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

December 2, 2015

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

RE: **Notice of Exempt Modification for T-Mobile / L700 Crown Site BU: 876313**
T-Mobile Site ID: CT11453C
1394 Meriden Waterbury Turnpike, Southington, CT 06489
Latitude: 41° 33' 51.39" / Longitude: -72° 53' 30.7"

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 129 foot level of the existing 160 foot monopole at 1394 Meriden Waterbury Turnpike in Southington, CT. Both the tower and property is owned by Crown Castle. T-Mobile now intends to remove six (6) existing lines of coax, proposed installation of three (3) new 700MHz antennas and three (3) new RRU's. These antennas would be installed at the 129 foot level of the tower.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.S.C.A. § 16-50j-73, a copy of this letter is being sent to Garry Brumback, Town Manager for the Town of Southington.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

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

Sincerely,

Kimberly Myl
Real Estate Specialist
Crown Castle
1200 MacArthur Boulevard, Suite 200
Mahwah, New Jersey 07430
201-236-9069
kimberly.myl@crowncastle.com

Attachments:

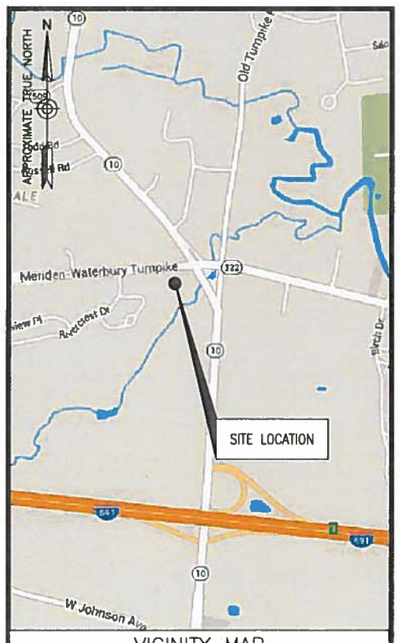
Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes
Tab 2: Exhibit-2: Structural Modification Report
Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: Garry Brumback, Town Manager
Town of Southington
75 Main Street
Southington, CT 06489

T-Mobile®

T-MOBILE NORTHEAST LLC

T-MOBILE SITE #: CT11453C
CROWN CASTLE BU #: 876313
SITE NAME: WEST JOHNSON AVE BURNT HOUSE
1394 MERIDEN WATERBURY TPK
SOUTHINGTON, CT 06489
HARTFORD COUNTY



VICINITY MAP

FROM BLOOMFIELD, CT:

HEAD NORTHEAST ON GRIFFIN RD S TOWARD W NEWBERRY RD. TURN RIGHT ONTO DAY HILL RD. MERGE ONTO I-91 S. CONTINUE ONTO I-91 S AND TAKE EXIT 32A-32B FOR I-84 W TOWARDS WATERBURY. CONTINUE ON I-84 AND USE LEFT LANE TO TAKE EXIT 29 FOR CT-10 TOWARDS MILLDALE. TURN RIGHT ONTO CT-10 S AND MAKE A SLIGHT LEFT ONTO NORTON ST. TURN RIGHT ONTO CT-322 W. DESTINATION WILL BE ON THE LEFT.

ENGINEER
DEWBERRY ENGINEERS INC.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054

CONTACT: BRYAN HUFF
PHONE #: (973) 576-0147

CONSTRUCTION
CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

CONTACT: PATRICIA PELON
PHONE #: (518) 373-3507

CONSULTANT TEAM

SITE NAME:
WEST JOHNSON AVE BURNT HOUSE

SITE NUMBER:
CT11453C

TOWER OWNER:
CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

APPLICANT/DEVELOPER:
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

COORDINATES:
LATITUDE: 41°-33'-51.39" N (NAD83)
LONGITUDE: 72°-53'-30.7" W (NAD83)
(PER CROWN CASTLE)

CONFIGURATION
702Cu

PROJECT SUMMARY

SITE ADDRESS:
1394 MERIDEN WATERBURY TPK
SOUTHINGTON, CT 06489
HARTFORD COUNTY

PROJECT DIRECTORY

- INSTALL (3) NEW ANTENNAS.
- INSTALL (3) NEW RRU'S.
- REMOVE (6) EXISTING LINES OF COAX.

SCOPE OF WORK

THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

A.D.A. COMPLIANCE:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.

SHT. NO.	DESCRIPTION
T-1	TITLE SHEET
G-1	GENERAL NOTES
C-1	COMPOUND PLAN & EQUIPMENT PLANS
C-2	ANTENNA LAYOUTS & ELEVATIONS
C-3	CONSTRUCTION DETAILS
E-1	GROUNDING NOTES & DETAILS

SHEET INDEX

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

CROWN CASTLE

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

CT11453C
WEST JOHNSON AVE.
BURNT HOUSE

CONSTRUCTION DRAWINGS		
A	11/30/15	ISSUED FOR REVIEW

Dewberry®
Dewberry Engineers Inc.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.9710

STATE OF CONNECTICUT
JIANG YU
No. 23222
PROFESSIONAL ENGINEER
JIANG YU, P.E.
CONNECTICUT LICENSE NO. 0023222

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT.

DRAWN BY:	RA
REVIEWED BY:	BSH
CHECKED BY:	GHN
PROJECT NUMBER:	50066258
JOB NUMBER:	50078108
SITE ADDRESS:	

1394 MERIDEN
WATERBURY TPK
SOUTHINGTON, CT 06489
HARTFORD COUNTY

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   PROJECT MANAGEMENT – CROWN CASTLE
   CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – T–MOBILE
   OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF PROJECT MANAGEMENT.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY PROJECT MANAGEMENT.
9. CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. CONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. CONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH PROJECT MANAGEMENT.
10. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. 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 THE CONTRACT.
14. CONTRACTOR SHALL NOTIFY DEWBERRY 48 HOURS IN ADVANCE OF POURING CONCRETE, OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS & POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEER REVIEW.
15. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. CONTRACTOR SHALL NOTIFY PROJECT MANAGEMENT OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
16. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY CONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
17. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO:
   A) FALL PROTECTION
   B) CONFINED SPACE
   C) ELECTRICAL SAFETY
   D) TRENCHING & EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES, TOP SOIL AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
6. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T–MOBILE SPECIFICATION FOR SITE SIGNAGE.
8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE TRANSMISSION EQUIPMENT AND TOWER AREAS.
9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION, SEE SOIL COMPACTION NOTES.
11. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
12. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
2. CONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. CONTRACTOR SHALL SUBMIT MODIFICATIONS TO PROJECT MANAGEMENT FOR APPROVAL.
3. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
4. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
5. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
6. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.
7. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
8. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
9. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
10. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
11. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL.) PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS.
13. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (SIZE 6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
14. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
15. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (SIZE 14 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
16. ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
17. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
18. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
19. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
20. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
21. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
22. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
23. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
24. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
25. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
26. CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
27. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
28. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
29. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
30. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
31. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM PROJECT MANAGEMENT BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
32. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000 PSI) MAY BE USED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE (UNO). SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL. UNLESS SHOWN OTHERWISE ON DRAWINGS:

   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER .....2 IN.
   #5 AND SMALLER & WWF.....1 1/2 IN.

   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....3/4 IN.
   BEAMS AND COLUMNS.....1 1/2 IN.

5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC 1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TESTS PERFORMED AT THE SUPPLIER'S PLANT,
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
   FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
8. AS AN ALTERNATIVE TO ITEM 7, TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS UNLESS NOTED OTHERWISE. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE PERFORMED IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"Ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
7. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
   CONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T–MOBILE ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.
2. COORDINATION OF WORK:
   CONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH PROJECT MANAGEMENT.
3. CABLE LADDER RACK:
   CONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.
4. GROUNDING OF ALL EQUIPMENT AND ANTENNAS IS NOT CONSIDERED PART OF THE SCOPE OF THIS PROJECT AND IS THE RESPONSIBILITY OF THE OWNER AND CONTRACTOR AT THE TIME OF CONSTRUCTION. ALL EQUIPMENT AND ANTENNAS TO BE INSTALLED AND GROUNDED IN ACCORDANCE WITH GOVERNING BUILDING CODE, MANUFACTURER RECOMMENDATIONS AND OWNER SPECIFICATIONS.

T·Mobile

T–MOBILE NORTHEAST LLC
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CROWN CASTLE

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CLIFTON PARK, NY 12065

CT11453C
WEST JOHNSON AVE.
BURNT HOUSE

CONSTRUCTION DRAWINGS		
A	11/30/15	ISSUED FOR REVIEW

Dewberry®
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STATE OF CONNECTICUT
JIANG YU
No. 23222
LICENSED
PROFESSIONAL ENGINEER

JIANG YU, P.E.
CONNECTICUT LICENSE NO. 0023222

DRAWN BY:	RA
REVIEWED BY:	BSH
CHECKED BY:	GHN
PROJECT NUMBER:	50066258
JOB NUMBER:	50078108
SITE ADDRESS:	

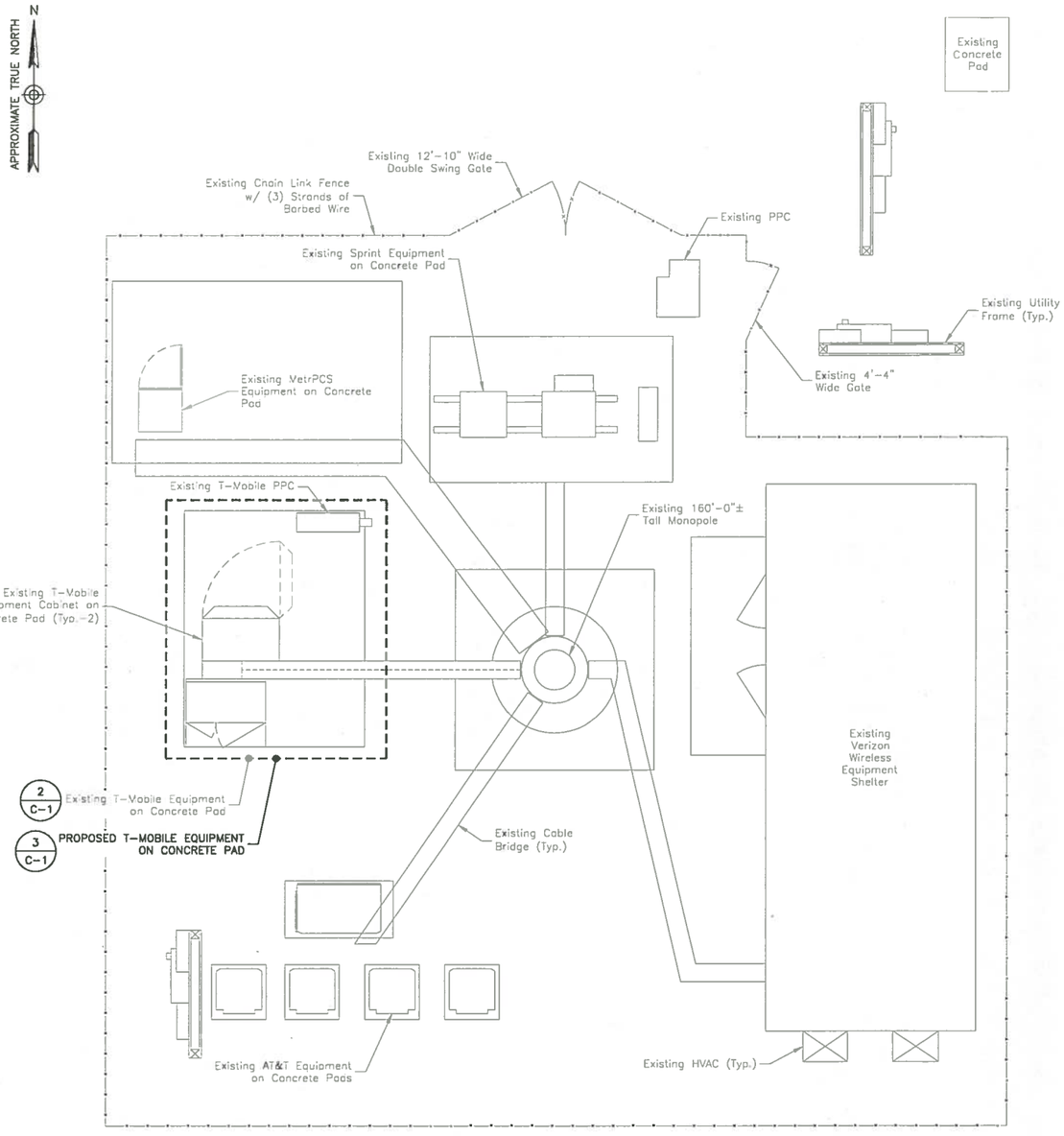
1394 MERIDEN
WATERBURY TPK
SOUTHINGTON, CT 06489
HARTFORD COUNTY

SHEET TITLE

GENERAL NOTES

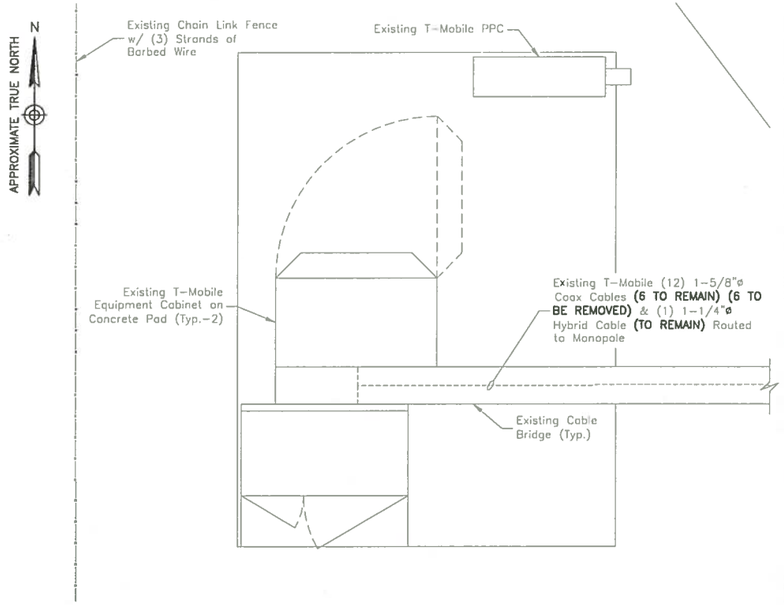
SHEET NUMBER

G–1



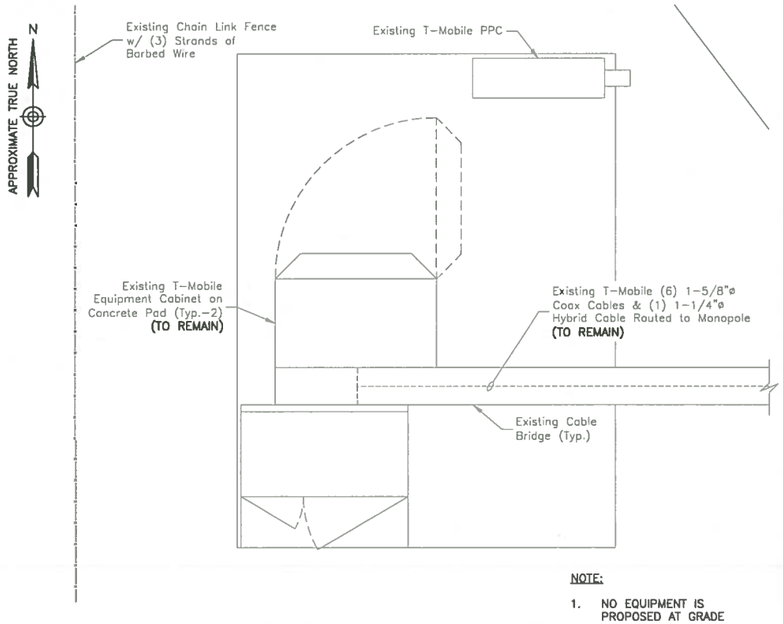
COMPOUND PLAN 1

SCALE: 1/8"=1' FOR 11"x17"
1/4"=1' FOR 22"x34"
0' 2' 4' 8'



EXISTING EQUIPMENT PLAN 2

SCALE: 1/4"=1' FOR 11"x17"
1/2"=1' FOR 22"x34"
0' 1' 2' 4'



NOTE:

1. NO EQUIPMENT IS PROPOSED AT GRADE

PROPOSED EQUIPMENT PLAN 3

SCALE: 1/4"=1' FOR 11"x17"
1/2"=1' FOR 22"x34"
0' 1' 2' 4'

NOTES:

1. NORTH ARROW SHOWN AS APPROXIMATE.
2. NOT ALL INFORMATION IS SHOWN FOR CLARITY.
3. ALL PROPOSED EQUIPMENT, INCLUDING ANTENNAS, RRU'S, COAX, ETC., SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS BY DESTEK ENGINEERING. LLC DATED SEPTEMBER 9, 2015.

T-Mobile

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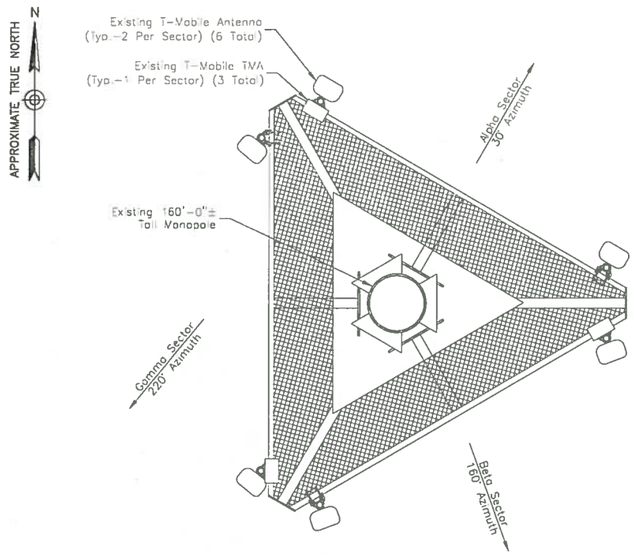
SHEET TITLE

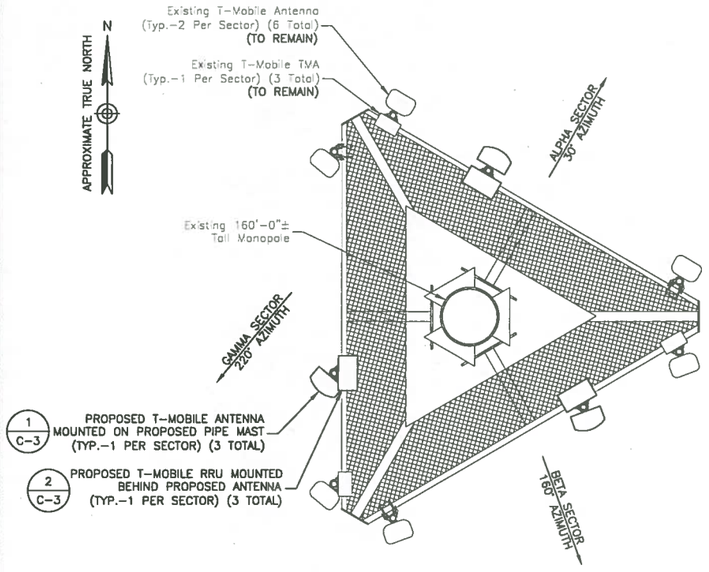
COMPOUND PLAN & EQUIPMENT PLANS

SHEET NUMBER

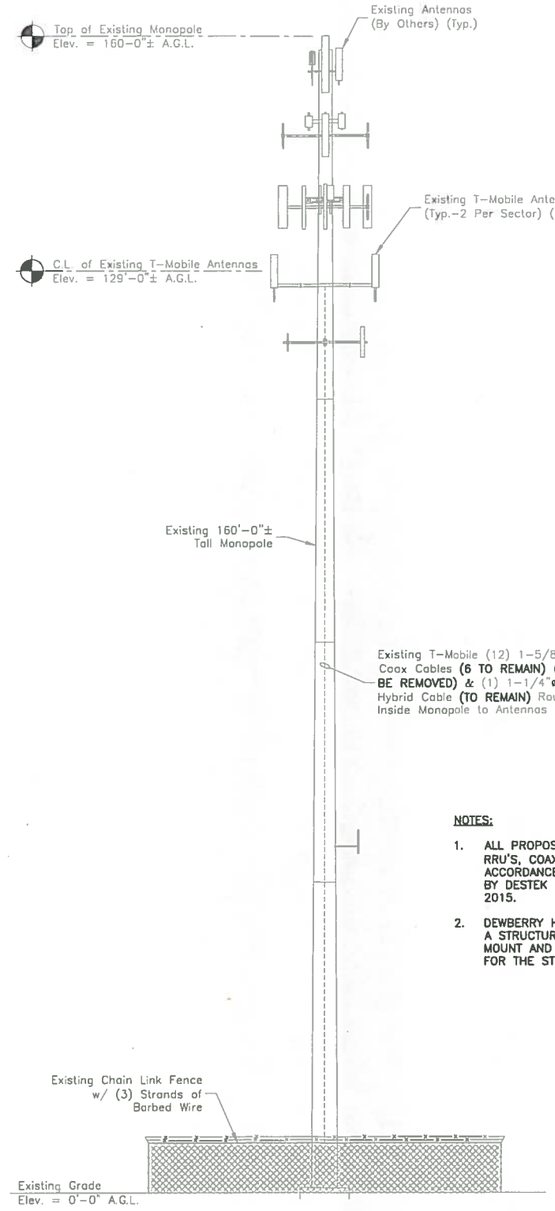
C-1



EXISTING ANTENNA LAYOUT 1
SCALE: N.T.S.

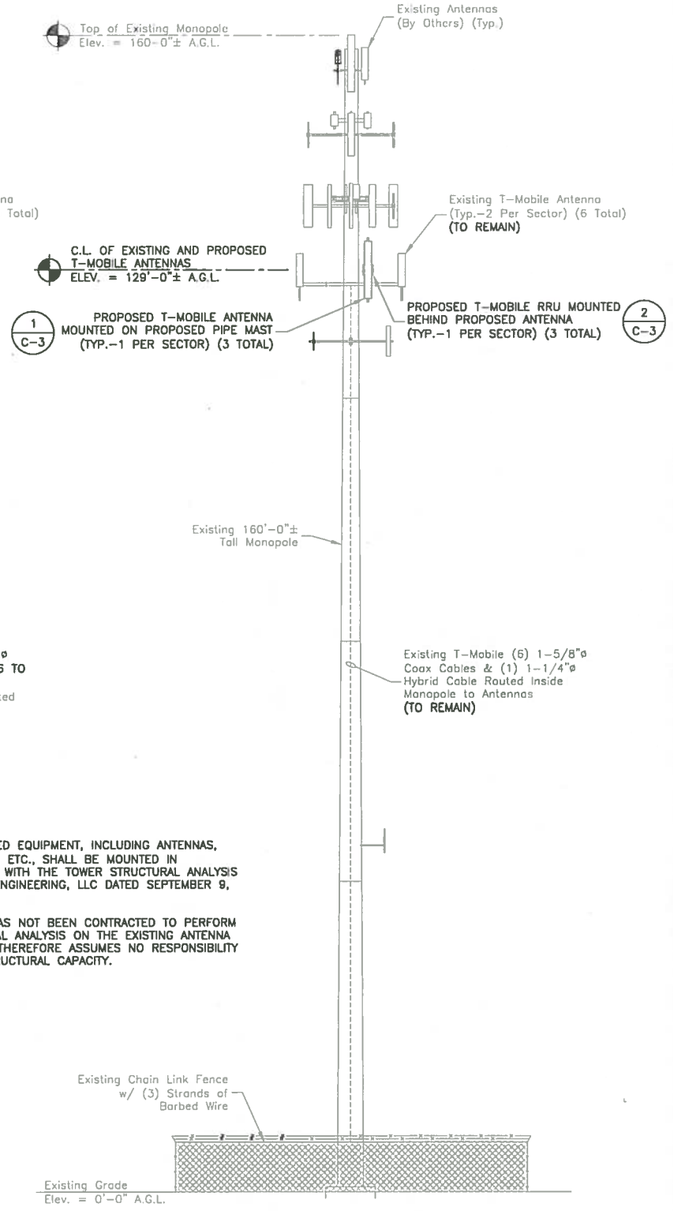


PROPOSED ANTENNA LAYOUT 2
SCALE: N.T.S.



EXISTING ELEVATION 3
SCALE: 3/64"=1' FOR 11"x17"
3/32"=1' FOR 22"x34"

0' 8' 16' 24'



PROPOSED ELEVATION 4
SCALE: 3/64"=1' FOR 11"x17"
3/32"=1' FOR 22"x34"

0' 8' 16' 24'

NOTES:

1. ALL PROPOSED EQUIPMENT, INCLUDING ANTENNAS, RRU'S, COAX, ETC., SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS BY DESTEK ENGINEERING, LLC DATED SEPTEMBER 9, 2015.
2. DEWBERRY HAS NOT BEEN CONTRACTED TO PERFORM A STRUCTURAL ANALYSIS ON THE EXISTING ANTENNA MOUNT AND THEREFORE ASSUMES NO RESPONSIBILITY FOR THE STRUCTURAL CAPACITY.

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STATE OF CONNECTICUT
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PROFESSIONAL ENGINEER
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CONNECTICUT LICENSE NO. 0023222
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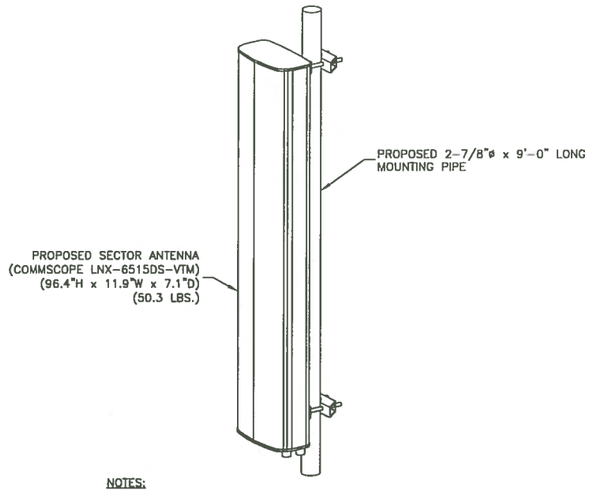
SOUTHINGTON, CT 06489
HARTFORD COUNTY

SHEET TITLE

ANTENNA LAYOUTS & ELEVATIONS

SHEET NUMBER

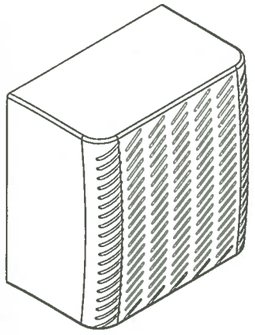
C-2



NOTES:

1. MOUNT ANTENNAS PER MANUFACTURER'S RECOMMENDATIONS.
2. GROUND ANTENNAS AND MOUNTS PER MANUFACTURER'S RECOMMENDATIONS AND T-MOBILE STANDARDS.
3. CONFIRM REQUIRED ANTENNAS WITH THE LATEST RFDS.

ISOMETRIC ANTENNA DETAIL 1
SCALE: N.T.S.



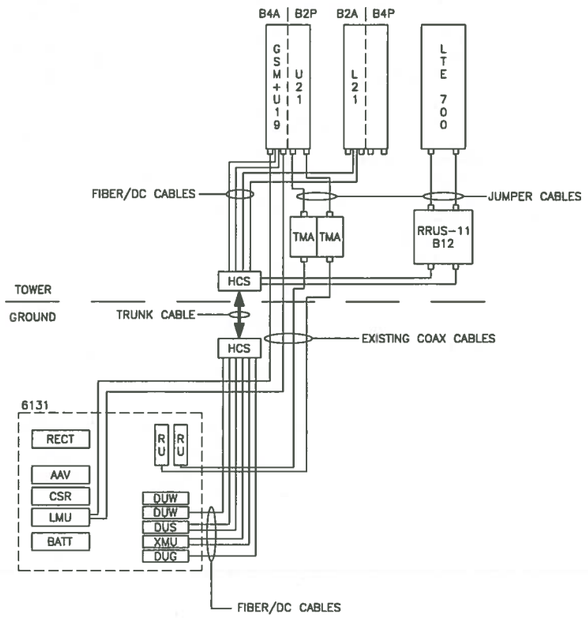
SPECIFICATIONS:
HEIGHT: 20.0"
WIDTH: 17.0"
DEPTH: 7.0"
WEIGHT: 50.7 LBS

ERICSSON RRUS-11 B12

RRU NOTES:

1. MOUNT EQUIPMENT WITH MANUFACTURER PROVIDED MOUNTING BRACKETS.
2. GROUND EQUIPMENT AND MOUNTS PER MANUFACTURER'S RECOMMENDATIONS AND T-MOBILE STANDARDS.
3. CONFIRM REQUIRED EQUIPMENT WITH THE LATEST RFDS.

RRUS-11 - REMOTE RADIO UNIT 2
SCALE: N.T.S.



SITE CONFIGURATION 702Cu 3
SCALE: N.T.S.

