



NSS **NORTHEAST**
SITE SOLUTIONS
Turnkey Wireless Development

July 22 2015

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

RE: Notice of Exempt Modification
99 Briar Hill Rd, Groton CT 06340
Longitude: 72.06986111
Latitude: 41.385139
MetroPCS Site#: CTNL223A_MetroKeep

Members of the Siting Council:

On behalf of MetroPCS, 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 99 Briar Hill Rd, Groton CT 06340.

The 99 Briar Hill Rd, Groton CT 06340 facility consists of a 250' Guyed Tower owned and operated by Citadel Broadcasting Company. In order to accommodate technological changes and enhance system performance in the State of Connecticut, MetroPCS 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 MetroPCS's MetroKeep Project, MetroPCS 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 MetroPCS'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 equipment cabinet upgrade.
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 MetroPCS, 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: Citadel Broadcasting Company
Town of Groton

Exhibit A



Unlimit Yourself.

SITE #: CTNL223A

SITE NAME: CITADEL GROTON GUYED

SITE ADDRESS:
99 BRIAR HILL RD,
GROTON, CT

WIRELESS BROADBAND FACILITY
CONSTRUCTION DRAWINGS
(702CC CONFIGURATION)



Unlimit Yourself.
metroPCS WIRELESS, INC.
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002



1340 Centre Street, Suite 212
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

SUBMITTALS

Table with columns: DATE, DESCRIPTION, REVISION. Includes entries for 08/26/15 ISSUED FOR REVIEW and 08/26/15 FINAL CD.

Table with columns: DEPT., DATE, APP'D, REVISIONS. Includes rows for RFE, RF MAN., ZONING, OPS, CONSTR., and SITE AC.

PROJECT NO: CTNL223A
DRAWN BY: FG
CHECKED BY: SM

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 BEFORE YOU DIG:

WWW.CBYD.COM

CALL 800 922 4455, OR 811

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 metroPCS 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 metroPCS 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 metroPCS 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.
17. REFER TO STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "STRUCTURAL ANALYSIS REPORT-GUYED TOWER" PREPARED BY ATLANTIS GROUP, INC., "metroPCS SITE ID "CTNL223C", DATED JUNE 24, 2015.

SITE INFORMATION

SITE NUMBER: CTNL223A
SITE NAME: CITADEL GROTON GUYED
SITE ADDRESS: 99 BRIAR HILL RD, GROTON, CT
LAT./LONG.: N 41.3851388 / W -72.0698611
JURISDICTION: TOWN OF GROTON , CT
PROPERTY OWNER: CITADEL BROADCASTING CO

PROJECT SUB-CONTRACTORS

APPLICANT: metroPCS WIRELESS, INC.
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
PROJECT MANAGER: CHUCK REGULBUTO
NORTHEAST SITE SOLUTIONS
54 MAIN STREET
STURBRIDGE, MA 01566
(508) 434-5237
ARCHITECT/ENGINEER: ATLANTIS GROUP INC.
1340 CENTRE STREET SUITE 212
NEWTON CENTER, MA 02459
(617) 965-0789

CODE COMPLIANCE

CONNECTICUT STATE BUILDING CODE
2005 CONNECTICUT BUILDING CODE WITH 2013 AMENDMENT
2011 NATIONAL ELECTRICAL CODE
CONSTRUCTION TYPE: 2B USE GROUP: N/A

SHEET INDEX

Table with columns: SHEET, DESCRIPTION. Includes entries for T-1 TITLE SHEET, N-1 GENERAL AND ELECTRICAL NOTES, A-1 SITE LAYOUT AND SITE PLAN, A-2 SITE ELEVATION, A-3 ANTENNA PLAN AND DETAILS, E-1 GROUNDING AND ONE LINE DIAGRAM, E-2 GROUNDING DETAILS.



THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF metroPCS. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED.

SITE NUMBER: CTNL223A
SITE NAME: CITADEL GROTON GUYED
SITE ADDRESS: 99 BRIAR HILL RD, GROTON, CT

SHEET TITLE: TITLE SHEET

SHEET NUMBER: T-1

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.
E. COORDINATE ALL X-RAY WORK WITH BUILDING ENGINEER.
F. PROVIDE HANGERS, SUPPORTS, FOUNDATIONS, STRUCTURAL FRAMING SUPPORTS, AND BASES FOR CONDUIT AND EQUIPMENT PROVIDED OR INSTALLED UNDER THE WORK OF HIS CONTRACT.
G. 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.
H. PROVIDE TEMPORARY LIGHT AND POWER FOR CONSTRUCTION PURPOSES.
I. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT.
J. THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY.
K. LOAD CALCULATIONS ARE BASED ON EXISTING BUILDING INFORMATION/DRAWINGS PROVIDED TO ENGINEERING.
L. EXISTING BUILDING EQUIPMENT IS NOTED ON THE DRAWINGS.
M. NEW OR RELOCATED EQUIPMENT IS SHOWN WITH SOLID LINES.
N. GENERAL: 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.
O. VERIFY ALL MEASUREMENTS AT THE SITE AND BE RESPONSIBLE FOR CORRECTNESS OF SAME.
P. QUALITY, WORKMANSHIP, MATERIALS AND SAFETY
Q. PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC MANUFACTURER BY THOSE REGULARLY ENGAGED IN THE PRODUCTION AND MANUFACTURE OF SPECIFIED MATERIALS AND EQUIPMENT.
R. WORK SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE REQUIRED FOR THE WORK.
S. 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.
T. 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.
U. PERFORMANCE AND MATERIAL REQUIREMENTS SCHEDULED OR SPECIFIED ARE MINIMUM STANDARD ACCEPTABLE.
V. GUARANTEE: 1. GUARANTEE MATERIALS, PARTS AND LABOR FOR WORK FOR ONE YEAR FROM THE DATE OF ISSUANCE OF OCCUPANCY PERMIT.
W. 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.
X. CONFLICTS: 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATIONS OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK.
Y. QUALITY ASSURANCE: 1. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

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.
4. EXISTING BUILDING EQUIPMENT IS NOTED ON THE DRAWINGS.
5. GENERAL: 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.
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.
B. WORK SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE REQUIRED FOR THE WORK.
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.
F. GUARANTEE: 1. GUARANTEE MATERIALS, PARTS AND LABOR FOR WORK FOR ONE YEAR FROM THE DATE OF ISSUANCE OF OCCUPANCY PERMIT.

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, CEILING OR OTHER SURFACES.
2. SERVICE MANUALS:
A. UPON COMPLETION OF THE WORK, FULLY INSTRUCT metroPCS 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.

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 metroPCS 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.
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.
3. 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 "metroPCS". 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 3/4" 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 CEILING, 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.
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 BOXES 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.
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.

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.
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 CONTRACTOR 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.

ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes ADJ (ADJUSTABLE), AGL (ABOVE GROUND LINE), APPROX (APPROXIMATE), AT (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 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).



Unlimit Yourself. metroPCS WIRELESS, INC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002



1340 Centre Street, Suite 212 Newton Center, MA 02459 Office: 617-965-0789 Fax: 617-213-5056

Table with 3 columns: DATE, DESCRIPTION, REVISION. Includes rows for 06/26/15 ISSUED FOR REVIEW and 06/26/15 FINAL CD.

Table with 4 columns: DEPT., DATE, APP'D, REVISIONS. Includes rows for RFE, RF MAN., ZONING, OPS, CONSTR., SITE AC.

PROJECT NO: CTNL223A DRAWN BY: FG CHECKED BY: SM

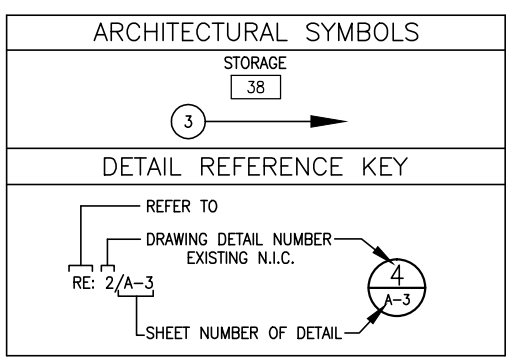


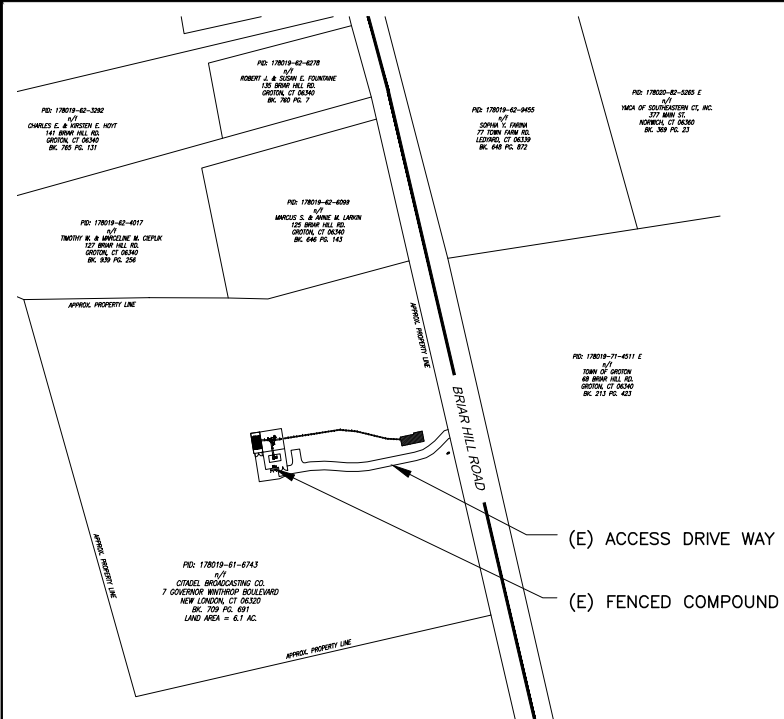
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SITE NUMBER CTNL223A SITE NAME CITADEL GROTON GUYED SITE ADDRESS 99 BRIAR HILL RD, GROTON, CT

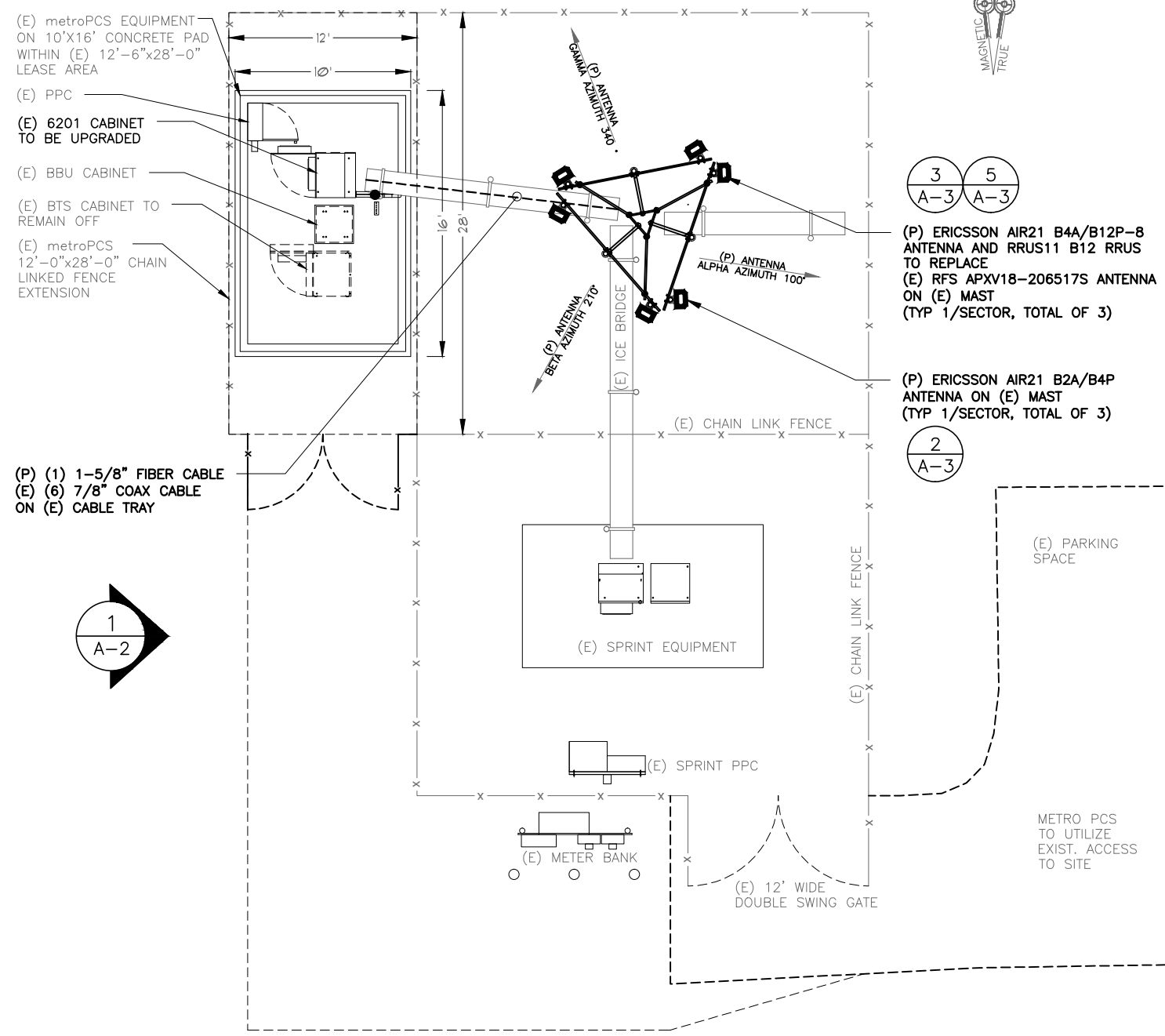
SHEET TITLE GENERAL AND ELECTRICAL NOTES

SHEET NUMBER N-1





REFER TO STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "STRUCTURAL ANALYSIS REPORT-GUYED TOWER" PREPARED BY ATLANTIS GROUP, INC., "metroPCS SITE ID "CTNL223C", DATED JUNE 24, 2015.



SITE PLAN
SCALE: 1" = 10' (11x17)
1" = 5' (24x36)

2
A-1



- GENERAL SITE NOTES:
1. SITE INFORMATION WAS OBTAINED FROM A FIELD INVESTIGATION PERFORMED BY ATLANTIS GROUP, INC. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.
 2. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.
 3. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.
 4. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.
 5. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
 6. 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 CALL BEFORE YOU DIG. THREE WORKING DAYS PRIOR TO COMMENCING WORK.
 7. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

SITE LEGEND

- SITE PROPERTY LINE
- STREET OR ROAD
- x-x-x- 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. LTE ANTENNA
- PROP. UMTS/GSM ANTENNA
- EX. GSM ANTENNA
- EX. UMTS ANTENNA

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BLOOMFIELD, CT 06002

ATLANTIS GROUP
1340 Centre Street, Suite 212
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

SUBMITTALS

DATE	DESCRIPTION	REVISION
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06/26/15	FINAL CD	0

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

PROJECT NO: CTNL223A
DRAWN BY: FG
CHECKED BY: SM

STATE OF CONNECTICUT
HOSSEIN VAHEDI
NO. ARI. 11162
LICENSED ARCHITECT
PROFESSIONAL SEAL

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SITE NUMBER
CTNL223A
SITE NAME
CITADEL GROTON GUYED
SITE ADDRESS
99 BRIAR HILL RD,
GROTON, CT

SHEET TITLE
KEY PLAN
AND
SITE PLAN

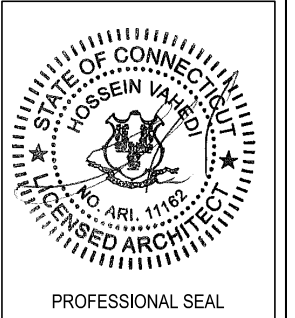
SHEET NUMBER
A-1

SUBMITTALS

DATE	DESCRIPTION	REVISION
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06/26/15	FINAL CD	0

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

PROJECT NO: CTNL223A
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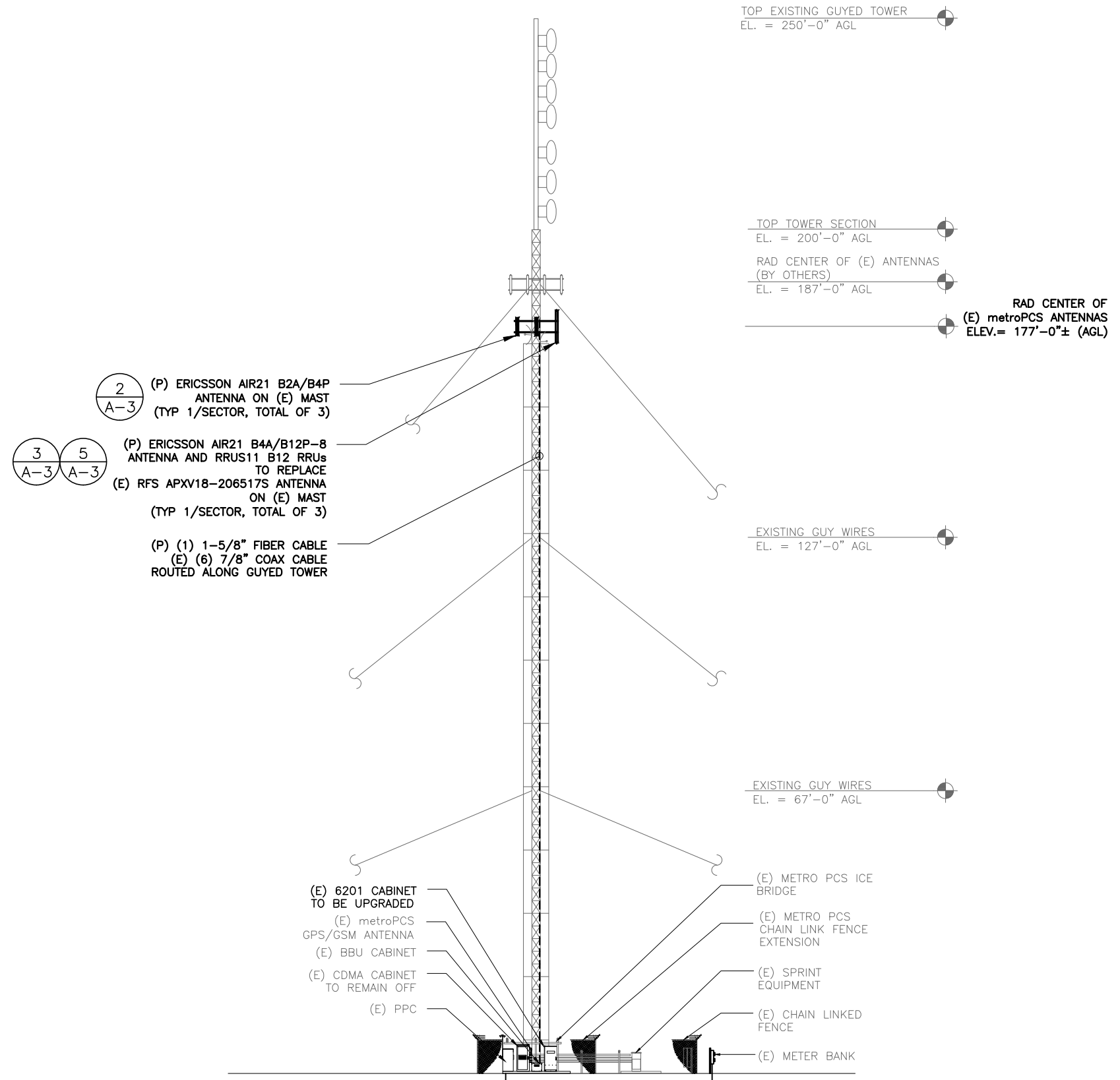


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CTNL223A
 SITE NAME
 CITADEL GROTON GUYED
 SITE ADDRESS
 99 BRIAR HILL RD,
 GROTON, CT

SHEET TITLE
 ELEVATION

SHEET NUMBER
A-2



REFER TO STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "STRUCTURAL ANALYSIS REPORT-GUYED TOWER" PREPARED BY ATLANTIS GROUP, INC., "metroPCS SITE ID "CTNL223C", DATED JUNE 24, 2015.

metroPCS.

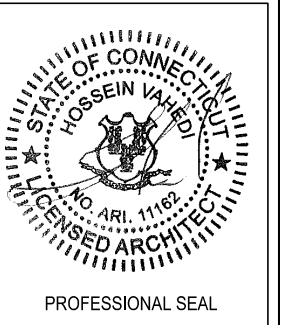
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BLOOMFIELD, CT 06002

ATLANTIS GROUP
1340 Centre Street, Suite 212
Newton Center, MA 02459
Office: 617-965-0789
Fax: 617-213-5056

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06/26/15	FINAL CD	0

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

PROJECT NO:	CTNL223A
DRAWN BY:	FG
CHECKED BY:	SM

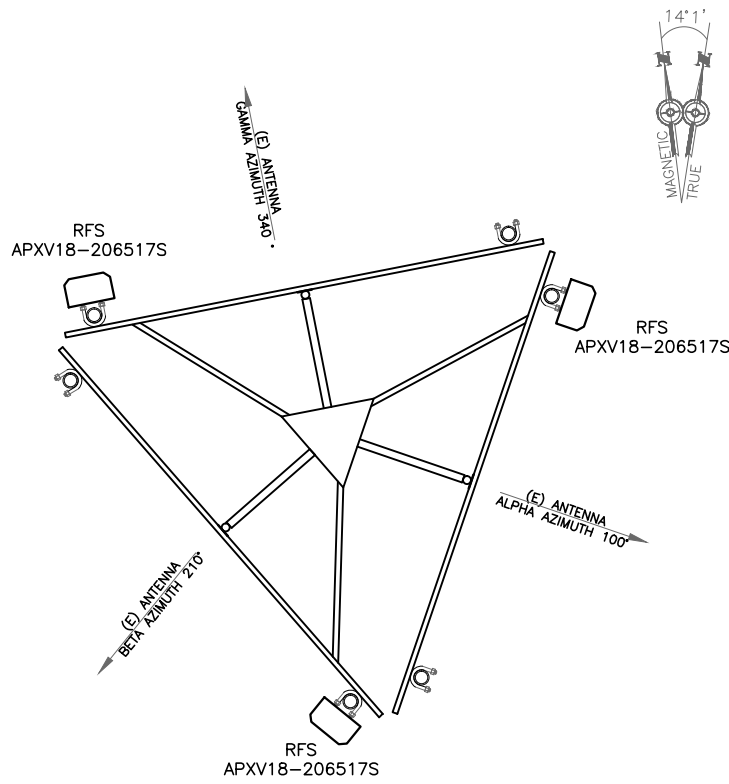


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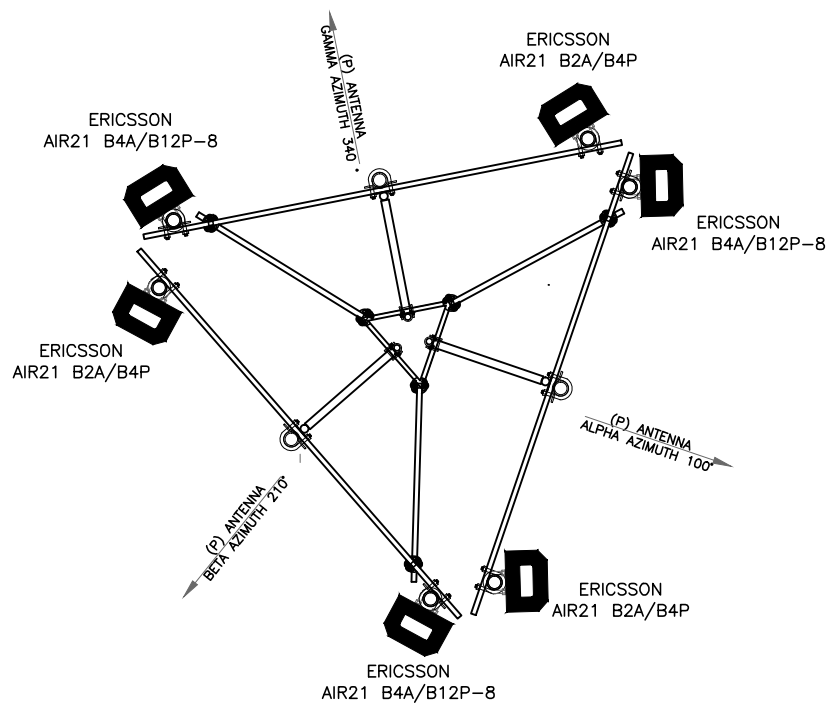
SITE NUMBER
CTNL223A
SITE NAME
CITADEL GROTON GUYED
SITE ADDRESS
99 BRIAR HILL RD,
GROTON, CT

SHEET TITLE
ANTENNA PLAN AND DETAILS

SHEET NUMBER
A-3



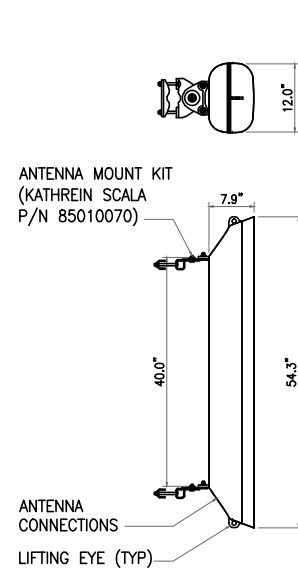
EXISTING ANTENNA CONFIGURATION



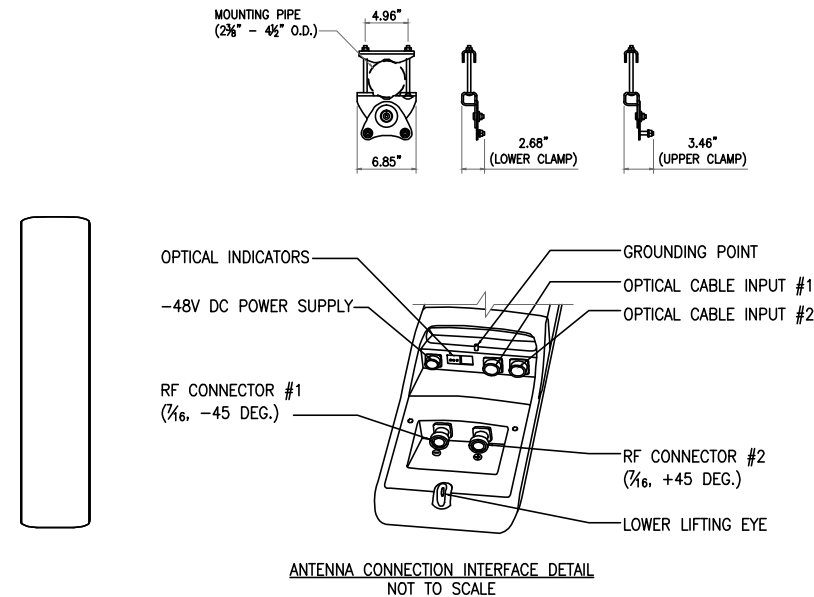
PROPOSED ANTENNA CONFIGURATION

ANTENNA PLAN
SCALE: 1" = 4'-0" (11x17)
1" = 2'-0" (24x36)

1
A-3



AIR21 "ANTENNA INTEGRATED RADIO"
(PCS & AWS VERSIONS)
WEIGHT: 80LBS (36KG)

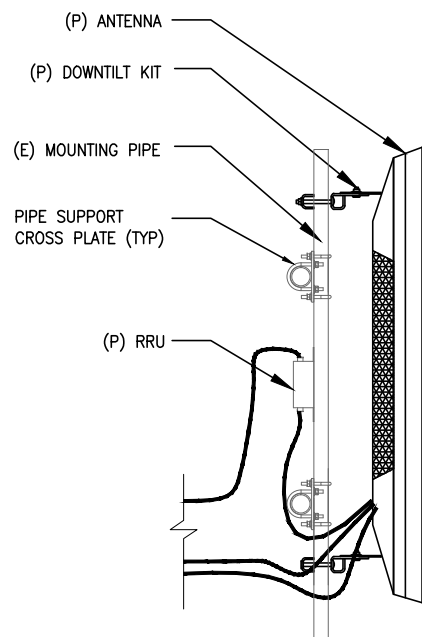


ANTENNA CONNECTION INTERFACE DETAIL
NOT TO SCALE

ERICSSON AIR21 B2A/B4P
ANTENNA DETAIL

SCALE: N.T.S.

