EMPIRE telecom

July 1, 2019

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

Regarding:	Notice of Exempt Modification – Equipment Modification
Property Address:	10 Tanner Marsh Road, Guilford, CT (the "Property")
Applicant:	AT&T Mobility ("AT&T", Site # CT2017)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 190.6-foot Self Supported Tower at the above-referenced address, latitude 41.288600°, longitude -72.658300°. Said Self Supported Tower is owned by American Tower Corporation.

AT&T desires to modify its existing telecommunications facility by replacing three (3) antennas and upgrading ancillary equipment as follow: adding (10) remote-radio heads ("RRHs"), adding (2) Surge Arrestors DC/Fiber, adding (2) Diplexers/ Combiners on new sector frame. The centerline height of the existing antennas and ancillary tower-mounted equipment is and will remain at 166/167 feet.

Please accept this application as notification pursuant to R.C.S.A. §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.C.S.A. §16-50j-73, a copy of this letter is being sent to the Honorable Matthew T. Hoey III, First Selectmen of Town of Guilford; George Kral, Town Planner with the Town of Guilford; American Tower Corporation as Tower Owner, and Erin Mannix, Zoning and Wetlands Enforcement Officer with Town of Guilford.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72 (b)(2). Specifically:

1. The planned modification will not result in an increase in the height of the existing structure. The modified equipment will be installed at the existing height of 166/167 feet on the 190.6-foot Self Support Tower.

2. The proposed modifications will not involve any changes to AT&T's ground-space footprint, and therefore and therefore will not require an extension of the site boundary.

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

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above Federal Communications Commission (FCC) safety standard. An RF emissions calculation (enclosed) for AT&T's modified facility is herein provided.

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

6. The existing structure and its foundation can support AT&T's proposed modifications. Please see enclosed structural analysis completed by American Tower, dated May 23, 2019.

For the foregoing reasons, AT&T respectfully requests that the proposed installation be allowed within the exempt modifications under R.C.S.A. §16-50j-72 (b)(2).

Sincerely,

Nora Oliver

Nora Oliver
Site Acquisition Manager
Empire Telecom USA, LLC
Noliver@empiretelecomm.com

Enclosures: Exhibit 1 – Field Card and GIS Map
Exhibit 2 – Construction Drawings
Exhibit 3 – Structural Analysis
Exhibit 4 – RF Emissions Analysis Report Evaluation

cc:

Hon. Matthew T. Hoey III
Town of Guilford
31 Park Street
Guilford, Connecticut 06437

George Kral
Town Planner
Town of Guilford
50 Boston Street
Guilford, CT 06437

American Tower Corporation
Tower Owner
10 Presidential Way
Woburn, MA 01801
Attn: Ryan Tierney

Erin Mannix
Zoning and Wetlands Enforcement Officer
Town of Guilford
50 Boston Street
Guilford, CT 06437

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PROJECT INFORMATION

SCOPE OF WORK: UNMANNED COMMUNICATIONS FACILITY MODIFICATIONS INCLUDING:
- -(P) LTE700bc/AWS CCI BSAM65RBUUH4 IN GAMMA SECTOR POS #4 TO REPLACE EXISTING (1 TOT.)
- -(P) LTE700b14/850/WCS CCI BSAM65RBUUH4 IN GAMMA SECTOR POS #3 TO REPLACE EXISTING (1 TOT.)
- -(P) LTEPCS CCI BSAM65RBUUH4 IN GAMMA SECTOR POS #2 TO REPLACE EXISTING (1 TOT.)
- -(P) LTE700bc/AWS (E1,P1) RRUS-11, (E1,P1) RRUS-4426 ON DUAL SWIVEL MOUNTS GAMMA SEC. POS. #4
- -(P) LTE700b14/850 (E1,P1) RRUS-4478b5, (E1) RRUS-4478b14 ON DUAL SWIVEL MOUNT GAMMA SEC. POS. #3
- -(P) LTE850/700b14 NEW KAELUS DBCT108F1V921 L.B.C. ON GAMMA SECTOR POS #3 (2 TOT.)
- -(P) LTEPCS/WCS (E1,P1) RRUS-32, (E1,P1) RRUS-32b2 ON DUAL SWIVEL MOUNT GAMMA SEC. POS. #2
- -(P) LTE700de RRUS-E2b29 ON DUAL NEW SWIVEL MOUNT (1 ALPHA/1 BETA/2 GAMMA)
- -(P) GAMMA SECTOR LTE700de RRUS-E2b29 ON DUAL NEW SWIVEL MOUNT (2 TOT.)
- -(P) NEW GAMMA SECTOR (2) DC/FIBER SURGE ARRESTOR DC6-48-60-18-8CEV
- -(P) NEW GAMMA SECTOR 4-DC POWER LINES, NEW 1-FIBER
- -(P) NEW GAMMA SECTOR 14' SECTOR FRAME VALMONT VFA14-HD TO REPLACE EXISTING 12' FRAME (1 TOT.)
- -(E) IN SHELTER:
  - -NEW GAMMA SECTOR 3rd RBS5216
  - -NEW GAMMA SECTOR RBS6601
  - -NEW GAMMA SECTOR FIBER COIL BOX
  - -NEW UMTS HOME RUN LEAD FOR RET's
  - -NEW GAMMA SECTOR 2x XMU'S
  - -NEW DC12 SURGE RACK INSTALL
  - -NEW (24) TELCO FLEX RUNS FROM RAYCAP TO PP

SITE NUMBER:	CT2017
SITE NAME:	GUILFORD
SITE ADDRESS:	10 TANNER MARSH ROAD GUILFORD, CT 06437
TOWER OWNER:	AMERICAN TOWER CORP 116 HUNTINGTON AVE., 11TH FLOOR BOSTON, MA 02116
APPLICANT:	AT&T MOBILITY 550 COCHITUATE RD SUITES 13 & 14 FRAMINGHAM, MA 01701
CONTACT:	TEL 866-915-5600
COORDINATES:	LAT. N41°17'19.3" LONG. W72°39'29.7"
GROUND LEVEL:	±81
DEED REFERENCE:	N/A
SITE PARCEL NO.:	N/A
CURRENT ZONING:	N/A
HORIZONTAL DATUM:	(NAD) 1983

DRAWING INDEX

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04	ELEVATION VIEW & ANTENNA LAYOUT	1
05	GROUNDING DETAILS	1

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CONTACT & UTILITY INFORMATION

CONTACT	CONTACT	COMPANY	PHONE NO.
ENGINEERING:	MIGUEL NOBRE	VRG	(508) 981-9590
SITE ACQUISITION:	DAVID COOPER	EMPIRE	(617) 639-4908
CONSTRUCTION:	GREG DORMAN	EMPIRE	(484) 683-1750
UTILITIES			
POWER:	WORK REQUEST GROUP	NATIONAL GRID	(800) 375-7405
TELCO:		VERIZON	(800) 941-9900

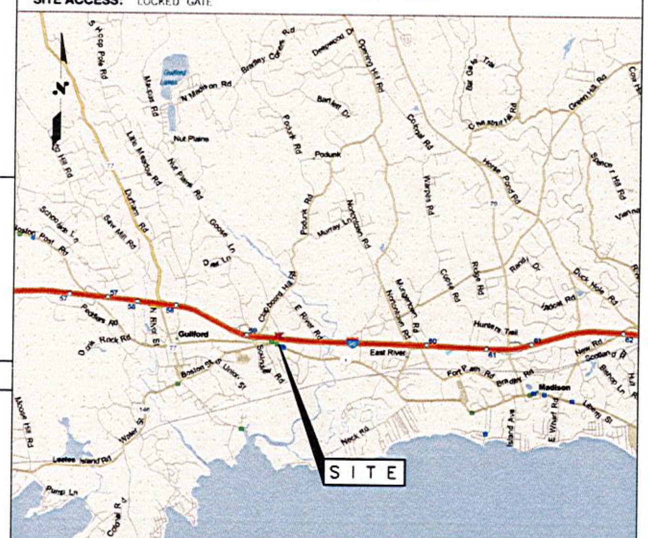
at&t Mobility

SITE NUMBER: CT2017 FA: 10034980
SITE NAME: GUILFORD
PROJECT: LTE Split Sector GAMMA MRTCB035588 LTE 7C 700de MRTCB038064

LOCATION MAP

DIRECTIONS: DEPART ENTERPRISE DR TOWARD CAPITOL BLVD. 0.1 MI. TURN LEFT ONTO CAPITOL BLVD. 0.3 MI. TURN LEFT ONTO WEST ST. 0.3 MI. TAKE RAMP LEFT FOR I-91 S. 28.9 MI. TAKE RAMP LEFT FOR I-95 NORTH TOWARD NEW LONDON. 13.8 MI. AT EXIT 59, TAKE RAMP RIGHT AND FOLLOW SIGNS FOR GOOSE LANE. 0.2 MI. TURN RIGHT ONTO SOUNDVIEW RD, AND THEN IMMEDIATELY TURN LEFT ONTO US-1 / BOSTON POST RD. 0.3 MI. TURN LEFT ONTO TANNER MARSH RD. 105 FT. ARRIVE AT SITE ON THE LEFT.

SITE ACCESS: LOCKED GATE



APPLICABLE BUILDING CODES AND STANDARDS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH PROJECT STANDARDS AND SPECIFICATIONS. SUBCONTRACTOR WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
INTERNATIONAL, CONNECTICUT STATE BUILDING CODE LATEST EDITION

ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE LATEST EDITION

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION

AMERICAN NATIONAL STANDARDS INSTITUTE/TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA) 222-F OR G AS APPLICABLE, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

VRG VERTICAL RESOURCES GRP.
489 Washington Street
Auburn, MA 01501
Tel. (508) 981-9590
Fax (508) 519-8939
mnobre@verticalresourcesgrp.com

EMPIRE telecom
EMPIRE TELECOM USA, LLC
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT2017
SITE NAME: GUILFORD
PROJECT: LTE7C / Sector Split
10 TANNER MARSH ROAD
GUILFORD, CT 06437
NEW HAVEN COUNTY

at&t Mobility
550 COCHITUATE RD
SUITES 13 & 14
FRAMINGHAM, MA 01701

NO.	DATE	REVISION	BY	CHK	APP'D
1	07/11/19	GENERAL REVISIONS	G.A.M.		
0	03/06/19	FOR CONSTRUCTION	G.A.M.		

SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

AT&T MOBILITY

TITLE SHEET

JOB NUMBER	DRAWING NUMBER	REV
CT2017-LTE7C/SplSec	01	1

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – PRIME CONTRACTOR
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T WIRELESS
   OEM – ORIGINAL EQUIPMENT MANUFACTURER

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR 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 CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR 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.

ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE UNLESS OTHERWISE NOTED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. ROUTING OF CONDUIT FOR POWER AND TELCO SHALL BE APPROVED BY OWNER OF SITE.

9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

10. SUBCONTRACTOR 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.

11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

SITE WORK GENERAL NOTES

1. THE SUBCONTRACTOR 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 SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR 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. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.

7. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE OWNER 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 DETAIL 303.

11. THE AREAS OF THE OWNERS 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.

13. ALL EARTH WORK SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 (HOT-DIP) 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. STEEL FASTENER HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT-DIP)

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 RAWSET/REDHEAD, HILTI OR APPROVED EQUAL.

6. ALL STRUCTURAL STEEL SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

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.

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. 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 INCH
   #5 AND SMALLER & WWF.....1 1/2 INCH

   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:

   SLAB AND WALL .....3/4 INCH
   BEAMS AND COLUMNS.....1 1/2 INCH

5. A 3/4" CHAMFER 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 RAWSET/REDHEAD, HILTI 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 OC 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 TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

10. ALL CONCRETE SHALL BE SUPPLIED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL. EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.

4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING 1" SIEVE.

5. AS AN ALTERNATIVE TO ITEMS 2 AND 3 PROOF ROLL THE SUBGRADE SOILS WITH 5 PASSES OF A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND-OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). ANY SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL-GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

6. COMPACTION CRITERIA FOR OTHER FILL AREAS ON SITE SHALL MEET THE SAME REQUIREMENTS AS NOTED ABOVE.

7. SOIL COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION FOR CONSTRUCTION OF RADIO ACCESS NETWORK SITES.

COMPACTION EQUIPMENT:

HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

ELECTRICAL INSTALLATION NOTES

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

5. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.

6. 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.

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PERMANENT 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 10'S). NO HAND WRITTEN LABELS ALLOWED.

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED. NO HAND WRITTEN LABELS ALLOWED.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. 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.

11. 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.

12. 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.

13. 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).

14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

ELECTRICAL INSTALLATION NOTES (cont.)

15. 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.

16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

17. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

18. 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.

19. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

20. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

21. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.

22. 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.

23. 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.

24. 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.

25. 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.

26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

27. THE SUBCONTRACTOR 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.

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SITE NUMBER: CT2017
SITE NAME: GUILFORD
PROJECT: LTE7C / Sector Split

10 TANNER MARSH ROAD
GUILFORD, CT 06437
NEW HAVEN COUNTY

at&t Mobility
550 COCHITUATE RD
SUITES 13 & 14
FRAMINGHAM, MA 01701

NO.	DATE	REVISION	BY	CHK	APP'D
1	07/11/19	GENERAL REVISIONS	G.A.M.		
0	03/06/19	FOR CONSTRUCTION	G.A.M.		

SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

AT&T MOBILITY

NOTES

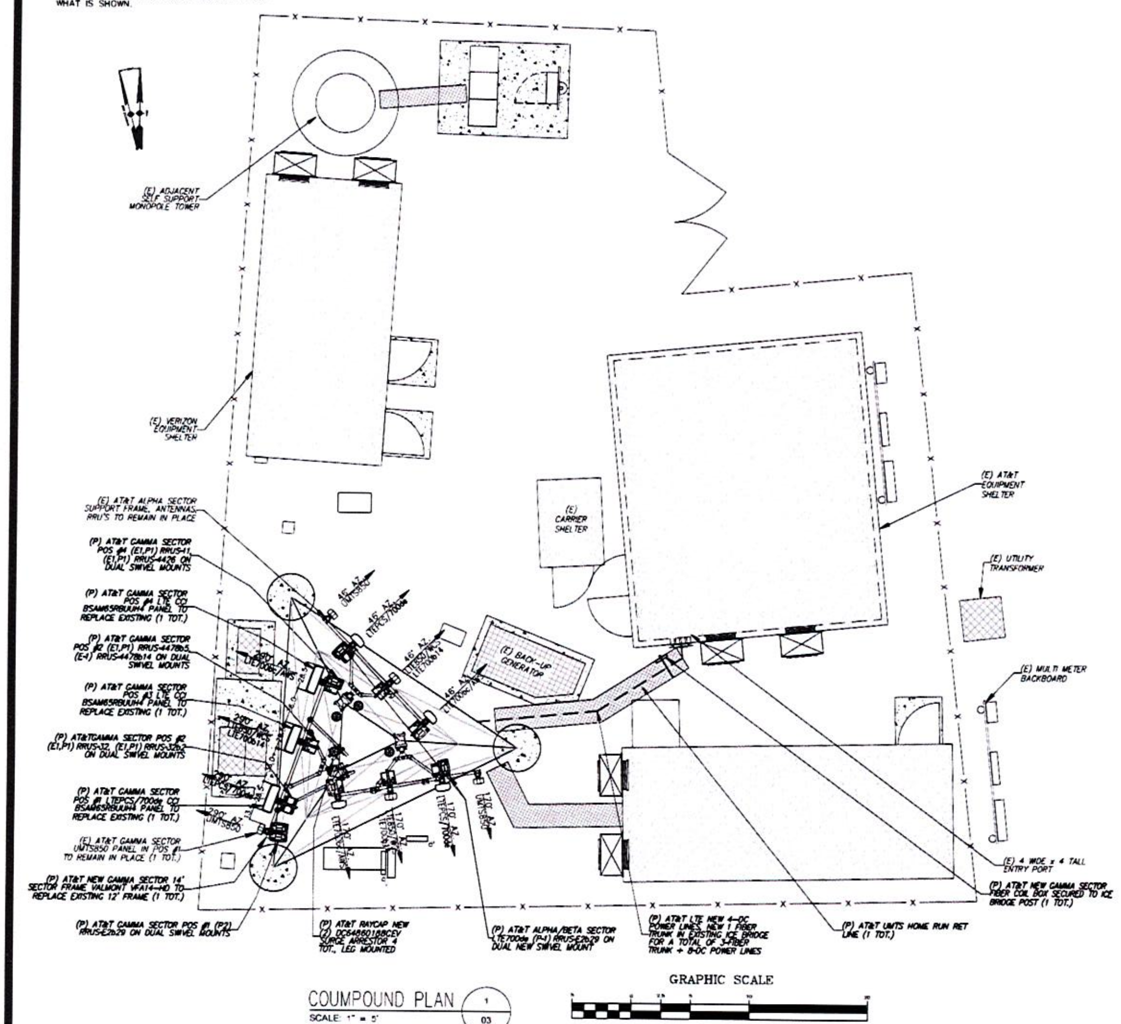
JOB NUMBER	DRAWING NUMBER	REV
CT2017-LTE7C/SplSec	02	1

GENERAL NOTES

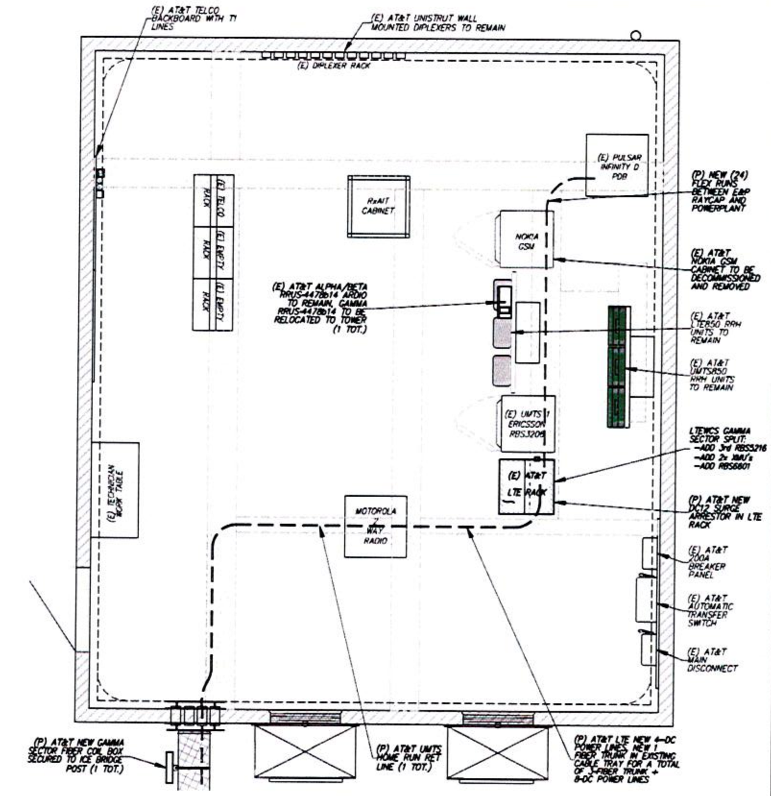
1. THE TYPE, DIMENSIONS, MOUNTING HARDWARE, AND THE POSITIONS OF ALL EQUIPMENT IN THE COMPOUND ARE SHOWN IN ILLUSTRATIVE FASHION. ACTUAL HARDWARE DETAILS AND FINAL LOCATIONS MAY DIFFER SLIGHTLY FROM WHAT IS SHOWN.

2. THE CELLULAR INSTALLATION IS AN UNMANNED PRIVATE AND SECURED COMPOUND. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT COVERED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

3. CONSTRUCTION, MAINTENANCE & OPERATION OF PROPOSED TOWER FACILITY WILL BE HELD IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE & FEDERAL REGULATIONS AND GUIDELINES.



POSITION	SECTOR	STATUS	BAND	ANTENNA MAKE	ANTENNA MODEL	SIZE(INCHES) (LxWxH)	RAD CTR. FT. AGL	AZIMUTH	TMA DIPLEXER	REMOTE RADIOS	RADIO LOCATION	SIZE(INCHES) (LxWxH)	FEEDER TYPE	FEEDER LENGTH	RAYCAP
1	Alpha	EXISTING	UMTS850	POWERWAVE	7770	55.0x11.0x5.0	±167'	46'	[illegible]	--		--	[illegible]	(E2) 175'	(E1) DC6-48-60-18-8F
2	Alpha	EXISTING	LTEPCS/700de	CCI	HPA65R8UUH4	48.0x14.8x9.0	±167'	46'		[illegible]	[illegible]	[illegible]			
3	Alpha	EXISTING	LTE850/WCS/700b14	ANDREW	SBNHH1065A	55.0x11.9x7.1	±167'	46'	1-0XC0001FW012	[illegible]	[illegible]	[illegible]	[illegible]	(E2) 175'	
4	Alpha	EXISTING	LTEAWS/700bc	CCI	OPA65RLCUUH4	48.0x14.4x7.3	±167'	46'		[illegible]	[illegible]	[illegible]			
1	Beta	EXISTING	UMTS850	POWERWAVE	7770	55.0x11.0x5.0	±167'	170'	[illegible]	--		--	[illegible]	(E2) 175'	(E1) DC6-48-60-0-8F
2	Beta	EXISTING	LTEPCS/700de	CCI	HPA65R8UUH4	48.0x14.8x9.0	±167'	170'		[illegible]	[illegible]	[illegible]			
3	Beta	EXISTING	LTE850/WCS/700b14	ANDREW	SBNHH1065A	55.0x11.9x7.1	±167'	170'	1-0XC0001FW017	[illegible]	[illegible]	[illegible]	[illegible]	(E2) 175'	
4	Beta	EXISTING	LTEAWS/700bc	CCI	OPA65RLCUUH4	48.0x14.4x7.3	±167'	170'		[illegible]	[illegible]	[illegible]			
1	Gamma	EXISTING	UMTS850	KATHREIN	800-10121	54.5x10.3x5.9	±167'	290'	[illegible]	--		--	[illegible]	(E2) 175'	(P2) DC6-48-60-18-8CEV
2	Gamma	PROPOSED	LTEPCS/700de	CCI	BSAMS5RBUUH6K	72.0x20.5x8.7	±167'	290'		[illegible]	[illegible]	[illegible]			
3	Gamma	PROPOSED	LTE700b14/WCS/850	CCI	BSAMS5RBUUH6K	72.0x20.5x8.7	±167'	290'	[illegible]	[illegible]	[illegible]	[illegible]	(E2) 1-1/4" COAX	(E2) 175'	
4	Gamma	PROPOSED	LTE700bc/AWS	CCI	BSAMS5RBUUH6K	72.0x20.5x8.7	±167'	290'		[illegible]	[illegible]	[illegible]			



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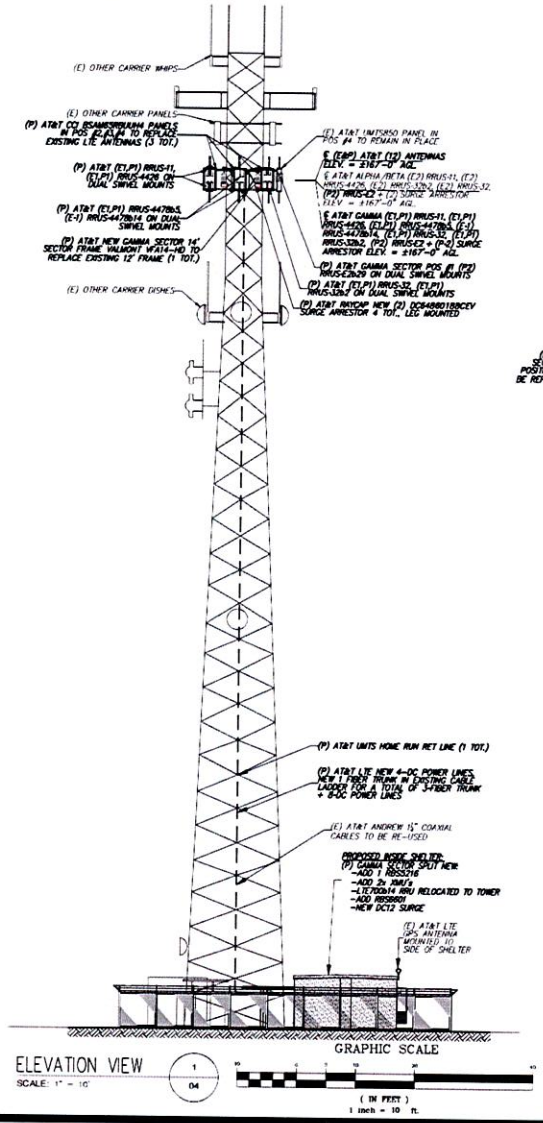
0	03/06/19	FOR CONSTRUCTION	G.A.M.		

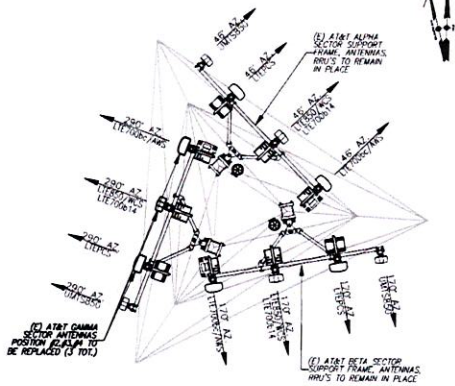
SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

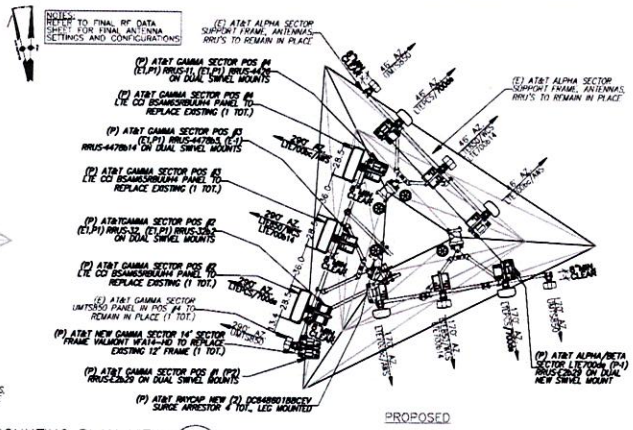
AT&T MOBILITY
SITE PLAN & EQUIPMENT PLAN

JOB NUMBER	DRAWING NUMBER	REV
CT2017-LTE7C/SplSec	03	1



ELEVATION VIEW (1) 04
SCALE: 1" = 10'





ANTENNA MOUNTING PLAN VIEW (2) 04
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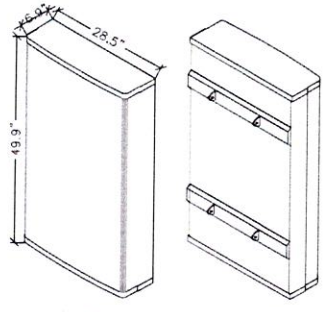

LTE700/850/AWS/WCS/PCS CCI TWELVEPORT PANEL (3) 04
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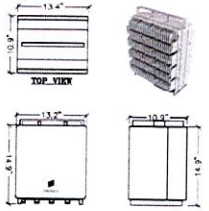

(P) AT&T LTEPCS/AWS RRUS-8843 (B2B66) (4) 04
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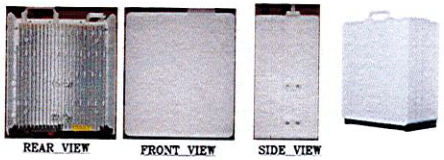

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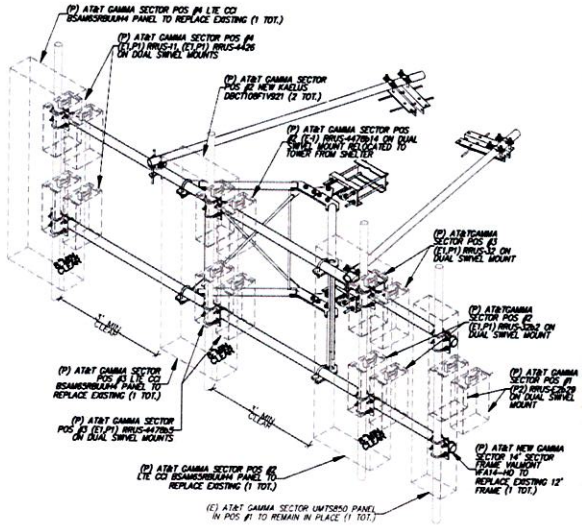
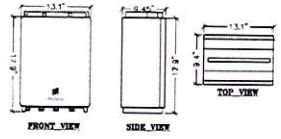


(P) GAMMA SECTOR FRAME LAYOUT RRH & SURGE MOUNTING DETAIL (9) 04
SCALE: N.T.S.



(P) AT&T LTE850/700bc RRUS-4449 (B5B12) (5) 04
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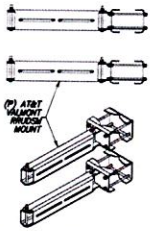

(P) AT&T RRU DUAL SWIVEL MOUNT (7) 04
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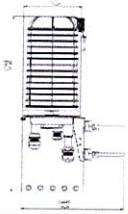

(P) RAYCAP SURGE SUPPRESSOR DC64860188CEV (8) 04
SCALE: N.T.S.

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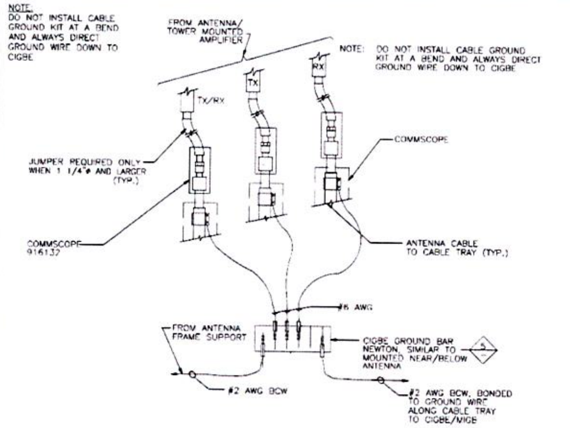
2	07/11/19	GENERAL REVISIONS	G.A.M.		
1	03/08/19	FOR CONSTRUCTION	G.A.M.		
SCALE		DESIGNED BY: M.N.	DRAWN BY: G.A.M.		

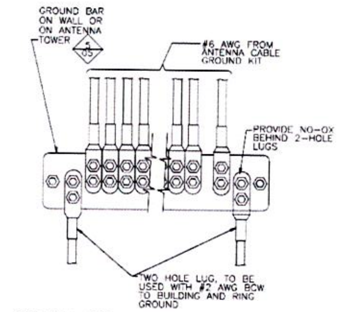
AT&T MOBILITY

ELEVATION VIEW & ANTENNA LAYOUT

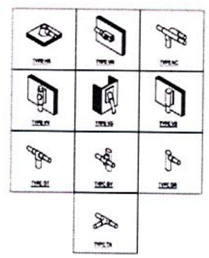
JOB NUMBER	DRAWING NUMBER	REV
CT2017-LTE7C/SpSec	04	1



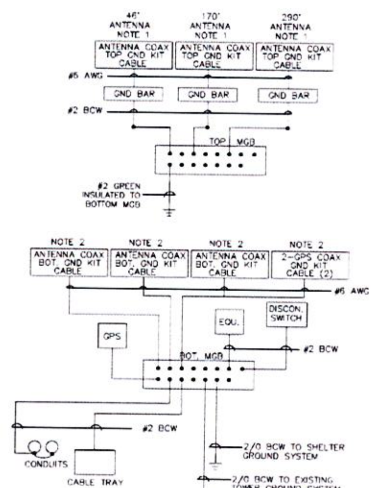
CONNECTION OF GROUND WIRES TO GROUNDING BAR (CIGBE) — 1 / 05
SCALE: N.T.S.