DESIGN CONFIGURATION

	ANTENNAS		COAX		HYBRID	COAX/HYBRID LENGTH	TMA	RRU
	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING		EXISTING	PROPOSED
ALPHA	ERICSSON AIR 21 B2A B4P	EXISTING TO REMAIN	(4) 1-5/8"ø	(2) 1-5/8"ø TO BE REMOVED	(1) 1-1/4"ø	179'-0"	(1) KRY 112 144/1	-
	-	COMMSCOPE LNX-6515DS-VTM					-	(1) RRUS-11 B12
	ERICSSON AIR 21 B4A B2P	EXISTING TO REMAIN					-	-
BETA	ERICSSON AIR 21 B2A B4P	EXISTING TO REMAIN	(4) 1-5/8"ø	(2) 1-5/8"ø TO BE REMOVED		179'-0"	(1) KRY 112 144/1	-
	-	COMMSCOPE LNX-6515DS-VTM					-	(1) RRUS-11 B12
	ERICSSON AIR 21 B4A B2P	EXISTING TO REMAIN					-	-
GAMMA	ERICSSON AIR 21 B2A B4P	EXISTING TO REMAIN	(4) 1-5/8"ø	(2) 1-5/8"ø TO BE REMOVED		179'-0"	(1) KRY 112 144/1	-
	-	COMMSCOPE LNX-6515DS-VTM					-	(1) RRUS-11 B12
	ERICSSON AIR 21 B4A B2P	EXISTING TO REMAIN					-	-

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STATE OF CONNECTICUT
JIANG YU
No. 28222
PROFESSIONAL ENGINEER
JIANG YU, PE
CONNECTICUT LICENSE NO. 0028222

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WATERBURY TPK
SOUTHINGTON, CT 06489
HARTFORD COUNTY

SHEET TITLE

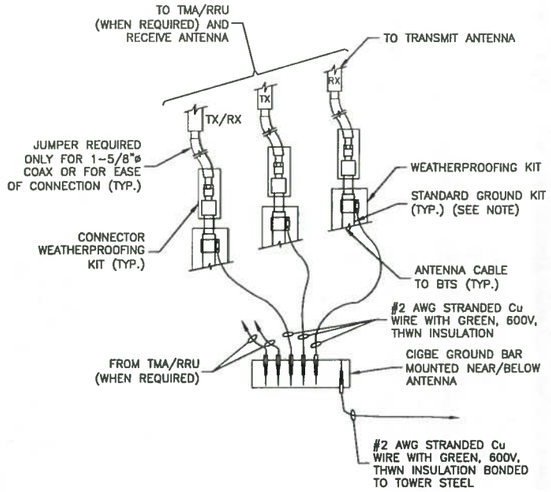
CONSTRUCTION DETAILS

SHEET NUMBER

C-3

GROUNDING NOTES:

1. THE CONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ). THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE CONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE ENGINEER FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS. ALL AVAILABLE GROUNDING ELECTRODES SHALL BE CONNECTED TOGETHER IN ACCORDANCE WITH THE NEC.
3. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. USE OF OTHER METHODS MUST BE PRE-APPROVED BY THE ENGINEER IN WRITING.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS ON TOWER SITES AND 10 OHMS OR LESS ON ROOFTOP SITES. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEEN THE ADDED ELECTRODE AND ANY OTHER EXISTING ELECTRODE EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPARATION DISTANCE EQUAL TO TWICE THE BURIED LENGTH OF THE RODS.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
6. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
7. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO TRANSMISSION EQUIPMENT.
8. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK-TO-BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
11. EACH INTERIOR TRANSMISSION CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH 6 AWG STRANDED, GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRE UNLESS NOTED OTHERWISE IN THE DETAILS. EACH OUTDOOR CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER WIRE UNLESS NOTED OTHERWISE IN THE DETAILS.
12. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE 2 AWG SOLID TIN-PLATED COPPER UNLESS OTHERWISE INDICATED.
13. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE. CONNECTIONS TO ABOVE GRADE UNITS SHALL BE MADE WITH EXOTHERMIC WELDS WHERE PRACTICAL OR WITH 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS. HIGH PRESSURE CRIMP CONNECTORS MAY ONLY BE USED WITH WRITTEN PERMISSION FROM T-MOBILE MARKET REPRESENTATIVE.
14. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
15. ALL WIRE TO WIRE GROUND CONNECTIONS TO THE INTERIOR GROUND RING SHALL BE FORMED USING HIGH PRESS CRIMPS OR SPLIT BOLT CONNECTORS WHERE INDICATED IN THE DETAILS.
16. ON ROOFTOP SITES WHERE EXOTHERMIC WELDS ARE A FIRE HAZARD COPPER COMPRESSION CAP CONNECTORS MAY BE USED FOR WIRE TO WIRE CONNECTORS. 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS SHALL BE USED FOR CONNECTION TO ALL ROOFTOP TRANSMISSION EQUIPMENT AND STRUCTURAL STEEL.
17. COAX BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR USING TWO-HOLE MECHANICAL TYPE BRASS CONNECTORS AND STAINLESS STEEL HARDWARE.
18. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
19. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
20. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
21. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER GROUND CONDUCTOR. DURING EXCAVATION FOR NEW GROUND CONDUCTORS, IF EXISTING GROUND CONDUCTORS ARE ENCOUNTERED, BOND EXISTING GROUND CONDUCTORS TO NEW CONDUCTORS.
22. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT WITH LISTED BONDING FITTINGS.

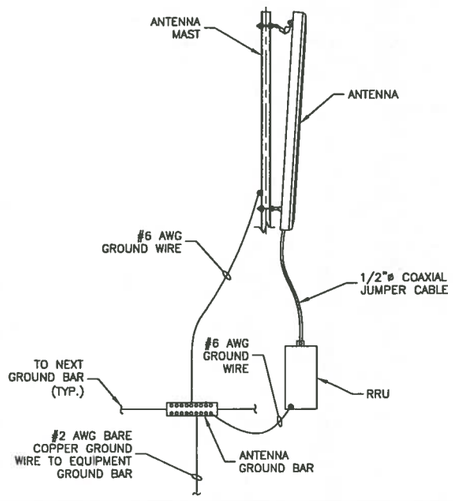


NOTE:

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

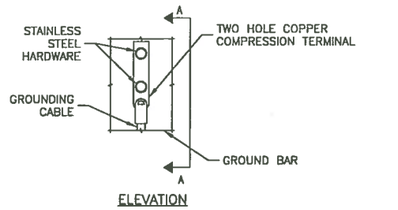
CONNECTION OF GROUND WIRES TO GROUNDING BAR (CIGBE) — 1

SCALE: N.T.S.

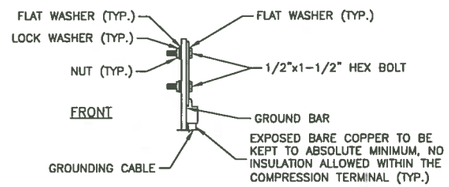


TYPICAL ANTENNA GROUNDING DETAIL — 3

SCALE: N.T.S



ELEVATION



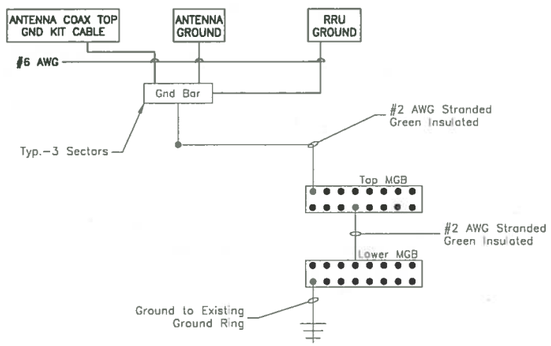
SECTION 'A-A'

NOTES:

1. DOUBLING UP OR STACKING OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYPICAL GROUND BAR MECHANICAL CONNECTION DETAIL — 2

SCALE: N.T.S.



NOTES:

1. BOND ANTENNA GROUNDING KIT CABLE TO TOP CIGBE
2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIGBE.
3. SCHEMATIC GROUNDING DIAGRAM IS TYPICAL FOR EACH SECTOR.
4. VERIFY EXISTING GROUND SYSTEM IS INSTALLED PER T-MOBILE STANDARDS.

SCHEMATIC GROUNDING DIAGRAM — 4

SCALE: N.T.S.

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STATE OF CONNECTICUT
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LICENSED PROFESSIONAL ENGINEER
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SOUTHINGTON, CT 06489
HARTFORD COUNTY

SHEET TITLE

GROUNDING NOTES & DETAILS

SHEET NUMBER

E-1

Date: **September 9, 2015**

Holly Haas
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3530 Toringdon Way Suite 300
Charlotte, NC 28277

Destek Engineering, LLC
1281 Kennestone Circle, Suite 100
Marietta, GA 30066
(770) 693-0835

Subject: **Structural Analysis Report**

Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	CT11453C
	Carrier Site Name:	Southington - Sprint
Crown Castle Designation:	**Crown Castle BU Number:**	876313
	Crown Castle Site Name:	WEST JOHNSON AVE. BURNT HOUSE
	Crown Castle JDE Job Number:	342631
	Crown Castle Work Order Number:	1101181
	Crown Castle Application Number:	305907 Rev. 1
Engineering Firm Designation:	**Destek Engineering, LLC Project Number:**	1502333
Site Data:	**1394 Meriden Waterbury Tpk, SOUTHINGTON, Hartford County, CT**	
	Latitude *41° 33' 51.39"*, Longitude *-72° 53' 30.7"*	
	160 Foot - Monopole Tower	

Dear Holly Haas,

Destek Engineering, LLC is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 813197, in accordance with application 305907, revision 1.

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

LC5: Existing + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

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

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

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

Structural analysis prepared by: Wade Baxter, EIT

Respectfully submitted by: 9-9-2015

Ahmet Colakoglu, PE
President

tnxTower Report - version 6.1.4.1

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 160 ft Monopole tower designed by SUMMIT in August of 1998. The tower was originally designed for a wind speed of 90 mph per TIA/EIA-222-F 1996.

The tower has been modified multiple times in the past to accommodate additional loading.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 38 mph with 1 inch ice thickness and 50 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
127.0	129.0	3	commscope	LNX-6515DS-VTM w/ Mount Pipe	-	-	-
		3	ericsson	RRUS 11 B12			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
157.0	158.0	1	andrew	SBNH-1D6565C w/ Mount Pipe	6 2 1	1-5/8 3/4 3/8	1
		6	ericsson	RRUS-11			
		3	kathrein	800 10121 w/ Mount Pipe			
		1	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		6	powerwave technologies	LGP21401			
		3	powerwave technologies	P65-17-XLH-RR w/ Mount Pipe			
		1	raycap	DC6-48-60-18-8F			
	157.0	1	tower mounts	Side Arm Mount [SO 101-3]			
150.0	150.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	-	-	1
		3	alcatel lucent	PCS 1900MHz 4x45W-65MHz			
		1	tower mounts	Side Arm Mount [SO 103-3]			
148.0	148.0	3	alcatel lucent	TD-RRH8x20-25	4	1-1/4	2
		3	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe	-	-	1
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe	1	1-1/4	2
		3	rfs celwave	IBC1900BB-1	-	-	1

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
		3	rfs celwave	IBC1900HG-2A	-	-	1
		1	tower mounts	Platform Mount [LP 712-1]			
139.0	140.0	3	alcatel lucent	RRH2X40-AWS	-	-	1
	139.0	1	tower mounts	Side Arm Mount [SO 102-3]			
138.0	142.0	1	lucent	KS24019-L112A	12 1	1-5/8 1/2	1
	138.0	3	antel	BXA-171063-12BF-EDIN-X w/ Mount Pipe			
		3	antel	BXA-70063-6CF-EDIN-2 w/ Mount Pipe			
		6	antel	LPA-80063-6CF-EDIN-2 w/ Mount Pipe			
		3	kathrein	742 213 w/ Mount Pipe			
		1	raycap	RRFDC-3315-PF-48			
		6	rfs celwave	FD9R6004/2C-3L			
		1	tower mounts	Platform Mount [LP 712-1]			
127.0	129.0	3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	6	1-5/8	1
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe			
		3	ericsson	KRY 112 144/1			
	127.0	1	tower mounts	Platform Mount [LP 712-1]			
119.0	119.0	3	andrew	HBX-6516DS-VTM w/ Mount Pipe	6 1	1-5/8 3/8	1
		1	tower mounts	T-Arm Mount [TA 602-3]			
48.0	50.0	1	lucent	KS24019-L112A	1	1/2	1
	48.0	1	tower mounts	Side Arm Mount [SO 701-1]			

Notes:
1) Existing Equipment
2) SLA Equipment

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
148	148	1	-	14' Low Profile Platform	-	-
		1	-	5/8" Lightning Rod		
		12	-	DB980H PCS		
133	133	1	-	14' Low Profile Platform	-	-
		12	-	Panel Antenna (CaAa=3.9SF)		
118	118	1	-	14' Low Profile Platform	-	-
		12	-	Panel Antenna (CaAa=3.9SF)		
98	98	2	-	6' Clamp Stiff Arms	-	-
		2	-	ASP-685		
50	50	1	-	GPS Antenna w/ Mount	-	-

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-TOWER MANUFACTURER DRAWINGS	Summit Manufacturing Inc. Job#: 3899	1529743	CCISITES
4-POST-MODIFICATION INSPECTION	TEP Project #: 128444	3348783	CCISITES
4-TOWER MODIFICATION DRAWINGS	FDH Project #: 14660A1400	5105790	CCISITES
4-TOWER MODIFICATION DRAWINGS	PJF&Co Project #: 32913-0151	4094328	CCISITES
4-TOWER MODIFICATION DRAWINGS	PJF&Co Project #: 37513-0756.003.7700	5266558	CCISITES
4-TOWER FOUNDATION DESIGN	Summit Manufacturing Inc. Job#: 3899	1633746	CCISITES
4-GEOTECHNICAL REPORT	Goodkind & O'Dea, Inc. Project#:2037762288	1529743	CCISITES

3.1) Analysis Method

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

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Destek Engineering, LLC should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
160 - 155	Pole	TP10x10x0.349	Pole	12.1%	Pass
155 - 150	Pole	TP10x10x0.349	Pole	33.1%	Pass
150 - 148.5	Pole	TP10x10x0.349	Pole	41.7%	Pass
148.5 - 148	Pole	TP23x23x0.349	Pole	8.4%	Pass
148 - 143	Pole	TP23.81x23x0.25	Pole	13.4%	Pass
143 - 138	Pole	TP24.62x23.81x0.25	Pole	19.4%	Pass
138 - 133	Pole	TP25.43x24.62x0.25	Pole	29.7%	Pass
133 - 128	Pole	TP26.24x25.43x0.25	Pole	38.8%	Pass
128 - 123	Pole	TP27.05x26.24x0.25	Pole	50.5%	Pass
123 - 118	Pole	TP27.86x27.05x0.25	Pole	61.0%	Pass
118 - 114.75	Pole	TP28.994x27.86x0.25	Pole	67.7%	Pass
114.75 - 109.75	Pole	TP28.696x27.887x0.3125	Pole	62.6%	Pass
109.75 - 105.33	Pole	TP29.412x28.696x0.3125	Pole	68.5%	Pass
105.33 - 105.08	Pole + Reinf.	TP29.452x29.412x0.4688	Reinf. 5 Tension Rupture	66.1%	Pass
105.08 - 100.08	Pole + Reinf.	TP30.262x29.452x0.4625	Reinf. 5 Tension Rupture	72.5%	Pass
100.08 - 95.08	Pole + Reinf.	TP31.072x30.262x0.4625	Reinf. 5 Tension Rupture	78.4%	Pass
95.08 - 90.08	Pole + Reinf.	TP31.882x31.072x0.45	Reinf. 5 Tension Rupture	84.0%	Pass
90.08 - 85.08	Pole + Reinf.	TP32.692x31.882x0.45	Reinf. 5 Tension Rupture	89.1%	Pass
85.08 - 81	Pole + Reinf.	TP34.042x32.692x0.45	Reinf. 5 Tension Rupture	93.0%	Pass
81 - 75.75	Pole	TP33.579x32.729x0.375	Pole	78.1%	Pass
75.75 - 70.75	Pole	TP34.389x33.579x0.375	Pole	80.8%	Pass
70.75 - 70.58	Pole	TP34.416x34.389x0.375	Pole	80.9%	Pass
70.58 - 70.33	Pole + Reinf.	TP34.456x34.416x0.75	Reinf. 8 Tension Rupture	66.0%	Pass
70.33 - 70	Pole + Reinf.	TP34.51x34.456x0.75	Reinf. 8 Tension Rupture	66.2%	Pass
70 - 69.75	Pole	TP34.551x34.51x0.375	Pole	81.3%	Pass
69.75 - 64.75	Pole	TP35.361x34.551x0.375	Pole	83.8%	Pass
64.75 - 59.75	Pole	TP36.171x35.361x0.375	Pole	86.0%	Pass
59.75 - 54.75	Pole	TP36.981x36.171x0.375	Pole	88.0%	Pass
54.75 - 49.75	Pole	TP37.791x36.981x0.375	Pole	89.8%	Pass
49.75 - 48	Pole	TP38.884x37.791x0.375	Pole	90.6%	Pass
48 - 42	Pole	TP38.296x37.324x0.4375	Pole	82.7%	Pass
42 - 37	Pole	TP39.106x38.296x0.4375	Pole	84.0%	Pass
37 - 32	Pole	TP39.916x39.106x0.4375	Pole	85.0%	Pass
32 - 27.91	Pole	TP40.578x39.916x0.4375	Pole	85.8%	Pass
27.91 - 27.66	Pole + Reinf.	TP40.619x40.578x0.675	Reinf. 7 Tension Rupture	84.2%	Pass
27.66 - 27.25	Pole + Reinf.	TP40.686x40.619x0.675	Reinf. 7 Tension Rupture	84.3%	Pass
27.25 - 26.98	Pole + Reinf.	TP40.729x40.686x0.675	Reinf. 2 Tension Rupture	82.9%	Pass
26.98 - 26.83	Pole + Reinf.	TP40.753x40.729x0.6625	Reinf. 2 Tension Rupture	82.9%	Pass
26.83 - 21.83	Pole + Reinf.	TP41.563x40.753x0.6625	Reinf. 2 Tension Rupture	84.3%	Pass
21.83 - 16.83	Pole + Reinf.	TP42.373x41.563x0.6625	Reinf. 2 Tension Rupture	85.6%	Pass
16.83 - 16	Pole + Reinf.	TP42.508x42.373x0.6625	Reinf. 2 Tension Rupture	85.8%	Pass
16 - 15.75	Pole + Reinf.	TP42.549x42.508x0.8125	Reinf. 6 Tension Rupture	76.6%	Pass
15.75 - 11.33	Pole + Reinf.	TP43.265x42.549x0.8125	Reinf. 6 Tension Rupture	77.7%	Pass
11.33 - 11.08	Pole + Reinf.	TP43.305x43.265x0.825	Reinf. 6 Tension Rupture	78.8%	Pass
11.08 - 10	Pole + Reinf.	TP43.48x43.305x0.825	Reinf. 6 Tension Rupture	79.1%	Pass
10 - 9.75	Pole + Reinf.	TP43.521x43.48x0.7375	Reinf. 2 Tension Rupture	79.5%	Pass
9.75 - 4.75	Pole + Reinf.	TP44.331x43.521x0.725	Reinf. 2 Tension Rupture	80.6%	Pass
4.75 - 0	Pole + Reinf.	TP45.1x44.331x0.7125	Reinf. 2 Tension Rupture	81.6%	Pass
				Summary	
			Pole	90.6%	Pass
			Reinforcement	93.0%	Pass
			Overall	93.0%	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	95.8	Pass
1	Base Plate	0	84.6	Pass
1	Base Foundation	0	90.6	Pass
1	Base Foundation Soil Interaction	0	97.8	Pass

Structure Rating (max from all components) =	97.8%

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

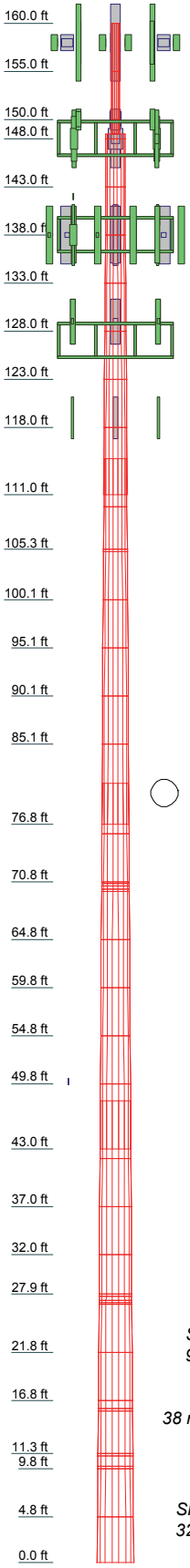
4.1) Recommendations

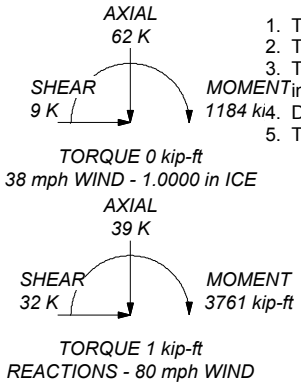
The tower and its foundation have sufficient capacity to carry the existing, reserved, and proposed loads. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Length (ft)	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.250	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	6.667	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	4.750
Number of Sides	0	0	0	0	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Thickness (in)	0.3490	0.3490	0.3490	0.3490	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.4625	0.4625	0.4500	0.4500	0.4500	0.3750	0.3750	0.3750	0.3750	0.3750	0.3750	0.3750	0.3750	0.3750	0.3750	0.3750	0.3750	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.4375	0.6625	0.6625	0.6625	0.6625	0.6625	0.6625	0.6625	0.6625	0.7260	0.7125
Socket Length (ft)																																																
Top Dia (in)	10.0000	10.0000	10.0000	10.0000	23.0000	23.8100	24.6200	25.4300	26.2400	27.0500	27.8600	28.6700	29.4800	30.2900	31.0722	31.0722	31.8822	31.8822	32.6921	33.5021	34.3121	35.1221	35.9320	36.7420	37.5520	38.3620	39.1719	39.9819	40.7919	41.6019	42.4118	43.2218	44.0318	44.8418	45.6517	46.4617	47.2717	48.0817	48.8916	49.7016	50.5116	51.3216	52.1315	52.9415	53.7515	54.5615	55.3714	56.1814	44.2400
Bot Dia (in)	10.0000	10.0000	10.0000	10.0000	23.8200	24.6200	25.4300	26.2400	27.0500	27.8600	28.6700	29.4800	30.2900	31.0722	31.0722	31.8822	31.8822	32.6921	33.5021	34.3121	35.1221	35.9320	36.7420	37.5520	38.3620	39.1719	39.9819	40.7919	41.6019	42.4118	43.2218	44.0318	44.8418	45.6517	46.4617	47.2717	48.0817	48.8916	49.7016	50.5116	51.3216	52.1315	52.9415	53.7515	54.5615	55.3714	56.1814	45.0000
Grade	A53-B-35																																																
Weight (K)	0.2	0.2	0.1	0.0	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.0	0.7	0.7	0.7	0.7	1.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.0	1.1	0.9	0.9	0.8	0.8	1.4	1.4	1.2	1.5	0.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	26.0





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Side Arm Mount [SO 101-3]	157	BXA-70063-6CF-EDIN-2 w/ Mount Pipe	138
800 10121 w/ Mount Pipe	157	BXA-70063-6CF-EDIN-2 w/ Mount Pipe	138
800 10121 w/ Mount Pipe	157	BXA-171063-12BF-EDIN-X w/ Mount Pipe	138
800 10121 w/ Mount Pipe	157	BXA-171063-12BF-EDIN-X w/ Mount Pipe	138
DC6-48-60-18-8F	157	BXA-171063-12BF-EDIN-X w/ Mount Pipe	138
P65-17-XLH-RR w/ Mount Pipe	157	KS24019-L112A	138
P65-17-XLH-RR w/ Mount Pipe	157	(2) FD9R6004/2C-3L	138
P65-17-XLH-RR w/ Mount Pipe	157	(2) FD9R6004/2C-3L	138
(2) LGP21401	157	(2) FD9R6004/2C-3L	138
(2) LGP21401	157	742 213 w/ Mount Pipe	138
(2) LGP21401	157	742 213 w/ Mount Pipe	138
(2) RRUS-11	157	742 213 w/ Mount Pipe	138
(2) RRUS-11	157	RRFDC-3315-PF-48	138
(2) RRUS-11	157	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	127
PCS 1900MHz 4x45W-65MHz	150	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	127
PCS 1900MHz 4x45W-65MHz	150	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	127
PCS 1900MHz 4x45W-65MHz	150	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	127
800MHz 2X50W RRH W/FILTER	150	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	127
800MHz 2X50W RRH W/FILTER	150	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	127
800MHz 2X50W RRH W/FILTER	150	KRY 112 144/1	127
Side Arm Mount [SO 103-3]	150	KRY 112 144/1	127
APXVSPP18-C-A20 w/ Mount Pipe	148	KRY 112 144/1	127
APXVSPP18-C-A20 w/ Mount Pipe	148	Platform Mount [LP 712-1]	127
APXVSPP18-C-A20 w/ Mount Pipe	148	RRUS 11 B12	127
IBC1900HG-2A	148	RRUS 11 B12	127
IBC1900HG-2A	148	RRUS 11 B12	127
IBC1900HG-2A	148	LNX-6515DS-VTM w/ Mount Pipe	127
IBC1900BB-1	148	LNX-6515DS-VTM w/ Mount Pipe	127
IBC1900BB-1	148	LNX-6515DS-VTM w/ Mount Pipe	127
IBC1900BB-1	148	T-Arm Mount [TA 602-3]	119
APXVTM14-C-120 w/ Mount Pipe	148	HBX-6516DS-VTM w/ Mount Pipe	119
APXVTM14-C-120 w/ Mount Pipe	148	HBX-6516DS-VTM w/ Mount Pipe	119
APXVTM14-C-120 w/ Mount Pipe	148	HBX-6516DS-VTM w/ Mount Pipe	119
TD-RRH8x20-25	148	2.375" OD x 6' Mount Pipe	119
TD-RRH8x20-25	148	2.375" OD x 6' Mount Pipe	119
TD-RRH8x20-25	148	2.375" OD x 6' Mount Pipe	119
Platform Mount [LP 712-1]	148	KS24019-L112A	48
Side Arm Mount [SO 102-3]	139	Side Arm Mount [SO 701-1]	48
RRH2X40-AWS	139		
RRH2X40-AWS	139		
RRH2X40-AWS	139		
Platform Mount [LP 712-1]	138		
(2) LPA-80063-6CF-EDIN-2 w/ Mount Pipe	138		
(2) LPA-80063-6CF-EDIN-2 w/ Mount Pipe	138		
(2) LPA-80063-6CF-EDIN-2 w/ Mount Pipe	138		
BXA-70063-6CF-EDIN-2 w/ Mount Pipe	138		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi	A607-65	65 ksi	80 ksi
A607-60	60 ksi	75 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 93.0%

Destek Engineering, LLC
1281 Kennestone Circle, Suite 100
Marietta, GA 30066
Phone: (770) 693-0835
FAX:

Job:	***876313 West Johnson Ave. Burnt House***		
Project:	***1502333***		
Client: Crown Castle	Drawn by: Ahmet Coakoglu	App'd:	
Code: TIA/EIA-222-F	Date: 09/09/15	Scale: NTS	
Path: Y:\2015\02 - Crown\1502333 - 876313 West Johnson Ave. Burnt House (2) WO\WO 1101181\TNXTower\model		Dwg No. E-1	

Tower Input Data

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

1) Tower is located in Hartford County, Connecticut.
2) Basic wind speed of 80 mph.
3) Nominal ice thickness of 1.0000 in.
4) Ice thickness is considered to increase with height.
5) Ice density of 56.000 pcf.
6) A wind speed of 38 mph is used in combination with ice.
7) Temperature drop of 50.000 °F.
8) Deflections calculated using a wind speed of 50 mph.
9) A non-linear (P-delta) analysis was used.
10) Pressures are calculated at each section.
11) Stress ratio used in pole design is 1.333.
12) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	*Elevation*	*Section Length*	*Splice Length*	*Number of*	*Top Diameter*	*Bottom Diameter*	*Wall Thickness*	*Bend Radius*	*Pole Grade*
	ft	*ft*	*ft*	*Sides*	*in*	*in*	*in*	*in*	
L1	160.000-155.000	5.000	0.000	Round	10.0000	10.0000	0.3490		A53-B-35 (35 ksi)
L2	155.000-150.000	5.000	0.000	Round	10.0000	10.0000	0.3490		A53-B-35 (35 ksi)
L3	150.000-148.500	1.500	0.000	Round	10.0000	10.0000	0.3490		A53-B-35 (35 ksi)
L4	148.500-148.000	0.500	0.000	Round	23.0000	23.0000	0.3490		A53-B-35 (35 ksi)
L5	148.000-143.000	5.000	0.000	18	23.0000	23.8100	0.2500	1.0000	A607-60 (60 ksi)
L6	143.000-138.000	5.000	0.000	18	23.8100	24.6200	0.2500	1.0000	A607-60 (60 ksi)
L7	138.000-133.000	5.000	0.000	18	24.6200	25.4300	0.2500	1.0000	A607-60 (60 ksi)
L8	133.000-128.000	5.000	0.000	18	25.4300	26.2400	0.2500	1.0000	A607-60 (60 ksi)
L9	128.000-123.000	5.000	0.000	18	26.2400	27.0500	0.2500	1.0000	A607-60 (60 ksi)
L10	123.000-	5.000	0.000	18	27.0500	27.8600	0.2500	1.0000	A607-60

