/2" Ice 1" Ice | 2.3125 2.5168 2.7284 | 2.3750 2.5809 2.7943 | 0.06 0.08 0.11 |
| TME-1900MHz RRH (65 MHz) | B | From Face | 2.0000 0.00 0.00 | 0.00 | 156.0000 | No Ice 1/2" Ice 1" Ice | 2.3125 2.5168 2.7284 | 2.3750 2.5809 2.7943 | 0.06 0.08 0.11 |
| TME-1900MHz RRH (65 MHz) | C | From Face | 2.0000 0.00 0.00 | 0.00 | 156.0000 | No Ice 1/2" Ice 1" Ice | 2.3125 2.5168 2.7284 | 2.3750 2.5809 2.7943 | 0.06 0.08 0.11 |
| (2) Pipe Mount [PM 601-3] | C | None | | 0.00 | 156.0000 | No Ice 1/2" Ice 1" Ice | 4.3900 5.4800 6.5700 | 4.3900 5.4800 6.5700 | 0.20 0.24 0.28 |
| ***** | | | | | | | | | |
| (2) 7770.00 w/ Mount Pipe | A | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 5.8474 6.2677 6.6966 | 4.8204 5.5082 6.2127 | 0.09 0.14 0.21 |
| (2) 7770.00 w/ Mount Pipe | B | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 5.8474 6.2677 6.6966 | 4.8204 5.5082 6.2127 | 0.09 0.14 0.21 |
| (2) 7770.00 w/ Mount Pipe | C | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 5.8474 6.2677 6.6966 | 4.8204 5.5082 6.2127 | 0.09 0.14 0.21 |
| (2) LGP21401 | A | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 1.1040 1.2388 1.3810 | 0.3471 0.4422 0.5444 | 0.01 0.02 0.03 |
| (2) LGP21401 | B | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 1.1040 1.2388 1.3810 | 0.3471 0.4422 0.5444 | 0.01 0.02 0.03 |
| (2) LGP21401 | C | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 1.1040 1.2388 1.3810 | 0.3471 0.4422 0.5444 | 0.01 0.02 0.03 |
| (2) LGP21901 | A | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 0.2310 0.2941 0.3647 | 0.1575 0.2129 0.2756 | 0.01 0.01 0.01 |
| (2) LGP21901 | B | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 0.2310 0.2941 0.3647 | 0.1575 0.2129 0.2756 | 0.01 0.01 0.01 |
| (2) LGP21901 | C | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 0.2310 0.2941 0.3647 | 0.1575 0.2129 0.2756 | 0.01 0.01 0.01 |
| RRUS-11 | A | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 2.7908 2.9984 3.2134 | 1.1923 1.3395 1.4957 | 0.05 0.07 0.09 |
| RRUS-11 | B | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 2.7908 2.9984 3.2134 | 1.1923 1.3395 1.4957 | 0.05 0.07 0.09 |

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral Vert ft ft ft | Azimuth Adjustmen t ° | Placement ft | | C _{AA} Front ft ² | C _{AA} Side ft ² | Weight K |
|---------------------------------|-------------------|----------------|---|--------------------------------|-----------------|---------------------------------|---|--|----------------------|
| RRUS-11 | C | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 2.7908 2.9984 3.2134 | 1.1923 1.3395 1.4957 | 0.05 0.07 0.09 |
| DC6-48-60-18-8F | C | From Face | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 0.9167 1.4583 1.6431 | 0.9167 1.4583 1.6431 | 0.02 0.04 0.06 |
| 4' x 2" Pipe Mount | A | From Face | 4.0000 0.00 0.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 0.7852 1.0284 1.2809 | 0.7852 1.0284 1.2809 | 0.03 0.04 0.04 |
| 4' x 2" Pipe Mount | B | From Face | 4.0000 0.00 0.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 0.7852 1.0284 1.2809 | 0.7852 1.0284 1.2809 | 0.03 0.04 0.04 |
| 4' x 2" Pipe Mount | C | From Face | 4.0000 0.00 0.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 0.7852 1.0284 1.2809 | 0.7852 1.0284 1.2809 | 0.03 0.04 0.04 |
| Platform Mount [LP 713-1] | A | None | | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 31.2700 39.6800 48.0900 | 31.2700 39.6800 48.0900 | 1.51 1.93 2.35 |
| HPA-65R-BUU-H6 w/ Mount Pipe | A | From Leg | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 9.8953 10.4700 11.0098 | 8.1125 9.3041 10.2095 | 0.08 0.16 0.25 |
| HPA-65R-BUU-H6 w/ Mount Pipe | B | From Leg | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 9.8953 10.4700 11.0098 | 8.1125 9.3041 10.2095 | 0.08 0.16 0.25 |
| HPA-65R-BUU-H6 w/ Mount Pipe | C | From Leg | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 9.8953 10.4700 11.0098 | 8.1125 9.3041 10.2095 | 0.08 0.16 0.25 |
| RRUS 12 B2/RRUS A2 | A | From Leg | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 3.1450 3.3648 3.5920 | 1.8496 2.0271 2.2120 | 0.07 0.10 0.13 |
| RRUS 12 B2/RRUS A2 | B | From Leg | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 3.1450 3.3648 3.5920 | 1.8496 2.0271 2.2120 | 0.07 0.10 0.13 |
| RRUS 12 B2/RRUS A2 | C | From Leg | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 3.1450 3.3648 3.5920 | 1.8496 2.0271 2.2120 | 0.07 0.10 0.13 |
| 1001983 | A | From Leg | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 0.0524 0.0861 0.1272 | 0.1758 0.2317 0.2950 | 0.00 0.01 0.01 |
| 1001983 | B | From Leg | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 0.0524 0.0861 0.1272 | 0.1758 0.2317 0.2950 | 0.00 0.01 0.01 |
| 1001983 | C | From Leg | 4.0000 0.00 2.00 | 0.00 | 149.0000 | No Ice 1/2" Ice 1" Ice | 0.0524 0.0861 0.1272 | 0.1758 0.2317 0.2950 | 0.00 0.01 0.01 |
| *** | | | | | | | | | |
| MG D3-800TV w/ Mount Pipe | A | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 3.5703 3.9790 4.3870 | 3.4178 4.1193 4.7842 | 0.04 0.07 0.11 |

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral Vert ft ft ft | Azimuth Adjustmen t ° | Placement ft | | C _{AA} Front ft ² | C _{AA} Side ft ² | Weight K |
|-----------------------------------|-------------------|----------------|---|--------------------------------|-----------------|---------------------------------|---|--|----------------------|
| MG D3-800TV w/ Mount Pipe | B | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 3.5703 3.9790 4.3870 | 3.4178 4.1193 4.7842 | 0.04 0.07 0.11 |
| MG D3-800TV w/ Mount Pipe | C | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 3.5703 3.9790 4.3870 | 3.4178 4.1193 4.7842 | 0.04 0.07 0.11 |
| (2) DB846F65ZAXY w/ Mount Pipe | A | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 7.2708 7.8325 8.3480 | 7.8208 9.0097 9.9124 | 0.05 0.11 0.19 |
| (2) DB846F65ZAXY w/ Mount Pipe | B | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 7.2708 7.8325 8.3480 | 7.8208 9.0097 9.9124 | 0.05 0.11 0.19 |
| (2) DB846F65ZAXY w/ Mount Pipe | C | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 7.2708 7.8325 8.3480 | 7.8208 9.0097 9.9124 | 0.05 0.11 0.19 |
| P65.16.XL.2 w/ Mount Pipe | A | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 8.3708 8.9314 9.4571 | 5.7792 6.9491 7.8329 | 0.06 0.12 0.19 |
| P65.16.XL.2 w/ Mount Pipe | B | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 8.3708 8.9314 9.4571 | 5.7792 6.9491 7.8329 | 0.06 0.12 0.19 |
| P65.16.XL.2 w/ Mount Pipe | C | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 8.3708 8.9314 9.4571 | 5.7792 6.9491 7.8329 | 0.06 0.12 0.19 |
| MG D3-800Tx w/ Mount Pipe | A | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 3.5703 3.9790 4.3870 | 3.4178 4.1193 4.7842 | 0.03 0.07 0.11 |
| MG D3-800Tx w/ Mount Pipe | B | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 3.5703 3.9790 4.3870 | 3.4178 4.1193 4.7842 | 0.03 0.07 0.11 |
| MG D3-800Tx w/ Mount Pipe | C | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 3.5703 3.9790 4.3870 | 3.4178 4.1193 4.7842 | 0.03 0.07 0.11 |
| (2) FD9R6004/2C-3L | A | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 0.3142 0.3862 0.4656 | 0.0762 0.1189 0.1685 | 0.00 0.01 0.01 |
| (2) FD9R6004/2C-3L | B | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 0.3142 0.3862 0.4656 | 0.0762 0.1189 0.1685 | 0.00 0.01 0.01 |
| (2) FD9R6004/2C-3L | C | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 0.3142 0.3862 0.4656 | 0.0762 0.1189 0.1685 | 0.00 0.01 0.01 |
| RRH2X40-AWS | A | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 2.1614 2.3597 2.5655 | 1.4199 1.5903 1.7676 | 0.04 0.06 0.08 |
| RRH2X40-AWS | B | From Face | 4.0000 0.00 3.00 | 0.00 | 139.0000 | No Ice 1/2" Ice 1" Ice | 2.1614 2.3597 2.5655 | 1.4199 1.5903 1.7676 | 0.04 0.06 0.08 |
| RRH2X40-AWS | C | From Face | 4.0000 | 0.00 | 139.0000 | No Ice | 2.1614 | 1.4199 | 0.04 |

