Robinson+Cole

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts and New York

May 22, 2024

Via Electronic Mail

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

Re: **Notice of Exempt Modification – Facility Modification**
175 Dickinson Road, Glastonbury, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains an existing wireless telecommunications facility at the above-referenced property address (the "Property"). The facility consists of antennas on an existing tower and associated equipment on the ground, near the base of the tower. The tower was approved by the Town of Glastonbury in August of 2000. Cellco's shared use of the tower was approved by the Siting Council ("Council") in December of 2000 (TS-VER-054-001214). A copy of the Town's tower approval and Council's tower share approval are included in Attachment 1.

Cellco now intends to modify its facility by removing nine (9) antennas and three (3) remote radio heads ("RRHs") and installing nine (9) new antennas and nine (9) new RRHs on its existing antenna platform and antenna mounts. A set of project plans showing Cellco's proposed facility modifications and the specifications for Cellco's new antennas and RRHs are included in Attachment 2.

Please accept this letter 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 Glastonbury's Town Manager and Land Use Officer. A copy of this letter is being sent to the owner of the Property.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's new antennas and RRHs will be installed at the same height on the tower.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

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

4. The installation of Cellco's new antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Included in Attachment 3 is a Calculated Radio Frequency Emissions Report demonstrating that the proposed modified facility will comply with the FCC safety standards. The modified facility will be capable of providing Cellco's 5G wireless service.

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

6. According to the attached Structural Analysis Report ("SA") and Antenna Mount Analysis Report ("MA"), the existing tower, tower foundation and antenna mounts, with certain modifications, can support Cellco's proposed modifications. Copies of the SA and MA are included in Attachment 4.

A copy of the parcel map and Property owner information is included in Attachment 5. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 6.

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Jonathan Luiz, Town Manager
Shelley Caltagirone, Director of Community Development
Randall Chapman and Karrie-Lynn Bronzi, Property Owners
Aleksey Tyurin

ATTACHMENT 1

5086

Town of Glastonbury

2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

DATE: August 15, 2000
RE: Assessors Lot N3 Dickenson Road
OWNER: Donald Chapman, Ronald Bronzi and Beverly Bronzi
ZONE: RR

SBA, Inc., and Sprint PCS
80 Eastern Boulevard
Glastonbury, CT 06033

Dear Applicant(s):

Following a Public Hearing of your application on August 9, 2000, the following resolution was passed by the Zoning Board of Appeals:

The Board granted a special exception as provided for in Section 4.2.1 to construct a 180' monopole tower and the installation and operation of antennas and associated equipment for wireless communication system at assessors Lot N3 Dickenson Road as it meets all the requirements of Section 13.9.

The approval will become effective when it is recorded by the property owner in the Town Clerk's Office but to satisfy the provisions of Section 13.10 of the Glastonbury Building Zone Regulations concerning expiration, this approval shall become null and void two years from August 10, 2000, unless substantial construction on a building or structure or use is established on a lot.

This decision is based upon and subject to the representations made and evidence produced by the applicant(s) at the Public Hearing.

Glastonbury Zoning Board of Appeals
For the Secretary
Edward P. Pietrycha
Building Official and Zoning Enforcement Officer

dml

cc: Wendell G. Davis, Jr., Cranmore, FitzGerald & Meaney, 49 Wethersfield Avenue, Hartford, CT.

GLASTONBURY, CT
RECEIVED
2000 AUG 22 AM 9:32
VOL. PAGE
E. J. FRIEDBERG, TOWN CLERK

December 22, 2000

Sandy M. Carter
Verizon Wireless
20 Alexander Drive
P.O. Box 5029
Wallingford, CT 06492

RE: **TS-VER-054-001214** - Cellco Partnership d/b/a Verizon Wireless request for an order to approve tower sharing at an existing telecommunications facility located at 175 Dickinson Road, Glastonbury, Connecticut.

Dear Ms. Carter:

At a public meeting held December 19, 2000, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letter dated December 14, 2000.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/laf

c: Honorable Kurt P. Cavanaugh, Chairman Town Council, Town of Glastonbury
Richard J. Johnson, Town Manager, Town of Glastonbury
Ester McNany, SBA, Inc.
Julie M. Cashin, Esq., Hurwitz & Sagarin LLC

ATTACHMENT 2

ANTENNA MOUNT REINFORCEMENT NOTE:
PRIOR TO THE COMMENCEMENT OF THE UPGRADE WORK SHOWN ON THESE DRAWINGS, THE EXISTING VERIZON TRI-SECTOR ANTENNA MOUNTING FRAME LOCATED ON THE EXISTING MONOPOLE SHALL BE REINFORCED AS PER THE MOUNT MODIFICATION DRAWINGS PREPARED BY COLLIERS ENGINEERING & DESIGN (PROJECT #22777014).

SBA APPROVED
By Stephen Roth at 8:13:27 AM, 4/25/2024

verizon

20 ALEXANDER DRIVE, 2nd FLOOR
WALLINGFORD, CT 06492

E GLASTONBURY 2 CT

175 DICKINSON ROAD
GLASTONBURY, CT 06033
HARTFORD COUNTY

PROJECT TYPE: UPGRADE TO EXISTING WIRELESS TELECOMMUNICATIONS INSTALLATION ON EXISTING 180'± MONOPOLE

SUPPORTING DOCUMENTS

RADIO FREQUENCY (RF) DESIGN DATE: 09/22/23

ANTENNA MOUNT STRUCTURAL ANALYSIS DATE: 02/20/24 (BY COLLIERS ENGINEERING & DESIGN)

ANTENNA SUPPORT STRUCTURE (176± MONOPOLE) STRUCTURAL ANALYSIS DATE: 03/27/24 (BY SBA COMMUNICATIONS CORPORATION)

SITE INFORMATION

VERIZON LOCATION CODE:	485152
VERIZON SITE NAME:	E GLASTONBURY 2 CT
SBA SITE NUMBER:	CT02216-S
SBA SITE NAME:	GLASTONBURY
SBA COLLO APP NUMBER:	244594, V1
MDG LOCATION ID:	5000089580
FUZE PROJECT ID:	2556929
SITE ADDRESS:	175 DICKINSON ROAD GLASTONBURY, CT 06033
PROPERTY OWNER:	RANDALL S. CHAPMAN P.O. BOX 7 TROY, ME 04987
TOWER OWNER:	SBA PROPERTIES, LLC 8051 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561 226 9525
COUNTY	HARTFORD COUNTY, CT
ZONING DISTRICT:	(RR) RURAL RESIDENTIAL
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	180'±
STRUCTURE HEIGHT W/APPURTENANCE:	186'±
GROUND ELEVATION:	477'±
TOTAL AMSL:	663'±
SITE CONTROL POINT:	CENTER OF EXISTING MONOPOLE N 41°-39-21.20" (41.6559°) (NAD '83) W 72°-31'-23.72" (-72.5233°) (NAD '83)
ARCHITECT/ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752

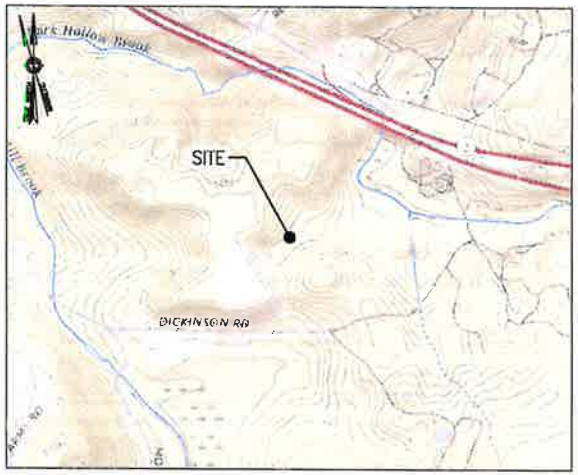
GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
2. NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2022 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2020 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-H STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

VICINITY MAP

SCALE: 1"=1000'



DRIVING DIRECTIONS

FROM WALLINGFORD, TAKE CT 68 EAST. TAKE SHARP LEFT ONTO I 91 NORTH RAMP TOWARD HARTFORD. MERGE ONTO I 91 NORTH. TAKE EXIT 25 26 TOWARD CT 3 NORTH/GLASTONBURY/OLD WETHERSFIELD. TAKE EXIT 25 ON THE LEFT FOR CT 3 NORTH TOWARD GLASTONBURY. USE RIGHT LANE FOR CT 2 EAST TOWARD NORWICH. TAKE EXIT 10 FOR CT 83 TOWARD EAST GLASTONBURY/MANCHESTER. TURN RIGHT ONTO CT 83 SOUTH/MANCHESTER ROAD. TURN LEFT ONTO NEW LONDON TURNPIKE. CONTINUE STRAIGHT ONTO WASSUC ROAD. TURN RIGHT ONTO COUNTRY CLUB ROAD. TURN LEFT ONTO MOTT HILL ROAD. TAKE SLIGHT LEFT ONTO DICKINSON ROAD. THE SITE IS LOCATED AT THE END OF THE ROAD.

SHEET INDEX

DWG.	DESCRIPTION	REV.
T01	TITLE SHEET	1
GN01	GENERAL NOTES	1
A01	SITE PLAN	1
A02	COMPOUND PLAN	1
A03	TOWER ELEVATION & ANTENNA PLANS	1
A04	SITE DETAILS	1
RF01	RF DATA	1
RR02	RF PLUMBING DIAGRAM	1
RR03	RF COLOR CODE SPECIFICATIONS	1
E01	GROUNDING NOTES & DETAILS	1
MM01	MOUNT MODIFICATION DRAWINGS I	1
MM02	MOUNT MODIFICATION DRAWINGS II	1
MM03	MOUNT MODIFICATION DRAWINGS III	1

DO NOT SCALE DRAWINGS

ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS AT THE PROPOSED PROJECT SITE SHALL BE VERIFIED IN THE FIELD DURING THE CONSTRUCTION PHASE. THE PROJECT OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IN WRITING OF ANY DISCREPANCIES IMMEDIATELY PRIOR TO PROCEEDING WITH THE PROPOSED WORK AFFECTED BY SUCH DISCREPANCIES. IN THE EVENT OF LACK OF SUCH NOTIFICATION, SUCH DISCREPANCIES SHALL BECOME THE RESPONSIBILITY OF THE PREVAILING CONTRACTOR RESPONSIBLE FOR CONSTRUCTION.

PROJECT DESCRIPTION

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS EQUIPMENT INSTALLATION AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC WIRELESS TELECOMMUNICATIONS SERVICE.
2. THIS FACILITY DOES NOT, NOR WILL IT CONSUME UNRECOVERABLE ENERGY.
3. NO PORTABLE WATER SUPPLY IS OR WILL BE PROVIDED AT THIS LOCATION.
4. NO WASTE WATER IS OR WILL BE GENERATED AT THIS LOCATION.
5. NO SOLID WASTE IS OR WILL BE GENERATED AT THIS LOCATION.

SCOPE OF WORK

REMOVE:
- (6) ANTENNAS
- (3) RADIOS
- (12) COAXIAL CABLES

INSTALL:
- MOUNT REINFORCEMENTS
- (3) SIDE-BY-SIDE ANTENNA BRACKETS
- (6) ANTENNAS
- (6) RADIOS
- (2) JUNCTION BOXES (6 OVP)
- (2) HYBRID CABLES

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7336

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
B.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
4/25/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CMC
0	04/11/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS
E GLASTONBURY 2 CT
175 DICKINSON ROAD
GLASTONBURY, CT 06073

VZW LOCATION CODE: 485152
MDG LOCATION ID: 5000089580
FUZE PROJECT ID: 2556929

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T01

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – VERIZON WIRELESS
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – VERIZON 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.

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

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

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

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

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

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. 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 THE OWNER.

11. 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.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC. 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACK FILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS & POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.

15. CONSTRUCTION SHALL COMPLY WITH VERIZON WIRELESS NETWORK STANDARD #NSTD123 TO THE MAXIMUM EXTENT FEASIBLE UNLESS PRECLUDED OR LIMITED BY DESIGN SHOWN ON THESE DRAWINGS.

16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

18. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

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 ENGINEERS. 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 AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. 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.

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. 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 ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. 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 AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE VERIZON WIRELESS SPECIFICATION FOR SITE SIGNAGE.

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 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301 CODE REQUIREMENTS

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE, WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST EARTH.......3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER ....2 IN.
   #5 AND SMALLER & WWF ....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL ....¾ IN.
   BEAMS AND COLUMNS ....1½ IN.

5. A CHAMFER ¾" 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 ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.

7. CONCRETE CYLINDER TEST IS NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
   (A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
   (B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
   FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.

8. AS AN ALTERNATIVE TO ITEM 7, TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.

9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND VERIZON WIRELESS SPECIFICATION 25252-000-3PS-GET-00001 UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE 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 AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.

4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.

5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.

6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

7. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE 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 ALTERNATE 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 ALTERNATE TO ITEMS 2 AND 3, 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.

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, VERIZON WIRELESS ANTENNA PLATFORM LOCATION AND ANTENNAS TO BE REPLACED.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

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

2. SUBCONTRACTOR SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

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

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

5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.

6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA AND MATCH EXISTING INSTALLATION REQUIREMENTS

7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANEL BOARD AND CIRCUIT ID'S).

8. PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

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 (#34 AWG OR LARGER), 600 V, 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 (#6 AWG OR LARGER), 600 V, 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. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #3 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, 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.

14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).

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

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. 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.

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

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

20. 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.

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

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

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

24. CABINETS, BOXES, AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. 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.

26. 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

27. 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.

28. 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.

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

30. 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.

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

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

verizon

20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7336

SBA

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC

R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
4/23/2024

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CJC
0	04/11/24	ISSUED FOR REVIEW	CJC

PROJECT NAME & ADDRESS

E GLASTONBURY 2 CT

175 DICKINSON ROAD
GLASTONBURY, CT 06073

VZW LOCATION CODE: [redacted]

MDG LOCATION ID: [redacted]

FUZE PROJECT ID: [redacted]

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN01

SITE PLAN
SCALE: 1" = 80'-0"

1
A01

0 80' 160' 240'

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7338

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 28987
LICENSED
PROFESSIONAL CIVIL ENGINEER
4/23/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CHC
0	04/11/24	ISSUED FOR REVIEW	CHC

PROJECT NAME & ADDRESS

E GLASTONBURY 2
CT

175 DICKINSON ROAD
GLASTONBURY, CT 06073

VZW LOCATION CODE: 468182
MDG LOCATION ID: [redacted]
FUZE PROJECT ID: [redacted]

SHEET TITLE

SITE PLAN

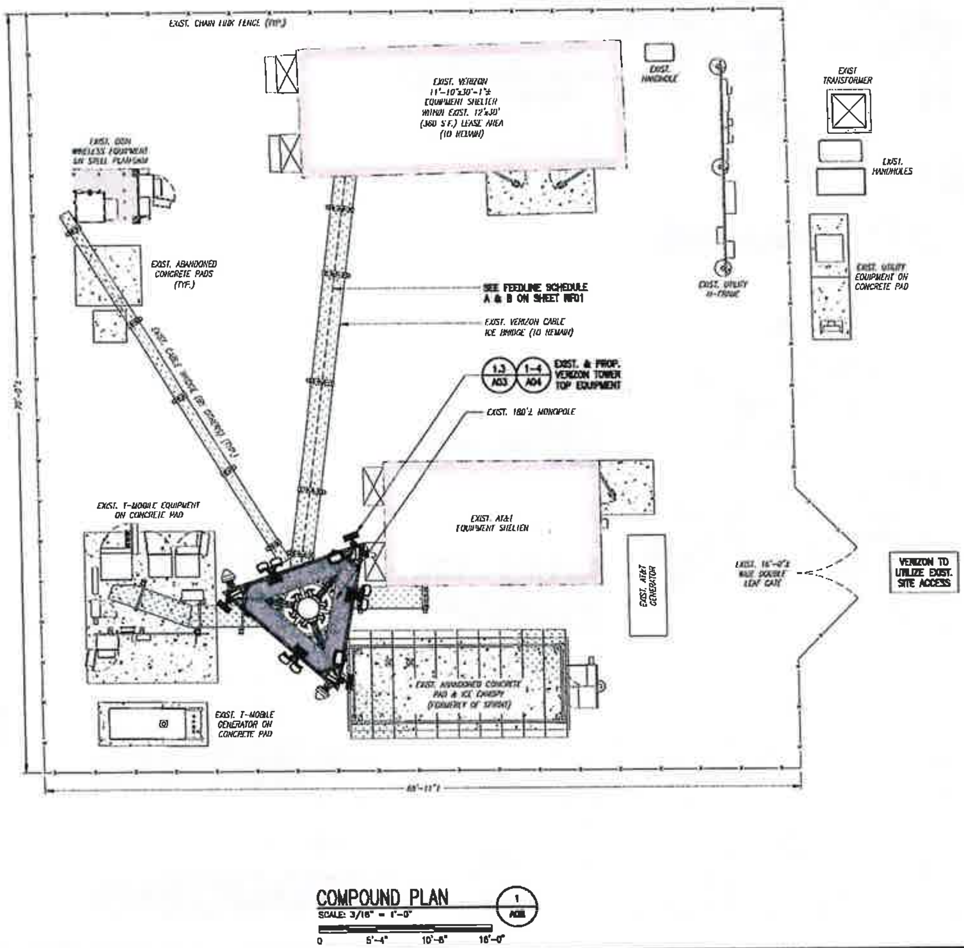
SHEET NUMBER

A01

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS): GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS): GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE VERIZON RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

ANTENNA MOUNT REINFORCEMENT NOTE: PRIOR TO THE COMMENCEMENT OF THE UPGRADE WORK SHOWN ON THESE DRAWINGS, THE EXISTING VERIZON TRI-SECTOR ANTENNA MOUNTING FRAME LOCATED ON THE EXISTING MONOPOLE SHALL BE REINFORCED AS PER THE MOUNT MODIFICATION DRAWINGS PREPARED BY COLLIERS ENGINEERING & DESIGN (PROJECT #22777014).



EXIST. CHAIN LINK FENCE (TYP.)
EXIST. VERIZON 11'-10"x30'-1"± EQUIPMENT SHELTER WITHIN EXIST. 12'x30' (360 S.F.) LEASE AREA (10 REMAIN)
EXIST. HANDHOLE
EXIST. TRANSFORMER
EXIST. HANDHOLES
EXIST. DISH WIRELESS EQUIPMENT ON STEEL PLATFORM
EXIST. ABANDONED CONCRETE PADS (TYP.)
EXIST. UTILITY H-FRAME
EXIST. UTILITY EQUIPMENT ON CONCRETE PAD
SEE FEEDLINE SCHEDULE A & B ON SHEET RF01
EXIST. VERIZON CABLE ICE BRIDGE (TO REMAIN)
EXIST. CABLE BRIDGE (BY OTHERS) (TYP.)
1-3 A03
1-4 A04
EXIST. & PROP. VERIZON TOWER TOP EQUIPMENT
EXIST. 180'± MONOPOLE
EXIST. T-MOBILE EQUIPMENT ON CONCRETE PAD
EXIST. AT&T EQUIPMENT SHELTER
EXIST. AT&T GENERATOR
EXIST. 16'-0"± WIDE DOUBLE LEAF GATE
VERIZON TO UTILIZE EXIST. SITE ACCESS
EXIST. ABANDONED CONCRETE PAD & ICE CANOPY (FORMERLY OF SPRINT)
EXIST. T-MOBILE GENERATOR ON CONCRETE PAD

COMPOUND PLAN (1 / A02)

SCALE: 3/16" = 1'-0"

0 5'-4" 10'-8" 16'-0"

verizon

20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7338

SBA

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC

R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT * JAMES M. FITZGERALD No. 25987 LICENSED PROFESSIONAL CIVIL ENGINEER

4/23/2024

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CMC
0	04/11/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS

E GLASTONBURY 2 CT

175 DICKINSON ROAD
GLASTONBURY, CT 06073

VZW LOCATION CODE: [redacted]
MDG LOCATION ID: [redacted]
FUZE PROJECT ID: [redacted]

SHEET TITLE

COMPOUND PLAN

SHEET NUMBER

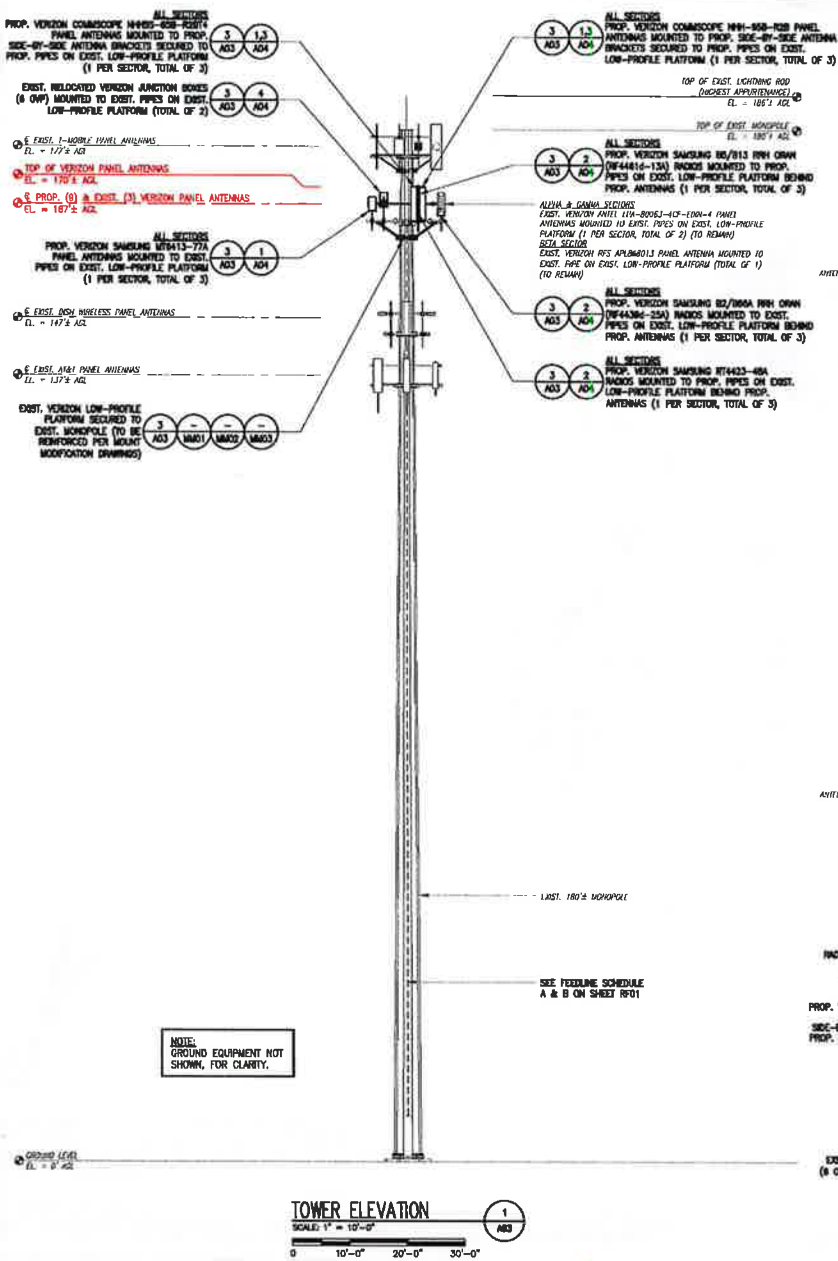
A02

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

SPECIAL CONSTRUCTION NOTE (SBA-PROVIDED ANTENNA MOUNT STRUCTURAL MOD SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT THE VERIZON RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

ANTENNA MOUNT REINFORCEMENT NOTE:
PRIOR TO THE COMMENCEMENT OF THE UPGRADE WORK SHOWN ON THESE DRAWINGS, THE EXISTING VERIZON TRI-SECTOR ANTENNA MOUNTING FRAME LOCATED ON THE EXISTING MONOPOLE SHALL BE REINFORCED AS PER THE MOUNT MODIFICATION DRAWINGS PREPARED BY COLLIERS ENGINEERING & DESIGN (PROJECT #22777014).

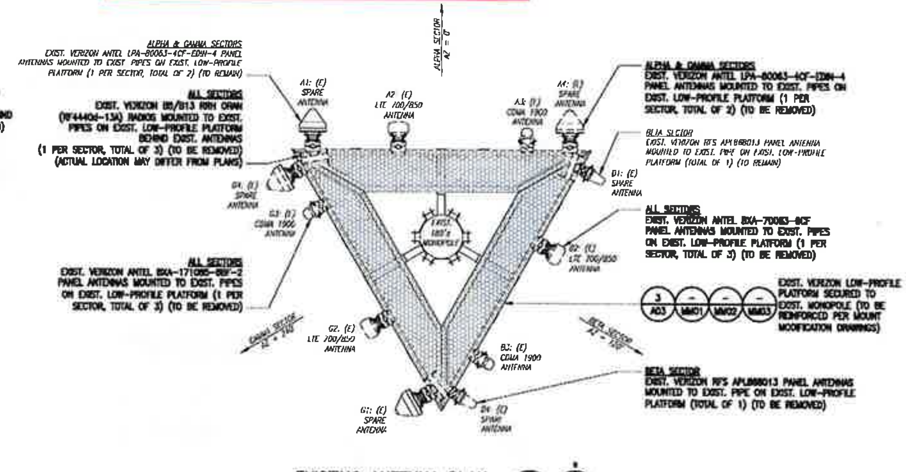
RAD CENTER NOTE:
VERIZON ANTENNA AND MOUNT RAD CENTER SHOWN IN ELEVATION ARE ACCORDING TO STRUCTURAL ANALYSIS DONE BY OTHERS AND MAY DIFFER FROM RAD CENTER ON RFDS PROVIDED BY VERIZON.



ALL SECTORS PROP. VERIZON COMMSCOPE NHH65-65B-R2BT4 PANEL ANTENNAS MOUNTED TO PROP. SIDE-BY-SIDE ANTENNA BRACKETS SECURED TO PROP. PIPES ON EXIST. LOW-PROFILE PLATFORM (1 PER SECTOR, TOTAL OF 3)
EXIST. RELOCATED VERIZON JUNCTION BOXES (6 OVP) MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM (TOTAL OF 2)
℄ EXIST. T-MOBILE PANEL ANTENNAS EL. = 177'± AGL
TOP OF VERIZON PANEL ANTENNAS EL. = 170'± AGL
℄ PROP. (6) & EXIST. (3) VERIZON PANEL ANTENNAS EL. = 167'± AGL
ALL SECTORS PROP. VERIZON SAMSUNG MT6413-77A PANEL ANTENNAS MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM (1 PER SECTOR, TOTAL OF 3)
℄ EXIST. DISH WIRELESS PANEL ANTENNAS EL. = 147'± AGL
℄ EXIST. AT&T PANEL ANTENNAS EL. = 137'± AGL
EXIST. VERIZON LOW-PROFILE PLATFORM SECURED TO EXIST. MONOPOLE (TO BE REINFORCED PER MOUNT MODIFICATION DRAWINGS)
ALL SECTORS PROP. VERIZON COMMSCOPE NHH-65B-R2B PANEL ANTENNAS MOUNTED TO PROP. SIDE-BY-SIDE ANTENNA BRACKETS SECURED TO PROP. PIPES ON EXIST. LOW-PROFILE PLATFORM (1 PER SECTOR, TOTAL OF 3)
TOP OF EXIST. LIGHTNING ROD (HIGHEST APPURTENANCE) EL. = 185'± AGL
TOP OF EXIST. MONOPOLE EL. = 180'± AGL
ALL SECTORS PROP. VERIZON SAMSUNG B5/B13 RRH ORAN (RF4461d-13A) RADIOS MOUNTED TO PROP. PIPES ON EXIST. LOW-PROFILE PLATFORM BEHIND PROP. ANTENNAS (1 PER SECTOR, TOTAL OF 3)
ALPHA & GAMMA SECTORS EXIST. VERIZON ANTEL LPA-80063-4CF-EDIN-4 PANEL ANTENNAS MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM (1 PER SECTOR, TOTAL OF 2) (TO REMAIN)
BETA SECTOR EXIST. VERIZON RFS APL868013 PANEL ANTENNA MOUNTED TO EXIST. PIPE ON EXIST. LOW-PROFILE PLATFORM (TOTAL OF 1) (TO REMAIN)
ALL SECTORS PROP. VERIZON SAMSUNG B2/B66A RRH ORAN (RF4439d-25A) RADIOS MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM BEHIND PROP. ANTENNAS (1 PER SECTOR, TOTAL OF 3)
ALL SECTORS PROP. VERIZON SAMSUNG RT4423-48A RADIOS MOUNTED TO PROP. PIPES ON EXIST. LOW-PROFILE PLATFORM BEHIND PROP. ANTENNAS (1 PER SECTOR, TOTAL OF 3)
EXIST. 180'± MONOPOLE
SEE FEEDLINE SCHEDULE A & B ON SHEET RF01
GROUND LEVEL EL. = 0' AGL

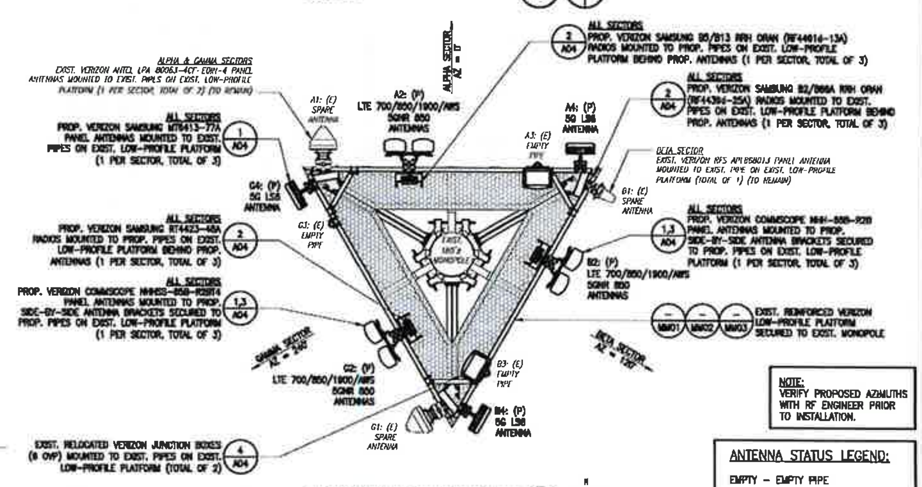
NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

TOWER ELEVATION (1/A03)
SCALE: 1" = 10'-0"
0 10'-0" 20'-0" 30'-0"



ALPHA SECTOR AZ = 0°
BETA SECTOR AZ = 120°
GAMMA SECTOR AZ = 240°
ALPHA & GAMMA SECTORS EXIST. VERIZON ANTEL LPA-80063-4CF-EDIN-4 PANEL ANTENNAS MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM (1 PER SECTOR, TOTAL OF 2) (TO BE REMOVED)
ALL SECTORS EXIST. VERIZON B5/B13 RRH ORAN (RF4440d-13A) RADIOS MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM BEHIND EXIST. ANTENNAS (1 PER SECTOR, TOTAL OF 3) (TO BE REMOVED) (ACTUAL LOCATION MAY DIFFER FROM PLANS)
ALL SECTORS EXIST. VERIZON ANTEL BXA-171085-8BF-2 PANEL ANTENNAS MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM (1 PER SECTOR, TOTAL OF 3) (TO BE REMOVED)
ALL SECTORS EXIST. VERIZON ANTEL BXA-70063-6CF PANEL ANTENNAS MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM (1 PER SECTOR, TOTAL OF 3) (TO BE REMOVED)
EXIST. VERIZON LOW-PROFILE PLATFORM SECURED TO EXIST. MONOPOLE (TO BE REINFORCED PER MOUNT MODIFICATION DRAWINGS)
BETA SECTOR EXIST. VERIZON RFS APL868013 PANEL ANTENNAS MOUNTED TO EXIST. PIPE ON EXIST. LOW-PROFILE PLATFORM (TOTAL OF 1) (TO BE REMOVED)
EXIST. 180'± MONOPOLE

EXISTING ANTENNA PLAN (2/A03)
SCALE: N.T.S.



ALPHA SECTOR AZ = 0°
BETA SECTOR AZ = 120°
GAMMA SECTOR AZ = 240°
ALL SECTORS PROP. VERIZON SAMSUNG B5/B13 RRH ORAN (RF4461d-13A) RADIOS MOUNTED TO PROP. PIPES ON EXIST. LOW-PROFILE PLATFORM BEHIND PROP. ANTENNAS (1 PER SECTOR, TOTAL OF 3)
ALL SECTORS PROP. VERIZON SAMSUNG B2/B66A RRH ORAN (RF4439d-25A) RADIOS MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM BEHIND PROP. ANTENNAS (1 PER SECTOR, TOTAL OF 3)
ALL SECTORS PROP. VERIZON COMMSCOPE NHH-65B-R2B PANEL ANTENNAS MOUNTED TO PROP. SIDE-BY-SIDE ANTENNA BRACKETS SECURED TO PROP. PIPES ON EXIST. LOW-PROFILE PLATFORM (1 PER SECTOR, TOTAL OF 3)
EXIST. REINFORCED VERIZON LOW-PROFILE PLATFORM SECURED TO EXIST. MONOPOLE
ALL SECTORS PROP. VERIZON SAMSUNG MT6413-77A PANEL ANTENNAS MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM (1 PER SECTOR, TOTAL OF 3)
ALL SECTORS PROP. VERIZON SAMSUNG RT4423-48A RADIOS MOUNTED TO PROP. PIPES ON EXIST. LOW-PROFILE PLATFORM BEHIND PROP. ANTENNAS (1 PER SECTOR, TOTAL OF 3)
ALL SECTORS PROP. VERIZON COMMSCOPE NHH65-65B-R2BT4 PANEL ANTENNAS MOUNTED TO PROP. SIDE-BY-SIDE ANTENNA BRACKETS SECURED TO PROP. PIPES ON EXIST. LOW-PROFILE PLATFORM (1 PER SECTOR, TOTAL OF 3)
EXIST. RELOCATED VERIZON JUNCTION BOXES (6 OVP) MOUNTED TO EXIST. PIPES ON EXIST. LOW-PROFILE PLATFORM (TOTAL OF 2)
EXIST. 180'± MONOPOLE

NOTE:
VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

ANTENNA STATUS LEGEND:
EMPTY – EMPTY PIPE
(E) – EXISTING
(P) – INSTALL
(F) – FUTURE

PROPOSED ANTENNA PLAN (3/A03)
SCALE: N.T.S.

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7338

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT — JAMES M. FITZGERALD — No. 25987 — LICENSED PROFESSIONAL ENGINEER
4/23/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CMC
0	04/11/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS
E GLASTONBURY 2 CT
175 DICKINSON ROAD
GLASTONBURY, CT 06073

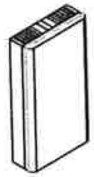
VZW LOCATION CODE: [illegible]
MDG LOCATION ID: [illegible]
FUZE PROJECT ID: [illegible]

SHEET TITLE
TOWER ELEVATION & ANTENNA PLANS

SHEET NUMBER
A03

COMMSCOPE NHH-65B-R2B ANTENNA
DIMENSIONS: 72.0"H x 11.9"W x 7.1"D
WEIGHT: 43.7 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

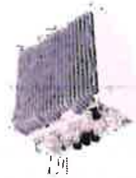
COMMSCOPE NHHSS-65B-R2BT4 ANTENNA
DIMENSIONS: 72.0"H x 11.9"W x 7.1"D
WEIGHT: 50.6 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA



SAMSUNG MT6413-77A ANTENNA
DIMENSIONS: 28.9"H x 16.9"W x 5.5"D
WEIGHT: 57.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

ANTENNA DETAILS (1/A04)
SCALE: N.T.S.

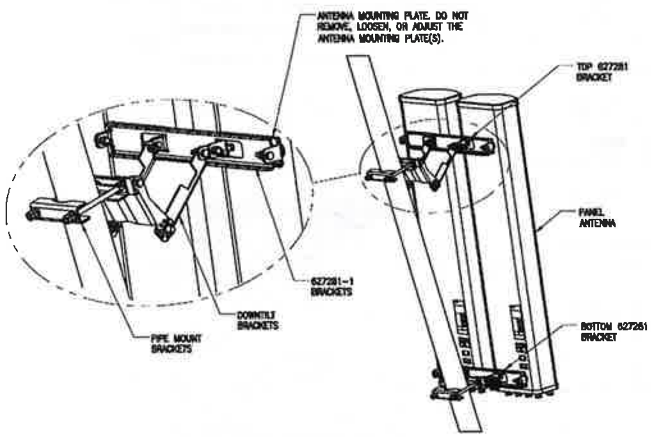
SAMSUNG RT4423-48A RADIO
DIMENSIONS: 8.7"H x 11.8"W x 3.6"D
WEIGHT: 15.4 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA



SAMSUNG RF4439d-25A B2/B66A RADIO
DIMENSIONS: 15.0"H x 15.0"W x 10.0"D
WEIGHT: 74.7 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

SAMSUNG RF4461d-13A B5/B13 RADIO
DIMENSIONS: 15.0"H x 15.0"W x 10.2"D
WEIGHT: 79.1 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

RADIO DETAILS (2/A04)
SCALE: N.T.S.



COMMSCOPE BSAMNT-SBS-1-2
SIDE-BY-SIDE ANTENNA MOUNT BRACKET
WEIGHT: 23.4 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA
NOTE: MOUNT ANTENNA PER MANUFACTURER'S SPECIFICATIONS

TYPICAL SIDE-BY-SIDE ANTENNA MOUNT KIT (3/A04)
SCALE: N.T.S.

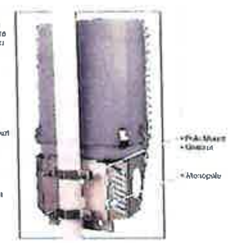
Procedure
Mounting Procedures

4.1 A mounting base is delivered with the unit. The base allows either wall/ladder or pole mounted installation. See picture to identify the holes for each installation method.

4.2 *Option 1: Pole Mount* Using supplied hardware, mount Bracket to 2" to 4" diameter pole.

4.3 *Option 2: Unistrut*

4.4 *Option 3: Monopole* Use 1" stainless steel bands (not supplied) through slots on bracket to mount to Monopole.



Gland/Insert Definitions

5.1 See picture to identify Base Gland Assembly Definitions.

Assembled in un... as shipped:

Qty	Connector Size	Pos	Insert P/N	Insert Hole	Cable Type
2	M75	A	[illegible]	[illegible]	[illegible]
4	M25	B	[illegible]	[illegible]	[illegible]

Included in kit shipped with unit:

Qty	Connector Size	Insert P/N	Insert Hole	Cable Type	Purpose	Pos
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible] DC	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FIBER JUNCTION BOX
DIMENSIONS: 29.58"H x 16.5"W x 12.8"D
WEIGHT: 32.0 lbs
QUANTITY: TOTAL OF 2

TYPICAL FIBER JUNCTION BOX DETAILS (4/A04)
SCALE: N.T.S.

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7300

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT · JAMES M. FITZGERALD · No. 25997 · LICENSED · PROFESSIONAL CIVIL ENGINEER
4/23/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CMC
0	04/11/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS
E GLASTONBURY 2
CT
175 DICKINSON ROAD
GLASTONBURY, CT 06073

VZW LOCATION CODE:	468182
MDG LOCATION ID:	[illegible]
FUZE PROJECT ID:	[illegible]

SHEET TITLE
SITE DETAILS

SHEET NUMBER
A04

EXISTING EQUIPMENT CONFIGURATION

SECTOR	EQUIPMENT MAKE & MODEL	QTY	AZIMUTH (TRUE NORTH)	ANTENNA RAD	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	H (IN)	W (IN)	D (IN)	WEIGHT (LBS)	HYBRID CABLE SIZE & QTY
ALPHA	ANTEL LPA-80063-4CF-EDIN-4 PANEL ANTENNA	1	0°	167'± AGL	SPARE	-	-	ETR	47.4	15.2	13.2	20.0	EXIST. (12) 1-5/8" COAXIAL CABLES
	ANTEL BXA-70063-6CF PANEL ANTENNA	1	0°	167'± AGL	LTE 700/850	0°/0°	0°/0°	ETRE	71.0	11.3	8.0	17.0	
	ANTEL BXA-171085-8CF-2 PANEL ANTENNA	1	0°	167'± AGL	CDMA 1900	-	-	ETRE	48.5	6.1	4.1	10.5	
	ANTEL LPA-80063-4CF-EDIN-4 PANEL ANTENNA	1	0°	167'± AGL	SPARE	-	-	ETRE	47.4	15.2	13.2	20.0	
BETA	RFS APXV9ERR43 PANEL ANTENNA	1	120°	167'± AGL	SPARE	-	-	ETR	48.0	6.0	8.0	6.3	
	ANTEL BXA-70063-6CF PANEL ANTENNA	1	120°	167'± AGL	LTE 700/850	0°/0°	0°/0°	ETRE	71.0	11.3	8.0	17.0	
	ANTEL BXA-171085-8CF-2 PANEL ANTENNA	1	120°	167'± AGL	CDMA 1900	-	-	ETRE	48.5	6.1	4.1	10.5	
	RFS APXV9ERR43 PANEL ANTENNA	1	120°	167'± AGL	SPARE	-	-	ETRE	48.0	6.0	8.0	6.3	
GAMMA	ANTEL LPA-80063-4CF-EDIN-4 PANEL ANTENNA	1	240°	167'± AGL	SPARE	-	-	ETR	47.4	15.2	13.2	20.0	
	ANTEL BXA-70063-6CF PANEL ANTENNA	1	240°	167'± AGL	LTE 700/850	0°/0°	0°/0°	ETRE	71.0	11.3	8.0	17.0	
	ANTEL BXA-171085-8CF-2 PANEL ANTENNA	1	240°	167'± AGL	CDMA 1900	-	-	ETRE	48.5	6.1	4.1	10.5	
	ANTEL LPA-80063-4CF-EDIN-4 PANEL ANTENNA	1	240°	167'± AGL	SPARE	-	-	ETRE	47.4	15.2	13.2	20.0	
ALL	SAMSUNG B5/B13 RRH DRAH (RF4440d-13A) RADIOS	3	-	-	-	-	-	ETRE	13.0	13.0	9.0	70.3	

NOTES:
1. "ETR" DENOTES "EXISTING TO REMAIN".
2. "ETRE" DENOTES "EXISTING TO BE REMOVED".
3. WEIGHTS LISTED ARE WITHOUT MOUNTING BRACKETS.
4. INFORMATION IS BASED ON RFDS DATED 08/22/23.

FINAL EQUIPMENT CONFIGURATION

SECTOR	EQUIPMENT MAKE & MODEL	QTY	AZIMUTH (TRUE NORTH)	ANTENNA RAD	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	H (IN)	W (IN)	D (IN)	WEIGHT (LBS)	HYBRID CABLE SIZE & QTY
ALPHA	ANTEL LPA-80063-4CF-EDIN-4 PANEL ANTENNA	1	0°	167'± AGL	SPARE	-	-	ETR	47.4	15.2	13.2	20.0	PROP. (2) 6x12 HYBRID CABLES
	ANDREW MX08-65B-R2B PANEL ANTENNA	1	0°	167'± AGL	LTE 700/850/1900 5GNR 850	0°/0°/0° 0°	0°/0°/0° 0°	NEW	72.0	11.9	7.1	43.7	
	ANDREW MX08SS-65B-R2BT4 PANEL ANTENNA	1	0°	167'± AGL	LTE 700/850/AWS/CBRS 5GNR 850	0°/0°/0°/0° 0°	0°/0°/0°/4° 0°	NEW	72.0	11.9	7.1	50.9	
	SAMSUNG MT6413-77A ANTENNA	1	0°	167'± AGL	5G L26	0°	1°	NEW	28.9	15.8	5.5	57.3	
BETA	RFS APXV9ERR43 PANEL ANTENNA	1	120°	167'± AGL	SPARE	-	-	ETR	48.0	6.0	8.0	6.3	
	ANDREW MX08-65B-R2B PANEL ANTENNA	1	120°	167'± AGL	LTE 700/850/1900 5GNR 850	0°/0°/0° 0°	0°/0°/0° 0°	NEW	72.0	11.9	7.1	43.7	
	ANDREW MX08SS-65B-R2BT4 PANEL ANTENNA	1	120°	167'± AGL	LTE 700/850/AWS/CBRS 5GNR 850	0°/0°/0°/0° 0°	0°/0°/0°/4° 0°	NEW	72.0	11.9	7.1	50.9	
	SAMSUNG MT6413-77A ANTENNA	1	120°	167'± AGL	5G L26	0°	1°	NEW	28.9	15.8	5.5	57.3	
GAMMA	ANTEL LPA-80063-4CF-EDIN-4 PANEL ANTENNA	1	240°	167'± AGL	SPARE	-	-	ETR	47.4	15.2	13.2	20.0	
	ANDREW MX08-65B-R2B PANEL ANTENNA	1	240°	167'± AGL	LTE 700/850/1900 5GNR 850	0°/0°/0° 0°	0°/0°/0° 0°	NEW	72.0	11.9	7.1	43.7	
	ANDREW MX08SS-65B-R2BT4 PANEL ANTENNA	1	240°	167'± AGL	LTE 700/850/AWS/CBRS 5GNR 850	0°/0°/0°/0° 0°	0°/0°/0°/4° 0°	NEW	72.0	11.9	7.1	50.9	
	SAMSUNG MT6413-77A ANTENNA	1	240°	167'± AGL	5G L26	0°	1°	NEW	28.9	15.8	5.5	57.3	
ALL	SAMSUNG B25/B66A DRAH (RF4439d-25A) RADIOS	3	-	-	-	-	-	NEW	15.0	15.0	10.0	74.7	
	SAMSUNG B5/B13 DRAH (RF4461d-13A) RADIOS	3	-	-	-	-	-	NEW	15.0	15.0	10.2	79.1	
	SAMSUNG RT4423-48A RADIOS	3	-	-	-	-	-	NEW	8.7	11.8	3.8	15.4	
	6 CVP	2	-	-	-	-	-	NEW	29.6	16.5	12.8	32.0	

NOTES:
1. "ETR" DENOTES "EXISTING TO REMAIN".
2. "ETRE" DENOTES "EXISTING TO BE REMOVED".
3. WEIGHTS LISTED ARE WITHOUT MOUNTING BRACKETS.
4. INFORMATION IS BASED ON RFDS DATED 08/22/23.

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (1) 1/2" COAXIAL CABLE FOR GPS ANTENNA EXISTING TO BE REMOVED: (12) 1-5/8" COAXIAL CABLES	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (2) 6x12 HYBRID CABLES	

NOTE:
EXISTING VERIZON EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

verizon

20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7336

SBA

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC

R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 29987
LICENSED PROFESSIONAL CIVIL ENGINEER
4/26/24

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/25/24	ISSUED FOR CONSTRUCTION	CMC
0	04/1/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & NUMBER

E GLASTONBURY 2
CT

175 DICKINSON ROAD
GLASTONBURY, CT 06073

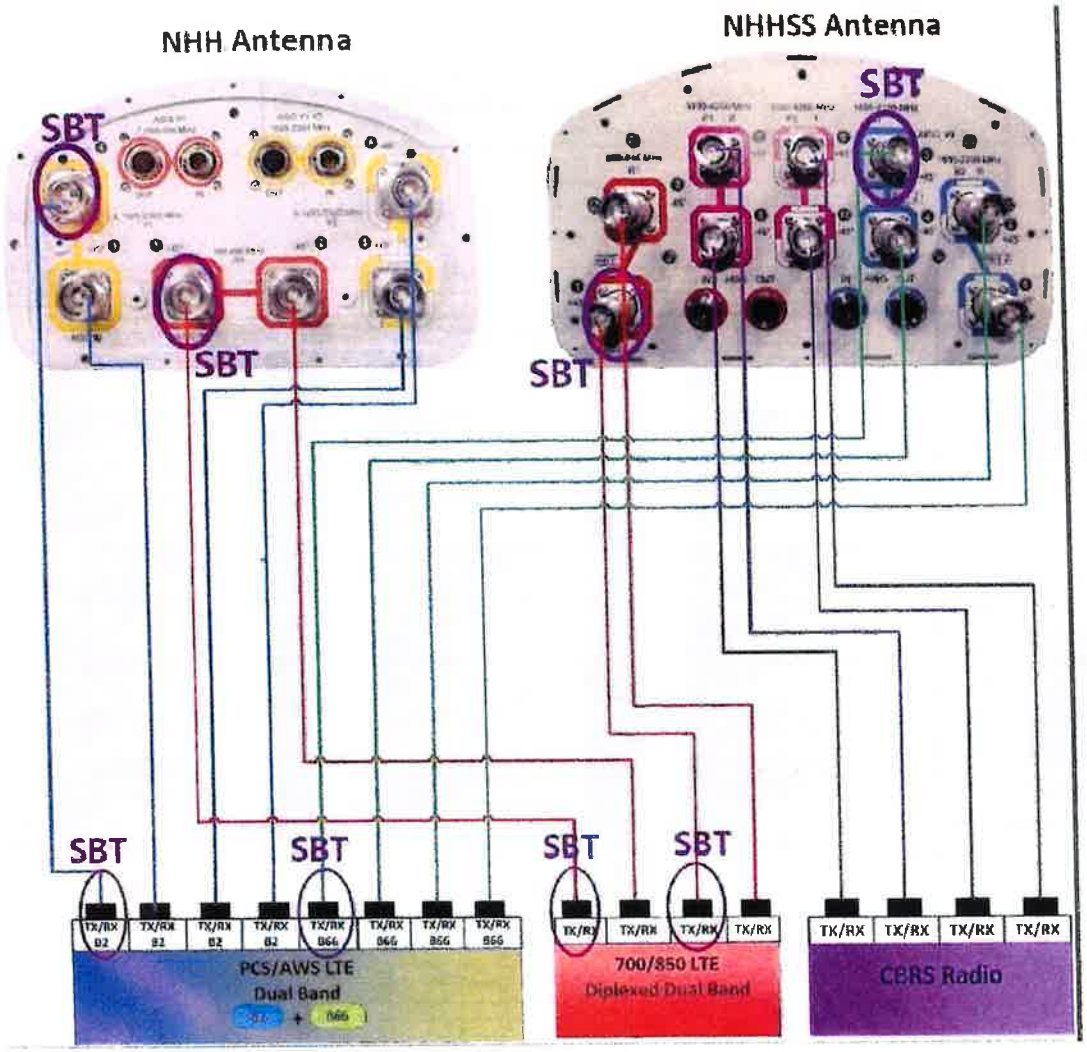
VZW LOCATION CODE: 468182
MDG LOCATION ID:
FUZE PROJECT ID:

SHEET TITLE

RF DATA

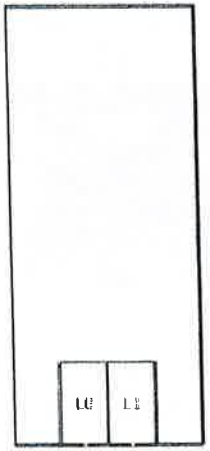
SHEET NUMBER

RF01



RF PLUMBING DIAGRAM
SCALE: N.T.S.

Sub 6



verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7338

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 29997
LICENSED
PROFESSIONAL CIVIL ENGINEER
4/23/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

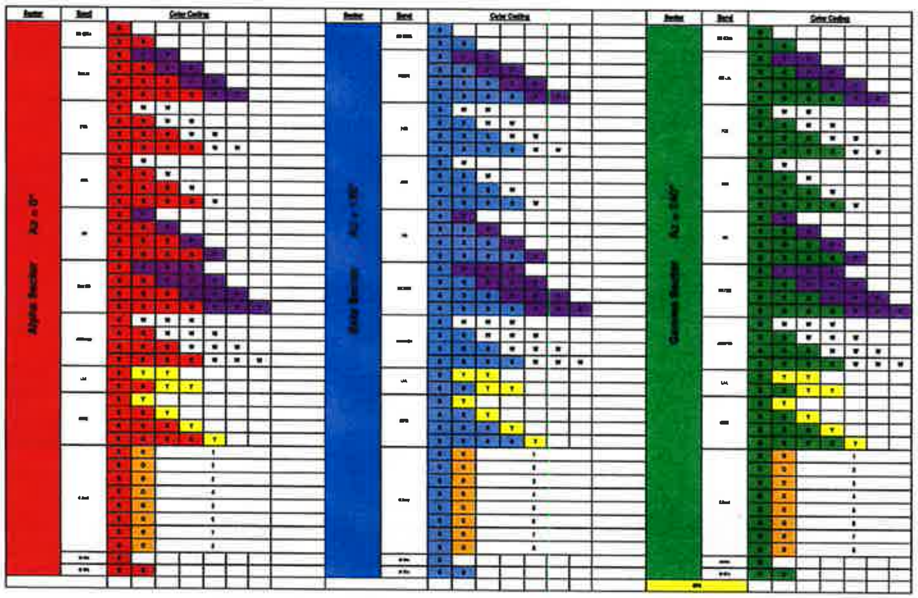
REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CBC
0	04/11/24	ISSUED FOR REVIEW	CBC

PROJECT NAME & ADDRESS
E GLASTONBURY 2
CT
171 DICKINSON ROAD
GLASTONBURY, CT 06073

VZW LOCATION CODE:
MDG LOCATION ID:
FUZE PROJECT ID:

SHEET TITLE
RF PLUMBING DIAGRAM

SHEET NUMBER
RF02



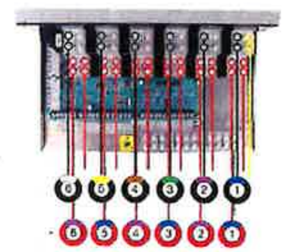
CABLE NOTE:
SEE FEEDLINE SCHEDULE A & B ON SHEET RF01 FOR EXISTING & PROPOSED CABLE QUANTITIES.

LINE COLOR CODE SPECIFICATIONS (1/RF03)
SCALE: N.T.S.

Hybrid Cable on Towers

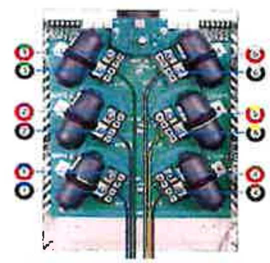
Hybrid Cable 1

Sector	Identification Color	-48V	RTN
700 Alpha	Blue		
AWS Alpha	Purple		
PCS Alpha	Green		
850 Alpha	Brown		
Spare	Yellow		
Spare	White		



Hybrid Cable 2

Sector	Identification Color	-48V	RTN
700 Beta	Blue		
AWS Beta	Purple		
PCS Beta	Green		
850 Beta	Brown		
Spare	Yellow		
Spare	White		



HYBRID CABLE COLOR CODE SPECIFICATIONS (2/RF03)
SCALE: N.T.S.

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7338

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT * JAMES M. FITZGERALD No. 25997 LICENSED PROFESSIONAL CIVIL ENGINEER
4/22/2024

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/22/24	ISSUED FOR CONSTRUCTION	CAC
0	04/11/24	ISSUED FOR REVIEW	CAC

PROJECT NAME & ADDRESS
E GLASTONBURY 2
CT
175 DICKINSON ROAD
GLASTONBURY, CT 06073

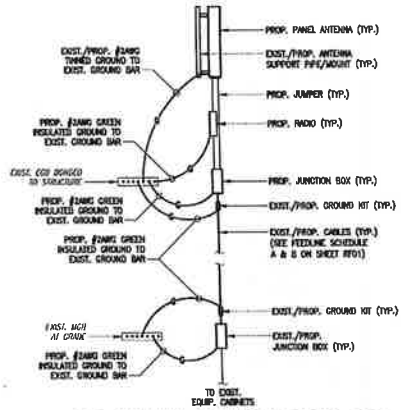
VZW LOCATION CODE: [redacted]
MDG LOCATION ID: [redacted]
FUZE PROJECT ID: [redacted]

SHEET TITLE
RF COLOR CODE SPECIFICATIONS

SHEET NUMBER
RF03

GROUNDING GENERAL NOTES

1. ALL EXTERIOR CONDUCTORS SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNLESS OTHERWISE NOTED. MINIMUM BEND RADIUS SHALL BE EIGHT (8) INCHES.
2. ALL WIRE-TO-WIRE CONNECTIONS SHALL BE THREE-CLAMP, C TAP COMPRESSION (TAB #64740 ORANGE OR EQUIVALENT). ALL GROUND BAR CONNECTIONS SHALL BE TWO-HOLE, LONG-BARREL TYPE COMPRESSION LUGS (TAB OR EQUIVALENT). ALL OTHER CONNECTIONS TO STEEL SURFACES SHALL USE LUG-TYPE CONNECTORS.
3. MECHANICALLY BOND ANTENNA MOUNTS WITH #2 AWG, BARE, STRANDED CONDUCTORS.
4. ALL GROUNDING WORK SHALL COMPLY WITH VERIZON WIRELESS STANDARDS.
5. CONNECT GROUND CONDUCTOR TO EXISTING GROUNDING SYSTEM. ATTACH TO WALLS, PARAPET, CABLE TRAY, ETC. WITH A CLAMPS AS NECESSARY. REMOVE PAINT, FIREPROOFING, WALL SCALE, ETC. TO ACHIEVE GOOD CAD WELD GROUND CONNECTION.
6. CONNECT TO WALL GROUND USING C-TAP (#64730).
7. CONNECT TO ENCLOSURES USING BULK GROUND LUGS.
8. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC (CADWELD) CONNECTIONS.
9. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
10. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
11. ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
12. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
13. USE OF NO BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
14. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATION FOR FACILITY GROUNDING, USING FALL OF POTENTIAL METHOD.
15. ANTENNA GROUND KITS SHALL BE FURNISHED BY VERIZON & INSTALLED BY CONTRACTOR.



TYP. ANTENNA GROUNDING RISER

SCALE: N.T.S. — 1 / E01

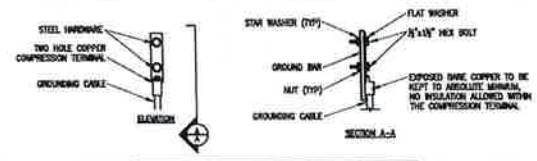
LEGEND

GROUNDING SYMBOLS

- ⊠ GROUND ROD/TEST (OBSERVATION) WELL
- ⊗ GROUND ROD
- ▲ CADWELD TYPE CONNECTION
- ● COMPRESSION TYPE CONNECTION
- ---- GROUNDING WIRE
- (1/E02) REPRESENTS DETAIL NUMBER

ABBREVIATIONS

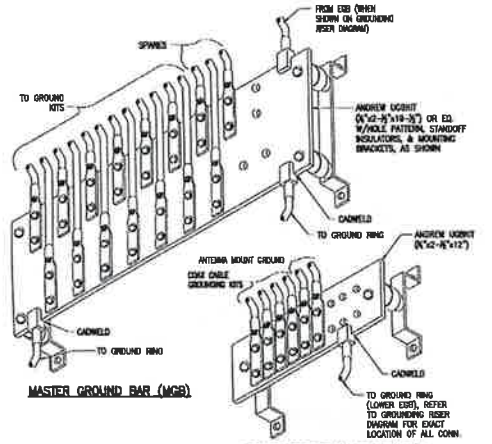
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
GPS	GLOBAL POSITIONING SYSTEM
PCS	PERSONAL COMMUNICATION SYSTEM
RWY	RACEWAY
TYP.	TYPICAL
RGS	RIGID GALVANIZED STEEL
EMT	ELECTRICAL METALLIC TUBING
DWG	DRAWING
EMT	INTERIOR GROUND RING (HALO)
GEN	GENERATOR
GR	GROWTH
CGBE	COAX GROUND BAR EXTERNAL
CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MGB	MASTER GROUND BAR
PVC	RIGID (SCH. 40) POLYVINYL CHLORIDE CONDUIT
EBH	ETHERNET BACK HAUL



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

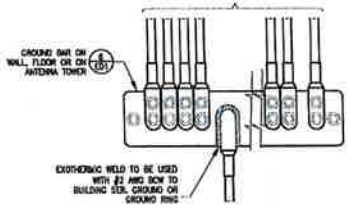
TYP. GROUND BAR CONNECTION

SCALE: N.T.S. — 2 / E01



GROUND BAR DETAILS

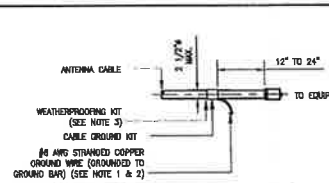
SCALE: N.T.S. — 6 / E01



NOTE:
GROUND BARS AT THE BOTTOM OF TOWER SHALL ONLY USE EXOTHERMIC WELDS.

INSTALLATION OF GROUND WIRE TO GROUND BAR

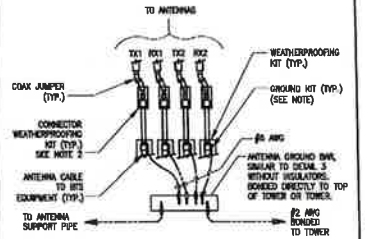
SCALE: N.T.S. — 3 / E01



NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND & ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE & PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE SUPPLIED WITH KIT. COLD SHRINK SHALL NOT BE USED.

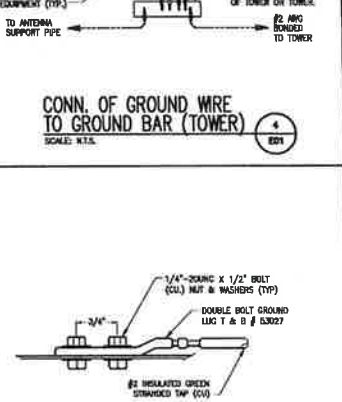
CONN. OF CABLE GROUND KIT TO ANTENNA CABLE

SCALE: N.T.S. — 7 / E01



CONN. OF GROUND WIRE TO GROUND BAR (TOWER)

SCALE: N.T.S. — 4 / E01



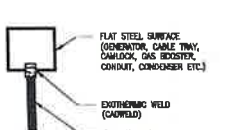
NOTES:
1. SURFACE PREPERATION: ALL CONNECTIONS MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE MADE BARE TO ENSURE PROPER CONTACT. NO WASHERS SHALL BE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS SHALL HAVE AN ANTI-OXIDANT AGENT APPLIED PRIOR TO INSTALLATION.
2. BUSS PREPERATION: ALL GALV. STEEL BUSSES SHALL BE CLEANED, POLISHED AND AN ANTI-OXIDANT APPLIED. NO FINGERPRINTS OR DISCOLORED STEEL WILL BE PERMITTED.
3. TERMINATIONS: ALL EQUIPMENT TERMINATIONS SHALL BE MADE WITH A BURNDY TWO HOLE COMPRESSION LUG WITH 10-24x3/4" LONG S.S. SCREWS, NUTS AND LOCK WASHERS. ALL BUSS TERMINATIONS SHALL BE MADE WITH A CAD-WELD OR BURNDY YC2C2 2 HOLE COMPRESSION LUG OR EQUAL. ALL INTERIOR WELD ATTACHMENTS SHALL BE MADE USING A BURNDY YC2C2 COMPRESSION LUG.

TYP. INTERIOR & EXTERIOR GROUND BAR

SCALE: N.T.S. — 8 / E01

TYP. EQUIPMENT GROUND CONNECTION

SCALE: N.T.S. — 8 / E01



TYP. CADWELD #2 GREEN TO FLAT STEEL SURFACE

SCALE: N.T.S. — 9 / E01

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7336

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
P.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT — JAMES M. FITZGERALD — No. 28987 — LICENSED PROFESSIONAL CIVIL ENGINEER

4/23/2024

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CMC
0	04/11/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS

E GLASTONBURY 2
CT

175 DICKINSON ROAD
GLASTONBURY, CT 06073

VZW LOCATION CODE:	468182
MDG LOCATION ID:	[illegible]
FUZE PROJECT ID:	[illegible]

SHEET TITLE

GROUNDING NOTES & DETAILS

SHEET NUMBER

E01

verizon

MOUNT MODIFICATION DRAWINGS
EXISTING 14.00' PLATFORM

TOWER OWNER: SBA COMMUNICATIONS CORPORATION
TOWER OWNER SITE NUMBER: CT02216

CARRIER SITE NAME: E GLASTONBURY 2 CT
CARRIER SITE NUMBER: 5000386583
FUZE ID: 2559329

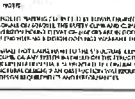
175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

LATITUDE: 41.655900000° N
LONGITUDE: 72.523275000° W

DESIGN CRITERIA | PROJECT INFORMATION | SHEET INDEX

BILL OF MATERIALS

VENDOR KITS - APPROVED VENDORS



SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CMC
0	04/11/24	ISSUED FOR REVIEW	CMC

verizon
20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7338

SBA
SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 29987
LICENSED
PROFESSIONAL CIVIL ENGINEER
4/23/2024

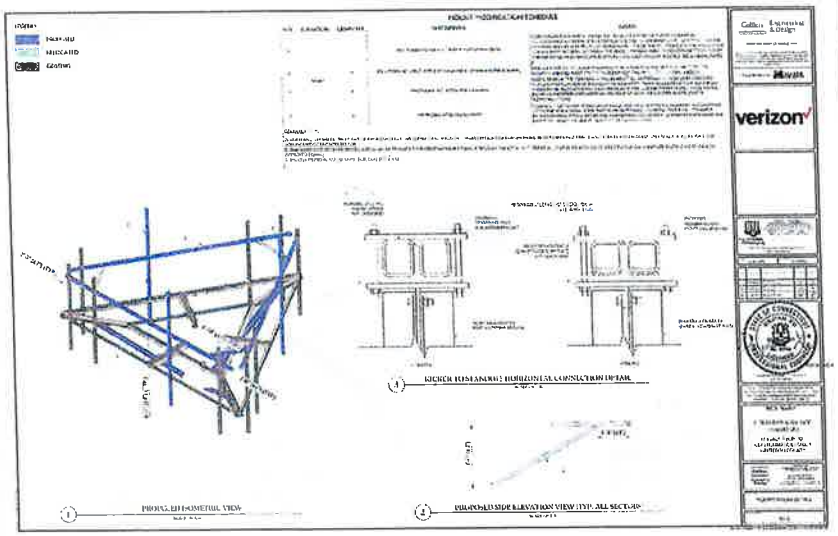
CHECKED BY: JMT
APPROVED BY: JMT

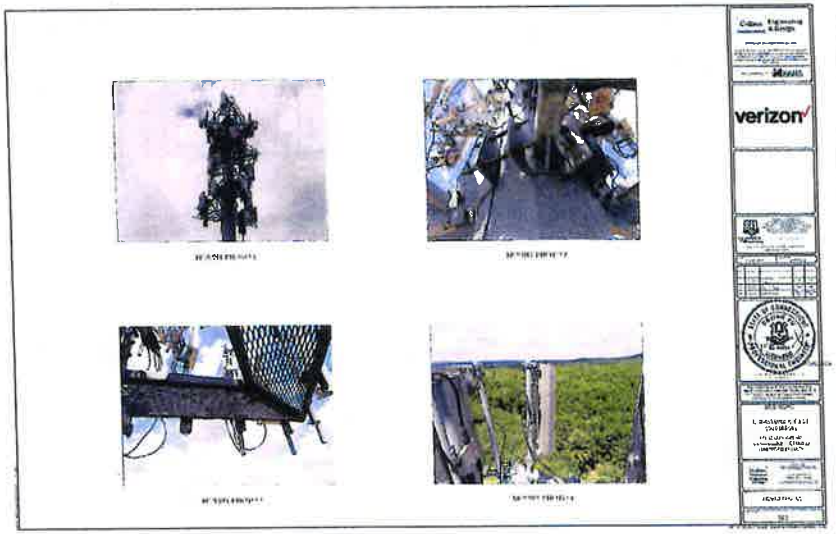
PROJECT NAME & ADDRESS
E GLASTONBURY 2 CT
175 DICKINSON ROAD
GLASTONBURY, CT 06073

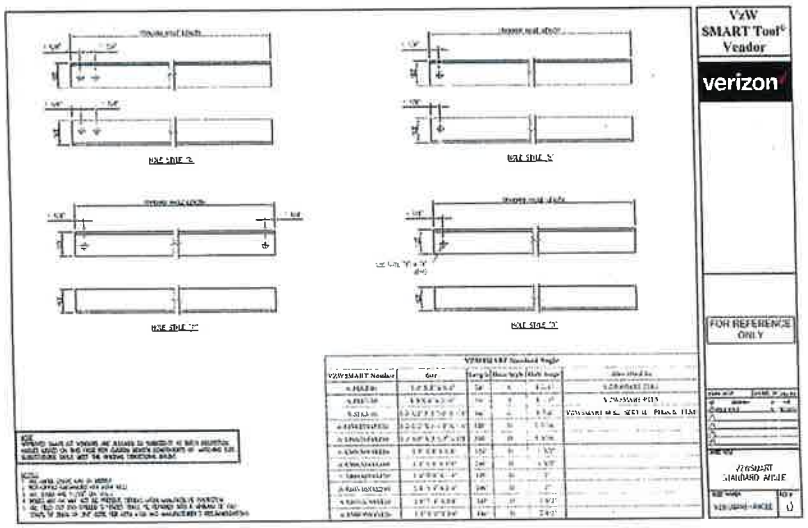
VZW LOCATION CODE: 469188
MDG LOCATION ID: 5000386583
FUZE PROJECT ID: 2559329

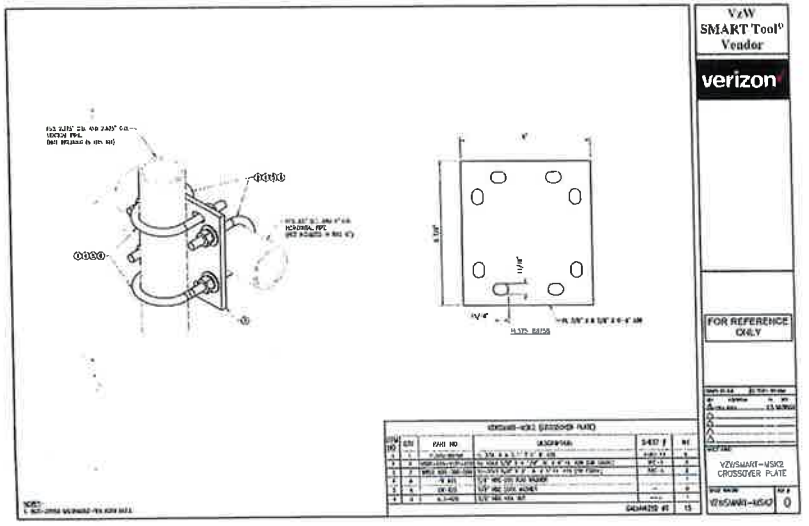
SHEET TITLE
MOUNT MODIFICATION DRAWINGS I

SHEET NUMBER
MM01









verizon

20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7336

SBA

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC

R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25907
LICENSED
PROFESSIONAL CIVIL ENGINEER
4/23/2024

CHECKED BY:	JMT
APPROVED BY:	JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CHC
0	04/11/24	ISSUED FOR POWER	CHC

PROJECT NAME & ADDRESS

E GLASTONBURY 2 CT

175 DICKINSON ROAD
GLASTONBURY, CT 06073

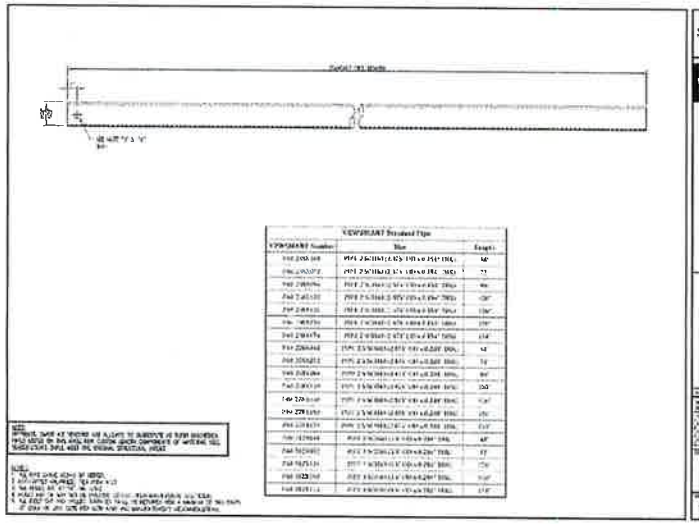
VZW LOCATION CODE:	[redacted]
MDG LOCATION ID:	[redacted]
FUZE PROJECT ID:	[redacted]

SHEET TITLE

MOUNT MODIFICATION DRAWINGS II

SHEET NUMBER

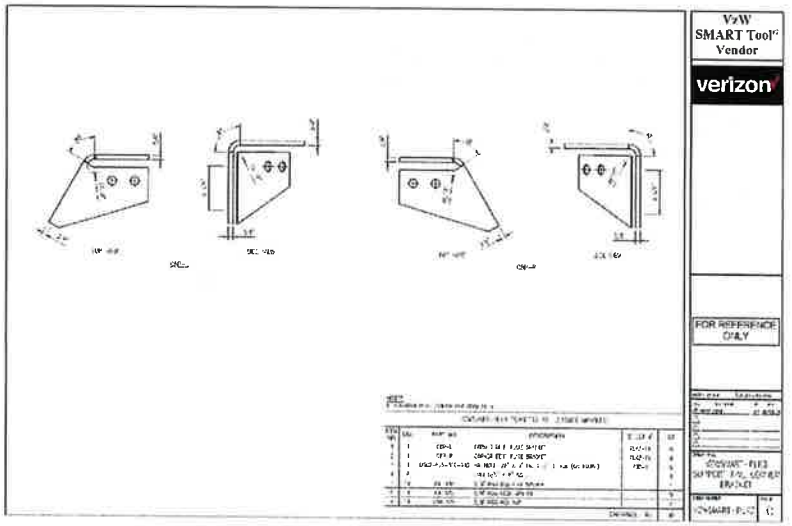
MM02



VzW SMART Tool© Vendor

verizon

VZWSMART-PIPE

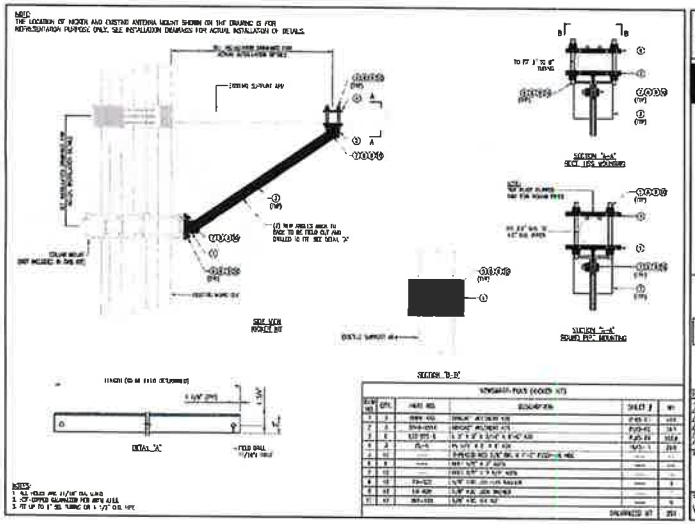


VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

VZWSMART-PLK7



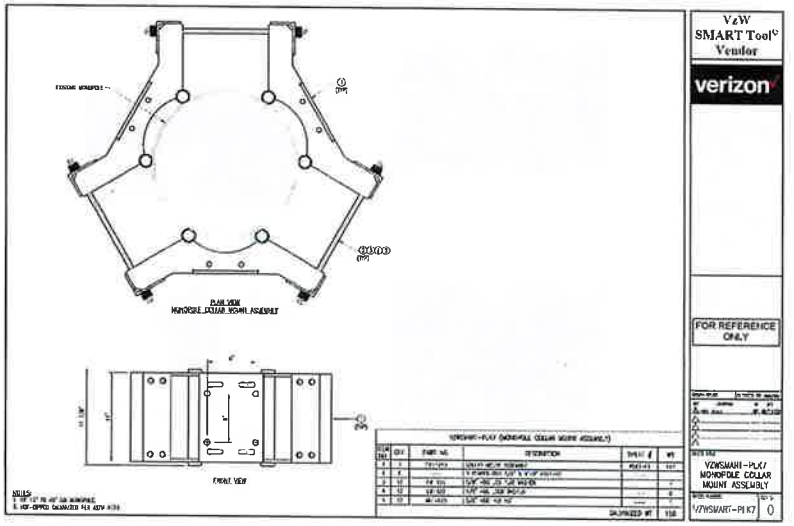
VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

VZWSMART-PLK5 KICKER KIT

VZWSMART-PLK5



VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

VZWSMART-PLK7 MANHOLE COLLAR MOUNT ASSEMBLY

VZWSMART-PLK7

verizon

20 ALEXANDER DRIVE, 2ND FLOOR
WALLINGFORD, CT 06492
(203) 741-7338

SBA

SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

CHAPPELL ENGINEERING ASSOCIATES, LLC

R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25987
LICENSED PROFESSIONAL CIVIL ENGINEER

4/23/2024

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	04/23/24	ISSUED FOR CONSTRUCTION	CMC
0	04/11/24	ISSUED FOR REVIEW	CMC

PROJECT NAME & ADDRESS

E GLASTONBURY 2
CT

175 DICKINSON ROAD
GLASTONBURY, CT 06073

VZW LOCATION CODE: 468182

MDG LOCATION ID: [redacted]

FUZE PROJECT ID: [redacted]

SHEET TITLE

MOUNT MODIFICATION DRAWINGS III

SHEET NUMBER

MM03

NHH-65B-R2B

6-port sector antenna, 2x 698–896 and 4x 1695–2360 MHz, 65° HPBW, 2x RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package
- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- Separate RS-485 RET input/output for low and high band
- One RET for low band and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light gray
Grounding Type	RF connector body grounded to reflector and mounting bracket
Performance Note	Outdoor usage | Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
Radome Material	Fiberglass, UV resistant
Radiator Material	Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	4
RF Connector Quantity, low band	2
RF Connector Quantity, total	6

Remote Electrical Tilt (RET) Information

RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	2 female | 2 male
Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1 | Port 3
Internal RET	High band (1) | Low band (1)
Power Consumption, idle state, maximum	2 W
Power Consumption, normal conditions, maximum	13 W

NHH-65B-R2B

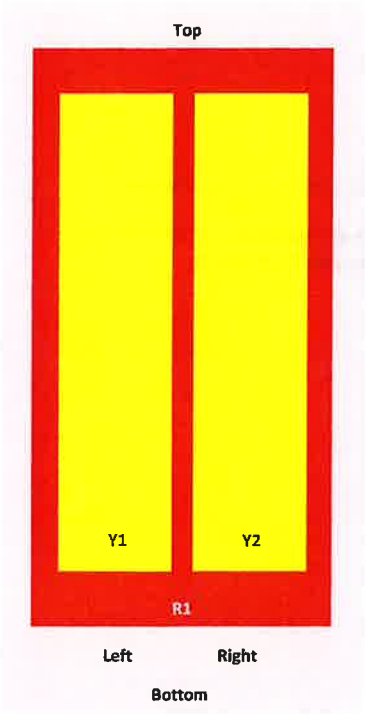
Protocol	3GPP/AISG 2.0 (Single RET)

Dimensions

Width	301 mm | 11.85 in
Depth	180 mm | 7.087 in
Length	1828 mm | 71.969 in
Net Weight, without mounting kit	19.8 kg | 43.651 lb

Array Layout

NHH



Array	Freq (MHz)	Conns	RET (SHET)	AISG RET UID
R1	698-896	1-2	1	ANxxxxxxxxxxxxxxx1
Y1	1695-2360	3-4	2	ANxxxxxxxxxxxxxx2
Y2	1695-2360	5-6		

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz

NHH-65B-R2B

Polarization	±45°
Total Input Power, maximum	900 W @ 50 °C

Electrical Specifications

Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2200**	**2300–2360**
Gain, dBi	14.9	15	17.7	17.9	18.4	18.7
Beamwidth, Horizontal, degrees	65	60	71	69	64	57
Beamwidth, Vertical, degrees	12.4	11.2	5.7	5.2	4.9	4.6
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS (First Lobe), dB	13	14	18	18	19	18
Front-to-Back Ratio at 180°, dB	30	29	31	30	29	31
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	30	30	30	30	30	30
VSWR | Return loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port at 50°C, maximum, watts	300	300	300	300	300	300

Electrical Specifications, BASTA

Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2200**	**2300–2360**
Gain by all Beam Tilts, average, dBi	14.5	14.5	17.3	17.7	18.1	18.5
Gain by all Beam Tilts Tolerance, dB	±0.6	±1.1	±0.4	±0.4	±0.5	±0.3
Gain by Beam Tilt, average, dBi	0 ° | 14.4 7 ° | 14.6 14 ° | 14.3	0 ° | 14.7 7 ° | 14.7 14 ° | 14.1	0 ° | 17.2 4 ° | 17.3 7 ° | 17.3	0 ° | 17.6 4 ° | 17.7 7 ° | 17.7	0 ° | 18.0 4 ° | 18.2 7 ° | 18.1	0 ° | 18.3 4 ° | 18.5 7 ° | 18.6
Beamwidth, Horizontal Tolerance, degrees	±2	±2.1	±3	±4.1	±6.5	±2.9
Beamwidth, Vertical Tolerance, degrees	±0.7	±0.7	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	13	14	16	16	17	15
Front-to-Back Total Power at 180° ± 30°, dB	23	22	27	27	25	25
CPR at Boresight, dB	22	21	23	23	22	19

NHH-65B-R2B

CPR at Sector, dB	10	7	16	13	11	4

Mechanical Specifications

Effective Projective Area (EPA), frontal	0.26 m² | 2.799 ft²
Effective Projective Area (EPA), lateral	0.22 m² | 2.368 ft²
Wind Loading @ Velocity, frontal	278.0 N @ 150 km/h (62.5 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	230.0 N @ 150 km/h (51.7 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	537.0 N @ 150 km/h (120.7 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	282.0 N @ 150 km/h (63.4 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h | 149.75 mph

Packaging and Weights

Width, packed	409 mm | 16.102 in
Depth, packed	299 mm | 11.772 in
Length, packed	1952 mm | 76.85 in
Weight, gross	32.3 kg | 71.209 lb

Regulatory Compliance/Certifications

Agency	**Classification**
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
ROHS	Compliant

Included Products

BSAMNT-3	–	Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

NHHSS-65B-R2BT4

10-port sector antenna, 2x 698–896, 4x 1695–2200 and 4x 3100-4200 MHz, 65° HPBW, 2x RETs and 2x SBTs. Both high bands share the same electrical tilt.