INSTALLATION OF GROUND WIRE TO GROUND BAR — 2 / 05
SCALE: N.T.S.



GROUNDING CONNECTION DETAIL — 4 / 05
SCALE: N.T.S.

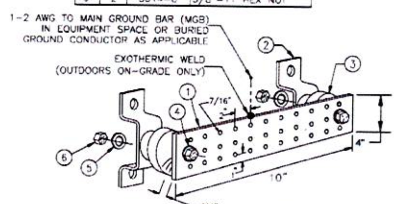


NOTE:
1. BOND ANTENNA GROUNDING KIT CABLE TO TOP CIGBE
2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIGBE

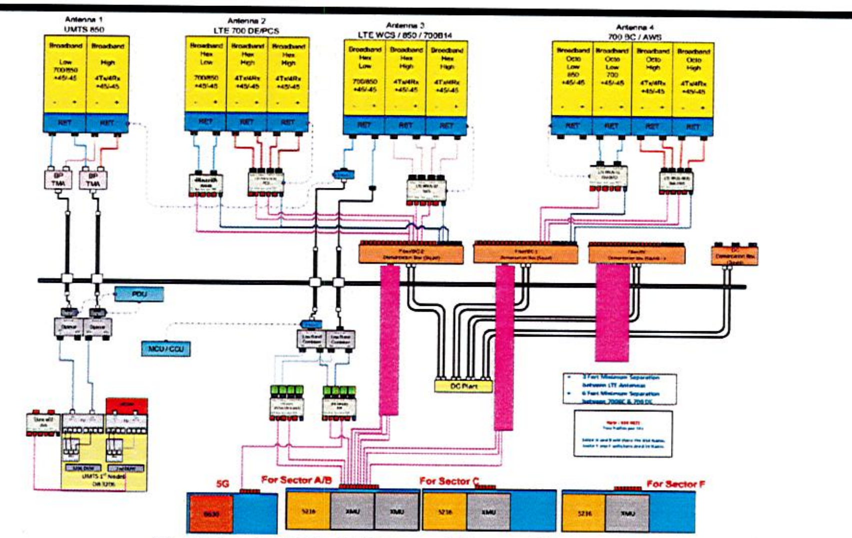
SCHEMATIC GROUNDING DIAGRAM — 3 / 05
SCALE: N.T.S.

NEWTON INSTRUMENT COMPANY, INC.
BUTNER, N.C. OR APPROVED EQUAL

ITEM	REQ.	PART NO.	DESCRIPTION
1	1	1/4"x4"x12"	PRE DRILLED GND. BAR
2	2	A-6056	WALL MTG. BRKT.
3	2	3061-4	INSULATORS
4	2	3012-13	5/8"-11x4" H.H.C.S.
5	4	3015-8	5/8 LOCKWASHER
6	2	3014-8	5/8"-11 HEX NUT

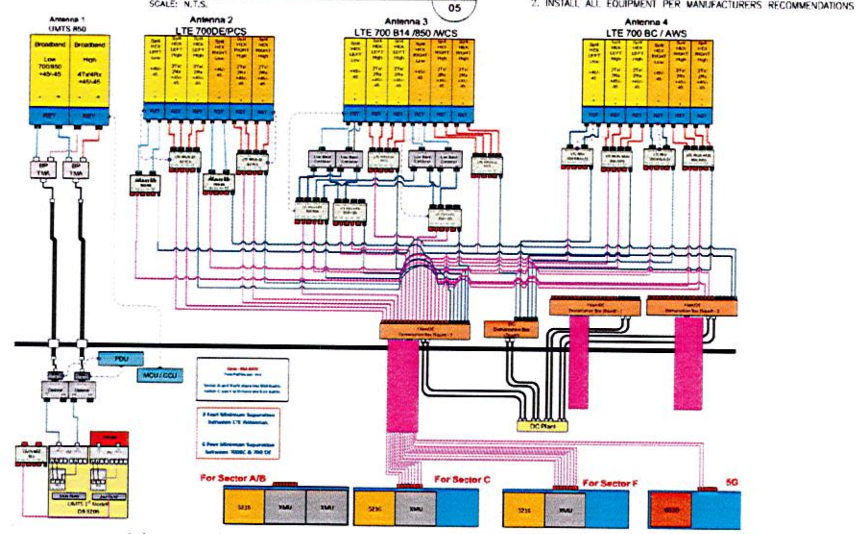


GROUND BAR DETAIL — 5 / 05
SCALE: N.T.S.



(P) GAMMA PLUMBING DIAGRAM — 6 / 05
SCALE: N.T.S.

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS
2. INSTALL ALL EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS



(P) ALPHA/BETA PLUMBING DIAGRAM — 7 / 05
SCALE: N.T.S.

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS
2. INSTALL ALL EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS

VRG
VERTICAL RESOURCES GRP.
489 Washington Street
Auburn, MA 01501
Tel. (508) 981 - 9590
Fax (508) 519 - 8939
mnabre@verticalresourcesgrp.com

EMPIRE telecom
EMPIRE TELECOM USA, LLC
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT2017
SITE NAME: GUILFORD
PROJECT: LTE7C / Sector Split
10 TANNER MARSH ROAD
GUILFORD, CT 06437
NEW HAVEN COUNTY

at&t Mobility
550 COCHITUATE RD
SUITES 13 & 14
FRAMINGHAM, MA 01701

NO.	DATE	REVISION	BY	CHK	APP'D
1	07/11/19	GENERAL REVISIONS	G.A.M.		
0	03/06/19	FOR CONSTRUCTION	G.A.M.		

SCALE | DESIGNED BY: M.N. | DRAWN BY: G.A.M.

AT&T MOBILITY
GROUNDING DETAILS

JOB NUMBER	DRAWING NUMBER	REV
CT2017-LTE7C/SplSec	05	1

s

All information is for assessment purposes only. Assessments are calculated at 70% of the estimated October 1, 2017 market value which was the date of the last revaluation as completed by eQuality Valuation Services, LLC.

The Town of Guilford
Connecticut, USA Founded 1639

Information on the Property Records for the Municipality of Guilford was last updated on 7/11/2019.

Parcel Information

Location:	10 TANNER MARSH RD	Map and Parcel:	049029A	Census Tract:	0000
Zoning:	TS	Developer's Map:		Developer's Lot:	
Total Acreage:		Farm, Forest, Open Space Acres:		Unique ID:	1351

Value Information

	Appraised Value	Assessed Value
Land	0	0
Buildings	0	0
Detached Outbuildings	350,000	245,000
Total	350,000	245,000

Owner's Information

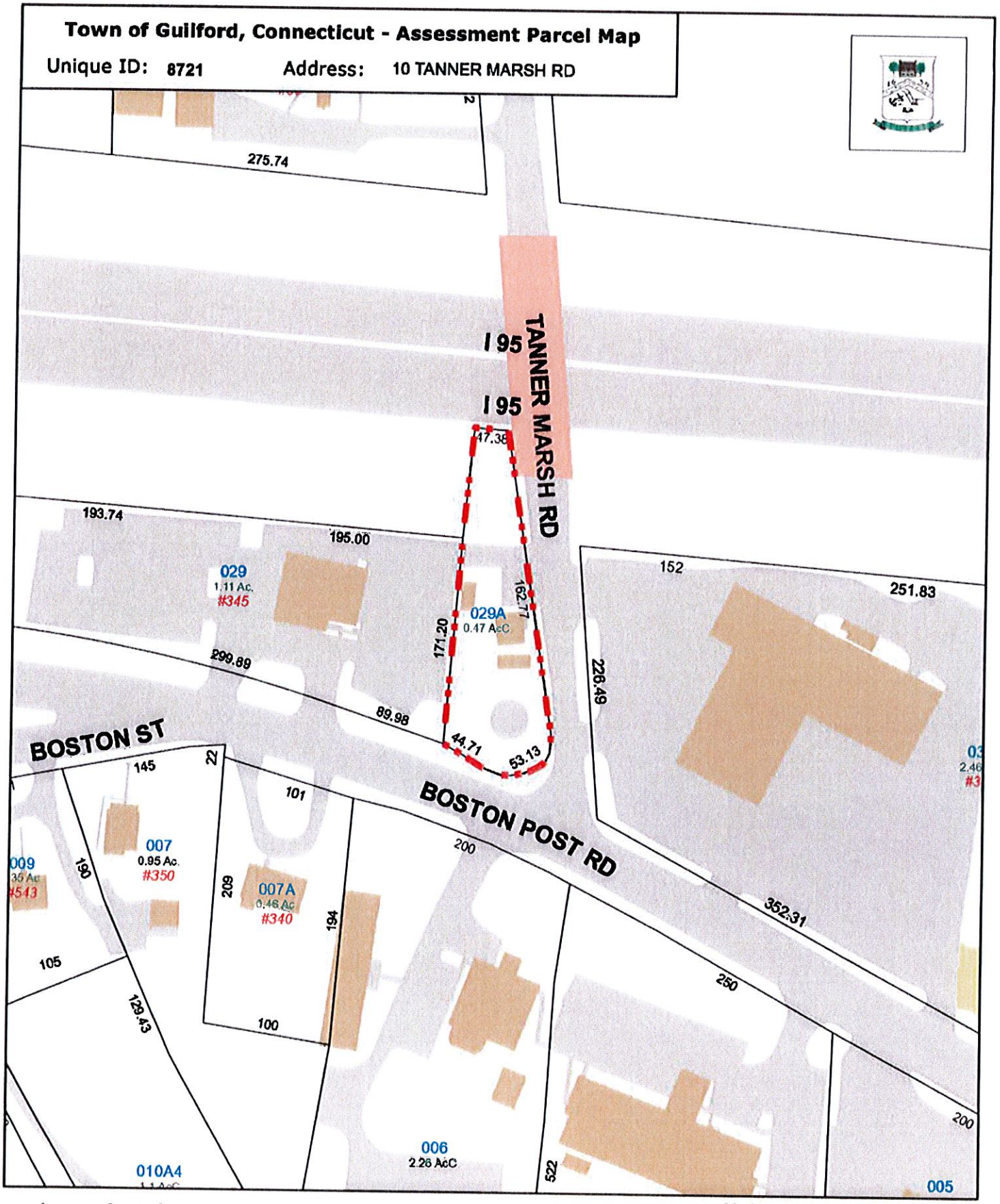
Owner's Data

CONNECTICUT WATER CO
93 WEST MAIN ST
CLINTON, CT 06413

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
FENCING	1980	200	6	1,200

Information Published With Permission From The Assessor


Town of Guilford, Connecticut - Assessment Parcel Map
Unique ID: 8721
Address: 10 TANNER MARSH RD
275.74
I 95
I 95
TANNER MARSH RD
47.38
193.74
195.00
029
1.11 Ac.
#345
029A
0.47 AcC
162.77
171.20
299.89
89.98
44.71
53.13
152
251.83
226.49
BOSTON ST
BOSTON POST RD
145
22
101
007
0.95 Ac.
#350
007A
0.46 Ac
#340
190
209
194
200
352.31
105
129.43
100
250
522
200
006
2.26 AcC
010A4
005
Approximate Scale: 1 inch = 100 feet
0 60 120
Feet
Map Produced:
April 2019
Disclaimer:
This map is for informational purposes only.
All information is subject to verification by any user.
The Town of Guilford and its mapping contractors
assume no legal responsibility
for the information contained herein.

SITESAFE
RF COMPLIANCE EXPERTS

8618 Westwood Center Drive, Suite 315, Vienna, VA 22182
703.276.1100 • 703.276.1169 fax
info@sitesafe.com • www.sitesafe.com

Empire Telecom on behalf of AT&T Mobility LLC
Site FA – 10034980
USID – 61160
Site ID – CT2017 (MRCTB035588)
Site Name – GUILFORD

10 TANNER MARSH ROAD
GUILFORD, CT 06437

Latitude: N41-17-19.30
Longitude: W72-39-29.70
Structure Type: Monopole

Report generated date: April 15, 2019
Report by: Nick Kutzke
Customer Contact: - New England Compliance

AT&T Mobility LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

Table of Contents

1 General Site Summary

1.1 Report Summary

AT&T Mobility LLC	Summary
Max Cumulative Simulated RFE Level on the Ground	<1% General Public Limit
Compliant per FCC Rules and Regulations?	Will Be Compliant
Compliant per AT&T Mobility, LLC's Policy?	No

The following documents were provided by the client and were utilized to create this report:

RFDS: NEW-ENGLAND_CONNECTICUT_CT2017_2019-LTE-Next-Carrier_LTE-7C_om636a_PTN_1...

CD's: 10034980.CT2017.CD.LTESectorSplit.Rev0.04.03.2019

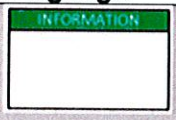
RF Powers Used: NEW-ENGLAND_CONNECTICUT_CT2017_2019-LTE-Next-Carrier_LTE-7C_om636a_PTN_1...

1.2 Fall Arrest Anchor Point Summary

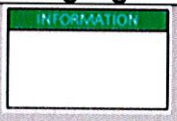
Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	N	NA	N

1.3 Signage Summary

a. Existing AT&T Signage

AT&T Signage Locations	 Information 1	 Information 2	 Notice	 Notice 2	 Caution	 Caution 2	 Warning	 Warning 2	 Barriers
Access Point(s)									
Alpha									
Beta									
Gamma									
Delta									
Epsilon									

b. Proposed AT&T Signage

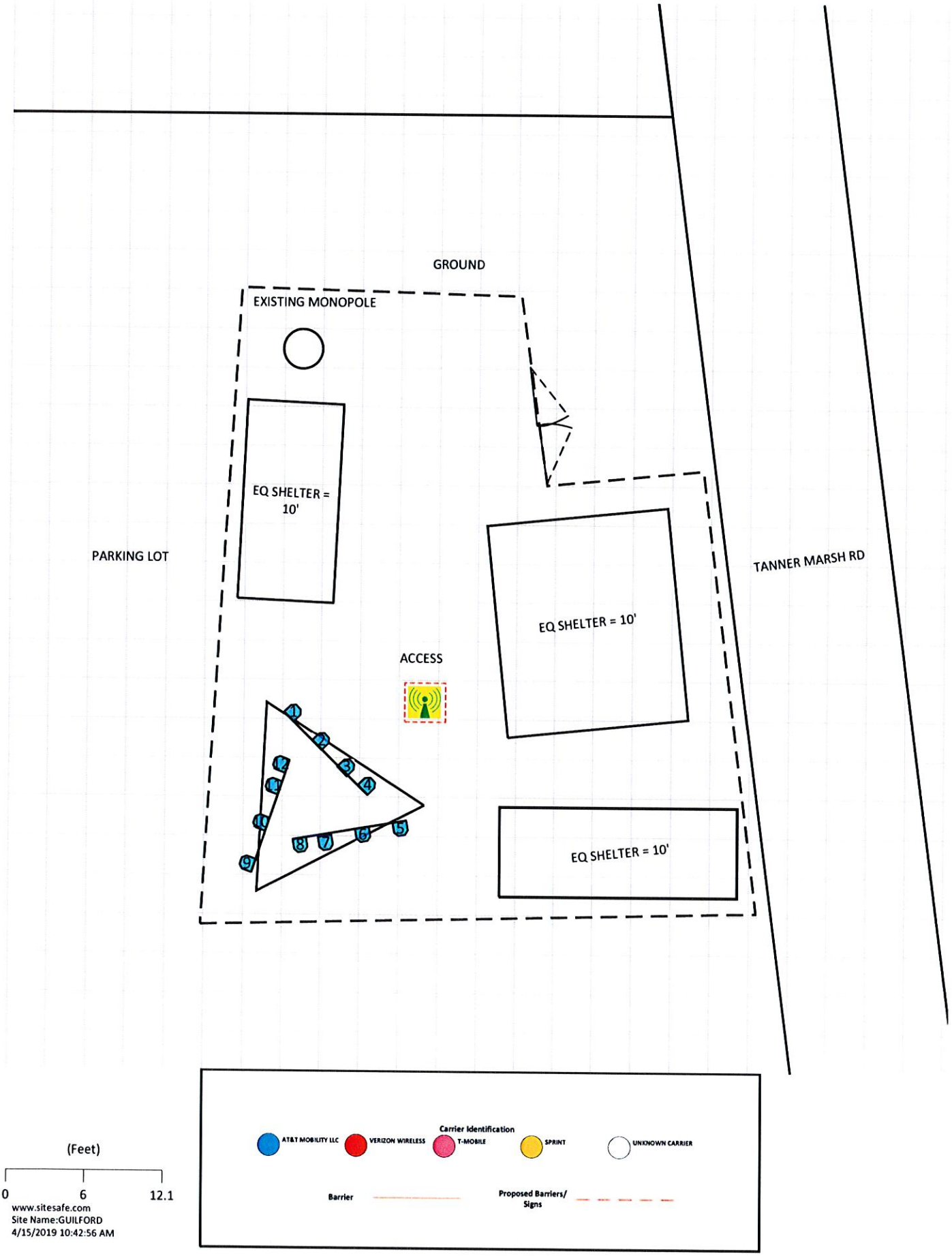
AT&T Signage Locations	 Information 1	 Information 2	 Notice	 Notice 2	 Caution	 Caution 2	 Warning	 Warning 2	 Barriers
Access Point(s)						1			
Alpha									
Beta									
Gamma									
Delta									
Epsilon									

2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram
- RF Exposure Diagram – Side View

Site Scale Map For: GUILFORD



3 Antenna Inventory

The following antenna inventory was obtained by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
1	AT&T MOBILITY LLC	Cci Antennas OPA-65R-LCUU-H4	Panel	737	LTE	46	65.8	4	60	TPO	Watt	0	1	714.7	10.76	165'	0°	2°
1	AT&T MOBILITY LLC	Cci Antennas OPA-65R-LCUU-H4	Panel	2100	LTE	46	63.7	4	240	TPO	Watt	0	1	6400.5	14.26	165'	0°	8°
2	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	850	LTE	46	61	4.6	80	TPO	Watt	0	1	1122.3	11.47	164.7'	0°	2°
2	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	763	LTE	46	66	4.6	160	TPO	Watt	0	1	2153.4	11.29	164.7'	0°	2°
2	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	2300	LTE	46	61	4.6	100	TPO	Watt	0	1	2691.5	14.3	164.7'	0°	3°
2	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	850	5G	46	61	4.6	80	TPO	Watt	0	0	1122.3	11.47	164.7'	0°	2°
3	AT&T MOBILITY LLC (Proposed)	Cci Antennas HPA-65R-BUU-H4	Panel	722	LTE	46	65.2	4	80	TPO	Watt	0	1	1071.7	11.27	165'	0°	3°
3	AT&T MOBILITY LLC	Cci Antennas HPA-65R-BUU-H4	Panel	1900	LTE	46	62	4	160	TPO	Watt	0	1	3444.5	13.33	165'	0°	8°
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	46	82	4.6	80	TPO	Watt	0	1	1132.6	11.51	164.7'	0°	0°
5	AT&T MOBILITY LLC	Cci Antennas OPA-65R-LCUU-H4	Panel	737	LTE	170	65.8	4	60	TPO	Watt	0	1	714.7	10.76	165'	0°	2°
5	AT&T MOBILITY LLC	Cci Antennas OPA-65R-LCUU-H4	Panel	2100	LTE	170	63.7	4	240	TPO	Watt	0	1	6400.5	14.26	165'	0°	6°
6	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	850	LTE	170	61	4.6	80	TPO	Watt	0	1	1122.3	11.47	164.7'	0°	2°
6	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	763	LTE	170	66	4.6	160	TPO	Watt	0	1	2153.4	11.29	164.7'	0°	2°
6	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	2300	LTE	170	61	4.6	100	TPO	Watt	0	1	2691.5	14.3	164.7'	0°	3°
6	AT&T MOBILITY LLC	Andrew SBNHH-1D65A	Panel	850	5G	170	61	4.6	80	TPO	Watt	0	0	1122.3	11.47	164.7'	0°	2°
7	AT&T MOBILITY LLC (Proposed)	Cci Antennas HPA-65R-BUU-H4	Panel	722	LTE	170	65.2	4	80	TPO	Watt	0	1	1071.7	11.27	165'	0°	3°
7	AT&T MOBILITY LLC	Cci Antennas HPA-65R-BUU-H4	Panel	1900	LTE	170	62	4	160	TPO	Watt	0	1	3444.5	13.33	165'	0°	6°
8	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	170	82	4.6	80	TPO	Watt	0	1	1132.6	11.51	164.7'	0°	3°
9	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Left Beam)	Panel	737	LTE	290	35	4.2	60	TPO	Watt	0	1	776.5	11.12	164.9'	0°	2°
9	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Left Beam)	Panel	2100	LTE	290	35	4.2	240	TPO	Watt	0	1	8245.4	15.36	164.9'	0°	3°

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
9	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Right Beam)	Panel	737	LTE	290	35	4.2	60	TPO	Watt	0	1	1330.9	13.46	164.9'	0°	2°
9	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Right Beam)	Panel	2100	LTE	290	35	4.2	240	TPO	Watt	0	1	8835.1	15.66	164.9'	0°	3°
10	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Left Beam)	Panel	850	LTE	290	35	4.2	80	TPO	Watt	0	1	2037.5	14.06	164.9'	0°	2°
10	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Left Beam)	Panel	763	LTE	290	35	4.2	80	TPO	Watt	0	1	1035.4	11.12	164.9'	0°	2°
10	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Left Beam)	Panel	2300	LTE	290	35	4.2	100	TPO	Watt	0	1	3349.7	15.25	164.9'	0°	3°
10	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Left Beam)	Panel	850	5G	290	35	4.2	80	TPO	Watt	0	0	2037.5	14.06	164.9'	0°	2°
10	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Right Beam)	Panel	850	LTE	290	35	4.2	80	TPO	Watt	0	1	2037.5	14.06	164.9'	0°	2°
10	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Right Beam)	Panel	763	LTE	290	35	4.2	80	TPO	Watt	0	1	1774.6	13.46	164.9'	0°	2°
10	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Right Beam)	Panel	2300	LTE	290	35	4.2	100	TPO	Watt	0	1	3597.5	15.56	164.9'	0°	3°
10	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Right Beam)	Panel	850	5G	290	35	4.2	80	TPO	Watt	0	0	2037.5	14.06	164.9'	0°	2°
11	AT&T MOBILITY LLC (Proposed)	Cci Products BSA-M65R-BUU-H4 (Left Beam)	Panel	722	LTE	290	35	4.2	80	TPO	Watt	0	1	1035.4	11.12	164.9'	0°	3°
11	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Left Beam)	Panel	1900	LTE	290	35	4.2	160	TPO	Watt	0	0	5371.8	15.26	164.9'	0°	3°
11	AT&T MOBILITY LLC (Proposed)	Cci Products BSA-M65R-BUU-H4 (Right Beam)	Panel	722	LTE	290	35	4.2	80	TPO	Watt	0	1	1774.6	13.46	164.9'	0°	3°

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
11	AT&T MOBILITY LLC	Cci Products BSA-M65R-BUU-H4 (Right Beam)	Panel	1900	LTE	290	35	4.2	160	TPO	Watt	0	1	5890.1	15.66	164.9'	0°	3°
12	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	290	82	4.6	80	TPO	Watt	0	1	1132.6	11.51	164.7'	0°	2°

NOTE: X, Y and Z indicate relative position of the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. The distance to the bottom of the antenna is calculated by subtracting half of the length of the antenna from the antenna centerline. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are based on obtained information or Sitesafe experience.

NOTE: The 722 MHz LTE technology is being added to an existing antenna.

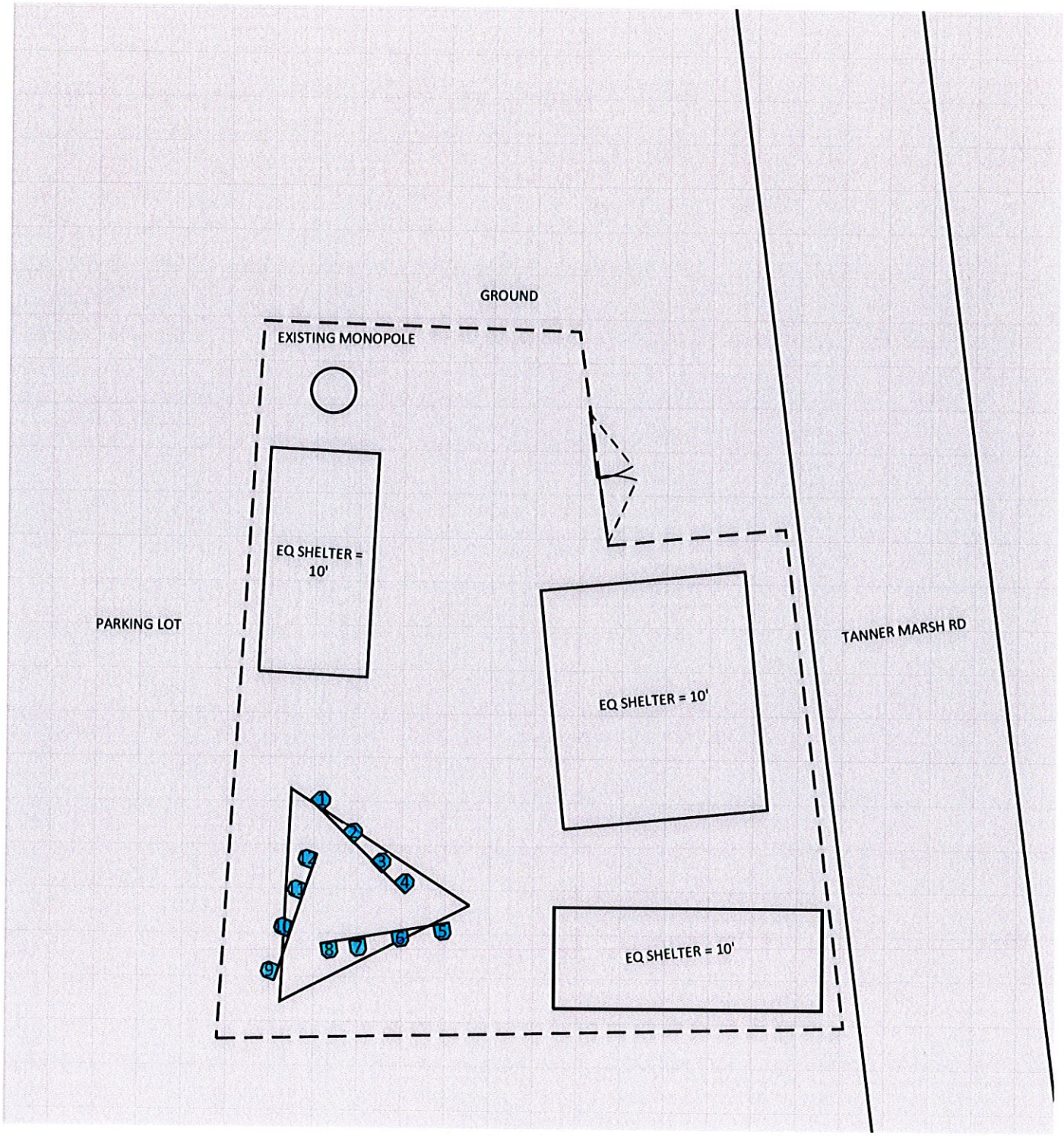
4 Emission Predictions

In the RF Exposure Simulations below all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas. The total analyzed elevations in the below RF Exposure Simulations are listed below.

- MAIN LEVEL = 0'
- EQ SHELTER = 10'

The Antenna Inventory heights are referenced to the same level.

RF Exposure Simulation For: GUILFORD



% of FCC Public Exposure Limit
Spatial average 0' - 6'

% of FCC Public Exposure Limit

>= 5000	>= 500	>= 100	>= 5	< 5

Carrier Identification

AT&T MOBILITY LLC | VERIZON WIRELESS | T-MOBILE | SPRINT | UNKNOWN CARRIER

Barrier

Proposed Barriers/ Signs

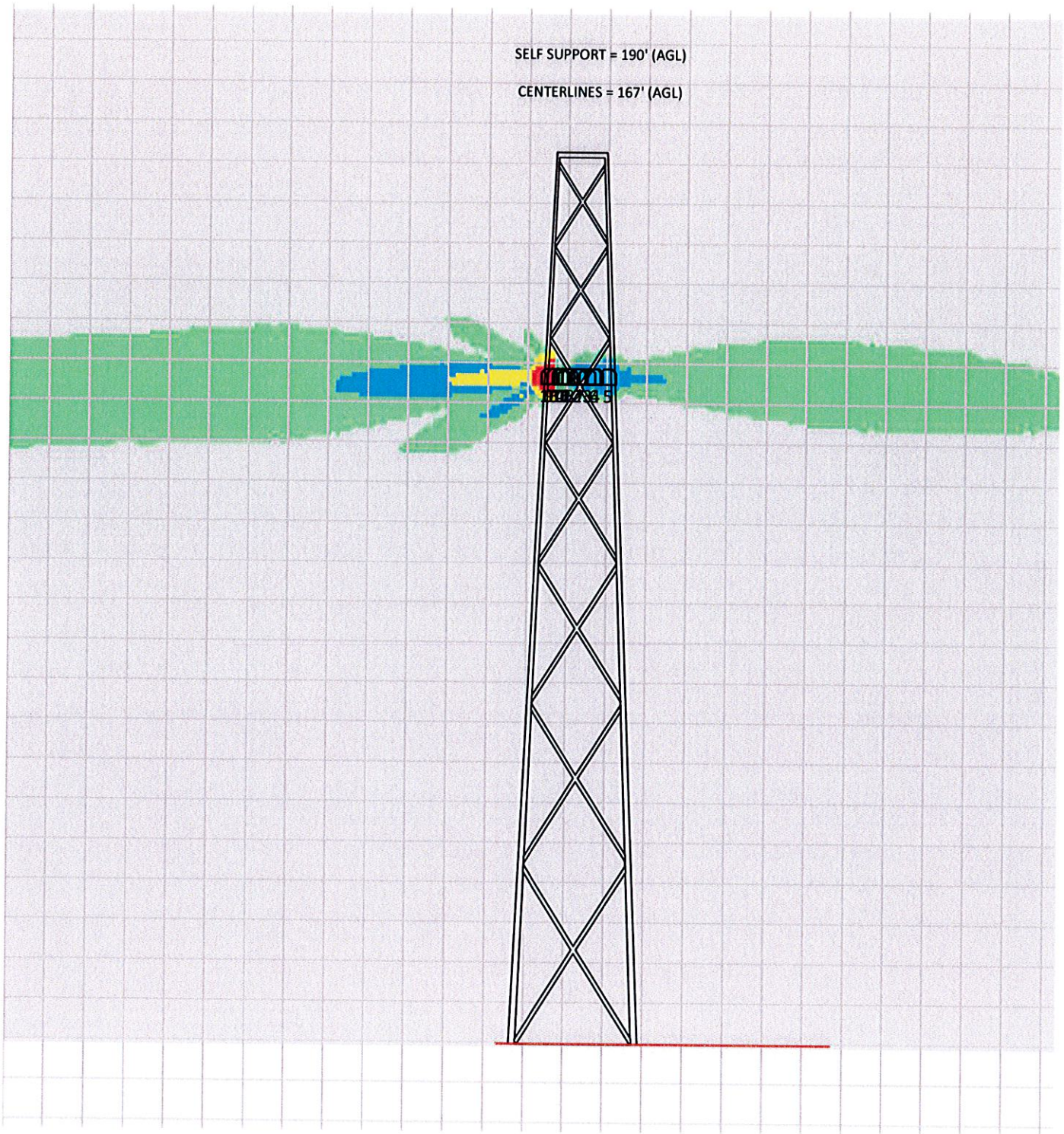
(Feet)

0 6.3 12.7

www.sitesafe.com
Site Name:GUILFORD
4/15/2019 10:39:06 AM

Sitesafe OET-65 Model
Near Field Boundary:
1.5 * Aperture
Reflection Factor: 1
Spatially Averaged

RF Exposure Simulation For: GUILFORD
Side View



% of FCC Public Exposure Limit

% of FCC Public Exposure Limit
>= 5000 | >= 500 | >= 100 | >= 5 | < 5

Carrier Identification
AT&T MOBILITY LLC | VERIZON WIRELESS | T-MOBILE | SPRINT | UNKNOWN CARRIER

Barrier

Proposed Barriers/ Signs

(Feet)
0 18.7 37.3

www.sitesafe.com
Site Name:GUILFORD
4/15/2019 10:48:44 AM

Sitesafe OET-65 Model
Near Field Boundary:
1.5 * Aperture
Reflection Factor: 1
Single Level (0)

5 Site Compliance

5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility LLC's proposed deployment plan could result in the site being rendered non-compliant.