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral Vert ft ft ft | Azimuth Adjustmen t ° | Placement ft | | C _A A _A Front ft ² | C _A A _A Side ft ² | Weight K |
|--|-------------------|----------------|---|--------------------------------|-----------------|--------|---|--|-------------|
| | | | 0.00 | | | 1/2" | 2.3597 | 1.5903 | 0.06 |
| | | | 3.00 | | | Ice | 2.5655 | 1.7676 | 0.08 |
| DB-T1-6Z-8AB-0Z | C | From Face | 4.0000 | 0.00 | 139.0000 | 1" Ice | 4.8000 | 2.0000 | 0.04 |
| | | | 0.00 | | | No Ice | 5.0704 | 2.1926 | 0.08 |
| | | | 3.00 | | | 1/2" | 5.3481 | 2.3926 | 0.12 |
| | | | | | | Ice | | | |
| Platform Mount [LP 713-1] | A | None | | 0.00 | 139.0000 | 1" Ice | 31.2700 | 31.2700 | 1.51 |
| | | | | | | No Ice | 39.6800 | 39.6800 | 1.93 |
| | | | | | | 1/2" | 48.0900 | 48.0900 | 2.35 |
| | | | | | | Ice | | | |
| | | | | | | 1" Ice | | | |
| *** | | | | | | | | | |
| LNx-6515DS-VTM w/ Mount Pipe | A | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 11.6828 | 9.8418 | 0.08 |
| | | | 0.00 | | | 1/2" | 12.4043 | 11.3657 | 0.17 |
| | | | 2.00 | | | Ice | 13.1351 | 12.9138 | 0.27 |
| | | | | | | 1" Ice | | | |
| LNx-6515DS-VTM w/ Mount Pipe | B | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 11.6828 | 9.8418 | 0.08 |
| | | | 0.00 | | | 1/2" | 12.4043 | 11.3657 | 0.17 |
| | | | 2.00 | | | Ice | 13.1351 | 12.9138 | 0.27 |
| | | | | | | 1" Ice | | | |
| LNx-6515DS-VTM w/ Mount Pipe | C | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 11.6828 | 9.8418 | 0.08 |
| | | | 0.00 | | | 1/2" | 12.4043 | 11.3657 | 0.17 |
| | | | 2.00 | | | Ice | 13.1351 | 12.9138 | 0.27 |
| | | | | | | 1" Ice | | | |
| RRUS 11 B12 | A | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 2.8333 | 1.1821 | 0.05 |
| | | | 0.00 | | | 1/2" | 3.0426 | 1.3299 | 0.07 |
| | | | 2.00 | | | Ice | 3.2593 | 1.4848 | 0.10 |
| | | | | | | 1" Ice | | | |
| RRUS 11 B12 | B | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 2.8333 | 1.1821 | 0.05 |
| | | | 0.00 | | | 1/2" | 3.0426 | 1.3299 | 0.07 |
| | | | 2.00 | | | Ice | 3.2593 | 1.4848 | 0.10 |
| | | | | | | 1" Ice | | | |
| RRUS 11 B12 | C | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 2.8333 | 1.1821 | 0.05 |
| | | | 0.00 | | | 1/2" | 3.0426 | 1.3299 | 0.07 |
| | | | 2.00 | | | Ice | 3.2593 | 1.4848 | 0.10 |
| | | | | | | 1" Ice | | | |
| ERICSSON AIR 21 B2A B4P w/ Mount Pipe | A | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 6.3292 | 5.6424 | 0.11 |
| | | | 0.00 | | | 1/2" | 6.7751 | 6.4259 | 0.17 |
| | | | 2.00 | | | Ice | 7.2137 | 7.1313 | 0.23 |
| | | | | | | 1" Ice | | | |
| ERICSSON AIR 21 B2A B4P w/ Mount Pipe | B | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 6.3292 | 5.6424 | 0.11 |
| | | | 0.00 | | | 1/2" | 6.7751 | 6.4259 | 0.17 |
| | | | 2.00 | | | Ice | 7.2137 | 7.1313 | 0.23 |
| | | | | | | 1" Ice | | | |
| ERICSSON AIR 21 B2A B4P w/ Mount Pipe | C | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 6.3292 | 5.6424 | 0.11 |
| | | | 0.00 | | | 1/2" | 6.7751 | 6.4259 | 0.17 |
| | | | 2.00 | | | Ice | 7.2137 | 7.1313 | 0.23 |
| | | | | | | 1" Ice | | | |
| ERICSSON AIR 21 B4A B2P w/ Mount Pipe | A | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 6.3186 | 5.6334 | 0.11 |
| | | | 0.00 | | | 1/2" | 6.7646 | 6.4160 | 0.17 |
| | | | 2.00 | | | Ice | 7.2032 | 7.1208 | 0.23 |
| | | | | | | 1" Ice | | | |
| ERICSSON AIR 21 B4A B2P w/ Mount Pipe | B | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 6.3186 | 5.6334 | 0.11 |
| | | | 0.00 | | | 1/2" | 6.7646 | 6.4160 | 0.17 |
| | | | 2.00 | | | Ice | 7.2032 | 7.1208 | 0.23 |
| | | | | | | 1" Ice | | | |
| ERICSSON AIR 21 B4A B2P w/ Mount Pipe | C | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 6.3186 | 5.6334 | 0.11 |
| | | | 0.00 | | | 1/2" | 6.7646 | 6.4160 | 0.17 |
| | | | 2.00 | | | Ice | 7.2032 | 7.1208 | 0.23 |
| | | | | | | 1" Ice | | | |
| KRY 112 144/1 | A | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 0.3500 | 0.1750 | 0.01 |
| | | | 0.00 | | | 1/2" | 0.4259 | 0.2343 | 0.01 |
| | | | 2.00 | | | Ice | 0.5093 | 0.3009 | 0.02 |
| | | | | | | 1" Ice | | | |
| KRY 112 144/1 | B | From Face | 4.0000 | 0.00 | 116.0000 | No Ice | 0.3500 | 0.1750 | 0.01 |

