NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

June 12 2015

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
596 Danbury Road, New Milford, CT 06776
Longitude-73 25 11.9
Latitude: 41 30 6.1
T-Mobile Site#: CTNH361A_VOLTE

Members of the Siting Council:

On behalf of T-Mobile, Northeast Site Solutions (NSS) is submitting an exempt modification application to the Connecticut Siting Council for modification of existing equipment at a tower facility located at 596 Danbury Road, New Milford, CT 06776.

The 596 Danbury Road, New Milford, CT 06776 facility consists of a 96.83' Concealment Tower owned and operated by Crown. In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

As part of T-Mobile's VOLTE Project, T-Mobile desires to upgrade their equipment to meet the new standards of 4G technology. The new equipment will allow customers to download files and browse the internet at a high rate of speed while also allowing their phones to be compatible with the latest 4G technology.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in T-Mobile's operations at the site along with the required fee of $625.

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The changes to the facility do not constitute modifications as defined in Connecticut General Statutes significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The overall height of the structure will be unaffected.

2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than the new equipment cabinet.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.

4. The changes in radio frequency power density will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, Northeast Site Solutions (NSS) on behalf of T-Mobile, respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at 860.209.4690 with any questions you may have concerning this matter.

Sincerely,

Denise Sabo
Mobile: 860-209-4690
Fax: 413-521-0558
Office: 199 Brickyard Rd, Farmington, CT 06032
Email: denise@northeastsitesolutions.com

cc: Oskar G. and Anne Wynne Rogg Co-trustees
Crown Castle
Laura Regan - Zoning Enforcement Officer, Town of New Milford, CT

Exhibit A

T-MOBILE NORTHEAST LLC

CTNH361A
CH361/NWMFRDRT7GALLOWSHIL

596 DANBURY RD
NEW MILFORD, CT

(4E-GU19 CONFIGURATION)

VICINITY MAP

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL:

"CALL BEFORE YOU DIG"
CALL 811
WWW.CBYD.COM

CALL THREE WORKING DAYS PRIOR TO DIGGING

SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS.

COLOR CODE FOR UTILITY LOCATIONS

ELECTRIC	– RED	SEWER	– GREEN
GAS/OIL	– YELLOW	SURVEY	– PINK
TEL/CATV	– ORANGE	PROPOSED EXCAVATION	– WHITE
WATER	– BLUE	RECLAIMED WATER	– PURPLE

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES. RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONSTRUCT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE T–MOBILE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS.
14. THE CONTRACTOR SHALL NOTIFY THE T–MOBILE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE T–MOBILE REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
16. THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK.

PROJECT SUMMARY

SITE NUMBER:	CTNH361A	APPLICANT:	T–MOBILE NORTHEAST LLC 35 GRIFFIN RD BLOOMFIELD, CT 06002 (860) 692–7100
SITE NAME:	CH361/NEMFRDRT7GALLOWSHIL		
SITE ADDRESS:	596 DANBURY RD NEW MILFORD, CT		
PROPERTY OWNER:	CROWN CASTLE 500 WEST CUMMINGS PARK, SUITE 3600 WOBURN, MA 01801	PROJECT MANAGER:	NORTHEAST SITE SOLUTIONS 199 BRICKYARD RD FARMINGTON, CT 06032
CONTACT:	WARREN KELLEHER T: (781) 970–0055 M: (978) 807–2700	CONTACT:	JOE CARBONELL (860) 463–3175
PARCEL:	TBD		
CURRENT ZONING:	TBD	ARCHITECT/ENGINEER:	INFINIGY ENGINEERING 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205
JURISDICTION:	NEW MILFORD		
LAT./LONG.:	N 41.50179° / W –73.41954°		
CONSTRUCTION TYPE:	2B	CONTACT:	MIKE LANE 518–690–0790
USE GROUP:	N/A		

PROJECT DESCRIPTION

☒ EXISTING MONOPOLE	☒ EXISTING CABINET(S)	☒ OUTDOOR
☐ EXISTING LATTICE TOWER	☐ EXISTING RBS 2106	☐ INDOOR
☐ EXISTING TRANSMISSION TOWER	☐ EXISTING RBS 3106	☒ EXISTING CONCRETE PAD
☐ EXISTING WATER TANK	☒ PROPOSED RBS 6201	☐ EXISTING STEEL PLATFORM
☐ EXISTING BUILDING	☐ SITE SUPPORT KIT	☒ EXISTING PPC
☐ EXISTING FLAGPOLE	☐ SITE SUPPORT CABINET	☐ PANELBOARD
☐ EXISTING FORT WORTH	☒ GPS	

T–MOBILE NORTHEAST LLC PROPOSES THE MODIFICATION OF AN UNMANNED WIRELESS BROADBAND FACILITY. REPLACEMENT OF EXISTING PANEL ANTENNAS & TMA'S WITH PROPOSED PANEL ANTENNAS AND ASSOCIATED CABLING. REUSE EXISTING GPS ANTENNA AND REMOVE AND REPLACE EXISTING EQUIPMENT CABINETS.

SHEET INDEX

SHEET	DESCRIPTION	REVISION
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T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD
SOUTH BLOOMFIELD, CT 06002

NSS NORTHEAST SITE SOLUTIONS
199 BRICKYARD RD
FARMINGTON, CT 06032

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 WATERVLIET SHAKER ROAD
ALBANY, NY 12205
OFFICE: (518) 690–0790
FAX: (518) 690–0793

SUBMITTALS

DATE	DESCRIPTION	REVISION
4/1/15	ISSUED FOR REVIEW	A
4/2/15	REVISED PER COMMENTS	B
4/2/15	REVISED PER COMMENTS	C
6/4/15	REVISED PER COMMENTS	D
6/9/15	REVISED PER COMMENTS	E

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	379-000
DRAWN BY:	AHS
CHECKED BY:	AJD

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NAME
CTNH361A
596 DANBURY RD
NEW MILFORD, CT

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1
SHEET 1 OF 7 SHEETS

ELECTRICAL NOTES:

WORK INCLUDED
1. INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, PLANT SERVICES AND ADMINISTRATIVE TASKS REQUIRED TO COMPLETE AND MAKE OPERABLE THE ELECTRICAL WORK SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   A. PREPARE AND SUBMIT SHOP DRAWINGS, DIAGRAMS AND ILLUSTRATIONS.
   B. PROCURE ALL NECESSARY PERMITS AND APPROVALS AND PAY ALL REQUIRED FEES AND CHARGES IN CONNECTION WITH THE WORK OF THIS CONTRACT.
   C. SUBMIT AS-BUILT DRAWINGS, OPERATING AND MAINTENANCE INSTRUCTIONS AND MANUALS.
   D. EXECUTE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING OF EXISTING OR NEWLY INSTALLED CONSTRUCTION REQUIRED FOR THE WORK OF THIS CONTRACT. FOR SLAB PENETRATIONS THROUGH POST TENSION SLABS, X-RAY EXACT AREA OF PENETRATION PRIOR TO PERFORMING WORK. COORDINATE ALL X-RAY WORK WITH BUILDING ENGINEER.
   E. PROVIDE HANGERS, SUPPORTS, FOUNDATIONS, STRUCTURAL FRAMING SUPPORTS, AND BASES FOR CONDUIT AND EQUIPMENT PROVIDED OR INSTALLED UNDER THE WORK OF HIS CONTRACT. PROVIDE COUNTER FLASHING, SLEEVES AND SEALS FOR FLOOR AND WALL PENETRATIONS.
   F. MAINTAIN ALL EXISTING ELECTRICAL SERVICES IN THE BUILDING AREAS NOT AFFECTED BY THE ALTERATION DURING THE PROGRESS OF THE WORK INCLUDING PROVIDING ALL TEMPORARY JUMPERS, CONDUITS, CAPS, PROTECTIVE DEVICES, CONNECTIONS AND EQUIPMENT REQUIRED. PROVIDE TEMPORARY LIGHT AND POWER FOR CONSTRUCTION PURPOSES.
2. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IT IS NOT THE INTENT TO GIVE EVERY DETAIL ON THE DRAWINGS AND IN THE SPECIFICATIONS. IF AN ITEM OF WORK IS INDICATED IN THE DRAWINGS, IT IS CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION WHETHER OR NOT SPECIFICALLY MENTIONED IN THE CONTRACT DOCUMENTS.

GENERAL REQUIREMENTS
1. PROVIDE ALL WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND LOCAL AND STATE ELECTRICAL CODES.
2. THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY. REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING.
3. LOAD CALCULATIONS ARE BASED ON EXISTING BUILDING INFORMATION/DRAWINGS PROVIDED TO ENGINEERING. CONTRACTOR IS TO VERIFY ALL EXISTING RATINGS AND LOADS PRIOR TO PURCHASING OF SPECIFIED EQUIPMENT FOR COMPLIANCE TO NEC. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES AND REQUEST FURTHER DIRECTION BY ENGINEER.
4. EXISTING BUILDING EQUIPMENT IS NOTED ON THE DRAWINGS. NEW OR RELOCATED EQUIPMENT IS SHOWN WITH SOLID LINES. FUTURE EQUIPMENT (NOT IN THIS CONTRACT) IS DEPICTED WITH SHADED LINES. REQUEST CLARIFICATION OF DRAWINGS OR OF SPECIFICATIONS PRIOR TO PRICING OR INSTALLATION.
5. GENERAL
   A. AFTER CAREFULLY STUDYING THE DRAWINGS AND SPECIFICATIONS, AND BEFORE SUBMITTING THE PROPOSAL, MAKE A MANDATORY SITE VISIT TO ASCERTAIN CONDITIONS OF THE SITE, AND THE NATURE AND EXACT QUANTITY OF WORK TO BE PERFORMED. NO EXTRA COMPENSATION WILL BE ALLOWED FOR FAILURE TO NOTIFY THE OWNER, IN WRITING, OF ANY DISCREPANCIES THAT MAY HAVE BEEN NOTED BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS AND SPECIFICATIONS.
   B. VERIFY ALL MEASUREMENTS AT THE SITE AND BE RESPONSIBLE FOR CORRECTNESS OF SAME.
6. QUALITY, WORKMANSHIP, MATERIALS AND SAFETY
   A. PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC MANUFACTURER BY THOSE REGULARLY ENGAGED IN THE PRODUCTION AND MANUFACTURE OF SPECIFIED MATERIALS AND EQUIPMENT. WHERE UL, OR OTHER AGENCY, HAS ESTABLISHED STANDARDS FOR MATERIALS, PROVIDE MATERIALS WHICH ARE LISTED AND LABELED ACCORDINGLY. THE COMMERCIALLY STANDARD ITEMS OF EQUIPMENT AND THE SPECIFIC NAMES MENTIONED HEREIN ARE INTENDED FOR THE PROPER FUNCTIONING OF THE WORK.
   B. WORK SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE REQUIRED FOR THE WORK. INSTALL MATERIALS AND EQUIPMENT TO PRESENT A NEAT APPEARANCE WHEN COMPLETED AND IN ACCORDANCE WITH THE APPROVED RECOMMENDATIONS OF THE MANUFACTURER AND IN ACCORDANCE WITH CONTRACT DOCUMENTS.
   C. PROVIDE LABOR, MATERIALS, APPARATUS AND APPLIANCES ESSENTIAL TO THE FUNCTIONING OF THE SYSTEMS DESCRIBED OR INDICATED HEREIN, OR WHICH MAY BE REASONABLY IMPLIED AS ESSENTIAL WHENEVER MENTIONED IN THE CONTRACT DOCUMENT OR NOT.
   D. MAKE WRITTEN REQUESTS FOR SUPPLEMENTARY INSTRUCTIONS TO ARCHITECT/ENGINEER IN CASE OF DOUBT AS TO WORK INTENDED OR IN EVENT OF NEED FOR EXPLANATION THEREOF.
   E. PERFORMANCE AND MATERIAL REQUIREMENTS SCHEDULED OR SPECIFIED ARE MINIMUM STANDARD ACCEPTABLE. THE RIGHT TO JUDGE THE QUALITY OF EQUIPMENT THAT DEVIATES FROM THE CONTRACT DOCUMENT REMAINS SOLELY WITH ARCHITECT/ENGINEER. CONTRACT DOCUMENT OR NOT.

GUARANTEE
1. GUARANTEE MATERIALS, PARTS AND LABOR FOR WORK FOR ONE YEAR FROM THE DATE OF ISSUANCE OF OCCUPANCY PERMIT. DURING THAT PERIOD, MAKE GOOD FAULTS OR IMPERFECTIONS THAT MAY ARISE DUE TO DEFECTS OR OMISSIONS IN MATERIALS OR WORKMANSHIP WITH NO ADDITIONAL COMPENSATION AND AS DIRECTED BY ARCHITECT.

CLEANING
1. REMOVE ALL CONSTRUCTION DEBRIS RESULTING FROM THE WORK.
2. CLEAN EQUIPMENT AND SYSTEMS FOLLOWING THE COMPLETION OF THE PROJECT TO THE SATISFACTION OF THE ENGINEER.

COORDINATION AND SUPERVISION
1. CAREFULLY LAY OUT ALL WORK IN ADVANCE TO AVOID UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACES. WHERE SUCH WORK IS NECESSARY, HOWEVER, PATCH AND REPAIR THE WORK IN AN APPROVED MANNER BY SKILLED MECHANICS AT NO ADDITIONAL COST TO THE OWNER. RENDER FULL COOPERATION TO OTHER TRADES WHERE WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO WORK OF OTHER TRADES. ASSIST IN WORKING OUT SPACE CONDITIONS. IF WORK IS INSTALLED BEFORE COORDINATION WITH OTHER TRADES, OR CAUSES INTERFERENCE, MAKE CHANGES NECESSARY TO CORRECT CONDITIONS WITHOUT EXTRA CHARGE.

SUBMITTALS
1. AS-BUILT DRAWINGS:
   A. UPON COMPLETION OF THE WORK, FURNISH TO THE OWNER "AS-BUILT" DRAWINGS.
2. SERVICE MANUALS:
   A. UPON COMPLETION OF THE WORK, FULLY INSTRUCT T-MOBILE AS TO THE OPERATION AND MAINTENANCE OF ALL MATERIAL, EQUIPMENT AND SYSTEMS.
   B. PROVIDE 3 COMPLETE BOUND SETS OF INSTRUCTIONS FOR OPERATING AND MAINTAINING ALL SYSTEMS AND EQUIPMENT.