Modeling is used for determining compliance and the percentage of MPE contribution.

5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC will be made compliant if the following changes are implemented:

Site Access Location

(1) Yellow Caution 2B sign(s) required.

Notes:

- Data concerning all other carriers on site was unavailable and therefore not included in this report.
- Signage may already be in place. Sitesafe does not have record of any existing signage because there were no previous visits or data supplied regarding them. All remediation is based on a worst-case scenario.

6 Reviewer Certification

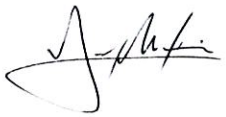
The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Sitesafe, LLC., in Vienna, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio-frequency Radiation; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Nick Kutzke.

April 15, 2019



Young Min Kim

Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

Appendix B – Regulatory Background Information

FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

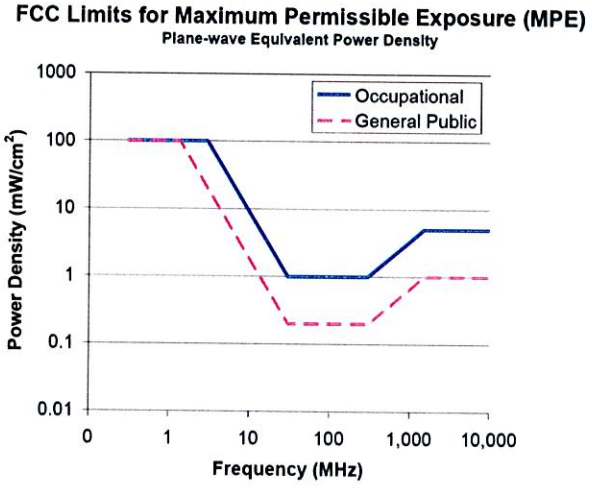
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:



Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram: Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit.
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- Yellow represents areas predicted to exceed Occupational MPE limits. Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

Appendix E – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur, but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

Gain (of an antenna) – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

General Population/Uncontrolled Environment – Defined by the FCC, as an area where exposure to RF energy may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The maximum levels of RF exposure a person may be exposed to without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are aware of the

potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency (RF) – The frequencies of electromagnetic waves which are used for radio communications. Approximately 3 kHz to 300 GHz.

Radio Frequency Exposure (RFE) – The amount of RF power density that a person is or might be exposed to.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average power density an average sized human will be exposed to at a location.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

Appendix F – References

The following references can be followed for further information about RF Health and Safety.

Sitesafe, LLC.
http://www.sitesafe.com
FCC Radio Frequency Safety
http://www.fcc.gov/encyclopedia/radio-frequency-safety
National Council on Radiation Protection and Measurements (NCRP)
http://www.ncrponline.org
Institute of Electrical and Electronics Engineers, Inc., (IEEE)
http://www.ieee.org
American National Standards Institute (ANSI)
http://www.ansi.org
Environmental Protection Agency (EPA)
http://www.epa.gov/radtown/wireless-tech.html
National Institutes of Health (NIH)
http://www.niehs.nih.gov/health/topics/agents/emf/
Occupational Safety and Health Agency (OSHA)
http://www.osha.gov/SLTC/radiofrequencyradiation/
International Commission on Non-Ionizing Radiation Protection (ICNIRP)
http://www.icnirp.org
World Health Organization (WHO)
http://www.who.int/peh-emf/en/
National Cancer Institute
http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones
American Cancer Society (ACS)
http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?siteareа=PED
European Commission Scientific Committee on Emerging and Newly Identified Health Risks
http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf
Fairfax County, Virginia Public School Survey
http://www.fcps.edu/fts/safety-security/RFEESurvey/
UK Health Protection Agency Advisory Group on Non-ionising Radiation
http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368
Norwegian Institute of Public Health
http://www.fhi.no/dokumenter/545eea7147.pdf

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Structural Analysis Report

Structure	:	**190.6 ft Self Supported Tower**
ATC Site Name	:	**GLFD-GUILFORD REBUILD CT, CT**
ATC Site Number	:	**311305**
Engineering Number	:	**OAA747813_C3_02**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**Guilford**
Carrier Site Number	:	**CT2017**
Site Location	:	**10 Tanner Marsh Road** **Guilford, CT 06437-2942** **41.288600,-72.658300**
County	:	**New Haven**
Date	:	**May 23, 2019**
Max Usage	:	**90%**
Result	:	**Pass**

Prepared By:
Annika A. Venning, E.I.
Structural Engineer II

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
May 28 2019 7:44 AM cosign

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 190.6 ft self supported tower to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	Nello Job #RFQ34841, dated April 8, 2011 Inspection by A.R. Wireless, dated August 24, 2013
Foundation Drawing	ATC Job #47517572B, dated June 15, 2011
Geotechnical Report	GEOServices Project #21-07254, dated March 11, 2008

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	101 mph (3-Second Gust, V_{ASD}) / 130 mph (3-Second Gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.17, S_1 = 0.06
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
190.0	3	Generic 12' Dipole	Leg	(1) 5/16" (0.31"-7.9mm) Coax (3) 7/8" Coax	TOWN OF GUILFORD CT
189.0	2	Generic 6' Omni	Pole Mount	(2) 1/2" Coax	OTHER
183.0	3	Generic RCU (Remote Control Unit)	Side Arm	(6) 1 5/8" Coax (1) 3/8" Coax	METRO PCS INC
	3	RFS APXV18-206517S-C			
177.0	3	Ericsson AIR 21, 1.3 M, B2A B4P, AWS - 1700/2100	Sector Frame	(1) 1 1/4" Hybriflex Cable (12) 1 5/8" Coax	T-MOBILE
	3	Ericsson AIR 21 B4A B2P			
	3	Ericsson RRUS 11 B12			
	3	Ericsson KRY 112 144/1			
	3	Andrew LNX-6515DS-VTM			
166.0	2	CCI HPA-65R-BUU-H4	Sector Frame		
	2	CCI OPA-65R-LCUU-H4 (14.4" width)			
	2	Commscope SBNHH-1D65A			
	3	Powerwave Allgon 7770.00			
	3	Ericsson RRUS 32 B2			
	3	Ericsson RRUS 32 B30 (60 lbs)			
	3	Ericsson RRUS 4426 B66			
	2	Raycap DC6-48-60-18-8F			
	6	Powerwave Allgon LGP21401			
	6	Powerwave Allgon 7020			
	3	Ericsson RRUS-11 (19.7")			
148.0	1	Generic 4' Dish w/ Radome	Sector Frame	(3) 1 1/4" Coax (4) 7/8" Coax	TOWN OF GUILFORD CT
144.0	1	Generic 10' Dipole	Leg		
137.0	2	Generic 6' FM antenna	Leg	(1) 1 5/8" Coax	MONROE BOARD OF EDUCATION
127.0	1	Harris FML-4E	Leg	(1) 7/8" Coax	
108.8	1	Scala PR-950	Leg	(1) 7/8" Coax	
87.0	1	Antel BCD-87010 ___ 4°	Stand-Off	(1) 1 5/8" Coax	
80.0	2	Generic 4' Std. Dish	Leg	(2) 7/8" Coax	TOWN OF GUILFORD CT
16.0	1	Channel Master Type 120	Leg	(3) 0.28" (7mm) RG-6	SPOK HOLDINGS, INC.

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
166.0	1	Commscope SBNHH-1D65A	-	(1) 2" conduit	AT&T MOBILITY
	1	CCI HPA-65R-BUU-H4			
	1	CCI OPA-65R-LCUU-H4 (14.4" width)			

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
166.0	1	Ericsson RRUS 4426 B66	Sector Frame	(2) 0.39" (10mm) Fiber Trunk (4) 0.74" (18.7mm) 8 AWG 7	AT&T MOBILITY
	1	Ericsson RRUS 4478 B14 (15")			
	2	Ericsson RRUS 4478 B5 (56.1 lbs)			
	1	Ericsson RRUS 32 B30 (60 lbs)			
	1	Ericsson RRUS 32 B2			
	1	Ericsson RRUS-11 (19.7")			
	4	Ericsson RRUS E2 B29			
	2	Raycap DC6-48-60-18-8C-EV			
	3	CCI BSA-M65R-BUU-H4			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed coax alongside existing AT&T MOBILITY coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	79%	Pass
Diagonals	90%	Pass
Horizontals	12%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	434.0	585.9	414.3	71%
Axial (Kips)	488.3	659.2	464.3	70%
Shear (Kips)	49.5	66.8	45.7	68%

*** The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1**

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
166.0	Ericsson RRUS 4426 B66	AT&T MOBILITY	0.364	0.008	0.262
	Ericsson RRUS 4478 B14 (15")				
	Ericsson RRUS 4478 B5 (56.1 lbs)				
	Ericsson RRUS 32 B30 (60 lbs)				
	Ericsson RRUS 32 B2				
	Ericsson RRUS-11 (19.7")				
	Ericsson RRUS E2 B29				
	Raycap DC6-48-60-18-8C-EV				
	CCI BSA-M65R-BUU-H4				
148.0	Generic 4' Dish w/ Radome	TOWN OF GUILFORD CT	0.282	0.007	0.220
80.0	Generic 4' Std. Dish		0.085	0.005	0.121
16.0	Channel Master Type 120	SPOK HOLDINGS, INC.	0.004	0.001	0.025

***Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G**

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Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

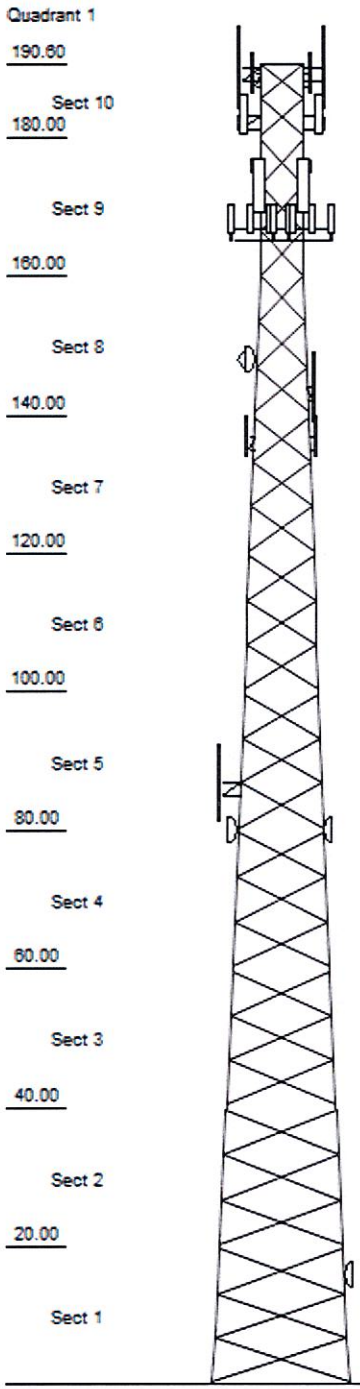
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Loads: 101 mph no ice
50 mph w/ 3/4" radial ice
Site Class: D Ss: 0.17 S1: 0.06
60 mph Serviceability

Job Information

Client : AT&T MOBILITY		
Tower : 311305	Location : GLFD-GUILFORD	Base Width : 20.00 ft
Code : ANSI/TIA-222-G		Top Width : 6.50 ft
		Tower Ht : 190.60 ft
		Shape : Triangle

Sections Properties

Section	Leg Members		Diagonal Members	Horizontal Members
1	PST 50 ksi	12" DIA PIPE	SAE 50 ksi 4X4X0.25	
2	PST 50 ksi	10" DIA PIPE	SAE 50 ksi 3.5X3.5X0.25	
3 - 4	PST 50 ksi	10" DIA PIPE	SAE 50 ksi 3X3X0.25	
5 - 6	PST 50 ksi	8" DIA PIPE	SAE 50 ksi 3X3X0.1875	
7	PST 50 ksi	6" DIA PIPE	SAE 50 ksi 3X3X0.1875	
8	PST 50 ksi	5" DIA PIPE	SAE 50 ksi 2.5X2.5X0.1875	
9	PST 50 ksi	3" DIA PIPE	SAE 50 ksi 2.5X2.5X0.1875	
10	PST 50 ksi	2" DIA PIPE	SAE 50 ksi 2X2X0.1875	SAE 36 ksi 2X2X0.125

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
190.00	Whip	3	Generic 12' Dipole
190.00	Straight Arm	3	Side Arm
189.00	Whip	2	Generic 6' Omni
183.00	Straight Arm	3	Round Side Arm
183.00	Panel	3	RFS APXV18-206517S-C
183.00		3	Generic RCU (Remote Control Un
177.00	Panel	3	Andrew LNX-6515DS-VTM
177.00	Panel	3	Ericsson AIR 21, 1.3 M, B2A B4
177.00	Panel	3	Ericsson AIR 21 B4A B2P
177.00		3	Ericsson RRUS 11 B12
177.00		3	Ericsson KRY 112 144/1
175.00	Mounting Frame	3	Flat Light Sector Frame
166.00	Mounting Frame	3	Flat Light Sector Frame
166.00	Panel	3	CCI BSA-M65R-BUU-H4
166.00	Panel	2	CCI HPA-65R-BUU-H4
166.00	Panel	2	CCI OPA-65R-LCUU-H4 (14.4" wid
166.00	Panel	2	Commscope SBNHH-1D65A
166.00	Panel	3	Powerwave Allgon 7770.00
166.00		2	Raycap DC6-48-60-18-8C-EV
166.00		4	Ericsson RRUS E2 B29
166.00		1	Ericsson RRUS-11 (19.7")
166.00		3	Ericsson RRUS-11 (19.7")
166.00		1	Ericsson RRUS 32 B2
166.00		3	Ericsson RRUS 32 B2
166.00		1	Ericsson RRUS 32 B30 (60 lbs)
166.00		3	Ericsson RRUS 32 B30 (60 lbs)
166.00		2	Ericsson RRUS 4478 B5 (56.1 lb
166.00		1	Ericsson RRUS 4478 B14 (15")
166.00		1	Ericsson RRUS 4426 B66
166.00		3	Ericsson RRUS 4426 B66
166.00		2	Raycap DC6-48-60-18-8F
166.00		6	Powerwave Allgon LGP21401
166.00		6	Powerwave Allgon 7020
158.00	Mounting Frame	3	Flat Light Sector Frame
148.00	Dish	1	Generic 4' Dish w/ Radome
144.00	Whip	1	Generic 10' Dipole
142.00	Straight Arm	2	Round Side Arm
137.00	Whip	2	Generic 6' FM antenna
135.00	Straight Arm	4	Round Side Arm
135.00	Mounting Frame	1	Round Sector Frame
130.00	Straight Arm	3	Round Side Arm
127.00	Whip	1	Harris FML-4E
125.20	Straight Arm	1	Leg Mount
125.00	Straight Arm	2	Round Side Arm
108.80	Dish	1	Scala PR-950

Job Information

Client : AT&T MOBILITY

Tower : 311305 Location : GLFD-GUILFORD Base Width : 20.00 ft

Code : ANSI/TIA-222-G Top Width : 6.50 ft

Tower Ht : 190.60 ft

Shape : Triangle

100.00	Straight Arm	3	T-Arm
87.00	Straight Arm	1	Stand-Off
87.00	Straight Arm	1	Stand-Off
87.00	Whip	1	Antel BCD-87010 ___ 4°
80.00	Other	1	Flush Mount
80.00	Dish	2	Generic 4' Std. Dish
60.00	Straight Arm	2	Side Arm
20.00	Other	1	Flush Mount
16.00	Dish	1	Channel Master Type 120

Linear Appurtenance

Elev (ft) From	To	Qty	Description
0.00	190.50	1	Climbing Ladder
0.00	190.00	3	7/8" Coax
0.00	190.00	1	5/16" (0.31"-7.9mm)
0.00	189.00	2	1/2" Coax
0.00	183.00	1	Waveguide
0.00	183.00	1	3/8" Coax
0.00	183.00	6	1 5/8" Coax
0.00	177.00	12	1 5/8" Coax
0.00	177.00	1	1 1/4" Hybriflex Cab
0.00	175.00	1	Waveguide
0.00	168.00	2	0.78" (19.7mm) 8 AWG
0.00	166.00	1	Waveguide
0.00	166.00	6	3/8" (0.38"- 9.5mm)
0.00	166.00	1	1/2" Coax
0.00	166.00	12	1 5/8" Coax
0.00	166.00	2	0.78" (19.7mm) 8 AWG
0.00	166.00	4	0.74" (18.7mm) 8 AWG
0.00	166.00	2	0.74" (18.7mm) 8 AWG
0.00	166.00	2	0.39" (10mm) Fiber T
0.00	166.00	2	0.39" (10mm) Fiber T
0.00	144.00	3	1 1/4" Coax
0.00	140.00	4	7/8" Coax
0.00	137.00	1	1 5/8" Coax
0.00	127.00	1	7/8" Coax
0.00	108.80	1	7/8" Coax
0.00	92.00	1	1 5/8" Coax
0.00	80.00	2	7/8" Coax
0.00	16.00	2	0.28" (7mm) RG-6
0.00	16.00	1	0.28" (7mm) RG-6

Global Base Foundation Design Loads

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	7,719.67	55.74	76.25
DL + WL + IL	2,285.18	154.14	22.39

Individual Base Foundation Design Loads

Vertical (kip)	Uplift (kip)	Horizontal (kip)
464.27	414.31	45.70

Site Number:	**311305**	**Code:**	**ANSI/TIA-222-G**	
Site Name:	**GLFD-GUILFORD REBUILD CT, CT**	**Engineering Number:**	**OAA747813_C3_02**	**5/23/2019 10:50:06 PM**
Customer:	**AT&T MOBILITY**			

Analysis Parameters

Location:	**New Haven County, CT**	**Height (ft):**	**190.5999**
Code:	**ANSI/TIA-222-G**	**Base Elevation (ft):**	**0.00**
Shape:	**Triangle**	**Bottom Face Width (ft):**	**20.00**
Tower Manufacturer:	**Nello Corp**	**Top Face Width (ft):**	**6.50**
Tower Type:	**Self Support**	**Anchor Bolt Detail Type**	**c**
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	**II**	**Design Windspeed Without Ice:**	**101 mph**
Exposure Category:	**C**	**Design Windspeed With Ice:**	**50 mph**
Topographic Category:	**1**	**Operational Windspeed:**	**60 mph**
Crest Height:	**0 ft**	**Design Ice Thickness:**	**0.75 in**

Seismic Parameters

Analysis Method:	**Equivalent Modal Analysis & Equivalent Lateral Force Methods**				
Site Class:	**D - Stiff Soil**				
Period Based on Rayleigh Method (sec):	**0.90**				
T_L (sec):	**6**	**p:**	**1.3**	**C_s:**	**0.035**
S_s:	**0.170**	**S_1:**	**0.060**	**C_s, Max:**	**0.035**
F_a:	**1.600**	**F_v:**	**2.400**	**C_s, Min:**	**0.030**
S_{ds}:	**0.181**	**S_{d1}:**	**0.096**		

Load Cases

1.2D + 1.6W Normal	**101 mph Normal with No Ice**
1.2D + 1.6W 60 deg	**101 mph 60 degree with No Ice**
1.2D + 1.6W 90 deg	**101 mph 90 degree with No Ice**
1.2D + 1.6W 120 deg	**101 mph 120 degree with No Ice**
1.2D + 1.6W 180 deg	**101 mph 180 degree with No Ice**
1.2D + 1.6W 210 deg	**101 mph 210 degree with No Ice**
1.2D + 1.6W 240 deg	**101 mph 240 degree with No Ice**
1.2D + 1.6W 300 deg	**101 mph 300 degree with No Ice**
1.2D + 1.6W 330 deg	**101 mph 330 degree with No Ice**
0.9D + 1.6W Normal	**101 mph Normal with No Ice (Reduced DL)**
0.9D + 1.6W 60 deg	**101 mph 60 deg with No Ice (Reduced DL)**
0.9D + 1.6W 90 deg	**101 mph 90 deg with No Ice (Reduced DL)**
0.9D + 1.6W 120 deg	**101 mph 120 deg with No Ice (Reduced DL)**
0.9D + 1.6W 180 deg	**101 mph 180 deg with No Ice (Reduced DL)**
0.9D + 1.6W 210 deg	**101 mph 210 deg with No Ice (Reduced DL)**
0.9D + 1.6W 240 deg	**101 mph 240 deg with No Ice (Reduced DL)**
0.9D + 1.6W 300 deg	**101 mph 300 deg with No Ice (Reduced DL)**
0.9D + 1.6W 330 deg	**101 mph 330 deg with No Ice (Reduced DL)**
1.2D + 1.0Di + 1.0Wi Normal	**50 mph Normal with 0.75 in Radial Ice**

Analysis Parameters

1.2D + 1.0Di + 1.0Wi 60 deg	50 mph 60 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 120 deg	50 mph 120 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 180 deg	50 mph 180 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 210 deg	50 mph 210 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 240 deg	50 mph 240 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 300 deg	50 mph 300 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 330 deg	50 mph 330 deg with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 60 deg	Seismic 60 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(1.2 + 0.2Sds) * DL + E 120 deg	Seismic 120 deg
(1.2 + 0.2Sds) * DL + E 180 deg	Seismic 180 deg
(1.2 + 0.2Sds) * DL + E 210 deg	Seismic 210 deg
(1.2 + 0.2Sds) * DL + E 240 deg	Seismic 240 deg
(1.2 + 0.2Sds) * DL + E 300 deg	Seismic 300 deg
(1.2 + 0.2Sds) * DL + E 330 deg	Seismic 330 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
(0.9 - 0.2Sds) * DL + E 120 deg	Seismic (Reduced DL) 120 deg
(0.9 - 0.2Sds) * DL + E 180 deg	Seismic (Reduced DL) 180 deg
(0.9 - 0.2Sds) * DL + E 210 deg	Seismic (Reduced DL) 210 deg
(0.9 - 0.2Sds) * DL + E 240 deg	Seismic (Reduced DL) 240 deg
(0.9 - 0.2Sds) * DL + E 300 deg	Seismic (Reduced DL) 300 deg
(0.9 - 0.2Sds) * DL + E 330 deg	Seismic (Reduced DL) 330 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg
1.0D + 1.0W Service 120 deg	Serviceability - 60 mph Wind 120 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 210 deg	Serviceability - 60 mph Wind 210 deg
1.0D + 1.0W Service 240 deg	Serviceability - 60 mph Wind 240 deg
1.0D + 1.0W Service 300 deg	Serviceability - 60 mph Wind 300 deg
1.0D + 1.0W Service 330 deg	Serviceability - 60 mph Wind 330 deg

Site Number: 311305 | Code: ANSI/TIA-222-G |

Site Name: GLFD-GUILFORD REBUILD CT, CT | Engineering Number: OAA747813_C3_02 | 5/23/2019 10:50:06 PM

Customer: AT&T MOBILITY

Tower Loading

Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
190.0	Generic 12' Dipole	3	40	4.5	12.0	3.0	3.0	1.00	1.00	0.0	0.0	32.16	592	144
190.0	Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	32.16	457	540
189.0	Generic 6' Omni	2	25	1.8	6.0	3.0	3.0	1.00	1.00	0.0	0.0	32.12	154	60
183.0	Generic RCU	3	1	0.1	0.7	2.0	2.0	0.80	0.50	0.0	0.0	31.90	7	4
183.0	RFS APXV18-	3	26	5.2	6.0	6.8	3.2	0.80	0.68	0.0	0.0	31.90	365	95
183.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	31.90	454	540
177.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	-2.0	36.1	31.61	18	40
177.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	-2.0	287.8	31.61	144	183
177.0	Ericsson AIR 21 B4A	3	90	5.8	4.5	12.0	8.0	0.80	0.71	-2.0	849.6	31.61	425	324
177.0	Ericsson AIR 21, 1.3	3	90	5.8	4.5	12.0	8.0	0.80	0.71	-2.0	849.6	31.61	425	324
177.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	-2.0	1650.8	31.61	825	185
175.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	31.61	1160	1440
166.0	Powerwave Allgon	6	2	0.3	0.4	8.3	2.4	0.80	0.50	0.0	0.0	31.26	35	16
166.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	1.0	112.4	31.30	112	102
166.0	Raycap DC6-48-60-	2	20	1.3	2.0	9.7	9.7	0.80	1.00	2.0	171.8	31.34	86	48
166.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	31.26	84	174
166.0	Ericsson RRUS 4426	1	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	31.26	28	58
166.0	Ericsson RRUS 4478	1	59	1.6	1.3	13.2	7.3	0.80	0.50	0.0	0.0	31.26	28	71
166.0	Ericsson RRUS 4478	2	56	2.0	1.5	13.5	7.8	0.80	0.50	0.0	0.0	31.26	69	135
166.0	Ericsson RRUS 32	3	60	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.0	31.26	137	216
166.0	Ericsson RRUS 32	1	60	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.0	31.26	46	72
166.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.50	1.0	139.9	31.30	140	191
166.0	Ericsson RRUS 32 B2	1	53	2.7	2.3	12.1	7.0	0.80	0.50	1.0	46.6	31.30	47	64
166.0	Ericsson RRUS-11	3	51	2.8	1.6	17.0	8.0	0.80	0.50	1.0	142.5	31.30	143	184
166.0	Ericsson RRUS-11	1	51	2.8	1.6	17.0	8.0	0.80	0.50	1.0	47.5	31.30	48	61
166.0	Ericsson RRUS E2	4	60	3.2	1.7	18.5	7.5	0.80	0.50	0.0	0.0	31.26	214	288
166.0	Raycap DC6-48-60-	2	16	4.8	2.6	18.3	10.2	0.80	0.50	0.0	0.0	31.26	163	38
166.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	1.0	365.9	31.30	366	126
166.0	Commscope SBNHH-	2	34	5.9	4.6	11.9	7.1	0.80	0.77	1.0	308.3	31.30	308	80
166.0	CCI OPA-65R-LCUU-	2	57	5.9	4.0	14.4	7.3	0.80	0.75	0.0	0.0	31.26	303	137
166.0	CCI HPA-65R-BUU-H4	2	34	6.1	4.0	14.8	9.0	0.80	0.77	1.0	318.8	31.30	319	82
166.0	CCI BSA-M65R-BUU-	3	75	11.9	4.2	28.5	9.7	0.80	0.61	0.0	0.0	31.26	737	270
166.0	VFA14-HD Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	31.26	1147	1440
148.0	Generic 4' Dish w/	1	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	30.51	450	144
144.0	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	30.34	155	36
142.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	30.25	347	360
137.0	Generic 6' FM	2	30	13.4	6.0	0.0	0.0	1.00	1.00	0.0	0.0	30.02	1098	72
87.00	Stand-Off	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.28	93	90
87.00	Antel BCD-87010	1	27	2.9	11.2	2.6	2.6	1.00	1.00	0.0	0.0	27.28	108	32
80.00	Flush Mount	1	200	5.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.80	182	240
80.00	Generic 4' Std. Dish	2	188	20.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	26.80	1524	451
60.00	Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	25.23	357	360
20.00	Flush Mount	1	200	5.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	20.02	136	240
16.00	Channel Master	1	126	20.2	3.9	47.2	0.0	1.00	1.00	0.0	0.0	19.10	524	151
	Totals	104	8255	556.2									14560	9906

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
190.0	Generic 12' Dipole	3	40	4.5	12.0	3.0	3.0	1.00	1.00	0.0	0.0	32.16	592	108
190.0	Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	32.16	457	405

Site Number: 311305 Code: ANSI/TIA-222-G

Site Name: GLFD-GUILFORD REBUILD CT, CT Engineering Number: OAA747813_C3_02 5/23/2019 10:50:06 PM