- Perfect antenna to add 3.5GHz CBRS to macro sites
- Low band and mid band performance mirrors the performance of existing NHH hex port antennas
- Interleaved dipole technology providing for attractive, low wind load mechanical package
- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- One LB RET and one HB RET. Both high bands are controlled by one RET to ensure same tilt level for 4x MIMO

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light gray
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Performance Note	Outdoor usage
Radome Material	Fiberglass, UV resistant
Radiator Material	Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	4
RF Connector Quantity, mid band	4
RF Connector Quantity, low band	2
RF Connector Quantity, total	10

Remote Electrical Tilt (RET) Information

RET Hardware	CommRET v2
RET Interface	4x 8 pin connector as per IEC 60130-9 Daisy chain in: Male / Daisy chain out: Female Pin3: RS485A(AISG_B), Pin5: RS485B(AISG_A), Pin6: DC 10~30V, Pin7: DC_ Return

NHHSS-65B-R2BT4

RET Interface, quantity	2 female | 2 male
Input Voltage	10–30 Vdc
Internal RET	High band (1) | Low band (1)
Power Consumption, active state, maximum	10 W
Power Consumption, idle state, maximum	2 W
Protocol	3GPP/AISG 2.0 (Single RET)

Dimensions

Width	301 mm | 11.85 in
Depth	181 mm | 7.126 in
Length	1828 mm | 71.969 in
Net Weight, without mounting kit	23.1 kg | 50.927 lb

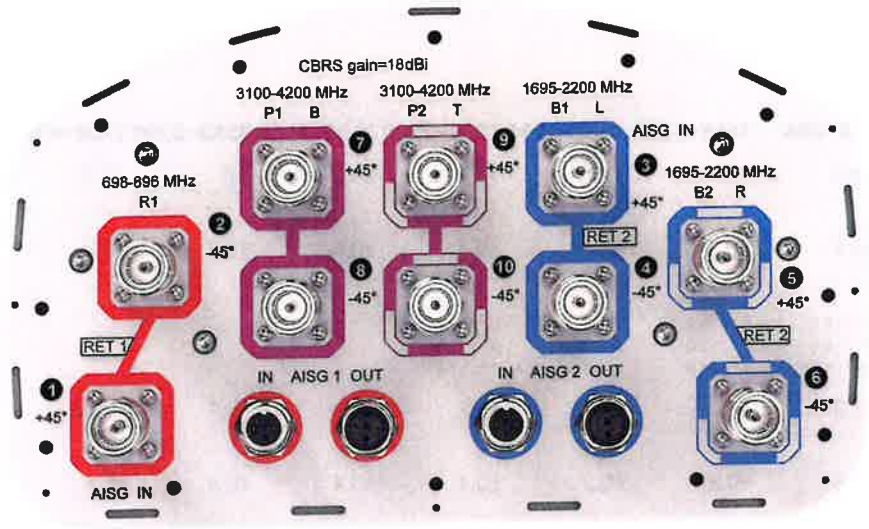
Array Layout

Array ID	Frequency (MHz)	RF Connector	RET (SRET)	AISG No.	AISG RET UID
R1	698-896	1 - 2	1	AISG1	CPxxxxxxxxxxxxxxR1
B1	1695-2200	3 - 4	2	AISG2	CPxxxxxxxxxxxxxxB1
B2	1695-2200	5 - 6			
P1	3100-4200	7 - 8	N/A	NA	N/A
P2	3100-4200	9 - 10			

(Sizes of colored boxes are not true depictions of array sizes)

Port Configuration

NHHSS-65B-R2BT4



Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2200 MHz | 3100 – 4200 MHz | 698 – 896 MHz
Polarization	±45°
Total Input Power, maximum	1,000 W @ 50 °C

Electrical Specifications

Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2200**	**3100–3550**	**3550–3700**	**3700–4200**
Gain, dBi	14.8	15.2	17.4	17.8	18	17.7	17.3	17.9
Beamwidth, Horizontal, degrees	65	62	66	61	64	54	64	60
Beamwidth, Vertical, degrees	13	11.6	5.5	5.2	4.9	5.7	5.3	4.9
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	4	4	4
USLS (First Lobe), dB	15	15	16	18	18	16	17	18
Front-to-Back Ratio at 180°, dB	26	29	31	28	27	30	33	29
Isolation, Cross Polarization, dB	25	25	25	25	25	25	25	25
Isolation, Inter-band, dB	25	25	25	25	25	28	28	28
VSWR | Return loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-140	-140	-140

NHHSS-65B-R2BT4

Input Power per Port at 50°C, maximum, watts	300	300	300	300	300	100	100	100

Electrical Specifications, BASTA

Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2200**	**3100–3550**	**3550–3700**	**3700–4200**
Gain by all Beam Tilts, average, dBi	14.6	14.8	17	17.5	17.7	17.3	17	17.2
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.4	±0.6	±0.3	±0.4	±0.6	±0.7	±0.8
Gain by Beam Tilt, average, dBi	0 ° | 14.6 7 ° | 14.6 14 ° | 14.4	0 ° | 15.0 7 ° | 14.9 14 ° | 14.5	0 ° | 16.9 3 ° | 17.0 7 ° | 16.8	0 ° | 17.4 3 ° | 17.5 7 ° | 17.4	0 ° | 17.5 3 ° | 17.8 7 ° | 17.6			
Beamwidth, Horizontal Tolerance, degrees	±1.7	±1.3	±7.2	±3.1	±6.2	±10	±6.7	±10.5
Beamwidth, Vertical Tolerance, degrees	±0.8	±0.8	±0.2	±0.2	±0.4	±0.4	±0.3	±0.4
USLS, beampeak to 20° above beampeak, dB	18	16	14	15	17	14		
Front-to-Back Total Power at 180° ± 30°, dB	22	25	25	25	24	26	25	24
CPR at Boresight, dB	24	17	16	21	19	15	17	14
CPR at Sector, dB	12	6	11	10	8	8	9	7

Mechanical Specifications

Wind Loading @ Velocity, frontal	278.0 N @ 150 km/h (62.5 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	230.0 N @ 150 km/h (51.7 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	537.0 N @ 150 km/h (120.7 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	287.0 N @ 150 km/h (64.5 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h | 149.75 mph

Packaging and Weights

Width, packed	1973 mm | 77.677 in
Depth, packed	441 mm | 17.362 in
Length, packed	337 mm | 13.268 in
Weight, gross	35.1 kg | 77.382 lb

Regulatory Compliance/Certifications

Agency	**Classification**
CHINA-ROHS	Above maximum concentration value

NHHSS-65B-R2BT4

ROHS	Compliant/Exempted

Included Products

BSAMNT-3	–	Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

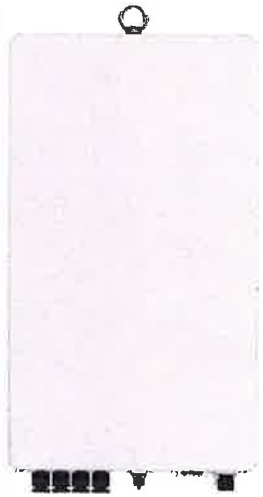
Performance Note	Severe environmental conditions may degrade optimum performance

C-band 64T64R

SAMSUNG

Gen 2

Gen 2 : Higher conducted power radio with reduced size/volume/weight vs Gen 1 and also SOC embedded for flexibility to support new features



※ Preliminary Design: External appearance and mechanical design can be subject to change

Gen 2. 64T64R C-band MMU Dimensions	
Size (WxHxD)	**400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)**
Weight	**26kg (57.3 lb)**

Item	Gen 2 64T64R (MT6413-77A)
Air Technology	NR n77/TDD
Frequency	3700 – 3980 MHz
IBW	200 MHz
OBW	200 MHz
Carrier Bandwidth	20(HW ready)/40/60/80/100 MHz
# of Carriers	2 carriers
Layer	DL : 16L, UL : 16RX (8L)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
EIRP	80.5 dBm @320W (55 dBm + 25.5 dBi)
Conductive Power	320W
Spectrum Analyzer	TX/RX support
RX Sensitivity	Typical -97.8dBm @(1Rx, 18.36MHz with 30kHz,51RBs)
Modulation	DL 256QAM support, (DL 1024QAM with 1~2dB power back-off)
Function Split	DL/UL option 7-2x
Input Power	-48 VDC (-38 VDC to -57 VDC)
Power Consumption	1,287W (100% load, room temp.)
Size (WHD)	**400 x 734 x 140 mm (15.75 x 28.90 x 5.51 inch)**
Volume	**41.1L**
Weight	**26kg (57.3 lb)**
Operating Temperature	-40°C - 55°C (w/o solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 38.104 FCC 47 CFR 27.53 : < -13dBm/MHz < -40 dBm/MHz @ above 4 GHz <-50 dBm /MHz @ 4,040 ~ 4,050 MHz, <-60 dBm /MHz @ above 4,050 MHz
Optic Interface	15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4RX
Fronthaul Interface	eCPRI

700/850 4T4R Macro 320W ORU - New Filter (RF4461d-13A)

SAMSUNG

Specifications

Item	Specification	
Air Interface	LTE, NR(HW resource ready)	
Band	Band13 (700MHz)	Band5 (850MHz)
Frequency	DL: 746~756MHz UL: 777~787MHz	DL: 869~894MHz UL: 824~849MHz
IBW	10MHz	25MHz
OBW	10MHz	25MHz
Carrier Bandwidth	LTE/NR 5*/10MHz	LTE 5/10MHz NR 5/10/15/20MHz
# of carriers	2C*	3C
Total # of carriers	4C + B13 (SDL) 1C	
RF Chain	4T4R/2T4R/2T2R/1T2R 2T2R+2T2R bi-sector	
RF Output Power	Total : 320W	
	4 x 40W or 2 x 60W	4 x 40W or 2 x 60W
Spectrum Analyzer	TX/RX Support	
RX Sensitivity	Typ. -104.5dBm @1Rx (25RBs 5MHz)	
Modulation	256QAM support, (1024QAM with 1~2dB power back-off)	
Input Power	-48VDC (-38VDC to -57VDC)	
Power Consumption	1,165 Watt @ 100% RF load, room temperature	
Size (WHD)	380 x 380 x 260 mm (14.96 x 14.96 x 10.23 inch)	
Volume	37.5 L	
Weight (W/o Solar Shield & finger guard)	35.9 kg (79.1 lb)	
Operating Temperature	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)	
Cooling	Natural convection	
Unwanted Emission	3GPP 36.104	3GPP 36.104
	FCC 47 CFR 27.53 c), f)	FCC 47 CFR 22.917
	-	-69 dBm/100 kHz per path @ 896 ~901MHz
CPRI Cascade	Not supported	
Optic Interface	20km, 2 ports (9.8Gbps x 2), SFP+, single mode, Duplex (Option: Bi-di)	
RET & TMA Interface	AISG 3.0	
Bias-T	4 ports (2 ports per band)	
Mounting Options	Pole, wall	
NB-IoT	2GB+2IB or 4IB	2SA+2GB or 2GB+2IB or 4GB
PIM Cancellation	Support	
# of antenna port	4	
External Alarm	4	
Fronthaul Interface	Opt. 8 CPRI / Opt. 7-2x selectable (not simultaneous support)	
CPRI compression	Not Support	

* 5MHz supporting in B13(700MHz) depends on 3GPP std. and UE capability. External filters in interferer and victim sides for Mexican boarder to support 5MHz service need to be considered
** Finger guard is not needed.

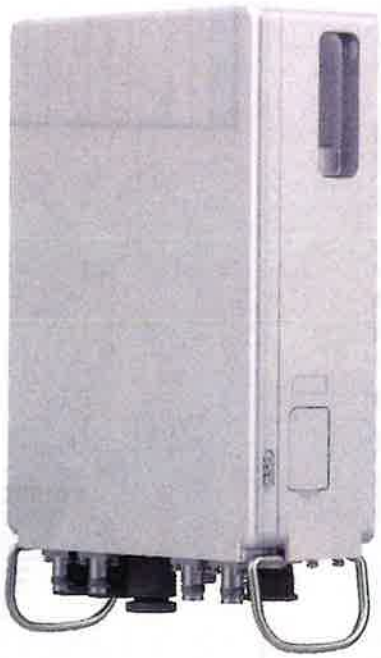
SAMSUNG

Samsung Micro Radio

CBRS(N48) 4T4R Micro Radio

Samsung's CBRS 4T4R Micro Radio provides mobile operators with a cost-effective solution to fill coverage gaps encountered when Macro Radios are in use.

Model Code	RT4423-48A(DC)
	RT4423-48B(AC)



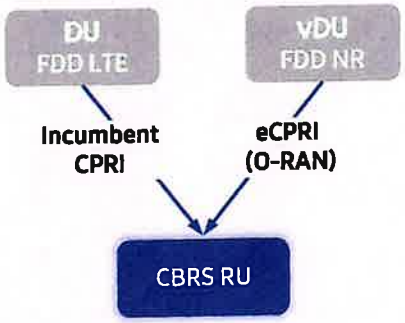
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Dual Personality

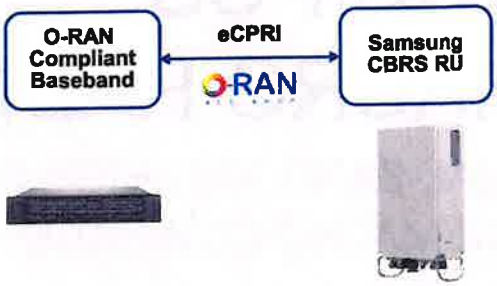
The new CBRS Radio supports existing CPRI and advanced eCPRI interfaces providing installation options for both legacy LTE and NR network equipment.



O-RAN Compliant

A standardized O-RAN radio supports implementing cost-effective networks capable of enhanced data throughput without compromising existing or new network investments.

Samsung O-RAN products ensure state-of-the-art O-RAN technology will accelerate efforts for creating solid O-RAN ecosystems.



High Capacity

The number of carriers required varies according to site(region). Supporting multiple carriers is essential to customers as they seek to utilize all frequencies available to them.

The new CBRS radio can support up to 5 carriers which is and increase of 3 carriers over the capacity of the previous CBRS product.

Compact and Easy Installation

New CBRS RU is compact in it's design with a volume of 6L and weighing only about 7kg.

This compact design allows for various installation options including, tower, rooftop, pole, wall and shroud.

A clip on antenna is available providing flexibility to installation requirements.

w/o Clip-on antenna

w/Clip-on antenna

Technical Specifications

Item	Specification
Tech	LTE / NR
Band	B48, n48 / TDD
Frequency Band	3,550 – 3,700 MHz
RF Power	20 W (5 W x 4 Ports)
IBW/OBW	150MHz / 100MHz
Installation	Pole, Wall, Side by side (max 3 radio)
Size/ Weight	[Radio] w/o Clip-on antenna : 8.7 x 11.8 x 3.6 inch, 5.97L, 7kg w/ Clip-on antenna : 8.7 x 11.8 x 5.0 inch, 8.42L, 8.5kg *AC and DC type have same size and weight [Bracket Weight] Tilting & Swivel (EP97-02038A) : 2.51kg Fixed (EP97-02037A) : 1.31kg Side by side (EP97-02089A) : 8.0kg

SAMSUNG

AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This AWS/PCS 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

Model Code RF4439d-25A

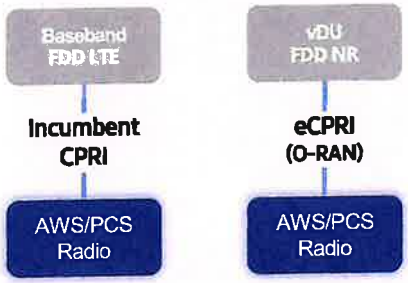
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

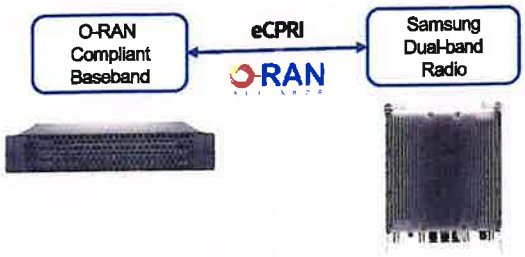
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

A standardized O-RAN radio can help in implementing cost-effective networks, which are capable of sending more data without compromising additional investments.

Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

The new AWS/PCS dual-band radio can support up to 3 carriers in the PCS (1.9GHz) band and 4 carriers in the AWS (2.1GHz) band, respectively.

Brand New Features in a Compact Size

Samsung's AWS/PCS macro radio offers several features, such as dual connectivity for baseband for both CDU and vDU, O-RAN capability, more carriers and an enlarged PCS spectrum, combined into an incumbent radio volume of 36.8L.

Technical Specifications

Item	Specification
Tech	LTE / NR
Brand	B25(PCS), B66(AWS)
Frequency Band	DL: 1930 – 1995MHz, UL: 1850 – 1915MHz DL: 2110 – 2200MHz, UL: 1710 – 1780MHz
RF Power	(B25) 4 × 40W or 2 × 60W (B66) 4 × 60W or 2 × 80W
IBW/OBW	(B25) 65MHz / 30MHz (B66) DL 90MHz, UL 70MHz / 60MHz
Installation	Pole, Wall
Size/ Weight	14.96 x 14.96 x 10.04inch (36.8L) / 74.7lb

ATTACHMENT 3

C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions Report

verizon

East Glastonbury 2

175 Dickinson Road, Glastonbury, CT

May 14, 2024

Table of Contents

List of Figures

List of Tables

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of Verizon's antenna arrays to be mounted at 167' on an existing monopole tower located at 175 Dickinson Road in Glastonbury, CT. The coordinates of the tower are 41° 39' 21.24" N, 72° 31' 23.79" W.

Verizon is proposing the following:

1) Install nine (9) multi-band antennas, three (3) per sector to support its commercial LTE and 5G network.

This report considers the planned antenna configuration for Verizon[1] as well as existing antenna configuration for AT&T[2], DISH[3], Sprint[4], and T-Mobile[5] to derive the resulting % MPE of its proposed modification.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment C of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment C contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

---

[1] As referenced to Verizon's Radio Frequency Design Sheet updated 09/22/2023.

[2] As referenced to AT&T's Connecticut Siting Council Notice of Exempt Modification – 175 Dickinson Road, Glastonbury, Connecticut, dated 12/22/2020

[3] As referenced to DISH's Connecticut Siting Council Tower Share Application – 175 Dickinson Road, Glastonbury, Connecticut, dated 12/01/2021

[4] As referenced to T-Mobile's Connecticut Siting Council Exempt Modification Application – 175 Dickinson Road, Glastonbury, Connecticut, dated 05/16/2022

[5] As referenced to Verizon's Connecticut Siting Council Notice of Exempt Modification – 175 Dickinson Road, Glastonbury, Connecticut, dated 10/11/2022

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{\text{GRF}^2 \times 1.64 \times \text{ERP}}{4\pi \times R^2}\right) \text{X Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{(H^2 + V^2)}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor (GRF) of 1.6

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.

4. Antenna Inventory

Table 1 below outlines Verizon's proposed antenna configuration for the site. The associated data sheets and antenna patterns for these specific antenna models are included in Attachments C.

Operator	Sector / Azimuth	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model	Beam Width	Mech. Tilt	Length (ft)	Antenna Centerline Height (ft)
Verizon	Alpha / 0°	700	160	14.9	4944	NHH-65B-R2B	65	0	6	167
		850	160	15.0	5060		60			
		1900	160	17.9	9866		69			
		2100	240	18.0	15143	NHHSS-65B-R2BT4	64	0	6	167
		3500	20	17.7	1178		54			
		3700	320	25.5	113540	MT6413-77A	105	0	2.46	167
	Beta / 120°	700	160	14.9	4944	NHH-65B-R2B	65	0	6	167
		850	160	15.0	5060		60			
		1900	160	17.9	9866		69			
		2100	240	18.0	15143	NHHSS-65B-R2BT4	64	0	6	167
		3500	20	17.7	1178		54			
		3700	320	25.5	113540	MT6413-77A	105	0	2.46	167
	Gamma / 240°	700	160	14.9	4944	NHH-65B-R2B	65	0	6	167
		850	160	15.0	5060		60			
		1900	160	17.9	9866		69			
		2100	240	18.0	15143	NHHSS-65B-R2BT4	64	0	6	167
		3500	20	17.7	1178		54			
		3700	320	25.5	113540	MT6413-77A	105	0	2.46	167

Table 1: Proposed Antenna Inventory[6][7]

[6] Antenna heights are in reference to Verizon's Radio Frequency Design Sheet updated 09/22/2023.

[7] Transmit power assumes 0 dB of cable loss.

5. Calculation Results

The calculated power density results are shown in Figure 1 below. For completeness, the calculations for this analysis range from 0 feet horizontal distance (directly below the antennas) to a value of 3,000 feet horizontal distance from the site. In addition to the other worst-case scenario considerations that were previously mentioned, the power density calculations to each horizontal distance point away from the antennas was completed using a local maximum off beam antenna gain (within ± 5 degrees of the true mathematical angle) to incorporate a realistic worst-case scenario.

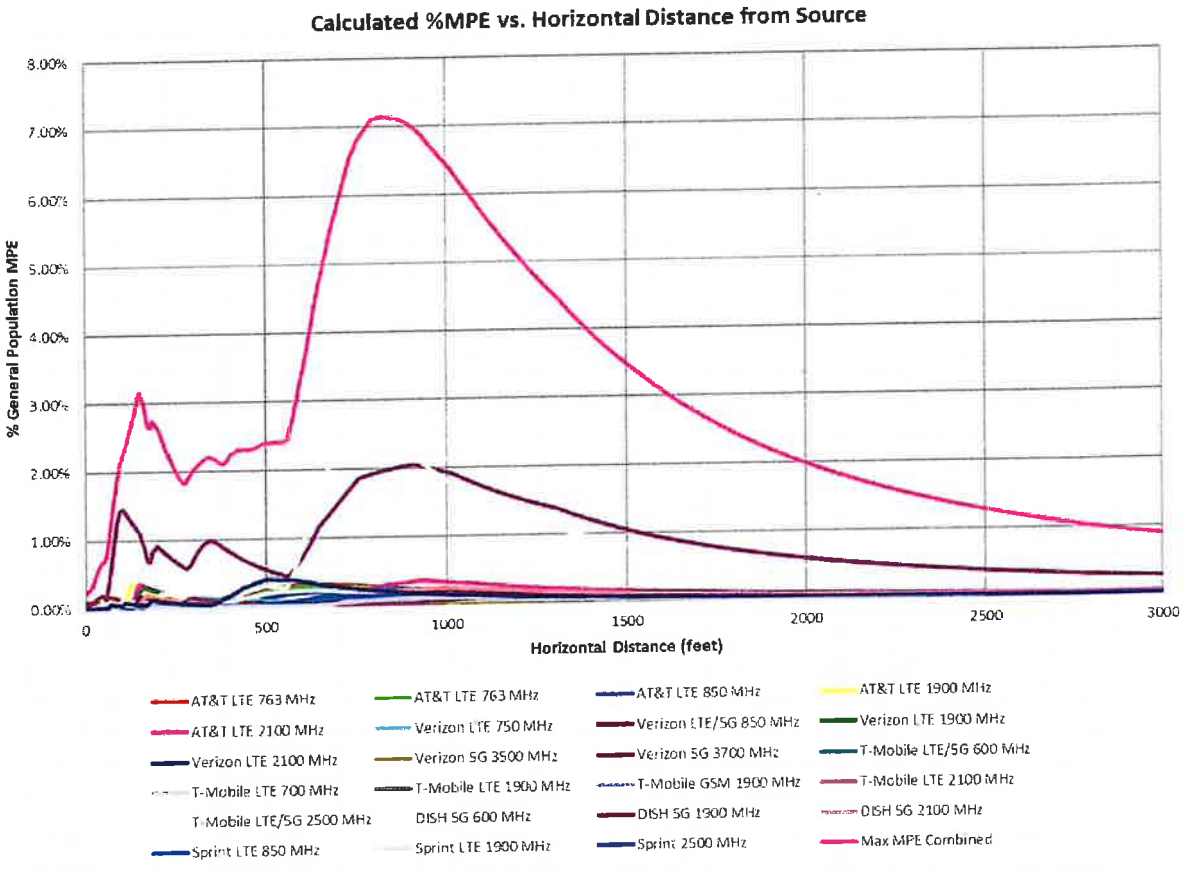


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (7.15% of the General Population limit) is calculated to occur at a horizontal distance of 827 feet from antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical pattern of the antennas used. Therefore, RF power density levels may increase as the distance from the site increases. At distances of approximately 1500 feet and beyond, one would now be in the main beam of the antenna pattern and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.

Table 2 below lists percent of MPE values as well as the associated parameters that were included in the calculations. The highest percent of MPE value was calculated to occur at a horizontal distance of 827 feet from the site (reference Figure 1).

As stated in Section 3, all calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. In addition, a six foot height offset was considered in this analysis to account for average human height. As a result, the predicted signal levels are significantly higher than the actual signal levels will be from the final configuration. The results presented in Figure 1 and Table 2 assume level ground elevation from the base of the tower out to the horizontal distances calculated.

Carrier	Number of Transmitters	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm^2)	Limit (mW/cm^2)	% MPE
AT&T LTE 1900 MHz	1	160.0	137.0	827	0.001828	1.000	0.18%
AT&T LTE 2100 MHz	1	240.0	137.0	827	0.002871	1.000	0.29%
AT&T LTE 763 MHz	1	160.0	137.0	827	0.001347	0.509	0.26%
AT&T LTE 763 MHz	1	160.0	137.0	827	0.001146	0.493	0.23%
AT&T LTE 850 MHz	1	160.0	137.0	827	0.001050	0.567	0.19%
DISH 5G 1900 MHz	1	160.0	147.0	827	0.001593	1.000	0.16%
DISH 5G 2100 MHz	1	160.0	147.0	827	0.001667	1.000	0.17%
DISH 5G 600 MHz	1	120.0	147.0	827	0.000707	0.400	0.18%
Sprint 2500 MHz	1	160.0	67.0	827	0.001985	1.000	0.20%
Sprint LTE 1900 MHz	1	160.0	157.0	827	0.000774	1.000	0.08%
Sprint LTE 850 MHz	1	160.0	157.0	827	0.000725	0.567	0.13%
T-Mobile GSM 1900 MHz	1	120.0	176.0	827	0.000205	1.000	0.02%
T-Mobile LTE 1900 MHz	1	120.0	176.0	827	0.000205	1.000	0.02%
T-Mobile LTE 2100 MHz	1	120.0	176.0	827	0.000083	1.000	0.01%
T-Mobile LTE 700 MHz	1	60.0	176.0	827	0.000468	1.000	0.05%
T-Mobile LTE/5G 2500 MHz	1	240.0	176.0	827	0.025175	1.000	2.52%
T-Mobile LTE/5G 600 MHz	1	140.0	176.0	827	0.000912	0.400	0.23%
Verizon 5G 3500 MHz	1	20.0	167.0	827	0.000219	1.000	0.02%
Verizon 5G 3700 MHz	1	320.0	167.0	827	0.019649	1.000	1.96%
Verizon LTE 1900 MHz	1	160.0	167.0	827	0.000086	1.000	0.01%
Verizon LTE 2100 MHz	1	240.0	167.0	827	0.000154	1.000	0.02%
Verizon LTE 750 MHz	1	160.0	167.0	827	0.000687	0.500	0.14%
Verizon LTE/5G 850 MHz	1	160.0	167.0	827	0.000557	0.567	0.10%
						Total	**7.15%**

Table 2: Maximum Percent of General Population Exposure Values[8,9,10]

[8] Frequencies listed are representative of the operating band and are not the specific operating frequency.

[9] The total % MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

[10] In the case where antenna pattern data was unavailable from the manufacturer, generic antenna pattern was used based on the frequency, bandwidth and gain of the antenna.

6. Conclusion

The above analysis verifies that RF exposure levels from the site with Verizon's proposed antenna configuration will be well below the maximum permissible levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods and parameters detailed above, the maximum cumulative percent of MPE in consideration of all transmitters is calculated to be **7.15%** of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 827 feet away from the site.

7. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Report Prepared By: Ram Acharya
RF Engineer
C Squared Systems, LLC

May 13, 2024
Date

Reviewed/Approved By: Martin Lavin
Senior RF Engineer
C Squared Systems, LLC

May 14, 2024
Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2019, IEEE Standard Safety Levels With Respect to Human Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2021, IEEE Recommended Practice for Measurements and Computations of Electric, Magnetic, and Electromagnetic Fields with Respect to Human Exposure to Such Fields, 0 Hz-300 GHz IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure[11]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (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

(B) Limits for General Population/Uncontrolled Exposure[12]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (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

Table 3: FCC Limits for Maximum Permissible Exposure

[11] Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

[12] General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

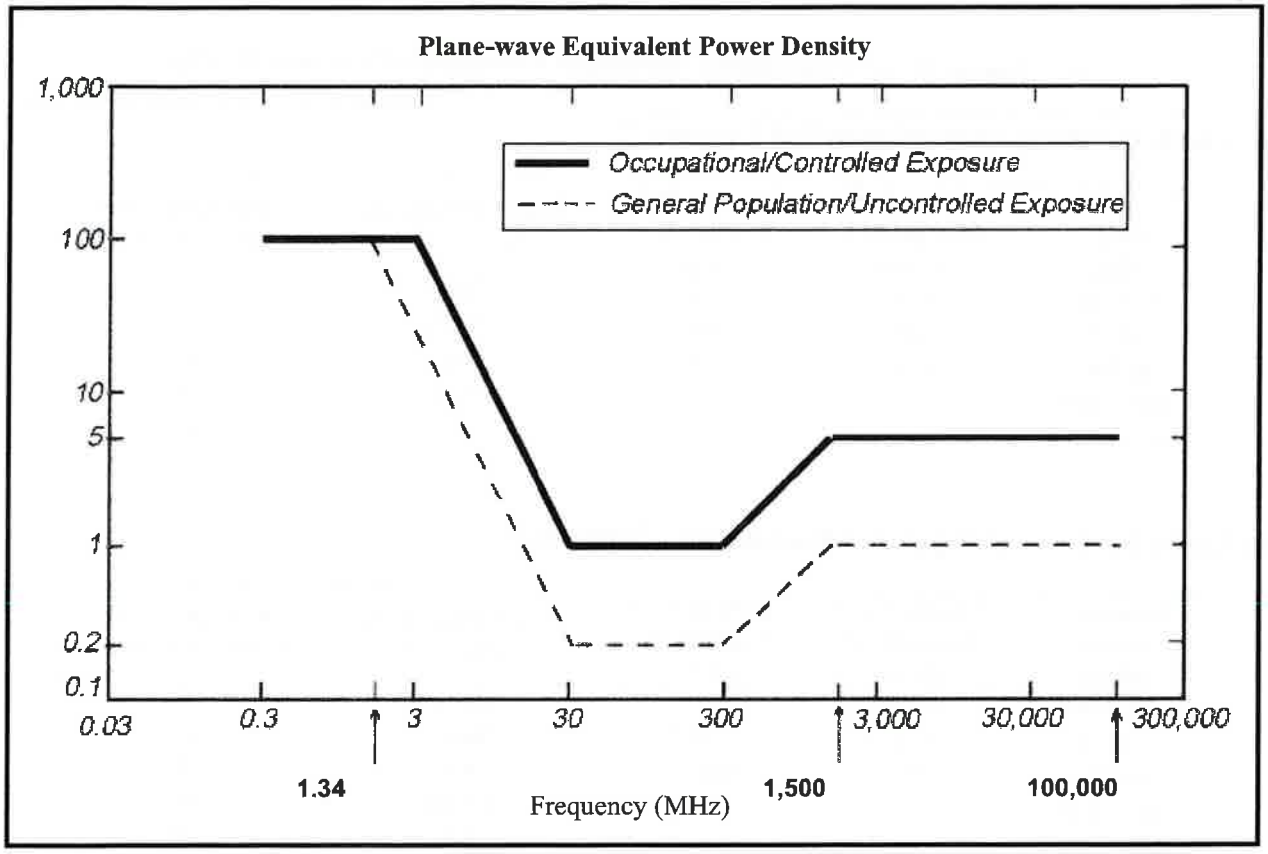
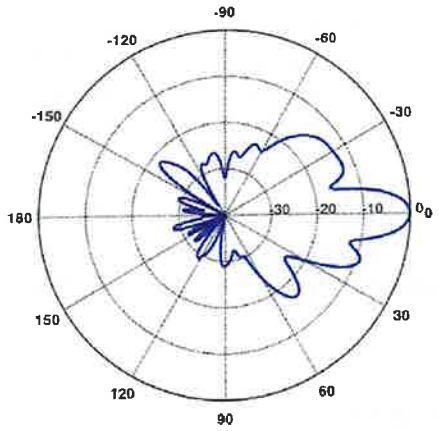


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

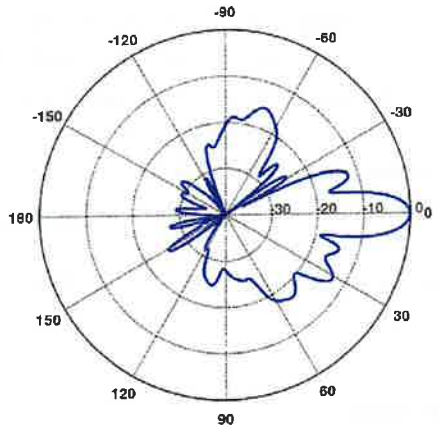
750 MHz

Manufacturer:	COMMSCOPE
Model #:	NHH-65B-R2B
Frequency Band:	698-806 MHz
Gain:	14.9 dBi
Vertical Beamwidth:	12.4°
Horizontal Beamwidth:	65°
Polarization:	±45°
Dimensions (L x W x D):	72.0" x 11.9" x 7.1"



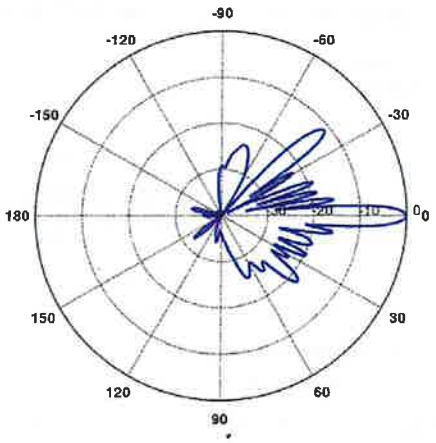
885 MHz

Manufacturer:	COMMSCOPE
Model #:	NHH-65B-R2B
Frequency Band:	806-896 MHz
Gain:	15.0 dBi
Vertical Beamwidth:	11.2°
Horizontal Beamwidth:	60°
Polarization:	±45°
Dimensions (L x W x D):	72.0" x 11.9" x 7.1"



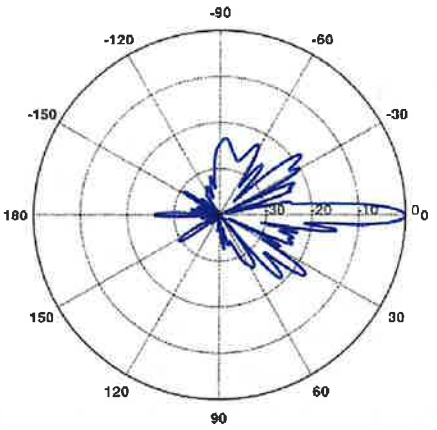
1900 MHz

Manufacturer:	COMMSCOPE
Model #:	NHH-65B-R2B
Frequency Band:	1850-1990 MHz
Gain:	17.9 dBi
Vertical Beamwidth:	5.2°
Horizontal Beamwidth:	69°
Polarization:	±45°
Dimensions (L x W x D):	72.0" x 11.9" x 7.1"



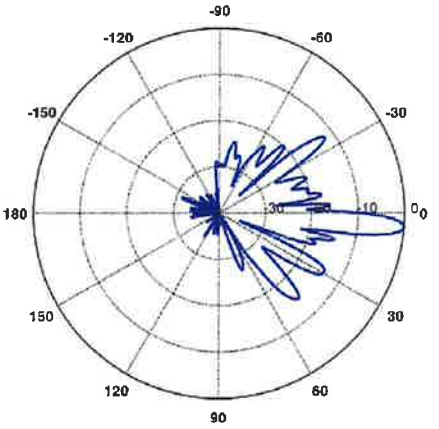
2100 MHz

Manufacturer:	COMMSCOPE
Model #:	NHHSS-65B-R2BT4
Frequency Band:	1920-2200 MHz
Gain:	18.0 dBi
Vertical Beamwidth:	4.9°
Horizontal Beamwidth:	64°
Polarization:	±45°
Dimensions (L x W x D):	72.0" x 11.9" x 7.1"



3500 MHz

Manufacturer:	COMMSCOPE
Model #:	NHHSS-65B-R2BT4
Frequency Band:	3550-3550 MHz
Gain:	17.7 dBi
Vertical Beamwidth:	5.7°
Horizontal Beamwidth:	54°
Polarization:	±45°
Dimensions (L x W x D):	72.0" x 11.9" x 7.1"



ATTACHMENT 4

SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

T + 561 995 7670
F + 561 995 7626

sbasite.com

Structural Analysis Report

Client: Verizon

Client Site ID / Name: 5000386583 / E GLASTONBURY 2 CT
Application #: 244594, v1

SBA Site ID / Name: CT02216-S / Glastonbury

176 ft Monopole

175 Dickenson Road
Glastonbury, Connecticut 06073
Lat: 41.6559, Long: -72.5232

Project number: CT02216-VZW-032224

Analysis Results

Tower	91.4%	Pass
Foundation	75.0%	Pass

Change in tower stress due to mount modification / replacement	3.3%

Prepared by:

Serge Berthomieux
Structural Engineer I
561-226-9365
SBerthomieux@sbasite.com

Reviewed by:

Anantha (Shan) Shanubhogue, P.E.
Senior Manager, Structural Engineering
561-981-7390
SShanubhogue@sbasite.com

March 27, 2024

STATE OF CONNECTICUT
ANANTHA B SHANUBHOGUE
33123
LICENSED
PROFESSIONAL ENGINEER

03/27/24

SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

T + 561 995 7670
F + 561 995 7626

sbasite.com

Structural Analysis Report

Client: Verizon

Client Site ID / Name: 5000386583 / E GLASTONBURY 2 CT
Application #: 244594, v1

SBA Site ID / Name: CT02216-S / Glastonbury

176 ft Monopole

175 Dickenson Road
Glastonbury, Connecticut 06073
Lat: 41.6559, Long: -72.5232

Project number: CT02216-VZW-032224

Analysis Results

Tower	91.4%	Pass
Foundation	75.0%	Pass

Change in tower stress due to mount modification / replacement	3.3%

Prepared by:

Serge Berthomieux
Structural Engineer I
561-226-9365
SBerthomieux@sbasite.com

Reviewed by:

Anantha (Shan) Shanubhogue, P.E.
Senior Manager, Structural Engineering
561-981-7390
SShanubhogue@sbasite.com

March 27, 2024

Table of Contents

Introduction

The purpose of this report is to summarize the analysis results on the 176 ft Monopole to support the proposed antennas and transmissions lines in addition to those currently installed.

Table 1 List of Documents Used

Item	Document
Tower design/drawings	Summit Manufacturing LLC., Job # 8579, dated 06/19/2000
Foundation drawings	Summit Manufacturing LLC., Job # 8579, dated 06/22/2000
Geotechnical report	FDH , Project #1204838EG1, dated 08/12/2012
Modification Drawing	N/A
Carrier MA	Colliers Engineering & Design, project # 22777014 (Rev 1), dated 02/20/2024
Latest SA	TES, Project # 127793 R1, dated 04/21/2022

Analysis Criteria

Table 2 Code Related Data

Jurisdiction (State/County/City)	Connecticut/Hartford/Glastonbury
Governing Codes	ANSI/TIA/EIA 222-H, 2021 IBC / 2022 CSBC
Ultimate Wind Speed (3-Sec gust)	119.0 mph
Wind Speed with Ice (3-Sec gust)	50 mph
Service Wind Speed (3-Sec gust)	60 mph
Ice Thickness	1.50"
Risk Category	II
Exposure Category	C
Topographic Category	1
Crest Height	0 ft
Ground Elevation	476.65 ft.
Seismic Parameter S_s	0.203
Seismic Parameter S_1	0.056

This structural analysis is based upon the tower being classified as a risk category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Appurtenance Loading

Existing Loading:

Table 3 Existing Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	177.0	3	Ericsson AIR6419 B41 - Panel	Platform w/ Handrail @ 176'	(9) 1 5/8" (1) 1 5/8" Fiber (2) 1 5/8" Hybrid	T-Mobile
2		6	Allen Telecom FE15501P77/75			
3		3	RFS APXVAALL24_43-U-NA20 - Panel			
4		3	Ericsson KRY 112 144/1 TMA			
5		3	Ericsson KRY 112 489/2 TMA			
6		3	Ericsson 4449 B71 + B85 RRU			
7		3	Ericsson 4460 B25 + B66 RRU			
8	167.0	3	Alcatel-Lucent RRH2X60-AWS RRU	Low Pro Platform	(6) 1 5/8" (2) 1-5/8" Hybrid	Verizon
9		3	Alcatel-Lucent RRH2X60-700 RRU			
10		6	Andrew SBNHH-1D65B - Panel			
11		4	Antel LPA-80063-4CF-EDIN-5 - Panel			
12		2	RFS APL868013 - Panel			
13		1	RFS DB-T16Z-8AB-0Z			
23	157.0	3	ALU 1900 Mhz	Low Profile Platform w/ Handrail	(4) 1 1/4" Fiber	T-Mobile Sprint
24		6	ALU 800 Mhz			
25		3	ALU TD-RRH8x20-25			
26		3	RFS APXVTM14-C-I20 - Panel			
27		3	Commscope NNVV-65B-R4 - Panel			
28	147.0	3	JMA MX08FRO665-21 - Panel	Platform w/HRK	(1) 1.6" Hybrid	Dish Wireless
29		3	Fujitsu TA08025-B605 RRU			
30		3	Fujitsu TA08025-B604 RRU			
31		3	Raycap RDIDC-9181-PF-48			
32	137.0	3	KMW HPA-65R-BU6AA Panel - Panel	LP Platform + Handrail	(12) 1 5/8" (2) 1" DC Power (1) 1/2"	AT&T
33		3	CCI DMP65R-BU6DA Panel - Panel			
34		3	Ericsson 4449 B5/B12 RRU			
35		3	Ericsson RRUS 8843 B2 B66A RRU			
36		1	Raycap DC6-48-60-18-8F			
37		3	Powerwave 7770 Panel - Panel			
38		6	Powerwave LGP21401 TMA			
39		6	Powerwave LGP21903 Diplexer			
40		12	Powerwave 7020.00 RET			
41		3	Smart Bias T 1001940			

Proposed Loading:

Information pertaining to proposed antennas and transmission lines were based upon the Application #: 244594, v1 from Verizon and is listed in Table 4.

Table 4 Proposed Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
14	167.0	2	LPA-80063-4CF-EDIN-5 - Panel	Platform w/ Modifications (3) Commscope: BSAMNT-SBS-1-2	(6) 1 5/8" (2) 1-1/4" Hybridflex	Verizon
15		1	RFS APL868013 - Panel			
16		3	Commscope NHH-65B-R2B - Panel			
17		3	Commscope NHHSS-65B-R2BT4 - Panel			
18		3	Samsung MT6413-77A - Panel			
19		3	Samsung B2/B66A RRH ORAN (RF4439d-25A) RRU			
20		3	Samsung RF4461d-13A RRU			
21		3	Samsung RT4423-48A RRU			
22		2	Raycap DB-B1-6C-12AB-0Z			

Analysis Results

Tower

The results of the structural analysis are shown below in table 5. Additional information for the tower analysis is provided within the Appendix.

Table 5 Tower Analysis Summary

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	84.2%	74.6%	91.4%
Pass/Fail	Pass	Pass	Pass

Foundation

The results of the foundation analysis are shown below in table 6. Additional information for the foundation analysis is provided within the Appendix.

Table 6 Foundation Analysis Summary

Structural Component	Max Usage (%)	Analysis Result
Foundation	75.0%	Pass

Conclusions

Based on the analysis results, the existing tower and foundation were found to be ***sufficient*** to safely support the equipment listed in this analysis. No modification to the tower and foundation is needed at this time.

Installation Requirements

This analysis was performed under the assumption that the carrier will place the proposed equipment and feed lines at the installation height listed in Table 4 and in accordance with the coax layout shown. TMAs and RRUs are to be installed on existing mounts behind tenant's antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met the carrier must notify SBA Communications Corporation engineers for approval of an alternative placement.

Assumptions and Limitations

Assumptions

This analysis was completed based on the following assumptions:

- Tower and foundation were built in accordance to manufacturer specifications.
- Tower and foundation has been properly maintained in accordance with the manufacturer's specifications
- All existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion
- Welds and bolts are assumed able to carry their intended original design loads.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Table 3 and 4.
- This analysis may be affected if any assumptions are not valid or have been made in error. SBA should be notified to determine the effect on the structural integrity of the tower.

Limitations

The computer generated analysis performed by the tower software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection.

SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

Appendix

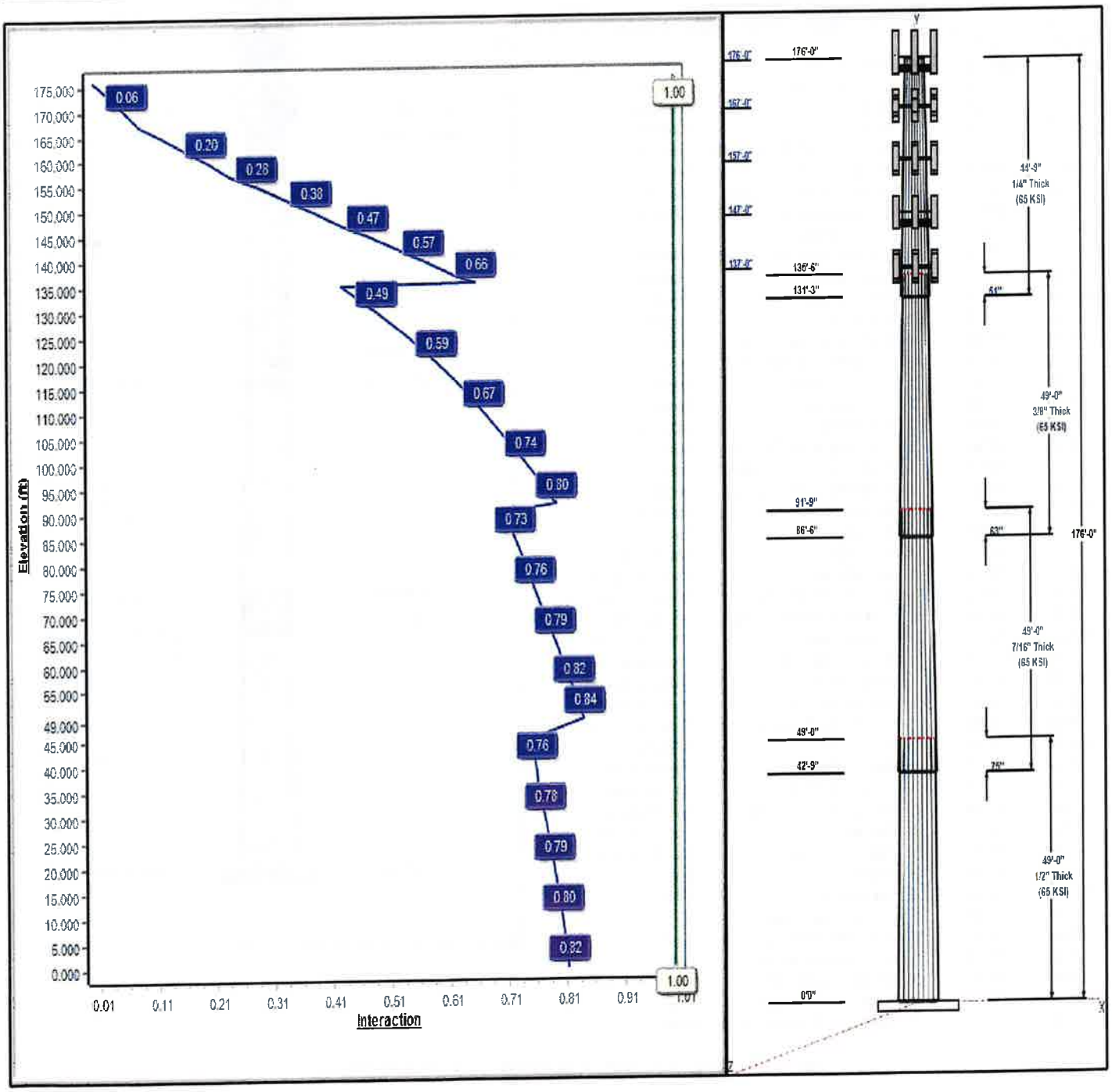
Usage Diagram - Max Ratio 84.20% at 49.0ft

Structure:	CT02216-S	**Code:**	EIA/TIA-222-H	3/26/2024
Site Name:	Glastonbury	**Exposure:**	C	
Height:	176.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

SBA

Dead Load Factor:	1.20	**Iterations:**	27
Wind Load Factor:	1.00		

Load Case : 1.2D + 1.0W 119 mph Wind



Structure: CT02216-S

Type: Tapered
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.19702

3/26/2024

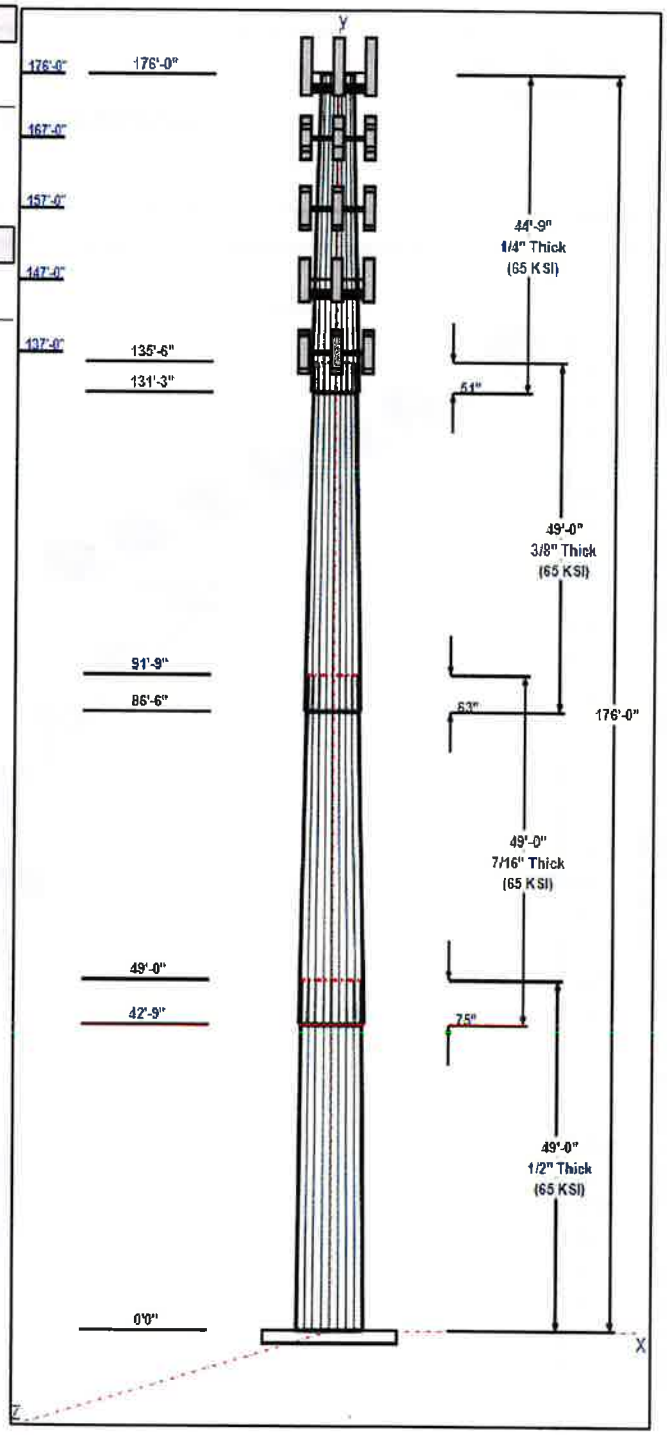
SBA

Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	49.00	46.90	56.55	0.500		0.19702	65
2	49.00	39.35	49.00	0.438	Slip	0.19702	65
3	49.00	31.48	41.13	0.375	Slip	0.19702	65
4	44.75	24.00	32.82	0.250	Slip	0.19702	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
176.00	177.00	3	Ericsson AIR6419 B41	T-Mobile
176.00	177.00	6	Allen Telecom	T-Mobile
176.00	177.00	3	RFS	T-Mobile
176.00	176.00	1	Sitepro 1: RMQP-4096-HK	T-Mobile
176.00	177.00	3	Ericsson KRY 112 144/1	T-Mobile
176.00	177.00	3	Ericsson KRY 112 489/2	T-Mobile
176.00	177.00	3	Ericsson 4449 B71 + B85	T-Mobile
176.00	179.50	1	Lightning Rod	
176.00	177.00	3	Ericsson 4460 B25 + B66	T-Mobile
176.00	177.00	12	mount pipe	T-Mobile
167.00	167.00	3	Commscope	Verizon
167.00	167.00	12	mount pipe	Verizon
167.00	167.00	1	Platform w/ Handrail +	Verizon
167.00	167.00	2	LPA-80063-4CF-EDIN-5	Verizon
167.00	167.00	1	RFS APL868013	Verizon
167.00	167.00	3	Commscope	Verizon
167.00	167.00	3	Commscope	Verizon
167.00	167.00	3	Samsung MT6413-77A	Verizon
167.00	167.00	3	Samsung B2/B66A RRH	Verizon
167.00	167.00	3	Samsung RF4461d-13A	Verizon
167.00	167.00	3	Samsung RT4423-48A	Verizon
167.00	167.00	2	Raycap	Verizon
157.00	157.00	3	ALU 1900 Mhz	T-Mobile Sprint
157.00	157.00	6	ALU 800 Mhz	T-Mobile Sprint
157.00	157.00	3	ALU TD-RRH8x20-25	T-Mobile Sprint
157.00	157.00	3	RFS APXVTM14-C-I20	T-Mobile Sprint
157.00	157.00	3	Commscope	T-Mobile Sprint
157.00	157.00	1	Sitepro PRK-1245L	T-Mobile Sprint
157.00	157.00	1	Sitepro HRK14-U	T-Mobile Sprint
157.00	157.00	1	Sitepro PRK-SFS-H-L	T-Mobile Sprint
157.00	157.00	1	Low Profile Platform	T-Mobile Sprint
157.00	157.00	12	mount pipe	T-Mobile Sprint
147.00	147.00	3	JMA MX08FRO665-21	Dish Wireless
147.00	147.00	3	Fujitsu TA08025-B605	Dish Wireless
147.00	147.00	3	Fujitsu TA08025-B604	Dish Wireless
147.00	147.00	3	Raycap	Dish Wireless
147.00	147.00	1	Platform w/HRK	Dish Wireless
147.00	147.00	9	mount pipe	Dish Wireless
137.00	137.00	9	mount pipe	AT&T
137.00	137.00	1	LP Platform + Handrail	AT&T
137.00	137.00	3	KMW HPA-65R-BU6AA	AT&T
137.00	137.00	3	CCI DMP65R-BU6DA	AT&T
137.00	137.00	3	Ericsson 4449 B5/B12	AT&T
137.00	137.00	3	Ericsson RRUS 8843 B2	AT&T
137.00	137.00	1	Raycap DC6-48-60-18-8F	AT&T



137.00	137.00	3	Powerwave 7770 Panel	AT&T
137.00	137.00	6	Powerwave LGP21401	AT&T
137.00	137.00	6	Powerwave LGP21903	AT&T
137.00	137.00	12	Powerwave 7020.00 RET	AT&T
137.00	137.00	3	Smart Bias T 1001940	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	176.00	Inside	1 5/8" Coax	T-Mobile
0.00	176.00	Inside	1 5/8" Fiber	T-Mobile
0.00	176.00	Inside	1.9" Hybrid	T-Mobile
0.00	176.00	Outside	Safety Cable	
0.00	176.00	Outside	Step bolts	
0.00	167.00	Inside	1 5/8" Coax	Verizon
0.00	167.00	Inside	1-1/4" Hybridflex	Verizon
0.00	157.00	Inside	1 1/4" Fiber	T-Mobile Sprint
0.00	147.00	Inside	1.6" Hybrid	Dish Wireless
0.00	137.00	Inside	1 5/8" Coax	AT&T
0.00	137.00	Inside	1" DC Power	AT&T
0.00	137.00	Inside	1/2" Coax	AT&T

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	66.0	50.0	Clipped

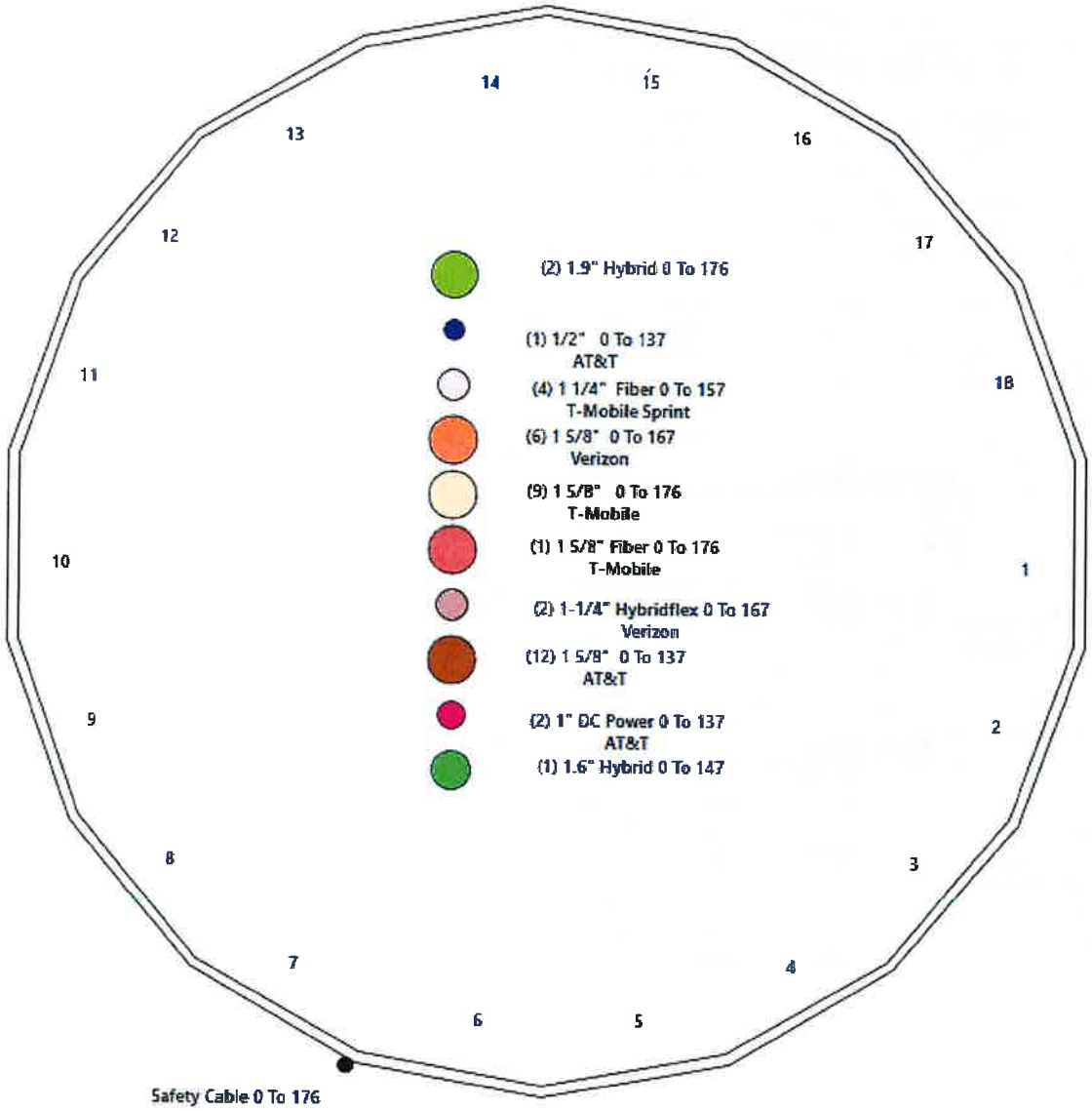
Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 119 mph Wind	5911.1	43.6	69.4
0.9D + 1.0W 119 mph Wind	5803.2	43.6	52.0
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1618.7	12.6	64.1
1.2D + 1.0Ev + 1.0Eh	131.8	0.8	72.0
0.9D + 1.0Ev + 1.0Eh	129.6	0.8	54.6
1.0D + 1.0W 60 mph Wind	1332.3	9.9	57.9

Structure: CT02216-S - Coax Line Placement

Type: Monopole
Site Name: Glastonbury
Height: 176.00 (ft)

3/26/2024



Shaft Properties

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	49.000	0.5000	65		0.00	13,554
2	18	49.000	0.4375	65	Slip	75.00	10,126
3	18	49.000	0.3750	65	Slip	63.00	7,131
4	18	44.750	0.2500	65	Slip	51.00	3,402
					Total Shaft Weight:		**34,213**

	Bottom						Top						
Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	56.55	0.00	88.95	35305.41	18.53	113.10	46.90	49.00	73.63	20024.4	15.13	93.79	0.197017
2	49.00	42.75	67.44	20095.24	18.34	112.01	39.35	91.75	54.03	10335.8	14.45	89.94	0.197017
3	41.13	86.50	48.51	10181.58	17.93	109.69	31.48	135.50	37.02	4525.14	13.39	83.94	0.197017
4	32.82	131.2	25.84	3462.57	21.74	131.27	24.00	176.00	18.84	1343.00	15.52	96.00	0.197017

Load Summary

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	176.00	Ericsson AIR6419 B41	3	83.30	6.32	0.68	258.10	7.370	0.68	0.00	1.00
2	176.00	Allen Telecom FE15501P77/75	6	11.00	0.93	0.65	30.58	1.647	0.65	0.00	1.00
3	176.00	RFS APXVAALL24_43-U-NA20	3	128.00	20.24	0.72	553.54	22.172	0.73	0.00	1.00
4	176.00	Sitepro 1: RMQP-4096-HK	1	1945.00	22.27	1.00	4014.48	38.067	1.00	0.00	0.00
5	176.00	Ericsson KRY 112 144/1 TMA	3	11.02	0.35	0.67	23.83	0.685	0.67	0.00	1.00
6	176.00	Ericsson KRY 112 489/2 TMA	3	15.40	0.56	0.67	33.30	1.096	0.67	0.00	1.00
7	176.00	Ericsson 4449 B71 + B85 RRU	3	75.00	1.95	0.67	144.63	2.197	0.67	0.00	1.00
8	176.00	Lightning Rod	1	35.00	1.05	1.00	66.92	3.462	1.00	0.00	3.50
9	176.00	Ericsson 4460 B25 + B66 RRU	3	104.00	2.14	0.67	196.79	2.754	0.67	0.00	1.00
10	176.00	mount pipe	12	30.00	1.57	1.00	61.92	2.684	1.00	0.00	1.00
11	167.00	Commscope BSAMNT-SBS-1-2	3	25.57	0.00	1.00	106.76	0.000	1.00	0.00	0.00
12	167.00	mount pipe	12	30.00	1.31	1.00	56.46	2.373	1.00	0.00	0.00
13	167.00	Platform w/ Handrail + Kicker	1	2788.00	42.30	1.00	5247.09	76.625	1.00	0.00	0.00
14	167.00	LPA-80063-4CF-EDIN-5	2	20.00	6.15	0.93	204.91	8.064	0.93	0.00	0.00
15	167.00	RFS APL868013	1	6.30	2.86	0.93	115.06	3.736	0.93	0.00	0.00
16	167.00	Commscope NHH-65B-R2B	3	43.65	8.05	0.83	247.28	9.352	0.84	0.00	0.00
17	167.00	Commscope NHHSS-65B-R2BT4	3	50.92	8.05	0.83	254.75	9.352	0.84	0.00	0.00
18	167.00	Samsung MT6413-77A	3	57.30	3.79	0.69	159.13	4.619	0.71	0.00	0.00
19	167.00	Samsung B2/B66A RRH ORAN	3	74.70	1.87	0.67	152.18	2.439	0.67	0.00	0.00
20	167.00	Samsung RF4461d-13A RRU	3	79.10	1.87	0.67	157.73	2.439	0.67	0.00	0.00
21	167.00	Samsung RT4423-48A RRU	3	5.97	0.86	0.67	37.29	1.268	0.67	0.00	0.00
22	167.00	Raycap DB-B1-6C-12AB-0Z	2	32.00	3.79	0.90	133.61	5.288	0.90	0.00	0.00
23	157.00	ALU 1900 Mhz	3	60.00	2.77	0.67	143.82	4.044	0.67	0.00	0.00
24	157.00	ALU 800 Mhz	6	53.00	2.49	0.67	127.30	3.639	0.67	0.00	0.00
25	157.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.67	181.07	4.867	0.67	0.00	0.00
26	157.00	RFS APXVTM14-C-I20	3	56.20	6.34	0.77	217.49	7.459	0.77	0.00	0.00
27	157.00	Commscope NNVV-65B-R4	3	77.40	12.27	0.75	364.26	13.733	0.75	0.00	0.00
28	157.00	Sitepro PRK-1245L	1	464.91	9.50	1.00	790.94	19.493	1.00	0.00	0.00
29	157.00	Sitepro HRK14-U	1	302.36	8.13	1.00	662.83	16.112	1.00	0.00	0.00
30	157.00	Sitepro PRK-SFS-H-L	1	230.00	6.70	1.00	552.59	13.748	1.00	0.00	0.00
31	157.00	Low Profile Platform	1	1500.00	14.69	1.00	2814.90	26.537	1.00	0.00	0.00
32	157.00	mount pipe	12	30.00	1.55	1.00	56.30	2.800	1.00	0.00	0.00
33	147.00	JMA MX08FRO665-21	3	64.50	12.49	0.73	350.84	13.971	0.75	0.00	0.00
34	147.00	Fujitsu TA08025-B605 RRU	3	74.95	1.96	0.67	145.34	2.966	0.67	0.00	0.00
35	147.00	Fujitsu TA08025-B604 RRU	3	63.93	1.96	0.67	123.97	2.966	0.67	0.00	0.00
36	147.00	Raycap RDIDC-9181-PF-48	3	21.85	2.01	1.00	56.44	4.568	1.00	0.00	0.00
37	147.00	Platform w/HRK	1	1736.00	22.56	1.00	3755.75	44.564	1.00	0.00	0.00
38	147.00	mount pipe	9	30.00	1.64	1.00	64.90	3.240	1.00	0.00	0.00
39	137.00	mount pipe	9	30.00	1.30	1.00	55.94	2.334	1.00	0.00	0.00
40	137.00	LP Platform + Handrail	1	1500.00	19.25	1.00	2797.10	34.564	1.00	0.00	0.00
41	137.00	KMW HPA-65R-BU6AA Panel	3	43.00	7.86	0.89	251.18	9.129	0.89	0.00	0.00
42	137.00	CCI DMP65R-BU6DA Panel	3	79.40	12.71	0.73	363.89	14.184	0.73	0.00	0.00
43	137.00	Ericsson 4449 B5/B12 RRU	3	71.00	1.97	0.86	157.17	3.481	0.86	0.00	0.00
44	137.00	Ericsson RRUS 8843 B2 B66A RRU	3	72.00	1.64	0.92	121.81	2.151	0.92	0.00	0.00
45	137.00	Raycap DC6-48-60-18-8F	1	32.80	1.47	1.00	95.99	2.163	1.00	0.00	0.00
46	137.00	Powerwave 7770 Panel	3	35.00	5.50	0.73	168.68	6.555	0.73	0.00	0.00
47	137.00	Powerwave LGP21401 TMA	6	19.00	1.29	0.67	52.39	2.118	0.67	0.00	0.00
48	137.00	Powerwave LGP21903 Diplexer	6	5.00	0.27	0.84	12.59	0.664	0.84	3.00	0.00
49	137.00	Powerwave 7020.00 RET	12	2.20	0.40	0.50	12.34	0.880	0.50	0.00	0.00
50	137.00	Smart Bias T 1001940	3	2.00	0.09	0.67	3.98	0.322	0.67	5.70	0.00

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
		Totals:	186	17,454.25			41,185.36				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	176.00	(9) 1 5/8" Coax	0.00	Inside
0.00	176.00	(1) 1 5/8" Fiber	0.00	Inside
0.00	176.00	(2) 1.9" Hybrid	0.00	Inside
0.00	176.00	(1) Safety Cable	0.38	Outside
0.00	176.00	(1) Step bolts	0.63	Outside
0.00	167.00	(6) 1 5/8" Coax	0.00	Inside
0.00	167.00	(2) 1-1/4" Hybridflex	0.00	Inside
0.00	157.00	(4) 1 1/4" Fiber	0.00	Inside
0.00	147.00	(1) 1.6" Hybrid	0.00	Inside
0.00	137.00	(12) 1 5/8" Coax	0.00	Inside
0.00	137.00	(2) 1" DC Power	0.00	Inside
0.00	137.00	(1) 1/2" Coax	0.00	Inside