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
	118.000								(60 ksi)
L11	118.000-111.000	7.000	3.750	18	27.8600	28.9940	0.2500	1.0000	A607-60 (60 ksi)
L12	111.000-109.750	5.000	0.000	18	27.8865	28.6964	0.3125	1.2500	A607-60 (60 ksi)
L13	109.750-105.333	4.417	0.000	18	28.6964	29.4119	0.3125	1.2500	A607-60 (60 ksi)
L14	105.333-105.083	0.250	0.000	18	29.4119	29.4524	0.4688	1.8750	A607-60 (60 ksi)
L15	105.083-100.083	5.000	0.000	18	29.4524	30.2623	0.4625	1.8500	A607-60 (60 ksi)
L16	100.083-95.083	5.000	0.000	18	30.2623	31.0722	0.4625	1.8500	A607-60 (60 ksi)
L17	95.083-90.083	5.000	0.000	18	31.0722	31.8822	0.4500	1.8000	A607-60 (60 ksi)
L18	90.083-85.083	5.000	0.000	18	31.8822	32.6921	0.4500	1.8000	A607-60 (60 ksi)
L19	85.083-76.750	8.333	4.250	18	32.6921	34.0420	0.4500	1.8000	A607-60 (60 ksi)
L20	76.750-75.750	5.250	0.000	18	32.7286	33.5790	0.3750	1.5000	A607-65 (65 ksi)
L21	75.750-70.750	5.000	0.000	18	33.5790	34.3889	0.3750	1.5000	A607-65 (65 ksi)
L22	70.750-70.583	0.167	0.000	18	34.3889	34.4159	0.3750	1.5000	A607-65 (65 ksi)
L23	70.583-70.333	0.250	0.000	18	34.4159	34.4564	0.7500	3.0000	A607-65 (65 ksi)
L24	70.333-70.000	0.333	0.000	18	34.4564	34.5104	0.7500	3.0000	A607-65 (65 ksi)
L25	70.000-69.750	0.250	0.000	18	34.5104	34.5509	0.3750	1.5000	A607-65 (65 ksi)
L26	69.750-64.750	5.000	0.000	18	34.5509	35.3608	0.3750	1.5000	A607-65 (65 ksi)
L27	64.750-59.750	5.000	0.000	18	35.3608	36.1707	0.3750	1.5000	A607-65 (65 ksi)
L28	59.750-54.750	5.000	0.000	18	36.1707	36.9807	0.3750	1.5000	A607-65 (65 ksi)
L29	54.750-49.750	5.000	0.000	18	36.9807	37.7906	0.3750	1.5000	A607-65 (65 ksi)
L30	49.750-43.000	6.750	5.000	18	37.7906	38.8840	0.3750	1.5000	A607-65 (65 ksi)
L31	43.000-42.000	6.000	0.000	18	37.3241	38.2836	0.4375	1.7500	A607-65 (65 ksi)
L32	42.000-37.000	5.000	0.000	18	38.2836	39.0831	0.4375	1.7500	A607-65 (65 ksi)
L33	37.000-32.000	5.000	0.000	18	39.0831	39.8827	0.4375	1.7500	A607-65 (65 ksi)
L34	32.000-27.913	4.087	0.000	18	39.8827	40.5362	0.4375	1.7500	A607-65 (65 ksi)
L35	27.913-27.663	0.250	0.000	18	40.5362	40.5762	0.6750	2.7000	A607-65 (65 ksi)
L36	27.663-27.250	0.413	0.000	18	40.5762	40.6423	0.6750	2.7000	A607-65 (65 ksi)
L37	27.250-26.983	0.267	0.000	18	40.6423	40.6850	0.6750	2.7000	A607-65 (65 ksi)
L38	26.983-26.833	0.150	0.000	18	40.6850	40.7089	0.6750	2.7000	A607-65 (65 ksi)
L39	26.833-21.833	5.000	0.000	18	40.7089	41.5085	0.6625	2.6500	A607-65 (65 ksi)
L40	21.833-16.833	5.000	0.000	18	41.5085	42.3081	0.6625	2.6500	A607-65 (65 ksi)
L41	16.833-16.000	0.833	0.000	18	42.3081	42.4414	0.6625	2.6500	A607-65 (65 ksi)
L42	16.000-15.750	0.250	0.000	18	42.4414	42.4813	0.8125	3.2500	A607-65 (65 ksi)
L43	15.750-11.330	4.420	0.000	18	42.4813	43.1882	0.8125	3.2500	A607-65 (65 ksi)
L44	11.330-11.080	0.250	0.000	18	43.1882	43.2281	0.8250	3.3000	A607-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L45	11.080-10.000	1.080	0.000	18	43.2281	43.4008	0.8250	3.3000	A607-65 (65 ksi)
L46	10.000-9.750	0.250	0.000	18	43.4008	43.4408	0.7375	2.9500	A607-65 (65 ksi)
L47	9.750-4.750	5.000	0.000	18	43.4408	44.2404	0.7250	2.9000	A607-65 (65 ksi)
L48	4.750-0.000	4.750		18	44.2404	45.0000	0.7125	2.8500	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	10.0000	10.5815	123.3587	3.4144	5.0000	24.6717	246.7174	5.2876	0.0000	0
	10.0000	10.5815	123.3587	3.4144	5.0000	24.6717	246.7174	5.2876	0.0000	0
L2	10.0000	10.5815	123.3587	3.4144	5.0000	24.6717	246.7174	5.2876	0.0000	0
	10.0000	10.5815	123.3587	3.4144	5.0000	24.6717	246.7174	5.2876	0.0000	0
L3	10.0000	10.5815	123.3587	3.4144	5.0000	24.6717	246.7174	5.2876	0.0000	0
	10.0000	10.5815	123.3587	3.4144	5.0000	24.6717	246.7174	5.2876	0.0000	0
L4	23.0000	24.8349	1593.1275	8.0093	11.5000	138.5328	3186.2550	12.4100	0.0000	0
	23.0000	24.8349	1593.1275	8.0093	11.5000	138.5328	3186.2550	12.4100	0.0000	0
L5	23.3548	18.0521	1180.3983	8.0762	11.6840	101.0269	2362.3498	9.0278	3.6080	14.432
	24.1773	18.6949	1311.0228	8.3638	12.0955	108.3895	2623.7706	9.3492	3.7506	15.002
L6	24.1773	18.6949	1311.0228	8.3638	12.0955	108.3895	2623.7706	9.3492	3.7506	15.002
	24.9998	19.3376	1450.9451	8.6514	12.5070	116.0110	2903.7993	9.6706	3.8931	15.572
L7	24.9998	19.3376	1450.9451	8.6514	12.5070	116.0110	2903.7993	9.6706	3.8931	15.572
	25.8223	19.9803	1600.4848	8.9389	12.9184	123.8915	3203.0756	9.9921	4.0357	16.143
L8	25.8223	19.9803	1600.4848	8.9389	12.9184	123.8915	3203.0756	9.9921	4.0357	16.143
	26.6448	20.6231	1759.9617	9.2264	13.3299	132.0309	3522.2392	10.3135	4.1782	16.713
L9	26.6448	20.6231	1759.9617	9.2264	13.3299	132.0309	3522.2392	10.3135	4.1782	16.713
	27.4673	21.2658	1929.6954	9.5140	13.7414	140.4293	3861.9300	10.6349	4.3208	17.283
L10	27.4673	21.2658	1929.6954	9.5140	13.7414	140.4293	3861.9300	10.6349	4.3208	17.283
	28.2898	21.9085	2110.0056	9.8016	14.1529	149.0867	4222.7875	10.9563	4.4634	17.853
L11	28.2898	21.9085	2110.0056	9.8016	14.1529	149.0867	4222.7875	10.9563	4.4634	17.853
	29.4413	22.8084	2380.8169	10.2041	14.7290	161.6420	4764.7665	11.4063	4.6629	18.652
L12	28.9335	27.3500	2627.2035	9.7888	14.1663	185.4539	5257.8639	13.6776	4.3580	13.946
	29.1391	28.1533	2865.5775	10.0763	14.5778	196.5715	5734.9256	14.0793	4.5006	14.402
L13	29.1391	28.1533	2865.5775	10.0763	14.5778	196.5715	5734.9256	14.0793	4.5006	14.402
	29.8656	28.8629	3087.7737	10.3303	14.9412	206.6612	6179.6104	14.4342	4.6265	14.805
L14	29.8656	43.0619	4557.4510	10.2748	14.9412	305.0251	9120.8987	21.5351	4.3515	9.283
	29.9067	43.1222	4576.6075	10.2892	14.9618	305.8860	9159.2371	21.5652	4.3586	9.298
L15	29.9067	42.5564	4518.5079	10.2914	14.9618	302.0029	9042.9614	21.2822	4.3696	9.448
	30.7292	43.7454	4907.9091	10.5789	15.3733	319.2499	9822.2761	21.8768	4.5122	9.756
L16	30.7292	43.7454	4907.9091	10.5789	15.3733	319.2499	9822.2761	21.8768	4.5122	9.756
	31.5516	44.9343	5319.0628	10.8665	15.7847	336.9759	10645.1245	22.4714	4.6547	10.064
L17	31.5516	43.7377	5181.6472	10.8709	15.7847	328.2703	10370.1125	21.8730	4.6767	10.393
	32.3740	44.8946	5603.7691	11.1584	16.1961	345.9940	11214.9117	22.4516	4.8193	10.709
L18	32.3740	44.8946	5603.7691	11.1584	16.1961	345.9940	11214.9117	22.4516	4.8193	10.709
	33.1964	46.0514	6048.2154	11.4459	16.6076	364.1838	12104.3893	23.0301	4.9618	11.026
L19	33.1964	46.0514	6048.2154	11.4459	16.6076	364.1838	12104.3893	23.0301	4.9618	11.026
	34.5672	47.9795	6840.1318	11.9252	17.2933	395.5357	13689.2641	23.9943	5.1994	11.554
L20	33.9325	38.5088	5092.6251	11.4855	16.6261	306.3029	10191.9512	19.2581	5.1002	13.601
	34.0970	39.5210	5504.8569	11.7874	17.0581	322.7118	11016.9572	19.7643	5.2499	14
L21	34.0970	39.5210	5504.8569	11.7874	17.0581	322.7118	11016.9572	19.7643	5.2499	14
	34.9194	40.4851	5917.5940	12.0749	17.4696	338.7374	11842.974	20.2464	5.3924	14.38

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L22	34.9194	40.4851	5917.5940	12.0749	17.4696	338.7374	11842.9744	20.2464	5.3924	14.38
	34.9468	40.5172	5931.6961	12.0845	17.4833	339.2782	11871.1973	20.2624	5.3972	14.393
L23	34.9468	80.1417	11475.6284	11.9514	17.4833	656.3773	22966.3568	40.0785	4.7372	6.316
	34.9879	80.2381	11517.0896	11.9658	17.5039	657.9746	23049.3338	40.1267	4.7443	6.326
L24	34.9879	80.2381	11517.0896	11.9658	17.5039	657.9746	23049.3338	40.1267	4.7443	6.326
	35.0428	80.3666	11572.5268	11.9849	17.5313	660.1073	23160.2810	40.1909	4.7538	6.338
L25	35.0428	40.6297	5981.2291	12.1181	17.5313	341.1747	11970.3285	20.3187	5.4138	14.437
	35.0839	40.6779	6002.5416	12.1324	17.5519	341.9891	12012.9815	20.3428	5.4210	14.456
L26	35.0839	40.6779	6002.5416	12.1324	17.5519	341.9891	12012.9815	20.3428	5.4210	14.456
	35.9063	41.6419	6439.4939	12.4200	17.9633	358.4807	12887.4611	20.8249	5.5635	14.836
L27	35.9063	41.6419	6439.4939	12.4200	17.9633	358.4807	12887.4611	20.8249	5.5635	14.836
	36.7287	42.6059	6897.1530	12.7075	18.3747	375.3606	13803.3814	21.3070	5.7061	15.216
L28	36.7287	42.6059	6897.1530	12.7075	18.3747	375.3606	13803.3814	21.3070	5.7061	15.216
	37.5512	43.5699	7375.9980	12.9950	18.7862	392.6289	14761.7016	21.7891	5.8486	15.596
L29	37.5512	43.5699	7375.9980	12.9950	18.7862	392.6289	14761.7016	21.7891	5.8486	15.596
	38.3736	44.5339	7876.5085	13.2825	19.1976	410.2856	15763.3812	22.2712	5.9911	15.976
L30	38.3736	44.5339	7876.5085	13.2825	19.1976	410.2856	15763.3812	22.2712	5.9911	15.976
	39.4838	45.8353	8587.4133	13.6707	19.7531	434.7381	17186.1261	22.9220	6.1836	16.49
L31	38.7118	51.2216	8804.9593	13.0947	18.9606	464.3812	17621.5045	25.6157	5.7990	13.255
	38.8741	52.5540	9510.0892	13.4354	19.4481	488.9996	19032.6919	26.2820	5.9679	13.641
L32	38.8741	52.5540	9510.0892	13.4354	19.4481	488.9996	19032.6919	26.2820	5.9679	13.641
	39.6861	53.6643	10125.6740	13.7192	19.8542	510.0007	20264.6717	26.8373	6.1086	13.963
L33	39.6861	53.6643	10125.6740	13.7192	19.8542	510.0007	20264.6717	26.8373	6.1086	13.963
	40.4980	54.7746	10767.2653	14.0031	20.2604	531.4434	21548.6984	27.3925	6.2494	14.284
L34	40.4980	54.7746	10767.2653	14.0031	20.2604	531.4434	21548.6984	27.3925	6.2494	14.284
	41.1616	55.6821	11311.3552	14.2351	20.5924	549.2973	22637.5942	27.8463	6.3644	14.547
L35	41.1616	85.4007	17143.5434	14.1507	20.5924	832.5176	34309.6448	42.7085	5.9464	8.809
	41.2022	85.4864	17195.1765	14.1649	20.6127	834.2022	34412.9788	42.7513	5.9534	8.82
L36	41.2022	85.4864	17195.1765	14.1649	20.6127	834.2022	34412.9788	42.7513	5.9534	8.82
	41.2693	85.6280	17280.7651	14.1884	20.6463	836.9911	34584.2688	42.8221	5.9650	8.837
L37	41.2693	85.6280	17280.7651	14.1884	20.6463	836.9911	34584.2688	42.8221	5.9650	8.837
	41.3126	85.7193	17336.1398	14.2035	20.6680	838.7931	34695.0908	42.8678	5.9726	8.848
L38	41.3126	85.7193	17336.1398	14.2035	20.6680	838.7931	34695.0908	42.8678	5.9726	8.848
	41.3369	85.7707	17367.3388	14.2121	20.6801	839.8075	34757.5301	42.8935	5.9768	8.854
L39	41.3369	84.2087	17061.693	14.2165	20.6801	825.0278	34145.836	42.1123	5.9988	9.055

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
			3				7			
	42.1489	85.8900	18104.2064	14.5003	21.0863	858.5756	36232.2348	42.9532	6.1395	9.267
L40	42.1489	85.8900	18104.2064	14.5003	21.0863	858.5756	36232.2348	42.9532	6.1395	9.267
	42.9608	87.5713	19188.3442	14.7842	21.4925	892.7920	38401.9369	43.7940	6.2802	9.48
L41	42.9608	87.5713	19188.3442	14.7842	21.4925	892.7920	38401.9369	43.7940	6.2802	9.48
	43.0961	87.8515	19373.1370	14.8315	21.5602	898.5598	38771.7656	43.9341	6.3037	9.515
L42	43.0961	107.3556	23504.5117	14.7782	21.5602	1090.1801	47039.9513	53.6880	6.0397	7.433
	43.1367	107.4587	23572.2940	14.7924	21.5805	1092.2951	47175.6050	53.7396	6.0467	7.442
L43	43.1367	107.4587	23572.2940	14.7924	21.5805	1092.2951	47175.6050	53.7396	6.0467	7.442
	43.8544	109.2815	24792.3217	15.0434	21.9396	1130.0269	49617.2658	54.6512	6.1711	7.595
L44	43.8544	110.9301	25151.4713	15.0389	21.9396	1146.3968	50336.0376	55.4756	6.1491	7.453
	43.8950	111.0347	25222.7465	15.0531	21.9599	1148.5823	50478.6817	55.5279	6.1562	7.462
L45	43.8950	111.0347	25222.7465	15.0531	21.9599	1148.5823	50478.6817	55.5279	6.1562	7.462
	44.0704	111.4870	25532.2020	15.1144	22.0476	1158.0474	51098.0000	55.7541	6.1865	7.499
L46	44.0704	99.8674	22965.2527	15.1455	22.0476	1041.6200	45960.7237	49.9432	6.3405	8.597
	44.1110	99.9610	23029.8725	15.1597	22.0679	1043.5896	46090.0483	49.9900	6.3476	8.607
L47	44.1110	98.2955	22659.4224	15.1641	22.0679	1026.8028	45348.6607	49.1571	6.3696	8.786
	44.9229	100.1355	23955.8403	15.4480	22.4741	1065.9298	47943.2023	50.0772	6.5103	8.98
L48	44.9229	98.4373	23563.1027	15.4524	22.4741	1048.4547	47157.2104	49.2280	6.5323	9.168
	45.6942	100.1551	24818.3404	15.7221	22.8600	1085.6667	49669.3375	50.0871	6.6660	9.356

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 160.000-155.000				1	1	1		
L2 155.000-150.000				1	1	1		
L3 150.000-148.500				1	1	1		
L4 148.500-148.000				1	1	1		
L5 148.000-143.000				1	1	1		
L6 143.000-138.000				1	1	1		
L7 138.000-133.000				1	1	1		
L8 133.000-128.000				1	1	1		
L9 128.000-123.000				1	1	1		
L10 123.000-118.000				1	1	1		
L11 118.000-111.000				1	1	1		
L12 111.000-109.750				1	1	1		

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
L13 109.750-105.333				1	1	1		
L14 105.333-105.083				1	1	0.957594		
L15 105.083-100.083				1	1	0.962317		
L16 100.083-95.083				1	1	0.954732		
L17 95.083-90.083				1	1	0.973472		
L18 90.083-85.083				1	1	0.966463		
L19 85.083-76.750				1	1	0.960995		
L20 76.750-75.750				1	1	1		
L21 75.750-70.750				1	1	1		
L22 70.750-70.583				1	1	1		
L23 70.583-70.333				1	1	0.941157		
L24 70.333-70.000				1	1	0.940452		
L25 70.000-69.750				1	1	1		
L26 69.750-64.750				1	1	1		
L27 64.750-59.750				1	1	1		
L28 59.750-54.750				1	1	1		
L29 54.750-49.750				1	1	1		
L30 49.750-43.000				1	1	1		
L31 43.000-42.000				1	1	1		
L32 42.000-37.000				1	1	1		
L33 37.000-32.000				1	1	1		
L34 32.000-27.913				1	1	1		
L35 27.913-27.663				1	1	1.03623		
L36 27.663-27.250				1	1	1.03559		
L37 27.250-26.983				1	1	0.948439		
L38 26.983-26.833				1	1	0.948259		
L39 26.833-21.833				1	1	0.959869		
L40 21.833-16.833				1	1	0.954119		
L41 16.833-16.000				1	1	0.953182		
L42 16.000-15.750				1	1	0.947291		
L43 15.750-11.330				1	1	0.940472		
L44 11.330-11.080				1	1	1.00241		
L45 11.080-10.000				1	1	1.00049		
L46 10.000-				1	1	0.936332		

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
9.750								
L47 9.750-4.750				1	1	0.945789		
L48 4.750-0.000				1	1	0.956136		

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
**										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF7-50A(1-5/8")	C	No	Inside Pole	157.000 - 0.000	6	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
FB-L98B-002-75000(3/8")	C	No	Inside Pole	157.000 - 0.000	1	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
WR-VG86ST-BRD(3/4)	C	No	Inside Pole	157.000 - 0.000	2	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
2" Conduit (1 1/2" EMT)	C	No	Inside Pole	157.000 - 0.000	1	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
**								
HB114-1-08U4-M5J(1 1/4")	C	No	Inside Pole	148.000 - 0.000	4	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
HB114-21U3M12-XXXF(1-1/4")	C	No	Inside Pole	148.000 - 0.000	1	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
**								
AL7-50(1 5/8)	C	No	Inside Pole	138.000 - 0.000	12	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
LDF4-50A(1/2")	C	No	Inside Pole	138.000 - 0.000	1	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
MLE Hybrid 3Power/6Fiber RL 2(1 1/4")	C	No	Inside Pole	138.000 - 0.000	1	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
**								
LDF7-50A(1-5/8")	C	No	CaAa (Out Of Face)	127.000 - 0.000	1	No Ice	0.198	0.001
						1/2" Ice	0.298	0.002
						1" Ice	0.398	0.004
						2" Ice	0.598	0.011
						4" Ice	0.998	0.030
LDF7-50A(1-5/8")	C	No	CaAa (Out Of Face)	127.000 - 0.000	1	No Ice	0.000	0.001
						1/2" Ice	0.000	0.002
						1" Ice	0.000	0.004
						2" Ice	0.000	0.011
						4" Ice	0.000	0.030
MLE Hybrid 3Power/6Fiber RL 2(1 1/4")	C	No	CaAa (Out Of Face)	127.000 - 0.000	1	No Ice	0.000	0.001
						1/2" Ice	0.000	0.002
						1" Ice	0.000	0.003
						2" Ice	0.000	0.009
						4" Ice	0.000	0.026
MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	C	No	Inside Pole	127.000 - 0.000	4	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
						2" Ice	0.000	0.001
						4" Ice	0.000	0.001
**								
FXL-1873(1 5/8")	C	No	CaAa (Out Of Face)	119.000 - 0.000	1	No Ice	0.198	0.001
						1/2" Ice	0.298	0.002
						1" Ice	0.398	0.004
						2" Ice	0.598	0.010
						4" Ice	0.998	0.030
860 10033(3/8)	C	No	CaAa (Out Of Face)	119.000 - 0.000	5	No Ice	0.000	0.000
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.002
						2" Ice	0.000	0.006
						4" Ice	0.000	0.021
**								
LDF4-50A(1/2")	C	No	Inside Pole	48.000 - 0.000	1	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
						2" Ice	0.000	0.000
						4" Ice	0.000	0.000
**								
Aero MP3-06	C	No	CaAa (Out Of Face)	30.500 - 0.000	1	No Ice	0.434	0.000
						1/2" Ice	0.545	0.000
						1" Ice	0.657	0.000
						2" Ice	0.879	0.000
						4" Ice	1.323	0.000
Aero MP3-05	C	No	CaAa (Out Of Face)	73.250 - 43.250	1	No Ice	0.348	0.000
						1/2" Ice	0.400	0.000
						1" Ice	0.657	0.000
						2" Ice	0.879	0.000
						4" Ice	1.323	0.000
Aero MP3-04	C	No	CaAa (Out Of Face)	106.750 - 76.750	1	No Ice	0.269	0.000
						1/2" Ice	0.380	0.000
						1" Ice	0.491	0.000
						2" Ice	0.713	0.000
						4" Ice	1.158	0.000
**								
1 1/4" Flat Reinforcement	C	No	CaAa (Out Of Face)	49.500 - 24.500	1	No Ice	0.208	0.000
						1/2" Ice	0.292	0.000
						1" Ice	0.375	0.000
						2" Ice	0.542	0.000
						4" Ice	0.875	0.000
**								
1" Flat Reinforcement	C	No	CaAa (Out Of Face)	18.000 - 8.000	1	No Ice	0.167	0.000
						1/2" Ice	0.250	0.000
						1" Ice	0.333	0.000

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
						2" Ice	0.500	0.000
						4" Ice	0.833	0.000
**								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	160.000-155.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.015
L2	155.000-150.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.037
L3	150.000-148.500	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.011
L4	148.500-148.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.004
L5	148.000-143.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.064
L6	143.000-138.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.064
L7	138.000-133.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.100
L8	133.000-128.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.100
L9	128.000-123.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.792	0.126
L10	123.000-118.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	1.188	0.133
L11	118.000-111.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	2.772	0.190
L12	111.000-109.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.495	0.034
L13	109.750-105.333	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	2.130	0.120
L14	105.333-105.083	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.166	0.007
L15	105.083-100.083	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.325	0.136
L16	100.083-95.083	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.325	0.136
L17	95.083-90.083	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.325	0.136
L18	90.083-85.083	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.325	0.136
L19	85.083-76.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	5.542	0.227

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L20	76.750-75.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.396	0.027
L21	75.750-70.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	2.849	0.136
L22	70.750-70.583	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.124	0.005
L23	70.583-70.333	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.186	0.007
L24	70.333-70.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.248	0.009
L25	70.000-69.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.186	0.007
L26	69.750-64.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.719	0.136
L27	64.750-59.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.719	0.136
L28	59.750-54.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.719	0.136
L29	54.750-49.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.719	0.136
L30	49.750-43.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	6.288	0.184
L31	43.000-42.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.604	0.027
L32	42.000-37.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.022	0.137
L33	37.000-32.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.022	0.137
L34	32.000-27.913	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.593	0.112
L35	27.913-27.663	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.260	0.007
L36	27.663-27.250	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.429	0.011
L37	27.250-26.983	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.277	0.007
L38	26.983-26.833	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.156	0.004
L39	26.833-21.833	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	4.638	0.137
L40	21.833-16.833	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	4.346	0.137
L41	16.833-16.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.831	0.023
L42	16.000-15.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.249	0.007

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L43	15.750-11.330	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	4.407	0.121
L44	11.330-11.080	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.249	0.007
L45	11.080-10.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	1.077	0.030
L46	10.000-9.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.249	0.007
L47	9.750-4.750	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	4.443	0.137
L48	4.750-0.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	3.944	0.130

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	160.000-155.000	A	1.206	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.015
L2	155.000-150.000	A	1.202	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.037
L3	150.000-148.500	A	1.199	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.011
L4	148.500-148.000	A	1.198	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.004
L5	148.000-143.000	A	1.195	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.064
L6	143.000-138.000	A	1.190	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.064
L7	138.000-133.000	A	1.185	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.100
L8	133.000-128.000	A	1.179	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.100
L9	128.000-123.000	A	1.174	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.731	0.178
L10	123.000-118.000	A	1.168	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	2.590	0.214
L11	118.000-111.000	A	1.161	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	6.023	0.392
L12	111.000-109.750	A	1.156	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.075	0.070
L13	109.750-105.333	A	1.152	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	4.529	0.245
L14	105.333-105.083	A	1.149	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.345	0.014

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L15	105.083-100.083	A	1.146	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	6.890	0.276
L16	100.083-95.083	A	1.139	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	6.869	0.275
L17	95.083-90.083	A	1.132	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	6.846	0.273
L18	90.083-85.083	A	1.124	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	6.823	0.272
L19	85.083-76.750	A	1.114	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	11.316	0.449
L20	76.750-75.750	A	1.106	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.841	0.054
L21	75.750-70.750	A	1.100	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	5.878	0.267
L22	70.750-70.583	A	1.096	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.252	0.009
L23	70.583-70.333	A	1.095	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.378	0.013
L24	70.333-70.000	A	1.095	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.504	0.018
L25	70.000-69.750	A	1.094	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.378	0.013
L26	69.750-64.750	A	1.089	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.540	0.264
L27	64.750-59.750	A	1.079	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.509	0.262
L28	59.750-54.750	A	1.068	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.475	0.260
L29	54.750-49.750	A	1.057	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.439	0.257
L30	49.750-43.000	A	1.042	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	12.296	0.343
L31	43.000-42.000	A	1.031	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.195	0.051
L32	42.000-37.000	A	1.022	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	5.917	0.250
L33	37.000-32.000	A	1.005	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	5.870	0.246
L34	32.000-27.913	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	6.484	0.201
L35	27.913-27.663	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.457	0.012
L36	27.663-27.250	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.755	0.020
L37	27.250-26.983	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.487	0.013

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L38	26.983-26.833	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.274	0.007
L39	26.833-21.833	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	8.138	0.245
L40	21.833-16.833	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.652	0.245
L41	16.833-16.000	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.488	0.041
L42	16.000-15.750	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.446	0.012
L43	15.750-11.330	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.894	0.217
L44	11.330-11.080	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.446	0.012
L45	11.080-10.000	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	1.929	0.053
L46	10.000-9.750	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.446	0.012
L47	9.750-4.750	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	7.846	0.245
L48	4.750-0.000	A	1.000	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	6.900	0.233

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	160.000-155.000	0.0000	0.0000	0.0000	0.0000
L2	155.000-150.000	0.0000	0.0000	0.0000	0.0000
L3	150.000-148.500	0.0000	0.0000	0.0000	0.0000
L4	148.500-148.000	0.0000	0.0000	0.0000	0.0000
L5	148.000-143.000	0.0000	0.0000	0.0000	0.0000
L6	143.000-138.000	0.0000	0.0000	0.0000	0.0000
L7	138.000-133.000	0.0000	0.0000	0.0000	0.0000
L8	133.000-128.000	0.0000	0.0000	0.0000	0.0000
L9	128.000-123.000	-0.1926	0.1112	-0.3626	0.2094
L10	123.000-118.000	-0.2802	0.1618	-0.5140	0.2968
L11	118.000-111.000	-0.4407	0.2545	-0.7735	0.4466
L12	111.000-109.750	-0.4411	0.2547	-0.7750	0.4474
L13	109.750-105.333	-0.5232	0.3021	-0.8875	0.5124
L14	105.333-105.083	-0.6796	0.3924	-1.0927	0.6309
L15	105.083-100.083	-0.6817	0.3936	-1.0978	0.6338
L16	100.083-95.083	-0.6855	0.3958	-1.1071	0.6392
L17	95.083-90.083	-0.6892	0.3979	-1.1159	0.6443
L18	90.083-85.083	-0.6927	0.3999	-1.1242	0.6491
L19	85.083-76.750	-0.6972	0.4025	-1.1343	0.6549
L20	76.750-75.750	-0.4505	0.2601	-0.7991	0.4613
L21	75.750-70.750	-0.6174	0.3565	-1.0337	0.5968
L22	70.750-70.583	-0.7672	0.4429	-1.2345	0.7127
L23	70.583-70.333	-0.7673	0.4430	-1.2348	0.7129
L24	70.333-70.000	-0.7675	0.4431	-1.2353	0.7132
L25	70.000-69.750	-0.7678	0.4433	-1.2358	0.7135
L26	69.750-64.750	-0.7697	0.4444	-1.2399	0.7158

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L27	64.750-59.750	-0.7733	0.4464	-1.2472	0.7201
L28	59.750-54.750	-0.7767	0.4484	-1.2539	0.7239
L29	54.750-49.750	-0.7800	0.4503	-1.2599	0.7274
L30	49.750-43.000	-0.9368	0.5409	-1.4565	0.8409
L31	43.000-42.000	-0.6598	0.3809	-1.0854	0.6266
L32	42.000-37.000	-0.6611	0.3817	-1.0826	0.6250
L33	37.000-32.000	-0.6632	0.3829	-1.0834	0.6255
L34	32.000-27.913	-0.9056	0.5229	-1.3541	0.7818
L35	27.913-27.663	-1.0321	0.5959	-1.4931	0.8620
L36	27.663-27.250	-1.0324	0.5961	-1.4938	0.8624
L37	27.250-26.983	-1.0327	0.5962	-1.4945	0.8629
L38	26.983-26.833	-1.0329	0.5964	-1.4950	0.8631
L39	26.833-21.833	-0.9477	0.5471	-1.3868	0.8007
L40	21.833-16.833	-0.9044	0.5222	-1.3384	0.7727
L41	16.833-16.000	-1.0100	0.5831	-1.4939	0.8625
L42	16.000-15.750	-1.0104	0.5834	-1.4950	0.8631
L43	15.750-11.330	-1.0124	0.5845	-1.4996	0.8658
L44	11.330-11.080	-1.0143	0.5856	-1.5042	0.8685
L45	11.080-10.000	-1.0148	0.5859	-1.5055	0.8692
L46	10.000-9.750	-1.0154	0.5862	-1.5068	0.8700
L47	9.750-4.750	-0.9282	0.5359	-1.3813	0.7975
L48	4.750-0.000	-0.8817	0.5091	-1.3145	0.7589

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Side Arm Mount [SO 101-3]	C	None		0.0000	157.000	No Ice	7.500	7.500	0.252
						1/2" Ice	8.900	8.900	0.333
						1" Ice	10.300	10.300	0.414
						2" Ice	13.100	13.100	0.576
						4" Ice	18.700	18.700	0.900
800 10121 w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	5.685	4.600	0.066
						1/2" Ice	6.182	5.351	0.114
						1" Ice	6.676	6.046	0.168
						2" Ice	7.695	7.526	0.298
						4" Ice	9.858	10.832	0.675
800 10121 w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	5.685	4.600	0.066
						1/2" Ice	6.182	5.351	0.114
						1" Ice	6.676	6.046	0.168
						2" Ice	7.695	7.526	0.298
						4" Ice	9.858	10.832	0.675
800 10121 w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	5.685	4.600	0.066
						1/2" Ice	6.182	5.351	0.114
						1" Ice	6.676	6.046	0.168
						2" Ice	7.695	7.526	0.298
						4" Ice	9.858	10.832	0.675
DC6-48-60-18-8F	A	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	2.567	2.567	0.019
						1/2" Ice	2.798	2.798	0.041
						1" Ice	3.038	3.038	0.067
						2" Ice	3.543	3.543	0.129
						4" Ice	4.658	4.658	0.299
P65-17-XLH-RR w/ Mount Pipe	A	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	11.704	8.938	0.092
						1/2" Ice	12.424	10.450	0.178
						1" Ice	13.153	11.986	0.273

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice	14.639	14.313	0.498
						2" Ice	17.906	19.144	1.126
						4" Ice			
P65-17-XLH-RR w/ Mount Pipe	B	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	11.704	8.938	0.092
						1/2" Ice	12.424	10.450	0.178
						1" Ice	13.153	11.986	0.273
						2" Ice	14.639	14.313	0.498
						4" Ice	17.906	19.144	1.126
P65-17-XLH-RR w/ Mount Pipe	C	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	11.704	8.938	0.092
						1/2" Ice	12.424	10.450	0.178
						1" Ice	13.153	11.986	0.273
						2" Ice	14.639	14.313	0.498
						4" Ice	17.906	19.144	1.126
(2) LGP21401	A	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	1.288	0.233	0.014
						1/2" Ice	1.445	0.313	0.021
						1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
(2) LGP21401	B	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	1.288	0.233	0.014
						1/2" Ice	1.445	0.313	0.021
						1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
(2) LGP21401	C	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	1.288	0.233	0.014
						1/2" Ice	1.445	0.313	0.021
						1" Ice	1.611	0.403	0.030
						2" Ice	1.969	0.608	0.055
						4" Ice	2.788	1.121	0.135
(2) RRUS-11	A	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	3.249	1.373	0.048
						1/2" Ice	3.491	1.551	0.068
						1" Ice	3.741	1.738	0.092
						2" Ice	4.268	2.138	0.150
						4" Ice	5.426	3.042	0.310
(2) RRUS-11	B	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	3.249	1.373	0.048
						1/2" Ice	3.491	1.551	0.068
						1" Ice	3.741	1.738	0.092
						2" Ice	4.268	2.138	0.150
						4" Ice	5.426	3.042	0.310
(2) RRUS-11	C	From Leg	4.000 0.000 1.000	0.0000	157.000	No Ice	3.249	1.373	0.048
						1/2" Ice	3.491	1.551	0.068
						1" Ice	3.741	1.738	0.092
						2" Ice	4.268	2.138	0.150
						4" Ice	5.426	3.042	0.310
**									
PCS 1900MHz 4x45W-65MHz	A	From Leg	4.000 0.000 0.000	0.0000	150.000	No Ice	2.709	2.611	0.060
						1/2" Ice	2.948	2.847	0.083
						1" Ice	3.195	3.092	0.110
						2" Ice	3.716	3.608	0.173
						4" Ice	4.862	4.744	0.347
PCS 1900MHz 4x45W-65MHz	B	From Leg	4.000 0.000 0.000	0.0000	150.000	No Ice	2.709	2.611	0.060
						1/2" Ice	2.948	2.847	0.083
						1" Ice	3.195	3.092	0.110
						2" Ice	3.716	3.608	0.173
						4" Ice	4.862	4.744	0.347
PCS 1900MHz 4x45W-	C	From Leg	4.000	0.0000	150.000	No Ice	2.709	2.611	0.060