Customer: AT&T MOBILITY

Tower Loading

189.0	Generic 6' Omni	2	25	1.8	6.0	3.0	3.0	1.00	1.00	0.0	0.0	32.12	154	45
183.0	Generic RCU	3	1	0.1	0.7	2.0	2.0	0.80	0.50	0.0	0.0	31.90	7	3
183.0	RFS APXV18-	3	26	5.2	6.0	6.8	3.2	0.80	0.68	0.0	0.0	31.90	365	71
183.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	31.90	454	405
177.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	-2.0	36.1	31.61	18	30
177.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	-2.0	287.8	31.61	144	137
177.0	Ericsson AIR 21 B4A	3	90	5.8	4.5	12.0	8.0	0.80	0.71	-2.0	849.6	31.61	425	243
177.0	Ericsson AIR 21, 1.3	3	90	5.8	4.5	12.0	8.0	0.80	0.71	-2.0	849.6	31.61	425	243
177.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	-2.0	1650.8	31.61	825	139
175.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	31.61	1160	1080
166.0	Powerwave Allgon	6	2	0.3	0.4	8.3	2.4	0.80	0.50	0.0	0.0	31.26	35	12
166.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	1.0	112.4	31.30	112	76
166.0	Raycap DC6-48-60-	2	20	1.3	2.0	9.7	9.7	0.80	1.00	2.0	171.8	31.34	86	36
166.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	31.26	84	131
166.0	Ericsson RRUS 4426	1	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	31.26	28	44
166.0	Ericsson RRUS 4478	1	59	1.6	1.3	13.2	7.3	0.80	0.50	0.0	0.0	31.26	28	53
166.0	Ericsson RRUS 4478	2	56	2.0	1.5	13.5	7.8	0.80	0.50	0.0	0.0	31.26	69	101
166.0	Ericsson RRUS 32	3	60	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.0	31.26	137	162
166.0	Ericsson RRUS 32	1	60	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.0	31.26	46	54
166.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.50	1.0	139.9	31.30	140	143
166.0	Ericsson RRUS 32 B2	1	53	2.7	2.3	12.1	7.0	0.80	0.50	1.0	46.6	31.30	47	48
166.0	Ericsson RRUS-11	3	51	2.8	1.6	17.0	8.0	0.80	0.50	1.0	142.5	31.30	143	138
166.0	Ericsson RRUS-11	1	51	2.8	1.6	17.0	8.0	0.80	0.50	1.0	47.5	31.30	48	46
166.0	Ericsson RRUS E2	4	60	3.2	1.7	18.5	7.5	0.80	0.50	0.0	0.0	31.26	214	216
166.0	Raycap DC6-48-60-	2	16	4.8	2.6	18.3	10.2	0.80	0.50	0.0	0.0	31.26	163	29
166.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	1.0	365.9	31.30	366	95
166.0	Commscope SBNHH-	2	34	5.9	4.6	11.9	7.1	0.80	0.77	1.0	308.3	31.30	308	60
166.0	CCI OPA-65R-LCUU-	2	57	5.9	4.0	14.4	7.3	0.80	0.75	0.0	0.0	31.26	303	103
166.0	CCI HPA-65R-BUU-H4	2	34	6.1	4.0	14.8	9.0	0.80	0.77	1.0	318.8	31.30	319	61
166.0	CCI BSA-M65R-BUU-	3	75	11.9	4.2	28.5	9.7	0.80	0.61	0.0	0.0	31.26	737	203
166.0	VFA14-HD Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	31.26	1147	1080
148.0	Generic 4' Dish w/	1	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	30.51	450	108
144.0	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	30.34	155	27
142.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	30.25	347	270
137.0	Generic 6' FM	2	30	13.4	6.0	0.0	0.0	1.00	1.00	0.0	0.0	30.02	1098	54
87.00	Stand-Off	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.28	93	68
87.00	Antel BCD-87010	1	27	2.9	11.2	2.6	2.6	1.00	1.00	0.0	0.0	27.28	108	24
80.00	Flush Mount	1	200	5.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.80	182	180
80.00	Generic 4' Std. Dish	2	188	20.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	26.80	1524	338
60.00	Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	25.23	357	270
20.00	Flush Mount	1	200	5.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	20.02	136	180
16.00	Channel Master	1	126	20.2	3.9	47.2	0.0	1.00	1.00	0.0	0.0	19.10	524	113
	Totals	104	8255	556.2									14560	7429

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
190.0	Generic 12' Dipole	3	176	11.8	12.0	3.0	3.0	1.00	1.00	0.0	0.0	7.88	238	553
190.0	Side Arm	3	225	8.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	7.88	107	765
189.0	Generic 6' Omni	2	72	3.0	6.0	3.0	3.0	1.00	1.00	0.0	0.0	7.87	41	154
183.0	Generic RCU	3	7	0.5	0.7	2.0	2.0	0.80	0.50	0.0	0.0	7.82	4	21
183.0	RFS APXV18-	3	121	7.6	6.0	6.8	3.2	0.80	0.68	0.0	0.0	7.82	82	380
183.0	Round Side Arm	3	225	8.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	7.82	107	765
177.0	Ericsson KRY 112	3	22	0.8	0.6	6.1	2.7	0.80	0.50	-2.0	12.0	7.75	6	72
177.0	Ericsson RRUS 11	3	124	3.9	1.6	17.0	7.2	0.80	0.50	-2.0	61.7	7.75	31	403

Site Number: 311305 | Code: ANSI/TIA-222-G |

Site Name: GLFD-GUILFORD REBUILD CT, CT | Engineering Number: OAA747813_C3_02 | 5/23/2019 10:50:06 PM

Customer: AT&T MOBILITY

Tower Loading

177.0	Ericsson AIR 21 B4A	3	233	7.9	4.5	12.0	8.0	0.80	0.71	-2.0	177.7	7.75	89	754
177.0	Ericsson AIR 21, 1.3	3	233	7.9	4.5	12.0	8.0	0.80	0.71	-2.0	177.7	7.75	89	754
177.0	Andrew LNX-	3	284	14.7	8.0	11.9	7.1	0.80	0.70	-2.0	325.6	7.75	163	882
175.0	Flat Light Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.75	330	2356
166.0	Powerwave Allgon	6	13	0.8	0.4	8.3	2.4	0.80	0.50	0.0	0.0	7.66	12	78
166.0	Powerwave Allgon	6	39	1.8	1.2	9.2	2.6	0.80	0.50	1.0	28.5	7.67	29	253
166.0	Raycap DC6-48-60-	2	73	1.9	2.0	9.7	9.7	0.80	1.00	2.0	40.3	7.68	20	155
166.0	Ericsson RRUS 4426	3	94	2.5	1.3	13.2	5.8	0.80	0.50	0.0	0.0	7.66	20	310
166.0	Ericsson RRUS 4426	1	94	2.5	1.3	13.2	5.8	0.80	0.50	0.0	0.0	7.66	7	103
166.0	Ericsson RRUS 4478	1	110	2.5	1.3	13.2	7.3	0.80	0.50	0.0	0.0	7.66	7	122
166.0	Ericsson RRUS 4478	2	117	3.0	1.5	13.5	7.8	0.80	0.50	0.0	0.0	7.66	16	256
166.0	Ericsson RRUS 32	3	132	3.9	2.2	12.1	6.7	0.80	0.50	0.0	0.0	7.66	30	432
166.0	Ericsson RRUS 32	1	132	3.9	2.2	12.1	6.7	0.80	0.50	0.0	0.0	7.66	10	144
166.0	Ericsson RRUS 32 B2	3	128	3.9	2.3	12.1	7.0	0.80	0.50	1.0	30.7	7.67	31	415
166.0	Ericsson RRUS 32 B2	1	128	3.9	2.3	12.1	7.0	0.80	0.50	1.0	10.2	7.67	10	138
166.0	Ericsson RRUS-11	3	128	3.9	1.6	17.0	8.0	0.80	0.50	1.0	30.5	7.67	31	415
166.0	Ericsson RRUS-11	1	128	3.9	1.6	17.0	8.0	0.80	0.50	1.0	10.2	7.67	10	138
166.0	Ericsson RRUS E2	4	142	4.3	1.7	18.5	7.5	0.80	0.50	0.0	0.0	7.66	45	616
166.0	Raycap DC6-48-60-	2	147	6.3	2.6	18.3	10.2	0.80	0.50	0.0	0.0	7.66	33	300
166.0	Powerwave Allgon	3	172	6.6	4.6	11.0	5.0	0.80	0.65	1.0	66.9	7.67	67	538
166.0	Commscope SBNHH-	2	171	8.0	4.6	11.9	7.1	0.80	0.77	1.0	64.6	7.67	65	355
166.0	CCI OPA-65R-LCUU-	2	196	7.9	4.0	14.4	7.3	0.80	0.75	0.0	0.0	7.66	61	416
166.0	CCI HPA-65R-BUU-H4	2	188	8.0	4.0	14.8	9.0	0.80	0.77	1.0	64.3	7.67	64	390
166.0	CCI BSA-M65R-BUU-	3	335	14.2	4.2	28.5	9.7	0.80	0.61	0.0	0.0	7.66	135	1051
166.0	VFA14-HD Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.66	326	2356
148.0	Generic 4' Dish w/	1	440	12.4	4.0	48.0	0.0	1.00	1.00	0.0	0.0	7.48	79	464
144.0	Generic 10' Dipole	1	142	9.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	7.43	62	148
142.0	Round Side Arm	2	223	7.9	0.0	0.0	0.0	0.90	0.90	0.0	0.0	7.41	81	507
137.0	Generic 6' FM	2	702	18.0	6.0	0.0	0.0	1.00	1.00	0.0	0.0	7.36	225	1417
87.00	Stand-Off	1	125	4.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.69	24	140
87.00	Antel BCD-87010	1	153	6.5	11.2	2.6	2.6	1.00	1.00	0.0	0.0	6.69	37	158
80.00	Flush Mount	1	523	9.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.57	55	563
80.00	Generic 4' Std. Dish	2	386	23.8	4.0	48.0	0.0	1.00	1.00	0.0	0.0	6.57	265	846
60.00	Side Arm	2	216	7.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.18	80	491
20.00	Flush Mount	1	466	9.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	4.91	38	506
16.00	Channel Master	1	283	22.5	3.9	47.2	0.0	1.00	1.00	0.0	0.0	4.68	89	308
	Totals	104	20740	832.1									3348	22391

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
190.0	Generic 12' Dipole	3	40	4.5	12.0	3.0	3.0	1.00	1.00	0.0	0.0	11.35	131	120
190.0	Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	11.35	101	450
189.0	Generic 6' Omni	2	25	1.8	6.0	3.0	3.0	1.00	1.00	0.0	0.0	11.34	34	50
183.0	Generic RCU	3	1	0.1	0.7	2.0	2.0	0.80	0.50	0.0	0.0	11.26	2	3
183.0	RFS APXV18-	3	26	5.2	6.0	6.8	3.2	0.80	0.68	0.0	0.0	11.26	81	79
183.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	11.26	100	450
177.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	-2.0	8.0	11.15	4	33
177.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	-2.0	63.5	11.15	32	152
177.0	Ericsson AIR 21 B4A	3	90	5.8	4.5	12.0	8.0	0.80	0.71	-2.0	187.4	11.15	94	270
177.0	Ericsson AIR 21, 1.3	3	90	5.8	4.5	12.0	8.0	0.80	0.71	-2.0	187.4	11.15	94	270
177.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	-2.0	364.1	11.15	182	154
175.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.15	256	1200
166.0	Powerwave Allgon	6	2	0.3	0.4	8.3	2.4	0.80	0.50	0.0	0.0	11.03	8	13
166.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	1.0	24.8	11.04	25	85

Site Number: 311305 | Code: ANSI/TIA-222-G |

Site Name: GLFD-GUILFORD REBUILD CT, CT | Engineering Number: OAA747813_C3_02 | 5/23/2019 10:50:06 PM

Customer: AT&T MOBILITY

Tower Loading

166.0	Raycap DC6-48-60-	2	20	1.3	2.0	9.7	9.7	0.80	1.00	2.0	37.9	11.06	19	40
166.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	11.03	19	145
166.0	Ericsson RRUS 4426	1	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	11.03	6	48
166.0	Ericsson RRUS 4478	1	59	1.6	1.3	13.2	7.3	0.80	0.50	0.0	0.0	11.03	6	59
166.0	Ericsson RRUS 4478	2	56	2.0	1.5	13.5	7.8	0.80	0.50	0.0	0.0	11.03	15	112
166.0	Ericsson RRUS 32	3	60	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.0	11.03	30	180
166.0	Ericsson RRUS 32	1	60	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.0	11.03	10	60
166.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.50	1.0	30.9	11.04	31	159
166.0	Ericsson RRUS 32 B2	1	53	2.7	2.3	12.1	7.0	0.80	0.50	1.0	10.3	11.04	10	53
166.0	Ericsson RRUS-11	3	51	2.8	1.6	17.0	8.0	0.80	0.50	1.0	31.4	11.04	31	153
166.0	Ericsson RRUS-11	1	51	2.8	1.6	17.0	8.0	0.80	0.50	1.0	10.5	11.04	10	51
166.0	Ericsson RRUS E2	4	60	3.2	1.7	18.5	7.5	0.80	0.50	0.0	0.0	11.03	47	240
166.0	Raycap DC6-48-60-	2	16	4.8	2.6	18.3	10.2	0.80	0.50	0.0	0.0	11.03	36	32
166.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	1.0	80.7	11.04	81	105
166.0	Commscope SBNHH-	2	34	5.9	4.6	11.9	7.1	0.80	0.77	1.0	68.0	11.04	68	67
166.0	CCI OPA-65R-LCUU-	2	57	5.9	4.0	14.4	7.3	0.80	0.75	0.0	0.0	11.03	67	114
166.0	CCI HPA-65R-BUU-H4	2	34	6.1	4.0	14.8	9.0	0.80	0.77	1.0	70.3	11.04	70	68
166.0	CCI BSA-M65R-BUU-	3	75	11.9	4.2	28.5	9.7	0.80	0.61	0.0	0.0	11.03	163	225
166.0	VFA14-HD Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.03	253	1200
148.0	Generic 4' Dish w/	1	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	10.77	99	120
144.0	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	10.71	34	30
142.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	10.67	76	300
137.0	Generic 6' FM	2	30	13.4	6.0	0.0	0.0	1.00	1.00	0.0	0.0	10.59	242	60
87.00	Stand-Off	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.63	20	75
87.00	Antel BCD-87010	1	27	2.9	11.2	2.6	2.6	1.00	1.00	0.0	0.0	9.63	24	27
80.00	Flush Mount	1	200	5.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.46	40	200
80.00	Generic 4' Std. Dish	2	188	20.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	9.46	336	376
60.00	Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.90	79	300
20.00	Flush Mount	1	200	5.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.07	30	200
16.00	Channel Master	1	126	20.2	3.9	47.2	0.0	1.00	1.00	0.0	0.0	6.74	116	126
	Totals	104	8255	556.2									3211	8255

Site Number: 311305 | Code: ANSI/TIA-222-G |

Site Name: GLFD-GUILFORD REBUILD CT, CT | Engineering Number: OAA747813_C3_02 | 5/23/2019 10:50:06 PM

Customer: AT&T MOBILITY

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	190.5	Climbing Ladder	1	2.00	6.90	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	190.0	5/16" (0.31"-	1	0.31	0.05	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	190.0	7/8" Coax	3	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	189.0	1/2" Coax	2	0.63	0.15	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	183.0	1 5/8" Coax	6	1.98	0.82	50	Lin App	Block	0.00	N	1.00	1.00	0.00
0.00	183.0	3/8" Coax	1	0.44	0.08	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	183.0	Waveguide	1	2.00	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	177.0	1 1/4" Hybriflex	1	1.54	1.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	177.0	1 5/8" Coax	12	1.98	0.82	50	Lin App	Block	0.00	N	1.00	1.00	0.00
0.00	175.0	Waveguide	1	2.00	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	168.0	0.78" (19.7mm) 8	2	0.78	0.59	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	0.39" (10mm) Fiber	2	0.39	0.06	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	0.39" (10mm) Fiber	2	0.39	0.06	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	0.74" (18.7mm) 8	2	0.74	0.49	100	Lin App	Block	0.00	N	1.00	1.00	0.00
0.00	166.0	0.74" (18.7mm) 8	4	0.74	0.49	100	Lin App	Block	0.00	N	1.00	1.00	0.00
0.00	166.0	0.78" (19.7mm) 8	2	0.78	0.59	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	1 5/8" Coax	12	1.98	0.82	50	Lin App	Block	0.00	N	1.00	1.00	0.00
0.00	166.0	1/2" Coax	1	0.63	0.15	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	166.0	3/8" (0.38"-	6	0.38	0.23	50	Lin App	Block	0.00	N	1.00	1.00	0.00
0.00	166.0	Waveguide	1	2.00	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	144.0	1 1/4" Coax	3	1.55	0.63	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	140.0	7/8" Coax	4	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	137.0	1 5/8" Coax	1	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	127.0	7/8" Coax	1	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	108.8	7/8" Coax	1	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	92.00	1 5/8" Coax	1	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	80.00	7/8" Coax	2	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	16.00	0.28" (7mm) RG-6	1	0.28	0.03	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	16.00	0.28" (7mm) RG-6	2	0.28	0.03	100	Lin App	Individual	0.00	N	1.00	1.00	0.00

Equivalent Lateral Force Method

(Based on ASCE7-10 Chapters 11, 12 & 15)

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.04
Upper Limit C_s:	0.04
Lower Limit C_s:	0.03
Period based on Rayleigh Method (sec):	0.90
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.20
Total Unfactored Dead Load:	46.45 k
Seismic Base Shear (E):	2.14 k

LoadCase (1.2 + 0.2Sds) * DL + E **Seismic**

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	185.30	509	269,954	0.026	55	630
9	170.00	1,763	842,851	0.080	171	2,180
8	150.00	2,605	1,071,22	0.101	217	3,220
7	130.00	3,124	1,081,99	0.102	219	3,863
6	110.00	3,792	1,074,50	0.102	218	4,688
5	90.00	3,892	866,596	0.082	175	4,812
4	70.00	5,033	828,557	0.078	168	6,222
3	50.00	5,175	568,709	0.054	115	6,398
2	30.00	5,633	335,132	0.032	68	6,964
1	10.00	6,666	105,961	0.010	21	8,241
Generic 12' Dipole	190.00	120	65,559	0.006	13	148
Side Arm	190.00	450	245,847	0.023	50	556
Generic 6' Omni	189.00	50	27,144	0.003	5	62
Generic RCU (Remote Control Unit)	183.00	3	1,567	0.000	0	4
RFS APXV18-206517S-C	183.00	79	41,361	0.004	8	98
Round Side Arm	183.00	450	235,007	0.022	48	556
Ericsson KRY 112 144/1	177.00	33	16,557	0.002	3	41
Ericsson RRUS 11 B12	177.00	152	76,314	0.007	15	188
Ericsson AIR 21 B4A B2P	177.00	270	135,469	0.013	27	334
Ericsson AIR 21, 1.3 M, B2A B4P, AWS - 1	177.00	270	135,469	0.013	27	334
Andrew LNX-6515DS-VTM	177.00	154	77,217	0.007	16	190
Flat Light Sector Frame	175.00	1,200	593,920	0.056	120	1,484
Powerwave Allgon 7020	166.00	13	6,132	0.001	1	16

Equivalent Lateral Force Method

Powerwave Allgon LGP21401	166.00	85	39,298	0.004	8	105
Raycap DC6-48-60-18-8F	166.00	40	18,581	0.002	4	49
Ericsson RRUS 4426 B66	166.00	145	67,448	0.006	14	180
Ericsson RRUS 4426 B66	166.00	48	22,483	0.002	5	60
Ericsson RRUS 4478 B14 (15")	166.00	59	27,592	0.003	6	73
Ericsson RRUS 4478 B5 (56.1 lbs)	166.00	112	52,119	0.005	11	139
Ericsson RRUS 32 B30 (60 lbs)	166.00	180	83,613	0.008	17	223
Ericsson RRUS 32 B30 (60 lbs)	166.00	60	27,871	0.003	6	74
Ericsson RRUS 32 B2	166.00	159	73,858	0.007	15	197
Ericsson RRUS 32 B2	166.00	53	24,619	0.002	5	66
Ericsson RRUS-11 (19.7")	166.00	153	71,071	0.007	14	189
Ericsson RRUS-11 (19.7")	166.00	51	23,690	0.002	5	63
Ericsson RRUS E2 B29	166.00	240	111,484	0.011	23	297
Raycap DC6-48-60-18-8C-EV	166.00	32	14,865	0.001	3	40
Powerwave Allgon 7770.00	166.00	105	48,774	0.005	10	130
Commscope SBNHH-1D65A	166.00	67	31,123	0.003	6	83
CCI OPA-65R-LCUU-H4 (14.4" width)	166.00	114	52,955	0.005	11	141
CCI HPA-65R-BUU-H4	166.00	68	31,587	0.003	6	84
CCI BSA-M65R-BUU-H4	166.00	225	104,516	0.010	21	278
VFA14-HD Sector Frame	166.00	1,200	557,420	0.053	113	1,484
Generic 4' Dish w/ Radome	148.00	120	48,563	0.005	10	148
Generic 10' Dipole	144.00	30	11,748	0.001	2	37
Round Side Arm	142.00	300	115,518	0.011	23	371
Generic 6' FM antenna	137.00	60	22,130	0.002	4	74
Stand-Off	87.00	75	16,032	0.002	3	93
Antel BCD-87010 ___ 4°	87.00	26	5,665	0.001	1	33
Flush Mount	80.00	200	38,654	0.004	8	247
Generic 4' Std. Dish	80.00	376	72,670	0.007	15	465
Side Arm	60.00	300	41,040	0.004	8	371
Flush Mount	20.00	200	7,311	0.001	1	247
Channel Master Type 120	16.00	126	3,523	0.000	1	156
		46,448	10,570,863	1.000	2,141	57,422

LoadCase (0.9 - 0.2Sds) * DL + E **Seismic (Reduced DL)**

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	185.30	509	269,954	0.026	55	440
9	170.00	1,763	842,851	0.080	171	1,523
8	150.00	2,605	1,071,22	0.101	217	2,250
7	130.00	3,124	1,081,99	0.102	219	2,699
6	110.00	3,792	1,074,50	0.102	218	3,275
5	90.00	3,892	866,596	0.082	175	3,362
4	70.00	5,033	828,557	0.078	168	4,347
3	50.00	5,175	568,709	0.054	115	4,470
2	30.00	5,633	335,132	0.032	68	4,866
1	10.00	6,666	105,961	0.010	21	5,757
Generic 12' Dipole	190.00	120	65,559	0.006	13	104
Side Arm	190.00	450	245,847	0.023	50	389
Generic 6' Omni	189.00	50	27,144	0.003	5	43
Generic RCU (Remote Control Unit)	183.00	3	1,567	0.000	0	3
RFS APXV18-206517S-C	183.00	79	41,361	0.004	8	68
Round Side Arm	183.00	450	235,007	0.022	48	389
Ericsson KRY 112 144/1	177.00	33	16,557	0.002	3	29

Site Number: 311305 Code: ANSI/TIA-222-G

Site Name: GLFD-GUILFORD REBUILD CT, CT Engineering Number: OAA747813_C3_02 5/23/2019 10:50:07 PM

Customer: AT&T MOBILITY

Equivalent Lateral Force Method

Ericsson RRUS 11 B12	177.00	152	76,314	0.007	15	131
Ericsson AIR 21 B4A B2P	177.00	270	135,469	0.013	27	233
Ericsson AIR 21, 1.3 M, B2A B4P, AWS - 1	177.00	270	135,469	0.013	27	233
Andrew LNX-6515DS-VTM	177.00	154	77,217	0.007	16	133
Flat Light Sector Frame	175.00	1,200	593,920	0.056	120	1,036
Powerwave Allgon 7020	166.00	13	6,132	0.001	1	11
Powerwave Allgon LGP21401	166.00	85	39,298	0.004	8	73
Raycap DC6-48-60-18-8F	166.00	40	18,581	0.002	4	35
Ericsson RRUS 4426 B66	166.00	145	67,448	0.006	14	125
Ericsson RRUS 4426 B66	166.00	48	22,483	0.002	5	42
Ericsson RRUS 4478 B14 (15")	166.00	59	27,592	0.003	6	51
Ericsson RRUS 4478 B5 (56.1 lbs)	166.00	112	52,119	0.005	11	97
Ericsson RRUS 32 B30 (60 lbs)	166.00	180	83,613	0.008	17	155
Ericsson RRUS 32 B30 (60 lbs)	166.00	60	27,871	0.003	6	52
Ericsson RRUS 32 B2	166.00	159	73,858	0.007	15	137
Ericsson RRUS 32 B2	166.00	53	24,619	0.002	5	46
Ericsson RRUS-11 (19.7")	166.00	153	71,071	0.007	14	132
Ericsson RRUS-11 (19.7")	166.00	51	23,690	0.002	5	44
Ericsson RRUS E2 B29	166.00	240	111,484	0.011	23	207
Raycap DC6-48-60-18-8C-EV	166.00	32	14,865	0.001	3	28
Powerwave Allgon 7770.00	166.00	105	48,774	0.005	10	91
Commscope SBNHH-1D65A	166.00	67	31,123	0.003	6	58
CCI OPA-65R-LCUU-H4 (14.4" width)	166.00	114	52,955	0.005	11	98
CCI HPA-65R-BUU-H4	166.00	68	31,587	0.003	6	59
CCI BSA-M65R-BUU-H4	166.00	225	104,516	0.010	21	194
VFA14-HD Sector Frame	166.00	1,200	557,420	0.053	113	1,036
Generic 4' Dish w/ Radome	148.00	120	48,563	0.005	10	104
Generic 10' Dipole	144.00	30	11,748	0.001	2	26
Round Side Arm	142.00	300	115,518	0.011	23	259
Generic 6' FM antenna	137.00	60	22,130	0.002	4	52
Stand-Off	87.00	75	16,032	0.002	3	65
Antel BCD-87010 ___ 4°	87.00	26	5,665	0.001	1	23
Flush Mount	80.00	200	38,654	0.004	8	173
Generic 4' Std. Dish	80.00	376	72,670	0.007	15	325
Side Arm	60.00	300	41,040	0.004	8	259
Flush Mount	20.00	200	7,311	0.001	1	173
Channel Master Type 120	16.00	126	3,523	0.000	1	109
		46,448	10,570,863	1.000	2,141	40,119

Site Number: 311305 Code: ANSI/TIA-222-G

Site Name: GLFD-GUILFORD REBUILD CT, CT Engineering Number: OAA747813_C3_02 5/23/2019 10:50:07 PM

Customer: AT&T MOBILITY

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	0.90
Redundancy Factor (p):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E Seismic

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
10	185.30	509	1.786	1.477	0.954	0.333	73	630
9	170.00	1,763	1.504	0.510	0.547	0.197	151	2,180
8	150.00	2,605	1.171	-0.021	0.233	0.091	103	3,220
7	130.00	3,124	0.879	-0.121	0.080	0.050	68	3,863
6	110.00	3,792	0.630	-0.064	0.018	0.046	76	4,688
5	90.00	3,892	0.421	0.011	0.006	0.048	81	4,812
4	70.00	5,033	0.255	0.054	0.017	0.043	94	6,222
3	50.00	5,175	0.130	0.069	0.033	0.034	76	6,398
2	30.00	5,633	0.047	0.071	0.042	0.025	62	6,964
1	10.00	6,666	0.005	0.045	0.026	0.014	40	8,241
Generic 12' Dipole	190.00	120	1.878	1.918	1.118	0.385	20	148
Side Arm	190.00	450	1.878	1.918	1.118	0.385	75	556
Generic 6' Omni	189.00	50	1.858	1.817	1.081	0.373	8	62
Generic RCU (Remote Control	183.00	3	1.742	1.289	0.881	0.309	0	4
RFS APXV18-206517S-C	183.00	79	1.742	1.289	0.881	0.309	11	98
Round Side Arm	183.00	450	1.742	1.289	0.881	0.309	60	556
Ericsson KRY 112 144/1	177.00	33	1.630	0.874	0.711	0.253	4	41
Ericsson RRUS 11 B12	177.00	152	1.630	0.874	0.711	0.253	17	188
Ericsson AIR 21 B4A B2P	177.00	270	1.630	0.874	0.711	0.253	30	334
Ericsson AIR 21, 1.3 M, B2A B4P,	177.00	270	1.630	0.874	0.711	0.253	30	334
Andrew LNX-6515DS-VTM	177.00	154	1.630	0.874	0.711	0.253	17	190
Flat Light Sector Frame	175.00	1,200	1.593	0.758	0.661	0.236	123	1,484
Powerwave Allgon 7020	166.00	13	1.434	0.351	0.467	0.170	1	16
Powerwave Allgon LGP21401	166.00	85	1.434	0.351	0.467	0.170	6	105
Raycap DC6-48-60-18-8F	166.00	40	1.434	0.351	0.467	0.170	3	49
Ericsson RRUS 4426 B66	166.00	145	1.434	0.351	0.467	0.170	11	180
Ericsson RRUS 4426 B66	166.00	48	1.434	0.351	0.467	0.170	4	60
Ericsson RRUS 4478 B14 (15")	166.00	59	1.434	0.351	0.467	0.170	4	73
Ericsson RRUS 4478 B5 (56.1 lbs)	166.00	112	1.434	0.351	0.467	0.170	8	139
Ericsson RRUS 32 B30 (60 lbs)	166.00	180	1.434	0.351	0.467	0.170	13	223
Ericsson RRUS 32 B30 (60 lbs)	166.00	60	1.434	0.351	0.467	0.170	4	74
Ericsson RRUS 32 B2	166.00	159	1.434	0.351	0.467	0.170	12	197
Ericsson RRUS 32 B2	166.00	53	1.434	0.351	0.467	0.170	4	66
Ericsson RRUS-11 (19.7")	166.00	153	1.434	0.351	0.467	0.170	11	189
Ericsson RRUS-11 (19.7")	166.00	51	1.434	0.351	0.467	0.170	4	63
Ericsson RRUS E2 B29	166.00	240	1.434	0.351	0.467	0.170	18	297
Raycap DC6-48-60-18-8C-EV	166.00	32	1.434	0.351	0.467	0.170	2	40
Powerwave Allgon 7770.00	166.00	105	1.434	0.351	0.467	0.170	8	130

Site Number: 311305 Code: ANSI/TIA-222-G

Site Name: GLFD-GUILFORD REBUILD CT, CT Engineering Number: OAA747813_C3_02 5/23/2019 10:50:07 PM

Customer: AT&T MOBILITY

Equivalent Modal Analysis Method

Commscope SBNHH-1D65A	166.00	67	1.434	0.351	0.467	0.170	5	83
CCI OPA-65R-LCUU-H4 (14.4"	166.00	114	1.434	0.351	0.467	0.170	8	141
CCI HPA-65R-BUU-H4	166.00	68	1.434	0.351	0.467	0.170	5	84
CCI BSA-M65R-BUU-H4	166.00	225	1.434	0.351	0.467	0.170	17	278
VFA14-HD Sector Frame	166.00	1,200	1.434	0.351	0.467	0.170	88	1,484
Generic 4' Dish w/ Radome	148.00	120	1.140	-0.045	0.212	0.084	4	148
Generic 10' Dipole	144.00	30	1.079	-0.081	0.174	0.073	1	37
Round Side Arm	142.00	300	1.049	-0.094	0.157	0.068	9	371
Generic 6' FM antenna	137.00	60	0.976	-0.115	0.120	0.059	2	74
Stand-Off	87.00	75	0.394	0.020	0.007	0.048	2	93
Antel BCD-87010 ___ 4°	87.00	26	0.394	0.020	0.007	0.048	1	33
Flush Mount	80.00	200	0.333	0.037	0.010	0.046	4	247
Generic 4' Std. Dish	80.00	376	0.333	0.037	0.010	0.046	8	465
Side Arm	60.00	300	0.187	0.064	0.025	0.038	5	371
Flush Mount	20.00	200	0.021	0.065	0.038	0.021	2	247
Channel Master Type 120	16.00	126	0.013	0.059	0.034	0.019	1	156
		46,448	63.437	24.009	22.740	8.572	1,491	57,422