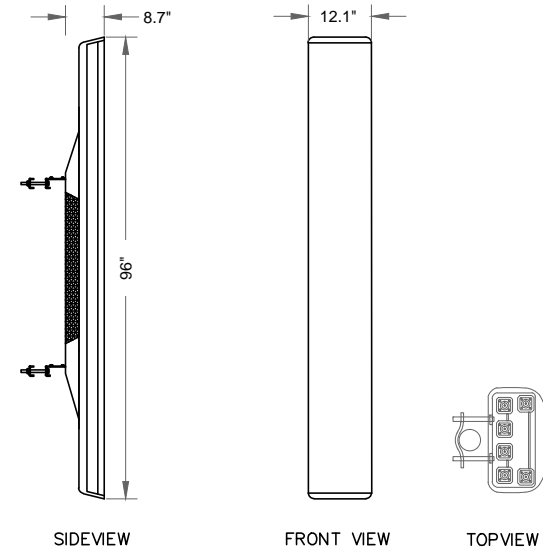
2
A-3



ANTENNA MOUNT DETAIL

SCALE: N.T.S.

4
A-3

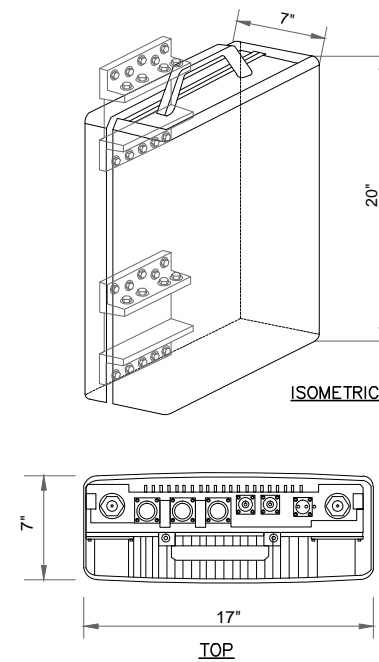


MANUFACTURER: ERICSSON
MODEL NO.: AIR21 B4A/B12P-8
DIMENSIONS - HxWxD, (IN) 96x12.1x8.7
WEIGHT - 126 LB

ERICSSON AIR21 B4A/B12P-8
ANTENNA DETAIL

SCALE: N.T.S.

3
A-4



RRUS 11 B12 DETAILS

SCALE: N.T.S.

5
A-3

SUBMITTALS

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

PROJECT NO: CTNL223A
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CHECKED BY: SM

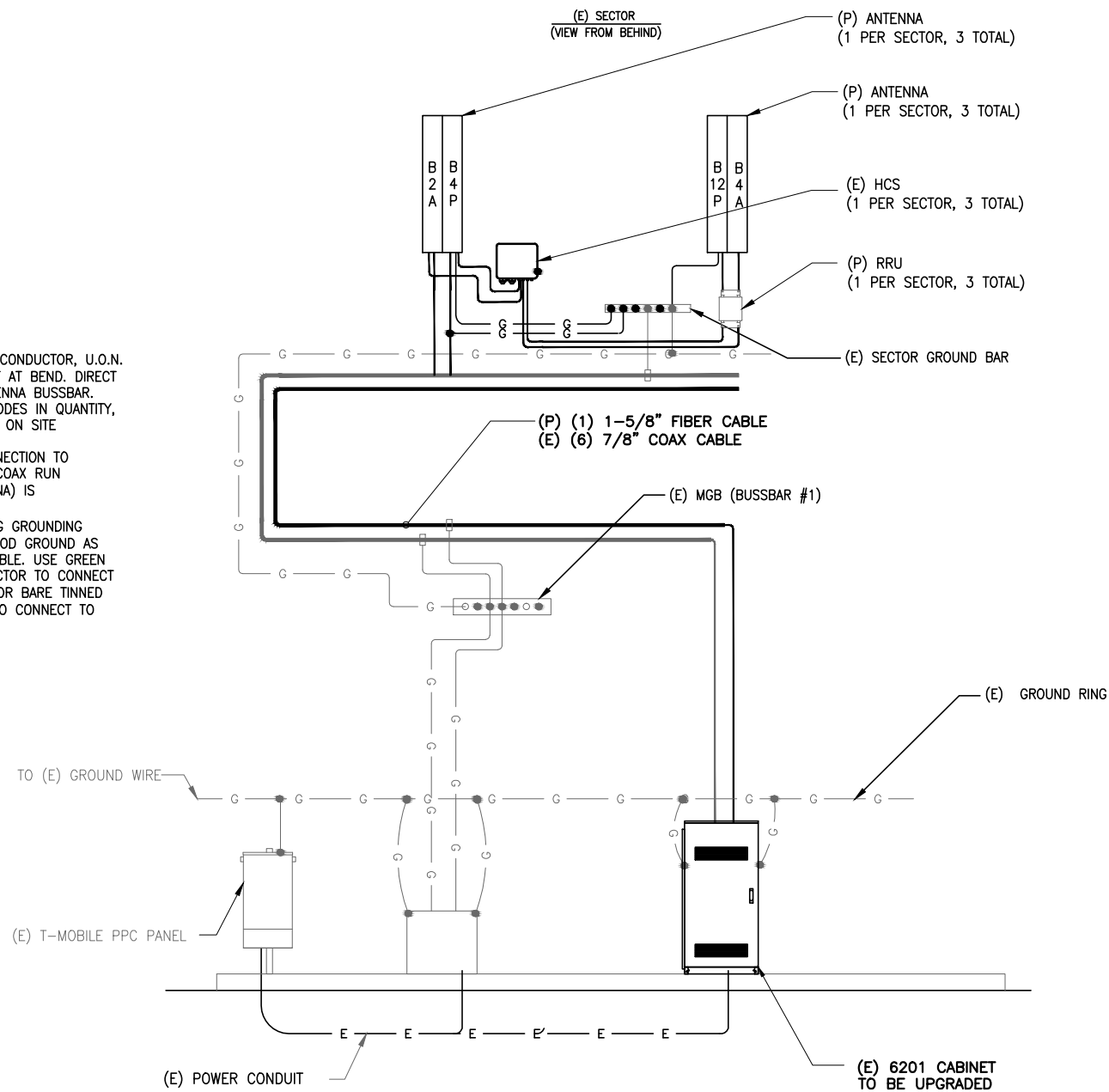


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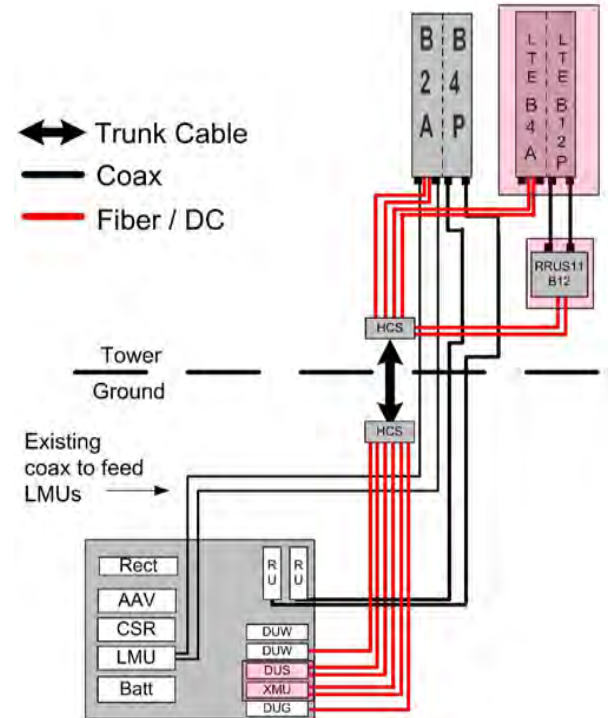
SHEET TITLE
GROUNDING AND ONE
LINE DIAGRAM

SHEET NUMBER
E-1



NOTES:

- PROVIDE #2AWG GROUNDING CONDUCTOR, U.O.N.
- DO NOT INSTALL GROUND KIT AT BEND. DIRECT GROUND WIRE DOWN TO ANTENNA BUSSBAR.
- PROVIDE GROUNDING ELECTRODES IN QUANTITY, TYPE AND SIZE AS INDICATED ON SITE GROUNDING PLAN.
- ADD COAX GROUND KIT CONNECTION TO BUSSBAR WHEN LENGTH OF COAX RUN (FROM EQUIPMENT TO ANTENNA) IS GREATER THAN 20'-0".
- GROUND HCS BOX W/ #2AWG GROUNDING CONDUCTOR ATTACHED TO GOOD GROUND AS DIRECT AND SHORT AS POSSIBLE. USE GREEN STRANDED INSULATED CONDUCTOR TO CONNECT TO BUSSBAR/GROUND HALO OR BARE TINNED SOLID COPPER CONDUCTOR TO CONNECT TO GROUND RING.



TRUNK FIBER NOTES:

- IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO 3/8" COAXIAL CABLE, AND SIMILAR INSTALLATION TECHNIQUES APPLY. ALL CABLES ARE INDIVIDUALLY SERIALIZED, BE SURE TO WRITE DOWN THE CABLE SERIAL NUMBER FOR FUTURE REFERENCE.
- THE TERMINATED FIBER ENDS (THE BROKEN OUT FIBERS PLUS CONNECTORS) HOWEVER ARE FRAGILE, AND THESE MUST BE PROTECTED DURING THE INSTALLATION PROCESS.
- LEAVE THE PROTECTIVE TUBE AND SOCK AROUND THE FIBER TAILS AND CONNECTORS IN PLACE DURING HOISTING AND SECURING THE CABLE. REMOVE THIS ONLY JUST PRIOR TO MAKING THE FINAL CONNECTIONS TO THE OVP BOX.
- DO NOT BEND THE FIBER ENDS (IN THE ORANGE FURCATION TUBES) TIGHTER THAN 3/4" (19MM) BEND RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.
- BE SURE THAT THE LACE UP ENDS AND FIBER CONNECTORS ARE NOT DAMAGED BY ATTACHMENT OF A HOISTING GRIP OR DURING THE HOISTING PROCESS. ATTACH A HOISTING GRIP ON THE JACKETED CABLE NO LESS THAN 6 INCHES BELOW THE FIBER BREAKOUT POINT. IF A HOISTING GRIP IS NOT EASILY ATTACHED, USE A SIMPLE LINE ATTACHED BELOW THE FIBER BREAK-OUT POINT (I.E. AT THE CABLE OUTER JACKET). PREVENT THE FIBER TAILS (IN PROTECTIVE TUBE) AT THE CABLE END FROM UNDUE MOVEMENT DURING HOISTING BY SECURING THE PROTECTIVE TUBE (WITH OUTER SOCK) TO THE HOISTING LINE.
- DURING HOISTING ENSURE THAT THERE IS A FREE PATH AND THAT THE CABLE, AND ESPECIALLY THE FIBER ENDS, WILL NOT BE SNAGGED ON TOWER MEMBERS OR OTHER OBSTACLES.
- INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO +70C).
- MINIMUM CABLE BEND RADII ARE 22.2" (565MM) LOADED (WITH TENSION ON THE CABLE) AND 11.1" (280MM) UNLOADED.
- MAXIMUM CABLE TENSILE LOAD IS 3560 N (800 LB) SHORT TERM (DURING INSTALLATION) AND 1070 N (240 LB) LONG TERM.
- COMMSCOPE NON LACE UP GRIP RECOMMENDED FOR MONOPOLE INSTALLATIONS.
- MAXIMUM HANGER SPACING 3FT (0.9 M).

HYBRID FIBER/POWER JUMPER NOTES:

- IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO A 3/8" COAXIAL CABLE.
- THE TERMINATED FIBER ENDS HOWEVER ARE FRAGILE AND MUST BE PROTECTED DURING INSTALLATION. LEAVE THE PACKAGING AROUND THE FIBER ENDS IN PLACE UNTIL READY TO CONNECT THE JUMPER BETWEEN OVP AND RRU OR BBU.
- DO NOT BEND THE FIBER BREAKOUT CABLE (BETWEEN THE MAIN CABLE AND THE FIBER CONNECTOR) TIGHTER THAN 3/4" (19MM) RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS.
- ATTACH THE MAIN CABLE SECURELY TO THE STRUCTURE OR EQUIPMENT USING HANGERS AND/OR CABLE TIES TO PREVENT STRAIN ON CONNECTIONS FROM MOVEMENT IN WIND OR SNOW/ICE CONDITIONS.
- ENSURE THE LC FIBER CONNECTORS ARE SEATED FIRMLY IN PANEL IN OVP OR IN EQUIPMENT.
- INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO 70C).
- MINIMUM CABLE BEND RADII ARE 10.3 INCH (265MM) LOADED (WITH TENSION ON THE CABLE) AND 5.2 INCH (130MM) UNLOADED.
- MAXIMUM CABLE TENSILE LOAD IS 350 LB (1560N) SHORT TERM (DURING INSTALLATION) AND 105 LB (470N) LONG TERM.
- STANDARD LENGTHS AVAILABLE ARE 6 FEET, 15 FEET AND 20 FEET

GROUNDING AND ONE LINE DIAGRAM

SCALE: N.T.S

1
E-1

702CC CONFIGURATION
COAX/FIBER PLUMBING DIAGRAM

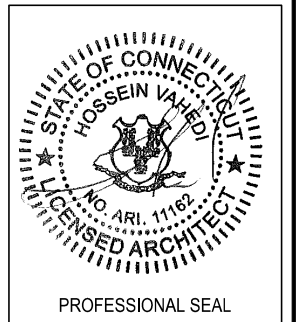
SCALE: N.T.S

2
E-1

SUBMITTALS		
DATE	DESCRIPTION	REVISION
08/26/15	ISSUED FOR REVIEW	A
08/26/15	FINAL CD	0

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

PROJECT NO:	CTNL223A
DRAWN BY:	FG
CHECKED BY:	SM

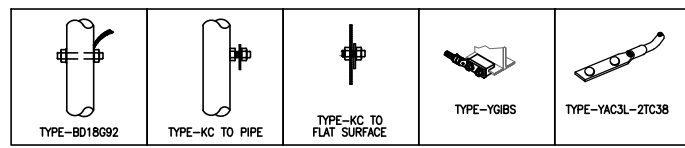


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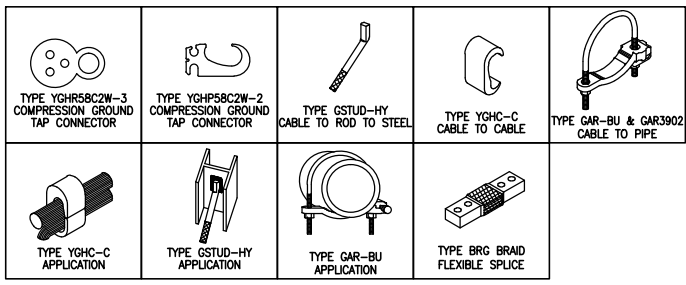
SITE NUMBER
CTNL223A
SITE NAME
CITADEL GROTON GUYED
SITE ADDRESS
99 BRIAR HILL RD,
GROTON, CT

SHEET TITLE
GROUNDING DETAILS

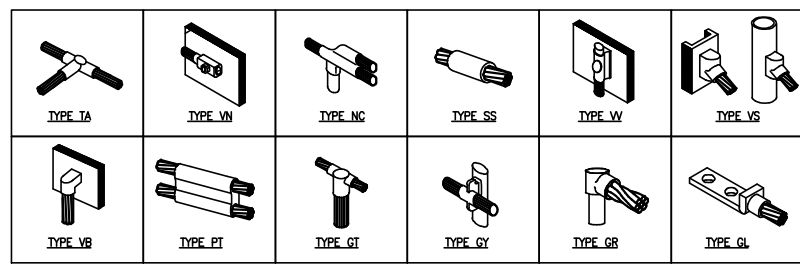
SHEET NUMBER
E-3



BURNDY GROUNDING DETAILS 1
SCALE: N.T.S. E-3



BURNDY GROUNDING PRODUCTS 2
SCALE: N.T.S. E-3

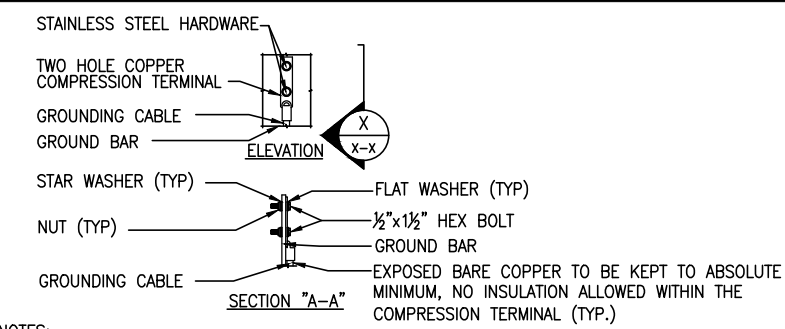


CADWELD GROUNDING CONNECTION PRODUCTS 3
SCALE: N.T.S. E-3

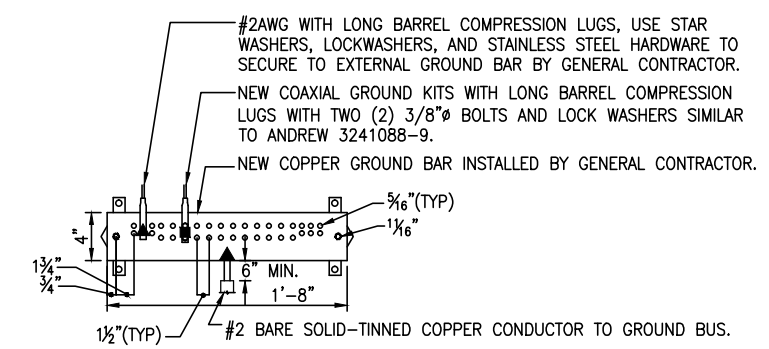
TERMINATION TYPES:
A. MECHANICAL COMPRESSION LUG
B. DOUBLE BARRELL COMPRESSION CONNECTOR
C. EXOTHERMIC TERMINATION
D. BEAM CLAMP

	SOLID #2 TINNED COPPER	#6 GROUND LEAD	#2/O STRANDED MAIN DOWN CONDUCTOR	MASTER GRND BAR	STRUCTURAL OR TOWER STEEL	BLDG SERVICE ENTR OR GRND RING	GROUND ROD
SOLID #2 TINNED COPPER	B OR C	B OR C		C	A, C, OR D		C
#6 GROUND LEAD	B OR C			A	A, C, OR D		
#2/O STRANDED GRNDG ELECTRODE CONDUCTOR				A	A, C, OR D		
MASTER GROUND BAR	C	A	A				
STRUCTURAL OR TOWER STEEL	A, C, OR D	A, C, OR D	A, C, OR D				
GROUND RING	C		C				C

GROUNDING TERMINATION MATRIX 7
SCALE: N.T.S. E-3

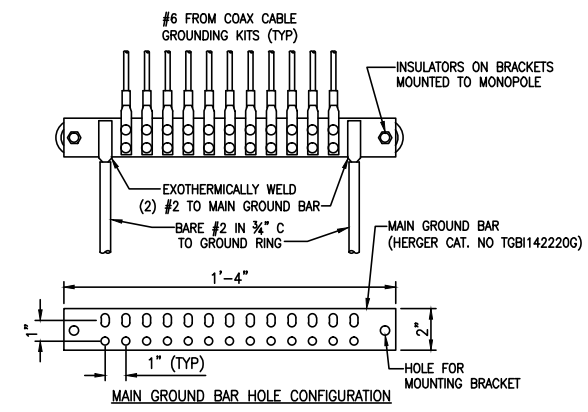


NOTES:
1. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

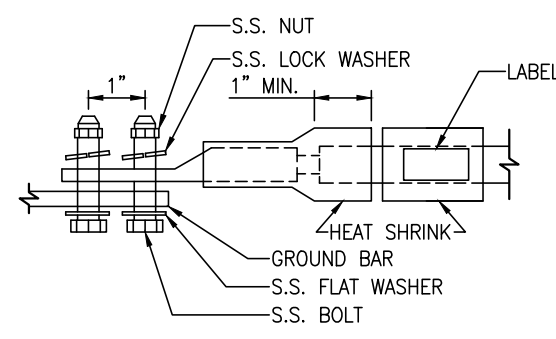


NOTES:
1. ALL HARDWARE STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
3. ALL HOLES ARE COUNTERSUNK 1/16".

TYPICAL GROUND BAR CONNECTIONS DETAIL 4
SCALE: N.T.S. E-3



GROUND BAR DETAIL 5
SCALE: N.T.S. E-3



LUG NOTES:
1. ALL HARDWARE IS 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS.
2. ALL HARDWARE SHALL BE S.S. 3/8" OR LARGER.
3. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH ANTI-OXIDIZATION COMPOUND PRIOR TO MATING.

GROUND BAR DETAIL 6
SCALE: N.T.S. E-3

Exhibit B

**STRUCTURAL ANALYSIS REPORT – REV.1
GUYED TOWER**



Prepared For:
metroPCS
metroPCS Wireless, Inc.
35 Griffin Road South
Bloomfield, CT 06002



**Site ID: CTNL223A
Site Name: Citadel Groton Guyed
99 Briar Hill Rd.
Groton, CT 06340**

July 10, 2015

Submitted By:
Atlantis Group, Inc.
1340 Centre Street, Suite 212
Newton, Massachusetts 02459
Phone: 617-965-0789, Fax: 617-213-5056

Prepared For:

metroPCS.
metroPCS Wireless, Inc.
35 Griffin Road South
Bloomfield, CT 06002

RESULT: PASS (99.2%)

Site ID: CTNL223A
Site Name: Citadel Groton Guyed
99 Briar Hill Rd
Groton, CT 06340

Prepared By:

Destek Engineering, LLC
Professional Engineering Corporation
License # PEC 001429



Ahmet Colakoglu, P.E.
Connecticut Professional Engineer
License No: 27057

CONTENTS

1.0 – SUBJECT AND REFERENCES

1.1 – STRUCTURE

2.0 – PROPOSED ADDITION

3.0 - CODES AND LOADING

4.0 - STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING
STRUCTURES

5.0 - ANALYSIS AND ASSUMPTIONS

6.0 – RESULTS AND CONCLUSION

APPENDICES

A –SOFTWARE OUTPUT

1.0 SUBJECT AND REFERENCES

The purpose of this analysis is to evaluate the structural capacity of the existing 250 feet tall guyed tower, located at 99 Briar Hill Rd., Groton, CT 06340 for additions and alterations proposed by metroPCS.