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
65MHz			0.000 0.000			1/2" Ice 1" Ice 2" Ice 4" Ice	2.948 3.195 3.716 4.862	2.847 3.092 3.608 4.744	0.083 0.110 0.173 0.347
800MHz 2X50W RRH W/FILTER	A	From Leg	4.000 0.000 0.000	0.0000	150.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.401 2.613 2.833 3.300 4.337	2.254 2.460 2.675 3.132 4.148	0.064 0.086 0.111 0.172 0.338
800MHz 2X50W RRH W/FILTER	B	From Leg	4.000 0.000 0.000	0.0000	150.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.401 2.613 2.833 3.300 4.337	2.254 2.460 2.675 3.132 4.148	0.064 0.086 0.111 0.172 0.338
800MHz 2X50W RRH W/FILTER	C	From Leg	4.000 0.000 0.000	0.0000	150.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.401 2.613 2.833 3.300 4.337	2.254 2.460 2.675 3.132 4.148	0.064 0.086 0.111 0.172 0.338
Side Arm Mount [SO 103-3]	C	None		0.0000	150.000	No Ice 1/2" Ice Ice 1" Ice 2" Ice 4" Ice	9.500 11.800 14.100 18.700 27.900	9.500 11.800 14.100 18.700 27.900	0.224 0.317 0.410 0.596 0.968
**									
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.0000	148.000	No Ice 1/2" Ice Ice 1" Ice 2" Ice 4" Ice	8.498 9.149 9.767 11.031 13.679	6.946 8.127 9.021 10.844 14.851	0.083 0.151 0.227 0.406 0.909
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.0000	148.000	No Ice 1/2" Ice Ice 1" Ice 2" Ice 4" Ice	8.498 9.149 9.767 11.031 13.679	6.946 8.127 9.021 10.844 14.851	0.083 0.151 0.227 0.406 0.909
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.0000	148.000	No Ice 1/2" Ice Ice 1" Ice 2" Ice 4" Ice	8.498 9.149 9.767 11.031 13.679	6.946 8.127 9.021 10.844 14.851	0.083 0.151 0.227 0.406 0.909
IBC1900HG-2A	A	From Leg	4.000 0.000 0.000	0.0000	148.000	No Ice 1/2" Ice Ice 1" Ice 2" Ice 4" Ice	1.127 1.273 1.427 1.761 2.534	0.533 0.647 0.770 1.041 1.688	0.022 0.030 0.039 0.065 0.147
IBC1900HG-2A	B	From Leg	4.000 0.000 0.000	0.0000	148.000	No Ice 1/2" Ice Ice 1" Ice 2" Ice 4" Ice	1.127 1.273 1.427 1.761 2.534	0.533 0.647 0.770 1.041 1.688	0.022 0.030 0.039 0.065 0.147
IBC1900HG-2A	C	From Leg	4.000 0.000 0.000	0.0000	148.000	No Ice 1/2" Ice Ice 1" Ice 2" Ice	1.127 1.273 1.427 1.761 2.534	0.533 0.647 0.770 1.041 1.688	0.022 0.030 0.039 0.065 0.147

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
IBC1900BB-1	A	From Leg	4.000 0.000 0.000	0.0000	148.000	4" Ice No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.127 1.273 1.427 1.761 2.534	0.533 0.647 0.770 1.041 1.688	0.022 0.030 0.039 0.065 0.147
IBC1900BB-1	B	From Leg	4.000 0.000 0.000	0.0000	148.000	4" Ice No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.127 1.273 1.427 1.761 2.534	0.533 0.647 0.770 1.041 1.688	0.022 0.030 0.039 0.065 0.147
IBC1900BB-1	C	From Leg	4.000 0.000 0.000	0.0000	148.000	4" Ice No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.127 1.273 1.427 1.761 2.534	0.533 0.647 0.770 1.041 1.688	0.022 0.030 0.039 0.065 0.147
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.0000	148.000	4" Ice No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.134 7.662 8.183 9.256 11.526	4.959 5.754 6.472 8.010 11.412	0.077 0.132 0.193 0.339 0.753
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.0000	148.000	4" Ice No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.134 7.662 8.183 9.256 11.526	4.959 5.754 6.472 8.010 11.412	0.077 0.132 0.193 0.339 0.753
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.0000	148.000	4" Ice No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.134 7.662 8.183 9.256 11.526	4.959 5.754 6.472 8.010 11.412	0.077 0.132 0.193 0.339 0.753
TD-RRH8x20-25	A	From Leg	4.000 0.000 0.000	0.0000	148.000	4" Ice No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.720 5.014 5.316 5.948 7.314	1.703 1.920 2.145 2.622 3.680	0.070 0.097 0.128 0.201 0.397
TD-RRH8x20-25	B	From Leg	4.000 0.000 0.000	0.0000	148.000	4" Ice No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.720 5.014 5.316 5.948 7.314	1.703 1.920 2.145 2.622 3.680	0.070 0.097 0.128 0.201 0.397
TD-RRH8x20-25	C	From Leg	4.000 0.000 0.000	0.0000	148.000	4" Ice No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.720 5.014 5.316 5.948 7.314	1.703 1.920 2.145 2.622 3.680	0.070 0.097 0.128 0.201 0.397
Platform Mount [LP 712-1]	C	None		0.0000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	24.530 29.940 35.350 46.170 67.810	24.530 29.940 35.350 46.170 67.810	1.335 1.646 1.956 2.577 3.820
** Side Arm Mount [SO 102-3]	C	None		0.0000	139.000	No Ice 1/2" Ice Ice	3.000 3.480 3.960	3.000 3.480 3.960	0.081 0.111 0.141

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice	4.920	4.920	0.201
						2" Ice	6.840	6.840	0.321
						4" Ice			
RRH2X40-AWS	A	From Leg	4.000 0.000 1.000	0.0000	139.000	No Ice	2.522	1.589	0.044
						1/2" Ice	2.753	1.795	0.061
						1" Ice	2.993	2.010	0.082
						2" Ice	3.499	2.465	0.132
						4" Ice	4.615	3.479	0.275
RRH2X40-AWS	B	From Leg	4.000 0.000 1.000	0.0000	139.000	No Ice	2.522	1.589	0.044
						1/2" Ice	2.753	1.795	0.061
						1" Ice	2.993	2.010	0.082
						2" Ice	3.499	2.465	0.132
						4" Ice	4.615	3.479	0.275
RRH2X40-AWS	C	From Leg	4.000 0.000 1.000	0.0000	139.000	No Ice	2.522	1.589	0.044
						1/2" Ice	2.753	1.795	0.061
						1" Ice	2.993	2.010	0.082
						2" Ice	3.499	2.465	0.132
						4" Ice	4.615	3.479	0.275
**									
Platform Mount [LP 712-1]	C	None		0.0000	138.000	No Ice	24.530	24.530	1.335
						1/2" Ice	29.940	29.940	1.646
						1" Ice	35.350	35.350	1.956
						2" Ice	46.170	46.170	2.577
						4" Ice	67.810	67.810	3.820
(2) LPA-80063-6CF-EDIN-2 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice	10.745	10.700	0.052
						1/2" Ice	11.412	11.967	0.145
						1" Ice	12.045	12.948	0.247
						2" Ice	13.341	14.963	0.480
						4" Ice	16.054	19.208	1.095
(2) LPA-80063-6CF-EDIN-2 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice	10.745	10.700	0.052
						1/2" Ice	11.412	11.967	0.145
						1" Ice	12.045	12.948	0.247
						2" Ice	13.341	14.963	0.480
						4" Ice	16.054	19.208	1.095
(2) LPA-80063-6CF-EDIN-2 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice	10.745	10.700	0.052
						1/2" Ice	11.412	11.967	0.145
						1" Ice	12.045	12.948	0.247
						2" Ice	13.341	14.963	0.480
						4" Ice	16.054	19.208	1.095
BXA-70063-6CF-EDIN-2 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice	7.969	5.801	0.042
						1/2" Ice	8.609	6.953	0.103
						1" Ice	9.216	7.819	0.171
						2" Ice	10.459	9.601	0.335
						4" Ice	13.066	13.366	0.804
BXA-70063-6CF-EDIN-2 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice	7.969	5.801	0.042
						1/2" Ice	8.609	6.953	0.103
						1" Ice	9.216	7.819	0.171
						2" Ice	10.459	9.601	0.335
						4" Ice	13.066	13.366	0.804
BXA-70063-6CF-EDIN-2 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice	7.969	5.801	0.042
						1/2" Ice	8.609	6.953	0.103
						1" Ice	9.216	7.819	0.171
						2" Ice	10.459	9.601	0.335
						4" Ice	13.066	13.366	0.804
BXA-171063-12BF-EDIN-X	A	From Leg	4.000	0.0000	138.000	No Ice	5.037	5.297	0.039

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
w/ Mount Pipe			0.000 0.000			1/2" Ice 1" Ice 2" Ice 4" Ice	5.592 6.113 7.177 9.449	6.470 7.360 9.162 12.966	0.085 0.138 0.271 0.675
BXA-171063-12BF-EDIN-X w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.037 5.592 6.113 7.177 9.449	5.297 6.470 7.360 9.162 12.966	0.039 0.085 0.138 0.271 0.675
BXA-171063-12BF-EDIN-X w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.037 5.592 6.113 7.177 9.449	5.297 6.470 7.360 9.162 12.966	0.039 0.085 0.138 0.271 0.675
KS24019-L112A	C	From Leg	4.000 0.000 4.000	0.0000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.156 0.225 0.302 0.484 0.951	0.156 0.225 0.302 0.484 0.951	0.005 0.007 0.009 0.018 0.056
(2) FD9R6004/2C-3L	A	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.367 0.451 0.543 0.755 1.281	0.085 0.136 0.196 0.343 0.740	0.003 0.005 0.009 0.020 0.063
(2) FD9R6004/2C-3L	B	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.367 0.451 0.543 0.755 1.281	0.085 0.136 0.196 0.343 0.740	0.003 0.005 0.009 0.020 0.063
(2) FD9R6004/2C-3L	C	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.367 0.451 0.543 0.755 1.281	0.085 0.136 0.196 0.343 0.740	0.003 0.005 0.009 0.020 0.063
742 213 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.373 5.950 6.501 7.611 9.933	4.620 6.000 6.982 8.852 12.794	0.049 0.094 0.146 0.277 0.683
742 213 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.373 5.950 6.501 7.611 9.933	4.620 6.000 6.982 8.852 12.794	0.049 0.094 0.146 0.277 0.683
742 213 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.373 5.950 6.501 7.611 9.933	4.620 6.000 6.982 8.852 12.794	0.049 0.094 0.146 0.277 0.683
RRFDC-3315-PF-48	C	From Leg	4.000 0.000 0.000	0.0000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	4.326 4.609 4.901 5.510 6.832	2.557 2.794 3.040 3.557 4.696	0.021 0.052 0.086 0.166 0.378

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
**									
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.825 7.347 7.863 8.926 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.825 7.347 7.863 8.926 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.825 7.347 7.863 8.926 11.175	5.642 6.480 7.257 8.864 12.293	0.112 0.169 0.233 0.383 0.807
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.814 7.334 7.850 8.912 11.158	5.631 6.468 7.244 8.849 12.273	0.112 0.169 0.232 0.383 0.806
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.814 7.334 7.850 8.912 11.158	5.631 6.468 7.244 8.849 12.273	0.112 0.169 0.232 0.383 0.806
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.814 7.334 7.850 8.912 11.158	5.631 6.468 7.244 8.849 12.273	0.112 0.169 0.232 0.383 0.806
KRY 112 144/1	A	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.408 0.497 0.594 0.815 1.359	0.204 0.273 0.351 0.533 0.999	0.011 0.014 0.019 0.032 0.082
KRY 112 144/1	B	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.408 0.497 0.594 0.815 1.359	0.204 0.273 0.351 0.533 0.999	0.011 0.014 0.019 0.032 0.082
KRY 112 144/1	C	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.408 0.497 0.594 0.815 1.359	0.204 0.273 0.351 0.533 0.999	0.011 0.014 0.019 0.032 0.082
Platform Mount [LP 712-1]	C	None		0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	24.530 29.940 35.350 46.170 67.810	24.530 29.940 35.350 46.170 67.810	1.335 1.646 1.956 2.577 3.820
RRUS 11 B12	A	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice	3.306 3.550 3.802 4.334	1.361 1.540 1.728 2.130	0.051 0.072 0.095 0.153

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice 4" Ice	5.501	3.038	0.314
RRUS 11 B12	B	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.306 3.550 3.802 4.334 5.501	1.361 1.540 1.728 2.130 3.038	0.051 0.072 0.095 0.153 0.314
RRUS 11 B12	C	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.306 3.550 3.802 4.334 5.501	1.361 1.540 1.728 2.130 3.038	0.051 0.072 0.095 0.153 0.314
LNX-6515DS-VTM w/ Mount Pipe	A	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.683 12.404 13.135 14.601 17.875	9.842 11.366 12.914 15.267 20.139	0.083 0.173 0.273 0.506 1.151
LNX-6515DS-VTM w/ Mount Pipe	B	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.683 12.404 13.135 14.601 17.875	9.842 11.366 12.914 15.267 20.139	0.083 0.173 0.273 0.506 1.151
LNX-6515DS-VTM w/ Mount Pipe	C	From Leg	4.000 0.000 2.000	0.0000	127.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.683 12.404 13.135 14.601 17.875	9.842 11.366 12.914 15.267 20.139	0.083 0.173 0.273 0.506 1.151
**									
T-Arm Mount [TA 602-3]	C	None		0.0000	119.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.590 15.440 19.290 26.990 42.390	11.590 15.440 19.290 26.990 42.390	0.774 0.990 1.206 1.639 2.503
HBX-6516DS-VTM w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.0000	119.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.598 3.998 4.435 5.368 7.361	3.241 3.914 4.564 5.914 8.877	0.029 0.062 0.101 0.199 0.504
HBX-6516DS-VTM w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.0000	119.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.598 3.998 4.435 5.368 7.361	3.241 3.914 4.564 5.914 8.877	0.029 0.062 0.101 0.199 0.504
HBX-6516DS-VTM w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.0000	119.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.598 3.998 4.435 5.368 7.361	3.241 3.914 4.564 5.914 8.877	0.029 0.062 0.101 0.199 0.504
2.375" OD x 6' Mount Pipe	A	From Leg	4.000 0.000 0.000	0.0000	119.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.425 1.925 2.294 3.060 4.702	1.425 1.925 2.294 3.060 4.702	0.025 0.036 0.051 0.093 0.234
2.375" OD x 6' Mount Pipe	B	From Leg	4.000 0.000	0.0000	119.000	No Ice 1/2"	1.425 1.925	1.425 1.925	0.025 0.036

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.000			Ice	2.294	2.294	0.051
						1" Ice	3.060	3.060	0.093
						2" Ice	4.702	4.702	0.234
						4" Ice			
2.375" OD x 6' Mount Pipe	C	From Leg	4.000 0.000 0.000	0.0000	119.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.425 1.925 2.294 3.060 4.702	1.425 1.925 2.294 3.060 4.702	0.025 0.036 0.051 0.093 0.234
**									
KS24019-L112A	A	From Face	4.000 0.000 2.000	0.0000	48.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.156 0.225 0.302 0.484 0.951	0.156 0.225 0.302 0.484 0.951	0.005 0.007 0.009 0.018 0.056
Side Arm Mount [SO 701-1]	C	None		0.0000	48.000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	0.850 1.140 1.430 2.010 3.170	1.670 2.340 3.010 4.350 7.030	0.065 0.079 0.093 0.121 0.177
**									

Tower Pressures - No Ice

G_H = 1.690

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg % 	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 160.000-155.000	157.500	1.563	0.026	4.167	A	0.000	4.167	4.167	100.00	0.000	0.000
					B	0.000	4.167		100.00	0.000	0.000
					C	0.000	4.167		100.00	0.000	0.000
L2 155.000-150.000	152.500	1.549	0.025	4.167	A	0.000	4.167	4.167	100.00	0.000	0.000
					B	0.000	4.167		100.00	0.000	0.000
					C	0.000	4.167		100.00	0.000	0.000
L3 150.000-148.500	149.250	1.539	0.025	1.250	A	0.000	1.250	1.250	100.00	0.000	0.000
					B	0.000	1.250		100.00	0.000	0.000
					C	0.000	1.250		100.00	0.000	0.000
L4 148.500-148.000	148.250	1.536	0.025	0.958	A	0.000	0.958	0.958	100.00	0.000	0.000
					B	0.000	0.958		100.00	0.000	0.000
					C	0.000	0.958		100.00	0.000	0.000
L5 148.000-143.000	145.486	1.528	0.025	9.752	A	0.000	9.752	9.752	100.00	0.000	0.000
					B	0.000	9.752		100.00	0.000	0.000
					C	0.000	9.752		100.00	0.000	0.000
L6 143.000-138.000	140.486	1.513	0.025	10.090	A	0.000	10.090	10.090	100.00	0.000	0.000
					B	0.000	10.090		100.00	0.000	0.000
					C	0.000	10.090		100.00	0.000	0.000
L7 138.000-133.000	135.487	1.497	0.025	10.427	A	0.000	10.427	10.427	100.00	0.000	0.000
					B	0.000	10.427		100.00	0.000	0.000
					C	0.000	10.427		100.00	0.000	0.000
L8 133.000-128.000	130.487	1.481	0.024	10.765	A	0.000	10.765	10.765	100.00	0.000	0.000
					B	0.000	10.765		100.00	0.000	0.000
					C	0.000	10.765		100.00	0.000	0.000
L9 128.000-123.000	125.487	1.465	0.024	11.102	A	0.000	11.102	11.102	100.00	0.000	0.000
					B	0.000	11.102		100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
					C	0.000	11.102		100.00	0.000	0.792
L10 123.000-118.000	120.488	1.448	0.024	11.440	A	0.000	11.440	11.440	100.00	0.000	0.000
					B	0.000	11.440		100.00	0.000	0.000
					C	0.000	11.440		100.00	0.000	1.188
L11 118.000-111.000	114.477	1.427	0.023	16.582	A	0.000	16.582	16.582	100.00	0.000	0.000
					B	0.000	16.582		100.00	0.000	0.000
					C	0.000	16.582		100.00	0.000	2.772
L12 111.000-109.750	110.374	1.412	0.023	2.979	A	0.000	2.979	2.979	100.00	0.000	0.000
					B	0.000	2.979		100.00	0.000	0.000
					C	0.000	2.979		100.00	0.000	0.495
L13 109.750-105.333	107.533	1.401	0.023	10.694	A	0.000	10.694	10.694	100.00	0.000	0.000
					B	0.000	10.694		100.00	0.000	0.000
					C	0.000	10.694		100.00	0.000	2.130
L14 105.333-105.083	105.208	1.393	0.023	0.613	A	0.000	0.613	0.613	100.00	0.000	0.000
					B	0.000	0.613		100.00	0.000	0.000
					C	0.000	0.613		100.00	0.000	0.166
L15 105.083-100.083	102.572	1.383	0.023	12.441	A	0.000	12.441	12.441	100.00	0.000	0.000
					B	0.000	12.441		100.00	0.000	0.000
					C	0.000	12.441		100.00	0.000	3.325
L16 100.083-95.083	97.572	1.363	0.022	12.778	A	0.000	12.778	12.778	100.00	0.000	0.000
					B	0.000	12.778		100.00	0.000	0.000
					C	0.000	12.778		100.00	0.000	3.325
L17 95.083-90.083	92.573	1.343	0.022	13.116	A	0.000	13.116	13.116	100.00	0.000	0.000
					B	0.000	13.116		100.00	0.000	0.000
					C	0.000	13.116		100.00	0.000	3.325
L18 90.083-85.083	87.573	1.322	0.022	13.453	A	0.000	13.453	13.453	100.00	0.000	0.000
					B	0.000	13.453		100.00	0.000	0.000
					C	0.000	13.453		100.00	0.000	3.325
L19 85.083-76.750	80.889	1.292	0.021	23.172	A	0.000	23.172	23.172	100.00	0.000	0.000
					B	0.000	23.172		100.00	0.000	0.000
					C	0.000	23.172		100.00	0.000	5.542
L20 76.750-75.750	76.250	1.27	0.021	2.791	A	0.000	2.791	2.791	100.00	0.000	0.000
					B	0.000	2.791		100.00	0.000	0.000
					C	0.000	2.791		100.00	0.000	0.396
L21 75.750-70.750	73.240	1.256	0.021	14.160	A	0.000	14.160	14.160	100.00	0.000	0.000
					B	0.000	14.160		100.00	0.000	0.000
					C	0.000	14.160		100.00	0.000	2.849
L22 70.750-70.583	70.667	1.243	0.020	0.478	A	0.000	0.478	0.478	100.00	0.000	0.000
					B	0.000	0.478		100.00	0.000	0.000
					C	0.000	0.478		100.00	0.000	0.124
L23 70.583-70.333	70.458	1.242	0.020	0.717	A	0.000	0.717	0.717	100.00	0.000	0.000
					B	0.000	0.717		100.00	0.000	0.000
					C	0.000	0.717		100.00	0.000	0.186
L24 70.333-70.000	70.167	1.241	0.020	0.958	A	0.000	0.958	0.958	100.00	0.000	0.000
					B	0.000	0.958		100.00	0.000	0.000
					C	0.000	0.958		100.00	0.000	0.248
L25 70.000-69.750	69.875	1.239	0.020	0.719	A	0.000	0.719	0.719	100.00	0.000	0.000
					B	0.000	0.719		100.00	0.000	0.000
					C	0.000	0.719		100.00	0.000	0.186
L26 69.750-64.750	67.240	1.226	0.020	14.565	A	0.000	14.565	14.565	100.00	0.000	0.000
					B	0.000	14.565		100.00	0.000	0.000
					C	0.000	14.565		100.00	0.000	3.719
L27 64.750-59.750	62.241	1.199	0.020	14.902	A	0.000	14.902	14.902	100.00	0.000	0.000
					B	0.000	14.902		100.00	0.000	0.000
					C	0.000	14.902		100.00	0.000	3.719
L28 59.750-54.750	57.241	1.17	0.019	15.240	A	0.000	15.240	15.240	100.00	0.000	0.000
					B	0.000	15.240		100.00	0.000	0.000
					C	0.000	15.240		100.00	0.000	3.719
L29 54.750-49.750	52.241	1.14	0.019	15.577	A	0.000	15.577	15.577	100.00	0.000	0.000
					B	0.000	15.577		100.00	0.000	0.000
					C	0.000	15.577		100.00	0.000	3.719
L30 49.750-43.000	46.359	1.102	0.018	21.565	A	0.000	21.565	21.565	100.00	0.000	0.000
					B	0.000	21.565		100.00	0.000	0.000
					C	0.000	21.565		100.00	0.000	6.288
L31 43.000-42.000	42.500	1.075	0.018	3.184	A	0.000	3.184	3.184	100.00	0.000	0.000
					B	0.000	3.184		100.00	0.000	0.000
					C	0.000	3.184		100.00	0.000	0.604
L32 42.000-	39.491	1.053	0.017	16.118	A	0.000	16.118	16.118	100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
37.000					B	0.000	16.118		100.00	0.000	0.000
					C	0.000	16.118		100.00	0.000	3.022
L33 37.000-32.000	34.492	1.013	0.017	16.451	A	0.000	16.451	16.451	100.00	0.000	0.000
					B	0.000	16.451		100.00	0.000	0.000
					C	0.000	16.451		100.00	0.000	3.022
L34 32.000-27.913	29.951	1	0.016	13.694	A	0.000	13.694	13.694	100.00	0.000	0.000
					B	0.000	13.694		100.00	0.000	0.000
					C	0.000	13.694		100.00	0.000	3.593
L35 27.913-27.663	27.788	1	0.016	0.845	A	0.000	0.845	0.845	100.00	0.000	0.000
					B	0.000	0.845		100.00	0.000	0.000
					C	0.000	0.845		100.00	0.000	0.260
L36 27.663-27.250	27.457	1	0.016	1.399	A	0.000	1.399	1.399	100.00	0.000	0.000
					B	0.000	1.399		100.00	0.000	0.000
					C	0.000	1.399		100.00	0.000	0.429
L37 27.250-26.983	27.117	1	0.016	0.904	A	0.000	0.904	0.904	100.00	0.000	0.000
					B	0.000	0.904		100.00	0.000	0.000
					C	0.000	0.904		100.00	0.000	0.277
L38 26.983-26.833	26.908	1	0.016	0.509	A	0.000	0.509	0.509	100.00	0.000	0.000
					B	0.000	0.509		100.00	0.000	0.000
					C	0.000	0.509		100.00	0.000	0.156
L39 26.833-21.833	24.325	1	0.016	17.129	A	0.000	17.129	17.129	100.00	0.000	0.000
					B	0.000	17.129		100.00	0.000	0.000
					C	0.000	17.129		100.00	0.000	4.638
L40 21.833-16.833	19.325	1	0.016	17.462	A	0.000	17.462	17.462	100.00	0.000	0.000
					B	0.000	17.462		100.00	0.000	0.000
					C	0.000	17.462		100.00	0.000	4.346
L41 16.833-16.000	16.416	1	0.016	2.943	A	0.000	2.943	2.943	100.00	0.000	0.000
					B	0.000	2.943		100.00	0.000	0.000
					C	0.000	2.943		100.00	0.000	0.831
L42 16.000-15.750	15.875	1	0.016	0.885	A	0.000	0.885	0.885	100.00	0.000	0.000
					B	0.000	0.885		100.00	0.000	0.000
					C	0.000	0.885		100.00	0.000	0.249
L43 15.750-11.330	13.534	1	0.016	15.777	A	0.000	15.777	15.777	100.00	0.000	0.000
					B	0.000	15.777		100.00	0.000	0.000
					C	0.000	15.777		100.00	0.000	4.407
L44 11.330-11.080	11.205	1	0.016	0.900	A	0.000	0.900	0.900	100.00	0.000	0.000
					B	0.000	0.900		100.00	0.000	0.000
					C	0.000	0.900		100.00	0.000	0.249
L45 11.080-10.000	10.540	1	0.016	3.898	A	0.000	3.898	3.898	100.00	0.000	0.000
					B	0.000	3.898		100.00	0.000	0.000
					C	0.000	3.898		100.00	0.000	1.077
L46 10.000-9.750	9.875	1	0.016	0.905	A	0.000	0.905	0.905	100.00	0.000	0.000
					B	0.000	0.905		100.00	0.000	0.000
					C	0.000	0.905		100.00	0.000	0.249
L47 9.750-4.750	7.242	1	0.016	18.267	A	0.000	18.267	18.267	100.00	0.000	0.000
					B	0.000	18.267		100.00	0.000	0.000
					C	0.000	18.267		100.00	0.000	4.443
L48 4.750-0.000	2.368	1	0.016	17.662	A	0.000	17.662	17.662	100.00	0.000	0.000
					B	0.000	17.662		100.00	0.000	0.000
					C	0.000	17.662		100.00	0.000	3.944

Tower Pressure - With Ice

G_H = 1.690

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 160.000-155.000	157.500	1.563	0.006	1.2063	5.172	A	0.000	5.172	5.172	100.00	0.000	0.000
						B	0.000	5.172		100.00	0.000	0.000
						C	0.000	5.172		100.00	0.000	0.000
L2 155.000-150.000	152.500	1.549	0.006	1.2016	5.168	A	0.000	5.168	5.168	100.00	0.000	0.000
						B	0.000	5.168		100.00	0.000	0.000
						C	0.000	5.168		100.00	0.000	0.000

Section Elevation	z	K_Z	q_z	t_Z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		ksf	in	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
L3 150.000-148.500	149.250	1.539	0.006	1.1985	1.550	A	0.000	1.550	1.550	100.00	0.000	0.000
						B	0.000	1.550		100.00	0.000	0.000
						C	0.000	1.550		100.00	0.000	0.000
L4 148.500-148.000	148.250	1.536	0.006	1.1976	1.058	A	0.000	1.058	1.058	100.00	0.000	0.000
						B	0.000	1.058		100.00	0.000	0.000
						C	0.000	1.058		100.00	0.000	0.000
L5 148.000-143.000	145.486	1.528	0.006	1.1949	10.748	A	0.000	10.748	10.748	100.00	0.000	0.000
						B	0.000	10.748		100.00	0.000	0.000
						C	0.000	10.748		100.00	0.000	0.000
L6 143.000-138.000	140.486	1.513	0.006	1.1899	11.081	A	0.000	11.081	11.081	100.00	0.000	0.000
						B	0.000	11.081		100.00	0.000	0.000
						C	0.000	11.081		100.00	0.000	0.000
L7 138.000-133.000	135.487	1.497	0.006	1.1847	11.414	A	0.000	11.414	11.414	100.00	0.000	0.000
						B	0.000	11.414		100.00	0.000	0.000
						C	0.000	11.414		100.00	0.000	0.000
L8 133.000-128.000	130.487	1.481	0.005	1.1794	11.747	A	0.000	11.747	11.747	100.00	0.000	0.000
						B	0.000	11.747		100.00	0.000	0.000
						C	0.000	11.747		100.00	0.000	0.000
L9 128.000-123.000	125.487	1.465	0.005	1.1738	12.080	A	0.000	12.080	12.080	100.00	0.000	0.000
						B	0.000	12.080		100.00	0.000	0.000
						C	0.000	12.080		100.00	0.000	1.731
L10 123.000-118.000	120.488	1.448	0.005	1.1681	12.413	A	0.000	12.413	12.413	100.00	0.000	0.000
						B	0.000	12.413		100.00	0.000	0.000
						C	0.000	12.413		100.00	0.000	2.590
L11 118.000-111.000	114.477	1.427	0.005	1.1610	17.937	A	0.000	17.937	17.937	100.00	0.000	0.000
						B	0.000	17.937		100.00	0.000	0.000
						C	0.000	17.937		100.00	0.000	6.023
L12 111.000-109.750	110.374	1.412	0.005	1.1559	3.221	A	0.000	3.221	3.221	100.00	0.000	0.000
						B	0.000	3.221		100.00	0.000	0.000
						C	0.000	3.221		100.00	0.000	1.075
L13 109.750-105.333	107.533	1.401	0.005	1.1523	11.542	A	0.000	11.542	11.542	100.00	0.000	0.000
						B	0.000	11.542		100.00	0.000	0.000
						C	0.000	11.542		100.00	0.000	4.529
L14 105.333-105.083	105.208	1.393	0.005	1.1493	0.661	A	0.000	0.661	0.661	100.00	0.000	0.000
						B	0.000	0.661		100.00	0.000	0.000
						C	0.000	0.661		100.00	0.000	0.345
L15 105.083-100.083	102.572	1.383	0.005	1.1458	13.395	A	0.000	13.395	13.395	100.00	0.000	0.000
						B	0.000	13.395		100.00	0.000	0.000
						C	0.000	13.395		100.00	0.000	6.890
L16 100.083-95.083	97.572	1.363	0.005	1.1389	13.727	A	0.000	13.727	13.727	100.00	0.000	0.000
						B	0.000	13.727		100.00	0.000	0.000
						C	0.000	13.727		100.00	0.000	6.869
L17 95.083-90.083	92.573	1.343	0.005	1.1318	14.059	A	0.000	14.059	14.059	100.00	0.000	0.000
						B	0.000	14.059		100.00	0.000	0.000
						C	0.000	14.059		100.00	0.000	6.846
L18 90.083-85.083	87.573	1.322	0.005	1.1242	14.390	A	0.000	14.390	14.390	100.00	0.000	0.000
						B	0.000	14.390		100.00	0.000	0.000
						C	0.000	14.390		100.00	0.000	6.823
L19 85.083-76.750	80.889	1.292	0.005	1.1136	24.718	A	0.000	24.718	24.718	100.00	0.000	0.000
						B	0.000	24.718		100.00	0.000	0.000
						C	0.000	24.718		100.00	0.000	11.316
L20 76.750-75.750	76.250	1.27	0.005	1.1057	2.977	A	0.000	2.977	2.977	100.00	0.000	0.000
						B	0.000	2.977		100.00	0.000	0.000
						C	0.000	2.977		100.00	0.000	0.841
L21 75.750-70.750	73.240	1.256	0.005	1.1004	15.077	A	0.000	15.077	15.077	100.00	0.000	0.000
						B	0.000	15.077		100.00	0.000	0.000
						C	0.000	15.077		100.00	0.000	5.878
L22 70.750-70.583	70.667	1.243	0.005	1.0957	0.508	A	0.000	0.508	0.508	100.00	0.000	0.000
						B	0.000	0.508		100.00	0.000	0.000
						C	0.000	0.508		100.00	0.000	0.252
L23 70.583-70.333	70.458	1.242	0.005	1.0953	0.763	A	0.000	0.763	0.763	100.00	0.000	0.000
						B	0.000	0.763		100.00	0.000	0.000
						C	0.000	0.763		100.00	0.000	0.378
L24 70.333-70.000	70.167	1.241	0.005	1.0947	1.019	A	0.000	1.019	1.019	100.00	0.000	0.000
						B	0.000	1.019		100.00	0.000	0.000
						C	0.000	1.019		100.00	0.000	0.504
L25 70.000-69.750	69.875	1.239	0.005	1.0942	0.765	A	0.000	0.765	0.765	100.00	0.000	0.000
						B	0.000	0.765		100.00	0.000	0.000

