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

January 23, 2017

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 3C Crown Site BU: 842869**
AT&T Site ID: CT5378
450-478 West Main Street, Meriden, CT 06451
Latitude: 41° 32′ 24.24″/ Longitude: -72° 49′ 9.06″

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 100-foot level of the existing 100-foot monopole tower at 450-478 West Main Street in Meriden, CT. The tower is owned by Crown Castle. The property is owned by Hunters Ambulance Service Inc. AT&T now intends to replace three (3) antennas with three (3) Quintel antennas. AT&T also intends to replace six (6) RRUs.

This facility was approved by the by the Connecticut Siting Council on March 11, 2003. This approval was given without conditions.

This modification complies with the aforementioned condition(s).

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 Mr. George Temple, First-Selectman, Town of Oxford, as well as the property owner, and Crown Castle is the tower 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 Kevin Scarpati, Mayor, City of Meriden
142 East Main Street
Meriden, CT 06450

Hunters Ambulance Service Inc
450 West Main Street
Meriden, CT 06451

Petition No. 614
AT&T Wireless PCS, LLC
Staff Report
March 11, 2003

On March 5, 2003, Connecticut Siting Council (Council) member Philip T. Ashton and Christina Lepage of the Council staff met with AT&T Wireless PCS, LLC (AT&T) representatives Anthony Gioffre III, and Charisma King at 450-478 West Main Street, Meriden, Connecticut for the inspection of an existing tower site. The existing property and structure are owned by Hunters Family Limited Partnership. AT&T proposes to replace the existing structure and is petitioning the Council for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for the modification.

The existing facility consists of a 100-foot guyed lattice tower, which is currently used by Hunter's Ambulance Company. AT&T proposes to replace the existing guyed lattice tower with a 100-foot monopole approximately 15 feet to the southeast. Existing antennas used by the ambulance company would be relocated to the top of the monopole. AT&T proposes to install 6 panel antennas at the 100-foot level of the proposed monopole. The proposed monopole would be designed to accommodate the antennas of two additional carriers.

The proposed equipment would be located at the base of the tower within 7-foot by 16-foot equipment pad. An 8-foot high stockade fence would surround the equipment compound. AT&T proposes to install a retaining wall along the southern portion of the equipment compound.

Access to the site would be via an existing driveway. AT&T proposes to provide utilities to the site overhead from an existing utility pole to the south. The utility corridor would cross over property recently purchased by Hunter's Ambulance Company. Two new poles would be necessary to install a utility line to the site. AT&T submits that the proposed overhead utility installation would cause the least amount of disturbance to the site and surrounding area, due to the presence of bedrock, sidewalks and a parking lot.

Surrounding land uses include a mix of residential and commercial uses. The proposed site is zoned Commercial. The calculated cumulative worst-case radio frequency power density would not exceed the applicable standard.

AT&T contends that it would not need to construct a telecommunications tower to provide coverage to this area of Meriden, and the proposed modification of the existing structure would not cause a substantial adverse environmental effect. Staff recommends approval, with the condition that the tower be situated so as to avoid the removal of an existing tree.

CITY OF MERIDEN
GIS Services

Property Information: Address: 450 WEST MAIN ST Map/Lot: 0612-0202-0001-0002 Card Number: 1

Owner Information: HUNTER FAMILY LTD PRTSHP Owner Address: 450 W MAIN ST
MERIDEN, CT 06451

Building Information:

Units:
Living Area: 13948
Year Built: 1980
Eff. Age:
Rooms:
Bedrooms:

Full Bath:
Full Bath Rating:
Half Bath:
Half Bath Rating:

Heat Type: Forced Air
Style: Mixed Use-M
Ext Wall: Brick
Roof Mat: Asphalt
Roof Struct: Gable
Fireplaces:
Grade: C

Special Features:

Description	Condition	YearBuilt	AssessedValue
FENCE-5 CHAIN	AV	1980	$3,700
PAVING ASPHALT	AV	1980	$9,600

Appraisal Information: **Tax District:** 2 **District Name:** INNER DISTRICT **District Mill Rate:** 39.70

Current Building Value: $640,100
Current Yard Items: $13,300
Current Land Value: $487,400
Current Total: $1,140,800
Assessment: $798,560
(Assessment is 70% of appraised value)

Special Land Value: $0

Previous Year: 2015
Previous Building Value: $1,549,300
Previous Yard Items: $40,500
Previous Land Value: $487,400
Previous Total: $2,077,200

Land Information:

Type	Lot Size	Lot Unit	Zoning*
Commercial Building	113,286.00	SF	C-2
Commercial Building	0.00	SF	C-2
Commercial Building	0.00	SF	C-2

Total Acreage:2.60
*Confirm zoning with Planning Office. Zoning map is the official document.

Sales Information:

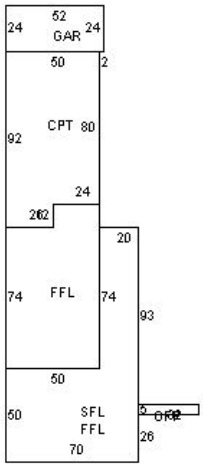
Book	Page	Grantor	Sale Date	Sale Price	Deed Type
2322	336		12/31/1997	$650,000	

Assessor's Permit History:

Date	Permit Number	Notes	Type
7/15/2016	B-16-659	REPLACE 3 ANTENNAI W/NEW.	
9/24/2015	B-15-743	AT&T ADD 3 ANTENNAE/3 RRU`S/1 FIBER LINE TO EXISTING EQUIPMENT ON TOWER.	
6/22/2015	E-15-295		

		INSTALL NEW 150A SERVICE (VERIZON).aPPROVED BY BLDG DEPT.	
5/18/2015	E-15-210	NEW 200A/3PH/4W/ SERVICE FROM MDP TO SHELTER BLDG.	
4/6/2015	P-15-64	NEW GAS SUPPLY TO GENEERATOR INSTALLED.Est complete.	
2/20/2015	B-15-61	INSTALL ANTENNAE & GROUND EQUIPMENT FOR VERIZON WIRELESS TELE.Appears complete.	
1/5/2015	B-14-285	ADD ANTENNAE TO EXISTING TOWER.aPPEARS COMPLETE.	
7/21/2014	2157	3 NEW SPRINT ANTENNAS.Est complete.	
6/6/2014	1664	RRU`S TO TOWER/RADIO UNITS.Est complete.	
6/6/2014	1665	WIRE NEW RXAIT TOWER.Est complete.	
2/25/2013	473	SPRINT - MODIF. TO TELEC. INSTALLATION ON MONOPOLE TOWER, REPL. 3 ANTENNA & CABLES AND ADD RRH`S AND NOTCH FILTERS BEHIND THE NEW ANTENNA ON TOWER, ADD CIENA EQUIP. ENCL. & FIBER JUNCTION BOX & EITHER RETROFIT OR REPLACE BTS CABINET WITHIN EQUIP. SHELTER.	
12/21/2012	3950	AT&T - REMOVE & REPLACE ONE D.C. POWER CABINET, INSTALL NEW LTE EQUIPMENT ON OPEN SLAB, CONDUITS, AC & DC CIRCUITS, FIBER OPTICS, GROUNDING & BONDING.	
11/1/2012	3422	AT&T - ADD 3 LTE ANTENNAS, SURGE ARRESTOR, RRU`S, PURCELL CABINET, CONCRETE PAD & DC/FIBER LINES	
12/5/2003	4261	AT&T WIRELESS CELLSITE	CA
12/5/2003	4261	200 AMP SERV	CA
8/28/2003	3042	REP EX COMMUNI TOWER	CA
8/28/2003	3042	INSTALL COMMUNICA EQUIPME	CA

Property Images



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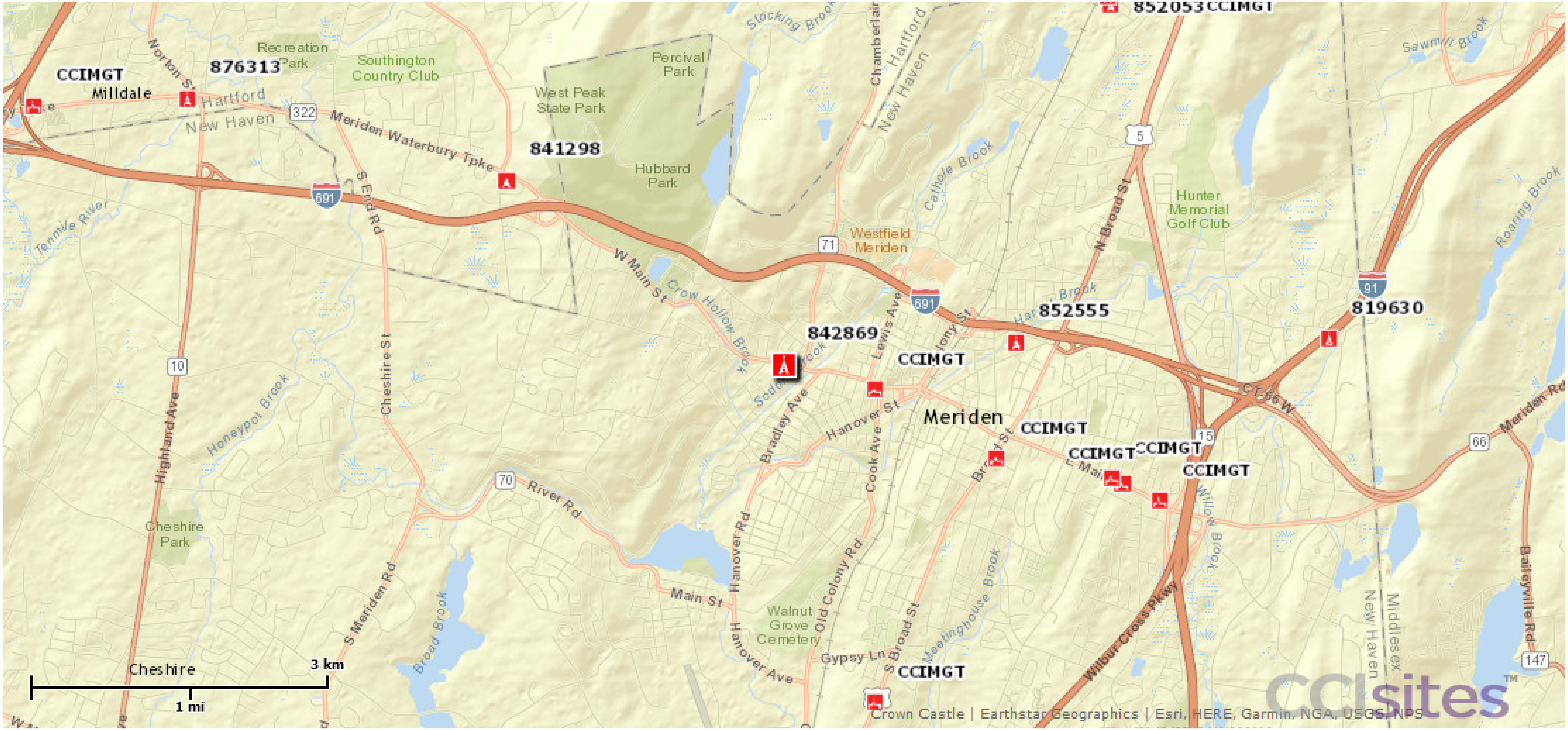

876313
CCIMGT
Milldale
841298
852053 CCIMGT
842869
CCIMGT
852555
819630
Meriden
CCIMGT
CCIMGT
CCIMGT
CCIMGT
CCIMGT
Recreation Park
Southington Country Club
West Peak State Park
Percival Park
Hubbard Park
Westfield Meriden
Hunter Memorial Golf Club
Cheshire Park
Walnut Grove Cemetery
Cheshire
Hartford
New Haven
Meriden Waterbury Tpke
Norton St
S End Rd
W Main St
Crow Hollow Brook
Cheshire St
Highland Ave
Honeypot Brook
Tenmile River
River Rd
Main St
Hanover Rd
Hanover Ave
Bradley Ave
Hanover St
Cook Ave
Lewis Ave
Old Colony Rd
Gypsy Ln
S Broad St
N Broad St
Wilbur Cross Pkwy
Meetinghouse Brook
Willow Brook
Catlhole Brook
Stocking Brook
Sawmill Brook
Roaring Brook
Broad Brook
S Meriden Rd
Chamberlain
Hartford
New Haven
Middlesex
Baileyville Rd
CT-66 W
Meriden Rd
691
322
10
70
71
5
91
15
66
147
3 km
1 mi
Crown Castle | Earthstar Geographics | Esri, HERE, Garmin, NGA, USGS, NPS
CCIsites™

at&t

WIRELESS COMMUNICATIONS FACILITY
CT5378 - LTE BWE
MERIDEN WEST CENTRAL
CROWN CASTLE SITE NO.: 842869
450-478 WEST MAIN STREET
MERIDEN, CT 06451

GENERAL NOTES

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

SITE DIRECTIONS

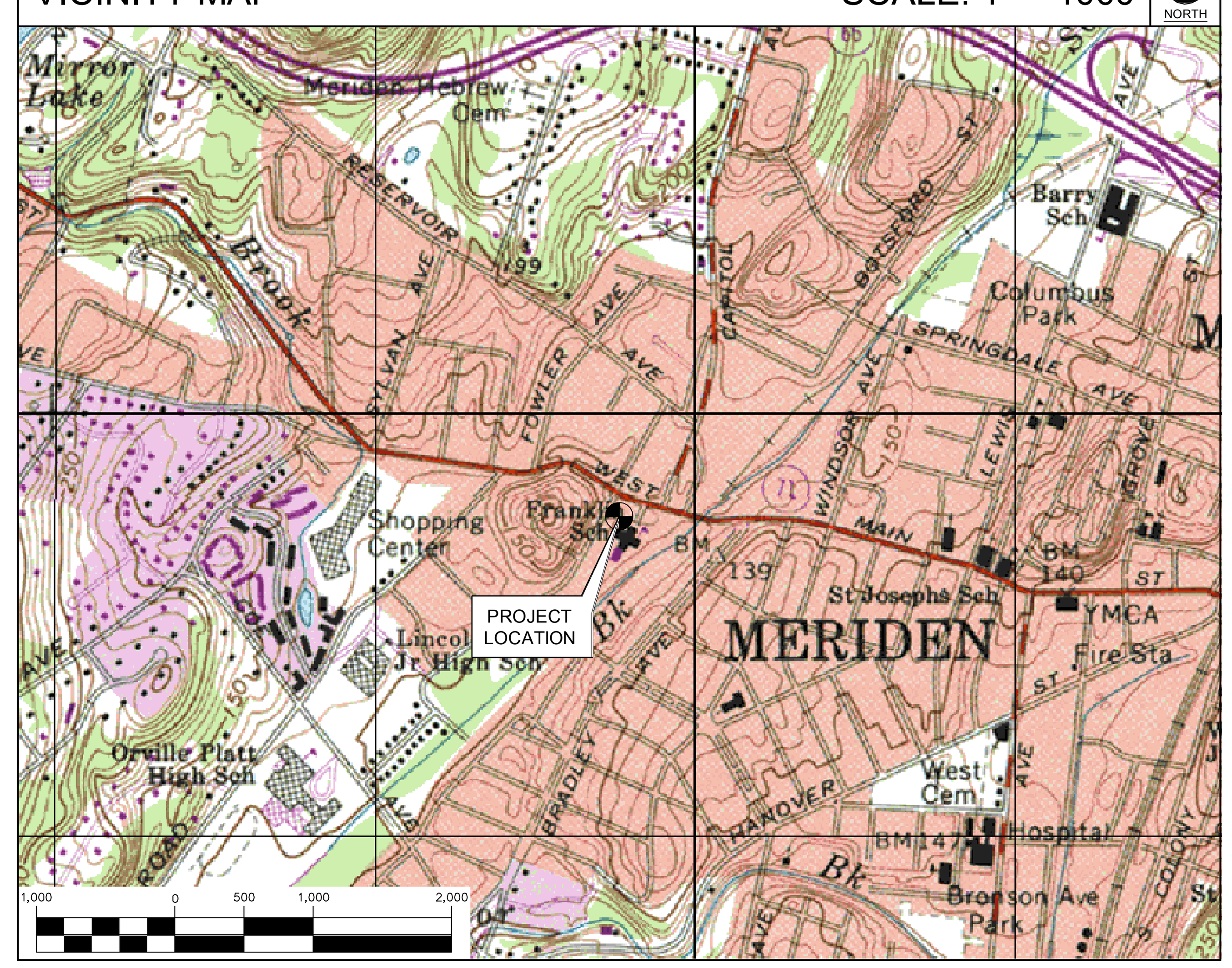
FROM: 500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT

TO: 450–478 WEST MAIN STREET
MERIDEN, CONNECTICUT

1. HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD	0.36 MI
2. TURN LEFT ONTO CAPITAL BLVD	0.27 MI
3. TURN LEFT ONTO WEST ST	0.30 MI
4. TURN LEFT TO MERGE ONTO I–91 S TOWARD NEW HAVEN	9.06 MI
5. MERGE ONTO 1–691 W via EXIT 18 TOWARD MERIDEN/WATERBURY	2.45 MI
6. TAKE THE LEWIS AVE EXIT, EXIT 6, TOWARD CT–71	0.23 MI
7. MERGE ONTO LEWIS AVE TOWARD FORENSIC SCENCE LAB	0.76 MI
8. TURN LEFT ONTO W MAIN ST/CT–71.	0.53 MI

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SUMMARY

1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
   A. REMOVE AND REPLACE EXISTING POSITION 4 ANTENNA FOR PROPOSED TWELVE–PORT ANTENNA, (1) PER SECTOR.
   B. REMOVE AND REPLACE (3) EXISTING RRUS–11'S FOR PROPOSED RRUS–32 B2'S MOUNTED BEHIND EXISTING POSITION 4 ANTENNA.