CUTTING AND PATCHING
1. PROVIDE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING REQUIRED TO COMPLETE THE WORK.
2. OBTAIN OWNER APPROVAL PRIOR TO CUTTING THROUGH FLOORS OR WALLS FOR PIPING OR CONDUIT.

TESTS, INSPECTION AND APPROVAL
1. BEFORE ENERGIZING ANY ELECTRICAL INSTALLATION, INSPECT EACH UNIT IN DETAIL. TIGHTEN ALL BOLTS AND CONNECTIONS (TORQUE-TIGHTEN WHERE REQUIRED) AND DETERMINE THAT ALL COMPONENTS ARE ALIGNED, AND THE EQUIPMENT IS IN SAFE, OPERATIONAL CONDITION.
2. PROVIDE THE COMPLETE ELECTRICAL SYSTEM FREE OF GROUND FAULTS AND SHORT CIRCUITS SUCH THAT THE SYSTEM WILL OPERATE SATISFACTORILY UNDER FULL LOAD CONDITIONS, WITHOUT EXCESSIVE HEATING AT ANY POINT IN THE SYSTEM.

SPECIAL REQUIREMENTS
1. DO NOT LEAVE ANY WORK INCOMPLETE NOR ANY HAZARDOUS SITUATIONS CREATED WHICH WILL AFFECT THE LIFE OR SAFETY OF THE PUBLIC AND/OR BUILDING OCCUPANTS. DO NOT INTERFERE WITH OR CUTOFF ANY OF THE EXISTING SERVICES WITHOUT THE OWNER'S WRITTEN PERMISSION.
2. WHEN NECESSARY TO TEMPORARILY DISCONNECT ANY EXISTING BUILDING UTILITIES AND SERVICE SYSTEMS, INCLUDING FEEDER OR BRANCH CIRCUITING SUPPLYING EXISTING FACILITIES, CONFER WITH THE OWNER AND ARRANGE THE PERIOD OF INTERRUPTION FOR A TIME MUTUALLY AGREED UPON.
   SHUTDOWN NOTE: SCHEDULE AND NOTIFY OWNER 48 HOURS PRIOR TO SHUTDOWN. ALL SHUTDOWN WORK TO BE SCHEDULED AT A TIME CONVENIENT TO OWNER.

GROUNDING
1. ROUTE ALL GROUNDING CONDUCTORS AS SHOWN ON CONDUIT/GROUNDING RISER.
2. ROUTE 500 KCMIL CU. THHN CONDUCTOR FROM THE MGB LOCATION TO BUILDING STEEL. VERIFY BUILDING STEEL IS EFFECTIVELY GROUNDED PER NEC TO THE MAIN SERVICE GROUNDING ELECTRODE CONDUCTOR (GEC).
3. MAKE ALL GROUND CONNECTIONS FROM MGB TO ELECTRICAL EQUIPMENT WITH 2 HOLE, CRIMP TYPE, BURNDY COMPRESSION TERMINATIONS, SIZED AS REQUIRED.
4. USE 1 HOLE, CRIMP TYPE, BURNDY COMPRESSIONS TERMINATIONS, SIZED AS REQUIRED, AT EQUIPMENT GROUND CONNECTIONS.
5. HIRE AN INDEPENDENT LAB TO PERFORM THE SPECIFIED OHMS TESTING. PROVIDE 4 SETS OF THE CERTIFIED DOCUMENTS TO THE OWNER FOR VERIFICATION PRIOR TO THE PROJECT COMPLETION.

RACEWAYS
1. ALL WIRING TO BE INSTALLED IN CONDUIT SYSTEMS IN ACCORDANCE WITH THE FOLLOWING:
   A. EXTERIOR FEEDERS AND CONTROL, WHERE UNDERGROUND, TO BE IN SCH 40 PVC.
   B. EXTERIOR, ABOVE GROUND POWER CONDUITS TO BE GALVANIZED RIGID STEEL (RGS).
   C. ALL TELECOMMUNICATION CONDUITS, INTERIOR/EXTERIOR, TO BE EMT.
   D. INSTALL PULL ROPES IN ALL NEW EMPTY CONDUITS INSTALLED ON THIS PROJECT.
   E. ALL TELECOM CONDUITS AND PULL BOXES INSTALLED ON THIS PROJECT TO BE LABELED "T-MOBILE". OWNER WILL PROVIDE LABELS FOR CONTRACTOR TO INSTALL.
   F. INTERIOR FEEDERS TO BE INSTALLED IN E.M.T. WITH STEEL COMPRESSION FITTINGS.
   G. MINIMUM SIZE CONDUIT TO BE ¾" TRADE SIZE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
   H. FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT TO BE INSTALLED IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
   I. CONDUIT TO BE RUN CONCEALED IN CEILINGS, FINISHED AREAS OR DRYWALL PARTITIONS, UNLESS OTHERWISE NOTED.
   J. THE ROUTING OF CONDUITS INDICATED ON THE DRAWINGS IS DIAGRAMMATIC. BEFORE INSTALLING ANY WORK, EXAMINE THE WORKING LAYOUTS AND SHOP DRAWINGS OF THE OTHER TRADES TO DETERMINE THE EXACT LOCATIONS AND CLEARANCES.
   K. ALL EXTERIOR MOUNTING HARDWARE TO BE GALVANIZED STEEL. COORDINATE WITH BUILDING ENGINEER PRIOR TO ATTACHING TO BUILDING STRUCTURE.

RACEWAYS CONT'D
   L. PENETRATIONS OF WALLS, FLOORS AND ROOFS, FOR THE PASSAGE OF ELECTRICAL RACEWAYS, TO BE PROPERLY SEALED AFTER INSTALLATION OF RACEWAYS SO AS TO MAINTAIN THE STRUCTURAL OR WATERPROOF INTEGRITY OF THE WALL, FLOOR OR ROOF SYSTEM TO BE PENETRATED. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED WALLS, CEILINGS OR SMOKE TIGHT CORRIDOR PARTITIONS TO MAINTAIN PROPER RATING OF WALL OR CEILING.
   M. PROVIDE ALL CONDUIT ENDS WITH INSULATED METALLIC GROUNDING BUSHINGS.
   N. CONDUIT TO BE SUPPORTED AT MAXIMUM DISTANCE OF 8'-0", OR AS REQUIRED BY NEC, IN HORIZONTAL AND VERTICAL DIRECTIONS.
   O. PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR ALL JUNCTION BOXES AND/OR OUTLET BOXES NOT USED IN EXPOSED AREAS. PROVIDE ALL OTHER UNUSED BOXES WITH STANDARD STEEL COVER PLATES.
   P. WHERE APPLICABLE, PROVIDE ROOFTOP CONDUIT SUPPORT SYSTEM, CONFORMING TO ROOFTOP WARRANTY REQUIREMENTS, PER BUILDING.

WIRES AND CABLES
1. CONTRACTOR TO COORDINATE WITH EQUIPMENT SUPPLIER AND VENDOR FOR EXACT EQUIPMENT OVER-CURRENT PROTECTION VOLTAGE, WIRE SIZE AND PLUG CONFIGURATION, IF APPLICABLE, PRIOR TO BID.
2. ALL EQUIPMENT/DEVICES TO BE PROVIDED WITH INSULATED GROUND CONDUCTOR.
3. ALL WIRE AND CABLE TO BE 600VOLT, COPPER, WITH THWN/THHN INSULATION, EXCEPT AS NOTED.
4. WIRE FOR POWER AND LIGHTING WILL NOT BE LESS THAN NO. 12AWG. ALL WIRE NO. 8 AND LARGER TO BE STRANDED.
5. CONTROL WIRING IS NOT TO BE LESS THAN NO. 14AWG, FLEXIBLE IN SINGLE CONDUCTORS OR MULTI-CONDUCTOR CABLES. CONTROL WIRING WILL CONSIST OF MULTI-CONDUCTOR CABLES WHEREVER POSSIBLE. CABLES TO BE PROVIDED WITH AN OVERALL FLAME-RETARDANT, EXTRUDED JACKET AND RATED FOR PLENUM USE. ALL CONTROL WIRE TO BE 600VOLT RATED.
6. WIRE PREVIOUSLY PULLED INTO CONDUIT IS CONSIDERED USED AND IS NOT TO BE RE-PULLED.
7. HOME RUNS AND BRANCH CIRCUIT WIRING FOR 20A, 120V CIRCUITS:

LENGTH (FT.)	HOME RUN WIRE SIZE
0 TO 50	NO. 12
51 TO 100	NO. 10
101 TO 150	NO. 8

8. VOLTAGE DROP IS NOT TO EXCEED 3%.
9. MAKE ALL CONNECTIONS WITH UL APPROVED, SOLDERLESS, PRESSURE TYPE INSULATED CONNECTORS: SCOTCHLOK OR AND APPROVED EQUAL.

WIRING DEVICES
1. ALL RECEPTACLES INSTALLED IN THIS PROJECT TO BE GROUNDING TYPE, WITH GROUNDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE CONNECTION.

DISCONNECT SWITCHES AND FUSES
1. DISCONNECT SWITCHES TO BE VOLTAGE-RATED TO SUIT THE CHARACTERISTICS OF THE SYSTEM FROM WHICH THEY ARE SUPPLIED.
2. PROVIDE HEAVY-DUTY, METAL-ENCLOSED, EXTERNALLY-OPERATED DISCONNECT SWITCHES, FUSED OR UNFUSED, OF SUCH TYPE AND SIZE AS REQUIRED TO PROPERLY PROTECT OR DISCONNECT THE LOAD FOR WHICH THEY ARE INTENDED.
3. PROVIDE NEMA 1 DISCONNECT SWITCHES FOR INTERIOR INSTALLATION, NEMA 3R FOR EXTERIOR INSTALLATION.
4. DISCONNECT SWITCHES TO BE MANUFACTURED BY:
   A. GENERAL ELECTRIC COMPANY
   B. SQUARE-D
5. PROVIDE RK-1 TYPE FUSES, UNLESS NOTED OTHERWISE.

INSTALLATION
1. INSTALL DISCONNECT SWITCHES WHERE INDICATED ON DRAWINGS.
2. INSTALL FUSES IN FUSIBLE DISCONNECT SWITCHES. FUSES MUST MATCH IN TYPE AND RATING.
3. FUSES TO BE MOUNTED SO THAT THE LABELS SHOWING THEIR RATINGS CAN BE READ WITHOUT REQUIRING FUSE REMOVAL.
4. FURNISH AND DEPOSIT SPARE FUSES AT THE JOB SITE AS FOLLOWS:
   A. THREE SPARES FOR EACH TYPE AND SIZE, IN EXCESS OF 60A, USED FOR INITIAL FUSING.
   B. TEN PERCENT SPARES FOR EACH TYPE AND SIZE, UP TO AND INCLUDING 60A, USED FOR INITIAL FUSING. IN NO CASE WILL LESS THAN THREE FUSES OF ONE PARTICULAR TYPE AND SIZE BE FURNISHED.

GENERAL NOTES:

INTENT
1. THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH
3. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
4. THE PURPOSE OF THE SPECIFICATIONS IS TO INTERPRET THE INTENT OF THE DRAWINGS AND TO DESIGNATE THE METHOD OF THE PROCEDURE, TYPE AND QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.
5. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE MADE OR PERMITTED BY THE OWNER WITHOUT ISSUING A CHANGE ORDER.

CONFLICTS
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATIONS OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
2. THE BIDDER, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING CONCERNING SUCH BIDDER MIGHT HAVE FULLY INFORMED THEMSELVES PRIOR TO THE BIDDING.
3. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OR CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS GOVERNING THE WORK.

CONTRACTS AND WARRANTIES
1. CONTRACTOR IS RESPONSIBLE FOR APPLICATION AND PAYMENT OF CONTRACTOR LICENSES AND BONDS.
2. SEE MASTER CONTRACTION SERVICES AGREEMENT FOR ADDITIONAL DETAILS.

STORAGE
1. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY FASHION AND IN A MANNER THAT DOES NOT NECESSARILY OBSTRUCT THE FLOW OF OTHER WORK. ANY STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.

CLEANUP
1. THE CONTRACTORS SHALL, AT ALL TIMES, KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR EMPLOYEES AT WORK AND AT THE COMPLETION OF THE WORK. THEY SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE BUILDING AREA, INCLUDING ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS AND SHALL LEAVE THEIR WORK CLEAN AND READY TO USE.
2. EXTERIOR
   A. VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER.
   B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
   C. IF NECESSARY, TO ACHIEVE A UNIFORM DEGREE OF CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE.
3. INTERIOR
   A. VISUALLY INSPECT INTERIOR SURFACE AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER FROM WALLS, FLOOR, AND CEILING.
   B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
   C. REMOVE PAINT DROPPINGS, SPOTS, STAINS, AND DIRT FROM FINISHED SURFACES.

CHANGE ORDER PROCEDURE:
1. REFER TO SECTION 17 OF SIGNED MCSA: SEE PROFESSIONAL SERVICE AGREEMENT FOR MCSA.

RELATED DOCUMENTS AND COORDINATION
1. GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, THE CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

SHOP DRAWINGS
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS TO THE OWNER FOR APPROVAL.
2. ALL SHOP DRAWINGS SHALL BE REVIEWED, CHECKED AND CORRECTED BY CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER.

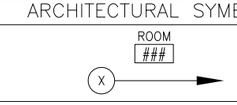
PRODUCTS AND SUBSTITUTIONS
1. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION. IN EACH REQUEST, IDENTIFY THE PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION. INCLUDE RELATED SPECIFICATION SECTION AND DRAWING NUMBERS AND COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS.
2. SUBMIT ALL NECESSARY PRODUCT DATA AND CUT SHEETS WHICH PROPERLY INDICATE AND DESCRIBE THE ITEMS, PRODUCTS AND MATERIALS BEING INSTALLED. THE CONTRACTOR SHALL, IF DEEMED NECESSARY BY THE OWNER, SUBMIT ACTUAL SAMPLES TO THE OWNER FOR APPROVAL IN LIEU OF CUT SHEETS.

QUALITY ASSURANCE
1. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THESE SHALL INCLUDE, BUT NOT BE LIMITED TO THE APPLICABLE CODES SET FORTH BY THE LOCAL GOVERNING BODY. SEE "CODE COMPLIANCE" T-1.