Shaft Section Properties

Structure: CT02216-S
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 3/26/2024
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.5000	56.550	88.948	35305.4	18.53	113.10	79.6	1229.	0.0
5.00		0.5000	55.565	87.385	33476.4	18.18	111.13	80.0	1186.	1500.1
10.00		0.5000	54.580	85.822	31711.8	17.84	109.16	80.4	1144.	1473.5
15.00		0.5000	53.595	84.258	30010.2	17.49	107.19	80.8	1102.	1446.9
20.00		0.5000	52.610	82.695	28370.6	17.14	105.22	81.2	1062.	1420.3
25.00		0.5000	51.625	81.132	26791.9	16.79	103.25	81.6	1022.	1393.7
30.00		0.5000	50.639	79.569	25272.8	16.45	101.28	82.1	983.0	1367.1
35.00		0.5000	49.654	78.005	23812.3	16.10	99.31	82.5	944.6	1340.5
40.00		0.5000	48.669	76.442	22409.2	15.75	97.34	82.5	906.9	1313.9
42.75	Bot - Section 2	0.5000	48.128	75.582	21661.5	15.56	96.26	82.5	886.5	711.3
45.00		0.5000	47.684	74.879	21062.3	15.41	95.37	82.5	870.0	1089.9
49.00	Top - Section 1	0.4375	47.771	65.726	18605.1	17.84	109.19	0.0	0.0	1912.7
50.00		0.4375	47.574	65.453	18373.8	17.76	108.74	80.5	760.7	223.2
55.00		0.4375	46.589	64.085	17245.7	17.37	106.49	81.0	729.1	1102.0
60.00		0.4375	45.604	62.717	16164.8	16.97	104.24	81.4	698.2	1078.7
65.00		0.4375	44.619	61.349	15130.1	16.57	101.99	81.9	667.9	1055.4
70.00		0.4375	43.634	59.981	14140.4	16.18	99.73	82.4	638.3	1032.2
75.00		0.4375	42.649	58.613	13194.9	15.78	97.48	82.5	609.4	1008.9
80.00		0.4375	41.664	57.246	12292.5	15.38	95.23	82.5	581.1	985.6
85.00		0.4375	40.679	55.878	11432.2	14.98	92.98	82.5	553.5	962.3
86.50	Bot - Section 3	0.4375	40.383	55.467	11182.2	14.87	92.30	82.5	545.4	284.2
90.00		0.4375	39.693	54.510	10613.0	14.59	90.73	82.5	526.6	1227.8
91.75	Top - Section 2	0.3750	40.099	47.279	9425.9	17.44	106.93	0.0	0.0	605.9
95.00		0.3750	39.458	46.517	8977.4	17.14	105.22	81.2	448.1	518.7
100.00		0.3750	38.473	45.345	8315.6	16.68	102.60	81.8	425.7	781.5
105.00		0.3750	37.488	44.172	7687.1	16.22	99.97	82.3	403.9	761.5
110.00		0.3750	36.503	43.000	7091.1	15.75	97.34	82.5	382.6	741.6
115.00		0.3750	35.518	41.827	6526.7	15.29	94.71	82.5	361.9	721.6
120.00		0.3750	34.533	40.655	5993.1	14.83	92.09	82.5	341.8	701.7
125.00		0.3750	33.548	39.483	5489.4	14.36	89.46	82.5	322.3	681.7
130.00		0.3750	32.563	38.310	5014.7	13.90	86.83	82.5	303.3	661.8
131.25	Bot - Section 4	0.3750	32.317	38.017	4900.5	13.78	86.18	82.5	298.7	162.3
135.00		0.3750	31.578	37.138	4568.3	13.44	84.21	82.5	284.9	805.5
135.50	Top - Section 3	0.2500	31.979	25.176	3202.3	21.14	127.92	0.0	0.0	106.0
137.00		0.2500	31.684	24.942	3113.6	20.94	126.73	76.8	193.6	127.9
140.00		0.2500	31.093	24.473	2941.3	20.52	124.37	77.3	186.3	252.2
145.00		0.2500	30.108	23.691	2668.4	19.82	120.43	78.1	174.6	409.7
147.00		0.2500	29.713	23.378	2564.1	19.55	118.85	78.4	170.0	160.2
150.00		0.2500	29.122	22.909	2412.9	19.13	116.49	78.9	163.2	236.3
155.00		0.2500	28.137	22.128	2174.2	18.43	112.55	79.7	152.2	383.1
157.00		0.2500	27.743	21.815	2083.4	18.16	110.97	80.0	147.9	149.5
160.00		0.2500	27.152	21.346	1951.9	17.74	108.61	80.5	141.6	220.3
165.00		0.2500	26.167	20.565	1745.2	17.05	104.67	81.4	131.4	356.5
167.00		0.2500	25.773	20.252	1666.8	16.77	103.09	81.7	127.4	138.9
170.00		0.2500	25.182	19.783	1553.7	16.35	100.73	82.2	121.5	204.3
175.00		0.2500	24.197	19.001	1376.7	15.66	96.79	82.5	112.1	329.9
176.00		0.2500	24.000	18.845	1343.0	15.52	96.00	82.5	110.2	64.4
										34212.9

Wind Loading - Shaft

Structure: CT02216-S
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 3/26/2024
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II Page: 9

SBA

Load Case: 1.2D + 1.0W 119 mph Wind
Dead Load Factor 1.20
Wind Load Factor 1.00

Iterations 27

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	28.773	31.65	520.49	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	28.773	31.65	511.42	0.730	0.000	5.00	23.718	17.31	548.0	0.0	1800.1
10.00		1.00	0.85	28.773	31.65	502.35	0.730	0.000	5.00	23.301	17.01	538.4	0.0	1768.1
15.00		1.00	0.85	28.773	31.65	493.29	0.730	0.000	5.00	22.884	16.71	528.7	0.0	1736.2
20.00		1.00	0.90	30.529	33.58	498.78	0.730	0.000	5.00	22.467	16.40	550.8	0.0	1704.3
25.00		1.00	0.95	31.998	35.20	501.07	0.730	0.000	5.00	22.050	16.10	566.6	0.0	1672.4
30.00		1.00	0.98	33.250	36.57	501.04	0.730	0.000	5.00	21.634	15.79	577.6	0.0	1640.5
35.00		1.00	1.01	34.346	37.78	499.33	0.730	0.000	5.00	21.217	15.49	585.2	0.0	1608.6
40.00		1.00	1.04	35.326	38.86	496.35	0.730	0.000	5.00	20.800	15.18	590.0	0.0	1576.6
42.75	Bot - Section 2	1.00	1.06	35.824	39.41	494.27	0.730	0.000	2.75	11.262	8.22	324.0	0.0	853.6
45.00		1.00	1.07	36.213	39.83	492.37	0.730	0.000	2.25	9.288	6.78	270.1	0.0	1307.9
49.00	Top - Section 1	1.00	1.09	36.868	40.55	488.59	0.730	0.000	4.00	16.303	11.90	482.6	0.0	2295.3
50.00		1.00	1.09	37.025	40.73	496.71	0.730	0.000	1.00	4.034	2.94	119.9	0.0	267.8
55.00		1.00	1.12	37.775	41.55	491.33	0.730	0.000	5.00	19.920	14.54	604.2	0.0	1322.4
60.00		1.00	1.14	38.474	42.32	485.37	0.730	0.000	5.00	19.503	14.24	602.5	0.0	1294.4
65.00		1.00	1.16	39.127	43.04	478.90	0.730	0.000	5.00	19.086	13.93	599.7	0.0	1266.5
70.00		1.00	1.17	39.743	43.72	471.99	0.730	0.000	5.00	18.670	13.63	595.8	0.0	1238.6
75.00		1.00	1.19	40.324	44.36	464.70	0.730	0.000	5.00	18.253	13.32	591.0	0.0	1210.7
80.00		1.00	1.21	40.876	44.96	457.06	0.730	0.000	5.00	17.836	13.02	585.4	0.0	1182.7
85.00		1.00	1.22	41.401	45.54	449.11	0.730	0.000	5.00	17.419	12.72	579.1	0.0	1154.8
86.50	Bot - Section 3	1.00	1.23	41.554	45.71	446.67	0.730	0.000	1.50	5.145	3.76	171.7	0.0	341.0
90.00		1.00	1.24	41.902	46.09	440.88	0.730	0.000	3.50	12.080	8.82	406.5	0.0	1473.3
91.75	Top - Section 2	1.00	1.24	42.072	46.28	437.94	0.730	0.000	1.75	5.963	4.35	201.5	0.0	727.1
95.00		1.00	1.25	42.382	46.62	440.77	0.730	0.000	3.25	10.940	7.99	372.3	0.0	622.4
100.00		1.00	1.27	42.842	47.13	432.09	0.730	0.000	5.00	16.486	12.03	567.2	0.0	937.8
105.00		1.00	1.28	43.284	47.61	423.20	0.730	0.000	5.00	16.069	11.73	558.5	0.0	913.8
110.00		1.00	1.29	43.710	48.08	414.10	0.730	0.000	5.00	15.653	11.43	549.4	0.0	889.9
115.00		1.00	1.30	44.121	48.53	404.82	0.730	0.000	5.00	15.236	11.12	539.8	0.0	865.9
120.00		1.00	1.32	44.518	48.97	395.36	0.730	0.000	5.00	14.819	10.82	529.8	0.0	842.0
125.00		1.00	1.33	44.902	49.39	385.73	0.730	0.000	5.00	14.402	10.51	519.3	0.0	818.1
130.00		1.00	1.34	45.275	49.80	375.95	0.730	0.000	5.00	13.986	10.21	508.5	0.0	794.1
131.25	Bot - Section 4	1.00	1.34	45.366	49.90	373.49	0.730	0.000	1.25	3.431	2.50	125.0	0.0	194.8
135.00		1.00	1.35	45.636	50.20	366.03	0.730	0.000	3.75	10.296	7.52	377.3	0.0	966.6
135.50	Top - Section 3	1.00	1.35	45.671	50.24	365.03	0.730	0.000	0.50	1.355	0.99	49.7	0.0	127.2
137.00	Appurtenance(s)	1.00	1.35	45.777	50.36	367.83	0.730	0.000	1.50	4.040	2.95	148.5	0.0	153.5
140.00		1.00	1.36	45.987	50.59	361.79	0.730	0.000	3.00	7.968	5.82	294.2	0.0	302.7
145.00		1.00	1.37	46.328	50.96	351.63	0.730	0.000	5.00	12.947	9.45	481.6	0.0	491.7
147.00	Appurtenance(s)	1.00	1.37	46.461	51.11	347.52	0.730	0.000	2.00	5.062	3.70	188.9	0.0	192.2
150.00		1.00	1.38	46.659	51.33	341.34	0.730	0.000	3.00	7.468	5.45	279.8	0.0	283.5
155.00		1.00	1.39	46.983	51.68	330.93	0.730	0.000	5.00	12.113	8.84	457.0	0.0	459.8
157.00	Appurtenance(s)	1.00	1.39	47.110	51.82	326.74	0.730	0.000	2.00	4.729	3.45	178.9	0.0	179.4
160.00		1.00	1.40	47.298	52.03	320.41	0.730	0.000	3.00	6.968	5.09	264.6	0.0	264.4
165.00		1.00	1.41	47.605	52.37	309.79	0.730	0.000	5.00	11.280	8.23	431.2	0.0	427.8
167.00	Appurtenance(s)	1.00	1.41	47.726	52.50	305.51	0.730	0.000	2.00	4.395	3.21	168.4	0.0	166.7
170.00		1.00	1.42	47.905	52.70	299.07	0.730	0.000	3.00	6.468	4.72	248.8	0.0	245.2
175.00		1.00	1.42	48.198	53.02	288.25	0.730	0.000	5.00	10.446	7.63	404.3	0.0	395.9
176.00	Appurtenance(s)	1.00	1.43	48.256	53.08	286.07	0.730	0.000	1.00	2.039	1.49	79.0	0.0	77.3

Wind Loading - Shaft

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Totals:	**176.00**	**18,941.2**	**41,055.5**

Discrete Appurtenance Forces

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Load Case: 1.2D + 1.0W 119 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00

Iterations 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	176.00	Ericsson KRY 112 144/1	3	48.314	53.145	0.60	0.90	0.63	39.67	0.000	1.000	33.65	0.00	33.65
2	176.00	Ericsson AIR6419 B41	3	48.314	53.145	0.61	0.90	11.60	299.88	0.000	1.000	616.67	0.00	616.67
3	176.00	Allen Telecom	6	48.314	53.145	0.59	0.90	3.26	79.20	0.000	1.000	173.48	0.00	173.48
4	176.00	RFS	3	48.314	53.145	0.65	0.90	39.35	460.80	0.000	1.000	2091.09	0.00	2091.09
5	176.00	Sitepro 1: RMQP-4096-HK	1	48.256	53.082	1.00	1.00	22.27	2334.00	0.000	0.000	1182.14	0.00	0.00
6	176.00	mount pipe	12	48.314	53.145	0.90	0.90	16.96	432.00	0.000	1.000	901.13	0.00	901.13
7	176.00	Ericsson KRY 112 489/2	3	48.314	53.145	0.60	0.90	1.01	55.44	0.000	1.000	53.84	0.00	53.84
8	176.00	Ericsson 4449 B71 + B85	3	48.314	53.145	0.60	0.90	3.53	270.00	0.000	1.000	187.47	0.00	187.47
9	176.00	Lightning Rod	1	48.457	53.302	1.00	1.00	1.05	42.00	0.000	3.500	55.97	0.00	195.89
10	176.00	Ericsson 4460 B25 + B66	3	48.314	53.145	0.60	0.90	3.87	374.40	0.000	1.000	205.74	0.00	205.74
11	167.00	RFS APL868013	1	47.726	52.499	0.70	0.75	1.99	7.56	0.000	0.000	104.73	0.00	0.00
12	167.00	LPA-80063-4CF-EDIN-5	2	47.726	52.499	0.70	0.75	8.58	48.00	0.000	0.000	450.40	0.00	0.00
13	167.00	Platform w/ Handrail +	1	47.726	52.499	1.00	1.00	42.30	3345.60	0.000	0.000	2220.69	0.00	0.00
14	167.00	Commscope	3	47.726	52.499	0.62	0.75	15.03	157.14	0.000	0.000	789.23	0.00	0.00
15	167.00	mount pipe	12	47.726	52.499	0.75	0.75	11.79	432.00	0.000	0.000	618.96	0.00	0.00
16	167.00	Commscope	3	47.726	52.499	1.00	1.00	0.00	92.05	0.000	0.000	0.00	0.00	0.00
17	167.00	Samsung RF4461d-13A	3	47.726	52.499	0.50	0.75	2.82	284.76	0.000	0.000	147.99	0.00	0.00
18	167.00	Commscope	3	47.726	52.499	0.62	0.75	15.03	183.31	0.000	0.000	789.23	0.00	0.00
19	167.00	Samsung MT6413-77A	3	47.726	52.499	0.52	0.75	5.88	206.28	0.000	0.000	308.90	0.00	0.00
20	167.00	Samsung B2/B66A RRH	3	47.726	52.499	0.50	0.75	2.82	268.92	0.000	0.000	147.99	0.00	0.00
21	167.00	Samsung RT4423-48A	3	47.726	52.499	0.50	0.75	1.30	21.49	0.000	0.000	68.06	0.00	0.00
22	167.00	Raycap	2	47.726	52.499	0.68	0.75	5.12	76.80	0.000	0.000	268.61	0.00	0.00
23	157.00	mount pipe	12	47.110	51.821	0.75	0.75	13.95	432.00	0.000	0.000	722.90	0.00	0.00
24	157.00	Low Profile Platform	1	47.110	51.821	1.00	1.00	14.69	1800.00	0.000	0.000	761.24	0.00	0.00
25	157.00	Sitepro PRK-SFS-H-L	1	47.110	51.821	1.00	1.00	6.70	276.00	0.000	0.000	347.20	0.00	0.00
26	157.00	Sitepro HRK14-U	1	47.110	51.821	1.00	1.00	8.13	362.83	0.000	0.000	421.30	0.00	0.00
27	157.00	Commscope	3	47.110	51.821	0.56	0.75	20.71	278.64	0.000	0.000	1072.98	0.00	0.00
28	157.00	RFS APXVTM14-C-I20	3	47.110	51.821	0.58	0.75	10.98	202.32	0.000	0.000	569.20	0.00	0.00
29	157.00	ALU TD-RRH8x20-25	3	47.110	51.821	0.50	0.75	6.11	252.00	0.000	0.000	316.38	0.00	0.00
30	157.00	ALU 800 Mhz	6	47.110	51.821	0.50	0.75	7.51	381.60	0.000	0.000	389.04	0.00	0.00
31	157.00	ALU 1900 Mhz	3	47.110	51.821	0.50	0.75	4.18	216.00	0.000	0.000	216.39	0.00	0.00
32	157.00	Sitepro PRK-1245L	1	47.110	51.821	1.00	1.00	9.50	557.89	0.000	0.000	492.30	0.00	0.00
33	147.00	Fujitsu TA08025-B604	3	46.461	51.108	0.50	0.75	2.95	230.15	0.000	0.000	151.01	0.00	0.00
34	147.00	Fujitsu TA08025-B605	3	46.461	51.108	0.50	0.75	2.95	269.82	0.000	0.000	151.01	0.00	0.00
35	147.00	JMA MX08FRO665-21	3	46.461	51.108	0.55	0.75	20.51	232.20	0.000	0.000	1048.46	0.00	0.00
36	147.00	Platform w/HRK	1	46.461	51.108	1.00	1.00	22.56	2083.20	0.000	0.000	1152.99	0.00	0.00
37	147.00	mount pipe	9	46.461	51.108	0.75	0.75	11.07	324.00	0.000	0.000	565.76	0.00	0.00
38	147.00	Raycap	3	46.461	51.108	0.75	0.75	4.52	78.66	0.000	0.000	231.13	0.00	0.00
39	137.00	Ericsson RRUS 8843 B2	3	45.777	50.355	0.69	0.75	3.39	259.20	0.000	0.000	170.95	0.00	0.00
40	137.00	mount pipe	9	45.777	50.355	0.75	0.75	8.78	324.00	0.000	0.000	441.87	0.00	0.00
41	137.00	LP Platform + Handrail	1	45.777	50.355	1.00	1.00	19.25	1800.00	0.000	0.000	969.34	0.00	0.00
42	137.00	KMW HPA-65R-BU6AA	3	45.777	50.355	0.67	0.75	15.74	154.80	0.000	0.000	792.57	0.00	0.00
43	137.00	CCI DMP65R-BU6DA	3	45.777	50.355	0.55	0.75	20.88	285.84	0.000	0.000	1051.22	0.00	0.00
44	137.00	Ericsson 4449 B5/B12	3	45.777	50.355	0.65	0.75	3.81	255.60	0.000	0.000	191.95	0.00	0.00
45	137.00	Powerwave 7770 Panel	3	45.777	50.355	0.55	0.75	9.03	126.00	0.000	0.000	454.90	0.00	0.00
46	137.00	Raycap DC6-48-60-18-8F	1	45.777	50.355	1.00	1.00	1.47	39.36	0.000	0.000	74.02	0.00	0.00
47	137.00	Powerwave LGP21401	6	45.777	50.355	0.50	0.75	3.89	136.80	0.000	0.000	195.85	0.00	0.00

Discrete Appurtenance Forces

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 12

48	137.00	Powerwave LGP21903	6	45.777	50.355	0.63	0.75	1.02	36.00	4.341	0.000	51.39	223.07	0.00
49	137.00	Powerwave 7020.00 RET	12	45.777	50.355	0.38	0.75	1.80	31.68	0.000	0.000	90.64	0.00	0.00
50	137.00	Smart Bias T 1001940	3	45.777	50.355	0.50	0.75	0.14	7.20	7.041	0.000	6.83	48.10	0.00
							Totals:		**20,945.10**			**24,516.78**		

Total Applied Force Summary

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 13

Load Case: 1.2D + 1.0W 119 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00

Iterations 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		547.99	2035.87	0.00	0.00
10.00		538.36	2003.96	0.00	0.00
15.00		528.73	1972.04	0.00	0.00
20.00		550.78	1940.12	0.00	0.00
25.00		566.57	1908.20	0.00	0.00
30.00		577.61	1876.29	0.00	0.00
35.00		585.17	1844.37	0.00	0.00
40.00		590.03	1812.45	0.00	0.00
42.75		323.98	983.25	0.00	0.00
45.00		270.07	1414.03	0.00	0.00
49.00		482.64	2483.92	0.00	0.00
50.00		119.93	314.99	0.00	0.00
55.00		604.24	1558.17	0.00	0.00
60.00		602.54	1530.24	0.00	0.00
65.00		599.68	1502.32	0.00	0.00
70.00		595.81	1474.39	0.00	0.00
75.00		591.03	1446.46	0.00	0.00
80.00		585.44	1418.53	0.00	0.00
85.00		579.10	1390.61	0.00	0.00
86.50		171.66	411.74	0.00	0.00
90.00		406.46	1638.37	0.00	0.00
91.75		201.47	809.66	0.00	0.00
95.00		372.30	775.65	0.00	0.00
100.00		567.16	1173.57	0.00	0.00
105.00		558.53	1149.63	0.00	0.00
110.00		549.40	1125.69	0.00	0.00
115.00		539.80	1101.75	0.00	0.00
120.00		529.75	1077.82	0.00	0.00
125.00		519.30	1053.88	0.00	0.00
130.00		508.45	1029.94	0.00	0.00
131.25		125.00	253.74	0.00	0.00
135.00		377.31	1143.45	0.00	0.00
135.50		49.70	150.76	0.00	0.00
137.00	(53) attachments	4640.04	3680.71	271.17	0.00
140.00		294.24	395.76	0.00	0.00
145.00		481.63	646.84	0.00	0.00
147.00	(22) attachments	3489.21	3472.30	0.00	0.00
150.00		279.81	372.65	0.00	0.00
155.00		456.99	608.32	0.00	0.00
157.00	(34) attachments	5487.80	4998.14	0.00	0.00
160.00		264.64	344.00	0.00	0.00
165.00		431.18	560.56	0.00	0.00
167.00	(39) attachments	6083.24	5343.67	0.00	0.00
170.00		248.80	295.52	0.00	0.00
175.00		404.30	479.76	0.00	0.00
176.00	(38) attachments	5580.19	4481.43	0.00	4458.96

Total Applied Force Summary

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 14

Totals:	**43,458.03**	**69,485.52**	**271.17**	**4,458.96**

Linear Appurtenance Segment Forces (Factored)

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 15	

Load Case: 1.2D + 1.0W 119 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00

Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	28.773	0.00	1.64
5.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	28.773	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	28.773	0.00	1.64
10.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	28.773	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	28.773	0.00	1.64
15.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	28.773	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	30.529	0.00	1.64
20.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	30.529	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	31.998	0.00	1.64
25.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	31.998	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	33.250	0.00	1.64
30.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	33.250	0.00	6.24
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	34.346	0.00	1.64
35.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	34.346	0.00	6.24
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	35.326	0.00	1.64
40.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	35.326	0.00	6.24
42.75	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.021	0.000	35.824	0.00	0.90
42.75	Step bolts	Yes	2.75	0.000	0.63	0.14	0.00	0.021	0.000	35.824	0.00	3.43
45.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.021	0.000	36.213	0.00	0.74
45.00	Step bolts	Yes	2.25	0.000	0.63	0.12	0.00	0.021	0.000	36.213	0.00	2.81
49.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.021	0.000	36.868	0.00	1.31
49.00	Step bolts	Yes	4.00	0.000	0.63	0.21	0.00	0.021	0.000	36.868	0.00	4.99
50.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.021	0.000	37.025	0.00	0.33
50.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.021	0.000	37.025	0.00	1.25
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	37.775	0.00	1.64
55.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	37.775	0.00	6.24
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	38.474	0.00	1.64
60.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	38.474	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	39.127	0.00	1.64
65.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	39.127	0.00	6.24
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	39.743	0.00	1.64
70.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	39.743	0.00	6.24
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	40.324	0.00	1.64
75.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	40.324	0.00	6.24
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	40.876	0.00	1.64
80.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	40.876	0.00	6.24
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	41.401	0.00	1.64
85.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	41.401	0.00	6.24
86.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.025	0.000	41.554	0.00	0.49
86.50	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.025	0.000	41.554	0.00	1.87
90.00	Safety Cable	Yes	3.50	0.000	0.38	0.11	0.00	0.025	0.000	41.902	0.00	1.15
90.00	Step bolts	Yes	3.50	0.000	0.63	0.18	0.00	0.025	0.000	41.902	0.00	4.37
91.75	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.025	0.000	42.072	0.00	0.57
91.75	Step bolts	Yes	1.75	0.000	0.63	0.09	0.00	0.025	0.000	42.072	0.00	2.18
95.00	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.025	0.000	42.382	0.00	1.06
95.00	Step bolts	Yes	3.25	0.000	0.63	0.17	0.00	0.025	0.000	42.382	0.00	4.06
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	42.842	0.00	1.64

Linear Appurtenance Segment Forces (Factored)

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Load Case: 1.2D + 1.0W 119 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00

Iterations 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	42.842	0.00	6.24
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	43.284	0.00	1.64
105.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	43.284	0.00	6.24
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	43.710	0.00	1.64
110.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	43.710	0.00	6.24
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	44.121	0.00	1.64
115.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	44.121	0.00	6.24
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	44.518	0.00	1.64
120.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	44.518	0.00	6.24
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	44.902	0.00	1.64
125.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	44.902	0.00	6.24
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	45.275	0.00	1.64
130.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	45.275	0.00	6.24
131.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.031	0.000	45.366	0.00	0.41
131.25	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.031	0.000	45.366	0.00	1.56
135.00	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.031	0.000	45.636	0.00	1.23
135.00	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.031	0.000	45.636	0.00	4.68
135.50	Safety Cable	Yes	0.50	0.000	0.38	0.02	0.00	0.032	0.000	45.671	0.00	0.16
135.50	Step bolts	Yes	0.50	0.000	0.63	0.03	0.00	0.032	0.000	45.671	0.00	0.62
137.00	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.031	0.000	45.777	0.00	0.49
137.00	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.031	0.000	45.777	0.00	1.87
140.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.032	0.000	45.987	0.00	0.98
140.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.032	0.000	45.987	0.00	3.74
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	46.328	0.00	1.64
145.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	46.328	0.00	6.24
147.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	46.461	0.00	0.66
147.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	46.461	0.00	2.50
150.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	46.659	0.00	0.98
150.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	46.659	0.00	3.74
155.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	46.983	0.00	1.64
155.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	46.983	0.00	6.24
157.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	47.110	0.00	0.66
157.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	47.110	0.00	2.50
160.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.036	0.000	47.298	0.00	0.98
160.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.036	0.000	47.298	0.00	3.74
165.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	47.605	0.00	1.64
165.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	47.605	0.00	6.24
167.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.038	0.000	47.726	0.00	0.66
167.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.038	0.000	47.726	0.00	2.50
170.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.039	0.000	47.905	0.00	0.98
170.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.039	0.000	47.905	0.00	3.74
175.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.040	0.000	48.198	0.00	1.64
175.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.040	0.000	48.198	0.00	6.24
176.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.041	0.000	48.256	0.00	0.33
176.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.041	0.000	48.256	0.00	1.25
										Totals:	**0.0**	**277.3**

Calculated Forces

Structure: CT02216-S
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 3/26/2024
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

Load Case: 1.2D + 1.0W 119 mph Wind
Dead Load Factor 1.20
Wind Load Factor 1.00

Iterations 27

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-69.39	-43.60	-0.26	-5911.0	-0.01	5911.05	6372.54	1561.04	7259.46	7341.49	0.00	0.000	0.000	0.817
5.00	-67.18	-43.33	-0.26	-5693.0	-0.01	5693.05	6292.68	1533.60	7006.53	7120.95	0.13	-0.234	0.000	0.811
10.00	-65.00	-43.05	-0.26	-5476.4	-0.01	5476.42	6211.66	1506.17	6758.08	6902.39	0.50	-0.471	0.000	0.805
15.00	-62.86	-42.77	-0.26	-5261.1	-0.01	5261.18	6129.50	1478.73	6514.12	6685.89	1.12	-0.712	0.000	0.798
20.00	-60.74	-42.45	-0.26	-5047.3	-0.01	5047.36	6046.18	1451.30	6274.65	6471.51	2.00	-0.956	0.000	0.791
25.00	-58.66	-42.10	-0.26	-4835.1	-0.01	4835.13	5961.72	1423.86	6039.66	6259.33	3.13	-1.204	0.000	0.783
30.00	-56.62	-41.73	-0.26	-4624.6	-0.01	4624.63	5876.11	1396.43	5809.15	6049.42	4.53	-1.455	0.000	0.775
35.00	-54.60	-41.34	-0.26	-4415.9	-0.01	4415.99	5789.35	1368.99	5583.13	5841.84	6.19	-1.710	0.000	0.766
40.00	-52.67	-40.88	-0.26	-4209.3	-0.01	4209.30	5679.25	1341.56	5361.59	5614.75	8.11	-1.967	0.000	0.760
42.75	-51.60	-40.64	-0.26	-4096.8	-0.01	4096.89	5615.38	1326.47	5241.66	5488.51	9.29	-2.112	0.000	0.757
45.00	-50.08	-40.46	-0.26	-4005.4	-0.01	4005.47	5563.11	1314.12	5144.54	5386.29	10.31	-2.232	0.000	0.754
49.00	-47.53	-39.98	-0.26	-3843.6	-0.01	3843.64	4756.80	1153.50	4530.03	4626.40	12.27	-2.444	0.000	0.842
50.00	-47.10	-39.99	-0.26	-3803.6	-0.01	3803.65	4742.51	1148.70	4492.40	4593.12	12.79	-2.498	0.000	0.839
55.00	-45.37	-39.55	-0.26	-3603.7	-0.01	3603.70	4670.33	1124.69	4306.59	4427.82	15.56	-2.785	0.000	0.825
60.00	-43.68	-39.09	-0.26	-3405.9	-0.01	3405.98	4597.00	1100.68	4124.71	4264.39	18.63	-3.074	0.000	0.809
65.00	-42.02	-38.62	-0.26	-3210.5	-0.01	3210.55	4522.52	1076.68	3946.75	4102.93	22.01	-3.365	0.000	0.793
70.00	-40.39	-38.14	-0.26	-3017.4	-0.01	3017.46	4446.89	1052.67	3772.72	3943.48	25.68	-3.658	0.000	0.776
75.00	-38.79	-37.65	-0.26	-2826.7	-0.01	2826.76	4354.69	1028.67	3602.61	3772.77	29.67	-3.952	0.000	0.760
80.00	-37.23	-37.16	-0.27	-2638.4	-0.01	2638.49	4253.06	1004.66	3436.42	3597.85	33.96	-4.247	0.000	0.743
85.00	-35.76	-36.60	-0.27	-2452.6	-0.01	2452.68	4151.43	980.65	3274.16	3427.08	38.56	-4.541	0.000	0.726
86.50	-35.27	-36.49	-0.27	-2397.7	-0.02	2397.79	4120.95	973.45	3226.24	3376.66	40.00	-4.632	0.000	0.720
90.00	-33.57	-36.04	-0.27	-2270.1	-0.02	2270.10	4049.81	956.65	3115.82	3260.47	43.47	-4.840	0.000	0.706
91.75	-32.69	-35.85	-0.27	-2207.0	-0.02	2207.03	3441.70	829.75	2734.72	2808.64	45.27	-4.945	0.000	0.797
95.00	-31.79	-35.56	-0.27	-2090.5	-0.02	2090.52	3401.05	816.38	2647.27	2730.31	48.70	-5.137	0.000	0.777
100.00	-30.48	-35.05	-0.27	-1912.7	-0.02	1912.75	3337.56	795.80	2515.51	2611.16	54.24	-5.454	0.000	0.744
105.00	-29.21	-34.54	-0.27	-1737.5	-0.02	1737.50	3272.92	775.23	2387.10	2493.74	60.11	-5.766	0.000	0.708
110.00	-27.97	-34.02	-0.27	-1564.8	-0.02	1564.81	3194.68	754.65	2262.06	2368.87	66.30	-6.072	-0.001	0.671
115.00	-26.76	-33.51	-0.27	-1394.6	-0.02	1394.69	3107.57	734.07	2140.39	2240.81	72.81	-6.369	-0.001	0.633
120.00	-25.59	-32.98	-0.27	-1227.1	-0.02	1227.16	3020.47	713.50	2022.08	2116.30	79.62	-6.654	-0.001	0.590
125.00	-24.45	-32.45	-0.27	-1062.2	-0.02	1062.26	2933.36	692.92	1907.13	1995.35	86.72	-6.926	-0.001	0.543
130.00	-23.41	-31.89	-0.27	-899.99	-0.02	899.99	2846.25	672.34	1795.55	1877.96	94.09	-7.180	-0.001	0.490
131.25	-23.11	-31.78	-0.27	-860.14	-0.02	860.14	2824.47	667.20	1768.17	1849.17	95.98	-7.243	-0.001	0.476
135.00	-21.97	-31.30	-0.27	-740.97	-0.03	740.97	2759.14	651.77	1687.32	1764.13	101.72	-7.417	-0.001	0.430
135.50	-21.80	-31.24	-0.27	-725.32	-0.03	725.32	1734.08	441.84	1163.16	1132.07	102.50	-7.440	-0.001	0.658
137.00	-18.70	-26.20	0.00	-678.46	0.01	678.46	1723.43	437.73	1141.60	1114.56	104.84	-7.506	-0.001	0.623
140.00	-18.24	-25.93	0.00	-599.84	0.01	599.84	1701.83	429.50	1099.07	1079.73	109.60	-7.681	-0.001	0.570
145.00	-17.59	-25.42	0.00	-470.19	0.01	470.19	1664.90	415.78	1029.98	1022.29	117.77	-7.940	-0.001	0.474
147.00	-14.60	-21.51	0.00	-419.35	0.01	419.35	1649.80	410.29	1002.98	999.54	121.10	-8.035	-0.001	0.431
150.00	-14.21	-21.22	0.00	-354.83	0.00	354.83	1626.81	402.06	963.14	965.67	126.18	-8.164	-0.001	0.379
155.00	-13.63	-20.71	0.00	-248.73	0.00	248.73	1587.58	388.34	898.54	909.96	134.80	-8.342	-0.001	0.285
157.00	-9.47	-14.56	0.00	-207.32	0.00	207.32	1571.57	382.86	873.33	887.94	138.30	-8.401	-0.001	0.241
160.00	-9.15	-14.26	0.00	-163.64	0.00	163.64	1547.20	374.63	836.18	855.21	143.58	-8.477	-0.001	0.199
165.00	-8.64	-13.76	0.00	-92.33	0.00	92.33	1505.67	360.91	776.07	801.50	152.48	-8.570	-0.001	0.122
167.00	-4.26	-6.95	0.00	-64.81	0.00	64.81	1488.74	355.42	752.65	780.32	156.07	-8.596	-0.001	0.086
170.00	-4.01	-6.66	0.00	-43.96	0.00	43.96	1462.99	347.19	718.19	748.90	161.46	-8.624	-0.001	0.062
175.00	-3.59	-6.19	0.00	-10.65	0.00	10.65	1411.70	333.47	662.56	693.80	170.47	-8.649	-0.001	0.018
176.00	0.00	-5.58	0.00	-4.46	0.00	4.46	1400.09	330.73	651.70	682.38	172.27	-8.650	-0.001	0.007

Calculated Forces

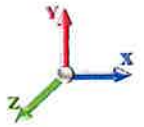
Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 18

Wind Loading - Shaft

Structure: CT02216-S
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 3/26/2024
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II Page: 19

Load Case: 0.9D + 1.0W 119 mph Wind
Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	28.773	31.65	520.49	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	28.773	31.65	511.42	0.730	0.000	5.00	23.718	17.31	548.0	0.0	1350.0
10.00		1.00	0.85	28.773	31.65	502.35	0.730	0.000	5.00	23.301	17.01	538.4	0.0	1326.1
15.00		1.00	0.85	28.773	31.65	493.29	0.730	0.000	5.00	22.884	16.71	528.7	0.0	1302.2
20.00		1.00	0.90	30.529	33.58	498.78	0.730	0.000	5.00	22.467	16.40	550.8	0.0	1278.2
25.00		1.00	0.95	31.998	35.20	501.07	0.730	0.000	5.00	22.050	16.10	566.6	0.0	1254.3
30.00		1.00	0.98	33.250	36.57	501.04	0.730	0.000	5.00	21.634	15.79	577.6	0.0	1230.4
35.00		1.00	1.01	34.346	37.78	499.33	0.730	0.000	5.00	21.217	15.49	585.2	0.0	1206.4
40.00		1.00	1.04	35.326	38.86	496.35	0.730	0.000	5.00	20.800	15.18	590.0	0.0	1182.5
42.75	Bot - Section 2	1.00	1.06	35.824	39.41	494.27	0.730	0.000	2.75	11.262	8.22	324.0	0.0	640.2
45.00		1.00	1.07	36.213	39.83	492.37	0.730	0.000	2.25	9.288	6.78	270.1	0.0	980.9
49.00	Top - Section 1	1.00	1.09	36.868	40.55	488.59	0.730	0.000	4.00	16.303	11.90	482.6	0.0	1721.5
50.00		1.00	1.09	37.025	40.73	496.71	0.730	0.000	1.00	4.034	2.94	119.9	0.0	200.9
55.00		1.00	1.12	37.775	41.55	491.33	0.730	0.000	5.00	19.920	14.54	604.2	0.0	991.8
60.00		1.00	1.14	38.474	42.32	485.37	0.730	0.000	5.00	19.503	14.24	602.5	0.0	970.8
65.00		1.00	1.16	39.127	43.04	478.90	0.730	0.000	5.00	19.086	13.93	599.7	0.0	949.9
70.00		1.00	1.17	39.743	43.72	471.99	0.730	0.000	5.00	18.670	13.63	595.8	0.0	928.9
75.00		1.00	1.19	40.324	44.36	464.70	0.730	0.000	5.00	18.253	13.32	591.0	0.0	908.0
80.00		1.00	1.21	40.876	44.96	457.06	0.730	0.000	5.00	17.836	13.02	585.4	0.0	887.0
85.00		1.00	1.22	41.401	45.54	449.11	0.730	0.000	5.00	17.419	12.72	579.1	0.0	866.1
86.50	Bot - Section 3	1.00	1.23	41.554	45.71	446.67	0.730	0.000	1.50	5.145	3.76	171.7	0.0	255.7
90.00		1.00	1.24	41.902	46.09	440.88	0.730	0.000	3.50	12.080	8.82	406.5	0.0	1105.0
91.75	Top - Section 2	1.00	1.24	42.072	46.28	437.94	0.730	0.000	1.75	5.963	4.35	201.5	0.0	545.3
95.00		1.00	1.25	42.382	46.62	440.77	0.730	0.000	3.25	10.940	7.99	372.3	0.0	466.8
100.00		1.00	1.27	42.842	47.13	432.09	0.730	0.000	5.00	16.486	12.03	567.2	0.0	703.3
105.00		1.00	1.28	43.284	47.61	423.20	0.730	0.000	5.00	16.069	11.73	558.5	0.0	685.4
110.00		1.00	1.29	43.710	48.08	414.10	0.730	0.000	5.00	15.653	11.43	549.4	0.0	667.4
115.00		1.00	1.30	44.121	48.53	404.82	0.730	0.000	5.00	15.236	11.12	539.8	0.0	649.5
120.00		1.00	1.32	44.518	48.97	395.36	0.730	0.000	5.00	14.819	10.82	529.8	0.0	631.5
125.00		1.00	1.33	44.902	49.39	385.73	0.730	0.000	5.00	14.402	10.51	519.3	0.0	613.6
130.00		1.00	1.34	45.275	49.80	375.95	0.730	0.000	5.00	13.986	10.21	508.5	0.0	595.6
131.25	Bot - Section 4	1.00	1.34	45.366	49.90	373.49	0.730	0.000	1.25	3.431	2.50	125.0	0.0	146.1
135.00		1.00	1.35	45.636	50.20	366.03	0.730	0.000	3.75	10.296	7.52	377.3	0.0	724.9
135.50	Top - Section 3	1.00	1.35	45.671	50.24	365.03	0.730	0.000	0.50	1.355	0.99	49.7	0.0	95.4
137.00	Appurtenance(s)	1.00	1.35	45.777	50.36	367.83	0.730	0.000	1.50	4.040	2.95	148.5	0.0	115.1
140.00		1.00	1.36	45.987	50.59	361.79	0.730	0.000	3.00	7.968	5.82	294.2	0.0	227.0
145.00		1.00	1.37	46.328	50.96	351.63	0.730	0.000	5.00	12.947	9.45	481.6	0.0	368.8
147.00	Appurtenance(s)	1.00	1.37	46.461	51.11	347.52	0.730	0.000	2.00	5.062	3.70	188.9	0.0	144.2
150.00		1.00	1.38	46.659	51.33	341.34	0.730	0.000	3.00	7.468	5.45	279.8	0.0	212.6
155.00		1.00	1.39	46.983	51.68	330.93	0.730	0.000	5.00	12.113	8.84	457.0	0.0	344.8
157.00	Appurtenance(s)	1.00	1.39	47.110	51.82	326.74	0.730	0.000	2.00	4.729	3.45	178.9	0.0	134.6
160.00		1.00	1.40	47.298	52.03	320.41	0.730	0.000	3.00	6.968	5.09	264.6	0.0	198.3
165.00		1.00	1.41	47.605	52.37	309.79	0.730	0.000	5.00	11.280	8.23	431.2	0.0	320.9
167.00	Appurtenance(s)	1.00	1.41	47.726	52.50	305.51	0.730	0.000	2.00	4.395	3.21	168.4	0.0	125.0
170.00		1.00	1.42	47.905	52.70	299.07	0.730	0.000	3.00	6.468	4.72	248.8	0.0	183.9
175.00		1.00	1.42	48.198	53.02	288.25	0.730	0.000	5.00	10.446	7.63	404.3	0.0	296.9
176.00	Appurtenance(s)	1.00	1.43	48.256	53.08	286.07	0.730	0.000	1.00	2.039	1.49	79.0	0.0	58.0

Wind Loading - Shaft

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Totals:	**176.00**	**18,941.2**	**30,791.6**

Discrete Appurtenance Forces

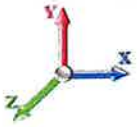
Structure: CT02216-S
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

3/26/2024

Page: 21

Load Case: 0.9D + 1.0W 119 mph Wind
Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	176.00	Ericsson KRY 112 144/1	3	48.314	53.145	0.60	0.90	0.63	29.75	0.000	1.000	33.65	0.00	33.65
2	176.00	Ericsson AIR6419 B41	3	48.314	53.145	0.61	0.90	11.60	224.91	0.000	1.000	616.67	0.00	616.67
3	176.00	Allen Telecom	6	48.314	53.145	0.59	0.90	3.26	59.40	0.000	1.000	173.48	0.00	173.48
4	176.00	RFS	3	48.314	53.145	0.65	0.90	39.35	345.60	0.000	1.000	2091.09	0.00	2091.09
5	176.00	Sitepro 1: RMQP-4096-HK	1	48.256	53.082	1.00	1.00	22.27	1750.50	0.000	0.000	1182.14	0.00	0.00
6	176.00	mount pipe	12	48.314	53.145	0.90	0.90	16.96	324.00	0.000	1.000	901.13	0.00	901.13
7	176.00	Ericsson KRY 112 489/2	3	48.314	53.145	0.60	0.90	1.01	41.58	0.000	1.000	53.84	0.00	53.84
8	176.00	Ericsson 4449 B71 + B85	3	48.314	53.145	0.60	0.90	3.53	202.50	0.000	1.000	187.47	0.00	187.47
9	176.00	Lightning Rod	1	48.457	53.302	1.00	1.00	1.05	31.50	0.000	3.500	55.97	0.00	195.89
10	176.00	Ericsson 4460 B25 + B66	3	48.314	53.145	0.60	0.90	3.87	280.80	0.000	1.000	205.74	0.00	205.74
11	167.00	RFS APL868013	1	47.726	52.499	0.70	0.75	1.99	5.67	0.000	0.000	104.73	0.00	0.00
12	167.00	LPA-80063-4CF-EDIN-5	2	47.726	52.499	0.70	0.75	8.58	36.00	0.000	0.000	450.40	0.00	0.00
13	167.00	Platform w/ Handrail +	1	47.726	52.499	1.00	1.00	42.30	2509.20	0.000	0.000	2220.69	0.00	0.00
14	167.00	Commscope	3	47.726	52.499	0.62	0.75	15.03	117.86	0.000	0.000	789.23	0.00	0.00
15	167.00	mount pipe	12	47.726	52.499	0.75	0.75	11.79	324.00	0.000	0.000	618.96	0.00	0.00
16	167.00	Commscope	3	47.726	52.499	1.00	1.00	0.00	69.04	0.000	0.000	0.00	0.00	0.00
17	167.00	Samsung RF4461d-13A	3	47.726	52.499	0.50	0.75	2.82	213.57	0.000	0.000	147.99	0.00	0.00
18	167.00	Commscope	3	47.726	52.499	0.62	0.75	15.03	137.48	0.000	0.000	789.23	0.00	0.00
19	167.00	Samsung MT6413-77A	3	47.726	52.499	0.52	0.75	5.88	154.71	0.000	0.000	308.90	0.00	0.00
20	167.00	Samsung B2/B66A RRH	3	47.726	52.499	0.50	0.75	2.82	201.69	0.000	0.000	147.99	0.00	0.00
21	167.00	Samsung RT4423-48A	3	47.726	52.499	0.50	0.75	1.30	16.12	0.000	0.000	68.06	0.00	0.00
22	167.00	Raycap	2	47.726	52.499	0.68	0.75	5.12	57.60	0.000	0.000	268.61	0.00	0.00
23	157.00	mount pipe	12	47.110	51.821	0.75	0.75	13.95	324.00	0.000	0.000	722.90	0.00	0.00
24	157.00	Low Profile Platform	1	47.110	51.821	1.00	1.00	14.69	1350.00	0.000	0.000	761.24	0.00	0.00
25	157.00	Sitepro PRK-SFS-H-L	1	47.110	51.821	1.00	1.00	6.70	207.00	0.000	0.000	347.20	0.00	0.00
26	157.00	Sitepro HRK14-U	1	47.110	51.821	1.00	1.00	8.13	272.12	0.000	0.000	421.30	0.00	0.00
27	157.00	Commscope	3	47.110	51.821	0.56	0.75	20.71	208.98	0.000	0.000	1072.98	0.00	0.00
28	157.00	RFS APXVTM14-C-I20	3	47.110	51.821	0.58	0.75	10.98	151.74	0.000	0.000	569.20	0.00	0.00
29	157.00	ALU TD-RRH8x20-25	3	47.110	51.821	0.50	0.75	6.11	189.00	0.000	0.000	316.38	0.00	0.00
30	157.00	ALU 800 Mhz	6	47.110	51.821	0.50	0.75	7.51	286.20	0.000	0.000	389.04	0.00	0.00
31	157.00	ALU 1900 Mhz	3	47.110	51.821	0.50	0.75	4.18	162.00	0.000	0.000	216.39	0.00	0.00
32	157.00	Sitepro PRK-1245L	1	47.110	51.821	1.00	1.00	9.50	418.42	0.000	0.000	492.30	0.00	0.00
33	147.00	Fujitsu TA08025-B604	3	46.461	51.108	0.50	0.75	2.95	172.61	0.000	0.000	151.01	0.00	0.00
34	147.00	Fujitsu TA08025-B605	3	46.461	51.108	0.50	0.75	2.95	202.37	0.000	0.000	151.01	0.00	0.00
35	147.00	JMA MX08FRO665-21	3	46.461	51.108	0.55	0.75	20.51	174.15	0.000	0.000	1048.46	0.00	0.00
36	147.00	Platform w/HRK	1	46.461	51.108	1.00	1.00	22.56	1562.40	0.000	0.000	1152.99	0.00	0.00
37	147.00	mount pipe	9	46.461	51.108	0.75	0.75	11.07	243.00	0.000	0.000	565.76	0.00	0.00
38	147.00	Raycap	3	46.461	51.108	0.75	0.75	4.52	59.00	0.000	0.000	231.13	0.00	0.00
39	137.00	Ericsson RRUS 8843 B2	3	45.777	50.355	0.69	0.75	3.39	194.40	0.000	0.000	170.95	0.00	0.00
40	137.00	mount pipe	9	45.777	50.355	0.75	0.75	8.78	243.00	0.000	0.000	441.87	0.00	0.00
41	137.00	LP Platform + Handrail	1	45.777	50.355	1.00	1.00	19.25	1350.00	0.000	0.000	969.34	0.00	0.00
42	137.00	KMW HPA-65R-BU6AA	3	45.777	50.355	0.67	0.75	15.74	116.10	0.000	0.000	792.57	0.00	0.00
43	137.00	CCI DMP65R-BU6DA	3	45.777	50.355	0.55	0.75	20.88	214.38	0.000	0.000	1051.22	0.00	0.00
44	137.00	Ericsson 4449 B5/B12	3	45.777	50.355	0.65	0.75	3.81	191.70	0.000	0.000	191.95	0.00	0.00
45	137.00	Powerwave 7770 Panel	3	45.777	50.355	0.55	0.75	9.03	94.50	0.000	0.000	454.90	0.00	0.00
46	137.00	Raycap DC6-48-60-18-8F	1	45.777	50.355	1.00	1.00	1.47	29.52	0.000	0.000	74.02	0.00	0.00
47	137.00	Powerwave LGP21401	6	45.777	50.355	0.50	0.75	3.89	102.60	0.000	0.000	195.85	0.00	0.00

Discrete Appurtenance Forces

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 22

48	137.00	Powerwave LGP21903	6	45.777	50.355	0.63	0.75	1.02	27.00	4.341	0.000	51.39	223.07	0.00
49	137.00	Powerwave 7020.00 RET	12	45.777	50.355	0.38	0.75	1.80	23.76	0.000	0.000	90.64	0.00	0.00
50	137.00	Smart Bias T 1001940	3	45.777	50.355	0.50	0.75	0.14	5.40	7.041	0.000	6.83	48.10	0.00
							Totals:		**15,708.83**			**24,516.78**		

Total Applied Force Summary

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Load Case: 0.9D + 1.0W 119 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00

Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		547.99	1526.90	0.00	0.00
10.00		538.36	1502.97	0.00	0.00
15.00		528.73	1479.03	0.00	0.00
20.00		550.78	1455.09	0.00	0.00
25.00		566.57	1431.15	0.00	0.00
30.00		577.61	1407.22	0.00	0.00
35.00		585.17	1383.28	0.00	0.00
40.00		590.03	1359.34	0.00	0.00
42.75		323.98	737.43	0.00	0.00
45.00		270.07	1060.53	0.00	0.00
49.00		482.64	1862.94	0.00	0.00
50.00		119.93	236.24	0.00	0.00
55.00		604.24	1168.63	0.00	0.00
60.00		602.54	1147.68	0.00	0.00
65.00		599.68	1126.74	0.00	0.00
70.00		595.81	1105.79	0.00	0.00
75.00		591.03	1084.85	0.00	0.00
80.00		585.44	1063.90	0.00	0.00
85.00		579.10	1042.95	0.00	0.00
86.50		171.66	308.80	0.00	0.00
90.00		406.46	1228.78	0.00	0.00
91.75		201.47	607.24	0.00	0.00
95.00		372.30	581.74	0.00	0.00
100.00		567.16	880.17	0.00	0.00
105.00		558.53	862.22	0.00	0.00
110.00		549.40	844.27	0.00	0.00
115.00		539.80	826.31	0.00	0.00
120.00		529.75	808.36	0.00	0.00
125.00		519.30	790.41	0.00	0.00
130.00		508.45	772.45	0.00	0.00
131.25		125.00	190.31	0.00	0.00
135.00		377.31	857.59	0.00	0.00
135.50		49.70	113.07	0.00	0.00
137.00	(53) attachments	4640.04	2760.53	271.17	0.00
140.00		294.24	296.82	0.00	0.00
145.00		481.63	485.13	0.00	0.00
147.00	(22) attachments	3489.21	2604.22	0.00	0.00
150.00		279.81	279.49	0.00	0.00
155.00		456.99	456.24	0.00	0.00
157.00	(34) attachments	5487.80	3748.61	0.00	0.00
160.00		264.64	258.00	0.00	0.00
165.00		431.18	420.42	0.00	0.00
167.00	(39) attachments	6083.24	4007.76	0.00	0.00
170.00		248.80	221.64	0.00	0.00
175.00		404.30	359.82	0.00	0.00
176.00	(38) attachments	5580.19	3361.07	0.00	4458.96

Total Applied Force Summary

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 24

Totals:	**43,458.03**	**52,114.14**	**271.17**	**4,458.96**

Linear Appurtenance Segment Forces (Factored)

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Load Case: 0.9D + 1.0W 119 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00

Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	28.773	0.00	1.23
5.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	28.773	0.00	4.68
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	28.773	0.00	1.23
10.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	28.773	0.00	4.68
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	28.773	0.00	1.23
15.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	28.773	0.00	4.68
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	30.529	0.00	1.23
20.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	30.529	0.00	4.68
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	31.998	0.00	1.23
25.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	31.998	0.00	4.68
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	33.250	0.00	1.23
30.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	33.250	0.00	4.68
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	34.346	0.00	1.23
35.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	34.346	0.00	4.68
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	35.326	0.00	1.23
40.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	35.326	0.00	4.68
42.75	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.021	0.000	35.824	0.00	0.68
42.75	Step bolts	Yes	2.75	0.000	0.63	0.14	0.00	0.021	0.000	35.824	0.00	2.57
45.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.021	0.000	36.213	0.00	0.55
45.00	Step bolts	Yes	2.25	0.000	0.63	0.12	0.00	0.021	0.000	36.213	0.00	2.11
49.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.021	0.000	36.868	0.00	0.98
49.00	Step bolts	Yes	4.00	0.000	0.63	0.21	0.00	0.021	0.000	36.868	0.00	3.74
50.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.021	0.000	37.025	0.00	0.25
50.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.021	0.000	37.025	0.00	0.94
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	37.775	0.00	1.23
55.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	37.775	0.00	4.68
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	38.474	0.00	1.23
60.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	38.474	0.00	4.68
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	39.127	0.00	1.23
65.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	39.127	0.00	4.68
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	39.743	0.00	1.23
70.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	39.743	0.00	4.68
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	40.324	0.00	1.23
75.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	40.324	0.00	4.68
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	40.876	0.00	1.23
80.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	40.876	0.00	4.68
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	41.401	0.00	1.23
85.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	41.401	0.00	4.68
86.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.025	0.000	41.554	0.00	0.37
86.50	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.025	0.000	41.554	0.00	1.40
90.00	Safety Cable	Yes	3.50	0.000	0.38	0.11	0.00	0.025	0.000	41.902	0.00	0.86
90.00	Step bolts	Yes	3.50	0.000	0.63	0.18	0.00	0.025	0.000	41.902	0.00	3.28
91.75	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.025	0.000	42.072	0.00	0.43
91.75	Step bolts	Yes	1.75	0.000	0.63	0.09	0.00	0.025	0.000	42.072	0.00	1.64
95.00	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.025	0.000	42.382	0.00	0.80
95.00	Step bolts	Yes	3.25	0.000	0.63	0.17	0.00	0.025	0.000	42.382	0.00	3.04
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	42.842	0.00	1.23

Linear Appurtenance Segment Forces (Factored)

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Load Case: 0.9D + 1.0W 119 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00

Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	42.842	0.00	4.68
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	43.284	0.00	1.23
105.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	43.284	0.00	4.68
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	43.710	0.00	1.23
110.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	43.710	0.00	4.68
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	44.121	0.00	1.23
115.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	44.121	0.00	4.68
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	44.518	0.00	1.23
120.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	44.518	0.00	4.68
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	44.902	0.00	1.23
125.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	44.902	0.00	4.68
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	45.275	0.00	1.23
130.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	45.275	0.00	4.68
131.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.031	0.000	45.366	0.00	0.31
131.25	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.031	0.000	45.366	0.00	1.17
135.00	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.031	0.000	45.636	0.00	0.92
135.00	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.031	0.000	45.636	0.00	3.51
135.50	Safety Cable	Yes	0.50	0.000	0.38	0.02	0.00	0.032	0.000	45.671	0.00	0.12
135.50	Step bolts	Yes	0.50	0.000	0.63	0.03	0.00	0.032	0.000	45.671	0.00	0.47
137.00	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.031	0.000	45.777	0.00	0.37
137.00	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.031	0.000	45.777	0.00	1.40
140.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.032	0.000	45.987	0.00	0.74
140.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.032	0.000	45.987	0.00	2.81
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	46.328	0.00	1.23
145.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	46.328	0.00	4.68
147.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	46.461	0.00	0.49
147.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	46.461	0.00	1.87
150.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	46.659	0.00	0.74
150.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	46.659	0.00	2.81
155.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	46.983	0.00	1.23
155.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	46.983	0.00	4.68
157.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	47.110	0.00	0.49
157.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	47.110	0.00	1.87
160.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.036	0.000	47.298	0.00	0.74
160.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.036	0.000	47.298	0.00	2.81
165.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	47.605	0.00	1.23
165.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	47.605	0.00	4.68
167.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.038	0.000	47.726	0.00	0.49
167.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.038	0.000	47.726	0.00	1.87
170.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.039	0.000	47.905	0.00	0.74
170.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.039	0.000	47.905	0.00	2.81
175.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.040	0.000	48.198	0.00	1.23
175.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.040	0.000	48.198	0.00	4.68
176.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.041	0.000	48.256	0.00	0.25
176.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.041	0.000	48.256	0.00	0.94
										Totals:	**0.0**	**208.0**

Calculated Forces

Structure: CT02216-S
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 3/26/2024
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

SBA

Load Case: 0.9D + 1.0W 119 mph Wind
Dead Load Factor 0.90
Wind Load Factor 1.00

Iterations 26

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-52.02	-43.56	-0.26	-5803.2	-0.01	5803.22	6372.54	1561.04	7259.46	7341.49	0.00	0.000	0.000	0.799
5.00	-50.33	-43.22	-0.26	-5585.4	-0.01	5585.41	6292.68	1533.60	7006.53	7120.95	0.12	-0.229	0.000	0.793
10.00	-48.65	-42.87	-0.26	-5369.3	-0.01	5369.33	6211.66	1506.17	6758.08	6902.39	0.49	-0.462	0.000	0.787
15.00	-47.00	-42.52	-0.26	-5155.0	-0.01	5155.00	6129.50	1478.73	6514.12	6685.89	1.10	-0.698	0.000	0.780
20.00	-45.38	-42.14	-0.26	-4942.4	-0.01	4942.40	6046.18	1451.30	6274.65	6471.51	1.96	-0.938	0.000	0.772
25.00	-43.78	-41.73	-0.26	-4731.7	-0.01	4731.71	5961.72	1423.86	6039.66	6259.33	3.07	-1.180	0.000	0.764
30.00	-42.21	-41.31	-0.26	-4523.0	-0.01	4523.05	5876.11	1396.43	5809.15	6049.42	4.44	-1.426	0.000	0.756
35.00	-40.66	-40.86	-0.26	-4316.5	-0.01	4316.52	5789.35	1368.99	5583.13	5841.84	6.06	-1.675	0.000	0.747
40.00	-39.18	-40.36	-0.26	-4112.2	-0.01	4112.22	5679.25	1341.56	5361.59	5614.75	7.95	-1.926	0.000	0.740
42.75	-38.37	-40.10	-0.26	-4001.2	-0.01	4001.22	5615.38	1326.47	5241.66	5488.51	9.10	-2.068	0.000	0.737
45.00	-37.21	-39.90	-0.26	-3910.9	-0.01	3910.99	5563.11	1314.12	5144.54	5386.29	10.11	-2.185	0.000	0.734
49.00	-35.27	-39.42	-0.26	-3751.4	-0.01	3751.41	4756.80	1153.50	4530.03	4626.40	12.02	-2.392	0.000	0.819
50.00	-34.93	-39.39	-0.26	-3711.9	-0.01	3711.99	4742.51	1148.70	4492.40	4593.12	12.53	-2.445	0.000	0.817
55.00	-33.60	-38.90	-0.26	-3515.0	-0.01	3515.03	4670.33	1124.69	4306.59	4427.82	15.24	-2.725	0.000	0.802
60.00	-32.29	-38.40	-0.26	-3320.5	-0.01	3320.53	4597.00	1100.68	4124.71	4264.39	18.24	-3.007	0.000	0.787
65.00	-31.01	-37.90	-0.26	-3128.5	-0.01	3128.52	4522.52	1076.68	3946.75	4102.93	21.54	-3.290	0.000	0.771
70.00	-29.76	-37.38	-0.26	-2939.0	-0.01	2939.04	4446.89	1052.67	3772.72	3943.48	25.14	-3.576	0.000	0.753
75.00	-28.53	-36.87	-0.27	-2752.1	-0.01	2752.12	4354.69	1028.67	3602.61	3772.77	29.04	-3.862	0.000	0.737
80.00	-27.33	-36.35	-0.27	-2567.7	-0.01	2567.79	4253.06	1004.66	3436.42	3597.85	33.23	-4.149	0.000	0.721
85.00	-26.22	-35.78	-0.27	-2386.0	-0.01	2386.07	4151.43	980.65	3274.16	3427.08	37.73	-4.435	0.000	0.704
86.50	-25.83	-35.65	-0.27	-2332.4	-0.01	2332.40	4120.95	973.45	3226.24	3376.66	39.13	-4.523	0.000	0.698
90.00	-24.55	-35.21	-0.27	-2207.6	-0.01	2207.65	4049.81	956.65	3115.82	3260.47	42.52	-4.725	0.000	0.685
91.75	-23.87	-35.02	-0.27	-2146.0	-0.01	2146.03	3441.70	829.75	2734.72	2808.64	44.27	-4.828	0.000	0.773
95.00	-23.17	-34.70	-0.27	-2032.2	-0.01	2032.23	3401.05	816.38	2647.27	2730.31	47.62	-5.014	0.000	0.753
100.00	-22.16	-34.17	-0.27	-1858.7	-0.02	1858.76	3337.56	795.80	2515.51	2611.16	53.03	-5.323	0.000	0.720
105.00	-21.18	-33.64	-0.27	-1687.9	-0.02	1687.90	3272.92	775.23	2387.10	2493.74	58.76	-5.626	0.000	0.685
110.00	-20.23	-33.12	-0.27	-1519.6	-0.02	1519.68	3194.68	754.65	2262.06	2368.87	64.80	-5.923	-0.001	0.650
115.00	-19.30	-32.59	-0.27	-1354.1	-0.02	1354.11	3107.57	734.07	2140.39	2240.81	71.15	-6.211	-0.001	0.612
120.00	-18.41	-32.06	-0.27	-1191.1	-0.02	1191.17	3020.47	713.50	2022.08	2116.30	77.79	-6.488	-0.001	0.571
125.00	-17.54	-31.53	-0.27	-1030.8	-0.02	1030.87	2933.36	692.92	1907.13	1995.35	84.71	-6.752	-0.001	0.525
130.00	-16.75	-30.98	-0.27	-873.22	-0.02	873.22	2846.25	672.34	1795.55	1877.96	91.90	-6.999	-0.001	0.473
131.25	-16.52	-30.86	-0.27	-834.50	-0.02	834.50	2824.47	667.20	1768.17	1849.17	93.74	-7.059	-0.001	0.459
135.00	-15.66	-30.41	-0.27	-718.76	-0.02	718.76	2759.14	651.77	1687.32	1764.13	99.34	-7.229	-0.001	0.415
135.50	-15.54	-30.36	-0.27	-703.56	-0.02	703.56	1734.08	441.84	1163.16	1132.07	100.10	-7.251	-0.001	0.635
137.00	-13.33	-25.43	0.00	-658.02	0.01	658.02	1723.43	437.73	1141.60	1114.56	102.38	-7.315	-0.001	0.602
140.00	-12.98	-25.15	0.00	-581.73	0.01	581.73	1701.83	429.50	1099.07	1079.73	107.02	-7.485	-0.001	0.550
145.00	-12.49	-24.65	0.00	-455.98	0.01	455.98	1664.90	415.78	1029.98	1022.29	114.98	-7.736	-0.001	0.457
147.00	-10.35	-20.86	0.00	-406.69	0.01	406.69	1649.80	410.29	1002.98	999.54	118.23	-7.828	-0.001	0.416
150.00	-10.05	-20.57	0.00	-344.12	0.00	344.12	1626.81	402.06	963.14	965.67	123.17	-7.953	-0.001	0.365
155.00	-9.63	-20.07	0.00	-241.29	0.00	241.29	1587.58	388.34	898.54	909.96	131.57	-8.125	-0.001	0.274
157.00	-6.68	-14.11	0.00	-201.15	0.00	201.15	1571.57	382.86	873.33	887.94	134.98	-8.183	-0.001	0.232
160.00	-6.44	-13.82	0.00	-158.82	0.00	158.82	1547.20	374.63	836.18	855.21	140.13	-8.257	-0.001	0.191
165.00	-6.07	-13.34	0.00	-89.70	0.00	89.70	1505.67	360.91	776.07	801.50	148.80	-8.347	-0.001	0.117
167.00	-2.99	-6.74	0.00	-63.02	0.00	63.02	1488.74	355.42	752.65	780.32	152.29	-8.372	-0.001	0.083
170.00	-2.81	-6.46	0.00	-42.79	0.00	42.79	1462.99	347.19	718.19	748.90	157.54	-8.399	-0.001	0.059
175.00	-2.51	-6.01	0.00	-10.47	0.00	10.47	1411.70	333.47	662.56	693.80	166.32	-8.424	-0.001	0.017
176.00	0.00	-5.58	0.00	-4.46	0.00	4.46	1400.09	330.73	651.70	682.38	168.08	-8.425	-0.001	0.007

Calculated Forces

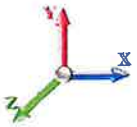
Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 28

Wind Loading - Shaft

Structure: CT02216-S
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 3/26/2024
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind
Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.080	5.59	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.080	5.59	0.00	1.200	1.242	5.00	24.753	29.70	166.0	442.0	2242.1
10.00		1.00	0.85	5.080	5.59	0.00	1.200	1.331	5.00	24.410	29.29	163.7	466.2	2234.4
15.00		1.00	0.85	5.080	5.59	0.00	1.200	1.386	5.00	24.039	28.85	161.2	477.5	2213.7
20.00		1.00	0.90	5.390	5.93	0.00	1.200	1.427	5.00	23.656	28.39	168.3	482.9	2187.3
25.00		1.00	0.95	5.649	6.21	0.00	1.200	1.459	5.00	23.266	27.92	173.5	485.1	2157.5
30.00		1.00	0.98	5.870	6.46	0.00	1.200	1.486	5.00	22.872	27.45	177.2	485.1	2125.6
35.00		1.00	1.01	6.064	6.67	0.00	1.200	1.509	5.00	22.474	26.97	179.9	483.6	2092.1
40.00		1.00	1.04	6.236	6.86	0.00	1.200	1.529	5.00	22.074	26.49	181.7	480.8	2057.5
42.75	Bot - Section 2	1.00	1.06	6.324	6.96	0.00	1.200	1.539	2.75	11.968	14.36	99.9	263.4	1116.9
45.00		1.00	1.07	6.393	7.03	0.00	1.200	1.547	2.25	9.868	11.84	83.3	218.5	1526.4
49.00	Top - Section 1	1.00	1.09	6.509	7.16	0.00	1.200	1.560	4.00	17.343	20.81	149.0	385.7	2681.0
50.00		1.00	1.09	6.536	7.19	0.00	1.200	1.564	1.00	4.295	5.15	37.1	96.3	364.1
55.00		1.00	1.12	6.669	7.34	0.00	1.200	1.579	5.00	21.235	25.48	186.9	476.3	1798.6
60.00		1.00	1.14	6.792	7.47	0.00	1.200	1.592	5.00	20.830	25.00	186.8	470.7	1765.2
65.00		1.00	1.16	6.908	7.60	0.00	1.200	1.605	5.00	20.424	24.51	186.2	464.7	1731.2
70.00		1.00	1.17	7.016	7.72	0.00	1.200	1.617	5.00	20.017	24.02	185.4	458.3	1696.9
75.00		1.00	1.19	7.119	7.83	0.00	1.200	1.628	5.00	19.610	23.53	184.3	451.6	1662.2
80.00		1.00	1.21	7.216	7.94	0.00	1.200	1.639	5.00	19.202	23.04	182.9	444.5	1627.2
85.00		1.00	1.22	7.309	8.04	0.00	1.200	1.649	5.00	18.793	22.55	181.3	437.1	1591.9
86.50	Bot - Section 3	1.00	1.23	7.336	8.07	0.00	1.200	1.652	1.50	5.557	6.67	53.8	130.5	471.4
90.00		1.00	1.24	7.397	8.14	0.00	1.200	1.658	3.50	13.047	15.66	127.4	306.1	1779.4
91.75	Top - Section 2	1.00	1.24	7.427	8.17	0.00	1.200	1.662	1.75	6.448	7.74	63.2	152.1	879.2
95.00		1.00	1.25	7.482	8.23	0.00	1.200	1.667	3.25	11.843	14.21	117.0	279.1	901.5
100.00		1.00	1.27	7.563	8.32	0.00	1.200	1.676	5.00	17.883	21.46	178.5	421.4	1359.1
105.00		1.00	1.28	7.641	8.41	0.00	1.200	1.684	5.00	17.473	20.97	176.2	413.1	1327.0
110.00		1.00	1.29	7.717	8.49	0.00	1.200	1.692	5.00	17.063	20.48	173.8	404.7	1294.6
115.00		1.00	1.30	7.789	8.57	0.00	1.200	1.699	5.00	16.652	19.98	171.2	396.1	1262.0
120.00		1.00	1.32	7.859	8.65	0.00	1.200	1.707	5.00	16.241	19.49	168.5	387.3	1229.3
125.00		1.00	1.33	7.927	8.72	0.00	1.200	1.714	5.00	15.830	19.00	165.6	378.4	1196.5
130.00		1.00	1.34	7.993	8.79	0.00	1.200	1.720	5.00	15.419	18.50	162.7	369.3	1163.5
131.25	Bot - Section 4	1.00	1.34	8.009	8.81	0.00	1.200	1.722	1.25	3.790	4.55	40.1	91.8	286.6
135.00		1.00	1.35	8.057	8.86	0.00	1.200	1.727	3.75	11.375	13.65	121.0	274.2	1240.8
135.50	Top - Section 3	1.00	1.35	8.063	8.87	0.00	1.200	1.728	0.50	1.499	1.80	16.0	36.5	163.6
137.00	Appurtenance(s)	1.00	1.35	8.082	8.89	0.00	1.200	1.729	1.50	4.473	5.37	47.7	108.6	262.0
140.00		1.00	1.36	8.119	8.93	0.00	1.200	1.733	3.00	8.835	10.60	94.7	213.8	516.4
145.00		1.00	1.37	8.179	9.00	0.00	1.200	1.739	5.00	14.396	17.28	155.4	346.8	838.5
147.00	Appurtenance(s)	1.00	1.37	8.202	9.02	0.00	1.200	1.742	2.00	5.643	6.77	61.1	137.2	329.4
150.00		1.00	1.38	8.237	9.06	0.00	1.200	1.745	3.00	8.341	10.01	90.7	202.4	485.9
155.00		1.00	1.39	8.294	9.12	0.00	1.200	1.751	5.00	13.572	16.29	148.6	327.7	787.4
157.00	Appurtenance(s)	1.00	1.39	8.317	9.15	0.00	1.200	1.753	2.00	5.313	6.38	58.3	129.5	308.9
160.00		1.00	1.40	8.350	9.18	0.00	1.200	1.757	3.00	7.846	9.42	86.5	190.8	455.1
165.00		1.00	1.41	8.404	9.24	0.00	1.200	1.762	5.00	12.748	15.30	141.4	308.1	735.9
167.00	Appurtenance(s)	1.00	1.41	8.426	9.27	0.00	1.200	1.764	2.00	4.983	5.98	55.4	121.6	288.3
170.00		1.00	1.42	8.457	9.30	0.00	1.200	1.767	3.00	7.351	8.82	82.1	178.9	424.1
175.00		1.00	1.42	8.509	9.36	0.00	1.200	1.772	5.00	11.923	14.31	133.9	288.1	684.1
176.00	Appurtenance(s)	1.00	1.43	8.519	9.37	0.00	1.200	1.773	1.00	2.335	2.80	26.3	57.2	134.5

Wind Loading - Shaft

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Totals:	**176.00**	**5,951.5**	**55,677.0**