LoadCase (0.9 - 0.2Sds) * DL + E **Seismic (Reduced DL)**

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
10	185.30	509	1.786	1.477	0.954	0.333	73	440
9	170.00	1,763	1.504	0.510	0.547	0.197	151	1,523
8	150.00	2,605	1.171	-0.021	0.233	0.091	103	2,250
7	130.00	3,124	0.879	-0.121	0.080	0.050	68	2,699
6	110.00	3,792	0.630	-0.064	0.018	0.046	76	3,275
5	90.00	3,892	0.421	0.011	0.006	0.048	81	3,362
4	70.00	5,033	0.255	0.054	0.017	0.043	94	4,347
3	50.00	5,175	0.130	0.069	0.033	0.034	76	4,470
2	30.00	5,633	0.047	0.071	0.042	0.025	62	4,866
1	10.00	6,666	0.005	0.045	0.026	0.014	40	5,757
Generic 12' Dipole	190.00	120	1.878	1.918	1.118	0.385	20	104
Side Arm	190.00	450	1.878	1.918	1.118	0.385	75	389
Generic 6' Omni	189.00	50	1.858	1.817	1.081	0.373	8	43
Generic RCU (Remote Control	183.00	3	1.742	1.289	0.881	0.309	0	3
RFS APXV18-206517S-C	183.00	79	1.742	1.289	0.881	0.309	11	68
Round Side Arm	183.00	450	1.742	1.289	0.881	0.309	60	389
Ericsson KRY 112 144/1	177.00	33	1.630	0.874	0.711	0.253	4	29
Ericsson RRUS 11 B12	177.00	152	1.630	0.874	0.711	0.253	17	131
Ericsson AIR 21 B4A B2P	177.00	270	1.630	0.874	0.711	0.253	30	233
Ericsson AIR 21, 1.3 M, B2A B4P,	177.00	270	1.630	0.874	0.711	0.253	30	233
Andrew LNX-6515DS-VTM	177.00	154	1.630	0.874	0.711	0.253	17	133
Flat Light Sector Frame	175.00	1,200	1.593	0.758	0.661	0.236	123	1,036
Powerwave Allgon 7020	166.00	13	1.434	0.351	0.467	0.170	1	11
Powerwave Allgon LGP21401	166.00	85	1.434	0.351	0.467	0.170	6	73
Raycap DC6-48-60-18-8F	166.00	40	1.434	0.351	0.467	0.170	3	35
Ericsson RRUS 4426 B66	166.00	145	1.434	0.351	0.467	0.170	11	125
Ericsson RRUS 4426 B66	166.00	48	1.434	0.351	0.467	0.170	4	42
Ericsson RRUS 4478 B14 (15")	166.00	59	1.434	0.351	0.467	0.170	4	51
Ericsson RRUS 4478 B5 (56.1 lbs)	166.00	112	1.434	0.351	0.467	0.170	8	97
Ericsson RRUS 32 B30 (60 lbs)	166.00	180	1.434	0.351	0.467	0.170	13	155
Ericsson RRUS 32 B30 (60 lbs)	166.00	60	1.434	0.351	0.467	0.170	4	52
Ericsson RRUS 32 B2	166.00	159	1.434	0.351	0.467	0.170	12	137
Ericsson RRUS 32 B2	166.00	53	1.434	0.351	0.467	0.170	4	46
Ericsson RRUS-11 (19.7")	166.00	153	1.434	0.351	0.467	0.170	11	132
Ericsson RRUS-11 (19.7")	166.00	51	1.434	0.351	0.467	0.170	4	44
Ericsson RRUS E2 B29	166.00	240	1.434	0.351	0.467	0.170	18	207
Raycap DC6-48-60-18-8C-EV	166.00	32	1.434	0.351	0.467	0.170	2	28
Powerwave Allgon 7770.00	166.00	105	1.434	0.351	0.467	0.170	8	91
Commscope SBNHH-1D65A	166.00	67	1.434	0.351	0.467	0.170	5	58
CCI OPA-65R-LCUU-H4 (14.4"	166.00	114	1.434	0.351	0.467	0.170	8	98
CCI HPA-65R-BUU-H4	166.00	68	1.434	0.351	0.467	0.170	5	59

Equivalent Modal Analysis Method

CCI BSA-M65R-BUU-H4	166.00	225	1.434	0.351	0.467	0.170	17	194
VFA14-HD Sector Frame	166.00	1,200	1.434	0.351	0.467	0.170	88	1,036
Generic 4' Dish w/ Radome	148.00	120	1.140	-0.045	0.212	0.084	4	104
Generic 10' Dipole	144.00	30	1.079	-0.081	0.174	0.073	1	26
Round Side Arm	142.00	300	1.049	-0.094	0.157	0.068	9	259
Generic 6' FM antenna	137.00	60	0.976	-0.115	0.120	0.059	2	52
Stand-Off	87.00	75	0.394	0.020	0.007	0.048	2	65
Antel BCD-87010 ___ 4°	87.00	26	0.394	0.020	0.007	0.048	1	23
Flush Mount	80.00	200	0.333	0.037	0.010	0.046	4	173
Generic 4' Std. Dish	80.00	376	0.333	0.037	0.010	0.046	8	325
Side Arm	60.00	300	0.187	0.064	0.025	0.038	5	259
Flush Mount	20.00	200	0.021	0.065	0.038	0.021	2	173
Channel Master Type 120	16.00	126	0.013	0.059	0.034	0.019	1	109
		46,448	63.437	24.009	22.740	8.572	1,491	40,119

Force/Stress Summary

Section: 1 1 — Bot Elev (ft): 0.00 — Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 12" DIA PIPE	-458.00	1.2D + 1.6W Normal	6.43	100	100	100	17.6	50.0	642.27	0	0	0.00	0.00	71	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	-13.03	1.2D + 1.6W 90 deg	19.44	48	48	48	140.9	43.5	22.07	0	0	0.00	0.00	59	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 12" DIA PIPE	416.37	0.9D + 1.6W 60 deg	50	65	657.00	0	0	0.00	0.00		63	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 4X4X0.25	12.75	1.2D + 1.6W 90 deg	50	65	87.30	0	0	0.00	0.00	0.00	14	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	378.99	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	422.88	1.2D + 1.6W 120 deg	0.00	0		
Bot Tension	416.38	0.9D + 1.6W 60 deg	0.00	0		
Bot Compression	465.67	1.2D + 1.6W 240 deg	0.00	0		

Section: 2 2 — Bot Elev (ft): 20.00 — Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 10" DIA PIPE	-413.17	1.2D + 1.6W Normal	6.43	100	100	100	21.0	50.0	518.48	0	0	0.00	0.00	79	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	-12.03	1.2D + 1.6W 90 deg	18.77	48	48	48	157.2	50.0	15.46	0	0	0.00	0.00	77	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 10" DIA PIPE	375.96	1.2D + 1.6W 60 deg	50	65	535.50	0	0	0.00	0.00		70	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	11.76	1.2D + 1.6W 90 deg	50	65	76.05	0	0	0.00	0.00	0.00	15	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	337.93	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	375.53	1.2D + 1.6W 120 deg	0.00	0		
Bot Tension	378.99	0.9D + 1.6W 60 deg	0.00	0		
Bot Compression	0.00		0.00	0		

Force/Stress Summary

Section: 3 3 — Bot Elev (ft): 40.00 — Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 10" DIA PIPE	-374.82	1.2D + 1.6W Normal	0.38	100	100	100	1.2	50.0	535.44	0	0	0.00	0.00	70	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.25	-11.39	1.2D + 1.6W 90 deg	16.90	47	47	47	161.1	50.0	12.54	0	0	0.00	0.00	90	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 10" DIA PIPE	338.24	0.9D + 1.6W 60 deg	50	65	535.50	0	0	0.00	0.00		63	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3X3X0.25	11.15	1.2D + 1.6W 90 deg	50	65	64.80	0	0	0.00	0.00	0.00	17	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	294.74	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	326.54	1.2D + 1.6W 240 deg	0.00	0		
Bot Tension	337.93	0.9D + 1.6W 60 deg	0.00	0		
Bot Compression	0.00		0.00	0		

Section: 4 4 — Bot Elev (ft): 60.00 — Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 10" DIA PIPE	-325.49	1.2D + 1.6W Normal	0.38	100	100	100	1.2	50.0	535.44	0	0	0.00	0.00	60	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.25	-12.94	1.2D + 1.6W 90 deg	15.15	48	48	48	147.5	50.0	14.96	0	0	0.00	0.00	86	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 10" DIA PIPE	294.89	0.9D + 1.6W 60 deg	50	65	535.50	0	0	0.00	0.00		55	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3X3X0.25	12.66	1.2D + 1.6W 90 deg	50	65	64.80	0	0	0.00	0.00	0.00	19	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	240.04	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	265.68	1.2D + 1.6W 240 deg	0.00	0		
Bot Tension	294.74	0.9D + 1.6W 60 deg	0.00	0		
Bot Compression	0.00		0.00	0		

Force/Stress Summary

Section: 5 5 Bot Elev (ft): 80.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 8" DIA PIPE	-264.72	1.2D + 1.6W Normal	0.38	100	100	100	1.5	50.0	377.94	0	0	0.00	0.00	70	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.1875	-10.94	1.2D + 1.6W 90 deg	13.81	48	48	48	133.5	44.0	13.82	0	0	0.00	0.00	79	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 8" DIA PIPE	238.69	1.2D + 1.6W 60 deg	50	65	378.00	0	0	0.00	0.00		63	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3X3X0.1875	10.81	1.2D + 1.6W 90 deg	50	65	49.05	0	0	0.00	0.00	0.00	22	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	189.00	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	209.08	1.2D + 1.6W 240 deg	0.00	0		
Bot Tension	240.04	0.9D + 1.6W 60 deg	0.00	0		
Bot Compression	0.00		0.00	0		

Section: 6 6 Bot Elev (ft): 100.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 8" DIA PIPE	-208.44	1.2D + 1.6W Normal	0.38	100	100	100	1.5	50.0	377.94	0	0	0.00	0.00	55	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.1875	-10.12	1.2D + 1.6W 210 deg	12.50	48	48	48	120.8	44.0	16.87	0	0	0.00	0.00	60	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 8" DIA PIPE	189.21	0.9D + 1.6W 60 deg	50	65	378.00	0	0	0.00	0.00		50	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3X3X0.1875	9.99	1.2D + 1.6W 90 deg	50	65	49.05	0	0	0.00	0.00	0.00	20	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	137.07	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	152.48	1.2D + 1.6W 240 deg	0.00	0		
Bot Tension	189.00	0.9D + 1.6W 60 deg	0.00	0		
Bot Compression	0.00		0.00	0		

Site Number: 311305 | Code: ANSI/TIA-222-G |

Site Name: GLFD-GUILFORD REBUILD CT, CT | Engineering Number: OAA747813_C3_02 | 5/23/2019 10:50:07 PM

Customer: AT&T MOBILITY

Force/Stress Summary

Section: 7 7 — Bot Elev (ft): 120.0 — Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 6" DIA PIPE	-141.86	1.2D + 1.6W Normal	6.42	100	100	100	34.3	50.0	230.46	0	0	0.00	0.00	61	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.1875	-8.79	1.2D + 1.6W 90 deg	11.24	48	48	48	111.5	44.0	19.40	0	0	0.00	0.00	45	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 6" DIA PIPE	136.14	1.2D + 1.6W 60 deg	50	65	251.10	0	0	0.00	0.00		54	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 3X3X0.1875	9.02	1.2D + 1.6W 90 deg	50	65	49.05	0	0	0.00	0.00	0.00	18	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	85.24	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	96.57	1.2D + 1.6W 240 deg	0.00	0		
Bot Tension	137.07	0.9D + 1.6W 60 deg	0.00	0		
Bot Compression	0.00		0.00	0		

Section: 8 8 — Bot Elev (ft): 140.0 — Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 5" DIA PIPE	-87.01	1.2D + 1.6W 120 deg	6.55	100	100	100	41.8	50.0	170.30	0	0	0.00	0.00	51	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.1875	-7.24	1.2D + 1.6W 90 deg	10.12	48	48	48	118.4	50.0	14.55	0	0	0.00	0.00	49	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 5" DIA PIPE	85.40	0.9D + 1.6W 60 deg	50	65	193.50	0	0	0.00	0.00		44	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.1875	7.13	1.2D + 1.6W 90 deg	50	65	40.59	0	0	0.00	0.00	0.00	17	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	39.51	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	47.36	1.2D + 1.6W 240 deg	0.00	0		
Bot Tension	85.24	0.9D + 1.6W 60 deg	0.00	0		
Bot Compression	0.00		0.00	0		

Site Number: 311305 | Code: ANSI/TIA-222-G |

Site Name: GLFD-GUILFORD REBUILD CT, CT | Engineering Number: OAA747813_C3_02 | 5/23/2019 10:50:07 PM

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Force/Stress Summary

Section: 9 9 — Bot Elev (ft): 160.0 — Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 3" DIA PIPE	-36.98	1.2D + 1.6W 120 deg	6.54	100	100	100	67.7	50.0	71.80	0	0	0.00	0.00	51	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.1875	-7.60	1.2D + 1.6W 210 deg	9.222	48	48	48	110.5	50.0	16.63	0	0	0.00	0.00	45	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 3" DIA PIPE	29.31	1.2D + 1.6W 60 deg	50	65	100.35	0	0	0.00	0.00		29	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.1875	7.44	1.2D + 1.6W 330 deg	50	65	40.59	0	0	0.00	0.00	0.00	18	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	3.68	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression	5.23	1.2D + 1.6W 120 deg	0.00	0		
Bot Tension	39.51	0.9D + 1.6W 60 deg	0.00	0		
Bot Compression	0.00		0.00	0		

Section: 10 10 — Bot Elev (ft): 180.0 — Height (ft): 10.599

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 2" DIA PIPE	-4.90	1.2D + 1.6W Normal	0.38	100	100	100	5.7	50.0	48.04	0	0	0.00	0.00	10	Member X
HORIZ SAE - 2X2X0.125	-0.34	0.9D + 1.6W 60 deg	6.500	100	100	100	196.0	36.0	2.82	0	0	0.00	0.00	12	Member Z
DIAG SAE - 2X2X0.1875	-1.33	1.2D + 1.6W 90 deg	8.269	48	48	48	120.9	50.0	11.05	0	0	0.00	0.00	12	Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PST - 2" DIA PIPE	3.65	1.2D + 1.6W 60 deg	50	65	48.15	0	0	0.00	0.00		7	Member
HORIZ SAE - 2X2X0.125	0.31	1.2D + 1.6W Normal	36	58	15.55	0	0	0.00	0.00	0.00	2	Member
DIAG SAE - 2X2X0.1875	1.45	1.2D + 1.6W 60 deg	50	65	32.17	0	0	0.00	0.00	0.00	4	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	0.00		0.00	0	0	
Top Compression	0.75	1.2D + 1.0Di + 1.0Wi	0.00	0		
Bot Tension	3.68	0.9D + 1.6W 60 deg	0.00	0		
Bot Compression	0.00		0.00	0		

Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	11.55	00.00	0	1	0.00	464.09	-45.70	
	11.55	00.00	120	1a	15.75	-204.18	-15.27	
	11.55	00.00	240	1b	-15.75	-204.18	-15.27	
1.2D + 1.6W 60 deg	11.55	00.00	0	1	-4.75	232.87	-22.57	
	11.55	00.00	120	1a	-21.93	233.05	7.17	
	11.55	00.00	240	1b	-36.35	-410.18	-20.99	
1.2D + 1.6W 90 deg	11.55	00.00	0	1	-5.73	18.59	-1.22	
	11.55	00.00	120	1a	-34.73	393.60	16.91	
	11.55	00.00	240	1b	-33.18	-356.46	-15.69	
1.2D + 1.6W 120 deg	11.55	00.00	0	1	-5.34	-204.18	21.28	
	11.55	00.00	120	1a	-39.58	464.27	22.85	
	11.55	00.00	240	1b	-21.11	-204.36	-6.01	
1.2D + 1.6W 180 deg	11.55	00.00	0	1	0.00	-410.00	41.97	
	11.55	00.00	120	1a	-17.17	232.87	15.41	
	11.55	00.00	240	1b	17.17	232.87	15.41	
1.2D + 1.6W 210 deg	11.55	00.00	0	1	3.01	-356.25	36.57	
	11.55	00.00	120	1a	1.82	18.49	5.58	
	11.55	00.00	240	1b	32.00	393.50	21.63	
1.2D + 1.6W 240 deg	11.55	00.00	0	1	5.34	-204.18	21.28	
	11.55	00.00	120	1a	21.11	-204.36	-6.01	
	11.55	00.00	240	1b	39.58	464.27	22.85	
1.2D + 1.6W 300 deg	11.55	00.00	0	1	4.75	232.87	-22.57	
	11.55	00.00	120	1a	36.35	-410.18	-20.99	
	11.55	00.00	240	1b	21.93	233.05	7.17	
1.2D + 1.6W 330 deg	11.55	00.00	0	1	2.72	393.40	-38.52	
	11.55	00.00	120	1a	30.17	-356.35	-20.90	
	11.55	00.00	240	1b	3.93	18.69	-4.36	
0.9D + 1.6W Normal	11.55	00.00	0	1	0.00	458.91	-45.38	
	11.55	00.00	120	1a	16.01	-208.56	-15.43	
	11.55	00.00	240	1b	-16.01	-208.56	-15.43	
0.9D + 1.6W 60 deg	11.55	00.00	0	1	-4.76	227.97	-22.26	
	11.55	00.00	120	1a	-21.66	228.15	7.01	
	11.55	00.00	240	1b	-36.60	-414.31	-21.14	
0.9D + 1.6W 90 deg	11.55	00.00	0	1	-5.74	13.95	-0.91	
	11.55	00.00	120	1a	-34.46	388.51	16.74	
	11.55	00.00	240	1b	-33.44	-360.65	-15.83	
0.9D + 1.6W 120 deg	11.55	00.00	0	1	-5.36	-208.56	21.58	
	11.55	00.00	120	1a	-39.30	459.09	22.69	
	11.55	00.00	240	1b	-21.37	-208.74	-6.15	
0.9D + 1.6W 180 deg	11.55	00.00	0	1	0.00	-414.13	42.26	
	11.55	00.00	120	1a	-16.89	227.97	15.26	
	11.55	00.00	240	1b	16.89	227.97	15.26	
0.9D + 1.6W 210 deg	11.55	00.00	0	1	3.01	-360.44	36.87	
	11.55	00.00	120	1a	2.09	13.84	5.43	

	11.55	00.00	240	1b	31.72	388.40	21.47
0.9D + 1.6W 240 deg	11.55	00.00	0	1	5.36	-208.56	21.58
	11.55	00.00	120	1a	21.37	-208.74	-6.15
	11.55	00.00	240	1b	39.30	459.09	22.69
0.9D + 1.6W 300 deg	11.55	00.00	0	1	4.76	227.97	-22.26
	11.55	00.00	120	1a	36.60	-414.31	-21.14
	11.55	00.00	240	1b	21.66	228.15	7.01
0.9D + 1.6W 330 deg	11.55	00.00	0	1	2.73	388.30	-38.21
	11.55	00.00	120	1a	30.42	-360.55	-21.05
	11.55	00.00	240	1b	3.67	14.05	-4.52
1.2D + 1.0Di + 1.0Wi Normal	11.55	00.00	0	1	0.00	183.28	-7.50
	11.55	00.00	120	1a	9.89	-14.57	-7.44
	11.55	00.00	240	1b	-9.89	-14.57	-7.44
1.2D + 1.0Di + 1.0Wi 60 deg	11.55	00.00	0	1	-1.43	116.24	-0.80
	11.55	00.00	120	1a	-1.41	116.28	-0.84
	11.55	00.00	240	1b	-16.15	-78.38	-9.33
1.2D + 1.0Di + 1.0Wi 90 deg	11.55	00.00	0	1	-1.68	51.38	5.67
	11.55	00.00	120	1a	-5.24	164.18	2.07
	11.55	00.00	240	1b	-15.12	-61.42	-7.74
1.2D + 1.0Di + 1.0Wi 120 deg	11.55	00.00	0	1	-1.50	-14.57	12.28
	11.55	00.00	120	1a	-6.50	183.32	3.75
	11.55	00.00	240	1b	-11.39	-14.60	-4.84
1.2D + 1.0Di + 1.0Wi 180 deg	11.55	00.00	0	1	0.00	-78.34	18.65
	11.55	00.00	120	1a	0.03	116.24	1.64
	11.55	00.00	240	1b	-0.03	116.24	1.64
1.2D + 1.0Di + 1.0Wi 210 deg	11.55	00.00	0	1	0.85	-61.43	16.97
	11.55	00.00	120	1a	5.75	51.36	-1.38
	11.55	00.00	240	1b	4.42	164.21	3.51
1.2D + 1.0Di + 1.0Wi 240 deg	11.55	00.00	0	1	1.50	-14.57	12.28
	11.55	00.00	120	1a	11.39	-14.60	-4.84
	11.55	00.00	240	1b	6.50	183.32	3.75
1.2D + 1.0Di + 1.0Wi 300 deg	11.55	00.00	0	1	1.43	116.24	-0.80
	11.55	00.00	120	1a	16.15	-78.38	-9.33
	11.55	00.00	240	1b	1.41	116.28	-0.84
1.2D + 1.0Di + 1.0Wi 330 deg	11.55	00.00	0	1	0.83	164.19	-5.58
	11.55	00.00	120	1a	14.27	-61.45	-9.22
	11.55	00.00	240	1b	-4.07	51.40	-4.29
(1.2 + 0.2Sds) * DL + E Normal M1	11.55	00.00	0	1	0.00	34.73	-2.59
	11.55	00.00	120	1a	-0.55	10.62	0.24
	11.55	00.00	240	1b	0.55	10.62	0.24
(1.2 + 0.2Sds) * DL + E Normal M2	11.55	00.00	0	1	0.00	30.51	-2.19
	11.55	00.00	120	1a	-0.71	12.74	0.37
	11.55	00.00	240	1b	0.71	12.74	0.37
(1.2 + 0.2Sds) * DL + E 60 deg M1	11.55	00.00	0	1	-0.07	26.70	-1.92
	11.55	00.00	120	1a	-1.70	26.70	0.91
	11.55	00.00	240	1b	-0.05	2.59	-0.03
(1.2 + 0.2Sds) * DL + E 60 deg M2	11.55	00.00	0	1	-0.03	24.58	-1.73
	11.55	00.00	120	1a	-1.51	24.58	0.84
	11.55	00.00	240	1b	0.29	6.81	0.16

(1.2 + 0.2Sds) * DL + E 90 deg M1	11.55	00.00	0	1	-0.08	18.66	-1.26
	11.55	00.00	120	1a	-2.11	32.58	1.17
	11.55	00.00	240	1b	0.08	4.74	0.09
(1.2 + 0.2Sds) * DL + E 90 deg M2	11.55	00.00	0	1	-0.04	18.66	-1.26
	11.55	00.00	120	1a	-1.80	28.92	1.02
	11.55	00.00	240	1b	0.38	8.40	0.24
(1.2 + 0.2Sds) * DL + E 120 deg M1	11.55	00.00	0	1	-0.07	10.62	-0.60
	11.55	00.00	120	1a	-2.24	34.73	1.29
	11.55	00.00	240	1b	0.49	10.62	0.36
(1.2 + 0.2Sds) * DL + E 120 deg M2	11.55	00.00	0	1	-0.03	12.74	-0.80
	11.55	00.00	120	1a	-1.90	30.51	1.10
	11.55	00.00	240	1b	0.67	12.74	0.43
(1.2 + 0.2Sds) * DL + E 180 deg M1	11.55	00.00	0	1	0.00	2.59	0.06
	11.55	00.00	120	1a	-1.63	26.70	1.02
	11.55	00.00	240	1b	1.63	26.70	1.02
(1.2 + 0.2Sds) * DL + E 180 deg M2	11.55	00.00	0	1	0.00	6.81	-0.33
	11.55	00.00	120	1a	-1.48	24.58	0.89
	11.55	00.00	240	1b	1.48	24.58	0.89
(1.2 + 0.2Sds) * DL + E 210 deg M1	11.55	00.00	0	1	0.04	4.74	-0.11
	11.55	00.00	120	1a	-1.05	18.66	0.70
	11.55	00.00	240	1b	2.07	32.58	1.24
(1.2 + 0.2Sds) * DL + E 210 deg M2	11.55	00.00	0	1	0.02	8.40	-0.45
	11.55	00.00	120	1a	-1.07	18.66	0.66
	11.55	00.00	240	1b	1.78	28.92	1.05
(1.2 + 0.2Sds) * DL + E 240 deg M1	11.55	00.00	0	1	0.07	10.62	-0.60
	11.55	00.00	120	1a	-0.49	10.62	0.36
	11.55	00.00	240	1b	2.24	34.73	1.29
(1.2 + 0.2Sds) * DL + E 240 deg M2	11.55	00.00	0	1	0.03	12.74	-0.80
	11.55	00.00	120	1a	-0.67	12.74	0.43
	11.55	00.00	240	1b	1.90	30.51	1.10
(1.2 + 0.2Sds) * DL + E 300 deg M1	11.55	00.00	0	1	0.07	26.70	-1.92
	11.55	00.00	120	1a	0.05	2.59	-0.03
	11.55	00.00	240	1b	1.70	26.70	0.91
(1.2 + 0.2Sds) * DL + E 300 deg M2	11.55	00.00	0	1	0.03	24.58	-1.73
	11.55	00.00	120	1a	-0.29	6.81	0.16
	11.55	00.00	240	1b	1.51	24.58	0.84
(1.2 + 0.2Sds) * DL + E 330 deg M1	11.55	00.00	0	1	0.04	32.58	-2.41
	11.55	00.00	120	1a	-0.12	4.74	0.02
	11.55	00.00	240	1b	1.13	18.66	0.57
(1.2 + 0.2Sds) * DL + E 330 deg M2	11.55	00.00	0	1	0.02	28.92	-2.07
	11.55	00.00	120	1a	-0.40	8.40	0.21
	11.55	00.00	240	1b	1.11	18.66	0.60
(0.9 - 0.2Sds) * DL + E Normal M1	11.55	00.00	0	1	0.00	29.09	-2.21
	11.55	00.00	120	1a	-0.22	5.01	0.05
	11.55	00.00	240	1b	0.22	5.01	0.05
(0.9 - 0.2Sds) * DL + E Normal M2	11.55	00.00	0	1	0.00	24.87	-1.81
	11.55	00.00	120	1a	-0.38	7.12	0.18
	11.55	00.00	240	1b	0.38	7.12	0.18

(0.9 - 0.2Sds) * DL + E 60 deg M1	11.55	00.00	0	1	-0.07	21.06	-1.54
	11.55	00.00	120	1a	-1.37	21.06	0.71
	11.55	00.00	240	1b	-0.38	-3.01	-0.22
(0.9 - 0.2Sds) * DL + E 60 deg M2	11.55	00.00	0	1	-0.03	18.95	-1.35
	11.55	00.00	120	1a	-1.18	18.95	0.65
	11.55	00.00	240	1b	-0.04	1.21	-0.03
(0.9 - 0.2Sds) * DL + E 90 deg M1	11.55	00.00	0	1	-0.08	13.04	-0.88
	11.55	00.00	120	1a	-1.78	26.94	0.98
	11.55	00.00	240	1b	-0.25	-0.86	-0.10
(0.9 - 0.2Sds) * DL + E 90 deg M2	11.55	00.00	0	1	-0.04	13.04	-0.88
	11.55	00.00	120	1a	-1.47	23.28	0.83
	11.55	00.00	240	1b	0.05	2.79	0.05
(0.9 - 0.2Sds) * DL + E 120 deg M1	11.55	00.00	0	1	-0.07	5.01	-0.22
	11.55	00.00	120	1a	-1.91	29.09	1.10
	11.55	00.00	240	1b	0.16	5.01	0.17
(0.9 - 0.2Sds) * DL + E 120 deg M2	11.55	00.00	0	1	-0.03	7.12	-0.42
	11.55	00.00	120	1a	-1.57	24.87	0.91
	11.55	00.00	240	1b	0.34	7.12	0.24
(0.9 - 0.2Sds) * DL + E 180 deg M1	11.55	00.00	0	1	0.00	-3.01	0.44
	11.55	00.00	120	1a	-1.30	21.06	0.83
	11.55	00.00	240	1b	1.30	21.06	0.83
(0.9 - 0.2Sds) * DL + E 180 deg M2	11.55	00.00	0	1	0.00	1.21	0.05
	11.55	00.00	120	1a	-1.15	18.95	0.70
	11.55	00.00	240	1b	1.15	18.95	0.70
(0.9 - 0.2Sds) * DL + E 210 deg M1	11.55	00.00	0	1	0.04	-0.86	0.27
	11.55	00.00	120	1a	-0.73	13.04	0.51
	11.55	00.00	240	1b	1.74	26.94	1.05
(0.9 - 0.2Sds) * DL + E 210 deg M2	11.55	00.00	0	1	0.02	2.79	-0.07
	11.55	00.00	120	1a	-0.74	13.04	0.47
	11.55	00.00	240	1b	1.45	23.28	0.86
(0.9 - 0.2Sds) * DL + E 240 deg M1	11.55	00.00	0	1	0.07	5.01	-0.22
	11.55	00.00	120	1a	-0.16	5.01	0.17
	11.55	00.00	240	1b	1.91	29.09	1.10
(0.9 - 0.2Sds) * DL + E 240 deg M2	11.55	00.00	0	1	0.03	7.12	-0.42
	11.55	00.00	120	1a	-0.34	7.12	0.24
	11.55	00.00	240	1b	1.57	24.87	0.91
(0.9 - 0.2Sds) * DL + E 300 deg M1	11.55	00.00	0	1	0.07	21.06	-1.54
	11.55	00.00	120	1a	0.38	-3.01	-0.22
	11.55	00.00	240	1b	1.37	21.06	0.71
(0.9 - 0.2Sds) * DL + E 300 deg M2	11.55	00.00	0	1	0.03	18.95	-1.35
	11.55	00.00	120	1a	0.04	1.21	-0.03
	11.55	00.00	240	1b	1.18	18.95	0.65
(0.9 - 0.2Sds) * DL + E 330 deg M1	11.55	00.00	0	1	0.04	26.94	-2.03
	11.55	00.00	120	1a	0.21	-0.86	-0.17
	11.55	00.00	240	1b	0.80	13.04	0.37
(0.9 - 0.2Sds) * DL + E 330 deg M2	11.55	00.00	0	1	0.02	23.28	-1.69
	11.55	00.00	120	1a	-0.07	2.79	0.02
	11.55	00.00	240	1b	0.78	13.04	0.41
1.0D + 1.0W Service Normal	11.55	00.00	0	1	0.00	114.94	-11.03

	11.55	00.00	120	1a	2.87	-34.25	-3.01
	11.55	00.00	240	1b	-2.87	-34.25	-3.01
1.0D + 1.0W Service 60 deg	11.55	00.00	0	1	-1.09	63.40	-5.82
	11.55	00.00	120	1a	-5.58	63.44	1.96
	11.55	00.00	240	1b	-7.44	-80.38	-4.30
1.0D + 1.0W Service 90 deg	11.55	00.00	0	1	-1.29	15.48	-1.02
	11.55	00.00	120	1a	-8.47	99.24	4.15
	11.55	00.00	240	1b	-6.73	-68.28	-3.13
1.0D + 1.0W Service 120 deg	11.55	00.00	0	1	-1.17	-34.30	4.00
	11.55	00.00	120	1a	-9.56	115.08	5.52
	11.55	00.00	240	1b	-4.05	-34.34	-0.98
1.0D + 1.0W Service 180 deg	11.55	00.00	0	1	0.00	-80.25	8.58
	11.55	00.00	120	1a	-4.49	63.35	3.85
	11.55	00.00	240	1b	4.49	63.35	3.85
1.0D + 1.0W Service 210 deg	11.55	00.00	0	1	0.65	-68.31	7.39
	11.55	00.00	120	1a	-0.24	15.46	1.63
	11.55	00.00	240	1b	7.84	99.30	5.26
1.0D + 1.0W Service 240 deg	11.55	00.00	0	1	1.17	-34.30	4.00
	11.55	00.00	120	1a	4.05	-34.34	-0.98
	11.55	00.00	240	1b	9.56	115.08	5.52
1.0D + 1.0W Service 300 deg	11.55	00.00	0	1	1.09	63.40	-5.82
	11.55	00.00	120	1a	7.44	-80.38	-4.30
	11.55	00.00	240	1b	5.58	63.44	1.96
1.0D + 1.0W Service 330 deg	11.55	00.00	0	1	0.64	99.20	-9.41
	11.55	00.00	120	1a	6.07	-68.25	-4.26
	11.55	00.00	240	1b	1.53	15.51	-0.60