The structural analysis is based on the following documentation provided to Destek Engineering, LLC (Destek):

- Structural Analysis for CTNL223A prepared by Ramaker & Associates Inc., dated 08/13/2014.
- Structural Analysis for CTNL223A prepared by Atlantis Group, dated 02/06/2015.
- Lease Exhibit for CTNL223A prepared by Atlantis Group, dated 06/17/2015.

1.1 STRUCTURE

The structure is a 200'-0" tall guyed, structural steel lattice tower with a 50'-0" long, 12" diameter pipe extension, bringing the total height of the structure to approximately 250'-0", with a width of 3' for the height of the lattice portion. Solid round legs are "K"-braced throughout the height of the lattice portion. The lattice portion is guyed at three (3) elevations above grade; 66.75 feet, 126.75 feet and 186.75 feet, terminated approximately 160 feet away from the centerline of the structure. Please refer to the software output in Appendix A, for tower geometry, member sizes, and other details.

2.0 PROPOSED ADDITION

Proposed changes to the antennas are tabulated below:

Existing Configuration of metroPCS Appurtenances:

Rad Center (ft)	Antenna	TMA / RRU	Mount Type	Feedlines
177.0	(3) APX18-206517S	-	(3) Sector Mount	(6) 7/8"

Proposed and Final Configuration of metroPCS Appurtenances:

Rad Center (ft)	Antenna	TMA / RRU	Mount Type	Feedlines
177.0	(3) AIR21 B4A/B12P-8 (3) AIR21 B2A/B4P	(3) RRUS11 B12	(3) Sector Mount	(6) 7/8" + (1) 1-5/8" Fiber Cable

Existing Appurtenances by Others:

Rad Center (ft)	Antenna & TMA	Mount Type	Feedlines
250.0	(1) 4' Lightning Rod (1) Beacon	Pole Mounted	(1) 3/4" Conduit
237.5	(1) 6810	(1) Pole Mount	(1) 1-5/8"
215.0	(1) 6810-2	(1) Pole Mount	(1) 1-5/8"
199.0	(1) PR-950 Grid Dish	Leg Mounted	(1) 1-5/8"
187.0	(2) DB844G65ZAXY (1) DB980H90E-M (2) APXVSP18-C (1) KMW – ET-XU-42-15-37-18 (3) 1900 MHz RRH (3) 800 MHz RRH (3) APXV9TM14-ALU-120 (3) TD-RRH8x20	(1) Delta Mount	(6)1-5/8" + (3) 1-1/4" Hybrid + (1) 5/8" Hybrid
172.0	(1) PR-950 Grid Dish	Leg Mounted	(1) 7/8"
150.0	(1) 4' Grid Dish	Leg Mounted	(1) 1/2"
130.0	(1) 8' Omni	(1) Standoff Mount	(1) 7/8"
123.0	(3) Beacon Spurs	Leg Mounted	(1) 3/4" Conduit
170.0-10.0	(3) Tuning Wires	Leg Mounted	-

3.0 CODES AND LOADING

The tower was analyzed per *TIA/EIA-222-F* as referenced by *2005 Connecticut State Building Code with 2005 Addendum and 2013 Supplement*, International Code Council. The following wind loading was used in compliance with the standard for New London County:

- Basic wind speed 85 mph without ice (W)
- Basic wind speed 38 mph with 3/4" radial escalating ice (W_i)

The following load combinations were used with wind blowing at 0°, 60° and 90°, measured from a line normal to the face of the tower.

- $D + W_o$
- $D + W_i + I$

D: Dead Load

W_o : Wind Load, without ice

W_i : Wind Load with ice

I: Ice Gravity Load

4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

The analysis is based on the information provided to Destek and is assumed to be current and correct. Unless otherwise noted, the structure and the foundation system are assumed to be in good condition, free of defects and can achieve theoretical strength.

It is assumed that the structure has been maintained and shall be maintained during its service. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. Destek will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc. or lack of maintenance.

The analysis results presented in this report are only applicable for the previously mentioned existing and proposed additions and alterations. Any deviation of the proposed equipment and placement, etc., will require Destek to generate an additional structural analysis.

5.0 ANALYSIS AND ASSUMPTIONS

The tower was analyzed by utilizing tnxTower, a non-linear, three-dimensional, finite element-analysis software package, a product of Tower Numerics, Inc. Software output for this analysis is provided in Appendix A of this report.

6.0 **RESULTS AND CONCLUSION**

Based on an analysis per *TIA/EIA-222-F*, the existing tower is found to have **adequate** structural capacity for the proposed modifications by MetroPCS. For the aforementioned load combinations, tower diagonals between 180 and 200 feet are stressed to a maximum of **99.2%** of their allowable capacity. Tower legs, horizontals, guys, and the pole extension were found stressed to maximums of **63.5%**, **17.7%**, **82.5%**, and **66.4%** of their respective allowable capacities.

By comparing the reactions with the design reactions, the foundation is found to have adequate capacity for the proposed modifications by MetroPCS.

Reaction Comparison:

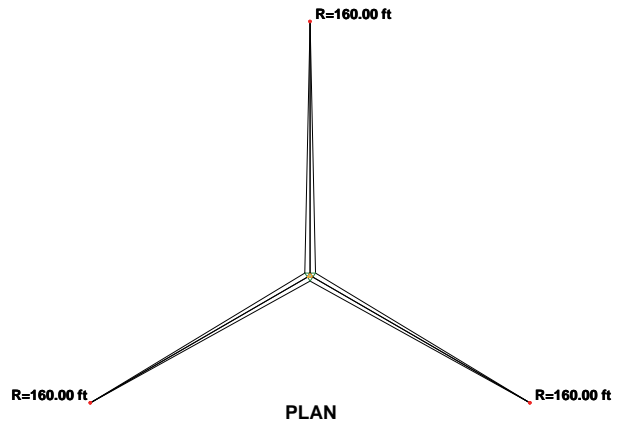
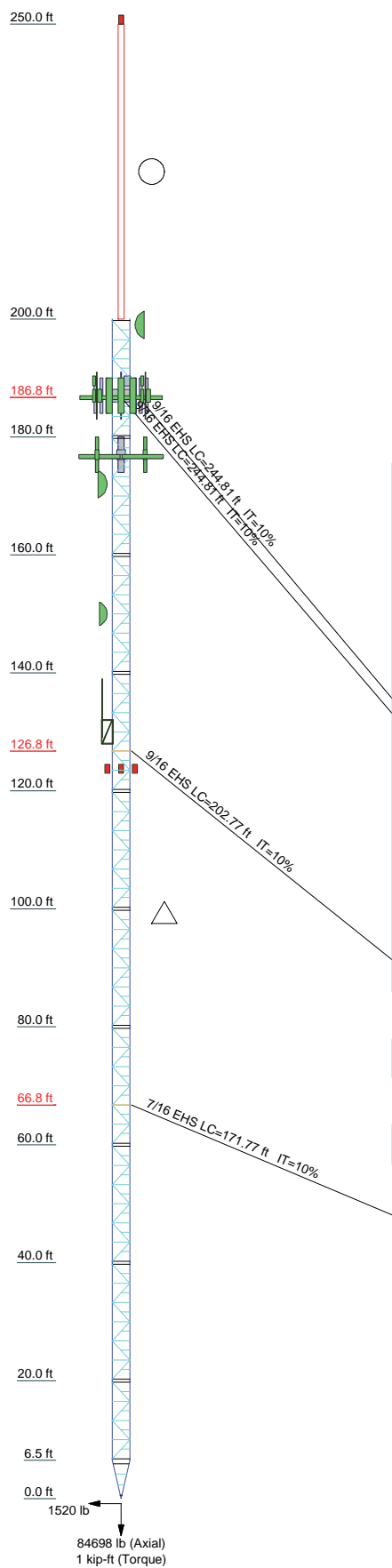
Maximums	Destek Analysis	Design Analysis	Comparison
Base Compression (kips)	84.7	101.0	83.9%
Anchor Shear (kips)	32.6	42.6	76.5%
Anchor Uplift (kips)	30.3	39.1	77.5%

Therefore, the proposed additions and alterations by MetroPCS can be implemented as intended with the conditions outlined in this report.

Should you have any questions about this report, please contact Atlantis Group, Inc. at (617) 965-0789.

APPENDIX A
SOFTWARE OUTPUT

Section	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1	L1
Legs	SR 2 1/4	SR 2 1/4	SR 2	SR 2	SR 2	SR 2	SR 2	SR 2	SR 2	SR 2	SR 2	P12x.5 A53-B-35
Leg Grade	N.A.	SR 1 1/4	SR 1 1/4	SR 1	SR 1	SR 1	SR 1	SR 1	SR 1	SR 1	SR 1	N.A.
Diagonals	N.A.	N.A.	N.A.	A36	A36	A36	A36	A36	A36	A36	A36	N.A.
Diagonal Grade	8x3/8	8x3/8	8x3/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	N.A.
Top Girts	8x3/8	8x3/8	8x3/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	N.A.
Bottom Girts	8x3/8	8x3/8	8x3/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	N.A.
Horizontals	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Sec. Horizontals	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Top Guy Pull-Offs	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
# Panels @ (ft)	A	A	A	A	A	A	A	A	A	A	A	1,0625
Weight (lb)	15054.7	479.6	917.6	1051.6	1051.6	1051.6	1051.6	1206.3	1051.6	1051.6	1487.7	3437.6



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 5/8x4'	252	TD-RRH8x20	187
Flash Beacon Lighting	250	TD-RRH8x20	187
6810	237.5	Pirod Delta Mount (3)	187
6810-2	215	Sabre 12' T-Boom (1)	177
PR-950	199	Sabre 12' T-Boom (1)	177
DB844G65ZAXY w/Mount Pipe	187	Ericsson Air 21 B4A B12P-B5P 8FT w/ Mount Pipe (Proposed)	177
DB844G65ZAXY w/Mount Pipe	187	Ericsson Air 21 B4A B12P-B5P 8FT w/ Mount Pipe (Proposed)	177
DB980H90E-M w/Mount Pipe	187	Ericsson Air 21 B4A B12P-B5P 8FT w/ Mount Pipe (Proposed)	177
APXVSPP18-C w/ Mount Pipe	187	Ericsson Air 21 B4A B12P-B5P 8FT w/ Mount Pipe (Proposed)	177
APXVSPP18-C w/ Mount Pipe	187	ERICSSON AIR 21 B2A B4P w/ Mount Pipe (Proposed)	177
KMW - ET-XU-42-15-37-18 w/ 2"MP 60"Long	187	ERICSSON AIR 21 B2A B4P w/ Mount Pipe (Proposed)	177
1900MHz 4X40W RRH	187	ERICSSON AIR 21 B2A B4P w/ Mount Pipe (Proposed)	177
1900MHz 4X40W RRH	187	ERICSSON AIR 21 B2A B4P w/ Mount Pipe (Proposed)	177
1900MHz 4X40W RRH	187	ERICSSON AIR 21 B2A B4P w/ Mount Pipe (Proposed)	177
800MHz 2X50W RRH	187	RRUS 11 B12 (Proposed)	177
800MHz 2X50W RRH	187	RRUS 11 B12 (Proposed)	177
800MHz 2X50W RRH	187	RRUS 11 B12 (Proposed)	177
8'x2" Antenna Mount Pipe	187	Sabre 12' T-Boom (1)	177
8'x2" Antenna Mount Pipe	187	PR-950	172
8'x2" Antenna Mount Pipe	187	4' Grid Dish	150
APXV9TM14-ALU-120 with mount pipe	187	2' standoff	130
APXV9TM14-ALU-120 with mount pipe	187	8' Omni	130
APXV9TM14-ALU-120 with mount pipe	187	Small Beacon	123
TD-RRH8x20	187	Small Beacon	123
		Small Beacon	123

SYMBOL LIST

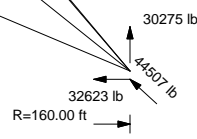
MARK	SIZE	MARK	SIZE
A	4 @ 1.77778		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 99.2%

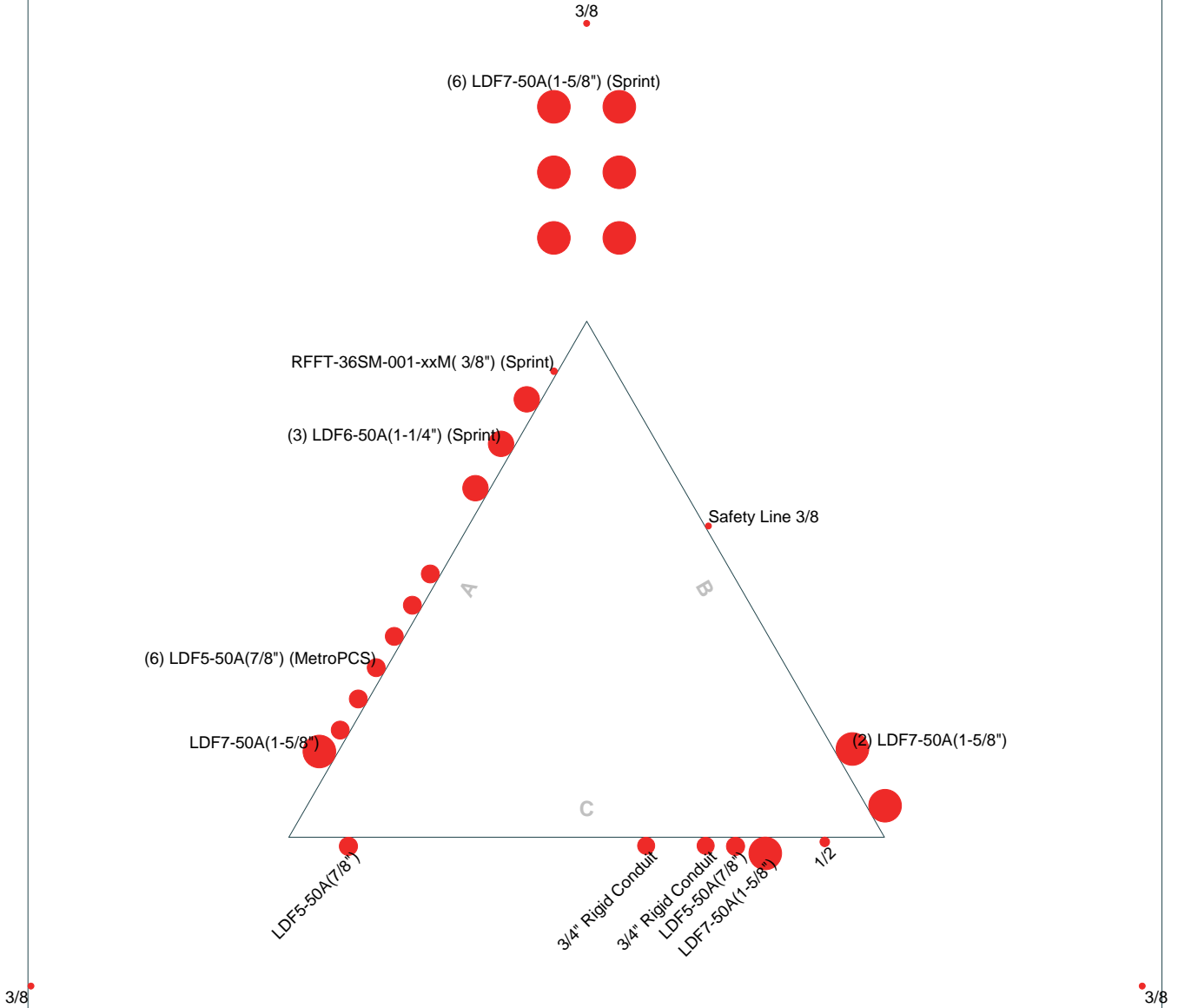


<p>Destek Engineering, LLC 5150 Stilesboro Road Kennesaw, GA 30152 Phone: (770) 693-0835 FAX:</p>	Job: 1517023		
	Project: CTNL223A		
	Client: Atlantis	Drawn by: Ahmet Colakoglu	App'd:
	Code: TIA/EIA-222-F	Date: 06/24/15	Scale: NTS
	Path: Y:\2015\17 - Atlantis\1517023 - CTNL223A\TnxTower\CTNL223A.eri	Dwg No. E-1	

Feed Line Plan 20'

— Round
 — Flat
 — App In Face
 — App Out Face

Section @ 20'



<p>Destek Engineering, LLC 5150 Stilesboro Road Kennesaw, GA 30152 Phone: (770) 693-0835 FAX:</p>	Job: 1517023		
	Project: CTNL223A		
	Client: Atlantis	Drawn by: Ahmet Colakoglu	App'd:
	Code: TIA/EIA-222-F	Date: 06/24/15	Scale: NTS
	Path: Y:\2015\17 - Atlantis\1517023 - CTNL223A\TnxTower\CTNL223A.dwg		Dwg No. E-7

tnxTower Destek Engineering, LLC 5150 Stilesboro Road Kennesaw, GA 30152 Phone: (770) 693-0835 FAX:	Job 1517023	Page 1 of 50
	Project CTNL223A	Date 14:24:46 06/24/15
	Client Atlantis	Designed by Ahmet Colakoglu

Tower Input Data

The main tower is a 3x guyed tower with an overall height of 250.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 3.00 ft at the top and tapered at the base.

An index plate is provided at the 3x guyed -tower connection.

There is a pole section.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Tower is located in New London County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 38 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 50 mph.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.0664.

Safety factor used in guy design is 2.

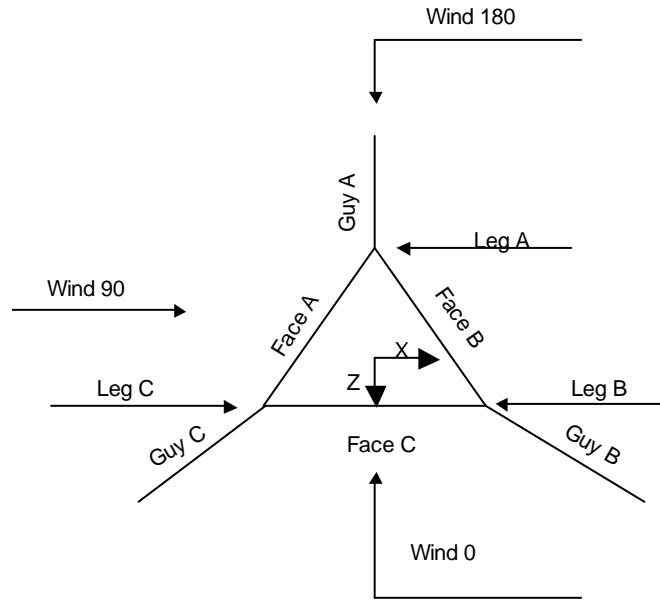
Stress ratio used in tower member design is 1.333.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

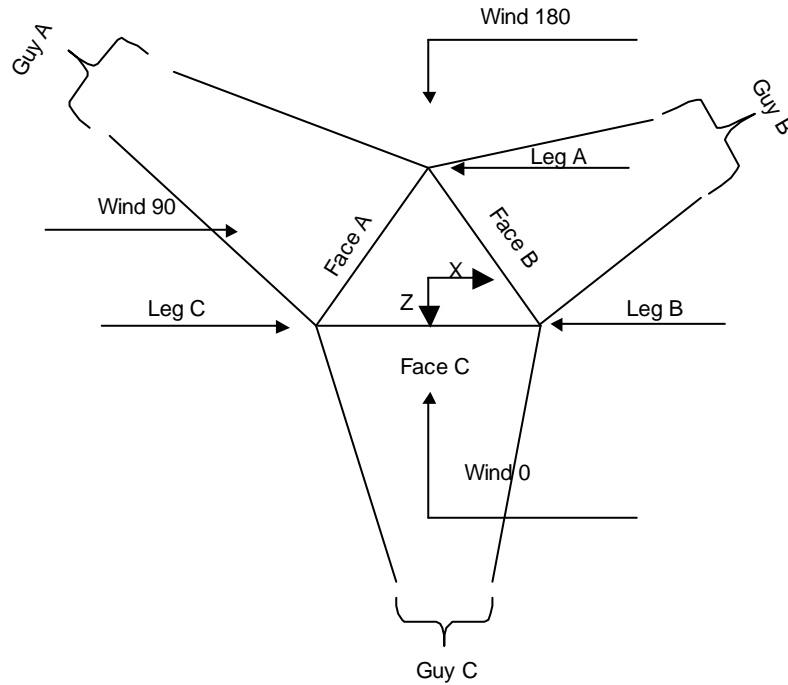
<ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys √ Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) Add IBC .6D+W Combination 	<ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r √ Retension Guys To Initial Tension Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. √ Autocalc Torque Arm Areas √ SR Members Have Cut Ends √ Sort Capacity Reports By Component √ Triangulate Diamond Inner Bracing Use TIA-222-G Tension Splice Capacity Exemption 	<ul style="list-style-type: none"> Treat Feedline Bundles As Cylinder Use ASCE 10 X-Brace Ly Rules √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA √ SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feedline Torque √ Include Angle Block Shear Check
Poles		
<ul style="list-style-type: none"> Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets 		

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Project	CTNL223A	Date	14:24:46 06/24/15
Client	Atlantis	Designed by	Ahmet Colakoglu



Corner & Starmount Guyed Tower

Job	1517023	Page	3 of 50
Project	CTNL223A	Date	14:24:46 06/24/15
Client	Atlantis	Designed by	Ahmet Colakoglu



Face Guyed

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	250.00-200.00	50.00	P12x.5	A53-B-35 (35 ksi)	

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 250.00-200.00				1	1	1.05		

tnxTower Destek Engineering, LLC 5150 Stilesboro Road Kennesaw, GA 30152 Phone: (770) 693-0835 FAX:	Job 1517023	Page 4 of 50
	Project CTNL223A	Date 14:24:46 06/24/15
	Client Atlantis	Designed by Ahmet Colakoglu

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	200.00-180.00			3.00	1	20.00
T2	180.00-160.00			3.00	1	20.00
T3	160.00-140.00			3.00	1	20.00
T4	140.00-120.00			3.00	1	20.00
T5	120.00-100.00			3.00	1	20.00
T6	100.00-80.00			3.00	1	20.00
T7	80.00-60.00			3.00	1	20.00
T8	60.00-40.00			3.00	1	20.00
T9	40.00-20.00			3.00	1	20.00
T10	20.00-6.50			3.00	1	13.50
T11	6.50-0.00			3.00	1	6.50

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	200.00-180.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T2	180.00-160.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T3	160.00-140.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T4	140.00-120.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T5	120.00-100.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T6	100.00-80.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T7	80.00-60.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T8	60.00-40.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T9	40.00-20.00	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T10	20.00-6.50	3.25	K Brace Left	No	Yes+Steps	3.0000	3.0000
T11	6.50-0.00	1.78	K Brace Left	No	Yes	7.0000	7.0000

Tower Section Geometry (cont'd)

Tower Elevation	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
ft						
T1 200.00-180.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T2 180.00-160.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T3 160.00-140.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T4 140.00-120.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T5 120.00-100.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T6 100.00-80.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T7 80.00-60.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)

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Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T8 60.00-40.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T9 40.00-20.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T10 20.00-6.50	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T11 6.50-0.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 200.00-180.00	Equal Angle	L3x3x3/8	A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T2 180.00-160.00	Solid Round	7/8	A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T3 160.00-140.00	Solid Round	7/8	A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T4 140.00-120.00	Solid Round	7/8	A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T5 120.00-100.00	Solid Round	7/8	A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T6 100.00-80.00	Solid Round	7/8	A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T7 80.00-60.00	Solid Round	7/8	A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T8 60.00-40.00	Solid Round	7/8	A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T9 40.00-20.00	Solid Round	7/8	A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T10 20.00-6.50	Solid Round	7/8	A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T11 6.50-0.00	Flat Bar	8x3/8	A36 (36 ksi)	Flat Bar	8x3/8	A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T1 200.00-180.00	None	Flat Bar		A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T2 180.00-160.00	None	Flat Bar		A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T3 160.00-140.00	None	Flat Bar		A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T4 140.00-120.00	None	Flat Bar		A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)

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Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T5 120.00-100.00	None	Flat Bar		A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T6 100.00-80.00	None	Flat Bar		A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T7 80.00-60.00	None	Flat Bar		A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T8 60.00-40.00	None	Flat Bar		A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T9 40.00-20.00	None	Flat Bar		A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T10 20.00-6.50	None	Flat Bar		A36 (36 ksi)	Solid Round	7/8	A36 (36 ksi)
T11 6.50-0.00	None	Flat Bar		A36 (36 ksi)	Flat Bar	8x3/8	A36 (36 ksi)

Tower Section Geometry (cont'd)

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T1 200.00-180.00	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T2 180.00-160.00	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T3 160.00-140.00	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T4 140.00-120.00	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T5 120.00-100.00	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T6 100.00-80.00	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T7 80.00-60.00	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T8 60.00-40.00	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T9 40.00-20.00	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T10 20.00-6.50	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T11 6.50-0.00	Solid Round	7/8	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)

Tower Section Geometry (cont'd)

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
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Tower Elevation	Gusset Area (per face)	Gusset Thickness	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
ft	ft ²	in						
T1 200.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000
T2 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000
T3 160.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000
T4 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000
T5 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000
T6 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000
T7 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000
T8 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000
T9 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000
T10 20.00-6.50	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000
T11 6.50-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000