PROJECT INFORMATION

AT&T SITE NUMBER:	CT5378
AT&T SITE NAME:	MERIDEN WEST CENTRAL
SITE ADDRESS:	CROWN CASTLE SITE NO.: 842869 450–478 WEST MAIN STREET MERIDEN, CT 06451
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°–32'–24.14" N LONGITUDE: 72°–49'–08.49" W GROUND ELEVATION: ±170' AMSL SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T–1	TITLE SHEET	0
N–1	NOTES AND SPECIFICATIONS	0
C–1	PLANS AND ELEVATION	0
C–2	LTE BWE EQUIPMENT DETAILS	0
E–1	TYPICAL ELECTRICAL DETAILS & NOTES	0

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	01/12/17	KAWJR	CAG	CONSTRUCTION DOCUMENTS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

at&t

EMPIRE telecom

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

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
MERIDEN WEST CENTRAL
CT5378 - LTE BWE
450-478 WEST MAIN STREET
MERIDEN, CT 06451

DATE: 01/11/17
SCALE: AS NOTED
JOB NO. 16071.91

TITLE SHEET

T-1

Sheet No. 1 of 5

NOTES AND SPECIFICATIONS

DESIGN BASIS:

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

1. DESIGN CRITERIA:

- WIND LOAD: PER TIA 222 G (ANTENNA MOUNTS): 95–115 MPH (3 SECOND GUST)
- RISK CATEGORY: II (BASED ON IBC TABLE 1604.5)
- NOMINAL DESIGN SPEED (OTHER STRUCTURE): 97 MPH (Vasd) (EXPOSURE B/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7–10) PER 2012 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE.
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7–10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

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

STRUCTURAL STEEL

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

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

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

PAINT NOTES

PAINTING SCHEDULE:

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

EXAMINATION AND PREPARATION:

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

CLEANING:

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

APPLICATION:

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

COMPLETED WORK:

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

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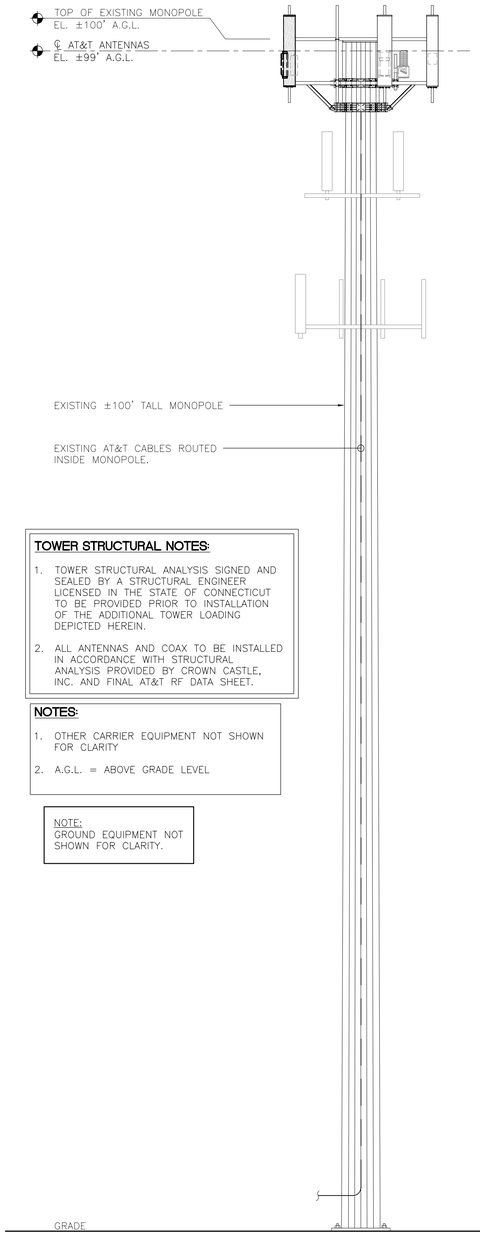
NOTES AND SPECIFICATIONS

N-1

Sheet No. 2 of 5



TOWER STRUCTURAL NOTES:

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

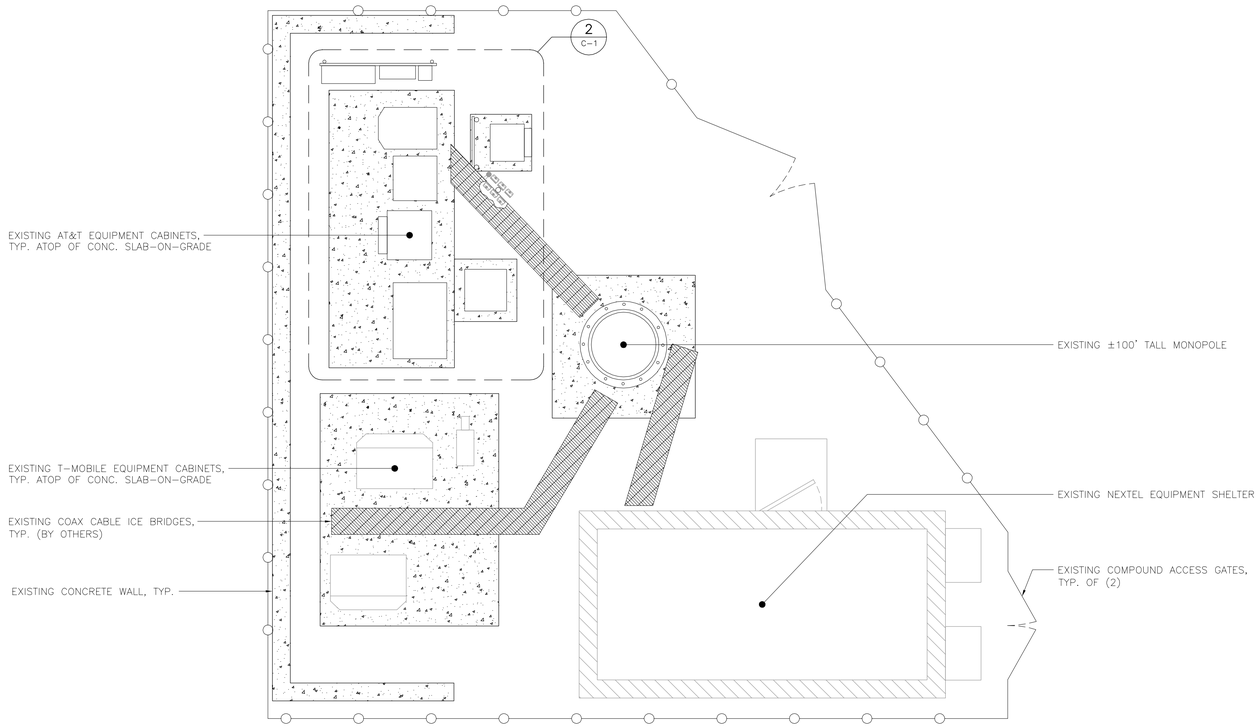
NOTES:

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

NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY.

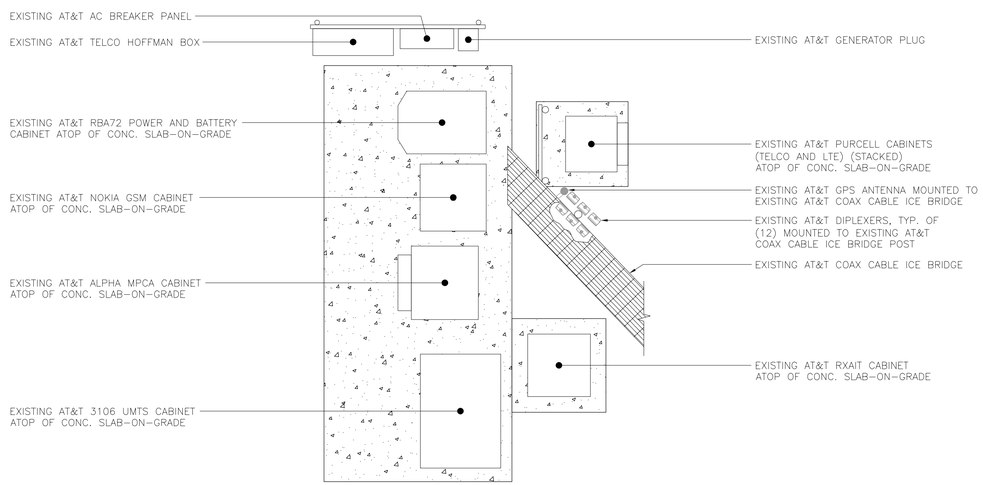
3 / C-1 **TOWER ELEVATION**
SCALE: 1" = 6'

GRAPHIC SCALE
6 0 3 6 12 24
(IN FEET)
1 inch = 6 ft.



1 / C-1 **COMPOUND PLAN**
SCALE: 1/4" = 1'-0"
TRUE NORTH

GRAPHIC SCALE
4 0 2 4 8 16
(IN FEET)
1 inch = 4 ft.



2 / C-1 **EQUIPMENT LAYOUT PLAN**
SCALE: 3/8" = 1'-0"
TRUE NORTH

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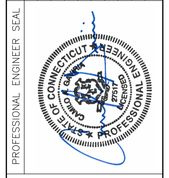

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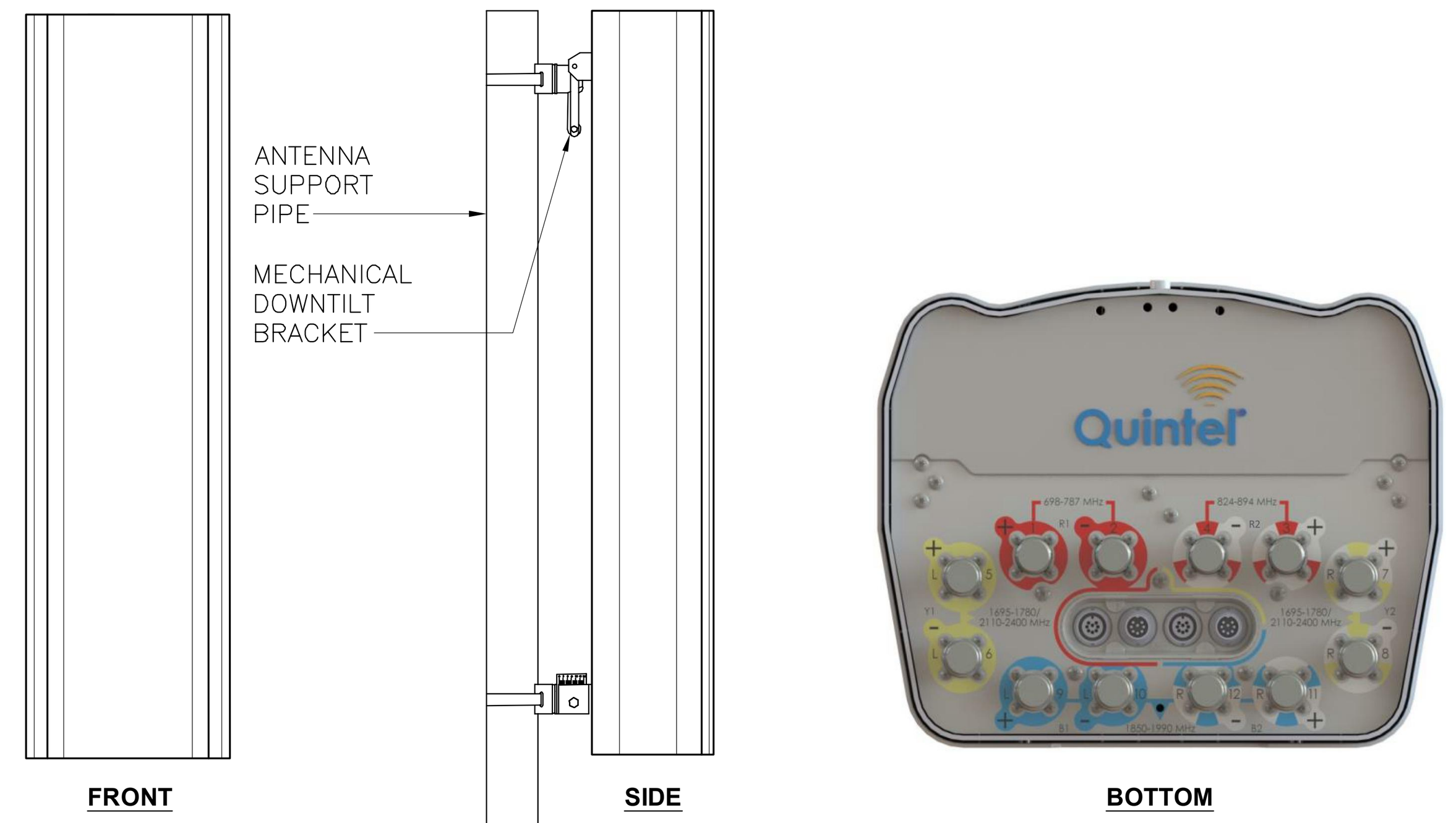
PLANS AND ELEVATION

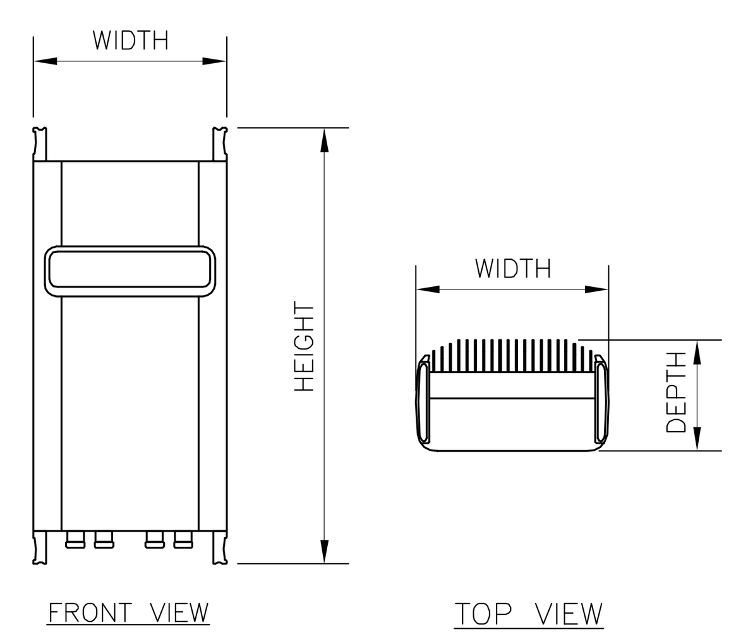
C-1

Sheet No. 3 of 5



ALPHA/BETA/GAMMA ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: QUINTEL MODEL: QS66512-2	72.0"H x 12.0"W x 9.6"D	111.0-LBS