Section Elevation	z	K_Z	q_z	t_Z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		ksf	in	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
						C	0.000	0.765		100.00	0.000	0.378
L26 69.750-64.750	67.240	1.226	0.005	1.0892	15.473	A	0.000	15.473	15.473	100.00	0.000	0.000
						B	0.000	15.473		100.00	0.000	0.000
						C	0.000	15.473		100.00	0.000	7.540
L27 64.750-59.750	62.241	1.199	0.004	1.0791	15.802	A	0.000	15.802	15.802	100.00	0.000	0.000
						B	0.000	15.802		100.00	0.000	0.000
						C	0.000	15.802		100.00	0.000	7.509
L28 59.750-54.750	57.241	1.17	0.004	1.0683	16.130	A	0.000	16.130	16.130	100.00	0.000	0.000
						B	0.000	16.130		100.00	0.000	0.000
						C	0.000	16.130		100.00	0.000	7.475
L29 54.750-49.750	52.241	1.14	0.004	1.0567	16.458	A	0.000	16.458	16.458	100.00	0.000	0.000
						B	0.000	16.458		100.00	0.000	0.000
						C	0.000	16.458		100.00	0.000	7.439
L30 49.750-43.000	46.359	1.102	0.004	1.0416	22.737	A	0.000	22.737	22.737	100.00	0.000	0.000
						B	0.000	22.737		100.00	0.000	0.000
						C	0.000	22.737		100.00	0.000	12.296
L31 43.000-42.000	42.500	1.075	0.004	1.0308	3.357	A	0.000	3.357	3.357	100.00	0.000	0.000
						B	0.000	3.357		100.00	0.000	0.000
						C	0.000	3.357		100.00	0.000	1.195
L32 42.000-37.000	39.491	1.053	0.004	1.0218	16.970	A	0.000	16.970	16.970	100.00	0.000	0.000
						B	0.000	16.970		100.00	0.000	0.000
						C	0.000	16.970		100.00	0.000	5.917
L33 37.000-32.000	34.492	1.013	0.004	1.0053	17.289	A	0.000	17.289	17.289	100.00	0.000	0.000
						B	0.000	17.289		100.00	0.000	0.000
						C	0.000	17.289		100.00	0.000	5.870
L34 32.000-27.913	29.951	1	0.004	1.0000	14.375	A	0.000	14.375	14.375	100.00	0.000	0.000
						B	0.000	14.375		100.00	0.000	0.000
						C	0.000	14.375		100.00	0.000	6.484
L35 27.913-27.663	27.788	1	0.004	1.0000	0.887	A	0.000	0.887	0.887	100.00	0.000	0.000
						B	0.000	0.887		100.00	0.000	0.000
						C	0.000	0.887		100.00	0.000	0.457
L36 27.663-27.250	27.457	1	0.004	1.0000	1.468	A	0.000	1.468	1.468	100.00	0.000	0.000
						B	0.000	1.468		100.00	0.000	0.000
						C	0.000	1.468		100.00	0.000	0.755
L37 27.250-26.983	27.117	1	0.004	1.0000	0.948	A	0.000	0.948	0.948	100.00	0.000	0.000
						B	0.000	0.948		100.00	0.000	0.000
						C	0.000	0.948		100.00	0.000	0.487
L38 26.983-26.833	26.908	1	0.004	1.0000	0.534	A	0.000	0.534	0.534	100.00	0.000	0.000
						B	0.000	0.534		100.00	0.000	0.000
						C	0.000	0.534		100.00	0.000	0.274
L39 26.833-21.833	24.325	1	0.004	1.0000	17.962	A	0.000	17.962	17.962	100.00	0.000	0.000
						B	0.000	17.962		100.00	0.000	0.000
						C	0.000	17.962		100.00	0.000	8.138
L40 21.833-16.833	19.325	1	0.004	1.0000	18.295	A	0.000	18.295	18.295	100.00	0.000	0.000
						B	0.000	18.295		100.00	0.000	0.000
						C	0.000	18.295		100.00	0.000	7.652
L41 16.833-16.000	16.416	1	0.004	1.0000	3.082	A	0.000	3.082	3.082	100.00	0.000	0.000
						B	0.000	3.082		100.00	0.000	0.000
						C	0.000	3.082		100.00	0.000	1.488
L42 16.000-15.750	15.875	1	0.004	1.0000	0.926	A	0.000	0.926	0.926	100.00	0.000	0.000
						B	0.000	0.926		100.00	0.000	0.000
						C	0.000	0.926		100.00	0.000	0.446
L43 15.750-11.330	13.534	1	0.004	1.0000	16.514	A	0.000	16.514	16.514	100.00	0.000	0.000
						B	0.000	16.514		100.00	0.000	0.000
						C	0.000	16.514		100.00	0.000	7.894
L44 11.330-11.080	11.205	1	0.004	1.0000	0.942	A	0.000	0.942	0.942	100.00	0.000	0.000
						B	0.000	0.942		100.00	0.000	0.000
						C	0.000	0.942		100.00	0.000	0.446
L45 11.080-10.000	10.540	1	0.004	1.0000	4.078	A	0.000	4.078	4.078	100.00	0.000	0.000
						B	0.000	4.078		100.00	0.000	0.000
						C	0.000	4.078		100.00	0.000	1.929
L46 10.000-9.750	9.875	1	0.004	1.0000	0.946	A	0.000	0.946	0.946	100.00	0.000	0.000
						B	0.000	0.946		100.00	0.000	0.000
						C	0.000	0.946		100.00	0.000	0.446
L47 9.750-4.750	7.242	1	0.004	1.0000	19.100	A	0.000	19.100	19.100	100.00	0.000	0.000
						B	0.000	19.100		100.00	0.000	0.000
						C	0.000	19.100		100.00	0.000	7.846
L48 4.750-	2.368	1	0.004	1.0000	18.454	A	0.000	18.454	18.454	100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
0.000						B	0.000	18.454		100.00	0.000	0.000
						C	0.000	18.454		100.00	0.000	6.900

Tower Pressure - Service

G_H = 1.690

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 160.000-155.000	157.500	1.563	0.010	4.167	A	0.000	4.167	4.167	100.00	0.000	0.000
					B	0.000	4.167		100.00	0.000	0.000
					C	0.000	4.167		100.00	0.000	0.000
L2 155.000-150.000	152.500	1.549	0.010	4.167	A	0.000	4.167	4.167	100.00	0.000	0.000
					B	0.000	4.167		100.00	0.000	0.000
					C	0.000	4.167		100.00	0.000	0.000
L3 150.000-148.500	149.250	1.539	0.010	1.250	A	0.000	1.250	1.250	100.00	0.000	0.000
					B	0.000	1.250		100.00	0.000	0.000
					C	0.000	1.250		100.00	0.000	0.000
L4 148.500-148.000	148.250	1.536	0.010	0.958	A	0.000	0.958	0.958	100.00	0.000	0.000
					B	0.000	0.958		100.00	0.000	0.000
					C	0.000	0.958		100.00	0.000	0.000
L5 148.000-143.000	145.486	1.528	0.010	9.752	A	0.000	9.752	9.752	100.00	0.000	0.000
					B	0.000	9.752		100.00	0.000	0.000
					C	0.000	9.752		100.00	0.000	0.000
L6 143.000-138.000	140.486	1.513	0.010	10.090	A	0.000	10.090	10.090	100.00	0.000	0.000
					B	0.000	10.090		100.00	0.000	0.000
					C	0.000	10.090		100.00	0.000	0.000
L7 138.000-133.000	135.487	1.497	0.010	10.427	A	0.000	10.427	10.427	100.00	0.000	0.000
					B	0.000	10.427		100.00	0.000	0.000
					C	0.000	10.427		100.00	0.000	0.000
L8 133.000-128.000	130.487	1.481	0.009	10.765	A	0.000	10.765	10.765	100.00	0.000	0.000
					B	0.000	10.765		100.00	0.000	0.000
					C	0.000	10.765		100.00	0.000	0.000
L9 128.000-123.000	125.487	1.465	0.009	11.102	A	0.000	11.102	11.102	100.00	0.000	0.000
					B	0.000	11.102		100.00	0.000	0.000
					C	0.000	11.102		100.00	0.000	0.792
L10 123.000-118.000	120.488	1.448	0.009	11.440	A	0.000	11.440	11.440	100.00	0.000	0.000
					B	0.000	11.440		100.00	0.000	0.000
					C	0.000	11.440		100.00	0.000	1.188
L11 118.000-111.000	114.477	1.427	0.009	16.582	A	0.000	16.582	16.582	100.00	0.000	0.000
					B	0.000	16.582		100.00	0.000	0.000
					C	0.000	16.582		100.00	0.000	2.772
L12 111.000-109.750	110.374	1.412	0.009	2.979	A	0.000	2.979	2.979	100.00	0.000	0.000
					B	0.000	2.979		100.00	0.000	0.000
					C	0.000	2.979		100.00	0.000	0.495
L13 109.750-105.333	107.533	1.401	0.009	10.694	A	0.000	10.694	10.694	100.00	0.000	0.000
					B	0.000	10.694		100.00	0.000	0.000
					C	0.000	10.694		100.00	0.000	2.130
L14 105.333-105.083	105.208	1.393	0.009	0.613	A	0.000	0.613	0.613	100.00	0.000	0.000
					B	0.000	0.613		100.00	0.000	0.000
					C	0.000	0.613		100.00	0.000	0.166
L15 105.083-100.083	102.572	1.383	0.009	12.441	A	0.000	12.441	12.441	100.00	0.000	0.000
					B	0.000	12.441		100.00	0.000	0.000
					C	0.000	12.441		100.00	0.000	3.325
L16 100.083-95.083	97.572	1.363	0.009	12.778	A	0.000	12.778	12.778	100.00	0.000	0.000
					B	0.000	12.778		100.00	0.000	0.000
					C	0.000	12.778		100.00	0.000	3.325
L17 95.083-90.083	92.573	1.343	0.009	13.116	A	0.000	13.116	13.116	100.00	0.000	0.000
					B	0.000	13.116		100.00	0.000	0.000
					C	0.000	13.116		100.00	0.000	3.325
L18 90.083-	87.573	1.322	0.008	13.453	A	0.000	13.453	13.453	100.00	0.000	0.000

Section Elevation	z	K_Z	q_z	A_G	Face	A_F	A_R	A_{leg}	Leg %	C_AA_A In Face	C_AA_A Out Face
ft	ft		ksf	ft^2		ft^2	ft^2	ft^2		ft^2	ft^2
85.083					B	0.000	13.453		100.00	0.000	0.000
					C	0.000	13.453		100.00	0.000	3.325
L19 85.083-76.750	80.889	1.292	0.008	23.172	A	0.000	23.172	23.172	100.00	0.000	0.000
					B	0.000	23.172		100.00	0.000	0.000
					C	0.000	23.172		100.00	0.000	5.542
L20 76.750-75.750	76.250	1.27	0.008	2.791	A	0.000	2.791	2.791	100.00	0.000	0.000
					B	0.000	2.791		100.00	0.000	0.000
					C	0.000	2.791		100.00	0.000	0.396
L21 75.750-70.750	73.240	1.256	0.008	14.160	A	0.000	14.160	14.160	100.00	0.000	0.000
					B	0.000	14.160		100.00	0.000	0.000
					C	0.000	14.160		100.00	0.000	2.849
L22 70.750-70.583	70.667	1.243	0.008	0.478	A	0.000	0.478	0.478	100.00	0.000	0.000
					B	0.000	0.478		100.00	0.000	0.000
					C	0.000	0.478		100.00	0.000	0.124
L23 70.583-70.333	70.458	1.242	0.008	0.717	A	0.000	0.717	0.717	100.00	0.000	0.000
					B	0.000	0.717		100.00	0.000	0.000
					C	0.000	0.717		100.00	0.000	0.186
L24 70.333-70.000	70.167	1.241	0.008	0.958	A	0.000	0.958	0.958	100.00	0.000	0.000
					B	0.000	0.958		100.00	0.000	0.000
					C	0.000	0.958		100.00	0.000	0.248
L25 70.000-69.750	69.875	1.239	0.008	0.719	A	0.000	0.719	0.719	100.00	0.000	0.000
					B	0.000	0.719		100.00	0.000	0.000
					C	0.000	0.719		100.00	0.000	0.186
L26 69.750-64.750	67.240	1.226	0.008	14.565	A	0.000	14.565	14.565	100.00	0.000	0.000
					B	0.000	14.565		100.00	0.000	0.000
					C	0.000	14.565		100.00	0.000	3.719
L27 64.750-59.750	62.241	1.199	0.008	14.902	A	0.000	14.902	14.902	100.00	0.000	0.000
					B	0.000	14.902		100.00	0.000	0.000
					C	0.000	14.902		100.00	0.000	3.719
L28 59.750-54.750	57.241	1.17	0.007	15.240	A	0.000	15.240	15.240	100.00	0.000	0.000
					B	0.000	15.240		100.00	0.000	0.000
					C	0.000	15.240		100.00	0.000	3.719
L29 54.750-49.750	52.241	1.14	0.007	15.577	A	0.000	15.577	15.577	100.00	0.000	0.000
					B	0.000	15.577		100.00	0.000	0.000
					C	0.000	15.577		100.00	0.000	3.719
L30 49.750-43.000	46.359	1.102	0.007	21.565	A	0.000	21.565	21.565	100.00	0.000	0.000
					B	0.000	21.565		100.00	0.000	0.000
					C	0.000	21.565		100.00	0.000	6.288
L31 43.000-42.000	42.500	1.075	0.007	3.184	A	0.000	3.184	3.184	100.00	0.000	0.000
					B	0.000	3.184		100.00	0.000	0.000
					C	0.000	3.184		100.00	0.000	0.604
L32 42.000-37.000	39.491	1.053	0.007	16.118	A	0.000	16.118	16.118	100.00	0.000	0.000
					B	0.000	16.118		100.00	0.000	0.000
					C	0.000	16.118		100.00	0.000	3.022
L33 37.000-32.000	34.492	1.013	0.006	16.451	A	0.000	16.451	16.451	100.00	0.000	0.000
					B	0.000	16.451		100.00	0.000	0.000
					C	0.000	16.451		100.00	0.000	3.022
L34 32.000-27.913	29.951	1	0.006	13.694	A	0.000	13.694	13.694	100.00	0.000	0.000
					B	0.000	13.694		100.00	0.000	0.000
					C	0.000	13.694		100.00	0.000	3.593
L35 27.913-27.663	27.788	1	0.006	0.845	A	0.000	0.845	0.845	100.00	0.000	0.000
					B	0.000	0.845		100.00	0.000	0.000
					C	0.000	0.845		100.00	0.000	0.260
L36 27.663-27.250	27.457	1	0.006	1.399	A	0.000	1.399	1.399	100.00	0.000	0.000
					B	0.000	1.399		100.00	0.000	0.000
					C	0.000	1.399		100.00	0.000	0.429
L37 27.250-26.983	27.117	1	0.006	0.904	A	0.000	0.904	0.904	100.00	0.000	0.000
					B	0.000	0.904		100.00	0.000	0.000
					C	0.000	0.904		100.00	0.000	0.277
L38 26.983-26.833	26.908	1	0.006	0.509	A	0.000	0.509	0.509	100.00	0.000	0.000
					B	0.000	0.509		100.00	0.000	0.000
					C	0.000	0.509		100.00	0.000	0.156
L39 26.833-21.833	24.325	1	0.006	17.129	A	0.000	17.129	17.129	100.00	0.000	0.000
					B	0.000	17.129		100.00	0.000	0.000
					C	0.000	17.129		100.00	0.000	4.638
L40 21.833-16.833	19.325	1	0.006	17.462	A	0.000	17.462	17.462	100.00	0.000	0.000
					B	0.000	17.462		100.00	0.000	0.000
					C	0.000	17.462		100.00	0.000	4.346

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L41 16.833-16.000	16.416	1	0.006	2.943	A	0.000	2.943	2.943	100.00	0.000	0.000
					B	0.000	2.943		100.00	0.000	0.000
					C	0.000	2.943		100.00	0.000	0.831
L42 16.000-15.750	15.875	1	0.006	0.885	A	0.000	0.885	0.885	100.00	0.000	0.000
					B	0.000	0.885		100.00	0.000	0.000
					C	0.000	0.885		100.00	0.000	0.249
L43 15.750-11.330	13.534	1	0.006	15.777	A	0.000	15.777	15.777	100.00	0.000	0.000
					B	0.000	15.777		100.00	0.000	0.000
					C	0.000	15.777		100.00	0.000	4.407
L44 11.330-11.080	11.205	1	0.006	0.900	A	0.000	0.900	0.900	100.00	0.000	0.000
					B	0.000	0.900		100.00	0.000	0.000
					C	0.000	0.900		100.00	0.000	0.249
L45 11.080-10.000	10.540	1	0.006	3.898	A	0.000	3.898	3.898	100.00	0.000	0.000
					B	0.000	3.898		100.00	0.000	0.000
					C	0.000	3.898		100.00	0.000	1.077
L46 10.000-9.750	9.875	1	0.006	0.905	A	0.000	0.905	0.905	100.00	0.000	0.000
					B	0.000	0.905		100.00	0.000	0.000
					C	0.000	0.905		100.00	0.000	0.249
L47 9.750-4.750	7.242	1	0.006	18.267	A	0.000	18.267	18.267	100.00	0.000	0.000
					B	0.000	18.267		100.00	0.000	0.000
					C	0.000	18.267		100.00	0.000	4.443
L48 4.750-0.000	2.368	1	0.006	17.662	A	0.000	17.662	17.662	100.00	0.000	0.000
					B	0.000	17.662		100.00	0.000	0.000
					C	0.000	17.662		100.00	0.000	3.944

Load Combinations

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

Comb. No.	Description
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	160 - 155	Pole	Max Tension	14	0.000	-0.000	0.000
			Max. Compression	14	-3.184	0.001	0.353
			Max. Mx	5	-0.794	-10.002	0.012
			Max. My	2	-0.795	0.001	10.086
			Max. Vy	11	-3.508	10.002	0.011
			Max. Vx	2	-3.508	0.001	10.086
			Max. Torque	11			-0.499
L2	155 - 150	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-3.483	0.005	0.353
			Max. Mx	11	-1.005	27.877	0.012
			Max. My	2	-1.006	0.002	27.959
			Max. Vy	11	-3.641	27.877	0.012
			Max. Vx	2	-3.641	0.002	27.959
			Max. Torque	11			-0.499
L3	150 - 148.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-4.756	0.007	0.353
			Max. Mx	11	-1.508	35.046	0.012
			Max. My	2	-1.509	0.002	35.128
			Max. Vy	11	-4.800	35.046	0.012
			Max. Vx	2	-4.800	0.002	35.128
			Max. Torque	11			-0.498
L4	148.5 - 148	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-4.819	0.007	0.353
			Max. Mx	11	-1.555	37.453	0.012
			Max. My	2	-1.556	0.002	37.535
			Max. Vy	11	-4.829	37.453	0.012
			Max. Vx	8	4.829	0.006	-37.367
			Max. Torque	11			-0.498
L5	148 - 143	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-9.600	0.018	0.350
			Max. Mx	11	-3.539	80.860	0.009
			Max. My	2	-3.541	0.003	80.938
			Max. Vy	11	-8.840	80.860	0.009
			Max. Vx	8	8.840	0.015	-80.770
			Max. Torque	11			-0.498
L6	143 - 138	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-10.600	0.029	0.346
			Max. Mx	11	-4.057	126.525	0.006
			Max. My	2	-4.059	0.005	126.598
			Max. Vy	11	-9.570	126.525	0.006
			Max. Vx	8	9.569	0.024	-126.430
			Max. Torque	11			-0.498
L7	138 - 133	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-16.826	0.533	0.059
			Max. Mx	11	-5.692	206.783	-0.183
			Max. My	2	-5.701	-0.110	206.488
			Max. Vy	11	-16.188	206.783	-0.183
			Max. Vx	8	16.150	0.241	-206.452
			Max. Torque	3			0.540
L8	133 - 128	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-17.468	0.551	0.053
			Max. Mx	11	-6.152	288.521	-0.347
			Max. My	2	-6.161	-0.268	288.036
			Max. Vy	11	-16.512	288.521	-0.347
			Max. Vx	8	16.474	0.415	-288.000
			Max. Torque	3			0.540
L9	128 - 123	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-23.143	0.632	0.011
			Max. Mx	11	-8.537	396.133	-0.519

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-8.547	-0.419	395.442
			Max. Vy	11	-21.322	396.133	-0.519
			Max. Vx	8	21.284	0.600	-395.417
			Max. Torque	3			0.543
L10	123 - 118	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-25.736	0.747	-0.052
			Max. Mx	11	-9.904	504.782	-0.693
			Max. My	2	-9.914	-0.568	503.880
			Max. Vy	11	-22.834	504.782	-0.693
			Max. Vx	8	22.795	0.787	-503.869
			Max. Torque	3			0.547
L11	118 - 111	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-26.300	0.869	-0.119
			Max. Mx	11	-10.294	579.381	-0.808
			Max. My	8	-10.303	0.911	-578.338
			Max. Vy	11	-23.079	579.381	-0.808
			Max. Vx	8	23.041	0.911	-578.338
			Max. Torque	3			0.552
L12	111 - 109.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-27.711	1.056	-0.223
			Max. Mx	11	-11.225	695.916	-0.985
			Max. My	8	-11.234	1.102	-694.673
			Max. Vy	11	-23.528	695.916	-0.985
			Max. Vx	8	23.489	1.102	-694.673
			Max. Torque	3			0.560
L13	109.75 - 105.333	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-28.575	1.223	-0.316
			Max. Mx	11	-11.861	800.581	-1.142
			Max. My	8	-11.870	1.270	-799.160
			Max. Vy	11	-23.877	800.581	-1.142
			Max. Vx	8	23.838	1.270	-799.160
			Max. Torque	3			0.568
L14	105.333 - 105.083	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-28.635	1.233	-0.322
			Max. Mx	11	-11.920	806.552	-1.151
			Max. My	8	-11.928	1.280	-805.121
			Max. Vy	11	-23.894	806.552	-1.151
			Max. Vx	8	23.855	1.280	-805.121
			Max. Torque	3			0.569
L15	105.083 - 100.083	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-29.837	1.424	-0.429
			Max. Mx	11	-12.811	927.204	-1.328
			Max. My	8	-12.819	1.470	-925.572
			Max. Vy	11	-24.368	927.204	-1.328
			Max. Vx	8	24.329	1.470	-925.572
			Max. Torque	3			0.582
L16	100.083 - 95.0833	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-31.056	1.618	-0.537
			Max. Mx	11	-13.734	1050.187	-1.506
			Max. My	8	-13.742	1.660	-1048.354
			Max. Vy	11	-24.831	1050.187	-1.506
			Max. Vx	8	24.792	1.660	-1048.354
			Max. Torque	2			0.603
L17	95.0833 - 90.0833	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-32.291	1.815	-0.648
			Max. Mx	11	-14.683	1175.457	-1.685
			Max. My	8	-14.691	1.850	-1173.422
			Max. Vy	11	-25.284	1175.457	-1.685
			Max. Vx	8	25.245	1.850	-1173.422
			Max. Torque	2			0.628
L18	90.0833 - 85.0833	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-33.542	2.014	-0.759
			Max. Mx	11	-15.655	1302.966	-1.864

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	8	-15.663	2.041	-1300.728
			Max. Vy	11	-25.728	1302.966	-1.864
			Max. Vx	8	25.689	2.041	-1300.728
			Max. Torque	2			0.652
L19	85.0833 - 76.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-34.577	2.179	-0.852
			Max. Mx	11	-16.466	1408.719	-2.010
			Max. My	8	-16.473	2.197	-1406.316
			Max. Vy	11	-26.080	1408.719	-2.010
			Max. Vx	8	26.041	2.197	-1406.316
			Max. Torque	2			0.673
L20	76.75 - 75.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-36.666	2.390	-0.971
			Max. Mx	11	-18.022	1547.046	-2.199
			Max. My	8	-18.029	2.398	-1544.429
			Max. Vy	11	-26.598	1547.046	-2.199
			Max. Vx	8	26.559	2.398	-1544.429
			Max. Torque	2			0.697
L21	75.75 - 70.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-37.851	2.591	-1.084
			Max. Mx	11	-18.990	1680.875	-2.379
			Max. My	8	-18.997	2.590	-1678.055
			Max. Vy	11	-26.952	1680.875	-2.379
			Max. Vx	8	26.913	2.590	-1678.055
			Max. Torque	2			0.718
L22	70.75 - 70.5833	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-37.891	2.598	-1.088
			Max. Mx	11	-19.039	1685.367	-2.385
			Max. My	8	-19.045	2.596	-1682.540
			Max. Vy	11	-26.953	1685.367	-2.385
			Max. Vx	8	26.914	2.596	-1682.540
			Max. Torque	2			0.718
L23	70.5833 - 70.3333	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-37.981	2.608	-1.094
			Max. Mx	11	-19.114	1692.109	-2.394
			Max. My	8	-19.120	2.605	-1689.272
			Max. Vy	11	-26.977	1692.109	-2.394
			Max. Vx	8	26.938	2.605	-1689.272
			Max. Torque	2			0.720
L24	70.3333 - 70	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-38.100	2.621	-1.101
			Max. Mx	11	-19.211	1701.107	-2.406
			Max. My	8	-19.218	2.618	-1698.256
			Max. Vy	11	-27.010	1701.107	-2.406
			Max. Vx	8	26.971	2.618	-1698.256
			Max. Torque	2			0.722
L25	70 - 69.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-38.160	2.631	-1.107
			Max. Mx	11	-19.259	1707.862	-2.415
			Max. My	8	-19.265	2.628	-1705.001
			Max. Vy	11	-27.030	1707.862	-2.415
			Max. Vx	8	26.991	2.628	-1705.001
			Max. Torque	2			0.723
L26	69.75 - 64.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-39.366	2.832	-1.221
			Max. Mx	11	-20.239	1843.930	-2.594
			Max. My	8	-20.245	2.818	-1840.866
			Max. Vy	11	-27.407	1843.930	-2.594
			Max. Vx	8	27.368	2.818	-1840.866
			Max. Torque	2			0.751
L27	64.75 - 59.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-40.590	3.033	-1.334

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	11	-21.257	1981.793	-2.774
			Max. My	8	-21.262	3.008	-1978.526
			Max. Vy	11	-27.759	1981.793	-2.774
			Max. Vx	8	27.720	3.008	-1978.526
			Max. Torque	2			0.779
L28	59.75 - 54.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-41.831	3.216	-1.440
			Max. Mx	11	-22.299	2121.373	-2.953
			Max. My	8	-22.303	3.197	-2117.903
			Max. Vy	11	-28.095	2121.373	-2.953
			Max. Vx	8	28.057	3.197	-2117.903
			Max. Torque	2			0.806
L29	54.75 - 49.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-43.088	3.400	-1.546
			Max. Mx	11	-23.362	2262.587	-3.132
			Max. My	8	-23.366	3.385	-2258.916
			Max. Vy	11	-28.414	2262.587	-3.132
			Max. Vx	8	28.376	3.385	-2258.916
			Max. Torque	2			0.834
L30	49.75 - 43	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-43.532	3.464	-1.583
			Max. Mx	11	-23.724	2312.390	-3.194
			Max. My	8	-23.728	3.451	-2308.649
			Max. Vy	11	-28.542	2312.390	-3.194
			Max. Vx	8	28.503	3.451	-2308.649
			Max. Torque	2			0.846
L31	43 - 42	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-46.325	3.730	-1.683
			Max. Mx	11	-25.914	2485.494	-3.394
			Max. My	8	-25.918	3.700	-2481.473
			Max. Vy	11	-29.095	2485.494	-3.394
			Max. Vx	8	29.057	3.700	-2481.473
			Max. Torque	2			0.911
L32	42 - 37	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-47.729	3.909	-1.787
			Max. Mx	11	-27.129	2631.557	-3.572
			Max. My	8	-27.131	3.887	-2627.335
			Max. Vy	11	-29.355	2631.557	-3.572
			Max. Vx	8	29.317	3.887	-2627.335
			Max. Torque	2			0.932
L33	37 - 32	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-49.149	4.087	-1.889
			Max. Mx	11	-28.365	2778.863	-3.750
			Max. My	8	-28.368	4.074	-2774.442
			Max. Vy	11	-29.594	2778.863	-3.750
			Max. Vx	8	29.556	4.074	-2774.442
			Max. Torque	2			0.953
L34	32 - 27.9133	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-50.326	4.234	-1.974
			Max. Mx	11	-29.391	2900.190	-3.894
			Max. My	8	-29.393	4.226	-2895.606
			Max. Vy	11	-29.811	2900.190	-3.894
			Max. Vx	8	29.773	4.226	-2895.606
			Max. Torque	2			0.978
L35	27.9133 - 27.6633	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-50.426	4.243	-1.979
			Max. Mx	11	-29.495	2907.642	-3.903
			Max. My	8	-29.497	4.235	-2903.048
			Max. Vy	11	-29.813	2907.642	-3.903
			Max. Vx	8	29.775	4.235	-2903.048
			Max. Torque	2			0.980
L36	27.6633 - 27.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-50.592	4.258	-1.988
			Max. Mx	11	-29.639	2919.970	-3.917
			Max. My	8	-29.640	4.250	-2915.360