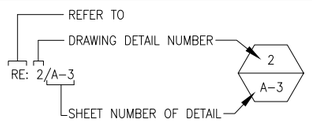
ADMINISTRATION
1. BEFORE THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR WILL ASSIGN A PROJECT MANAGER WHO WILL ACT AS A SINGLE POINT OF CONTACT FOR ALL PERSONNEL INVOLVED IN THIS PROJECT. THIS PROJECT MANAGER WILL DEVELOP A MASTER SCHEDULE FOR THE PROJECT WHICH WILL BE SUBMITTED TO THE OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. SUBMIT A BAR TYPE PROGRESS CHART, NOT MORE THAN 3 DAYS AFTER THE DATE ESTABLISHED FOR COMMENCEMENT OF THE WORK ON THE SCHEDULE, INDICATING A TIME BAR FOR EACH MAJOR CATEGORY OR UNIT OF WORK TO BE PERFORMED AT THE SITE, PROPERLY SEQUENCED AND COORDINATED WITH OTHER ELEMENTS OF WORK AND SHOWING COMPLETION OF THE WORK SUFFICIENTLY IN ADVANCE OF THE DATE ESTABLISHED FOR SUBSTANTIAL COMPLETION OF THE WORK.
3. PRIOR TO COMMENCING CONSTRUCTION, THE OWNER SHALL SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES. THIS WOULD INCLUDE, BUT NOT LIMITED TO, THE OWNER, PROJECT MANAGER, CONTRACTOR, LAND OWNER REPRESENTATIVE, LOCAL TELEPHONE COMPANY, TOWER ERECTION FOREMAN (IF SUBCONTRACTED).
4. CONTRACTOR SHALL BE EQUIPPED WITH SOME MEANS OF CONSTANT COMMUNICATIONS, SUCH AS A MOBILE PHONE OR A BEEPER. THIS EQUIPMENT WILL NOT BE SUPPLIED BY THE OWNER, NOR WILL WIRELESS SERVICE BE ARRANGED.
5. DURING CONSTRUCTION, CONTRACTOR MUST ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT ALL TIMES. CONTRACTOR WILL COMPLY WITH ALL WPCS SAFETY REQUIREMENTS IN THEIR AGREEMENT.
6. PROVIDE WRITTEN DAILY UPDATES ON SITE PROGRESS TO THE OWNER.
7. COMPLETE INVENTORY OF CONSTRUCTION MATERIALS AND EQUIPMENT IS REQUIRED PRIOR TO START OF CONSTRUCTION.
8. NOTIFY THE OWNER/PROJECT MANAGER IN WRITING NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, TOWER ERECTIONS, AND EQUIPMENT CABINET PLACEMENTS.

INSURANCE AND BONDS
1. CONTRACTOR, AT THEIR OWN EXPENSE, SHALL CARRY AND MAINTAIN, FOR THE DURATION OF THE PROJECT, ALL INSURANCE, AS REQUIRED AND LISTED, AND SHALL NOT COMMENCE WITH THEIR WORK UNTIL THEY HAVE PRESENTED AN ORIGINAL CERTIFICATE OF INSURANCE STATING ALL COVERAGES TO THE OWNER. REFER TO THE MASTER AGREEMENT FOR REQUIRED INSURANCE LIMITS.
2. THE OWNER SHALL BE NAMED AS AN ADDITIONAL INSURED ON ALL POLICIES.
3. CONTRACTOR MUST PROVIDE PROOF OF INSURANCE.

ARCHITECTURAL SYMBOLS



DETAIL REFERENCE KEY



ABBREVIATIONS

ADJ	ADJUSTABLE
AGL	ABOVE GROUND LINE
&	AND
APPROX	APPROXIMATE
@	AT
BTS	BASE TRANSMISSION STATION
CAB	CABINET
CLG	CEILING
CONC	CONCRETE
CONT	CONTINUOUS
DIA OR ø	DIAMETER
DWG	DRAWING
EA	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EGB	EQUIPMENT GROUND BAR
(E)	EXISTING
EXT	EXTERIOR
FF	FINISHED FLOOR
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GRND	GROUND
LG	LONG
MAX	MAXIMUM
MECH	MECHANICAL
MW	MICROWAVE DISH
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MTL	METAL
(N)	NEW
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OPP	OPPOSITE
(P)	PROPOSED
PCS	PERSONAL COMMUNICATION SYSTEM
PPC	POWER PROTECTION CABINET
SF	SQUARE FOOT
SHT	SHEET
SIM	SIMILAR
SS	STAINLESS STEEL
STL	STEEL
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TYP	TYPICAL
VIF	VERIFY IN FIELD
UON	UNLESS OTHERWISE NOTED
WWF	WELDED WIRE FABRIC
W/	WITH

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SUBMITTALS

DATE	DESCRIPTION	REVISION
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DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	379-000
DRAWN BY:	AHS
CHECKED BY:	AJD

PROFESSIONAL SEAL

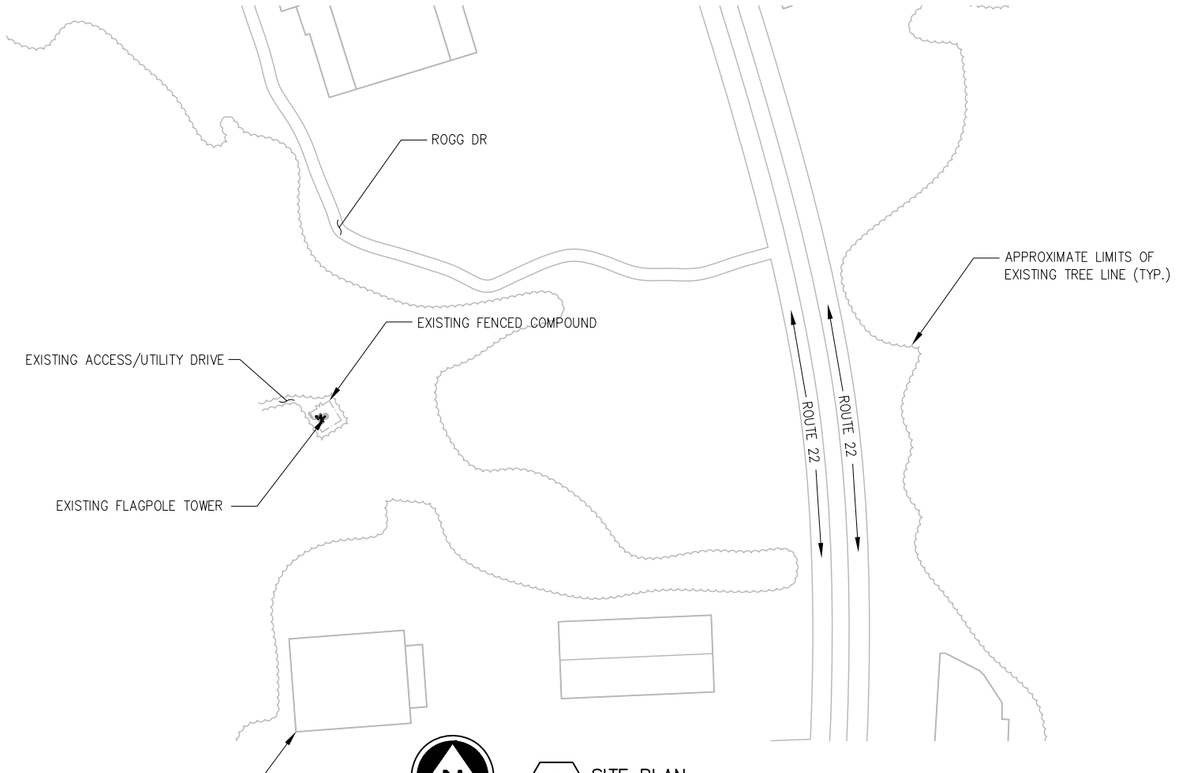
NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NAME
CTNH361A
596 DANBURY RD
NEW MILFORD, CT

SHEET TITLE
GENERAL NOTES

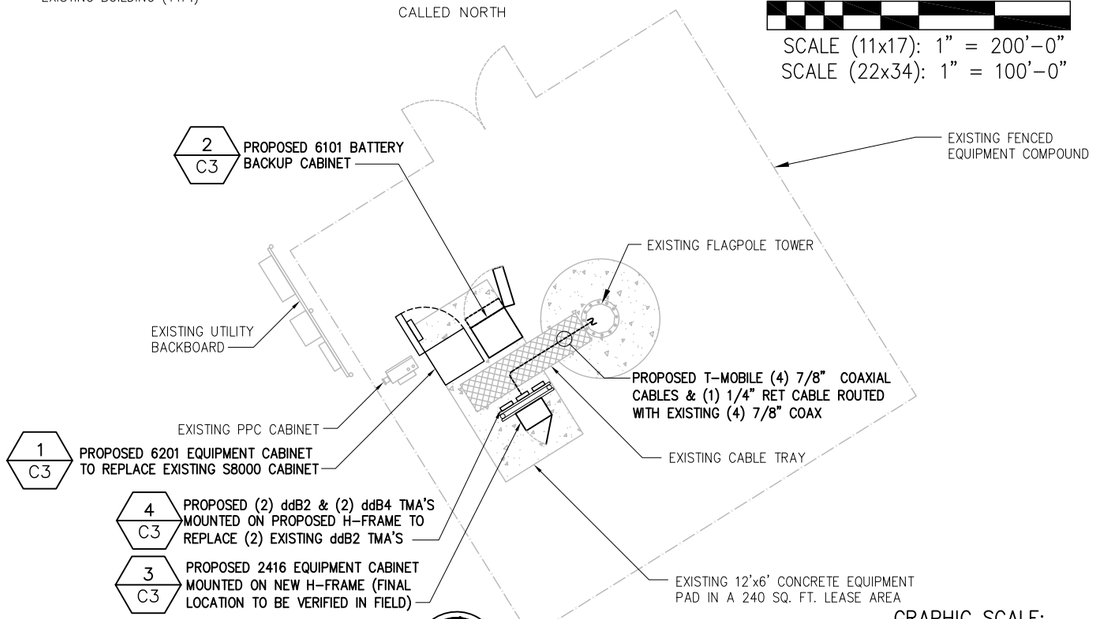
SHEET NUMBER
N-1
SHEET 2 OF 7 SHEETS

NOTE:
- STRUCTURAL ANALYSIS COMPLETED BY CROWN CASTLE. FOR ADDITIONAL INFORMATION SEE REPORT TITLED: "STRUCTURAL ANALYSIS REPORT", DATED: "MAY 15, 2015".



1 / -- SITE PLAN
SCALE: AS NOTED

GRAPHIC SCALE:
200' 100' 0 100' 200'
SCALE (11x17): 1" = 200'-0"
SCALE (22x34): 1" = 100'-0"



2 / -- COMPOUND PLAN
SCALE: AS NOTED

GRAPHIC SCALE:
10' 5' 0 5' 10'
SCALE (11x17): 1" = 10'-0"
SCALE (22x34): 1" = 5'-0"

BASEMAPPING PREPARED FROM A SITE VISIT PERFORMED BY INFINIGY ON MARCH 3, 2015, AND INFORMATION PROVIDED BY SPRINT, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.

GENERAL SITE NOTES:

1. A COMPLETE BOUNDARY SURVEY OF THE HOST PARCEL HAS NOT BEEN PERFORMED BY INFINIGY ENGINEERING. BOUNDARY INFORMATION WAS OBTAINED FROM INFORMATION PROVIDED BY OTHERS. PROPERTY IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
2. BASEMAPPING INFORMATION BASED ON PROVIDED INFORMATION.
3. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.
4. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.
5. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.
6. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.
7. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
8. UTILITIES SHOWN ON PLAN ARE TAKEN FROM OWNERS RECORDS AND FIELD LOCATION OF VISIBLE SURFACE FEATURES. THE EXISTENCE, EXTENT AND EXACT HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES HAS NOT BEEN VERIFIED. ANY CONTRACTOR PERFORMING WORK ON THIS SITE MUST CONTACT MISS UTILITY AT LEAST 48 HOURS PRIOR TO COMMENCING WORK.
9. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

SITE LEGEND

- SITE PROPERTY LINE
- STREET OR ROAD
- CHAIN LINK FENCE
- OPAQUE WOODEN FENCE
- BOARD ON BOARD FENCE
- DECIDUOUS TREES/SHRUBS
- EVERGREEN TREES/SHRUBS
- TREE LINE
- UTILITY POLE
- (E) EXISTING
- (N) NEW
- (P) PROPOSED
- (F) FUTURE
- PROP. GSM ANTENNA
- PROP. UMTS ANTENNA
- EX. GSM ANTENNA
- EX. UMTS ANTENNA

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DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	379-000
DRAWN BY:	AHS
CHECKED BY:	AJD

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NAME
CTNH361A
596 DANBURY RD
NEW MILFORD, CT