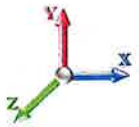
Discrete Appurtenance Forces

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 31	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	176.00	Ericsson KRY 112 144/1	3	8.529	9.382	0.60	0.90	1.24	49.97	0.000	1.000	11.62	0.00	11.62
2	176.00	Ericsson AIR6419 B41	3	8.529	9.382	0.61	0.90	13.53	824.29	0.000	1.000	126.95	0.00	126.95
3	176.00	Allen Telecom	6	8.529	9.382	0.59	0.90	5.78	163.66	0.000	1.000	54.24	0.00	54.24
4	176.00	RFS	3	8.529	9.382	0.66	0.90	43.70	1737.41	0.000	1.000	410.02	0.00	410.02
5	176.00	Sitepro 1: RMQP-4096-HK	1	8.519	9.371	1.00	1.00	38.07	3109.48	0.000	0.000	356.73	0.00	0.00
6	176.00	mount pipe	12	8.529	9.382	0.90	0.90	28.98	-37692.9	0.000	1.000	271.93	0.00	271.93
7	176.00	Ericsson KRY 112 489/2	3	8.529	9.382	0.60	0.90	1.98	94.15	0.000	1.000	18.60	0.00	18.60
8	176.00	Ericsson 4449 B71 + B85	3	8.529	9.382	0.60	0.90	3.97	478.90	0.000	1.000	37.29	0.00	37.29
9	176.00	Lightning Rod	1	8.555	9.410	1.00	1.00	3.46	64.92	0.000	3.500	32.58	0.00	114.01
10	176.00	Ericsson 4460 B25 + B66	3	8.529	9.382	0.60	0.90	4.98	652.78	0.000	1.000	46.74	0.00	46.74
11	167.00	RFS APL868013	1	8.426	9.268	0.70	0.75	2.61	116.32	0.000	0.000	24.15	0.00	0.00
12	167.00	LPA-80063-4CF-EDIN-5	2	8.426	9.268	0.70	0.75	11.25	313.03	0.000	0.000	104.26	0.00	0.00
13	167.00	Platform w/ Handrail +	1	8.426	9.268	1.00	1.00	76.62	6792.69	0.000	0.000	710.17	0.00	0.00
14	167.00	Commscope	3	8.426	9.268	0.63	0.75	17.68	768.03	0.000	0.000	163.83	0.00	0.00
15	167.00	mount pipe	12	8.426	9.268	0.75	0.75	21.36	-20490.4	0.000	0.000	197.94	0.00	0.00
16	167.00	Commscope	3	8.426	9.268	1.00	1.00	0.00	340.64	0.000	0.000	0.00	0.00	0.00
17	167.00	Samsung RF4461d-13A	3	8.426	9.268	0.50	0.75	3.68	520.64	0.000	0.000	34.07	0.00	0.00
18	167.00	Commscope	3	8.426	9.268	0.63	0.75	17.68	794.80	0.000	0.000	163.83	0.00	0.00
19	167.00	Samsung MT6413-77A	3	8.426	9.268	0.53	0.75	7.38	511.77	0.000	0.000	68.39	0.00	0.00
20	167.00	Samsung B2/B66A RRH	3	8.426	9.268	0.50	0.75	3.68	501.35	0.000	0.000	34.07	0.00	0.00
21	167.00	Samsung RT4423-48A	3	8.426	9.268	0.50	0.75	1.91	115.45	0.000	0.000	17.71	0.00	0.00
22	167.00	Raycap	2	8.426	9.268	0.68	0.75	7.14	296.22	0.000	0.000	66.16	0.00	0.00
23	157.00	mount pipe	12	8.317	9.148	0.75	0.75	25.20	-20492.4	0.000	0.000	230.54	0.00	0.00
24	157.00	Low Profile Platform	1	8.317	9.148	1.00	1.00	26.54	2814.90	0.000	0.000	242.77	0.00	0.00
25	157.00	Sitepro PRK-SFS-H-L	1	8.317	9.148	1.00	1.00	13.75	497.59	0.000	0.000	125.77	0.00	0.00
26	157.00	Sitepro HRK14-U	1	8.317	9.148	1.00	1.00	16.11	1025.66	0.000	0.000	147.40	0.00	0.00
27	157.00	Commscope	3	8.317	9.148	0.56	0.75	23.17	941.83	0.000	0.000	212.01	0.00	0.00
28	157.00	RFS APXVTM14-C-I20	3	8.317	9.148	0.58	0.75	12.92	686.20	0.000	0.000	118.22	0.00	0.00
29	157.00	ALU TD-RRH8x20-25	3	8.317	9.148	0.50	0.75	7.34	585.22	0.000	0.000	67.12	0.00	0.00
30	157.00	ALU 800 Mhz	6	8.317	9.148	0.50	0.75	10.97	700.79	0.000	0.000	100.37	0.00	0.00
31	157.00	ALU 1900 Mhz	3	8.317	9.148	0.50	0.75	6.10	395.75	0.000	0.000	55.78	0.00	0.00
32	157.00	Sitepro PRK-1245L	1	8.317	9.148	1.00	1.00	19.49	788.83	0.000	0.000	178.33	0.00	0.00
33	147.00	Fujitsu TA08025-B604	3	8.202	9.023	0.50	0.75	4.47	407.65	0.000	0.000	40.35	0.00	0.00
34	147.00	Fujitsu TA08025-B605	3	8.202	9.023	0.50	0.75	4.47	511.43	0.000	0.000	40.35	0.00	0.00
35	147.00	JMA MX08FRO665-21	3	8.202	9.023	0.56	0.75	23.58	1091.21	0.000	0.000	212.72	0.00	0.00
36	147.00	Platform w/HRK	1	8.202	9.023	1.00	1.00	44.56	5038.95	0.000	0.000	402.08	0.00	0.00
37	147.00	mount pipe	9	8.202	9.023	0.75	0.75	21.87	-6291.87	0.000	0.000	197.30	0.00	0.00
38	147.00	Raycap	3	8.202	9.023	0.75	0.75	10.28	107.27	0.000	0.000	92.74	0.00	0.00
39	137.00	Ericsson RRUS 8843 B2	3	8.082	8.890	0.69	0.75	4.45	418.23	0.000	0.000	39.57	0.00	0.00
40	137.00	mount pipe	9	8.082	8.890	0.75	0.75	15.76	-15372.5	0.000	0.000	140.07	0.00	0.00
41	137.00	LP Platform + Handrail	1	8.082	8.890	1.00	1.00	34.56	2797.10	0.000	0.000	307.27	0.00	0.00
42	137.00	KMW HPA-65R-BU6AA	3	8.082	8.890	0.67	0.75	18.28	779.34	0.000	0.000	162.52	0.00	0.00
43	137.00	CCI DMP65R-BU6DA	3	8.082	8.890	0.55	0.75	23.30	1139.31	0.000	0.000	207.11	0.00	0.00
44	137.00	Ericsson 4449 B5/B12	3	8.082	8.890	0.65	0.75	6.74	514.12	0.000	0.000	59.88	0.00	0.00
45	137.00	Powerwave 7770 Panel	3	8.082	8.890	0.55	0.75	10.77	527.04	0.000	0.000	95.71	0.00	0.00
46	137.00	Raycap DC6-48-60-18-8F	1	8.082	8.890	1.00	1.00	2.16	85.85	0.000	0.000	19.23	0.00	0.00
47	137.00	Powerwave LGP21401	6	8.082	8.890	0.50	0.75	6.39	323.91	0.000	0.000	56.77	0.00	0.00

Discrete Appurtenance Forces

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 32

48	137.00	Powerwave LGP21903	6	8.082	8.890	0.63	0.75	2.51	64.15	4.341	0.000	22.32	96.86	0.00
49	137.00	Powerwave 7020.00 RET	12	8.082	8.890	0.38	0.75	3.96	118.51	0.000	0.000	35.20	0.00	0.00
50	137.00	Smart Bias T 1001940	3	8.082	8.890	0.50	0.75	0.49	6.24	7.041	0.000	4.32	30.42	0.00
							Totals:		**-59,726.66**			**6,565.10**		

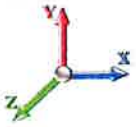
Total Applied Force Summary

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 33

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		165.97	2501.78	0.00	0.00
10.00		163.67	2497.25	0.00	0.00
15.00		161.19	2478.58	0.00	0.00
20.00		168.30	2453.70	0.00	0.00
25.00		173.49	2425.22	0.00	0.00
30.00		177.22	2394.38	0.00	0.00
35.00		179.88	2361.83	0.00	0.00
40.00		181.72	2328.00	0.00	0.00
42.75		99.91	1265.97	0.00	0.00
45.00		83.27	1648.53	0.00	0.00
49.00		149.00	2898.50	0.00	0.00
50.00		37.05	418.47	0.00	0.00
55.00		186.93	2071.24	0.00	0.00
60.00		186.76	2038.37	0.00	0.00
65.00		186.23	2005.00	0.00	0.00
70.00		185.39	1971.18	0.00	0.00
75.00		184.27	1936.97	0.00	0.00
80.00		182.91	1902.42	0.00	0.00
85.00		181.31	1867.56	0.00	0.00
86.50		53.81	554.18	0.00	0.00
90.00		127.40	1972.64	0.00	0.00
91.75		63.22	975.89	0.00	0.00
95.00		116.96	1081.22	0.00	0.00
100.00		178.53	1636.00	0.00	0.00
105.00		176.24	1604.18	0.00	0.00
110.00		173.80	1572.16	0.00	0.00
115.00		171.21	1539.96	0.00	0.00
120.00		168.49	1507.58	0.00	0.00
125.00		165.65	1475.04	0.00	0.00
130.00		162.68	1442.35	0.00	0.00
131.25		40.07	356.29	0.00	0.00
135.00		120.97	1450.15	0.00	0.00
135.50		15.95	191.57	0.00	0.00
137.00	(53) attachments	1197.68	-8252.89	127.28	0.00
140.00		94.68	635.71	0.00	0.00
145.00		155.42	1037.61	0.00	0.00
147.00	(22) attachments	1046.62	1273.74	0.00	0.00
150.00		90.69	601.56	0.00	0.00
155.00		148.60	980.47	0.00	0.00
157.00	(34) attachments	1536.65	-11669.46	0.00	0.00
160.00		86.48	561.60	0.00	0.00
165.00		141.42	913.65	0.00	0.00
167.00	(39) attachments	1640.01	-9060.09	0.00	0.00
170.00		82.07	501.56	0.00	0.00
175.00		133.92	813.38	0.00	0.00
176.00	(38) attachments	1392.96	-30357.03	0.00	1091.41

Total Applied Force Summary

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 34

Totals:	**12,516.64**	**4,803.96**	**127.28**	**1,091.41**

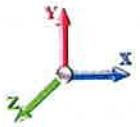
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	1.19	0.00	0.018	0.000	5.080	0.00	12.93
5.00	Step bolts	Yes	5.00	0.000	0.63	1.30	0.00	0.018	0.000	5.080	0.00	18.85
10.00	Safety Cable	Yes	5.00	0.000	0.38	1.27	0.00	0.018	0.000	5.080	0.00	14.46
10.00	Step bolts	Yes	5.00	0.000	0.63	1.37	0.00	0.018	0.000	5.080	0.00	20.46
15.00	Safety Cable	Yes	5.00	0.000	0.38	1.31	0.00	0.018	0.000	5.080	0.00	15.46
15.00	Step bolts	Yes	5.00	0.000	0.63	1.42	0.00	0.018	0.000	5.080	0.00	21.51
20.00	Safety Cable	Yes	5.00	0.000	0.38	1.35	0.00	0.019	0.000	5.390	0.00	16.21
20.00	Step bolts	Yes	5.00	0.000	0.63	1.45	0.00	0.019	0.000	5.390	0.00	22.31
25.00	Safety Cable	Yes	5.00	0.000	0.38	1.37	0.00	0.019	0.000	5.649	0.00	16.83
25.00	Step bolts	Yes	5.00	0.000	0.63	1.48	0.00	0.019	0.000	5.649	0.00	22.95
30.00	Safety Cable	Yes	5.00	0.000	0.38	1.40	0.00	0.019	0.000	5.870	0.00	17.35
30.00	Step bolts	Yes	5.00	0.000	0.63	1.50	0.00	0.019	0.000	5.870	0.00	23.50
35.00	Safety Cable	Yes	5.00	0.000	0.38	1.42	0.00	0.020	0.000	6.064	0.00	17.80
35.00	Step bolts	Yes	5.00	0.000	0.63	1.52	0.00	0.020	0.000	6.064	0.00	23.98
40.00	Safety Cable	Yes	5.00	0.000	0.38	1.43	0.00	0.020	0.000	6.236	0.00	18.21
40.00	Step bolts	Yes	5.00	0.000	0.63	1.54	0.00	0.020	0.000	6.236	0.00	24.40
42.75	Safety Cable	Yes	2.75	0.000	0.38	0.79	0.00	0.021	0.000	6.324	0.00	10.13
42.75	Step bolts	Yes	2.75	0.000	0.63	0.85	0.00	0.021	0.000	6.324	0.00	13.54
45.00	Safety Cable	Yes	2.25	0.000	0.38	0.65	0.00	0.021	0.000	6.393	0.00	8.36
45.00	Step bolts	Yes	2.25	0.000	0.63	0.70	0.00	0.021	0.000	6.393	0.00	11.15
49.00	Safety Cable	Yes	4.00	0.000	0.38	1.17	0.00	0.021	0.000	6.509	0.00	15.08
49.00	Step bolts	Yes	4.00	0.000	0.63	1.25	0.00	0.021	0.000	6.509	0.00	20.06
50.00	Safety Cable	Yes	1.00	0.000	0.38	0.29	0.00	0.021	0.000	6.536	0.00	3.78
50.00	Step bolts	Yes	1.00	0.000	0.63	0.31	0.00	0.021	0.000	6.536	0.00	5.03
55.00	Safety Cable	Yes	5.00	0.000	0.38	1.47	0.00	0.021	0.000	6.669	0.00	19.22
55.00	Step bolts	Yes	5.00	0.000	0.63	1.58	0.00	0.021	0.000	6.669	0.00	25.46
60.00	Safety Cable	Yes	5.00	0.000	0.38	1.49	0.00	0.022	0.000	6.792	0.00	19.51
60.00	Step bolts	Yes	5.00	0.000	0.63	1.59	0.00	0.022	0.000	6.792	0.00	25.76
65.00	Safety Cable	Yes	5.00	0.000	0.38	1.50	0.00	0.022	0.000	6.908	0.00	19.78
65.00	Step bolts	Yes	5.00	0.000	0.63	1.60	0.00	0.022	0.000	6.908	0.00	26.04
70.00	Safety Cable	Yes	5.00	0.000	0.38	1.51	0.00	0.023	0.000	7.016	0.00	20.03
70.00	Step bolts	Yes	5.00	0.000	0.63	1.61	0.00	0.023	0.000	7.016	0.00	26.31
75.00	Safety Cable	Yes	5.00	0.000	0.38	1.52	0.00	0.023	0.000	7.119	0.00	20.27
75.00	Step bolts	Yes	5.00	0.000	0.63	1.62	0.00	0.023	0.000	7.119	0.00	26.56
80.00	Safety Cable	Yes	5.00	0.000	0.38	1.52	0.00	0.024	0.000	7.216	0.00	20.49
80.00	Step bolts	Yes	5.00	0.000	0.63	1.63	0.00	0.024	0.000	7.216	0.00	26.79
85.00	Safety Cable	Yes	5.00	0.000	0.38	1.53	0.00	0.024	0.000	7.309	0.00	20.71
85.00	Step bolts	Yes	5.00	0.000	0.63	1.64	0.00	0.024	0.000	7.309	0.00	27.02
86.50	Safety Cable	Yes	1.50	0.000	0.38	0.46	0.00	0.025	0.000	7.336	0.00	6.23
86.50	Step bolts	Yes	1.50	0.000	0.63	0.49	0.00	0.025	0.000	7.336	0.00	8.13
90.00	Safety Cable	Yes	3.50	0.000	0.38	1.08	0.00	0.025	0.000	7.397	0.00	14.64
90.00	Step bolts	Yes	3.50	0.000	0.63	1.15	0.00	0.025	0.000	7.397	0.00	19.06
91.75	Safety Cable	Yes	1.75	0.000	0.38	0.54	0.00	0.025	0.000	7.427	0.00	7.34
91.75	Step bolts	Yes	1.75	0.000	0.63	0.58	0.00	0.025	0.000	7.427	0.00	9.56
95.00	Safety Cable	Yes	3.25	0.000	0.38	1.01	0.00	0.025	0.000	7.482	0.00	13.72
95.00	Step bolts	Yes	3.25	0.000	0.63	1.07	0.00	0.025	0.000	7.482	0.00	17.83
100.00	Safety Cable	Yes	5.00	0.000	0.38	1.55	0.00	0.026	0.000	7.563	0.00	21.30

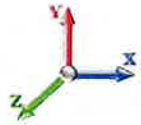
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 36	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts	Yes	5.00	0.000	0.63	1.66	0.00	0.026	0.000	7.563	0.00	27.63
105.00	Safety Cable	Yes	5.00	0.000	0.38	1.56	0.00	0.026	0.000	7.641	0.00	21.48
105.00	Step bolts	Yes	5.00	0.000	0.63	1.67	0.00	0.026	0.000	7.641	0.00	27.82
110.00	Safety Cable	Yes	5.00	0.000	0.38	1.57	0.00	0.027	0.000	7.717	0.00	21.65
110.00	Step bolts	Yes	5.00	0.000	0.63	1.67	0.00	0.027	0.000	7.717	0.00	28.00
115.00	Safety Cable	Yes	5.00	0.000	0.38	1.57	0.00	0.028	0.000	7.789	0.00	21.82
115.00	Step bolts	Yes	5.00	0.000	0.63	1.68	0.00	0.028	0.000	7.789	0.00	28.18
120.00	Safety Cable	Yes	5.00	0.000	0.38	1.58	0.00	0.028	0.000	7.859	0.00	21.98
120.00	Step bolts	Yes	5.00	0.000	0.63	1.68	0.00	0.028	0.000	7.859	0.00	28.34
125.00	Safety Cable	Yes	5.00	0.000	0.38	1.59	0.00	0.029	0.000	7.927	0.00	22.14
125.00	Step bolts	Yes	5.00	0.000	0.63	1.69	0.00	0.029	0.000	7.927	0.00	28.51
130.00	Safety Cable	Yes	5.00	0.000	0.38	1.59	0.00	0.030	0.000	7.993	0.00	22.29
130.00	Step bolts	Yes	5.00	0.000	0.63	1.70	0.00	0.030	0.000	7.993	0.00	28.67
131.25	Safety Cable	Yes	1.25	0.000	0.38	0.40	0.00	0.031	0.000	8.009	0.00	5.58
131.25	Step bolts	Yes	1.25	0.000	0.63	0.42	0.00	0.031	0.000	8.009	0.00	7.18
135.00	Safety Cable	Yes	3.75	0.000	0.38	1.20	0.00	0.031	0.000	8.057	0.00	16.82
135.00	Step bolts	Yes	3.75	0.000	0.63	1.28	0.00	0.031	0.000	8.057	0.00	21.61
135.50	Safety Cable	Yes	0.50	0.000	0.38	0.16	0.00	0.032	0.000	8.063	0.00	2.24
135.50	Step bolts	Yes	0.50	0.000	0.63	0.17	0.00	0.032	0.000	8.063	0.00	2.88
137.00	Safety Cable	Yes	1.50	0.000	0.38	0.48	0.00	0.031	0.000	8.082	0.00	6.75
137.00	Step bolts	Yes	1.50	0.000	0.63	0.51	0.00	0.031	0.000	8.082	0.00	8.66
140.00	Safety Cable	Yes	3.00	0.000	0.38	0.96	0.00	0.032	0.000	8.119	0.00	13.54
140.00	Step bolts	Yes	3.00	0.000	0.63	1.02	0.00	0.032	0.000	8.119	0.00	17.38
145.00	Safety Cable	Yes	5.00	0.000	0.38	1.61	0.00	0.033	0.000	8.179	0.00	22.71
145.00	Step bolts	Yes	5.00	0.000	0.63	1.71	0.00	0.033	0.000	8.179	0.00	29.11
147.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.033	0.000	8.202	0.00	9.11
147.00	Step bolts	Yes	2.00	0.000	0.63	0.69	0.00	0.033	0.000	8.202	0.00	11.67
150.00	Safety Cable	Yes	3.00	0.000	0.38	0.97	0.00	0.034	0.000	8.237	0.00	13.71
150.00	Step bolts	Yes	3.00	0.000	0.63	1.03	0.00	0.034	0.000	8.237	0.00	17.55
155.00	Safety Cable	Yes	5.00	0.000	0.38	1.62	0.00	0.035	0.000	8.294	0.00	22.98
155.00	Step bolts	Yes	5.00	0.000	0.63	1.72	0.00	0.035	0.000	8.294	0.00	29.39
157.00	Safety Cable	Yes	2.00	0.000	0.38	0.65	0.00	0.036	0.000	8.317	0.00	9.21
157.00	Step bolts	Yes	2.00	0.000	0.63	0.69	0.00	0.036	0.000	8.317	0.00	11.78
160.00	Safety Cable	Yes	3.00	0.000	0.38	0.97	0.00	0.036	0.000	8.350	0.00	13.86
160.00	Step bolts	Yes	3.00	0.000	0.63	1.04	0.00	0.036	0.000	8.350	0.00	17.71
165.00	Safety Cable	Yes	5.00	0.000	0.38	1.63	0.00	0.037	0.000	8.404	0.00	23.23
165.00	Step bolts	Yes	5.00	0.000	0.63	1.73	0.00	0.037	0.000	8.404	0.00	29.65
167.00	Safety Cable	Yes	2.00	0.000	0.38	0.65	0.00	0.038	0.000	8.426	0.00	9.31
167.00	Step bolts	Yes	2.00	0.000	0.63	0.69	0.00	0.038	0.000	8.426	0.00	11.88
170.00	Safety Cable	Yes	3.00	0.000	0.38	0.98	0.00	0.039	0.000	8.457	0.00	14.01
170.00	Step bolts	Yes	3.00	0.000	0.63	1.04	0.00	0.039	0.000	8.457	0.00	17.87
175.00	Safety Cable	Yes	5.00	0.000	0.38	1.64	0.00	0.040	0.000	8.509	0.00	23.47
175.00	Step bolts	Yes	5.00	0.000	0.63	1.74	0.00	0.040	0.000	8.509	0.00	29.90
176.00	Safety Cable	Yes	1.00	0.000	0.38	0.33	0.00	0.041	0.000	8.519	0.00	4.70
176.00	Step bolts	Yes	1.00	0.000	0.63	0.35	0.00	0.041	0.000	8.519	0.00	5.98
										Totals:	**0.0**	**1,646.0**

Calculated Forces

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 37	

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00

Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-64.14	-12.55	-0.13	-1618.7	0.00	1618.74	6372.54	1561.04	7259.46	7341.49	0.00	0.000	0.000	0.231
5.00	-61.62	-12.45	-0.13	-1555.9	0.00	1555.98	6292.68	1533.60	7006.53	7120.95	0.03	-0.064	0.000	0.228
10.00	-59.11	-12.35	-0.13	-1493.7	0.00	1493.71	6211.66	1506.17	6758.08	6902.39	0.14	-0.129	0.000	0.226
15.00	-56.62	-12.25	-0.13	-1431.9	0.00	1431.94	6129.50	1478.73	6514.12	6685.89	0.31	-0.194	0.000	0.223
20.00	-54.15	-12.14	-0.13	-1370.6	0.00	1370.69	6046.18	1451.30	6274.65	6471.51	0.55	-0.261	0.000	0.221
25.00	-51.71	-12.01	-0.13	-1310.0	0.00	1310.01	5961.72	1423.86	6039.66	6259.33	0.85	-0.328	0.000	0.218
30.00	-49.30	-11.88	-0.13	-1249.9	0.00	1249.96	5876.11	1396.43	5809.15	6049.42	1.23	-0.396	0.000	0.215
35.00	-46.93	-11.74	-0.13	-1190.5	0.00	1190.57	5789.35	1368.99	5583.13	5841.84	1.69	-0.465	0.000	0.212
40.00	-44.59	-11.58	-0.13	-1131.8	0.00	1131.89	5679.25	1341.56	5361.59	5614.75	2.21	-0.534	0.000	0.210
42.75	-43.32	-11.49	-0.13	-1100.0	0.00	1100.06	5615.38	1326.47	5241.66	5488.51	2.53	-0.573	0.000	0.208
45.00	-41.66	-11.42	-0.13	-1074.2	0.00	1074.20	5563.11	1314.12	5144.54	5386.29	2.81	-0.605	0.000	0.207
49.00	-38.76	-11.27	-0.13	-1028.5	0.00	1028.51	4756.80	1153.50	4530.03	4626.40	3.34	-0.662	0.000	0.231
50.00	-38.33	-11.26	-0.13	-1017.2	0.00	1017.24	4742.51	1148.70	4492.40	4593.12	3.48	-0.676	0.000	0.230
55.00	-36.25	-11.09	-0.13	-960.97	0.00	960.97	4670.33	1124.69	4306.59	4427.82	4.23	-0.753	0.000	0.225
60.00	-34.20	-10.92	-0.13	-905.52	0.00	905.52	4597.00	1100.68	4124.71	4264.39	5.06	-0.830	0.000	0.220
65.00	-32.18	-10.75	-0.13	-850.91	0.00	850.91	4522.52	1076.68	3946.75	4102.93	5.97	-0.907	0.000	0.215
70.00	-30.20	-10.57	-0.13	-797.17	0.00	797.17	4446.89	1052.67	3772.72	3943.48	6.96	-0.985	0.000	0.209
75.00	-28.25	-10.39	-0.13	-744.31	0.00	744.31	4354.69	1028.67	3602.61	3772.77	8.03	-1.062	0.000	0.204
80.00	-26.34	-10.21	-0.13	-692.35	0.00	692.35	4253.06	1004.66	3436.42	3597.85	9.19	-1.140	0.000	0.199
85.00	-24.47	-10.01	-0.13	-641.32	0.00	641.32	4151.43	980.65	3274.16	3427.08	10.42	-1.217	0.000	0.193
86.50	-23.91	-9.96	-0.13	-626.30	0.00	626.30	4120.95	973.45	3226.24	3376.66	10.81	-1.241	0.000	0.191
90.00	-21.93	-9.80	-0.13	-591.45	0.00	591.45	4049.81	956.65	3115.82	3260.47	11.74	-1.295	0.000	0.187
91.75	-20.95	-9.73	-0.13	-574.29	0.00	574.29	3441.70	829.75	2734.72	2808.64	12.22	-1.322	0.000	0.211
95.00	-19.86	-9.61	-0.13	-542.66	0.00	542.66	3401.05	816.38	2647.27	2730.31	13.14	-1.372	0.000	0.205
100.00	-18.22	-9.42	-0.13	-494.59	0.00	494.59	3337.56	795.80	2515.51	2611.16	14.62	-1.454	0.000	0.195
105.00	-16.61	-9.23	-0.13	-447.49	0.00	447.49	3272.92	775.23	2387.10	2493.74	16.18	-1.535	0.000	0.185
110.00	-15.03	-9.03	-0.13	-401.36	0.00	401.36	3194.68	754.65	2262.06	2368.87	17.83	-1.613	0.000	0.174
115.00	-13.48	-8.83	-0.13	-356.22	0.00	356.22	3107.57	734.07	2140.39	2240.81	19.56	-1.689	0.000	0.163
120.00	-11.97	-8.63	-0.13	-312.07	0.00	312.07	3020.47	713.50	2022.08	2116.30	21.37	-1.762	0.000	0.152
125.00	-10.49	-8.43	-0.13	-268.91	0.00	268.91	2933.36	692.92	1907.13	1995.35	23.26	-1.831	0.000	0.138
130.00	-9.05	-8.23	-0.13	-226.75	0.00	226.75	2846.25	672.34	1795.55	1877.96	25.21	-1.895	0.000	0.124
131.25	-8.69	-8.18	-0.13	-216.46	0.00	216.46	2824.47	667.20	1768.17	1849.17	25.71	-1.911	0.000	0.120
135.00	-7.24	-8.01	-0.13	-185.78	0.00	185.78	2759.14	651.77	1687.32	1764.13	27.23	-1.955	0.000	0.108
135.50	-7.05	-7.99	-0.13	-181.77	0.00	181.77	1734.08	441.84	1163.16	1132.07	27.43	-1.961	0.000	0.165
137.00	-7.09	-6.80	0.00	-169.78	0.00	169.78	1723.43	437.73	1141.60	1114.56	28.05	-1.977	0.000	0.157
140.00	-6.45	-6.69	0.00	-149.38	0.00	149.38	1701.83	429.50	1099.07	1079.73	29.31	-2.021	0.000	0.142
145.00	-5.41	-6.50	0.00	-115.93	0.00	115.93	1664.90	415.78	1029.98	1022.29	31.46	-2.085	0.000	0.117
147.00	-4.17	-5.41	0.00	-102.93	0.00	102.93	1649.80	410.29	1002.98	999.54	32.34	-2.108	0.000	0.106
150.00	-3.57	-5.30	0.00	-86.70	0.00	86.70	1626.81	402.06	963.14	965.67	33.67	-2.140	0.000	0.092
155.00	-2.60	-5.12	0.00	-60.19	0.00	60.19	1587.58	388.34	898.54	909.96	35.94	-2.183	0.000	0.068
157.00	-2.65	-3.58	0.00	-49.96	0.00	49.96	1571.57	382.86	873.33	887.94	36.86	-2.198	0.000	0.058
160.00	-2.10	-3.47	0.00	-39.22	0.00	39.22	1547.20	374.63	836.18	855.21	38.24	-2.216	0.000	0.047
165.00	-1.19	-3.30	0.00	-21.84	0.00	21.84	1505.67	360.91	776.07	801.50	40.58	-2.238	0.000	0.028
167.00	-1.25	-1.66	0.00	-15.25	0.00	15.25	1488.74	355.42	752.65	780.32	41.51	-2.244	0.000	0.020
170.00	-0.75	-1.56	0.00	-10.27	0.00	10.27	1462.99	347.19	718.19	748.90	42.93	-2.251	0.000	0.014
175.00	0.05	-1.39	0.00	-2.48	0.00	2.48	1411.70	333.47	662.56	693.80	45.29	-2.257	0.000	0.004
176.00	0.00	-1.39	0.00	-1.09	0.00	1.09	1400.09	330.73	651.70	682.38	45.76	-2.257	0.000	0.002

Calculated Forces

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 38

Seismic Segment Forces (Factored)

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 39

SBA

Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.22			**Iterations**	23
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09			**Ss**	0.20
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.25	**SA**	0.02	**Seismic Importance Factor**	1.00	**S1**	0.06

R: 1.50

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)
0.00		0.00	0.00	0.00	0.00
5.00		1735.8	2.50	75.17	0.01
10.00		1709.2	7.50	74.02	0.06
15.00		1682.6	12.50	72.87	0.17
20.00		1656.0	17.50	71.72	0.33
25.00		1629.4	22.50	70.57	0.53
30.00		1602.8	27.50	69.42	0.77
35.00		1576.2	32.50	68.26	1.04
40.00		1549.6	37.50	67.11	1.33
42.75	Bot - Section 2	840.99	41.38	36.42	0.48
45.00		1196.0	43.88	51.80	1.09
49.00	Top - Section 1	2101.3	47.00	91.00	3.85
50.00		270.35	49.50	11.71	0.07
55.00		1337.7	52.50	57.93	1.95
60.00		1314.5	57.50	56.93	2.25
65.00		1291.2	62.50	55.92	2.57
70.00		1267.9	67.50	54.91	2.89
75.00		1244.6	72.50	53.90	3.21
80.00		1221.4	77.50	52.90	3.54
85.00		1198.1	82.50	51.89	3.86
86.50	Bot - Section 3	354.90	85.75	15.37	0.37
90.00		1392.8	88.25	60.32	5.96
91.75	Top - Section 2	688.47	90.88	29.82	1.54
95.00		671.92	93.38	29.10	1.55
100.00		1017.2	97.50	44.05	3.88
105.00		997.32	102.50	43.19	4.12
110.00		977.38	107.50	42.33	4.36
115.00		957.43	112.50	41.46	4.58
120.00		937.48	117.50	40.60	4.79
125.00		917.53	122.50	39.74	4.99
130.00		897.58	127.50	38.87	5.17
131.25	Bot - Section 4	221.28	130.63	9.58	0.33
135.00		982.35	133.13	42.54	6.75
135.50	Top - Section 3	129.57	135.25	5.61	0.12
137.00	Appurtenance(s)	3079.0	136.25	133.34	69.47
140.00		345.32	138.50	14.95	0.90
145.00		564.89	142.50	24.46	2.56
147.00	Appurtenance(s)	2903.9	146.00	125.76	70.95
150.00		325.40	148.50	14.09	0.92
155.00		531.70	152.50	23.03	2.59
157.00	Appurtenance(s)	4175.0	156.00	180.81	167.43
160.00		299.94	158.50	12.99	0.89
165.00		489.26	162.50	21.19	2.49
167.00	Appurtenance(s)	4461.9	166.00	193.23	216.53
170.00		254.65	168.50	11.03	0.73
175.00		413.77	172.50	17.92	2.01

Seismic Segment Forces (Factored)

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 40

176.00	Appurtenance(s)		3737.3	175.50	161.85	169.80	
		Totals:	**59,152.1**		**2,561.7**	**785.8**	**Total Wind:** **43,458.0**

Calculated Forces

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 41	

SBA

Load Case:	1.2D + 1.0Ev + 1.0Eh							**Iterations**	23
Gust Response Factor	1.10				**Sds**	0.22		**Ss**	0.20
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.09		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.25		**SA**	0.02	**Seismic Importance Factor**		1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-72.05	-0.79	0.00	-131.76	0.00	131.76	6372.54	1561.04	7259.46	7341.49		0.00	0.00	0.029
5.00	-69.94	-0.79	0.00	-127.82	0.00	127.82	6292.68	1533.60	7006.53	7120.95		0.00	-0.01	0.029
10.00	-67.86	-0.80	0.00	-123.85	0.00	123.85	6211.66	1506.17	6758.08	6902.39		0.01	-0.01	0.029
15.00	-65.81	-0.81	0.00	-119.84	0.00	119.84	6129.50	1478.73	6514.12	6685.89		0.03	-0.02	0.029
20.00	-63.80	-0.81	0.00	-115.81	0.00	115.81	6046.18	1451.30	6274.65	6471.51		0.04	-0.02	0.028
25.00	-61.82	-0.82	0.00	-111.75	0.00	111.75	5961.72	1423.86	6039.66	6259.33		0.07	-0.03	0.028
30.00	-59.88	-0.82	0.00	-107.67	0.00	107.67	5876.11	1396.43	5809.15	6049.42		0.10	-0.03	0.028
35.00	-57.96	-0.82	0.00	-103.57	0.00	103.57	5789.35	1368.99	5583.13	5841.84		0.14	-0.04	0.028
40.00	-56.08	-0.83	0.00	-99.44	0.00	99.44	5679.25	1341.56	5361.59	5614.75		0.18	-0.05	0.028
42.75	-55.06	-0.83	0.00	-97.17	0.00	97.17	5615.38	1326.47	5241.66	5488.51		0.21	-0.05	0.028
45.00	-53.60	-0.83	0.00	-95.31	0.00	95.31	5563.11	1314.12	5144.54	5386.29		0.24	-0.05	0.027
49.00	-51.02	-0.83	0.00	-91.99	0.00	91.99	4756.80	1153.50	4530.03	4626.40		0.28	-0.06	0.031
50.00	-50.70	-0.83	0.00	-91.16	0.00	91.16	4742.51	1148.70	4492.40	4593.12		0.29	-0.06	0.031
55.00	-49.08	-0.83	0.00	-87.01	0.00	87.01	4670.33	1124.69	4306.59	4427.82		0.36	-0.06	0.030
60.00	-47.49	-0.83	0.00	-82.86	0.00	82.86	4597.00	1100.68	4124.71	4264.39		0.43	-0.07	0.030
65.00	-45.93	-0.83	0.00	-78.69	0.00	78.69	4522.52	1076.68	3946.75	4102.93		0.51	-0.08	0.029
70.00	-44.41	-0.84	0.00	-74.52	0.00	74.52	4446.89	1052.67	3772.72	3943.48		0.59	-0.09	0.029
75.00	-42.91	-0.84	0.00	-70.34	0.00	70.34	4354.69	1028.67	3602.61	3772.77		0.69	-0.09	0.028
80.00	-41.43	-0.83	0.00	-66.16	0.00	66.16	4253.06	1004.66	3436.42	3597.85		0.79	-0.10	0.028
85.00	-39.99	-0.83	0.00	-61.99	0.00	61.99	4151.43	980.65	3274.16	3427.08		0.90	-0.11	0.028
86.50	-39.56	-0.83	0.00	-60.75	0.00	60.75	4120.95	973.45	3226.24	3376.66		0.93	-0.11	0.028
90.00	-37.87	-0.83	0.00	-57.83	0.00	57.83	4049.81	956.65	3115.82	3260.47		1.02	-0.12	0.027
91.75	-37.03	-0.83	0.00	-56.39	0.00	56.39	3441.70	829.75	2734.72	2808.64		1.06	-0.12	0.031
95.00	-36.22	-0.83	0.00	-53.70	0.00	53.70	3401.05	816.38	2647.27	2730.31		1.14	-0.12	0.030
100.00	-35.00	-0.82	0.00	-49.57	0.00	49.57	3337.56	795.80	2515.51	2611.16		1.27	-0.13	0.029
105.00	-33.81	-0.82	0.00	-45.45	0.00	45.45	3272.92	775.23	2387.10	2493.74		1.42	-0.14	0.029
110.00	-32.64	-0.82	0.00	-41.34	0.00	41.34	3194.68	754.65	2262.06	2368.87		1.57	-0.15	0.028
115.00	-31.50	-0.82	0.00	-37.24	0.00	37.24	3107.57	734.07	2140.39	2240.81		1.73	-0.16	0.027
120.00	-30.38	-0.81	0.00	-33.16	0.00	33.16	3020.47	713.50	2022.08	2116.30		1.89	-0.16	0.026
125.00	-29.29	-0.81	0.00	-29.09	0.00	29.09	2933.36	692.92	1907.13	1995.35		2.07	-0.17	0.025
130.00	-28.22	-0.80	0.00	-25.05	0.00	25.05	2846.25	672.34	1795.55	1877.96		2.25	-0.18	0.023
131.25	-27.95	-0.80	0.00	-24.05	0.00	24.05	2824.47	667.20	1768.17	1849.17		2.30	-0.18	0.023
135.00	-26.77	-0.79	0.00	-21.04	0.00	21.04	2759.14	651.77	1687.32	1764.13		2.44	-0.18	0.022
135.50	-26.61	-0.79	0.00	-20.65	0.00	20.65	1734.08	441.84	1163.16	1132.07		2.46	-0.18	0.034
137.00	-22.80	-0.71	0.00	-19.46	0.00	19.46	1723.43	437.73	1141.60	1114.56		2.52	-0.19	0.031
140.00	-22.39	-0.71	0.00	-17.32	0.00	17.32	1701.83	429.50	1099.07	1079.73		2.64	-0.19	0.029
145.00	-21.72	-0.71	0.00	-13.75	0.00	13.75	1664.90	415.78	1029.98	1022.29		2.84	-0.20	0.026
147.00	-18.12	-0.63	0.00	-12.33	0.00	12.33	1649.80	410.29	1002.98	999.54		2.93	-0.20	0.023
150.00	-17.73	-0.63	0.00	-10.45	0.00	10.45	1626.81	402.06	963.14	965.67		3.05	-0.21	0.022
155.00	-17.10	-0.62	0.00	-7.32	0.00	7.32	1587.58	388.34	898.54	909.96		3.27	-0.21	0.019
157.00	-11.92	-0.44	0.00	-6.07	0.00	6.07	1571.57	382.86	873.33	887.94		3.36	-0.21	0.014
160.00	-11.56	-0.44	0.00	-4.76	0.00	4.76	1547.20	374.63	836.18	855.21		3.50	-0.22	0.013
165.00	-10.98	-0.43	0.00	-2.59	0.00	2.59	1505.67	360.91	776.07	801.50		3.72	-0.22	0.011
167.00	-5.45	-0.19	0.00	-1.72	0.00	1.72	1488.74	355.42	752.65	780.32		3.81	-0.22	0.006
170.00	-5.14	-0.19	0.00	-1.14	0.00	1.14	1462.99	347.19	718.19	748.90		3.95	-0.22	0.005
175.00	-4.64	-0.19	0.00	-0.19	0.00	0.19	1411.70	333.47	662.56	693.80		4.18	-0.22	0.004
176.00	0.00	-0.17	0.00	0.00	0.00	0.00	1400.09	330.73	651.70	682.38		4.23	-0.22	0.000

Calculated Forces

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 42

Seismic Segment Forces (Factored)

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 43

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.22	**Iterations**	23
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09	**Ss**	0.20
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.25	**SA**	0.02	**S1**	0.06
						Seismic Importance Factor	1.00

R: 1.50

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)
0.00		0.00	0.00	0.00	0.00
5.00		1676.9	2.50	72.62	0.01
10.00		1650.3	7.50	71.47	0.06
15.00		1623.7	12.50	70.32	0.17
20.00		1597.1	17.50	69.17	0.31
25.00		1570.5	22.50	68.01	0.50
30.00		1543.9	27.50	66.86	0.72
35.00		1517.3	32.50	65.71	0.98
40.00		1490.7	37.50	64.56	1.26
42.75	Bot - Section 2	808.56	41.38	35.02	0.45
45.00		1169.5	43.88	50.65	1.06
49.00	Top - Section 1	2054.2	47.00	88.96	3.74
50.00		258.56	49.50	11.20	0.07
55.00		1278.8	52.50	55.38	1.81
60.00		1255.5	57.50	54.37	2.09
65.00		1232.2	62.50	53.37	2.38
70.00		1209.0	67.50	52.36	2.67
75.00		1185.7	72.50	51.35	2.97
80.00		1162.4	77.50	50.34	3.26
85.00		1139.1	82.50	49.33	3.55
86.50	Bot - Section 3	337.22	85.75	14.60	0.34
90.00		1351.5	88.25	58.53	5.71
91.75	Top - Section 2	667.84	90.88	28.92	1.48
95.00		633.61	93.38	27.44	1.41
100.00		958.32	97.50	41.50	3.51
105.00		938.37	102.50	40.64	3.72
110.00		918.42	107.50	39.77	3.92
115.00		898.48	112.50	38.91	4.10
120.00		878.53	117.50	38.05	4.28
125.00		858.58	122.50	37.18	4.44
130.00		838.63	127.50	36.32	4.59
131.25	Bot - Section 4	206.54	130.63	8.94	0.29
135.00		938.14	133.13	40.63	6.26
135.50	Top - Section 3	123.67	135.25	5.36	0.11
137.00	Appurtenance(s)	3061.3	136.25	132.58	69.88
140.00		322.04	138.50	13.95	0.80
145.00		526.10	142.50	22.78	2.26
147.00	Appurtenance(s)	2888.4	146.00	125.09	71.43
150.00		303.12	148.50	13.13	0.81
155.00		494.55	152.50	21.42	2.28
157.00	Appurtenance(s)	4160.1	156.00	180.16	169.17
160.00		280.03	158.50	12.13	0.79
165.00		456.08	162.50	19.75	2.21
167.00	Appurtenance(s)	4448.6	166.00	192.66	219.04
170.00		242.07	168.50	10.48	0.67
175.00		392.81	172.50	17.01	1.84

Seismic Segment Forces (Factored)

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 44

176.00	Appurtenance(s)		3733.1	175.50	161.67	172.40		
		Totals:	**57,280.9**		**2,480.6**	**785.8**	**Total Wind:**	**43,458.0**

Calculated Forces

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 45	

SBA

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.22			**Iterations**	23
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09			**Ss**	0.20
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.25	**SA**	0.02	**Seismic Importance Factor**	1.00	**S1**	0.06

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-54.59	-0.79	0.00	-129.60	0.00	129.60	6372.54	1561.04	7259.46	7341.49		0.00	0.00	0.026
5.00	-53.00	-0.79	0.00	-125.66	0.00	125.66	6292.68	1533.60	7006.53	7120.95		0.00	-0.01	0.026
10.00	-51.42	-0.80	0.00	-121.70	0.00	121.70	6211.66	1506.17	6758.08	6902.39		0.01	-0.01	0.026
15.00	-49.87	-0.80	0.00	-117.71	0.00	117.71	6129.50	1478.73	6514.12	6685.89		0.02	-0.02	0.026
20.00	-48.35	-0.80	0.00	-113.71	0.00	113.71	6046.18	1451.30	6274.65	6471.51		0.04	-0.02	0.026
25.00	-46.85	-0.81	0.00	-109.68	0.00	109.68	5961.72	1423.86	6039.66	6259.33		0.07	-0.03	0.025
30.00	-45.37	-0.81	0.00	-105.64	0.00	105.64	5876.11	1396.43	5809.15	6049.42		0.10	-0.03	0.025
35.00	-43.92	-0.81	0.00	-101.59	0.00	101.59	5789.35	1368.99	5583.13	5841.84		0.14	-0.04	0.025
40.00	-42.50	-0.82	0.00	-97.51	0.00	97.51	5679.25	1341.56	5361.59	5614.75		0.18	-0.04	0.025
42.75	-41.73	-0.82	0.00	-95.27	0.00	95.27	5615.38	1326.47	5241.66	5488.51		0.21	-0.05	0.025
45.00	-40.62	-0.82	0.00	-93.44	0.00	93.44	5563.11	1314.12	5144.54	5386.29		0.23	-0.05	0.025
49.00	-38.66	-0.81	0.00	-90.17	0.00	90.17	4756.80	1153.50	4530.03	4626.40		0.28	-0.06	0.028
50.00	-38.42	-0.82	0.00	-89.35	0.00	89.35	4742.51	1148.70	4492.40	4593.12		0.29	-0.06	0.028
55.00	-37.19	-0.82	0.00	-85.27	0.00	85.27	4670.33	1124.69	4306.59	4427.82		0.35	-0.06	0.027
60.00	-35.99	-0.82	0.00	-81.19	0.00	81.19	4597.00	1100.68	4124.71	4264.39		0.42	-0.07	0.027
65.00	-34.81	-0.82	0.00	-77.09	0.00	77.09	4522.52	1076.68	3946.75	4102.93		0.50	-0.08	0.026
70.00	-33.65	-0.82	0.00	-73.00	0.00	73.00	4446.89	1052.67	3772.72	3943.48		0.58	-0.08	0.026
75.00	-32.52	-0.82	0.00	-68.91	0.00	68.91	4354.69	1028.67	3602.61	3772.77		0.67	-0.09	0.026
80.00	-31.40	-0.82	0.00	-64.82	0.00	64.82	4253.06	1004.66	3436.42	3597.85		0.77	-0.10	0.025
85.00	-30.31	-0.81	0.00	-60.74	0.00	60.74	4151.43	980.65	3274.16	3427.08		0.88	-0.11	0.025
86.50	-29.99	-0.81	0.00	-59.52	0.00	59.52	4120.95	973.45	3226.24	3376.66		0.92	-0.11	0.025
90.00	-28.70	-0.81	0.00	-56.66	0.00	56.66	4049.81	956.65	3115.82	3260.47		1.00	-0.11	0.024
91.75	-28.06	-0.81	0.00	-55.25	0.00	55.25	3441.70	829.75	2734.72	2808.64		1.04	-0.12	0.028
95.00	-27.45	-0.81	0.00	-52.62	0.00	52.62	3401.05	816.38	2647.27	2730.31		1.12	-0.12	0.027
100.00	-26.53	-0.81	0.00	-48.58	0.00	48.58	3337.56	795.80	2515.51	2611.16		1.25	-0.13	0.027
105.00	-25.63	-0.80	0.00	-44.55	0.00	44.55	3272.92	775.23	2387.10	2493.74		1.39	-0.14	0.026
110.00	-24.74	-0.80	0.00	-40.53	0.00	40.53	3194.68	754.65	2262.06	2368.87		1.54	-0.14	0.025
115.00	-23.88	-0.80	0.00	-36.53	0.00	36.53	3107.57	734.07	2140.39	2240.81		1.69	-0.15	0.024
120.00	-23.03	-0.79	0.00	-32.54	0.00	32.54	3020.47	713.50	2022.08	2116.30		1.86	-0.16	0.023
125.00	-22.20	-0.79	0.00	-28.56	0.00	28.56	2933.36	692.92	1907.13	1995.35		2.03	-0.17	0.022
130.00	-21.40	-0.79	0.00	-24.61	0.00	24.61	2846.25	672.34	1795.55	1877.96		2.21	-0.17	0.021
131.25	-21.20	-0.79	0.00	-23.63	0.00	23.63	2824.47	667.20	1768.17	1849.17		2.25	-0.18	0.020
135.00	-20.30	-0.78	0.00	-20.68	0.00	20.68	2759.14	651.77	1687.32	1764.13		2.39	-0.18	0.019
135.50	-20.18	-0.78	0.00	-20.29	0.00	20.29	1734.08	441.84	1163.16	1132.07		2.41	-0.18	0.030
137.00	-17.29	-0.70	0.00	-19.13	0.00	19.13	1723.43	437.73	1141.60	1114.56		2.47	-0.18	0.027
140.00	-16.98	-0.70	0.00	-17.03	0.00	17.03	1701.83	429.50	1099.07	1079.73		2.59	-0.19	0.026
145.00	-16.47	-0.70	0.00	-13.53	0.00	13.53	1664.90	415.78	1029.98	1022.29		2.79	-0.20	0.023
147.00	-13.74	-0.62	0.00	-12.14	0.00	12.14	1649.80	410.29	1002.98	999.54		2.87	-0.20	0.020
150.00	-13.45	-0.62	0.00	-10.29	0.00	10.29	1626.81	402.06	963.14	965.67		3.00	-0.20	0.019
155.00	-12.97	-0.61	0.00	-7.21	0.00	7.21	1587.58	388.34	898.54	909.96		3.21	-0.21	0.016
157.00	-9.04	-0.43	0.00	-5.98	0.00	5.98	1571.57	382.86	873.33	887.94		3.30	-0.21	0.012
160.00	-8.77	-0.43	0.00	-4.69	0.00	4.69	1547.20	374.63	836.18	855.21		3.43	-0.21	0.011
165.00	-8.33	-0.42	0.00	-2.55	0.00	2.55	1505.67	360.91	776.07	801.50		3.65	-0.21	0.009
167.00	-4.13	-0.19	0.00	-1.70	0.00	1.70	1488.74	355.42	752.65	780.32		3.74	-0.21	0.005
170.00	-3.90	-0.19	0.00	-1.13	0.00	1.13	1462.99	347.19	718.19	748.90		3.88	-0.22	0.004
175.00	-3.52	-0.19	0.00	-0.19	0.00	0.19	1411.70	333.47	662.56	693.80		4.10	-0.22	0.003
176.00	0.00	-0.17	0.00	0.00	0.00	0.00	1400.09	330.73	651.70	682.38		4.15	-0.22	0.000

Calculated Forces

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 46

Wind Loading - Shaft

Structure: CT02216-S
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 3/26/2024
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

Load Case: 1.0D + 1.0W 60 mph Wind
Dead Load Factor 1.00
Wind Load Factor 1.00

Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	6.545	7.20	262.43	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.545	7.20	257.86	0.730	0.000	5.00	23.718	17.31	124.6	0.0	1500.1
10.00		1.00	0.85	6.545	7.20	253.29	0.730	0.000	5.00	23.301	17.01	122.5	0.0	1473.5
15.00		1.00	0.85	6.545	7.20	248.72	0.730	0.000	5.00	22.884	16.71	120.3	0.0	1446.9
20.00		1.00	0.90	6.944	7.64	251.49	0.730	0.000	5.00	22.467	16.40	125.3	0.0	1420.3
25.00		1.00	0.95	7.278	8.01	252.64	0.730	0.000	5.00	22.050	16.10	128.9	0.0	1393.7
30.00		1.00	0.98	7.563	8.32	252.62	0.730	0.000	5.00	21.634	15.79	131.4	0.0	1367.1
35.00		1.00	1.01	7.812	8.59	251.76	0.730	0.000	5.00	21.217	15.49	133.1	0.0	1340.5
40.00		1.00	1.04	8.035	8.84	250.26	0.730	0.000	5.00	20.800	15.18	134.2	0.0	1313.9
42.75	Bot - Section 2	1.00	1.06	8.148	8.96	249.21	0.730	0.000	2.75	11.262	8.22	73.7	0.0	711.3
45.00		1.00	1.07	8.237	9.06	248.25	0.730	0.000	2.25	9.288	6.78	61.4	0.0	1089.9
49.00	Top - Section 1	1.00	1.09	8.386	9.22	246.35	0.730	0.000	4.00	16.303	11.90	109.8	0.0	1912.7
50.00		1.00	1.09	8.422	9.26	250.44	0.730	0.000	1.00	4.034	2.94	27.3	0.0	223.2
55.00		1.00	1.12	8.592	9.45	247.73	0.730	0.000	5.00	19.920	14.54	137.4	0.0	1102.0
60.00		1.00	1.14	8.751	9.63	244.72	0.730	0.000	5.00	19.503	14.24	137.1	0.0	1078.7
65.00		1.00	1.16	8.900	9.79	241.46	0.730	0.000	5.00	19.086	13.93	136.4	0.0	1055.4
70.00		1.00	1.17	9.040	9.94	237.98	0.730	0.000	5.00	18.670	13.63	135.5	0.0	1032.2
75.00		1.00	1.19	9.172	10.09	234.30	0.730	0.000	5.00	18.253	13.32	134.4	0.0	1008.9
80.00		1.00	1.21	9.298	10.23	230.45	0.730	0.000	5.00	17.836	13.02	133.2	0.0	985.6
85.00		1.00	1.22	9.417	10.36	226.44	0.730	0.000	5.00	17.419	12.72	131.7	0.0	962.3
86.50	Bot - Section 3	1.00	1.23	9.452	10.40	225.21	0.730	0.000	1.50	5.145	3.76	39.0	0.0	284.2
90.00		1.00	1.24	9.531	10.48	222.29	0.730	0.000	3.50	12.080	8.82	92.5	0.0	1227.8
91.75	Top - Section 2	1.00	1.24	9.570	10.53	220.81	0.730	0.000	1.75	5.963	4.35	45.8	0.0	605.9
95.00		1.00	1.25	9.640	10.60	222.24	0.730	0.000	3.25	10.940	7.99	84.7	0.0	518.7
100.00		1.00	1.27	9.745	10.72	217.86	0.730	0.000	5.00	16.486	12.03	129.0	0.0	781.5
105.00		1.00	1.28	9.845	10.83	213.38	0.730	0.000	5.00	16.069	11.73	127.0	0.0	761.5
110.00		1.00	1.29	9.942	10.94	208.79	0.730	0.000	5.00	15.653	11.43	125.0	0.0	741.6
115.00		1.00	1.30	10.036	11.04	204.11	0.730	0.000	5.00	15.236	11.12	122.8	0.0	721.6
120.00		1.00	1.32	10.126	11.14	199.34	0.730	0.000	5.00	14.819	10.82	120.5	0.0	701.7
125.00		1.00	1.33	10.213	11.23	194.49	0.730	0.000	5.00	14.402	10.51	118.1	0.0	681.7
130.00		1.00	1.34	10.298	11.33	189.56	0.730	0.000	5.00	13.986	10.21	115.7	0.0	661.8
131.25	Bot - Section 4	1.00	1.34	10.319	11.35	188.31	0.730	0.000	1.25	3.431	2.50	28.4	0.0	162.3
135.00		1.00	1.35	10.380	11.42	184.55	0.730	0.000	3.75	10.296	7.52	85.8	0.0	805.5
135.50	Top - Section 3	1.00	1.35	10.388	11.43	184.05	0.730	0.000	0.50	1.355	0.99	11.3	0.0	106.0
137.00	Appurtenance(s)	1.00	1.35	10.412	11.45	185.46	0.730	0.000	1.50	4.040	2.95	33.8	0.0	127.9
140.00		1.00	1.36	10.460	11.51	182.42	0.730	0.000	3.00	7.968	5.82	66.9	0.0	252.2
145.00		1.00	1.37	10.538	11.59	177.29	0.730	0.000	5.00	12.947	9.45	109.6	0.0	409.7
147.00	Appurtenance(s)	1.00	1.37	10.568	11.62	175.22	0.730	0.000	2.00	5.062	3.70	43.0	0.0	160.2
150.00		1.00	1.38	10.613	11.67	172.10	0.730	0.000	3.00	7.468	5.45	63.6	0.0	236.3
155.00		1.00	1.39	10.687	11.76	166.86	0.730	0.000	5.00	12.113	8.84	103.9	0.0	383.1
157.00	Appurtenance(s)	1.00	1.39	10.716	11.79	164.74	0.730	0.000	2.00	4.729	3.45	40.7	0.0	149.5
160.00		1.00	1.40	10.758	11.83	161.55	0.730	0.000	3.00	6.968	5.09	60.2	0.0	220.3
165.00		1.00	1.41	10.828	11.91	156.20	0.730	0.000	5.00	11.280	8.23	98.1	0.0	356.5
167.00	Appurtenance(s)	1.00	1.41	10.856	11.94	154.04	0.730	0.000	2.00	4.395	3.21	38.3	0.0	138.9
170.00		1.00	1.42	10.896	11.99	150.79	0.730	0.000	3.00	6.468	4.72	56.6	0.0	204.3
175.00		1.00	1.42	10.963	12.06	145.33	0.730	0.000	5.00	10.446	7.63	92.0	0.0	329.9
176.00	Appurtenance(s)	1.00	1.43	10.976	12.07	144.24	0.730	0.000	1.00	2.039	1.49	18.0	0.0	64.4

Wind Loading - Shaft

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 48	

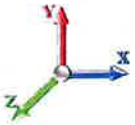
Totals:	**176.00**	**4,308.4**	**34,212.9**

Discrete Appurtenance Forces

Structure: CT02216-S
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 3/26/2024
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

Load Case: 1.0D + 1.0W 60 mph Wind
Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	176.00	Ericsson KRY 112 144/1	3	10.989	12.088	0.60	0.90	0.63	33.06	0.000	1.000	7.65	0.00	7.65
2	176.00	Ericsson AIR6419 B41	3	10.989	12.088	0.61	0.90	11.60	249.90	0.000	1.000	140.27	0.00	140.27
3	176.00	Allen Telecom	6	10.989	12.088	0.59	0.90	3.26	66.00	0.000	1.000	39.46	0.00	39.46
4	176.00	RFS	3	10.989	12.088	0.65	0.90	39.35	384.00	0.000	1.000	475.64	0.00	475.64
5	176.00	Sitepro 1: RMQP-4096-HK	1	10.976	12.074	1.00	1.00	22.27	1945.00	0.000	0.000	268.89	0.00	0.00
6	176.00	mount pipe	12	10.989	12.088	0.90	0.90	16.96	360.00	0.000	1.000	204.97	0.00	204.97
7	176.00	Ericsson KRY 112 489/2	3	10.989	12.088	0.60	0.90	1.01	46.20	0.000	1.000	12.25	0.00	12.25
8	176.00	Ericsson 4449 B71 + B85	3	10.989	12.088	0.60	0.90	3.53	225.00	0.000	1.000	42.64	0.00	42.64
9	176.00	Lightning Rod	1	11.022	12.124	1.00	1.00	1.05	35.00	0.000	3.500	12.73	0.00	44.56
10	176.00	Ericsson 4460 B25 + B66	3	10.989	12.088	0.60	0.90	3.87	312.00	0.000	1.000	46.80	0.00	46.80
11	167.00	RFS APL868013	1	10.856	11.941	0.70	0.75	1.99	6.30	0.000	0.000	23.82	0.00	0.00
12	167.00	LPA-80063-4CF-EDIN-5	2	10.856	11.941	0.70	0.75	8.58	40.00	0.000	0.000	102.45	0.00	0.00
13	167.00	Platform w/ Handrail +	1	10.856	11.941	1.00	1.00	42.30	2788.00	0.000	0.000	505.12	0.00	0.00
14	167.00	Commscope	3	10.856	11.941	0.62	0.75	15.03	130.95	0.000	0.000	179.52	0.00	0.00
15	167.00	mount pipe	12	10.856	11.941	0.75	0.75	11.79	360.00	0.000	0.000	140.79	0.00	0.00
16	167.00	Commscope	3	10.856	11.941	1.00	1.00	0.00	76.71	0.000	0.000	0.00	0.00	0.00
17	167.00	Samsung RF4461d-13A	3	10.856	11.941	0.50	0.75	2.82	237.30	0.000	0.000	33.66	0.00	0.00
18	167.00	Commscope	3	10.856	11.941	0.62	0.75	15.03	152.76	0.000	0.000	179.52	0.00	0.00
19	167.00	Samsung MT6413-77A	3	10.856	11.941	0.52	0.75	5.88	171.90	0.000	0.000	70.26	0.00	0.00
20	167.00	Samsung B2/B66A RRH	3	10.856	11.941	0.50	0.75	2.82	224.10	0.000	0.000	33.66	0.00	0.00
21	167.00	Samsung RT4423-48A	3	10.856	11.941	0.50	0.75	1.30	17.91	0.000	0.000	15.48	0.00	0.00
22	167.00	Raycap	2	10.856	11.941	0.68	0.75	5.12	64.00	0.000	0.000	61.10	0.00	0.00
23	157.00	mount pipe	12	10.716	11.787	0.75	0.75	13.95	360.00	0.000	0.000	164.43	0.00	0.00
24	157.00	Low Profile Platform	1	10.716	11.787	1.00	1.00	14.69	1500.00	0.000	0.000	173.15	0.00	0.00
25	157.00	Sitepro PRK-SFS-H-L	1	10.716	11.787	1.00	1.00	6.70	230.00	0.000	0.000	78.97	0.00	0.00
26	157.00	Sitepro HRK14-U	1	10.716	11.787	1.00	1.00	8.13	302.36	0.000	0.000	95.83	0.00	0.00
27	157.00	Commscope	3	10.716	11.787	0.56	0.75	20.71	232.20	0.000	0.000	244.06	0.00	0.00
28	157.00	RFS APXVTM14-C-I20	3	10.716	11.787	0.58	0.75	10.98	168.60	0.000	0.000	129.47	0.00	0.00
29	157.00	ALU TD-RRH8x20-25	3	10.716	11.787	0.50	0.75	6.11	210.00	0.000	0.000	71.96	0.00	0.00
30	157.00	ALU 800 Mhz	6	10.716	11.787	0.50	0.75	7.51	318.00	0.000	0.000	88.49	0.00	0.00
31	157.00	ALU 1900 Mhz	3	10.716	11.787	0.50	0.75	4.18	180.00	0.000	0.000	49.22	0.00	0.00
32	157.00	Sitepro PRK-1245L	1	10.716	11.787	1.00	1.00	9.50	464.91	0.000	0.000	111.98	0.00	0.00
33	147.00	Fujitsu TA08025-B604	3	10.568	11.625	0.50	0.75	2.95	191.79	0.000	0.000	34.35	0.00	0.00
34	147.00	Fujitsu TA08025-B605	3	10.568	11.625	0.50	0.75	2.95	224.85	0.000	0.000	34.35	0.00	0.00
35	147.00	JMA MX08FRO665-21	3	10.568	11.625	0.55	0.75	20.51	193.50	0.000	0.000	238.48	0.00	0.00
36	147.00	Platform w/HRK	1	10.568	11.625	1.00	1.00	22.56	1736.00	0.000	0.000	262.26	0.00	0.00
37	147.00	mount pipe	9	10.568	11.625	0.75	0.75	11.07	270.00	0.000	0.000	128.69	0.00	0.00
38	147.00	Raycap	3	10.568	11.625	0.75	0.75	4.52	65.55	0.000	0.000	52.57	0.00	0.00
39	137.00	Ericsson RRUS 8843 B2	3	10.412	11.454	0.69	0.75	3.39	216.00	0.000	0.000	38.88	0.00	0.00
40	137.00	mount pipe	9	10.412	11.454	0.75	0.75	8.78	270.00	0.000	0.000	100.51	0.00	0.00
41	137.00	LP Platform + Handrail	1	10.412	11.454	1.00	1.00	19.25	1500.00	0.000	0.000	220.48	0.00	0.00
42	137.00	KMW HPA-65R-BU6AA	3	10.412	11.454	0.67	0.75	15.74	129.00	0.000	0.000	180.28	0.00	0.00
43	137.00	CCI DMP65R-BU6DA	3	10.412	11.454	0.55	0.75	20.88	238.20	0.000	0.000	239.11	0.00	0.00
44	137.00	Ericsson 4449 B5/B12	3	10.412	11.454	0.65	0.75	3.81	213.00	0.000	0.000	43.66	0.00	0.00
45	137.00	Powerwave 7770 Panel	3	10.412	11.454	0.55	0.75	9.03	105.00	0.000	0.000	103.47	0.00	0.00
46	137.00	Raycap DC6-48-60-18-8F	1	10.412	11.454	1.00	1.00	1.47	32.80	0.000	0.000	16.84	0.00	0.00
47	137.00	Powerwave LGP21401	6	10.412	11.454	0.50	0.75	3.89	114.00	0.000	0.000	44.55	0.00	0.00

Discrete Appurtenance Forces

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 50

48	137.00	Powerwave LGP21903	6	10.412	11.454	0.63	0.75	1.02	30.00	4.341	0.000	11.69	50.74	0.00
49	137.00	Powerwave 7020.00 RET	12	10.412	11.454	0.38	0.75	1.80	26.40	0.000	0.000	20.62	0.00	0.00
50	137.00	Smart Bias T 1001940	3	10.412	11.454	0.50	0.75	0.14	6.00	7.041	0.000	1.55	10.94	0.00
							Totals:		**17,454.25**			**5,576.57**		

Total Applied Force Summary

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 51	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		124.64	1696.56	0.00	0.00
10.00		122.45	1669.96	0.00	0.00
15.00		120.26	1643.37	0.00	0.00
20.00		125.28	1616.77	0.00	0.00
25.00		128.87	1590.17	0.00	0.00
30.00		131.38	1563.57	0.00	0.00
35.00		133.10	1536.98	0.00	0.00
40.00		134.21	1510.38	0.00	0.00
42.75		73.69	819.37	0.00	0.00
45.00		61.43	1178.36	0.00	0.00
49.00		109.78	2069.93	0.00	0.00
50.00		27.28	262.49	0.00	0.00
55.00		137.44	1298.47	0.00	0.00
60.00		137.05	1275.20	0.00	0.00
65.00		136.40	1251.93	0.00	0.00
70.00		135.52	1228.66	0.00	0.00
75.00		134.44	1205.38	0.00	0.00
80.00		133.16	1182.11	0.00	0.00
85.00		131.72	1158.84	0.00	0.00
86.50		39.05	343.11	0.00	0.00
90.00		92.45	1365.31	0.00	0.00
91.75		45.83	674.71	0.00	0.00
95.00		84.68	646.38	0.00	0.00
100.00		129.01	977.97	0.00	0.00
105.00		127.04	958.02	0.00	0.00
110.00		124.97	938.08	0.00	0.00
115.00		122.78	918.13	0.00	0.00
120.00		120.50	898.18	0.00	0.00
125.00		118.12	878.23	0.00	0.00
130.00		115.65	858.28	0.00	0.00
131.25		28.43	211.45	0.00	0.00
135.00		85.82	952.88	0.00	0.00
135.50		11.30	125.64	0.00	0.00
137.00	(53) attachments	1055.42	3067.26	61.68	0.00
140.00		66.93	329.80	0.00	0.00
145.00		109.55	539.03	0.00	0.00
147.00	(22) attachments	793.65	2893.58	0.00	0.00
150.00		63.64	310.54	0.00	0.00
155.00		103.95	506.93	0.00	0.00
157.00	(34) attachments	1248.25	4165.12	0.00	0.00
160.00		60.19	286.67	0.00	0.00
165.00		98.08	467.14	0.00	0.00
167.00	(39) attachments	1383.69	4453.06	0.00	0.00
170.00		56.59	246.26	0.00	0.00
175.00		91.96	399.80	0.00	0.00
176.00	(38) attachments	1269.27	3734.52	0.00	1014.23

Total Applied Force Summary

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 52

Totals:	**9,884.94**	**57,904.60**	**61.68**	**1,014.23**

Linear Appurtenance Segment Forces (Factored)

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 53	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	6.545	0.00	1.37
5.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	6.545	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	6.545	0.00	1.37
10.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	6.545	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	6.545	0.00	1.37
15.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	6.545	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	6.944	0.00	1.37
20.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	6.944	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	7.278	0.00	1.37
25.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	7.278	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	7.563	0.00	1.37
30.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	7.563	0.00	5.20
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	7.812	0.00	1.37
35.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	7.812	0.00	5.20
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	8.035	0.00	1.37
40.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	8.035	0.00	5.20
42.75	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.021	0.000	8.148	0.00	0.75
42.75	Step bolts	Yes	2.75	0.000	0.63	0.14	0.00	0.021	0.000	8.148	0.00	2.86
45.00	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.021	0.000	8.237	0.00	0.61
45.00	Step bolts	Yes	2.25	0.000	0.63	0.12	0.00	0.021	0.000	8.237	0.00	2.34
49.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.021	0.000	8.386	0.00	1.09
49.00	Step bolts	Yes	4.00	0.000	0.63	0.21	0.00	0.021	0.000	8.386	0.00	4.16
50.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.021	0.000	8.422	0.00	0.27
50.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.021	0.000	8.422	0.00	1.04
55.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	8.592	0.00	1.37
55.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	8.592	0.00	5.20
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	8.751	0.00	1.37
60.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	8.751	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	8.900	0.00	1.37
65.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	8.900	0.00	5.20
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	9.040	0.00	1.37
70.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	9.040	0.00	5.20
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	9.172	0.00	1.37
75.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	9.172	0.00	5.20
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	9.298	0.00	1.37
80.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	9.298	0.00	5.20
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	9.417	0.00	1.37
85.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	9.417	0.00	5.20
86.50	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.025	0.000	9.452	0.00	0.41
86.50	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.025	0.000	9.452	0.00	1.56
90.00	Safety Cable	Yes	3.50	0.000	0.38	0.11	0.00	0.025	0.000	9.531	0.00	0.96
90.00	Step bolts	Yes	3.50	0.000	0.63	0.18	0.00	0.025	0.000	9.531	0.00	3.64
91.75	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.025	0.000	9.570	0.00	0.48
91.75	Step bolts	Yes	1.75	0.000	0.63	0.09	0.00	0.025	0.000	9.570	0.00	1.82
95.00	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.025	0.000	9.640	0.00	0.89
95.00	Step bolts	Yes	3.25	0.000	0.63	0.17	0.00	0.025	0.000	9.640	0.00	3.38
100.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	9.745	0.00	1.37

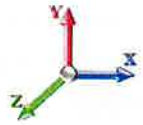
Linear Appurtenance Segment Forces (Factored)

Structure:	CT02216-S	**Code:**	TIA-222-H	3/26/2024	
Site Name:	Glastonbury	**Exposure:**	C		
Height:	176.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 54	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
100.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	9.745	0.00	5.20
105.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	9.845	0.00	1.37
105.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	9.845	0.00	5.20
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	9.942	0.00	1.37
110.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	9.942	0.00	5.20
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	10.036	0.00	1.37
115.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	10.036	0.00	5.20
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	10.126	0.00	1.37
120.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	10.126	0.00	5.20
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	10.213	0.00	1.37
125.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	10.213	0.00	5.20
130.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	10.298	0.00	1.37
130.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	10.298	0.00	5.20
131.25	Safety Cable	Yes	1.25	0.000	0.38	0.04	0.00	0.031	0.000	10.319	0.00	0.34
131.25	Step bolts	Yes	1.25	0.000	0.63	0.07	0.00	0.031	0.000	10.319	0.00	1.30
135.00	Safety Cable	Yes	3.75	0.000	0.38	0.12	0.00	0.031	0.000	10.380	0.00	1.02
135.00	Step bolts	Yes	3.75	0.000	0.63	0.20	0.00	0.031	0.000	10.380	0.00	3.90
135.50	Safety Cable	Yes	0.50	0.000	0.38	0.02	0.00	0.032	0.000	10.388	0.00	0.14
135.50	Step bolts	Yes	0.50	0.000	0.63	0.03	0.00	0.032	0.000	10.388	0.00	0.52
137.00	Safety Cable	Yes	1.50	0.000	0.38	0.05	0.00	0.031	0.000	10.412	0.00	0.41
137.00	Step bolts	Yes	1.50	0.000	0.63	0.08	0.00	0.031	0.000	10.412	0.00	1.56
140.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.032	0.000	10.460	0.00	0.82
140.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.032	0.000	10.460	0.00	3.12
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	10.538	0.00	1.37
145.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	10.538	0.00	5.20
147.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	10.568	0.00	0.55
147.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	10.568	0.00	2.08
150.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	10.613	0.00	0.82
150.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	10.613	0.00	3.12
155.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	10.687	0.00	1.37
155.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	10.687	0.00	5.20
157.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	10.716	0.00	0.55
157.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	10.716	0.00	2.08
160.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.036	0.000	10.758	0.00	0.82
160.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.036	0.000	10.758	0.00	3.12
165.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.037	0.000	10.828	0.00	1.37
165.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.037	0.000	10.828	0.00	5.20
167.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.038	0.000	10.856	0.00	0.55
167.00	Step bolts	Yes	2.00	0.000	0.63	0.10	0.00	0.038	0.000	10.856	0.00	2.08
170.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.039	0.000	10.896	0.00	0.82
170.00	Step bolts	Yes	3.00	0.000	0.63	0.16	0.00	0.039	0.000	10.896	0.00	3.12
175.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.040	0.000	10.963	0.00	1.37
175.00	Step bolts	Yes	5.00	0.000	0.63	0.26	0.00	0.040	0.000	10.963	0.00	5.20
176.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.041	0.000	10.976	0.00	0.27
176.00	Step bolts	Yes	1.00	0.000	0.63	0.05	0.00	0.041	0.000	10.976	0.00	1.04
										Totals:	**0.0**	**231.1**

Calculated Forces

Structure: CT02216-S
Site Name: Glastonbury
Height: 176.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

Code: TIA-222-H 3/26/2024
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

Load Case: 1.0D + 1.0W 60 mph Wind
Dead Load Factor 1.00
Wind Load Factor 1.00

Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-57.90	-9.91	-0.06	-1332.2	0.00	1332.26	6372.54	1561.04	7259.46	7341.49	0.00	0.000	0.000	0.191
5.00	-56.19	-9.84	-0.06	-1282.7	0.00	1282.71	6292.68	1533.60	7006.53	7120.95	0.03	-0.053	0.000	0.189
10.00	-54.52	-9.76	-0.06	-1233.5	0.00	1233.52	6211.66	1506.17	6758.08	6902.39	0.11	-0.106	0.000	0.188
15.00	-52.86	-9.69	-0.06	-1184.7	0.00	1184.70	6129.50	1478.73	6514.12	6685.89	0.25	-0.160	0.000	0.186
20.00	-51.24	-9.61	-0.06	-1136.2	0.00	1136.24	6046.18	1451.30	6274.65	6471.51	0.45	-0.215	0.000	0.184
25.00	-49.64	-9.52	-0.06	-1088.2	0.00	1088.20	5961.72	1423.86	6039.66	6259.33	0.71	-0.271	0.000	0.182
30.00	-48.07	-9.43	-0.06	-1040.5	0.00	1040.58	5876.11	1396.43	5809.15	6049.42	1.02	-0.328	0.000	0.180
35.00	-46.52	-9.34	-0.06	-993.43	0.00	993.43	5789.35	1368.99	5583.13	5841.84	1.39	-0.385	0.000	0.178
40.00	-45.00	-9.23	-0.06	-946.76	0.00	946.76	5679.25	1341.56	5361.59	5614.75	1.83	-0.443	0.000	0.177
42.75	-44.18	-9.17	-0.06	-921.39	0.00	921.39	5615.38	1326.47	5241.66	5488.51	2.09	-0.475	0.000	0.176
45.00	-43.00	-9.12	-0.06	-900.76	0.00	900.76	5563.11	1314.12	5144.54	5386.29	2.32	-0.502	0.000	0.175
49.00	-40.92	-9.02	-0.06	-864.26	0.00	864.26	4756.80	1153.50	4530.03	4626.40	2.76	-0.550	0.000	0.195
50.00	-40.66	-9.01	-0.06	-855.25	0.00	855.25	4742.51	1148.70	4492.40	4593.12	2.88	-0.562	0.000	0.195
55.00	-39.35	-8.91	-0.06	-810.17	0.00	810.17	4670.33	1124.69	4306.59	4427.82	3.50	-0.627	0.000	0.191
60.00	-38.06	-8.80	-0.06	-765.63	0.00	765.63	4597.00	1100.68	4124.71	4264.39	4.20	-0.692	0.000	0.188
65.00	-36.80	-8.69	-0.06	-721.63	0.00	721.63	4522.52	1076.68	3946.75	4102.93	4.95	-0.757	0.000	0.184
70.00	-35.57	-8.58	-0.06	-678.19	0.00	678.19	4446.89	1052.67	3772.72	3943.48	5.78	-0.823	0.000	0.180
75.00	-34.36	-8.47	-0.06	-635.30	0.00	635.30	4354.69	1028.67	3602.61	3772.77	6.68	-0.889	0.000	0.176
80.00	-33.17	-8.35	-0.06	-592.97	0.00	592.97	4253.06	1004.66	3436.42	3597.85	7.65	-0.955	0.000	0.173
85.00	-32.00	-8.22	-0.06	-551.21	0.00	551.21	4151.43	980.65	3274.16	3427.08	8.68	-1.021	0.000	0.169
86.50	-31.66	-8.20	-0.06	-538.88	0.00	538.88	4120.95	973.45	3226.24	3376.66	9.01	-1.042	0.000	0.167
90.00	-30.29	-8.10	-0.06	-510.18	0.00	510.18	4049.81	956.65	3115.82	3260.47	9.79	-1.089	0.000	0.164
91.75	-29.61	-8.06	-0.06	-496.01	0.00	496.01	3441.70	829.75	2734.72	2808.64	10.19	-1.112	0.000	0.185
95.00	-28.96	-7.99	-0.06	-469.83	0.00	469.83	3401.05	816.38	2647.27	2730.31	10.96	-1.155	0.000	0.181
100.00	-27.97	-7.87	-0.06	-429.89	0.00	429.89	3337.56	795.80	2515.51	2611.16	12.21	-1.227	0.000	0.173
105.00	-27.01	-7.76	-0.06	-390.52	0.00	390.52	3272.92	775.23	2387.10	2493.74	13.54	-1.297	0.000	0.165
110.00	-26.06	-7.64	-0.06	-351.73	0.00	351.73	3194.68	754.65	2262.06	2368.87	14.93	-1.365	0.000	0.157
115.00	-25.14	-7.53	-0.06	-313.52	0.00	313.52	3107.57	734.07	2140.39	2240.81	16.40	-1.432	0.000	0.148
120.00	-24.24	-7.41	-0.06	-275.89	0.00	275.89	3020.47	713.50	2022.08	2116.30	17.93	-1.496	0.000	0.138
125.00	-23.35	-7.29	-0.06	-238.85	0.00	238.85	2933.36	692.92	1907.13	1995.35	19.53	-1.558	0.000	0.128
130.00	-22.50	-7.17	-0.06	-202.39	0.00	202.39	2846.25	672.34	1795.55	1877.96	21.19	-1.615	0.000	0.116
131.25	-22.28	-7.14	-0.06	-193.43	0.00	193.43	2824.47	667.20	1768.17	1849.17	21.62	-1.629	0.000	0.113
135.00	-21.33	-7.04	-0.06	-166.65	0.00	166.65	2759.14	651.77	1687.32	1764.13	22.91	-1.668	0.000	0.102
135.50	-21.20	-7.03	-0.06	-163.13	0.00	163.13	1734.08	441.84	1163.16	1132.07	23.09	-1.673	0.000	0.157
137.00	-18.16	-5.89	0.00	-152.59	0.00	152.59	1723.43	437.73	1141.60	1114.56	23.62	-1.688	0.000	0.148
140.00	-17.83	-5.83	0.00	-134.93	0.00	134.93	1701.83	429.50	1099.07	1079.73	24.69	-1.727	0.000	0.136
145.00	-17.29	-5.71	0.00	-105.78	0.00	105.78	1664.90	415.78	1029.98	1022.29	26.53	-1.786	0.000	0.114
147.00	-14.42	-4.84	0.00	-94.36	0.00	94.36	1649.80	410.29	1002.98	999.54	27.28	-1.807	0.000	0.103
150.00	-14.11	-4.77	0.00	-79.85	0.00	79.85	1626.81	402.06	963.14	965.67	28.43	-1.836	0.000	0.092
155.00	-13.61	-4.66	0.00	-55.99	0.00	55.99	1587.58	388.34	898.54	909.96	30.37	-1.876	0.000	0.070
157.00	-9.48	-3.28	0.00	-46.67	0.00	46.67	1571.57	382.86	873.33	887.94	31.16	-1.889	0.000	0.059
160.00	-9.20	-3.21	0.00	-36.85	0.00	36.85	1547.20	374.63	836.18	855.21	32.36	-1.906	0.000	0.049
165.00	-8.73	-3.10	0.00	-20.80	0.00	20.80	1505.67	360.91	776.07	801.50	34.37	-1.927	0.000	0.032
167.00	-4.33	-1.56	0.00	-14.61	0.00	14.61	1488.74	355.42	752.65	780.32	35.17	-1.933	0.000	0.022
170.00	-4.09	-1.50	0.00	-9.91	0.00	9.91	1462.99	347.19	718.19	748.90	36.39	-1.940	0.000	0.016
175.00	-3.69	-1.40	0.00	-2.41	0.00	2.41	1411.70	333.47	662.56	693.80	38.43	-1.945	0.000	0.006
176.00	0.00	-1.27	0.00	-1.01	0.00	1.01	1400.09	330.73	651.70	682.38	38.83	-1.946	0.000	0.002

Calculated Forces

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 56

Final Analysis Summary

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 57

SBA

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 119 mph Wind	43.6	0.00	69.39	0.01	0.26	5911.05
0.9D + 1.0W 119 mph Wind	43.6	0.00	52.02	0.01	0.26	5803.22
1.2D + 1.0Di + 1.0Wi 50 mph Wind	12.6	0.00	64.14	0.00	0.13	1618.74
1.2D + 1.0Ev + 1.0Eh	0.8	0.00	72.05	0.00	0.00	131.76
0.9D + 1.0Ev + 1.0Eh	0.8	0.00	54.59	0.00	0.00	129.60
1.0D + 1.0W 60 mph Wind	9.9	0.00	57.90	0.00	0.06	1332.26

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 119 mph Wind	-47.53	-39.98	-0.26	-3843.6	-0.01	-3843.6	4756.80	1153.5	4530.03	4626.40	49.00	0.842
0.9D + 1.0W 119 mph Wind	-35.27	-39.42	-0.26	-3751.4	-0.01	-3751.4	4756.80	1153.5	4530.03	4626.40	49.00	0.819
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-64.14	-12.55	-0.13	-1618.7	0.00	-1618.7	6372.54	1561.0	7259.46	7341.49	0.00	0.231
1.2D + 1.0Ev + 1.0Eh	-26.61	-0.79	0.00	-20.65	0.00	-20.65	1734.08	441.84	1163.16	1132.07	135.50	0.034
0.9D + 1.0Ev + 1.0Eh	-20.18	-0.78	0.00	-20.29	0.00	-20.29	1734.08	441.84	1163.16	1132.07	135.50	0.030
1.0D + 1.0W 60 mph Wind	-40.92	-9.02	-0.06	-864.26	0.00	-864.26	4756.80	1153.5	4530.03	4626.40	49.00	0.195

Base Plate Summary

Structure:	CT02216-S		**Code:**	TIA-222-H	3/26/2024
Site Name:	Glastonbury		**Exposure:**	C	
Height:	176.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 58

SBA

Reactions		Base Plate		Anchor Bolts	
Original Design		**Yield (ksi):**	50.00	**Bolt Circle:**	64.00
Moment (kip-ft):	5100.00	**Width (in):**	66.00	**Number Bolts:**	24.00
Axial (kip):	47.00	**Style:**	Clipped	**Bolt Type:**	2.25" 18J
Shear (kip):	38.00	**Polygon Sides:**	0.00	**Bolt Diameter (in):**	2.25
Analysis (1.2D + 1.0W)		**Clip Length (in):**	16.00	**Yield (ksi):**	75.00
Moment (kip-ft):	5911.05	**Effective Len (in):**	7.55	**Ultimate (ksi):**	100.00
Axial (kip):	69.39	**Moment (kip-in):**	698.85	**Arrangement:**	Clustered
Shear (kip):	43.60	**Allow Stress (ksi):**	67.50	**Cluster Dist (in):**	6.00
		Applied Stress (ksi):	61.42	**Start Angle (deg):**	45.00
		Stress Ratio:	0.91	Compression	
				Force (kip):	187.61
				Allowable (kip):	268.39
				Ratio:	0.70
				Tension	
				Force (kip):	181.83
				Allowable (kip):	243.75
				Ratio:	0.75

Pier Foundation Design For Monopole

			Date: 3/22/2024
Customer Name:	Verizon	TIA Standard:	TIA-222-H
Site Name:	Glastonbury	Structure Height (Ft.):	176
Site Number:	CT02216-S	Engineer Name:	S. Berthomieux
Engr. Number:		Engineer Login ID:	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	69.4	Shear Force (Kips):	43.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5911.1

Foundation Geometries:

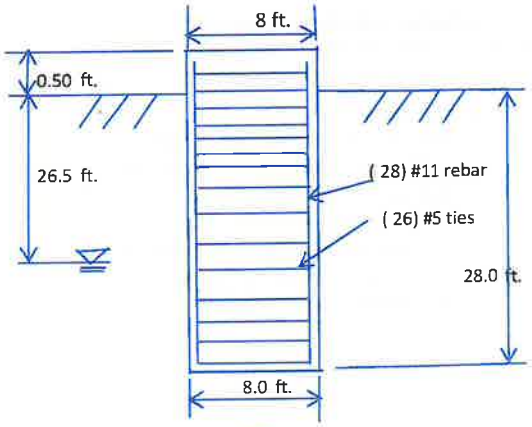
Mods required -Yes/No ?:	No			ft.
Diameter of Pier (ft.):	8.0	Depth of Base B. G. S. :	28.0	ft.
Pier Height A. G. (ft.):	0.50			

Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield strength:	40	ksi
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	28	Tie Spacing:	18.0	in.
Concrete Cover (in.):	4	Concrete unit weight:	150.0	pcf

Soil Design Parameters:

Water Table B.G.S. (ft):	26.5	Unit weight of water:	62.4	psf
Ratio of Uplift/Axial Skin Friction:	1.0	Pullout failure Angle:	30	(°)
Skin Frictions are to be obtained from:		Soil Report		



Monopole Pier Foundation

Depth of Layers (ft) Top	Depth of Layers (ft) Bottom	γ_{soil} (pcf)	ϕ (°)	Cohesion (psf)	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types
0.0	4.0	120	0				Sand
4.0	9.0	120	33				Sand
9.0	19.0	120	34				Sand
19.0	26.5	125	36				Sand
26.5	28.0	125	36				Sand
28.0	33.0	125					

Soil weight Increase Factor for bouyant soils (1.0 to 1.15): 1.1

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Soil Bearing Strength Reduction Factor:	0.75	
Total Dry Soil Volume from Conical Failure (cu. Ft.):	13308	Dry Soil Weight from Conical Failure:	1616	Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	18	Buoyant Soil Weight from Conical Failure (Ki	1	Kips
Total Dry Concrete Volume (cu. Ft.):	1357	Total Dry Concrete Weight:	203.6	Kips
Total Buoyant Concrete Volume (cu. Ft.):	75.4	Total Buoyant Concrete Weight:	6.60	Kips
Total Effective Concrete Weight (Kips):	210.2	Total Effective Soil Weight:	1617.2	Kips
Total Effective Vertical Load on Base (Kips):	111.7			

Check Soil Capacities:

					Usage	
Allowable Foundation Overturning Resistance (kips-ft.):	13413.0	>	Design Factored Moment (kips-ft):	6781	0.51	OK!
Factor of Safety of Passive Soil Resistance against Moment:	1.98	OK!				