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	11	-29.845	2919.970	-3.917
			Max. Vx	8	29.807	4.250	-2915.360
			Max. Torque	2			0.983
L37	27.25 - 26.9833	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-50.693	4.267	-1.993
			Max. Mx	11	-29.728	2927.931	-3.927
			Max. My	8	-29.729	4.260	-2923.310
			Max. Vy	11	-29.862	2927.931	-3.927
			Max. Vx	8	29.824	4.260	-2923.310
			Max. Torque	2			0.985
L38	26.9833 - 26.8333	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-50.749	4.273	-1.997
			Max. Mx	11	-29.778	2932.411	-3.932
			Max. My	8	-29.780	4.265	-2927.784
			Max. Vy	11	-29.871	2932.411	-3.932
			Max. Vx	8	29.833	4.265	-2927.784
			Max. Torque	2			0.987
L39	26.8333 - 21.8333	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-52.643	4.456	-2.102
			Max. Mx	11	-31.412	3082.619	-4.108
			Max. My	8	-31.414	4.451	-3077.794
			Max. Vy	11	-30.218	3082.619	-4.108
			Max. Vx	8	30.180	4.451	-3077.794
			Max. Torque	2			1.021
L40	21.8333 - 16.8333	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-54.561	4.643	-2.210
			Max. Mx	11	-33.078	3234.467	-4.283
			Max. My	8	-33.079	4.636	-3229.445
			Max. Vy	11	-30.539	3234.467	-4.283
			Max. Vx	8	30.502	4.636	-3229.445
			Max. Torque	2			1.053
L41	16.8333 - 16	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-54.884	4.674	-2.228
			Max. Mx	11	-33.360	3259.932	-4.313
			Max. My	8	-33.361	4.666	-3254.877
			Max. Vy	11	-30.593	3259.932	-4.313
			Max. Vx	8	30.556	4.666	-3254.877
			Max. Torque	2			1.060
L42	16 - 15.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-54.996	4.684	-2.234
			Max. Mx	11	-33.467	3267.581	-4.321
			Max. My	8	-33.468	4.675	-3262.516
			Max. Vy	11	-30.603	3267.581	-4.321
			Max. Vx	8	30.565	4.675	-3262.516
			Max. Torque	2			1.062
L43	15.75 - 11.33	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-56.985	4.853	-2.331
			Max. Mx	11	-35.201	3403.557	-4.476
			Max. My	8	-35.201	4.839	-3398.318
			Max. Vy	11	-30.931	3403.557	-4.476
			Max. Vx	8	30.894	4.839	-3398.318
			Max. Torque	2			1.096
L44	11.33 - 11.08	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-57.106	4.862	-2.337
			Max. Mx	11	-35.316	3411.290	-4.485
			Max. My	8	-35.317	4.848	-3406.041
			Max. Vy	11	-30.939	3411.290	-4.485
			Max. Vx	8	30.902	4.848	-3406.041
			Max. Torque	2			1.098
L45	11.08 - 10	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-57.627	4.904	-2.361
			Max. Mx	11	-35.768	3444.748	-4.523
			Max. My	8	-35.768	4.888	-3439.457

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	11	-31.027	3444.748	-4.523
			Max. Vx	8	30.990	4.888	-3439.457
			Max. Torque	2			1.106
L46	10 - 9.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-57.732	4.914	-2.367
			Max. Mx	11	-35.868	3452.504	-4.531
			Max. My	8	-35.869	4.897	-3447.204
			Max. Vy	11	-31.034	3452.504	-4.531
			Max. Vx	8	30.997	4.897	-3447.204
			Max. Torque	2			1.108
L47	9.75 - 4.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-59.851	5.109	-2.480
			Max. Mx	11	-37.707	3608.492	-4.706
			Max. My	8	-37.708	5.080	-3602.996
			Max. Vy	11	-31.368	3608.492	-4.706
			Max. Vx	8	31.331	5.080	-3602.996
			Max. Torque	2			1.143
L48	4.75 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-61.886	5.298	-2.589
			Max. Mx	11	-39.482	3758.140	-4.871
			Max. My	8	-39.482	5.254	-3752.459
			Max. Vy	11	-31.663	3758.140	-4.871
			Max. Vx	8	31.626	5.254	-3752.459
			Max. Torque	2			1.175

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	24	61.886	9.409	-0.008
	Max. H_x	11	39.496	31.645	-0.032
	Max. H_z	2	39.496	-0.032	31.608
	Max. M_x	2	3751.948	-0.032	31.608
	Max. M_z	5	3756.842	-31.645	0.032
	Max. Torsion	2	1.175	-0.032	31.608
	Min. Vert	1	39.496	0.000	0.000
	Min. H_x	5	39.496	-31.645	0.032
	Min. H_z	8	39.496	0.032	-31.608
	Min. M_x	8	-3752.459	0.032	-31.608
	Min. M_z	11	-3758.140	31.645	-0.032
	Min. Torsion	8	-1.171	0.032	-31.608

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	39.496	0.000	0.000	0.248	0.623	0.000
Dead+Wind 0 deg - No Ice	39.496	0.032	-31.608	-3751.948	-3.971	-1.175
Dead+Wind 30 deg - No Ice	39.496	15.850	-27.390	-3251.517	-1882.098	-0.938
Dead+Wind 60 deg - No Ice	39.496	27.422	-15.832	-1879.807	-3255.727	-0.448
Dead+Wind 90 deg - No Ice	39.496	31.645	-0.032	-4.355	-3756.842	0.161
Dead+Wind 120 deg - No Ice	39.496	27.390	15.777	1872.361	-3251.161	0.726
Dead+Wind 150 deg - No Ice	39.496	15.795	27.358	3247.466	-1874.135	1.096
Dead+Wind 180 deg - No Ice	39.496	-0.032	31.608	3752.459	5.254	1.171
Dead+Wind 210 deg - No Ice	39.496	-15.850	27.390	3252.036	1883.383	0.934
Dead+Wind 240 deg - No Ice	39.496	-27.422	15.832	1880.328	3257.019	0.448
Dead+Wind 270 deg - No Ice	39.496	-31.645	0.032	4.871	3758.140	-0.158
Dead+Wind 300 deg - No Ice	39.496	-27.390	-15.777	-1871.853	3252.458	-0.723
Dead+Wind 330 deg - No Ice	39.496	-15.795	-27.358	-3246.961	1875.424	-1.096

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Ice+Temp	61.886	-0.000	0.000	2.589	5.298	0.000
Dead+Wind 0 deg+Ice+Temp	61.886	0.008	-9.401	-1173.227	4.244	-0.480
Dead+Wind 30 deg+Ice+Temp	61.886	4.711	-8.145	-1016.271	-584.205	-0.360
Dead+Wind 60 deg+Ice+Temp	61.886	8.153	-4.707	-586.299	-1014.667	-0.143
Dead+Wind 90 deg+Ice+Temp	61.886	9.409	-0.008	1.478	-1171.802	0.112
Dead+Wind 120 deg+Ice+Temp	61.886	8.145	4.694	589.567	-1013.504	0.337
Dead+Wind 150 deg+Ice+Temp	61.886	4.698	8.137	1020.390	-582.190	0.472
Dead+Wind 180 deg+Ice+Temp	61.886	-0.008	9.401	1178.506	6.570	0.480
Dead+Wind 210 deg+Ice+Temp	61.886	-4.711	8.145	1021.551	595.018	0.359
Dead+Wind 240 deg+Ice+Temp	61.886	-8.153	4.707	591.580	1025.479	0.143
Dead+Wind 270 deg+Ice+Temp	61.886	-9.409	0.008	3.804	1182.615	-0.112
Dead+Wind 300 deg+Ice+Temp	61.886	-8.145	-4.694	-584.285	1024.319	-0.337
Dead+Wind 330 deg+Ice+Temp	61.886	-4.698	-8.137	-1015.109	593.006	-0.471
Dead+Wind 0 deg - Service	39.496	0.012	-12.375	-1474.232	-1.154	-0.465
Dead+Wind 30 deg - Service	39.496	6.206	-10.724	-1277.589	-739.199	-0.372
Dead+Wind 60 deg - Service	39.496	10.736	-6.198	-738.550	-1278.999	-0.179
Dead+Wind 90 deg - Service	39.496	12.390	-0.012	-1.550	-1475.920	0.062
Dead+Wind 120 deg - Service	39.496	10.724	6.177	735.936	-1277.195	0.286
Dead+Wind 150 deg - Service	39.496	6.184	10.711	1276.299	-736.070	0.433
Dead+Wind 180 deg - Service	39.496	-0.012	12.375	1474.746	2.461	0.464
Dead+Wind 210 deg - Service	39.496	-6.206	10.724	1278.105	740.506	0.371
Dead+Wind 240 deg - Service	39.496	-10.736	6.198	739.066	1280.307	0.179
Dead+Wind 270 deg - Service	39.496	-12.390	0.012	2.065	1477.229	-0.061
Dead+Wind 300 deg - Service	39.496	-10.724	-6.177	-735.423	1278.503	-0.285
Dead+Wind 330 deg - Service	39.496	-6.184	-10.711	-1275.786	737.377	-0.433

Solution Summary

Load Comb.	Sum of Applied Forces PX	PY	PZ	Sum of Reactions PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.000	-39.496	0.000	0.000	39.496	0.000	0.000%
2	0.032	-39.496	-31.608	-0.032	39.496	31.608	0.000%
3	15.850	-39.496	-27.390	-15.850	39.496	27.390	0.000%
4	27.422	-39.496	-15.832	-27.422	39.496	15.832	0.000%
5	31.645	-39.496	-0.032	-31.645	39.496	0.032	0.000%
6	27.390	-39.496	15.777	-27.390	39.496	-15.777	0.000%
7	15.795	-39.496	27.358	-15.795	39.496	-27.358	0.000%
8	-0.032	-39.496	31.608	0.032	39.496	-31.608	0.000%
9	-15.850	-39.496	27.390	15.850	39.496	-27.390	0.000%
10	-27.422	-39.496	15.832	27.422	39.496	-15.832	0.000%
11	-31.645	-39.496	0.032	31.645	39.496	-0.032	0.000%
12	-27.390	-39.496	-15.777	27.390	39.496	15.777	0.000%
13	-15.795	-39.496	-27.358	15.795	39.496	27.358	0.000%
14	0.000	-61.886	0.000	0.000	61.886	-0.000	0.000%
15	0.008	-61.886	-9.401	-0.008	61.886	9.401	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
16	4.711	-61.886	-8.145	-4.711	61.886	8.145	0.000%
17	8.153	-61.886	-4.707	-8.153	61.886	4.707	0.000%
18	9.409	-61.886	-0.008	-9.409	61.886	0.008	0.000%
19	8.145	-61.886	4.694	-8.145	61.886	-4.694	0.000%
20	4.698	-61.886	8.137	-4.698	61.886	-8.137	0.000%
21	-0.008	-61.886	9.401	0.008	61.886	-9.401	0.000%
22	-4.711	-61.886	8.145	4.711	61.886	-8.145	0.000%
23	-8.153	-61.886	4.707	8.153	61.886	-4.707	0.000%
24	-9.409	-61.886	0.008	9.409	61.886	-0.008	0.000%
25	-8.145	-61.886	-4.694	8.145	61.886	4.694	0.000%
26	-4.698	-61.886	-8.137	4.698	61.886	8.137	0.000%
27	0.012	-39.496	-12.375	-0.012	39.496	12.375	0.000%
28	6.206	-39.496	-10.724	-6.206	39.496	10.724	0.000%
29	10.736	-39.496	-6.198	-10.736	39.496	6.198	0.000%
30	12.390	-39.496	-0.012	-12.390	39.496	0.012	0.000%
31	10.724	-39.496	6.177	-10.724	39.496	-6.177	0.000%
32	6.184	-39.496	10.711	-6.184	39.496	-10.711	0.000%
33	-0.012	-39.496	12.375	0.012	39.496	-12.375	0.000%
34	-6.206	-39.496	10.724	6.206	39.496	-10.724	0.000%
35	-10.736	-39.496	6.198	10.736	39.496	-6.198	0.000%
36	-12.390	-39.496	0.012	12.390	39.496	-0.012	0.000%
37	-10.724	-39.496	-6.177	10.724	39.496	6.177	0.000%
38	-6.184	-39.496	-10.711	6.184	39.496	10.711	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	6	0.00000001	0.00003613
3	Yes	7	0.00000001	0.00011618
4	Yes	7	0.00000001	0.00011818
5	Yes	6	0.00000001	0.00001828
6	Yes	7	0.00000001	0.00011798
7	Yes	7	0.00000001	0.00011615
8	Yes	6	0.00000001	0.00005293
9	Yes	7	0.00000001	0.00011873
10	Yes	7	0.00000001	0.00011670
11	Yes	6	0.00000001	0.00001750
12	Yes	7	0.00000001	0.00011670
13	Yes	7	0.00000001	0.00011857
14	Yes	6	0.00000001	0.00001525
15	Yes	8	0.00000001	0.00003358
16	Yes	8	0.00000001	0.00005340
17	Yes	8	0.00000001	0.00005381
18	Yes	8	0.00000001	0.00003349
19	Yes	8	0.00000001	0.00005397
20	Yes	8	0.00000001	0.00005341
21	Yes	8	0.00000001	0.00003370
22	Yes	8	0.00000001	0.00005487
23	Yes	8	0.00000001	0.00005447
24	Yes	8	0.00000001	0.00003379
25	Yes	8	0.00000001	0.00005390
26	Yes	8	0.00000001	0.00005445
27	Yes	6	0.00000001	0.00001934
28	Yes	7	0.00000001	0.00002399
29	Yes	7	0.00000001	0.00002459
30	Yes	6	0.00000001	0.00001419
31	Yes	7	0.00000001	0.00002441
32	Yes	7	0.00000001	0.00002384
33	Yes	6	0.00000001	0.00002108
34	Yes	7	0.00000001	0.00002479
35	Yes	7	0.00000001	0.00002420
36	Yes	6	0.00000001	0.00001415
37	Yes	7	0.00000001	0.00002404

38	Yes	7	0.00000001	0.00002459

Compression Checks

Pole Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	F_a	A	Actual P	Allow. P_a	Ratio $\frac{P}{P_a}$
	ft		ft	ft		ksi	in^2	K	K	
L1	160 - 155 (1)	TP10x10x0.349	5.000	0.000	0.0	21.000	10.5815	-0.795	222.212	0.004
L2	155 - 150 (2)	TP10x10x0.349	5.000	0.000	0.0	21.000	10.5815	-1.005	222.212	0.005
L3	150 - 148.5 (3)	TP10x10x0.349	1.500	0.000	0.0	21.000	10.5815	-1.508	222.212	0.007
L4	148.5 - 148 (4)	TP23x23x0.349	0.500	0.000	0.0	21.000	24.8349	-1.556	521.533	0.003
L5	148 - 143 (5)	TP23.81x23x0.25	5.000	0.000	0.0	36.000	18.6949	-3.540	673.015	0.005
L6	143 - 138 (6)	TP24.62x23.81x0.25	5.000	0.000	0.0	36.000	19.3376	-4.057	696.153	0.006
L7	138 - 133 (7)	TP25.43x24.62x0.25	5.000	0.000	0.0	36.000	19.9803	-5.688	719.292	0.008
L8	133 - 128 (8)	TP26.24x25.43x0.25	5.000	0.000	0.0	36.000	20.6231	-6.147	742.430	0.008
L9	128 - 123 (9)	TP27.05x26.24x0.25	5.000	0.000	0.0	36.000	21.2658	-8.532	765.569	0.011
L10	123 - 118 (10)	TP27.86x27.05x0.25	5.000	0.000	0.0	36.000	21.9085	-9.899	788.707	0.013
L11	118 - 111 (11)	TP28.994x27.86x0.25	7.000	0.000	0.0	36.000	22.3263	-10.290	803.747	0.013
L12	111 - 109.75 (12)	TP28.6964x27.8865x0.3125	5.000	0.000	0.0	36.000	28.1533	-11.221	1013.520	0.011
L13	109.75 - 105.333 (13)	TP29.4119x28.6964x0.3125	4.417	0.000	0.0	36.000	28.8629	-11.857	1039.070	0.011
L14	105.333 - 105.083 (14)	TP29.4524x29.4119x0.4688	0.250	0.000	0.0	36.000	43.1222	-11.916	1552.400	0.008
L15	105.083 - 100.083 (15)	TP30.2623x29.4524x0.4625	5.000	0.000	0.0	36.000	43.7454	-12.807	1574.830	0.008
L16	100.083 - 95.0833 (16)	TP31.0722x30.2623x0.4625	5.000	0.000	0.0	36.000	44.9343	-13.730	1617.640	0.008
L17	95.0833 - 90.0833 (17)	TP31.8822x31.0722x0.45	5.000	0.000	0.0	36.000	44.8946	-14.680	1616.200	0.009
L18	90.0833 - 85.0833 (18)	TP32.6921x31.8822x0.45	5.000	0.000	0.0	36.000	46.0514	-15.652	1657.850	0.009
L19	85.0833 - 76.75 (19)	TP34.042x32.6921x0.45	8.333	0.000	0.0	36.000	46.9961	-16.463	1691.860	0.010
L20	76.75 - 75.75 (20)	TP33.579x32.7286x0.375	5.250	0.000	0.0	39.000	39.5210	-18.019	1541.320	0.012
L21	75.75 - 70.75 (21)	H1-3+VT (1.49 CR) - 20 TP34.3889x33.579x0.375	5.000	0.000	0.0	39.000	40.4851	-18.987	1578.920	0.012
L22	70.75 - 70.5833 (22)	H1-3+VT (1.54 CR) - 21 TP34.4159x34.3889x0.375	0.167	0.000	0.0	39.000	40.5172	-19.036	1580.170	0.012
L23	70.5833 - 70.3333 (23)	H1-3+VT (1.54 CR) - 22 TP34.4564x34.4159x0.75	0.250	0.000	0.0	39.000	80.2381	-19.111	3129.290	0.006
L24	70.3333 - 70 (24)	TP34.5104x34.4564x0.75	0.333	0.000	0.0	39.000	80.3666	-19.209	3134.300	0.006
L25	70 - 69.75 (25)	TP34.5509x34.5104x0.375	0.250	0.000	0.0	39.000	40.6779	-19.256	1586.440	0.012
L26	69.75 - 64.75 (26)	H1-3+VT (1.55 CR) - 25 TP35.3608x34.5509x0.375	5.000	0.000	0.0	39.000	41.6419	-20.236	1624.030	0.012
L27	64.75 - 59.75 (27)	H1-3+VT (1.60 CR) - 26 TP36.1707x35.3608x0.375	5.000	0.000	0.0	39.000	42.6059	-21.255	1661.630	0.013
L28	59.75 - 54.75 (28)	H1-3+VT (1.64 CR) - 27 TP36.9807x36.1707x0.375	5.000	0.000	0.0	39.000	43.5699	-22.297	1699.230	0.013
L29	54.75 - 49.75 (29)	H1-3+VT (1.68 CR) - 28 TP37.7906x36.9807x0.375	5.000	0.000	0.0	39.000	44.5339	-23.360	1736.820	0.013
L30	49.75 - 43 (30)	H1-3+VT (1.71 CR) - 29 TP38.884x37.7906x0.375	6.750	0.000	0.0	39.000	44.8713	-23.723	1749.980	0.014
L31	43 - 42 (31)	H1-3+VT (1.72 CR) - 30 TP38.2836x37.3241x0.437	6.000	0.000	0.0	39.000	52.5540	-25.913	2049.610	0.013

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L32	42 - 37 (32)	5 H1-3+VT (1.58 CR) - 31 TP39.0831x38.2836x0.437 5	5.000	0.000	0.0	39.000	53.6643	-27.127	2092.910	0.013
L33	37 - 32 (33)	H1-3+VT (1.60 CR) - 32 TP39.8827x39.0831x0.437 5	5.000	0.000	0.0	39.000	54.7746	-28.364	2136.210	0.013
L34	32 - 27.9133 (34)	H1-3+VT (1.62 CR) - 33 TP40.5362x39.8827x0.437 5	4.087	0.000	0.0	39.000	55.6821	-29.390	2171.600	0.014
L35	27.9133 - 27.6633 (35)	H1-3+VT (1.64 CR) - 34 TP40.5762x40.5362x0.675	0.250	0.000	0.0	39.000	85.4864	-29.494	3333.970	0.009
L36	27.6633 - 27.25 (36)	TP40.6423x40.5762x0.675	0.413	0.000	0.0	39.000	85.6280	-29.638	3339.490	0.009
L37	27.25 - 26.9833 (37)	TP40.685x40.6423x0.675	0.267	0.000	0.0	39.000	85.7193	-29.727	3343.050	0.009
L38	26.9833 - 26.8333 (38)	TP40.7089x40.685x0.675	0.150	0.000	0.0	39.000	85.7707	-29.777	3345.060	0.009
L39	26.8333 - 21.8333 (39)	TP41.5085x40.7089x0.662 5	5.000	0.000	0.0	39.000	85.8900	-31.411	3349.710	0.009
L40	21.8333 - 16.8333 (40)	TP42.3081x41.5085x0.662 5	5.000	0.000	0.0	39.000	87.5713	-33.078	3415.280	0.010
L41	16.8333 - 16 (41)	TP42.4414x42.3081x0.662 5	0.833	0.000	0.0	39.000	87.8515	-33.360	3426.210	0.010
L42	16 - 15.75 (42)	TP42.4813x42.4414x0.812 5	0.250	0.000	0.0	39.000	107.459 0	-33.466	4190.890	0.008
L43	15.75 - 11.33 (43)	TP43.1882x42.4813x0.812 5	4.420	0.000	0.0	39.000	109.282 0	-35.200	4261.980	0.008
L44	11.33 - 11.08 (44)	TP43.2281x43.1882x0.825	0.250	0.000	0.0	39.000	111.035 0	-35.316	4330.360	0.008
L45	11.08 - 10 (45)	TP43.4008x43.2281x0.825	1.080	0.000	0.0	39.000	111.487 0	-35.767	4347.990	0.008
L46	10 - 9.75 (46)	TP43.4408x43.4008x0.737 5	0.250	0.000	0.0	39.000	99.9610	-35.868	3898.480	0.009
L47	9.75 - 4.75 (47)	TP44.2404x43.4408x0.725	5.000	0.000	0.0	39.000	100.135 0	-37.707	3905.280	0.010
L48	4.75 - 0 (48)	TP45x44.2404x0.7125	4.750	0.000	0.0	39.000	100.155 0	-39.482	3906.050	0.010

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	160 - 155 (1)	TP10x10x0.349	10.086	4.906	23.100	0.212	0.000	0.000	23.100	0.000
L2	155 - 150 (2)	TP10x10x0.349	27.949	13.594	23.100	0.588	0.000	0.000	23.100	0.000
L3	150 - 148.5 (3)	TP10x10x0.349	35.119	17.081	23.100	0.739	0.000	0.000	23.100	0.000
L4	148.5 - 148 (4)	TP23x23x0.349	37.535	3.251	23.100	0.141	0.000	0.000	23.100	0.000
L5	148 - 143 (5)	TP23.81x23x0.25	80.932	8.960	36.000	0.249	0.000	0.000	36.000	0.000
L6	143 - 138 (6)	TP24.62x23.81x0.25	126.59 6	13.095	36.000	0.364	0.000	0.000	36.000	0.000
L7	138 - 133 (7)	TP25.43x24.62x0.25	206.85 7	20.036	36.000	0.557	0.000	0.000	36.000	0.000
L8	133 - 128 (8)	TP26.24x25.43x0.25	288.68 9	26.238	36.000	0.729	0.000	0.000	36.000	0.000
L9	128 - 123 (9)	TP27.05x26.24x0.25	396.39 7	33.873	36.000	0.941	0.000	0.000	36.000	0.000
L10	123 - 118 (10)	TP27.86x27.05x0.25	505.14 5	40.659	36.000	1.129	0.000	0.000	36.000	0.000
L11	118 - 111 (11)	TP28.994x27.86x0.25	579.80 8	44.931	36.000	1.248	0.000	0.000	36.000	0.000
L12	111 - 109.75	TP28.6964x27.8865x0.31	696.44	42.515	36.000	1.181	0.000	0.000	36.000	0.000

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 $\frac{f_{by}}{F_{by}}$
	(12)	25	2							
L13	109.75 - 105.333 (13)	TP29.4119x28.6964x0.3125	801.193	46.522	36.000	1.292	0.000	0.000	36.000	0.000
L14	105.333 - 105.083 (14)	TP29.4524x29.4119x0.4688	807.170	31.666	36.000	0.880	0.000	0.000	36.000	0.000
L15	105.083 - 100.083 (15)	TP30.2623x29.4524x0.4625	927.925	34.879	36.000	0.969	0.000	0.000	36.000	0.000
L16	100.083 - 95.0833 (16)	TP31.0722x30.2623x0.4625	1051.000	37.427	36.000	1.040	0.000	0.000	36.000	0.000
L17	95.0833 - 90.0833 (17)	TP31.8822x31.0722x0.45	1176.375	40.800	36.000	1.133	0.000	0.000	36.000	0.000
L18	90.0833 - 85.0833 (18)	TP32.6921x31.8822x0.45	1303.983	42.967	36.000	1.194	0.000	0.000	36.000	0.000
L19	85.0833 - 76.75 (19)	TP34.042x32.6921x0.45	1409.817	44.593	36.000	1.239	0.000	0.000	36.000	0.000
L20	76.75 - 75.75 (20)	TP33.579x32.7286x0.375	1548.250	57.572	39.000	1.476	0.000	0.000	39.000	0.000
L21	75.75 - 70.75 (21)	TP34.3889x33.579x0.375	1682.175	59.592	39.000	1.528	0.000	0.000	39.000	0.000
L22	70.75 - 70.5833 (22)	TP34.4159x34.3889x0.375	1686.675	59.656	39.000	1.530	0.000	0.000	39.000	0.000
L23	70.5833 - 70.3333 (23)	TP34.4564x34.4159x0.75	1693.417	30.884	39.000	0.792	0.000	0.000	39.000	0.000
L24	70.3333 - 70 (24)	TP34.5104x34.4564x0.75	1702.425	30.948	39.000	0.794	0.000	0.000	39.000	0.000
L25	70 - 69.75 (25)	TP34.5509x34.5104x0.375	1709.183	59.973	39.000	1.538	0.000	0.000	39.000	0.000
L26	69.75 - 64.75 (26)	TP35.3608x34.5509x0.375	1845.350	61.773	39.000	1.584	0.000	0.000	39.000	0.000
L27	64.75 - 59.75 (27)	TP36.1707x35.3608x0.375	1983.317	63.405	39.000	1.626	0.000	0.000	39.000	0.000
L28	59.75 - 54.75 (28)	TP36.9807x36.1707x0.375	2122.992	64.886	39.000	1.664	0.000	0.000	39.000	0.000
L29	54.75 - 49.75 (29)	TP37.7906x36.9807x0.375	2264.308	66.226	39.000	1.698	0.000	0.000	39.000	0.000
L30	49.75 - 43 (30)	TP38.884x37.7906x0.375	2314.150	66.665	39.000	1.709	0.000	0.000	39.000	0.000
L31	43 - 42 (31)	TP38.2836x37.3241x0.4375	2487.358	61.039	39.000	1.565	0.000	0.000	39.000	0.000
L32	42 - 37 (32)	TP39.0831x38.2836x0.4375	2633.525	61.965	39.000	1.589	0.000	0.000	39.000	0.000
L33	37 - 32 (33)	TP39.8827x39.0831x0.4375	2780.925	62.793	39.000	1.610	0.000	0.000	39.000	0.000
L34	32 - 27.9133 (34)	TP40.5362x39.8827x0.4375	2902.333	63.405	39.000	1.626	0.000	0.000	39.000	0.000
L35	27.9133 - 27.6633 (35)	TP40.5762x40.5362x0.675	2909.792	41.857	39.000	1.073	0.000	0.000	39.000	0.000
L36	27.6633 - 27.25 (36)	TP40.6423x40.5762x0.675	2922.125	41.895	39.000	1.074	0.000	0.000	39.000	0.000
L37	27.25 - 26.9833 (37)	TP40.685x40.6423x0.675	2930.092	41.919	39.000	1.075	0.000	0.000	39.000	0.000
L38	26.9833 - 26.8333 (38)	TP40.7089x40.685x0.675	2934.575	41.932	39.000	1.075	0.000	0.000	39.000	0.000
L39	26.8333 - 21.8333 (39)	TP41.5085x40.7089x0.6625	3084.883	43.116	39.000	1.106	0.000	0.000	39.000	0.000
L40	21.8333 - 16.8333 (40)	TP42.3081x41.5085x0.6625	3236.825	43.506	39.000	1.116	0.000	0.000	39.000	0.000
L41	16.8333 - 16 (41)	TP42.4414x42.3081x0.6625	3262.308	43.567	39.000	1.117	0.000	0.000	39.000	0.000
L42	16 - 15.75 (42)	TP42.4813x42.4414x0.8125	3269.958	35.924	39.000	0.921	0.000	0.000	39.000	0.000
L43	15.75 - 11.33 (43)	TP43.1882x42.4813x0.8125	3406.025	36.169	39.000	0.927	0.000	0.000	39.000	0.000
L44	11.33 - 11.08 (44)	TP43.2281x43.1882x0.825	3413.758	35.666	39.000	0.915	0.000	0.000	39.000	0.000
L45	11.08 - 10 (45)	TP43.4008x43.2281x0.825	3447.242	35.721	39.000	0.916	0.000	0.000	39.000	0.000
L46	10 - 9.75 (46)	TP43.4408x43.4008x0.7375	3455.000	39.728	39.000	1.019	0.000	0.000	39.000	0.000

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 $\frac{f_{by}}{F_{by}}$
L47	9.75 - 4.75 (47)	TP44.2404x43.4408x0.725	3611.083	40.653	39.000	1.042	0.000	0.000	39.000	0.000
L48	4.75 - 0 (48)	TP45x44.2404x0.7125	3760.825	41.569	39.000	1.066	0.000	0.000	39.000	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L1	160 - 155 (1)	TP10x10x0.349	3.508	0.332	14.000	0.047	0.001	0.000	14.000	0.000
L2	155 - 150 (2)	TP10x10x0.349	3.641	0.344	14.000	0.049	0.249	0.059	14.000	0.004
L3	150 - 148.5 (3)	TP10x10x0.349	4.800	0.454	14.000	0.065	0.249	0.059	14.000	0.004
L4	148.5 - 148 (4)	TP23x23x0.349	4.829	0.194	14.000	0.028	0.001	0.000	14.000	0.000
L5	148 - 143 (5)	TP23.81x23x0.25	8.840	0.473	24.000	0.039	0.249	0.013	24.000	0.001
L6	143 - 138 (6)	TP24.62x23.81x0.25	9.570	0.495	24.000	0.041	0.249	0.013	24.000	0.001
L7	138 - 133 (7)	TP25.43x24.62x0.25	16.207	0.811	24.000	0.068	0.431	0.020	24.000	0.001
L8	133 - 128 (8)	TP26.24x25.43x0.25	16.531	0.802	24.000	0.067	0.431	0.019	24.000	0.001
L9	128 - 123 (9)	TP27.05x26.24x0.25	21.341	1.004	24.000	0.084	0.430	0.018	24.000	0.001
L10	123 - 118 (10)	TP27.86x27.05x0.25	22.853	1.043	24.000	0.087	0.430	0.017	24.000	0.001
L11	118 - 111 (11)	TP28.994x27.86x0.25	23.099	1.035	24.000	0.086	0.430	0.016	24.000	0.001
L12	111 - 109.75 (12)	TP28.6964x27.8865x0.3125	23.547	0.836	24.000	0.070	0.429	0.013	24.000	0.001
L13	109.75 - 105.333 (13)	TP29.4119x28.6964x0.3125	23.897	0.828	24.000	0.069	0.429	0.012	24.000	0.001
L14	105.333 - 105.083 (14)	TP29.4524x29.4119x0.4688	23.914	0.555	24.000	0.046	0.429	0.008	24.000	0.000
L15	105.083 - 100.083 (15)	TP30.2623x29.4524x0.4625	24.388	0.557	24.000	0.046	0.429	0.008	24.000	0.000
L16	100.083 - 95.0833 (16)	TP31.0722x30.2623x0.4625	24.851	0.553	24.000	0.046	0.428	0.007	24.000	0.000
L17	95.0833 - 90.0833 (17)	TP31.8822x31.0722x0.45	25.304	0.564	24.000	0.047	0.428	0.007	24.000	0.000
L18	90.0833 - 85.0833 (18)	TP32.6921x31.8822x0.45	25.748	0.559	24.000	0.047	0.428	0.007	24.000	0.000
L19	85.0833 - 76.75 (19)	TP34.042x32.6921x0.45	26.099	0.555	24.000	0.046	0.427	0.007	24.000	0.000
L20	76.75 - 75.75 (20)	TP33.579x32.7286x0.375	26.618	0.674	26.000	0.052	0.427	0.008	26.000	0.000
L21	75.75 - 70.75 (21)	TP34.3889x33.579x0.375	26.971	0.666	26.000	0.051	0.426	0.007	26.000	0.000
L22	70.75 - 70.5833 (22)	TP34.4159x34.3889x0.375	26.974	0.666	26.000	0.051	0.426	0.007	26.000	0.000
L23	70.5833 - 70.3333 (23)	TP34.4564x34.4159x0.75	26.997	0.336	26.000	0.026	0.426	0.004	26.000	0.000
L24	70.3333 - 70 (24)	TP34.5104x34.4564x0.75	27.030	0.336	26.000	0.026	0.426	0.004	26.000	0.000
L25	70 - 69.75 (25)	TP34.5509x34.5104x0.375	27.050	0.665	26.000	0.051	0.426	0.007	26.000	0.000
L26	69.75 - 64.75 (26)	TP35.3608x34.5509x0.375	27.427	0.659	26.000	0.051	0.426	0.007	26.000	0.000
L27	64.75 - 59.75 (27)	TP36.1707x35.3608x0.375	27.779	0.652	26.000	0.050	0.426	0.007	26.000	0.000
L28	59.75 - 54.75 (28)	TP36.9807x36.1707x0.375	28.115	0.645	26.000	0.050	0.425	0.006	26.000	0.000
L29	54.75 - 49.75 (29)	TP37.7906x36.9807x0.375	28.433	0.638	26.000	0.049	0.425	0.006	26.000	0.000
L30	49.75 - 43 (30)	TP38.884x37.7906x0.375	28.561	0.637	26.000	0.049	0.425	0.006	26.000	0.000
L31	43 - 42 (31)	TP38.2836x37.3241x0.4375	29.114	0.554	26.000	0.043	0.449	0.005	26.000	0.000
L32	42 - 37 (32)	TP39.0831x38.2836x0.4375	29.374	0.547	26.000	0.042	0.449	0.005	26.000	0.000