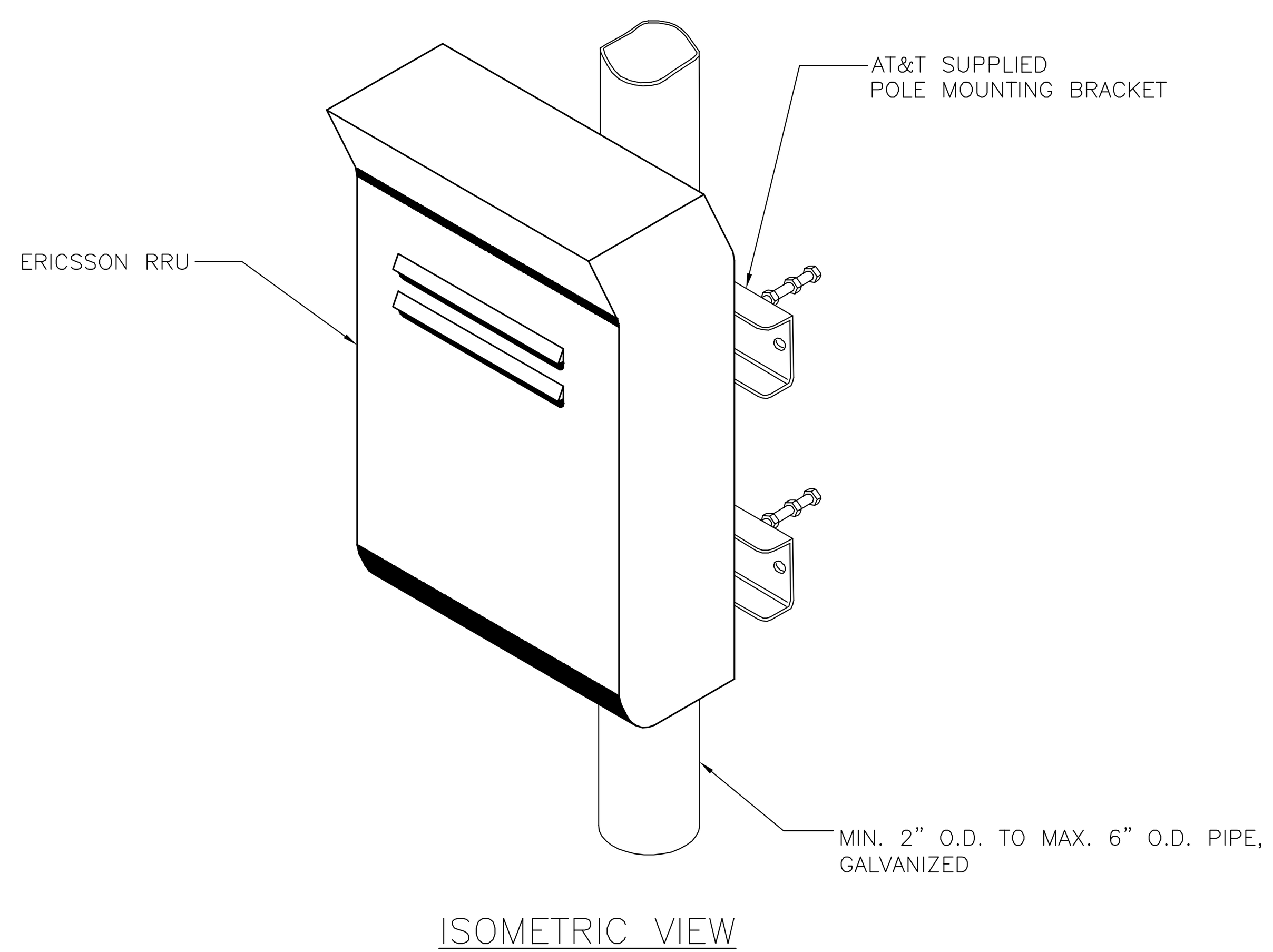
5 C-2 PROPOSED ANTENNA DETAIL
SCALE: 1/2" = 1'-0"



RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: RRUS-32 B2	27.17"H x 12.05"W x 7.01"D	52.91 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.

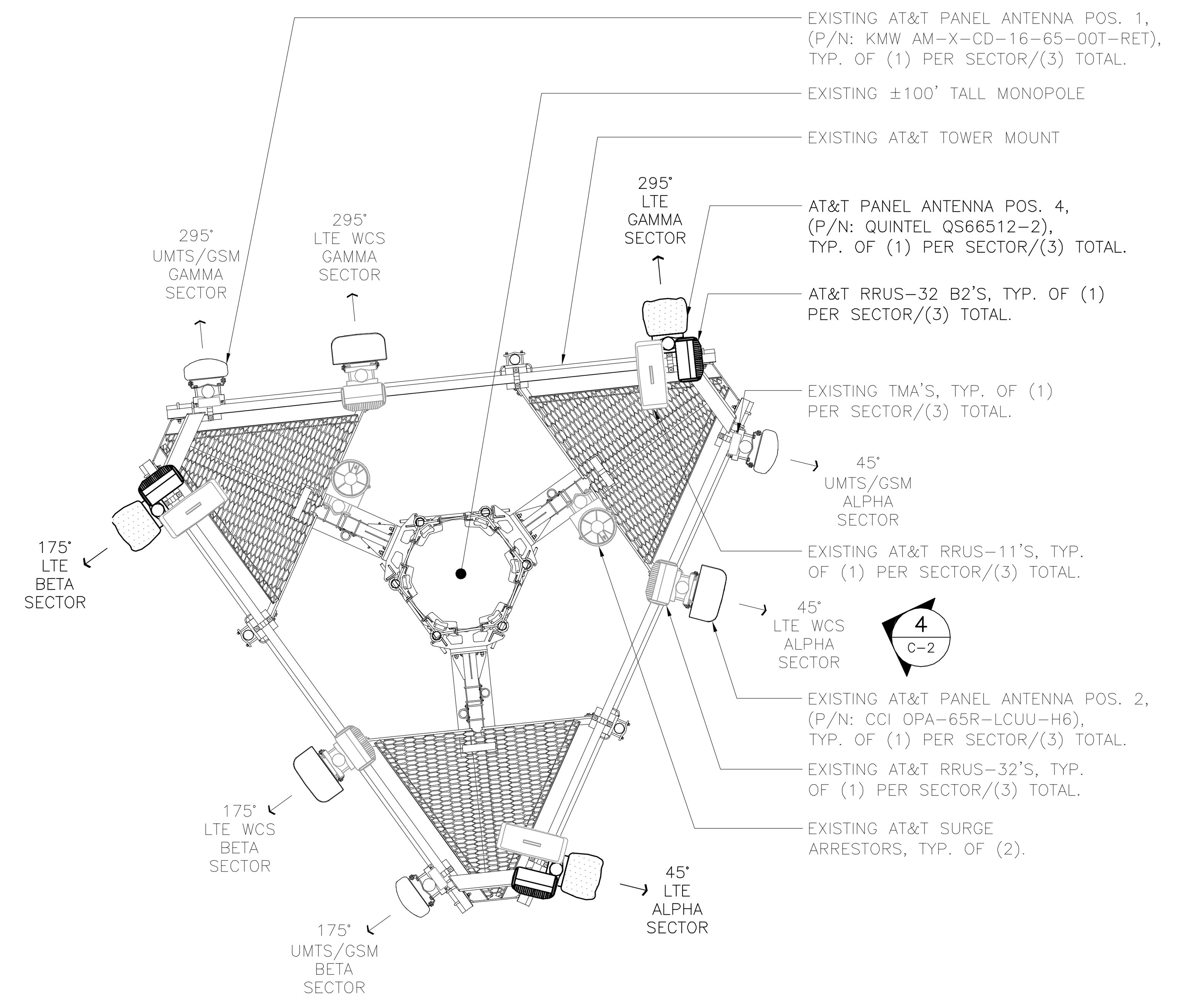
NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.

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

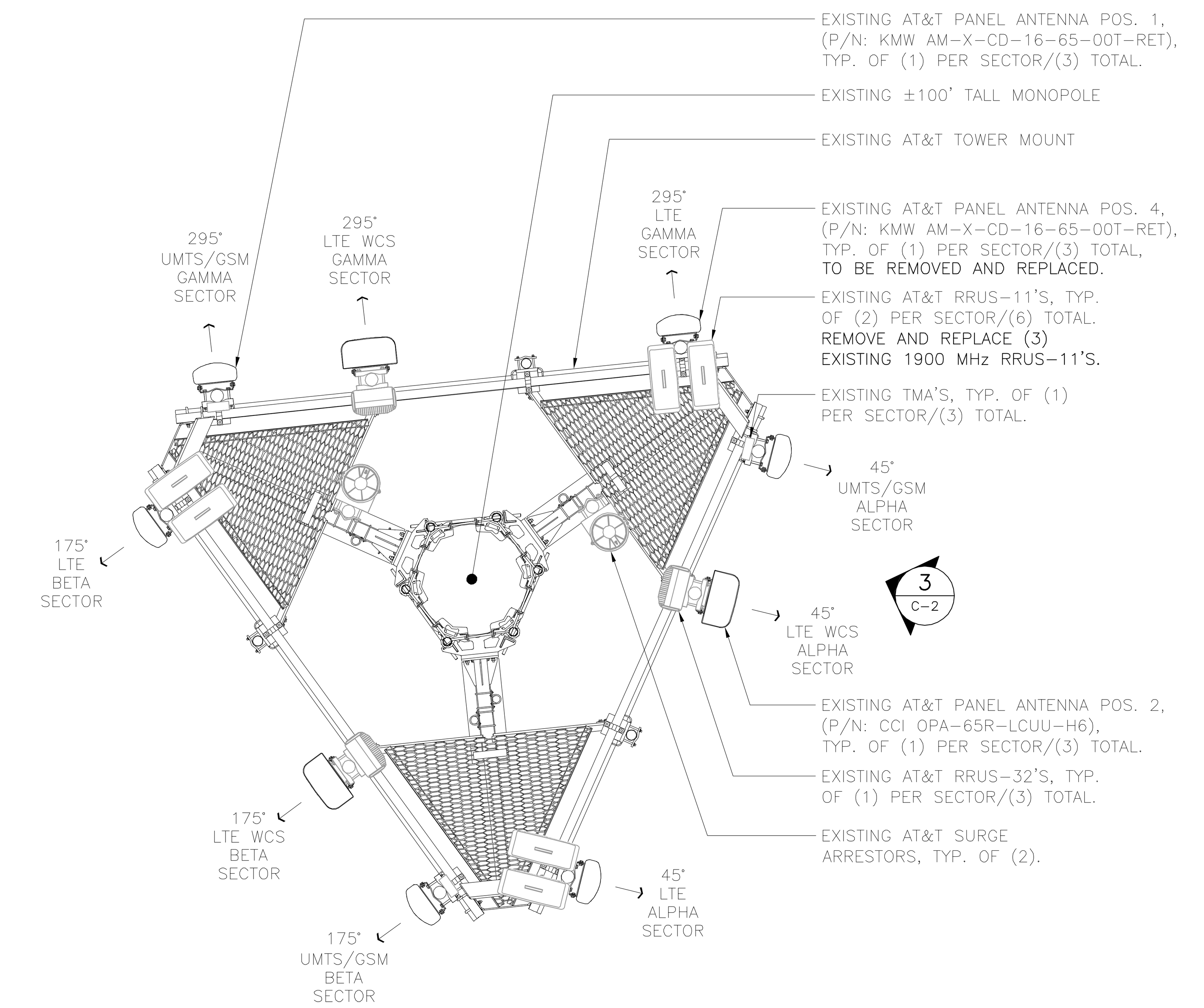


NOTES:
1. AT&T SHALL SUPPLY RRU, AND RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL SUPPLY POLE/PIPE AND INSTALL ALL MOUNTING HARDWARE INCLUDING ERICSSON RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL INSTALLS RRU AND MAKES CABLE TERMINATIONS.
2. NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

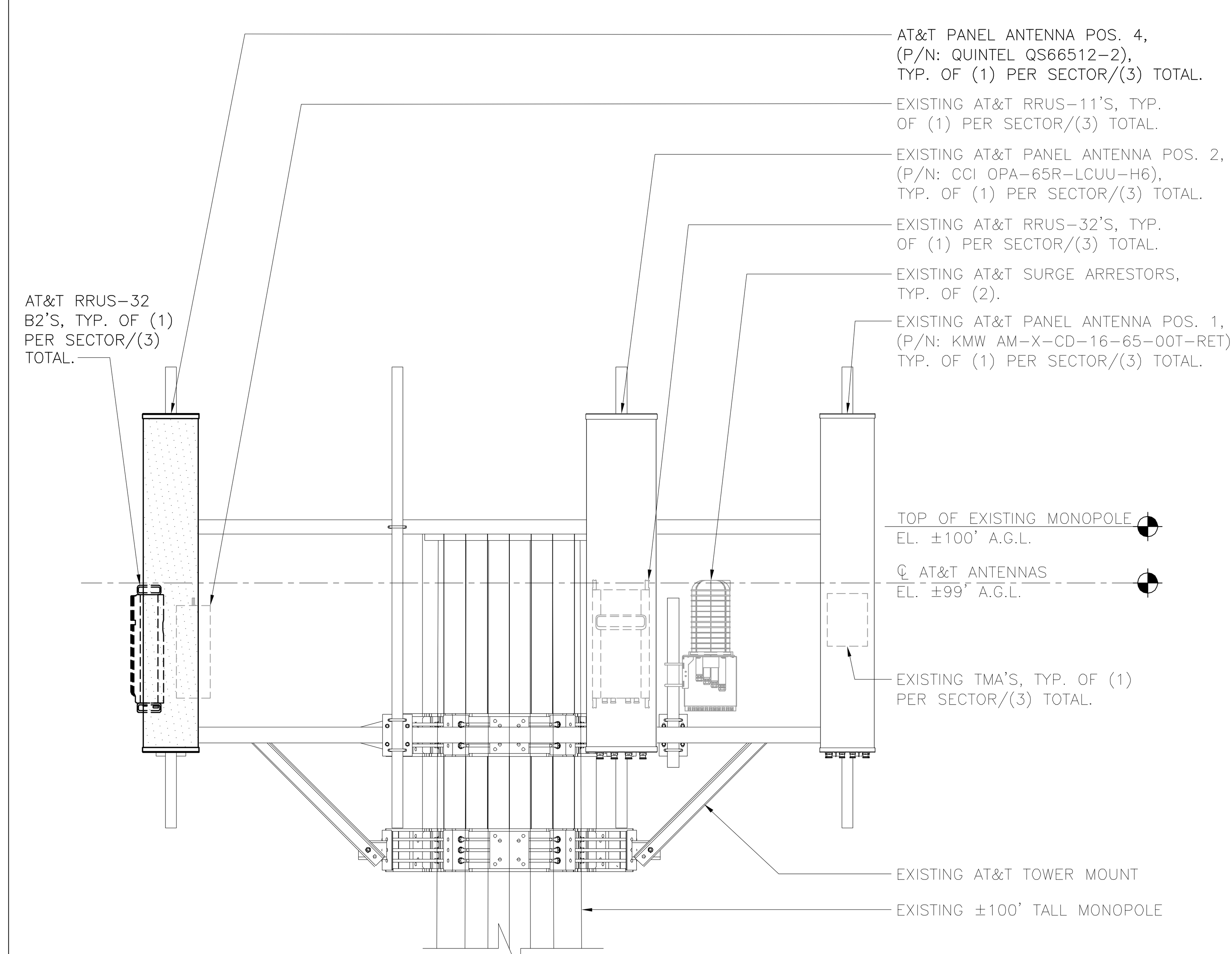
7 C-2 TYPICAL RRUS MOUNTING DETAILS
SCALE: NTS



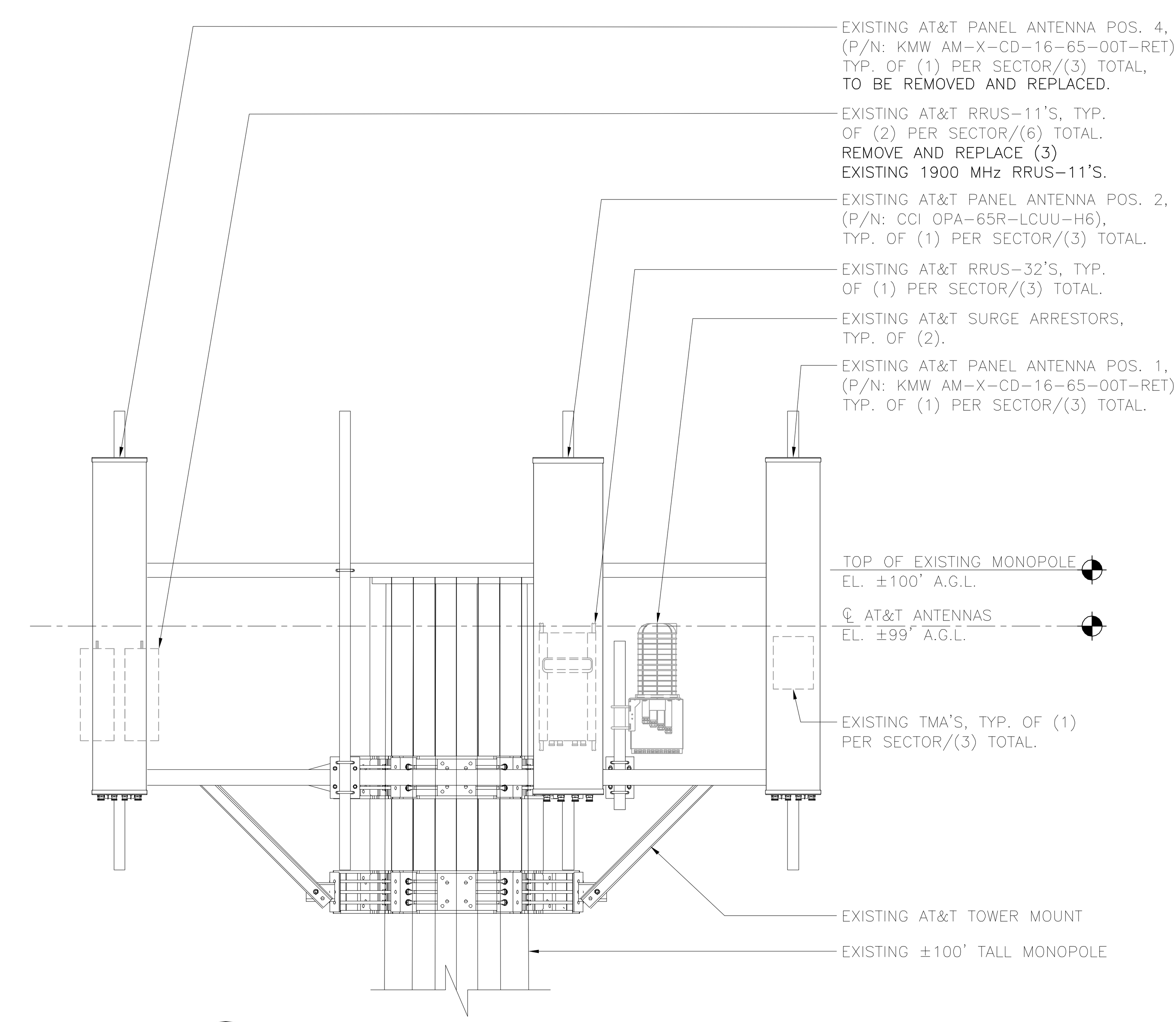
2 C-2 PROPOSED ANTENNA PLAN
SCALE: 3/8" = 1'-0"
NORTH