Tower Section Geometry (cont'd)

Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	Legs	K Factors ¹						
				X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X Y	X Y	X Y	X Y	X Y	X Y	X Y
T1 200.00-180.00	Yes	Yes	1	1	1	1	1	1	1	1
T2 180.00-160.00	Yes	Yes	1	1	1	1	1	1	1	1
T3 160.00-140.00	Yes	Yes	1	1	1	1	1	1	1	1
T4 140.00-120.00	Yes	Yes	1	1	1	1	1	1	1	1
T5 120.00-100.00	Yes	Yes	1	1	1	1	1	1	1	1
T6 100.00-80.00	Yes	Yes	1	1	1	1	1	1	1	1
T7 80.00-60.00	Yes	Yes	1	1	1	1	1	1	1	1
T8 60.00-40.00	Yes	Yes	1	1	1	1	1	1	1	1
T9 40.00-20.00	Yes	Yes	1	1	1	1	1	1	1	1
T10 20.00-6.50	Yes	Yes	1	1	1	1	1	1	1	1
T11 6.50-0.00	Yes	Yes	1	1	1	1	1	1	1	1

¹Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

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Tower Section Geometry (cont'd)

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 200.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 20.00-6.50	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 6.50-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 200.00-180.00	Flange	0.7500	3	0.0000	0	0.6250	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0
T2 180.00-160.00	Flange	0.7500	3	0.0000	0	0.6250	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0
T3 160.00-140.00	Flange	0.7500	3	0.0000	0	0.6250	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0
T4 140.00-120.00	Flange	0.7500	3	0.0000	0	0.6250	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0
T5 120.00-100.00	Flange	0.7500	3	0.0000	0	0.6250	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0
T6 100.00-80.00	Flange	0.7500	3	0.0000	0	0.6250	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0
T7 80.00-60.00	Flange	0.7500	3	0.0000	0	0.6250	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0
T8 60.00-40.00	Flange	0.7500	3	0.0000	0	0.6250	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0
T9 40.00-20.00	Flange	0.7500	3	0.0000	0	0.6250	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0
T10 20.00-6.50	Flange	0.0000	0	0.0000	0	0.6250	0	0.0000	0	0.0000	0	0.0000	0	0.0000	0

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Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T11 6.50-0.00	Flange	0.0000 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.0000 A325N	0	0.0000 A325N	0	0.0000 A325N	0	0.0000 A325N	0

Guy Data

Guy Elevation ft	Guy Grade	Guy Size	Initial Tension lb	%	Guy Modulus ksi	Guy Weight plf	L _u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
186.75	EHS	A 9/16	3500.00	10%	21000	0.671	244.61	160.00	0.0000	0.00	100%
		B 9/16	3500.00	10%	21000	0.671	244.61	160.00	0.0000	0.00	100%
		C 9/16	3500.00	10%	21000	0.671	244.61	160.00	0.0000	0.00	100%
126.75	EHS	A 9/16	3500.00	10%	21000	0.671	202.60	160.00	0.0000	0.00	100%
		B 9/16	3500.00	10%	21000	0.671	202.60	160.00	0.0000	0.00	100%
		C 9/16	3500.00	10%	21000	0.671	202.60	160.00	0.0000	0.00	100%
66.75	EHS	A 7/16	2080.00	10%	21000	0.399	171.63	160.00	0.0000	0.00	100%
		B 7/16	2080.00	10%	21000	0.399	171.63	160.00	0.0000	0.00	100%
		C 7/16	2080.00	10%	21000	0.399	171.63	160.00	0.0000	0.00	100%

Guy Data(cont'd)

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
186.75	Torque Arm	6.00	0.0000	Channel	A36 (36 ksi)	Channel	C12x20.7
126.75	Corner						
66.75	Corner						

Guy Data (cont'd)

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
186.75	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Solid Round	1
126.75	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Flat Bar	3 1/2x1 3/8
66.75	A572-50 (50 ksi)	Solid Round			Yes	A36 (36 ksi)	Flat Bar	3 1/2x1 3/8

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Guy Data (cont'd)

Guy Elevation ft	Cable Weight A lb	Cable Weight B lb	Cable Weight C lb	Cable Weight D lb	Tower Intercept		Tower Intercept	
					A ft	B ft	C ft	D ft
186.75	164.13	164.13	164.13		5.64	5.64	5.64	
					4.1 sec/pulse	4.1 sec/pulse	4.1 sec/pulse	
126.75	135.94	135.94	135.94		3.89	3.89	3.89	
					3.4 sec/pulse	3.4 sec/pulse	3.4 sec/pulse	
66.75	68.48	68.48	68.48		2.81	2.81	2.81	
					2.9 sec/pulse	2.9 sec/pulse	2.9 sec/pulse	

Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm		Pull Off		Diagonal	
			K _x	K _y	K _x	K _y	K _x	K _y
186.75	Yes	Yes	1	1	1	1	1	1
126.75	No	No			1	1	1	1
66.75	No	No			1	1	1	1

Guy Data (cont'd)

Guy Elevation ft	Torque-Arm				Pull Off				Diagonal			
	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U
186.75	0.0000	0	0.0000	1	0.0000	0	0.0000	1	0.0000	0	0.0000	1
	A325N				A325N				A325N			
126.75	0.0000	0	0.0000	1	0.0000	0	0.0000	1	0.0000	0	0.0000	1
	A325N				A325N				A325N			
66.75	0.0000	0	0.0000	1	0.0000	0	0.0000	1	0.0000	0	0.0000	1
	A325N				A325N				A325N			

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q _z psf	q _z Ice psf	Ice Thickness in
186.75	A	93.38	25	5	0.8497
	B	93.38	25	5	0.8497
	C	93.38	25	5	0.8497
126.75	A	63.38	22	4	0.8111
	B	63.38	22	4	0.8111
	C	63.38	22	4	0.8111
66.75	A	33.38	19	4	0.7510
	B	33.38	19	4	0.7510
	C	33.38	19	4	0.7510

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Guy-Mast Forces (Excluding Wind) - No Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom lb	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		lb	lb	lb	kip-ft	kip-ft	kip-ft
186.75	A	49.7141	3625.20 3500.00	-43.65	2799.59	-2302.71	-4.85	6.98	-8.40
	A	49.7141	3625.20 3500.00	43.65	2799.59	-2302.71	-4.85	-6.98	8.40
	B	49.7141	3625.20 3500.00	2016.03	2799.59	1113.55	9.70	6.98	0.00
	B	49.7141	3625.20 3500.00	1972.38	2799.59	1189.15	-4.85	-6.98	-8.40
	C	49.7141	3625.20 3500.00	-1972.38	2799.59	1189.15	-4.85	6.98	8.40
	C	49.7141	3625.20 3500.00	-2016.03	2799.59	1113.55	9.70	-6.98	0.00
126.75			Sum:	0.00	16797.55	0.00	-0.00	0.00	0.00
	A	38.6897	3584.98 3500.00	0.00	2282.31	-2764.62	-3.95	0.00	0.00
	B	38.6897	3584.98 3500.00	2394.23	2282.31	1382.31	1.98	0.00	-3.42
	C	38.6897	3584.98 3500.00	-2394.23	2282.31	1382.31	1.98	0.00	3.42
66.75			Sum:	0.00	6846.92	-0.00	0.00	0.00	0.00
	A	22.8677	2106.61 2080.00	0.00	847.68	-1928.54	-1.47	0.00	0.00
	B	22.8677	2106.61 2080.00	1670.16	847.68	964.27	0.73	0.00	-1.27
	C	22.8677	2106.61 2080.00	-1670.16	847.68	964.27	0.73	0.00	1.27
			Sum:	0.00	2543.03	0.00	0.00	0.00	0.00

Guy-Mast Forces (Excluding Wind) - Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom lb	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		lb	lb	lb	kip-ft	kip-ft	kip-ft
186.75	A	49.7141	5607.27 5208.58	-66.21	4386.01	-3492.86	-7.60	10.59	-13.16
	A	49.7141	5607.27 5208.58	66.21	4386.01	-3492.86	-7.60	-10.59	13.16
	B	49.7141	5607.27 5208.58	3058.01	4386.01	1689.09	15.19	10.59	0.00
	B	49.7141	5607.27 5208.58	2991.80	4386.01	1803.77	-7.60	-10.59	-13.16
	C	49.7141	5607.27 5208.58	-2991.80	4386.01	1803.77	-7.60	10.59	13.16
	C	49.7141	5607.27 5208.58	-3058.01	4386.01	1689.09	15.19	-10.59	0.00
126.75			Sum:	0.00	26316.05	0.00	-0.00	0.00	0.00
	A	38.6897	5464.92	0.00	3541.05	-4162.49	-6.13	0.00	0.00

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Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom	F _x	F _y	F _z	M _x	M _y	M _z	
ft		°	lb	lb	lb	lb	kip-ft	kip-ft	kip-ft	
66.75	B	38.6897	5207.60	3604.82	3541.05	2081.24	3.07	0.00	-5.31	
			5464.92							
	C	38.6897	5207.60	-3604.82	3541.05	2081.24	3.07	-0.00	5.31	
			5464.92							
				Sum:	0.00	10623.16	-0.00	0.00	0.00	0.00
	A	22.8677	22.8677	3355.36	0.00	1412.15	-3043.73	-2.45	0.00	0.00
				3256.04						
	B	22.8677	22.8677	3355.36	2635.94	1412.15	1521.86	1.22	0.00	-2.12
				3256.04						
	C	22.8677	22.8677	3355.36	-2635.94	1412.15	1521.86	1.22	-0.00	2.12
				3256.04						
				Sum:	0.00	4236.46	0.00	0.00	0.00	0.00

Guy-Mast Forces (Excluding Wind) - Service

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom	F _x	F _y	F _z	M _x	M _y	M _z	
ft		°	lb	lb	lb	lb	kip-ft	kip-ft	kip-ft	
186.75	A	49.7141	3625.20	-43.65	2799.59	-2302.71	-4.85	6.98	-8.40	
			3500.00							
	A	49.7141	49.7141	3625.20	43.65	2799.59	-2302.71	-4.85	-6.98	8.40
				3500.00						
	B	49.7141	49.7141	3625.20	2016.03	2799.59	1113.55	9.70	6.98	0.00
				3500.00						
	B	49.7141	49.7141	3625.20	1972.38	2799.59	1189.15	-4.85	-6.98	-8.40
				3500.00						
	C	49.7141	49.7141	3625.20	-1972.38	2799.59	1189.15	-4.85	6.98	8.40
				3500.00						
	C	49.7141	49.7141	3625.20	-2016.03	2799.59	1113.55	9.70	-6.98	0.00
				3500.00						
			Sum:	0.00	16797.55	0.00	-0.00	0.00	0.00	
126.75	A	38.6897	3584.98	0.00	2282.31	-2764.62	-3.95	0.00	0.00	
			3500.00							
	B	38.6897	38.6897	3584.98	2394.23	2282.31	1382.31	1.98	0.00	-3.42
				3500.00						
C	38.6897	38.6897	3584.98	-2394.23	2282.31	1382.31	1.98	0.00	3.42	
			3500.00							
			Sum:	0.00	6846.92	-0.00	0.00	0.00	0.00	
66.75	A	22.8677	2106.61	0.00	847.68	-1928.54	-1.47	0.00	0.00	
			2080.00							
	B	22.8677	22.8677	2106.61	1670.16	847.68	964.27	0.73	0.00	-1.27
				2080.00						
C	22.8677	22.8677	2106.61	-1670.16	847.68	964.27	0.73	0.00	1.27	
			2080.00							
			Sum:	0.00	2543.03	0.00	0.00	0.00	0.00	

Guy-Tensioning Information

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Temperature At Time Of Tensioning																	
Guy Elevation	H	V	0 F		20 F		40 F		60 F		80 F		100 F		120 F		
			Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	
ft	ft	ft	lb	ft	lb	ft	lb	ft	lb	ft	lb	ft	lb	ft	lb	ft	
186.75	A	158.30	186.75	4125	4.80	3915	5.05	3706	5.33	3500	5.64	3297	5.98	3097	6.36	2901	6.78
	B	158.30	186.75	4125	4.80	3915	5.05	3706	5.33	3500	5.64	3297	5.98	3097	6.36	2901	6.78
	C	158.30	186.75	4125	4.80	3915	5.05	3706	5.33	3500	5.64	3297	5.98	3097	6.36	2901	6.78
126.75	A	158.27	126.75	4415	3.09	4106	3.32	3801	3.59	3500	3.89	3206	4.24	2919	4.66	2643	5.13
	B	158.27	126.75	4415	3.09	4106	3.32	3801	3.59	3500	3.89	3206	4.24	2919	4.66	2643	5.13
	C	158.27	126.75	4415	3.09	4106	3.32	3801	3.59	3500	3.89	3206	4.24	2919	4.66	2643	5.13
66.75	A	158.27	66.75	2842	2.06	2584	2.26	2330	2.51	2080	2.81	1837	3.18	1605	3.64	1388	4.20
	B	158.27	66.75	2842	2.06	2584	2.26	2330	2.51	2080	2.81	1837	3.18	1605	3.64	1388	4.20
	C	158.27	66.75	2842	2.06	2584	2.26	2330	2.51	2080	2.81	1837	3.18	1605	3.64	1388	4.20

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement	Face Offset	Lateral Offset	#	# Per Row	Clear Spacing	Width or Diameter	Perimeter	Weight
				ft	in	(Frac FW)			in	in	in	plf
Safety Line 3/8	B	Yes	Ar (CfAe)	200.00 - 6.50	0.0000	-0.1	1	1	0.3750	0.3750		0.22
3/4" Rigid Conduit	C	Yes	Ar (CfAe)	200.00 - 6.50	0.0000	-0.1	1	1	1.0500	1.0500		1.05
3/4" Rigid Conduit	C	Yes	Ar (CfAe)	123.00 - 6.50	0.0000	-0.2	1	1	1.0500	1.0500		1.05

LDF7-50A(1-5/8")	C	Yes	Ar (CfAe)	200.00 - 6.50	0.0000	-0.3	1	1	1.9800	1.9800		1.04
LDF7-50A(1-5/8")	B	Yes	Ar (CfAe)	200.00 - 6.50	0.0000	0.4	2	2	1.9800	1.9800		1.04
LDF7-50A(1-5/8") (Sprint)	A	No	Ar (Leg)	187.00 - 6.50	0.0000	-0.25	6	3	1.9800	1.9800		1.04
LDF6-50A(1-1/4") (Sprint)	A	Yes	Ar (CfAe)	187.00 - 6.50	0.0000	0.25	3	3	1.5500	1.5500		0.66
RFFT-36SM-01-xxM(3/8") (Sprint)	A	Yes	Ar (CfAe)	187.00 - 6.50	0.0000	0.4	1	1	0.4000	0.4000		0.30
LDF5-50A(7/8") (MetroPCS)	A	Yes	Ar (CfAe)	177.00 - 6.50	0.0000	-0.15	6	6	1.0900	1.0900		0.33
LDF5-50A(7/8")	C	Yes	Ar (CfAe)	172.00 - 6.50	0.0000	-0.25	1	1	1.1100	1.1100		0.54
LDF5-50A(7/8")	C	Yes	Ar (CfAe)	130.00 - 6.50	0.0000	0.4	1	1	1.1100	1.1100		0.54
1/2" ***	C	Yes	Ar (CfAe)	150.00 - 6.50	0.0000	-0.4	1	1	0.5800	0.5800		0.25
3/8	A	No	Ar (Leg)	170.00 - 6.50	0.0000	-0.5	1	1	0.3750	0.3750		0.26
3/8	B	No	Ar (Leg)	170.00 - 6.50	0.0000	-0.5	1	1	0.3750	0.3750		0.26
3/8	C	No	Ar (Leg)	170.00 - 6.50	0.0000	-0.5	1	1	0.3750	0.3750		0.26
PROPOSE D												
LDF7-50A(1-5/8")	A	Yes	Ar (CfAe)	177.00 - 6.50	0.0000	-0.35	1	1	1.9800	1.9800		0.82

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Feed Line/Linear Appurtenances Section Areas

<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face</i>	<i>A_R ft²</i>	<i>A_F ft²</i>	<i>C_{AA} In Face ft²</i>	<i>C_{AA} Out Face ft²</i>	<i>Weight lb</i>
L1	250.00-200.00	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	0.00
T1	200.00-180.00	A	6.411	0.000	0.000	0.000	59.64
		B	10.690	0.000	0.000	0.000	46.00
		C	5.050	0.000	0.000	0.000	41.80
T2	180.00-160.00	A	31.012	0.000	0.000	0.000	220.60
		B	17.750	0.000	0.000	0.000	48.60
		C	6.785	0.000	0.000	0.000	50.88
T3	160.00-140.00	A	33.767	0.000	0.000	0.000	231.60
		B	18.375	0.000	0.000	0.000	51.20
		C	8.633	0.000	0.000	0.000	60.30
T4	140.00-120.00	A	33.767	0.000	0.000	0.000	231.60
		B	18.375	0.000	0.000	0.000	51.20
		C	10.304	0.000	0.000	0.000	71.35
T5	120.00-100.00	A	33.767	0.000	0.000	0.000	231.60
		B	18.375	0.000	0.000	0.000	51.20
		C	12.717	0.000	0.000	0.000	94.60
T6	100.00-80.00	A	33.767	0.000	0.000	0.000	231.60
		B	18.375	0.000	0.000	0.000	51.20
		C	12.717	0.000	0.000	0.000	94.60
T7	80.00-60.00	A	33.767	0.000	0.000	0.000	231.60
		B	18.375	0.000	0.000	0.000	51.20
		C	12.717	0.000	0.000	0.000	94.60
T8	60.00-40.00	A	33.767	0.000	0.000	0.000	231.60
		B	18.375	0.000	0.000	0.000	51.20
		C	12.717	0.000	0.000	0.000	94.60
T9	40.00-20.00	A	33.767	0.000	0.000	0.000	231.60
		B	18.375	0.000	0.000	0.000	51.20
		C	12.717	0.000	0.000	0.000	94.60
T10	20.00-6.50	A	22.793	0.000	0.000	0.000	156.33
		B	12.403	0.000	0.000	0.000	34.56
		C	8.584	0.000	0.000	0.000	63.85
T11	6.50-0.00	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	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face or Leg</i>	<i>Ice Thickness in</i>	<i>A_R ft²</i>	<i>A_F ft²</i>	<i>C_{AA} In Face ft²</i>	<i>C_{AA} Out Face ft²</i>	<i>Weight lb</i>
L1	250.00-200.00	A	0.944	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	0.00
T1	200.00-180.00	A	0.925	10.000	3.617	0.000	0.000	274.78
		B		23.182	0.000	0.000	0.000	206.78
		C		11.219	0.000	0.000	0.000	152.15
T2	180.00-160.00	A	0.913	41.559	25.775	0.000	0.000	1112.07
		B		39.054	0.000	0.000	0.000	220.79
		C		17.742	0.000	0.000	0.000	200.67
T3	160.00-140.00	A	0.899	46.500	28.500	0.000	0.000	1169.46
		B		42.360	0.000	0.000	0.000	233.78
		C		25.123	0.000	0.000	0.000	254.85
T4	140.00-120.00	A	0.884	46.040	28.500	0.000	0.000	1151.58

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight lb
		B		41.952	0.000	0.000	0.000	229.35
		C		29.902	0.000	0.000	0.000	304.73
T5	120.00-100.00	A	0.867	45.514	28.500	0.000	0.000	1131.25
		B		41.484	0.000	0.000	0.000	224.33
		C		35.825	0.000	0.000	0.000	376.67
T6	100.00-80.00	A	0.846	44.895	28.500	0.000	0.000	1107.57
		B		40.934	0.000	0.000	0.000	218.50
		C		35.276	0.000	0.000	0.000	366.97
T7	80.00-60.00	A	0.821	44.141	28.500	0.000	0.000	1079.02
		B		40.264	0.000	0.000	0.000	211.52
		C		34.605	0.000	0.000	0.000	355.35
T8	60.00-40.00	A	0.788	43.167	28.500	0.000	0.000	1042.62
		B		39.398	0.000	0.000	0.000	202.67
		C		33.739	0.000	0.000	0.000	340.65
T9	40.00-20.00	A	0.750	52.183	18.167	0.000	0.000	966.96
		B		38.375	0.000	0.000	0.000	192.49
		C		32.717	0.000	0.000	0.000	323.77
T10	20.00-6.50	A	0.750	35.224	12.262	0.000	0.000	652.69
		B		25.903	0.000	0.000	0.000	129.93
		C		22.084	0.000	0.000	0.000	218.54
T11	6.50-0.00	A	0.750	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	0.00

Feed Line Shielding

Section	Elevation ft	Face	A _R ft ²	A _R Ice ft ²	A _F ft ²	A _F Ice ft ²
L1	250.00-200.00		0.000	0.000	0.000	0.000
			0.000	0.000	0.000	0.000
			0.000	0.000	0.000	0.000
T1	200.00-180.00	A	0.175	1.254	0.037	0.086
		B	0.428	2.990	0.090	0.206
		C	0.354	2.418	0.063	0.140
T2	180.00-160.00	A	1.278	8.166	0.000	0.000
		B	0.451	2.992	0.000	0.000
		C	0.452	3.050	0.000	0.000
T3	160.00-140.00	A	1.411	8.851	0.000	0.000
		B	0.451	2.938	0.000	0.000
		C	0.541	3.836	0.000	0.000
T4	140.00-120.00	A	1.411	9.074	0.330	0.710
		B	0.451	2.996	0.105	0.234
		C	0.664	4.996	0.132	0.332
T5	120.00-100.00	A	1.411	8.561	0.000	0.000
		B	0.451	2.810	0.000	0.000
		C	0.841	6.031	0.000	0.000
T6	100.00-80.00	A	1.411	8.382	0.000	0.000
		B	0.451	2.730	0.000	0.000
		C	0.841	5.852	0.000	0.000
T7	80.00-60.00	A	1.411	8.492	0.330	0.697
		B	0.451	2.741	0.105	0.225
		C	0.841	5.829	0.167	0.407
T8	60.00-40.00	A	1.411	7.887	0.000	0.000
		B	0.451	2.515	0.000	0.000
		C	0.841	5.368	0.000	0.000
T9	40.00-20.00	A	1.411	7.538	0.000	0.000

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Section	Elevation	Face	A_R	$A_{R, Ice}$	A_F	$A_{F, Ice}$
	ft		ft ²	ft ²	ft ²	ft ²
T10	20.00-6.50	B	0.451	2.377	0.000	0.000
		C	0.841	5.058	0.000	0.000
		A	1.107	5.466	0.000	0.000
		B	0.354	1.724	0.000	0.000
T11	6.50-0.00	C	0.645	3.622	0.000	0.000
		A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000

Feed Line Center of Pressure

Section	Elevation	CP_x	CP_z	CP_x, Ice	CP_z, Ice
	ft	in	in	in	in
L1	250.00-200.00	0.0000	0.0000	0.0000	0.0000
T1	200.00-180.00	2.4859	-0.9680	2.1785	-0.9694
T2	180.00-160.00	-0.3434	-3.4937	0.1484	-2.9716
T3	160.00-140.00	-0.4753	-3.1478	0.1169	-2.5291
T4	140.00-120.00	-0.4945	-2.8551	0.1055	-2.2503
T5	120.00-100.00	-0.5263	-2.5785	0.0602	-1.9458
T6	100.00-80.00	-0.5263	-2.5785	0.0441	-1.9507
T7	80.00-60.00	-0.5080	-2.5367	0.0333	-1.9517
T8	60.00-40.00	-0.5263	-2.5785	-0.0030	-1.9659
T9	40.00-20.00	-0.5263	-2.5785	-0.1706	-2.3257
T10	20.00-6.50	-0.5008	-2.4861	-0.1615	-2.2921
T11	6.50-0.00	0.0000	0.0000	0.0000	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	$C_{AA, Front}$	$C_{AA, Side}$	Weight	
			ft ft ft	°	ft	ft ²	ft ²	lb	
Lightning Rod 5/8x4'	C	None		0.0000	252.00	No Ice	0.25	0.25	31.00
						1/2" Ice	0.66	0.66	33.82
						1" Ice	0.97	0.97	39.29
						2" Ice	1.49	1.49	58.83
						4" Ice	2.68	2.68	136.56
Flash Beacon Lighting	B	None		0.0000	250.00	No Ice	2.70	2.70	50.00
						1/2" Ice	3.10	3.10	70.00
						1" Ice	3.50	3.50	90.00
						2" Ice	4.30	4.30	130.00
						4" Ice	5.90	5.90	210.00
*** 6810	B	From Face	3.00 0.00 0.00	0.0000	237.50	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	22.30 40.14 57.98 93.66 165.02	22.30 40.14 57.98 93.66 165.02	354.00 460.20 566.40 778.80 1203.60

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Vert					
			ft	ft	°	ft	ft ²	ft ²	lb
6810-2	B	From Face	3.00	0.00	0.0000	215.00	No Ice 10.80	10.80	247.00
			0.00	0.00			1/2" Ice 19.44	19.44	321.10
			0.00	0.00			1" Ice 28.08	28.08	395.20
							2" Ice 45.36	45.36	543.40
							4" Ice 79.92	79.92	839.80