SHEET TITLE
SITE PLAN

SHEET NUMBER
C-1
SHEET 3 OF 7 SHEETS

NOTE:
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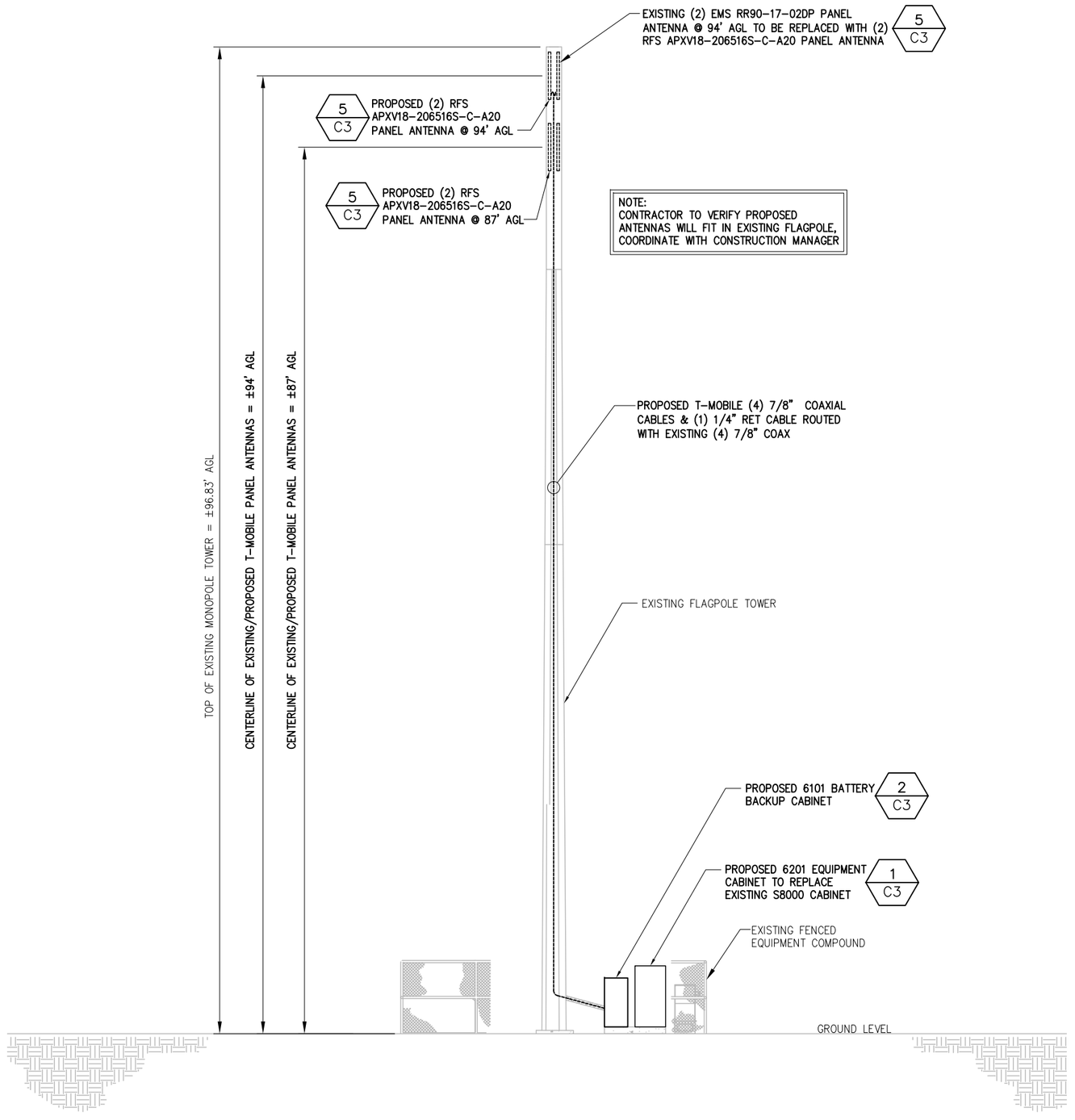
NOTE:
INFINIGY ENGINEERING HAS NOT EVALUATED THE TOWER OR LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSIS.



1 / -- TOWER ELEVATION
NOT TO SCALE

BASEMAPPING PREPARED FROM A SITE VISIT PERFORMED BY INFINIGY ON MARCH 3, 2015, AND INFORMATION PROVIDED BY SPRINT, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.

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6/9/15	REVISED PER COMMENTS	E

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

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PROFESSIONAL SEAL

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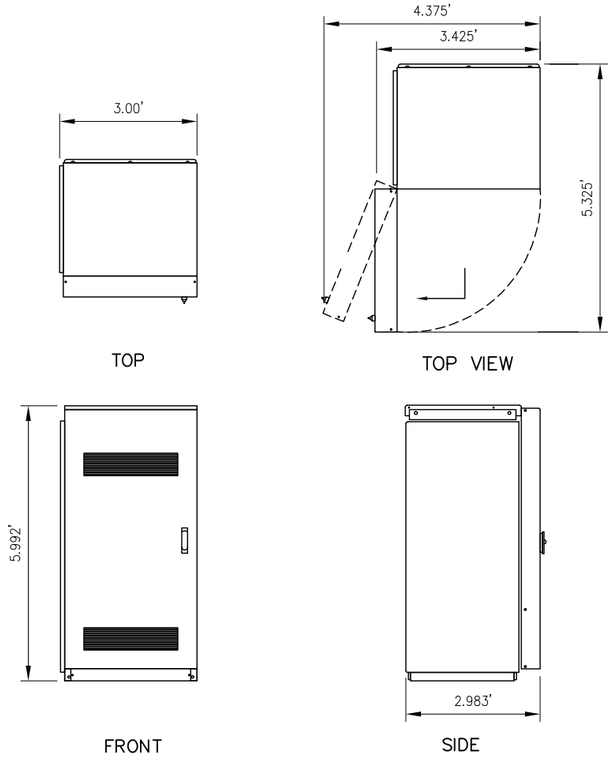
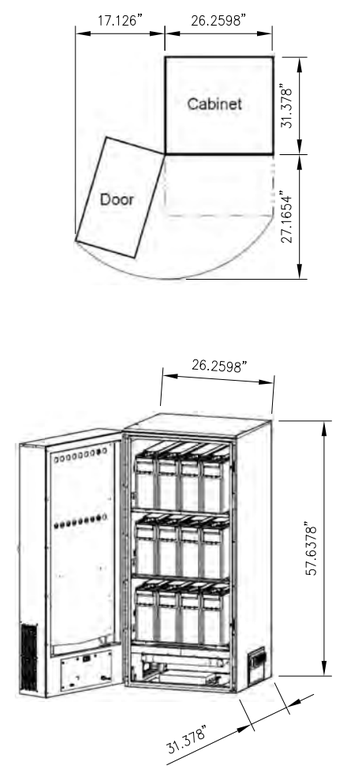
SITE NAME
CTNH361A
596 DANBURY RD
NEW MILFORD, CT

SHEET TITLE
ELEVATION

SHEET NUMBER
C-2
SHEET 4 OF 7 SHEETS



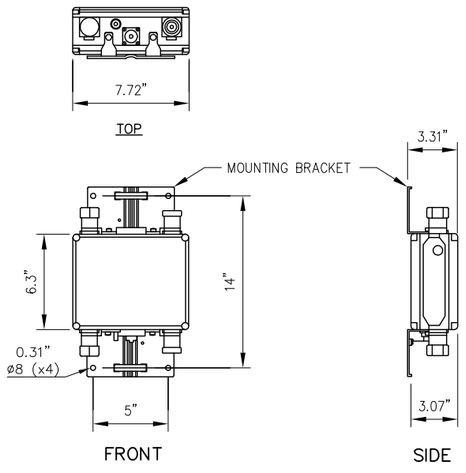
1 ERICSSON 6201 EQUIPMENT CABINET
NOT TO SCALE



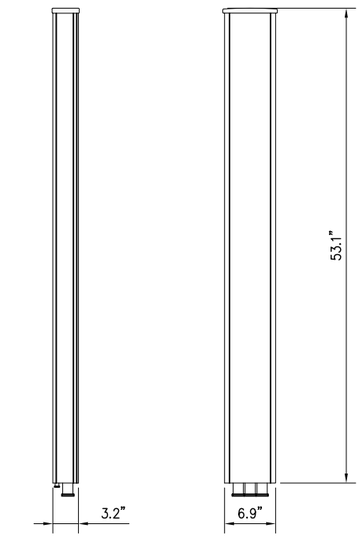
2 BBS 6101 BATTERY BACKUP CABINET
NOT TO SCALE

Physical Characteristics	
Framework Type	NetXtend™ Compact Enclosure
Available Space	Up to 14 RU, 19" W
Dimensions (H x W x D)	Enclosure: 24" x 24" x 16" Battery tray: 22" W x 13" D
Mounting	Wall or H-frame, pole mount (wall-mount kit included)
Weight, Equipped	Enclosure: 64 lb., w/out batteries Four (4) batteries: 36 lb. total
Access	Front

3 ERICSSON 2416 EQUIPMENT CABINET
NOT TO SCALE



4 TMA DETAIL
NOT TO SCALE



ANTENNA: APXV18-206516S-C-A20

5 ANTENNA DETAIL
NOT TO SCALE

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ZONING			
OPS			
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PROFESSIONAL SEAL

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SITE NAME
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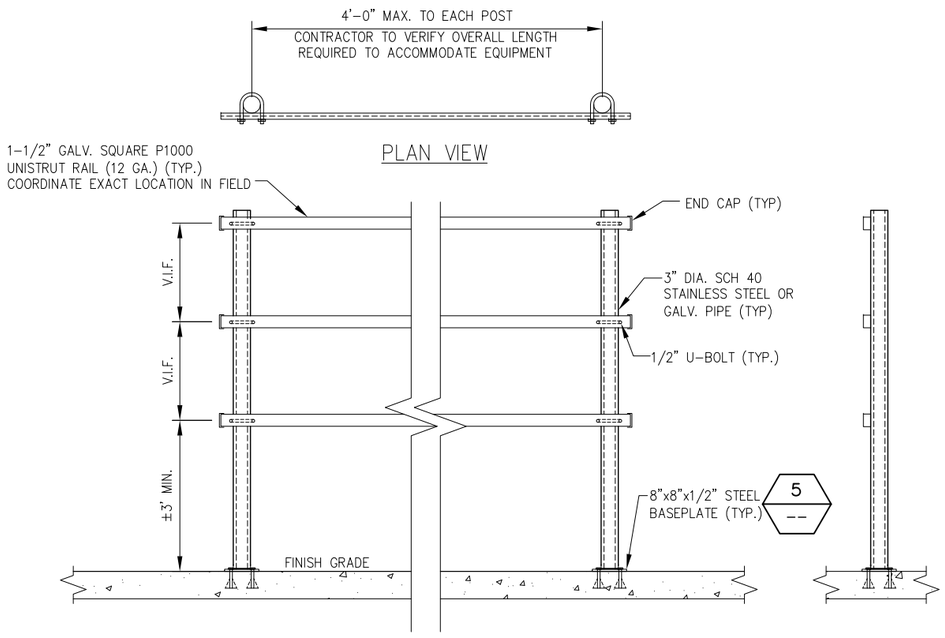
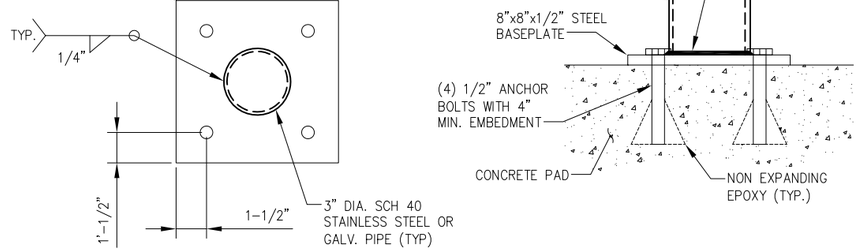
596 DANBURY RD
NEW MILFORD, CT

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
C-3
SHEET 5 OF 7 SHEETS



1 H-FRAME FABRICATION DETAIL
NOT TO SCALE



2 SUPPORT POST MOUNTING DETAIL
NOT TO SCALE

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SITE NAME
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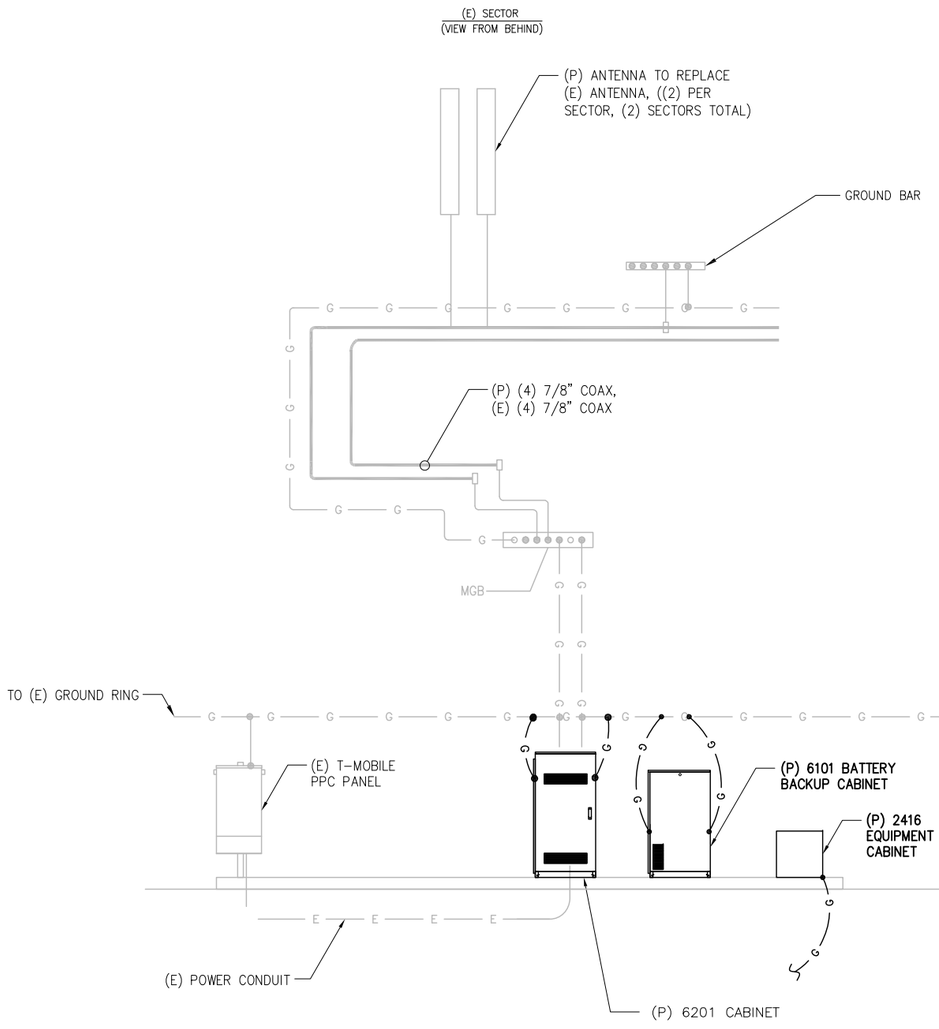
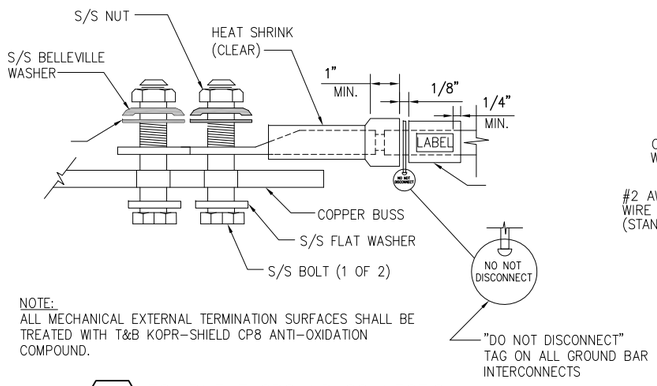
596 DANBURY RD
NEW MILFORD, CT

SHEET TITLE
H-FRAME DETAILS

SHEET NUMBER
C-4
SHEET 6 OF 7 SHEETS

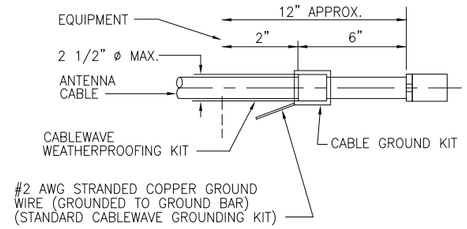


1 GROUDING DIAGRAM
NOT TO SCALE



NOTE:
ALL MECHANICAL EXTERNAL TERMINATION SURFACES SHALL BE TREATED WITH T&B KOPR-SHIELD CP8 ANTI-OXIDATION COMPOUND.