1 C-2 EXISTING ANTENNA PLAN
SCALE: 3/8" = 1'-0"
NORTH



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



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

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LTE BWE EQUIPMENT DETAILS

C-2

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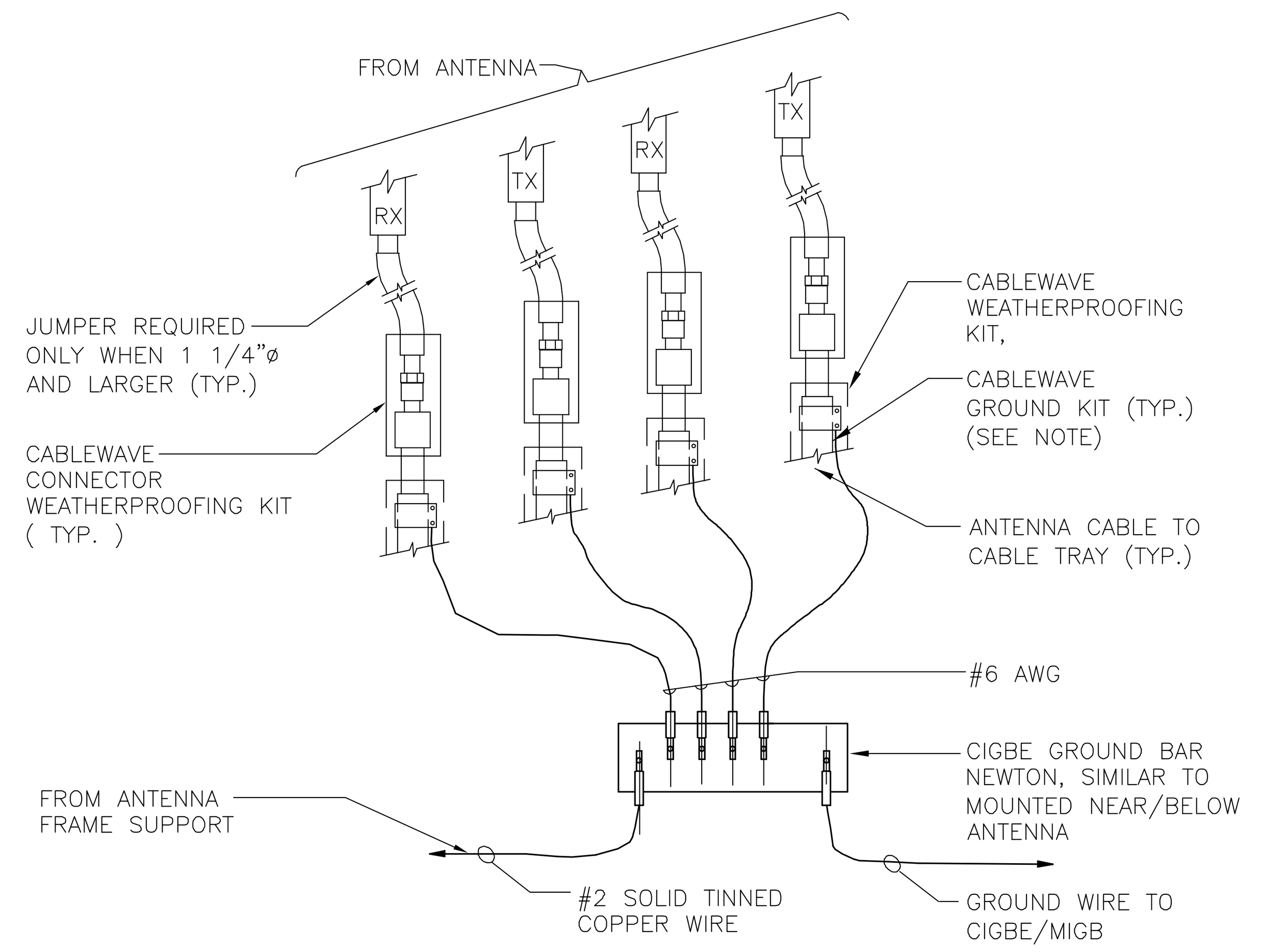
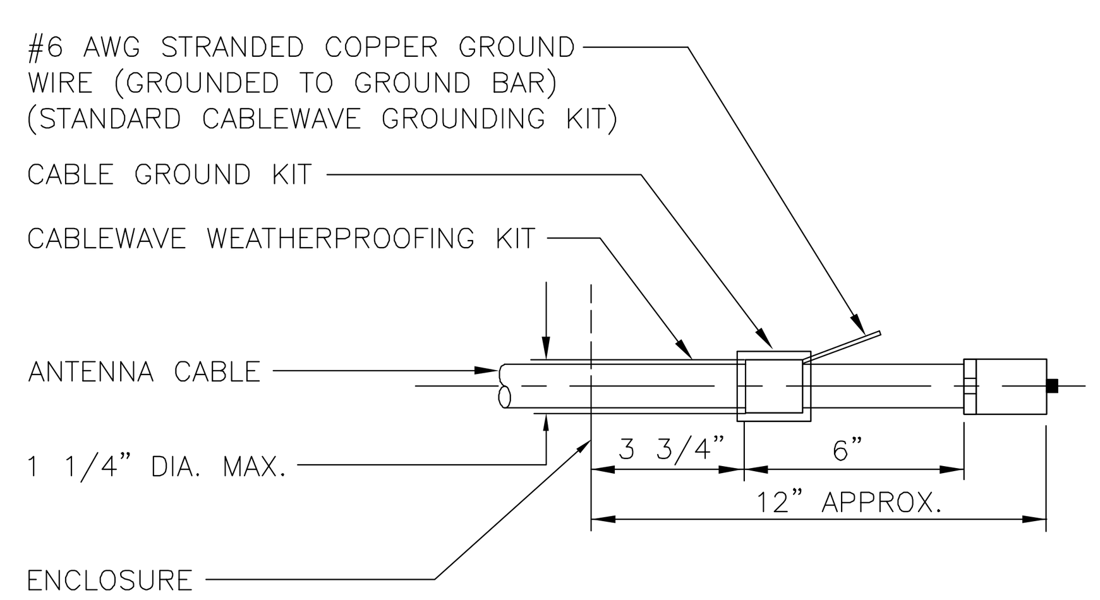


NOTE:

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

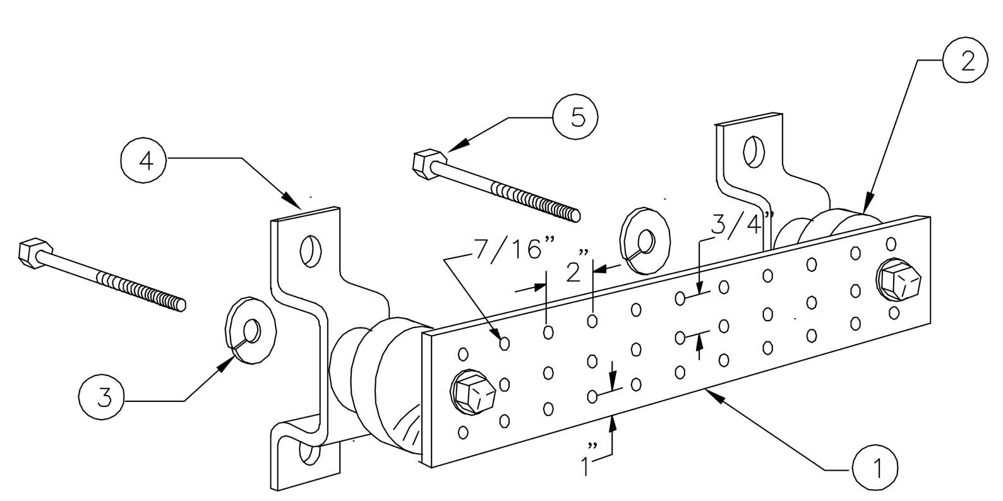
5 CONNECTION OF GROUND WIRES TO GROUND BAR
E-1 NOT TO SCALE



NOTE:

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

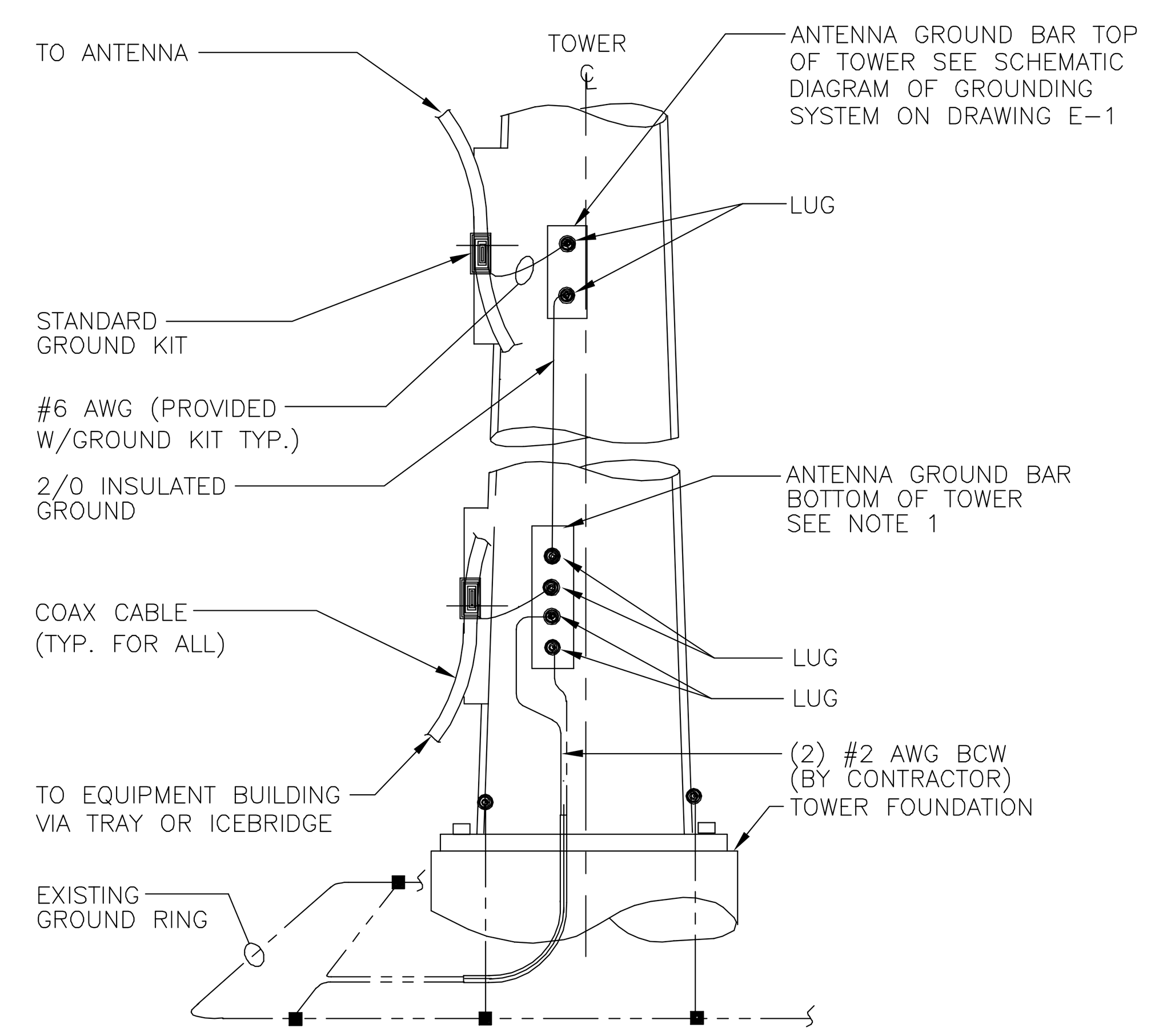
4 ANTENNA CABLE GROUNDING DETAIL
E-1 NOT TO SCALE



LEGEND

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

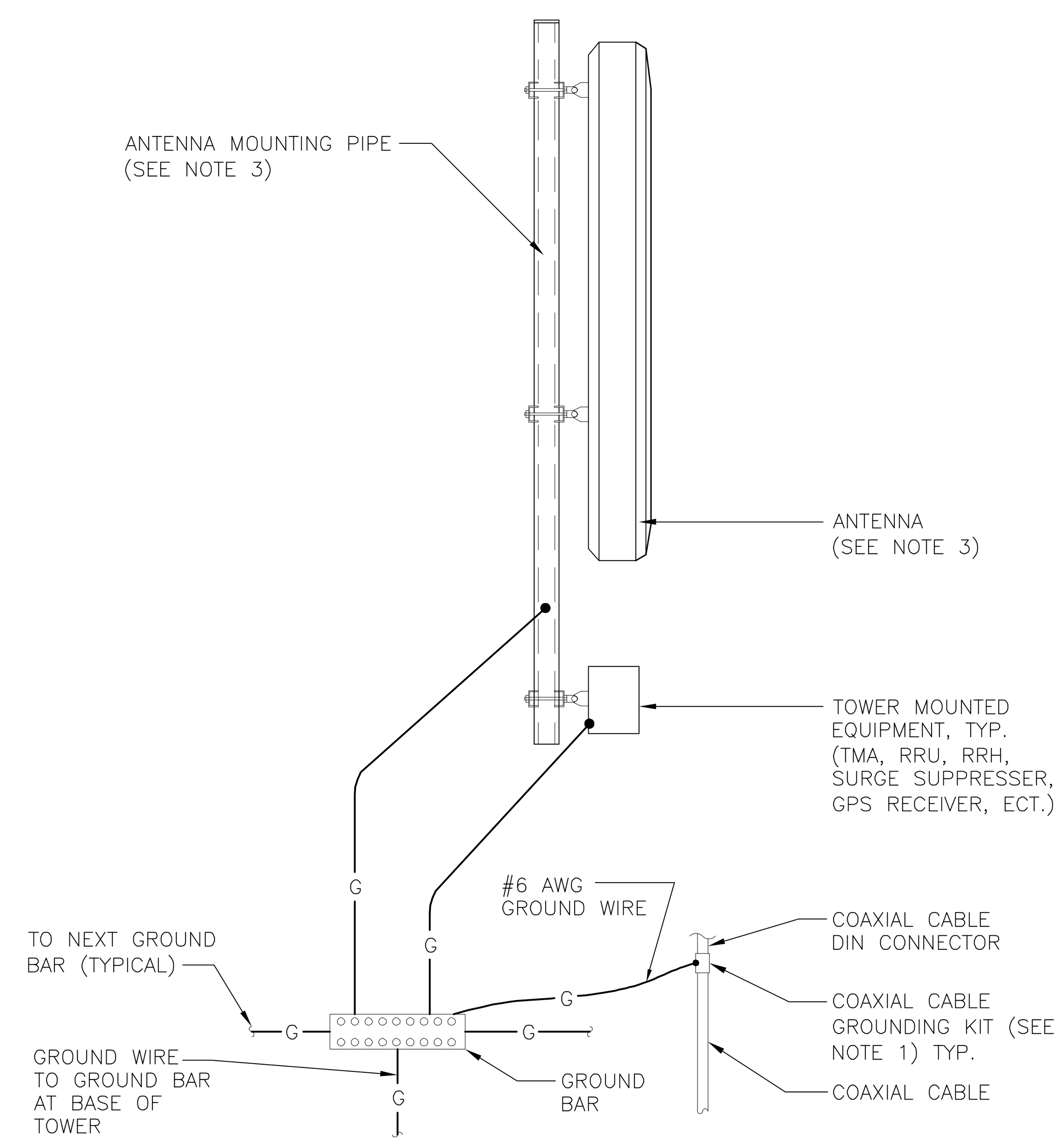
3 GROUND BAR DETAIL
E-1 NOT TO SCALE



NOTES:

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

2 ANTENNA CABLE GROUNDING - TOWER
E-1 NOT TO SCALE



NOTES:

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

1 TYPICAL ANTENNA GROUNDING DETAIL
E-1 NOT TO SCALE

ELECTRICAL NOTES

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

TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

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

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

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

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

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

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

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

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DATE: 01/11/17
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TYPICAL ELECTRICAL DETAILS & NOTES

E-1

Date: **January 03, 2017**

Sean Dempsey
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

JACOBS
Jacobs Engineering Group, Inc.
5449 Bells Ferry Road
Acworth, GA 30102
770-701-2500

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Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	CTL05378
	Carrier Site Name:	Meridian West Central
Crown Castle Designation:	**Crown Castle BU Number:**	842869
	Crown Castle Site Name:	MERIDEN WEST CENTRAL
	Crown Castle JDE Job Number:	392788
	Crown Castle Work Order Number:	1342334
	Crown Castle Application Number:	355047 Rev. 1
Engineering Firm Designation:	**Jacobs Engineering Group Inc. Project Number:**	1342334
Site Data:	**450-478 West Main Street, Meriden, New Haven County, CT** **Latitude *41° 32' 24.24"*, Longitude *-72° 49' 9.06"*** **100 Foot - Monopole Tower**	

Dear Sean Dempsey,

Jacobs Engineering Group Inc. 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 985482, in accordance with application 355047, revision 1.

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 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category B and Risk Category II were used in this analysis.

All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at *Jacobs Engineering Group Inc.* 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.

Structural analysis prepared by:

Dustin Virgil M. Daulo
Structural Engineer

STATE OF CONNECTICUT
MATTHEW E. WATKINS
No. 29955
LICENSED PROFESSIONAL ENGINEER
01/03/17

Reviewed by:

Matthew E. Watkins, P.E.
Engineering Project Manager

tnxTower Report - version 7.0.7.0

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1) INTRODUCTION

This tower is a 100 ft Monopole tower designed by Glen Martin Engineering in December of 2003. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 97 mph with no ice, 50 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category B.

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
100.0	100.0	3	ericsson	RRUS 32	-	-	-
		3	ericsson	RRUS 32 B2			
		3	quintel technology	QS66512-2			

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
100.0	115.0	1	dbspectra	DS8A12F36U-N	8	1/2	3
	106.0	3	decibel	DB201-A			
		1	kmw communications	HB-X-AW-19-65-00T			
	100.0	4	decibel	DB432-A			
		3	ericsson	RRUS A2 MODULE			
		3	ericsson	RRUS 11-700			
		3	kmw communications	AM-X-CD-16-65-00T-RET			
		3	cci antennas	DTMABP7819VG12A	6 4 2	1-1/4 3/4 3/8	1
		3	cci antennas	OPA-65R-LCUU-H6			
		3	ericsson	RRUS 11			
		3	kmw communications	AM-X-CD-16-65-00T-RET			
		2	raycap	DC6-48-60-18-8F			
		1	tower mounts	Platform Mount [LP 1301-1]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
86.0	90.0	3	commscope	LNX-6515DS-A1M w/ Mount Pipe	1	1-5/8	2
		3	ericsson	AIR -32 B2A/B66AA w/ Mount Pipe			
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	11 1	7/8 1-5/8	1
		3	ericsson	KRY 112 71			
		3	ericsson	RRUS 11 B12			
	86.0	1	tower mounts	Platform Mount [LP 305-1]			
78.0	78.0	3	alcatel lucent	1900MHz RRH	-	-	1
		3	alcatel lucent	800 EXTERNAL NOTCH FILTER			
		3	alcatel lucent	TME-800MHZ RRH			
		1	tower mounts	Side Arm Mount [SO 104-3]			
76.0	79.0	3	alcatel lucent	TD-RRH8x20-25	3 1 1	1-1/4 5/8 3/4	1
		3	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe			
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe			
	76.0	1	tower mounts	Platform Mount [LP 304-1]			
65.0	65.0	3	alcatel lucent	RRH2x60-700	-	-	2
		3	alcatel lucent	RRH2x60-AWS			
		6	commscope	SBNHH-1D45B w/ Mount Pipe			
		3	antel	BXA-171063/12CF w/ Mount Pipe	2	1-5/8	1
		3	antel	BXA-70063/6CF w/ Mount Pipe			
		2	rfs celwave	DB-T1-6Z-8AB-0Z			
		1	tower mounts	Platform Mount [LP 303-1]			

Notes:
1) Existing Equipment
2) Reserved Equipment
3) Equipment To Be Removed; Not Considered in This Analysis

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)
99.0	99.0	6	allgon	7920	12	1-5/8
89.0	89.0	9	generic	4' Panel Antenna	9	1-5/8
79.0	79.0	9	generic	4' Panel Antenna	9	1-5/8

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
GEOTECHNICAL REPORTS	Tectonic	4529388	CCISITES
TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Glen Martin Engineering	4529387	CCISITES
TOWER MANUFACTURER DRAWINGS	Glen Martin Engineering	4713237	CCISITES

3.1) Analysis Method

tnxTower (version 7.0.7.0), 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) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) Specifications of the weld connecting the tower shaft to the base plate have not been provided to Jacobs prior to this analysis and as a result are outside the scope of this report.
5) Porthole details and weld specifications were not provided to Jacobs prior to this analysis and as a result are outside the scope of this report.

This analysis may be affected if any assumptions are not valid or have been made in error. Jacobs Engineering Group Inc. 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	100 - 47	Pole	TP40.72x28x0.313	1	-20.481	2675.230	28.3	Pass
L2	47 - 0	Pole	TP51.37x38.655x0.375	2	-34.813	4061.570	41.8	Pass
							Summary	
						Pole (L2)	41.8	Pass
						Rating =	41.8	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	35.9	Pass
1	Base Plate	0	28.5	Pass
1	Base Foundation Structural	0	34.1	Pass
1	Base Foundation Soil Interaction	0	44.7	Pass

Structure Rating (max from all components) =	44.7%

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

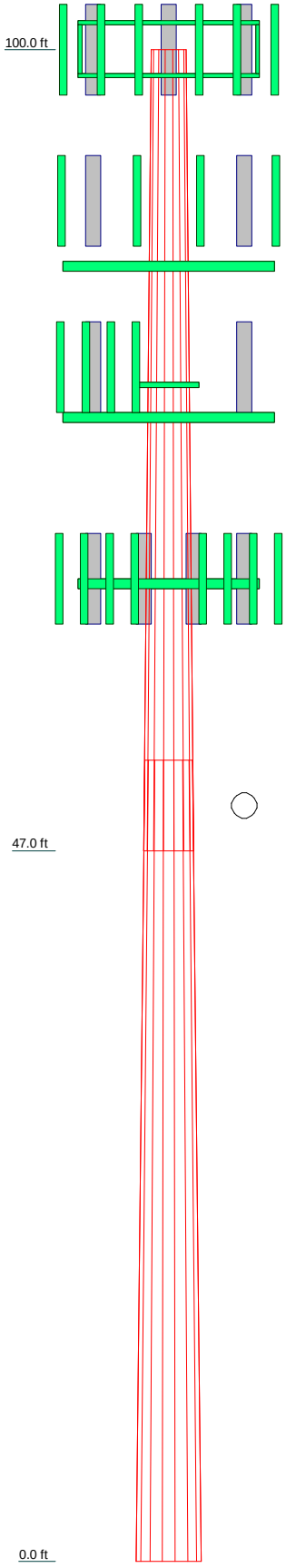
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the existing, reserved and proposed loads. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	53.000	16	0.313	6.000	28.000	40.720	A572-65	6.1
2	53.000	16	0.375		38.655	51.370		9.6
								15.8



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 3/4"x4'	100	RRUS 11 B12	86
AM-X-CD-16-65-00T-RET	100	Platform Mount [LP 305-1]	86
AM-X-CD-16-65-00T-RET	100	TME-800MHZ RRH	78
AM-X-CD-16-65-00T-RET	100	TME-800MHZ RRH	78
OPA-65R-LCUU-H6	100	TME-800MHZ RRH	78
OPA-65R-LCUU-H6	100	1900MHz RRH	78
OPA-65R-LCUU-H6	100	1900MHz RRH	78
QS66512-2	100	1900MHz RRH	78
QS66512-2	100	800 EXTERNAL NOTCH FILTER	78
QS66512-2	100	800 EXTERNAL NOTCH FILTER	78
DTMABP7819VG12A	100	800 EXTERNAL NOTCH FILTER	78
DTMABP7819VG12A	100	6' x 2" Mount Pipe	78
DTMABP7819VG12A	100	6' x 2" Mount Pipe	78
RRUS 32	100	6' x 2" Mount Pipe	78
RRUS 32	100	Side Arm Mount [SO 104-3]	78
RRUS 32	100	APXVSPP18-C-A20 w/ Mount Pipe	76
DC6-48-60-18-8F	100	APXVTM14-C-120 w/ Mount Pipe	76
DC6-48-60-18-8F	100	(2) APXVSPP18-C-A20 w/ Mount Pipe	76
RRUS 11	100	(2) APXVTM14-C-120 w/ Mount Pipe	76
RRUS 11	100	TD-RRH8x20-25	76
RRUS 11	100	(2) TD-RRH8x20-25	76
RRUS 32 B2	100	(2) 6' x 2" Mount Pipe	76
RRUS 32 B2	100	(4) 6' x 2" Mount Pipe	76
RRUS 32 B2	100	Platform Mount [LP 304-1]	76
Platform Mount [LP 1301-1]	100	BXA-70063/6CF w/ Mount Pipe	65
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	86	BXA-70063/6CF w/ Mount Pipe	65
		BXA-70063/6CF w/ Mount Pipe	65
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	86	(2) SBNHH-1D45B w/ Mount Pipe	65
		(2) SBNHH-1D45B w/ Mount Pipe	65
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	86	(2) SBNHH-1D45B w/ Mount Pipe	65
		BXA-171063/12CF w/ Mount Pipe	65
AIR -32 B2A/B66AA w/ Mount Pipe	86	BXA-171063/12CF w/ Mount Pipe	65
AIR -32 B2A/B66AA w/ Mount Pipe	86	BXA-171063/12CF w/ Mount Pipe	65
AIR -32 B2A/B66AA w/ Mount Pipe	86	RRH2x60-AWS	65
LNX-6515DS-A1M w/ Mount Pipe	86	RRH2x60-AWS	65
LNX-6515DS-A1M w/ Mount Pipe	86	RRH2x60-AWS	65
LNX-6515DS-A1M w/ Mount Pipe	86	RRH2x60-700	65
KRY 112 71	86	RRH2x60-700	65
KRY 112 71	86	RRH2x60-700	65
KRY 112 71	86	(2) DB-T1-6Z-8AB-0Z	65
RRUS 11 B12	86	Platform Mount [LP 303-1]	65
RRUS 11 B12	86		

MATERIAL STRENGTH

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

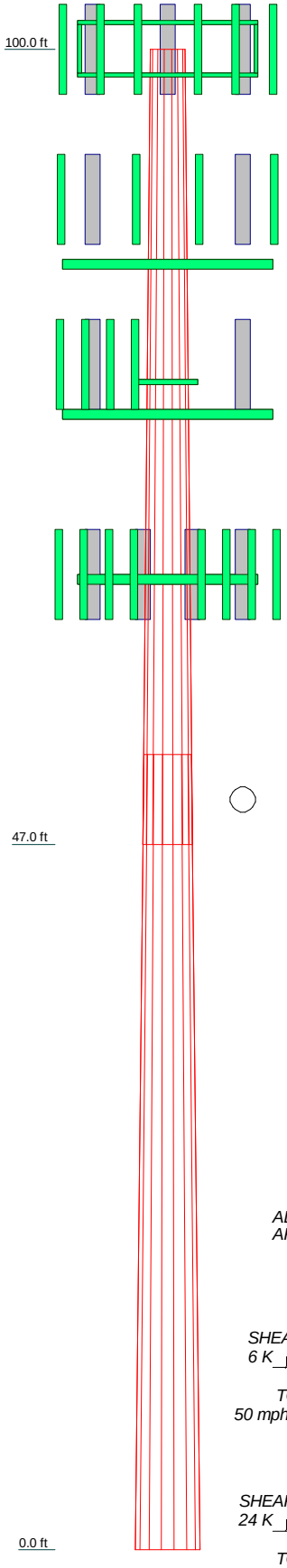
TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 97 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 0.000 ft

Jacobs Engineering Group Inc.
5449 Bells Ferry Road
Acworth, GA 30102
Phone: 770-701-2500
FAX: 770-701-2501

Job: ***MERIDEN WEST CENTRAL***			
Project: ***BU#842869 WO#1342334***			
Client: Crown Castle	Drawn by: Dustin Daulo	App'd:	
Code: TIA-222-G	Date: 01/03/17	Scale: NTS	
Path:		Dwg No. E-1	

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	53.000	16	0.313	6.000	28.000	40.720	A572-65	6.1
2	53.000	16	0.375		38.655	51.370		9.6
								15.8



ALL REACTIONS ARE FACTORED

AXIAL 61 K

SHEAR 6 K

MOMENT 461 kip-ft

TORQUE 1 kip-ft

50 mph WIND - 0.750 in ICE

AXIAL 35 K

SHEAR 24 K

MOMENT 1737 kip-ft

TORQUE 4 kip-ft

REACTIONS - 97 mph WIND

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 97 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 0.000 ft
8. TOWER RATING: 41.8%

Jacobs Engineering Group Inc.
5449 Bells Ferry Road
Acworth, GA 30102
Phone: 770-701-2500
FAX: 770-701-2501

Job: ***MERIDEN WEST CENTRAL***			
Project: ***BU#842869 WO#1342334***			
Client: Crown Castle	Drawn by: Dustin Daulo	App'd:	
Code: TIA-222-G	Date: 01/03/17	Scale: NTS	
Path:		Dwg No. E-1	

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 New Haven County, Connecticut.
2) Basic wind speed of 97 mph.
3) Structure Class II.
4) Exposure Category B.
5) Topographic Category 1.
6) Crest Height 0.000 ft.
7) Nominal ice thickness of 0.750 in.
8) Ice thickness is considered to increase with height.
9) Ice density of 56.000 pcf.
10) A wind speed of 50 mph is used in combination with ice.
11) Temperature drop of 50.000 °F.
12) Deflections calculated using a wind speed of 60 mph.
13) A non-linear (P-delta) analysis was used.
14) Pressures are calculated at each section.
15) Stress ratio used in pole design is 1.
16) 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. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric				

Tapered Pole Section Geometry

Section	*Elevation*	*Section Length*	*Splice Length*	*Number of Sides*	*Top Diameter*	*Bottom Diameter*	*Wall Thickness*	*Bend Radius*	*Pole Grade*
	ft	*ft*	*ft*		*in*	*in*	*in*	*in*	
L1	100.000-47.000	53.000	6.000	16	28.000	40.720	0.313	1.250	A572-65 (65 ksi)
L2	47.000-0.000	53.000		16	38.655	51.370	0.375	1.500	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	It/Q in^2	w in	w/t
L1	28.549	27.601	2673.045	9.857	14.280	187.188	5386.564	13.647	4.950	15.84
	41.518	40.281	8308.852	14.385	20.767	400.095	16743.510	19.917	7.481	23.94
L2	40.880	45.792	8477.194	13.628	19.714	430.008	17082.742	22.642	6.946	18.523
	52.376	61.003	20040.987	18.154	26.199	764.961	40385.419	30.163	9.476	25.27