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral Vert ft ft ft | Azimuth Adjustmen t ° | Placement ft | | C _A A _A Front ft ² | C _A A _A Side ft ² | Weight K |
|---------------------------|-------------------|----------------|---|--------------------------------|-----------------|--------|---|--|-------------|
| | | | 0.00 | | | 1/2" | 0.4259 | 0.2343 | 0.01 |
| | | | 2.00 | | | Ice | 0.5093 | 0.3009 | 0.02 |
| KRY 112 144/1 | C | From Face | 4.0000 | 0.00 | 116.0000 | 1" Ice | 0.3500 | 0.1750 | 0.01 |
| | | | 0.00 | | | No Ice | 0.4259 | 0.2343 | 0.01 |
| | | | 2.00 | | | 1/2" | 0.4259 | 0.2343 | 0.01 |
| | | | | | | Ice | 0.5093 | 0.3009 | 0.02 |
| Platform Mount [LP 712-1] | A | None | | 0.00 | 116.0000 | 1" Ice | | | |
| | | | | | | No Ice | 24.5300 | 24.5300 | 1.34 |
| | | | | | | 1/2" | 29.9400 | 29.9400 | 1.65 |
| | | | | | | Ice | 35.3500 | 35.3500 | 1.96 |
| *** | | | | | | 1" Ice | | | |
| GPS_A | C | From Face | 4.0000 | 0.00 | 84.0000 | No Ice | 0.2550 | 0.2550 | 0.00 |
| | | | 0.00 | | | 1/2" | 0.3205 | 0.3205 | 0.00 |
| | | | 0.00 | | | Ice | 0.3934 | 0.3934 | 0.01 |
| Side Arm Mount [SO 701-1] | C | From Face | 2.0000 | 0.00 | 84.0000 | 1" Ice | | | |
| | | | 0.00 | | | No Ice | 0.8500 | 1.6700 | 0.07 |
| | | | 0.00 | | | 1/2" | 1.1400 | 2.3400 | 0.08 |
| | | | | | | Ice | 1.4300 | 3.0100 | 0.09 |
| *** | | | | | | 1" Ice | | | |
| BULLET III | C | None | | 0.00 | 45.0000 | No Ice | 0.0663 | 0.0663 | 0.00 |
| | | | | | | 1/2" | 0.1015 | 0.1015 | 0.00 |
| | | | | | | Ice | 0.1440 | 0.1440 | 0.00 |
| Pipe Mount [PM 601-1] | C | None | | 0.00 | 45.0000 | 1" Ice | | | |
| | | | | | | No Ice | 3.0000 | 0.9000 | 0.07 |
| | | | | | | 1/2" | 3.7400 | 1.1200 | 0.08 |
| | | | | | | Ice | 4.4800 | 1.3400 | 0.09 |
| *** | | | | | | 1" Ice | | | |
| GPS-QBW-20N | C | None | | 0.00 | 40.0000 | No Ice | 0.1292 | 0.1292 | 0.00 |
| | | | | | | 1/2" | 0.1779 | 0.1779 | 0.00 |
| | | | | | | Ice | 0.2340 | 0.2340 | 0.00 |
| Pipe Mount [PM 601-1] | C | None | | 0.00 | 40.0000 | 1" Ice | | | |
| | | | | | | No Ice | 3.0000 | 0.9000 | 0.07 |
| | | | | | | 1/2" | 3.7400 | 1.1200 | 0.08 |
| | | | | | | Ice | 4.4800 | 1.3400 | 0.09 |
| *** | | | | | | 1" Ice | | | |

Tower Pressures - No Ice

$$G_H = 1.100$$

| Section Elevation ft | z ft | K _z | q _z ksf | A _G ft ² | F a c e | A _F ft ² | A _R ft ² | A _{leg} ft ² | Leg % | C _A A _A In Face ft ² | C _A A _A Out Face ft ² |
|----------------------------|----------|----------------|-----------------------|-----------------------------------|------------------|-----------------------------------|-----------------------------------|-------------------------------------|----------|--|---|
| L1 160.0000- 111.3300 | 134.1093 | 1.075 | 0.02 | 106.84 1 | A | 0.000 | 106.841 | 106.841 | 100.00 | 0.000 | 7.033 |
| | | | | | B | 0.000 | 106.841 | | 100.00 | 0.000 | 0.000 |
| | | | | | C | 0.000 | 106.841 | | 100.00 | 0.000 | 4.289 |
| L2 111.3300- 73.2500 | 91.7516 | 0.964 | 0.02 | 116.13 3 | A | 0.000 | 116.133 | 116.133 | 100.00 | 0.000 | 5.864 |
| | | | | | B | 0.000 | 116.133 | | 100.00 | 0.000 | 0.000 |
| | | | | | C | 0.000 | 116.133 | | 100.00 | 0.000 | 7.757 |
| L3 73.2500- 36.3300 | 54.6142 | 0.831 | 0.02 | 139.05 7 | A | 0.000 | 139.057 | 139.057 | 100.00 | 0.000 | 5.686 |
| | | | | | B | 0.000 | 139.057 | | 100.00 | 0.000 | 0.000 |
| | | | | | C | 0.000 | 139.057 | | 100.00 | 0.000 | 8.376 |
| L4 36.3300- 0.0000 | 17.6535 | 0.7 | 0.01 | 161.84 9 | A | 0.000 | 161.849 | 161.849 | 100.00 | 0.000 | 5.595 |
| | | | | | B | 0.000 | 161.849 | | 100.00 | 0.000 | 0.000 |
| | | | | | C | 0.000 | 161.849 | | 100.00 | 0.000 | 10.957 |

Tower Pressure - With Ice

$$G_H = 1.100$$

| Section Elevation ft | z ft | K_z | q_z ksf | t_z in | A_G ft ² | F a c e | A_F ft ² | A_R ft ² | A_{leg} ft ² | Leg % | $C_A A_A$ In Face ft ² | $C_A A_A$ Out Face ft ² |
|----------------------------|----------|-------|--------------|-------------|--------------------------|------------------|--------------------------|--------------------------|------------------------------|----------|--|---|
| L1 160.0000- 111.3300 | 134.1093 | 1.075 | 0.01 | 1.7258 | 120.840 | A | 0.000 | 120.840 | 120.840 | 100.00 | 0.000 | 22.797 |
| | | | | | | B | 0.000 | 120.840 | | 100.00 | 0.000 | 0.000 |
| | | | | | | C | 0.000 | 120.840 | | 100.00 | 0.000 | 13.839 |
| L2 111.3300- 73.2500 | 91.7516 | 0.964 | 0.01 | 1.6615 | 127.086 | A | 0.000 | 127.086 | 127.086 | 100.00 | 0.000 | 19.008 |
| | | | | | | B | 0.000 | 127.086 | | 100.00 | 0.000 | 0.000 |
| | | | | | | C | 0.000 | 127.086 | | 100.00 | 0.000 | 25.310 |
| L3 73.2500- 36.3300 | 54.6142 | 0.831 | 0.01 | 1.5775 | 149.281 | A | 0.000 | 149.281 | 149.281 | 100.00 | 0.000 | 17.954 |
| | | | | | | B | 0.000 | 149.281 | | 100.00 | 0.000 | 0.000 |
| | | | | | | C | 0.000 | 149.281 | | 100.00 | 0.000 | 26.522 |
| L4 36.3300- 0.0000 | 17.6535 | 0.7 | 0.00 | 1.4090 | 171.401 | A | 0.000 | 171.401 | 171.401 | 100.00 | 0.000 | 17.057 |
| | | | | | | B | 0.000 | 171.401 | | 100.00 | 0.000 | 0.000 |
| | | | | | | C | 0.000 | 171.401 | | 100.00 | 0.000 | 34.541 |

Tower Pressure - Service

$$G_H = 1.100$$

| Section Elevation ft | z ft | K_z | q_z ksf | A_G ft ² | F a c e | A_F ft ² | A_R ft ² | A_{leg} ft ² | Leg % | $C_A A_A$ In Face ft ² | $C_A A_A$ Out Face ft ² |
|----------------------------|----------|-------|--------------|--------------------------|------------------|--------------------------|--------------------------|------------------------------|----------|--|---|
| L1 160.0000- 111.3300 | 134.1093 | 1.075 | 0.01 | 106.84 | A | 0.000 | 106.841 | 106.841 | 100.00 | 0.000 | 7.033 |
| | | | | 1 | B | 0.000 | 106.841 | | 100.00 | 0.000 | 0.000 |
| | | | | | C | 0.000 | 106.841 | | 100.00 | 0.000 | 4.289 |
| L2 111.3300- 73.2500 | 91.7516 | 0.964 | 0.01 | 116.13 | A | 0.000 | 116.133 | 116.133 | 100.00 | 0.000 | 5.864 |
| | | | | 3 | B | 0.000 | 116.133 | | 100.00 | 0.000 | 0.000 |
| | | | | | C | 0.000 | 116.133 | | 100.00 | 0.000 | 7.757 |
| L3 73.2500- 36.3300 | 54.6142 | 0.831 | 0.01 | 139.05 | A | 0.000 | 139.057 | 139.057 | 100.00 | 0.000 | 5.686 |
| | | | | 7 | B | 0.000 | 139.057 | | 100.00 | 0.000 | 0.000 |
| | | | | | C | 0.000 | 139.057 | | 100.00 | 0.000 | 8.376 |
| L4 36.3300- 0.0000 | 17.6535 | 0.7 | 0.01 | 161.84 | A | 0.000 | 161.849 | 161.849 | 100.00 | 0.000 | 5.595 |
| | | | | 9 | B | 0.000 | 161.849 | | 100.00 | 0.000 | 0.000 |
| | | | | | C | 0.000 | 161.849 | | 100.00 | 0.000 | 10.957 |