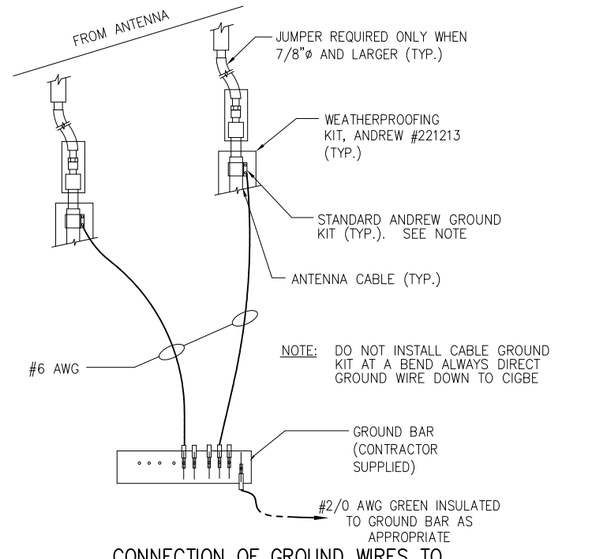
2 EQUIPMENT GROUND CONNECTION
NOT TO SCALE



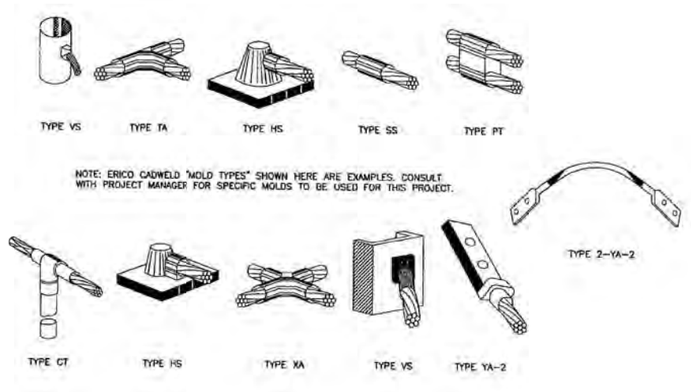
TO ANTENNA CABLE

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

3 CABLE GROUND KIT CONNECTION
NOT TO SCALE



4 CONNECTION OF GROUND WIRES TO GROUNDING BARS @ ANTENNAS
NOT TO SCALE



5 EQUIPMENT GROUND CONNECTION
NOT TO SCALE

T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD
SOUTH BLOOMFIELD, CT 06002

NSS NORTHEAST SITE SOLUTIONS
199 BRICKYARD RD
FARMINGTON, CT 06032

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 WATERVLIET SHAKER ROAD
ALBANY, NY 12205
OFFICE: (518) 690-0790
FAX: (518) 690-0793

SUBMITTALS		
DATE	DESCRIPTION	REVISION
4/1/15	ISSUED FOR REVIEW	A
4/2/15	REVISED PER COMMENTS	B
4/2/15	REVISED PER COMMENTS	C
6/4/15	REVISED PER COMMENTS	D
6/9/15	REVISED PER COMMENTS	E

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	379-000
DRAWN BY:	AHS
CHECKED BY:	AJD

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NAME
CTNH361A
596 DANBURY RD
NEW MILFORD, CT

SHEET TITLE
GROUNDING DIAGRAM & DETAILS

SHEET NUMBER
E-1
SHEET 7 OF **7** SHEETS

Exhibit B

Date: **May 15, 2015**

Cheryl Schultz
Crown Castle
3530 Toringdon WaySuite 300
Charlotte, NC 28277

Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2435

Subject: **Structural Analysis Report**

Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	CTNH361A
	Carrier Site Name:	CH361/NwMfrdRt7GallowsHil
Crown Castle Designation:	**Crown Castle BU Number:**	823046
	Crown Castle Site Name:	CH361/NwMfrdRt7GallowsHil
	Crown Castle JDE Job Number:	327596
	Crown Castle Work Order Number:	1033466
	Crown Castle Application Number:	286092 Rev. 2
Engineering Firm Designation:	**Crown Castle Project Number:**	1033466
Site Data:	**596 Danbury Road, New Milford, Litchfield County, CT** **Latitude *41° 30' 6.1"*, Longitude *-73° 25' 11.9"*** **96.83 Foot - Concealment Tower**	

Dear Cheryl Schultz,

Crown Castle 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 1033466, in accordance with application 286092, revision 2.

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

LC7: Existing+ Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/ reserved loading, respectively.

This analysis has been performed in accordance with the TIA/EIA-222-F standard and 2005 CT State Building Code with 2009 amendment based upon a wind speed of 80 mph fastest mile.

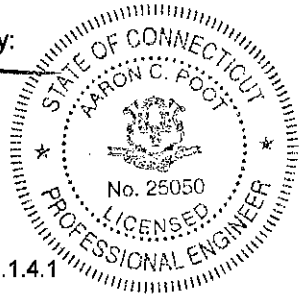
All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at *Crown Castle* 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: Eili I. Farah, E.I.T. / MSS

Respectfully submitted by:

Aaron C. Poot, P.E.
Manager Engineering



5/20/15

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 96.83 ft Concealment tower, designed by Paul J. Ford and Company in August of 2000, and mapped by TEP in May of 2015. The base tower is 73.5 ft, and canister section is from 73.5 ft to 96.83 ft. The tower was originally designed for a wind speed of 80 mph per TIA-222-F.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 28.1 mph with 1 inch ice thickness and 50 mph under service loads.

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
94.0	94.0	2	rfs celwave	APX18-206516L w/ Mount Pipe	1	1/4	-
86.0	87.0	2	rfs celwave	APX18-206516L w/ Mount Pipe	4	7/8	-

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
94.0	94.0	2	huberandsuhner	SPA 1900/85/17/2/DL w/ Mount Pipe	-	-	3
		-	-	-	4	7/8	1
91.1	91.1	1	generic	16.125” Diameter 5.75’ Tall Concealment Canister	-	-	1
85.2	85.2	1	generic	16.75” Diameter 5.91’ Tall Concealment Canister	-	-	1
79.0	79.0	2	andrew	DBXNH-6565B-VTM w/ Mount Pipe	-	-	2
		4	commscope	CBC721-DF-7-DCB	-	-	
		-	-	-	4	7/8	1
73.5	73.5	1	generic	30” Diameter 11.67’ Tall Concealment Canister	-	-	1

Notes:
1) Existing equipment
2) Reserved equipment
3) Equipment to be removed, not consider in the 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)
93	93	1	Generic	12' x 18' FLAG	-	-
86.50	86.50	1	Steatlth	18" Dia x 25' tall Antenna Concealment Container	-	-

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Jaworski Geotech Inc.,	3580312	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Paul J. Ford and Company	3931188	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Paul J. Ford and Company	3580313	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Tower Engineering Professionals (Mapping)	5664264	CCISITES

3.1) Analysis Method

tnxTower (version 6.1.4.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) 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) When applicable, transmission cables are considered as structural components for calculating wind loads as allowed by TIA/EIA-222-F.

This analysis may be affected if any assumptions are not valid or have been made in error. Crown Castle 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	96.83 - 73.5	Pole	TP5x5x0.5	1	-3.43	395.74	54.6	Pass
L2	73.5 - 45	Pole	TP22.275x18x0.1875	2	-7.77	669.44	23.9	Pass
L3	45 - 0	Pole	TP28.65x21.45x0.1875	3	-15.27	876.23	44.6	Pass
							Summary	
						Pole (L1)	54.6	Pass
						RATING =	54.6	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Bolts	73.5	26.9	Pass
1	Flange Plate		See ANSYS	Pass
1	Anchor Rods	0	35.5	Pass
	Base Plate		46.4	Pass
1	Base Foundation (Soil)	0	30.8	Pass
1	Base Foundation (Steel)	0	14.7	Pass

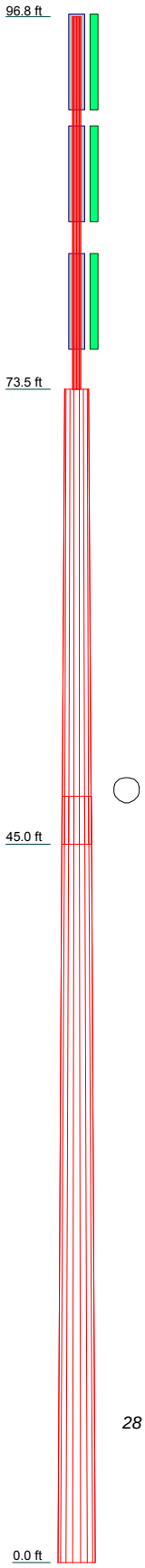
Structure Rating (max from all components) =	54.6%

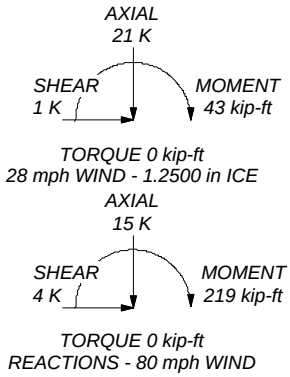
Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

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.

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	23.33	0	0.5000		5.0000	5.0000	A519-70	0.6
2	28.50	18	0.1875	3.00	18.0000	22.2750		1.2
3	48.00	18	0.1875		21.4500	28.6500	A607-65	2.4
								4.1





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Truck Ball	97.33	APX18-206516L w/ Mount Pipe	86
Canister Load1	96.83	Canister Load3	85.17
Flag	96.83	DBXNH-6565B-VTM w/ Mount Pipe	79
APX18-206516L w/ Mount Pipe	94	DBXNH-6565B-VTM w/ Mount Pipe	79
APX18-206516L w/ Mount Pipe	94	(2) CBC721-DF-7-DCB	79
Canister Load2	91.08	(2) CBC721-DF-7-DCB	79
APX18-206516L w/ Mount Pipe	86	Canister Load4	73.5

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A519-70	70 ksi	90 ksi	A607-65	65 ksi	80 ksi

TOWER DESIGN NOTES

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 28 mph basic wind with 1.25 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 53.3%

CROWN CASTLE
The Foundation for a Wireless World

Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
Phone: 724-416-2000
FAX: 724-416-4245

Job: ***BU# 823046***			
Project:			
Client:	Drawn by: Matt Schmitt		App'd:
Code: TIA/EIA-222-F	Date: 05/06/15		Scale: NTS
Path: X:\ENG Work Area\EFarah\1.0_WIP\823046 WO 1033466 (Flag)\temp - MSS\823046.en			Dwg No. E-1

APPENDIX A

TNXTOWER OUTPUT

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

1) Tower is located in Litchfield County, Connecticut.
2) Basic wind speed of 80 mph.
3) Nominal ice thickness of 1.2500 in.
4) Ice thickness is considered to increase with height.
5) Ice density of 56 pcf.
6) A wind speed of 28 mph is used in combination with ice.
7) Temperature drop of 50 °F.
8) Deflections calculated using a wind speed of 50 mph.
9) A non-linear (P-delta) analysis was used.
10) Pressures are calculated at each section.
11) Stress ratio used in pole design is 1.333.
12) 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		Treat Feedline Bundles As Cylinder
	Consider Moments - Horizontals		Assume Legs Pinned		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Calculate Redundant Bracing Forces
	Use Moment Magnification	√	Use Clear Spans For Wind Area		Ignore Redundant Members in FEA
√	Use Code Stress Ratios		Use Clear Spans For KL/r		SR Leg Bolts Resist Compression
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		All Leg Panels Have Same Allowable
√	Escalate Ice	√	Bypass Mast Stability Checks		Offset Girt At Foundation
	Always Use Max Kz	√	Use Azimuth Dish Coefficients	√	Consider Feedline Torque
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Include Angle Block Shear Check
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Poles
	Leg Bolts Are At Top Of Section		SR Members Have Cut Ends	√	Include Shear-Torsion Interaction
	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component		Always Use Sub-Critical Flow
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Use Top Mounted Sockets
	Add IBC .6D+W Combination		Use TIA-222-G Tension Splice Capacity Exemption		

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	96.83-73.50	23.33	0.00	Round	5.0000	5.0000	0.5000		A519-70 (70 ksi)
L2	73.50-45.00	28.50	3.00	18	18.0000	22.2750	0.1875	0.7500	A607-65 (65 ksi)
L3	45.00-0.00	48.00		18	21.4500	28.6500	0.1875	0.7500	A607-65 (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	5.0000	7.0686	18.1132	1.6008	2.5000	7.2453	36.2265	3.5322	0.0000	0

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
	5.0000	7.0686	18.1132	1.6008	2.5000	7.2453	36.2265	3.5322	0.0000	0
L2	18.2777	10.6007	424.9328	6.3234	9.1440	46.4712	850.4248	5.3013	2.8380	15.136
	22.6186	13.1448	810.1871	7.8411	11.3157	71.5985	1621.4403	6.5737	3.5904	19.149
L3	22.2378	12.6538	722.7509	7.5482	10.8966	66.3281	1446.4528	6.3281	3.4452	18.374
	29.0920	16.9387	1733.6634	10.1042	14.5542	119.1177	3469.6080	8.4710	4.7124	25.133

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
L1 96.83-73.50				1	0	1		
L2 73.50-45.00				1	1	1		
L3 45.00-0.00				1	1	1		