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 100.000-47.000				1	1	1			
L2 47.000-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
*****									
MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	A	Surface Ar (CaAa)	65.000 - 0.000	2	2	-0.410 -0.370	1.625		0.001
***									

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
Safety Line 3/8	C	No	CaAa (Out Of Face)	100.000 - 0.000	1	No Ice	0.037	0.000
						1/2" Ice	0.137	0.001
						1" Ice	0.238	0.001
LDF6-50A(1-1/4")	A	No	Inside Pole	100.000 - 0.000	6	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
FB-L98B-034-XXXXXX(3/8)	A	No	Inside Pole	100.000 - 0.000	2	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
WR-VG86ST-BRD(3/4)	A	No	Inside Pole	100.000 - 0.000	4	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
2 1/4'' Flex Conduit	A	No	Inside Pole	100.000 - 0.000	2	No Ice	0.000	0.002
						1/2" Ice	0.000	0.002
						1" Ice	0.000	0.002
*****								
LDF5-50A(7/8")	C	No	Inside Pole	86.000 - 0.000	11	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	C	No	Inside Pole	86.000 - 0.000	1	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
MLE Hybrid 9Power/18Fiber RL 2(1-5/8")	C	No	Inside Pole	86.000 - 0.000	1	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
*****								
LDF4.5-50(5/8")	B	No	Inside Pole	76.000 - 0.000	1	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
EP185(3/4")	B	No	Inside Pole	76.000 - 0.000	1	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
HB114-13U3M12-XXXF(1-1/4")	B	No	Inside Pole	76.000 - 0.000	3	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
***								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	100.000-47.000	A	0.000	0.000	5.850	0.000	0.632
		B	0.000	0.000	0.000	0.000	0.096
		C	0.000	0.000	0.000	1.988	0.237
L2	47.000-0.000	A	0.000	0.000	15.275	0.000	0.627
		B	0.000	0.000	0.000	0.000	0.156
		C	0.000	0.000	0.000	1.763	0.282

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	100.000-47.000	A	1.623	0.000	0.000	14.616	0.000	0.789
		B		0.000	0.000	0.000	0.000	0.096
		C		0.000	0.000	0.000	19.191	0.328
L2	47.000-0.000	A	1.446	0.000	0.000	38.163	0.000	1.036
		B		0.000	0.000	0.000	0.000	0.156
		C		0.000	0.000	0.000	17.018	0.362

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	100.000-47.000	-0.219	0.078	-0.663	0.292
L2	47.000-0.000	-0.477	0.156	-1.077	0.408

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	17	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	47.00 - 65.00	1.0000	1.0000

Discrete Tower Loads

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* ft ft ft	*Azimuth Adjustment* °	*Placement* ft		C_AA_A *Front* ft^2	C_AA_A *Side* ft^2	*Weight* K
Lightning Rod 3/4"x4'	C	From Leg	0.000 0.000 2.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	0.300 0.715 1.001	0.300 0.715 1.001	0.020 0.023 0.029
Lvl 100									
AM-X-CD-16-65-00T-RET	A	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	8.024 8.480 8.943	4.642 5.088 5.542	0.049 0.095 0.147
AM-X-CD-16-65-00T-RET	B	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	8.024 8.480 8.943	4.642 5.088 5.542	0.049 0.095 0.147
AM-X-CD-16-65-00T-RET	C	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	8.024 8.480 8.943	4.642 5.088 5.542	0.049 0.095 0.147
OPA-65R-LCUU-H6	A	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	9.658 10.128 10.606	5.517 5.971 6.434	0.073 0.131 0.196
OPA-65R-LCUU-H6	B	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	9.658 10.128 10.606	5.517 5.971 6.434	0.073 0.131 0.196
OPA-65R-LCUU-H6	C	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	9.658 10.128 10.606	5.517 5.971 6.434	0.073 0.131 0.196
QS66512-2	A	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	8.133 8.590 9.053	6.800 7.267 7.723	0.111 0.168 0.232
QS66512-2	B	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	8.133 8.590 9.053	6.800 7.267 7.723	0.111 0.168 0.232
QS66512-2	C	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	8.133 8.590 9.053	6.800 7.267 7.723	0.111 0.168 0.232
DTMABP7819VG12A	A	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	0.976 1.100 1.232	0.339 0.419 0.510	0.019 0.026 0.036
DTMABP7819VG12A	B	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	0.976 1.100 1.232	0.339 0.419 0.510	0.019 0.026 0.036
DTMABP7819VG12A	C	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	0.976 1.100 1.232	0.339 0.419 0.510	0.019 0.026 0.036
RRUS 32	A	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	2.857 3.083 3.316	1.777 1.968 2.166	0.055 0.077 0.103
RRUS 32	B	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	2.857 3.083 3.316	1.777 1.968 2.166	0.055 0.077 0.103
RRUS 32	C	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	2.857 3.083 3.316	1.777 1.968 2.166	0.055 0.077 0.103

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* ft ft ft	*Azimuth Adjustment* °	*Placement* ft		*C_AA_A Front* ft^2	*C_AA_A Side* ft^2	*Weight* K
DC6-48-60-18-8F	A	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	0.917 1.458 1.643	0.917 1.458 1.643	0.033 0.051 0.071
DC6-48-60-18-8F	B	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	0.917 1.458 1.643	0.917 1.458 1.643	0.033 0.051 0.071
RRUS 11	A	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	2.784 2.992 3.207	1.187 1.334 1.490	0.051 0.072 0.095
RRUS 11	B	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	2.784 2.992 3.207	1.187 1.334 1.490	0.051 0.072 0.095
RRUS 11	C	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	2.784 2.992 3.207	1.187 1.334 1.490	0.051 0.072 0.095
RRUS 32 B2	A	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	2.731 2.953 3.182	1.668 1.855 2.049	0.053 0.074 0.098
RRUS 32 B2	B	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	2.731 2.953 3.182	1.668 1.855 2.049	0.053 0.074 0.098
RRUS 32 B2	C	From Leg	4.000 0.000 0.000	0.000	100.000	No Ice 1/2" Ice 1" Ice	2.731 2.953 3.182	1.668 1.855 2.049	0.053 0.074 0.098
Platform Mount [LP 1301-1]	C	None		0.000	100.000	No Ice 1/2" Ice 1" Ice	51.700 62.700 76.000	51.700 62.700 76.000	2.262 2.935 3.808
Lvl 86									
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	6.329 6.775 7.214	5.642 6.426 7.131	0.112 0.169 0.233
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	6.329 6.775 7.214	5.642 6.426 7.131	0.112 0.169 0.233
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	6.329 6.775 7.214	5.642 6.426 7.131	0.112 0.169 0.233
AIR -32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	6.747 7.202 7.648	6.070 6.867 7.583	0.153 0.214 0.282
AIR -32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	6.747 7.202 7.648	6.070 6.867 7.583	0.153 0.214 0.282
AIR -32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	6.747 7.202 7.648	6.070 6.867 7.583	0.153 0.214 0.282
LNX-6515DS-A1M w/ Mount Pipe	A	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	11.445 12.064 12.689	9.359 10.679 11.714	0.076 0.160 0.254

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* ft ft ft	*Azimuth Adjustment* °	*Placement* ft		*C_AA_A Front* ft^2	*C_AA_A Side* ft^2	*Weight* K
LNX-6515DS-A1M w/ Mount Pipe	B	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	11.445 12.064 12.689	9.359 10.679 11.714	0.076 0.160 0.254
LNX-6515DS-A1M w/ Mount Pipe	C	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	11.445 12.064 12.689	9.359 10.679 11.714	0.076 0.160 0.254
KRY 112 71	A	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	0.583 0.688 0.799	0.398 0.488 0.586	0.013 0.018 0.025
KRY 112 71	B	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	0.583 0.688 0.799	0.398 0.488 0.586	0.013 0.018 0.025
KRY 112 71	C	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	0.583 0.688 0.799	0.398 0.488 0.586	0.013 0.018 0.025
RRUS 11 B12	A	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	2.833 3.043 3.259	1.182 1.330 1.485	0.051 0.072 0.095
RRUS 11 B12	B	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	2.833 3.043 3.259	1.182 1.330 1.485	0.051 0.072 0.095
RRUS 11 B12	C	From Leg	4.000 0.000 4.000	0.000	86.000	No Ice 1/2" Ice 1" Ice	2.833 3.043 3.259	1.182 1.330 1.485	0.051 0.072 0.095
Platform Mount [LP 305-1]	C	None		0.000	86.000	No Ice 1/2" Ice 1" Ice	18.010 23.330 28.650	18.010 23.330 28.650	1.121 1.352 1.584
Lvl 78									
TME-800MHZ RRH	A	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	2.134 2.320 2.512	1.773 1.946 2.127	0.053 0.074 0.098
TME-800MHZ RRH	B	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	2.134 2.320 2.512	1.773 1.946 2.127	0.053 0.074 0.098
TME-800MHZ RRH	C	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	2.134 2.320 2.512	1.773 1.946 2.127	0.053 0.074 0.098
1900MHz RRH	A	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	2.492 2.695 2.906	3.258 3.484 3.718	0.044 0.075 0.110
1900MHz RRH	B	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	2.492 2.695 2.906	3.258 3.484 3.718	0.044 0.075 0.110
1900MHz RRH	C	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	2.492 2.695 2.906	3.258 3.484 3.718	0.044 0.075 0.110
800 EXTERNAL NOTCH FILTER	A	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	0.660 0.763 0.873	0.321 0.398 0.483	0.011 0.017 0.024

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* *ft* *ft* *ft*	*Azimuth Adjustment* °	*Placement* *ft*		*C_AA_A Front* *ft^2*	*C_AA_A Side* *ft^2*	*Weight* *K*
800 EXTERNAL NOTCH FILTER	B	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	0.660 0.763 0.873	0.321 0.398 0.483	0.011 0.017 0.024
800 EXTERNAL NOTCH FILTER	C	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	0.660 0.763 0.873	0.321 0.398 0.483	0.011 0.017 0.024
6' x 2" Mount Pipe	A	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	1.425 1.925 2.294	1.425 1.925 2.294	0.022 0.033 0.048
6' x 2" Mount Pipe	B	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	1.425 1.925 2.294	1.425 1.925 2.294	0.022 0.033 0.048
6' x 2" Mount Pipe	C	From Leg	2.000 0.000 0.000	0.000	78.000	No Ice 1/2" Ice 1" Ice	1.425 1.925 2.294	1.425 1.925 2.294	0.022 0.033 0.048
Side Arm Mount [SO 104-3]	C	None		0.000	78.000	No Ice 1/2" Ice 1" Ice	3.300 4.130 4.960	3.300 4.130 4.960	0.287 0.317 0.347
Lvl 76									
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.000 0.000 3.000	0.000	76.000	No Ice 1/2" Ice 1" Ice	8.262 8.822 9.346	6.946 8.127 9.021	0.083 0.151 0.227
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.000 0.000 3.000	0.000	76.000	No Ice 1/2" Ice 1" Ice	6.580 7.031 7.473	4.959 5.754 6.472	0.077 0.131 0.193
(2) APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.000 0.000 3.000	0.000	76.000	No Ice 1/2" Ice 1" Ice	8.262 8.822 9.346	6.946 8.127 9.021	0.083 0.151 0.227
(2) APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.000 0.000 3.000	0.000	76.000	No Ice 1/2" Ice 1" Ice	6.580 7.031 7.473	4.959 5.754 6.472	0.077 0.131 0.193
TD-RRH8x20-25	A	From Leg	4.000 0.000 3.000	0.000	76.000	No Ice 1/2" Ice 1" Ice	4.045 4.298 4.557	1.533 1.712 1.899	0.070 0.097 0.128
(2) TD-RRH8x20-25	C	From Leg	4.000 0.000 3.000	0.000	76.000	No Ice 1/2" Ice 1" Ice	4.045 4.298 4.557	1.533 1.712 1.899	0.070 0.097 0.128
(2) 6' x 2" Mount Pipe	A	From Leg	4.000 0.000 3.000	0.000	76.000	No Ice 1/2" Ice 1" Ice	1.425 1.925 2.294	1.425 1.925 2.294	0.022 0.033 0.048
(4) 6' x 2" Mount Pipe	B	From Leg	4.000 0.000 3.000	0.000	76.000	No Ice 1/2" Ice 1" Ice	1.425 1.925 2.294	1.425 1.925 2.294	0.022 0.033 0.048
Platform Mount [LP 304-1]	C	None		0.000	76.000	No Ice 1/2" Ice 1" Ice	17.460 22.440 27.420	17.460 22.440 27.420	1.349 1.625 1.900
Lvl 65									
BXA-70063/6CF w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice	7.819 8.370 8.886	5.407 6.558 7.422	0.042 0.101 0.168

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* ft ft ft	*Azimuth Adjustment* °	*Placement* ft		C_AA_A *Front* ft^2	C_AA_A *Side* ft^2	*Weight* K
						1" Ice			
BXA-70063/6CF w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	7.819 8.370 8.886	5.407 6.558 7.422	0.042 0.101 0.168
BXA-70063/6CF w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	7.819 8.370 8.886	5.407 6.558 7.422	0.042 0.101 0.168
(2) SBNHH-1D45B w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	11.637 12.228 12.784	6.946 8.127 9.021	0.088 0.172 0.265
(2) SBNHH-1D45B w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	11.637 12.228 12.784	6.946 8.127 9.021	0.088 0.172 0.265
(2) SBNHH-1D45B w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	11.637 12.228 12.784	6.946 8.127 9.021	0.088 0.172 0.265
BXA-171063/12CF w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	5.029 5.583 6.103	5.289 6.459 7.348	0.041 0.087 0.140
BXA-171063/12CF w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	5.029 5.583 6.103	5.289 6.459 7.348	0.041 0.087 0.140
BXA-171063/12CF w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	5.029 5.583 6.103	5.289 6.459 7.348	0.041 0.087 0.140
RRH2x60-AWS	A	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	3.500 3.761 4.029	1.816 2.052 2.289	0.060 0.083 0.109
RRH2x60-AWS	B	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	3.500 3.761 4.029	1.816 2.052 2.289	0.060 0.083 0.109
RRH2x60-AWS	C	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	3.500 3.761 4.029	1.816 2.052 2.289	0.060 0.083 0.109
RRH2x60-700	A	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	3.500 3.761 4.029	1.816 2.052 2.289	0.060 0.083 0.109
RRH2x60-700	B	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	3.500 3.761 4.029	1.816 2.052 2.289	0.060 0.083 0.109
RRH2x60-700	C	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	3.500 3.761 4.029	1.816 2.052 2.289	0.060 0.083 0.109
(2) DB-T1-6Z-8AB-0Z	C	From Leg	4.000 0.000 0.000	0.000	65.000	No Ice 1/2" Ice 1" Ice	4.800 5.070 5.348	2.000 2.193 2.393	0.044 0.080 0.120
Platform Mount [LP 303-1]	C	None		0.000	65.000	No Ice 1/2" Ice 1" Ice	14.660 18.870 23.080	14.660 18.870 23.080	1.250 1.481 1.713