Load Combinations

| Comb. No. | Description |
|--------------|------------------------------------|
| 1 | Dead Only |
| 2 | 1.2 Dead+1.6 Wind 0 deg - No Ice |
| 3 | 0.9 Dead+1.6 Wind 0 deg - No Ice |
| 4 | 1.2 Dead+1.6 Wind 30 deg - No Ice |
| 5 | 0.9 Dead+1.6 Wind 30 deg - No Ice |
| 6 | 1.2 Dead+1.6 Wind 60 deg - No Ice |
| 7 | 0.9 Dead+1.6 Wind 60 deg - No Ice |
| 8 | 1.2 Dead+1.6 Wind 90 deg - No Ice |
| 9 | 0.9 Dead+1.6 Wind 90 deg - No Ice |
| 10 | 1.2 Dead+1.6 Wind 120 deg - No Ice |
| 11 | 0.9 Dead+1.6 Wind 120 deg - No Ice |
| 12 | 1.2 Dead+1.6 Wind 150 deg - No Ice |
| 13 | 0.9 Dead+1.6 Wind 150 deg - No Ice |
| 14 | 1.2 Dead+1.6 Wind 180 deg - No Ice |
| 15 | 0.9 Dead+1.6 Wind 180 deg - No Ice |
| 16 | 1.2 Dead+1.6 Wind 210 deg - No Ice |
| 17 | 0.9 Dead+1.6 Wind 210 deg - No Ice |
| 18 | 1.2 Dead+1.6 Wind 240 deg - No Ice |
| 19 | 0.9 Dead+1.6 Wind 240 deg - No Ice |
| 20 | 1.2 Dead+1.6 Wind 270 deg - No Ice |
| 21 | 0.9 Dead+1.6 Wind 270 deg - No Ice |

| Comb. No. | Description |
|-----------|--|
| 22 | 1.2 Dead+1.6 Wind 300 deg - No Ice |
| 23 | 0.9 Dead+1.6 Wind 300 deg - No Ice |
| 24 | 1.2 Dead+1.6 Wind 330 deg - No Ice |
| 25 | 0.9 Dead+1.6 Wind 330 deg - No Ice |
| 26 | 1.2 Dead+1.0 Ice+1.0 Temp |
| 27 | 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp |
| 28 | 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp |
| 29 | 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp |
| 30 | 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp |
| 31 | 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp |
| 32 | 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp |
| 33 | 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp |
| 34 | 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp |
| 35 | 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp |
| 36 | 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp |
| 37 | 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp |
| 38 | 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp |
| 39 | Dead+Wind 0 deg - Service |
| 40 | Dead+Wind 30 deg - Service |
| 41 | Dead+Wind 60 deg - Service |
| 42 | Dead+Wind 90 deg - Service |
| 43 | Dead+Wind 120 deg - Service |
| 44 | Dead+Wind 150 deg - Service |
| 45 | Dead+Wind 180 deg - Service |
| 46 | Dead+Wind 210 deg - Service |
| 47 | Dead+Wind 240 deg - Service |
| 48 | Dead+Wind 270 deg - Service |
| 49 | Dead+Wind 300 deg - Service |
| 50 | Dead+Wind 330 deg - Service |

Maximum Member Forces

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|----------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| L1 | 160 - 111.33 | Pole | Max Tension | 14 | 0.00 | -0.00 | 0.00 |
| | | | Max. Compression | 26 | -31.38 | 0.34 | -0.52 |
| | | | Max. Mx | 20 | -12.75 | 477.40 | -0.17 |
| | | | Max. My | 14 | -12.74 | 0.03 | -479.94 |
| | | | Max. Vy | 20 | -16.05 | 477.40 | -0.17 |
| | | | Max. Vx | 14 | 16.14 | 0.03 | -479.94 |
| | | | Max. Torque | 20 | | | 0.38 |
| | | | Max Tension | 1 | 0.00 | 0.00 | 0.00 |
| L2 | 111.33 - 73.25 | Pole | Max. Compression | 26 | -50.07 | 0.92 | -0.06 |
| | | | Max. Mx | 20 | -23.30 | 1274.51 | -0.26 |
| | | | Max. My | 14 | -23.29 | 0.08 | -1280.32 |
| | | | Max. Vy | 20 | -23.57 | 1274.51 | -0.26 |
| | | | Max. Vx | 14 | 23.63 | 0.08 | -1280.32 |
| | | | Max. Torque | 12 | | | -0.61 |
| | | | Max Tension | 1 | 0.00 | 0.00 | 0.00 |
| | | | Max. Compression | 26 | -65.51 | 1.62 | 1.11 |
| L3 | 73.25 - 36.33 | Pole | Max. Mx | 20 | -34.29 | 2198.34 | -0.02 |
| | | | Max. My | 14 | -34.29 | 0.13 | -2206.11 |
| | | | Max. Vy | 20 | -27.73 | 2198.34 | -0.02 |
| | | | Max. Vx | 2 | -27.80 | 0.13 | 2206.06 |
| | | | Max. Torque | 12 | | | -0.90 |
| | | | Max Tension | 1 | 0.00 | 0.00 | 0.00 |
| | | | Max. Compression | 26 | -87.42 | 2.56 | 2.68 |
| | | | Max. Mx | 20 | -50.89 | 3490.84 | 0.32 |
| L4 | 36.33 - 0 | Pole | Max. My | 2 | -50.89 | 0.20 | 3501.45 |
| | | | Max. Vy | 20 | -32.25 | 3490.84 | 0.32 |
| | | | Max. Vx | 2 | -32.31 | 0.20 | 3501.45 |
| | | | Max. Torque | 3 | | | 1.40 |
| | | | | | | | |
| | | | | | | | |

Maximum Tower Deflections - Service Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|---------------------------|-----------------------|-----------|------------|
| L1 | 160 - 111.33 | 23.25 | 45 | 1.31 | 0.00 |
| L2 | 116 - 73.25 | 12.01 | 45 | 1.03 | 0.00 |
| L3 | 79 - 36.33 | 5.37 | 39 | 0.66 | 0.00 |
| L4 | 43 - 0 | 1.57 | 39 | 0.33 | 0.00 |

Critical Deflections and Radius of Curvature - Service Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|---------------------------------|-----------------------|------------------|-----------|------------|------------------------------|
| 157.0000 | APXVSP18-C-A20 w/ Mount Pipe | 45 | 22.43 | 1.29 | 0.00 | 44400 |
| 156.0000 | TME-800MHz RRH | 45 | 22.16 | 1.29 | 0.00 | 44400 |
| 149.0000 | (2) 7770.00 w/ Mount Pipe | 45 | 20.26 | 1.25 | 0.00 | 20181 |
| 139.0000 | MG D3-800TV w/ Mount Pipe | 45 | 17.60 | 1.19 | 0.00 | 10571 |
| 116.0000 | LNx-6515DS-VTM w/ Mount Pipe | 45 | 12.01 | 1.03 | 0.00 | 5165 |
| 84.0000 | GPS_A | 39 | 6.10 | 0.71 | 0.00 | 6108 |
| 45.0000 | BULLET III | 39 | 1.71 | 0.35 | 0.00 | 5564 |
| 40.0000 | GPS-QBW-20N | 39 | 1.38 | 0.31 | 0.00 | 5918 |

Maximum Tower Deflections - Design Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|---------------------------|-----------------------|-----------|------------|
| L1 | 160 - 111.33 | 96.31 | 14 | 5.42 | 0.00 |
| L2 | 116 - 73.25 | 49.76 | 14 | 4.27 | 0.00 |
| L3 | 79 - 36.33 | 22.25 | 2 | 2.72 | 0.00 |
| L4 | 43 - 0 | 6.52 | 2 | 1.38 | 0.00 |