Max Uplift:	414.31 (kip)	Moment Ice:	2,285.18 (kip-ft)	Moment:	7,719.67 (kip-ft)	1.2D + 1.6W 240 deg
Max Down:	464.27 (kip)	Total Down Ice:	154.14 (kip)	Total Down:	55.74 (kip)	
Max Shear:	45.70 (kip)	Total Shear Ice:	22.39 (kip)	Total Shear:	76.25 (kip)	

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
101 mph Normal with No Ice	13.21	0.017	0.0051	0.1094	0.1096
101 mph Normal with No Ice	20.00	0.032	0.0066	0.1585	0.1585
101 mph Normal with No Ice	60.00	0.220	0.0165	0.4153	0.4153
101 mph Normal with No Ice	80.00	0.380	0.0207	0.5400	0.5400
101 mph Normal with No Ice	86.79	0.445	0.0222	0.5634	0.5639
101 mph Normal with No Ice	139.63	1.139	0.0349	1.0196	1.0196
101 mph Normal with No Ice	140.38	1.153	0.0349	1.0306	1.0306
101 mph Normal with No Ice	146.92	1.264	0.0349	0.9852	0.9859
101 mph Normal with No Ice	166.54	1.628	0.0364	1.1812	1.1812
101 mph Normal with No Ice	173.08	1.758	0.0375	1.1580	1.1586
101 mph Normal with No Ice	179.63	1.891	0.0370	1.1766	1.1766
101 mph Normal with No Ice	185.49	2.009	0.0382	1.1594	1.1600
101 mph Normal with No Ice	190.60	2.113	0.0378	1.1696	1.1696
101 mph 60 degree with No Ice	13.21	0.016	-0.0048	0.1048	0.1049
101 mph 60 degree with No Ice	20.00	0.031	-0.0063	0.1518	0.1518
101 mph 60 degree with No Ice	60.00	0.212	-0.0160	0.4002	0.4002
101 mph 60 degree with No Ice	80.00	0.366	-0.0202	0.5208	0.5208
101 mph 60 degree with No Ice	86.79	0.429	-0.0215	0.5445	0.5447
101 mph 60 degree with No Ice	139.63	1.101	-0.0356	0.9858	0.9859
101 mph 60 degree with No Ice	140.38	1.115	-0.0357	0.9965	0.9966
101 mph 60 degree with No Ice	146.92	1.223	-0.0353	0.9566	0.9570
101 mph 60 degree with No Ice	166.54	1.576	-0.0497	1.0968	1.0974
101 mph 60 degree with No Ice	173.08	1.703	-0.0680	1.0775	1.0796
101 mph 60 degree with No Ice	179.63	1.831	-0.0844	1.4264	1.4283
101 mph 60 degree with No Ice	185.49	1.950	-0.0872	1.0720	1.0755
101 mph 60 degree with No Ice	190.60	2.050	-0.0865	1.1663	1.1687
101 mph 90 degree with No Ice	13.21	0.016	-0.0054	0.1086	0.1087
101 mph 90 degree with No Ice	20.00	0.031	-0.0070	0.1512	0.1513
101 mph 90 degree with No Ice	60.00	0.214	-0.0167	0.4014	0.4015
101 mph 90 degree with No Ice	80.00	0.369	-0.0208	0.5217	0.5218
101 mph 90 degree with No Ice	86.79	0.432	-0.0219	0.5494	0.5498
101 mph 90 degree with No Ice	139.63	1.111	-0.0311	0.9853	0.9855
101 mph 90 degree with No Ice	140.38	1.124	-0.0310	0.9943	0.9944
101 mph 90 degree with No Ice	146.92	1.233	-0.0286	0.9692	0.9696
101 mph 90 degree with No Ice	166.54	1.590	-0.0259	1.0857	1.0858
101 mph 90 degree with No Ice	173.08	1.717	-0.0259	1.0816	1.0819
101 mph 90 degree with No Ice	179.63	1.849	-0.0257	1.4950	1.4951
101 mph 90 degree with No Ice	185.49	1.968	-0.0258	1.0719	1.0722
101 mph 90 degree with No Ice	190.60	2.070	-0.0257	1.1860	1.1861
101 mph 120 degree with No Ice	13.21	0.017	0.0052	0.1095	0.1096
101 mph 120 degree with No Ice	20.00	0.032	0.0068	0.1585	0.1585
101 mph 120 degree with No Ice	60.00	0.220	0.0171	0.4154	0.4154
101 mph 120 degree with No Ice	80.00	0.380	0.0216	0.5403	0.5403
101 mph 120 degree with No Ice	86.79	0.445	0.0233	0.5640	0.5642
101 mph 120 degree with No Ice	139.63	1.140	0.0391	1.0206	1.0206
101 mph 120 degree with No Ice	140.38	1.153	0.0392	1.0316	1.0316
101 mph 120 degree with No Ice	146.92	1.265	0.0406	0.9886	0.9887
101 mph 120 degree with No Ice	166.54	1.630	0.0557	1.1332	1.1335
101 mph 120 degree with No Ice	173.08	1.761	0.0750	1.1141	1.1144
101 mph 120 degree with No Ice	179.63	1.895	0.0880	1.4706	1.4718
101 mph 120 degree with No Ice	185.49	2.016	0.0933	1.1079	1.1111
101 mph 120 degree with No Ice	190.60	2.121	0.0918	1.2054	1.2071
101 mph 180 degree with No Ice	13.21	0.016	0.0048	0.1047	0.1048
101 mph 180 degree with No Ice	20.00	0.031	0.0063	0.1519	0.1519
101 mph 180 degree with No Ice	60.00	0.212	0.0157	0.4001	0.4001

101 mph 180 degree with No Ice	80.00	0.366	0.0197	0.5206	0.5206
101 mph 180 degree with No Ice	86.79	0.429	0.0210	0.5440	0.5444
101 mph 180 degree with No Ice	139.63	1.101	0.0332	0.9847	0.9847
101 mph 180 degree with No Ice	140.38	1.114	0.0333	0.9955	0.9955
101 mph 180 degree with No Ice	146.92	1.222	0.0320	0.9539	0.9544
101 mph 180 degree with No Ice	166.54	1.574	0.0318	1.1450	1.1450
101 mph 180 degree with No Ice	173.08	1.701	0.0308	1.1218	1.1223
101 mph 180 degree with No Ice	179.63	1.828	0.0312	1.1347	1.1347
101 mph 180 degree with No Ice	185.49	1.943	0.0301	1.1241	1.1245
101 mph 180 degree with No Ice	190.60	2.043	0.0305	1.1312	1.1312
101 mph 210 degree with No Ice	13.21	0.016	0.0026	0.1086	0.1087
101 mph 210 degree with No Ice	20.00	0.031	0.0034	0.1513	0.1513
101 mph 210 degree with No Ice	60.00	0.214	0.0080	0.4013	0.4013
101 mph 210 degree with No Ice	80.00	0.369	0.0099	0.5214	0.5215
101 mph 210 degree with No Ice	86.79	0.432	0.0102	0.5489	0.5495
101 mph 210 degree with No Ice	139.63	1.110	0.0127	0.9844	0.9844
101 mph 210 degree with No Ice	140.38	1.123	0.0126	0.9933	0.9934
101 mph 210 degree with No Ice	146.92	1.232	0.0098	0.9658	0.9669
101 mph 210 degree with No Ice	166.54	1.588	-0.0153	1.1370	1.1370
101 mph 210 degree with No Ice	173.08	1.715	-0.0338	1.1257	1.1286
101 mph 210 degree with No Ice	179.63	1.845	-0.0506	1.2329	1.2336
101 mph 210 degree with No Ice	185.49	1.961	-0.0533	1.1242	1.1285
101 mph 210 degree with No Ice	190.60	2.062	-0.0527	1.1504	1.1516
101 mph 240 degree with No Ice	13.21	0.017	0.0046	0.1095	0.1096
101 mph 240 degree with No Ice	20.00	0.032	0.0059	0.1585	0.1585
101 mph 240 degree with No Ice	60.00	0.220	0.0131	0.4154	0.4154
101 mph 240 degree with No Ice	80.00	0.380	0.0161	0.5403	0.5403
101 mph 240 degree with No Ice	86.79	0.445	0.0166	0.5640	0.5642
101 mph 240 degree with No Ice	139.63	1.140	0.0184	1.0206	1.0206
101 mph 240 degree with No Ice	140.38	1.153	0.0180	1.0316	1.0316
101 mph 240 degree with No Ice	146.92	1.265	0.0141	0.9886	0.9887
101 mph 240 degree with No Ice	166.54	1.630	-0.0055	1.1332	1.1335
101 mph 240 degree with No Ice	173.08	1.761	-0.0245	1.1141	1.1144
101 mph 240 degree with No Ice	179.63	1.895	-0.0417	1.4706	1.4718
101 mph 240 degree with No Ice	185.49	2.016	-0.0446	1.1079	1.1111
101 mph 240 degree with No Ice	190.60	2.121	-0.0439	1.2054	1.2071
101 mph 300 degree with No Ice	13.21	0.016	0.0048	0.1048	0.1049
101 mph 300 degree with No Ice	20.00	0.031	0.0063	0.1518	0.1518
101 mph 300 degree with No Ice	60.00	0.212	0.0160	0.4002	0.4002
101 mph 300 degree with No Ice	80.00	0.366	0.0202	0.5208	0.5208
101 mph 300 degree with No Ice	86.79	0.429	0.0215	0.5445	0.5447
101 mph 300 degree with No Ice	139.63	1.101	0.0356	0.9858	0.9859
101 mph 300 degree with No Ice	140.38	1.115	0.0357	0.9965	0.9966
101 mph 300 degree with No Ice	146.92	1.223	0.0353	0.9566	0.9570
101 mph 300 degree with No Ice	166.54	1.576	0.0497	1.0968	1.0974
101 mph 300 degree with No Ice	173.08	1.703	0.0680	1.0775	1.0796
101 mph 300 degree with No Ice	179.63	1.831	0.0844	1.4264	1.4283
101 mph 300 degree with No Ice	185.49	1.950	0.0872	1.0720	1.0755
101 mph 300 degree with No Ice	190.60	2.050	0.0865	1.1663	1.1687
101 mph 330 degree with No Ice	13.21	0.016	0.0032	0.1086	0.1087
101 mph 330 degree with No Ice	20.00	0.031	0.0042	0.1513	0.1513
101 mph 330 degree with No Ice	60.00	0.214	0.0115	0.4012	0.4014
101 mph 330 degree with No Ice	80.00	0.369	0.0147	0.5214	0.5215
101 mph 330 degree with No Ice	86.79	0.432	0.0163	0.5491	0.5495
101 mph 330 degree with No Ice	139.63	1.110	0.0312	0.9841	0.9844
101 mph 330 degree with No Ice	140.38	1.123	0.0314	0.9930	0.9933
101 mph 330 degree with No Ice	146.92	1.232	0.0344	0.9668	0.9671
101 mph 330 degree with No Ice	166.54	1.588	0.0534	1.1375	1.1387
101 mph 330 degree with No Ice	173.08	1.716	0.0736	1.1259	1.1260
101 mph 330 degree with No Ice	179.63	1.845	0.0886	1.2367	1.2398
101 mph 330 degree with No Ice	185.49	1.961	0.0938	1.1241	1.1245
101 mph 330 degree with No Ice	190.60	2.062	0.0923	1.1505	1.1532

101 mph Normal with No Ice (Reduced DL)	13.21	0.017	0.0051	0.1093	0.1095
101 mph Normal with No Ice (Reduced DL)	20.00	0.032	0.0066	0.1585	0.1585
101 mph Normal with No Ice (Reduced DL)	60.00	0.220	0.0164	0.4147	0.4147
101 mph Normal with No Ice (Reduced DL)	80.00	0.379	0.0206	0.5392	0.5392
101 mph Normal with No Ice (Reduced DL)	86.79	0.444	0.0221	0.5625	0.5629
101 mph Normal with No Ice (Reduced DL)	139.63	1.137	0.0349	1.0174	1.0174
101 mph Normal with No Ice (Reduced DL)	140.38	1.151	0.0349	1.0283	1.0283
101 mph Normal with No Ice (Reduced DL)	146.92	1.262	0.0349	0.9832	0.9838
101 mph Normal with No Ice (Reduced DL)	166.54	1.625	0.0363	1.1787	1.1787
101 mph Normal with No Ice (Reduced DL)	173.08	1.755	0.0374	1.1554	1.1561
101 mph Normal with No Ice (Reduced DL)	179.63	1.888	0.0369	1.1740	1.1740
101 mph Normal with No Ice (Reduced DL)	185.49	2.006	0.0381	1.1569	1.1575
101 mph Normal with No Ice (Reduced DL)	190.60	2.109	0.0377	1.1669	1.1669
101 mph 60 deg with No Ice (Reduced DL)	13.21	0.016	-0.0048	0.1047	0.1048
101 mph 60 deg with No Ice (Reduced DL)	20.00	0.031	-0.0063	0.1517	0.1517
101 mph 60 deg with No Ice (Reduced DL)	60.00	0.212	-0.0159	0.3996	0.3996
101 mph 60 deg with No Ice (Reduced DL)	80.00	0.366	-0.0201	0.5200	0.5200
101 mph 60 deg with No Ice (Reduced DL)	86.79	0.428	-0.0215	0.5436	0.5438
101 mph 60 deg with No Ice (Reduced DL)	139.63	1.100	-0.0355	0.9838	0.9839
101 mph 60 deg with No Ice (Reduced DL)	140.38	1.113	-0.0357	0.9944	0.9945
101 mph 60 deg with No Ice (Reduced DL)	146.92	1.221	-0.0353	0.9546	0.9549
101 mph 60 deg with No Ice (Reduced DL)	166.54	1.573	-0.0496	1.0942	1.0948
101 mph 60 deg with No Ice (Reduced DL)	173.08	1.700	-0.0679	1.0751	1.0773
101 mph 60 deg with No Ice (Reduced DL)	179.63	1.828	-0.0843	1.4226	1.4245
101 mph 60 deg with No Ice (Reduced DL)	185.49	1.946	-0.0871	1.0696	1.0731
101 mph 60 deg with No Ice (Reduced DL)	190.60	2.046	-0.0864	1.1636	1.1660
101 mph 90 deg with No Ice (Reduced DL)	13.21	0.016	-0.0054	0.1085	0.1087
101 mph 90 deg with No Ice (Reduced DL)	20.00	0.031	-0.0070	0.1512	0.1512
101 mph 90 deg with No Ice (Reduced DL)	60.00	0.214	-0.0166	0.4009	0.4010
101 mph 90 deg with No Ice (Reduced DL)	80.00	0.369	-0.0207	0.5208	0.5209
101 mph 90 deg with No Ice (Reduced DL)	86.79	0.432	-0.0219	0.5485	0.5489
101 mph 90 deg with No Ice (Reduced DL)	139.63	1.109	-0.0311	0.9832	0.9834
101 mph 90 deg with No Ice (Reduced DL)	140.38	1.122	-0.0310	0.9922	0.9923
101 mph 90 deg with No Ice (Reduced DL)	146.92	1.231	-0.0285	0.9671	0.9675
101 mph 90 deg with No Ice (Reduced DL)	166.54	1.587	-0.0259	1.0831	1.0832
101 mph 90 deg with No Ice (Reduced DL)	173.08	1.714	-0.0259	1.0792	1.0795
101 mph 90 deg with No Ice (Reduced DL)	179.63	1.845	-0.0258	1.4913	1.4913
101 mph 90 deg with No Ice (Reduced DL)	185.49	1.965	-0.0258	1.0695	1.0698
101 mph 90 deg with No Ice (Reduced DL)	190.60	2.066	-0.0258	1.1833	1.1834
101 mph 120 deg with No Ice (Reduced DL)	13.21	0.017	0.0052	0.1094	0.1095
101 mph 120 deg with No Ice (Reduced DL)	20.00	0.032	0.0068	0.1584	0.1584
101 mph 120 deg with No Ice (Reduced DL)	60.00	0.220	0.0171	0.4148	0.4148
101 mph 120 deg with No Ice (Reduced DL)	80.00	0.379	0.0215	0.5394	0.5394
101 mph 120 deg with No Ice (Reduced DL)	86.79	0.444	0.0232	0.5630	0.5633
101 mph 120 deg with No Ice (Reduced DL)	139.63	1.138	0.0391	1.0184	1.0184
101 mph 120 deg with No Ice (Reduced DL)	140.38	1.151	0.0392	1.0294	1.0294
101 mph 120 deg with No Ice (Reduced DL)	146.92	1.263	0.0405	0.9865	0.9866
101 mph 120 deg with No Ice (Reduced DL)	166.54	1.628	0.0556	1.1307	1.1309
101 mph 120 deg with No Ice (Reduced DL)	173.08	1.757	0.0749	1.1116	1.1119
101 mph 120 deg with No Ice (Reduced DL)	179.63	1.891	0.0879	1.4678	1.4691
101 mph 120 deg with No Ice (Reduced DL)	185.49	2.013	0.0931	1.1055	1.1087
101 mph 120 deg with No Ice (Reduced DL)	190.60	2.117	0.0916	1.2027	1.2044
101 mph 180 deg with No Ice (Reduced DL)	13.21	0.016	0.0048	0.1047	0.1048
101 mph 180 deg with No Ice (Reduced DL)	20.00	0.031	0.0063	0.1517	0.1517
101 mph 180 deg with No Ice (Reduced DL)	60.00	0.212	0.0157	0.3995	0.3995
101 mph 180 deg with No Ice (Reduced DL)	80.00	0.366	0.0197	0.5198	0.5198
101 mph 180 deg with No Ice (Reduced DL)	86.79	0.428	0.0210	0.5430	0.5434
101 mph 180 deg with No Ice (Reduced DL)	139.63	1.099	0.0332	0.9827	0.9827
101 mph 180 deg with No Ice (Reduced DL)	140.38	1.112	0.0332	0.9934	0.9934
101 mph 180 deg with No Ice (Reduced DL)	146.92	1.219	0.0320	0.9518	0.9524
101 mph 180 deg with No Ice (Reduced DL)	166.54	1.571	0.0317	1.1424	1.1424
101 mph 180 deg with No Ice (Reduced DL)	173.08	1.697	0.0307	1.1195	1.1199

101 mph 180 deg with No Ice (Reduced DL)	179.63	1.824	0.0312	1.1310	1.1310
101 mph 180 deg with No Ice (Reduced DL)	185.49	1.939	0.0301	1.1217	1.1221
101 mph 180 deg with No Ice (Reduced DL)	190.60	2.039	0.0304	1.1285	1.1285
101 mph 210 deg with No Ice (Reduced DL)	13.21	0.016	0.0026	0.1085	0.1086
101 mph 210 deg with No Ice (Reduced DL)	20.00	0.031	0.0034	0.1512	0.1512
101 mph 210 deg with No Ice (Reduced DL)	60.00	0.214	0.0080	0.4007	0.4008
101 mph 210 deg with No Ice (Reduced DL)	80.00	0.369	0.0099	0.5205	0.5206
101 mph 210 deg with No Ice (Reduced DL)	86.79	0.432	0.0102	0.5479	0.5486
101 mph 210 deg with No Ice (Reduced DL)	139.63	1.108	0.0127	0.9822	0.9823
101 mph 210 deg with No Ice (Reduced DL)	140.38	1.122	0.0126	0.9912	0.9913
101 mph 210 deg with No Ice (Reduced DL)	146.92	1.230	0.0098	0.9638	0.9649
101 mph 210 deg with No Ice (Reduced DL)	166.54	1.585	-0.0152	1.1346	1.1346
101 mph 210 deg with No Ice (Reduced DL)	173.08	1.712	-0.0337	1.1233	1.1261
101 mph 210 deg with No Ice (Reduced DL)	179.63	1.842	-0.0504	1.2304	1.2311
101 mph 210 deg with No Ice (Reduced DL)	185.49	1.958	-0.0532	1.1217	1.1260
101 mph 210 deg with No Ice (Reduced DL)	190.60	2.058	-0.0525	1.1477	1.1489
101 mph 240 deg with No Ice (Reduced DL)	13.21	0.017	0.0046	0.1094	0.1095
101 mph 240 deg with No Ice (Reduced DL)	20.00	0.032	0.0059	0.1584	0.1584
101 mph 240 deg with No Ice (Reduced DL)	60.00	0.220	0.0131	0.4148	0.4148
101 mph 240 deg with No Ice (Reduced DL)	80.00	0.379	0.0161	0.5394	0.5394
101 mph 240 deg with No Ice (Reduced DL)	86.79	0.444	0.0166	0.5630	0.5633
101 mph 240 deg with No Ice (Reduced DL)	139.63	1.138	0.0184	1.0184	1.0184
101 mph 240 deg with No Ice (Reduced DL)	140.38	1.151	0.0180	1.0294	1.0294
101 mph 240 deg with No Ice (Reduced DL)	146.92	1.263	0.0141	0.9865	0.9866
101 mph 240 deg with No Ice (Reduced DL)	166.54	1.628	-0.0054	1.1307	1.1309
101 mph 240 deg with No Ice (Reduced DL)	173.08	1.757	-0.0244	1.1116	1.1119
101 mph 240 deg with No Ice (Reduced DL)	179.63	1.891	-0.0416	1.4678	1.4691
101 mph 240 deg with No Ice (Reduced DL)	185.49	2.013	-0.0444	1.1055	1.1087
101 mph 240 deg with No Ice (Reduced DL)	190.60	2.117	-0.0437	1.2027	1.2044
101 mph 300 deg with No Ice (Reduced DL)	13.21	0.016	0.0048	0.1047	0.1048
101 mph 300 deg with No Ice (Reduced DL)	20.00	0.031	0.0063	0.1517	0.1517
101 mph 300 deg with No Ice (Reduced DL)	60.00	0.212	0.0159	0.3996	0.3996
101 mph 300 deg with No Ice (Reduced DL)	80.00	0.366	0.0201	0.5200	0.5200
101 mph 300 deg with No Ice (Reduced DL)	86.79	0.428	0.0215	0.5436	0.5438
101 mph 300 deg with No Ice (Reduced DL)	139.63	1.100	0.0355	0.9838	0.9839
101 mph 300 deg with No Ice (Reduced DL)	140.38	1.113	0.0357	0.9944	0.9945
101 mph 300 deg with No Ice (Reduced DL)	146.92	1.221	0.0353	0.9546	0.9549
101 mph 300 deg with No Ice (Reduced DL)	166.54	1.573	0.0496	1.0942	1.0948
101 mph 300 deg with No Ice (Reduced DL)	173.08	1.700	0.0679	1.0751	1.0773
101 mph 300 deg with No Ice (Reduced DL)	179.63	1.828	0.0843	1.4226	1.4245
101 mph 300 deg with No Ice (Reduced DL)	185.49	1.946	0.0871	1.0696	1.0731
101 mph 300 deg with No Ice (Reduced DL)	190.60	2.046	0.0864	1.1636	1.1660
101 mph 330 deg with No Ice (Reduced DL)	13.21	0.016	0.0032	0.1085	0.1087
101 mph 330 deg with No Ice (Reduced DL)	20.00	0.031	0.0042	0.1512	0.1513
101 mph 330 deg with No Ice (Reduced DL)	60.00	0.214	0.0115	0.4007	0.4008
101 mph 330 deg with No Ice (Reduced DL)	80.00	0.369	0.0147	0.5205	0.5207
101 mph 330 deg with No Ice (Reduced DL)	86.79	0.432	0.0162	0.5482	0.5486
101 mph 330 deg with No Ice (Reduced DL)	139.63	1.108	0.0311	0.9820	0.9823
101 mph 330 deg with No Ice (Reduced DL)	140.38	1.122	0.0314	0.9909	0.9912
101 mph 330 deg with No Ice (Reduced DL)	146.92	1.230	0.0343	0.9647	0.9650
101 mph 330 deg with No Ice (Reduced DL)	166.54	1.585	0.0532	1.1349	1.1361
101 mph 330 deg with No Ice (Reduced DL)	173.08	1.712	0.0734	1.1235	1.1235
101 mph 330 deg with No Ice (Reduced DL)	179.63	1.842	0.0884	1.2330	1.2362
101 mph 330 deg with No Ice (Reduced DL)	185.49	1.958	0.0935	1.1216	1.1220
101 mph 330 deg with No Ice (Reduced DL)	190.60	2.058	0.0921	1.1479	1.1505
50 mph Normal with 0.75 in Radial Ice	13.21	0.006	0.0015	0.0355	0.0355
50 mph Normal with 0.75 in Radial Ice	20.00	0.010	0.0020	0.0461	0.0461
50 mph Normal with 0.75 in Radial Ice	60.00	0.066	0.0049	0.1229	0.1229
50 mph Normal with 0.75 in Radial Ice	80.00	0.113	0.0061	0.1601	0.1601
50 mph Normal with 0.75 in Radial Ice	86.79	0.132	0.0066	0.1667	0.1668
50 mph Normal with 0.75 in Radial Ice	139.63	0.336	0.0102	0.2970	0.2970
50 mph Normal with 0.75 in Radial Ice	140.38	0.340	0.0102	0.3000	0.3000

50 mph Normal with 0.75 in Radial Ice	146.92	0.372	0.0101	0.2864	0.2866
50 mph Normal with 0.75 in Radial Ice	166.54	0.478	0.0103	0.3395	0.3395
50 mph Normal with 0.75 in Radial Ice	173.08	0.516	0.0103	0.3334	0.3336
50 mph Normal with 0.75 in Radial Ice	179.63	0.554	0.0102	0.3534	0.3534
50 mph Normal with 0.75 in Radial Ice	185.49	0.589	0.0102	0.3334	0.3336
50 mph Normal with 0.75 in Radial Ice	190.60	0.619	0.0102	0.3424	0.3424
50 mph 60 deg with 0.75 in Radial Ice	13.21	0.007	-0.0014	0.0347	0.0348
50 mph 60 deg with 0.75 in Radial Ice	20.00	0.011	-0.0019	0.0472	0.0472
50 mph 60 deg with 0.75 in Radial Ice	60.00	0.066	-0.0046	0.1216	0.1216
50 mph 60 deg with 0.75 in Radial Ice	80.00	0.112	-0.0057	0.1574	0.1574
50 mph 60 deg with 0.75 in Radial Ice	86.79	0.131	-0.0061	0.1643	0.1644
50 mph 60 deg with 0.75 in Radial Ice	139.63	0.331	-0.0091	0.2924	0.2924
50 mph 60 deg with 0.75 in Radial Ice	140.38	0.335	-0.0091	0.2956	0.2956
50 mph 60 deg with 0.75 in Radial Ice	146.92	0.367	-0.0086	0.2833	0.2835
50 mph 60 deg with 0.75 in Radial Ice	166.54	0.471	-0.0091	0.3264	0.3264
50 mph 60 deg with 0.75 in Radial Ice	173.08	0.509	-0.0102	0.3194	0.3196
50 mph 60 deg with 0.75 in Radial Ice	179.63	0.547	-0.0111	0.4215	0.4216
50 mph 60 deg with 0.75 in Radial Ice	185.49	0.582	-0.0111	0.3190	0.3192
50 mph 60 deg with 0.75 in Radial Ice	190.60	0.612	-0.0111	0.3455	0.3455
50 mph 90 deg with 0.75 in Radial Ice	13.21	0.007	-0.0017	0.0351	0.0352
50 mph 90 deg with 0.75 in Radial Ice	20.00	0.011	-0.0022	0.0466	0.0466
50 mph 90 deg with 0.75 in Radial Ice	60.00	0.066	-0.0052	0.1212	0.1212
50 mph 90 deg with 0.75 in Radial Ice	80.00	0.112	-0.0065	0.1569	0.1569
50 mph 90 deg with 0.75 in Radial Ice	86.79	0.131	-0.0068	0.1649	0.1650
50 mph 90 deg with 0.75 in Radial Ice	139.63	0.332	-0.0099	0.2908	0.2909
50 mph 90 deg with 0.75 in Radial Ice	140.38	0.336	-0.0098	0.2933	0.2934
50 mph 90 deg with 0.75 in Radial Ice	146.92	0.368	-0.0092	0.2852	0.2854
50 mph 90 deg with 0.75 in Radial Ice	166.54	0.473	-0.0086	0.3228	0.3228
50 mph 90 deg with 0.75 in Radial Ice	173.08	0.511	-0.0085	0.3206	0.3207
50 mph 90 deg with 0.75 in Radial Ice	179.63	0.549	-0.0084	0.4320	0.4320
50 mph 90 deg with 0.75 in Radial Ice	185.49	0.584	-0.0083	0.3186	0.3187
50 mph 90 deg with 0.75 in Radial Ice	190.60	0.614	-0.0082	0.3480	0.3480
50 mph 120 deg with 0.75 in Radial Ice	13.21	0.006	0.0015	0.0355	0.0355
50 mph 120 deg with 0.75 in Radial Ice	20.00	0.010	0.0020	0.0461	0.0461
50 mph 120 deg with 0.75 in Radial Ice	60.00	0.066	0.0048	0.1229	0.1229
50 mph 120 deg with 0.75 in Radial Ice	80.00	0.113	0.0060	0.1602	0.1602
50 mph 120 deg with 0.75 in Radial Ice	86.79	0.132	0.0064	0.1668	0.1669
50 mph 120 deg with 0.75 in Radial Ice	139.63	0.336	0.0097	0.2972	0.2972
50 mph 120 deg with 0.75 in Radial Ice	140.38	0.340	0.0097	0.3002	0.3002
50 mph 120 deg with 0.75 in Radial Ice	146.92	0.372	0.0096	0.2870	0.2871
50 mph 120 deg with 0.75 in Radial Ice	166.54	0.478	0.0103	0.3293	0.3293
50 mph 120 deg with 0.75 in Radial Ice	173.08	0.516	0.0114	0.3244	0.3245
50 mph 120 deg with 0.75 in Radial Ice	179.63	0.555	0.0121	0.4132	0.4132
50 mph 120 deg with 0.75 in Radial Ice	185.49	0.590	0.0123	0.3227	0.3229
50 mph 120 deg with 0.75 in Radial Ice	190.60	0.621	0.0122	0.3497	0.3497
50 mph 180 deg with 0.75 in Radial Ice	13.21	0.007	0.0015	0.0347	0.0348
50 mph 180 deg with 0.75 in Radial Ice	20.00	0.011	0.0020	0.0472	0.0472
50 mph 180 deg with 0.75 in Radial Ice	60.00	0.066	0.0048	0.1216	0.1216
50 mph 180 deg with 0.75 in Radial Ice	80.00	0.112	0.0060	0.1574	0.1574
50 mph 180 deg with 0.75 in Radial Ice	86.79	0.131	0.0064	0.1642	0.1643
50 mph 180 deg with 0.75 in Radial Ice	139.63	0.331	0.0101	0.2922	0.2922
50 mph 180 deg with 0.75 in Radial Ice	140.38	0.335	0.0101	0.2954	0.2954
50 mph 180 deg with 0.75 in Radial Ice	146.92	0.367	0.0098	0.2828	0.2829
50 mph 180 deg with 0.75 in Radial Ice	166.54	0.471	0.0099	0.3366	0.3366
50 mph 180 deg with 0.75 in Radial Ice	173.08	0.509	0.0098	0.3285	0.3286
50 mph 180 deg with 0.75 in Radial Ice	179.63	0.546	0.0098	0.3619	0.3619
50 mph 180 deg with 0.75 in Radial Ice	185.49	0.581	0.0097	0.3297	0.3299
50 mph 180 deg with 0.75 in Radial Ice	190.60	0.610	0.0097	0.3382	0.3382
50 mph 210 deg with 0.75 in Radial Ice	13.21	0.007	0.0009	0.0352	0.0352
50 mph 210 deg with 0.75 in Radial Ice	20.00	0.011	0.0011	0.0466	0.0466
50 mph 210 deg with 0.75 in Radial Ice	60.00	0.066	0.0028	0.1212	0.1212
50 mph 210 deg with 0.75 in Radial Ice	80.00	0.112	0.0035	0.1569	0.1570