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75	
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00	

Reinforcing Concrete Pier:

					Usage	
Vertical Steel Rebar Area (sq. in./each):	1.56		Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	8183.2	>	Design Factored Moment (Mu, K-Ft):	6125.4	0.75	OK!
Calculated Shear Capacity (Kips):	1274.2	>	Design Factored Shear (Kips):	509.3	0.40	OK!
Calculated Tension Capacity (Tn, Kips):	2358.7	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9540	>	Design Factored Axial Load (Pu Kips):	69.4	0.01	OK!
Moment & Axial Strength Combination:	0.75	OK!	Max. Allowable Tie/Stirrup Spacing:	12.00	in.	
Pier Reinforcement Ratio:	0.006		Reinforcement Ratio is satisfied per ACI			

Colliers Engineering & Design, Architecture, Landscape
Architecture, Surveying, CT P.C.
1055 Washington Boulevard
Stamford, CT 06901
203.324.0800
peter.albano@collierseng.com

Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10222811
Colliers Engineering & Design Project #: 22777014 (Rev 1)

February 20, 2024

Site Information	*Site ID:*	*5000386583-VZW / E GLASTONBURY 2 CT*
	Site Name:	*E GLASTONBURY 2 CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*175 Dickinson Rd.* *Glastonbury, Connecticut 06073* *Hartford County*
	Latitude:	*41.655900°*
	Longitude:	*-72.523275°*
Structure Information	*Tower Type:*	*200-Ft Monopole*
	Mount Type:	*14.00-Ft Platform*

FUZE ID # 2559329

Analysis Results

Platform: **88.1% Pass w/ Modifications ***

***Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

******Contractor PMI Requirements:***
Included at the end of this MA report
Available & Submitted via portal at https://pmi.vzwsmart.com
For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

Report Prepared By: Gianna Argentina

Executive Summary:

The objective of this report is to summarize the analysis results of the antenna support mount including the proposed modifications at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	*Verizon RFDS Site ID: 323805, dated September 22, 2023*
Mount Mapping Report	*Tower Engineering Professionals, Site #: 468152, dated June 28, 2022*
Previous Mount Analysis	*Colliers Engineering & Design, project #: 22777014 (Rev 1), dated January 31, 2024*
Mount Modification Drawings	*Colliers Engineering & Design, project #: 22777014 (Rev 1), dated February 20, 2024*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC), Effective October 1, 2022	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	120 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.50 in
	Risk Category:	II
	Exposure Category:	C
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.983
Seismic Parameters:	S_S:	0.200 g
	S_1:	0.055 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Load, Lv:	250 lbs.
	Maintenance Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

The following equipment has been considered for the analysis of the mount:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
164.00	167.00	3	Commscope	NHH-65B-R2B	Added
		3	Commscope	NHHSS-65B-R2BT4	
		3	Samsung	MT6413-77A	
		3	Samsung	RF4461d-13A	
		3	Samsung	RT4423-48a	
		3	Samsung	RF4439d-25A	
		2	Raycap	DB-B1-6C-12AB-0Z	
		2	Antel	LPA-80063-4CF-EDIN-4	Retained
		1	RFS	APL868013	

The recent mount mapping reported existing OVP units. It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RVZDC-6627-PF-48	12	OVP-12

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.

2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

   Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

   The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.

6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
   - Channel, Solid Round, Angle, Plate — ASTM A36 (Gr. 36)
   - HSS (Rectangular) — ASTM 500 (Gr. B-46)
   - Pipe — ASTM A53 (Gr. B-35)
   - Threaded Rod — F1554 (Gr. 36)
   - Bolts — ASTM A325

8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Colliers Engineering & Design.

Analysis Results:

Component	Utilization %	Pass/Fail
Standoff_1	31.8 %	Pass
Standoff_2	16.3 %	Pass
Grating Angle	41.6 %	Pass
Cross Members	35.6 %	Pass
Face Horizontal	88.1 %	Pass
Mount Pipe	68.8 %	Pass
Mod Rail	40.2 %	Pass
Mod Angle	70.6 %	Pass
Mod Kicker	11.0 %	Pass
Mount Connection	32.2 %	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**88.1%**

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Sector A Standoff	164	N2	557	4730	1.426	3.540	1189	1664	3.381	1.198
Sector C Standoff	164	N77	542	4669	1.392	3.514	1156	1576	3.279	1.213
Sector B Standoff	164	N109	561	4903	1.442	3.747	1198	1431	3.440	1.116
Sector B Bottom Reinforcement	161	N129	1945	3486	0.000	0.000	2460	4342	0.000	0.000
Sector A Bottom Reinforcement	161	N130	1958	3510	0.000	0.000	2491	4400	0.000	0.000
Sector C Bottom Reinforcement	161	N131	1917	3435	0.000	0.000	2233	3926	0.000	0.000

Notes:
- Axial loads act along the axis of the tower
- Lateral reactions act perpendicular to the tower
- Moment loads introduce bending moment to the tower
- Torsion loads introduce twisting moment to the tower
- Batch solutions by individual load cases are included at the end of this document

BASELINE mount weight per SBA agreement: 1639.06 lbs

Increase in mount weight due to Verizon loading change per SBA agreement: 1149.00 lbs

The weights listed above include 3 sector(s).

Mount Steel (EPA)a per ANSI/TIA-222-H Section 2.6.11.2:

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	33.9	33.9	48.7	48.7
0.5	42.2	42.2	63.3	63.3
1	49.6	49.6	76.9	76.9

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 3 sector(s).
- Ka factors included in (EPA)a calculations

Requirements:

The existing mounts will be **SUFFICIENT** for the final loading configuration (attachment 2) after the modifications detailed in attachment 3 are successfully completed.

ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other, if required. Separate review fees will apply.

Attachments:

1. **Contractor Required PMI Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Modification Drawings
4. Mount Photos
5. Mount Mapping Report (for reference only)
6. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

Electronic pdf version of this can be downloaded at https://pmi.vzwsmart.com
For additional questions and support, please reach out to pmisupport@colliersengineering.com

MDG #: 5000386583 SMART Project #: 10222811 Fuze Project ID: 2559329

Purpose – to upload the proper documentation to the SMART Tool in order to allow the SMART Tool engineering vendor to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the modification was completed in accordance with the modification drawings.
- Contractor shall relay any data that can impact the performance of the mount or the mount modification, this includes safety issues.

Base Requirements:

- If installation of the modification will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide "as built drawings" showing contractor's name, preparer's signature, and date. Any deviations from the drawings (proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the post-modification passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo shall be time and date stamped.
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: **https://pmi.vzwsmart.com**

Photo Requirements:

- *Photos taken at ground level*
  - Photo of Gate Signs showing the tower owner, site name, and number.
  - Overall tower structure after installation of the modifications.
  - Photos of the mount after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed

- *Photos taken at Mount Elevation*
  - Photos showing the safety climb wire rope above and below the mount prior to modification.
  - Photos showing the climbing facility and safety climb if present.

- Photos showing each individual sector after installation of modifications. Each entire sector must be in one photo to show the interconnection of members.
  - These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.
- Photos of each installed modification per the modification drawings; pictures shall also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the distances (relative distance between collars) of the installed modifications from the appropriate reference locations shown in the modification drawings.
- Photos showing the installed modifications onto the tower (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, an elevation measurement shall be provided before the elevation change.

Material Certification:

- Materials utilized must be as per specification on the drawings or the equivalent as validated by the SMART Tool vendor.
  - If the materials are as specified on the drawings
    - The contractor shall provide the packing list, or the materials certifications for the materials utilized to perform the mount modification
    - Commscope, Metrosite, Perfect Vision, Sabre, and Site Pro have all agreed to support Verizon vendors with the necessary material certifications
  - If seeking permission to use an equivalent
    - It is required that the SMART Tool engineering vendor approval of such is included in the contractor submission package. There may be an additional charge for approval if the equivalent submission doesn't meet specifications as prescribed in the drawings.

☐ All hardware has been properly installed, and the existing hardware was inspected.

☐ The material utilized was as specified on the SMART Tool engineering vendor Mount Modification Drawings and included in the material certification folder is a packing list or invoice for these materials.

OR

☐ The material utilized was approved by a SMART Tool engineering vendor as an "equivalent" and this approval is included as part of the contractor submission.

Antenna & Equipment Placement and Geometry Confirmation:

☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.

OR

☐ The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.

Comments:

Was the mount modification completed in conjunction with the equipment change / installation?

☐ Yes ☐ No

Special Instructions / Validation as required from the MA or Mod Drawings:

Issue:

Response:

Special Instruction Confirmation:

☐ The contractor has read and acknowledges the above special instructions.

Comments:

Contractor certifies that the climbing facility / safety climb was not damaged prior to starting work:

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

Contractor to certify the condition of the safety climb and verify no damage when leaving the site:

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Comments:

Certifying Individual:

Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

Structure: 5000386583-VZW - E GLASTONBURY 2 CT

Sector: A

Structure Type: Monopole

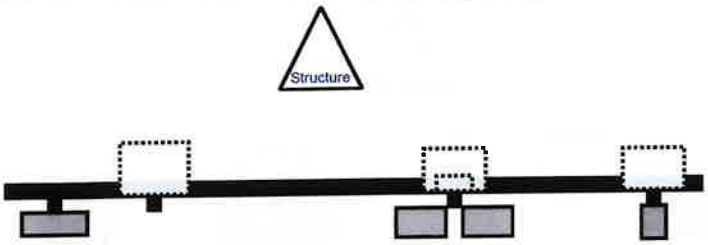
Mount Elev: 164.00

10222811

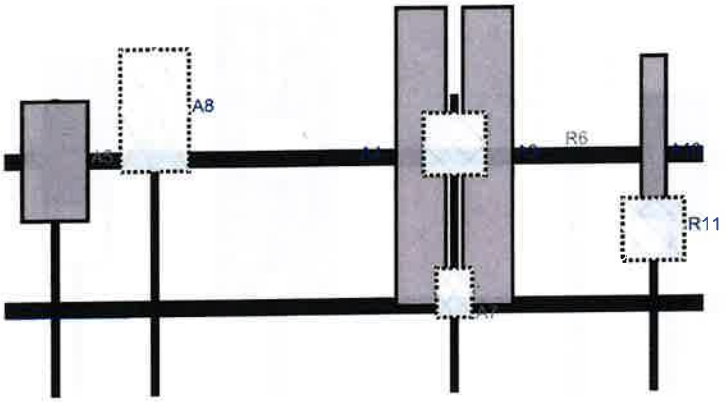
2/13/2024

Colliers Engineering & Design

Plan View



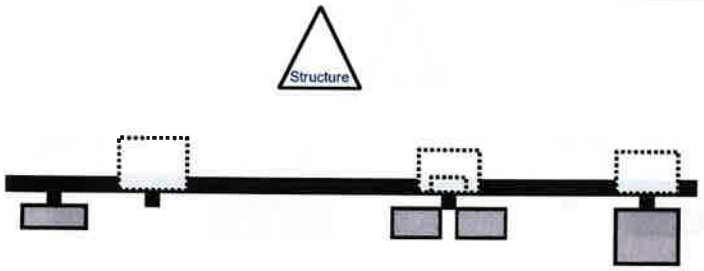
Front View - Looking at Structure



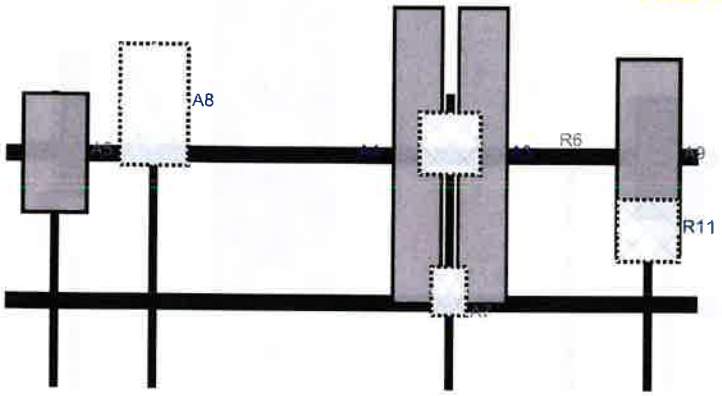
4 3 2 1

Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A10	APL868013	48	6	156	1	a	Front	15	0	Retained	06/28/2022
R11	RF4439d-25A	15	15	156	1	a	Behind	33	0	Added	
A3	NHH-65B-R2B	72	11.9	108	2	a	Front	15	8	Added	
A4	NHHSS-65B-R2BT4	72	11.9	108	2	a	Front	15	-8	Added	
A7	RT4423-48a	11.8	8.7	108	2	a	Behind	48	0	Added	
R6	RF4461d-13A	15	15	108	2	a	Behind	12	0	Added	
A8	DB-B1-6C-12AB-0Z	29.5	16.5	36	3	a	Behind	3	0	Added	
A5	MT6413-77A	28.9	15.8	12	4	a	Front	15	0	Added	

Plan View



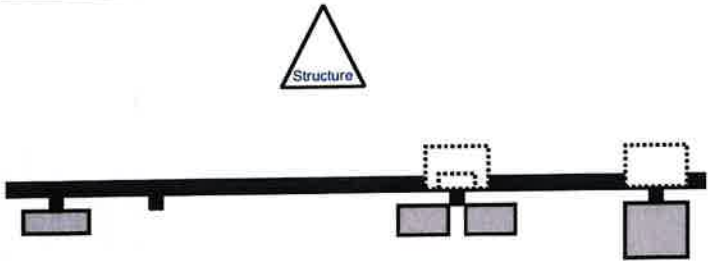
Front View - Looking at Structure



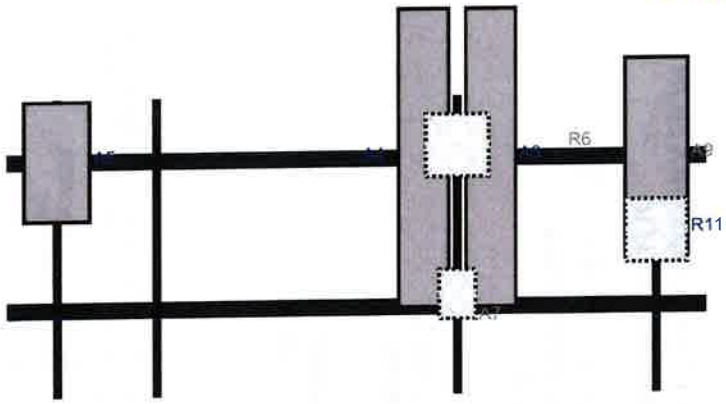
4 3 2 1

Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A9	LPA-80063-4CF-EDIN-4	47.4	15.2	156	1	a	Front	15	0	Retained	06/28/2022
R11	RF4439d-25A	15	15	156	1	a	Behind	33	0	Added	
A3	NHH-65B-R2B	72	11.9	108	2	a	Front	15	8	Added	
A4	NHHSS-65B-R2BT4	72	11.9	108	2	a	Front	15	-8	Added	
A7	RT4423-48a	11.8	8.7	108	2	a	Behind	48	0	Added	
R6	RF4461d-13A	15	15	108	2	a	Behind	12	0	Added	
A8	DB-B1-6C-12AB-0Z	29.5	16.5	36	3	a	Behind	3	0	Added	
A5	MT6413-77A	28.9	15.8	12	4	a	Front	15	0	Added	

Plan View



Front View - Looking at Structure



4 3 2 1

Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A9	LPA-80063-4CF-EDIN-4	47.4	15.2	156	1	a	Front	15	0	Retained	06/28/2022
R11	RF4439d-25A	15	15	156	1	a	Behind	33	0	Added	
A3	NHH-65B-R2B	72	11.9	108	2	a	Front	15	8	Added	
A4	NHHSS-65B-R2BT4	72	11.9	108	2	a	Front	15	-8	Added	
A7	RT4423-48a	11.8	8.7	108	2	a	Behind	48	0	Added	
R6	RF4461d-13A	15	15	108	2	a	Behind	12	0	Added	
A5	MT6413-77A	28.9	15.8	12	4	a	Front	15	0	Added	

verizon

MOUNT MODIFICATION DRAWINGS
EXISTING 14.00' PLATFORM

TOWER OWNER: SBA COMMUNICATIONS CORPORATION
TOWER OWNER SITE NUMBER: CT02216

CARRIER SITE NAME: E GLASTONBURY 2 CT
CARRIER SITE NUMBER: 5000386583
FUZE ID: 2559329

175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

LATITUDE: 41.65590000° N
LONGITUDE: 72.52327500° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 462.99'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.50 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_s = .200
LONG TERM MCER GROUND MOTION, S_1 = .055

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: PETER ALBANO
PHONE: 856.797.0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 1022281
VZW MDG #: 5000386583
ANALYSIS DATE: 2/20/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

Colliers Engineering & Design
www.collierseng.com
Doing Business as MASER

verizon

811 PROTECT YOURSELF

AS SHOWN | 22277014

COLLIERS ENGINEERING & DESIGN CT, P.C.
CT .PC.0001171

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

SITE NAME:
E GLASTONBURY 2 CT
5000386583
175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

Colliers Engineering & Design
Stamford, CT 06901
Phone: 203.324.6800
COLLIERSENGINEERING & DESIGN.COM

TITLE SHEET

ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK5	KICKER KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	291	291
1	VZWSMART	VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150
3	VZWSMART	VZWSMART-P40-238X096	96" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		29	87
12	VZWSMART	VZWSMART-MSK2	CROSSOVER PLATE		15	180
3	VZWSMART	VZWSMART-PLK3	SUPPORT RAIL CORNER BRACKET		30	90

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	-	-	162" LONG, PIPE 2.5 SCH40	GALVANIZED	78	234
3	-	-	30" LONG, L3X3X1/4	GALVANIZED	15	45
6	-	-	8" LONG, HSS 3X2X1/4	GALVANIZED	12	72
-	-	-	J429 GR-1 U-BOLT	GALVANIZED	-	-

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISON	PV-SCRB-RM-U	ROUTING BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
					TOTAL:	1149

*FOR ACTUAL INSTALL WEIGHT PLEASE CHECK THE MA REPORT

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 983-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

Colliers Engineering & Design

www.colliersengineering.com

Doing Business as MASER

verizon

811 Know what's below. Call before you dig.

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT WWW.CALL811.COM

AS SHOWN | 23772014

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	03/00/24	ISSUED FOR CONSTRUCTION	GA	BH
0	05/04/22	ISSUED FOR CONSTRUCTION	OPS	DH

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

SITE NAME:

E GLASTONBURY 2 CT
5000386583
175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

STAMFORD

BILL OF MATERIALS

SBOM-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

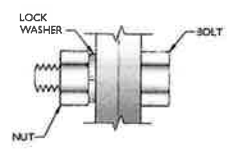
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO
      PETER.ALBANO@COLLIERSENG.COM
   b. PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

WORKABLE GAGES (IN.)

LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8

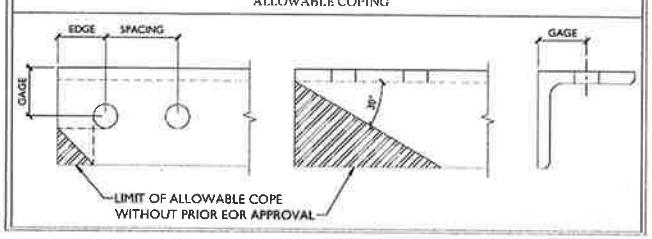


TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS.
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

ALLOWABLE COPING



Colliers Engineering & Design

www.colliersengineering.com

Doing Business as MASER

verizon

811 Know what's below. Call before you dig.

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

SITE NAME:

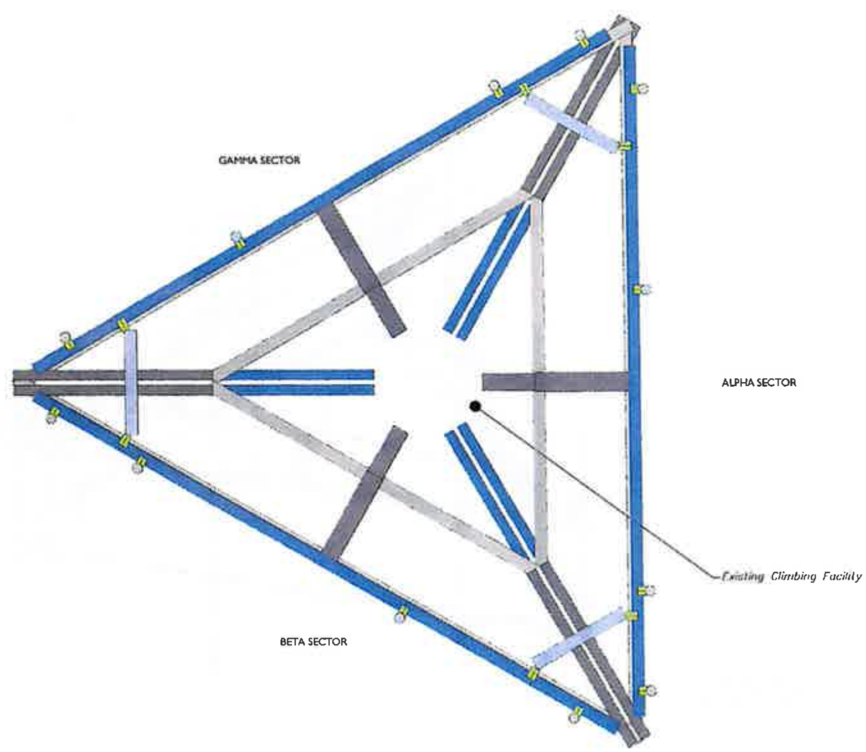
E GLASTONBURY 2 CT
5000386583

175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

GENERAL NOTES

SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

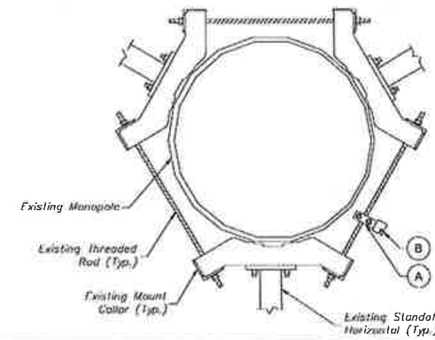


① CLIMBING FACILITY LOCATION

SCALE : N.T.S.

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY TOWER ENGINEERING PROFESSIONALS ON 6/28/2022, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (164'-00") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

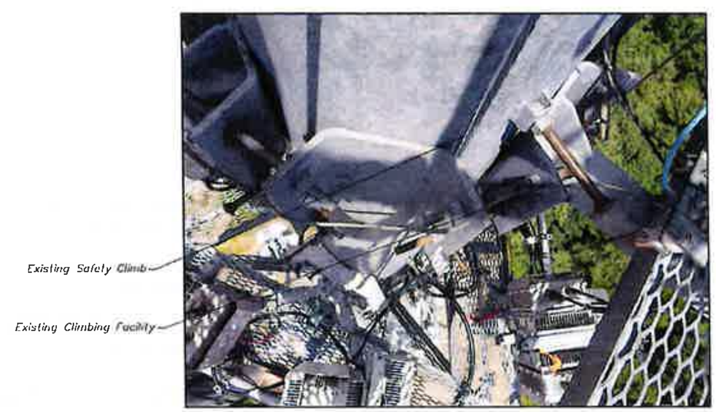


ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	PV-SCRB-RM-U	ROUTING BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)

② PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW

SCALE : N.T.S.

NOTE: CONTRACTOR SHALL ENSURE THAT WIRE ROPE GUIDE DOES NOT PUSH THE WIRE ROPE OUTSIDE OF THE VERTICAL PLANE OF THE SAFETY CLIMB. CONTRACT EOR WITH PHOTOS OF SAFETY CLIMB AND COLLAR FOR FURTHER DIRECTION IF NEEDED.



CLIMBING FACILITY PHOTO

Colliers Engineering & Design

www.colliersengineering.com

Doing Business as MASER

verizon

811 Know what's below. Call before you dig.

PROTECT YOURSELF

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT WWW.CALL811.COM

AS SHOWN | 22272014

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	02/2024	ISSUED FOR CONSTRUCTION	GA	DH
0	09/04/23	ISSUED FOR CONSTRUCTION	CRS	DH

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

SITE NAME:

E GLASTONBURY 2 CT
5000386583

175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

STAMFORD

CLIMBING FACILITY DETAIL

SCF-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

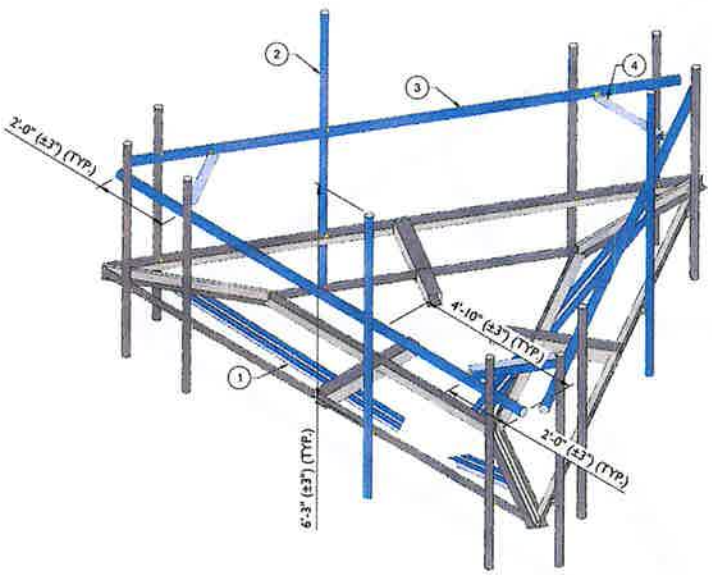
LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE				
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	164'-00"	1	PROPOSED KICKER KIT (PART # VZWSMART-PLK5)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1, CONNECT TO THE GRATING ANGLES WIH PROVIDED HARDWARE. UTILIZE THE PROPOSED 6" LONG HSS3X2X1/4 TUBING SHIM MATERIAL BETWEEN THE ANGLE MEMBERS AND KICKER CONNECTION PLATES. TRIM GRATING AND RELOCATE EXISTING STITCH BOLTING AS NEDDED. SEE GENERAL NOTE B.
2		3	PROPOSED 96" LONG, PIPE 2 SCH40 (PART # VZWSMART-P40-238X096)	REPLACE EXISTING MOUNT PIPE WITH NEW 96" LONG P2 SCH 40 PIPE. CONNECT TO THE EXISTING WELDED PLATE ON THE FACE HORIZONTAL WITH NEW 1/2" DIA. U-BOLTS.
3		3	PROPOSED 162" LONG, PIPE 2.5 SCH40	RADIO AND/OR THE POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE. CONNECT NEW HORIZONTAL TO ALL EXISTING AND PROPOSED VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART # VZWSMART-MSK1).
4		3	PROPOSED 30" LONG, L3X3X1/4	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONTRACTOR SHALL CONNECT PROPOSED ANGLES TO SUPPORT RAIL CORNER BRACKET (PART # VZWSMART-PLK3) USING THE PROVIDED (8) 5/8" DIA. BOLTS, (4) BOLTS PER CONNECTION.

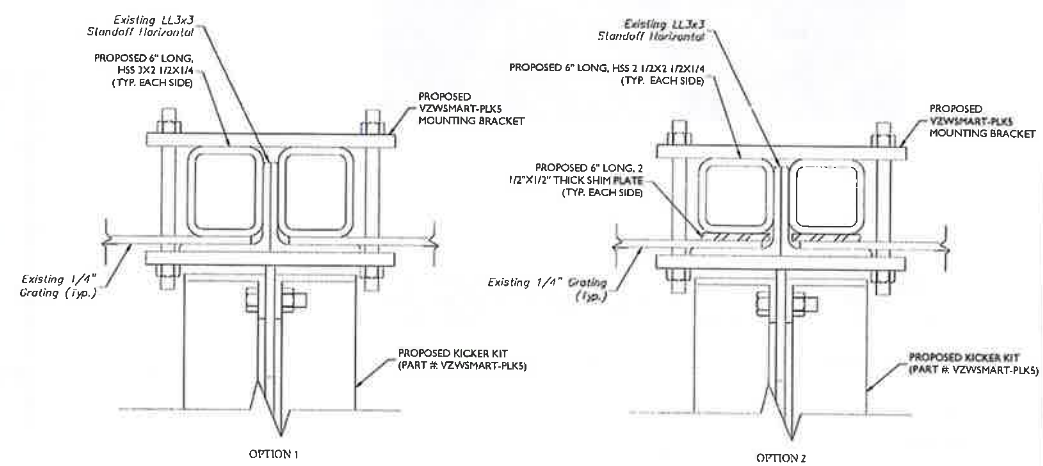
GENERAL NOTES

A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR
B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).
C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



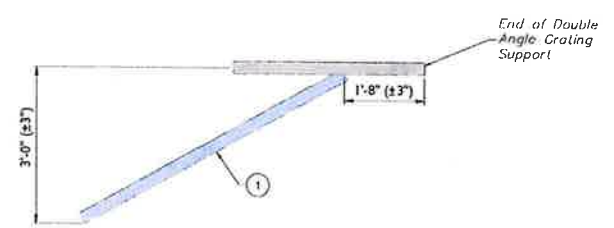
1 PROPOSED ISOMETRIC VIEW

SCALE: N.T.S.



3 KICKER TO STANDOFF HORIZONTAL CONNECTION DETAIL

SCALE: N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

SCALE: N.T.S.

Colliers Engineering & Design

www.colliersengineering.com

Doing Business as MASER

verizon

811 Know what's below. Call before you dig.

SITE NAME:

E GLASTONBURY 2 CT
5000386583
175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

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

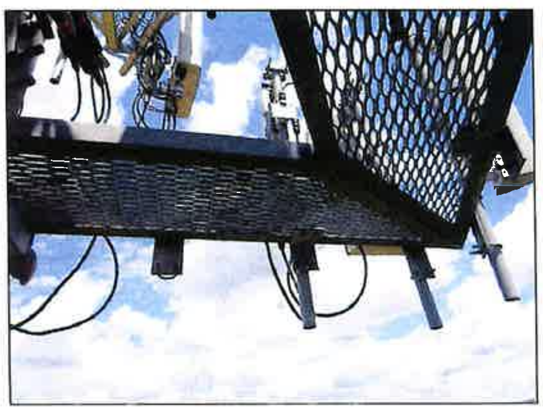
MOD FICATION DETAILS

SS-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

MOUNT PHOTO 1

MOUNT PHOTO 2



MOUNT PHOTO 3

MOUNT PHOTO 4

Colliers Engineering & Design

www.colliersengineering.com

Doing Business as MASER

verizon

PROTECT YOURSELF

811 Know what's below. Call before you dig.

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT WWW.CALL811.COM

AS SHOWN | 22772014

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

SITE NAME:

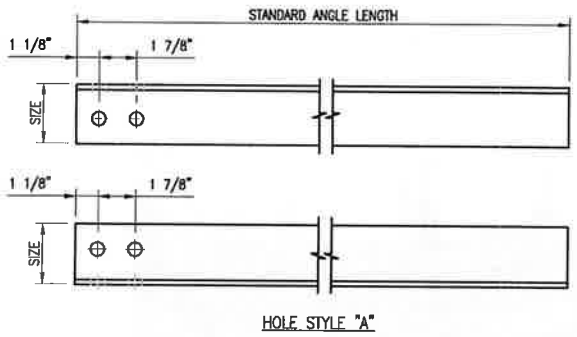
E GLASTONBURY 2 CT
5000386583
175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

Colliers Engineering & Design — STAMFORD

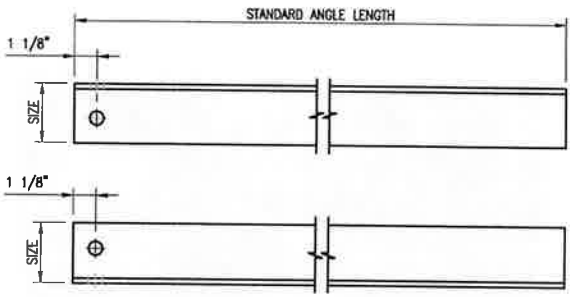
MOUNT PHOTOS

SS-2

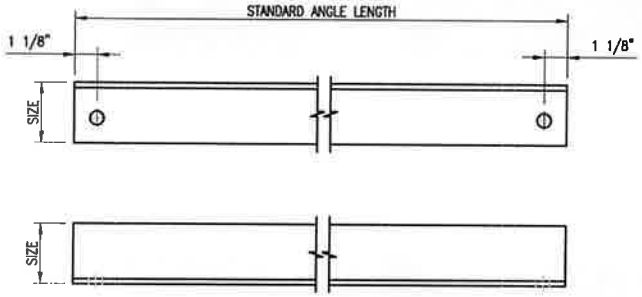
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



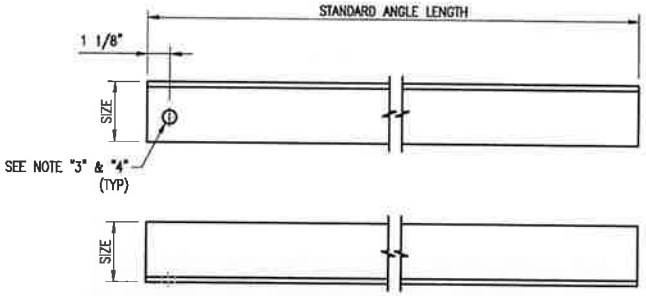
HOLE STYLE "A"



HOLE STYLE "B"



HOLE STYLE "C"



HOLE STYLE "D"

VZWSMART Standard Angle					
VZWSMART Number	Size	Length	Hole Style	Hole Gage	Also Used In:
A-PLK2-01	L 3" X 3" X 1/4"	96"	A	1-3/4"	VZWSMART-PLK2
A-PLK5-01	L 3"X 3" X 3/16"	96"	B	1-3/4"	VZWSMART-PLK5
A-SFK3-01	L 2-1/2" X 2-1/2" X 1/4"	96"	C	1-3/8"	VZWSMART-SFK3,-SFK3-SL, -PLK6, & -PLK8
A-L25X25X4X120	L 2-1/2" X 2-1/2" X 1/4"	120"	D	1-5/16"	
A-L25X25X4X240	L 2-1/2" X 2-1/2" X 1/4"	240"	D	1-5/16"	
A-L30X30X4X120	L 3" X 3" X 1/4"	120"	D	1-1/2"	
A-L30X30X4X240	L 3" X 3" X 1/4"	240"	D	1-1/2"	
A-L40X40X4X120	L 4" X 4" X 1/4"	120"	D	2"	
A-L40X40X4X240	L 4" X 4" X 1/4"	240"	D	2"	
A-L50X30X6X120	L 5" X 3" X 3/8"	120"	D	2-1/2"	
A-L50X50X6X120	L 5" X 5" X 3/8"	120"	D	2-1/2"	

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION ANGLES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE. SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

NOTES:
1. ALL ANGLE GRADE A36 OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. U.N.O
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

VzW SMART Tool© Vendor

verizon

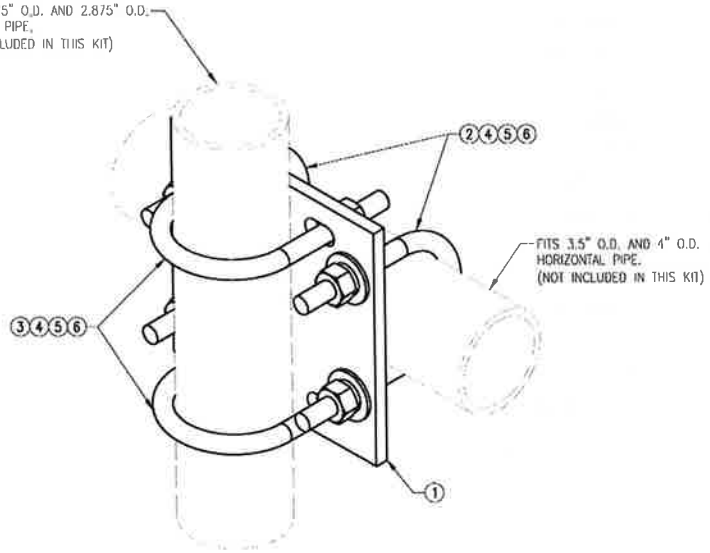
FOR REFERENCE ONLY

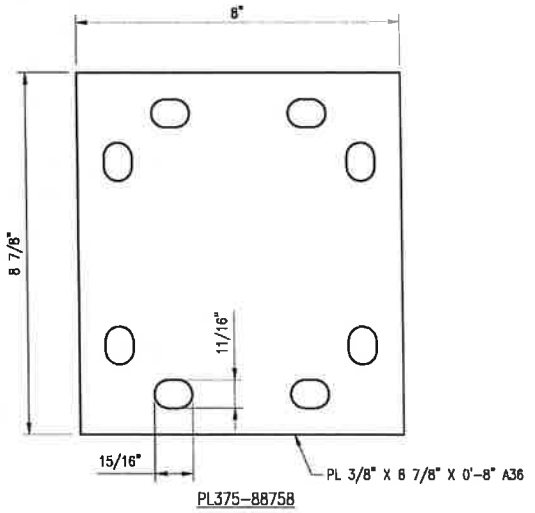
DRAWN BY: BT | CHECKED BY: HMA/KW

REV	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	08/04/21

SHEET TITLE:
VZWSMART STANDARD ANGLE

SHEET NUMBER: VZWSMART-ANGLE | REV #: 0





PL375-88758

VZWSMART-MSK2 (CROSSOVER PLATE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-88758	PL 3/8" X 8 3/4" X 0'-8" A36	MSK2-F1	8
2	2	MS02-625-4125-600	RU-BOLT 5/8" X 4 1/8" I.W. X 6" I.L. A36 (OR EQUIV.)	RBC-1	3
3	2	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	3
4	8	FW-625	5/8" HDG USS FLAT WASHER	----	1
5	8	LW-625	5/8" HDG LOCK WASHER	----	0
6	8	NUT-625	5/8" HDG HEX NUT	----	1
				GALVANIZED WT	15

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

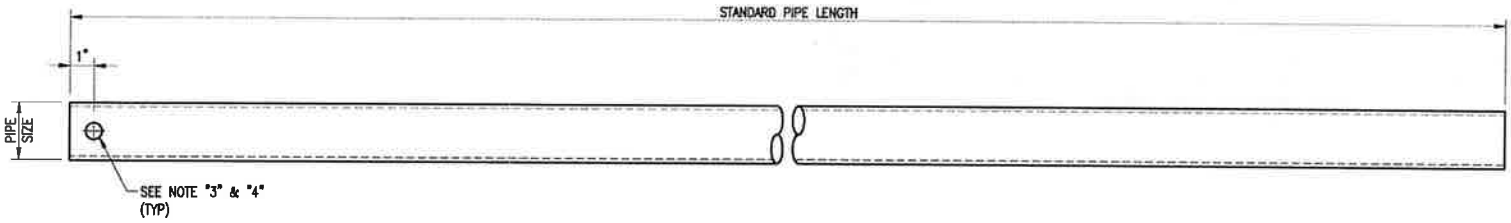
DRAWN BY: H.R	CHECKED BY: RWA

REV	DESCRIPTION	BY	DATE
1	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:

VZWSMART-MSK2
CROSSOVER PLATE

SHEET NUMBER:	REV #:
VZWSMART-MSK2	0



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE. SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. U.N.O
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

VzW SMART Tool© Vendor

verizon

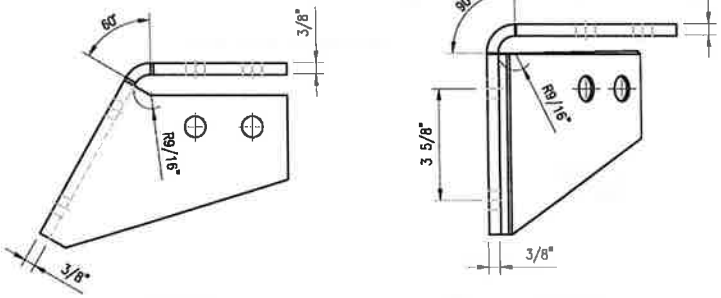
FOR REFERENCE ONLY

DRAWN BY: BT | CHECKED BY: HMA/KW

REV	DESCRIPTION	BY	DATE
1	[illegible]	BT	06/04/21

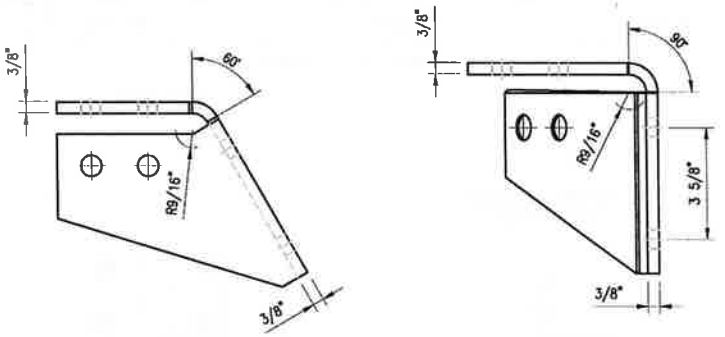
SHEET TITLE:
VZWSMART STANDARD PIPE

SHEET NUMBER: VZWSMART-PIPE | REV #: 0



TOP VIEW SIDE VIEW

CBP-L



TOP VIEW SIDE VIEW

CBP-R

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-PLK3 (SUPPORT RAIL CORNER BRACKET)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	CBP-L	CORNER BENT PLATE BRACKET	PLK3-F1	9
2	1	CBP-R	CORNER BENT PLATE BRACKET	PLK3-F1	9
3	4	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	5
4	8	---	BOLT 5/8" X 2" A325	---	3
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW-625	5/8" HDG LOCK WASHER	---	0
7	16	NUT-625	5/8" HDG HEX NUT	---	2
				GALVANIZED WT	30

VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: H.R CHECKED BY: HMA

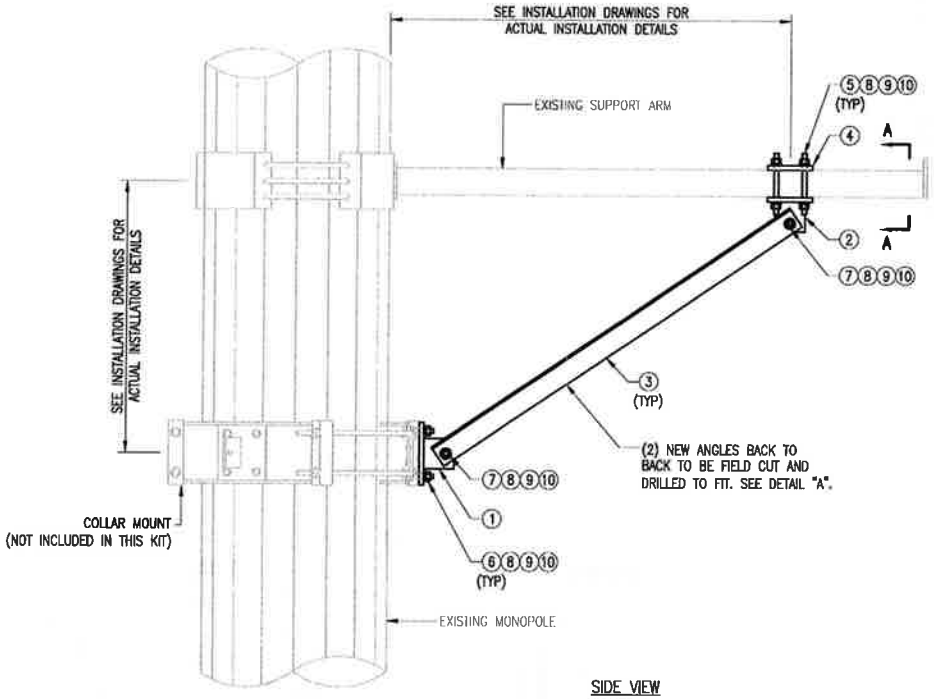
REV	DESCRIPTION	BY	DATE
1	FIRST ISSUE	H.R	05/06/20
2			
3			
4			

SHEET TITLE:
VZWSMART-PLK3
SUPPORT RAIL CORNER BRACKET

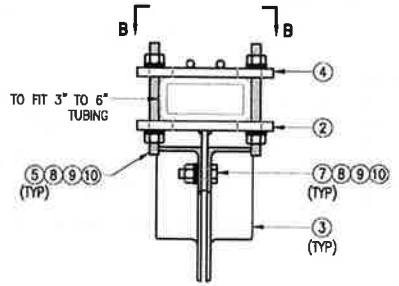
SHEET NUMBER: VZWSMART-PLK3

REV #: 0

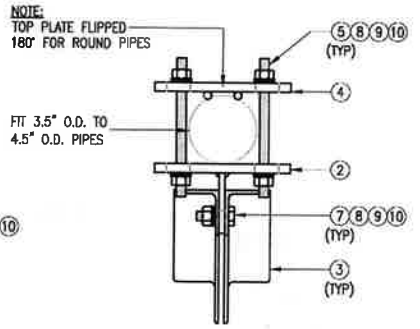
NOTE:
THE LOCATION OF KICKER AND EXISTING ANTENNA MOUNT SHOWN ON THE DRAWING IS FOR REPRESENTATION PURPOSE ONLY. SEE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION OF DETAILS.



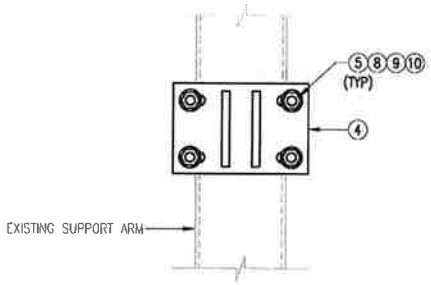
SIDE VIEW
KICKER KIT



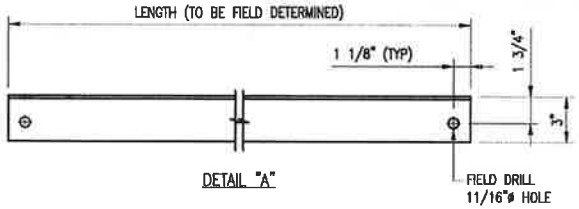
SECTION "A-A"
RECT. HSS MOUNTING



SECTION "A-A"
ROUND PIPE MOUNTING



SECTION "B-B"



VZWSMART-PLK5 (KICKER KIT)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	BRKW-XXX	BRACKET WELDMENT A36	PLK5-F3	43.8
2	3	BRKW-XXXX	BRACKET WELDMENT A36	PLK5-F2	35.7
3	6	L331875-8	L 3" X 3" X 3/16" X 8'-0" A36	PLK5-F4	182.9
4	3	PL-KI	PL 5/8" X 6" X 9" A36	PLK5-F1	29.0
5	12	---	THREADED ROD 5/8" DIA. X 1'-0" F1554-36 HDG	---	--
6	6	---	BOLT 5/8" X 2" A325	---	--
7	12	---	BOLT 5/8" X 2 1/2" A325	---	--
8	42	FW-625	5/8" HDG USS FLAT WASHER	---	.5
9	42	LW-625	5/8" HDG LOCK WASHER	---	1
10	42	NUT-625	5/8" HDG HEX NUT	---	.5
				GALVANIZED WT	291

NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. FIT UP TO 6" SQ. TUBING OR 4 1/2" O.D. PIPE

VzW
SMART Tool©
Vendor

verizon

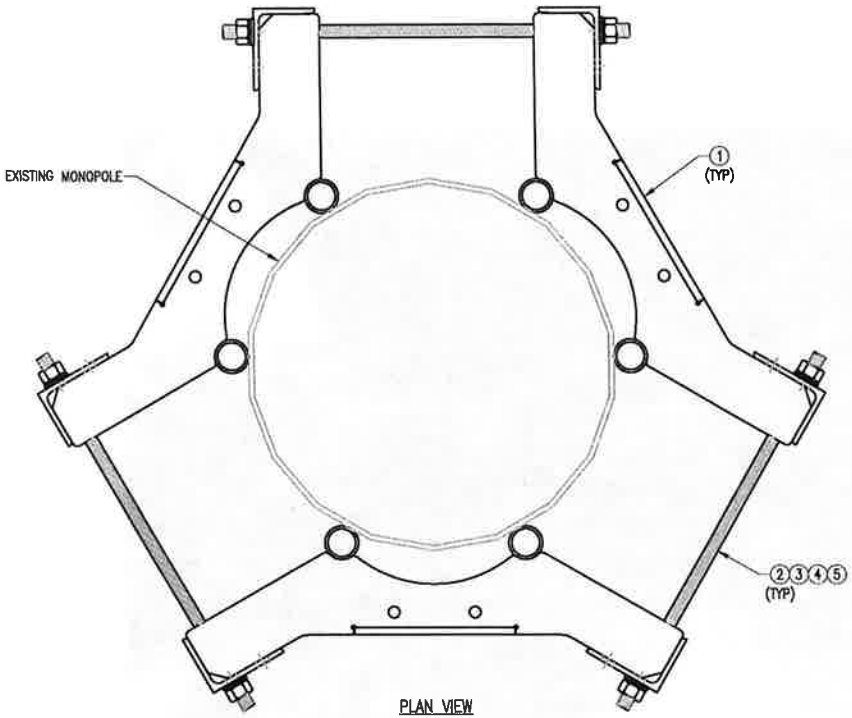
FOR REFERENCE ONLY

DRAWN BY: MN | CHECKED BY: MMA/KW

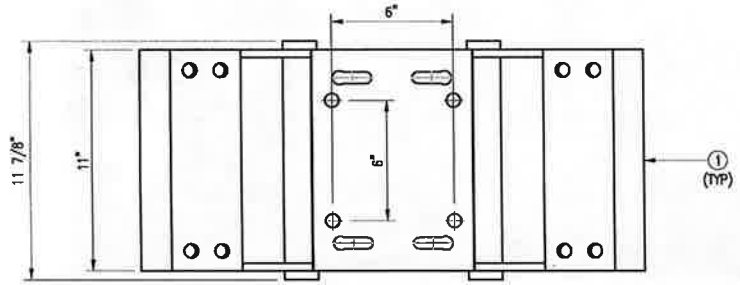
REV	DESCRIPTION	BY	DATE
1	FIRST ISSUE	MN	05/08/20

SHEET TITLE:
VZWSMART-PLK5
KICKER KIT

SHEET NUMBER: VZWSMART-PLK5 | REV #: 0



PLAN VIEW
MONOPOLE COLLAR MOUNT ASSEMBLY



FRONT VIEW

NOTES:
1. FIT 12" TO 45" DIA MONOPOLE.
2. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	150

VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

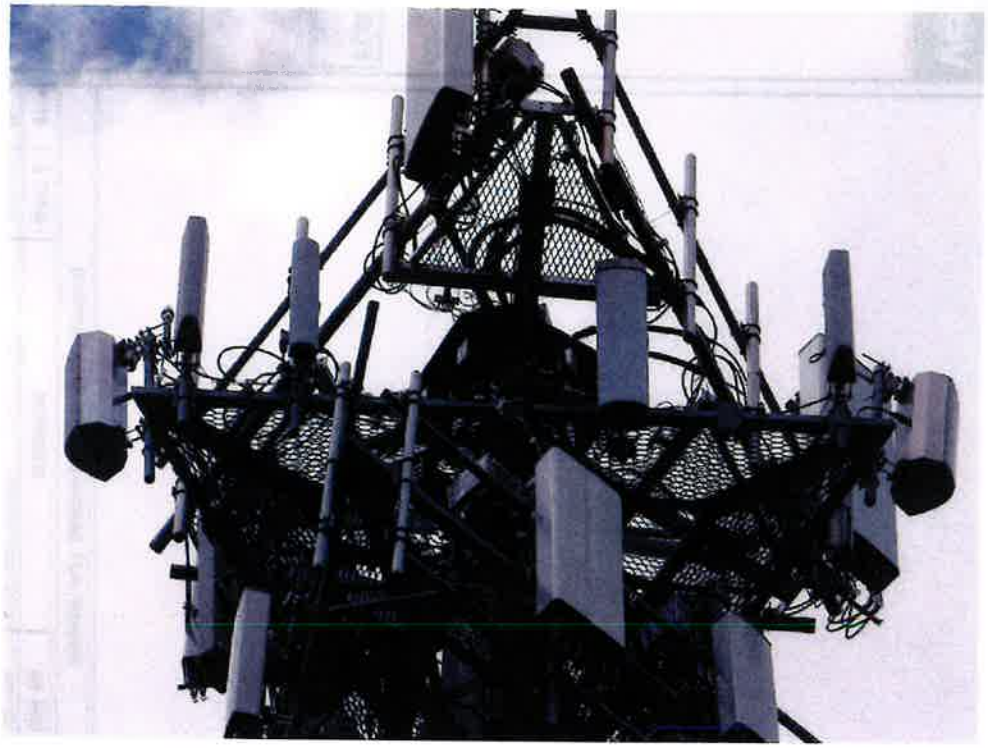
DRAWN BY: BT | CHECKED BY: HMA/KW

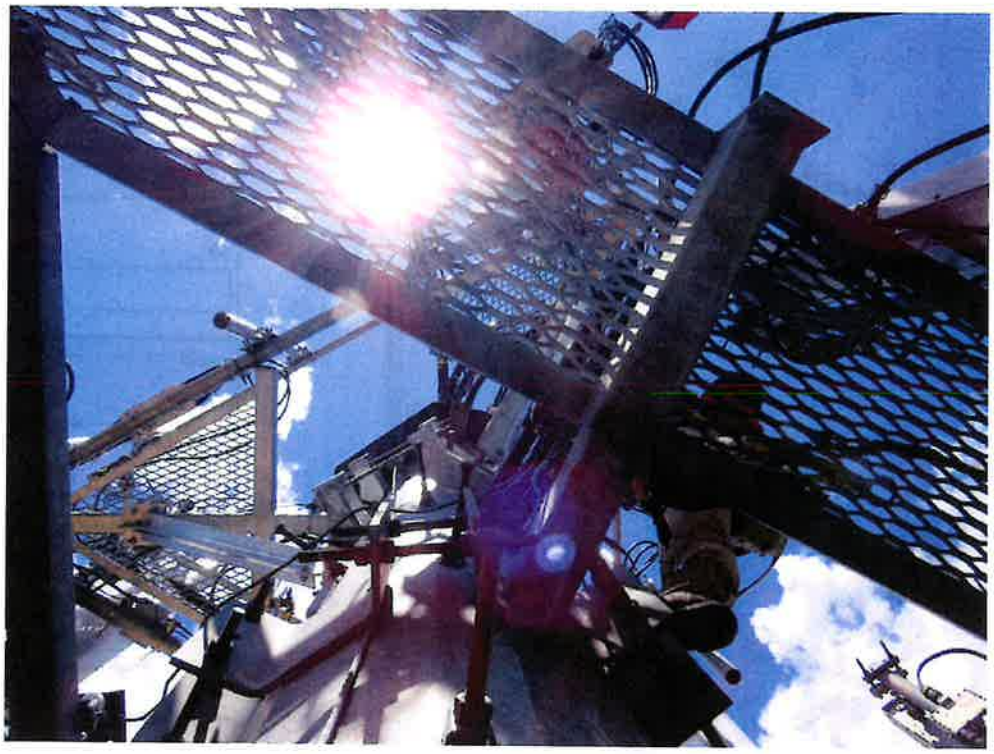
REV	DESCRIPTION	BY	DATE
0	INITIAL ISSUE	BT	05/11/20

SHEET TITLE:
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: VZWSMART-PLK7

REV #: 0



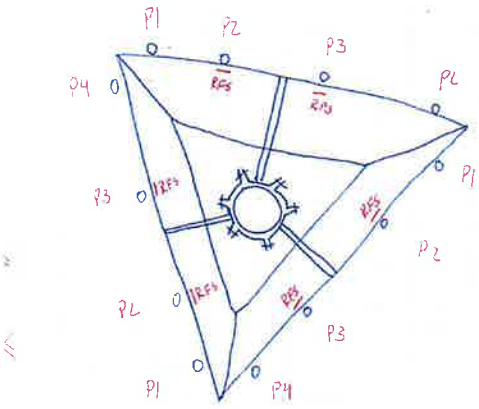


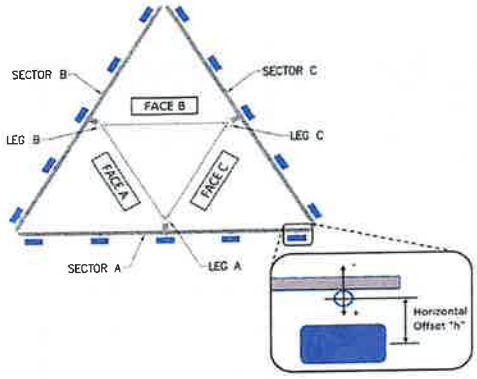
V4.1 Updated on 12-17-2021

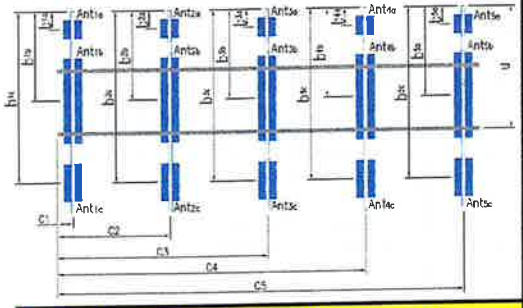
Antenna Mount Mapping Form (PATENT PENDING)

FCC #: 1222500

Tower Owner:	SBA	Mapping Date:	6/28/2022
Site Name:	E GLASTONBURY 2 CT	Tower Type:	Monopole
Site Number or ID:	468152	Tower Height (Ft.):	
Mapping Contractor:	TEP	Mount Elevation (Ft.):	174







Antenna Layout (Looking Out From Tower)

Mount Pipe Configuration and Geometries (Unit = Inches)

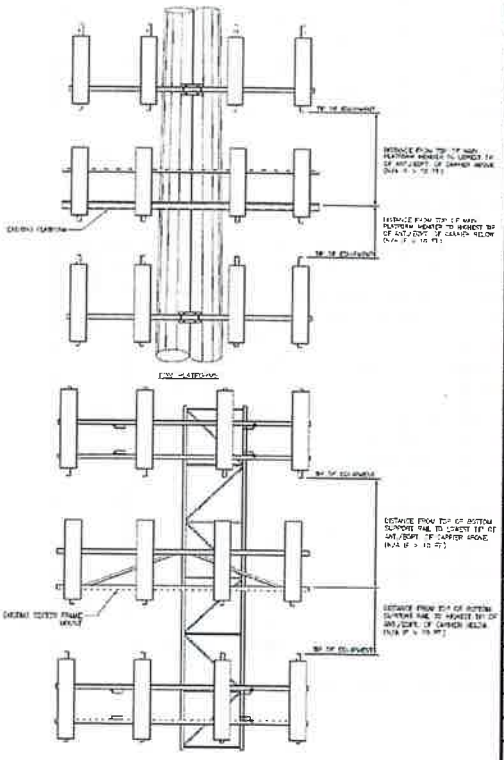
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."
A1	P2.375"Øx0.154"TH, 72" LONG	51.00	12.00	C1	P2.375"Øx0.154"TH, 72" LONG	54.00	12.00
A2	P2.375"Øx0.154"TH, 72" LONG	46.00	60.00	C2	P2.375"Øx0.154"TH, 72" LONG	46.00	60.00
A3	P2.375"Øx0.154"TH, 72" LONG	51.00	132.00	C3	P2.375"Øx0.154"TH, 72" LONG	51.00	132.00
A4	P2.375"Øx0.154"TH, 72" LONG	51.00	156.00	C4	P2.375"Øx0.154"TH, 72" LONG	54.00	156.00
A5				C5			
A6				C6			
B1	P2.375"Øx0.154"TH, 72" LONG	51.00	12.00	D1			
B2	P2.375"Øx0.154"TH, 72" LONG	46.00	60.00	D2			
B3	P2.375"Øx0.154"TH, 72" LONG	51.00	132.00	D3			
B4	P2.375"Øx0.154"TH, 72" LONG	51.00	156.00	D4			
B5				D5			
B6				D6			

Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	5
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	
Please enter additional infomation or comments below.	
Total Coax (12) FH 1-5/8, (1) FH 1/2	
Note: Laser measurement is centerline of antennas	
Tower Face Width at Mount Elev. (ft.):	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.): 34

Ants. Items	Enter antenna model. If not labeled, enter "Unknown". Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Mounting Locations [Units are inches and degrees] Vertical Distances"b_{1a}, b_{2a}, b_{3a}, $b_{1b-...}$" (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photos of antennas Photo Numbers
Sector A										
Ant_{1a}										
Ant_{1b}	Amphenol LPA-80063	15.00	9.00	48.00		177		9.00	5.00	73
Ant_{1c}										
Ant_{2a}	RFS FD9R6004/2C-3L	6.50	1.50	5.80		176		-1.00		83
Ant_{2b}	BXA-70063-6CF-EDIN	11.30	6.00	71.00		177		9.00	5.00	85
Ant_{2c}										
Ant_{3a}	RFS FD9R6004/2C-3L	6.50	1.50	5.80		176		-1.00		87
Ant_{3b}	BXA-171065-8BF-EDI	6.00	3.00	48.00		177		-1.00	5.00	87
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	BXA-70063-6CF-EDIN	11.30	6.00	71.00		177		9.00	5.00	95
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	5.00	Deg	Leg A:		Deg
Sector B:	125.00	Deg	Leg B:		Deg
Sector C:	245.00	Deg	Leg C:		Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information			
Location:	5.00	Deg	Other
Climbing Facility	Corrosion Type:		Good condition.
	Access:		Climbing path was unobstructed.
	Condition:		Good condition.



Sector B											
Ant_{1a}											
Ant_{1b}	Amphenol LPA-80063	15.00	9.00	48.00		177		9.00	125.00	101
Ant_{1c}										
Ant_{2a}	RFS FD9R6004/2C-3L	6.50	1.50	5.80		176		-1.00		109
Ant_{2b}	BXA-70063-6CF-EDIN	11.30	6.00	71.00		177		9.00	125.00	107
Ant_{2c}										
Ant_{3a}	RFS FD9R6004/2C-3L	6.50	1.50	5.80		176		-1.00		111
Ant_{3b}	BXA-171065-8BF-EDI	6.00	3.00	48.00		177		-1.00	125.00	112
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	Amphenol LPA-80063	15.00	9.00	48.00		177		9.00	125.00	120
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}	Amphenol LPA-80063	15.00	9.00	48.00		177		9.00	245.00	122
Ant_{1c}										
Ant_{2a}	RFS FD9R6004/2C-3L	6.50	1.50	5.80		176		-1.00		124
Ant_{2b}	BXA-70063-6CF-EDIN	11.30	6.00	71.00		177		9.00	245.00	129
Ant_{2c}										
Ant_{3a}	RFS FD9R6004/2C-3L	6.50	1.50	5.80		176		-1.00		138
Ant_{3b}	BXA-171065-8BF-EDI	6.00	3.00	48.00		177		-1.00	245.00	134
Ant_{3c}										
Ant_{4a}										
Ant_{4b}	Amphenol LPA-80063	15.00	9.00	48.00		177		9.00	245.00	142
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector D										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #
1		
2		
3		
4		
5		
6		
7		
8		

Mapping Notes
1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.)
2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness.
3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab.
4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type.
5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required.
6. Please measure and report the size and length of all existing antenna mounting pipes.
7. Please measure and report the antenna information for all sectors.
8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.

Standard Conditions
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.