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
*****								

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft^2	Weight K
*****										

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	15.751					
Bracing Weight	0.000					
Total Member Self-Weight	15.751			0.263	2.318	
Total Weight	29.021			0.263	2.318	
Wind 0 deg - No Ice		0.141	-14.653	-1053.375	-8.259	-2.435
Wind 30 deg - No Ice		7.474	-12.761	-917.502	-535.262	-2.005
Wind 60 deg - No Ice		12.803	-7.449	-535.716	-918.221	-1.038
Wind 90 deg - No Ice		14.702	-0.141	-10.314	-1054.522	0.208
Wind 120 deg - No Ice		12.662	7.204	517.923	-907.644	1.397
Wind 150 deg - No Ice		7.229	12.619	907.452	-516.942	2.213
Wind 180 deg - No Ice		-0.141	14.653	1053.901	12.895	2.435
Wind 210 deg - No Ice		-7.474	12.761	918.029	539.898	2.005
Wind 240 deg - No Ice		-12.803	7.449	536.242	922.857	1.038
Wind 270 deg - No Ice		-14.702	0.141	10.840	1059.159	-0.208
Wind 300 deg - No Ice		-12.662	-7.204	-517.396	912.280	-1.397
Wind 330 deg - No Ice		-7.229	-12.619	-906.926	521.578	-2.213
Member Ice	7.816					
Total Weight Ice	54.635			1.276	8.896	
Wind 0 deg - Ice		0.028	-6.205	-433.275	6.856	-1.091
Wind 30 deg - Ice		3.134	-5.388	-376.076	-210.610	-0.843
Wind 60 deg - Ice		5.400	-3.127	-217.766	-369.260	-0.369
Wind 90 deg - Ice		6.220	-0.028	-0.763	-426.583	0.204
Wind 120 deg - Ice		5.372	3.078	216.786	-367.220	0.722
Wind 150 deg - Ice		3.086	5.360	376.589	-207.077	1.047
Wind 180 deg - Ice		-0.028	6.205	435.828	10.936	1.091
Wind 210 deg - Ice		-3.134	5.388	378.629	228.401	0.843
Wind 240 deg - Ice		-5.400	3.127	220.319	387.051	0.369
Wind 270 deg - Ice		-6.220	0.028	3.316	444.374	-0.204
Wind 300 deg - Ice		-5.372	-3.078	-214.233	385.011	-0.722
Wind 330 deg - Ice		-3.086	-5.360	-374.036	224.868	-1.047
Total Weight	29.021			0.263	2.318	
Wind 0 deg - Service		0.048	-5.016	-360.531	-1.586	-0.797
Wind 30 deg - Service		2.558	-4.368	-314.016	-181.999	-0.665
Wind 60 deg - Service		4.383	-2.550	-183.316	-313.100	-0.355
Wind 90 deg - Service		5.033	-0.048	-3.452	-359.761	0.050
Wind 120 deg - Service		4.335	2.466	177.383	-309.479	0.441
Wind 150 deg - Service		2.475	4.320	310.734	-175.727	0.715
Wind 180 deg - Service		-0.048	5.016	360.869	5.656	0.797

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Wind 210 deg - Service		-2.558	4.368	314.355	186.069	0.665
Wind 240 deg - Service		-4.383	2.550	183.655	317.170	0.355
Wind 270 deg - Service		-5.033	0.048	3.790	363.831	-0.050
Wind 300 deg - Service		-4.335	-2.466	-177.045	313.549	-0.441
Wind 330 deg - Service		-2.475	-4.320	-310.396	179.797	-0.715

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
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	100 - 47	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-41.576	8.452	-0.949
			Max. Mx	20	-20.488	583.499	-5.295
			Max. My	14	-20.491	7.602	-580.190
			Max. Vy	20	-19.435	583.499	-5.295
			Max. Vx	14	19.354	7.602	-580.190
			Max. Torque	3			3.789
L2	47 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-60.947	9.789	-1.377
			Max. Mx	20	-34.813	1723.296	-17.528
			Max. My	14	-34.813	20.059	-1715.565
			Max. Vy	20	-23.542	1723.296	-17.528
			Max. Vx	14	23.463	20.059	-1715.565
			Max. Torque	3			3.882

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	35	60.947	5.400	-3.127
	Max. H_x	20	34.825	23.524	-0.226
	Max. H_z	2	34.825	-0.226	23.445
	Max. M_x	2	1714.919	-0.226	23.445
	Max. M_z	8	1717.585	-23.524	0.226
	Max. Torsion	3	3.882	-0.226	23.445
	Min. Vert	13	26.119	-11.566	-20.191
	Min. H_x	8	34.825	-23.524	0.226
	Min. H_z	14	34.825	0.226	-23.445
	Min. M_x	14	-1715.565	0.226	-23.445
	Min. M_z	20	-1723.296	23.524	-0.226
	Min. Torsion	15	-3.878	0.226	-23.445

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	29.021	0.000	0.000	0.263	2.318	0.000
1.2 Dead+1.6 Wind 0 deg - No Ice	34.825	0.226	-23.445	-1714.919	-14.352	-3.878
0.9 Dead+1.6 Wind 0 deg - No Ice	26.119	0.226	-23.445	-1707.459	-15.008	-3.882
1.2 Dead+1.6 Wind 30 deg - No Ice	34.825	11.958	-20.417	-1493.718	-872.265	-3.192
0.9 Dead+1.6 Wind 30 deg - No Ice	26.119	11.958	-20.417	-1487.232	-869.150	-3.195
1.2 Dead+1.6 Wind 60 deg - No Ice	34.825	20.485	-11.918	-872.195	-1495.689	-1.650
0.9 Dead+1.6 Wind 60 deg - No Ice	26.119	20.485	-11.918	-868.443	-1489.833	-1.652
1.2 Dead+1.6 Wind 90 deg - No Ice	34.825	23.524	-0.226	-16.883	-1717.585	0.333
0.9 Dead+1.6 Wind 90 deg - No Ice	26.119	23.524	-0.226	-16.893	-1710.752	0.333
1.2 Dead+1.6 Wind 120 deg - No Ice	34.825	20.259	11.526	843.044	-1478.492	2.226
0.9 Dead+1.6 Wind 120 deg	26.119	20.259	11.526	839.254	-1472.708	2.228

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
- No Ice						
1.2 Dead+1.6 Wind 150 deg - No Ice	34.825	11.566	20.191	1477.166	-842.469	3.522
0.9 Dead+1.6 Wind 150 deg - No Ice	26.119	11.566	20.191	1470.588	-839.479	3.525
1.2 Dead+1.6 Wind 180 deg - No Ice	34.825	-0.226	23.445	1715.565	20.059	3.874
0.9 Dead+1.6 Wind 180 deg - No Ice	26.119	-0.226	23.445	1707.940	19.258	3.878
1.2 Dead+1.6 Wind 210 deg - No Ice	34.825	-11.958	20.417	1494.365	877.973	3.190
0.9 Dead+1.6 Wind 210 deg - No Ice	26.119	-11.958	20.417	1487.715	873.401	3.193
1.2 Dead+1.6 Wind 240 deg - No Ice	34.825	-20.485	11.918	872.842	1501.399	1.652
0.9 Dead+1.6 Wind 240 deg - No Ice	26.119	-20.485	11.918	868.926	1494.086	1.654
1.2 Dead+1.6 Wind 270 deg - No Ice	34.825	-23.524	0.226	17.528	1723.296	-0.330
0.9 Dead+1.6 Wind 270 deg - No Ice	26.119	-23.524	0.226	17.374	1715.006	-0.330
1.2 Dead+1.6 Wind 300 deg - No Ice	34.825	-20.259	-11.526	-842.401	1484.202	-2.224
0.9 Dead+1.6 Wind 300 deg - No Ice	26.119	-20.259	-11.526	-838.774	1476.961	-2.226
1.2 Dead+1.6 Wind 330 deg - No Ice	34.825	-11.566	-20.191	-1476.522	848.176	-3.523
0.9 Dead+1.6 Wind 330 deg - No Ice	26.119	-11.566	-20.191	-1470.108	843.730	-3.527
1.2 Dead+1.0 Ice+1.0 Temp	60.947	-0.000	0.000	1.377	9.789	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	60.947	0.028	-6.205	-448.271	7.759	-1.079
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	60.947	3.134	-5.388	-389.082	-217.265	-0.832
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	60.947	5.400	-3.127	-225.267	-381.430	-0.363
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	60.947	6.220	-0.028	-0.720	-440.747	0.204
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	60.947	5.372	3.078	224.391	-379.323	0.716
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	60.947	3.086	5.360	389.749	-213.616	1.036
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	60.947	-0.028	6.205	451.045	11.973	1.079
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	60.947	-3.134	5.388	391.856	236.997	0.832
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	60.947	-5.400	3.127	228.041	401.161	0.363
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	60.947	-6.220	0.028	3.494	460.479	-0.204
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	60.947	-5.372	-3.078	-221.618	399.054	-0.716
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	60.947	-3.086	-5.360	-386.975	233.347	-1.036
Dead+Wind 0 deg - Service	29.021	0.048	-5.016	-365.706	-1.301	-0.794
Dead+Wind 30 deg - Service	29.021	2.558	-4.368	-318.510	-184.351	-0.663
Dead+Wind 60 deg - Service	29.021	4.383	-2.550	-185.898	-317.369	-0.354
Dead+Wind 90 deg - Service	29.021	5.033	-0.048	-3.403	-364.713	0.050
Dead+Wind 120 deg - Service	29.021	4.335	2.466	180.075	-313.697	0.440
Dead+Wind 150 deg - Service	29.021	2.475	4.320	315.375	-177.991	0.712
Dead+Wind 180 deg - Service	29.021	-0.048	5.016	366.242	6.042	0.794
Dead+Wind 210 deg - Service	29.021	-2.558	4.368	319.047	189.092	0.663
Dead+Wind 240 deg - Service	29.021	-4.383	2.550	186.435	322.111	0.354
Dead+Wind 270 deg -	29.021	-5.033	0.048	3.940	369.455	-0.050

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Service						
Dead+Wind 300 deg - Service	29.021	-4.335	-2.466	-179.539	318.439	-0.440
Dead+Wind 330 deg - Service	29.021	-2.475	-4.320	-314.839	182.733	-0.712

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.000	-29.021	0.000	0.000	29.021	0.000	0.000%
2	0.226	-34.825	-23.445	-0.226	34.825	23.445	0.000%
3	0.226	-26.119	-23.445	-0.226	26.119	23.445	0.000%
4	11.958	-34.825	-20.417	-11.958	34.825	20.417	0.000%
5	11.958	-26.119	-20.417	-11.958	26.119	20.417	0.000%
6	20.485	-34.825	-11.918	-20.485	34.825	11.918	0.000%
7	20.485	-26.119	-11.918	-20.485	26.119	11.918	0.000%
8	23.524	-34.825	-0.226	-23.524	34.825	0.226	0.000%
9	23.524	-26.119	-0.226	-23.524	26.119	0.226	0.000%
10	20.259	-34.825	11.526	-20.259	34.825	-11.526	0.000%
11	20.259	-26.119	11.526	-20.259	26.119	-11.526	0.000%
12	11.566	-34.825	20.191	-11.566	34.825	-20.191	0.000%
13	11.566	-26.119	20.191	-11.566	26.119	-20.191	0.000%
14	-0.226	-34.825	23.445	0.226	34.825	-23.445	0.000%
15	-0.226	-26.119	23.445	0.226	26.119	-23.445	0.000%
16	-11.958	-34.825	20.417	11.958	34.825	-20.417	0.000%
17	-11.958	-26.119	20.417	11.958	26.119	-20.417	0.000%
18	-20.485	-34.825	11.918	20.485	34.825	-11.918	0.000%
19	-20.485	-26.119	11.918	20.485	26.119	-11.918	0.000%
20	-23.524	-34.825	0.226	23.524	34.825	-0.226	0.000%
21	-23.524	-26.119	0.226	23.524	26.119	-0.226	0.000%
22	-20.259	-34.825	-11.526	20.259	34.825	11.526	0.000%
23	-20.259	-26.119	-11.526	20.259	26.119	11.526	0.000%
24	-11.566	-34.825	-20.191	11.566	34.825	20.191	0.000%
25	-11.566	-26.119	-20.191	11.566	26.119	20.191	0.000%
26	0.000	-60.947	0.000	0.000	60.947	-0.000	0.000%
27	0.028	-60.947	-6.205	-0.028	60.947	6.205	0.000%
28	3.134	-60.947	-5.388	-3.134	60.947	5.388	0.000%
29	5.400	-60.947	-3.127	-5.400	60.947	3.127	0.000%
30	6.220	-60.947	-0.028	-6.220	60.947	0.028	0.000%
31	5.372	-60.947	3.078	-5.372	60.947	-3.078	0.000%
32	3.086	-60.947	5.360	-3.086	60.947	-5.360	0.000%
33	-0.028	-60.947	6.205	0.028	60.947	-6.205	0.000%
34	-3.134	-60.947	5.388	3.134	60.947	-5.388	0.000%
35	-5.400	-60.947	3.127	5.400	60.947	-3.127	0.000%
36	-6.220	-60.947	0.028	6.220	60.947	-0.028	0.000%
37	-5.372	-60.947	-3.078	5.372	60.947	3.078	0.000%
38	-3.086	-60.947	-5.360	3.086	60.947	5.360	0.000%
39	0.048	-29.021	-5.016	-0.048	29.021	5.016	0.000%
40	2.558	-29.021	-4.368	-2.558	29.021	4.368	0.000%
41	4.383	-29.021	-2.550	-4.383	29.021	2.550	0.000%
42	5.033	-29.021	-0.048	-5.033	29.021	0.048	0.000%
43	4.335	-29.021	2.466	-4.335	29.021	-2.466	0.000%
44	2.475	-29.021	4.320	-2.475	29.021	-4.320	0.000%
45	-0.048	-29.021	5.016	0.048	29.021	-5.016	0.000%
46	-2.558	-29.021	4.368	2.558	29.021	-4.368	0.000%
47	-4.383	-29.021	2.550	4.383	29.021	-2.550	0.000%
48	-5.033	-29.021	0.048	5.033	29.021	-0.048	0.000%
49	-4.335	-29.021	-2.466	4.335	29.021	2.466	0.000%
50	-2.475	-29.021	-4.320	2.475	29.021	4.320	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00008927
3	Yes	4	0.00000001	0.00005854
4	Yes	4	0.00000001	0.00016238
5	Yes	4	0.00000001	0.00010430
6	Yes	4	0.00000001	0.00020802
7	Yes	4	0.00000001	0.00013429
8	Yes	4	0.00000001	0.00000866
9	Yes	4	0.00000001	0.00000477
10	Yes	4	0.00000001	0.00020608
11	Yes	4	0.00000001	0.00013357
12	Yes	4	0.00000001	0.00015296
13	Yes	4	0.00000001	0.00009856
14	Yes	4	0.00000001	0.00009727
15	Yes	4	0.00000001	0.00006373
16	Yes	4	0.00000001	0.00023484
17	Yes	4	0.00000001	0.00015177
18	Yes	4	0.00000001	0.00017086
19	Yes	4	0.00000001	0.00010920
20	Yes	4	0.00000001	0.00001297
21	Yes	4	0.00000001	0.00000789
22	Yes	4	0.00000001	0.00015875
23	Yes	4	0.00000001	0.00010176
24	Yes	4	0.00000001	0.00023054
25	Yes	4	0.00000001	0.00014959
26	Yes	4	0.00000001	0.00000838
27	Yes	4	0.00000001	0.00018150
28	Yes	4	0.00000001	0.00018386
29	Yes	4	0.00000001	0.00018229
30	Yes	4	0.00000001	0.00017518
31	Yes	4	0.00000001	0.00018183
32	Yes	4	0.00000001	0.00018376
33	Yes	4	0.00000001	0.00018301
34	Yes	4	0.00000001	0.00019380
35	Yes	4	0.00000001	0.00019484
36	Yes	4	0.00000001	0.00018820
37	Yes	4	0.00000001	0.00019252
38	Yes	4	0.00000001	0.00019112
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	100 - 47	4.791	47	0.371	0.002
L2	53 - 0	1.518	47	0.254	0.001

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
100.000	Lightning Rod 3/4"x4'	47	4.791	0.371	0.002	91747
86.000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	47	3.693	0.343	0.002	32767
78.000	TME-800MHZ RRH	47	3.093	0.326	0.002	20851
76.000	APXVSPP18-C-A20 w/ Mount Pipe	47	2.949	0.321	0.002	19114
65.000	BXA-70063/6CF w/ Mount Pipe	47	2.203	0.293	0.001	13106

Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
L1	100 - 47	22.303	18	1.729	0.010
L2	53 - 0	7.078	18	1.184	0.005

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
100.000	Lightning Rod 3/4"x4'	18	22.303	1.729	0.010	19776
86.000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	18	17.197	1.599	0.009	7062
78.000	TME-800MHZ RRH	18	14.408	1.517	0.008	4494
76.000	APXVSPP18-C-A20 w/ Mount Pipe	18	13.735	1.496	0.008	4119
65.000	BXA-70063/6CF w/ Mount Pipe	18	10.268	1.363	0.007	2824

Compression Checks

Pole Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
L1	100 - 47 (1)	TP40.72x28x0.313	53.000	0.000	0.0	38.846	-20.481	2675.230	0.008
L2	47 - 0 (2)	TP51.37x38.655x0.375	53.000	0.000	0.0	61.003	-34.813	4061.570	0.009