Critical Deflections and Radius of Curvature - Design Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|---------------------------------|-----------------------|------------------|-----------|------------|------------------------------|
| 157.0000 | APXVSP18-C-A20 w/ Mount Pipe | 14 | 92.92 | 5.35 | 0.00 | 10874 |
| 156.0000 | TME-800MHz RRH | 14 | 91.79 | 5.33 | 0.00 | 10874 |
| 149.0000 | (2) 7770.00 w/ Mount Pipe | 14 | 83.93 | 5.18 | 0.00 | 4941 |
| 139.0000 | MG D3-800TV w/ Mount Pipe | 14 | 72.92 | 4.95 | 0.00 | 2586 |
| 116.0000 | LNx-6515DS-VTM w/ Mount Pipe | 14 | 49.76 | 4.27 | 0.00 | 1260 |
| 84.0000 | GPS_A | 2 | 25.28 | 2.93 | 0.00 | 1479 |
| 45.0000 | BULLET III | 2 | 7.10 | 1.45 | 0.00 | 1344 |
| 40.0000 | GPS-QBW-20N | 2 | 5.71 | 1.28 | 0.00 | 1429 |

Compression Checks

Pole Design Data

| Section No. | Elevation ft | Size | L ft | L _u ft | KI/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|---------------------|-------------------|-------------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| L1 | 160 - 111.33 (1) | TP31.29x19.6x0.25 | 48.670 0 | 0.0000 | 0.0 | 24.084 2 | -12.74 | 1568.58 | 0.008 |

| Section No. | Elevation ft | Size | L ft | L _u ft | KI/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|--------------------|-----------------------------|-------------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| L2 | 111.33 - 73.25 (2) | TP39.912x29.6683x0.343 8 | 42.750 0 | 0.0000 | 0.0 | 42.272 0 | -23.29 | 2848.48 | 0.008 |
| L3 | 73.25 - 36.33 (3) | TP48.088x37.8467x0.406 3 | 42.670 0 | 0.0000 | 0.0 | 60.279 5 | -34.29 | 4024.95 | 0.009 |
| L4 | 36.33 - 0 (4) | TP56x45.6746x0.4375 | 43.000 0 | 0.0000 | 0.0 | 78.273 7 | -50.89 | 4947.02 | 0.010 |

Pole Bending Design Data

| Section No. | Elevation ft | Size | M _{ux} kip-ft | φM _{nx} kip-ft | Ratio $\frac{M_{ux}}{\phi M_{nx}}$ | M _{uy} kip-ft | φM _{ny} kip-ft | Ratio $\frac{M_{uy}}{\phi M_{ny}}$ |
|-------------|--------------------|-----------------------------|---------------------------|----------------------------|---------------------------------------|---------------------------|----------------------------|---------------------------------------|
| L1 | 160 - 111.33 (1) | TP31.29x19.6x0.25 | 479.94 | 955.67 | 0.502 | 0.00 | 955.67 | 0.000 |
| L2 | 111.33 - 73.25 (2) | TP39.912x29.6683x0.343 8 | 1280.32 | 2213.87 | 0.578 | 0.00 | 2213.87 | 0.000 |
| L3 | 73.25 - 36.33 (3) | TP48.088x37.8467x0.406 3 | 2206.11 | 3775.24 | 0.584 | 0.00 | 3775.24 | 0.000 |
| L4 | 36.33 - 0 (4) | TP56x45.6746x0.4375 | 3501.45 | 5600.07 | 0.625 | 0.00 | 5600.07 | 0.000 |

Pole Shear Design Data

| Section No. | Elevation ft | Size | Actual V _u K | φV _n K | Ratio $\frac{V_u}{\phi V_n}$ | Actual T _u kip-ft | φT _n kip-ft | Ratio $\frac{T_u}{\phi T_n}$ |
|-------------|--------------------|-----------------------------|-------------------------------|----------------------|---------------------------------|------------------------------------|---------------------------|---------------------------------|
| L1 | 160 - 111.33 (1) | TP31.29x19.6x0.25 | 16.14 | 784.29 | 0.021 | 0.15 | 1937.79 | 0.000 |
| L2 | 111.33 - 73.25 (2) | TP39.912x29.6683x0.343 8 | 23.63 | 1424.24 | 0.017 | 0.45 | 4489.02 | 0.000 |
| L3 | 73.25 - 36.33 (3) | TP48.088x37.8467x0.406 3 | 27.80 | 2012.48 | 0.014 | 0.82 | 7655.00 | 0.000 |
| L4 | 36.33 - 0 (4) | TP56x45.6746x0.4375 | 32.31 | 2473.51 | 0.013 | 1.40 | 11355.25 | 0.000 |

Pole Interaction Design Data

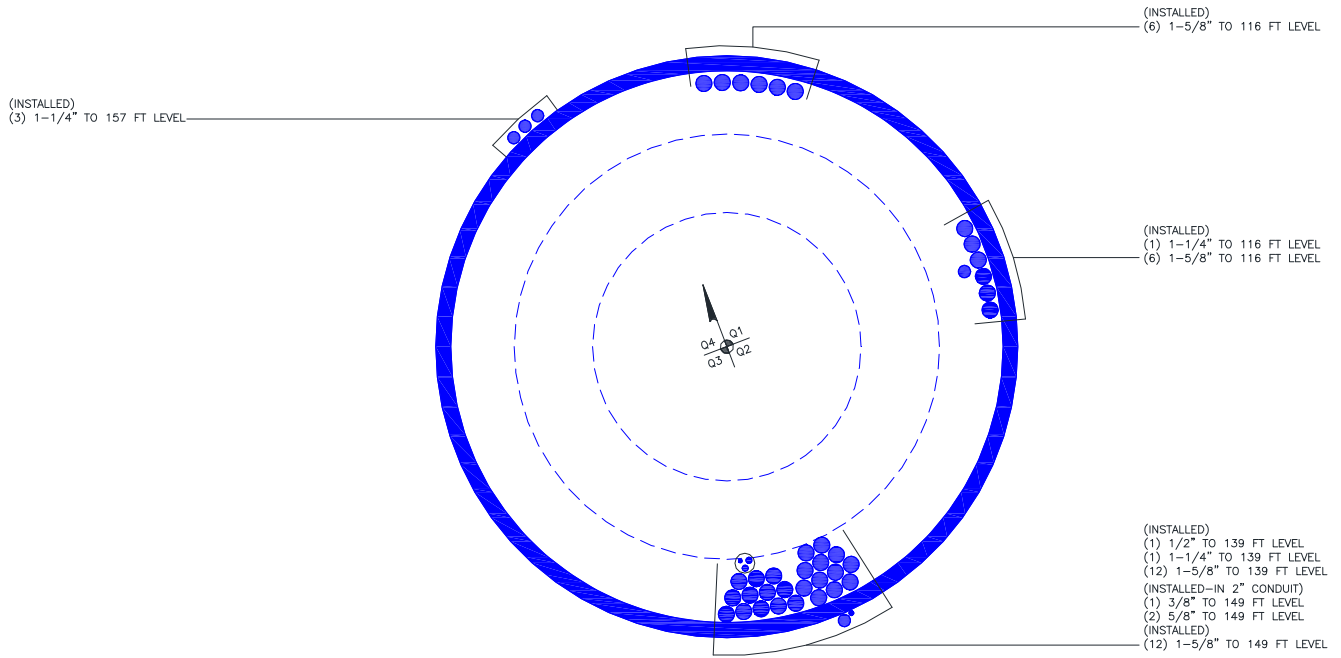
| Section No. | Elevation ft | Ratio $\frac{P_u}{\phi P_n}$ | Ratio $\frac{M_{ux}}{\phi M_{nx}}$ | Ratio $\frac{M_{uy}}{\phi M_{ny}}$ | Ratio $\frac{V_u}{\phi V_n}$ | Ratio $\frac{T_u}{\phi T_n}$ | Comb. Stress Ratio | Allow. Stress Ratio | Criteria |
|-------------|--------------------|---------------------------------|---------------------------------------|---------------------------------------|---------------------------------|---------------------------------|--------------------------|---------------------------|----------|
| L1 | 160 - 111.33 (1) | 0.008 | 0.502 | 0.000 | 0.021 | 0.000 | 0.511 | 1.000 | 4.8.2 ✓ |
| L2 | 111.33 - 73.25 (2) | 0.008 | 0.578 | 0.000 | 0.017 | 0.000 | 0.587 | 1.000 | 4.8.2 ✓ |
| L3 | 73.25 - 36.33 (3) | 0.009 | 0.584 | 0.000 | 0.014 | 0.000 | 0.593 | 1.000 | 4.8.2 ✓ |
| L4 | 36.33 - 0 (4) | 0.010 | 0.625 | 0.000 | 0.013 | 0.000 | 0.636 | 1.000 | 4.8.2 ✓ |