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 plf
LDF5-50A(7/8")	C	No	Inside Pole	94.00 - 0.00	4	No Ice	0.00	0.33
						1/2" Ice	0.00	0.33
						1" Ice	0.00	0.33
						2" Ice	0.00	0.33
						4" Ice	0.00	0.33
***								
CNT-300-FR-600M(1/4")	C	No	Inside Pole	94.00 - 0.00	1	No Ice	0.00	98.00
						1/2" Ice	0.00	98.00
						1" Ice	0.00	98.00
						2" Ice	0.00	98.00
						4" Ice	0.00	98.00
***								
LDF5-50A(7/8")	C	No	Inside Pole	86.00 - 0.00	4	No Ice	0.00	0.33
						1/2" Ice	0.00	0.33
						1" Ice	0.00	0.33
						2" Ice	0.00	0.33
						4" Ice	0.00	0.33
***								
***								
LDF5-50A(7/8")	C	No	Inside Pole	79.00 - 0.00	4	No Ice	0.00	0.33
						1/2" Ice	0.00	0.33
						1" Ice	0.00	0.33
						2" Ice	0.00	0.33
						4" Ice	0.00	0.33

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	96.83-73.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2.06
L2	73.50-45.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2.91
L3	45.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	4.59

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	96.83-73.50	A	1.401	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2.06
L2	73.50-45.00	A	1.340	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2.91
L3	45.00-0.00	A	1.250	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	4.59

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	96.83-73.50	0.0000	0.0000	0.0000	0.0000
L2	73.50-45.00	0.0000	0.0000	0.0000	0.0000
L3	45.00-0.00	0.0000	0.0000	0.0000	0.0000

User Defined Loads

Description	Elevation ft	Offset From Centroid ft	Azimuth Angle °		Weight K	F_x K	F_z K	Wind Force K	C_AA_C ft^2
Flag	96.83	0.00	0.0000	No Ice	0.26	0.00	0.00	0.26	**6.99**
				Ice	0.46	0.00	0.00	0.05	**10.27**
				Service	0.26	0.00	0.00	0.12	**7.96**

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Canister Load1	C	None		0.0000	96.83	No Ice	2.28	2.28	0.02
						1/2" Ice	2.42	2.42	0.05
						1" Ice	2.56	2.56	0.08
						2" Ice	2.84	2.84	0.15
						4" Ice	3.41	3.41	0.31
Canister Load2	C	None		0.0000	91.08	No Ice	4.71	4.71	0.07
						1/2" Ice	5.00	5.00	0.13
						1" Ice	5.29	5.29	0.19
						2" Ice	5.86	5.86	0.33
						4" Ice	7.01	7.01	0.65
Canister Load3	C	None		0.0000	85.17	No Ice	11.04	11.04	0.13
						1/2" Ice	11.47	11.47	0.27
						1" Ice	11.90	11.90	0.42
						2" Ice	12.77	12.77	0.73
						4" Ice	14.50	14.50	1.40

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
Canister Load4	C	None		0.0000	73.50	No Ice	8.61	8.61	0.74
						1/2" Ice	8.89	8.89	0.85
						1" Ice	9.18	9.18	0.96
						2" Ice	9.75	9.75	1.20
						4" Ice	10.90	10.90	1.71
Truck Ball	C	None		0.0000	97.33	No Ice	0.63	0.63	0.05
						1/2" Ice	0.74	0.74	0.06
						1" Ice	0.86	0.86	0.07
						2" Ice	1.12	1.12	0.09
						4" Ice	1.75	1.75	0.16
*****									
APX18-206516L w/ Mount Pipe	A	From Leg	1.00 0.00 0.00	0.0000	94.00	No Ice	0.00	0.00	0.04
						1/2" Ice	0.00	0.00	0.07
						1" Ice	0.00	0.00	0.11
						2" Ice	0.00	0.00	0.21
						4" Ice	0.00	0.00	0.52
APX18-206516L w/ Mount Pipe	B	From Leg	1.00 0.00 0.00	0.0000	94.00	No Ice	0.00	0.00	0.04
						1/2" Ice	0.00	0.00	0.07
						1" Ice	0.00	0.00	0.11
						2" Ice	0.00	0.00	0.21
						4" Ice	0.00	0.00	0.52
****									
APX18-206516L w/ Mount Pipe	A	From Leg	1.00 0.00 1.00	0.0000	86.00	No Ice	0.00	0.00	0.04
						1/2" Ice	0.00	0.00	0.07
						1" Ice	0.00	0.00	0.11
						2" Ice	0.00	0.00	0.21
						4" Ice	0.00	0.00	0.52
APX18-206516L w/ Mount Pipe	B	From Leg	1.00 0.00 1.00	0.0000	86.00	No Ice	0.00	0.00	0.04
						1/2" Ice	0.00	0.00	0.07
						1" Ice	0.00	0.00	0.11
						2" Ice	0.00	0.00	0.21
						4" Ice	0.00	0.00	0.52
****									
DBXNH-6565B-VTM w/ Mount Pipe	A	From Leg	1.00 0.00 0.00	0.0000	79.00	No Ice	0.00	0.00	0.07
						1/2" Ice	0.00	0.00	0.14
						1" Ice	0.00	0.00	0.21
						2" Ice	0.00	0.00	0.40
						4" Ice	0.00	0.00	0.90
DBXNH-6565B-VTM w/ Mount Pipe	B	From Leg	1.00 0.00 0.00	0.0000	79.00	No Ice	0.00	0.00	0.07
						1/2" Ice	0.00	0.00	0.14
						1" Ice	0.00	0.00	0.21
						2" Ice	0.00	0.00	0.40
						4" Ice	0.00	0.00	0.90
(2) CBC721-DF-7-DCB	A	From Leg	1.00 0.00 0.00	0.0000	79.00	No Ice	0.00	0.00	0.00
						1/2" Ice	0.00	0.00	0.01
						1" Ice	0.00	0.00	0.01
						2" Ice	0.00	0.00	0.02
						4" Ice	0.00	0.00	0.07
(2) CBC721-DF-7-DCB	B	From Leg	1.00 0.00 0.00	0.0000	79.00	No Ice	0.00	0.00	0.00
						1/2" Ice	0.00	0.00	0.01
						1" Ice	0.00	0.00	0.01
						2" Ice	0.00	0.00	0.02
						4" Ice	0.00	0.00	0.07

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice+Temp
15	Dead+Wind 0 deg+Ice+Temp
16	Dead+Wind 30 deg+Ice+Temp
17	Dead+Wind 60 deg+Ice+Temp
18	Dead+Wind 90 deg+Ice+Temp
19	Dead+Wind 120 deg+Ice+Temp
20	Dead+Wind 150 deg+Ice+Temp
21	Dead+Wind 180 deg+Ice+Temp
22	Dead+Wind 210 deg+Ice+Temp
23	Dead+Wind 240 deg+Ice+Temp
24	Dead+Wind 270 deg+Ice+Temp
25	Dead+Wind 300 deg+Ice+Temp
26	Dead+Wind 330 deg+Ice+Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	96.83 - 73.5	Pole	Max Tension	18	0.00	0.00	-0.00
			Max. Compression	14	-5.56	-0.77	0.45
			Max. Mx	5	-3.44	-19.45	0.11
			Max. My	2	-3.44	-0.18	19.37
			Max. Vy	5	1.12	-14.34	0.10
			Max. Vx	2	-1.12	-0.18	14.27
			Max. Torque	13			0.00
L2	73.5 - 45	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-11.14	-0.83	0.48
			Max. Mx	5	-7.77	-67.03	0.11
			Max. My	2	-7.77	-0.19	66.95
			Max. Vy	5	2.35	-67.03	0.11
			Max. Vx	2	-2.35	-0.19	66.95
			Max. Torque	13			0.00
L3	45 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-20.65	-0.86	0.50
			Max. Mx	5	-15.27	-219.30	0.12
			Max. My	2	-15.27	-0.20	219.21
			Max. Vy	5	3.98	-219.30	0.12
			Max. Vx	2	-3.98	-0.20	219.21

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	13			0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	17	20.65	-0.68	0.39
	Max. H_x	11	15.28	3.97	0.00
	Max. H_z	2	15.28	0.00	3.97
	Max. M_x	2	219.21	0.00	3.97
	Max. M_z	5	219.30	-3.97	0.00
	Max. Torsion	13	0.00	1.99	3.44
	Min. Vert	1	15.28	-0.00	0.00
	Min. H_x	5	15.28	-3.97	0.00
	Min. H_z	8	15.28	0.00	-3.97
	Min. M_x	8	-218.98	0.00	-3.97
	Min. M_z	11	-218.90	3.97	0.00
	Min. Torsion	7	-0.00	-1.99	-3.44

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	15.28	0.00	0.00	-0.11	-0.18	0.00
Dead+Wind 0 deg - No Ice	15.28	0.00	-3.97	-219.21	-0.20	-0.00
Dead+Wind 30 deg - No Ice	15.28	1.99	-3.44	-189.86	-109.75	-0.00
Dead+Wind 60 deg - No Ice	15.28	3.44	-1.99	-109.66	-189.94	-0.00
Dead+Wind 90 deg - No Ice	15.28	3.97	0.00	-0.12	-219.30	0.00
Dead+Wind 120 deg - No Ice	15.28	3.44	1.99	109.43	-189.94	0.00
Dead+Wind 150 deg - No Ice	15.28	1.99	3.44	189.63	-109.75	0.00
Dead+Wind 180 deg - No Ice	15.28	0.00	3.97	218.98	-0.20	0.00
Dead+Wind 210 deg - No Ice	15.28	-1.99	3.44	189.63	109.35	0.00
Dead+Wind 240 deg - No Ice	15.28	-3.44	1.99	109.43	189.54	-0.00
Dead+Wind 270 deg - No Ice	15.28	-3.97	0.00	-0.12	218.90	-0.00
Dead+Wind 300 deg - No Ice	15.28	-3.44	-1.99	-109.67	189.54	-0.00
Dead+Wind 330 deg - No Ice	15.28	-1.99	-3.44	-189.86	109.35	-0.00
Dead+Ice+Temp	20.65	0.00	-0.00	-0.50	-0.86	0.00
Dead+Wind 0 deg+Ice+Temp	20.65	0.00	-0.78	-42.55	-0.88	-0.00
Dead+Wind 30 deg+Ice+Temp	20.65	0.39	-0.68	-36.92	-21.90	-0.00
Dead+Wind 60 deg+Ice+Temp	20.65	0.68	-0.39	-21.53	-37.29	-0.00
Dead+Wind 90 deg+Ice+Temp	20.65	0.78	-0.00	-0.51	-42.93	0.00
Dead+Wind 120 deg+Ice+Temp	20.65	0.68	0.39	20.51	-37.29	0.00
Dead+Wind 150 deg+Ice+Temp	20.65	0.39	0.68	35.90	-21.90	0.00
Dead+Wind 180 deg+Ice+Temp	20.65	0.00	0.78	41.54	-0.88	0.00
Dead+Wind 210 deg+Ice+Temp	20.65	-0.39	0.68	35.90	20.14	0.00
Dead+Wind 240 deg+Ice+Temp	20.65	-0.68	0.39	20.51	35.53	-0.00
Dead+Wind 270 deg+Ice+Temp	20.65	-0.78	-0.00	-0.51	41.16	-0.00
Dead+Wind 300 deg+Ice+Temp	20.65	-0.68	-0.39	-21.53	35.53	-0.00

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
Dead+Wind 330 deg+Ice+Temp	20.65	-0.39	-0.68	-36.92	20.14	-0.00
Dead+Wind 0 deg - Service	15.28	0.00	-1.57	-87.25	-0.20	-0.00
Dead+Wind 30 deg - Service	15.28	0.78	-1.36	-75.57	-43.77	-0.00
Dead+Wind 60 deg - Service	15.28	1.36	-0.78	-43.68	-75.66	-0.00
Dead+Wind 90 deg - Service	15.28	1.57	0.00	-0.12	-87.33	0.00
Dead+Wind 120 deg - Service	15.28	1.36	0.78	43.45	-75.66	0.00
Dead+Wind 150 deg - Service	15.28	0.78	1.36	75.34	-43.77	0.00
Dead+Wind 180 deg - Service	15.28	0.00	1.57	87.01	-0.20	0.00
Dead+Wind 210 deg - Service	15.28	-0.78	1.36	75.34	43.36	0.00
Dead+Wind 240 deg - Service	15.28	-1.36	0.78	43.45	75.26	-0.00
Dead+Wind 270 deg - Service	15.28	-1.57	0.00	-0.12	86.93	-0.00
Dead+Wind 300 deg - Service	15.28	-1.36	-0.78	-43.68	75.26	-0.00
Dead+Wind 330 deg - Service	15.28	-0.78	-1.36	-75.57	43.36	-0.00