Pole Bending Design Data

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
L1	100 - 47 (1)	TP40.72x28x0.313	587.409	2134.808	0.275	0.000	2134.808	0.000
L2	47 - 0 (2)	TP51.37x38.655x0.375	1736.675	4244.267	0.409	0.000	4244.267	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	100 - 47 (1)	TP40.72x28x0.313	19.614	1337.620	0.015	1.652	4303.658	0.000
L2	47 - 0 (2)	TP51.37x38.655x0.375	23.719	2030.790	0.012	1.652	8556.250	0.000

Pole Interaction Design Data

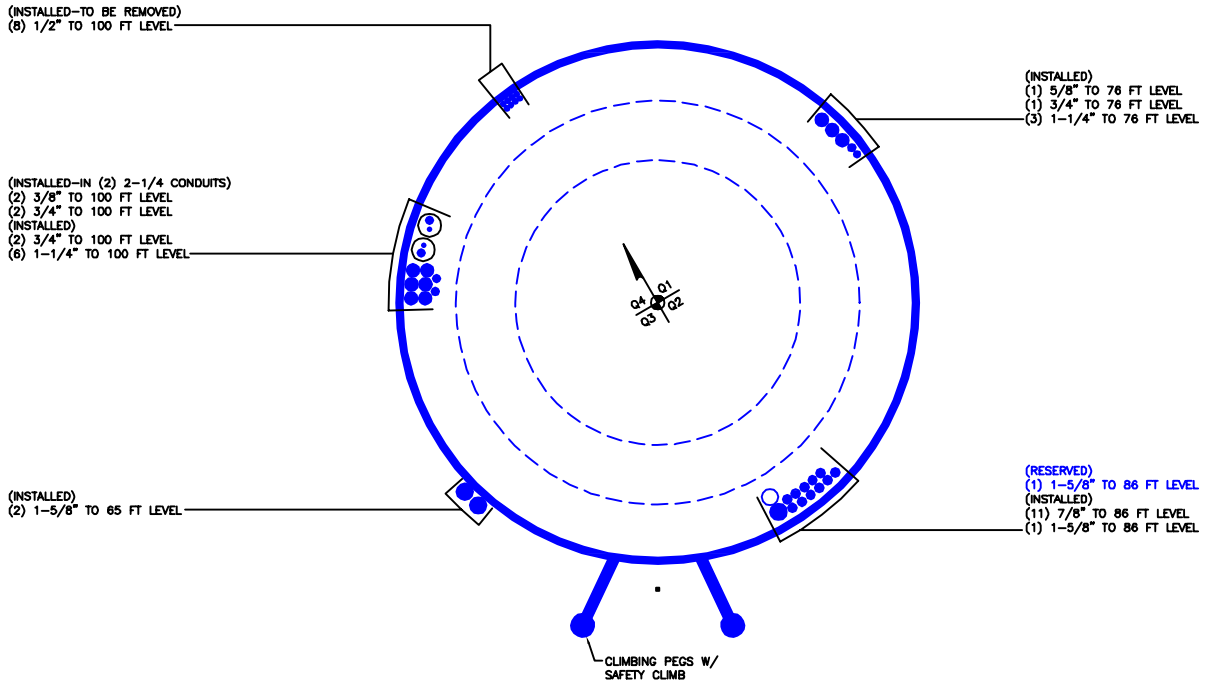
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	100 - 47 (1)	0.008	0.275	0.000	0.015	0.000	0.283 ✔	1.000	4.8.2 ✔
L2	47 - 0 (2)	0.009	0.409	0.000	0.012	0.000	0.418 ✔	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	100 - 47	Pole	TP40.72x28x0.313	1	-20.481	2675.230	28.3	Pass
L2	47 - 0	Pole	TP51.37x38.655x0.375	2	-34.813	4061.570	41.8	Pass
							Summary	
						Pole (L2)	41.8	Pass
						RATING =	**41.8**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 842869 TOWER ID: C_BASELEVEL

CROWN REGION ADDRESS

USA

17/10/14	UPDATED PER WORK ORDER # 846609	AJM
17/10/14	UPDATED PER WORK ORDER # 850286	APC
05/11/14	UPDATED PER WORK ORDER # 861337	DMB
17/2/2015	UPDATED PER WORK ORDER 1010264	SLW
25/2/2015	UPDATED PER WORK ORDER 1083284	CRM
5/4/2015	UPDATED PER WORK ORDER 1083749	BMH
6/11/2015	UPDATED PER WORK ORDER 1140363 1146382	AST
06/05/16	UPDATED PER WORK ORDER 1222771 1230077	SLW
10/05/16	UPDATED PER WORK ORDER 1234348	CRM

DRAWN BY: EJB
CHECKED BY:
DRAWING DATE: 21/04/14

SITE NUMBER:
SITE NAME:

SITE NAME

MERIDEN WEST CENTRAL

BUSINESS UNIT NUMBER

842869

SITE ADDRESS

450-478 WEST MAIN STREET
MERIDEN, CT 06451
COUNTY
USA

SHEET TITLE

BASE LEVEL

SHEET NUMBER

A1-0

BASE LEVEL DRAWING	1" = 1'-0"	1

PLOT DATE: 5/10/2016 FILE NAME: 842869_BASELEVEL.dwg

APPENDIX C

ADDITIONAL CALCULATIONS

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#: *842869*
Site Name: *MERIDEN WEST CENTRAL*
App #: *355047 Rev. 1*

Pole Manufacturer:	*Other*

Reactions		
Mu:	1737	ft-kips
Axial, Pu:	35	kips
Shear, Vu:	24	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

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

Anchor Rod Data		
Qty:	20	
Diam:	2.5	in
Rod Material:	Other	
Strength (Fu):	65	ksi
Yield (Fy):	50	ksi
Bolt Circle:	59	in

Anchor Rod Results

		Rigid
Max Rod (Cu+ Vu/ń):	74.8 Kips	AISC LRFD
Allowable Axial, Φ*Fu*Anet:	208.0 Kips	φ*Tn
Anchor Rod Stress Ratio:	35.9% **Pass**	

Plate Data		
Diam:	69	in
Thick:	3	in
Grade:	36	ksi
Single-Rod B-eff:	8.17	in

Base Plate Results

	Flexural Check	Rigid
Base Plate Stress:	9.2 ksi	AISC LRFD
Allowable Plate Stress:	32.4 ksi	φ*Fy
Base Plate Stress Ratio:	28.5% **Pass**	Y.L. Length:
		29.02

Stiffener Data (Welding at both sides)		
Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

n/a

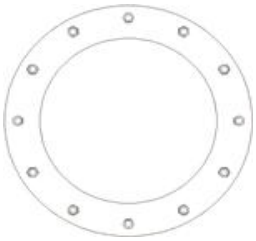
Stiffener Results

Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check: n/a

Pole Data		
Diam:	51.37	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	16	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None



* 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

(Bearing and Stability Checks) Tool for TIA Rev F or G - Application (MP, SST with unitbase)

Site Data

BU#: *842869*
Site Name: *MERIDEN WEST CENTRAL*
App #: *355047 Rev 1*

Loads Already Factored		
For P (DL)	1.2	<----Disregard
For P,V, and M (WL)	1.35	<----Disregard

Pad & Pier Data		
Base PL Dist. Above Pier:	0	in
Pier Dist. Above Grade:	12	in
Pad Bearing Depth, D:	7.5	ft
Pad Thickness, T:	2.5	ft
Pad Width=Length, L:	20	ft
Pier Cross Section Shape:	Square	<--Pull Down
Enter Pier Side Width:	8	ft
Concrete Density:	150.0	pcf
Pier Cross Section Area:	64.00	ft^2
Pier Height:	6.00	ft
Soil (above pad) Height:	5.00	ft

Soil Parameters		
Unit Weight, γ:	110.0	pcf
Ultimate Bearing Capacity, qn:	16.00	ksf
Strength Reduct. factor, ϕ:	0.75	
Angle of Friction, Φ:	30.0	degrees
Undrained Shear Strength, Cu:	0.00	ksf
Allowable Bearing: ϕ*qn:	12.00	ksf
Passive Pres. Coeff., Kp	3.00	

Forces/Moments due to Wind and Lateral Soil		
Minimum of (φ*Ultimate Pad Passive Force, Vu):	24.0	kips
Pad Force Location Above D:	1.17	ft
ϕ(Passive Pressure Moment):	28.00	ft-kips
Factored O.T. M(WL), "1.6W":	1941.0	ft-kips
Factored OT (MW-Msoil), M1	1913.00	ft-kips

Resistance due to Foundation Gravity		
Soil Wedge Projection grade, a:	2.89	ft
Sum of Soil Wedges Wt:	31.83	kips
Soil Wedges ecc, K1:	8.94	ft
Ftg+Soil above Pad wt:	392.4	kips
Unfactored (Total ftg-soil Wt):	424.23	kips
1.2D. **No Soil Wedges**.	505.88	kips
0.9D. **With Soil Wedges**	408.05	kips

Resistance due to Cohesion (Vertical)		
ϕ*(1/2*Cu)(Total Vert. Planes)	0.00	kips
Cohesion Force Eccentricity, K2	0.00	ft

Monopole Base Reaction Forces		
TIA Revision:	G	<--Pull Down
Factored DL Axial, PDu:	35	kips
Factored WL Axial, PWu:	0	kips
Factored WL Shear, Vu:	24	kips
Factored WL Moment, Mu:	1737	ft-kips

Load Factor	Shaft Factored Loads		
1.00	1.2D+1.6W, Pu:	35	kips
0.90	0.9D+1.6W, Pu:	26.25	kips
1.00	Vu:	24	kips
	Mu:	1737	ft-kips

1.2D+1.6W Load Combination, Bearing Results:

(**No Soil Wedges**) [Reaction+Conc+Soil]	505.88	P1="1.2D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil), M1	1913.00	ft-kips

Orthogonal Direction:

ecc1 = M1/P1 =	3.78	ft
Orthogonal qu=	2.22	ksf
qu/ϕ*qn Ratio=	**18.51%**	**Pass**

Diagonal Direction:

ecc2 = (0.707M1)/P1 =	2.67	ft
Diagonal qu=	2.36	ksf
qu/ϕ*qn Ratio=	**19.63%**	**Pass**

Run <-- Press Upon Completing All Input

Overturning Stability Check

0.9D+1.6W Load Combination, Bearing Results:

(**w/ Soil Wedges**) [Reaction+Conc+Soil]	408.05	P2="0.9D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil) - 0.9(M of Wedge + M of Cohesion), M2	1656.95	ft-kips

Orthogonal ecc3 = M2/P2 =	4.06	ft
Ortho Non Bearing Length,NBL=	8.12	ft
Orthogonal qu=	1.85	ksf
Diagonal qu=	2.01	ksf

Max Reaction Moment (ft-kips) so that qu=φ*qn = 100% Capacity Rating			
Actual M:	1737.00		
M Orthogonal:	3887.28	**44.68%**	**Pass**
M Diagonal:	3887.28	**44.68%**	**Pass**

Project Name:	MERIDEN WEST CENTRAL	JACOBS® Jacobs Engineering Group, Inc.	Created On: 6/3/2014
Project Number:	842869		Checked By: DW
Job Number:	1342334		Revised On: 3/4/2015
Date:	1/3/2017		Revision No.: 1.6

Monopole Pad & Pier Foundation

Foundation Parameters

Load		
Code	G	
Axial	35	kips
Shear	24	kips
Moment	1737	k-ft
Soil Unit Weight	110	pcf
Friction Angle	30	
Cohesion	0	psf

Material		
Concrete Strength (F'c)	4000	psi
Concrete Density	150	pcf
Rebar Tensile (Fy)	60	ksi
Clear Cover	3	in

Pad		
Thickness	2.5	ft
Bearing Depth	7.5	ft
Width	20	ft
Rebar Size	9	
Rebar Quantity	32	

Pier		
Pier type	Square	
Width	8	ft
Height above Grade	1	ft
Rebar Size	11	
Rebar Quantity	60	
Tie Size	4	
Tie C/C Spacing	12	in

Structural Checks

Pad Beam Shear Capacity	576.2	kips
Pad Beam Shear	196.7	kips
Pad Beam Shear Check	34.1%	Pass

Pad Bending Moment Capacity	3474.9	k-ft
Pad Bending Moment	667.3	k-ft
Pad Bending Moment Check	19.2%	Pass

Punching Shear Capacity	2330.0	kips
Punching Shear	211.5	kips
Punching Shear Check	9.1%	Pass

Pad-Pier Bearing Capacity	40734.7	kips
Pad-Pier Bearing	505.9	kips
Pad-Pier Bearing Check	1.2%	Pass

Pier Beam Shear Capacity	927.8	kips
Pier Beam Shear	24.0	kips
Pier Beam Shear Check	2.6%	Pass

Pier Bending Moment Capacity	18304.8	k-ft
Pier Bending Moment	1858.9	k-ft
Pier Bending Moment Check	10.2%	Pass

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5378

Meriden West Central
450-478 West Main Street
Meriden, CT 6451

January 16, 2017

Centerline Communications Project Number: 950006-019

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**64.30 %**

January 16, 2017

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

Emissions Analysis for Site: **CT5378 – Meriden West Central**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **450-478 West Main Street, Meriden, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **450-478 West Main Street, Meriden, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

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

Table 1: Channel Data Table

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

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	KMW AM-X-CD-16-65-00T-RET	100
A	2	CCI OPA-65R-LCUU-H6	100
A	3	Quintel QS66512-2	100
B	1	KMW AM-X-CD-16-65-00T-RET	100
B	2	CCI OPA-65R-LCUU-H6	100
B	3	Quintel QS66512-2	100
C	1	KMW AM-X-CD-16-65-00T-RET	100
C	2	CCI OPA-65R-LCUU-H6	100
C	3	Quintel QS66512-2	100

Table 2: Antenna Data

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

RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	KMW AM-X-CD-16-65-00T-RET	850 MHz / 1900 MHz (PCS)	13.85 / 15.25	6	180	5,475.55	2.68
Antenna A2	CCI OPA-65R-LCUU-H6	2300 MHz (WCS)	15.45	2	120	4,209.02	1.71
Antenna A3	Quintel QS66512-2	700 MHz / 1900 MHz (PCS)	10.85 / 13.85	4	240	4,371.36	2.46
						Sector A Composite MPE%	**6.85**
Antenna B1	KMW AM-X-CD-16-65-00T-RET	850 MHz / 1900 MHz (PCS)	13.85 / 15.25	6	180	5,475.55	2.68
Antenna B2	CCI OPA-65R-LCUU-H6	2300 MHz (WCS)	15.45	2	120	4,209.02	1.71
Antenna B3	Quintel QS66512-2	700 MHz / 1900 MHz (PCS)	10.85 / 13.85	4	240	4,371.36	2.46
						Sector B Composite MPE%	**6.85**
Antenna C1	KMW AM-X-CD-16-65-00T-RET	850 MHz / 1900 MHz (PCS)	13.85 / 15.25	6	180	5,475.55	2.68
Antenna C2	CCI OPA-65R-LCUU-H6	2300 MHz (WCS)	15.45	2	120	4,209.02	1.71
Antenna C3	Quintel QS66512-2	700 MHz / 1900 MHz (PCS)	10.85 / 13.85	4	240	4,371.36	2.46
						Sector C Composite MPE%	**6.85**

Table 3: AT&T Emissions Levels

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

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max Sector Value	**6.85 %**
Hunters - Yagi 1	0.83 %
Hunters - Yagi 2	7.43 %
Hunters - Yagi 3	22.28 %
Hunters Whip	7.43 %
T-Mobile	8.08 %
Sprint	1.27 %
Verizon Wireless	10.13 %
Site Total MPE %:	**64.30 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	6.85 %
AT&T Sector B Total:	6.85 %
AT&T Sector C Total:	6.85 %
Site Total:	64.30 %

Table 5: Site MPE Summary

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

AT&T _ Frequency Band / Technology	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	727.98	100	5.92	850 MHz	567	1.04%
AT&T 1900 MHz (PCS) UMTS	2	1,004.90	100	8.18	1900 MHz (PCS)	1000	0.82%
AT&T 1900 MHz (PCS) GSM	2	1,004.90	100	8.18	1900 MHz (PCS)	1000	0.82%
AT&T 2300 MHz (WCS) LTE	2	2,104.51	100	17.13	2300 MHz (WCS)	1000	1.71%
AT&T 700 MHz LTE	2	729.71	100	5.94	700 MHz	467	1.27%
AT&T 1900 MHz (PCS) LTE	2	1,455.97	100	11.85	1900 MHz (PCS)	1000	1.18%
						Total:	6.85%

Table 6: AT&T Maximum Sector MPE Power Values

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	6.85 %
Sector B:	6.85 %
Sector C:	6.85 %
AT&T Maximum Total (per sector):	6.85 %
Site Total:	64.30 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **64.30 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

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