Section Capacity Table

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | φP _{allow} K | % Capacity | Pass Fail |
|-------------|-----------------|-------------------|-------------------------|---------------------|--------|--------------------------|---------------|--------------|
| L1 | 160 - 111.33 | Pole | TP31.29x19.6x0.25 | 1 | -12.74 | 1568.58 | 51.1 | Pass |
| L2 | 111.33 - 73.25 | Pole | TP39.912x29.6683x0.3438 | 2 | -23.29 | 2848.48 | 58.7 | Pass |
| L3 | 73.25 - 36.33 | Pole | TP48.088x37.8467x0.4063 | 3 | -34.29 | 4024.95 | 59.3 | Pass |
| L4 | 36.33 - 0 | Pole | TP56x45.6746x0.4375 | 4 | -50.89 | 4947.02 | 63.6 | Pass |
| Summary | | | | | | | | |

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | ϕP_{allow} K | % Capacity | Pass Fail |
|----------------|-----------------|-------------------|------|---------------------|--------|-----------------------|---------------|--------------|
| | | | | | | Pole (L4) | 63.6 | Pass |
| | | | | | | RATING = | 63.6 | Pass |

APPENDIX B
BASE LEVEL DRAWING

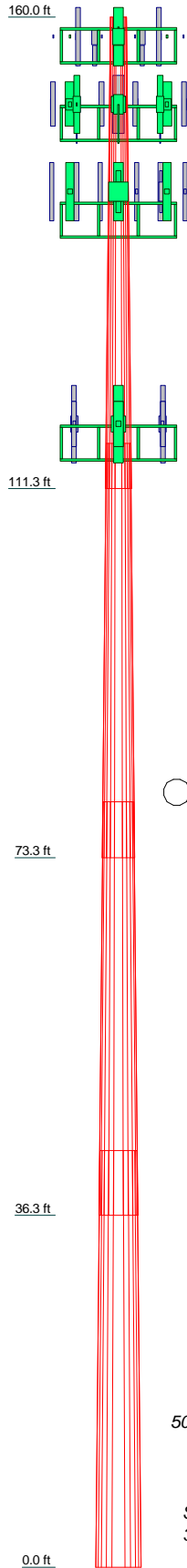


APPENDIX C

ADDITIONAL CALCULATIONS

Program Version 7.0.5.1 - 2/1/2016 File:G:/TOWER/375_Crown_Castle/2016/37516-0250_806953_BRG 2044 (A) 943097/37516-0250.004.7805_SA_1264485/37516-0250.004.7805.eri

| | | | | | |
|--------------------|---------|---------|---------|---------|------|
| Section | 1 | 2 | 3 | 4 | |
| Length (ft) | 48.6700 | 42.7500 | 42.6700 | 43.0000 | |
| Number of Sides | 12 | 12 | 12 | 12 | |
| Thickness (in) | 0.2500 | 0.3438 | 0.4063 | 0.4375 | |
| Socket Length (ft) | 4.6700 | 5.7500 | 6.6700 | 45.6746 | |
| Top Dia (in) | 19.6000 | 29.6683 | 37.8467 | 56.0000 | |
| Bot Dia (in) | 31.2900 | 39.9120 | 48.0880 | | |
| Grade | | A572-65 | | | |
| Weight (K) | 3.4 | 5.5 | 8.1 | 10.4 | 27.4 |



ALL REACTIONS
ARE FACTORED

AXIAL
87 K

SHEAR
9 K

MOMENT
1081 k7

TORQUE 1 kip-ft
50 mph WIND - 0.7500 in ICE

AXIAL
51 K

SHEAR
32 K

MOMENT
3501 kip-ft

TORQUE 1 kip-ft
REACTIONS - 91 mph WIND

DESIGNED APPURTENANCE LOADING

| TYPE | ELEVATION | TYPE | ELEVATION |
|------------------------------|-----------|---------------------------------------|-----------|
| APXVSP18-C-A20 w/ Mount Pipe | 157 | MG D3-800TV w/ Mount Pipe | 139 |
| APXVSP18-C-A20 w/ Mount Pipe | 157 | MG D3-800TV w/ Mount Pipe | 139 |
| APXVSP18-C-A20 w/ Mount Pipe | 157 | (2) DB846F65ZAXY w/ Mount Pipe | 139 |
| 800 EXTERNAL NOTCH FILTER | 157 | (2) DB846F65ZAXY w/ Mount Pipe | 139 |
| 800 EXTERNAL NOTCH FILTER | 157 | (2) DB846F65ZAXY w/ Mount Pipe | 139 |
| 800 EXTERNAL NOTCH FILTER | 157 | P65.16.XL.2 w/ Mount Pipe | 139 |
| (3) ACU-A20-N | 157 | P65.16.XL.2 w/ Mount Pipe | 139 |
| (3) ACU-A20-N | 157 | P65.16.XL.2 w/ Mount Pipe | 139 |
| (3) ACU-A20-N | 157 | MG D3-800Tx w/ Mount Pipe | 139 |
| (2) 4' x 2" Pipe Mount | 157 | MG D3-800Tx w/ Mount Pipe | 139 |
| (2) 4' x 2" Pipe Mount | 157 | MG D3-800Tx w/ Mount Pipe | 139 |
| (2) 4' x 2" Pipe Mount | 157 | (2) FD9R6004/2C-3L | 139 |
| Platform Mount [LP 713-1] | 157 | (2) FD9R6004/2C-3L | 139 |
| TME-800MHz RRH | 156 | (2) FD9R6004/2C-3L | 139 |
| TME-800MHz RRH | 156 | RRH2X40-AWS | 139 |
| TME-800MHz RRH | 156 | RRH2X40-AWS | 139 |
| TME-1900MHz RRH (65 MHz) | 156 | RRH2X40-AWS | 139 |
| TME-1900MHz RRH (65 MHz) | 156 | DB-T1-6Z-8AB-0Z | 139 |
| TME-1900MHz RRH (65 MHz) | 156 | Platform Mount [LP 713-1] | 139 |
| (2) Pipe Mount [PM 601-3] | 156 | LNK-6515DS-VTM w/ Mount Pipe | 116 |
| (2) 7770.00 w/ Mount Pipe | 149 | LNK-6515DS-VTM w/ Mount Pipe | 116 |
| (2) 7770.00 w/ Mount Pipe | 149 | LNK-6515DS-VTM w/ Mount Pipe | 116 |
| (2) 7770.00 w/ Mount Pipe | 149 | RRUS 11 B12 | 116 |
| (2) LGP21401 | 149 | RRUS 11 B12 | 116 |
| (2) LGP21401 | 149 | RRUS 11 B12 | 116 |
| (2) LGP21401 | 149 | ERICSSON AIR 21 B2A B4P w/ Mount Pipe | 116 |
| (2) LGP21901 | 149 | ERICSSON AIR 21 B2A B4P w/ Mount Pipe | 116 |
| (2) LGP21901 | 149 | ERICSSON AIR 21 B2A B4P w/ Mount Pipe | 116 |
| (2) LGP21901 | 149 | ERICSSON AIR 21 B2A B4P w/ Mount Pipe | 116 |
| RRUS-11 | 149 | ERICSSON AIR 21 B4A B2P w/ Mount Pipe | 116 |
| RRUS-11 | 149 | ERICSSON AIR 21 B4A B2P w/ Mount Pipe | 116 |
| RRUS-11 | 149 | ERICSSON AIR 21 B4A B2P w/ Mount Pipe | 116 |
| DC6-48-60-18-8F | 149 | ERICSSON AIR 21 B4A B2P w/ Mount Pipe | 116 |
| 4' x 2" Pipe Mount | 149 | ERICSSON AIR 21 B4A B2P w/ Mount Pipe | 116 |
| 4' x 2" Pipe Mount | 149 | ERICSSON AIR 21 B4A B2P w/ Mount Pipe | 116 |
| 4' x 2" Pipe Mount | 149 | KRY 112 144/1 | 116 |
| Platform Mount [LP 713-1] | 149 | KRY 112 144/1 | 116 |
| HPA-65R-BUU-H6 w/ Mount Pipe | 149 | KRY 112 144/1 | 116 |
| HPA-65R-BUU-H6 w/ Mount Pipe | 149 | Platform Mount [LP 712-1] | 116 |
| HPA-65R-BUU-H6 w/ Mount Pipe | 149 | GPS_A | 84 |
| RRUS 12 B2/RRUS A2 | 149 | Side Arm Mount [SO 701-1] | 84 |
| RRUS 12 B2/RRUS A2 | 149 | BULLET III | 45 |
| RRUS 12 B2/RRUS A2 | 149 | Pipe Mount [PM 601-1] | 45 |
| 1001983 | 149 | GPS-QBW-20N | 40 |
| 1001983 | 149 | Pipe Mount [PM 601-1] | 40 |
| 1001983 | 149 | Pipe Mount [PM 601-1] | 40 |
| MG D3-800TV w/ Mount Pipe | 139 | | |