V4.1 Updated on 12-17-2021

SMART Tool© Vendor	Antenna Mount Mapping Form (PATENT PENDING)		FCC #
			1222500
Tower Owner:	SBA	Mapping Date:	6/28/2022
Site Name:	E GLASTONBURY 2 CT	Tower Type:	Monopole
Site Number or ID:	468152	Tower Height (Ft.):	
Mapping Contractor:	TEP	Mount Elevation (Ft.):	174

Please Insert Sketches of the Antenna Mount

E. Glastonbury Ct.

VZW MM

Kennedy Noah

Combo: 4722

7-8-22

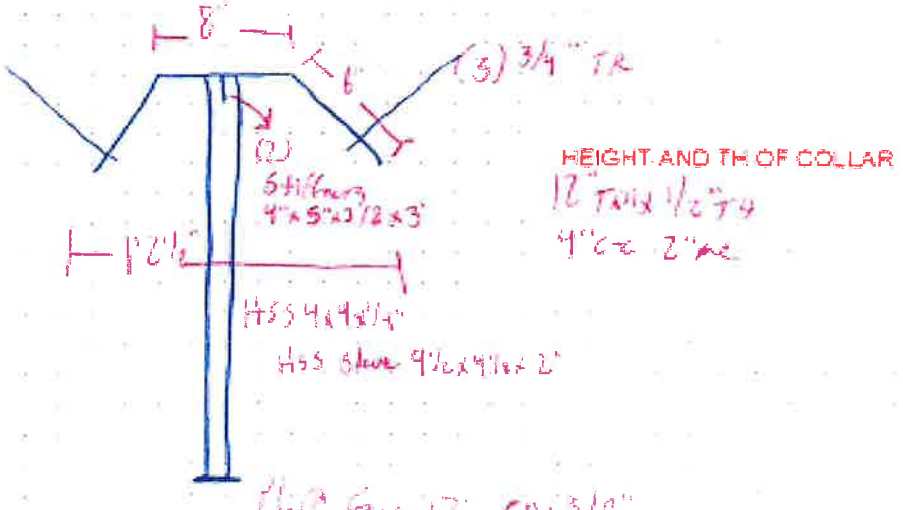
Collar ℄: 174

Ant ℄: 177

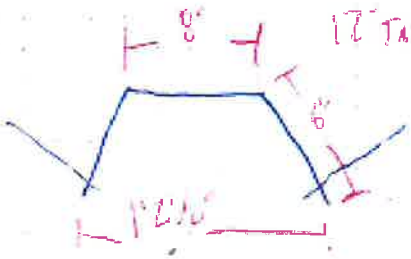
Coax: (12) 2"ø FH (1) 5/8" ø FH

A Face AZ: 5°

Collar W/Arms



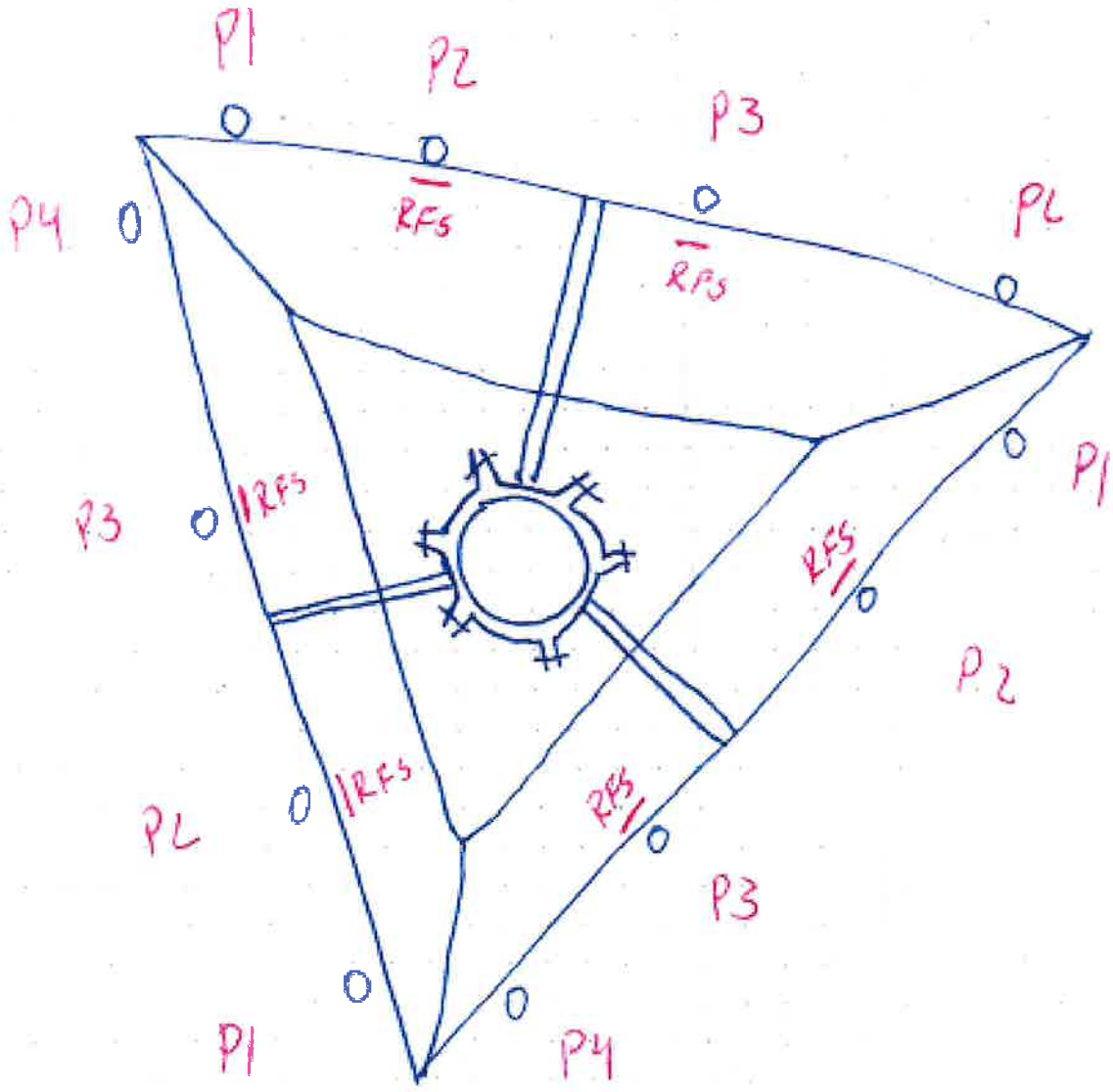
Collar Without Arms



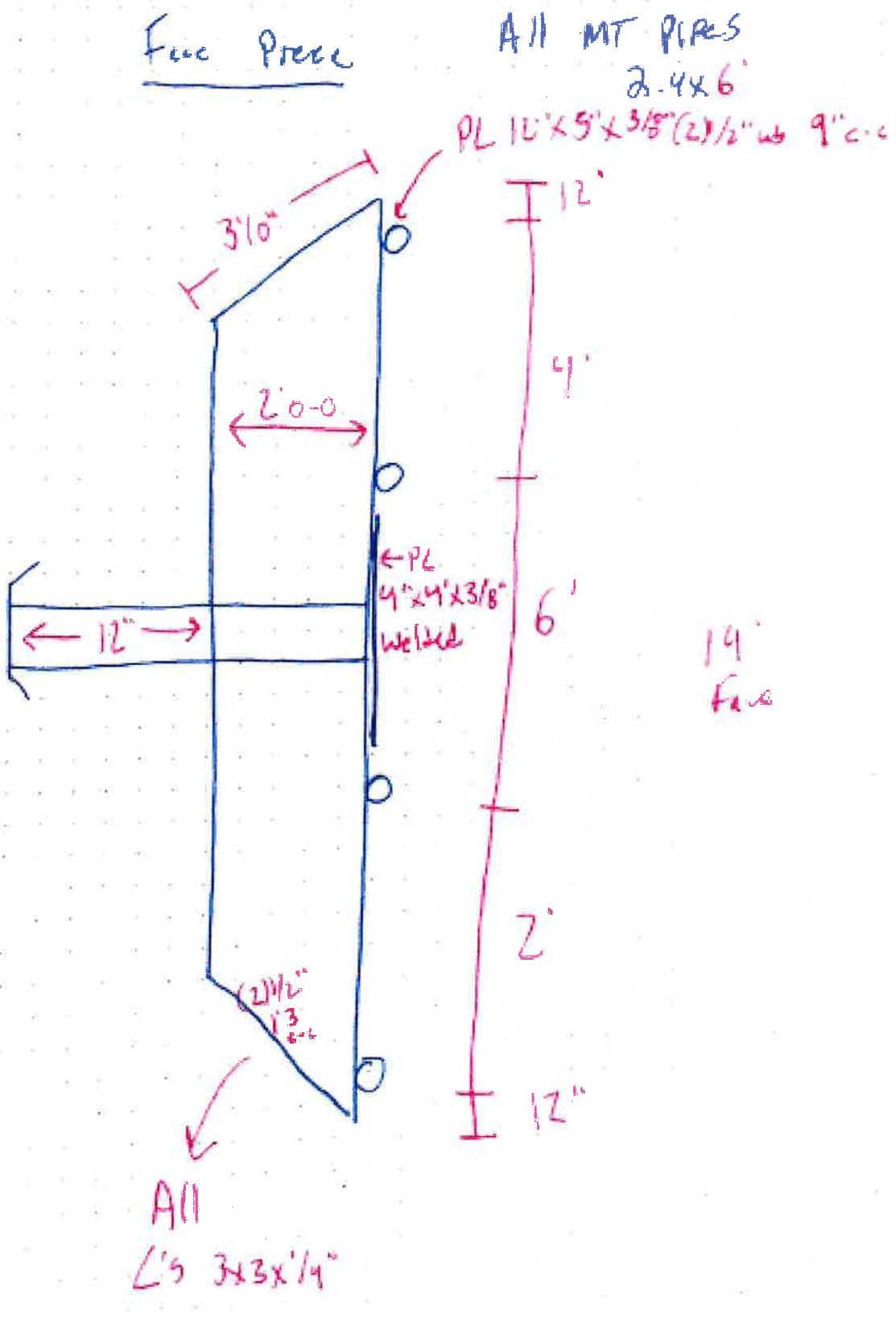
A Face 12"x5"x3/8"

Please Insert Sketches of the Antenna Mount, cont'd

PLAN View



Please Insert Sketches of the Antenna Mount, cont'd

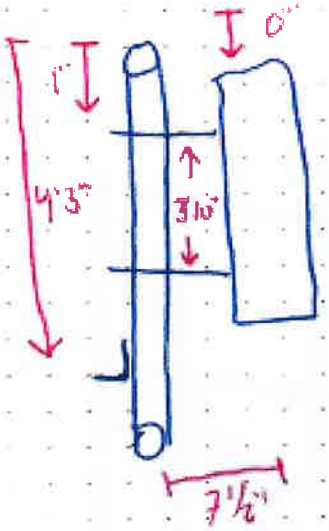


Please Insert Sketches of the Antenna Mount, cont'd

P1 / P4 ~~All faces~~ A/B Face

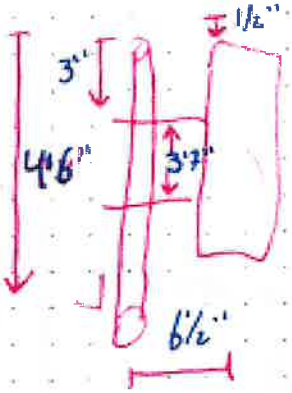
ANT: Amphenol

LPA-80063-4CF-EDIN-4



P1 / P4 G Face

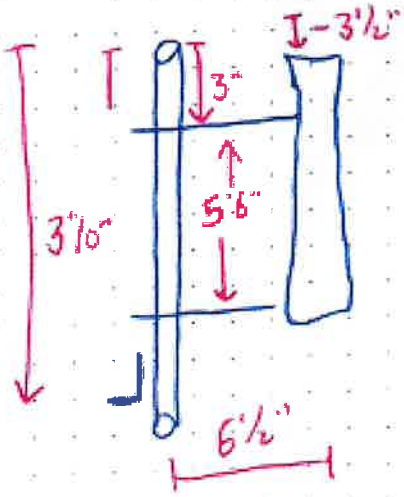
ANT:



P2 All faces

ANT:

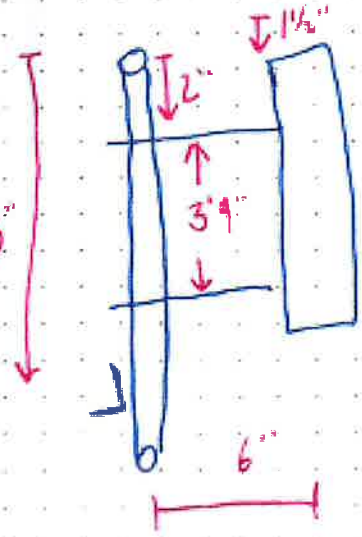
RFS:

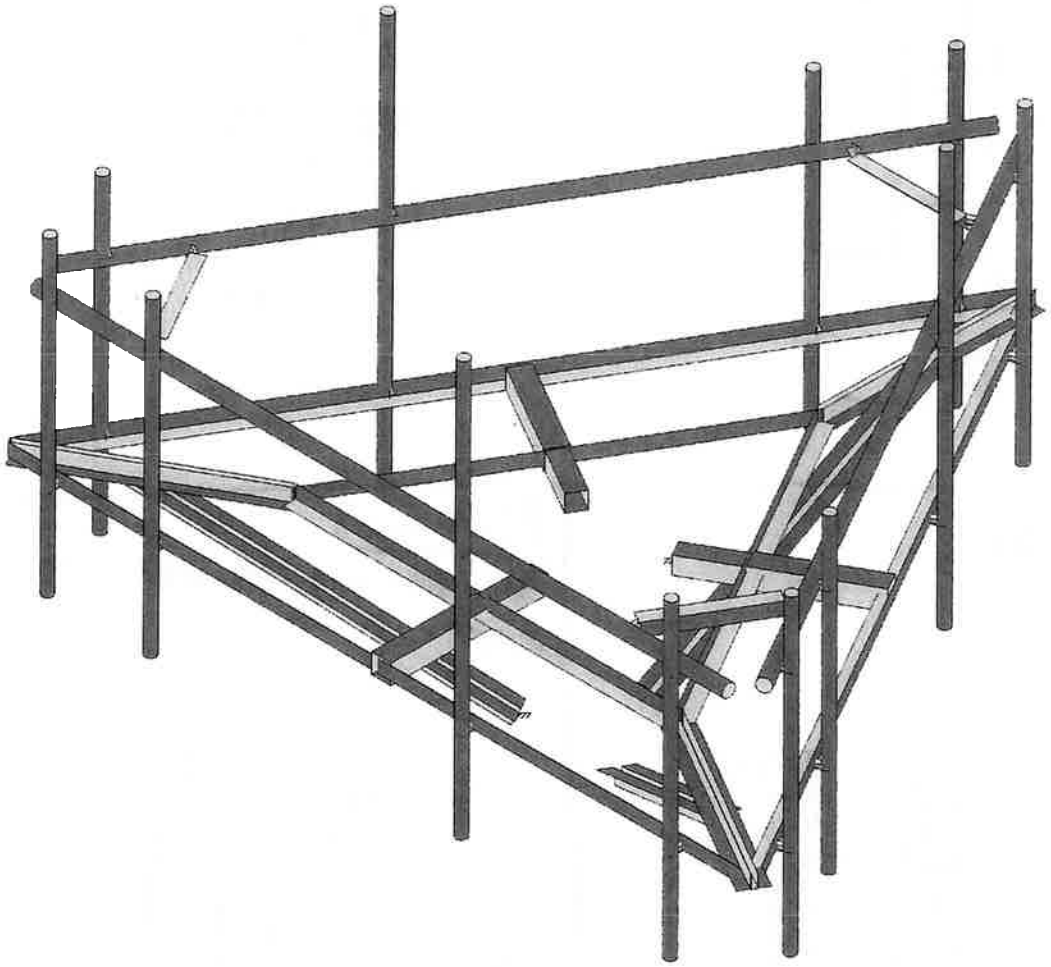


P3 All faces

ANT: BXA-171085-8BF-EDIN2

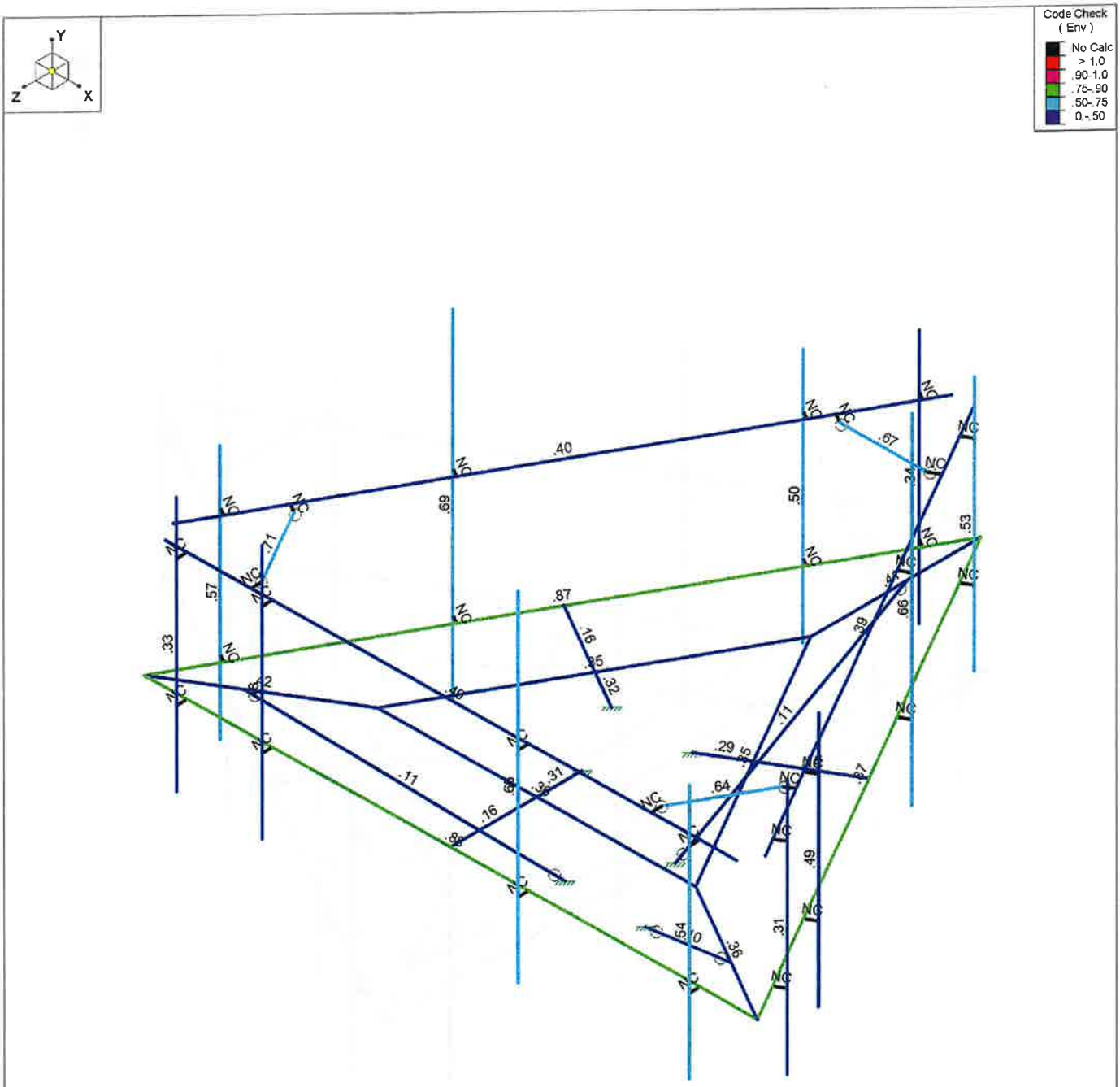
RFS:





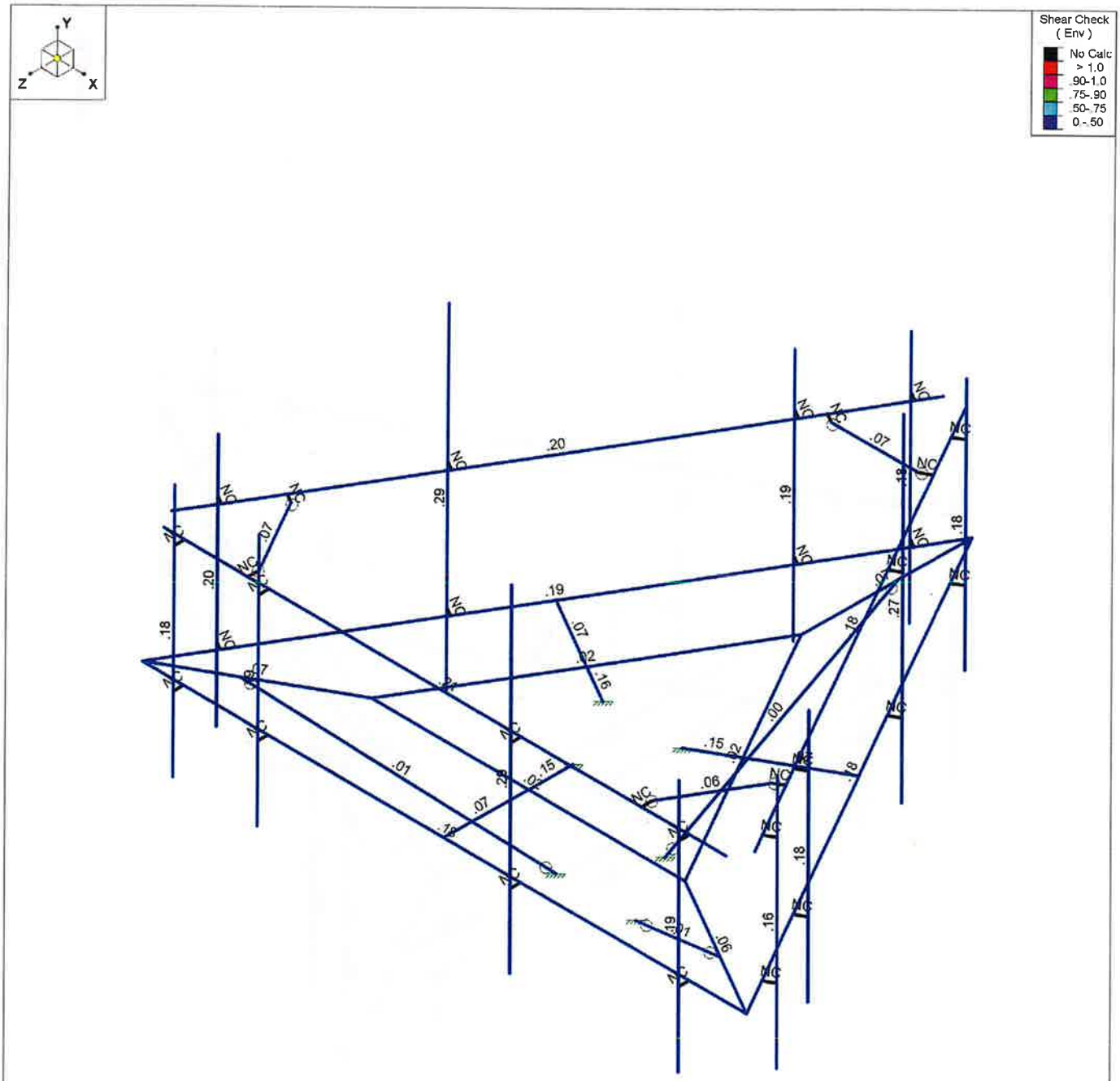
Envelope Only Solution

	5000386583-VZW_MT_LO_H	SK - 1
		Feb 13, 2024 at 3:27 PM
Project No. 10220907		5000386583-VZW_MT_LO_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

	5000386583-VZW_MT_LO_H	SK - 2
		Feb 13, 2024 at 3:27 PM
Project No. 10220907		5000386583-VZW_MT_LO_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

	5000386583-VZW_MT_LO_H	SK - 3
		Feb 13, 2024 at 3:27 PM
Project No. 10220907		5000386583-VZW_MT_LO_H.r3d

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					105			
2	Antenna Di	None					105			
3	Antenna Wo (0 Deg)	None					105			
4	Antenna Wo (30 Deg)	None					105			
5	Antenna Wo (60 Deg)	None					105			
6	Antenna Wo (90 Deg)	None					105			
7	Antenna Wo (120 Deg)	None					105			
8	Antenna Wo (150 Deg)	None					105			
9	Antenna Wo (180 Deg)	None					105			
10	Antenna Wo (210 Deg)	None					105			
11	Antenna Wo (240 Deg)	None					105			
12	Antenna Wo (270 Deg)	None					105			
13	Antenna Wo (300 Deg)	None					105			
14	Antenna Wo (330 Deg)	None					105			
15	Antenna Wi (0 Deg)	None					105			
16	Antenna Wi (30 Deg)	None					105			
17	Antenna Wi (60 Deg)	None					105			
18	Antenna Wi (90 Deg)	None					105			
19	Antenna Wi (120 Deg)	None					105			
20	Antenna Wi (150 Deg)	None					105			
21	Antenna Wi (180 Deg)	None					105			
22	Antenna Wi (210 Deg)	None					105			
23	Antenna Wi (240 Deg)	None					105			
24	Antenna Wi (270 Deg)	None					105			
25	Antenna Wi (300 Deg)	None					105			
26	Antenna Wi (330 Deg)	None					105			
27	Antenna Wm (0 Deg)	None					105			
28	Antenna Wm (30 Deg)	None					105			
29	Antenna Wm (60 Deg)	None					105			
30	Antenna Wm (90 Deg)	None					105			
31	Antenna Wm (120 De...	None					105			
32	Antenna Wm (150 De...	None					105			
33	Antenna Wm (180 De...	None					105			
34	Antenna Wm (210 De...	None					105			
35	Antenna Wm (240 De...	None					105			
36	Antenna Wm (270 De...	None					105			
37	Antenna Wm (300 De...	None					105			
38	Antenna Wm (330 De...	None					105			
39	Structure D	None		-1					3	
40	Structure Di	None						36	3	
41	Structure Wo (0 Deg)	None						72		
42	Structure Wo (30 Deg)	None						72		
43	Structure Wo (60 Deg)	None						72		
44	Structure Wo (90 Deg)	None						72		
45	Structure Wo (120 D...	None						72		
46	Structure Wo (150 D...	None						72		
47	Structure Wo (180 D...	None						72		
48	Structure Wo (210 D...	None						72		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
49	Structure Wo (240 D...	None						72		
50	Structure Wo (270 D...	None						72		
51	Structure Wo (300 D...	None						72		
52	Structure Wo (330 D...	None						72		
53	Structure Wi (0 Deg)	None						72		
54	Structure Wi (30 Deg)	None						72		
55	Structure Wi (60 Deg)	None						72		
56	Structure Wi (90 Deg)	None						72		
57	Structure Wi (120 De...	None						72		
58	Structure Wi (150 De...	None						72		
59	Structure Wi (180 De...	None						72		
60	Structure Wi (210 De...	None						72		
61	Structure Wi (240 De...	None						72		
62	Structure Wi (270 De...	None						72		
63	Structure Wi (300 De...	None						72		
64	Structure Wi (330 De...	None						72		
65	Structure Wm (0 Deg)	None						72		
66	Structure Wm (30 D...	None						72		
67	Structure Wm (60 D...	None						72		
68	Structure Wm (90 D...	None						72		
69	Structure Wm (120 ...	None						72		
70	Structure Wm (150 ...	None						72		
71	Structure Wm (180 ...	None						72		
72	Structure Wm (210 ...	None						72		
73	Structure Wm (240 ...	None						72		
74	Structure Wm (270 ...	None						72		
75	Structure Wm (300 ...	None						72		
76	Structure Wm (330 ...	None						72		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					105			
82	Antenna Eh (0 Deg)	None					70			
83	Antenna Eh (90 Deg)	None					70			
84	Structure Ev	ELY		-.043					3	
85	Structure Eh (0 Deg)	ELZ			-.107				3	
86	Structure Eh (90 Deg)	ELX	.107						3	
87	BLC 39 Transient Are...	None						30		
88	BLC 40 Transient Are...	None						30		
89	BLC 84 Transient Are...	None						30		
90	BLC 85 Transient Are...	None						30		
91	BLC 86 Transient Are...	None						30		

Load Combinations

	Description	So...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
1	1.2D+1.0Wo (0 Deg)	Yes	Y		1	1.2	39	1.2	3	1	41	1												
2	1.2D+1.0Wo (30 Deg)	Yes	Y		1	1.2	39	1.2	4	1	42	1												
3	1.2D+1.0Wo (60 Deg)	Yes	Y		1	1.2	39	1.2	5	1	43	1												
4	1.2D+1.0Wo (90 Deg)	Yes	Y		1	1.2	39	1.2	6	1	44	1												

Load Combinations (Continued)

	Description	So...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
5	1.2D+1.0Wo (120 Deg)	Yes	Y		1	1.2	39	1.2	7	1	45	1												
6	1.2D+1.0Wb (150 Deg)	Yes	Y		1	1.2	39	1.2	8	1	46	1												
7	1.2D+1.0Wo (180 Deg)	Yes	Y		1	1.2	39	1.2	9	1	47	1												
8	1.2D+1.0Wo (210 Deg)	Yes	Y		1	1.2	39	1.2	10	1	48	1												
9	1.2D+1.0Wo (240 Deg)	Yes	Y		1	1.2	39	1.2	11	1	49	1												
10	1.2D+1.0Wo (270 Deg)	Yes	Y		1	1.2	39	1.2	12	1	50	1												
11	1.2D+1.0Wo (300 Deg)	Yes	Y		1	1.2	39	1.2	13	1	51	1												
12	1.2D+1.0Wo (330 Deg)	Yes	Y		1	1.2	39	1.2	14	1	52	1												
13	1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1.0Di + 1.0Wi (30 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0Di + 1.0Wi (120 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0Di + 1.0Wi (150 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0Di + 1.0Wi (180 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0Di + 1.0Wi (210 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0Di + 1.0Wi (240 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0Di + 1.0Wi (270 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1.0Di + 1.0Wi (300 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0Di + 1.0Wi (330 D...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5Lm1 + 1.0Wm (0 ...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5Lm1 + 1.0Wm (30 ...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5Lm1 + 1.0Wm (60 ...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5Lm1 + 1.0Wm (90 ...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5Lm1 + 1.0Wm (12...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5Lm1 + 1.0Wm (15...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5Lm1 + 1.0Wm (18...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5Lm1 + 1.0Wm (21...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5Lm1 + 1.0Wm (24...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5Lm1 + 1.0Wm (27...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5Lm1 + 1.0Wm (30...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5Lm1 + 1.0Wm (33...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5Lm2 + 1.0Wm (0 ...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5Lm2 + 1.0Wm (30 ...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5Lm2 + 1.0Wm (60 ...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 + 1.0Wm (90 ...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 + 1.0Wm (12...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 + 1.0Wm (15...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 + 1.0Wm (18...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 + 1.0Wm (21...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 + 1.0Wm (24...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 + 1.0Wm (27...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 + 1.0Wm (30...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 + 1.0Wm (33...	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1.5Lv1	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1.5Lv2	Yes	Y		1	1.2	39	1.2	80	1.5														
51	1.4D	Yes	Y		1	1.4	39	1.4																
52	1.2D + 1.0Ev + 1.0Eh (0 Deg)	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	1	83		ELZ	1	E...					
53	1.2D + 1.0Ev + 1.0Eh (30 Deg)	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	.5	ELZ	.866	E...	.5				
54	1.2D + 1.0Ev + 1.0Eh (60 Deg)	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	.866	ELZ	.5	E...	.866				
55	1.2D + 1.0Ev + 1.0Eh (90 Deg)	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	1	ELZ		E...	1				
56	1.2D + 1.0Ev + 1.0Eh (120 D...	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	.866	ELZ	-.5	E...	.866				

Load Combinations (Continued)

	Description	So..	P..	S..	B..	Fac..	B..	Fac..	B..	Fac..	B..	Fac..	B..	Fac..	B..	Fac..	B..	Fac..	B..	Fac..	B..	Fac..	B..	Fac...
57	1.2D + 1.0Ev + 1.0Eh (150 D..	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.866	83	.5	ELZ	-.866	E...	.5				
58	1.2D + 1.0Ev + 1.0Eh (180 D..	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-1	83		ELZ	-1	E...					
59	1.2D + 1.0Ev + 1.0Eh (210 D..	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.866	83	-.5	ELZ	-.866	E...	-.5				
60	1.2D + 1.0Ev + 1.0Eh (240 D..	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	-.5	83	-.866	ELZ	-.5	E...	-.866				
61	1.2D + 1.0Ev + 1.0Eh (270 D..	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82		83	-1	ELZ		E...	-1				
62	1.2D + 1.0Ev + 1.0Eh (300 D..	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.5	83	-.866	ELZ	.5	E...	-.866				
63	1.2D + 1.0Ev + 1.0Eh (330 D..	Yes	Y		1	1.2	39	1.2	81	1	E...	1	82	.866	83	-.5	ELZ	.866	E...	-.5				
64	0.9D - 1.0Ev + 1.0Eh (0 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	1	83		ELZ	1	E...					
65	0.9D - 1.0Ev + 1.0Eh (30 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	.5	ELZ	.866	E...	.5				
66	0.9D - 1.0Ev + 1.0Eh (60 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	.866	ELZ	.5	E...	.866				
67	0.9D - 1.0Ev + 1.0Eh (90 Deg)	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	1	ELZ		E...	1				
68	0.9D - 1.0Ev + 1.0Eh (120 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	.866	ELZ	-.5	E...	.866				
69	0.9D - 1.0Ev + 1.0Eh (150 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.866	83	.5	ELZ	-.866	E...	.5				
70	0.9D - 1.0Ev + 1.0Eh (180 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-1	83		ELZ	-1	E...					
71	0.9D - 1.0Ev + 1.0Eh (210 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.866	83	-.5	ELZ	-.866	E...	-.5				
72	0.9D - 1.0Ev + 1.0Eh (240 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	-.5	83	-.866	ELZ	-.5	E...	-.866				
73	0.9D - 1.0Ev + 1.0Eh (270 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82		83	-1	ELZ		E...	-1				
74	0.9D - 1.0Ev + 1.0Eh (300 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.5	83	-.866	ELZ	.5	E...	-.866				
75	0.9D - 1.0Ev + 1.0Eh (330 D...	Yes	Y		1	.9	39	.9	81	-1	E...	-1	82	.866	83	-.5	ELZ	.866	E...	-.5				

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mount Pipe	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	Support Rail	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	Bottom Corner Plate	L15X6.5X6	Beam	Single Angle	A36 Gr.36	Typical	7.922	24.473	192.705	.363
4	Standoff_2	HSS4.5X4.5X3	Beam	Tube	A500 Gr.B R...	Typical	2.93	9.02	9.02	14.4
5	Cross Members	L3X3X4	Beam	Channel	A36 Gr.36	Typical	1.44	1.23	1.23	.031
6	Face Horizontal	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
7	Standoff_1	HSS4X4X4	Beam	Tube	A500 Gr.B R...	Typical	3.37	7.8	7.8	12.8
8	Grating Angle	LL3x3x4x0	Beam	Double Angl...	A36 Gr.36	Typical	2.88	4.5	2.46	.063
9	Top Corner Plate	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
10	Mod Rail	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
11	Mod Angle	L3X3X4	Beam	Pipe	A36 Gr.36	Typical	1.44	1.23	1.23	.031
12	Mod Kicker	LL3x3x3x6	Beam	Pipe	A36 Gr.36	Typical	2.18	4.97	1.9	.027

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E..	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N15A			Standoff_1	Beam	Tube	A500 Gr.B...	Typical
2	M2	N15A	N16A			Standoff_2	Beam	Tube	A500 Gr.B...	Typical
3	M5	N14	N10		180	Grating Angle	Beam	Double Angle (...	A36 Gr.36	Typical
4	M6	N16	N15		180	Grating Angle	Beam	Double Angle (...	A36 Gr.36	Typical
5	M7	N18	N17		180	Grating Angle	Beam	Double Angle (...	A36 Gr.36	Typical
6	M6A	N17	N15		270	Cross Members	Beam	Channel	A36 Gr.36	Typical
7	M7A	N16	N18		270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
8	M10	N21	N26			RIGID	None	None	RIGID	Typical
9	MP4A	N29	N30		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
10	M23A	N10	N17		270	Cross Members	Beam	Channel	A36 Gr.36	Typical
11	M24	N18	N14		270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
12	M38	N77	N78			Standoff_1	Beam	Tube	A500 Gr.B...	Typical
13	M39A	N15	N10		270	Cross Members	Beam	Channel	A36 Gr.36	Typical
14	M40	N14	N16		270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
15	M54	N109	N110			Standoff_1	Beam	Tube	A500 Gr.B...	Typical
16	M55	N78	N108A			Standoff_2	Beam	Tube	A500 Gr.B...	Typical
17	M56	N110	N110A			Standoff_2	Beam	Tube	A500 Gr.B...	Typical
18	M26	N51	N53			RIGID	None	None	RIGID	Typical
19	MP3A	N55	N56A		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
20	M29	N57A	N59			RIGID	None	None	RIGID	Typical
21	MP2A	N61	N62		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
22	M32	N63	N65			RIGID	None	None	RIGID	Typical
23	MP1A	N67A	N68		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
24	M35	N69	N71			RIGID	None	None	RIGID	Typical
25	MP4C	N73	N74		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
26	M38A	N75	N77A			RIGID	None	None	RIGID	Typical
27	MP3C	N79	N80		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
28	M41	N81	N83			RIGID	None	None	RIGID	Typical
29	MP2C	N85A	N86		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
30	M44	N87	N89			RIGID	None	None	RIGID	Typical
31	MP1C	N91A	N92		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
32	M47	N93	N95			RIGID	None	None	RIGID	Typical
33	MP4B	N97	N98		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
34	M50	N99	N101			RIGID	None	None	RIGID	Typical
35	MP3B	N103	N104		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
36	M53	N105	N107			RIGID	None	None	RIGID	Typical
37	MP2B	N109A	N110B		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
38	M56A	N111	N113			RIGID	None	None	RIGID	Typical
39	MP1B	N115B	N116B		120	Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
40	M40A	N77B	N78A		270	Mod Rail	Beam	Pipe	A53 Gr.B	Typical
41	M41A	N80A	N81A			RIGID	None	None	RIGID	Typical
42	M42	N82	N83A			RIGID	None	None	RIGID	Typical
43	M43	N84	N85			RIGID	None	None	RIGID	Typical
44	M44A	N86A	N87A			RIGID	None	None	RIGID	Typical
45	M45	N88	N91B			RIGID	None	None	RIGID	Typical
46	M46	N89A	N92A			RIGID	None	None	RIGID	Typical
47	M47A	N93A	N94		270	Mod Rail	Beam	Pipe	A53 Gr.B	Typical
48	M48	N96	N97A			RIGID	None	None	RIGID	Typical
49	M49	N98A	N99A			RIGID	None	None	RIGID	Typical
50	M50A	N100	N101A			RIGID	None	None	RIGID	Typical
51	M51	N102	N103A			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
52	M52	N104A	N107A			RIGID	None	None	RIGID	Typical
53	M53A	N105A	N108			RIGID	None	None	RIGID	Typical
54	M54A	N109B	N110C		270	Mod Rail	Beam	Pipe	A53 Gr.B	Typical
55	M55A	N112	N113A			RIGID	None	None	RIGID	Typical
56	M56B	N114	N115			RIGID	None	None	RIGID	Typical
57	M57	N116	N117			RIGID	None	None	RIGID	Typical
58	M58	N118	N119			RIGID	None	None	RIGID	Typical
59	M59	N120	N123			RIGID	None	None	RIGID	Typical
60	M60	N121	N124			RIGID	None	None	RIGID	Typical
61	M61	N123	N108		90	Mod Angle	Beam	Pipe	A36 Gr.36	Typical
62	M62	N91B	N124		90	Mod Angle	Beam	Pipe	A36 Gr.36	Typical
63	M63	N107A	N92A		90	Mod Angle	Beam	Pipe	A36 Gr.36	Typical
64	M64	N125	N129			Mod Kicker	Beam	Pipe	A36 Gr.36	Typical
65	M65	N128	N130			Mod Kicker	Beam	Pipe	A36 Gr.36	Typical
66	M66	N130A	N131			Mod Kicker	Beam	Pipe	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes				None
2	M2						Yes				None
3	M5						Yes				None
4	M6						Yes				None
5	M7						Yes				None
6	M6A						Yes				None
7	M7A						Yes				None
8	M10						Yes	** NA **			None
9	MP4A						Yes				None
10	M23A						Yes				None
11	M24						Yes				None
12	M38						Yes				None
13	M39A						Yes				None
14	M40						Yes				None
15	M54						Yes				None
16	M55						Yes				None
17	M56						Yes				None
18	M26						Yes	** NA **			None
19	MP3A						Yes				None
20	M29						Yes	** NA **			None
21	MP2A						Yes				None
22	M32						Yes	** NA **			None
23	MP1A						Yes				None
24	M35						Yes	** NA **			None
25	MP4C						Yes				None
26	M38A						Yes	** NA **			None
27	MP3C						Yes				None
28	M41						Yes	** NA **			None
29	MP2C						Yes				None
30	M44						Yes	** NA **			None
31	MP1C						Yes				None
32	M47						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
33	MP4B						Yes				None
34	M50						Yes	** NA **			None
35	MP3B						Yes				None
36	M53						Yes	** NA **			None
37	MP2B						Yes				None
38	M56A						Yes	** NA **			None
39	MP1B						Yes				None
40	M40A						Yes				None
41	M41A						Yes	** NA **			None
42	M42						Yes	** NA **			None
43	M43						Yes	** NA **			None
44	M44A						Yes	** NA **			None
45	M45	OOOOOX					Yes	** NA **			None
46	M46	OOOOOX					Yes	** NA **			None
47	M47A						Yes				None
48	M48						Yes	** NA **			None
49	M49						Yes	** NA **			None
50	M50A						Yes	** NA **			None
51	M51						Yes	** NA **			None
52	M52	OOOOOX					Yes	** NA **			None
53	M53A	OOOOOX					Yes	** NA **			None
54	M54A						Yes				None
55	M55A						Yes	** NA **			None
56	M56B						Yes	** NA **			None
57	M57						Yes	** NA **			None
58	M58						Yes	** NA **			None
59	M59	OOOOOX					Yes	** NA **			None
60	M60	OOOOOX					Yes	** NA **			None
61	M61						Yes	Default			None
62	M62						Yes	Default			None
63	M63						Yes	Default			None
64	M64	BenPIN	BenPIN				Yes				None
65	M65	BenPIN	BenPIN				Yes				None
66	M66	BenPIN	BenPIN				Yes				None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Y	-28.65	.25
2	MP4A	My	-.014	.25
3	MP4A	Mz	0	.25
4	MP4A	Y	-28.65	2.25
5	MP4A	My	-.014	2.25
6	MP4A	Mz	0	2.25
7	MP4B	Y	-28.65	.25
8	MP4B	My	.007	.25
9	MP4B	Mz	-.012	.25
10	MP4B	Y	-28.65	2.25
11	MP4B	My	.007	2.25
12	MP4B	Mz	-.012	2.25
13	MP4C	Y	-28.65	.25

Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP4C	My	.007	.25
15	MP4C	Mz	.012	.25
16	MP4C	Y	-28.65	2.25
17	MP4C	My	.007	2.25
18	MP4C	Mz	.012	2.25
19	MP2A	Y	-79.1	1
20	MP2A	My	.04	1
21	MP2A	Mz	0	1
22	MP2B	Y	-79.1	1
23	MP2B	My	-.02	1
24	MP2B	Mz	.034	1
25	MP2C	Y	-79.1	1
26	MP2C	My	-.02	1
27	MP2C	Mz	-.034	1
28	MP2A	Y	-15.4	4
29	MP2A	My	.008	4
30	MP2A	Mz	0	4
31	MP2B	Y	-15.4	4
32	MP2B	My	-.004	4
33	MP2B	Mz	.007	4
34	MP2C	Y	-15.4	4
35	MP2C	My	-.004	4
36	MP2C	Mz	-.007	4
37	MP3A	Y	-32	.25
38	MP3A	My	.016	.25
39	MP3A	Mz	0	.25
40	MP3B	Y	-32	.25
41	MP3B	My	-.008	.25
42	MP3B	Mz	.014	.25
43	MP1B	Y	-10	.25
44	MP1B	My	.003	.25
45	MP1B	Mz	-.004	.25
46	MP1B	Y	-10	2.25
47	MP1B	My	.003	2.25
48	MP1B	Mz	-.004	2.25
49	MP1C	Y	-10	.25
50	MP1C	My	.003	.25
51	MP1C	Mz	.004	.25
52	MP1C	Y	-10	2.25
53	MP1C	My	.003	2.25
54	MP1C	Mz	.004	2.25
55	MP1A	Y	-3.15	.25
56	MP1A	My	-.002	.25
57	MP1A	Mz	0	.25
58	MP1A	Y	-3.15	2.25
59	MP1A	My	-.002	2.25
60	MP1A	Mz	0	2.25
61	MP1A	Y	-74.7	2.75
62	MP1A	My	.037	2.75
63	MP1A	Mz	0	2.75
64	MP1B	Y	-74.7	2.75
65	MP1B	My	-.019	2.75

Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
66	MP1B	Mz	.032	2.75
67	MP1C	Y	-74.7	2.75
68	MP1C	My	-.019	2.75
69	MP1C	Mz	-.032	2.75
70	MP2A	Y	-21.85	.5
71	MP2A	My	-.011	.5
72	MP2A	Mz	.015	.5
73	MP2A	Y	-21.85	6
74	MP2A	My	-.011	6
75	MP2A	Mz	.015	6
76	MP2B	Y	-21.85	.5
77	MP2B	My	-.007	.5
78	MP2B	Mz	-.017	.5
79	MP2B	Y	-21.85	6
80	MP2B	My	-.007	6
81	MP2B	Mz	-.017	6
82	MP2C	Y	-21.85	.5
83	MP2C	My	.018	.5
84	MP2C	Mz	.002	.5
85	MP2C	Y	-21.85	6
86	MP2C	My	.018	6
87	MP2C	Mz	.002	6
88	MP2A	Y	-32.3	.5
89	MP2A	My	-.016	.5
90	MP2A	Mz	-.022	.5
91	MP2A	Y	-32.3	6
92	MP2A	My	-.016	6
93	MP2A	Mz	-.022	6
94	MP2B	Y	-32.3	.5
95	MP2B	My	.027	.5
96	MP2B	Mz	-.003	.5
97	MP2B	Y	-32.3	6
98	MP2B	My	.027	6
99	MP2B	Mz	-.003	6
100	MP2C	Y	-32.3	.5
101	MP2C	My	-.011	.5
102	MP2C	Mz	.025	.5
103	MP2C	Y	-32.3	6
104	MP2C	My	-.011	6
105	MP2C	Mz	.025	6

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Y	-48.38	.25
2	MP4A	My	-.024	.25
3	MP4A	Mz	0	.25
4	MP4A	Y	-48.38	2.25
5	MP4A	My	-.024	2.25
6	MP4A	Mz	0	2.25
7	MP4B	Y	-48.38	.25
8	MP4B	My	.012	.25

Member Point Loads (BLC 2 : Antenna Di) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP4B	Mz	-.021	.25
10	MP4B	Y	-48.38	2.25
11	MP4B	My	.012	2.25
12	MP4B	Mz	-.021	2.25
13	MP4C	Y	-48.38	.25
14	MP4C	My	.012	.25
15	MP4C	Mz	.021	.25
16	MP4C	Y	-48.38	2.25
17	MP4C	My	.012	2.25
18	MP4C	Mz	.021	2.25
19	MP2A	Y	-74.034	1
20	MP2A	My	.037	1
21	MP2A	Mz	0	1
22	MP2B	Y	-74.034	1
23	MP2B	My	-.019	1
24	MP2B	Mz	.032	1
25	MP2C	Y	-74.034	1
26	MP2C	My	-.019	1
27	MP2C	Mz	-.032	1
28	MP2A	Y	-28.488	4
29	MP2A	My	.014	4
30	MP2A	Mz	0	4
31	MP2B	Y	-28.488	4
32	MP2B	My	-.007	4
33	MP2B	Mz	.012	4
34	MP2C	Y	-28.488	4
35	MP2C	My	-.007	4
36	MP2C	Mz	-.012	4
37	MP3A	Y	-140.942	.25
38	MP3A	My	.07	.25
39	MP3A	Mz	0	.25
40	MP3B	Y	-140.942	.25
41	MP3B	My	-.035	.25
42	MP3B	Mz	.061	.25
43	MP1B	Y	-100.603	.25
44	MP1B	My	.025	.25
45	MP1B	Mz	-.044	.25
46	MP1B	Y	-100.603	2.25
47	MP1B	My	.025	2.25
48	MP1B	Mz	-.044	2.25
49	MP1C	Y	-100.603	.25
50	MP1C	My	.025	.25
51	MP1C	Mz	.044	.25
52	MP1C	Y	-100.603	2.25
53	MP1C	My	.025	2.25
54	MP1C	Mz	.044	2.25
55	MP1A	Y	-51.243	.25
56	MP1A	My	-.026	.25
57	MP1A	Mz	0	.25
58	MP1A	Y	-51.243	2.25
59	MP1A	My	-.026	2.25
60	MP1A	Mz	0	2.25

Member Point Loads (BLC 2 : Antenna Di) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
61	MP1A	Y	-73.286	2.75
62	MP1A	My	.037	2.75
63	MP1A	Mz	0	2.75
64	MP1B	Y	-73.286	2.75
65	MP1B	My	-.018	2.75
66	MP1B	Mz	.032	2.75
67	MP1C	Y	-73.286	2.75
68	MP1C	My	-.018	2.75
69	MP1C	Mz	-.032	2.75
70	MP2A	Y	-97.62	.5
71	MP2A	My	-.049	.5
72	MP2A	Mz	.065	.5
73	MP2A	Y	-97.62	6
74	MP2A	My	-.049	6
75	MP2A	Mz	.065	6
76	MP2B	Y	-97.62	.5
77	MP2B	My	-.032	.5
78	MP2B	Mz	-.075	.5
79	MP2B	Y	-97.62	6
80	MP2B	My	-.032	6
81	MP2B	Mz	-.075	6
82	MP2C	Y	-97.62	.5
83	MP2C	My	.081	.5
84	MP2C	Mz	.01	.5
85	MP2C	Y	-97.62	6
86	MP2C	My	.081	6
87	MP2C	Mz	.01	6
88	MP2A	Y	-97.62	.5
89	MP2A	My	-.049	.5
90	MP2A	Mz	-.065	.5
91	MP2A	Y	-97.62	6
92	MP2A	My	-.049	6
93	MP2A	Mz	-.065	6
94	MP2B	Y	-97.62	.5
95	MP2B	My	.081	.5
96	MP2B	Mz	-.01	.5
97	MP2B	Y	-97.62	6
98	MP2B	My	.081	6
99	MP2B	Mz	-.01	6
100	MP2C	Y	-97.62	.5
101	MP2C	My	-.032	.5
102	MP2C	Mz	.075	.5
103	MP2C	Y	-97.62	6
104	MP2C	My	-.032	6
105	MP2C	Mz	.075	6

Member Point Loads (BLC 3 : Antenna Wo (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.25
2	MP4A	Z	-68.783	.25
3	MP4A	Mx	0	.25

Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP4A	X	0	2.25
5	MP4A	Z	-68.783	2.25
6	MP4A	Mx	0	2.25
7	MP4B	X	0	.25
8	MP4B	Z	-35.316	.25
9	MP4B	Mx	.015	.25
10	MP4B	X	0	2.25
11	MP4B	Z	-35.316	2.25
12	MP4B	Mx	.015	2.25
13	MP4C	X	0	.25
14	MP4C	Z	-35.316	.25
15	MP4C	Mx	-.015	.25
16	MP4C	X	0	2.25
17	MP4C	Z	-35.316	2.25
18	MP4C	Mx	-.015	2.25
19	MP2A	X	0	1
20	MP2A	Z	-81.408	1
21	MP2A	Mx	0	1
22	MP2B	X	0	1
23	MP2B	Z	-61.981	1
24	MP2B	Mx	-.027	1
25	MP2C	X	0	1
26	MP2C	Z	-61.981	1
27	MP2C	Mx	.027	1
28	MP2A	X	0	4
29	MP2A	Z	-33.085	4
30	MP2A	Mx	0	4
31	MP2B	X	0	4
32	MP2B	Z	-22.637	4
33	MP2B	Mx	-.01	4
34	MP2C	X	0	4
35	MP2C	Z	-22.637	4
36	MP2C	Mx	.01	4
37	MP3A	X	0	.25
38	MP3A	Z	-138.001	.25
39	MP3A	Mx	0	.25
40	MP3B	X	0	.25
41	MP3B	Z	-113.187	.25
42	MP3B	Mx	-.049	.25
43	MP1B	X	0	.25
44	MP1B	Z	-122.024	.25
45	MP1B	Mx	.053	.25
46	MP1B	X	0	2.25
47	MP1B	Z	-122.024	2.25
48	MP1B	Mx	.053	2.25
49	MP1C	X	0	.25
50	MP1C	Z	-122.024	.25
51	MP1C	Mx	-.053	.25
52	MP1C	X	0	2.25
53	MP1C	Z	-122.024	2.25
54	MP1C	Mx	-.053	2.25
55	MP1A	X	0	.25

Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
56	MP1A	Z	-62.253	.25
57	MP1A	Mx	0	.25
58	MP1A	X	0	2.25
59	MP1A	Z	-62.253	2.25
60	MP1A	Mx	0	2.25
61	MP1A	X	0	2.75
62	MP1A	Z	-67.477	2.75
63	MP1A	Mx	0	2.75
64	MP1B	X	0	2.75
65	MP1B	Z	-50.825	2.75
66	MP1B	Mx	-.022	2.75
67	MP1C	X	0	2.75
68	MP1C	Z	-50.825	2.75
69	MP1C	Mx	.022	2.75
70	MP2A	X	0	.5
71	MP2A	Z	-118.193	.5
72	MP2A	Mx	-.079	.5
73	MP2A	X	0	6
74	MP2A	Z	-118.193	6
75	MP2A	Mx	-.079	6
76	MP2B	X	0	.5
77	MP2B	Z	-67.586	.5
78	MP2B	Mx	.052	.5
79	MP2B	X	0	6
80	MP2B	Z	-67.586	6
81	MP2B	Mx	.052	6
82	MP2C	X	0	.5
83	MP2C	Z	-67.586	.5
84	MP2C	Mx	-.007	.5
85	MP2C	X	0	6
86	MP2C	Z	-67.586	6
87	MP2C	Mx	-.007	6
88	MP2A	X	0	.5
89	MP2A	Z	-175.222	.5
90	MP2A	Mx	.117	.5
91	MP2A	X	0	6
92	MP2A	Z	-175.222	6
93	MP2A	Mx	.117	6
94	MP2B	X	0	.5
95	MP2B	Z	-131.008	.5
96	MP2B	Mx	.013	.5
97	MP2B	X	0	6
98	MP2B	Z	-131.008	6
99	MP2B	Mx	.013	6
100	MP2C	X	0	.5
101	MP2C	Z	-131.008	.5
102	MP2C	Mx	-.1	.5
103	MP2C	X	0	6
104	MP2C	Z	-131.008	6
105	MP2C	Mx	-.1	6

Member Point Loads (BLC 4 : Antenna Wo (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	28.814	.25
2	MP4A	Z	-49.907	.25
3	MP4A	Mx	-.014	.25
4	MP4A	X	28.814	2.25
5	MP4A	Z	-49.907	2.25
6	MP4A	Mx	-.014	2.25
7	MP4B	X	12.081	.25
8	MP4B	Z	-20.924	.25
9	MP4B	Mx	.012	.25
10	MP4B	X	12.081	2.25
11	MP4B	Z	-20.924	2.25
12	MP4B	Mx	.012	2.25
13	MP4C	X	28.814	.25
14	MP4C	Z	-49.907	.25
15	MP4C	Mx	-.014	.25
16	MP4C	X	28.814	2.25
17	MP4C	Z	-49.907	2.25
18	MP4C	Mx	-.014	2.25
19	MP2A	X	37.466	1
20	MP2A	Z	-64.893	1
21	MP2A	Mx	.019	1
22	MP2B	X	27.753	1
23	MP2B	Z	-48.069	1
24	MP2B	Mx	-.028	1
25	MP2C	X	37.466	1
26	MP2C	Z	-64.893	1
27	MP2C	Mx	.019	1
28	MP2A	X	14.801	4
29	MP2A	Z	-25.637	4
30	MP2A	Mx	.007	4
31	MP2B	X	9.577	4
32	MP2B	Z	-16.588	4
33	MP2B	Mx	-.01	4
34	MP2C	X	14.801	4
35	MP2C	Z	-25.637	4
36	MP2C	Mx	.007	4
37	MP3A	X	64.865	.25
38	MP3A	Z	-112.349	.25
39	MP3A	Mx	.032	.25
40	MP3B	X	52.458	.25
41	MP3B	Z	-90.86	.25
42	MP3B	Mx	-.052	.25
43	MP1B	X	59.039	.25
44	MP1B	Z	-102.258	.25
45	MP1B	Mx	.059	.25
46	MP1B	X	59.039	2.25
47	MP1B	Z	-102.258	2.25
48	MP1B	Mx	.059	2.25
49	MP1C	X	64.959	.25
50	MP1C	Z	-112.513	.25
51	MP1C	Mx	-.032	.25
52	MP1C	X	64.959	2.25

Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1C	Z	-112.513	2.25
54	MP1C	Mx	-.032	2.25
55	MP1A	X	33.18	.25
56	MP1A	Z	-57.47	.25
57	MP1A	Mx	-.017	.25
58	MP1A	X	33.18	2.25
59	MP1A	Z	-57.47	2.25
60	MP1A	Mx	-.017	2.25
61	MP1A	X	30.963	2.75
62	MP1A	Z	-53.63	2.75
63	MP1A	Mx	.015	2.75
64	MP1B	X	22.637	2.75
65	MP1B	Z	-39.209	2.75
66	MP1B	Mx	-.023	2.75
67	MP1C	X	30.963	2.75
68	MP1C	Z	-53.63	2.75
69	MP1C	Mx	.015	2.75
70	MP2A	X	50.662	.5
71	MP2A	Z	-87.749	.5
72	MP2A	Mx	-.084	.5
73	MP2A	X	50.662	6
74	MP2A	Z	-87.749	6
75	MP2A	Mx	-.084	6
76	MP2B	X	25.358	.5
77	MP2B	Z	-43.922	.5
78	MP2B	Mx	.025	.5
79	MP2B	X	25.358	6
80	MP2B	Z	-43.922	6
81	MP2B	Mx	.025	6
82	MP2C	X	50.662	.5
83	MP2C	Z	-87.749	.5
84	MP2C	Mx	.033	.5
85	MP2C	X	50.662	6
86	MP2C	Z	-87.749	6
87	MP2C	Mx	.033	6
88	MP2A	X	80.242	.5
89	MP2A	Z	-138.983	.5
90	MP2A	Mx	.053	.5
91	MP2A	X	80.242	6
92	MP2A	Z	-138.983	6
93	MP2A	Mx	.053	6
94	MP2B	X	58.135	.5
95	MP2B	Z	-100.693	.5
96	MP2B	Mx	.058	.5
97	MP2B	X	58.135	6
98	MP2B	Z	-100.693	6
99	MP2B	Mx	.058	6
100	MP2C	X	80.242	.5
101	MP2C	Z	-138.983	.5
102	MP2C	Mx	-.133	.5
103	MP2C	X	80.242	6
104	MP2C	Z	-138.983	6

Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
105	MP2C	Mx	-.133	6

Member Point Loads (BLC 5 : Antenna Wo (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	30.585	.25
2	MP4A	Z	-17.658	.25
3	MP4A	Mx	-.015	.25
4	MP4A	X	30.585	2.25
5	MP4A	Z	-17.658	2.25
6	MP4A	Mx	-.015	2.25
7	MP4B	X	30.585	.25
8	MP4B	Z	-17.658	.25
9	MP4B	Mx	.015	.25
10	MP4B	X	30.585	2.25
11	MP4B	Z	-17.658	2.25
12	MP4B	Mx	.015	2.25
13	MP4C	X	59.568	.25
14	MP4C	Z	-34.391	.25
15	MP4C	Mx	0	.25
16	MP4C	X	59.568	2.25
17	MP4C	Z	-34.391	2.25
18	MP4C	Mx	0	2.25
19	MP2A	X	53.677	1
20	MP2A	Z	-30.99	1
21	MP2A	Mx	.027	1
22	MP2B	X	53.677	1
23	MP2B	Z	-30.99	1
24	MP2B	Mx	-.027	1
25	MP2C	X	70.501	1
26	MP2C	Z	-40.704	1
27	MP2C	Mx	0	1
28	MP2A	X	19.605	4
29	MP2A	Z	-11.319	4
30	MP2A	Mx	.01	4
31	MP2B	X	19.605	4
32	MP2B	Z	-11.319	4
33	MP2B	Mx	-.01	4
34	MP2C	X	28.653	4
35	MP2C	Z	-16.543	4
36	MP2C	Mx	0	4
37	MP3A	X	98.023	.25
38	MP3A	Z	-56.593	.25
39	MP3A	Mx	.049	.25
40	MP3B	X	98.023	.25
41	MP3B	Z	-56.593	.25
42	MP3B	Mx	-.049	.25
43	MP1B	X	105.676	.25
44	MP1B	Z	-61.012	.25
45	MP1B	Mx	.053	.25
46	MP1B	X	105.676	2.25
47	MP1B	Z	-61.012	2.25

Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
48	MP1B	Mx	.053	2.25
49	MP1C	X	115.931	.25
50	MP1C	Z	-66.933	.25
51	MP1C	Mx	0	.25
52	MP1C	X	115.931	2.25
53	MP1C	Z	-66.933	2.25
54	MP1C	Mx	0	2.25
55	MP1A	X	64.584	.25
56	MP1A	Z	-37.288	.25
57	MP1A	Mx	-.032	.25
58	MP1A	X	64.584	2.25
59	MP1A	Z	-37.288	2.25
60	MP1A	Mx	-.032	2.25
61	MP1A	X	44.016	2.75
62	MP1A	Z	-25.413	2.75
63	MP1A	Mx	.022	2.75
64	MP1B	X	44.016	2.75
65	MP1B	Z	-25.413	2.75
66	MP1B	Mx	-.022	2.75
67	MP1C	X	58.437	2.75
68	MP1C	Z	-33.738	2.75
69	MP1C	Mx	0	2.75
70	MP2A	X	58.531	.5
71	MP2A	Z	-33.793	.5
72	MP2A	Mx	-.052	.5
73	MP2A	X	58.531	6
74	MP2A	Z	-33.793	6
75	MP2A	Mx	-.052	6
76	MP2B	X	58.531	.5
77	MP2B	Z	-33.793	.5
78	MP2B	Mx	.007	.5
79	MP2B	X	58.531	6
80	MP2B	Z	-33.793	6
81	MP2B	Mx	.007	6
82	MP2C	X	102.358	.5
83	MP2C	Z	-59.097	.5
84	MP2C	Mx	.079	.5
85	MP2C	X	102.358	6
86	MP2C	Z	-59.097	6
87	MP2C	Mx	.079	6
88	MP2A	X	113.457	.5
89	MP2A	Z	-65.504	.5
90	MP2A	Mx	-.013	.5
91	MP2A	X	113.457	6
92	MP2A	Z	-65.504	6
93	MP2A	Mx	-.013	6
94	MP2B	X	113.457	.5
95	MP2B	Z	-65.504	.5
96	MP2B	Mx	.1	.5
97	MP2B	X	113.457	6
98	MP2B	Z	-65.504	6
99	MP2B	Mx	.1	6

Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
100	MP2C	X	151.747	.5
101	MP2C	Z	-87.611	.5
102	MP2C	Mx	-.117	.5
103	MP2C	X	151.747	6
104	MP2C	Z	-87.611	6
105	MP2C	Mx	-.117	6

Member Point Loads (BLC 6 : Antenna Wo (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	24.161	.25
2	MP4A	Z	0	.25
3	MP4A	Mx	-.012	.25
4	MP4A	X	24.161	2.25
5	MP4A	Z	0	2.25
6	MP4A	Mx	-.012	2.25
7	MP4B	X	57.627	.25
8	MP4B	Z	0	.25
9	MP4B	Mx	.014	.25
10	MP4B	X	57.627	2.25
11	MP4B	Z	0	2.25
12	MP4B	Mx	.014	2.25
13	MP4C	X	57.627	.25
14	MP4C	Z	0	.25
15	MP4C	Mx	.014	.25
16	MP4C	X	57.627	2.25
17	MP4C	Z	0	2.25
18	MP4C	Mx	.014	2.25
19	MP2A	X	55.505	1
20	MP2A	Z	0	1
21	MP2A	Mx	.028	1
22	MP2B	X	74.932	1
23	MP2B	Z	0	1
24	MP2B	Mx	-.019	1
25	MP2C	X	74.932	1
26	MP2C	Z	0	1
27	MP2C	Mx	-.019	1
28	MP2A	X	19.155	4
29	MP2A	Z	0	4
30	MP2A	Mx	.01	4
31	MP2B	X	29.603	4
32	MP2B	Z	0	4
33	MP2B	Mx	-.007	4
34	MP2C	X	29.603	4
35	MP2C	Z	0	4
36	MP2C	Mx	-.007	4
37	MP3A	X	104.916	.25
38	MP3A	Z	0	.25
39	MP3A	Mx	.052	.25
40	MP3B	X	129.73	.25
41	MP3B	Z	0	.25
42	MP3B	Mx	-.032	.25

Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
43	MP1B	X	129.918	.25
44	MP1B	Z	0	.25
45	MP1B	Mx	.032	.25
46	MP1B	X	129.918	2.25
47	MP1B	Z	0	2.25
48	MP1B	Mx	.032	2.25
49	MP1C	X	129.918	.25
50	MP1C	Z	0	.25
51	MP1C	Mx	.032	.25
52	MP1C	X	129.918	2.25
53	MP1C	Z	0	2.25
54	MP1C	Mx	.032	2.25
55	MP1A	X	78.683	.25
56	MP1A	Z	0	.25
57	MP1A	Mx	-.039	.25
58	MP1A	X	78.683	2.25
59	MP1A	Z	0	2.25
60	MP1A	Mx	-.039	2.25
61	MP1A	X	45.275	2.75
62	MP1A	Z	0	2.75
63	MP1A	Mx	.023	2.75
64	MP1B	X	61.926	2.75
65	MP1B	Z	0	2.75
66	MP1B	Mx	-.015	2.75
67	MP1C	X	61.926	2.75
68	MP1C	Z	0	2.75
69	MP1C	Mx	-.015	2.75
70	MP2A	X	50.716	.5
71	MP2A	Z	0	.5
72	MP2A	Mx	-.025	.5
73	MP2A	X	50.716	6
74	MP2A	Z	0	6
75	MP2A	Mx	-.025	6
76	MP2B	X	101.324	.5
77	MP2B	Z	0	.5
78	MP2B	Mx	-.033	.5
79	MP2B	X	101.324	6
80	MP2B	Z	0	6
81	MP2B	Mx	-.033	6
82	MP2C	X	101.324	.5
83	MP2C	Z	0	.5
84	MP2C	Mx	.084	.5
85	MP2C	X	101.324	6
86	MP2C	Z	0	6
87	MP2C	Mx	.084	6
88	MP2A	X	116.271	.5
89	MP2A	Z	0	.5
90	MP2A	Mx	-.058	.5
91	MP2A	X	116.271	6
92	MP2A	Z	0	6
93	MP2A	Mx	-.058	6
94	MP2B	X	160.484	.5

Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
95	MP2B	Z	0	.5
96	MP2B	Mx	.133	.5
97	MP2B	X	160.484	6
98	MP2B	Z	0	6
99	MP2B	Mx	.133	6
100	MP2C	X	160.484	.5
101	MP2C	Z	0	.5
102	MP2C	Mx	-.053	.5
103	MP2C	X	160.484	6
104	MP2C	Z	0	6
105	MP2C	Mx	-.053	6

Member Point Loads (BLC 7 : Antenna Wo (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	30.585	.25
2	MP4A	Z	17.658	.25
3	MP4A	Mx	-.015	.25
4	MP4A	X	30.585	2.25
5	MP4A	Z	17.658	2.25
6	MP4A	Mx	-.015	2.25
7	MP4B	X	59.568	.25
8	MP4B	Z	34.391	.25
9	MP4B	Mx	0	.25
10	MP4B	X	59.568	2.25
11	MP4B	Z	34.391	2.25
12	MP4B	Mx	0	2.25
13	MP4C	X	30.585	.25
14	MP4C	Z	17.658	.25
15	MP4C	Mx	.015	.25
16	MP4C	X	30.585	2.25
17	MP4C	Z	17.658	2.25
18	MP4C	Mx	.015	2.25
19	MP2A	X	53.677	1
20	MP2A	Z	30.99	1
21	MP2A	Mx	.027	1
22	MP2B	X	70.501	1
23	MP2B	Z	40.704	1
24	MP2B	Mx	0	1
25	MP2C	X	53.677	1
26	MP2C	Z	30.99	1
27	MP2C	Mx	-.027	1
28	MP2A	X	19.605	4
29	MP2A	Z	11.319	4
30	MP2A	Mx	.01	4
31	MP2B	X	28.653	4
32	MP2B	Z	16.543	4
33	MP2B	Mx	0	4
34	MP2C	X	19.605	4
35	MP2C	Z	11.319	4
36	MP2C	Mx	-.01	4
37	MP3A	X	98.023	.25

Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
38	MP3A	Z	56.593	.25
39	MP3A	Mx	.049	.25
40	MP3B	X	119.512	.25
41	MP3B	Z	69	.25
42	MP3B	Mx	0	.25
43	MP1B	X	115.931	.25
44	MP1B	Z	66.933	.25
45	MP1B	Mx	0	.25
46	MP1B	X	115.931	2.25
47	MP1B	Z	66.933	2.25
48	MP1B	Mx	0	2.25
49	MP1C	X	105.676	.25
50	MP1C	Z	61.012	.25
51	MP1C	Mx	.053	.25
52	MP1C	X	105.676	2.25
53	MP1C	Z	61.012	2.25
54	MP1C	Mx	.053	2.25
55	MP1A	X	64.584	.25
56	MP1A	Z	37.288	.25
57	MP1A	Mx	-.032	.25
58	MP1A	X	64.584	2.25
59	MP1A	Z	37.288	2.25
60	MP1A	Mx	-.032	2.25
61	MP1A	X	44.016	2.75
62	MP1A	Z	25.413	2.75
63	MP1A	Mx	.022	2.75
64	MP1B	X	58.437	2.75
65	MP1B	Z	33.738	2.75
66	MP1B	Mx	0	2.75
67	MP1C	X	44.016	2.75
68	MP1C	Z	25.413	2.75
69	MP1C	Mx	-.022	2.75
70	MP2A	X	58.531	.5
71	MP2A	Z	33.793	.5
72	MP2A	Mx	-.007	.5
73	MP2A	X	58.531	6
74	MP2A	Z	33.793	6
75	MP2A	Mx	-.007	6
76	MP2B	X	102.358	.5
77	MP2B	Z	59.097	.5
78	MP2B	Mx	-.079	.5
79	MP2B	X	102.358	6
80	MP2B	Z	59.097	6
81	MP2B	Mx	-.079	6
82	MP2C	X	58.531	.5
83	MP2C	Z	33.793	.5
84	MP2C	Mx	.052	.5
85	MP2C	X	58.531	6
86	MP2C	Z	33.793	6
87	MP2C	Mx	.052	6
88	MP2A	X	113.457	.5
89	MP2A	Z	65.504	.5

Member Point Loads (BLC 7 : Antenna Wo (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
90	MP2A	Mx	-.1	.5
91	MP2A	X	113.457	6
92	MP2A	Z	65.504	6
93	MP2A	Mx	-.1	6
94	MP2B	X	151.747	.5
95	MP2B	Z	87.611	.5
96	MP2B	Mx	.117	.5
97	MP2B	X	151.747	6
98	MP2B	Z	87.611	6
99	MP2B	Mx	.117	6
100	MP2C	X	113.457	.5
101	MP2C	Z	65.504	.5
102	MP2C	Mx	.013	.5
103	MP2C	X	113.457	6
104	MP2C	Z	65.504	6
105	MP2C	Mx	.013	6

Member Point Loads (BLC 8 : Antenna Wo (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	28.814	.25
2	MP4A	Z	49.907	.25
3	MP4A	Mx	-.014	.25
4	MP4A	X	28.814	2.25
5	MP4A	Z	49.907	2.25
6	MP4A	Mx	-.014	2.25
7	MP4B	X	28.814	.25
8	MP4B	Z	49.907	.25
9	MP4B	Mx	-.014	.25
10	MP4B	X	28.814	2.25
11	MP4B	Z	49.907	2.25
12	MP4B	Mx	-.014	2.25
13	MP4C	X	12.081	.25
14	MP4C	Z	20.924	.25
15	MP4C	Mx	.012	.25
16	MP4C	X	12.081	2.25
17	MP4C	Z	20.924	2.25
18	MP4C	Mx	.012	2.25
19	MP2A	X	37.466	1
20	MP2A	Z	64.893	1
21	MP2A	Mx	.019	1
22	MP2B	X	37.466	1
23	MP2B	Z	64.893	1
24	MP2B	Mx	.019	1
25	MP2C	X	27.753	1
26	MP2C	Z	48.069	1
27	MP2C	Mx	-.028	1
28	MP2A	X	14.801	4
29	MP2A	Z	25.637	4
30	MP2A	Mx	.007	4
31	MP2B	X	14.801	4
32	MP2B	Z	25.637	4

Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
33	MP2B	Mx	.007	4
34	MP2C	X	9.577	4
35	MP2C	Z	16.588	4
36	MP2C	Mx	-.01	4
37	MP3A	X	64.865	.25
38	MP3A	Z	112.349	.25
39	MP3A	Mx	.032	.25
40	MP3B	X	64.865	.25
41	MP3B	Z	112.349	.25
42	MP3B	Mx	.032	.25
43	MP1B	X	64.959	.25
44	MP1B	Z	112.513	.25
45	MP1B	Mx	-.032	.25
46	MP1B	X	64.959	2.25
47	MP1B	Z	112.513	2.25
48	MP1B	Mx	-.032	2.25
49	MP1C	X	59.039	.25
50	MP1C	Z	102.258	.25
51	MP1C	Mx	.059	.25
52	MP1C	X	59.039	2.25
53	MP1C	Z	102.258	2.25
54	MP1C	Mx	.059	2.25
55	MP1A	X	33.18	.25
56	MP1A	Z	57.47	.25
57	MP1A	Mx	-.017	.25
58	MP1A	X	33.18	2.25
59	MP1A	Z	57.47	2.25
60	MP1A	Mx	-.017	2.25
61	MP1A	X	30.963	2.75
62	MP1A	Z	53.63	2.75
63	MP1A	Mx	.015	2.75
64	MP1B	X	30.963	2.75
65	MP1B	Z	53.63	2.75
66	MP1B	Mx	.015	2.75
67	MP1C	X	22.637	2.75
68	MP1C	Z	39.209	2.75
69	MP1C	Mx	-.023	2.75
70	MP2A	X	50.662	.5
71	MP2A	Z	87.749	.5
72	MP2A	Mx	.033	.5
73	MP2A	X	50.662	6
74	MP2A	Z	87.749	6
75	MP2A	Mx	.033	6
76	MP2B	X	50.662	.5
77	MP2B	Z	87.749	.5
78	MP2B	Mx	-.084	.5
79	MP2B	X	50.662	6
80	MP2B	Z	87.749	6
81	MP2B	Mx	-.084	6
82	MP2C	X	25.358	.5
83	MP2C	Z	43.922	.5
84	MP2C	Mx	.025	.5

Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
85	MP2C	X	25.358	6
86	MP2C	Z	43.922	6
87	MP2C	Mx	.025	6
88	MP2A	X	80.242	.5
89	MP2A	Z	138.983	.5
90	MP2A	Mx	-.133	.5
91	MP2A	X	80.242	6
92	MP2A	Z	138.983	6
93	MP2A	Mx	-.133	6
94	MP2B	X	80.242	.5
95	MP2B	Z	138.983	.5
96	MP2B	Mx	.053	.5
97	MP2B	X	80.242	6
98	MP2B	Z	138.983	6
99	MP2B	Mx	.053	6
100	MP2C	X	58.135	.5
101	MP2C	Z	100.693	.5
102	MP2C	Mx	.058	.5
103	MP2C	X	58.135	6
104	MP2C	Z	100.693	6
105	MP2C	Mx	.058	6

Member Point Loads (BLC 9 : Antenna Wo (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.25
2	MP4A	Z	68.783	.25
3	MP4A	Mx	0	.25
4	MP4A	X	0	2.25
5	MP4A	Z	68.783	2.25
6	MP4A	Mx	0	2.25
7	MP4B	X	0	.25
8	MP4B	Z	35.316	.25
9	MP4B	Mx	-.015	.25
10	MP4B	X	0	2.25
11	MP4B	Z	35.316	2.25
12	MP4B	Mx	-.015	2.25
13	MP4C	X	0	.25
14	MP4C	Z	35.316	.25
15	MP4C	Mx	.015	.25
16	MP4C	X	0	2.25
17	MP4C	Z	35.316	2.25
18	MP4C	Mx	.015	2.25
19	MP2A	X	0	1
20	MP2A	Z	81.408	1
21	MP2A	Mx	0	1
22	MP2B	X	0	1
23	MP2B	Z	61.981	1
24	MP2B	Mx	.027	1
25	MP2C	X	0	1
26	MP2C	Z	61.981	1
27	MP2C	Mx	-.027	1

Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP2A	X	0	4
29	MP2A	Z	33.085	4
30	MP2A	Mx	0	4
31	MP2B	X	0	4
32	MP2B	Z	22.637	4
33	MP2B	Mx	.01	4
34	MP2C	X	0	4
35	MP2C	Z	22.637	4
36	MP2C	Mx	-.01	4
37	MP3A	X	0	.25
38	MP3A	Z	138.001	.25
39	MP3A	Mx	0	.25
40	MP3B	X	0	.25
41	MP3B	Z	113.187	.25
42	MP3B	Mx	.049	.25
43	MP1B	X	0	.25
44	MP1B	Z	122.024	.25
45	MP1B	Mx	-.053	.25
46	MP1B	X	0	2.25
47	MP1B	Z	122.024	2.25
48	MP1B	Mx	-.053	2.25
49	MP1C	X	0	.25
50	MP1C	Z	122.024	.25
51	MP1C	Mx	.053	.25
52	MP1C	X	0	2.25
53	MP1C	Z	122.024	2.25
54	MP1C	Mx	.053	2.25
55	MP1A	X	0	.25
56	MP1A	Z	62.253	.25
57	MP1A	Mx	0	.25
58	MP1A	X	0	2.25
59	MP1A	Z	62.253	2.25
60	MP1A	Mx	0	2.25
61	MP1A	X	0	2.75
62	MP1A	Z	67.477	2.75
63	MP1A	Mx	0	2.75
64	MP1B	X	0	2.75
65	MP1B	Z	50.825	2.75
66	MP1B	Mx	.022	2.75
67	MP1C	X	0	2.75
68	MP1C	Z	50.825	2.75
69	MP1C	Mx	-.022	2.75
70	MP2A	X	0	.5
71	MP2A	Z	118.193	.5
72	MP2A	Mx	.079	.5
73	MP2A	X	0	6
74	MP2A	Z	118.193	6
75	MP2A	Mx	.079	6
76	MP2B	X	0	.5
77	MP2B	Z	67.586	.5
78	MP2B	Mx	-.052	.5
79	MP2B	X	0	6

Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
80	MP2B	Z	67.586	6
81	MP2B	Mx	-.052	6
82	MP2C	X	0	.5
83	MP2C	Z	67.586	.5
84	MP2C	Mx	.007	.5
85	MP2C	X	0	6
86	MP2C	Z	67.586	6
87	MP2C	Mx	.007	6
88	MP2A	X	0	.5
89	MP2A	Z	175.222	.5
90	MP2A	Mx	-.117	.5
91	MP2A	X	0	6
92	MP2A	Z	175.222	6
93	MP2A	Mx	-.117	6
94	MP2B	X	0	.5
95	MP2B	Z	131.008	.5
96	MP2B	Mx	-.013	.5
97	MP2B	X	0	6
98	MP2B	Z	131.008	6
99	MP2B	Mx	-.013	6
100	MP2C	X	0	.5
101	MP2C	Z	131.008	.5
102	MP2C	Mx	.1	.5
103	MP2C	X	0	6
104	MP2C	Z	131.008	6
105	MP2C	Mx	.1	6

Member Point Loads (BLC 10 : Antenna Wo (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-28.814	.25
2	MP4A	Z	49.907	.25
3	MP4A	Mx	.014	.25
4	MP4A	X	-28.814	2.25
5	MP4A	Z	49.907	2.25
6	MP4A	Mx	.014	2.25
7	MP4B	X	-12.081	.25
8	MP4B	Z	20.924	.25
9	MP4B	Mx	-.012	.25
10	MP4B	X	-12.081	2.25
11	MP4B	Z	20.924	2.25
12	MP4B	Mx	-.012	2.25
13	MP4C	X	-28.814	.25
14	MP4C	Z	49.907	.25
15	MP4C	Mx	.014	.25
16	MP4C	X	-28.814	2.25
17	MP4C	Z	49.907	2.25
18	MP4C	Mx	.014	2.25
19	MP2A	X	-37.466	1
20	MP2A	Z	64.893	1
21	MP2A	Mx	-.019	1
22	MP2B	X	-27.753	1

Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP2B	Z	48.069	1
24	MP2B	Mx	.028	1
25	MP2C	X	-37.466	1
26	MP2C	Z	64.893	1
27	MP2C	Mx	-.019	1
28	MP2A	X	-14.801	4
29	MP2A	Z	25.637	4
30	MP2A	Mx	-.007	4
31	MP2B	X	-9.577	4
32	MP2B	Z	16.588	4
33	MP2B	Mx	.01	4
34	MP2C	X	-14.801	4
35	MP2C	Z	25.637	4
36	MP2C	Mx	-.007	4
37	MP3A	X	-64.865	.25
38	MP3A	Z	112.349	.25
39	MP3A	Mx	-.032	.25
40	MP3B	X	-52.458	.25
41	MP3B	Z	90.86	.25
42	MP3B	Mx	.052	.25
43	MP1B	X	-59.039	.25
44	MP1B	Z	102.258	.25
45	MP1B	Mx	-.059	.25
46	MP1B	X	-59.039	2.25
47	MP1B	Z	102.258	2.25
48	MP1B	Mx	-.059	2.25
49	MP1C	X	-64.959	.25
50	MP1C	Z	112.513	.25
51	MP1C	Mx	.032	.25
52	MP1C	X	-64.959	2.25
53	MP1C	Z	112.513	2.25
54	MP1C	Mx	.032	2.25
55	MP1A	X	-33.18	.25
56	MP1A	Z	57.47	.25
57	MP1A	Mx	.017	.25
58	MP1A	X	-33.18	2.25
59	MP1A	Z	57.47	2.25
60	MP1A	Mx	.017	2.25
61	MP1A	X	-30.963	2.75
62	MP1A	Z	53.63	2.75
63	MP1A	Mx	-.015	2.75
64	MP1B	X	-22.637	2.75
65	MP1B	Z	39.209	2.75
66	MP1B	Mx	.023	2.75
67	MP1C	X	-30.963	2.75
68	MP1C	Z	53.63	2.75
69	MP1C	Mx	-.015	2.75
70	MP2A	X	-50.662	.5
71	MP2A	Z	87.749	.5
72	MP2A	Mx	.084	.5
73	MP2A	X	-50.662	6
74	MP2A	Z	87.749	6

Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
75	MP2A	Mx	.084	6
76	MP2B	X	-25.358	.5
77	MP2B	Z	43.922	.5
78	MP2B	Mx	-.025	.5
79	MP2B	X	-25.358	6
80	MP2B	Z	43.922	6
81	MP2B	Mx	-.025	6
82	MP2C	X	-50.662	.5
83	MP2C	Z	87.749	.5
84	MP2C	Mx	-.033	.5
85	MP2C	X	-50.662	6
86	MP2C	Z	87.749	6
87	MP2C	Mx	-.033	6
88	MP2A	X	-80.242	.5
89	MP2A	Z	138.983	.5
90	MP2A	Mx	-.053	.5
91	MP2A	X	-80.242	6
92	MP2A	Z	138.983	6
93	MP2A	Mx	-.053	6
94	MP2B	X	-58.135	.5
95	MP2B	Z	100.693	.5
96	MP2B	Mx	-.058	.5
97	MP2B	X	-58.135	6
98	MP2B	Z	100.693	6
99	MP2B	Mx	-.058	6
100	MP2C	X	-80.242	.5
101	MP2C	Z	138.983	.5
102	MP2C	Mx	.133	.5
103	MP2C	X	-80.242	6
104	MP2C	Z	138.983	6
105	MP2C	Mx	.133	6

Member Point Loads (BLC 11 : Antenna Wo (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-30.585	.25
2	MP4A	Z	17.658	.25
3	MP4A	Mx	.015	.25
4	MP4A	X	-30.585	2.25
5	MP4A	Z	17.658	2.25
6	MP4A	Mx	.015	2.25
7	MP4B	X	-30.585	.25
8	MP4B	Z	17.658	.25
9	MP4B	Mx	-.015	.25
10	MP4B	X	-30.585	2.25
11	MP4B	Z	17.658	2.25
12	MP4B	Mx	-.015	2.25
13	MP4C	X	-59.568	.25
14	MP4C	Z	34.391	.25
15	MP4C	Mx	0	.25
16	MP4C	X	-59.568	2.25
17	MP4C	Z	34.391	2.25

Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP4C	Mx	0	2.25
19	MP2A	X	-53.677	1
20	MP2A	Z	30.99	1
21	MP2A	Mx	-.027	1
22	MP2B	X	-53.677	1
23	MP2B	Z	30.99	1
24	MP2B	Mx	.027	1
25	MP2C	X	-70.501	1
26	MP2C	Z	40.704	1
27	MP2C	Mx	0	1
28	MP2A	X	-19.605	4
29	MP2A	Z	11.319	4
30	MP2A	Mx	-.01	4
31	MP2B	X	-19.605	4
32	MP2B	Z	11.319	4
33	MP2B	Mx	.01	4
34	MP2C	X	-28.653	4
35	MP2C	Z	16.543	4
36	MP2C	Mx	0	4
37	MP3A	X	-98.023	.25
38	MP3A	Z	56.593	.25
39	MP3A	Mx	-.049	.25
40	MP3B	X	-98.023	.25
41	MP3B	Z	56.593	.25
42	MP3B	Mx	.049	.25
43	MP1B	X	-105.676	.25
44	MP1B	Z	61.012	.25
45	MP1B	Mx	-.053	.25
46	MP1B	X	-105.676	2.25
47	MP1B	Z	61.012	2.25
48	MP1B	Mx	-.053	2.25
49	MP1C	X	-115.931	.25
50	MP1C	Z	66.933	.25
51	MP1C	Mx	0	.25
52	MP1C	X	-115.931	2.25
53	MP1C	Z	66.933	2.25
54	MP1C	Mx	0	2.25
55	MP1A	X	-64.584	.25
56	MP1A	Z	37.288	.25
57	MP1A	Mx	.032	.25
58	MP1A	X	-64.584	2.25
59	MP1A	Z	37.288	2.25
60	MP1A	Mx	.032	2.25
61	MP1A	X	-44.016	2.75
62	MP1A	Z	25.413	2.75
63	MP1A	Mx	-.022	2.75
64	MP1B	X	-44.016	2.75
65	MP1B	Z	25.413	2.75
66	MP1B	Mx	.022	2.75
67	MP1C	X	-58.437	2.75
68	MP1C	Z	33.738	2.75
69	MP1C	Mx	0	2.75

Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
70	MP2A	X	-58.531	.5
71	MP2A	Z	33.793	.5
72	MP2A	Mx	.052	.5
73	MP2A	X	-58.531	6
74	MP2A	Z	33.793	6
75	MP2A	Mx	.052	6
76	MP2B	X	-58.531	.5
77	MP2B	Z	33.793	.5
78	MP2B	Mx	-.007	.5
79	MP2B	X	-58.531	6
80	MP2B	Z	33.793	6
81	MP2B	Mx	-.007	6
82	MP2C	X	-102.358	.5
83	MP2C	Z	59.097	.5
84	MP2C	Mx	-.079	.5
85	MP2C	X	-102.358	6
86	MP2C	Z	59.097	6
87	MP2C	Mx	-.079	6
88	MP2A	X	-113.457	.5
89	MP2A	Z	65.504	.5
90	MP2A	Mx	.013	.5
91	MP2A	X	-113.457	6
92	MP2A	Z	65.504	6
93	MP2A	Mx	.013	6
94	MP2B	X	-113.457	.5
95	MP2B	Z	65.504	.5
96	MP2B	Mx	-.1	.5
97	MP2B	X	-113.457	6
98	MP2B	Z	65.504	6
99	MP2B	Mx	-.1	6
100	MP2C	X	-151.747	.5
101	MP2C	Z	87.611	.5
102	MP2C	Mx	.117	.5
103	MP2C	X	-151.747	6
104	MP2C	Z	87.611	6
105	MP2C	Mx	.117	6

Member Point Loads (BLC 12 : Antenna Wo (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-24.161	.25
2	MP4A	Z	0	.25
3	MP4A	Mx	.012	.25
4	MP4A	X	-24.161	2.25
5	MP4A	Z	0	2.25
6	MP4A	Mx	.012	2.25
7	MP4B	X	-57.627	.25
8	MP4B	Z	0	.25
9	MP4B	Mx	-.014	.25
10	MP4B	X	-57.627	2.25
11	MP4B	Z	0	2.25
12	MP4B	Mx	-.014	2.25

Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP4C	X	-57.627	.25
14	MP4C	Z	0	.25
15	MP4C	Mx	-.014	.25
16	MP4C	X	-57.627	2.25
17	MP4C	Z	0	2.25
18	MP4C	Mx	-.014	2.25
19	MP2A	X	-55.505	1
20	MP2A	Z	0	1
21	MP2A	Mx	-.028	1
22	MP2B	X	-74.932	1
23	MP2B	Z	0	1
24	MP2B	Mx	.019	1
25	MP2C	X	-74.932	1
26	MP2C	Z	0	1
27	MP2C	Mx	.019	1
28	MP2A	X	-19.155	4
29	MP2A	Z	0	4
30	MP2A	Mx	-.01	4
31	MP2B	X	-29.603	4
32	MP2B	Z	0	4
33	MP2B	Mx	.007	4
34	MP2C	X	-29.603	4
35	MP2C	Z	0	4
36	MP2C	Mx	.007	4
37	MP3A	X	-104.916	.25
38	MP3A	Z	0	.25
39	MP3A	Mx	-.052	.25
40	MP3B	X	-129.73	.25
41	MP3B	Z	0	.25
42	MP3B	Mx	.032	.25
43	MP1B	X	-129.918	.25
44	MP1B	Z	0	.25
45	MP1B	Mx	-.032	.25
46	MP1B	X	-129.918	2.25
47	MP1B	Z	0	2.25
48	MP1B	Mx	-.032	2.25
49	MP1C	X	-129.918	.25
50	MP1C	Z	0	.25
51	MP1C	Mx	-.032	.25
52	MP1C	X	-129.918	2.25
53	MP1C	Z	0	2.25
54	MP1C	Mx	-.032	2.25
55	MP1A	X	-78.683	.25
56	MP1A	Z	0	.25
57	MP1A	Mx	.039	.25
58	MP1A	X	-78.683	2.25
59	MP1A	Z	0	2.25
60	MP1A	Mx	.039	2.25
61	MP1A	X	-45.275	2.75
62	MP1A	Z	0	2.75
63	MP1A	Mx	-.023	2.75
64	MP1B	X	-61.926	2.75

Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
65	MP1B	Z	0	2.75
66	MP1B	Mx	.015	2.75
67	MP1C	X	-61.926	2.75
68	MP1C	Z	0	2.75
69	MP1C	Mx	.015	2.75
70	MP2A	X	-50.716	.5
71	MP2A	Z	0	.5
72	MP2A	Mx	.025	.5
73	MP2A	X	-50.716	6
74	MP2A	Z	0	6
75	MP2A	Mx	.025	6
76	MP2B	X	-101.324	.5
77	MP2B	Z	0	.5
78	MP2B	Mx	.033	.5
79	MP2B	X	-101.324	6
80	MP2B	Z	0	6
81	MP2B	Mx	.033	6
82	MP2C	X	-101.324	.5
83	MP2C	Z	0	.5
84	MP2C	Mx	-.084	.5
85	MP2C	X	-101.324	6
86	MP2C	Z	0	6
87	MP2C	Mx	-.084	6
88	MP2A	X	-116.271	.5
89	MP2A	Z	0	.5
90	MP2A	Mx	.058	.5
91	MP2A	X	-116.271	6
92	MP2A	Z	0	6
93	MP2A	Mx	.058	6
94	MP2B	X	-160.484	.5
95	MP2B	Z	0	.5
96	MP2B	Mx	-.133	.5
97	MP2B	X	-160.484	6
98	MP2B	Z	0	6
99	MP2B	Mx	-.133	6
100	MP2C	X	-160.484	.5
101	MP2C	Z	0	.5
102	MP2C	Mx	.053	.5
103	MP2C	X	-160.484	6
104	MP2C	Z	0	6
105	MP2C	Mx	.053	6

Member Point Loads (BLC 13 : Antenna Wo (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-30.585	.25
2	MP4A	Z	-17.658	.25
3	MP4A	Mx	.015	.25
4	MP4A	X	-30.585	2.25
5	MP4A	Z	-17.658	2.25
6	MP4A	Mx	.015	2.25
7	MP4B	X	-59.568	.25

Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP4B	Z	-34.391	.25
9	MP4B	Mx	0	.25
10	MP4B	X	-59.568	2.25
11	MP4B	Z	-34.391	2.25
12	MP4B	Mx	0	2.25
13	MP4C	X	-30.585	.25
14	MP4C	Z	-17.658	.25
15	MP4C	Mx	-.015	.25
16	MP4C	X	-30.585	2.25
17	MP4C	Z	-17.658	2.25
18	MP4C	Mx	-.015	2.25
19	MP2A	X	-53.677	1
20	MP2A	Z	-30.99	1
21	MP2A	Mx	-.027	1
22	MP2B	X	-70.501	1
23	MP2B	Z	-40.704	1
24	MP2B	Mx	0	1
25	MP2C	X	-53.677	1
26	MP2C	Z	-30.99	1
27	MP2C	Mx	.027	1
28	MP2A	X	-19.605	4
29	MP2A	Z	-11.319	4
30	MP2A	Mx	-.01	4
31	MP2B	X	-28.653	4
32	MP2B	Z	-16.543	4
33	MP2B	Mx	0	4
34	MP2C	X	-19.605	4
35	MP2C	Z	-11.319	4
36	MP2C	Mx	.01	4
37	MP3A	X	-98.023	.25
38	MP3A	Z	-56.593	.25
39	MP3A	Mx	-.049	.25
40	MP3B	X	-119.512	.25
41	MP3B	Z	-69	.25
42	MP3B	Mx	0	.25
43	MP1B	X	-115.931	.25
44	MP1B	Z	-66.933	.25
45	MP1B	Mx	0	.25
46	MP1B	X	-115.931	2.25
47	MP1B	Z	-66.933	2.25
48	MP1B	Mx	0	2.25
49	MP1C	X	-105.676	.25
50	MP1C	Z	-61.012	.25
51	MP1C	Mx	-.053	.25
52	MP1C	X	-105.676	2.25
53	MP1C	Z	-61.012	2.25
54	MP1C	Mx	-.053	2.25
55	MP1A	X	-64.584	.25
56	MP1A	Z	-37.288	.25
57	MP1A	Mx	.032	.25
58	MP1A	X	-64.584	2.25
59	MP1A	Z	-37.288	2.25

Member Point Loads (BLC 13 : Antenna Wo (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP1A	Mx	.032	2.25
61	MP1A	X	-44.016	2.75
62	MP1A	Z	-25.413	2.75
63	MP1A	Mx	-.022	2.75
64	MP1B	X	-58.437	2.75
65	MP1B	Z	-33.738	2.75
66	MP1B	Mx	0	2.75
67	MP1C	X	-44.016	2.75
68	MP1C	Z	-25.413	2.75
69	MP1C	Mx	.022	2.75
70	MP2A	X	-58.531	.5
71	MP2A	Z	-33.793	.5
72	MP2A	Mx	.007	.5
73	MP2A	X	-58.531	6
74	MP2A	Z	-33.793	6
75	MP2A	Mx	.007	6
76	MP2B	X	-102.358	.5
77	MP2B	Z	-59.097	.5
78	MP2B	Mx	.079	.5
79	MP2B	X	-102.358	6
80	MP2B	Z	-59.097	6
81	MP2B	Mx	.079	6
82	MP2C	X	-58.531	.5
83	MP2C	Z	-33.793	.5
84	MP2C	Mx	-.052	.5
85	MP2C	X	-58.531	6
86	MP2C	Z	-33.793	6
87	MP2C	Mx	-.052	6
88	MP2A	X	-113.457	.5
89	MP2A	Z	-65.504	.5
90	MP2A	Mx	.1	.5
91	MP2A	X	-113.457	6
92	MP2A	Z	-65.504	6
93	MP2A	Mx	.1	6
94	MP2B	X	-151.747	.5
95	MP2B	Z	-87.611	.5
96	MP2B	Mx	-.117	.5
97	MP2B	X	-151.747	6
98	MP2B	Z	-87.611	6
99	MP2B	Mx	-.117	6
100	MP2C	X	-113.457	.5
101	MP2C	Z	-65.504	.5
102	MP2C	Mx	-.013	.5
103	MP2C	X	-113.457	6
104	MP2C	Z	-65.504	6
105	MP2C	Mx	-.013	6

Member Point Loads (BLC 14 : Antenna Wo (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-28.814	.25
2	MP4A	Z	-49.907	.25

Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
3	MP4A	Mx	.014	.25
4	MP4A	X	-28.814	2.25
5	MP4A	Z	-49.907	2.25
6	MP4A	Mx	.014	2.25
7	MP4B	X	-28.814	.25
8	MP4B	Z	-49.907	.25
9	MP4B	Mx	.014	.25
10	MP4B	X	-28.814	2.25
11	MP4B	Z	-49.907	2.25
12	MP4B	Mx	.014	2.25
13	MP4C	X	-12.081	.25
14	MP4C	Z	-20.924	.25
15	MP4C	Mx	-.012	.25
16	MP4C	X	-12.081	2.25
17	MP4C	Z	-20.924	2.25
18	MP4C	Mx	-.012	2.25
19	MP2A	X	-37.466	1
20	MP2A	Z	-64.893	1
21	MP2A	Mx	-.019	1
22	MP2B	X	-37.466	1
23	MP2B	Z	-64.893	1
24	MP2B	Mx	-.019	1
25	MP2C	X	-27.753	1
26	MP2C	Z	-48.069	1
27	MP2C	Mx	.028	1
28	MP2A	X	-14.801	4
29	MP2A	Z	-25.637	4
30	MP2A	Mx	-.007	4
31	MP2B	X	-14.801	4
32	MP2B	Z	-25.637	4
33	MP2B	Mx	-.007	4
34	MP2C	X	-9.577	4
35	MP2C	Z	-16.588	4
36	MP2C	Mx	.01	4
37	MP3A	X	-64.865	.25
38	MP3A	Z	-112.349	.25
39	MP3A	Mx	-.032	.25
40	MP3B	X	-64.865	.25
41	MP3B	Z	-112.349	.25
42	MP3B	Mx	-.032	.25
43	MP1B	X	-64.959	.25
44	MP1B	Z	-112.513	.25
45	MP1B	Mx	.032	.25
46	MP1B	X	-64.959	2.25
47	MP1B	Z	-112.513	2.25
48	MP1B	Mx	.032	2.25
49	MP1C	X	-59.039	.25
50	MP1C	Z	-102.258	.25
51	MP1C	Mx	-.059	.25
52	MP1C	X	-59.039	2.25
53	MP1C	Z	-102.258	2.25
54	MP1C	Mx	-.059	2.25

Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
55	MP1A	X	-33.18	.25
56	MP1A	Z	-57.47	.25
57	MP1A	Mx	.017	.25
58	MP1A	X	-33.18	2.25
59	MP1A	Z	-57.47	2.25
60	MP1A	Mx	.017	2.25
61	MP1A	X	-30.963	2.75
62	MP1A	Z	-53.63	2.75
63	MP1A	Mx	-.015	2.75
64	MP1B	X	-30.963	2.75
65	MP1B	Z	-53.63	2.75
66	MP1B	Mx	-.015	2.75
67	MP1C	X	-22.637	2.75
68	MP1C	Z	-39.209	2.75
69	MP1C	Mx	.023	2.75
70	MP2A	X	-50.662	.5
71	MP2A	Z	-87.749	.5
72	MP2A	Mx	-.033	.5
73	MP2A	X	-50.662	6
74	MP2A	Z	-87.749	6
75	MP2A	Mx	-.033	6
76	MP2B	X	-50.662	.5
77	MP2B	Z	-87.749	.5
78	MP2B	Mx	.084	.5
79	MP2B	X	-50.662	6
80	MP2B	Z	-87.749	6
81	MP2B	Mx	.084	6
82	MP2C	X	-25.358	.5
83	MP2C	Z	-43.922	.5
84	MP2C	Mx	-.025	.5
85	MP2C	X	-25.358	6
86	MP2C	Z	-43.922	6
87	MP2C	Mx	-.025	6
88	MP2A	X	-80.242	.5
89	MP2A	Z	-138.983	.5
90	MP2A	Mx	.133	.5
91	MP2A	X	-80.242	6
92	MP2A	Z	-138.983	6
93	MP2A	Mx	.133	6
94	MP2B	X	-80.242	.5
95	MP2B	Z	-138.983	.5
96	MP2B	Mx	-.053	.5
97	MP2B	X	-80.242	6
98	MP2B	Z	-138.983	6
99	MP2B	Mx	-.053	6
100	MP2C	X	-58.135	.5
101	MP2C	Z	-100.693	.5
102	MP2C	Mx	-.058	.5
103	MP2C	X	-58.135	6
104	MP2C	Z	-100.693	6
105	MP2C	Mx	-.058	6

Member Point Loads (BLC 15 : Antenna Wi (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.25
2	MP4A	Z	-17.499	.25
3	MP4A	Mx	0	.25
4	MP4A	X	0	2.25
5	MP4A	Z	-17.499	2.25
6	MP4A	Mx	0	2.25
7	MP4B	X	0	.25
8	MP4B	Z	-10.185	.25
9	MP4B	Mx	.004	.25
10	MP4B	X	0	2.25
11	MP4B	Z	-10.185	2.25
12	MP4B	Mx	.004	2.25
13	MP4C	X	0	.25
14	MP4C	Z	-10.185	.25
15	MP4C	Mx	-.004	.25
16	MP4C	X	0	2.25
17	MP4C	Z	-10.185	2.25
18	MP4C	Mx	-.004	2.25
19	MP2A	X	0	1
20	MP2A	Z	-18.508	1
21	MP2A	Mx	0	1
22	MP2B	X	0	1
23	MP2B	Z	-14.641	1
24	MP2B	Mx	-.006	1
25	MP2C	X	0	1
26	MP2C	Z	-14.641	1
27	MP2C	Mx	.006	1
28	MP2A	X	0	4
29	MP2A	Z	-9.574	4
30	MP2A	Mx	0	4
31	MP2B	X	0	4
32	MP2B	Z	-6.236	4
33	MP2B	Mx	-.003	4
34	MP2C	X	0	4
35	MP2C	Z	-6.236	4
36	MP2C	Mx	.003	4
37	MP3A	X	0	.25
38	MP3A	Z	-37.064	.25
39	MP3A	Mx	0	.25
40	MP3B	X	0	.25
41	MP3B	Z	-31.251	.25
42	MP3B	Mx	-.014	.25
43	MP1B	X	0	.25
44	MP1B	Z	-25.036	.25
45	MP1B	Mx	.011	.25
46	MP1B	X	0	2.25
47	MP1B	Z	-25.036	2.25
48	MP1B	Mx	.011	2.25
49	MP1C	X	0	.25
50	MP1C	Z	-25.036	.25
51	MP1C	Mx	-.011	.25
52	MP1C	X	0	2.25

Member Point Loads (BLC 15 : Antenna Wi (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1C	Z	-25.036	2.25
54	MP1C	Mx	-.011	2.25
55	MP1A	X	0	.25
56	MP1A	Z	-14.112	.25
57	MP1A	Mx	0	.25
58	MP1A	X	0	2.25
59	MP1A	Z	-14.112	2.25
60	MP1A	Mx	0	2.25
61	MP1A	X	0	2.75
62	MP1A	Z	-18.508	2.75
63	MP1A	Mx	0	2.75
64	MP1B	X	0	2.75
65	MP1B	Z	-14.48	2.75
66	MP1B	Mx	-.006	2.75
67	MP1C	X	0	2.75
68	MP1C	Z	-14.48	2.75
69	MP1C	Mx	.006	2.75
70	MP2A	X	0	.5
71	MP2A	Z	-35.463	.5
72	MP2A	Mx	-.024	.5
73	MP2A	X	0	6
74	MP2A	Z	-35.463	6
75	MP2A	Mx	-.024	6
76	MP2B	X	0	.5
77	MP2B	Z	-27.584	.5
78	MP2B	Mx	.021	.5
79	MP2B	X	0	6
80	MP2B	Z	-27.584	6
81	MP2B	Mx	.021	6
82	MP2C	X	0	.5
83	MP2C	Z	-27.584	.5
84	MP2C	Mx	-.003	.5
85	MP2C	X	0	6
86	MP2C	Z	-27.584	6
87	MP2C	Mx	-.003	6
88	MP2A	X	0	.5
89	MP2A	Z	-35.463	.5
90	MP2A	Mx	.024	.5
91	MP2A	X	0	6
92	MP2A	Z	-35.463	6
93	MP2A	Mx	.024	6
94	MP2B	X	0	.5
95	MP2B	Z	-27.584	.5
96	MP2B	Mx	.003	.5
97	MP2B	X	0	6
98	MP2B	Z	-27.584	6
99	MP2B	Mx	.003	6
100	MP2C	X	0	.5
101	MP2C	Z	-27.584	.5
102	MP2C	Mx	-.021	.5
103	MP2C	X	0	6
104	MP2C	Z	-27.584	6

Member Point Loads (BLC 15 : Antenna Wi (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
105	MP2C	Mx	-.021	6

Member Point Loads (BLC 16 : Antenna Wi (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	7.531	.25
2	MP4A	Z	-13.043	.25
3	MP4A	Mx	-.004	.25
4	MP4A	X	7.531	2.25
5	MP4A	Z	-13.043	2.25
6	MP4A	Mx	-.004	2.25
7	MP4B	X	3.873	.25
8	MP4B	Z	-6.709	.25
9	MP4B	Mx	.004	.25
10	MP4B	X	3.873	2.25
11	MP4B	Z	-6.709	2.25
12	MP4B	Mx	.004	2.25
13	MP4C	X	7.531	.25
14	MP4C	Z	-13.043	.25
15	MP4C	Mx	-.004	.25
16	MP4C	X	7.531	2.25
17	MP4C	Z	-13.043	2.25
18	MP4C	Mx	-.004	2.25
19	MP2A	X	8.61	1
20	MP2A	Z	-14.912	1
21	MP2A	Mx	.004	1
22	MP2B	X	6.676	1
23	MP2B	Z	-11.564	1
24	MP2B	Mx	-.007	1
25	MP2C	X	8.61	1
26	MP2C	Z	-14.912	1
27	MP2C	Mx	.004	1
28	MP2A	X	4.231	4
29	MP2A	Z	-7.328	4
30	MP2A	Mx	.002	4
31	MP2B	X	2.562	4
32	MP2B	Z	-4.437	4
33	MP2B	Mx	-.003	4
34	MP2C	X	4.231	4
35	MP2C	Z	-7.328	4
36	MP2C	Mx	.002	4
37	MP3A	X	17.563	.25
38	MP3A	Z	-30.42	.25
39	MP3A	Mx	.009	.25
40	MP3B	X	14.657	.25
41	MP3B	Z	-25.386	.25
42	MP3B	Mx	-.015	.25
43	MP1B	X	12.161	.25
44	MP1B	Z	-21.063	.25
45	MP1B	Mx	.012	.25
46	MP1B	X	12.161	2.25
47	MP1B	Z	-21.063	2.25

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
48	MP1B	Mx	.012	2.25
49	MP1C	X	13.233	.25
50	MP1C	Z	-22.92	.25
51	MP1C	Mx	-.007	.25
52	MP1C	X	13.233	2.25
53	MP1C	Z	-22.92	2.25
54	MP1C	Mx	-.007	2.25
55	MP1A	X	7.426	.25
56	MP1A	Z	-12.861	.25
57	MP1A	Mx	-.004	.25
58	MP1A	X	7.426	2.25
59	MP1A	Z	-12.861	2.25
60	MP1A	Mx	-.004	2.25
61	MP1A	X	8.583	2.75
62	MP1A	Z	-14.866	2.75
63	MP1A	Mx	.004	2.75
64	MP1B	X	6.569	2.75
65	MP1B	Z	-11.378	2.75
66	MP1B	Mx	-.007	2.75
67	MP1C	X	8.583	2.75
68	MP1C	Z	-14.866	2.75
69	MP1C	Mx	.004	2.75
70	MP2A	X	16.418	.5
71	MP2A	Z	-28.438	.5
72	MP2A	Mx	-.027	.5
73	MP2A	X	16.418	6
74	MP2A	Z	-28.438	6
75	MP2A	Mx	-.027	6
76	MP2B	X	12.479	.5
77	MP2B	Z	-21.614	.5
78	MP2B	Mx	.012	.5
79	MP2B	X	12.479	6
80	MP2B	Z	-21.614	6
81	MP2B	Mx	.012	6
82	MP2C	X	16.418	.5
83	MP2C	Z	-28.438	.5
84	MP2C	Mx	.011	.5
85	MP2C	X	16.418	6
86	MP2C	Z	-28.438	6
87	MP2C	Mx	.011	6
88	MP2A	X	16.418	.5
89	MP2A	Z	-28.438	.5
90	MP2A	Mx	.011	.5
91	MP2A	X	16.418	6
92	MP2A	Z	-28.438	6
93	MP2A	Mx	.011	6
94	MP2B	X	12.479	.5
95	MP2B	Z	-21.614	.5
96	MP2B	Mx	.012	.5
97	MP2B	X	12.479	6
98	MP2B	Z	-21.614	6
99	MP2B	Mx	.012	6

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
100	MP2C	X	16.418	.5
101	MP2C	Z	-28.438	.5
102	MP2C	Mx	-.027	.5
103	MP2C	X	16.418	6
104	MP2C	Z	-28.438	6
105	MP2C	Mx	-.027	6

Member Point Loads (BLC 17 : Antenna Wi (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	8.82	.25
2	MP4A	Z	-5.092	.25
3	MP4A	Mx	-.004	.25
4	MP4A	X	8.82	2.25
5	MP4A	Z	-5.092	2.25
6	MP4A	Mx	-.004	2.25
7	MP4B	X	8.82	.25
8	MP4B	Z	-5.092	.25
9	MP4B	Mx	.004	.25
10	MP4B	X	8.82	2.25
11	MP4B	Z	-5.092	2.25
12	MP4B	Mx	.004	2.25
13	MP4C	X	15.155	.25
14	MP4C	Z	-8.75	.25
15	MP4C	Mx	0	.25
16	MP4C	X	15.155	2.25
17	MP4C	Z	-8.75	2.25
18	MP4C	Mx	0	2.25
19	MP2A	X	12.68	1
20	MP2A	Z	-7.321	1
21	MP2A	Mx	.006	1
22	MP2B	X	12.68	1
23	MP2B	Z	-7.321	1
24	MP2B	Mx	-.006	1
25	MP2C	X	16.029	1
26	MP2C	Z	-9.254	1
27	MP2C	Mx	0	1
28	MP2A	X	5.401	4
29	MP2A	Z	-3.118	4
30	MP2A	Mx	.003	4
31	MP2B	X	5.401	4
32	MP2B	Z	-3.118	4
33	MP2B	Mx	-.003	4
34	MP2C	X	8.291	4
35	MP2C	Z	-4.787	4
36	MP2C	Mx	0	4
37	MP3A	X	27.064	.25
38	MP3A	Z	-15.626	.25
39	MP3A	Mx	.014	.25
40	MP3B	X	27.064	.25
41	MP3B	Z	-15.626	.25
42	MP3B	Mx	-.014	.25

Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
43	MP1B	X	21.682	.25
44	MP1B	Z	-12.518	.25
45	MP1B	Mx	.011	.25
46	MP1B	X	21.682	2.25
47	MP1B	Z	-12.518	2.25
48	MP1B	Mx	.011	2.25
49	MP1C	X	23.54	.25
50	MP1C	Z	-13.591	.25
51	MP1C	Mx	0	.25
52	MP1C	X	23.54	2.25
53	MP1C	Z	-13.591	2.25
54	MP1C	Mx	0	2.25
55	MP1A	X	14.141	.25
56	MP1A	Z	-8.164	.25
57	MP1A	Mx	-.007	.25
58	MP1A	X	14.141	2.25
59	MP1A	Z	-8.164	2.25
60	MP1A	Mx	-.007	2.25
61	MP1A	X	12.54	2.75
62	MP1A	Z	-7.24	2.75
63	MP1A	Mx	.006	2.75
64	MP1B	X	12.54	2.75
65	MP1B	Z	-7.24	2.75
66	MP1B	Mx	-.006	2.75
67	MP1C	X	16.029	2.75
68	MP1C	Z	-9.254	2.75
69	MP1C	Mx	0	2.75
70	MP2A	X	23.889	.5
71	MP2A	Z	-13.792	.5
72	MP2A	Mx	-.021	.5
73	MP2A	X	23.889	6
74	MP2A	Z	-13.792	6
75	MP2A	Mx	-.021	6
76	MP2B	X	23.889	.5
77	MP2B	Z	-13.792	.5
78	MP2B	Mx	.003	.5
79	MP2B	X	23.889	6
80	MP2B	Z	-13.792	6
81	MP2B	Mx	.003	6
82	MP2C	X	30.712	.5
83	MP2C	Z	-17.732	.5
84	MP2C	Mx	.024	.5
85	MP2C	X	30.712	6
86	MP2C	Z	-17.732	6
87	MP2C	Mx	.024	6
88	MP2A	X	23.889	.5
89	MP2A	Z	-13.792	.5
90	MP2A	Mx	-.003	.5
91	MP2A	X	23.889	6
92	MP2A	Z	-13.792	6
93	MP2A	Mx	-.003	6
94	MP2B	X	23.889	.5

Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
95	MP2B	Z	-13.792	.5
96	MP2B	Mx	.021	.5
97	MP2B	X	23.889	6
98	MP2B	Z	-13.792	6
99	MP2B	Mx	.021	6
100	MP2C	X	30.712	.5
101	MP2C	Z	-17.732	.5
102	MP2C	Mx	-.024	.5
103	MP2C	X	30.712	6
104	MP2C	Z	-17.732	6
105	MP2C	Mx	-.024	6

Member Point Loads (BLC 18 : Antenna Wi (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	7.747	.25
2	MP4A	Z	0	.25
3	MP4A	Mx	-.004	.25
4	MP4A	X	7.747	2.25
5	MP4A	Z	0	2.25
6	MP4A	Mx	-.004	2.25
7	MP4B	X	15.061	.25
8	MP4B	Z	0	.25
9	MP4B	Mx	.004	.25
10	MP4B	X	15.061	2.25
11	MP4B	Z	0	2.25
12	MP4B	Mx	.004	2.25
13	MP4C	X	15.061	.25
14	MP4C	Z	0	.25
15	MP4C	Mx	.004	.25
16	MP4C	X	15.061	2.25
17	MP4C	Z	0	2.25
18	MP4C	Mx	.004	2.25
19	MP2A	X	13.353	1
20	MP2A	Z	0	1
21	MP2A	Mx	.007	1
22	MP2B	X	17.219	1
23	MP2B	Z	0	1
24	MP2B	Mx	-.004	1
25	MP2C	X	17.219	1
26	MP2C	Z	0	1
27	MP2C	Mx	-.004	1
28	MP2A	X	5.124	4
29	MP2A	Z	0	4
30	MP2A	Mx	.003	4
31	MP2B	X	8.461	4
32	MP2B	Z	0	4
33	MP2B	Mx	-.002	4
34	MP2C	X	8.461	4
35	MP2C	Z	0	4
36	MP2C	Mx	-.002	4
37	MP3A	X	29.313	.25

Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
38	MP3A	Z	0	.25
39	MP3A	Mx	.015	.25
40	MP3B	X	35.126	.25
41	MP3B	Z	0	.25
42	MP3B	Mx	-.009	.25
43	MP1B	X	26.466	.25
44	MP1B	Z	0	.25
45	MP1B	Mx	.007	.25
46	MP1B	X	26.466	2.25
47	MP1B	Z	0	2.25
48	MP1B	Mx	.007	2.25
49	MP1C	X	26.466	.25
50	MP1C	Z	0	.25
51	MP1C	Mx	.007	.25
52	MP1C	X	26.466	2.25
53	MP1C	Z	0	2.25
54	MP1C	Mx	.007	2.25
55	MP1A	X	17.067	.25
56	MP1A	Z	0	.25
57	MP1A	Mx	-.009	.25
58	MP1A	X	17.067	2.25
59	MP1A	Z	0	2.25
60	MP1A	Mx	-.009	2.25
61	MP1A	X	13.138	2.75
62	MP1A	Z	0	2.75
63	MP1A	Mx	.007	2.75
64	MP1B	X	17.166	2.75
65	MP1B	Z	0	2.75
66	MP1B	Mx	-.004	2.75
67	MP1C	X	17.166	2.75
68	MP1C	Z	0	2.75
69	MP1C	Mx	-.004	2.75
70	MP2A	X	24.958	.5
71	MP2A	Z	0	.5
72	MP2A	Mx	-.012	.5
73	MP2A	X	24.958	6
74	MP2A	Z	0	6
75	MP2A	Mx	-.012	6
76	MP2B	X	32.837	.5
77	MP2B	Z	0	.5
78	MP2B	Mx	-.011	.5
79	MP2B	X	32.837	6
80	MP2B	Z	0	6
81	MP2B	Mx	-.011	6
82	MP2C	X	32.837	.5
83	MP2C	Z	0	.5
84	MP2C	Mx	.027	.5
85	MP2C	X	32.837	6
86	MP2C	Z	0	6
87	MP2C	Mx	.027	6
88	MP2A	X	24.958	.5
89	MP2A	Z	0	.5

Member Point Loads (BLC 18 : Antenna Wi (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
90	MP2A	Mx	-.012	.5
91	MP2A	X	24.958	6
92	MP2A	Z	0	6
93	MP2A	Mx	-.012	6
94	MP2B	X	32.837	.5
95	MP2B	Z	0	.5
96	MP2B	Mx	.027	.5
97	MP2B	X	32.837	6
98	MP2B	Z	0	6
99	MP2B	Mx	.027	6
100	MP2C	X	32.837	.5
101	MP2C	Z	0	.5
102	MP2C	Mx	-.011	.5
103	MP2C	X	32.837	6
104	MP2C	Z	0	6
105	MP2C	Mx	-.011	6

Member Point Loads (BLC 19 : Antenna Wi (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	8.82	.25
2	MP4A	Z	5.092	.25
3	MP4A	Mx	-.004	.25
4	MP4A	X	8.82	2.25
5	MP4A	Z	5.092	2.25
6	MP4A	Mx	-.004	2.25
7	MP4B	X	15.155	.25
8	MP4B	Z	8.75	.25
9	MP4B	Mx	0	.25
10	MP4B	X	15.155	2.25
11	MP4B	Z	8.75	2.25
12	MP4B	Mx	0	2.25
13	MP4C	X	8.82	.25
14	MP4C	Z	5.092	.25
15	MP4C	Mx	.004	.25
16	MP4C	X	8.82	2.25
17	MP4C	Z	5.092	2.25
18	MP4C	Mx	.004	2.25
19	MP2A	X	12.68	1
20	MP2A	Z	7.321	1
21	MP2A	Mx	.006	1
22	MP2B	X	16.029	1
23	MP2B	Z	9.254	1
24	MP2B	Mx	0	1
25	MP2C	X	12.68	1
26	MP2C	Z	7.321	1
27	MP2C	Mx	-.006	1
28	MP2A	X	5.401	4
29	MP2A	Z	3.118	4
30	MP2A	Mx	.003	4
31	MP2B	X	8.291	4
32	MP2B	Z	4.787	4

Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
33	MP2B	Mx	0	4
34	MP2C	X	5.401	4
35	MP2C	Z	3.118	4
36	MP2C	Mx	-.003	4
37	MP3A	X	27.064	.25
38	MP3A	Z	15.626	.25
39	MP3A	Mx	.014	.25
40	MP3B	X	32.098	.25
41	MP3B	Z	18.532	.25
42	MP3B	Mx	0	.25
43	MP1B	X	23.54	.25
44	MP1B	Z	13.591	.25
45	MP1B	Mx	0	.25
46	MP1B	X	23.54	2.25
47	MP1B	Z	13.591	2.25
48	MP1B	Mx	0	2.25
49	MP1C	X	21.682	.25
50	MP1C	Z	12.518	.25
51	MP1C	Mx	.011	.25
52	MP1C	X	21.682	2.25
53	MP1C	Z	12.518	2.25
54	MP1C	Mx	.011	2.25
55	MP1A	X	14.141	.25
56	MP1A	Z	8.164	.25
57	MP1A	Mx	-.007	.25
58	MP1A	X	14.141	2.25
59	MP1A	Z	8.164	2.25
60	MP1A	Mx	-.007	2.25
61	MP1A	X	12.54	2.75
62	MP1A	Z	7.24	2.75
63	MP1A	Mx	.006	2.75
64	MP1B	X	16.029	2.75
65	MP1B	Z	9.254	2.75
66	MP1B	Mx	0	2.75
67	MP1C	X	12.54	2.75
68	MP1C	Z	7.24	2.75
69	MP1C	Mx	-.006	2.75
70	MP2A	X	23.889	.5
71	MP2A	Z	13.792	.5
72	MP2A	Mx	-.003	.5
73	MP2A	X	23.889	6
74	MP2A	Z	13.792	6
75	MP2A	Mx	-.003	6
76	MP2B	X	30.712	.5
77	MP2B	Z	17.732	.5
78	MP2B	Mx	-.024	.5
79	MP2B	X	30.712	6
80	MP2B	Z	17.732	6
81	MP2B	Mx	-.024	6
82	MP2C	X	23.889	.5
83	MP2C	Z	13.792	.5
84	MP2C	Mx	.021	.5

Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
85	MP2C	X	23.889	6
86	MP2C	Z	13.792	6
87	MP2C	Mx	.021	6
88	MP2A	X	23.889	.5
89	MP2A	Z	13.792	.5
90	MP2A	Mx	-.021	.5
91	MP2A	X	23.889	6
92	MP2A	Z	13.792	6
93	MP2A	Mx	-.021	6
94	MP2B	X	30.712	.5
95	MP2B	Z	17.732	.5
96	MP2B	Mx	.024	.5
97	MP2B	X	30.712	6
98	MP2B	Z	17.732	6
99	MP2B	Mx	.024	6
100	MP2C	X	23.889	.5
101	MP2C	Z	13.792	.5
102	MP2C	Mx	.003	.5
103	MP2C	X	23.889	6
104	MP2C	Z	13.792	6
105	MP2C	Mx	.003	6

Member Point Loads (BLC 20 : Antenna Wi (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	7.531	.25
2	MP4A	Z	13.043	.25
3	MP4A	Mx	-.004	.25
4	MP4A	X	7.531	2.25
5	MP4A	Z	13.043	2.25
6	MP4A	Mx	-.004	2.25
7	MP4B	X	7.531	.25
8	MP4B	Z	13.043	.25
9	MP4B	Mx	-.004	.25
10	MP4B	X	7.531	2.25
11	MP4B	Z	13.043	2.25
12	MP4B	Mx	-.004	2.25
13	MP4C	X	3.873	.25
14	MP4C	Z	6.709	.25
15	MP4C	Mx	.004	.25
16	MP4C	X	3.873	2.25
17	MP4C	Z	6.709	2.25
18	MP4C	Mx	.004	2.25
19	MP2A	X	8.61	1
20	MP2A	Z	14.912	1
21	MP2A	Mx	.004	1
22	MP2B	X	8.61	1
23	MP2B	Z	14.912	1
24	MP2B	Mx	.004	1
25	MP2C	X	6.676	1
26	MP2C	Z	11.564	1
27	MP2C	Mx	-.007	1

Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP2A	X	4.231	4
29	MP2A	Z	7.328	4
30	MP2A	Mx	.002	4
31	MP2B	X	4.231	4
32	MP2B	Z	7.328	4
33	MP2B	Mx	.002	4
34	MP2C	X	2.562	4
35	MP2C	Z	4.437	4
36	MP2C	Mx	-.003	4
37	MP3A	X	17.563	.25
38	MP3A	Z	30.42	.25
39	MP3A	Mx	.009	.25
40	MP3B	X	17.563	.25
41	MP3B	Z	30.42	.25
42	MP3B	Mx	.009	.25
43	MP1B	X	13.233	.25
44	MP1B	Z	22.92	.25
45	MP1B	Mx	-.007	.25
46	MP1B	X	13.233	2.25
47	MP1B	Z	22.92	2.25
48	MP1B	Mx	-.007	2.25
49	MP1C	X	12.161	.25
50	MP1C	Z	21.063	.25
51	MP1C	Mx	.012	.25
52	MP1C	X	12.161	2.25
53	MP1C	Z	21.063	2.25
54	MP1C	Mx	.012	2.25
55	MP1A	X	7.426	.25
56	MP1A	Z	12.861	.25
57	MP1A	Mx	-.004	.25
58	MP1A	X	7.426	2.25
59	MP1A	Z	12.861	2.25
60	MP1A	Mx	-.004	2.25
61	MP1A	X	8.583	2.75
62	MP1A	Z	14.866	2.75
63	MP1A	Mx	.004	2.75
64	MP1B	X	8.583	2.75
65	MP1B	Z	14.866	2.75
66	MP1B	Mx	.004	2.75
67	MP1C	X	6.569	2.75
68	MP1C	Z	11.378	2.75
69	MP1C	Mx	-.007	2.75
70	MP2A	X	16.418	.5
71	MP2A	Z	28.438	.5
72	MP2A	Mx	.011	.5
73	MP2A	X	16.418	6
74	MP2A	Z	28.438	6
75	MP2A	Mx	.011	6
76	MP2B	X	16.418	.5
77	MP2B	Z	28.438	.5
78	MP2B	Mx	-.027	.5
79	MP2B	X	16.418	6

Member Point Loads (BLC 20 : Antenna Wi (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
80	MP2B	Z	28.438	6
81	MP2B	Mx	-.027	6
82	MP2C	X	12.479	.5
83	MP2C	Z	21.614	.5
84	MP2C	Mx	.012	.5
85	MP2C	X	12.479	6
86	MP2C	Z	21.614	6
87	MP2C	Mx	.012	6
88	MP2A	X	16.418	.5
89	MP2A	Z	28.438	.5
90	MP2A	Mx	-.027	.5
91	MP2A	X	16.418	6
92	MP2A	Z	28.438	6
93	MP2A	Mx	-.027	6
94	MP2B	X	16.418	.5
95	MP2B	Z	28.438	.5
96	MP2B	Mx	.011	.5
97	MP2B	X	16.418	6
98	MP2B	Z	28.438	6
99	MP2B	Mx	.011	6
100	MP2C	X	12.479	.5
101	MP2C	Z	21.614	.5
102	MP2C	Mx	.012	.5
103	MP2C	X	12.479	6
104	MP2C	Z	21.614	6
105	MP2C	Mx	.012	6

Member Point Loads (BLC 21 : Antenna Wi (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.25
2	MP4A	Z	17.499	.25
3	MP4A	Mx	0	.25
4	MP4A	X	0	2.25
5	MP4A	Z	17.499	2.25
6	MP4A	Mx	0	2.25
7	MP4B	X	0	.25
8	MP4B	Z	10.185	.25
9	MP4B	Mx	-.004	.25
10	MP4B	X	0	2.25
11	MP4B	Z	10.185	2.25
12	MP4B	Mx	-.004	2.25
13	MP4C	X	0	.25
14	MP4C	Z	10.185	.25
15	MP4C	Mx	.004	.25
16	MP4C	X	0	2.25
17	MP4C	Z	10.185	2.25
18	MP4C	Mx	.004	2.25
19	MP2A	X	0	1
20	MP2A	Z	18.508	1
21	MP2A	Mx	0	1
22	MP2B	X	0	1

Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP2B	Z	14.641	1
24	MP2B	Mx	.006	1
25	MP2C	X	0	1
26	MP2C	Z	14.641	1
27	MP2C	Mx	-.006	1
28	MP2A	X	0	4
29	MP2A	Z	9.574	4
30	MP2A	Mx	0	4
31	MP2B	X	0	4
32	MP2B	Z	6.236	4
33	MP2B	Mx	.003	4
34	MP2C	X	0	4
35	MP2C	Z	6.236	4
36	MP2C	Mx	-.003	4
37	MP3A	X	0	.25
38	MP3A	Z	37.064	.25
39	MP3A	Mx	0	.25
40	MP3B	X	0	.25
41	MP3B	Z	31.251	.25
42	MP3B	Mx	.014	.25
43	MP1B	X	0	.25
44	MP1B	Z	25.036	.25
45	MP1B	Mx	-.011	.25
46	MP1B	X	0	2.25
47	MP1B	Z	25.036	2.25
48	MP1B	Mx	-.011	2.25
49	MP1C	X	0	.25
50	MP1C	Z	25.036	.25
51	MP1C	Mx	.011	.25
52	MP1C	X	0	2.25
53	MP1C	Z	25.036	2.25
54	MP1C	Mx	.011	2.25
55	MP1A	X	0	.25
56	MP1A	Z	14.112	.25
57	MP1A	Mx	0	.25
58	MP1A	X	0	2.25
59	MP1A	Z	14.112	2.25
60	MP1A	Mx	0	2.25
61	MP1A	X	0	2.75
62	MP1A	Z	18.508	2.75
63	MP1A	Mx	0	2.75
64	MP1B	X	0	2.75
65	MP1B	Z	14.48	2.75
66	MP1B	Mx	.006	2.75
67	MP1C	X	0	2.75
68	MP1C	Z	14.48	2.75
69	MP1C	Mx	-.006	2.75
70	MP2A	X	0	.5
71	MP2A	Z	35.463	.5
72	MP2A	Mx	.024	.5
73	MP2A	X	0	6
74	MP2A	Z	35.463	6

Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
75	MP2A	Mx	.024	6
76	MP2B	X	0	.5
77	MP2B	Z	27.584	.5
78	MP2B	Mx	-.021	.5
79	MP2B	X	0	6
80	MP2B	Z	27.584	6
81	MP2B	Mx	-.021	6
82	MP2C	X	0	.5
83	MP2C	Z	27.584	.5
84	MP2C	Mx	.003	.5
85	MP2C	X	0	6
86	MP2C	Z	27.584	6
87	MP2C	Mx	.003	6
88	MP2A	X	0	.5
89	MP2A	Z	35.463	.5
90	MP2A	Mx	-.024	.5
91	MP2A	X	0	6
92	MP2A	Z	35.463	6
93	MP2A	Mx	-.024	6
94	MP2B	X	0	.5
95	MP2B	Z	27.584	.5
96	MP2B	Mx	-.003	.5
97	MP2B	X	0	6
98	MP2B	Z	27.584	6
99	MP2B	Mx	-.003	6
100	MP2C	X	0	.5
101	MP2C	Z	27.584	.5
102	MP2C	Mx	.021	.5
103	MP2C	X	0	6
104	MP2C	Z	27.584	6
105	MP2C	Mx	.021	6

Member Point Loads (BLC 22 : Antenna Wi (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-7.531	.25
2	MP4A	Z	13.043	.25
3	MP4A	Mx	.004	.25
4	MP4A	X	-7.531	2.25
5	MP4A	Z	13.043	2.25
6	MP4A	Mx	.004	2.25
7	MP4B	X	-3.873	.25
8	MP4B	Z	6.709	.25
9	MP4B	Mx	-.004	.25
10	MP4B	X	-3.873	2.25
11	MP4B	Z	6.709	2.25
12	MP4B	Mx	-.004	2.25
13	MP4C	X	-7.531	.25
14	MP4C	Z	13.043	.25
15	MP4C	Mx	.004	.25
16	MP4C	X	-7.531	2.25
17	MP4C	Z	13.043	2.25

Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP4C	Mx	.004	2.25
19	MP2A	X	-8.61	1
20	MP2A	Z	14.912	1
21	MP2A	Mx	-.004	1
22	MP2B	X	-6.676	1
23	MP2B	Z	11.564	1
24	MP2B	Mx	.007	1
25	MP2C	X	-8.61	1
26	MP2C	Z	14.912	1
27	MP2C	Mx	-.004	1
28	MP2A	X	-4.231	4
29	MP2A	Z	7.328	4
30	MP2A	Mx	-.002	4
31	MP2B	X	-2.562	4
32	MP2B	Z	4.437	4
33	MP2B	Mx	.003	4
34	MP2C	X	-4.231	4
35	MP2C	Z	7.328	4
36	MP2C	Mx	-.002	4
37	MP3A	X	-17.563	.25
38	MP3A	Z	30.42	.25
39	MP3A	Mx	-.009	.25
40	MP3B	X	-14.657	.25
41	MP3B	Z	25.386	.25
42	MP3B	Mx	.015	.25
43	MP1B	X	-12.161	.25
44	MP1B	Z	21.063	.25
45	MP1B	Mx	-.012	.25
46	MP1B	X	-12.161	2.25
47	MP1B	Z	21.063	2.25
48	MP1B	Mx	-.012	2.25
49	MP1C	X	-13.233	.25
50	MP1C	Z	22.92	.25
51	MP1C	Mx	.007	.25
52	MP1C	X	-13.233	2.25
53	MP1C	Z	22.92	2.25
54	MP1C	Mx	.007	2.25
55	MP1A	X	-7.426	.25
56	MP1A	Z	12.861	.25
57	MP1A	Mx	.004	.25
58	MP1A	X	-7.426	2.25
59	MP1A	Z	12.861	2.25
60	MP1A	Mx	.004	2.25
61	MP1A	X	-8.583	2.75
62	MP1A	Z	14.866	2.75
63	MP1A	Mx	-.004	2.75
64	MP1B	X	-6.569	2.75
65	MP1B	Z	11.378	2.75
66	MP1B	Mx	.007	2.75
67	MP1C	X	-8.583	2.75
68	MP1C	Z	14.866	2.75
69	MP1C	Mx	-.004	2.75

Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
70	MP2A	X	-16.418	.5
71	MP2A	Z	28.438	.5
72	MP2A	Mx	.027	.5
73	MP2A	X	-16.418	6
74	MP2A	Z	28.438	6
75	MP2A	Mx	.027	6
76	MP2B	X	-12.479	.5
77	MP2B	Z	21.614	.5
78	MP2B	Mx	-.012	.5
79	MP2B	X	-12.479	6
80	MP2B	Z	21.614	6
81	MP2B	Mx	-.012	6
82	MP2C	X	-16.418	.5
83	MP2C	Z	28.438	.5
84	MP2C	Mx	-.011	.5
85	MP2C	X	-16.418	6
86	MP2C	Z	28.438	6
87	MP2C	Mx	-.011	6
88	MP2A	X	-16.418	.5
89	MP2A	Z	28.438	.5
90	MP2A	Mx	-.011	.5
91	MP2A	X	-16.418	6
92	MP2A	Z	28.438	6
93	MP2A	Mx	-.011	6
94	MP2B	X	-12.479	.5
95	MP2B	Z	21.614	.5
96	MP2B	Mx	-.012	.5
97	MP2B	X	-12.479	6
98	MP2B	Z	21.614	6
99	MP2B	Mx	-.012	6
100	MP2C	X	-16.418	.5
101	MP2C	Z	28.438	.5
102	MP2C	Mx	.027	.5
103	MP2C	X	-16.418	6
104	MP2C	Z	28.438	6
105	MP2C	Mx	.027	6

Member Point Loads (BLC 23 : Antenna Wi (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-8.82	.25
2	MP4A	Z	5.092	.25
3	MP4A	Mx	.004	.25
4	MP4A	X	-8.82	2.25
5	MP4A	Z	5.092	2.25
6	MP4A	Mx	.004	2.25
7	MP4B	X	-8.82	.25
8	MP4B	Z	5.092	.25
9	MP4B	Mx	-.004	.25
10	MP4B	X	-8.82	2.25
11	MP4B	Z	5.092	2.25
12	MP4B	Mx	-.004	2.25

Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP4C	X	-15.155	.25
14	MP4C	Z	8.75	.25
15	MP4C	Mx	0	.25
16	MP4C	X	-15.155	2.25
17	MP4C	Z	8.75	2.25
18	MP4C	Mx	0	2.25
19	MP2A	X	-12.68	1
20	MP2A	Z	7.321	1
21	MP2A	Mx	-.006	1
22	MP2B	X	-12.68	1
23	MP2B	Z	7.321	1
24	MP2B	Mx	.006	1
25	MP2C	X	-16.029	1
26	MP2C	Z	9.254	1
27	MP2C	Mx	0	1
28	MP2A	X	-5.401	4
29	MP2A	Z	3.118	4
30	MP2A	Mx	-.003	4
31	MP2B	X	-5.401	4
32	MP2B	Z	3.118	4
33	MP2B	Mx	.003	4
34	MP2C	X	-8.291	4
35	MP2C	Z	4.787	4
36	MP2C	Mx	0	4
37	MP3A	X	-27.064	.25
38	MP3A	Z	15.626	.25
39	MP3A	Mx	-.014	.25
40	MP3B	X	-27.064	.25
41	MP3B	Z	15.626	.25
42	MP3B	Mx	.014	.25
43	MP1B	X	-21.682	.25
44	MP1B	Z	12.518	.25
45	MP1B	Mx	-.011	.25
46	MP1B	X	-21.682	2.25
47	MP1B	Z	12.518	2.25
48	MP1B	Mx	-.011	2.25
49	MP1C	X	-23.54	.25
50	MP1C	Z	13.591	.25
51	MP1C	Mx	0	.25
52	MP1C	X	-23.54	2.25
53	MP1C	Z	13.591	2.25
54	MP1C	Mx	0	2.25
55	MP1A	X	-14.141	.25
56	MP1A	Z	8.164	.25
57	MP1A	Mx	.007	.25
58	MP1A	X	-14.141	2.25
59	MP1A	Z	8.164	2.25
60	MP1A	Mx	.007	2.25
61	MP1A	X	-12.54	2.75
62	MP1A	Z	7.24	2.75
63	MP1A	Mx	-.006	2.75
64	MP1B	X	-12.54	2.75

Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
65	MP1B	Z	7.24	2.75
66	MP1B	Mx	.006	2.75
67	MP1C	X	-16.029	2.75
68	MP1C	Z	9.254	2.75
69	MP1C	Mx	0	2.75
70	MP2A	X	-23.889	.5
71	MP2A	Z	13.792	.5
72	MP2A	Mx	.021	.5
73	MP2A	X	-23.889	6
74	MP2A	Z	13.792	6
75	MP2A	Mx	.021	6
76	MP2B	X	-23.889	.5
77	MP2B	Z	13.792	.5
78	MP2B	Mx	-.003	.5
79	MP2B	X	-23.889	6
80	MP2B	Z	13.792	6
81	MP2B	Mx	-.003	6
82	MP2C	X	-30.712	.5
83	MP2C	Z	17.732	.5
84	MP2C	Mx	-.024	.5
85	MP2C	X	-30.712	6
86	MP2C	Z	17.732	6
87	MP2C	Mx	-.024	6
88	MP2A	X	-23.889	.5
89	MP2A	Z	13.792	.5
90	MP2A	Mx	.003	.5
91	MP2A	X	-23.889	6
92	MP2A	Z	13.792	6
93	MP2A	Mx	.003	6
94	MP2B	X	-23.889	.5
95	MP2B	Z	13.792	.5
96	MP2B	Mx	-.021	.5
97	MP2B	X	-23.889	6
98	MP2B	Z	13.792	6
99	MP2B	Mx	-.021	6
100	MP2C	X	-30.712	.5
101	MP2C	Z	17.732	.5
102	MP2C	Mx	.024	.5
103	MP2C	X	-30.712	6
104	MP2C	Z	17.732	6
105	MP2C	Mx	.024	6

Member Point Loads (BLC 24 : Antenna Wi (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-7.747	.25
2	MP4A	Z	0	.25
3	MP4A	Mx	.004	.25
4	MP4A	X	-7.747	2.25
5	MP4A	Z	0	2.25
6	MP4A	Mx	.004	2.25
7	MP4B	X	-15.061	.25

Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP4B	Z	0	.25
9	MP4B	Mx	-.004	.25
10	MP4B	X	-15.061	2.25
11	MP4B	Z	0	2.25
12	MP4B	Mx	-.004	2.25
13	MP4C	X	-15.061	.25
14	MP4C	Z	0	.25
15	MP4C	Mx	-.004	.25
16	MP4C	X	-15.061	2.25
17	MP4C	Z	0	2.25
18	MP4C	Mx	-.004	2.25
19	MP2A	X	-13.353	1
20	MP2A	Z	0	1
21	MP2A	Mx	-.007	1
22	MP2B	X	-17.219	1
23	MP2B	Z	0	1
24	MP2B	Mx	.004	1
25	MP2C	X	-17.219	1
26	MP2C	Z	0	1
27	MP2C	Mx	.004	1
28	MP2A	X	-5.124	4
29	MP2A	Z	0	4
30	MP2A	Mx	-.003	4
31	MP2B	X	-8.461	4
32	MP2B	Z	0	4
33	MP2B	Mx	.002	4
34	MP2C	X	-8.461	4
35	MP2C	Z	0	4
36	MP2C	Mx	.002	4
37	MP3A	X	-29.313	.25
38	MP3A	Z	0	.25
39	MP3A	Mx	-.015	.25
40	MP3B	X	-35.126	.25
41	MP3B	Z	0	.25
42	MP3B	Mx	.009	.25
43	MP1B	X	-26.466	.25
44	MP1B	Z	0	.25
45	MP1B	Mx	-.007	.25
46	MP1B	X	-26.466	2.25
47	MP1B	Z	0	2.25
48	MP1B	Mx	-.007	2.25
49	MP1C	X	-26.466	.25
50	MP1C	Z	0	.25
51	MP1C	Mx	-.007	.25
52	MP1C	X	-26.466	2.25
53	MP1C	Z	0	2.25
54	MP1C	Mx	-.007	2.25
55	MP1A	X	-17.067	.25
56	MP1A	Z	0	.25
57	MP1A	Mx	.009	.25
58	MP1A	X	-17.067	2.25
59	MP1A	Z	0	2.25

Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP1A	Mx	.009	2.25
61	MP1A	X	-13.138	2.75
62	MP1A	Z	0	2.75
63	MP1A	Mx	-.007	2.75
64	MP1B	X	-17.166	2.75
65	MP1B	Z	0	2.75
66	MP1B	Mx	.004	2.75
67	MP1C	X	-17.166	2.75
68	MP1C	Z	0	2.75
69	MP1C	Mx	.004	2.75
70	MP2A	X	-24.958	.5
71	MP2A	Z	0	.5
72	MP2A	Mx	.012	.5
73	MP2A	X	-24.958	6
74	MP2A	Z	0	6
75	MP2A	Mx	.012	6
76	MP2B	X	-32.837	.5
77	MP2B	Z	0	.5
78	MP2B	Mx	.011	.5
79	MP2B	X	-32.837	6
80	MP2B	Z	0	6
81	MP2B	Mx	.011	6
82	MP2C	X	-32.837	.5
83	MP2C	Z	0	.5
84	MP2C	Mx	-.027	.5
85	MP2C	X	-32.837	6
86	MP2C	Z	0	6
87	MP2C	Mx	-.027	6
88	MP2A	X	-24.958	.5
89	MP2A	Z	0	.5
90	MP2A	Mx	.012	.5
91	MP2A	X	-24.958	6
92	MP2A	Z	0	6
93	MP2A	Mx	.012	6
94	MP2B	X	-32.837	.5
95	MP2B	Z	0	.5
96	MP2B	Mx	-.027	.5
97	MP2B	X	-32.837	6
98	MP2B	Z	0	6
99	MP2B	Mx	-.027	6
100	MP2C	X	-32.837	.5
101	MP2C	Z	0	.5
102	MP2C	Mx	.011	.5
103	MP2C	X	-32.837	6
104	MP2C	Z	0	6
105	MP2C	Mx	.011	6

Member Point Loads (BLC 25 : Antenna Wi (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-8.82	.25
2	MP4A	Z	-5.092	.25

Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
3	MP4A	Mx	.004	.25
4	MP4A	X	-8.82	2.25
5	MP4A	Z	-5.092	2.25
6	MP4A	Mx	.004	2.25
7	MP4B	X	-15.155	.25
8	MP4B	Z	-8.75	.25
9	MP4B	Mx	0	.25
10	MP4B	X	-15.155	2.25
11	MP4B	Z	-8.75	2.25
12	MP4B	Mx	0	2.25
13	MP4C	X	-8.82	.25
14	MP4C	Z	-5.092	.25
15	MP4C	Mx	-.004	.25
16	MP4C	X	-8.82	2.25
17	MP4C	Z	-5.092	2.25
18	MP4C	Mx	-.004	2.25
19	MP2A	X	-12.68	1
20	MP2A	Z	-7.321	1
21	MP2A	Mx	-.006	1
22	MP2B	X	-16.029	1
23	MP2B	Z	-9.254	1
24	MP2B	Mx	0	1
25	MP2C	X	-12.68	1
26	MP2C	Z	-7.321	1
27	MP2C	Mx	.006	1
28	MP2A	X	-5.401	4
29	MP2A	Z	-3.118	4
30	MP2A	Mx	-.003	4
31	MP2B	X	-8.291	4
32	MP2B	Z	-4.787	4
33	MP2B	Mx	0	4
34	MP2C	X	-5.401	4
35	MP2C	Z	-3.118	4
36	MP2C	Mx	.003	4
37	MP3A	X	-27.064	.25
38	MP3A	Z	-15.626	.25
39	MP3A	Mx	-.014	.25
40	MP3B	X	-32.098	.25
41	MP3B	Z	-18.532	.25
42	MP3B	Mx	0	.25
43	MP1B	X	-23.54	.25
44	MP1B	Z	-13.591	.25
45	MP1B	Mx	0	.25
46	MP1B	X	-23.54	2.25
47	MP1B	Z	-13.591	2.25
48	MP1B	Mx	0	2.25
49	MP1C	X	-21.682	.25
50	MP1C	Z	-12.518	.25
51	MP1C	Mx	-.011	.25
52	MP1C	X	-21.682	2.25
53	MP1C	Z	-12.518	2.25
54	MP1C	Mx	-.011	2.25

Member Point Loads (BLC 25 : Antenna Wi (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
55	MP1A	X	-14.141	.25
56	MP1A	Z	-8.164	.25
57	MP1A	Mx	.007	.25
58	MP1A	X	-14.141	2.25
59	MP1A	Z	-8.164	2.25
60	MP1A	Mx	.007	2.25
61	MP1A	X	-12.54	2.75
62	MP1A	Z	-7.24	2.75
63	MP1A	Mx	-.006	2.75
64	MP1B	X	-16.029	2.75
65	MP1B	Z	-9.254	2.75
66	MP1B	Mx	0	2.75
67	MP1C	X	-12.54	2.75
68	MP1C	Z	-7.24	2.75
69	MP1C	Mx	.006	2.75
70	MP2A	X	-23.889	.5
71	MP2A	Z	-13.792	.5
72	MP2A	Mx	.003	.5
73	MP2A	X	-23.889	6
74	MP2A	Z	-13.792	6
75	MP2A	Mx	.003	6
76	MP2B	X	-30.712	.5
77	MP2B	Z	-17.732	.5
78	MP2B	Mx	.024	.5
79	MP2B	X	-30.712	6
80	MP2B	Z	-17.732	6
81	MP2B	Mx	.024	6
82	MP2C	X	-23.889	.5
83	MP2C	Z	-13.792	.5
84	MP2C	Mx	-.021	.5
85	MP2C	X	-23.889	6
86	MP2C	Z	-13.792	6
87	MP2C	Mx	-.021	6
88	MP2A	X	-23.889	.5
89	MP2A	Z	-13.792	.5
90	MP2A	Mx	.021	.5
91	MP2A	X	-23.889	6
92	MP2A	Z	-13.792	6
93	MP2A	Mx	.021	6
94	MP2B	X	-30.712	.5
95	MP2B	Z	-17.732	.5
96	MP2B	Mx	-.024	.5
97	MP2B	X	-30.712	6
98	MP2B	Z	-17.732	6
99	MP2B	Mx	-.024	6
100	MP2C	X	-23.889	.5
101	MP2C	Z	-13.792	.5
102	MP2C	Mx	-.003	.5
103	MP2C	X	-23.889	6
104	MP2C	Z	-13.792	6
105	MP2C	Mx	-.003	6

Member Point Loads (BLC 26 : Antenna Wi (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-7.531	.25
2	MP4A	Z	-13.043	.25
3	MP4A	Mx	.004	.25
4	MP4A	X	-7.531	2.25
5	MP4A	Z	-13.043	2.25
6	MP4A	Mx	.004	2.25
7	MP4B	X	-7.531	.25
8	MP4B	Z	-13.043	.25
9	MP4B	Mx	.004	.25
10	MP4B	X	-7.531	2.25
11	MP4B	Z	-13.043	2.25
12	MP4B	Mx	.004	2.25
13	MP4C	X	-3.873	.25
14	MP4C	Z	-6.709	.25
15	MP4C	Mx	-.004	.25
16	MP4C	X	-3.873	2.25
17	MP4C	Z	-6.709	2.25
18	MP4C	Mx	-.004	2.25
19	MP2A	X	-8.61	1
20	MP2A	Z	-14.912	1
21	MP2A	Mx	-.004	1
22	MP2B	X	-8.61	1
23	MP2B	Z	-14.912	1
24	MP2B	Mx	-.004	1
25	MP2C	X	-6.676	1
26	MP2C	Z	-11.564	1
27	MP2C	Mx	.007	1
28	MP2A	X	-4.231	4
29	MP2A	Z	-7.328	4
30	MP2A	Mx	-.002	4
31	MP2B	X	-4.231	4
32	MP2B	Z	-7.328	4
33	MP2B	Mx	-.002	4
34	MP2C	X	-2.562	4
35	MP2C	Z	-4.437	4
36	MP2C	Mx	.003	4
37	MP3A	X	-17.563	.25
38	MP3A	Z	-30.42	.25
39	MP3A	Mx	-.009	.25
40	MP3B	X	-17.563	.25
41	MP3B	Z	-30.42	.25
42	MP3B	Mx	-.009	.25
43	MP1B	X	-13.233	.25
44	MP1B	Z	-22.92	.25
45	MP1B	Mx	.007	.25
46	MP1B	X	-13.233	2.25
47	MP1B	Z	-22.92	2.25
48	MP1B	Mx	.007	2.25
49	MP1C	X	-12.161	.25
50	MP1C	Z	-21.063	.25
51	MP1C	Mx	-.012	.25
52	MP1C	X	-12.161	2.25

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1C	Z	-21.063	2.25
54	MP1C	Mx	-.012	2.25
55	MP1A	X	-7.426	.25
56	MP1A	Z	-12.861	.25
57	MP1A	Mx	.004	.25
58	MP1A	X	-7.426	2.25
59	MP1A	Z	-12.861	2.25
60	MP1A	Mx	.004	2.25
61	MP1A	X	-8.583	2.75
62	MP1A	Z	-14.866	2.75
63	MP1A	Mx	-.004	2.75
64	MP1B	X	-8.583	2.75
65	MP1B	Z	-14.866	2.75
66	MP1B	Mx	-.004	2.75
67	MP1C	X	-6.569	2.75
68	MP1C	Z	-11.378	2.75
69	MP1C	Mx	.007	2.75
70	MP2A	X	-16.418	.5
71	MP2A	Z	-28.438	.5
72	MP2A	Mx	-.011	.5
73	MP2A	X	-16.418	6
74	MP2A	Z	-28.438	6
75	MP2A	Mx	-.011	6
76	MP2B	X	-16.418	.5
77	MP2B	Z	-28.438	.5
78	MP2B	Mx	.027	.5
79	MP2B	X	-16.418	6
80	MP2B	Z	-28.438	6
81	MP2B	Mx	.027	6
82	MP2C	X	-12.479	.5
83	MP2C	Z	-21.614	.5
84	MP2C	Mx	-.012	.5
85	MP2C	X	-12.479	6
86	MP2C	Z	-21.614	6
87	MP2C	Mx	-.012	6
88	MP2A	X	-16.418	.5
89	MP2A	Z	-28.438	.5
90	MP2A	Mx	.027	.5
91	MP2A	X	-16.418	6
92	MP2A	Z	-28.438	6
93	MP2A	Mx	.027	6
94	MP2B	X	-16.418	.5
95	MP2B	Z	-28.438	.5
96	MP2B	Mx	-.011	.5
97	MP2B	X	-16.418	6
98	MP2B	Z	-28.438	6
99	MP2B	Mx	-.011	6
100	MP2C	X	-12.479	.5
101	MP2C	Z	-21.614	.5
102	MP2C	Mx	-.012	.5
103	MP2C	X	-12.479	6
104	MP2C	Z	-21.614	6