50 mph 210 deg with 0.75 in Radial Ice	86.79	0.131	0.0038	0.1649	0.1650
50 mph 210 deg with 0.75 in Radial Ice	139.63	0.332	0.0058	0.2908	0.2909
50 mph 210 deg with 0.75 in Radial Ice	140.38	0.336	0.0059	0.2933	0.2933
50 mph 210 deg with 0.75 in Radial Ice	146.92	0.368	0.0056	0.2848	0.2850
50 mph 210 deg with 0.75 in Radial Ice	166.54	0.473	0.0049	0.3333	0.3333
50 mph 210 deg with 0.75 in Radial Ice	173.08	0.511	0.0037	0.3298	0.3301
50 mph 210 deg with 0.75 in Radial Ice	179.63	0.548	0.0028	0.3739	0.3739
50 mph 210 deg with 0.75 in Radial Ice	185.49	0.583	0.0025	0.3296	0.3299
50 mph 210 deg with 0.75 in Radial Ice	190.60	0.613	0.0026	0.3410	0.3410
50 mph 240 deg with 0.75 in Radial Ice	13.21	0.006	0.0015	0.0355	0.0355
50 mph 240 deg with 0.75 in Radial Ice	20.00	0.010	0.0019	0.0461	0.0461
50 mph 240 deg with 0.75 in Radial Ice	60.00	0.066	0.0045	0.1229	0.1229
50 mph 240 deg with 0.75 in Radial Ice	80.00	0.113	0.0055	0.1602	0.1602
50 mph 240 deg with 0.75 in Radial Ice	86.79	0.132	0.0058	0.1668	0.1669
50 mph 240 deg with 0.75 in Radial Ice	139.63	0.336	0.0081	0.2972	0.2972
50 mph 240 deg with 0.75 in Radial Ice	140.38	0.340	0.0081	0.3002	0.3002
50 mph 240 deg with 0.75 in Radial Ice	146.92	0.372	0.0075	0.2870	0.2871
50 mph 240 deg with 0.75 in Radial Ice	166.54	0.478	0.0060	0.3293	0.3293
50 mph 240 deg with 0.75 in Radial Ice	173.08	0.516	0.0049	0.3244	0.3245
50 mph 240 deg with 0.75 in Radial Ice	179.63	0.555	0.0037	0.4132	0.4132
50 mph 240 deg with 0.75 in Radial Ice	185.49	0.590	0.0036	0.3227	0.3229
50 mph 240 deg with 0.75 in Radial Ice	190.60	0.621	0.0036	0.3497	0.3497
50 mph 300 deg with 0.75 in Radial Ice	13.21	0.007	0.0014	0.0347	0.0348
50 mph 300 deg with 0.75 in Radial Ice	20.00	0.011	0.0019	0.0472	0.0472
50 mph 300 deg with 0.75 in Radial Ice	60.00	0.066	0.0046	0.1216	0.1216
50 mph 300 deg with 0.75 in Radial Ice	80.00	0.112	0.0057	0.1574	0.1574
50 mph 300 deg with 0.75 in Radial Ice	86.79	0.131	0.0061	0.1643	0.1644
50 mph 300 deg with 0.75 in Radial Ice	139.63	0.331	0.0091	0.2924	0.2924
50 mph 300 deg with 0.75 in Radial Ice	140.38	0.335	0.0091	0.2956	0.2956
50 mph 300 deg with 0.75 in Radial Ice	146.92	0.367	0.0086	0.2833	0.2835
50 mph 300 deg with 0.75 in Radial Ice	166.54	0.471	0.0091	0.3264	0.3264
50 mph 300 deg with 0.75 in Radial Ice	173.08	0.509	0.0102	0.3194	0.3196
50 mph 300 deg with 0.75 in Radial Ice	179.63	0.547	0.0111	0.4215	0.4216
50 mph 300 deg with 0.75 in Radial Ice	185.49	0.582	0.0111	0.3190	0.3192
50 mph 300 deg with 0.75 in Radial Ice	190.60	0.612	0.0111	0.3455	0.3455
50 mph 330 deg with 0.75 in Radial Ice	13.21	0.007	0.0009	0.0351	0.0352
50 mph 330 deg with 0.75 in Radial Ice	20.00	0.011	0.0012	0.0466	0.0466
50 mph 330 deg with 0.75 in Radial Ice	60.00	0.066	0.0030	0.1212	0.1212
50 mph 330 deg with 0.75 in Radial Ice	80.00	0.112	0.0038	0.1569	0.1570
50 mph 330 deg with 0.75 in Radial Ice	86.79	0.131	0.0041	0.1649	0.1650
50 mph 330 deg with 0.75 in Radial Ice	139.63	0.332	0.0069	0.2908	0.2909
50 mph 330 deg with 0.75 in Radial Ice	140.38	0.336	0.0069	0.2933	0.2933
50 mph 330 deg with 0.75 in Radial Ice	146.92	0.368	0.0070	0.2848	0.2850
50 mph 330 deg with 0.75 in Radial Ice	166.54	0.473	0.0083	0.3339	0.3340
50 mph 330 deg with 0.75 in Radial Ice	173.08	0.511	0.0095	0.3298	0.3299
50 mph 330 deg with 0.75 in Radial Ice	179.63	0.548	0.0104	0.3784	0.3786
50 mph 330 deg with 0.75 in Radial Ice	185.49	0.583	0.0107	0.3295	0.3296
50 mph 330 deg with 0.75 in Radial Ice	190.60	0.613	0.0105	0.3408	0.3410
Seismic Normal M1	13.21	0.001	0.0001	0.0035	0.0035
Seismic Normal M1	20.00	0.001	0.0002	0.0049	0.0049
Seismic Normal M1	60.00	0.008	0.0005	0.0155	0.0155
Seismic Normal M1	80.00	0.014	0.0007	0.0212	0.0212
Seismic Normal M1	86.79	0.017	0.0008	0.0227	0.0227
Seismic Normal M1	139.63	0.046	0.0013	0.0451	0.0451
Seismic Normal M1	140.38	0.047	0.0013	0.0456	0.0456
Seismic Normal M1	146.92	0.052	0.0013	0.0442	0.0442
Seismic Normal M1	166.54	0.068	0.0012	0.0541	0.0541
Seismic Normal M1	173.08	0.074	0.0011	0.0530	0.0530
Seismic Normal M1	179.63	0.081	0.0011	0.0648	0.0648
Seismic Normal M1	185.49	0.086	0.0010	0.0515	0.0515
Seismic Normal M1	190.60	0.091	0.0010	0.0559	0.0559
Seismic Normal M2	13.21	0.000	0.0001	0.0025	0.0025

Seismic Normal M2	20.00	0.001	0.0001	0.0034	0.0034
Seismic Normal M2	60.00	0.006	0.0004	0.0114	0.0114
Seismic Normal M2	80.00	0.010	0.0005	0.0159	0.0159
Seismic Normal M2	86.79	0.012	0.0005	0.0174	0.0174
Seismic Normal M2	139.63	0.036	0.0010	0.0376	0.0376
Seismic Normal M2	140.38	0.036	0.0010	0.0380	0.0380
Seismic Normal M2	146.92	0.040	0.0010	0.0375	0.0375
Seismic Normal M2	166.54	0.055	0.0009	0.0480	0.0480
Seismic Normal M2	173.08	0.060	0.0009	0.0464	0.0464
Seismic Normal M2	179.63	0.066	0.0009	0.0607	0.0607
Seismic Normal M2	185.49	0.071	0.0008	0.0451	0.0451
Seismic Normal M2	190.60	0.075	0.0008	0.0505	0.0505
Seismic 60 deg M1	13.21	0.000	0.0001	0.0035	0.0035
Seismic 60 deg M1	20.00	0.001	0.0002	0.0050	0.0050
Seismic 60 deg M1	60.00	0.008	-0.0005	0.0157	0.0157
Seismic 60 deg M1	80.00	0.014	-0.0007	0.0210	0.0210
Seismic 60 deg M1	86.79	0.017	-0.0008	0.0227	0.0227
Seismic 60 deg M1	139.63	0.046	-0.0013	0.0446	0.0446
Seismic 60 deg M1	140.38	0.046	-0.0013	0.0453	0.0453
Seismic 60 deg M1	146.92	0.051	-0.0012	0.0443	0.0444
Seismic 60 deg M1	166.54	0.068	-0.0012	0.0537	0.0537
Seismic 60 deg M1	173.08	0.074	-0.0011	0.0527	0.0527
Seismic 60 deg M1	179.63	0.081	-0.0011	0.0706	0.0706
Seismic 60 deg M1	185.49	0.086	-0.0010	0.0519	0.0519
Seismic 60 deg M1	190.60	0.091	-0.0010	0.0560	0.0560
Seismic 60 deg M2	13.21	0.000	0.0001	0.0025	0.0025
Seismic 60 deg M2	20.00	0.001	0.0001	0.0035	0.0035
Seismic 60 deg M2	60.00	0.006	-0.0004	0.0116	0.0116
Seismic 60 deg M2	80.00	0.010	-0.0005	0.0158	0.0158
Seismic 60 deg M2	86.79	0.012	-0.0005	0.0174	0.0174
Seismic 60 deg M2	139.63	0.036	-0.0010	0.0371	0.0371
Seismic 60 deg M2	140.38	0.036	-0.0010	0.0377	0.0377
Seismic 60 deg M2	146.92	0.040	-0.0010	0.0376	0.0377
Seismic 60 deg M2	166.54	0.055	-0.0009	0.0475	0.0475
Seismic 60 deg M2	173.08	0.060	-0.0009	0.0461	0.0462
Seismic 60 deg M2	179.63	0.066	-0.0008	0.0673	0.0673
Seismic 60 deg M2	185.49	0.071	-0.0008	0.0456	0.0456
Seismic 60 deg M2	190.60	0.075	-0.0007	0.0507	0.0507
Seismic 90 deg M1	13.21	0.001	-0.0002	0.0035	0.0035
Seismic 90 deg M1	20.00	0.001	-0.0002	0.0050	0.0050
Seismic 90 deg M1	60.00	0.008	-0.0006	0.0156	0.0156
Seismic 90 deg M1	80.00	0.014	-0.0008	0.0210	0.0210
Seismic 90 deg M1	86.79	0.017	-0.0009	0.0227	0.0227
Seismic 90 deg M1	139.63	0.046	-0.0015	0.0445	0.0445
Seismic 90 deg M1	140.38	0.047	-0.0015	0.0449	0.0449
Seismic 90 deg M1	146.92	0.051	-0.0014	0.0444	0.0445
Seismic 90 deg M1	166.54	0.068	-0.0013	0.0539	0.0539
Seismic 90 deg M1	173.08	0.074	-0.0013	0.0536	0.0536
Seismic 90 deg M1	179.63	0.081	-0.0012	0.0688	0.0688
Seismic 90 deg M1	185.49	0.086	-0.0011	0.0521	0.0521
Seismic 90 deg M1	190.60	0.091	-0.0011	0.0560	0.0560
Seismic 90 deg M2	13.21	0.000	-0.0001	0.0025	0.0025
Seismic 90 deg M2	20.00	0.001	-0.0001	0.0035	0.0035
Seismic 90 deg M2	60.00	0.006	-0.0004	0.0116	0.0116
Seismic 90 deg M2	80.00	0.010	-0.0006	0.0158	0.0158
Seismic 90 deg M2	86.79	0.012	-0.0006	0.0174	0.0174
Seismic 90 deg M2	139.63	0.036	-0.0011	0.0371	0.0371
Seismic 90 deg M2	140.38	0.036	-0.0011	0.0375	0.0375
Seismic 90 deg M2	146.92	0.040	-0.0011	0.0377	0.0378
Seismic 90 deg M2	166.54	0.055	-0.0011	0.0477	0.0477
Seismic 90 deg M2	173.08	0.060	-0.0010	0.0471	0.0471
Seismic 90 deg M2	179.63	0.066	-0.0010	0.0652	0.0652

Seismic 90 deg M2	185.49	0.071	-0.0009	0.0459	0.0459
Seismic 90 deg M2	190.60	0.075	-0.0009	0.0505	0.0505
Seismic 120 deg M1	13.21	0.001	0.0001	0.0035	0.0035
Seismic 120 deg M1	20.00	0.001	0.0002	0.0049	0.0049
Seismic 120 deg M1	60.00	0.008	0.0005	0.0155	0.0155
Seismic 120 deg M1	80.00	0.014	-0.0007	0.0212	0.0212
Seismic 120 deg M1	86.79	0.017	-0.0008	0.0227	0.0227
Seismic 120 deg M1	139.63	0.046	-0.0013	0.0451	0.0451
Seismic 120 deg M1	140.38	0.047	-0.0013	0.0455	0.0455
Seismic 120 deg M1	146.92	0.052	-0.0012	0.0442	0.0442
Seismic 120 deg M1	166.54	0.068	-0.0012	0.0541	0.0541
Seismic 120 deg M1	173.08	0.074	-0.0011	0.0530	0.0530
Seismic 120 deg M1	179.63	0.081	-0.0011	0.0648	0.0648
Seismic 120 deg M1	185.49	0.086	-0.0010	0.0515	0.0515
Seismic 120 deg M1	190.60	0.091	-0.0010	0.0559	0.0559
Seismic 120 deg M2	13.21	0.000	0.0001	0.0025	0.0025
Seismic 120 deg M2	20.00	0.001	0.0001	0.0034	0.0034
Seismic 120 deg M2	60.00	0.006	-0.0004	0.0114	0.0114
Seismic 120 deg M2	80.00	0.010	-0.0005	0.0159	0.0159
Seismic 120 deg M2	86.79	0.012	-0.0005	0.0174	0.0174
Seismic 120 deg M2	139.63	0.036	-0.0010	0.0376	0.0376
Seismic 120 deg M2	140.38	0.036	-0.0010	0.0380	0.0380
Seismic 120 deg M2	146.92	0.040	-0.0010	0.0375	0.0375
Seismic 120 deg M2	166.54	0.055	-0.0009	0.0480	0.0480
Seismic 120 deg M2	173.08	0.060	-0.0009	0.0464	0.0464
Seismic 120 deg M2	179.63	0.066	-0.0008	0.0607	0.0607
Seismic 120 deg M2	185.49	0.071	-0.0008	0.0451	0.0451
Seismic 120 deg M2	190.60	0.075	-0.0007	0.0505	0.0505
Seismic 180 deg M1	13.21	0.000	0.0001	0.0035	0.0035
Seismic 180 deg M1	20.00	0.001	0.0002	0.0050	0.0050
Seismic 180 deg M1	60.00	0.008	0.0005	0.0157	0.0157
Seismic 180 deg M1	80.00	0.014	0.0007	0.0210	0.0210
Seismic 180 deg M1	86.79	0.017	0.0008	0.0227	0.0227
Seismic 180 deg M1	139.63	0.046	0.0013	0.0446	0.0446
Seismic 180 deg M1	140.38	0.046	0.0013	0.0453	0.0453
Seismic 180 deg M1	146.92	0.051	0.0013	0.0443	0.0443
Seismic 180 deg M1	166.54	0.068	0.0012	0.0537	0.0537
Seismic 180 deg M1	173.08	0.074	0.0011	0.0527	0.0527
Seismic 180 deg M1	179.63	0.081	0.0011	0.0705	0.0705
Seismic 180 deg M1	185.49	0.086	0.0010	0.0519	0.0519
Seismic 180 deg M1	190.60	0.091	0.0010	0.0560	0.0560
Seismic 180 deg M2	13.21	0.000	0.0001	0.0025	0.0025
Seismic 180 deg M2	20.00	0.001	0.0001	0.0035	0.0035
Seismic 180 deg M2	60.00	0.006	0.0004	0.0116	0.0116
Seismic 180 deg M2	80.00	0.010	0.0005	0.0158	0.0158
Seismic 180 deg M2	86.79	0.012	0.0005	0.0174	0.0174
Seismic 180 deg M2	139.63	0.036	0.0010	0.0371	0.0371
Seismic 180 deg M2	140.38	0.036	0.0010	0.0377	0.0377
Seismic 180 deg M2	146.92	0.040	0.0010	0.0376	0.0377
Seismic 180 deg M2	166.54	0.055	0.0009	0.0475	0.0475
Seismic 180 deg M2	173.08	0.060	0.0009	0.0461	0.0462
Seismic 180 deg M2	179.63	0.066	0.0009	0.0673	0.0673
Seismic 180 deg M2	185.49	0.071	0.0008	0.0456	0.0456
Seismic 180 deg M2	190.60	0.075	0.0008	0.0507	0.0507
Seismic 210 deg M1	13.21	0.001	0.0001	0.0035	0.0035
Seismic 210 deg M1	20.00	0.001	0.0001	0.0050	0.0050
Seismic 210 deg M1	60.00	0.008	0.0003	0.0156	0.0156
Seismic 210 deg M1	80.00	0.014	0.0004	0.0210	0.0210
Seismic 210 deg M1	86.79	0.017	0.0005	0.0227	0.0227
Seismic 210 deg M1	139.63	0.046	0.0008	0.0445	0.0445
Seismic 210 deg M1	140.38	0.047	0.0008	0.0449	0.0450
Seismic 210 deg M1	146.92	0.051	0.0007	0.0444	0.0445

Seismic 210 deg M1	166.54	0.068	0.0007	0.0539	0.0539
Seismic 210 deg M1	173.08	0.074	0.0007	0.0536	0.0536
Seismic 210 deg M1	179.63	0.081	0.0007	0.0688	0.0688
Seismic 210 deg M1	185.49	0.086	0.0006	0.0521	0.0521
Seismic 210 deg M1	190.60	0.091	0.0006	0.0560	0.0560
Seismic 210 deg M2	13.21	0.000	0.0001	0.0025	0.0025
Seismic 210 deg M2	20.00	0.001	0.0001	0.0035	0.0035
Seismic 210 deg M2	60.00	0.006	0.0002	0.0116	0.0116
Seismic 210 deg M2	80.00	0.010	0.0003	0.0158	0.0158
Seismic 210 deg M2	86.79	0.012	0.0003	0.0174	0.0174
Seismic 210 deg M2	139.63	0.036	0.0006	0.0371	0.0371
Seismic 210 deg M2	140.38	0.036	0.0006	0.0375	0.0375
Seismic 210 deg M2	146.92	0.040	0.0006	0.0377	0.0378
Seismic 210 deg M2	166.54	0.055	0.0006	0.0477	0.0477
Seismic 210 deg M2	173.08	0.060	0.0005	0.0471	0.0471
Seismic 210 deg M2	179.63	0.066	0.0005	0.0652	0.0652
Seismic 210 deg M2	185.49	0.071	0.0005	0.0459	0.0459
Seismic 210 deg M2	190.60	0.075	0.0005	0.0505	0.0505
Seismic 240 deg M1	13.21	0.001	0.0001	0.0035	0.0035
Seismic 240 deg M1	20.00	0.001	0.0002	0.0049	0.0049
Seismic 240 deg M1	60.00	0.008	0.0005	0.0155	0.0155
Seismic 240 deg M1	80.00	0.014	0.0007	0.0212	0.0212
Seismic 240 deg M1	86.79	0.017	0.0008	0.0227	0.0227
Seismic 240 deg M1	139.63	0.046	0.0013	0.0451	0.0451
Seismic 240 deg M1	140.38	0.047	0.0013	0.0455	0.0455
Seismic 240 deg M1	146.92	0.052	0.0012	0.0442	0.0442
Seismic 240 deg M1	166.54	0.068	0.0012	0.0541	0.0541
Seismic 240 deg M1	173.08	0.074	0.0011	0.0530	0.0530
Seismic 240 deg M1	179.63	0.081	0.0011	0.0648	0.0648
Seismic 240 deg M1	185.49	0.086	0.0010	0.0515	0.0515
Seismic 240 deg M1	190.60	0.091	0.0010	0.0559	0.0559
Seismic 240 deg M2	13.21	0.000	0.0001	0.0025	0.0025
Seismic 240 deg M2	20.00	0.001	0.0001	0.0034	0.0034
Seismic 240 deg M2	60.00	0.006	0.0004	0.0114	0.0114
Seismic 240 deg M2	80.00	0.010	0.0005	0.0159	0.0159
Seismic 240 deg M2	86.79	0.012	0.0005	0.0174	0.0174
Seismic 240 deg M2	139.63	0.036	0.0010	0.0376	0.0376
Seismic 240 deg M2	140.38	0.036	0.0010	0.0380	0.0380
Seismic 240 deg M2	146.92	0.040	0.0010	0.0375	0.0375
Seismic 240 deg M2	166.54	0.055	0.0009	0.0480	0.0480
Seismic 240 deg M2	173.08	0.060	0.0009	0.0464	0.0464
Seismic 240 deg M2	179.63	0.066	0.0008	0.0607	0.0607
Seismic 240 deg M2	185.49	0.071	0.0008	0.0451	0.0451
Seismic 240 deg M2	190.60	0.075	0.0007	0.0505	0.0505
Seismic 300 deg M1	13.21	0.000	0.0001	0.0035	0.0035
Seismic 300 deg M1	20.00	0.001	0.0002	0.0050	0.0050
Seismic 300 deg M1	60.00	0.008	0.0005	0.0157	0.0157
Seismic 300 deg M1	80.00	0.014	0.0007	0.0210	0.0210
Seismic 300 deg M1	86.79	0.017	0.0008	0.0227	0.0227
Seismic 300 deg M1	139.63	0.046	0.0013	0.0446	0.0446
Seismic 300 deg M1	140.38	0.046	0.0013	0.0453	0.0453
Seismic 300 deg M1	146.92	0.051	0.0012	0.0443	0.0444
Seismic 300 deg M1	166.54	0.068	0.0012	0.0537	0.0537
Seismic 300 deg M1	173.08	0.074	0.0011	0.0527	0.0527
Seismic 300 deg M1	179.63	0.081	0.0011	0.0706	0.0706
Seismic 300 deg M1	185.49	0.086	0.0010	0.0519	0.0519
Seismic 300 deg M1	190.60	0.091	0.0010	0.0560	0.0560
Seismic 300 deg M2	13.21	0.000	0.0001	0.0025	0.0025
Seismic 300 deg M2	20.00	0.001	0.0001	0.0035	0.0035
Seismic 300 deg M2	60.00	0.006	0.0004	0.0116	0.0116
Seismic 300 deg M2	80.00	0.010	0.0005	0.0158	0.0158
Seismic 300 deg M2	86.79	0.012	0.0005	0.0174	0.0174

Seismic 300 deg M2	139.63	0.036	0.0010	0.0371	0.0371
Seismic 300 deg M2	140.38	0.036	0.0010	0.0377	0.0377
Seismic 300 deg M2	146.92	0.040	0.0010	0.0376	0.0377
Seismic 300 deg M2	166.54	0.055	0.0009	0.0475	0.0475
Seismic 300 deg M2	173.08	0.060	0.0009	0.0461	0.0462
Seismic 300 deg M2	179.63	0.066	0.0008	0.0673	0.0673
Seismic 300 deg M2	185.49	0.071	0.0008	0.0456	0.0456
Seismic 300 deg M2	190.60	0.075	0.0007	0.0507	0.0507
Seismic 330 deg M1	13.21	0.001	0.0001	0.0035	0.0035
Seismic 330 deg M1	20.00	0.001	0.0001	0.0050	0.0050
Seismic 330 deg M1	60.00	0.008	0.0003	0.0156	0.0156
Seismic 330 deg M1	80.00	0.014	0.0004	0.0210	0.0210
Seismic 330 deg M1	86.79	0.017	0.0005	0.0227	0.0227
Seismic 330 deg M1	139.63	0.046	0.0008	0.0445	0.0445
Seismic 330 deg M1	140.38	0.047	0.0008	0.0450	0.0450
Seismic 330 deg M1	146.92	0.051	0.0007	0.0444	0.0445
Seismic 330 deg M1	166.54	0.068	0.0007	0.0539	0.0539
Seismic 330 deg M1	173.08	0.074	0.0007	0.0536	0.0536
Seismic 330 deg M1	179.63	0.081	0.0006	0.0688	0.0688
Seismic 330 deg M1	185.49	0.086	0.0006	0.0521	0.0521
Seismic 330 deg M1	190.60	0.091	0.0006	0.0560	0.0560
Seismic 330 deg M2	13.21	0.000	0.0001	0.0025	0.0025
Seismic 330 deg M2	20.00	0.001	0.0001	0.0035	0.0035
Seismic 330 deg M2	60.00	0.006	0.0002	0.0116	0.0116
Seismic 330 deg M2	80.00	0.010	0.0003	0.0158	0.0158
Seismic 330 deg M2	86.79	0.012	0.0003	0.0174	0.0174
Seismic 330 deg M2	139.63	0.036	0.0006	0.0371	0.0371
Seismic 330 deg M2	140.38	0.036	0.0006	0.0375	0.0375
Seismic 330 deg M2	146.92	0.040	0.0006	0.0377	0.0378
Seismic 330 deg M2	166.54	0.055	0.0006	0.0477	0.0477
Seismic 330 deg M2	173.08	0.060	0.0005	0.0471	0.0471
Seismic 330 deg M2	179.63	0.066	0.0005	0.0652	0.0652
Seismic 330 deg M2	185.49	0.071	0.0005	0.0459	0.0459
Seismic 330 deg M2	190.60	0.075	0.0005	0.0505	0.0505
Seismic (Reduced DL) Normal M1	13.21	0.001	0.0001	0.0035	0.0035
Seismic (Reduced DL) Normal M1	20.00	0.001	0.0002	0.0049	0.0049
Seismic (Reduced DL) Normal M1	60.00	0.008	0.0005	0.0155	0.0155
Seismic (Reduced DL) Normal M1	80.00	0.014	0.0007	0.0211	0.0211
Seismic (Reduced DL) Normal M1	86.79	0.017	0.0008	0.0226	0.0226
Seismic (Reduced DL) Normal M1	139.63	0.046	0.0013	0.0449	0.0449
Seismic (Reduced DL) Normal M1	140.38	0.046	0.0013	0.0454	0.0454
Seismic (Reduced DL) Normal M1	146.92	0.051	0.0013	0.0441	0.0441
Seismic (Reduced DL) Normal M1	166.54	0.068	0.0012	0.0539	0.0539
Seismic (Reduced DL) Normal M1	173.08	0.074	0.0011	0.0528	0.0528
Seismic (Reduced DL) Normal M1	179.63	0.080	0.0011	0.0646	0.0646
Seismic (Reduced DL) Normal M1	185.49	0.086	0.0010	0.0514	0.0514
Seismic (Reduced DL) Normal M1	190.60	0.091	0.0010	0.0557	0.0557
Seismic (Reduced DL) Normal M2	13.21	0.000	0.0001	0.0025	0.0025
Seismic (Reduced DL) Normal M2	20.00	0.001	0.0001	0.0034	0.0034
Seismic (Reduced DL) Normal M2	60.00	0.006	0.0004	0.0114	0.0114
Seismic (Reduced DL) Normal M2	80.00	0.010	0.0005	0.0159	0.0159
Seismic (Reduced DL) Normal M2	86.79	0.012	0.0005	0.0173	0.0173
Seismic (Reduced DL) Normal M2	139.63	0.036	0.0010	0.0374	0.0374
Seismic (Reduced DL) Normal M2	140.38	0.036	0.0010	0.0379	0.0379
Seismic (Reduced DL) Normal M2	146.92	0.040	0.0010	0.0374	0.0374
Seismic (Reduced DL) Normal M2	166.54	0.055	0.0009	0.0478	0.0478
Seismic (Reduced DL) Normal M2	173.08	0.060	0.0009	0.0462	0.0463
Seismic (Reduced DL) Normal M2	179.63	0.066	0.0009	0.0613	0.0613
Seismic (Reduced DL) Normal M2	185.49	0.071	0.0008	0.0451	0.0451
Seismic (Reduced DL) Normal M2	190.60	0.075	0.0008	0.0504	0.0504
Seismic (Reduced DL) 60 deg M1	13.21	0.000	0.0001	0.0034	0.0034
Seismic (Reduced DL) 60 deg M1	20.00	0.001	0.0002	0.0050	0.0050