Pirod Delta Mount (3)	C	From Face	3.00	0.00	0.0000	187.00	No Ice 32.94	32.94	740.00
			0.00	0.00			1/2" Ice 47.60	47.60	1000.00
			0.00	0.00			1" Ice 62.26	62.26	1260.00
							2" Ice 91.58	91.58	1780.00
							4" Ice 150.22	150.22	2820.00
DB844G65ZAXY w/Mount Pipe	A	From Face	3.00	0.00	0.0000	187.00	No Ice 5.38	5.40	41.55
			0.00	0.00			1/2" Ice 6.07	6.49	92.81
			0.00	0.00			1" Ice 6.65	7.30	150.42
							2" Ice 7.83	8.96	288.32
							4" Ice 10.34	12.49	688.90
DB844G65ZAXY w/Mount Pipe	B	From Face	3.00	0.00	0.0000	187.00	No Ice 5.38	5.40	41.55
			0.00	0.00			1/2" Ice 6.07	6.49	92.81
			0.00	0.00			1" Ice 6.65	7.30	150.42
							2" Ice 7.83	8.96	288.32
							4" Ice 10.34	12.49	688.90
DB980H90E-M w/Mount Pipe	C	From Face	3.00	0.00	0.0000	187.00	No Ice 4.27	3.86	34.05
			0.00	0.00			1/2" Ice 4.86	4.95	72.67
			0.00	0.00			1" Ice 5.37	5.75	117.82
							2" Ice 6.42	7.39	231.39
							4" Ice 8.86	10.87	585.55
APXVSPP18-C w/ Mount Pipe	A	From Face	3.00	-2.00	0.0000	187.00	No Ice 8.50	6.95	82.55
			0.00	0.00			1/2" Ice 9.15	8.13	150.56
							1" Ice 9.77	9.02	226.53
							2" Ice 11.03	10.84	405.98
							4" Ice 13.68	14.85	908.95
APXVSPP18-C w/ Mount Pipe	B	From Face	3.00	-2.00	0.0000	187.00	No Ice 8.50	6.95	82.55
			0.00	0.00			1/2" Ice 9.15	8.13	150.56
							1" Ice 9.77	9.02	226.53
							2" Ice 11.03	10.84	405.98
							4" Ice 13.68	14.85	908.95
KMW - ET-XU-42-15-37-18 w/ 2"MP 60"Long	C	From Face	3.00	-2.00	0.0000	187.00	No Ice 8.68	4.50	78.25
			0.00	0.00			1/2" Ice 9.18	5.17	137.30
							1" Ice 9.68	5.85	202.77
							2" Ice 10.72	7.27	355.85
							4" Ice 12.93	10.37	777.80
1900MHz 4X40W RRH	A	From Leg	3.00	1.00	0.0000	187.00	No Ice 2.71	2.61	59.50
			0.00	0.00			1/2" Ice 2.95	2.85	82.63
							1" Ice 3.20	3.09	109.00
							2" Ice 3.72	3.61	172.22
							4" Ice 4.86	4.74	346.02
1900MHz 4X40W RRH	B	From Leg	3.00	1.00	0.0000	187.00	No Ice 2.71	2.61	59.50
			0.00	0.00			1/2" Ice 2.95	2.85	82.63
							1" Ice 3.20	3.09	109.00
							2" Ice 3.72	3.61	172.22
							4" Ice 4.86	4.74	346.02
1900MHz 4X40W RRH	C	From Leg	3.00	1.00	0.0000	187.00	No Ice 2.71	2.61	59.50
			0.00	0.00			1/2" Ice 2.95	2.85	82.63
							1" Ice 3.20	3.09	109.00
							2" Ice 3.72	3.61	172.22
							4" Ice 4.86	4.74	346.02
800MHZ 2X50W RRH	A	From Leg	3.00	0.00	0.0000	187.00	No Ice 2.49	2.07	53.00

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
				1.00					74.19
				2.50					98.39
									156.61
									317.77
800MHZ 2X50W RRH	B	From Leg	3.00	0.0000	187.00	No Ice	2.49	2.07	53.00
			1.00			1/2" Ice	2.71	2.27	74.19
			2.50			1" Ice	2.93	2.48	98.39
						2" Ice	3.41	2.93	156.61
						4" Ice	4.46	3.93	317.77
800MHZ 2X50W RRH	C	From Leg	3.00	0.0000	187.00	No Ice	2.49	2.07	53.00
			1.00			1/2" Ice	2.71	2.27	74.19
			2.50			1" Ice	2.93	2.48	98.39
						2" Ice	3.41	2.93	156.61
						4" Ice	4.46	3.93	317.77
8'x2" Antenna Mount Pipe	A	From Leg	3.00	0.0000	187.00	No Ice	1.90	1.90	30.00
			0.00			1/2" Ice	2.73	2.73	44.34
			0.00			1" Ice	3.40	3.40	63.96
						2" Ice	4.40	4.40	119.66
						4" Ice	6.50	6.50	301.15
8'x2" Antenna Mount Pipe	B	From Leg	3.00	0.0000	187.00	No Ice	1.90	1.90	30.00
			0.00			1/2" Ice	2.73	2.73	44.34
			0.00			1" Ice	3.40	3.40	63.96
						2" Ice	4.40	4.40	119.66
						4" Ice	6.50	6.50	301.15
8'x2" Antenna Mount Pipe	C	From Leg	3.00	0.0000	187.00	No Ice	1.90	1.90	30.00
			0.00			1/2" Ice	2.73	2.73	44.34
			0.00			1" Ice	3.40	3.40	63.96
						2" Ice	4.40	4.40	119.66
						4" Ice	6.50	6.50	301.15

APXV9TM14-ALU-120 with mount pipe	A	From Face	3.00	0.0000	187.00	No Ice	8.20	6.75	128.00
			2.00			1/2" Ice	8.85	7.59	201.91
			0.00			1" Ice	9.50	8.43	275.82
						2" Ice	10.80	10.11	423.64
						4" Ice	13.40	13.47	719.28
APXV9TM14-ALU-120 with mount pipe	B	From Face	3.00	0.0000	187.00	No Ice	8.20	6.75	128.00
			2.00			1/2" Ice	8.85	7.59	201.91
			0.00			1" Ice	9.50	8.43	275.82
						2" Ice	10.80	10.11	423.64
						4" Ice	13.40	13.47	719.28
APXV9TM14-ALU-120 with mount pipe	C	From Face	3.00	0.0000	187.00	No Ice	8.20	6.75	128.00
			2.00			1/2" Ice	8.85	7.59	201.91
			0.00			1" Ice	9.50	8.43	275.82
						2" Ice	10.80	10.11	423.64
						4" Ice	13.40	13.47	719.28
TD-RRH8x20	A	From Leg	3.00	0.0000	187.00	No Ice	4.32	1.41	66.14
			-1.00			1/2" Ice	4.60	1.61	90.08
			0.00			1" Ice	4.89	1.83	117.36
						2" Ice	5.50	2.28	182.73
						4" Ice	6.82	3.30	362.17
TD-RRH8x20	B	From Leg	3.00	0.0000	187.00	No Ice	4.32	1.41	66.14
			-1.00			1/2" Ice	4.60	1.61	90.08
			0.00			1" Ice	4.89	1.83	117.36
						2" Ice	5.50	2.28	182.73
						4" Ice	6.82	3.30	362.17
TD-RRH8x20	C	From Leg	3.00	0.0000	187.00	No Ice	4.32	1.41	66.14
			-1.00			1/2" Ice	4.60	1.61	90.08

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	lb
			0.00			1" Ice	4.89	1.83	117.36
						2" Ice	5.50	2.28	182.73
						4" Ice	6.82	3.30	362.17

Sabre 12' T-Boom (1)	A	From Leg	2.50	0.0000	177.00	No Ice	22.00	11.00	471.00
			0.00			1/2" Ice	29.10	14.60	690.00
			0.00			1" Ice	36.20	18.20	909.00
						2" Ice	50.40	25.40	1347.00
						4" Ice	78.80	39.80	2223.00
Sabre 12' T-Boom (1)	B	From Leg	2.50	0.0000	177.00	No Ice	22.00	11.00	471.00
			0.00			1/2" Ice	29.10	14.60	690.00
			0.00			1" Ice	36.20	18.20	909.00
						2" Ice	50.40	25.40	1347.00
						4" Ice	78.80	39.80	2223.00
Sabre 12' T-Boom (1)	C	From Leg	2.50	0.0000	177.00	No Ice	22.00	11.00	471.00
			0.00			1/2" Ice	29.10	14.60	690.00
			0.00			1" Ice	36.20	18.20	909.00
						2" Ice	50.40	25.40	1347.00
						4" Ice	78.80	39.80	2223.00

2' standoff	C	From Leg	1.00	0.0000	130.00	No Ice	1.80	1.80	33.00
			0.00			1/2" Ice	3.30	3.30	59.00
			0.00			1" Ice	4.80	4.80	85.00
						2" Ice	7.80	7.80	137.00
						4" Ice	13.80	13.80	241.00
8' Omni	C	From Leg	2.00	0.0000	130.00	No Ice	2.40	2.40	30.00
			0.00			1/2" Ice	3.19	3.19	47.51
			4.00			1" Ice	3.98	3.98	65.02
						2" Ice	5.56	5.56	100.04
						4" Ice	8.72	8.72	170.08

Small Beacon	A	From Leg	1.00	0.0000	123.00	No Ice	0.31	0.31	7.00
			0.00			1/2" Ice	0.40	0.40	11.00
			0.00			1" Ice	0.49	0.49	15.00
						2" Ice	0.67	0.67	23.00
						4" Ice	1.03	1.03	39.00
Small Beacon	B	From Leg	1.00	0.0000	123.00	No Ice	0.31	0.31	7.00
			0.00			1/2" Ice	0.40	0.40	11.00
			0.00			1" Ice	0.49	0.49	15.00
						2" Ice	0.67	0.67	23.00
						4" Ice	1.03	1.03	39.00
Small Beacon	C	From Leg	1.00	0.0000	123.00	No Ice	0.31	0.31	7.00
			0.00			1/2" Ice	0.40	0.40	11.00
			0.00			1" Ice	0.49	0.49	15.00
						2" Ice	0.67	0.67	23.00
						4" Ice	1.03	1.03	39.00
PROPOSED									
Ericsson Air 21 B4A	A	From Leg	3.00	0.0000	177.00	No Ice	11.78	11.04	158.85
B12P-B5P 8FT w/ Mount			0.00			1/2" Ice	12.50	12.56	254.49
Pipe			0.00			1" Ice	13.23	14.12	360.19
(Proposed)						2" Ice	14.74	16.47	606.07
						4" Ice	18.00	21.36	1276.73
Ericsson Air 21 B4A	B	From Leg	3.00	0.0000	177.00	No Ice	11.78	11.04	158.85
B12P-B5P 8FT w/ Mount			0.00			1/2" Ice	12.50	12.56	254.49
Pipe			0.00			1" Ice	13.23	14.12	360.19
(Proposed)						2" Ice	14.74	16.47	606.07
						4" Ice	18.00	21.36	1276.73

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz Lateral	Vert					
Ericsson Air 21 B4A B12P-B5P 8FT w/ Mount Pipe (Proposed)	C	From Leg	3.00	0.0000	177.00	No Ice	11.78	11.04	158.85
			0.00	0.0000		1/2" Ice	12.50	12.56	254.49
			0.00	0.0000		1" Ice	13.23	14.12	360.19
						2" Ice	14.74	16.47	606.07
						4" Ice	18.00	21.36	1276.73
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (Proposed)	A	From Leg	3.00	0.0000	177.00	No Ice	6.83	5.64	112.18
			0.00	0.0000		1/2" Ice	7.35	6.48	169.02
			0.00	0.0000		1" Ice	7.86	7.26	232.59
						2" Ice	8.93	8.86	383.07
						4" Ice	11.18	12.29	806.82
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (Proposed)	B	From Leg	3.00	0.0000	177.00	No Ice	6.83	5.64	112.18
			0.00	0.0000		1/2" Ice	7.35	6.48	169.02
			0.00	0.0000		1" Ice	7.86	7.26	232.59
						2" Ice	8.93	8.86	383.07
						4" Ice	11.18	12.29	806.82
ERICSSON AIR 21 B2A B4P w/ Mount Pipe (Proposed)	C	From Leg	3.00	0.0000	177.00	No Ice	6.83	5.64	112.18
			0.00	0.0000		1/2" Ice	7.35	6.48	169.02
			0.00	0.0000		1" Ice	7.86	7.26	232.59
						2" Ice	8.93	8.86	383.07
						4" Ice	11.18	12.29	806.82
RRUS 11 B12 (Proposed)	A	From Leg	3.00	0.0000	177.00	No Ice	3.31	1.36	50.70
			0.00	0.0000		1/2" Ice	3.55	1.54	71.57
			0.00	0.0000		1" Ice	3.80	1.73	95.49
						2" Ice	4.33	2.13	153.24
						4" Ice	5.50	3.04	313.85
RRUS 11 B12 (Proposed)	B	From Leg	3.00	0.0000	177.00	No Ice	3.31	1.36	50.70
			0.00	0.0000		1/2" Ice	3.55	1.54	71.57
			0.00	0.0000		1" Ice	3.80	1.73	95.49
						2" Ice	4.33	2.13	153.24
						4" Ice	5.50	3.04	313.85
RRUS 11 B12 (Proposed)	C	From Leg	3.00	0.0000	177.00	No Ice	3.31	1.36	50.70
			0.00	0.0000		1/2" Ice	3.55	1.54	71.57
			0.00	0.0000		1" Ice	3.80	1.73	95.49
						2" Ice	4.33	2.13	153.24
						4" Ice	5.50	3.04	313.85

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:		Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight
				Horz Lateral	Vert						
PR-950	B	Grid	From Leg	1.00	0.0000	199.00	4.65	No Ice	17.00	38.00	
				0.00	0.0000				1/2" Ice	17.61	91.75
				0.00	0.0000				1" Ice	18.22	145.50
									2" Ice	19.44	253.00
									4" Ice	21.88	468.00
PR-950	C	Grid	From Leg	1.00	0.0000	172.00	4.65	No Ice	17.00	38.00	
				0.00	0.0000				1/2" Ice	17.61	91.75
				0.00	0.0000				1" Ice	18.22	145.50

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Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight lb	
4' Grid Dish	C	Grid	From Leg	1.00 0.00 0.00	0.0000		150.00	4.00	2" Ice	19.44	253.00
									4" Ice	21.88	468.00
									No Ice	12.57	100.00
									1/2" Ice	13.10	167.00
									1" Ice	13.62	234.00
									2" Ice	14.68	368.00
								4" Ice	25.36	636.00	

Load Combinations

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

Maximum Member Forces

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	250 - 200	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-5296.70	-3.00	1.69
			Max. Mx	5	-4075.70	-74.30	0.68
			Max. My	2	-4071.73	-2.68	73.66
			Max. Vy	5	2486.00	-74.30	0.68
			Max. Vx	2	-2492.39	-2.68	73.66
			Max. Torque	7			4.25
T1	200 - 180	Leg	Max Tension	8	41191.62	-0.14	-0.31
			Max. Compression	2	-44923.91	-0.08	0.07
			Max. Mx	22	-10104.09	-2.58	1.42
			Max. My	17	-7966.87	0.07	-2.90
			Max. Vy	22	-11462.71	0.28	-0.17
			Max. Vx	17	-13009.85	-0.00	0.35
			Max. Torque	7			4.25
		Diagonal	Max Tension	3	7670.01	0.00	0.00
			Max. Compression	9	-7873.23	0.00	0.00
			Max. Mx	20	2379.98	0.01	0.00
			Max. My	2	2520.45	0.00	-0.00
			Max. Vy	20	-7.51	0.00	0.00
			Max. Vx	2	0.09	0.00	0.00
			Max. Torque	7			4.25
		Horizontal	Max Tension	2	778.10	0.00	0.00
			Max. Compression	2	-778.10	0.00	0.00
			Max. Mx	14	194.48	0.00	0.00
			Max. My	2	778.10	0.00	-0.00
			Max. Vy	14	6.28	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
			Max. Torque	7			4.25
		Secondary Horizontal	Max Tension	5	0.03	-0.00	-0.00
			Max. Compression	11	-0.03	-0.00	-0.00
			Max. Mx	2	0.00	0.00	0.00
			Max. My	2	0.00	0.00	0.00
			Max. Vy	18	3.93	-0.00	-0.00
			Max. Vx	2	-0.02	0.00	0.00
			Max. Torque	7			4.25
		Top Girt	Max Tension	26	7825.74	0.00	0.00
			Max. Compression	7	-974.24	0.00	0.00
			Max. Mx	23	7504.56	-0.01	0.00
			Max. My	2	12.08	0.00	0.00
			Max. Vy	23	-19.75	0.00	0.00
Max. Vx	2		-0.00	0.00	0.00		
Max. Torque	7				4.25		
Bottom Girt	Max Tension	8	2274.93	0.00	0.00		
	Max. Compression	2	-2134.88	0.00	0.00		
	Max. Mx	14	34.92	0.00	0.00		
	Max. My	2	559.61	0.00	0.00		
	Max. Vy	14	6.28	0.00	0.00		
	Max. Vx	2	-0.00	0.00	0.00		
	Max. Torque	7			4.25		
Guy A	Bottom Tension	9	14320.49				
	Top Tension	9	14444.10				
	Top Cable Vert	9	11091.08				
	Top Cable Norm	9	9253.06				
	Top Cable Tan	9	27.45				
	Bot Cable Vert	9	-10792.76				
	Bot Cable Norm	9	9411.38				
Guy B	Bottom Tension	9	136.58				
	Top Tension	11	14074.46				
	Top Cable Vert	11	14198.07				
	Top Cable Norm	11	10904.60				
	Top Cable Tan	11	9092.55				
	Bot Cable Vert	11	26.57				
	Bot Cable Norm	11	-10606.28				
Guy C	Bottom Tension	11	9250.86				
	Bot Cable Tan	11	137.46				
	Bottom Tension	3	14309.74				

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Top Tension	3	14433.35		
			Top Cable Vert	3	11082.93		
			Top Cable Norm	3	9246.05		
			Top Cable Tan	3	27.36		
			Bot Cable Vert	3	-10784.62		
			Bot Cable Norm	3	9404.37		
			Bot Cable Tan	3	136.66		
		Top Guy Pull-Off	Max Tension	5	8252.57	0.00	0.00
			Max. Compression	11	-8168.06	0.00	0.00
			Max. Mx	14	37.23	0.01	0.00
			Max. My	2	5353.85	0.00	-0.00
			Max. Vy	14	-7.47	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
		Torque Arm Top	Max Tension	7	10062.54	0.00	0.00
			Max. Compression	7	-4706.46	0.00	0.00
			Max. Mx	7	296.31	-33.39	0.00
			Max. My	2	-3698.68	-27.02	0.00
			Max. Vy	7	11161.54	-33.39	0.00
			Max. Vx	2	0.00	-27.02	0.00
T2	180 - 160	Leg	Max Tension	8	5411.14	0.04	-0.11
			Max. Compression	6	-34050.42	0.22	0.35
			Max. Mx	4	-18769.31	0.50	-0.31
			Max. My	8	5406.93	-0.14	0.46
			Max. Vy	5	-2168.24	-0.15	-0.04
			Max. Vx	8	-2285.42	0.04	-0.11
		Diagonal	Max Tension	9	6786.66	0.00	0.00
			Max. Compression	3	-7059.15	0.00	0.00
			Max. Mx	21	-1389.18	0.01	0.00
			Max. My	2	946.54	0.00	-0.00
			Max. Vy	21	-7.43	0.00	0.00
			Max. Vx	2	0.07	0.00	0.00
		Horizontal	Max Tension	4	1868.15	0.00	0.00
			Max. Compression	10	-1674.38	0.00	0.00
			Max. Mx	14	242.02	0.00	0.00
			Max. My	2	550.61	0.00	0.00
			Max. Vy	14	-6.21	0.00	0.00
			Max. Vx	2	-0.00	0.00	0.00
		Secondary Horizontal	Max Tension	6	0.02	-0.00	-0.00
			Max. Compression	10	-0.02	-0.00	-0.00
			Max. Mx	2	0.00	0.00	0.00
			Max. My	2	0.00	0.00	0.00
			Max. Vy	18	3.89	-0.00	-0.00
			Max. Vx	2	-0.01	0.00	0.00
		Top Girt	Max Tension	2	1910.79	0.00	0.00
			Max. Compression	8	-1894.38	0.00	0.00
			Max. Mx	14	38.39	0.00	0.00
			Max. My	2	1910.79	0.00	-0.00
			Max. Vy	14	-6.21	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
		Bottom Girt	Max Tension	10	473.29	0.00	0.00
			Max. Compression	3	-372.80	0.00	0.00
			Max. Mx	14	36.44	0.00	0.00
			Max. My	7	201.06	0.00	0.00
			Max. Vy	14	-6.21	0.00	0.00
			Max. Vx	7	-0.00	0.00	0.00
T3	160 - 140	Leg	Max Tension	8	1240.13	0.06	0.18
			Max. Compression	6	-38028.76	-0.07	0.09
			Max. Mx	10	-33793.85	-0.33	-0.08
			Max. My	8	-20022.44	-0.04	0.30
			Max. Vy	11	-1190.40	-0.02	-0.10

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T4	140 - 120	Diagonal	Max. Vx	2	-1123.52	-0.02	0.10	
			Max Tension	5	2971.27	0.00	0.00	
			Max. Compression	10	-3307.04	0.00	0.00	
			Max. Mx	21	159.14	0.01	0.00	
			Max. My	2	597.71	0.00	-0.00	
			Max. Vy	21	-7.36	0.00	0.00	
		Horizontal	Max. Vx	2	0.06	0.00	0.00	
			Max Tension	6	658.68	0.00	0.00	
			Max. Compression	6	-658.68	0.00	0.00	
			Max. Mx	14	278.70	0.00	0.00	
			Max. My	13	569.76	0.00	0.00	
			Max. Vy	14	6.15	0.00	0.00	
		Secondary Horizontal	Max. Vx	13	-0.00	0.00	0.00	
			Max Tension	6	0.02	-0.00	-0.00	
			Max. Compression	10	-0.02	-0.00	-0.00	
			Max. Mx	18	0.01	-0.00	-0.00	
			Max. My	2	0.00	0.00	0.00	
			Max. Vy	18	3.85	-0.00	-0.00	
		Top Girt	Max. Vx	2	-0.01	0.00	0.00	
			Max Tension	3	472.31	0.00	0.00	
			Max. Compression	10	-473.50	0.00	0.00	
			Max. Mx	14	51.49	0.00	0.00	
			Max. My	7	-220.03	0.00	0.00	
			Max. Vy	14	6.15	0.00	0.00	
		Bottom Girt	Max. Vx	7	-0.00	0.00	0.00	
			Max Tension	10	1069.46	0.00	0.00	
			Max. Compression	4	-852.20	0.00	0.00	
			Max. Mx	14	38.00	0.00	0.00	
			Max. My	7	758.70	0.00	0.00	
			Max. Vy	14	6.15	0.00	0.00	
		Leg	Max. Vx	7	-0.00	0.00	0.00	
			Max Tension	8	13337.24	0.06	-0.10	
			Max. Compression	6	-51598.50	-0.17	0.08	
			Max. Mx	11	-14760.29	0.38	-0.10	
			Max. My	2	-7800.28	0.03	0.38	
			Max. Vy	11	-1192.31	0.27	-0.07	
			Diagonal	Max. Vx	2	1172.10	0.06	0.32
				Max Tension	5	3797.23	0.00	0.00
				Max. Compression	11	-4179.69	0.00	0.00
				Max. Mx	25	731.26	0.01	0.00
				Max. My	6	-298.99	0.00	0.00
				Max. Vy	25	-7.28	0.00	0.00
Horizontal	Max. Vx	6	-0.05	0.00	0.00			
	Max Tension	6	893.71	0.00	0.00			
	Max. Compression	6	-893.71	0.00	0.00			
	Max. Mx	14	347.76	0.00	0.00			
	Max. My	13	789.25	0.00	0.00			
	Max. Vy	14	-6.07	0.00	0.00			
Secondary Horizontal	Max. Vx	13	-0.00	0.00	0.00			
	Max Tension	6	0.02	-0.00	-0.00			
	Max. Compression	10	-0.02	-0.00	-0.00			
	Max. Mx	19	0.00	-0.00	-0.00			
	Max. My	2	0.00	0.00	0.00			
	Max. Vy	19	3.81	-0.00	-0.00			
Top Girt	Max. Vx	2	-0.01	0.00	0.00			
	Max Tension	4	1032.34	0.00	0.00			
	Max. Compression	10	-1066.57	0.00	0.00			
	Max. Mx	14	55.88	0.00	0.00			
	Max. My	13	779.16	0.00	0.00			