MATERIAL STRENGTH

| GRADE | Fy | Fu | GRADE | Fy | Fu |
|---------|--------|--------|-------|----|----|
| A572-65 | 65 ksi | 80 ksi | | | |

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 91 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.0000 ft
8. TOWER RATING: 63.6%

Paul J. Ford and Company
PJF
 250 E. Broad Street, Suite 600
 Columbus, OH 43215
 Phone: mscroggy@pjfweb.com
 FAX: 614.448.4105

Job: **160' MP; Stamford, CT; BRG 2044 (A) 943097**
 Project: **PJF 37516-0250 (BU 806953)**
 Client: **Crown Castle** Drawn by: **Morgan Scroggy** App'd:
 Code: **TIA-222-G** Date: **07/08/16** Scale: **NTS**
 Path: **Dwg No. E-1**

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev G

Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

| | |
|--------------------|-------|
| BU#: | |
| Site Name: | |
| App #: | |
| Pole Manufacturer: | Other |

Anchor Rod Data

| | | |
|----------------|--------|-----|
| Qty: | 20 | |
| Diam: | 2.25 | in |
| Rod Material: | A615-J | |
| Strength (Fu): | 100 | ksi |
| Yield (Fy): | 75 | ksi |
| Bolt Circle: | 64.48 | in |

Plate Data

| | | |
|-------------------|-------|-----|
| Diam: | 70.48 | in |
| Thick: | 2.5 | in |
| Grade: | 60 | ksi |
| Single-Rod B-eff: | 9.00 | in |

Stiffener Data (Welding at both sides)

| | | |
|-----------------|--------|---------|
| Config: | 0 | * |
| Weld Type: | Both | |
| Groove Depth: | 0.375 | in ** |
| Groove Angle: | 45 | degrees |
| Fillet H. Weld: | 0.375 | in |
| Fillet V. Weld: | 0.3125 | in |
| Width: | 6 | in |
| Height: | 18 | in |
| Thick: | 0.75 | in |
| Notch: | 0.5 | in |
| Grade: | 50 | ksi |
| Weld str.: | 70 | ksi |

Pole Data

| | | |
|--------------------|--------|--------------|
| Diam: | 56 | in |
| Thick: | 0.4375 | in |
| Grade: | 65 | ksi |
| # of Sides: | 12 | "0" IF Round |
| Fu | 80 | ksi |
| Reinf. Fillet Weld | 0 | "0" if None |

Reactions

| | | |
|--------------------|------|------------------|
| Mu: | 3501 | ft-kips |
| Axial, Pu: | 51 | kips |
| Shear, Vu: | 32 | kips |
| Eta Factor, η | 0.5 | TIA G (Fig. 4-4) |

If No stiffeners, Criteria: AISC LRFD <-Only Applicable to Unstiffened Cases

Anchor Rod Results

Max Rod (Cu+ Vu/ η): 136.1 Kips
 Allowable Axial, Φ^*Fu^*Anet : 260.0 Kips
 Anchor Rod Stress Ratio: 52.3% **Pass**

| |
|------------|
| Rigid |
| AISC LRFD |
| ϕ^*Tn |

Base Plate Results

Base Plate Stress: 24.8 ksi
 Allowable Plate Stress: 54.0 ksi
 Base Plate Stress Ratio: 45.9% **Pass**

Flexural Check

| |
|--------------------|
| Rigid |
| AISC LRFD |
| ϕ^*Fy |
| Y.L. Length: 31.96 |

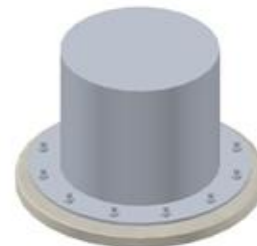
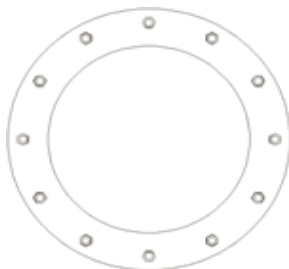
n/a

Stiffener Results

Horizontal Weld : n/a
 Vertical Weld: n/a
 Plate Flex+Shear, $f_b/F_b+(f_v/F_v)^2$: n/a
 Plate Tension+Shear, $f_t/F_t+(f_v/F_v)^2$: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

foundation loads

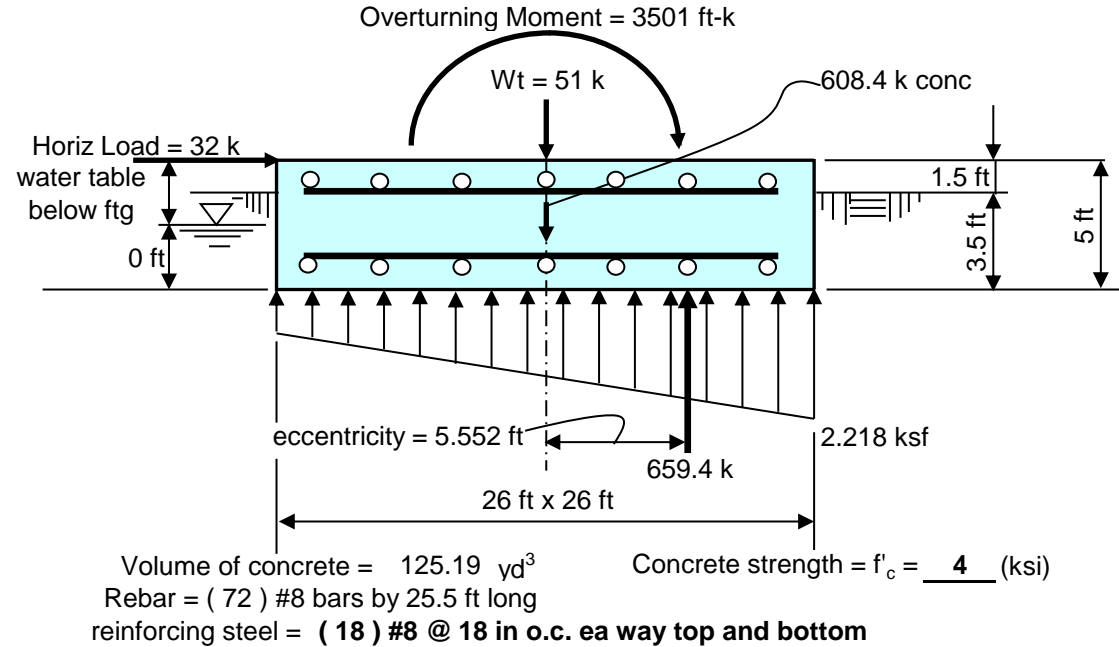
Limit states Tower or Pole Weight = **51** kips
 limit states total horizontal force = **32** kips
 limit states overturning moment = **3501** ft-kips

soil properties

Safety factor against overturning = **1**
 Soil Density = **125** pcf
 Ultimate soil bearing = **20** ksf
 Depth to water table = **99** ft

mat dimensions

depth to bottom of footing = **3.5** ft
 Footing thickness = **5** ft
 Footing Width = **26** ft
 Footing Length = **26** ft
 Tower/Pole Center Offset = **0** ft

**Summary of analysis results****Overturning Moment:** (Stress Ratio = 0.569) **< CONTROLLING CRITERIA**

Calculated Ultimate Overturning Moment = 3661 ft-kips

Resisting Moment = 6429.2 ft-kips

Factor of Safety against overturning = 1.756 **> 1 okay**

Rebar strength = F_y = **60** (ksi)
 minimum cover over rebar = **3** inches

Soil Bearing (Stress Ratio = 0.148)