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L33	37 - 32 (33)	TP39.8827x39.0831x0.4375	29.613	0.541	26.000	0.042	0.449	0.005	26.000	0.000
L34	32 - 27.9133 (34)	TP40.5362x39.8827x0.4375	29.830	0.536	26.000	0.041	0.448	0.005	26.000	0.000
L35	27.9133 - 27.6633 (35)	TP40.5762x40.5362x0.675	29.832	0.349	26.000	0.027	0.448	0.003	26.000	0.000
L36	27.6633 - 27.25 (36)	TP40.6423x40.5762x0.675	29.863	0.349	26.000	0.027	0.448	0.003	26.000	0.000
L37	27.25 - 26.9833 (37)	TP40.685x40.6423x0.675	29.881	0.349	26.000	0.027	0.448	0.003	26.000	0.000
L38	26.9833 - 26.8333 (38)	TP40.7089x40.685x0.675	29.890	0.348	26.000	0.027	0.448	0.003	26.000	0.000
L39	26.8333 - 21.8333 (39)	TP41.5085x40.7089x0.6625	30.236	0.352	26.000	0.027	0.448	0.003	26.000	0.000
L40	21.8333 - 16.8333 (40)	TP42.3081x41.5085x0.6625	30.558	0.349	26.000	0.027	0.448	0.003	26.000	0.000
L41	16.8333 - 16 (41)	TP42.4414x42.3081x0.6625	30.612	0.348	26.000	0.027	0.448	0.003	26.000	0.000
L42	16 - 15.75 (42)	TP42.4813x42.4414x0.8125	30.621	0.285	26.000	0.022	0.448	0.002	26.000	0.000
L43	15.75 - 11.33 (43)	TP43.1882x42.4813x0.8125	30.950	0.283	26.000	0.022	0.448	0.002	26.000	0.000
L44	11.33 - 11.08 (44)	TP43.2281x43.1882x0.825	30.958	0.279	26.000	0.021	0.448	0.002	26.000	0.000
L45	11.08 - 10 (45)	TP43.4008x43.2281x0.825	31.045	0.278	26.000	0.021	0.448	0.002	26.000	0.000
L46	10 - 9.75 (46)	TP43.4408x43.4008x0.7375	31.053	0.311	26.000	0.024	0.448	0.002	26.000	0.000
L47	9.75 - 4.75 (47)	TP44.2404x43.4408x0.725	31.387	0.313	26.000	0.024	0.448	0.002	26.000	0.000
L48	4.75 - 0 (48)	TP45x44.2404x0.7125	31.682	0.316	26.000	0.024	0.448	0.002	26.000	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	160 - 155 (1)	0.004	0.212	0.000	0.047	0.000	0.217 ✔	1.333	H1-3+VT ✔
L2	155 - 150 (2)	0.005	0.588	0.000	0.049	0.004	0.594 ✔	1.333	H1-3+VT ✔
L3	150 - 148.5 (3)	0.007	0.739	0.000	0.065	0.004	0.748 ✔	1.333	H1-3+VT ✔
L4	148.5 - 148 (4)	0.003	0.141	0.000	0.028	0.000	0.144 ✔	1.333	H1-3+VT ✔
L5	148 - 143 (5)	0.005	0.249	0.000	0.039	0.001	0.255 ✔	1.333	H1-3+VT ✔
L6	143 - 138 (6)	0.006	0.364	0.000	0.041	0.001	0.370 ✔	1.333	H1-3+VT ✔
L7	138 - 133 (7)	0.008	0.557	0.000	0.068	0.001	0.566 ✔	1.333	H1-3+VT ✔
L8	133 - 128 (8)	0.008	0.729	0.000	0.067	0.001	0.738 ✔	1.333	H1-3+VT ✔
L9	128 - 123 (9)	0.011	0.941	0.000	0.084	0.001	0.954 ✔	1.333	H1-3+VT ✔
L10	123 - 118 (10)	0.013	1.129	0.000	0.087	0.001	1.144 ✔	1.333	H1-3+VT ✔
L11	118 - 111 (11)	0.013	1.248	0.000	0.086	0.001	1.263 ✔	1.333	H1-3+VT ✔

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L12	111 - 109.75 (12)	0.011	1.181	0.000	0.070	0.001	1.193 ✓	1.333	H1-3+VT ✓
L13	109.75 - 105.333 (13)	0.011	1.292	0.000	0.069	0.001	1.305 ✓	1.333	H1-3+VT ✓
L14	105.333 - 105.083 (14)	0.008	0.880	0.000	0.046	0.000	0.888 ✓	1.333	H1-3+VT ✓
L15	105.083 - 100.083 (15)	0.008	0.969	0.000	0.046	0.000	0.978 ✓	1.333	H1-3+VT ✓
L16	100.083 - 95.0833 (16)	0.008	1.040	0.000	0.046	0.000	1.049 ✓	1.333	H1-3+VT ✓
L17	95.0833 - 90.0833 (17)	0.009	1.133	0.000	0.047	0.000	1.143 ✓	1.333	H1-3+VT ✓
L18	90.0833 - 85.0833 (18)	0.009	1.194	0.000	0.047	0.000	1.204 ✓	1.333	H1-3+VT ✓
L19	85.0833 - 76.75 (19)	0.010	1.239	0.000	0.046	0.000	1.249 ✓	1.333	H1-3+VT ✓
L20	76.75 - 75.75 (20)	0.012	1.476	0.000	0.052	0.000	1.489 ✗	1.333	H1-3+VT ✗
L21	75.75 - 70.75 (21)	0.012	1.528	0.000	0.051	0.000	1.541 ✗	1.333	H1-3+VT ✗
L22	70.75 - 70.5833 (22)	0.012	1.530	0.000	0.051	0.000	1.542 ✗	1.333	H1-3+VT ✗
L23	70.5833 - 70.3333 (23)	0.006	0.792	0.000	0.026	0.000	0.798 ✓	1.333	H1-3+VT ✓
L24	70.3333 - 70 (24)	0.006	0.794	0.000	0.026	0.000	0.800 ✓	1.333	H1-3+VT ✓
L25	70 - 69.75 (25)	0.012	1.538	0.000	0.051	0.000	1.551 ✗	1.333	H1-3+VT ✗
L26	69.75 - 64.75 (26)	0.012	1.584	0.000	0.051	0.000	1.597 ✗	1.333	H1-3+VT ✗
L27	64.75 - 59.75 (27)	0.013	1.626	0.000	0.050	0.000	1.639 ✗	1.333	H1-3+VT ✗
L28	59.75 - 54.75 (28)	0.013	1.664	0.000	0.050	0.000	1.677 ✗	1.333	H1-3+VT ✗
L29	54.75 - 49.75 (29)	0.013	1.698	0.000	0.049	0.000	1.712 ✗	1.333	H1-3+VT ✗
L30	49.75 - 43 (30)	0.014	1.709	0.000	0.049	0.000	1.724 ✗	1.333	H1-3+VT ✗
L31	43 - 42 (31)	0.013	1.565	0.000	0.043	0.000	1.578 ✗	1.333	H1-3+VT ✗
L32	42 - 37 (32)	0.013	1.589	0.000	0.042	0.000	1.602 ✗	1.333	H1-3+VT ✗
L33	37 - 32 (33)	0.013	1.610	0.000	0.042	0.000	1.624 ✗	1.333	H1-3+VT ✗
L34	32 - 27.9133 (34)	0.014	1.626	0.000	0.041	0.000	1.640 ✗	1.333	H1-3+VT ✗
L35	27.9133 - 27.6633 (35)	0.009	1.073	0.000	0.027	0.000	1.082 ✓	1.333	H1-3+VT ✓
L36	27.6633 - 27.25 (36)	0.009	1.074	0.000	0.027	0.000	1.083 ✓	1.333	H1-3+VT ✓
L37	27.25 - 26.9833 (37)	0.009	1.075	0.000	0.027	0.000	1.084 ✓	1.333	H1-3+VT ✓
L38	26.9833 - 26.8333 (38)	0.009	1.075	0.000	0.027	0.000	1.084 ✓	1.333	H1-3+VT ✓
L39	26.8333 - 21.8333 (39)	0.009	1.106	0.000	0.027	0.000	1.115 ✓	1.333	H1-3+VT ✓
L40	21.8333 - 16.8333 (40)	0.010	1.116	0.000	0.027	0.000	1.125 ✓	1.333	H1-3+VT ✓
L41	16.8333 - 16 (41)	0.010	1.117	0.000	0.027	0.000	1.127 ✓	1.333	H1-3+VT ✓
L42	16 - 15.75 (42)	0.008	0.921	0.000	0.022	0.000	0.929 ✓	1.333	H1-3+VT ✓
L43	15.75 - 11.33 (43)	0.008	0.927	0.000	0.022	0.000	0.936 ✓	1.333	H1-3+VT ✓
L44	11.33 - 11.08	0.008	0.915	0.000	0.021	0.000	0.923	1.333	H1-3+VT ✓

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	(44)						✔		
L45	11.08 - 10 (45)	0.008	0.916	0.000	0.021	0.000	0.924 ✔	1.333	H1-3+VT ✔
L46	10 - 9.75 (46)	0.009	1.019	0.000	0.024	0.000	1.028 ✔	1.333	H1-3+VT ✔
L47	9.75 - 4.75 (47)	0.010	1.042	0.000	0.024	0.000	1.052 ✔	1.333	H1-3+VT ✔
L48	4.75 - 0 (48)	0.010	1.066	0.000	0.024	0.000	1.076 ✔	1.333	H1-3+VT ✔

Section Capacity Table

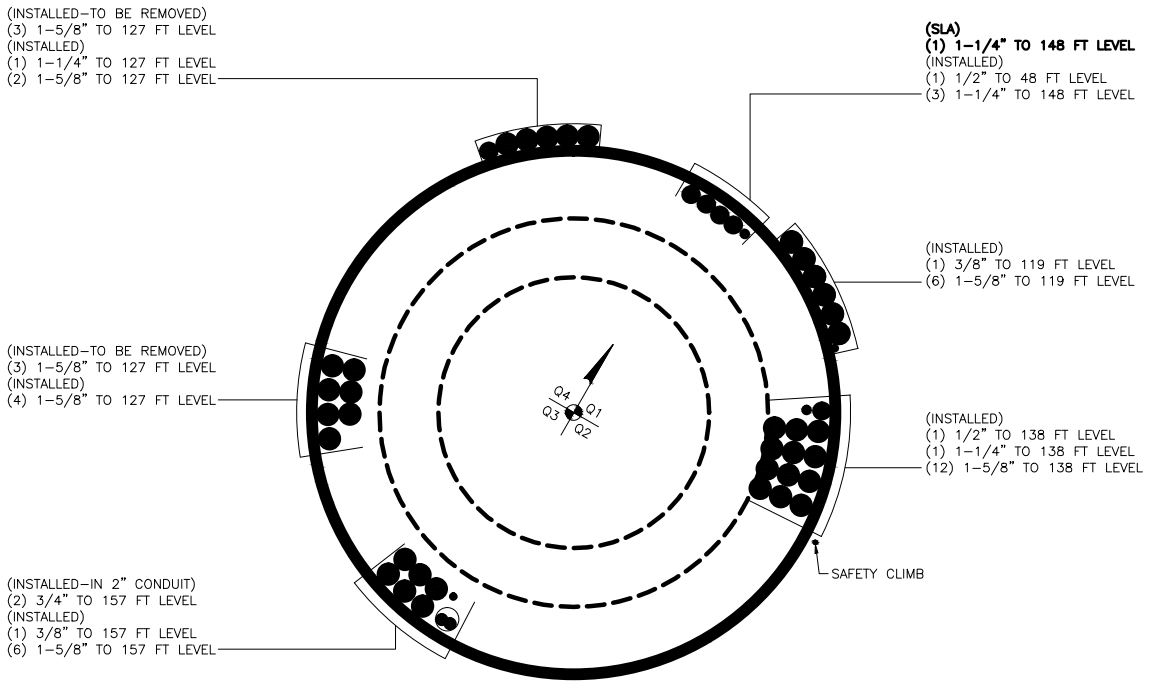
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	160 - 155	Pole	TP10x10x0.349	1	-0.795	296.209	16.2	Pass
L2	155 - 150	Pole	TP10x10x0.349	2	-1.005	296.209	44.5	Pass
L3	150 - 148.5	Pole	TP10x10x0.349	3	-1.508	296.209	56.1	Pass
L4	148.5 - 148	Pole	TP23x23x0.349	4	-1.556	695.203	10.8	Pass
L5	148 - 143	Pole	TP23.81x23x0.25	5	-3.540	897.129	19.1	Pass
L6	143 - 138	Pole	TP24.62x23.81x0.25	6	-4.057	927.972	27.8	Pass
L7	138 - 133	Pole	TP25.43x24.62x0.25	7	-5.688	958.816	42.4	Pass
L8	133 - 128	Pole	TP26.24x25.43x0.25	8	-6.147	989.659	55.4	Pass
L9	128 - 123	Pole	TP27.05x26.24x0.25	9	-8.532	1020.503	71.6	Pass
L10	123 - 118	Pole	TP27.86x27.05x0.25	10	-9.899	1051.346	85.8	Pass
L11	118 - 111	Pole	TP28.994x27.86x0.25	11	-10.290	1071.395	94.7	Pass
L12	111 - 109.75	Pole	TP28.6964x27.8865x0.3125	12	-11.221	1351.022	89.5	Pass
L13	109.75 - 105.333	Pole	TP29.4119x28.6964x0.3125	13	-11.857	1385.080	97.9	Pass
L14	105.333 - 105.083	Pole	TP29.4524x29.4119x0.4688	14	-11.916	2069.349	66.6	Pass
L15	105.083 - 100.083	Pole	TP30.2623x29.4524x0.4625	15	-12.807	2099.248	73.3	Pass
L16	100.083 - 95.0833	Pole	TP31.0722x30.2623x0.4625	16	-13.730	2156.314	78.7	Pass
L17	95.0833 - 90.0833	Pole	TP31.8822x31.0722x0.45	17	-14.680	2154.395	85.7	Pass
L18	90.0833 - 85.0833	Pole	TP32.6921x31.8822x0.45	18	-15.652	2209.914	90.3	Pass
L19	85.0833 - 76.75	Pole	TP34.042x32.6921x0.45	19	-16.463	2255.249	93.7	Pass
L20	76.75 - 75.75	Pole	TP33.579x32.7286x0.375	20	-18.019	2054.579	111.7	Fail ✘
L21	75.75 - 70.75	Pole	TP34.3889x33.579x0.375	21	-18.987	2104.700	115.6	Fail ✘
L22	70.75 - 70.5833	Pole	TP34.4159x34.3889x0.375	22	-19.036	2106.367	115.7	Fail ✘
L23	70.5833 - 70.3333	Pole	TP34.4564x34.4159x0.75	23	-19.111	4171.343	59.9	Pass
L24	70.3333 - 70	Pole	TP34.5104x34.4564x0.75	24	-19.209	4178.022	60.0	Pass
L25	70 - 69.75	Pole	TP34.5509x34.5104x0.375	25	-19.256	2114.724	116.3	Fail ✘
L26	69.75 - 64.75	Pole	TP35.3608x34.5509x0.375	26	-20.236	2164.832	119.8	Fail ✘
L27	64.75 - 59.75	Pole	TP36.1707x35.3608x0.375	27	-21.255	2214.953	123.0	Fail ✘
L28	59.75 - 54.75	Pole	TP36.9807x36.1707x0.375	28	-22.297	2265.073	125.8	Fail ✘
L29	54.75 - 49.75	Pole	TP37.7906x36.9807x0.375	29	-23.360	2315.181	128.4	Fail ✘
L30	49.75 - 43	Pole	TP38.884x37.7906x0.375	30	-23.723	2332.723	129.3	Fail ✘
L31	43 - 42	Pole	TP38.2836x37.3241x0.4375	31	-25.913	2732.130	118.4	Fail ✘
L32	42 - 37	Pole	TP39.0831x38.2836x0.4375	32	-27.127	2789.849	120.2	Fail ✘
L33	37 - 32	Pole	TP39.8827x39.0831x0.4375	33	-28.364	2847.568	121.8	Fail ✘
L34	32 - 27.9133	Pole	TP40.5362x39.8827x0.4375	34	-29.390	2894.743	123.0	Fail ✘
L35	27.9133 - 27.6633	Pole	TP40.5762x40.5362x0.675	35	-29.494	4444.182	81.2	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P_{allow} K	% Capacity	Pass Fail
L36	27.6633 - 27.25	Pole	TP40.6423x40.5762x0.675	36	-29.638	4451.540	81.3	Pass
L37	27.25 - 26.9833	Pole	TP40.685x40.6423x0.675	37	-29.727	4456.285	81.3	Pass
L38	26.9833 - 26.8333	Pole	TP40.7089x40.685x0.675	38	-29.777	4458.965	81.3	Pass
L39	26.8333 - 21.8333	Pole	TP41.5085x40.7089x0.6625	39	-31.411	4465.163	83.7	Pass
L40	21.8333 - 16.8333	Pole	TP42.3081x41.5085x0.6625	40	-33.078	4552.568	84.4	Pass
L41	16.8333 - 16	Pole	TP42.4414x42.3081x0.6625	41	-33.360	4567.138	84.5	Pass
L42	16 - 15.75	Pole	TP42.4813x42.4414x0.8125	42	-33.466	5586.456	69.7	Pass
L43	15.75 - 11.33	Pole	TP43.1882x42.4813x0.8125	43	-35.200	5681.219	70.2	Pass
L44	11.33 - 11.08	Pole	TP43.2281x43.1882x0.825	44	-35.316	5772.370	69.2	Pass
L45	11.08 - 10	Pole	TP43.4008x43.2281x0.825	45	-35.767	5795.870	69.3	Pass
L46	10 - 9.75	Pole	TP43.4408x43.4008x0.7375	46	-35.868	5196.674	77.1	Pass
L47	9.75 - 4.75	Pole	TP44.2404x43.4408x0.725	47	-37.707	5205.738	78.9	Pass
L48	4.75 - 0	Pole	TP45x44.2404x0.7125	48	-39.482	5206.764	80.7	Pass
							Summary	
						Pole (L30)	129.3	Fail ✗
						RATING =	**129.3***	**Fail** ✗

*Due to limitations of the TNXTOWER software when analyzing monopole reinforcement plates, the above output has not been used to determine the governing tower usage. Please see additional calculation results in Appendix C which are based on the Section forces generated in this output.

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 876313 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CALCULATION SHEET

Knife Plate Check (ASD):

$M := 37.54kip \cdot ft$ Moment in monopole (TNX)

$P := 1.56kip$ Axial Force in monopole (TNX)

$V := 4.83kip$ Shear Force in monopole (TNX)

HSS4x3x5/16 Properties

$n := 3$ Number of HSS members

$A := 10.2489 \cdot in^2$ Area

$S := 16.1in^3$ Section Modulus

$F_u := 58ksi$ Ultimate strength of the HSS steel

$F_y := 46ksi$ Yield Strength of the HSS Steel

$d := 29.5315in$ Force couple lever arm

$L := 91 \cdot in$ Unbraced length of the HSS member

Stress in the HSS member:

$P_t := \frac{M}{d} + \frac{P}{n} = 15.774 \cdot kip$ Compression force acting at the connection from the tower extension

CALCULATION SHEET

Capacity for HSS member in compression:

$K := 1$

$I := 48.3in^4$ Moment of Interia

$r := \sqrt{\frac{I}{A}} = 2.171 \cdot in$ Radius of Gyration

$E := 29000ksi$ Young's Modulus for steel

$\lambda := \frac{K \cdot L}{r} = 41.919$

$C_c := \sqrt{\frac{2 \cdot \pi^2 \cdot E}{F_y}} = 111.554$

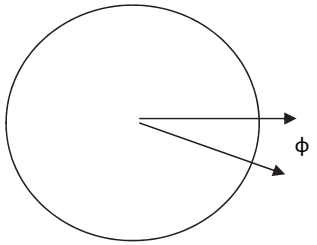
$$F_a := \frac{\left(1 - \frac{\lambda^2}{2 \cdot C_c^2}\right)}{\frac{5}{3} + \frac{3 \cdot \lambda}{8 \cdot C_c} - \frac{\lambda^3}{8 \cdot C_c^3}} \cdot F_y = 23.739 \cdot ksi$$

$$Usage := \frac{P_t}{F_a \cdot A} = 6.5 \cdot \%$$

BU#	876313
Site Name	WEST JOHNSON AVE. BURNT HOUSE
App #	305907 rev 1

Number Of Bolts (Ext + Mod)	19
Diameter Of Exist. Bolt Circle(inch)	52
Moment (ft. kips)	3761
Axial Compression (kips)	39
Outer Diamter of Mod. Bolt Circle(inch)	67.1

45132 in. kips



	Bolt Diameter (inch)	Grade	Allowable Axial (kips)	Capacity
Existing	2.25	A615 (Gr 75)	195	95.8%
Mod	**1.75**	**A193 GRADE B7**	**175.6**	**81.6%**

Sum Ax_i^2 25089.64

T(+) C(-)

Bolt #	ϕ^o	Bolt Circle	D (in)	Radians	$Cos(\phi^o)$	x_i(inch)	x_i^2	Area	Ax_i	Ax_i^2	Force (Kip)	Capacities
1	250.125	52.00	2.25	4.366	-0.340	-8.839	78.131	3.98	-35.15	310.66	-65.3	33.5%
2	263.375	52.00	2.25	4.597	-0.115	-3.000	8.998	3.98	-11.93	35.78	-23.5	12.1%
3	276.625	52.00	2.25	4.828	0.115	3.000	8.998	3.98	11.93	35.78	19.4	9.9%
4	289.875	52.00	2.25	5.059	0.340	8.839	78.131	3.98	35.15	310.66	61.2	31.4%
5	**304.75**	**67.10**	**1.75**	**5.319**	**0.570**	**19.123**	**365.704**	**2.41**	**46.00**	**879.62**	**80.7**	**46.0%**
6	340.125	52.00	2.25	5.936	0.940	24.451	597.869	3.98	97.22	2377.17	172.8	88.6%
7	353.375	52.00	2.25	6.168	0.993	25.826	667.002	3.98	102.69	2652.05	182.7	93.7%
8	6.625	52.00	2.25	0.116	0.993	25.826	667.002	3.98	102.69	2652.05	182.7	93.7%
9	19.875	52.00	2.25	0.347	0.940	24.451	597.869	3.98	97.22	2377.17	172.8	88.6%
10	70.125	52.00	2.25	1.224	0.340	8.839	78.131	3.98	35.15	310.66	61.2	31.4%
11	**76.75**	**67.10**	**1.75**	**1.340**	**0.229**	**7.690**	**59.131**	**2.41**	**18.50**	**142.23**	**31.2**	**17.8%**
12	83.375	52.00	2.25	1.455	0.115	3.000	8.998	3.98	11.93	35.78	19.4	9.9%
13	96.625	52.00	2.25	1.686	-0.115	-3.000	8.998	3.98	-11.93	35.78	-23.5	12.1%
14	109.875	52.00	2.25	1.918	-0.340	-8.839	78.131	3.98	-35.15	310.66	-65.3	33.5%
15	160.125	52.00	2.25	2.795	-0.940	-24.451	597.869	3.98	-97.22	2377.17	-176.9	90.7%
16	**166.75**	**67.10**	**1.75**	**2.910**	**-0.973**	**-32.657**	**1066.471**	**2.41**	**-78.55**	**2565.16**	**-143.3**	**81.6%**
17	173.375	52.00	2.25	3.026	-0.993	-25.826	667.002	3.98	-102.69	2652.05	-186.8	95.8%
18	186.625	52.00	2.25	3.257	-0.993	-25.826	667.002	3.98	-102.69	2652.05	-186.8	95.8%
19	199.875	52.00	2.25	3.488	-0.940	-24.451	597.869	3.98	-97.22	2377.17	-176.9	90.7%

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

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

Site Data

BU#: *876313*
Site Name: *West Johnson Ave. Burnt H*
App #: *305907 Rev.1*

Base Reactions		
TIA Revision:	F	
Unfactored Moment, M:	3210	ft-kips
Unfactored Axial, P:	39	kips
Unfactored Shear, V:	32	kips

Base reactions have been reduced to account for additional anchor rods

Anchor Rod Data		
Qty:	16	
Diam:	2.25	in
Rod Material:	A615-J	
Yield, Fy:	75	ksi
Strength, Fu:	100	ksi
Bolt Circle:	52	in
Anchor Spacing:	6	in

Plate Data		
W=Side:	53	in
Thick:	3	in
Grade:	50	ksi
Clip Distance:	0	in

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

Pole Data		
Diam:	45.1	in
Thick:	0.4375	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round

Stress Increase Factor		
ASD ASIF:	1.333	

Base Plate Results Flexural Check

Base Plate Stress:	42.3	ksi
Allowable PL Bending Stress:	50.0	ksi
Base Plate Stress Ratio:	84.6%	**Pass**

PL Ref. Data	
Yield Line (in):	29.85
Max PL Length:	29.85

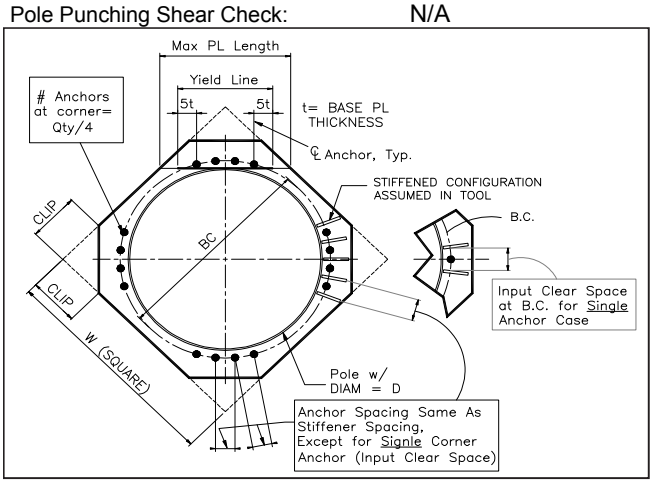
N/A - Unstiffened

Stiffener Results

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

Pole Results

Pole Punching Shear Check: N/A



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

Additional Calculations

CCIpole

per TIA-222- G

Site BU: 876313

Work Order: 1101181

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	160	11.5	0	0	10	10	0.349	n/a	A53-B-35
2	148.5	0.5	0	0	23.00	23	0.349	n/a	A53-B-35
3	148	37	3.75	18	23.00	28.994	0.25	1	A607-60
4	114.75	38	4.25	18	27.89	34.042	0.3125	1.25	A607-60
5	81	38	5	18	32.73	38.884	0.375	1.5	A607-65
6	48	48	0	18	37.32	45.1	0.4375	1.75	A607-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	11.33	channel	MP3-06 (1.25") - WB	2								1				1						
2	0	27.08333	channel	MP3-06 (1.25") - WB	2				1												1		
3	11.33	27.9133	channel	MP3-06 (1.25")	1										1								
4	45.41667	70.58333	channel	MP3-05 (1.25")	3	1						1						1					
5	78.1667	105.33333	channel	MP3-04 (1.25")	3	1						1						1					
6	10	16	plate	CCI-SFP-060100	3	1						1						1					
7	27.25	46.75	plate	CCI-SFP-065125	3	1						1						1					
8	70	80	plate	CCI-AFP-060100	3					1						1						1	
9																							
10																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_u (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	6.89	2.61	8.47	0.93	n/a	41.000	24.000	7.630	1.2500	A572-65
2	6.89	2.61	8.47	0.93	n/a	41.000	24.000	7.630	1.2500	A572-65
3	6.89	2.61	8.47	0.93	41.000	41.000	24.000	7.630	1.2500	A572-65
4	5.33	2.09	5.65	0.79	29.000	29.000	18.000	4.994	1.2500	A572-65
5	4.78	1.61	4.13	0.61	17.000	17.000	18.000	3.566	1.2500	A572-65
6	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
7	6.5	1.25	8.125	0.625	33.000	33.000	19.000	6.563	1.1875	A572-65
8	6	1	6	0.5	30.000	30.000	16.000	4.750	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	160 - 155	5		0	10.000	10.000	0.349	A53-B-35	1.000
2	155 - 150	5		0	10.000	10.000	0.349	A53-B-35	1.000
3	150 - 148.5	1.5	0	0	10.000	10.000	0.349	A53-B-35	1.000
4	148.5 - 148	0.5	0	0	23.000	23.000	0.349	A53-B-35	1.000
5	148 - 143	5		18	23.000	23.810	0.25	A607-60	1.000
6	143 - 138	5		18	23.810	24.620	0.25	A607-60	1.000
7	138 - 133	5		18	24.620	25.430	0.25	A607-60	1.000
8	133 - 128	5		18	25.430	26.240	0.25	A607-60	1.000
9	128 - 123	5		18	26.240	27.050	0.25	A607-60	1.000
10	123 - 118	5		18	27.050	27.860	0.25	A607-60	1.000
11	118 - 114.75	7	3.75	18	27.860	28.994	0.25	A607-60	1.000
12	114.75 - 109.75	5		18	27.887	28.696	0.3125	A607-60	1.000
13	109.75 - 105.3333	4.41667		18	28.696	29.412	0.3125	A607-60	1.000
14	105.3333 - 105.0833	0.25		18	29.412	29.452	0.46875	A607-60	0.958
15	105.0833 - 100.0833	5		18	29.452	30.262	0.4625	A607-60	0.962
16	100.0833 - 95.08333	5		18	30.262	31.072	0.4625	A607-60	0.955
17	95.08333 - 90.08333	5		18	31.072	31.882	0.45	A607-60	0.973
18	90.08333 - 85.08333	5		18	31.882	32.692	0.45	A607-60	0.966
19	85.08333 - 81	8.33333	4.25	18	32.692	34.042	0.45	A607-60	0.961
20	81 - 75.75	5.25		18	32.729	33.579	0.375	A607-65	1.000
21	75.75 - 70.75	5		18	33.579	34.389	0.375	A607-65	1.000
22	70.75 - 70.58333	0.16667		18	34.389	34.416	0.375	A607-65	1.000
23	70.58333 - 70.33333	0.25		18	34.416	34.456	0.75	A607-65	0.941
24	70.33333 - 70	0.33333		18	34.456	34.510	0.75	A607-65	0.940
25	70 - 69.75	0.25		18	34.510	34.551	0.375	A607-65	1.000
26	69.75 - 64.75	5		18	34.551	35.361	0.375	A607-65	1.000
27	64.75 - 59.75	5		18	35.361	36.171	0.375	A607-65	1.000
28	59.75 - 54.75	5		18	36.171	36.981	0.375	A607-65	1.000
29	54.75 - 49.75	5		18	36.981	37.791	0.375	A607-65	1.000
30	49.75 - 48	6.75	5	18	37.791	38.884	0.375	A607-65	1.000
31	48 - 42	6		18	37.324	38.296	0.4375	A607-65	1.000
32	42 - 37	5		18	38.296	39.106	0.4375	A607-65	1.000
33	37 - 32	5		18	39.106	39.916	0.4375	A607-65	1.000
34	32 - 27.9133	4.0867		18	39.916	40.578	0.4375	A607-65	1.000
35	27.9133 - 27.6633	0.25		18	40.578	40.619	0.675	A607-65	1.036
36	27.6633 - 27.25	0.4133		18	40.619	40.686	0.675	A607-65	1.035
37	27.25 - 26.98333	0.26667		18	40.686	40.729	0.675	A607-65	0.948
38	26.98333 - 26.83333	0.15		18	40.729	40.753	0.6625	A607-65	0.966
39	26.83333 - 21.83333	5		18	40.753	41.563	0.6625	A607-65	0.959
40	21.83333 - 16.83333	5		18	41.563	42.373	0.6625	A607-65	0.954
41	16.83333 - 16	0.83333		18	42.373	42.508	0.6625	A607-65	0.953
42	16 - 15.75	0.25		18	42.508	42.549	0.8125	A607-65	0.947
43	15.75 - 11.33	4.42		18	42.549	43.265	0.8125	A607-65	0.940
44	11.33 - 11.08	0.25		18	43.265	43.305	0.825	A607-65	1.002
45	11.08 - 10	1.08		18	43.305	43.480	0.825	A607-65	1.000
46	10 - 9.75	0.25		18	43.480	43.521	0.7375	A607-65	0.936
47	9.75 - 4.75	5		18	43.521	44.331	0.725	A607-65	0.945
48	4.75 - 0	4.75		18	44.331	45.100	0.7125	A607-65	0.955