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T5	120 - 100	Bottom Girt	Max. Vy	14	-6.07	0.00	0.00
			Max. Vx	13	-0.00	0.00	0.00
			Max Tension	8	1098.27	0.00	0.00
			Max. Compression	6	-1116.16	0.00	0.00
			Max. Mx	14	64.71	0.00	0.00
			Max. My	6	-1116.11	0.00	0.00
		Guy A	Max. Vy	14	-6.07	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
			Bottom Tension	9	11310.09		
			Top Tension	9	11394.46		
			Top Cable Vert	9	7193.57		
			Top Cable Norm	9	8836.62		
			Top Cable Tan	9	25.71		
			Bot Cable Vert	9	-6969.54		
			Bot Cable Norm	9	8907.16		
			Bot Cable Tan	9	78.52		
		Guy B	Bottom Tension	11	11369.42		
			Top Tension	11	11453.79		
			Top Cable Vert	11	7230.47		
			Top Cable Norm	11	8883.07		
			Top Cable Tan	11	26.02		
			Bot Cable Vert	11	-7006.45		
			Bot Cable Norm	11	8953.61		
			Bot Cable Tan	11	78.21		
		Guy C	Bottom Tension	3	11340.95		
			Top Tension	3	11425.32		
			Top Cable Vert	3	7212.76		
			Top Cable Norm	3	8860.77		
			Top Cable Tan	3	25.61		
			Bot Cable Vert	3	-6988.74		
			Bot Cable Norm	3	8931.32		
			Bot Cable Tan	3	78.62		
		Top Guy Pull-Off	Max Tension	5	4661.79	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Leg	Max. Mx	14	2019.40	0.02	0.00
			Max. My	6	3681.37	0.00	0.00
			Max. Vy	14	-32.25	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-45629.40	0.11	0.32
			Max. Mx	4	-25271.37	0.34	-0.16
			Max. My	7	-40370.26	0.06	0.34
Max. Vy	5		-1106.07	-0.08	-0.06		
Max. Vx	2		1172.98	0.14	0.03		
Diagonal	Max Tension		9	3218.65	0.00	0.00	
	Max. Compression		3	-3569.78	0.00	0.00	
	Max. Mx		17	-1460.48	0.01	0.00	
	Max. My		6	-482.16	0.00	0.00	
Horizontal	Max. Vy	17	-7.18	0.00	0.00		
	Max. Vx	6	-0.04	0.00	0.00		
	Max Tension	6	790.32	0.00	0.00		
	Max. Compression	6	-790.32	0.00	0.00		
	Max. Mx	14	364.92	0.00	0.00		
	Max. My	11	691.40	0.00	-0.00		
	Max. Vy	14	5.99	0.00	0.00		
	Max. Vx	11	0.00	0.00	0.00		
Secondary Horizontal	Max Tension	6	0.01	-0.00	-0.00		
	Max. Compression	10	-0.01	-0.00	-0.00		
	Max. Mx	19	0.00	-0.00	0.00		
	Max. My	2	0.00	-0.00	0.00		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T6	100 - 80	Top Girt	Max. Vy	19	3.76	-0.00	0.00
			Max. Vx	2	-0.00	0.00	0.00
			Max Tension	6	1116.86	0.00	0.00
			Max. Compression	8	-886.47	0.00	0.00
			Max. Mx	14	50.43	0.00	0.00
			Max. My	6	-247.43	0.00	-0.00
			Max. Vy	14	5.99	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
			Max Tension	8	549.03	0.00	0.00
			Max. Compression	6	-467.33	0.00	0.00
			Max. Mx	14	48.28	0.00	0.00
			Max. My	6	239.96	0.00	-0.00
		Bottom Girt	Max. Vy	14	5.99	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
			Max Tension	8	549.03	0.00	0.00
			Max. Compression	6	-467.33	0.00	0.00
			Max. Mx	14	48.28	0.00	0.00
			Max. My	6	239.96	0.00	-0.00
			Max. Vy	14	5.99	0.00	0.00
			Max. Vx	6	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	6	-29752.31	0.02	0.19
			Max. Mx	5	-16570.96	0.20	-0.01
			Max. My	6	-29752.31	0.02	0.19
		Leg	Max. Vy	10	489.19	0.12	-0.01
			Max. Vx	2	513.66	0.12	0.01
			Max Tension	9	1230.52	0.00	0.00
			Max. Compression	3	-1593.57	0.00	0.00
			Max. Mx	26	174.31	0.01	0.00
			Max. My	11	-399.57	0.00	-0.00
			Max. Vy	26	-7.08	0.00	0.00
			Max. Vx	11	0.04	0.00	0.00
			Max Tension	6	515.33	0.00	0.00
			Max. Compression	6	-515.33	0.00	0.00
			Max. Mx	14	384.76	0.00	0.00
			Max. My	11	467.15	0.00	-0.00
		Diagonal	Max. Vy	14	-5.89	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
			Max Tension	6	0.01	-0.00	-0.00
			Max. Compression	10	-0.01	-0.00	-0.00
Max. Mx	18		0.00	-0.00	-0.00		
Max. My	2		0.00	-0.00	0.00		
Max. Vy	18		3.69	-0.00	-0.00		
Max. Vx	2		-0.00	0.00	0.00		
Max Tension	2		481.51	0.00	0.00		
Max. Compression	8		-332.98	0.00	0.00		
Max. Mx	14		73.80	0.00	0.00		
Max. My	6		-66.35	0.00	-0.00		
Horizontal	Max. Vy	14	-5.89	0.00	0.00		
	Max. Vx	6	0.00	0.00	0.00		
	Max Tension	9	210.27	0.00	0.00		
	Max. Compression	4	-140.05	0.00	0.00		
	Max. Mx	14	51.03	0.00	0.00		
	Max. My	11	181.32	0.00	-0.00		
	Max. Vy	14	-5.89	0.00	0.00		
	Max. Vx	11	0.00	0.00	0.00		
	Max Tension	1	0.00	0.00	0.00		
	Max. Compression	10	-30390.23	-0.03	-0.16		
	Max. Mx	5	-23263.00	-0.30	-0.11		
	Max. My	2	-23695.69	-0.02	0.31		
Secondary Horizontal	Max. Vy	11	960.83	0.18	-0.10		
	Max. Vx	2	872.51	0.07	0.22		
	Max Tension	3	2372.33	0.00	0.00		
	Max. Compression	9	-2746.99	0.00	0.00		
	Max. Mx	16	246.76	0.01	0.00		
	Max. My	11	278.44	0.00	-0.00		
	Top Girt	Max. Vy	14	5.99	0.00	0.00	
		Max. Vx	6	0.00	0.00	0.00	
		Max Tension	8	549.03	0.00	0.00	
		Max. Compression	6	-467.33	0.00	0.00	
		Max. Mx	14	48.28	0.00	0.00	
		Max. My	6	239.96	0.00	-0.00	
Max. Vy		14	5.99	0.00	0.00		
Max. Vx		6	0.00	0.00	0.00		
Max Tension		8	549.03	0.00	0.00		
Max. Compression		6	-467.33	0.00	0.00		
Max. Mx		14	48.28	0.00	0.00		
Max. My		6	239.96	0.00	-0.00		
Bottom Girt	Max. Vy	14	5.99	0.00	0.00		
	Max. Vx	6	0.00	0.00	0.00		
	Max Tension	8	549.03	0.00	0.00		
	Max. Compression	6	-467.33	0.00	0.00		
	Max. Mx	14	48.28	0.00	0.00		
	Max. My	6	239.96	0.00	-0.00		
	Max. Vy	14	5.99	0.00	0.00		
	Max. Vx	6	0.00	0.00	0.00		
	Max Tension	8	549.03	0.00	0.00		
	Max. Compression	6	-467.33	0.00	0.00		
	Max. Mx	14	48.28	0.00	0.00		
	Max. My	6	239.96	0.00	-0.00		
Leg	Max. Vy	10	489.19	0.12	-0.01		
	Max. Vx	2	513.66	0.12	0.01		
	Max Tension	9	1230.52	0.00	0.00		
	Max. Compression	3	-1593.57	0.00	0.00		
	Max. Mx	26	174.31	0.01	0.00		
	Max. My	11	-399.57	0.00	-0.00		
	Max. Vy	26	-7.08	0.00	0.00		
	Max. Vx	11	0.04	0.00	0.00		
	Max Tension	6	515.33	0.00	0.00		
	Max. Compression	6	-515.33	0.00	0.00		
	Max. Mx	14	384.76	0.00	0.00		
	Max. My	11	467.15	0.00	-0.00		
Diagonal	Max. Vy	14	-5.89	0.00	0.00		
	Max. Vx	11	0.00	0.00	0.00		
	Max Tension	6	0.01	-0.00	-0.00		
	Max. Compression	10	-0.01	-0.00	-0.00		
	Max. Mx	18	0.00	-0.00	-0.00		
	Max. My	2	0.00	-0.00	0.00		
	Max. Vy	18	3.69	-0.00	-0.00		
	Max. Vx	2	-0.00	0.00	0.00		
	Max Tension	2	481.51	0.00	0.00		
	Max. Compression	8	-332.98	0.00	0.00		
	Max. Mx	14	73.80	0.00	0.00		
	Max. My	6	-66.35	0.00	-0.00		
Top Girt	Max. Vy	14	-5.89	0.00	0.00		
	Max. Vx	6	0.00	0.00	0.00		
	Max Tension	9	210.27	0.00	0.00		
	Max. Compression	4	-140.05	0.00	0.00		
	Max. Mx	14	51.03	0.00	0.00		
	Max. My	11	181.32	0.00	-0.00		
	Max. Vy	14	-5.89	0.00	0.00		
	Max. Vx	11	0.00	0.00	0.00		
	Max Tension	1	0.00	0.00	0.00		
	Max. Compression	10	-30390.23	-0.03	-0.16		
	Max. Mx	5	-23263.00	-0.30	-0.11		
	Max. My	2	-23695.69	-0.02	0.31		
Bottom Girt	Max. Vy	11	960.83	0.18	-0.10		
	Max. Vx	2	872.51	0.07	0.22		
	Max Tension	3	2372.33	0.00	0.00		
	Max. Compression	9	-2746.99	0.00	0.00		
	Max. Mx	16	246.76	0.01	0.00		
	Max. My	11	278.44	0.00	-0.00		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	16	-6.96	0.00	0.00
			Max. Vx	11	0.04	0.00	0.00
		Horizontal	Max Tension	10	526.37	0.00	0.00
			Max. Compression	10	-526.37	0.00	0.00
			Max. Mx	14	428.73	0.00	0.00
			Max. My	11	492.49	0.00	-0.00
			Max. Vy	14	-5.77	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
		Secondary Horizontal	Max Tension	6	0.01	-0.00	-0.00
			Max. Compression	10	-0.01	-0.00	-0.00
			Max. Mx	18	0.01	-0.00	-0.00
			Max. My	2	0.00	-0.00	0.00
			Max. Vy	18	3.62	-0.00	-0.00
			Max. Vx	2	-0.00	0.00	0.00
		Top Girt	Max Tension	4	342.19	0.00	0.00
			Max. Compression	9	-169.29	0.00	0.00
			Max. Mx	14	76.46	0.00	0.00
			Max. My	11	-132.59	0.00	-0.00
			Max. Vy	14	-5.77	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
		Bottom Girt	Max Tension	8	821.00	0.00	0.00
			Max. Compression	2	-721.31	0.00	0.00
			Max. Mx	14	55.20	0.00	0.00
			Max. My	11	-591.24	0.00	-0.00
			Max. Vy	14	-5.77	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
		Guy A	Bottom Tension	8	5809.24		
			Top Tension	8	5835.79		
			Top Cable Vert	8	2303.85		
			Top Cable Norm	8	5361.78		
			Top Cable Tan	8	0.06		
			Bot Cable Vert	8	-2213.78		
			Bot Cable Norm	8	5370.89		
			Bot Cable Tan	8	0.06		
		Guy B	Bottom Tension	12	5820.58		
			Top Tension	12	5847.13		
			Top Cable Vert	12	2308.24		
			Top Cable Norm	12	5372.24		
			Top Cable Tan	12	0.29		
			Bot Cable Vert	12	-2218.17		
			Bot Cable Norm	12	5381.35		
			Bot Cable Tan	12	0.29		
		Guy C	Bottom Tension	4	5828.28		
			Top Tension	4	5854.83		
			Top Cable Vert	4	2311.22		
			Top Cable Norm	4	5379.34		
			Top Cable Tan	4	0.38		
			Bot Cable Vert	4	-2221.15		
			Bot Cable Norm	4	5388.44		
			Bot Cable Tan	4	0.38		
		Top Guy Pull-Off	Max Tension	5	2850.79	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	1643.41	0.02	0.00
			Max. My	11	2684.32	0.00	-0.00
			Max. Vy	14	-31.70	0.00	0.00
			Max. Vx	11	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
T8	60 - 40	Leg	Max. Compression	7	-32994.52	0.13	0.00
			Max. Mx	11	-24510.07	-0.30	-0.10
			Max. My	7	-22467.48	0.06	0.28

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T9	40 - 20	Diagonal	Max. Vy	5	-959.58	-0.06	-0.10
			Max. Vx	2	871.68	0.12	0.01
			Max Tension	5	2114.65	0.00	0.00
			Max. Compression	11	-2506.81	0.00	0.00
			Max. Mx	26	-383.02	0.01	0.00
			Max. My	11	-292.65	0.00	-0.00
			Max. Vy	26	-6.81	0.00	0.00
			Max. Vx	11	0.03	0.00	0.00
			Max Tension	7	571.48	0.00	0.00
			Max. Compression	7	-571.48	0.00	0.00
			Max. Mx	14	446.69	0.00	0.00
			Max. My	11	570.85	0.00	-0.00
		Horizontal	Max. Vy	14	5.63	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
			Max Tension	5	0.01	-0.00	-0.00
			Max. Compression	10	-0.01	-0.00	-0.00
			Max. Mx	18	0.01	-0.00	-0.00
			Max. My	2	0.00	-0.00	0.00
			Max. Vy	18	3.53	-0.00	-0.00
			Max. Vx	2	-0.00	0.00	0.00
			Max Tension	2	755.59	0.00	0.00
			Max. Compression	8	-600.34	0.00	0.00
			Max. Mx	14	58.55	0.00	0.00
			Max. My	11	648.35	0.00	-0.00
		Secondary Horizontal	Max. Vy	14	5.63	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
			Max Tension	5	361.55	0.00	0.00
			Max. Compression	13	-243.34	0.00	0.00
			Max. Mx	23	112.05	0.00	0.00
			Max. My	11	-239.99	0.00	-0.00
			Max. Vy	23	5.63	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	11	-34212.08	-0.09	0.14
			Max. Mx	6	-29882.88	0.20	0.00
			Max. My	7	-15074.23	-0.02	0.18
		Top Girt	Max. Vy	5	-362.46	-0.05	-0.12
			Max. Vx	7	366.98	-0.05	0.09
			Max Tension	12	852.30	0.00	0.00
			Max. Compression	6	-1125.25	0.00	0.00
			Max. Mx	22	190.28	0.01	0.00
			Max. My	10	87.49	0.00	-0.00
Max. Vy	22		6.64	0.00	0.00		
Max. Vx	10		0.04	0.00	0.00		
Max Tension	11		592.57	0.00	0.00		
Max. Compression	11		-592.57	0.00	0.00		
Max. Mx	17		428.94	0.00	0.00		
Max. My	11		592.57	0.00	-0.00		
Bottom Girt	Max. Vy	17	-5.46	0.00	0.00		
	Max. Vx	11	0.00	0.00	0.00		
	Max Tension	5	0.01	-0.00	-0.00		
	Max. Compression	11	-0.01	-0.00	-0.00		
	Max. Mx	17	0.01	-0.00	-0.00		
	Max. My	2	0.00	-0.00	0.00		
	Max. Vy	17	3.42	-0.00	-0.00		
	Max. Vx	2	-0.00	0.00	0.00		
	Max Tension	11	303.31	0.00	0.00		
	Max. Compression	5	-158.66	0.00	0.00		
	Max. Mx	14	86.34	0.00	0.00		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T10	20 - 6.5	Bottom Girt	Max. My	11	303.31	0.00	-0.00
			Max. Vy	14	-5.46	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
			Max Tension	6	331.18	0.00	0.00
			Max. Compression	12	-247.61	0.00	0.00
			Max. Mx	19	73.20	0.00	0.00
		Leg	Max. My	5	42.51	0.00	-0.00
			Max. Vy	19	-5.46	0.00	0.00
			Max. Vx	5	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	11	-33057.78	-0.02	0.20
			Max. Mx	17	-30139.94	-0.98	0.46
		Diagonal	Max. My	21	-30318.43	0.09	-1.09
			Max. Vy	17	4091.49	-0.98	0.46
			Max. Vx	21	4756.93	0.09	-1.09
			Max Tension	12	1781.69	0.00	0.00
			Max. Compression	7	-2019.89	0.00	0.00
			Max. Mx	22	643.52	0.01	0.00
		Horizontal	Max. My	10	278.64	0.00	-0.00
			Max. Vy	22	-9.36	0.00	0.00
			Max. Vx	10	0.06	0.00	0.00
			Max Tension	11	572.58	0.00	0.00
			Max. Compression	11	-572.58	0.00	0.00
			Max. Mx	14	475.59	0.00	0.00
		Secondary Horizontal	Max. My	11	572.58	0.00	-0.00
			Max. Vy	14	-5.46	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
			Max Tension	5	0.01	-0.00	-0.00
			Max. Compression	11	-0.01	-0.00	-0.00
			Max. Mx	17	0.01	-0.00	-0.00
		Top Girt	Max. My	2	0.00	-0.00	0.00
			Max. Vy	17	3.42	-0.00	-0.00
			Max. Vx	2	-0.00	0.00	0.00
Max Tension	12		498.79	0.00	0.00		
Max. Compression	6		-285.68	0.00	0.00		
Max. Mx	14		78.96	0.00	0.00		
Bottom Girt	Max. My	11	16.66	0.00	-0.00		
	Max. Vy	14	-5.46	0.00	0.00		
	Max. Vx	11	0.00	0.00	0.00		
	Max Tension	20	2839.51	0.00	0.00		
	Max. Compression	1	0.00	0.00	0.00		
	Max. Mx	17	2529.50	0.00	0.00		
T11	6.5 - 0	Leg	Max. My	11	2460.08	0.00	-0.00
			Max. Vy	17	-5.46	0.00	0.00
			Max. Vx	11	0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	21	-31494.62	-0.06	-0.09
			Max. Mx	21	-30519.27	1.09	0.08
		Horizontal	Max. My	11	-29094.42	-0.06	0.42
			Max. Vy	21	3234.20	-0.86	0.08
			Max. Vx	11	-1106.61	-0.12	0.38
			Max Tension	21	559.59	0.05	0.01
			Max. Compression	21	-559.59	-0.17	-0.01
			Max. Mx	11	517.02	-0.59	-0.04
		Top Girt	Max. My	11	517.02	-0.59	-0.04
			Max. Vy	11	-989.60	-0.59	-0.04
			Max. Vx	11	-67.07	-0.59	-0.04
			Max Tension	18	2011.38	-0.46	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	11	1766.44	-0.81	-0.02

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Bottom Girt	Max. My	11	1766.44	-0.81	-0.02
			Max. Vy	11	-284.26	-0.81	-0.02
			Max. Vx	11	-15.95	-0.81	-0.02
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	19	-335.81	0.13	0.02
			Max. Mx	11	-305.34	-0.78	-0.04
			Max. My	11	-305.34	-0.78	-0.04
			Max. Vy	12	-4757.21	-0.76	-0.03
			Max. Vx	11	-268.30	-0.78	-0.04

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb	
Mast	Max. Vert	17	84697.63	-547.75	262.33	
	Max. H _x	12	64084.70	1300.84	746.80	
	Max. H _z	2	77204.21	-2.31	1204.33	
	Max. M _x	1	0.00	-0.53	-13.15	
	Max. M _z	1	0.00	-0.53	-13.15	
	Max. Torsion	5	0.88	-1290.78	130.24	
	Min. Vert	1	49976.16	-0.53	-13.15	
	Min. H _x	4	64131.25	-1300.56	735.19	
	Min. H _z	8	64088.94	-4.38	-1519.65	
	Min. M _x	1	0.00	-0.53	-13.15	
	Min. M _z	1	0.00	-0.53	-13.15	
	Min. Torsion	11	-0.89	1289.93	137.66	
	Guy C @ 160 ft Elev 0 ft Azimuth 240 deg	Max. Vert	10	-654.13	-469.27	271.02
	Guy B @ 160 ft Elev 0 ft Azimuth 120 deg	Max. H _x	10	-654.13	-469.27	271.02
Max. H _z		3	-30150.96	-27997.42	16583.09	
Min. Vert		5	-30275.29	-28438.88	15988.79	
Min. H _x		5	-30275.29	-28438.88	15988.79	
Min. H _z		10	-654.13	-469.27	271.02	
Max. Vert		6	-653.67	470.80	271.75	
Guy A @ 160 ft Elev 0 ft Azimuth 0 deg	Max. H _x	11	-30247.77	28437.14	15987.96	
	Max. H _z	13	-30064.56	27891.22	16537.29	
	Min. Vert	11	-30247.77	28437.14	15987.96	
	Min. H _x	6	-653.67	470.80	271.75	
	Min. H _z	6	-653.67	470.80	271.75	
	Max. Vert	2	-656.91	0.14	-544.93	
Guy A @ 160 ft Elev 0 ft Azimuth 0 deg	Max. H _x	11	-15920.46	699.71	-17072.62	
	Max. H _z	2	-656.91	0.14	-544.93	
	Min. Vert	9	-30136.69	362.21	-32512.95	
	Min. H _x	5	-15911.21	-699.66	-17032.50	
	Min. H _z	9	-30136.69	362.21	-32512.95	

Tower Mast Reaction Summary

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<i>Load Combination</i>	<i>Vertical lb</i>	<i>Shear_x lb</i>	<i>Shear_z lb</i>	<i>Overturning Moment, M_x kip-ft</i>	<i>Overturning Moment, M_z kip-ft</i>	<i>Torque kip-ft</i>
Dead Only	49976.16	0.53	13.15	0.00	0.00	-0.00
Dead+Wind 0 deg - No Ice+Guy	77204.21	2.31	-1204.33	0.00	0.00	0.06
Dead+Wind 30 deg - No Ice+Guy	72816.25	775.19	-1035.13	0.00	0.00	-0.35
Dead+Wind 60 deg - No Ice+Guy	64131.25	1300.56	-735.19	0.00	0.00	-0.64
Dead+Wind 90 deg - No Ice+Guy	73031.91	1290.78	-130.24	0.00	0.00	-0.88
Dead+Wind 120 deg - No Ice+Guy	77372.40	1050.68	622.88	0.00	0.00	-0.78
Dead+Wind 150 deg - No Ice+Guy	72691.53	533.03	1216.05	0.00	0.00	-0.50
Dead+Wind 180 deg - No Ice+Guy	64088.94	4.38	1519.65	0.00	0.00	-0.20
Dead+Wind 210 deg - No Ice+Guy	72782.99	-521.83	1208.02	0.00	0.00	0.34
Dead+Wind 240 deg - No Ice+Guy	77449.33	-1041.37	613.10	0.00	0.00	0.71
Dead+Wind 270 deg - No Ice+Guy	73013.55	-1289.93	-137.66	0.00	0.00	0.89
Dead+Wind 300 deg - No Ice+Guy	64084.70	-1300.84	-746.80	0.00	0.00	0.84
Dead+Wind 330 deg - No Ice+Guy	72707.33	-772.06	-1049.98	0.00	0.00	0.50
Dead+Ice+Temp+Guy Dead+Wind 0	82639.24 84338.45	7.05 -4.36	47.94 -612.89	0.00 0.00	0.00 0.00	-0.01 0.22
deg+Ice+Temp+Guy Dead+Wind 30	84467.27	311.69	-515.28	0.00	0.00	0.10
deg+Ice+Temp+Guy Dead+Wind 60	84697.63	547.75	-262.33	0.00	0.00	-0.19
deg+Ice+Temp+Guy Dead+Wind 90	84465.04	647.84	68.50	0.00	0.00	-0.44
deg+Ice+Temp+Guy Dead+Wind 120	84309.46	574.05	390.76	0.00	0.00	-0.45
deg+Ice+Temp+Guy Dead+Wind 150	84411.26	342.35	605.44	0.00	0.00	-0.31
deg+Ice+Temp+Guy Dead+Wind 180	84641.74	8.50	680.31	0.00	0.00	-0.20
deg+Ice+Temp+Guy Dead+Wind 210	84419.59	-325.55	600.57	0.00	0.00	-0.03
deg+Ice+Temp+Guy Dead+Wind 240	84304.38	-566.66	378.23	0.00	0.00	0.22
deg+Ice+Temp+Guy Dead+Wind 270	84453.81	-638.10	58.06	0.00	0.00	0.39
deg+Ice+Temp+Guy Dead+Wind 300	84678.72	-539.45	-270.56	0.00	0.00	0.38
deg+Ice+Temp+Guy Dead+Wind 330	84443.37	-306.88	-521.41	0.00	0.00	0.27
Dead+Wind 0 deg - Service+Guy	50498.60	0.50	-567.30	0.00	0.00	0.01
Dead+Wind 30 deg - Service+Guy	50800.27	280.52	-474.96	0.00	0.00	-0.14
Dead+Wind 60 deg - Service+Guy	50996.12	482.90	-264.18	0.00	0.00	-0.26
Dead+Wind 90 deg - Service+Guy	50810.19	563.46	16.40	0.00	0.00	-0.32
Dead+Wind 120 deg - Service+Guy	50498.23	502.86	304.62	0.00	0.00	-0.28