Limit States Maximum Net Soil Bearing = 15 ksf

Calculated limit states Soil Bearing Pressure = 2.218 ksf **< 15 ksf okay****Bending Moment** (Stress Ratio = 0.395)

Ultimate Bending Moment Resistance = 3526 ft-kips

Calculated Ultimate Bending Moment = 1391 ft-kips **< 3526 ft-kips okay****Bending Shear** (Stress Ratio = 0.11)

Ultimate Bending Shear Resistance = 1862 kips

Calculated Ultimate Bending Shear = 204 kips **< 1862 kips okay**



[ASCE 7 Windspeed](#)
[ASCE 7 Ground Snow Load](#)
[Related Resources](#)
[Sponsors](#)
[About ATC](#)
[Contact](#)

Search Results

Query Date: Wed Feb 24 2016

Latitude: 41.1018

Longitude: -73.5948

**ASCE 7-10 Windspeeds
(3-sec peak gust in mph*):**

Risk Category I: 107

Risk Category II: 117

Risk Category III-IV: 125

MRI 10-Year:** 76

MRI 25-Year:** 85

MRI 50-Year:** 90

MRI 100-Year:** 96

ASCE 7-05 Windspeed:

104 (3-sec peak gust in mph)

ASCE 7-93 Windspeed:

80 (fastest mile in mph)



*Miles per hour

**Mean Recurrence Interval

Users should consult with local building officials to determine if there are community-specific wind speed requirements that govern.



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

AT&T Existing Facility

Site ID: CT2208

Stamford Girl Scouts
69 Guinea Road
Stamford, CT 06903

July 12, 2016

EBI Project Number: 6216003217

| Site Compliance Summary | |
|--|------------------|
| Compliance Status: | COMPLIANT |
| Site total MPE% of FCC general public allowable limit: | 8.88 % |



July 12, 2016

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

Emissions Analysis for Site: **CT2208 – Stamford Girl Scouts**

EBI Consulting was directed to analyze the proposed AT&T facility located at **69 Guinea Road, Stamford, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

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



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **69 Guinea Road, Stamford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 5) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.



- 6) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 7) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antennas used in this modeling are the **Powerwave 7770** and the **CCI HPA-65R-BUU-H6** for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antenna mounting height centerlines of the proposed antennas are **151 feet** above ground level (AGL) for **Sector A**, **151 feet** above ground level (AGL) for **Sector B** and **151 feet** above ground level (AGL) for Sector C.
- 10) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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



AT&T Site Inventory and Power Data by Antenna

| Sector: | A | Sector: | B | Sector: | C |
|--------------------|--------------------------|--------------------|--------------------------|--------------------|--------------------------|
| Antenna #: | 1 | Antenna #: | 1 | Antenna #: | 1 |
| Make / Model: | Powerwave 7770 | Make / Model: | Powerwave 7770 | Make / Model: | Powerwave 7770 |
| Gain: | 11.4 / 13.4 dBd | Gain: | 11.4 / 13.4 dBd | Gain: | 11.4 / 13.4 dBd |
| Height (AGL): | 151 feet | Height (AGL): | 151 feet | Height (AGL): | 151 feet |
| Frequency Bands | 850 MHz / 1900 MHz (PCS) | Frequency Bands | 850 MHz / 1900 MHz (PCS) | Frequency Bands | 850 MHz / 1900 MHz (PCS) |
| Channel Count | 4 | Channel Count | 4 | Channel Count | 4 |
| Total TX Power(W): | 120 Watts | Total TX Power(W): | 120 Watts | Total TX Power(W): | 120 Watts |
| ERP (W): | 2,140.89 | ERP (W): | 2,140.89 | ERP (W): | 2,140.89 |
| Antenna A1 MPE% | 0.47 % | Antenna B1 MPE% | 0.47 % | Antenna C1 MPE% | 0.47 % |
| Antenna #: | 2 | Antenna #: | 2 | Antenna #: | 2 |
| Make / Model: | Powerwave 7770 | Make / Model: | Powerwave 7770 | Make / Model: | Powerwave 7770 |
| Gain: | 11.4 dBd | Gain: | 11.4 dBd | Gain: | 11.4 dBd |
| Height (AGL): | 151 feet | Height (AGL): | 151 feet | Height (AGL): | 151 feet |
| Frequency Bands | 850 MHz | Frequency Bands | 850 MHz | Frequency Bands | 850 MHz |
| Channel Count | 2 | Channel Count | 2 | Channel Count | 2 |
| Total TX Power(W): | 60 Watts | Total TX Power(W): | 60 Watts | Total TX Power(W): | 60 Watts |
| ERP (W): | 828.23 | ERP (W): | 828.23 | ERP (W): | 828.23 |
| Antenna A2 MPE% | 0.25 % | Antenna B2 MPE% | 0.25 % | Antenna C2 MPE% | 0.25 % |
| Antenna #: | 3 | Antenna #: | 3 | Antenna #: | 3 |
| Make / Model: | CCI HPA-65R-BUU-H6 | Make / Model: | CCI HPA-65R-BUU-H6 | Make / Model: | CCI HPA-65R-BUU-H6 |
| Gain: | 11.95 / 14.75 dBd | Gain: | 11.95 / 14.75 dBd | Gain: | 11.95 / 14.75 dBd |
| Height (AGL): | 151 feet | Height (AGL): | 151 feet | Height (AGL): | 151 feet |
| Frequency Bands | 700 MHz / 1900 MHz (PCS) | Frequency Bands | 700 MHz / 1900 MHz (PCS) | Frequency Bands | 700 MHz / 1900 MHz (PCS) |
| Channel Count | 4 | Channel Count | 4 | Channel Count | 4 |
| Total TX Power(W): | 240 Watts | Total TX Power(W): | 240 Watts | Total TX Power(W): | 240 Watts |
| ERP (W): | 5,462.56 | ERP (W): | 5,462.56 | ERP (W): | 5,462.56 |
| Antenna A3 MPE% | 1.30 % | Antenna B3 MPE% | 1.30 % | Antenna C3 MPE% | 1.30 % |

| Site Composite MPE% | |
|-----------------------|--------|
| Carrier | MPE% |
| AT&T – Max per sector | 2.02 % |
| T-Mobile | 3.21 % |
| Sprint | 0.44 % |
| Verizon Wireless | 3.02 % |
| Metrcom | 0.00 % |
| Nextel | 0.19 % |
| Site Total MPE %: | 8.88 % |

| | |
|----------------------|--------|
| AT&T Sector A Total: | 2.02 % |
| AT&T Sector B Total: | 2.02 % |
| AT&T Sector C Total: | 2.02 % |
| Site Total: | 8.88 % |

| AT&T _ Max Values Per Sector | # Channels | Watts ERP (Per Channel) | Height (feet) | Total Power Density ($\mu\text{W}/\text{cm}^2$) | Frequency (MHz) | Allowable MPE ($\mu\text{W}/\text{cm}^2$) | Calculated % MPE |
|------------------------------|------------|-------------------------|---------------|---|-----------------|---|------------------|
| AT&T 850 MHz UMTS | 2 | 414.12 | 151 | 1.42 | 850 MHz | 567 | 0.25 % |
| AT&T 1900 MHz (PCS) UMTS | 2 | 656.33 | 151 | 2.24 | 1900 MHz (PCS) | 1000 | 0.22 % |
| AT&T 850 MHz GSM | 2 | 414.12 | 151 | 1.42 | 850 MHz | 567 | 0.25 % |
| AT&T 700 MHz LTE | 2 | 940.05 | 151 | 3.21 | 700 MHz | 467 | 0.69 % |
| AT&T 1900 MHz (PCS) LTE | 2 | 1,791.23 | 151 | 6.13 | 1900 MHz (PCS) | 1000 | 0.61 % |
| | | | | | | Total: | 2.02 % |



Summary

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

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

| AT&T Sector | Power Density Value (%) |
|-------------------------------------|-------------------------|
| Sector A: | 2.02 % |
| Sector B: | 2.02 % |
| Sector C: | 2.02 % |
| AT&T Maximum Total (per sector): | 2.02 % |
| | |
| Site Total: | 8.88 % |
| | |
| Site Compliance Status: | COMPLIANT |

The anticipated composite MPE value for this site assuming all carriers present is **8.88 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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