TNX Section Forces

Increment (ft): 5

	Section Height (ft)	TNX Output P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	160 - 155	0.7948	10.086	3.508
2	155 - 150	1.0058	27.959	3.6412
3	150 - 148.5	1.5091	35.128	4.7996
4	148.5 - 148	1.5559	37.535	4.8285
5	148 - 143	3.5415	80.938	8.8395
6	143 - 138	4.0592	126.6	9.5694
7	138 - 133	5.6876	206.86	16.207
8	133 - 128	6.1475	288.69	16.531
9	128 - 123	8.5323	396.4	21.341
10	123 - 118	9.8994	505.15	22.853
11	118 - 114.75	10.29	579.81	23.099
12	114.75 - 109.75	11.221	696.44	23.547
13	109.75 - 105.3333	11.857	801.19	23.897
14	105.3333 - 105.0833	11.916	807.17	23.914
15	105.0833 - 100.0833	12.807	927.92	24.388
16	100.0833 - 95.08333	13.73	1051	24.851
17	95.08333 - 90.08333	14.68	1176.4	25.304
18	90.08333 - 85.08333	15.652	1304	25.748
19	85.08333 - 81	16.463	1409.8	26.099
20	81 - 75.75	18.019	1548.2	26.618
21	75.75 - 70.75	18.987	1682.2	26.971
22	70.75 - 70.58333	19.036	1686.7	26.974
23	70.58333 - 70.33333	19.111	1693.4	26.997
24	70.33333 - 70	19.209	1702.4	27.03
25	70 - 69.75	19.256	1709.2	27.05
26	69.75 - 64.75	20.237	1845.4	27.427
27	64.75 - 59.75	21.255	1983.3	27.779
28	59.75 - 54.75	22.296	2123	28.115
29	54.75 - 49.75	23.36	2264.3	28.434
30	49.75 - 48	23.722	2314.1	28.561
31	48 - 42	25.913	2487.4	29.114
32	42 - 37	27.127	2633.5	29.374
33	37 - 32	28.364	2780.9	29.613
34	32 - 27.9133	29.39	2902.3	29.83
35	27.9133 - 27.6633	29.494	2909.8	29.832
36	27.6633 - 27.25	29.638	2922.1	29.864
37	27.25 - 26.98333	29.727	2930.1	29.881
38	26.98333 - 26.83333	29.777	2934.6	29.89
39	26.83333 - 21.83333	31.4	3084.9	30.2
40	21.83333 - 16.83333	33.1	3236.8	30.6
41	16.83333 - 16	33.4	3262.3	30.6
42	16 - 15.75	33.5	3270.0	30.6
43	15.75 - 11.33	35.2	3406.0	30.9
44	11.33 - 11.08	35.3	3413.8	31.0
45	11.08 - 10	35.8	3447.2	31.0
46	10 - 9.75	35.9	3455.0	31.1
47	9.75 - 4.75	37.7	3611.1	31.4
48	4.75 - 0	39.5	3760.8	31.7

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
160 - 155	Pole	TP10x10x0.349	Pole	12.1%	Pass
155 - 150	Pole	TP10x10x0.349	Pole	33.1%	Pass
150 - 148.5	Pole	TP10x10x0.349	Pole	41.7%	Pass
148.5 - 148	Pole	TP23x23x0.349	Pole	8.4%	Pass
148 - 143	Pole	TP23.81x23x0.25	Pole	13.4%	Pass
143 - 138	Pole	TP24.62x23.81x0.25	Pole	19.4%	Pass
138 - 133	Pole	TP25.43x24.62x0.25	Pole	29.7%	Pass
133 - 128	Pole	TP26.24x25.43x0.25	Pole	38.8%	Pass
128 - 123	Pole	TP27.05x26.24x0.25	Pole	50.5%	Pass
123 - 118	Pole	TP27.86x27.05x0.25	Pole	61.0%	Pass
118 - 114.75	Pole	TP28.994x27.86x0.25	Pole	67.7%	Pass
114.75 - 109.75	Pole	TP28.696x27.887x0.3125	Pole	62.6%	Pass
109.75 - 105.33	Pole	TP29.412x28.696x0.3125	Pole	68.5%	Pass
105.33 - 105.08	Pole + Reinf.	TP29.452x29.412x0.4688	Reinf. 5 Tension Rupture	66.1%	Pass
105.08 - 100.08	Pole + Reinf.	TP30.262x29.452x0.4625	Reinf. 5 Tension Rupture	72.5%	Pass
100.08 - 95.08	Pole + Reinf.	TP31.072x30.262x0.4625	Reinf. 5 Tension Rupture	78.4%	Pass
95.08 - 90.08	Pole + Reinf.	TP31.882x31.072x0.45	Reinf. 5 Tension Rupture	84.0%	Pass
90.08 - 85.08	Pole + Reinf.	TP32.692x31.882x0.45	Reinf. 5 Tension Rupture	89.1%	Pass
85.08 - 81	Pole + Reinf.	TP34.042x32.692x0.45	Reinf. 5 Tension Rupture	93.0%	Pass
81 - 75.75	Pole	TP33.579x32.729x0.375	Pole	78.1%	Pass
75.75 - 70.75	Pole	TP34.389x33.579x0.375	Pole	80.8%	Pass
70.75 - 70.58	Pole	TP34.416x34.389x0.375	Pole	80.9%	Pass
70.58 - 70.33	Pole + Reinf.	TP34.456x34.416x0.75	Reinf. 8 Tension Rupture	66.0%	Pass
70.33 - 70	Pole + Reinf.	TP34.51x34.456x0.75	Reinf. 8 Tension Rupture	66.2%	Pass
70 - 69.75	Pole	TP34.551x34.51x0.375	Pole	81.3%	Pass
69.75 - 64.75	Pole	TP35.361x34.551x0.375	Pole	83.8%	Pass
64.75 - 59.75	Pole	TP36.171x35.361x0.375	Pole	86.0%	Pass
59.75 - 54.75	Pole	TP36.981x36.171x0.375	Pole	88.0%	Pass
54.75 - 49.75	Pole	TP37.791x36.981x0.375	Pole	89.8%	Pass
49.75 - 48	Pole	TP38.884x37.791x0.375	Pole	90.6%	Pass
48 - 42	Pole	TP38.296x37.324x0.4375	Pole	82.7%	Pass
42 - 37	Pole	TP39.106x38.296x0.4375	Pole	84.0%	Pass
37 - 32	Pole	TP39.916x39.106x0.4375	Pole	85.0%	Pass
32 - 27.91	Pole	TP40.578x39.916x0.4375	Pole	85.8%	Pass
27.91 - 27.66	Pole + Reinf.	TP40.619x40.578x0.675	Reinf. 7 Tension Rupture	84.2%	Pass
27.66 - 27.25	Pole + Reinf.	TP40.686x40.619x0.675	Reinf. 7 Tension Rupture	84.3%	Pass
27.25 - 26.98	Pole + Reinf.	TP40.729x40.686x0.675	Reinf. 2 Tension Rupture	82.9%	Pass
26.98 - 26.83	Pole + Reinf.	TP40.753x40.729x0.6625	Reinf. 2 Tension Rupture	82.9%	Pass
26.83 - 21.83	Pole + Reinf.	TP41.563x40.753x0.6625	Reinf. 2 Tension Rupture	84.3%	Pass
21.83 - 16.83	Pole + Reinf.	TP42.373x41.563x0.6625	Reinf. 2 Tension Rupture	85.6%	Pass
16.83 - 16	Pole + Reinf.	TP42.508x42.373x0.6625	Reinf. 2 Tension Rupture	85.8%	Pass
16 - 15.75	Pole + Reinf.	TP42.549x42.508x0.8125	Reinf. 6 Tension Rupture	76.6%	Pass
15.75 - 11.33	Pole + Reinf.	TP43.265x42.549x0.8125	Reinf. 6 Tension Rupture	77.7%	Pass
11.33 - 11.08	Pole + Reinf.	TP43.305x43.265x0.825	Reinf. 6 Tension Rupture	78.8%	Pass
11.08 - 10	Pole + Reinf.	TP43.48x43.305x0.825	Reinf. 6 Tension Rupture	79.1%	Pass
10 - 9.75	Pole + Reinf.	TP43.521x43.48x0.7375	Reinf. 2 Tension Rupture	79.5%	Pass
9.75 - 4.75	Pole + Reinf.	TP44.331x43.521x0.725	Reinf. 2 Tension Rupture	80.6%	Pass
4.75 - 0	Pole + Reinf.	TP45.1x44.331x0.7125	Reinf. 2 Tension Rupture	81.6%	Pass
				Summary	
			Pole	90.6%	Pass
			Reinforcement	93.0%	Pass
			Overall	93.0%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity								
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8
160 - 155	123	n/a	123	10.58	n/a	10.58	12.1%								
155 - 150	123	n/a	123	10.58	n/a	10.58	33.1%								
150 - 148.5	123	n/a	123	10.58	n/a	10.58	41.7%								
148.5 - 148	1593	n/a	1593	24.83	n/a	24.83	8.4%								
148 - 143	1311	n/a	1311	18.69	n/a	18.69	13.4%								
143 - 138	1450	n/a	1450	19.34	n/a	19.34	19.4%								
138 - 133	1600	n/a	1600	19.98	n/a	19.98	29.7%								
133 - 128	1759	n/a	1759	20.62	n/a	20.62	38.8%								
128 - 123	1929	n/a	1929	21.27	n/a	21.27	50.5%								
123 - 118	2109	n/a	2109	21.91	n/a	21.91	61.0%								
118 - 114.75	2232	n/a	2232	22.33	n/a	22.33	67.7%								
114.75 - 109.75	2865	n/a	2865	28.15	n/a	28.15	62.6%								
109.75 - 105.33	3087	n/a	3087	28.86	n/a	28.86	68.5%								
105.33 - 105.08	3100	1464	4563	28.90	12.39	41.29	58.5%					66.1%			
105.08 - 100.08	3365	1542	4907	29.71	12.39	42.10	64.2%					72.5%			
100.08 - 95.08	3646	1622	5267	30.51	12.39	42.90	69.5%					78.4%			
95.08 - 90.08	3941	1704	5645	31.31	12.39	43.70	74.5%					84.0%			
90.08 - 85.08	4253	1788	6040	32.12	12.39	44.51	79.1%					89.1%			
85.08 - 81	4519	1858	6377	32.77	12.39	45.16	82.7%					93.0%			
81 - 75.75	5503	n/a	5503	39.52	n/a	39.52	78.1%								
75.75 - 70.75	5916	n/a	5916	40.48	n/a	40.48	80.8%								
70.75 - 70.58	5930	n/a	5930	40.52	n/a	40.52	80.9%								
70.58 - 70.33	5951	5619	11569	40.56	34.95	75.51	52.2%				61.9%				66.0%
70.33 - 70	5979	5635	11615	40.63	34.95	75.58	52.4%				62.1%				66.2%
70 - 69.75	6000	n/a	6000	40.68	n/a	40.68	81.3%								
69.75 - 64.75	6437	n/a	6437	41.64	n/a	41.64	83.8%								
64.75 - 59.75	6895	n/a	6895	42.60	n/a	42.60	86.0%								
59.75 - 54.75	7373	n/a	7373	43.57	n/a	43.57	88.0%								
54.75 - 49.75	7874	n/a	7874	44.53	n/a	44.53	89.8%								
49.75 - 48	8054	n/a	8054	44.87	n/a	44.87	90.6%								
48 - 42	9516	n/a	9516	52.57	n/a	52.57	82.7%								
42 - 37	10140	n/a	10140	53.69	n/a	53.69	84.0%								
37 - 32	10791	n/a	10791	54.82	n/a	54.82	85.0%								
32 - 27.91	11343	n/a	11343	55.74	n/a	55.74	85.8%								
27.91 - 27.66	11404	5776	17180	55.79	32.85	88.64	74.6%			63.5%				84.2%	
27.66 - 27.25	11461	5795	17256	55.89	32.85	88.73	74.8%			63.6%				84.3%	
27.25 - 26.98	11471	5787	17258	55.95	25.41	81.36	71.6%		82.9%	82.9%					
26.98 - 26.83	11492	5793	17285	55.98	25.41	81.39	71.6%		82.9%	82.9%					
26.83 - 21.83	12199	6015	18213	57.11	25.41	82.52	72.9%		84.3%	84.3%					
21.83 - 16.83	12934	6240	19174	58.23	25.41	83.64	74.1%		85.6%	85.6%					
16.83 - 16	13059	6278	19337	58.42	25.41	83.83	74.3%		85.8%	85.8%					
16 - 15.75	13097	10584	23681	58.47	43.41	101.88	60.9%		70.3%	70.3%			76.6%		
15.75 - 11.33	13776	10929	24706	59.47	43.41	102.88	61.8%		71.4%	71.4%			77.7%		
11.33 - 11.08	13865	11569	25434	59.52	51.88	111.40	62.7%	64.6%	65.9%				78.8%		
11.08 - 10	14035	11659	25694	59.77	51.88	111.65	62.9%	64.8%	66.1%				79.1%		
10 - 9.75	14054	8927	22981	59.82	33.88	93.70	71.0%	77.5%	79.5%						
9.75 - 4.75	14861	9248	24108	60.95	33.88	94.83	72.0%	78.6%	80.6%						
4.75 - 0	15655	9558	25213	62.02	33.88	95.90	72.9%	79.6%	81.6%						

Note: Section capacity checked in 5 degree increments.

Monopole Pier and Pad Foundation

BU # : 876313
Site Name: West Johnson Ave. Burnt Ho
App. Number: 305907 rev 1

TIA-222 Revision: F

Design Reactions		
Shear, **S**:	0	kips
Moment, **M**:	396.5	ft-kips
Tower Height, **H**:	160	ft
Tower Weight, **Wt**:	39	kips
Base Diameter, **BD**:	3.76	ft

Foundation Dimensions		
Depth, **D**:	6.5	ft
Pad Width, **W**:	11	ft
Neglected Depth, **N**:	0	ft
Thickness, **T**:	7.00	ft
Pier Diameter, **Pd**:	7.00	ft
Ext. Above Grade, **E**:	0.50	ft
BP Dist. Above Pier:	3	in.
Clear Cover, **Cc**:	3.0	in

Soil Properties		
Soil Unit Weight, **γ**:	0.110	kcf
Ult. Bearing Capacity, Bc:	6.0	ksf
Angle of Friction, **Φ**:	26	deg
Cohesion, **Co**:	0.000	ksf
Passive Pressure, **Pp**:	0.000	ksf
Base Friction, **μ**:	0.30	

Material Properties		
Rebar Yield Strength, **Fy**:	60000	psi
Concrete Strength, **F'c**:	4000	psi
Concrete Unit Weight, **δc**:	0.150	kcf
Seismic Zone, **z**:	1	

Rebar Properties		
Pier Rebar Size, **Sp**:	9	
Pier Rebar Quanity, **mp**:	48	28
Pad Rebar Size, **Spad**:	9	
Pad Rebar Quanity, **mpad**:	45	10
Pier Tie Size, **St**:	4	3
Tie Quanity, **mt**:	5	2

Design Checks	Capacity/ Availability	Demand/ Limits	Check
Req'd Pier Diam.(ft)	7	5.25833	**OK**
Overturning (ft-kips)	405.36	396.50	**97.8%**
Shear Capacity (kips)	24.27	0.00	**0.0%**
Bearing (ksf)	4.50	3.85	**85.6%**
Pad Shear - 1-way (kips)	1007.27	271.85	**27.0%**
Pad Shear - 2-way (kips)	7884.03	103.23	**1.3%**
Pad Moment Capacity (k-ft)	15679.17	56.24	**0.4%**
Pier Moment Capacity (k-ft)	5858.59	396.50	**6.8%**

CCI Foundation Tool Suite - Monopole Pier

CCIFTS 1.2.108.14286 - Phase 1-2 Date: 9/9/2015

BU:	876313
Site Name:	West Johnson Ave. Burnt House
App Number:	305907 Rev.1
Work Order:	1101181

Monopole Drilled Pier

Input

Criteria

TIA Revision:	F
ACI 318 Revision:	2005
Seismic Category:	B

Forces

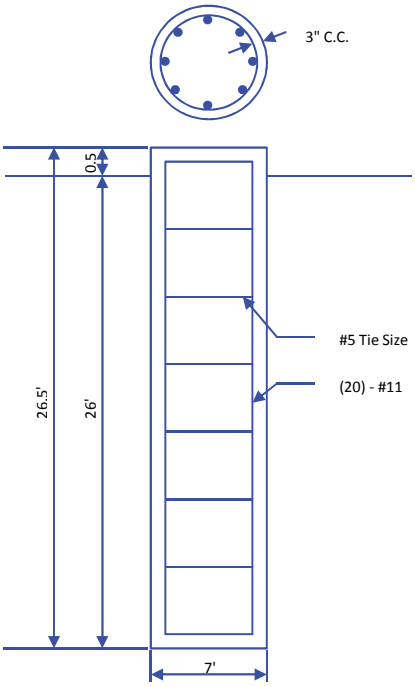
Compression	39	kips
Shear	31	kips
Moment	3364.5	k-ft
Swelling Force	0	kips

Foundation Dimensions

Pier Diameter:	7	ft
Ext. above grade:	0.5	ft
Depth below grade:	26	ft

Material Properties

Number of Rebar:	20	
Rebar Size:	11	
Tie Size	5	
Rebar tensile strength:	60	ksi
Concrete Strength:	3000	psi
Ultimate Concrete Strain	0.003	in/in
Clear Cover to Ties:	3	in



Soil Profile: 876313 - Soil

Layer	Thickness (ft)	From (ft)	To (ft)	Unit Weight (pcf)	Cohesion (psf)	Friction Angle (deg)	Ultimate Uplift Skin Friction (ksf)	Ultimate Comp. Skin Friction (ksf)	Ultimate Bearing Capacity (ksf)	SPT 'N' Counts
1	2	0	2	110	0	0	0	0	0	
2	3	2	5	120	0	33			0	
3	2	5	7	115	0	25			0	
4	19	7	26	55	0	25			0	

Analysis Results

Soil Lateral Capacity

Depth to Zero Shear:	4.43	ft
Max Moment, Mu:	3492.00	k-ft
Soil Safety Factor:	2.04	
Safety Factor Req'd:	2	
RATING:	97.8%	

Soil Axial Capacity

Skin Friction (k):	87.30	kips
End Bearing (k):	0.00	kips
Comp. Capacity (k), ϕCn:	87.30	kips
Comp. (k), Cu:	50.70	kips
RATING:	58.1%	

Concrete/Steel Check

Mu (from soil analysis)	4539.60	k-ft
ϕMn	5012.04	k-ft
RATING:	90.6%	

rho provided	0.56	
rho required	0.33	OK

Rebar Spacing	10.42	
Spacing required	22.56	OK

Dev. Length required	21.32	
Dev. Length provided	61.78	OK

Overall Foundation Rating: 97.8%

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11453C

Southington- Sprint
1394 Route 322
Southington, CT 06410

November 13, 2015

EBI Project Number: 6215005718

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	8.65 %

EBI Consulting
environmental | engineering | due diligence

November 13, 2015

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

Emissions Analysis for Site: **CT11453C – Southington- Sprint**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1394 Route 322, Southington, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **1394 Route 322, Southington, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

1) 2 GSM / UMTS 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 (B4A/B2P** & **B2A/B4P)** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 (B4A/B2P** & **B2A/B4P)** have a maximum gain of **15.9 dBd** at their main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antenna mounting height centerline of the proposed antennas is **129 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.

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	129	Height (AGL):	129	Height (AGL):	129
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels:	2
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	1.11	Antenna B1 MPE%	1.11	Antenna C1 MPE%	1.11
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
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):	129	Height (AGL):	129	Height (AGL):	129
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power:	120	Total TX Power:	120	Total TX Power:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	1.11	Antenna B2 MPE%	1.11	Antenna C2 MPE%	1.11
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	129	Height (AGL):	129	Height (AGL):	129
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	0.44	Antenna B3 MPE%	0.44	Antenna C3 MPE%	0.44

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**2.66 %**
AT&T	1.42 %
MetroPCS	0.86 %
Verizon Wireless	2.80 %
Sprint	0.91 %
Site Total MPE %:	**8.65 %**

T-Mobile Sector 1 Total:	2.66 %
T-Mobile Sector 2 Total:	2.66 %
T-Mobile Sector 3 Total:	2.66 %
Site Total:	8.65 %

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	**2**	**2334.27**	**129**	**11.09**	**2100**	**1000**	**1.11 %**
T-Mobile 1900 MHz (PCS) GSM/UMTS	**2**	**1167.14**	**129**	**5.55**	**1900**	**1000**	**0.55 %**
T-Mobile 2100 MHz (AWS) UMTS	**2**	**1167.14**	**129**	**5.55**	**2100**	**1000**	**0.55 %**
T-Mobile 700 MHz LTE	**1**	**865.21**	**129**	**2.06**	**700**	**467**	**0.44 %**
						Total:	**2.66%**

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Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector 1:	2.66 %
Sector 2:	2.66 %
Sector 3 :	2.66 %
T-Mobile Per Sector Maximum:	2.66 %
Site Total:	8.65 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **8.65%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

December 8, 2015

Kimberly Myl
Crown Castle
1200 Mac Arthur Boulevard, Suite 200
Mahwah, N.J. 07430

RE: **EM-T-MOBILE-131-151204 -** T-Mobile notice of intent to modify an existing telecommunications facility located at 1394 Meriden Waterbury Turnpike, Southington, Connecticut.

Dear Ms. Myl:

The Connecticut Siting Council (Council) received a notice of intent to modify the above-referenced facility on December 4, 2015.

Council staff has identified the following discrepancies:

- The decision in which the facility was approved and the conditions of approval are not given, and so it is unclear whether this modification would violate the municipality's conditions of approval.

The rationale for the request for information regarding municipal conditions of approval originates from the FCC Wireless Infrastructure Report and Order for eligible facilities requests to comply with any conditions of the original approval for an existing tower.

Therefore, the notice of intent to modify an existing telecommunications facility is incomplete at this time. This notice of incompletion shall have the effect of tolling the Federal Communications Commission (FCC) 60-day timeframe in accordance with Paragraph 217 of the FCC Wireless Infrastructure Report and Order issued on October 21, 2014 (FCC 14-153).

The Council recommends that T-Mobile provide information to clarify or fulfill the deficiency noted above.

Thank you for your attention to this matter. Should you have any questions, please feel free to contact me at 860-827-2951.

Very truly yours,

Melanie Bachman
Acting Executive Director

MAB/CH

c: The Honorable Michael Riccio, Chairman, Town of Southington
Garry Brumback, Town Manager, Town of Southington
Robert Phillips, Director of Planning and Community Development, Town of Southington

S:\EMS_TBL_BY\TOWN\SouthingtonWestel32_site_MeridenWaterburyTnpk\T-MOBILE\EM\incomplete-meridenwaterburytnpke.docx

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

January 7, 2016

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

RE: **Notice of Exempt Modification for T-Mobile / L700 Crown Site BU: 876313**
T-Mobile Site ID: CT11453C
1394 Meriden Waterbury Turnpike, Southington, CT 06489
Latitude: 41° 33' 51.39" / Longitude: -72° 53' 30.7"

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 129 foot level of the existing 160 foot monopole at 1394 Meriden Waterbury Turnpike in Southington, CT. Both the tower and property is owned by Crown Castle. T-Mobile now intends to remove six (6) existing lines of coax, proposed installation of three (3) new 700MHz antennas and three (3) new RRU's. These antennas would be installed at the 129 foot level of the tower.

This facility was approved by the Southington Planning and Zoning Commission on August 18, 1998. This approval included no conditions that restrict exempt modifications.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.S.C.A. § 16-50j-73, a copy of this letter is being sent to Garry Brumback, Town Manager for the Town of Southington.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

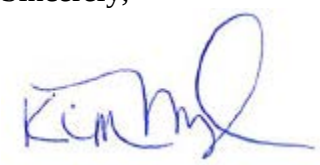
3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

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

Sincerely,



Kimberly Myl
Real Estate Specialist
Crown Castle
1200 MacArthur Boulevard, Suite 200
Mahwah, New Jersey 07430
201-236-9069
kimberly.myl@crowncastle.com

Attachments:

Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes
Tab 2: Exhibit-2: Structural Modification Report
Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: Garry Brumback, Town Manager
Town of Southington
75 Main Street
Southington, CT 06489

From:	Holzschuh, Cymon
To:	Myl, Kimberly
Cc:	Cunliffe, Fred
Subject:	RE: EM Incomplete Letters
Date:	Tuesday, January 05, 2016 9:51:46 AM
Attachments:	image004.png image001.png

This will suffice.

The document states that the P&Z Commission voted to permit the establishment of the facility, and there is no mention of conditions for this permitting.

I will note for our records that this facility was approved by the Southington Planning and Zoning Commission on August 18, 1998, and that this approval included no conditions that restrict exempt modifications.

Thanks,

Cymon Holzschuh
Siting Analyst
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051
P: 860.827.2941 | F: 860.827.2950

www.ct.gov/deep

Conserving, improving and protecting our natural resources and environment;
Ensuring a clean, affordable, reliable, and sustainable energy supply.

From: Myl, Kimberly [mailto:Kimberly.Myl@crowncastle.com]
Sent: Tuesday, January 05, 2016 9:02 AM
To: Holzschuh, Cymon
Cc: Cunliffe, Fred
Subject: RE: EM Incomplete Letters

Good Morning,
The town has been pretty unresponsive. We were able to locate this, can you please advise if this will work? Thank you.

KIMBERLY MYL

Real Estate Specialist
T: (201) 236-9069 | M: (201) 993-3697

CROWN CASTLE
1200 MacArthur Blvd, Suite 200
Mahwah, NJ 07430

From: Myl, Kimberly
Sent: Monday, January 04, 2016 10:05 AM
To: 'Holzschuh, Cymon'
Cc: Cunliffe, Fred
Subject: RE: EM Incomplete Letters

Good Morning,
I have requested the original zoning approval from the town on 12/09/15 with a follow up on 12/23/15 and again about 20 minutes ago.
Once I receive it from the town I will be able to resubmit. Thank you.

KIMBERLY MYL
Real Estate Specialist
T: (201) 236-9069 | M: (201) 993-3697

CROWN CASTLE
1200 MacArthur Blvd, Suite 200
Mahwah, NJ 07430

From: Holzschuh, Cymon [mailto:Cymon.Holzschuh@ct.gov]
Sent: Monday, January 04, 2016 10:03 AM
To: Myl, Kimberly
Cc: Cunliffe, Fred
Subject: FW: EM Incomplete Letters

Hello,

I would like to confirm whether any follow-up information has been sent to us with regard to this incomplete filing.

Thanks,

Cymon Holzschuh
Siting Analyst
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051
P: 860.827.2941 | F: 860.827.2950

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Conserving, improving and protecting our natural resources and environment;
Ensuring a clean, affordable, reliable, and sustainable energy supply.

From: Mulcahy, Carriann
Sent: Tuesday, December 08, 2015 3:35 PM
To: Myl, Kimberly (Kimberly.Myl@crowncastle.com)
Cc: CSC-DL Siting Council
Subject: EM Incomplete Letters

Please see the attached correspondence.

Carriann Mulcahy
Secretary II
Connecticut Siting Council
860-827-2940

PLANNING AND ZONING DEPARTMENT

P.O. BOX 610 • SOUTHINGTON, CONN. 06489 • 860/276-6248

VOL. 711 PAGE 790

August 20, 1998

Sprint PCS
c/o Thomas F. Flynn III
9 Barnes Industrial Road
Wallingford, CT 06492

RE: Special Permit Use Application of Sprint PCS proposing to establish a wireless telecommunication facility, property known as Assessors Map 13, Parcel 3 on Meriden-Waterbury Turnpike (SPU #263)

8299

Dear Mr. Flynn:

Please be advised that the Southington Planning and Zoning Commission at their Regular Meeting held on August 18, 1998 voted to your special permit use application to permit the establishment of a wireless telecommunication facility to be located on the southerly side of Meriden-Waterbury Turnpike, property known as Assessor's Map 13, Parcel 3 (SPU #263).

This permit becomes effective upon the filing of the approved special permit use plan with the Town Planner's Office and the filing of the original approval letter in the office of the Town Clerk, pursuant to Section 8-3d of the General Statutes of Connecticut. Such plan shall be certified by the Planning and Zoning Commission prior to filing. Also, an approved special permit use not put into effect within one year becomes null and void. A single one year extension may be granted before the approval's first anniversary date (Sect. 8-03.3).

If you have any questions regarding these matters, please do not hesitate to call.

Respectfully,

Robert J. Nerney
Town Planner

RJN/jg

RECEIVED SEP 10 1998 AT 10:20AM
TOWN CLERK