Seismic (Reduced DL) 60 deg M1	60.00	0.008	-0.0005	0.0157	0.0157
Seismic (Reduced DL) 60 deg M1	80.00	0.014	-0.0007	0.0210	0.0210
Seismic (Reduced DL) 60 deg M1	86.79	0.017	-0.0008	0.0226	0.0226
Seismic (Reduced DL) 60 deg M1	139.63	0.046	-0.0013	0.0446	0.0446
Seismic (Reduced DL) 60 deg M1	140.38	0.046	-0.0013	0.0452	0.0452
Seismic (Reduced DL) 60 deg M1	146.92	0.051	-0.0012	0.0442	0.0442
Seismic (Reduced DL) 60 deg M1	166.54	0.068	-0.0012	0.0536	0.0536
Seismic (Reduced DL) 60 deg M1	173.08	0.074	-0.0011	0.0526	0.0526
Seismic (Reduced DL) 60 deg M1	179.63	0.080	-0.0011	0.0693	0.0693
Seismic (Reduced DL) 60 deg M1	185.49	0.086	-0.0010	0.0517	0.0517
Seismic (Reduced DL) 60 deg M1	190.60	0.091	-0.0010	0.0558	0.0558
Seismic (Reduced DL) 60 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic (Reduced DL) 60 deg M2	20.00	0.001	0.0001	0.0035	0.0035
Seismic (Reduced DL) 60 deg M2	60.00	0.006	-0.0004	0.0116	0.0116
Seismic (Reduced DL) 60 deg M2	80.00	0.010	-0.0005	0.0158	0.0158
Seismic (Reduced DL) 60 deg M2	86.79	0.012	-0.0005	0.0173	0.0173
Seismic (Reduced DL) 60 deg M2	139.63	0.036	-0.0010	0.0371	0.0371
Seismic (Reduced DL) 60 deg M2	140.38	0.036	-0.0010	0.0377	0.0377
Seismic (Reduced DL) 60 deg M2	146.92	0.040	-0.0010	0.0375	0.0375
Seismic (Reduced DL) 60 deg M2	166.54	0.055	-0.0009	0.0475	0.0475
Seismic (Reduced DL) 60 deg M2	173.08	0.060	-0.0009	0.0461	0.0461
Seismic (Reduced DL) 60 deg M2	179.63	0.066	-0.0008	0.0661	0.0661
Seismic (Reduced DL) 60 deg M2	185.49	0.071	-0.0008	0.0454	0.0454
Seismic (Reduced DL) 60 deg M2	190.60	0.075	-0.0007	0.0505	0.0505
Seismic (Reduced DL) 90 deg M1	13.21	0.001	-0.0002	0.0034	0.0034
Seismic (Reduced DL) 90 deg M1	20.00	0.001	-0.0002	0.0050	0.0050
Seismic (Reduced DL) 90 deg M1	60.00	0.008	-0.0006	0.0156	0.0156
Seismic (Reduced DL) 90 deg M1	80.00	0.014	-0.0008	0.0209	0.0209
Seismic (Reduced DL) 90 deg M1	86.79	0.017	-0.0009	0.0226	0.0227
Seismic (Reduced DL) 90 deg M1	139.63	0.046	-0.0015	0.0444	0.0444
Seismic (Reduced DL) 90 deg M1	140.38	0.046	-0.0015	0.0448	0.0448
Seismic (Reduced DL) 90 deg M1	146.92	0.051	-0.0014	0.0443	0.0444
Seismic (Reduced DL) 90 deg M1	166.54	0.068	-0.0013	0.0537	0.0537
Seismic (Reduced DL) 90 deg M1	173.08	0.074	-0.0013	0.0534	0.0534
Seismic (Reduced DL) 90 deg M1	179.63	0.080	-0.0012	0.0677	0.0677
Seismic (Reduced DL) 90 deg M1	185.49	0.086	-0.0011	0.0519	0.0520
Seismic (Reduced DL) 90 deg M1	190.60	0.091	-0.0011	0.0558	0.0558
Seismic (Reduced DL) 90 deg M2	13.21	0.000	-0.0001	0.0024	0.0024
Seismic (Reduced DL) 90 deg M2	20.00	0.001	-0.0001	0.0035	0.0035
Seismic (Reduced DL) 90 deg M2	60.00	0.006	-0.0004	0.0115	0.0115
Seismic (Reduced DL) 90 deg M2	80.00	0.010	-0.0006	0.0157	0.0157
Seismic (Reduced DL) 90 deg M2	86.79	0.012	-0.0006	0.0173	0.0173
Seismic (Reduced DL) 90 deg M2	139.63	0.036	-0.0011	0.0369	0.0369
Seismic (Reduced DL) 90 deg M2	140.38	0.036	-0.0011	0.0373	0.0374
Seismic (Reduced DL) 90 deg M2	146.92	0.040	-0.0011	0.0377	0.0377
Seismic (Reduced DL) 90 deg M2	166.54	0.055	-0.0011	0.0475	0.0475
Seismic (Reduced DL) 90 deg M2	173.08	0.060	-0.0010	0.0470	0.0470
Seismic (Reduced DL) 90 deg M2	179.63	0.066	-0.0010	0.0642	0.0642
Seismic (Reduced DL) 90 deg M2	185.49	0.071	-0.0009	0.0458	0.0458
Seismic (Reduced DL) 90 deg M2	190.60	0.075	-0.0009	0.0504	0.0504
Seismic (Reduced DL) 120 deg M1	13.21	0.001	0.0001	0.0035	0.0035
Seismic (Reduced DL) 120 deg M1	20.00	0.001	0.0002	0.0049	0.0049
Seismic (Reduced DL) 120 deg M1	60.00	0.008	0.0005	0.0155	0.0155
Seismic (Reduced DL) 120 deg M1	80.00	0.014	-0.0007	0.0211	0.0211
Seismic (Reduced DL) 120 deg M1	86.79	0.017	-0.0008	0.0226	0.0226
Seismic (Reduced DL) 120 deg M1	139.63	0.046	-0.0013	0.0449	0.0449
Seismic (Reduced DL) 120 deg M1	140.38	0.046	-0.0013	0.0454	0.0454
Seismic (Reduced DL) 120 deg M1	146.92	0.051	-0.0012	0.0441	0.0441
Seismic (Reduced DL) 120 deg M1	166.54	0.068	-0.0012	0.0539	0.0539
Seismic (Reduced DL) 120 deg M1	173.08	0.074	-0.0011	0.0528	0.0528
Seismic (Reduced DL) 120 deg M1	179.63	0.080	-0.0011	0.0646	0.0646
Seismic (Reduced DL) 120 deg M1	185.49	0.086	-0.0010	0.0514	0.0514

Seismic (Reduced DL) 120 deg M1	190.60	0.091	-0.0010	0.0557	0.0557
Seismic (Reduced DL) 120 deg M2	13.21	0.000	0.0001	0.0025	0.0025
Seismic (Reduced DL) 120 deg M2	20.00	0.001	0.0001	0.0034	0.0034
Seismic (Reduced DL) 120 deg M2	60.00	0.006	-0.0004	0.0114	0.0114
Seismic (Reduced DL) 120 deg M2	80.00	0.010	-0.0005	0.0158	0.0158
Seismic (Reduced DL) 120 deg M2	86.79	0.012	-0.0005	0.0173	0.0173
Seismic (Reduced DL) 120 deg M2	139.63	0.036	-0.0010	0.0374	0.0374
Seismic (Reduced DL) 120 deg M2	140.38	0.036	-0.0010	0.0379	0.0379
Seismic (Reduced DL) 120 deg M2	146.92	0.040	-0.0010	0.0374	0.0374
Seismic (Reduced DL) 120 deg M2	166.54	0.055	-0.0009	0.0478	0.0478
Seismic (Reduced DL) 120 deg M2	173.08	0.060	-0.0009	0.0462	0.0463
Seismic (Reduced DL) 120 deg M2	179.63	0.066	-0.0008	0.0613	0.0613
Seismic (Reduced DL) 120 deg M2	185.49	0.071	-0.0008	0.0451	0.0451
Seismic (Reduced DL) 120 deg M2	190.60	0.075	-0.0007	0.0504	0.0504
Seismic (Reduced DL) 180 deg M1	13.21	0.000	0.0001	0.0034	0.0034
Seismic (Reduced DL) 180 deg M1	20.00	0.001	0.0002	0.0050	0.0050
Seismic (Reduced DL) 180 deg M1	60.00	0.008	0.0005	0.0157	0.0157
Seismic (Reduced DL) 180 deg M1	80.00	0.014	0.0007	0.0210	0.0210
Seismic (Reduced DL) 180 deg M1	86.79	0.017	0.0008	0.0226	0.0226
Seismic (Reduced DL) 180 deg M1	139.63	0.046	0.0013	0.0446	0.0446
Seismic (Reduced DL) 180 deg M1	140.38	0.046	0.0013	0.0452	0.0452
Seismic (Reduced DL) 180 deg M1	146.92	0.051	0.0013	0.0442	0.0442
Seismic (Reduced DL) 180 deg M1	166.54	0.068	0.0012	0.0536	0.0536
Seismic (Reduced DL) 180 deg M1	173.08	0.074	0.0011	0.0526	0.0526
Seismic (Reduced DL) 180 deg M1	179.63	0.080	0.0011	0.0693	0.0693
Seismic (Reduced DL) 180 deg M1	185.49	0.086	0.0010	0.0517	0.0517
Seismic (Reduced DL) 180 deg M1	190.60	0.091	0.0010	0.0558	0.0558
Seismic (Reduced DL) 180 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic (Reduced DL) 180 deg M2	20.00	0.001	0.0001	0.0035	0.0035
Seismic (Reduced DL) 180 deg M2	60.00	0.006	0.0004	0.0116	0.0116
Seismic (Reduced DL) 180 deg M2	80.00	0.010	0.0005	0.0158	0.0158
Seismic (Reduced DL) 180 deg M2	86.79	0.012	0.0005	0.0173	0.0173
Seismic (Reduced DL) 180 deg M2	139.63	0.036	0.0010	0.0371	0.0371
Seismic (Reduced DL) 180 deg M2	140.38	0.036	0.0010	0.0377	0.0377
Seismic (Reduced DL) 180 deg M2	146.92	0.040	0.0010	0.0375	0.0375
Seismic (Reduced DL) 180 deg M2	166.54	0.055	0.0009	0.0475	0.0475
Seismic (Reduced DL) 180 deg M2	173.08	0.060	0.0009	0.0461	0.0461
Seismic (Reduced DL) 180 deg M2	179.63	0.066	0.0009	0.0661	0.0661
Seismic (Reduced DL) 180 deg M2	185.49	0.071	0.0008	0.0454	0.0454
Seismic (Reduced DL) 180 deg M2	190.60	0.075	0.0008	0.0505	0.0505
Seismic (Reduced DL) 210 deg M1	13.21	0.001	0.0001	0.0034	0.0034
Seismic (Reduced DL) 210 deg M1	20.00	0.001	0.0001	0.0050	0.0050
Seismic (Reduced DL) 210 deg M1	60.00	0.008	0.0003	0.0156	0.0156
Seismic (Reduced DL) 210 deg M1	80.00	0.014	0.0004	0.0209	0.0209
Seismic (Reduced DL) 210 deg M1	86.79	0.017	0.0005	0.0226	0.0227
Seismic (Reduced DL) 210 deg M1	139.63	0.046	0.0008	0.0444	0.0444
Seismic (Reduced DL) 210 deg M1	140.38	0.046	0.0008	0.0448	0.0448
Seismic (Reduced DL) 210 deg M1	146.92	0.051	0.0007	0.0443	0.0444
Seismic (Reduced DL) 210 deg M1	166.54	0.068	0.0007	0.0537	0.0537
Seismic (Reduced DL) 210 deg M1	173.08	0.074	0.0007	0.0534	0.0534
Seismic (Reduced DL) 210 deg M1	179.63	0.080	0.0007	0.0677	0.0677
Seismic (Reduced DL) 210 deg M1	185.49	0.086	0.0006	0.0519	0.0520
Seismic (Reduced DL) 210 deg M1	190.60	0.091	0.0006	0.0558	0.0558
Seismic (Reduced DL) 210 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic (Reduced DL) 210 deg M2	20.00	0.001	0.0001	0.0035	0.0035
Seismic (Reduced DL) 210 deg M2	60.00	0.006	0.0002	0.0115	0.0115
Seismic (Reduced DL) 210 deg M2	80.00	0.010	0.0003	0.0157	0.0157
Seismic (Reduced DL) 210 deg M2	86.79	0.012	0.0003	0.0173	0.0173
Seismic (Reduced DL) 210 deg M2	139.63	0.036	0.0006	0.0369	0.0369
Seismic (Reduced DL) 210 deg M2	140.38	0.036	0.0006	0.0374	0.0374
Seismic (Reduced DL) 210 deg M2	146.92	0.040	0.0006	0.0377	0.0377
Seismic (Reduced DL) 210 deg M2	166.54	0.055	0.0006	0.0475	0.0475

Seismic (Reduced DL) 210 deg M2	173.08	0.060	0.0005	0.0470	0.0470
Seismic (Reduced DL) 210 deg M2	179.63	0.066	0.0005	0.0642	0.0642
Seismic (Reduced DL) 210 deg M2	185.49	0.071	0.0005	0.0458	0.0458
Seismic (Reduced DL) 210 deg M2	190.60	0.075	0.0005	0.0504	0.0504
Seismic (Reduced DL) 240 deg M1	13.21	0.001	0.0001	0.0035	0.0035
Seismic (Reduced DL) 240 deg M1	20.00	0.001	0.0002	0.0049	0.0049
Seismic (Reduced DL) 240 deg M1	60.00	0.008	0.0005	0.0155	0.0155
Seismic (Reduced DL) 240 deg M1	80.00	0.014	0.0007	0.0211	0.0211
Seismic (Reduced DL) 240 deg M1	86.79	0.017	0.0008	0.0226	0.0226
Seismic (Reduced DL) 240 deg M1	139.63	0.046	0.0013	0.0449	0.0449
Seismic (Reduced DL) 240 deg M1	140.38	0.046	0.0013	0.0454	0.0454
Seismic (Reduced DL) 240 deg M1	146.92	0.051	0.0012	0.0441	0.0441
Seismic (Reduced DL) 240 deg M1	166.54	0.068	0.0012	0.0539	0.0539
Seismic (Reduced DL) 240 deg M1	173.08	0.074	0.0011	0.0528	0.0528
Seismic (Reduced DL) 240 deg M1	179.63	0.080	0.0011	0.0646	0.0646
Seismic (Reduced DL) 240 deg M1	185.49	0.086	0.0010	0.0514	0.0514
Seismic (Reduced DL) 240 deg M1	190.60	0.091	0.0010	0.0557	0.0557
Seismic (Reduced DL) 240 deg M2	13.21	0.000	0.0001	0.0025	0.0025
Seismic (Reduced DL) 240 deg M2	20.00	0.001	0.0001	0.0034	0.0034
Seismic (Reduced DL) 240 deg M2	60.00	0.006	0.0004	0.0114	0.0114
Seismic (Reduced DL) 240 deg M2	80.00	0.010	0.0005	0.0158	0.0158
Seismic (Reduced DL) 240 deg M2	86.79	0.012	0.0005	0.0173	0.0173
Seismic (Reduced DL) 240 deg M2	139.63	0.036	0.0010	0.0374	0.0374
Seismic (Reduced DL) 240 deg M2	140.38	0.036	0.0010	0.0379	0.0379
Seismic (Reduced DL) 240 deg M2	146.92	0.040	0.0010	0.0374	0.0374
Seismic (Reduced DL) 240 deg M2	166.54	0.055	0.0009	0.0478	0.0478
Seismic (Reduced DL) 240 deg M2	173.08	0.060	0.0009	0.0462	0.0463
Seismic (Reduced DL) 240 deg M2	179.63	0.066	0.0008	0.0613	0.0613
Seismic (Reduced DL) 240 deg M2	185.49	0.071	0.0008	0.0451	0.0451
Seismic (Reduced DL) 240 deg M2	190.60	0.075	0.0007	0.0504	0.0504
Seismic (Reduced DL) 300 deg M1	13.21	0.000	0.0001	0.0034	0.0034
Seismic (Reduced DL) 300 deg M1	20.00	0.001	0.0002	0.0050	0.0050
Seismic (Reduced DL) 300 deg M1	60.00	0.008	0.0005	0.0157	0.0157
Seismic (Reduced DL) 300 deg M1	80.00	0.014	0.0007	0.0210	0.0210
Seismic (Reduced DL) 300 deg M1	86.79	0.017	0.0008	0.0226	0.0226
Seismic (Reduced DL) 300 deg M1	139.63	0.046	0.0013	0.0446	0.0446
Seismic (Reduced DL) 300 deg M1	140.38	0.046	0.0013	0.0452	0.0452
Seismic (Reduced DL) 300 deg M1	146.92	0.051	0.0012	0.0442	0.0442
Seismic (Reduced DL) 300 deg M1	166.54	0.068	0.0012	0.0536	0.0536
Seismic (Reduced DL) 300 deg M1	173.08	0.074	0.0011	0.0526	0.0526
Seismic (Reduced DL) 300 deg M1	179.63	0.080	0.0011	0.0693	0.0693
Seismic (Reduced DL) 300 deg M1	185.49	0.086	0.0010	0.0517	0.0517
Seismic (Reduced DL) 300 deg M1	190.60	0.091	0.0010	0.0558	0.0558
Seismic (Reduced DL) 300 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic (Reduced DL) 300 deg M2	20.00	0.001	0.0001	0.0035	0.0035
Seismic (Reduced DL) 300 deg M2	60.00	0.006	0.0004	0.0116	0.0116
Seismic (Reduced DL) 300 deg M2	80.00	0.010	0.0005	0.0158	0.0158
Seismic (Reduced DL) 300 deg M2	86.79	0.012	0.0005	0.0173	0.0173
Seismic (Reduced DL) 300 deg M2	139.63	0.036	0.0010	0.0371	0.0371
Seismic (Reduced DL) 300 deg M2	140.38	0.036	0.0010	0.0377	0.0377
Seismic (Reduced DL) 300 deg M2	146.92	0.040	0.0010	0.0375	0.0375
Seismic (Reduced DL) 300 deg M2	166.54	0.055	0.0009	0.0475	0.0475
Seismic (Reduced DL) 300 deg M2	173.08	0.060	0.0009	0.0461	0.0461
Seismic (Reduced DL) 300 deg M2	179.63	0.066	0.0008	0.0661	0.0661
Seismic (Reduced DL) 300 deg M2	185.49	0.071	0.0008	0.0454	0.0454
Seismic (Reduced DL) 300 deg M2	190.60	0.075	0.0007	0.0505	0.0505
Seismic (Reduced DL) 330 deg M1	13.21	0.001	0.0001	0.0034	0.0034
Seismic (Reduced DL) 330 deg M1	20.00	0.001	0.0001	0.0050	0.0050
Seismic (Reduced DL) 330 deg M1	60.00	0.008	0.0003	0.0156	0.0156
Seismic (Reduced DL) 330 deg M1	80.00	0.014	0.0004	0.0209	0.0209
Seismic (Reduced DL) 330 deg M1	86.79	0.017	0.0005	0.0226	0.0227
Seismic (Reduced DL) 330 deg M1	139.63	0.046	0.0008	0.0444	0.0444

Seismic (Reduced DL) 330 deg M1	140.38	0.046	0.0008	0.0448	0.0448
Seismic (Reduced DL) 330 deg M1	146.92	0.051	0.0007	0.0443	0.0444
Seismic (Reduced DL) 330 deg M1	166.54	0.068	0.0007	0.0537	0.0537
Seismic (Reduced DL) 330 deg M1	173.08	0.074	0.0007	0.0534	0.0534
Seismic (Reduced DL) 330 deg M1	179.63	0.080	0.0006	0.0677	0.0677
Seismic (Reduced DL) 330 deg M1	185.49	0.086	0.0006	0.0519	0.0520
Seismic (Reduced DL) 330 deg M1	190.60	0.091	0.0006	0.0558	0.0558
Seismic (Reduced DL) 330 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic (Reduced DL) 330 deg M2	20.00	0.001	0.0001	0.0035	0.0035
Seismic (Reduced DL) 330 deg M2	60.00	0.006	0.0002	0.0115	0.0115
Seismic (Reduced DL) 330 deg M2	80.00	0.010	0.0003	0.0157	0.0157
Seismic (Reduced DL) 330 deg M2	86.79	0.012	0.0003	0.0173	0.0173
Seismic (Reduced DL) 330 deg M2	139.63	0.036	0.0006	0.0369	0.0369
Seismic (Reduced DL) 330 deg M2	140.38	0.036	0.0006	0.0374	0.0374
Seismic (Reduced DL) 330 deg M2	146.92	0.040	0.0006	0.0377	0.0377
Seismic (Reduced DL) 330 deg M2	166.54	0.055	0.0006	0.0475	0.0475
Seismic (Reduced DL) 330 deg M2	173.08	0.060	0.0005	0.0470	0.0470
Seismic (Reduced DL) 330 deg M2	179.63	0.066	0.0005	0.0642	0.0642
Seismic (Reduced DL) 330 deg M2	185.49	0.071	0.0005	0.0458	0.0458
Seismic (Reduced DL) 330 deg M2	190.60	0.075	0.0004	0.0504	0.0504
Serviceability - 60 mph Wind Normal	13.21	0.004	0.0011	0.0246	0.0246
Serviceability - 60 mph Wind Normal	20.00	0.007	0.0015	0.0354	0.0354
Serviceability - 60 mph Wind Normal	60.00	0.049	0.0036	0.0926	0.0926
Serviceability - 60 mph Wind Normal	80.00	0.085	0.0046	0.1205	0.1205
Serviceability - 60 mph Wind Normal	86.79	0.099	0.0049	0.1257	0.1258
Serviceability - 60 mph Wind Normal	139.63	0.254	0.0076	0.2266	0.2266
Serviceability - 60 mph Wind Normal	140.38	0.257	0.0076	0.2290	0.2290
Serviceability - 60 mph Wind Normal	146.92	0.282	0.0075	0.2189	0.2190
Serviceability - 60 mph Wind Normal	166.54	0.363	0.0075	0.2618	0.2618
Serviceability - 60 mph Wind Normal	173.08	0.392	0.0075	0.2570	0.2571
Serviceability - 60 mph Wind Normal	179.63	0.421	0.0074	0.2592	0.2592
Serviceability - 60 mph Wind Normal	185.49	0.447	0.0073	0.2572	0.2573
Serviceability - 60 mph Wind Normal	190.60	0.470	0.0072	0.2592	0.2592
Serviceability - 60 mph Wind 60 deg	13.21	0.004	-0.0010	0.0233	0.0234
Serviceability - 60 mph Wind 60 deg	20.00	0.007	-0.0014	0.0341	0.0341
Serviceability - 60 mph Wind 60 deg	60.00	0.047	-0.0033	0.0896	0.0896
Serviceability - 60 mph Wind 60 deg	80.00	0.082	-0.0041	0.1164	0.1164
Serviceability - 60 mph Wind 60 deg	86.79	0.096	-0.0043	0.1216	0.1217
Serviceability - 60 mph Wind 60 deg	139.63	0.246	-0.0063	0.2195	0.2195
Serviceability - 60 mph Wind 60 deg	140.38	0.249	-0.0063	0.2219	0.2219
Serviceability - 60 mph Wind 60 deg	146.92	0.273	-0.0059	0.2129	0.2129
Serviceability - 60 mph Wind 60 deg	166.54	0.351	-0.0061	0.2439	0.2439
Serviceability - 60 mph Wind 60 deg	173.08	0.379	-0.0069	0.2394	0.2395
Serviceability - 60 mph Wind 60 deg	179.63	0.408	-0.0076	0.3177	0.3178
Serviceability - 60 mph Wind 60 deg	185.49	0.434	-0.0077	0.2383	0.2384
Serviceability - 60 mph Wind 60 deg	190.60	0.457	-0.0076	0.2591	0.2591
Serviceability - 60 mph Wind 90 deg	13.21	0.004	-0.0012	0.0243	0.0243
Serviceability - 60 mph Wind 90 deg	20.00	0.007	-0.0016	0.0339	0.0339
Serviceability - 60 mph Wind 90 deg	60.00	0.048	-0.0037	0.0897	0.0897
Serviceability - 60 mph Wind 90 deg	80.00	0.082	-0.0046	0.1164	0.1165
Serviceability - 60 mph Wind 90 deg	86.79	0.097	-0.0049	0.1226	0.1227
Serviceability - 60 mph Wind 90 deg	139.63	0.248	-0.0069	0.2191	0.2191
Serviceability - 60 mph Wind 90 deg	140.38	0.251	-0.0068	0.2210	0.2210
Serviceability - 60 mph Wind 90 deg	146.92	0.275	-0.0063	0.2153	0.2154
Serviceability - 60 mph Wind 90 deg	166.54	0.354	-0.0056	0.2411	0.2411
Serviceability - 60 mph Wind 90 deg	173.08	0.382	-0.0055	0.2400	0.2401
Serviceability - 60 mph Wind 90 deg	179.63	0.411	-0.0054	0.3324	0.3324
Serviceability - 60 mph Wind 90 deg	185.49	0.438	-0.0053	0.2379	0.2379
Serviceability - 60 mph Wind 90 deg	190.60	0.460	-0.0052	0.2629	0.2630
Serviceability - 60 mph Wind 120 deg	13.21	0.004	0.0011	0.0246	0.0246
Serviceability - 60 mph Wind 120 deg	20.00	0.007	0.0014	0.0354	0.0354
Serviceability - 60 mph Wind 120 deg	60.00	0.049	0.0035	0.0927	0.0927

Serviceability - 60 mph Wind 120 deg	80.00	0.085	0.0044	0.1207	0.1207
Serviceability - 60 mph Wind 120 deg	86.79	0.099	0.0047	0.1259	0.1260
Serviceability - 60 mph Wind 120 deg	139.63	0.255	0.0072	0.2271	0.2271
Serviceability - 60 mph Wind 120 deg	140.38	0.258	0.0072	0.2295	0.2295
Serviceability - 60 mph Wind 120 deg	146.92	0.282	0.0070	0.2198	0.2199
Serviceability - 60 mph Wind 120 deg	166.54	0.364	0.0075	0.2516	0.2516
Serviceability - 60 mph Wind 120 deg	173.08	0.393	0.0083	0.2477	0.2477
Serviceability - 60 mph Wind 120 deg	179.63	0.422	0.0089	0.3242	0.3242
Serviceability - 60 mph Wind 120 deg	185.49	0.449	0.0090	0.2461	0.2461
Serviceability - 60 mph Wind 120 deg	190.60	0.472	0.0088	0.2675	0.2675
Serviceability - 60 mph Wind 180 deg	13.21	0.004	0.0011	0.0233	0.0233
Serviceability - 60 mph Wind 180 deg	20.00	0.007	0.0014	0.0340	0.0340
Serviceability - 60 mph Wind 180 deg	60.00	0.047	0.0035	0.0894	0.0894
Serviceability - 60 mph Wind 180 deg	80.00	0.082	0.0044	0.1162	0.1162
Serviceability - 60 mph Wind 180 deg	86.79	0.096	0.0047	0.1213	0.1214
Serviceability - 60 mph Wind 180 deg	139.63	0.245	0.0074	0.2190	0.2190
Serviceability - 60 mph Wind 180 deg	140.38	0.248	0.0074	0.2214	0.2214
Serviceability - 60 mph Wind 180 deg	146.92	0.272	0.0072	0.2120	0.2121
Serviceability - 60 mph Wind 180 deg	166.54	0.350	0.0071	0.2542	0.2542
Serviceability - 60 mph Wind 180 deg	173.08	0.378	0.0070	0.2488	0.2489
Serviceability - 60 mph Wind 180 deg	179.63	0.407	0.0069	0.2528	0.2528
Serviceability - 60 mph Wind 180 deg	185.49	0.432	0.0067	0.2494	0.2495
Serviceability - 60 mph Wind 180 deg	190.60	0.454	0.0067	0.2509	0.2509
Serviceability - 60 mph Wind 210 deg	13.21	0.004	0.0006	0.0243	0.0243
Serviceability - 60 mph Wind 210 deg	20.00	0.007	0.0008	0.0339	0.0339
Serviceability - 60 mph Wind 210 deg	60.00	0.048	0.0021	0.0898	0.0898
Serviceability - 60 mph Wind 210 deg	80.00	0.083	0.0026	0.1165	0.1165
Serviceability - 60 mph Wind 210 deg	86.79	0.097	0.0028	0.1226	0.1227
Serviceability - 60 mph Wind 210 deg	139.63	0.248	0.0044	0.2191	0.2191
Serviceability - 60 mph Wind 210 deg	140.38	0.251	0.0044	0.2210	0.2211
Serviceability - 60 mph Wind 210 deg	146.92	0.275	0.0043	0.2150	0.2151
Serviceability - 60 mph Wind 210 deg	166.54	0.354	0.0037	0.2524	0.2524
Serviceability - 60 mph Wind 210 deg	173.08	0.382	0.0027	0.2501	0.2503
Serviceability - 60 mph Wind 210 deg	179.63	0.411	0.0020	0.2719	0.2719
Serviceability - 60 mph Wind 210 deg	185.49	0.437	0.0017	0.2498	0.2500
Serviceability - 60 mph Wind 210 deg	190.60	0.459	0.0018	0.2556	0.2556
Serviceability - 60 mph Wind 240 deg	13.21	0.004	0.0011	0.0246	0.0246
Serviceability - 60 mph Wind 240 deg	20.00	0.007	0.0014	0.0354	0.0354
Serviceability - 60 mph Wind 240 deg	60.00	0.049	0.0032	0.0927	0.0927
Serviceability - 60 mph Wind 240 deg	80.00	0.085	0.0040	0.1207	0.1207
Serviceability - 60 mph Wind 240 deg	86.79	0.099	0.0042	0.1259	0.1260
Serviceability - 60 mph Wind 240 deg	139.63	0.255	0.0058	0.2271	0.2271
Serviceability - 60 mph Wind 240 deg	140.38	0.258	0.0057	0.2295	0.2295
Serviceability - 60 mph Wind 240 deg	146.92	0.282	0.0052	0.2198	0.2199
Serviceability - 60 mph Wind 240 deg	166.54	0.364	0.0038	0.2516	0.2516
Serviceability - 60 mph Wind 240 deg	173.08	0.393	0.0029	0.2477	0.2477
Serviceability - 60 mph Wind 240 deg	179.63	0.422	0.0020	0.3242	0.3242
Serviceability - 60 mph Wind 240 deg	185.49	0.449	0.0018	0.2461	0.2461
Serviceability - 60 mph Wind 240 deg	190.60	0.472	0.0019	0.2675	0.2675
Serviceability - 60 mph Wind 300 deg	13.21	0.004	0.0010	0.0233	0.0234
Serviceability - 60 mph Wind 300 deg	20.00	0.007	0.0014	0.0341	0.0341
Serviceability - 60 mph Wind 300 deg	60.00	0.047	0.0033	0.0896	0.0896
Serviceability - 60 mph Wind 300 deg	80.00	0.082	0.0041	0.1164	0.1164
Serviceability - 60 mph Wind 300 deg	86.79	0.096	0.0043	0.1216	0.1217
Serviceability - 60 mph Wind 300 deg	139.63	0.246	0.0063	0.2195	0.2195
Serviceability - 60 mph Wind 300 deg	140.38	0.249	0.0063	0.2219	0.2219
Serviceability - 60 mph Wind 300 deg	146.92	0.273	0.0059	0.2129	0.2129
Serviceability - 60 mph Wind 300 deg	166.54	0.351	0.0061	0.2439	0.2439
Serviceability - 60 mph Wind 300 deg	173.08	0.379	0.0069	0.2394	0.2395
Serviceability - 60 mph Wind 300 deg	179.63	0.408	0.0076	0.3177	0.3178
Serviceability - 60 mph Wind 300 deg	185.49	0.434	0.0077	0.2383	0.2384
Serviceability - 60 mph Wind 300 deg	190.60	0.457	0.0076	0.2591	0.2591

Serviceability - 60 mph Wind 330 deg	13.21	0.004	0.0007	0.0243	0.0243
Serviceability - 60 mph Wind 330 deg	20.00	0.007	0.0009	0.0339	0.0339
Serviceability - 60 mph Wind 330 deg	60.00	0.048	0.0022	0.0896	0.0897
Serviceability - 60 mph Wind 330 deg	80.00	0.082	0.0028	0.1164	0.1164
Serviceability - 60 mph Wind 330 deg	86.79	0.097	0.0030	0.1225	0.1226
Serviceability - 60 mph Wind 330 deg	139.63	0.247	0.0052	0.2188	0.2189
Serviceability - 60 mph Wind 330 deg	140.38	0.250	0.0052	0.2207	0.2208
Serviceability - 60 mph Wind 330 deg	146.92	0.275	0.0053	0.2147	0.2148
Serviceability - 60 mph Wind 330 deg	166.54	0.354	0.0062	0.2525	0.2526
Serviceability - 60 mph Wind 330 deg	173.08	0.382	0.0071	0.2498	0.2499
Serviceability - 60 mph Wind 330 deg	179.63	0.411	0.0078	0.2751	0.2752
Serviceability - 60 mph Wind 330 deg	185.49	0.436	0.0078	0.2494	0.2494
Serviceability - 60 mph Wind 330 deg	190.60	0.459	0.0076	0.2550	0.2551

Maximum Reactions Summary

	Vertical (kip)				Horizontal (kip)		Moment (kip-ft)	
Anchor Group	DL+WL	DL+WL+IL	UpLift	Shear	DL+WL	DL+WL+IL	DL+WL	DL+WL+IL
Base	55.74	154.14	464.27	45.70	76.25	22.39	7719.67	2285.18