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	0.00	-15.28	0.00	-0.00	15.28	0.00	0.000%
2	0.00	-15.28	-3.97	0.00	15.28	3.97	0.000%
3	1.99	-15.28	-3.44	-1.99	15.28	3.44	0.000%
4	3.44	-15.28	-1.99	-3.44	15.28	1.99	0.000%
5	3.97	-15.28	0.00	-3.97	15.28	0.00	0.000%
6	3.44	-15.28	1.99	-3.44	15.28	-1.99	0.000%
7	1.99	-15.28	3.44	-1.99	15.28	-3.44	0.000%
8	0.00	-15.28	3.97	0.00	15.28	-3.97	0.000%
9	-1.99	-15.28	3.44	1.99	15.28	-3.44	0.000%
10	-3.44	-15.28	1.99	3.44	15.28	-1.99	0.000%
11	-3.97	-15.28	0.00	3.97	15.28	0.00	0.000%
12	-3.44	-15.28	-1.99	3.44	15.28	1.99	0.000%
13	-1.99	-15.28	-3.44	1.99	15.28	3.44	0.000%
14	0.00	-20.65	0.00	-0.00	20.65	0.00	0.000%
15	0.00	-20.65	-0.78	-0.00	20.65	0.78	0.000%
16	0.39	-20.65	-0.68	-0.39	20.65	0.68	0.000%
17	0.68	-20.65	-0.39	-0.68	20.65	0.39	0.000%
18	0.78	-20.65	0.00	-0.78	20.65	0.00	0.000%
19	0.68	-20.65	0.39	-0.68	20.65	-0.39	0.000%
20	0.39	-20.65	0.68	-0.39	20.65	-0.68	0.000%
21	0.00	-20.65	0.78	-0.00	20.65	-0.78	0.000%
22	-0.39	-20.65	0.68	0.39	20.65	-0.68	0.000%
23	-0.68	-20.65	0.39	0.68	20.65	-0.39	0.000%
24	-0.78	-20.65	0.00	0.78	20.65	0.00	0.000%
25	-0.68	-20.65	-0.39	0.68	20.65	0.39	0.000%
26	-0.39	-20.65	-0.68	0.39	20.65	0.68	0.000%
27	0.00	-15.28	-1.57	0.00	15.28	1.57	0.000%
28	0.78	-15.28	-1.36	-0.78	15.28	1.36	0.000%
29	1.36	-15.28	-0.78	-1.36	15.28	0.78	0.000%
30	1.57	-15.28	0.00	-1.57	15.28	0.00	0.000%
31	1.36	-15.28	0.78	-1.36	15.28	-0.78	0.000%
32	0.78	-15.28	1.36	-0.78	15.28	-1.36	0.000%
33	0.00	-15.28	1.57	0.00	15.28	-1.57	0.000%
34	-0.78	-15.28	1.36	0.78	15.28	-1.36	0.000%
35	-1.36	-15.28	0.78	1.36	15.28	-0.78	0.000%
36	-1.57	-15.28	0.00	1.57	15.28	0.00	0.000%
37	-1.36	-15.28	-0.78	1.36	15.28	0.78	0.000%
38	-0.78	-15.28	-1.36	0.78	15.28	1.36	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	5	0.00000001	0.00008332
3	Yes	5	0.00000001	0.00078880
4	Yes	5	0.00000001	0.00078980
5	Yes	5	0.00000001	0.00008350
6	Yes	5	0.00000001	0.00078351
7	Yes	5	0.00000001	0.00077973
8	Yes	5	0.00000001	0.00008271
9	Yes	5	0.00000001	0.00076886
10	Yes	5	0.00000001	0.00076782
11	Yes	5	0.00000001	0.00008246
12	Yes	5	0.00000001	0.00077409
13	Yes	5	0.00000001	0.00077791
14	Yes	4	0.00000001	0.00012574
15	Yes	5	0.00000001	0.00021573
16	Yes	5	0.00000001	0.00023460
17	Yes	5	0.00000001	0.00023686
18	Yes	5	0.00000001	0.00022348
19	Yes	5	0.00000001	0.00022322
20	Yes	5	0.00000001	0.00021398
21	Yes	5	0.00000001	0.00019261
22	Yes	5	0.00000001	0.00018908
23	Yes	5	0.00000001	0.00018614
24	Yes	5	0.00000001	0.00018335
25	Yes	5	0.00000001	0.00020081
26	Yes	5	0.00000001	0.00021072
27	Yes	5	0.00000001	0.00001677
28	Yes	5	0.00000001	0.00006006
29	Yes	5	0.00000001	0.00006024
30	Yes	5	0.00000001	0.00001691
31	Yes	5	0.00000001	0.00005901
32	Yes	5	0.00000001	0.00005831
33	Yes	5	0.00000001	0.00001641
34	Yes	5	0.00000001	0.00005622
35	Yes	5	0.00000001	0.00005603
36	Yes	5	0.00000001	0.00001627
37	Yes	5	0.00000001	0.00005723
38	Yes	5	0.00000001	0.00005794

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	96.83 - 73.5	15.303	29	2.0402	0.0009
L2	73.5 - 45	7.094	29	0.8091	0.0001
L3	48 - 0	3.264	29	0.6051	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
97.33	Truck Ball	29	15.303	2.0402	0.0009	4649
96.83	Canister Load1	29	15.303	2.0402	0.0009	4649

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
94.00	APX18-206516L w/ Mount Pipe	29	14.176	1.8591	0.0008	4649
91.08	Canister Load2	29	13.026	1.6752	0.0007	4043
86.00	APX18-206516L w/ Mount Pipe	29	11.093	1.3719	0.0005	2146
85.17	Canister Load3	29	10.790	1.3252	0.0004	1993
79.00	DBXNH-6565B-VTM w/ Mount Pipe	29	8.681	1.0148	0.0002	1303
73.50	Canister Load4	29	7.094	0.8091	0.0001	1065

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	96.83 - 73.5	37.599	4	4.9236	0.0023
L2	73.5 - 45	17.698	4	2.0096	0.0002
L3	48 - 0	8.165	4	1.5105	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
97.33	Truck Ball	4	37.599	4.9236	0.0023	1979
96.83	Canister Load1	4	37.599	4.9236	0.0023	1979
94.00	APX18-206516L w/ Mount Pipe	4	34.875	4.4952	0.0020	1979
91.08	Canister Load2	4	32.094	4.0602	0.0017	1720
86.00	APX18-206516L w/ Mount Pipe	4	27.417	3.3425	0.0011	912
85.17	Canister Load3	4	26.681	3.2321	0.0011	847
79.00	DBXNH-6565B-VTM w/ Mount Pipe	4	21.566	2.4973	0.0005	553
73.50	Canister Load4	4	17.698	2.0096	0.0002	451

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L1	96.83 - 73.5 (1)	TP5x5x0.5	23.33	0.00	0.0	42.000	7.0686	-3.44	296.88	0.012
L2	73.5 - 45 (2)	TP22.275x18x0.1875	28.50	0.00	0.0	39.000	12.8770	-7.77	502.20	0.015
L3	45 - 0 (3)	TP28.65x21.45x0.1875	48.00	0.00	0.0	38.807	16.9387	-15.27	657.34	0.023

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	96.83 - 73.5 (1)	TP5x5x0.5	19.48	32.263	46.200	0.698	0.00	0.000	46.200	0.000
L2	73.5 - 45 (2)	TP22.275x18x0.1875	67.06	11.714	39.000	0.300	0.00	0.000	39.000	0.000
L3	45 - 0 (3)	TP28.65x21.45x0.1875	219.33	22.095	38.807	0.569	0.00	0.000	38.807	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L1	96.83 - 73.5 (1)	TP5x5x0.5	1.08	0.153	28.000	0.011	0.00	0.000	28.000	0.000
L2	73.5 - 45 (2)	TP22.275x18x0.1875	2.35	0.183	26.000	0.014	0.00	0.000	26.000	0.000
L3	45 - 0 (3)	TP28.65x21.45x0.1875	3.98	0.235	26.000	0.018	0.00	0.000	26.000	0.000

Pole Interaction Design Data

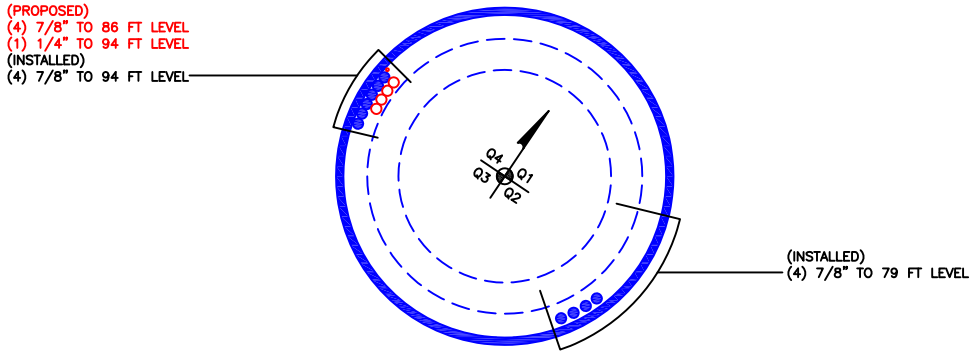
Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	96.83 - 73.5 (1)	0.012	0.698	0.000	0.011	0.000	0.710 ✔	1.333	H1-3+VT ✔
L2	73.5 - 45 (2)	0.015	0.300	0.000	0.014	0.000	0.316 ✔	1.333	H1-3+VT ✔
L3	45 - 0 (3)	0.023	0.569	0.000	0.018	0.000	0.593 ✔	1.333	H1-3+VT ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	96.83 - 73.5	Pole	TP5x5x0.5	1	-3.44	395.74	53.3	Pass
L2	73.5 - 45	Pole	TP22.275x18x0.1875	2	-7.77	669.44	23.7	Pass
L3	45 - 0	Pole	TP28.65x21.45x0.1875	3	-15.27	876.23	44.5	Pass
							Summary	
						Pole (L1)	53.3	Pass
						RATING =	**53.3**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 823046 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

Program Version 6.1.4.1 - 12/17/2013 File:X:/ENG Work Area/EFarah/1.0_WIP/823046 WO 1033466 (Flag)/temp - MSS/823046.eri

Stiffened or Unstiffened, Interior Flange Plate - Any Bolt Material TIA Rev F

Site Data	
BU#:	*823046*
Site Name:	*CH361/NwMfrdRt7GallowsH*
App #:	*286092,Rev.2*

Manufacturer:	Other

Reactions		
Moment:	19.48	ft-kips
Axial:	3.44	kips
Shear:	1.08	kips
Exterior Flange Run, T+Q:	0.00	kips

Elevation: 73.5 feet

Bolt Data			
Qty:	6		
Diam:	1	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	100	<-- Disregard	Bolt Fty:
N/A:	75	<-- Disregard	44.00
Circle:	12	in	

Interior Flange Bolt Results

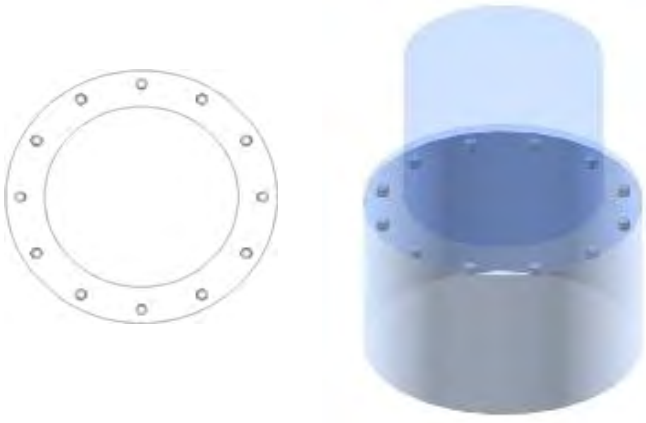
Maximum Bolt Tension:	12.4	Kips, Ext. T=Interior T
Allowable Tension:	46.1	Kips
Bolt Stress Ratio:	26.9%	**Pass**

Plate Data		
Plate Outer Diam:	4.813	in
Plate Inner Diam:	17.5	in (Hole @ Ctr)
Thick:	2.5	in
Grade:	50	ksi
Effective Width:	-13.37	in

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

Pole Data		
Pole OuterDiam:	5.563	in
Thick:	0.375	in
Pole Inner Diam:	4.813	in
Grade:	70	ksi
# of Sides:	0	"0" IF Round
Fu	90	ksi

Stress Increase Factor		
ASIF:	1.333	



* 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

Date: May 15, 2015

Cheryl Schultz
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317

Subject: **Structural Opinion Letter**

Crown Castle Designation:

Crown Castle BU Number: 823046
Crown Castle Site Name: CH361/NwMfrdRt7GallowsHil
Crown Castle Work Order Number: 1033466

Site Data:

596 Danbury Road, New Milford, Litchfield County, CT
Latitude *41° 30' 6.1"*, Longitude *-73° 25' 11.9"*
96.83 Foot - Concealment Tower

Dear Cheryl Schultz

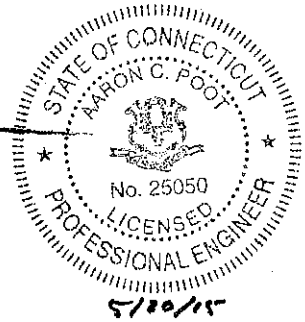
Crown Castle is pleased to submit this **"Structural Opinion Letter"** for the structural integrity of the 76.5 ft flange plate connection of the aforementioned tower. This evaluation has been performed in accordance with the Crown Castle Structural 'Statement of Work'. The purpose of the opinion letter is to determine the suitability of the tower flange plate connection with the existing, reserved and proposed loading as specified in Tables 1 & 2 in the report, based upon a wind speed of 80 mph fastest mile.

A 3D solid model was created of the 76.5 ft flange plate connection using Autodesk Inventor. A full analysis was performed of all components of the flange plate connection using version 15.0 of ANSYS Structural. Forces on the connection were calculated in accordance with TIA-222-F based on the loading in Tables 1 & 2 in the report. Based on a review of the results of the finite element analysis in ANSYS, we have determined the 76.5 ft flange plate connection ***IS*** sufficient for the existing and proposed loading.