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<i>Load Combination</i>	<i>Vertical</i> <i>lb</i>	<i>Shear_x</i> <i>lb</i>	<i>Shear_z</i> <i>lb</i>	<i>Overturning Moment, M_x</i> <i>kip-ft</i>	<i>Overturning Moment, M_z</i> <i>kip-ft</i>	<i>Torque</i> <i>kip-ft</i>
Dead+Wind 150 deg - Service+Guy	50798.20	286.11	502.40	0.00	0.00	-0.16
Dead+Wind 180 deg - Service+Guy	50992.74	1.32	571.40	0.00	0.00	-0.02
Dead+Wind 210 deg - Service+Guy	50797.73	-282.69	499.42	0.00	0.00	0.13
Dead+Wind 240 deg - Service+Guy	50501.33	-499.99	301.17	0.00	0.00	0.26
Dead+Wind 270 deg - Service+Guy	50801.70	-562.42	13.78	0.00	0.00	0.32
Dead+Wind 300 deg - Service+Guy	50988.61	-482.33	-267.74	0.00	0.00	0.27
Dead+Wind 330 deg - Service+Guy	50792.56	-279.58	-479.24	0.00	0.00	0.16

Solution Summary

<i>Load Comb.</i>	<i>Sum of Applied Forces</i>			<i>Sum of Reactions</i>			<i>% Error</i>
	<i>PX</i> <i>lb</i>	<i>PY</i> <i>lb</i>	<i>PZ</i> <i>lb</i>	<i>PX</i> <i>lb</i>	<i>PY</i> <i>lb</i>	<i>PZ</i> <i>lb</i>	
1	0.00	-25389.71	0.00	0.44	25389.71	0.19	0.002%
2	23.40	-25527.14	-29225.77	-23.40	25527.12	29225.21	0.001%
3	14631.76	-25389.68	-25313.97	-14631.77	25389.67	25313.55	0.001%
4	25358.81	-25252.23	-14631.00	-25358.50	25252.22	14631.35	0.001%
5	29319.91	-25389.68	6.84	-29319.17	25389.64	-6.40	0.002%
6	25368.52	-25527.14	14629.20	-25368.04	25527.11	-14628.92	0.001%
7	14518.60	-25389.69	25261.26	-14518.23	25389.66	-25261.05	0.001%
8	-34.28	-25252.23	29198.87	34.20	25252.22	-29198.79	0.000%
9	-14606.42	-25389.69	25328.45	14606.04	25389.67	-25328.25	0.001%
10	-25432.54	-25527.14	14693.18	25432.05	25527.12	-14692.90	0.001%
11	-29319.86	-25389.68	41.83	29319.10	25389.66	-41.38	0.002%
12	-25323.26	-25252.23	-14570.89	25322.17	25252.22	14571.94	0.004%
13	-14587.15	-25389.68	-25221.77	14587.16	25389.67	25221.34	0.001%
14	0.00	-51104.95	0.00	0.20	51104.94	-0.11	0.000%
15	105.24	-51216.59	-12230.89	-105.23	51216.58	12229.86	0.002%
16	6231.22	-51104.94	-10479.19	-6231.30	51104.94	10478.52	0.001%
17	10625.21	-50993.30	-6121.70	-10624.86	50993.30	6121.49	0.001%
18	12238.90	-51104.95	-159.12	-12238.38	51104.93	159.52	0.001%
19	10708.98	-51216.59	5884.43	-10708.16	51216.57	-5883.93	0.002%
20	6021.27	-51104.95	10441.51	-6020.68	51104.93	-10441.26	0.001%
21	-13.47	-50993.30	12089.34	13.48	50993.30	-12089.18	0.000%
22	-6046.47	-51104.94	10475.46	6045.87	51104.94	-10475.20	0.001%
23	-10657.81	-51216.59	5976.40	10656.97	51216.58	-5975.90	0.002%
24	-12201.39	-51104.94	-90.42	12200.87	51104.94	90.83	0.001%
25	-10567.32	-50993.30	-6072.72	10566.99	50993.30	6072.53	0.001%
26	-6136.17	-51104.94	-10442.26	6136.26	51104.94	10441.60	0.001%
27	8.10	-25437.28	-10112.72	-8.09	25437.27	10112.22	0.002%
28	5062.89	-25389.71	-8759.16	-5062.94	25389.71	8758.92	0.001%
29	8774.68	-25342.15	-5062.63	-8774.58	25342.14	5062.59	0.000%
30	10145.30	-25389.71	2.37	-10145.09	25389.71	-2.19	0.001%
31	8778.03	-25437.28	5062.01	-8777.60	25437.27	-5061.76	0.002%
32	5023.74	-25389.71	8740.92	-5023.49	25389.71	-8740.84	0.001%
33	-11.86	-25342.15	10103.42	11.88	25342.14	-10103.32	0.000%
34	-5054.12	-25389.71	8764.17	5053.89	25389.71	-8764.09	0.001%
35	-8800.19	-25437.28	5084.14	8799.75	25437.27	-5083.88	0.002%
36	-10145.28	-25389.71	14.48	10145.09	25389.71	-14.30	0.001%
37	-8762.37	-25342.15	-5041.83	8762.29	25342.15	5041.79	0.000%
38	-5047.46	-25389.71	-8727.26	5047.51	25389.71	8727.01	0.001%

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Non-Linear Convergence Results

<i>Load Combination</i>	<i>Converged?</i>	<i>Number of Cycles</i>	<i>Displacement Tolerance</i>	<i>Force Tolerance</i>
1	Yes	9	0.00000001	0.00014386
2	Yes	22	0.00004305	0.00012570
3	Yes	22	0.00000001	0.00009439
4	Yes	15	0.00008908	0.00014936
5	Yes	21	0.00006777	0.00014604
6	Yes	22	0.00004422	0.00011334
7	Yes	22	0.00000001	0.00010400
8	Yes	15	0.00000001	0.00014275
9	Yes	22	0.00000001	0.00009633
10	Yes	22	0.00004319	0.00009927
11	Yes	21	0.00006728	0.00012235
12	Yes	13	0.00000001	0.00011407
13	Yes	22	0.00000001	0.00009498
14	Yes	10	0.00000001	0.00009822
15	Yes	15	0.00000001	0.00012451
16	Yes	15	0.00000001	0.00010158
17	Yes	14	0.00000001	0.00012986
18	Yes	15	0.00000001	0.00011732
19	Yes	15	0.00000001	0.00013920
20	Yes	15	0.00000001	0.00013370
21	Yes	15	0.00000001	0.00007407
22	Yes	15	0.00000001	0.00009078
23	Yes	15	0.00000001	0.00009161
24	Yes	15	0.00000001	0.00008786
25	Yes	14	0.00000001	0.00014271
26	Yes	15	0.00000001	0.00010584
27	Yes	13	0.00000001	0.00010266
28	Yes	14	0.00000001	0.00009363
29	Yes	13	0.00000001	0.00007673
30	Yes	14	0.00000001	0.00011560
31	Yes	13	0.00000001	0.00013384
32	Yes	14	0.00000001	0.00011953
33	Yes	13	0.00000001	0.00007983
34	Yes	14	0.00000001	0.00009230
35	Yes	13	0.00000001	0.00009205
36	Yes	14	0.00000001	0.00008740
37	Yes	13	0.00000001	0.00007623
38	Yes	14	0.00000001	0.00009553

Maximum Tower Deflections - Service Wind

<i>Section No.</i>	<i>Elevation ft</i>	<i>Horz. Deflection in</i>	<i>Gov. Load Comb.</i>	<i>Tilt °</i>	<i>Twist °</i>
L1	250 - 200	9.099	29	0.6170	0.2528
T1	200 - 180	3.727	33	0.2289	0.2192
T2	180 - 160	2.968	29	0.1475	0.1306
T3	160 - 140	2.446	37	0.1252	0.0956
T4	140 - 120	1.956	37	0.1054	0.0839
T5	120 - 100	1.601	37	0.0596	0.0983

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T6	100 - 80	1.416	35	0.0445	0.1179
T7	80 - 60	1.241	35	0.0491	0.1275
T8	60 - 40	1.047	27	0.0466	0.1272
T9	40 - 20	0.826	35	0.0689	0.1181
T10	20 - 6.5	0.467	35	0.1013	0.1004
T11	6.5 - 0	0.158	35	0.1125	0.0901

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
252.00	Lightning Rod 5/8x4'	29	9.099	0.6170	0.2584	40172
250.00	Flash Beacon Lighting	29	9.099	0.6170	0.2584	40172
237.50	6810	29	7.463	0.5066	0.2669	16068
215.00	6810-2	29	4.889	0.3250	0.2589	5738
199.00	PR-950	33	3.672	0.2236	0.2152	4355
187.00	Pirod Delta Mount (3)	33	3.171	0.1693	0.1599	10743
186.75	Guy	33	3.163	0.1684	0.1588	11092
177.00	Sabre 12' T-Boom (1)	29	2.887	0.1410	0.1208	61907
172.00	PR-950	29	2.754	0.1337	0.1080	79621
150.00	4' Grid Dish	37	2.193	0.1188	0.0907	50652
130.00	2' standoff	37	1.755	0.0826	0.0906	24469
126.75	Guy	37	1.699	0.0745	0.0931	23168
123.00	Small Beacon	37	1.642	0.0657	0.0960	21925
66.75	Guy	27	1.113	0.0464	0.1284	446735

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	250 - 200	41.026	6	2.1221	0.7864
T1	200 - 180	21.577	6	1.0927	0.8112
T2	180 - 160	17.527	6	0.8557	0.5486
T3	160 - 140	14.295	10	0.7714	0.4004
T4	140 - 120	11.282	10	0.6665	0.2899
T5	120 - 100	8.896	10	0.4629	0.3146
T6	100 - 80	7.267	10	0.3600	0.3426
T7	80 - 60	5.848	10	0.3268	0.3471
T8	60 - 40	4.571	10	0.2881	0.3445
T9	40 - 20	3.348	10	0.3271	0.3209
T10	20 - 6.5	1.814	10	0.4064	0.2733
T11	6.5 - 0	0.605	10	0.4358	0.2456

Critical Deflections and Radius of Curvature - Design Wind

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Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
252.00	Lightning Rod 5/8x4'	6	41.026	2.1221	0.9245	14966
250.00	Flash Beacon Lighting	6	41.026	2.1221	0.9245	14966
237.50	6810	6	35.390	1.8354	0.9497	5986
215.00	6810-2	6	26.234	1.3569	0.9267	2137
199.00	PR-950	6	21.324	1.0772	0.7996	1619
187.00	Pirod Delta Mount (3)	6	18.770	0.9195	0.6374	3866
186.75	Guy	6	18.724	0.9168	0.6339	3985
177.00	Sabre 12' T-Boom (1)	10	17.019	0.8357	0.5177	22854
172.00	PR-950	10	16.208	0.8107	0.4755	24342
150.00	4' Grid Dish	10	12.740	0.7328	0.3425	10489
130.00	2' standoff	10	9.987	0.5647	0.2965	5613
126.75	Guy	10	9.608	0.5292	0.3023	5359
123.00	Small Beacon	10	9.200	0.4903	0.3091	5109
66.75	Guy	10	4.985	0.2967	0.3469	31346

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load Allowable	Allowable Ratio	Criteria
T1	200	Leg	A325N	0.7500	3	1804.61	19366.00	0.093 ✓	1.333	Bolt Tension
T2	180	Leg	A325N	0.7500	3	0.00	19438.50	0.000 ✓	1.333	Bolt Tension
T3	160	Leg	A325N	0.7500	3	413.38	19430.90	0.021 ✓	1.333	Bolt Tension
T4	140	Leg	A325N	0.7500	3	0.00	19436.70	0.000 ✓	1.333	Bolt Tension
T5	120	Leg	A325N	0.7500	3	0.00	19438.30	0.000 ✓	1.333	Bolt Tension
T6	100	Leg	A325N	0.7500	3	0.00	19438.60	0.000 ✓	1.333	Bolt Tension
T7	80	Leg	A325N	0.7500	3	0.00	19437.40	0.000 ✓	1.333	Bolt Tension
T8	60	Leg	A325N	0.7500	3	0.00	19438.50	0.000 ✓	1.333	Bolt Tension
T9	40	Leg	A325N	0.7500	3	0.00	19438.50	0.000 ✓	1.333	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension lb	Breaking Load lb	Actual T lb	Allowable T _a lb	Required S.F.	Actual S.F.
T1	186.75 (A) (491)	9/16 EHS	3500.00	35000.04	14444.10	17500.00	2.000	2.423 ✓
	186.75 (A) (492)	9/16 EHS	3500.00	35000.04	14019.80	17500.00	2.000	2.496 ✓
	186.75 (B) (487)	9/16 EHS	3500.00	35000.04	14011.80	17500.00	2.000	2.498 ✓
	186.75 (B) (488)	9/16 EHS	3500.00	35000.04	14198.10	17500.00	2.000	2.465 ✓
	186.75 (C) (483)	9/16 EHS	3500.00	35000.04	14242.60	17500.00	2.000	2.457 ✓

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Section No.	Elevation ft	Size	Initial Tension lb	Breaking Load lb	Actual T lb	Allowable T_a lb	Required S.F.	Actual S.F.
T4	186.75 (C) (484)	9/16 EHS	3500.00	35000.04	14433.30	17500.00	2.000	2.425 ✓
	126.75 (A) (500)	9/16 EHS	3500.00	35000.04	11394.50	17500.00	2.000	3.072 ✓
	126.75 (B) (499)	9/16 EHS	3500.00	35000.04	11453.80	17500.00	2.000	3.056 ✓
	126.75 (C) (495)	9/16 EHS	3500.00	35000.04	11425.30	17500.00	2.000	3.063 ✓
T7	66.75 (A) (506)	7/16 EHS	2080.00	20800.02	5835.79	10400.00	2.000	3.564 ✓
	66.75 (B) (505)	7/16 EHS	2080.00	20800.02	5847.13	10400.00	2.000	3.557 ✓
	66.75 (C) (501)	7/16 EHS	2080.00	20800.02	5854.83	10400.00	2.000	3.553 ✓

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 lb	Allow. P_a lb	Ratio $\frac{P}{P_a}$
L1	250 - 200 (1)	P12x.5	50.00	50.00	138.4	7.794	19.2423	-4075.70	149972.00	0.027

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	250 - 200 (1)	P12x.5	74.30	-15.722	23.100	0.681	0.00	0.000	23.100	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	250 - 200 (1)	P12x.5	0.027	0.681	0.000	0.708 ✓	1.066	H1-3 ✓

Leg Design Data (Compression)

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Section No.	Elevation ft	Size	L ft	L _u ft	KL/r	Mast Stability Index	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T1	200 - 180	2	20.00	3.25	78.0 K=1.00	1.00	19.409	3.1416	-44923.90	60975.90	0.737
T2	180 - 160	2	20.00	3.25	78.0 K=1.00	1.00	19.409	3.1416	-34048.30	60975.90	0.558
T3	160 - 140	2	20.00	3.25	78.0 K=1.00	1.00	19.409	3.1416	-38028.80	60975.90	0.624
T4	140 - 120	2	20.00	3.25	78.0 K=1.00	1.00	19.409	3.1416	-51598.50	60975.90	0.846
T5	120 - 100	2	20.00	3.25	78.0 K=1.00	1.00	19.409	3.1416	-45627.10	60975.90	0.748
T6	100 - 80	2	20.00	3.25	78.0 K=1.00	1.00	19.409	3.1416	-29750.00	60975.90	0.488
T7	80 - 60	2	20.00	3.25	78.0 K=1.00	1.00	19.409	3.1416	-24752.60	60975.90	0.406*
T8	60 - 40	2	20.00	3.25	78.0 K=1.00	1.00	19.409	3.1416	-25789.70	60975.90	0.423*
T9	40 - 20	2	20.00	3.25	78.0 K=1.00	1.00	19.409	3.1416	-26742.90	60975.90	0.439*
T10	20 - 6.5	2 1/4	13.50	3.25	69.3 K=1.00	1.00	21.061	3.9761	-27458.10	83740.00	0.328*
T11	6.5 - 0	2 1/4	6.73	1.84	39.2 K=1.00	0.90	23.409	3.9761	-28598.70	93075.80	0.307*

* DL controls

Leg Bending Design Data (Compression)

Section No.	Elevation ft	Size	Actual M _x kip-ft	Actual f _{bx} ksi	Allow. F _{bx} ksi	Ratio f _{bx} /F _{bx}	Actual M _y kip-ft	Actual f _{by} ksi	Allow. F _{by} ksi	Ratio f _{by} /F _{by}
T1	200 - 180	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T2	180 - 160	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T3	160 - 140	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T4	140 - 120	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T5	120 - 100	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T6	100 - 80	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T7	80 - 60	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T8	60 - 40	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T9	40 - 20	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T10	20 - 6.5	2 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T11	6.5 - 0	2 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000

Leg Interaction Design Data (Compression)

Section No.	Elevation ft	Size	Ratio P/P _a	Ratio f _{bx} /F _{bx}	Ratio f _{by} /F _{by}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	200 - 180	2	0.737	0.000	0.000	0.737	1.333	H1-3 ✓

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Section No.	Elevation ft	Size	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
			$\frac{P}{P_a}$	$\frac{f_{bx}}{F_{bx}}$	$\frac{f_{by}}{F_{by}}$			
T2	180 - 160	2	0.558	0.000	0.000	0.558	1.333	H1-3 ✓
T3	160 - 140	2	0.624	0.000	0.000	0.624	1.333	H1-3 ✓
T4	140 - 120	2	0.846	0.000	0.000	0.846	1.333	H1-3 ✓
T5	120 - 100	2	0.748	0.000	0.000	0.748	1.333	H1-3 ✓
T6	100 - 80	2	0.488	0.000	0.000	0.488	1.333	H1-3 ✓
T7	80 - 60	2	0.406	0.000	0.000	0.406*	1.000	H1-3 ✓
T8	60 - 40	2	0.423	0.000	0.000	0.423*	1.000	H1-3 ✓
T9	40 - 20	2	0.439	0.000	0.000	0.439*	1.000	H1-3 ✓
T10	20 - 6.5	2 1/4	0.328	0.000	0.000	0.328*	1.000	H1-3 ✓
T11	6.5 - 0	2 1/4	0.307	0.000	0.000	0.307*	1.000	H1-3 ✓

* DL controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L	L _a	Kl/r	F _a	A	Actual P	Allow. P _a	Ratio
			ft	ft		ksi	in ²	lb	lb	$\frac{P}{P_a}$
T1	200 - 180	1	4.42	4.18	140.4 K=0.70	7.580	0.7854	-7873.23	5953.68	1.322
T2	180 - 160	1	4.42	4.18	140.4 K=0.70	7.580	0.7854	-7059.15	5953.68	1.186
T3	160 - 140	1	4.42	4.18	140.4 K=0.70	7.580	0.7854	-3307.04	5953.68	0.555
T4	140 - 120	1	4.42	4.18	140.4 K=0.70	7.580	0.7854	-4179.69	5953.68	0.702
T5	120 - 100	1	4.42	4.18	140.4 K=0.70	7.580	0.7854	-3569.78	5953.68	0.600
T6	100 - 80	1	4.42	4.18	140.4 K=0.70	7.580	0.7854	-1593.57	5953.68	0.268
T7	80 - 60	1	4.42	4.18	140.4 K=0.70	7.580	0.7854	-2746.99	5953.68	0.461
T8	60 - 40	1	4.42	4.18	140.4 K=0.70	7.580	0.7854	-2506.81	5953.68	0.421
T9	40 - 20	1	4.42	4.18	140.4 K=0.70	7.580	0.7854	-1125.25	5953.68	0.189
T10	20 - 6.5	1 1/4	4.42	4.15	111.5 K=0.70	11.475	1.2272	-2019.89	14081.40	0.143

Horizontal Design Data (Compression)

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Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T1	200 - 180	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-778.10	7115.35	0.109
T2	180 - 160	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-1674.38	7115.35	0.235
T3	160 - 140	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-658.68	7115.35	0.093
T4	140 - 120	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-893.71	7115.35	0.126
T5	120 - 100	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-790.32	7115.35	0.111
T6	100 - 80	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-515.33	7115.35	0.072
T7	80 - 60	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-428.73	7115.35	0.060*
T8	60 - 40	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-446.69	7115.35	0.063*
T9	40 - 20	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-463.20	7115.35	0.065*
T10	20 - 6.5	7/8	3.00	2.81	108.0 K=0.70	11.940	0.6013	-475.59	7179.50	0.066*
T11	6.5 - 0	8x3/8	1.91	1.72	191.0 K=1.00	4.095	3.0000	-508.14	12284.10	0.041*

* DL controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T1	200 - 180	7/8	1.50	1.42	77.7 K=1.00	15.607	0.6013	-0.03	9384.48	0.000
T2	180 - 160	7/8	1.50	1.42	77.7 K=1.00	15.607	0.6013	-0.02	9384.48	0.000
T3	160 - 140	7/8	1.50	1.42	77.7 K=1.00	15.607	0.6013	-0.02	9384.48	0.000
T4	140 - 120	7/8	1.50	1.42	77.7 K=1.00	15.607	0.6013	-0.02	9384.48	0.000
T5	120 - 100	7/8	1.50	1.42	77.7 K=1.00	15.607	0.6013	-0.01	9384.48	0.000
T6	100 - 80	7/8	1.50	1.42	77.7 K=1.00	15.607	0.6013	-0.01	9384.48	0.000
T7	80 - 60	7/8	1.50	1.42	77.7 K=1.00	15.607	0.6013	-0.01	9384.48	0.000
T8	60 - 40	7/8	1.50	1.42	77.7 K=1.00	15.607	0.6013	-0.01	9384.48	0.000
T9	40 - 20	7/8	1.50	1.42	77.7 K=1.00	15.607	0.6013	-0.01	9384.48	0.000
T10	20 - 6.5	7/8	1.50	1.41	77.2	15.669	0.6013	-0.01	9422.06	0.000

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Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
K=1.00										✓

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	200 - 180	L3x3x3/8	3.00	2.83	89.0 K=1.54	14.328	2.1100	-974.24	30231.60	0.032
T2	180 - 160	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-1894.38	7115.35	0.266
T3	160 - 140	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-473.50	7115.35	0.067
T4	140 - 120	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-1066.57	7115.35	0.150
T5	120 - 100	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-886.47	7115.35	0.125
T6	100 - 80	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-332.98	7115.35	0.047
T7	80 - 60	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-169.29	7115.35	0.024
T8	60 - 40	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-600.34	7115.35	0.084
T9	40 - 20	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-158.66	7115.35	0.022
T10	20 - 6.5	7/8	3.00	2.81	108.0 K=0.70	11.940	0.6013	-285.68	7179.50	0.040

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	200 - 180	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-2134.88	7115.35	0.300
T2	180 - 160	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-372.80	7115.35	0.052
T3	160 - 140	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-852.20	7115.35	0.120
T4	140 - 120	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-1116.16	7115.35	0.157
T5	120 - 100	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-467.33	7115.35	0.066
T6	100 - 80	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-140.05	7115.35	0.020
T7	80 - 60	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-721.31	7115.35	0.101

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Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T8	60 - 40	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-243.34	7115.35	0.034
T9	40 - 20	7/8	3.00	2.83	108.8 K=0.70	11.833	0.6013	-247.61	7115.35	0.035
T11	6.5 - 0	8x3/8	0.27	0.08	9.1 K=1.00	21.202	3.0000	-275.41	63606.30	0.004*

* DL controls

Top Guy Pull-Off Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T1	200 - 180	1	3.00	2.83	95.2 K=0.70	13.576	0.7854	-8168.04	10662.80	0.766
T4	140 - 120	3 1/2x1 3/8	3.00	2.83	85.7 K=1.00	21.600	4.8125	0.00	70809.20	0.000*
T7	80 - 60	3 1/2x1 3/8	3.00	2.83	85.7 K=1.00	21.600	4.8125	0.00	70809.20	0.000*

* DL controls

Top Guy Pull-Off Bending Design Data

Section No.	Elevation ft	Size	Actual M _x kip-ft	Actual f _{bx} ksi	Allow. F _{bx} ksi	Ratio f _{bx} F _{bx}	Actual M _y kip-ft	Actual f _{by} ksi	Allow. F _{by} ksi	Ratio f _{by} F _{by}
T1	200 - 180	1	0.00	-0.386	27.000	0.014	0.00	0.000	27.000	0.000
T4	140 - 120	3 1/2x1 3/8	0.02	-0.103	27.000	0.004	0.00	0.000	27.000	0.000
T7	80 - 60	3 1/2x1 3/8	0.02	-0.102	27.000	0.004	0.00	0.000	27.000	0.000

Top Guy Pull-Off Interaction Design Data

Section No.	Elevation ft	Size	Ratio P P _a	Ratio f _{bx} F _{bx}	Ratio f _{by} F _{by}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	200 - 180	1	0.766	0.014	0.000	0.780	1.333	H1-3 ✓
T4	140 - 120	3 1/2x1 3/8	0.000	0.004	0.000	0.004* ✓	1.000	H1-3 ✓
T7	80 - 60	3 1/2x1 3/8	0.000	0.004	0.000	0.004* ✓	1.000	H1-3 ✓

* DL controls

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Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	200 - 180 (485)	C12x20.7	3.00	2.92	92.5 K=1.00	13.910	6.0900	-4396.22	84711.90	0.052
T1	200 - 180 (486)	C12x20.7	3.00	2.92	92.5 K=1.00	13.910	6.0900	-4395.81	84711.90	0.052
T1	200 - 180 (489)	C12x20.7	3.00	2.92	92.5 K=1.00	13.910	6.0900	-4628.49	84711.90	0.055
T1	200 - 180 (490)	C12x20.7	3.00	2.92	92.5 K=1.00	13.910	6.0900	-4616.39	84711.90	0.054
T1	200 - 180 (493)	C12x20.7	3.00	2.92	92.5 K=1.00	13.910	6.0900	-4697.37	84711.90	0.055
T1	200 - 180 (494)	C12x20.7	3.00	2.92	92.5 K=1.00	13.910	6.0900	-4706.12	84711.90	0.056

Torque-Arm Top 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 $\frac{f_{by}}{F_{by}}$
T1	200 - 180 (485)	C12x20.7	-31.98	-17.851	21.600	0.826	0.00	-0.000	21.600	0.000
T1	200 - 180 (486)	C12x20.7	-32.06	-17.893	21.600	0.828	-0.00	-0.000	21.600	0.000
T1	200 - 180 (489)	C12x20.7	-32.73	-18.270	21.600	0.846	0.00	-0.000	21.600	0.000
T1	200 - 180 (490)	C12x20.7	-32.53	-18.159	21.600	0.841	-0.00	-0.000	21.600	0.000
T1	200 - 180 (493)	C12x20.7	-32.86	-18.338	21.600	0.849	0.00	-0.000	21.600	0.000
T1	200 - 180 (494)	C12x20.7	-32.92	-18.376	21.600	0.851	-0.00	-0.000	21.600	0.000

Torque-Arm Top Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	200 - 180 (485)	C12x20.7	0.052	0.826	0.000	0.878	1.333	H1-3 ✓
T1	200 - 180 (486)	C12x20.7	0.052	0.828	0.000	0.880	1.333	H1-3 ✓
T1	200 - 180 (489)	C12x20.7	0.055	0.846	0.000	0.900	1.333	H1-3 ✓
T1	200 - 180 (490)	C12x20.7	0.054	0.841	0.000	0.895	1.333	H1-3 ✓
T1	200 - 180 (493)	C12x20.7	0.055	0.849	0.000	0.904	1.333	H1-3 ✓
T1	200 - 180 (494)	C12x20.7	0.056	0.851	0.000	0.906	1.333	H1-3 ✓

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Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T1	200 - 180	2	20.00	3.25	78.0	30.000	3.1416	41191.60	94247.80	0.437
T2	180 - 160	2	20.00	3.25	78.0	30.000	3.1416	5411.14	94247.80	0.057
T3	160 - 140	2	20.00	0.25	6.0	30.000	3.1416	1240.13	94247.80	0.013
T4	140 - 120	2	20.00	3.25	78.0	30.000	3.1416	13391.00	94247.80	0.142

Leg Bending Design Data (Tension)

Section No.	Elevation ft	Size	Actual M _x kip-ft	Actual f _{bx} ksi	Allow. F _{bx} ksi	Ratio f _{bx} F _{bx}	Actual M _y kip-ft	Actual f _{by} ksi	Allow. F _{by} ksi	Ratio f _{by} F _{by}
T1	200 - 180	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T2	180 - 160	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T3	160 - 140	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T4	140 - 120	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000

Leg Interaction Design Data (Tension)

Section No.	Elevation ft	Size	Ratio P P _a	Ratio f _{bx} F _{bx}	Ratio f _{by} F _{by}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	200 - 180	2	0.437	0.000	0.000	0.437	1.333	H2-1 ✓
T2	180 - 160	2	0.057	0.000	0.000	0.057	1.333	H2-1 ✓
T3	160 - 140	2	0.013	0.000	0.000	0.013	1.333	H2-1 ✓
T4	140 - 120	2	0.142	0.000	0.000	0.142	1.333	H2-1 ✓

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T1	200 - 180	1	4.42	4.18	200.5	21.600	0.7854	7670.01	16964.60	0.452
T2	180 - 160	1	4.42	4.18	200.5	21.600	0.7854	6786.66	16964.60	0.400

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Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T3	160 - 140	1	4.42	4.18	200.5	21.600	0.7854	2971.27	16964.60	0.175
T4	140 - 120	1	4.42	4.18	200.5	21.600	0.7854	3797.23	16964.60	0.224
T5	120 - 100	1	4.42	4.18	200.5	21.600	0.7854	3218.65	16964.60	0.190
T6	100 - 80	1	4.42	4.18	200.5	21.600	0.7854	1230.52	16964.60	0.073
T7	80 - 60	1	4.42	4.18	200.5	21.600	0.7854	2372.33	16964.60	0.140
T8	60 - 40	1	4.42	4.18	200.5	21.600	0.7854	2114.65	16964.60	0.125
T9	40 - 20	1	4.42	4.18	200.5	21.600	0.7854	852.29	16964.60	0.050
T10	20 - 6.5	1 1/4	4.42	4.15	159.2	21.600	1.2272	1781.69	26507.20	0.067

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	200 - 180	7/8	3.00	2.83	155.4	21.600	0.6013	778.10	12988.50	0.060
T2	180 - 160	7/8	3.00	2.83	155.4	21.600	0.6013	1868.15	12988.50	0.144
T3	160 - 140	7/8	3.00	2.83	155.4	21.600	0.6013	658.68	12988.50	0.051
T4	140 - 120	7/8	3.00	2.83	155.4	21.600	0.6013	893.71	12988.50	0.069
T5	120 - 100	7/8	3.00	2.83	155.4	21.600	0.6013	790.32	12988.50	0.061
T6	100 - 80	7/8	3.00	2.83	155.4	21.600	0.6013	515.33	12988.50	0.040
T7	80 - 60	7/8	3.00	2.83	155.4	21.600	0.6013	428.73	12988.50	0.033*
T8	60 - 40	7/8	3.00	2.83	155.4	21.600	0.6013	446.69	12988.50	0.034*
T9	40 - 20	7/8	3.00	2.83	155.4	21.600	0.6013	463.20	12988.50	0.036*
T10	20 - 6.5	7/8	3.00	2.81	154.3	21.600	0.6013	475.59	12988.50	0.037*
T11	6.5 - 0	8x3/8	1.09	0.90	100.0	21.600	3.0000	508.14	64800.00	0.008*

* DL controls

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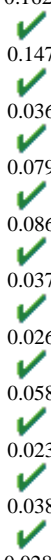
Secondary Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T1	200 - 180	7/8	1.50	1.42	77.7	21.600	0.6013	0.03	12988.50	0.000
T2	180 - 160	7/8	1.50	1.42	77.7	21.600	0.6013	0.02	12988.50	0.000
T3	160 - 140	7/8	1.50	1.42	77.7	21.600	0.6013	0.02	12988.50	0.000
T4	140 - 120	7/8	1.50	1.42	77.7	21.600	0.6013	0.02	12988.50	0.000
T5	120 - 100	7/8	1.50	1.42	77.7	21.600	0.6013	0.01	12988.50	0.000
T6	100 - 80	7/8	1.50	1.42	77.7	21.600	0.6013	0.01	12988.50	0.000
T7	80 - 60	7/8	1.50	1.42	77.7	21.600	0.6013	0.01	12988.50	0.000
T8	60 - 40	7/8	1.50	1.42	77.7	21.600	0.6013	0.01	12988.50	0.000
T9	40 - 20	7/8	1.50	1.42	77.7	21.600	0.6013	0.01	12988.50	0.000
T10	20 - 6.5	7/8	1.50	1.41	77.2	21.600	0.6013	0.01	12988.50	0.000



Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio P P _a
T1	200 - 180	L3x3x3/8	3.00	2.83	37.2	21.600	2.1100	7387.08	45576.00	0.162*
T2	180 - 160	7/8	3.00	2.83	155.4	21.600	0.6013	1910.79	12988.50	0.147
T3	160 - 140	7/8	3.00	2.83	155.4	21.600	0.6013	472.31	12988.50	0.036
T4	140 - 120	7/8	3.00	2.83	155.4	21.600	0.6013	1032.34	12988.50	0.079
T5	120 - 100	7/8	3.00	2.83	155.4	21.600	0.6013	1116.86	12988.50	0.086
T6	100 - 80	7/8	3.00	2.83	155.4	21.600	0.6013	481.51	12988.50	0.037
T7	80 - 60	7/8	3.00	2.83	155.4	21.600	0.6013	342.19	12988.50	0.026
T8	60 - 40	7/8	3.00	2.83	155.4	21.600	0.6013	755.59	12988.50	0.058
T9	40 - 20	7/8	3.00	2.83	155.4	21.600	0.6013	303.31	12988.50	0.023
T10	20 - 6.5	7/8	3.00	2.81	154.3	21.600	0.6013	498.79	12988.50	0.038
T11	6.5 - 0	8x3/8	2.73	2.54	281.9	21.600	3.0000	1840.20	64800.00	0.028*



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Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
										✓

* DL controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	200 - 180	7/8	3.00	2.83	155.4	21.600	0.6013	2274.93	12988.50	0.175
T2	180 - 160	7/8	3.00	2.83	155.4	21.600	0.6013	473.29	12988.50	0.036
T3	160 - 140	7/8	3.00	2.83	155.4	21.600	0.6013	1069.46	12988.50	0.082
T4	140 - 120	7/8	3.00	2.83	155.4	21.600	0.6013	1098.27	12988.50	0.085
T5	120 - 100	7/8	3.00	2.83	155.4	21.600	0.6013	549.03	12988.50	0.042
T6	100 - 80	7/8	3.00	2.83	155.4	21.600	0.6013	210.27	12988.50	0.016
T7	80 - 60	7/8	3.00	2.83	155.4	21.600	0.6013	821.00	12988.50	0.063
T8	60 - 40	7/8	3.00	2.83	155.4	21.600	0.6013	361.55	12988.50	0.028
T9	40 - 20	7/8	3.00	2.83	155.4	21.600	0.6013	331.17	12988.50	0.025
T10	20 - 6.5	7/8	3.00	2.81	154.3	21.600	0.6013	2495.18	12988.50	0.192*

* DL controls

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P lb	Allow. P _a lb	Ratio $\frac{P}{P_a}$
T1	200 - 180	1	3.00	2.83	136.0	21.600	0.7854	8252.53	16964.60	0.486
T4	140 - 120	3 1/2x1 3/8	3.00	2.83	85.7	21.600	4.8125	4661.75	103950.00	0.045
T7	80 - 60	3 1/2x1 3/8	3.00	2.83	85.7	21.600	4.8125	2850.76	103950.00	0.027

Top Guy Pull-Off Bending Design Data

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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 $\frac{f_{by}}{F_{by}}$
T1	200 - 180	1	0.00	0.386	27.000	0.014	0.00	0.000	27.000	0.000
T4	140 - 120	3 1/2x1 3/8	0.02	0.083	27.000	0.003	0.00	0.000	27.000	0.000
T7	80 - 60	3 1/2x1 3/8	0.02	0.083	27.000	0.003	0.00	0.000	27.000	0.000

Top Guy Pull-Off Interaction Design Data

Section No.	Elevation ft	Size	Ratio P P_a	Ratio f_{bx} F_{bx}	Ratio f_{by} F_{by}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	200 - 180	1	0.486	0.014	0.000	0.501	1.333	H2-1 ✓
T4	140 - 120	3 1/2x1 3/8	0.045	0.003	0.000	0.048	1.333	H2-1 ✓
T7	80 - 60	3 1/2x1 3/8	0.027	0.003	0.000	0.030	1.333	H2-1 ✓

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P lb	Allow. P_a lb	Ratio $\frac{P}{P_a}$
T1	200 - 180 (485)	C12x20.7	3.00	2.92	43.8	21.600	6.0900	116.96	131544.00	0.001
T1	200 - 180 (486)	C12x20.7	3.00	2.92	43.8	21.600	6.0900	296.57	131544.00	0.002
T1	200 - 180 (489)	C12x20.7	3.00	2.92	43.8	21.600	6.0900	3760.37	131544.00	0.029
T1	200 - 180 (490)	C12x20.7	3.00	2.92	43.8	21.600	6.0900	328.61	131544.00	0.002
T1	200 - 180 (493)	C12x20.7	3.00	2.92	43.8	21.600	6.0900	110.03	131544.00	0.001
T1	200 - 180 (494)	C12x20.7	3.00	2.92	43.8	21.600	6.0900	3895.02	131544.00	0.030

Torque-Arm Top 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 $\frac{f_{by}}{F_{by}}$
T1	200 - 180 (485)	C12x20.7	-33.10	18.474	21.600	0.855	-0.00	0.000	27.000	0.000
T1	200 - 180 (486)	C12x20.7	-33.39	18.634	21.600	0.863	0.00	0.000	27.000	0.000
T1	200 - 180 (489)	C12x20.7	-27.52	15.359	21.600	0.711	-0.00	0.000	27.000	0.000
T1	200 - 180 (490)	C12x20.7	-33.14	18.497	21.600	0.856	-0.00	0.000	27.000	0.000
T1	200 - 180 (493)	C12x20.7	-33.12	18.484	21.600	0.856	0.00	0.000	27.000	0.000
T1	200 - 180 (494)	C12x20.7	-27.64	15.427	21.600	0.714	0.00	0.000	27.000	0.000

Torque-Arm Top Interaction Design Data

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Section No.	Elevation ft	Size	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
			P_a	f_{bx}	f_{by}			
T1	200 - 180 (485)	C12x20.7	0.001	0.855	0.000	0.856	1.333	H2-1 ✓
T1	200 - 180 (486)	C12x20.7	0.002	0.863	0.000	0.865	1.333	H2-1 ✓
T1	200 - 180 (489)	C12x20.7	0.029	0.711	0.000	0.740	1.333	H2-1 ✓
T1	200 - 180 (490)	C12x20.7	0.002	0.856	0.000	0.859	1.333	H2-1 ✓
T1	200 - 180 (493)	C12x20.7	0.001	0.856	0.000	0.857	1.333	H2-1 ✓
T1	200 - 180 (494)	C12x20.7	0.030	0.714	0.000	0.744	1.333	H2-1 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail
L1	250 - 200	Pole	P12x.5	1	-4075.70	159930.15	66.4	Pass
T1	200 - 180	Leg	2	4	-44923.90	81280.87	55.3	Pass
T2	180 - 160	Leg	2	51	-34048.30	81280.87	41.9	Pass
T3	160 - 140	Leg	2	99	-38028.80	81280.87	46.8	Pass
T4	140 - 120	Leg	2	147	-51598.50	81280.87	63.5	Pass
T5	120 - 100	Leg	2	195	-45627.10	81280.87	56.1	Pass
T6	100 - 80	Leg	2	243	-29750.00	81280.87	36.6	Pass
T7	80 - 60	Leg	2	292	-24752.60	60975.90	40.6	Pass
T8	60 - 40	Leg	2	340	-25789.70	60975.90	42.3	Pass
T9	40 - 20	Leg	2	388	-26742.90	60975.90	43.9	Pass
T10	20 - 6.5	Leg	2 1/4	436	-27458.10	83740.00	32.8	Pass
T11	6.5 - 0	Leg	2 1/4	470	-28598.70	93075.80	30.7	Pass
T1	200 - 180	Diagonal	1	13	-7873.23	7936.26	99.2	Pass
T2	180 - 160	Diagonal	1	96	-7059.15	7936.26	88.9	Pass
T3	160 - 140	Diagonal	1	107	-3307.04	7936.26	41.7	Pass
T4	140 - 120	Diagonal	1	169	-4179.69	7936.26	52.7	Pass
T5	120 - 100	Diagonal	1	240	-3569.78	7936.26	45.0	Pass
T6	100 - 80	Diagonal	1	288	-1593.57	7936.26	20.1	Pass
T7	80 - 60	Diagonal	1	301	-2746.99	7936.26	34.6	Pass
T8	60 - 40	Diagonal	1	382	-2506.81	7936.26	31.6	Pass
T9	40 - 20	Diagonal	1	396	-1125.25	7936.26	14.2	Pass
T10	20 - 6.5	Diagonal	1 1/4	444	-2019.89	18770.51	10.8	Pass
T1	200 - 180	Horizontal	7/8	16	-778.10	9484.76	8.2	Pass
T2	180 - 160	Horizontal	7/8	93	-1674.38	9484.76	17.7	Pass
T3	160 - 140	Horizontal	7/8	112	-658.68	9484.76	6.9	Pass
T4	140 - 120	Horizontal	7/8	166	-893.71	9484.76	9.4	Pass
T5	120 - 100	Horizontal	7/8	214	-790.32	9484.76	8.3	Pass
T6	100 - 80	Horizontal	7/8	255	-515.33	9484.76	5.4	Pass
T7	80 - 60	Horizontal	7/8	311	-428.73	7115.35	6.0	Pass
T8	60 - 40	Horizontal	7/8	359	-446.69	7115.35	6.3	Pass
T9	40 - 20	Horizontal	7/8	401	-463.20	7115.35	6.5	Pass
T10	20 - 6.5	Horizontal	7/8	449	-475.59	7179.50	6.6	Pass
T11	6.5 - 0	Horizontal	8x3/8	481	-508.14	12284.10	4.1	Pass
T1	200 - 180	Secondary Horizontal	7/8	21	-0.03	12509.51	0.0	Pass
T2	180 - 160	Secondary Horizontal	7/8	97	-0.02	12509.51	0.0	Pass
T3	160 - 140	Secondary Horizontal	7/8	145	-0.02	12509.51	0.0	Pass
T4	140 - 120	Secondary Horizontal	7/8	193	-0.02	12509.51	0.0	Pass
T5	120 - 100	Secondary Horizontal	7/8	241	-0.01	12509.51	0.0	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	SF*P _{allow} lb	% Capacity	Pass Fail
T6	100 - 80	Secondary Horizontal	7/8	254	-0.01	12509.51	0.0	Pass
T7	80 - 60	Secondary Horizontal	7/8	302	-0.01	12509.51	0.0	Pass
T8	60 - 40	Secondary Horizontal	7/8	350	-0.01	12509.51	0.0	Pass
T9	40 - 20	Secondary Horizontal	7/8	398	-0.01	12509.51	0.0	Pass
T10	20 - 6.5	Secondary Horizontal	7/8	460	-0.01	12559.60	0.0	Pass
T1	200 - 180	Top Girt	L3x3x3/8	7	7387.08	45576.00	16.2	Pass
T2	180 - 160	Top Girt	7/8	55	-1894.38	9484.76	20.0	Pass
T3	160 - 140	Top Girt	7/8	101	-473.50	9484.76	5.0	Pass
T4	140 - 120	Top Girt	7/8	149	-1066.57	9484.76	11.2	Pass
T5	120 - 100	Top Girt	7/8	199	-886.47	9484.76	9.3	Pass
T6	100 - 80	Top Girt	7/8	247	-332.98	9484.76	3.5	Pass
T7	80 - 60	Top Girt	7/8	293	342.19	17313.67	2.0	Pass
T8	60 - 40	Top Girt	7/8	343	-600.34	9484.76	6.3	Pass
T9	40 - 20	Top Girt	7/8	389	303.31	17313.67	1.8	Pass
T10	20 - 6.5	Top Girt	7/8	438	-285.68	9570.27	3.0	Pass
T11	6.5 - 0	Top Girt	8x3/8	472	1840.20	64800.00	2.8	Pass
T1	200 - 180	Bottom Girt	7/8	10	-2134.88	9484.76	22.5	Pass
T2	180 - 160	Bottom Girt	7/8	57	-372.80	9484.76	3.9	Pass
T3	160 - 140	Bottom Girt	7/8	104	-852.20	9484.76	9.0	Pass
T4	140 - 120	Bottom Girt	7/8	153	-1116.16	9484.76	11.8	Pass
T5	120 - 100	Bottom Girt	7/8	201	-467.33	9484.76	4.9	Pass
T6	100 - 80	Bottom Girt	7/8	248	-140.05	9484.76	1.5	Pass
T7	80 - 60	Bottom Girt	7/8	298	-721.31	9484.76	7.6	Pass
T8	60 - 40	Bottom Girt	7/8	346	-243.34	9484.76	2.6	Pass
T9	40 - 20	Bottom Girt	7/8	393	-247.61	9484.76	2.6	Pass
T10	20 - 6.5	Bottom Girt	7/8	441	2495.18	12988.50	19.2	Pass
T11	6.5 - 0	Bottom Girt	8x3/8	475	-274.44	63606.30	11.0	Pass
T1	200 - 180	Guy A@186.75	9/16	491	14444.10	17500.00	82.5	Pass
T4	140 - 120	Guy A@126.75	9/16	500	11394.50	17500.00	65.1	Pass
T7	80 - 60	Guy A@66.75	7/16	506	5835.79	10400.00	56.1	Pass
T1	200 - 180	Guy B@186.75	9/16	488	14198.10	17500.00	81.1	Pass
T4	140 - 120	Guy B@126.75	9/16	499	11453.80	17500.00	65.5	Pass
T7	80 - 60	Guy B@66.75	7/16	505	5847.13	10400.00	56.2	Pass
T1	200 - 180	Guy C@186.75	9/16	484	14433.30	17500.00	82.5	Pass
T4	140 - 120	Guy C@126.75	9/16	495	11425.30	17500.00	65.3	Pass
T7	80 - 60	Guy C@66.75	7/16	501	5854.83	10400.00	56.3	Pass
T1	200 - 180	Top Guy	1	23	-8168.04	14213.51	58.5	Pass
Pull-Off@186.75								
T4	140 - 120	Top Guy	3 1/2x1 3/8	498	4661.75	138565.34	3.6	Pass
Pull-Off@126.75								
T7	80 - 60	Top Guy	3 1/2x1 3/8	504	2850.76	138565.34	2.3	Pass
Pull-Off@66.75								
T1	200 - 180	Torque Arm Top@186.75	C12x20.7	494	-4706.12	112920.96	68.0	Pass
						Summary		
						Pole (L1)	66.4	Pass
						Leg (T4)	63.5	Pass
						Diagonal (T1)	99.2	Pass
						Horizontal (T2)	17.7	Pass
						Secondary Horizontal (T1)	0.0	Pass
						Top Girt (T2)	20.0	Pass
						Bottom Girt (T1)	22.5	Pass
						Guy A (T1)	82.5	Pass
						Guy B (T1)	81.1	Pass
						Guy C (T1)	82.5	Pass

<i>tnxTower</i> <i>Destek Engineering, LLC</i> <i>5150 Stilesboro Road</i> <i>Kennesaw, GA 30152</i> <i>Phone: (770) 693-0835</i> <i>FAX:</i>	Job	1517023	Page	50 of 50
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<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Size</i>	<i>Critical Element</i>	<i>P lb</i>	<i>SF*P_{allow} lb</i>	<i>% Capacity</i>	<i>Pass Fail</i>
						Top Guy Pull-Off (T1)	58.5	Pass
						Torque Arm Top (T1)	68.0	Pass
						Bolt Checks	7.0	Pass
						RATING =	99.2	Pass

Exhibit C

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

MetroPCS Existing Facility

Site ID: CTNL223A

**Citadel Groton Guyed
99 Briar Hill Road
Groton, CT 06340**

July 20, 2015

EBI Project Number: 6215004112

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	15.45 %

July 20, 2015

MetroPCS
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CTNL223A – Citadel Groton Guyed**

EBI Consulting was directed to analyze the proposed MetroPCS facility located at **99 Briar Hill Road, Groton, CT**, for the purpose of determining whether the emissions from the Proposed MetroPCS Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed MetroPCS Wireless antenna facility located at **99 Briar Hill Road, Groton, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since MetroPCS 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) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 5) 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.

- 6) 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.
- 7) The antennas used in this modeling are the **Ericsson AIR21 B2A/B4P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Ericsson AIR21 B4A/B12P** for 2100 MHz (AWS) and 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 B2A/B4P** has a maximum gain of **15.9 dBd** at its main lobe. The **Ericsson AIR21 B4A/B12P** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz and has a maximum gain of **13.6 dBd** at its main lobe at 700 MHz. 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.
- 8) The antenna mounting height centerline of the proposed antennas is **177 feet** above ground level (AGL).
- 9) 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.

MetroPCS Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	177	Height (AGL):	177	Height (AGL):	177
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	# PCS Channels:	4
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	0.57	Antenna B1 MPE%	0.57	Antenna C1 MPE%	0.57
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B4A/B12P	Make / Model:	Ericsson AIR21 B4A/B12P	Make / Model:	Ericsson AIR21 B4A/B12P
Gain:	15.9 / 13.6 dBd	Gain:	15.9 / 13.6 dBd	Gain:	15.9 / 13.6 dBd
Height (AGL):	177	Height (AGL):	177	Height (AGL):	177
Frequency Bands	2100 MHz (AWS) / 700 MHz	Frequency Bands	2100 MHz (AWS) / 700 MHz	Frequency Bands	2100 MHz (AWS) / 700 MHz
Channel Count	3	Channel Count	3	Channel Count	3
Total TX Power:	150	Total TX Power:	150	Total TX Power:	150
ERP (W):	5,355.80	ERP (W):	5,355.80	ERP (W):	5,355.80
Antenna A2 MPE%	0.75	Antenna B2 MPE%	0.75	Antenna C2 MPE%	0.75

Site Composite MPE%	
Carrier	MPE%
MetroPCS	3.99
WSUB	2.54 %
WQGN	0.79 %
WNLC	1.76 %
Sprint	6.37 %
Site Total MPE %:	15.45 %

MetroPCS Sector 1 Total:	1.33 %
MetroPCS Sector 2 Total:	1.33 %
MetroPCS Sector 3 Total:	1.33 %
Site Total:	15.45 %

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 MetroPCS 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:

MetroPCS Sector	Power Density Value (%)
Sector 1:	1.33 %
Sector 2:	1.33 %
Sector 3 :	1.33 %
MetroPCS Total:	3.99 %
Site Total:	15.45 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **15.45%** 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.



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