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

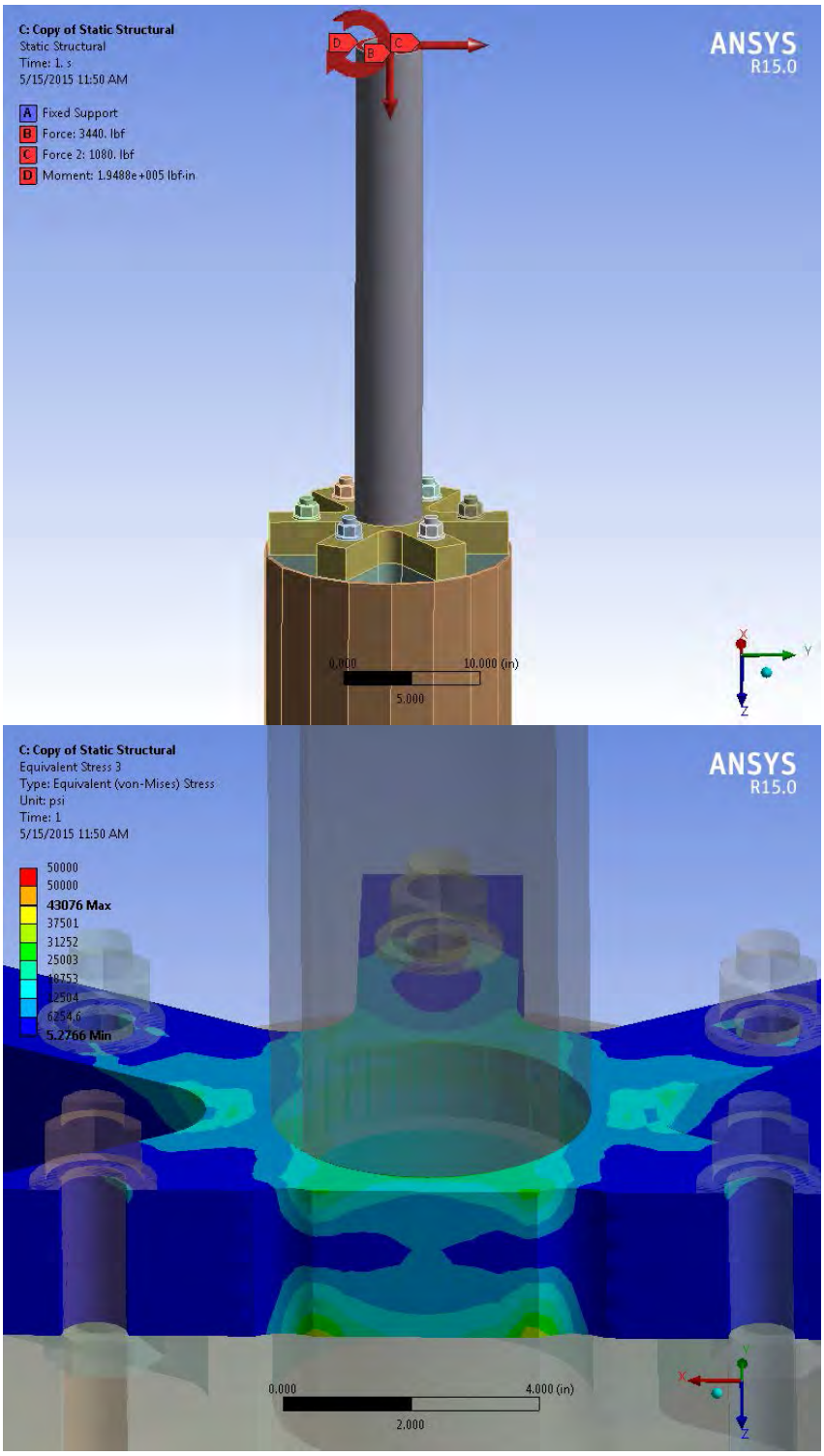
Finite Element Analysis prepared by: Allan R. Smith, E.I.T. / CWH

Respectfully submitted,



Aaron C. Poot, P.E.
Manager Engineering

76.5’ Flange Connection:



Controlling Component: Upper Flange Plate

Square, Stiffened / Unstiffened Base Plate, Any Rod Material - Rev. F /G

Assumptions: 1) Rod groups at corners. Total # rods divisible by 4. Maximum total # of rods = 48 (12 per Corner).
2) Rod Spacing = Straight Center-to-Center distance between any (2) adjacent rods (same corner)
3) Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#: *823046*
Site Name: *CH361/NwMfrdRt7GallowsHil*
App #: *286092,Rev.2*

Anchor Rod Data		
Eta Factor, η	0.5	TIA G (Fig. 4-4)
Qty:	4	
Diam:	2.25	in
Rod Material:	A615-J	
Yield, Fy:	75	ksi
Strength, Fu:	100	ksi
Bolt Circle:	36	in

Plate Data		
W=Side:	32	in
Thick:	2	in
Grade:	55	ksi
Clip Distance:	2.5	in

Stiffener Data (Welding at both sides)		
Configuration:	Unstiffened	
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

Pole Data		
Diam:	28.65	in
Thick:	0.1875	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round

Stress Increase Factor		
ASD ASIF:	1.333	

Base Reactions		
TIA Revision:	F	
Unfactored Moment, M:	219	ft-kips
Unfactored Axial, P:	15	kips
Unfactored Shear, V:	4	kips

Anchor Rod Results

TIA F --> Maximum Rod Tension	69.3 Kips
Allowable Tension:	195.0 Kips
Anchor Rod Stress Ratio:	35.5% **Pass**

Base Plate Results Flexural Check

Base Plate Stress:	25.5 ksi
Allowable PL Bending Stress:	55.0 ksi
Base Plate Stress Ratio:	46.4% **Pass**

PL Ref. Data	
Yield Line (in):	16.60
Max PL Length:	16.60

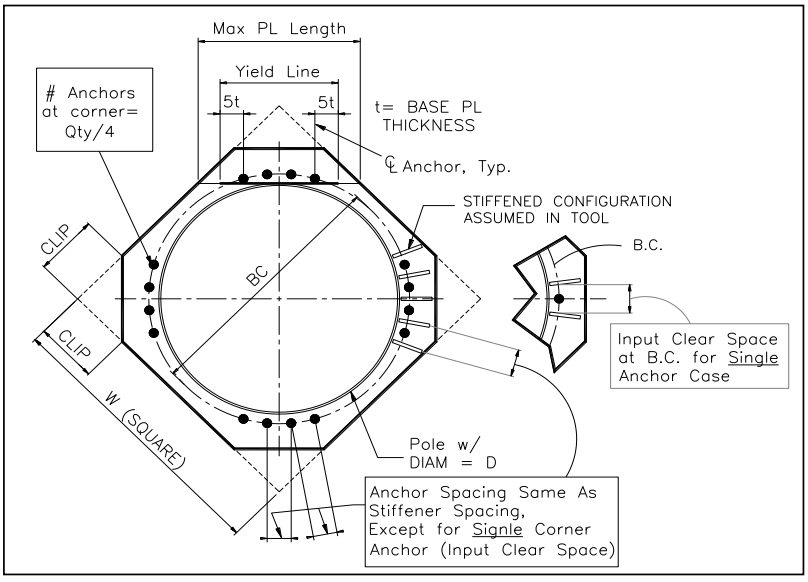
N/A - Unstiffened

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



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

Monopole Pier and Pad Foundation

BU # : 823046
Site Name: CH361/NwMfrdRt7GallowsHi
App. Number: 286092 Rev 2

TIA-222 Revision: F

Design Reactions		
Shear, **S**:	4	kips
Moment, **M**:	219	ft-kips
Tower Height, **H**:	96.83	ft
Tower Weight, **Wt**:	15	kips
Base Diameter, **BD**:	2.39	ft

Foundation Dimensions		
Depth, **D**:	10	ft
Pad Width, **W**:	13	ft
Neglected Depth, **N**:	3.33	ft
Thickness, **T**:	3.00	ft
Pier Diameter, **Pd**:	5.00	ft
Ext. Above Grade, **E**:	0.50	ft
BP Dist. Above Pier:	3	in.
Clear Cover, **Cc**:	3.0	in

Soil Properties		
Soil Unit Weight, **γ**:	0.056	kcf
Ult. Bearing Capacity, Bc:	8.0	ksf
Angle of Friction, **Φ**:	32	deg
Cohesion, **Co**:	0.000	ksf
Passive Pressure, **Pp**:	0.000	ksf
Base Friction, **μ**:	0.30	

Material Properties		
Rebar Yield Strength, **Fy**:	60000	psi
Concrete Strength, **F'c**:	3000	psi
Concrete Unit Weight, **δc**:	0.150	kcf
Seismic Zone, **z**:	1	

Rebar Properties		
Pier Rebar Size, **Sp**:	9	
Pier Rebar Quanity, **mp**:	20	15
Pad Rebar Size, **Spad**:	9	
Pad Rebar Quanity, **mpad**:	12	6
Pier Tie Size, **St**:	4	3
Tie Quanity, **mt**:	22	7

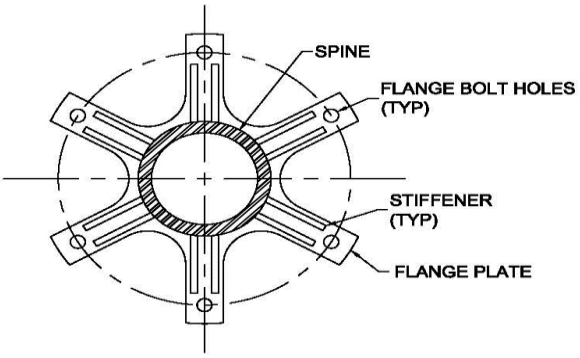
Design Checks	Capacity/ Availability	Demand/ Limits	Check
Req'd Pier Diam.(ft)	5	3.89	**OK**
Overturning (ft-kips)	783.96	219.00	**27.9%**
Shear Capacity (kips)	33.82	4.00	**11.8%**
Bearing (ksf)	6.00	1.85	**30.8%**
Pad Shear - 1-way (kips)	415.72	43.31	**10.4%**
Pad Shear - 2-way (kips)	1547.75	59.70	**3.9%**
Pad Moment Capacity (k-ft)	1702.68	88.60	**5.2%**
Pier Moment Capacity (k-ft)	1694.06	249.00	**14.7%**

CCI Flagpole Tool

Site Data	
BU#:	823046
Site Name:	CH361/NwMfrdRt7GallowsHil
App #:	286092 Rev 2

Code		
Code:	TIA/EIA 222-F	
Ice Thickness:	1	in
Windspeed (V):	80	mph
Ice Wind Speed (V):	28.1	mph

Tower Information		
Total Tower Height:	96.83	ft
Base Tower Height:	73.5	ft
Total Canister Length:	23.33	ft
Number of Canister Assembly Sections:	3	



FLANGE PLATE
(TYPE 3: SOLIDITY RATIO 0.5)

Canister Section Number *:	Canister Assembly Length (ft):	Canister Assembly Diameter (in):	Number of Sides Canister Section	Plate Type:	Mating Flange Plate Thickness (in)**:	Mating Flange Plate Diameter (in):	Solidity Ratio	Plate Weight (Kip):	Canister Weight (Kip)
1	5.75	16.125	Round	4	0.25	15.75	0.55	0.015	0.049
2	5.91	16.75	Round	4	0.25	16.375	0.55	0.016	0.052
3	11.67	30	Round	3	2.25	36	0.5	0.649	0.183

* Sections are numbered from the top of the tower down

** Mating Flange Plate Thickness at the bottom of canister section

Flag on Tower:	Yes	
Flag Width:	18	ft
Flag Height:	12	ft
Flag Elevation(z):	96.83	ft

Truck Ball on Tower:	Yes	
Diameter of Ball:	12	in

Geometry : Base Tower + Spine

823046.eri *(last saved 05/04 3:44 pm)*

Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material	Delete
96.83	23.33	0	0	5	5	0.5	n/a	A519-70	[x]
73.5	28.5	3	18	18	22.275	0.1875	0.75	A607-65	[x]
48	48	0	18	21.45	28.65	0.1875	0.75	A607-65	[x]

Discrete Loads: Truck Ball	Apply C_aA_A at Elevation(z) (ft)	C_aA_A No Ice (ft^2)	C_aA_A 1/2" Ice (ft^2)	C_aA_A 1" Ice (ft^2)	C_aA_A 2" Ice (ft^2)	C_aA_A 4" Ice (ft^2)	Weight No Ice (Kip)	Weight 1/2" Ice (Kip)

	97.33	0.628	0.737	0.855	1.117	1.745	0.05	0.058

Discrete Loads : C_FA_F for Canister Assembly								
Canister Loading	Apply C_FA_F at Elevation(z) (ft)	C_FA_F No Ice (ft^2)	C_FA_F 1/2" Ice (ft^2)	C_FA_F 1" Ice (ft^2)	C_FA_F 2" Ice (ft^2)	C_FA_F 4" Ice (ft^2)	Canister Assembly Weight No Ice (Kip)	Canister Assembly Weight 1/2" Ice (Kip)
Canister Load 1	96.83	2.279	2.421	2.562	2.845	3.410	0.024	0.053
Canister Load 2	91.08	4.713	5.000	5.286	5.859	7.006	0.065	0.126
Canister Load 3	85.17	11.040	11.472	11.905	12.769	14.498	0.134	0.274
Canister Load 4	73.5	8.607	8.894	9.180	9.754	10.902	0.741	0.850

User Forces: Flag Force Calculation Per ANSI/NAAMM FP 1001-07	
$Wind_{FORCE}$=	0.263 Kip
Weight=	0.262 Kip
$Wind_{FORCE, ICE}$=	0.048 Kip
Weight $_{ICE}$=	0.463 Kip
$W_{FORCE, SERVICE WIND}$=	0.117 Kip
Weight=	0.262 Kip

←Flag force should be included at the top of the flag attachment elevation. If the attachment of the flag to the halyard distributes forces equally to the pole, apply flag forces accordingly in tnx file.

Exhibit C

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

T-Mobile Existing Facility

Site ID: CTNH361A

CH361/NwMfrdRt7GallowsHill
596 Danbury Road
New Milford, CT 06776

June 1, 2015

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general public allowable limit:	**89.83 %**

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

EBI Consulting
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June 1, 2015

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CTNH361A – CH361/NwMfrdRt7GallowsHill**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **596 Danbury Road, New Milford, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for both the PCS and AWS bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **596 Danbury Road, New Milford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

1) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel

2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

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

6) The antennas used in this modeling are the **RFS APXV18-206516L** for 1900 MHz (PCS) and 2100 MHz (AWS) channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **RFS APXV18-206516L** has a maximum gain of **16.3 dBd** at its main lobe. 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.

7) The antenna mounting height centerlines of the proposed antennas are **87 & 94 feet** above ground level (AGL).

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

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	RFS APXV18-206516L	Make / Model:	RFS APXV18-206516L	Make / Model:	RFS APXV18-206516L
Gain:	16.3 dBd	Gain:	16.3 dBd	Gain:	16.3 dBd
Height (AGL):	94	Height (AGL):	94	Height (AGL):	94
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels:	2
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	5,118.95	ERP (W):	5,118.95	ERP (W):	5,118.95
Antenna A1 MPE%	2.38	Antenna B1 MPE%	2.38	Antenna C1 MPE%	2.38
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXV18-206516L	Make / Model:	RFS APXV18-206516L	Make / Model:	RFS APXV18-206516L
Gain:	16.3 dBd	Gain:	16.3 dBd	Gain:	16.3 dBd
Height (AGL):	94	Height (AGL):	94	Height (AGL):	94
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power:	120	Total TX Power:	120	Total TX Power:	120
ERP (W):	5,118.95	ERP (W):	5,118.95	ERP (W):	5,118.95
Antenna A2 MPE%	2.80	Antenna B2 MPE%	2.80	Antenna C2 MPE%	2.80

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile	**15.54**
Verizon Wireless	74.29 %
Site Total MPE %:	**89.83 %**

T-Mobile Sector 1 Total:	5.18 %
T-Mobile Sector 2 Total:	5.18 %
T-Mobile Sector 3 Total:	5.18 %
Site Total:	89.83 %

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Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector 1:	5.18 %
Sector 2:	5.18 %
Sector 3 :	5.18 %
T-Mobile Total:	15.54 %
Site Total:	89.83 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **89.83%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803