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
105	MP2C	Mx	-.012	6

Member Point Loads (BLC 27 : Antenna Wm (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.25
2	MP4A	Z	-4.299	.25
3	MP4A	Mx	0	.25
4	MP4A	X	0	2.25
5	MP4A	Z	-4.299	2.25
6	MP4A	Mx	0	2.25
7	MP4B	X	0	.25
8	MP4B	Z	-2.207	.25
9	MP4B	Mx	.000956	.25
10	MP4B	X	0	2.25
11	MP4B	Z	-2.207	2.25
12	MP4B	Mx	.000956	2.25
13	MP4C	X	0	.25
14	MP4C	Z	-2.207	.25
15	MP4C	Mx	-.000956	.25
16	MP4C	X	0	2.25
17	MP4C	Z	-2.207	2.25
18	MP4C	Mx	-.000956	2.25
19	MP2A	X	0	1
20	MP2A	Z	-5.088	1
21	MP2A	Mx	0	1
22	MP2B	X	0	1
23	MP2B	Z	-3.874	1
24	MP2B	Mx	-.002	1
25	MP2C	X	0	1
26	MP2C	Z	-3.874	1
27	MP2C	Mx	.002	1
28	MP2A	X	0	4
29	MP2A	Z	-2.068	4
30	MP2A	Mx	0	4
31	MP2B	X	0	4
32	MP2B	Z	-1.415	4
33	MP2B	Mx	-.000613	4
34	MP2C	X	0	4
35	MP2C	Z	-1.415	4
36	MP2C	Mx	.000613	4
37	MP3A	X	0	.25
38	MP3A	Z	-8.625	.25
39	MP3A	Mx	0	.25
40	MP3B	X	0	.25
41	MP3B	Z	-7.074	.25
42	MP3B	Mx	-.003	.25
43	MP1B	X	0	.25
44	MP1B	Z	-7.627	.25
45	MP1B	Mx	.003	.25
46	MP1B	X	0	2.25
47	MP1B	Z	-7.627	2.25

Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
48	MP1B	Mx	.003	2.25
49	MP1C	X	0	.25
50	MP1C	Z	-7.627	.25
51	MP1C	Mx	-.003	.25
52	MP1C	X	0	2.25
53	MP1C	Z	-7.627	2.25
54	MP1C	Mx	-.003	2.25
55	MP1A	X	0	.25
56	MP1A	Z	-3.891	.25
57	MP1A	Mx	0	.25
58	MP1A	X	0	2.25
59	MP1A	Z	-3.891	2.25
60	MP1A	Mx	0	2.25
61	MP1A	X	0	2.75
62	MP1A	Z	-4.217	2.75
63	MP1A	Mx	0	2.75
64	MP1B	X	0	2.75
65	MP1B	Z	-3.177	2.75
66	MP1B	Mx	-.001	2.75
67	MP1C	X	0	2.75
68	MP1C	Z	-3.177	2.75
69	MP1C	Mx	.001	2.75
70	MP2A	X	0	.5
71	MP2A	Z	-7.387	.5
72	MP2A	Mx	-.005	.5
73	MP2A	X	0	6
74	MP2A	Z	-7.387	6
75	MP2A	Mx	-.005	6
76	MP2B	X	0	.5
77	MP2B	Z	-4.224	.5
78	MP2B	Mx	.003	.5
79	MP2B	X	0	6
80	MP2B	Z	-4.224	6
81	MP2B	Mx	.003	6
82	MP2C	X	0	.5
83	MP2C	Z	-4.224	.5
84	MP2C	Mx	-.000421	.5
85	MP2C	X	0	6
86	MP2C	Z	-4.224	6
87	MP2C	Mx	-.000421	6
88	MP2A	X	0	.5
89	MP2A	Z	-10.951	.5
90	MP2A	Mx	.007	.5
91	MP2A	X	0	6
92	MP2A	Z	-10.951	6
93	MP2A	Mx	.007	6
94	MP2B	X	0	.5
95	MP2B	Z	-8.188	.5
96	MP2B	Mx	.000816	.5
97	MP2B	X	0	6
98	MP2B	Z	-8.188	6
99	MP2B	Mx	.000816	6

Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
100	MP2C	X	0	.5
101	MP2C	Z	-8.188	.5
102	MP2C	Mx	-.006	.5
103	MP2C	X	0	6
104	MP2C	Z	-8.188	6
105	MP2C	Mx	-.006	6

Member Point Loads (BLC 28 : Antenna Wm (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	1.801	.25
2	MP4A	Z	-3.119	.25
3	MP4A	Mx	-.0009	.25
4	MP4A	X	1.801	2.25
5	MP4A	Z	-3.119	2.25
6	MP4A	Mx	-.0009	2.25
7	MP4B	X	.755	.25
8	MP4B	Z	-1.308	.25
9	MP4B	Mx	.000755	.25
10	MP4B	X	.755	2.25
11	MP4B	Z	-1.308	2.25
12	MP4B	Mx	.000755	2.25
13	MP4C	X	1.801	.25
14	MP4C	Z	-3.119	.25
15	MP4C	Mx	-.0009	.25
16	MP4C	X	1.801	2.25
17	MP4C	Z	-3.119	2.25
18	MP4C	Mx	-.0009	2.25
19	MP2A	X	2.342	1
20	MP2A	Z	-4.056	1
21	MP2A	Mx	.001	1
22	MP2B	X	1.735	1
23	MP2B	Z	-3.004	1
24	MP2B	Mx	-.002	1
25	MP2C	X	2.342	1
26	MP2C	Z	-4.056	1
27	MP2C	Mx	.001	1
28	MP2A	X	.925	4
29	MP2A	Z	-1.602	4
30	MP2A	Mx	.000463	4
31	MP2B	X	.599	4
32	MP2B	Z	-1.037	4
33	MP2B	Mx	-.000599	4
34	MP2C	X	.925	4
35	MP2C	Z	-1.602	4
36	MP2C	Mx	.000462	4
37	MP3A	X	4.054	.25
38	MP3A	Z	-7.022	.25
39	MP3A	Mx	.002	.25
40	MP3B	X	3.279	.25
41	MP3B	Z	-5.679	.25
42	MP3B	Mx	-.003	.25

Member Point Loads (BLC 28 : Antenna Wm (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
43	MP1B	X	3.69	.25
44	MP1B	Z	-6.391	.25
45	MP1B	Mx	.004	.25
46	MP1B	X	3.69	2.25
47	MP1B	Z	-6.391	2.25
48	MP1B	Mx	.004	2.25
49	MP1C	X	4.06	.25
50	MP1C	Z	-7.032	.25
51	MP1C	Mx	-.002	.25
52	MP1C	X	4.06	2.25
53	MP1C	Z	-7.032	2.25
54	MP1C	Mx	-.002	2.25
55	MP1A	X	2.074	.25
56	MP1A	Z	-3.592	.25
57	MP1A	Mx	-.001	.25
58	MP1A	X	2.074	2.25
59	MP1A	Z	-3.592	2.25
60	MP1A	Mx	-.001	2.25
61	MP1A	X	1.935	2.75
62	MP1A	Z	-3.352	2.75
63	MP1A	Mx	.000967	2.75
64	MP1B	X	1.415	2.75
65	MP1B	Z	-2.451	2.75
66	MP1B	Mx	-.001	2.75
67	MP1C	X	1.935	2.75
68	MP1C	Z	-3.352	2.75
69	MP1C	Mx	.000968	2.75
70	MP2A	X	3.166	.5
71	MP2A	Z	-5.484	.5
72	MP2A	Mx	-.005	.5
73	MP2A	X	3.166	6
74	MP2A	Z	-5.484	6
75	MP2A	Mx	-.005	6
76	MP2B	X	1.585	.5
77	MP2B	Z	-2.745	.5
78	MP2B	Mx	.002	.5
79	MP2B	X	1.585	6
80	MP2B	Z	-2.745	6
81	MP2B	Mx	.002	6
82	MP2C	X	3.166	.5
83	MP2C	Z	-5.484	.5
84	MP2C	Mx	.002	.5
85	MP2C	X	3.166	6
86	MP2C	Z	-5.484	6
87	MP2C	Mx	.002	6
88	MP2A	X	5.015	.5
89	MP2A	Z	-8.686	.5
90	MP2A	Mx	.003	.5
91	MP2A	X	5.015	6
92	MP2A	Z	-8.686	6
93	MP2A	Mx	.003	6
94	MP2B	X	3.633	.5

Member Point Loads (BLC 28 : Antenna Wm (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
95	MP2B	Z	-6.293	.5
96	MP2B	Mx	.004	.5
97	MP2B	X	3.633	6
98	MP2B	Z	-6.293	6
99	MP2B	Mx	.004	6
100	MP2C	X	5.015	.5
101	MP2C	Z	-8.686	.5
102	MP2C	Mx	-.008	.5
103	MP2C	X	5.015	6
104	MP2C	Z	-8.686	6
105	MP2C	Mx	-.008	6

Member Point Loads (BLC 29 : Antenna Wm (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	1.912	.25
2	MP4A	Z	-1.104	.25
3	MP4A	Mx	-.000956	.25
4	MP4A	X	1.912	2.25
5	MP4A	Z	-1.104	2.25
6	MP4A	Mx	-.000956	2.25
7	MP4B	X	1.912	.25
8	MP4B	Z	-1.104	.25
9	MP4B	Mx	.000956	.25
10	MP4B	X	1.912	2.25
11	MP4B	Z	-1.104	2.25
12	MP4B	Mx	.000956	2.25
13	MP4C	X	3.723	.25
14	MP4C	Z	-2.149	.25
15	MP4C	Mx	0	.25
16	MP4C	X	3.723	2.25
17	MP4C	Z	-2.149	2.25
18	MP4C	Mx	0	2.25
19	MP2A	X	3.355	1
20	MP2A	Z	-1.937	1
21	MP2A	Mx	.002	1
22	MP2B	X	3.355	1
23	MP2B	Z	-1.937	1
24	MP2B	Mx	-.002	1
25	MP2C	X	4.406	1
26	MP2C	Z	-2.544	1
27	MP2C	Mx	0	1
28	MP2A	X	1.225	4
29	MP2A	Z	-.707	4
30	MP2A	Mx	.000613	4
31	MP2B	X	1.225	4
32	MP2B	Z	-.707	4
33	MP2B	Mx	-.000612	4
34	MP2C	X	1.791	4
35	MP2C	Z	-1.034	4
36	MP2C	Mx	0	4
37	MP3A	X	6.126	.25

Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
38	MP3A	Z	-3.537	.25
39	MP3A	Mx	.003	.25
40	MP3B	X	6.126	.25
41	MP3B	Z	-3.537	.25
42	MP3B	Mx	-.003	.25
43	MP1B	X	6.605	.25
44	MP1B	Z	-3.813	.25
45	MP1B	Mx	.003	.25
46	MP1B	X	6.605	2.25
47	MP1B	Z	-3.813	2.25
48	MP1B	Mx	.003	2.25
49	MP1C	X	7.246	.25
50	MP1C	Z	-4.183	.25
51	MP1C	Mx	0	.25
52	MP1C	X	7.246	2.25
53	MP1C	Z	-4.183	2.25
54	MP1C	Mx	0	2.25
55	MP1A	X	4.037	.25
56	MP1A	Z	-2.33	.25
57	MP1A	Mx	-.002	.25
58	MP1A	X	4.037	2.25
59	MP1A	Z	-2.33	2.25
60	MP1A	Mx	-.002	2.25
61	MP1A	X	2.751	2.75
62	MP1A	Z	-1.588	2.75
63	MP1A	Mx	.001	2.75
64	MP1B	X	2.751	2.75
65	MP1B	Z	-1.588	2.75
66	MP1B	Mx	-.001	2.75
67	MP1C	X	3.652	2.75
68	MP1C	Z	-2.109	2.75
69	MP1C	Mx	0	2.75
70	MP2A	X	3.658	.5
71	MP2A	Z	-2.112	.5
72	MP2A	Mx	-.003	.5
73	MP2A	X	3.658	6
74	MP2A	Z	-2.112	6
75	MP2A	Mx	-.003	6
76	MP2B	X	3.658	.5
77	MP2B	Z	-2.112	.5
78	MP2B	Mx	.000421	.5
79	MP2B	X	3.658	6
80	MP2B	Z	-2.112	6
81	MP2B	Mx	.000421	6
82	MP2C	X	6.397	.5
83	MP2C	Z	-3.694	.5
84	MP2C	Mx	.005	.5
85	MP2C	X	6.397	6
86	MP2C	Z	-3.694	6
87	MP2C	Mx	.005	6
88	MP2A	X	7.091	.5
89	MP2A	Z	-4.094	.5

Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
90	MP2A	Mx	-.000816	.5
91	MP2A	X	7.091	6
92	MP2A	Z	-4.094	6
93	MP2A	Mx	-.000816	6
94	MP2B	X	7.091	.5
95	MP2B	Z	-4.094	.5
96	MP2B	Mx	.006	.5
97	MP2B	X	7.091	6
98	MP2B	Z	-4.094	6
99	MP2B	Mx	.006	6
100	MP2C	X	9.484	.5
101	MP2C	Z	-5.476	.5
102	MP2C	Mx	-.007	.5
103	MP2C	X	9.484	6
104	MP2C	Z	-5.476	6
105	MP2C	Mx	-.007	6

Member Point Loads (BLC 30 : Antenna Wm (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	1.51	.25
2	MP4A	Z	0	.25
3	MP4A	Mx	-.000755	.25
4	MP4A	X	1.51	2.25
5	MP4A	Z	0	2.25
6	MP4A	Mx	-.000755	2.25
7	MP4B	X	3.602	.25
8	MP4B	Z	0	.25
9	MP4B	Mx	.0009	.25
10	MP4B	X	3.602	2.25
11	MP4B	Z	0	2.25
12	MP4B	Mx	.0009	2.25
13	MP4C	X	3.602	.25
14	MP4C	Z	0	.25
15	MP4C	Mx	.0009	.25
16	MP4C	X	3.602	2.25
17	MP4C	Z	0	2.25
18	MP4C	Mx	.0009	2.25
19	MP2A	X	3.469	1
20	MP2A	Z	0	1
21	MP2A	Mx	.002	1
22	MP2B	X	4.683	1
23	MP2B	Z	0	1
24	MP2B	Mx	-.001	1
25	MP2C	X	4.683	1
26	MP2C	Z	0	1
27	MP2C	Mx	-.001	1
28	MP2A	X	1.197	4
29	MP2A	Z	0	4
30	MP2A	Mx	.000599	4
31	MP2B	X	1.85	4
32	MP2B	Z	0	4

Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
33	MP2B	Mx	-.000463	4
34	MP2C	X	1.85	4
35	MP2C	Z	0	4
36	MP2C	Mx	-.000463	4
37	MP3A	X	6.557	.25
38	MP3A	Z	0	.25
39	MP3A	Mx	.003	.25
40	MP3B	X	8.108	.25
41	MP3B	Z	0	.25
42	MP3B	Mx	-.002	.25
43	MP1B	X	8.12	.25
44	MP1B	Z	0	.25
45	MP1B	Mx	.002	.25
46	MP1B	X	8.12	2.25
47	MP1B	Z	0	2.25
48	MP1B	Mx	.002	2.25
49	MP1C	X	8.12	.25
50	MP1C	Z	0	.25
51	MP1C	Mx	.002	.25
52	MP1C	X	8.12	2.25
53	MP1C	Z	0	2.25
54	MP1C	Mx	.002	2.25
55	MP1A	X	4.918	.25
56	MP1A	Z	0	.25
57	MP1A	Mx	-.002	.25
58	MP1A	X	4.918	2.25
59	MP1A	Z	0	2.25
60	MP1A	Mx	-.002	2.25
61	MP1A	X	2.83	2.75
62	MP1A	Z	0	2.75
63	MP1A	Mx	.001	2.75
64	MP1B	X	3.87	2.75
65	MP1B	Z	0	2.75
66	MP1B	Mx	-.000967	2.75
67	MP1C	X	3.87	2.75
68	MP1C	Z	0	2.75
69	MP1C	Mx	-.000967	2.75
70	MP2A	X	3.17	.5
71	MP2A	Z	0	.5
72	MP2A	Mx	-.002	.5
73	MP2A	X	3.17	6
74	MP2A	Z	0	6
75	MP2A	Mx	-.002	6
76	MP2B	X	6.333	.5
77	MP2B	Z	0	.5
78	MP2B	Mx	-.002	.5
79	MP2B	X	6.333	6
80	MP2B	Z	0	6
81	MP2B	Mx	-.002	6
82	MP2C	X	6.333	.5
83	MP2C	Z	0	.5
84	MP2C	Mx	.005	.5

Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
85	MP2C	X	6.333	6
86	MP2C	Z	0	6
87	MP2C	Mx	.005	6
88	MP2A	X	7.267	.5
89	MP2A	Z	0	.5
90	MP2A	Mx	-.004	.5
91	MP2A	X	7.267	6
92	MP2A	Z	0	6
93	MP2A	Mx	-.004	6
94	MP2B	X	10.03	.5
95	MP2B	Z	0	.5
96	MP2B	Mx	.008	.5
97	MP2B	X	10.03	6
98	MP2B	Z	0	6
99	MP2B	Mx	.008	6
100	MP2C	X	10.03	.5
101	MP2C	Z	0	.5
102	MP2C	Mx	-.003	.5
103	MP2C	X	10.03	6
104	MP2C	Z	0	6
105	MP2C	Mx	-.003	6

Member Point Loads (BLC 31 : Antenna Wm (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	1.912	.25
2	MP4A	Z	1.104	.25
3	MP4A	Mx	-.000956	.25
4	MP4A	X	1.912	2.25
5	MP4A	Z	1.104	2.25
6	MP4A	Mx	-.000956	2.25
7	MP4B	X	3.723	.25
8	MP4B	Z	2.149	.25
9	MP4B	Mx	0	.25
10	MP4B	X	3.723	2.25
11	MP4B	Z	2.149	2.25
12	MP4B	Mx	0	2.25
13	MP4C	X	1.912	.25
14	MP4C	Z	1.104	.25
15	MP4C	Mx	.000956	.25
16	MP4C	X	1.912	2.25
17	MP4C	Z	1.104	2.25
18	MP4C	Mx	.000956	2.25
19	MP2A	X	3.355	1
20	MP2A	Z	1.937	1
21	MP2A	Mx	.002	1
22	MP2B	X	4.406	1
23	MP2B	Z	2.544	1
24	MP2B	Mx	0	1
25	MP2C	X	3.355	1
26	MP2C	Z	1.937	1
27	MP2C	Mx	-.002	1

Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP2A	X	1.225	4
29	MP2A	Z	.707	4
30	MP2A	Mx	.000613	4
31	MP2B	X	1.791	4
32	MP2B	Z	1.034	4
33	MP2B	Mx	0	4
34	MP2C	X	1.225	4
35	MP2C	Z	.707	4
36	MP2C	Mx	-.000612	4
37	MP3A	X	6.126	.25
38	MP3A	Z	3.537	.25
39	MP3A	Mx	.003	.25
40	MP3B	X	7.47	.25
41	MP3B	Z	4.313	.25
42	MP3B	Mx	0	.25
43	MP1B	X	7.246	.25
44	MP1B	Z	4.183	.25
45	MP1B	Mx	0	.25
46	MP1B	X	7.246	2.25
47	MP1B	Z	4.183	2.25
48	MP1B	Mx	0	2.25
49	MP1C	X	6.605	.25
50	MP1C	Z	3.813	.25
51	MP1C	Mx	.003	.25
52	MP1C	X	6.605	2.25
53	MP1C	Z	3.813	2.25
54	MP1C	Mx	.003	2.25
55	MP1A	X	4.037	.25
56	MP1A	Z	2.33	.25
57	MP1A	Mx	-.002	.25
58	MP1A	X	4.037	2.25
59	MP1A	Z	2.33	2.25
60	MP1A	Mx	-.002	2.25
61	MP1A	X	2.751	2.75
62	MP1A	Z	1.588	2.75
63	MP1A	Mx	.001	2.75
64	MP1B	X	3.652	2.75
65	MP1B	Z	2.109	2.75
66	MP1B	Mx	0	2.75
67	MP1C	X	2.751	2.75
68	MP1C	Z	1.588	2.75
69	MP1C	Mx	-.001	2.75
70	MP2A	X	3.658	.5
71	MP2A	Z	2.112	.5
72	MP2A	Mx	-.000421	.5
73	MP2A	X	3.658	6
74	MP2A	Z	2.112	6
75	MP2A	Mx	-.000421	6
76	MP2B	X	6.397	.5
77	MP2B	Z	3.694	.5
78	MP2B	Mx	-.005	.5
79	MP2B	X	6.397	6

Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
80	MP2B	Z	3.694	6
81	MP2B	Mx	-.005	6
82	MP2C	X	3.658	.5
83	MP2C	Z	2.112	.5
84	MP2C	Mx	.003	.5
85	MP2C	X	3.658	6
86	MP2C	Z	2.112	6
87	MP2C	Mx	.003	6
88	MP2A	X	7.091	.5
89	MP2A	Z	4.094	.5
90	MP2A	Mx	-.006	.5
91	MP2A	X	7.091	6
92	MP2A	Z	4.094	6
93	MP2A	Mx	-.006	6
94	MP2B	X	9.484	.5
95	MP2B	Z	5.476	.5
96	MP2B	Mx	.007	.5
97	MP2B	X	9.484	6
98	MP2B	Z	5.476	6
99	MP2B	Mx	.007	6
100	MP2C	X	7.091	.5
101	MP2C	Z	4.094	.5
102	MP2C	Mx	.000816	.5
103	MP2C	X	7.091	6
104	MP2C	Z	4.094	6
105	MP2C	Mx	.000816	6

Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	1.801	.25
2	MP4A	Z	3.119	.25
3	MP4A	Mx	-.0009	.25
4	MP4A	X	1.801	2.25
5	MP4A	Z	3.119	2.25
6	MP4A	Mx	-.0009	2.25
7	MP4B	X	1.801	.25
8	MP4B	Z	3.119	.25
9	MP4B	Mx	-.0009	.25
10	MP4B	X	1.801	2.25
11	MP4B	Z	3.119	2.25
12	MP4B	Mx	-.0009	2.25
13	MP4C	X	.755	.25
14	MP4C	Z	1.308	.25
15	MP4C	Mx	.000755	.25
16	MP4C	X	.755	2.25
17	MP4C	Z	1.308	2.25
18	MP4C	Mx	.000755	2.25
19	MP2A	X	2.342	1
20	MP2A	Z	4.056	1
21	MP2A	Mx	.001	1
22	MP2B	X	2.342	1

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
23	MP2B	Z	4.056	1
24	MP2B	Mx	.001	1
25	MP2C	X	1.735	1
26	MP2C	Z	3.004	1
27	MP2C	Mx	-.002	1
28	MP2A	X	.925	4
29	MP2A	Z	1.602	4
30	MP2A	Mx	.000463	4
31	MP2B	X	.925	4
32	MP2B	Z	1.602	4
33	MP2B	Mx	.000462	4
34	MP2C	X	.599	4
35	MP2C	Z	1.037	4
36	MP2C	Mx	-.000599	4
37	MP3A	X	4.054	.25
38	MP3A	Z	7.022	.25
39	MP3A	Mx	.002	.25
40	MP3B	X	4.054	.25
41	MP3B	Z	7.022	.25
42	MP3B	Mx	.002	.25
43	MP1B	X	4.06	.25
44	MP1B	Z	7.032	.25
45	MP1B	Mx	-.002	.25
46	MP1B	X	4.06	2.25
47	MP1B	Z	7.032	2.25
48	MP1B	Mx	-.002	2.25
49	MP1C	X	3.69	.25
50	MP1C	Z	6.391	.25
51	MP1C	Mx	.004	.25
52	MP1C	X	3.69	2.25
53	MP1C	Z	6.391	2.25
54	MP1C	Mx	.004	2.25
55	MP1A	X	2.074	.25
56	MP1A	Z	3.592	.25
57	MP1A	Mx	-.001	.25
58	MP1A	X	2.074	2.25
59	MP1A	Z	3.592	2.25
60	MP1A	Mx	-.001	2.25
61	MP1A	X	1.935	2.75
62	MP1A	Z	3.352	2.75
63	MP1A	Mx	.000967	2.75
64	MP1B	X	1.935	2.75
65	MP1B	Z	3.352	2.75
66	MP1B	Mx	.000968	2.75
67	MP1C	X	1.415	2.75
68	MP1C	Z	2.451	2.75
69	MP1C	Mx	-.001	2.75
70	MP2A	X	3.166	.5
71	MP2A	Z	5.484	.5
72	MP2A	Mx	.002	.5
73	MP2A	X	3.166	6
74	MP2A	Z	5.484	6

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
75	MP2A	Mx	.002	6
76	MP2B	X	3.166	.5
77	MP2B	Z	5.484	.5
78	MP2B	Mx	-.005	.5
79	MP2B	X	3.166	6
80	MP2B	Z	5.484	6
81	MP2B	Mx	-.005	6
82	MP2C	X	1.585	.5
83	MP2C	Z	2.745	.5
84	MP2C	Mx	.002	.5
85	MP2C	X	1.585	6
86	MP2C	Z	2.745	6
87	MP2C	Mx	.002	6
88	MP2A	X	5.015	.5
89	MP2A	Z	8.686	.5
90	MP2A	Mx	-.008	.5
91	MP2A	X	5.015	6
92	MP2A	Z	8.686	6
93	MP2A	Mx	-.008	6
94	MP2B	X	5.015	.5
95	MP2B	Z	8.686	.5
96	MP2B	Mx	.003	.5
97	MP2B	X	5.015	6
98	MP2B	Z	8.686	6
99	MP2B	Mx	.003	6
100	MP2C	X	3.633	.5
101	MP2C	Z	6.293	.5
102	MP2C	Mx	.004	.5
103	MP2C	X	3.633	6
104	MP2C	Z	6.293	6
105	MP2C	Mx	.004	6

Member Point Loads (BLC 33 : Antenna Wm (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	.25
2	MP4A	Z	4.299	.25
3	MP4A	Mx	0	.25
4	MP4A	X	0	2.25
5	MP4A	Z	4.299	2.25
6	MP4A	Mx	0	2.25
7	MP4B	X	0	.25
8	MP4B	Z	2.207	.25
9	MP4B	Mx	-.000956	.25
10	MP4B	X	0	2.25
11	MP4B	Z	2.207	2.25
12	MP4B	Mx	-.000956	2.25
13	MP4C	X	0	.25
14	MP4C	Z	2.207	.25
15	MP4C	Mx	.000956	.25
16	MP4C	X	0	2.25
17	MP4C	Z	2.207	2.25

Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
18	MP4C	Mx	.000956	2.25
19	MP2A	X	0	1
20	MP2A	Z	5.088	1
21	MP2A	Mx	0	1
22	MP2B	X	0	1
23	MP2B	Z	3.874	1
24	MP2B	Mx	.002	1
25	MP2C	X	0	1
26	MP2C	Z	3.874	1
27	MP2C	Mx	-.002	1
28	MP2A	X	0	4
29	MP2A	Z	2.068	4
30	MP2A	Mx	0	4
31	MP2B	X	0	4
32	MP2B	Z	1.415	4
33	MP2B	Mx	.000613	4
34	MP2C	X	0	4
35	MP2C	Z	1.415	4
36	MP2C	Mx	-.000613	4
37	MP3A	X	0	.25
38	MP3A	Z	8.625	.25
39	MP3A	Mx	0	.25
40	MP3B	X	0	.25
41	MP3B	Z	7.074	.25
42	MP3B	Mx	.003	.25
43	MP1B	X	0	.25
44	MP1B	Z	7.627	.25
45	MP1B	Mx	-.003	.25
46	MP1B	X	0	2.25
47	MP1B	Z	7.627	2.25
48	MP1B	Mx	-.003	2.25
49	MP1C	X	0	.25
50	MP1C	Z	7.627	.25
51	MP1C	Mx	.003	.25
52	MP1C	X	0	2.25
53	MP1C	Z	7.627	2.25
54	MP1C	Mx	.003	2.25
55	MP1A	X	0	.25
56	MP1A	Z	3.891	.25
57	MP1A	Mx	0	.25
58	MP1A	X	0	2.25
59	MP1A	Z	3.891	2.25
60	MP1A	Mx	0	2.25
61	MP1A	X	0	2.75
62	MP1A	Z	4.217	2.75
63	MP1A	Mx	0	2.75
64	MP1B	X	0	2.75
65	MP1B	Z	3.177	2.75
66	MP1B	Mx	.001	2.75
67	MP1C	X	0	2.75
68	MP1C	Z	3.177	2.75
69	MP1C	Mx	-.001	2.75

Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
70	MP2A	X	0	.5
71	MP2A	Z	7.387	.5
72	MP2A	Mx	.005	.5
73	MP2A	X	0	6
74	MP2A	Z	7.387	6
75	MP2A	Mx	.005	6
76	MP2B	X	0	.5
77	MP2B	Z	4.224	.5
78	MP2B	Mx	-.003	.5
79	MP2B	X	0	6
80	MP2B	Z	4.224	6
81	MP2B	Mx	-.003	6
82	MP2C	X	0	.5
83	MP2C	Z	4.224	.5
84	MP2C	Mx	.000421	.5
85	MP2C	X	0	6
86	MP2C	Z	4.224	6
87	MP2C	Mx	.000421	6
88	MP2A	X	0	.5
89	MP2A	Z	10.951	.5
90	MP2A	Mx	-.007	.5
91	MP2A	X	0	6
92	MP2A	Z	10.951	6
93	MP2A	Mx	-.007	6
94	MP2B	X	0	.5
95	MP2B	Z	8.188	.5
96	MP2B	Mx	-.000816	.5
97	MP2B	X	0	6
98	MP2B	Z	8.188	6
99	MP2B	Mx	-.000816	6
100	MP2C	X	0	.5
101	MP2C	Z	8.188	.5
102	MP2C	Mx	.006	.5
103	MP2C	X	0	6
104	MP2C	Z	8.188	6
105	MP2C	Mx	.006	6

Member Point Loads (BLC 34 : Antenna Wm (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-1.801	.25
2	MP4A	Z	3.119	.25
3	MP4A	Mx	.0009	.25
4	MP4A	X	-1.801	2.25
5	MP4A	Z	3.119	2.25
6	MP4A	Mx	.0009	2.25
7	MP4B	X	-.755	.25
8	MP4B	Z	1.308	.25
9	MP4B	Mx	-.000755	.25
10	MP4B	X	-.755	2.25
11	MP4B	Z	1.308	2.25
12	MP4B	Mx	-.000755	2.25

Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP4C	X	-1.801	.25
14	MP4C	Z	3.119	.25
15	MP4C	Mx	.0009	.25
16	MP4C	X	-1.801	2.25
17	MP4C	Z	3.119	2.25
18	MP4C	Mx	.0009	2.25
19	MP2A	X	-2.342	1
20	MP2A	Z	4.056	1
21	MP2A	Mx	-.001	1
22	MP2B	X	-1.735	1
23	MP2B	Z	3.004	1
24	MP2B	Mx	.002	1
25	MP2C	X	-2.342	1
26	MP2C	Z	4.056	1
27	MP2C	Mx	-.001	1
28	MP2A	X	-.925	4
29	MP2A	Z	1.602	4
30	MP2A	Mx	-.000463	4
31	MP2B	X	-.599	4
32	MP2B	Z	1.037	4
33	MP2B	Mx	.000599	4
34	MP2C	X	-.925	4
35	MP2C	Z	1.602	4
36	MP2C	Mx	-.000462	4
37	MP3A	X	-4.054	.25
38	MP3A	Z	7.022	.25
39	MP3A	Mx	-.002	.25
40	MP3B	X	-3.279	.25
41	MP3B	Z	5.679	.25
42	MP3B	Mx	.003	.25
43	MP1B	X	-3.69	.25
44	MP1B	Z	6.391	.25
45	MP1B	Mx	-.004	.25
46	MP1B	X	-3.69	2.25
47	MP1B	Z	6.391	2.25
48	MP1B	Mx	-.004	2.25
49	MP1C	X	-4.06	.25
50	MP1C	Z	7.032	.25
51	MP1C	Mx	.002	.25
52	MP1C	X	-4.06	2.25
53	MP1C	Z	7.032	2.25
54	MP1C	Mx	.002	2.25
55	MP1A	X	-2.074	.25
56	MP1A	Z	3.592	.25
57	MP1A	Mx	.001	.25
58	MP1A	X	-2.074	2.25
59	MP1A	Z	3.592	2.25
60	MP1A	Mx	.001	2.25
61	MP1A	X	-1.935	2.75
62	MP1A	Z	3.352	2.75
63	MP1A	Mx	-.000967	2.75
64	MP1B	X	-1.415	2.75

Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
65	MP1B	Z	2.451	2.75
66	MP1B	Mx	.001	2.75
67	MP1C	X	-1.935	2.75
68	MP1C	Z	3.352	2.75
69	MP1C	Mx	-.000968	2.75
70	MP2A	X	-3.166	.5
71	MP2A	Z	5.484	.5
72	MP2A	Mx	.005	.5
73	MP2A	X	-3.166	6
74	MP2A	Z	5.484	6
75	MP2A	Mx	.005	6
76	MP2B	X	-1.585	.5
77	MP2B	Z	2.745	.5
78	MP2B	Mx	-.002	.5
79	MP2B	X	-1.585	6
80	MP2B	Z	2.745	6
81	MP2B	Mx	-.002	6
82	MP2C	X	-3.166	.5
83	MP2C	Z	5.484	.5
84	MP2C	Mx	-.002	.5
85	MP2C	X	-3.166	6
86	MP2C	Z	5.484	6
87	MP2C	Mx	-.002	6
88	MP2A	X	-5.015	.5
89	MP2A	Z	8.686	.5
90	MP2A	Mx	-.003	.5
91	MP2A	X	-5.015	6
92	MP2A	Z	8.686	6
93	MP2A	Mx	-.003	6
94	MP2B	X	-3.633	.5
95	MP2B	Z	6.293	.5
96	MP2B	Mx	-.004	.5
97	MP2B	X	-3.633	6
98	MP2B	Z	6.293	6
99	MP2B	Mx	-.004	6
100	MP2C	X	-5.015	.5
101	MP2C	Z	8.686	.5
102	MP2C	Mx	.008	.5
103	MP2C	X	-5.015	6
104	MP2C	Z	8.686	6
105	MP2C	Mx	.008	6

Member Point Loads (BLC 35 : Antenna Wm (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-1.912	.25
2	MP4A	Z	1.104	.25
3	MP4A	Mx	.000956	.25
4	MP4A	X	-1.912	2.25
5	MP4A	Z	1.104	2.25
6	MP4A	Mx	.000956	2.25
7	MP4B	X	-1.912	.25

Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP4B	Z	1.104	.25
9	MP4B	Mx	-.000956	.25
10	MP4B	X	-1.912	2.25
11	MP4B	Z	1.104	2.25
12	MP4B	Mx	-.000956	2.25
13	MP4C	X	-3.723	.25
14	MP4C	Z	2.149	.25
15	MP4C	Mx	0	.25
16	MP4C	X	-3.723	2.25
17	MP4C	Z	2.149	2.25
18	MP4C	Mx	0	2.25
19	MP2A	X	-3.355	1
20	MP2A	Z	1.937	1
21	MP2A	Mx	-.002	1
22	MP2B	X	-3.355	1
23	MP2B	Z	1.937	1
24	MP2B	Mx	.002	1
25	MP2C	X	-4.406	1
26	MP2C	Z	2.544	1
27	MP2C	Mx	0	1
28	MP2A	X	-1.225	4
29	MP2A	Z	.707	4
30	MP2A	Mx	-.000613	4
31	MP2B	X	-1.225	4
32	MP2B	Z	.707	4
33	MP2B	Mx	.000612	4
34	MP2C	X	-1.791	4
35	MP2C	Z	1.034	4
36	MP2C	Mx	0	4
37	MP3A	X	-6.126	.25
38	MP3A	Z	3.537	.25
39	MP3A	Mx	-.003	.25
40	MP3B	X	-6.126	.25
41	MP3B	Z	3.537	.25
42	MP3B	Mx	.003	.25
43	MP1B	X	-6.605	.25
44	MP1B	Z	3.813	.25
45	MP1B	Mx	-.003	.25
46	MP1B	X	-6.605	2.25
47	MP1B	Z	3.813	2.25
48	MP1B	Mx	-.003	2.25
49	MP1C	X	-7.246	.25
50	MP1C	Z	4.183	.25
51	MP1C	Mx	0	.25
52	MP1C	X	-7.246	2.25
53	MP1C	Z	4.183	2.25
54	MP1C	Mx	0	2.25
55	MP1A	X	-4.037	.25
56	MP1A	Z	2.33	.25
57	MP1A	Mx	.002	.25
58	MP1A	X	-4.037	2.25
59	MP1A	Z	2.33	2.25

Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
60	MP1A	Mx	.002	2.25
61	MP1A	X	-2.751	2.75
62	MP1A	Z	1.588	2.75
63	MP1A	Mx	-.001	2.75
64	MP1B	X	-2.751	2.75
65	MP1B	Z	1.588	2.75
66	MP1B	Mx	.001	2.75
67	MP1C	X	-3.652	2.75
68	MP1C	Z	2.109	2.75
69	MP1C	Mx	0	2.75
70	MP2A	X	-3.658	.5
71	MP2A	Z	2.112	.5
72	MP2A	Mx	.003	.5
73	MP2A	X	-3.658	6
74	MP2A	Z	2.112	6
75	MP2A	Mx	.003	6
76	MP2B	X	-3.658	.5
77	MP2B	Z	2.112	.5
78	MP2B	Mx	-.000421	.5
79	MP2B	X	-3.658	6
80	MP2B	Z	2.112	6
81	MP2B	Mx	-.000421	6
82	MP2C	X	-6.397	.5
83	MP2C	Z	3.694	.5
84	MP2C	Mx	-.005	.5
85	MP2C	X	-6.397	6
86	MP2C	Z	3.694	6
87	MP2C	Mx	-.005	6
88	MP2A	X	-7.091	.5
89	MP2A	Z	4.094	.5
90	MP2A	Mx	.000816	.5
91	MP2A	X	-7.091	6
92	MP2A	Z	4.094	6
93	MP2A	Mx	.000816	6
94	MP2B	X	-7.091	.5
95	MP2B	Z	4.094	.5
96	MP2B	Mx	-.006	.5
97	MP2B	X	-7.091	6
98	MP2B	Z	4.094	6
99	MP2B	Mx	-.006	6
100	MP2C	X	-9.484	.5
101	MP2C	Z	5.476	.5
102	MP2C	Mx	.007	.5
103	MP2C	X	-9.484	6
104	MP2C	Z	5.476	6
105	MP2C	Mx	.007	6

Member Point Loads (BLC 36 : Antenna Wm (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-1.51	.25
2	MP4A	Z	0	.25

Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
3	MP4A	Mx	.000755	.25
4	MP4A	X	-1.51	2.25
5	MP4A	Z	0	2.25
6	MP4A	Mx	.000755	2.25
7	MP4B	X	-3.602	.25
8	MP4B	Z	0	.25
9	MP4B	Mx	-.0009	.25
10	MP4B	X	-3.602	2.25
11	MP4B	Z	0	2.25
12	MP4B	Mx	-.0009	2.25
13	MP4C	X	-3.602	.25
14	MP4C	Z	0	.25
15	MP4C	Mx	-.0009	.25
16	MP4C	X	-3.602	2.25
17	MP4C	Z	0	2.25
18	MP4C	Mx	-.0009	2.25
19	MP2A	X	-3.469	1
20	MP2A	Z	0	1
21	MP2A	Mx	-.002	1
22	MP2B	X	-4.683	1
23	MP2B	Z	0	1
24	MP2B	Mx	.001	1
25	MP2C	X	-4.683	1
26	MP2C	Z	0	1
27	MP2C	Mx	.001	1
28	MP2A	X	-1.197	4
29	MP2A	Z	0	4
30	MP2A	Mx	-.000599	4
31	MP2B	X	-1.85	4
32	MP2B	Z	0	4
33	MP2B	Mx	.000463	4
34	MP2C	X	-1.85	4
35	MP2C	Z	0	4
36	MP2C	Mx	.000463	4
37	MP3A	X	-6.557	.25
38	MP3A	Z	0	.25
39	MP3A	Mx	-.003	.25
40	MP3B	X	-8.108	.25
41	MP3B	Z	0	.25
42	MP3B	Mx	.002	.25
43	MP1B	X	-8.12	.25
44	MP1B	Z	0	.25
45	MP1B	Mx	-.002	.25
46	MP1B	X	-8.12	2.25
47	MP1B	Z	0	2.25
48	MP1B	Mx	-.002	2.25
49	MP1C	X	-8.12	.25
50	MP1C	Z	0	.25
51	MP1C	Mx	-.002	.25
52	MP1C	X	-8.12	2.25
53	MP1C	Z	0	2.25
54	MP1C	Mx	-.002	2.25

Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
55	MP1A	X	-4.918	.25
56	MP1A	Z	0	.25
57	MP1A	Mx	.002	.25
58	MP1A	X	-4.918	2.25
59	MP1A	Z	0	2.25
60	MP1A	Mx	.002	2.25
61	MP1A	X	-2.83	2.75
62	MP1A	Z	0	2.75
63	MP1A	Mx	-.001	2.75
64	MP1B	X	-3.87	2.75
65	MP1B	Z	0	2.75
66	MP1B	Mx	.000967	2.75
67	MP1C	X	-3.87	2.75
68	MP1C	Z	0	2.75
69	MP1C	Mx	.000967	2.75
70	MP2A	X	-3.17	.5
71	MP2A	Z	0	.5
72	MP2A	Mx	.002	.5
73	MP2A	X	-3.17	6
74	MP2A	Z	0	6
75	MP2A	Mx	.002	6
76	MP2B	X	-6.333	.5
77	MP2B	Z	0	.5
78	MP2B	Mx	.002	.5
79	MP2B	X	-6.333	6
80	MP2B	Z	0	6
81	MP2B	Mx	.002	6
82	MP2C	X	-6.333	.5
83	MP2C	Z	0	.5
84	MP2C	Mx	-.005	.5
85	MP2C	X	-6.333	6
86	MP2C	Z	0	6
87	MP2C	Mx	-.005	6
88	MP2A	X	-7.267	.5
89	MP2A	Z	0	.5
90	MP2A	Mx	.004	.5
91	MP2A	X	-7.267	6
92	MP2A	Z	0	6
93	MP2A	Mx	.004	6
94	MP2B	X	-10.03	.5
95	MP2B	Z	0	.5
96	MP2B	Mx	-.008	.5
97	MP2B	X	-10.03	6
98	MP2B	Z	0	6
99	MP2B	Mx	-.008	6
100	MP2C	X	-10.03	.5
101	MP2C	Z	0	.5
102	MP2C	Mx	.003	.5
103	MP2C	X	-10.03	6
104	MP2C	Z	0	6
105	MP2C	Mx	.003	6

Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-1.912	.25
2	MP4A	Z	-1.104	.25
3	MP4A	Mx	.000956	.25
4	MP4A	X	-1.912	2.25
5	MP4A	Z	-1.104	2.25
6	MP4A	Mx	.000956	2.25
7	MP4B	X	-3.723	.25
8	MP4B	Z	-2.149	.25
9	MP4B	Mx	0	.25
10	MP4B	X	-3.723	2.25
11	MP4B	Z	-2.149	2.25
12	MP4B	Mx	0	2.25
13	MP4C	X	-1.912	.25
14	MP4C	Z	-1.104	.25
15	MP4C	Mx	-.000956	.25
16	MP4C	X	-1.912	2.25
17	MP4C	Z	-1.104	2.25
18	MP4C	Mx	-.000956	2.25
19	MP2A	X	-3.355	1
20	MP2A	Z	-1.937	1
21	MP2A	Mx	-.002	1
22	MP2B	X	-4.406	1
23	MP2B	Z	-2.544	1
24	MP2B	Mx	0	1
25	MP2C	X	-3.355	1
26	MP2C	Z	-1.937	1
27	MP2C	Mx	.002	1
28	MP2A	X	-1.225	4
29	MP2A	Z	-.707	4
30	MP2A	Mx	-.000613	4
31	MP2B	X	-1.791	4
32	MP2B	Z	-1.034	4
33	MP2B	Mx	0	4
34	MP2C	X	-1.225	4
35	MP2C	Z	-.707	4
36	MP2C	Mx	.000612	4
37	MP3A	X	-6.126	.25
38	MP3A	Z	-3.537	.25
39	MP3A	Mx	-.003	.25
40	MP3B	X	-7.47	.25
41	MP3B	Z	-4.313	.25
42	MP3B	Mx	0	.25
43	MP1B	X	-7.246	.25
44	MP1B	Z	-4.183	.25
45	MP1B	Mx	0	.25
46	MP1B	X	-7.246	2.25
47	MP1B	Z	-4.183	2.25
48	MP1B	Mx	0	2.25
49	MP1C	X	-6.605	.25
50	MP1C	Z	-3.813	.25
51	MP1C	Mx	-.003	.25
52	MP1C	X	-6.605	2.25

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP1C	Z	-3.813	2.25
54	MP1C	Mx	-.003	2.25
55	MP1A	X	-4.037	.25
56	MP1A	Z	-2.33	.25
57	MP1A	Mx	.002	.25
58	MP1A	X	-4.037	2.25
59	MP1A	Z	-2.33	2.25
60	MP1A	Mx	.002	2.25
61	MP1A	X	-2.751	2.75
62	MP1A	Z	-1.588	2.75
63	MP1A	Mx	-.001	2.75
64	MP1B	X	-3.652	2.75
65	MP1B	Z	-2.109	2.75
66	MP1B	Mx	0	2.75
67	MP1C	X	-2.751	2.75
68	MP1C	Z	-1.588	2.75
69	MP1C	Mx	.001	2.75
70	MP2A	X	-3.658	.5
71	MP2A	Z	-2.112	.5
72	MP2A	Mx	.000421	.5
73	MP2A	X	-3.658	6
74	MP2A	Z	-2.112	6
75	MP2A	Mx	.000421	6
76	MP2B	X	-6.397	.5
77	MP2B	Z	-3.694	.5
78	MP2B	Mx	.005	.5
79	MP2B	X	-6.397	6
80	MP2B	Z	-3.694	6
81	MP2B	Mx	.005	6
82	MP2C	X	-3.658	.5
83	MP2C	Z	-2.112	.5
84	MP2C	Mx	-.003	.5
85	MP2C	X	-3.658	6
86	MP2C	Z	-2.112	6
87	MP2C	Mx	-.003	6
88	MP2A	X	-7.091	.5
89	MP2A	Z	-4.094	.5
90	MP2A	Mx	.006	.5
91	MP2A	X	-7.091	6
92	MP2A	Z	-4.094	6
93	MP2A	Mx	.006	6
94	MP2B	X	-9.484	.5
95	MP2B	Z	-5.476	.5
96	MP2B	Mx	-.007	.5
97	MP2B	X	-9.484	6
98	MP2B	Z	-5.476	6
99	MP2B	Mx	-.007	6
100	MP2C	X	-7.091	.5
101	MP2C	Z	-4.094	.5
102	MP2C	Mx	-.000816	.5
103	MP2C	X	-7.091	6
104	MP2C	Z	-4.094	6

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
105	MP2C	Mx	-.000816	6

Member Point Loads (BLC 38 : Antenna Wm (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-1.801	.25
2	MP4A	Z	-3.119	.25
3	MP4A	Mx	.0009	.25
4	MP4A	X	-1.801	2.25
5	MP4A	Z	-3.119	2.25
6	MP4A	Mx	.0009	2.25
7	MP4B	X	-1.801	.25
8	MP4B	Z	-3.119	.25
9	MP4B	Mx	.0009	.25
10	MP4B	X	-1.801	2.25
11	MP4B	Z	-3.119	2.25
12	MP4B	Mx	.0009	2.25
13	MP4C	X	-.755	.25
14	MP4C	Z	-1.308	.25
15	MP4C	Mx	-.000755	.25
16	MP4C	X	-.755	2.25
17	MP4C	Z	-1.308	2.25
18	MP4C	Mx	-.000755	2.25
19	MP2A	X	-2.342	1
20	MP2A	Z	-4.056	1
21	MP2A	Mx	-.001	1
22	MP2B	X	-2.342	1
23	MP2B	Z	-4.056	1
24	MP2B	Mx	-.001	1
25	MP2C	X	-1.735	1
26	MP2C	Z	-3.004	1
27	MP2C	Mx	.002	1
28	MP2A	X	-.925	4
29	MP2A	Z	-1.602	4
30	MP2A	Mx	-.000463	4
31	MP2B	X	-.925	4
32	MP2B	Z	-1.602	4
33	MP2B	Mx	-.000462	4
34	MP2C	X	-.599	4
35	MP2C	Z	-1.037	4
36	MP2C	Mx	.000599	4
37	MP3A	X	-4.054	.25
38	MP3A	Z	-7.022	.25
39	MP3A	Mx	-.002	.25
40	MP3B	X	-4.054	.25
41	MP3B	Z	-7.022	.25
42	MP3B	Mx	-.002	.25
43	MP1B	X	-4.06	.25
44	MP1B	Z	-7.032	.25
45	MP1B	Mx	.002	.25
46	MP1B	X	-4.06	2.25
47	MP1B	Z	-7.032	2.25

Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
48	MP1B	Mx	.002	2.25
49	MP1C	X	-3.69	.25
50	MP1C	Z	-6.391	.25
51	MP1C	Mx	-.004	.25
52	MP1C	X	-3.69	2.25
53	MP1C	Z	-6.391	2.25
54	MP1C	Mx	-.004	2.25
55	MP1A	X	-2.074	.25
56	MP1A	Z	-3.592	.25
57	MP1A	Mx	.001	.25
58	MP1A	X	-2.074	2.25
59	MP1A	Z	-3.592	2.25
60	MP1A	Mx	.001	2.25
61	MP1A	X	-1.935	2.75
62	MP1A	Z	-3.352	2.75
63	MP1A	Mx	-.000967	2.75
64	MP1B	X	-1.935	2.75
65	MP1B	Z	-3.352	2.75
66	MP1B	Mx	-.000968	2.75
67	MP1C	X	-1.415	2.75
68	MP1C	Z	-2.451	2.75
69	MP1C	Mx	.001	2.75
70	MP2A	X	-3.166	.5
71	MP2A	Z	-5.484	.5
72	MP2A	Mx	-.002	.5
73	MP2A	X	-3.166	6
74	MP2A	Z	-5.484	6
75	MP2A	Mx	-.002	6
76	MP2B	X	-3.166	.5
77	MP2B	Z	-5.484	.5
78	MP2B	Mx	.005	.5
79	MP2B	X	-3.166	6
80	MP2B	Z	-5.484	6
81	MP2B	Mx	.005	6
82	MP2C	X	-1.585	.5
83	MP2C	Z	-2.745	.5
84	MP2C	Mx	-.002	.5
85	MP2C	X	-1.585	6
86	MP2C	Z	-2.745	6
87	MP2C	Mx	-.002	6
88	MP2A	X	-5.015	.5
89	MP2A	Z	-8.686	.5
90	MP2A	Mx	.008	.5
91	MP2A	X	-5.015	6
92	MP2A	Z	-8.686	6
93	MP2A	Mx	.008	6
94	MP2B	X	-5.015	.5
95	MP2B	Z	-8.686	.5
96	MP2B	Mx	-.003	.5
97	MP2B	X	-5.015	6
98	MP2B	Z	-8.686	6
99	MP2B	Mx	-.003	6

Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
100	MP2C	X	-3.633	.5
101	MP2C	Z	-6.293	.5
102	MP2C	Mx	-.004	.5
103	MP2C	X	-3.633	6
104	MP2C	Z	-6.293	6
105	MP2C	Mx	-.004	6

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M10	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M29	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M7A	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M7A	Y	-250	%100

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Y	-1.222	.25
2	MP4A	My	-.000611	.25
3	MP4A	Mz	0	.25
4	MP4A	Y	-1.222	2.25
5	MP4A	My	-.000611	2.25
6	MP4A	Mz	0	2.25
7	MP4B	Y	-1.222	.25
8	MP4B	My	.000306	.25
9	MP4B	Mz	-.000529	.25
10	MP4B	Y	-1.222	2.25
11	MP4B	My	.000306	2.25
12	MP4B	Mz	-.000529	2.25
13	MP4C	Y	-1.222	.25
14	MP4C	My	.000306	.25
15	MP4C	Mz	.000529	.25
16	MP4C	Y	-1.222	2.25
17	MP4C	My	.000306	2.25
18	MP4C	Mz	.000529	2.25
19	MP2A	Y	-3.375	1
20	MP2A	My	.002	1
21	MP2A	Mz	0	1
22	MP2B	Y	-3.375	1
23	MP2B	My	-.000844	1
24	MP2B	Mz	.001	1

Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	MP2C	Y	-3.375	1
26	MP2C	My	-.000844	1
27	MP2C	Mz	-.001	1
28	MP2A	Y	-.657	4
29	MP2A	My	.000329	4
30	MP2A	Mz	0	4
31	MP2B	Y	-.657	4
32	MP2B	My	-.000164	4
33	MP2B	Mz	.000285	4
34	MP2C	Y	-.657	4
35	MP2C	My	-.000164	4
36	MP2C	Mz	-.000285	4
37	MP3A	Y	-1.365	.25
38	MP3A	My	.000683	.25
39	MP3A	Mz	0	.25
40	MP3B	Y	-1.365	.25
41	MP3B	My	-.000341	.25
42	MP3B	Mz	.000591	.25
43	MP1B	Y	-.427	.25
44	MP1B	My	.000107	.25
45	MP1B	Mz	-.000185	.25
46	MP1B	Y	-.427	2.25
47	MP1B	My	.000107	2.25
48	MP1B	Mz	-.000185	2.25
49	MP1C	Y	-.427	.25
50	MP1C	My	.000107	.25
51	MP1C	Mz	.000185	.25
52	MP1C	Y	-.427	2.25
53	MP1C	My	.000107	2.25
54	MP1C	Mz	.000185	2.25
55	MP1A	Y	-.134	.25
56	MP1A	My	-6.7e-5	.25
57	MP1A	Mz	0	.25
58	MP1A	Y	-.134	2.25
59	MP1A	My	-6.7e-5	2.25
60	MP1A	Mz	0	2.25
61	MP1A	Y	-3.187	2.75
62	MP1A	My	.002	2.75
63	MP1A	Mz	0	2.75
64	MP1B	Y	-3.187	2.75
65	MP1B	My	-.000797	2.75
66	MP1B	Mz	.001	2.75
67	MP1C	Y	-3.187	2.75
68	MP1C	My	-.000797	2.75
69	MP1C	Mz	-.001	2.75
70	MP2A	Y	-.932	.5
71	MP2A	My	-.000466	.5
72	MP2A	Mz	.000622	.5
73	MP2A	Y	-.932	6
74	MP2A	My	-.000466	6
75	MP2A	Mz	.000622	6
76	MP2B	Y	-.932	.5

Member Point Loads (BLC 81 : Antenna Ev) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
77	MP2B	My	-.000305	.5
78	MP2B	Mz	-.000714	.5
79	MP2B	Y	-.932	6
80	MP2B	My	-.000305	6
81	MP2B	Mz	-.000714	6
82	MP2C	Y	-.932	.5
83	MP2C	My	.000771	.5
84	MP2C	Mz	9.3e-5	.5
85	MP2C	Y	-.932	6
86	MP2C	My	.000771	6
87	MP2C	Mz	9.3e-5	6
88	MP2A	Y	-1.378	.5
89	MP2A	My	-.000689	.5
90	MP2A	Mz	-.000919	.5
91	MP2A	Y	-1.378	6
92	MP2A	My	-.000689	6
93	MP2A	Mz	-.000919	6
94	MP2B	Y	-1.378	.5
95	MP2B	My	.001	.5
96	MP2B	Mz	-.000137	.5
97	MP2B	Y	-1.378	6
98	MP2B	My	.001	6
99	MP2B	Mz	-.000137	6
100	MP2C	Y	-1.378	.5
101	MP2C	My	-.000451	.5
102	MP2C	Mz	.001	.5
103	MP2C	Y	-1.378	6
104	MP2C	My	-.000451	6
105	MP2C	Mz	.001	6

Member Point Loads (BLC 82 : Antenna Eh (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Z	-3.056	.25
2	MP4A	Mx	0	.25
3	MP4A	Z	-3.056	2.25
4	MP4A	Mx	0	2.25
5	MP4B	Z	-3.056	.25
6	MP4B	Mx	.001	.25
7	MP4B	Z	-3.056	2.25
8	MP4B	Mx	.001	2.25
9	MP4C	Z	-3.056	.25
10	MP4C	Mx	-.001	.25
11	MP4C	Z	-3.056	2.25
12	MP4C	Mx	-.001	2.25
13	MP2A	Z	-8.437	1
14	MP2A	Mx	0	1
15	MP2B	Z	-8.437	1
16	MP2B	Mx	-.004	1
17	MP2C	Z	-8.437	1
18	MP2C	Mx	.004	1
19	MP2A	Z	-1.643	4

Member Point Loads (BLC 82 : Antenna Eh (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
20	MP2A	Mx	0	4
21	MP2B	Z	-1.643	4
22	MP2B	Mx	-.000711	4
23	MP2C	Z	-1.643	4
24	MP2C	Mx	.000711	4
25	MP3A	Z	-3.413	.25
26	MP3A	Mx	0	.25
27	MP3B	Z	-3.413	.25
28	MP3B	Mx	-.001	.25
29	MP1B	Z	-1.067	.25
30	MP1B	Mx	.000462	.25
31	MP1B	Z	-1.067	2.25
32	MP1B	Mx	.000462	2.25
33	MP1C	Z	-1.067	.25
34	MP1C	Mx	-.000462	.25
35	MP1C	Z	-1.067	2.25
36	MP1C	Mx	-.000462	2.25
37	MP1A	Z	-.336	.25
38	MP1A	Mx	0	.25
39	MP1A	Z	-.336	2.25
40	MP1A	Mx	0	2.25
41	MP1A	Z	-7.968	2.75
42	MP1A	Mx	0	2.75
43	MP1B	Z	-7.968	2.75
44	MP1B	Mx	-.003	2.75
45	MP1C	Z	-7.968	2.75
46	MP1C	Mx	.003	2.75
47	MP2A	Z	-2.331	.5
48	MP2A	Mx	-.002	.5
49	MP2A	Z	-2.331	6
50	MP2A	Mx	-.002	6
51	MP2B	Z	-2.331	.5
52	MP2B	Mx	.002	.5
53	MP2B	Z	-2.331	6
54	MP2B	Mx	.002	6
55	MP2C	Z	-2.331	.5
56	MP2C	Mx	-.000232	.5
57	MP2C	Z	-2.331	6
58	MP2C	Mx	-.000232	6
59	MP2A	Z	-3.445	.5
60	MP2A	Mx	.002	.5
61	MP2A	Z	-3.445	6
62	MP2A	Mx	.002	6
63	MP2B	Z	-3.445	.5
64	MP2B	Mx	.000343	.5
65	MP2B	Z	-3.445	6
66	MP2B	Mx	.000343	6
67	MP2C	Z	-3.445	.5
68	MP2C	Mx	-.003	.5
69	MP2C	Z	-3.445	6
70	MP2C	Mx	-.003	6

Member Point Loads (BLC 83 : Antenna Eh (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	3.056	.25
2	MP4A	Mx	-.002	.25
3	MP4A	X	3.056	2.25
4	MP4A	Mx	-.002	2.25
5	MP4B	X	3.056	.25
6	MP4B	Mx	.000764	.25
7	MP4B	X	3.056	2.25
8	MP4B	Mx	.000764	2.25
9	MP4C	X	3.056	.25
10	MP4C	Mx	.000764	.25
11	MP4C	X	3.056	2.25
12	MP4C	Mx	.000764	2.25
13	MP2A	X	8.437	1
14	MP2A	Mx	.004	1
15	MP2B	X	8.437	1
16	MP2B	Mx	-.002	1
17	MP2C	X	8.437	1
18	MP2C	Mx	-.002	1
19	MP2A	X	1.643	4
20	MP2A	Mx	.000821	4
21	MP2B	X	1.643	4
22	MP2B	Mx	-.000411	4
23	MP2C	X	1.643	4
24	MP2C	Mx	-.000411	4
25	MP3A	X	3.413	.25
26	MP3A	Mx	.002	.25
27	MP3B	X	3.413	.25
28	MP3B	Mx	-.000853	.25
29	MP1B	X	1.067	.25
30	MP1B	Mx	.000267	.25
31	MP1B	X	1.067	2.25
32	MP1B	Mx	.000267	2.25
33	MP1C	X	1.067	.25
34	MP1C	Mx	.000267	.25
35	MP1C	X	1.067	2.25
36	MP1C	Mx	.000267	2.25
37	MP1A	X	.336	.25
38	MP1A	Mx	-.000168	.25
39	MP1A	X	.336	2.25
40	MP1A	Mx	-.000168	2.25
41	MP1A	X	7.968	2.75
42	MP1A	Mx	.004	2.75
43	MP1B	X	7.968	2.75
44	MP1B	Mx	-.002	2.75
45	MP1C	X	7.968	2.75
46	MP1C	Mx	-.002	2.75
47	MP2A	X	2.331	.5
48	MP2A	Mx	-.001	.5
49	MP2A	X	2.331	6
50	MP2A	Mx	-.001	6
51	MP2B	X	2.331	.5
52	MP2B	Mx	-.000763	.5

Member Point Loads (BLC 83 : Antenna Eh (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
53	MP2B	X	2.331	6
54	MP2B	Mx	-.000763	6
55	MP2C	X	2.331	.5
56	MP2C	Mx	.002	.5
57	MP2C	X	2.331	6
58	MP2C	Mx	.002	6
59	MP2A	X	3.445	.5
60	MP2A	Mx	-.002	.5
61	MP2A	X	3.445	6
62	MP2A	Mx	-.002	6
63	MP2B	X	3.445	.5
64	MP2B	Mx	.003	.5
65	MP2B	X	3.445	6
66	MP2B	Mx	.003	6
67	MP2C	X	3.445	.5
68	MP2C	Mx	-.001	.5
69	MP2C	X	3.445	6
70	MP2C	Mx	-.001	6

Member Area Loads (BLC 39 : Structure D)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.005
2	N18	N17	N10	N14	Y	Two Way	-.005
3	N14	N10	N15	N16	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.013
2	N18	N17	N10	N14	Y	Two Way	-.013
3	N14	N10	N15	N16	Y	Two Way	-.013

Member Area Loads (BLC 84 : Structure Ev)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Y	Two Way	-.000222
2	N18	N17	N10	N14	Y	Two Way	-.000222
3	N14	N10	N15	N16	Y	Two Way	-.000222

Member Area Loads (BLC 85 : Structure Eh (0 Deg))

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	Z	Two Way	-.000555
2	N18	N17	N10	N14	Z	Two Way	-.000555
3	N14	N10	N15	N16	Z	Two Way	-.000555

Member Area Loads (BLC 86 : Structure Eh (90 Deg))

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N16	N15	N17	N18	X	Two Way	.000555
2	N18	N17	N10	N14	X	Two Way	.000555
3	N14	N10	N15	N16	X	Two Way	.000555

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N2	max	4729.589	10	1188.627	24	625.327	1	-.765	68	3.54	11	.423	46
2		min	-4609.544	4	207.124	6	-580.877	7	-3.357	23	-3.46	5	-.167	4
3	N77	max	2449.756	11	1155.547	20	4056.716	12	2.008	18	3.431	5	2.608	20
4		min	-2380.969	5	205.409	2	-4011.637	6	.243	12	-3.514	11	.607	65
5	N109	max	2531.159	9	1198.247	16	4207.776	2	1.411	19	3.724	3	-.611	9
6		min	-2567.298	3	204.162	10	-4229.562	8	.313	64	-3.747	7	-3.16	15
7	N129	max	66.986	10	2459.83	13	1049.201	7	0	75	0	8	0	14
8		min	-67.206	4	-561.412	7	-4342.327	13	0	1	0	14	0	8
9	N130	max	906.934	3	2491.247	21	2200.024	21	0	10	0	28	0	28
10		min	-3810.462	21	-560.295	3	-523.465	3	0	28	0	10	0	10
11	N131	max	3400.176	17	2232.936	17	1963.093	17	0	12	0	12	0	12
12		min	-993.723	11	-615.235	11	-573.734	11	0	42	0	42	0	42
13	Totals:	max	5307.035	10	9522.66	13	5258.901	1						
14		min	-5307.038	4	2276.884	71	-5258.903	7						

Joint Reactions

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N2	162.025	531.304	625.327	-1.23	.268	.098
2	1	N77	1956.757	229.368	3855.487	.289	-3.21	.704
3	1	N109	-2208.667	392.991	4118.991	.314	3.718	-1.285
4	1	N129	.463	1944.901	-3486.449	0	0	0
5	1	N130	18.843	15.938	46.956	0	0	0
6	1	N131	70.648	72.456	98.589	0	0	0
7	1	Totals:	.067	3186.958	5258.901			
8	1	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
9	2	N2	-2842.065	460.876	457.75	-1.054	-2.371	-.036
10	2	N77	1007.106	205.409	2695.266	.414	-2.393	.684
11	2	N109	-2513.708	473.607	4207.776	.329	3.588	-1.381
12	2	N129	-18.548	1748.423	-3120.355	0	0	0
13	2	N130	683.453	-415.925	-373.021	0	0	0
14	2	N131	1054.469	714.567	686.555	0	0	0
15	2	Totals:	-2629.292	3186.958	4553.972			
16	2	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
17	3	N2	-4294.75	373.835	175.677	-.896	-3.17	-.138
18	3	N77	-595.154	234.15	130.231	.598	.259	.736
19	3	N109	-2567.298	535.148	3875.518	.392	3.724	-1.388
20	3	N129	-48.965	1268.376	-2242.746	0	0	0
21	3	N130	906.934	-560.295	-523.465	0	0	0
22	3	N131	2024.35	1335.74	1225.99	0	0	0
23	3	Totals:	-4574.884	3186.954	2641.204			
24	3	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
25	4	N2	-4609.544	294.477	-44.318	-.803	-3.145	-.167
26	4	N77	-1949.017	306.76	-2530.684	.8	2.833	.828
27	4	N109	-2012.903	561.214	2427.608	.478	2.823	-1.3
28	4	N129	-67.206	622.43	-1087.87	0	0	0
29	4	N130	596.801	-372.915	-365.968	0	0	0
30	4	N131	2734.831	1774.981	1601.223	0	0	0
31	4	Totals:	-5307.038	3186.947	-.007			
32	4	COG (ft):	X: -.101	Y: 1.707	Z: -.04			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
33	5	N2	-4445.662	233.662	-249.326	-.771	-3.46	-.108
34	5	N77	-2380.969	391.266	-3818.047	.956	3.431	.897
35	5	N109	-506.489	534.27	-385.038	.54	-.071	-1.115
36	5	N129	-50.095	-4.477	30.16	0	0	0
37	5	N130	-188.328	115.18	50.978	0	0	0
38	5	N131	2975.099	1917.039	1717.656	0	0	0
39	5	Totals:	-4596.444	3186.94	-2653.617			
40	5	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
41	6	N2	-3045.786	207.124	-484.476	-.808	-2.803	.007
42	6	N77	-2247.009	465.065	-4011.637	1.018	3.103	.941
43	6	N109	1206.494	462.225	-3024.53	.571	-2.914	-.888
44	6	N129	-18.486	-433.473	810.444	0	0	0
45	6	N130	-1203.478	766.193	617.484	0	0	0
46	6	N131	2666.446	1719.798	1517.257	0	0	0
47	6	Totals:	-2641.819	3186.933	-4575.458			
48	6	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
49	7	N2	-42.777	232.567	-580.877	-.931	-.196	.136
50	7	N77	-1893.296	520.248	-3815.73	.981	3.142	.987
51	7	N109	2175.474	375.683	-4145.058	.581	-3.747	-.706
52	7	N129	.149	-561.412	1049.201	0	0	0
53	7	N130	-2152.611	1385.516	1186.311	0	0	0
54	7	N131	1912.992	1234.328	1047.249	0	0	0
55	7	Totals:	-.069	3186.929	-5258.903			
56	7	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
57	8	N2	2957.003	304.46	-413.291	-1.107	2.435	.26
58	8	N77	-941.087	542.017	-2656.837	.857	2.326	1.01
59	8	N109	2480.569	295.938	-4229.562	.556	-3.609	-.614
60	8	N129	18.697	-363.282	682.235	0	0	0
61	8	N130	-2816.058	1814.187	1604.353	0	0	0
62	8	N131	930.167	593.609	459.127	0	0	0
63	8	Totals:	2629.29	3186.929	-4553.975			
64	8	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
65	9	N2	4409.594	393.692	-134.403	-1.261	3.234	.362
66	9	N77	664.973	512.778	-88.496	.665	-.335	.966
67	9	N109	2531.159	232.381	-3893.85	.484	-3.738	-.611
68	9	N129	49.992	120.347	-198.031	0	0	0
69	9	N130	-3039.457	1957.676	1755.314	0	0	0
70	9	N131	-41.38	-29.941	-81.74	0	0	0
71	9	Totals:	4574.882	3186.933	-2641.207			
72	9	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
73	10	N2	4729.589	473.735	82.78	-1.351	3.218	.402
74	10	N77	2020.413	441.298	2576.061	.454	-2.915	.878
75	10	N109	1974.46	204.162	-2447.096	.4	-2.837	-.701
76	10	N129	66.986	767.73	-1353.788	0	0	0
77	10	N130	-2730.53	1772.226	1598.653	0	0	0
78	10	N131	-753.884	-472.211	-456.605	0	0	0
79	10	Totals:	5307.035	3186.94	.005			
80	10	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
81	11	N2	4570.593	532.243	288.489	-1.382	3.54	.353
82	11	N77	2449.756	359.186	3865.658	.297	-3.514	.806
83	11	N109	469.098	230.946	360.64	.349	.049	-.884
84	11	N129	49.246	1391.988	-2469.234	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
85	11	N130	-1948.529	1287.82	1181.795	0	0	0
86	11	N131	-993.723	-615.235	-573.734	0	0	0
87	11	Totals:	4596.441	3186.947	2653.614			
88	11	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
89	12	N2	3169.848	556.578	526.813	-1.349	2.882	.237
90	12	N77	2311.971	286.405	4056.716	.243	-3.179	.755
91	12	N109	-1241.973	304.225	2996.824	.326	2.885	-1.105
92	12	N129	19.341	1817.938	-3247.845	0	0	0
93	12	N130	-933.404	638.119	616.457	0	0	0
94	12	N131	-683.966	-416.311	-373.51	0	0	0
95	12	Totals:	2641.817	3186.954	4575.455			
96	12	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
97	13	N2	326.215	1182.874	242.569	-3.32	.251	.338
98	13	N77	723.112	1070.097	1278.187	1.811	-1.139	2.524
99	13	N109	-677.451	1150.224	1135.928	1.335	1.012	-3.131
100	13	N129	.065	2459.83	-4342.327	0	0	0
101	13	N130	-2950.953	1946.973	1719.467	0	0	0
102	13	N131	2579.028	1712.662	1505.042	0	0	0
103	13	Totals:	.017	9522.66	1538.867			
104	13	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
105	14	N2	-535.085	1164.01	196.633	-3.273	-.5	.302
106	14	N77	445.463	1063.021	937.856	1.844	-.893	2.517
107	14	N109	-768.548	1172.762	1164.882	1.341	.983	-3.158
108	14	N129	-4.908	2404.495	-4238.737	0	0	0
109	14	N130	-2762.093	1825.165	1600.26	0	0	0
110	14	N131	2856.196	1893.206	1670.971	0	0	0
111	14	Totals:	-768.974	9522.66	1331.867			
112	14	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
113	15	N2	-963.343	1139.522	116.782	-3.23	-.749	.275
114	15	N77	-12.452	1069.525	207.632	1.893	-.146	2.527
115	15	N109	-777.152	1190.031	1055.852	1.36	.999	-3.16
116	15	N129	-13.659	2269.582	-3991.268	0	0	0
117	15	N130	-2699.415	1785.23	1558.372	0	0	0
118	15	N131	3130.741	2068.769	1823.52	0	0	0
119	15	Totals:	-1335.28	9522.659	770.89			
120	15	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
121	16	N2	-1055.089	1117.189	52.786	-3.203	-.745	.267
122	16	N77	-402.045	1088.506	-554.471	1.948	.589	2.55
123	16	N109	-615.96	1198.247	635.848	1.383	.734	-3.138
124	16	N129	-18.838	2088.402	-3666.801	0	0	0
125	16	N130	-2786.737	1837.601	1603.105	0	0	0
126	16	N131	3331.967	2192.713	1929.528	0	0	0
127	16	Totals:	-1546.702	9522.657	-.005			
128	16	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
129	17	N2	-991.112	1100.5	-7.434	-3.194	-.806	.281
130	17	N77	-535.885	1111.998	-941.512	1.991	.792	2.572
131	17	N109	-194.135	1192.578	-156.205	1.401	-.064	-3.092
132	17	N129	-13.845	1911.902	-3351.065	0	0	0
133	17	N130	-3005.532	1972.741	1719.319	0	0	0
134	17	N131	3400.176	2232.936	1963.093	0	0	0
135	17	Totals:	-1340.334	9522.655	-773.804			
136	17	COG (ft):	X: -.181	Y: 1.697	Z: -.08			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
137	18	N2	-577.425	1092.732	-76.047	-3.201	-.597	.312
138	18	N77	-504.012	1132.982	-1012.38	2.008	.722	2.587
139	18	N109	290.336	1173.765	-905.822	1.409	-.86	-3.033
140	18	N129	-5.079	1790.202	-3128.115	0	0	0
141	18	N130	-3289.988	2154.593	1877.786	0	0	0
142	18	N131	3314.253	2178.38	1907.672	0	0	0
143	18	Totals:	-771.915	9522.653	-1336.906			
144	18	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
145	19	N2	280.383	1098.484	-105.451	-3.231	.14	.348
146	19	N77	-397.957	1148.657	-950.803	1.998	.72	2.6
147	19	N109	573.672	1149.531	-1238.404	1.411	-1.116	-2.983
148	19	N129	-.155	1753.522	-3058.86	0	0	0
149	19	N130	-3559.045	2329.849	2039.069	0	0	0
150	19	N131	3103.079	2042.609	1775.574	0	0	0
151	19	Totals:	-.024	9522.652	-1538.874			
152	19	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
153	20	N2	1141.318	1117.474	-59.516	-3.278	.891	.383
154	20	N77	-120.106	1155.547	-610.589	1.965	.474	2.608
155	20	N109	664.757	1127.06	-1267.003	1.404	-1.085	-2.956
156	20	N129	4.788	1808.99	-3162.52	0	0	0
157	20	N130	-3747.8	2451.392	2158.116	0	0	0
158	20	N131	2826.009	1862.189	1609.638	0	0	0
159	20	Totals:	768.967	9522.652	-1331.874			
160	20	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
161	21	N2	1569.576	1142.147	20.091	-3.321	1.139	.41
162	21	N77	338.122	1149.002	119.93	1.915	-.273	2.598
163	21	N109	673.104	1109.629	-1157.686	1.385	-1.101	-2.955
164	21	N129	13.606	1944.199	-3410.216	0	0	0
165	21	N130	-3810.462	2491.247	2200.024	0	0	0
166	21	N131	2551.326	1686.429	1456.96	0	0	0
167	21	Totals:	1335.273	9522.653	-770.897			
168	21	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
169	22	N2	1661.725	1164.536	83.867	-3.348	1.136	.42
170	22	N77	727.855	1130.126	882.354	1.86	-1.009	2.575
171	22	N109	511.729	1101.231	-737.773	1.361	-.836	-2.977
172	22	N129	18.691	2125.504	-3734.769	0	0	0
173	22	N130	-3723.23	2439.028	2155.353	0	0	0
174	22	N131	2349.924	1562.231	1350.966	0	0	0
175	22	Totals:	1546.695	9522.655	-.002			
176	22	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
177	23	N2	1598.163	1181.044	144.145	-3.357	1.198	.406
178	23	N77	861.491	1106.831	1269.556	1.817	-1.213	2.554
179	23	N109	90.005	1106.881	53.879	1.344	-.038	-3.022
180	23	N129	13.642	2301.793	-4050.3	0	0	0
181	23	N130	-3504.694	2304.192	2039.167	0	0	0
182	23	N131	2281.72	1521.917	1317.349	0	0	0
183	23	Totals:	1340.327	9522.657	773.797			
184	23	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
185	24	N2	1184.429	1188.627	213.007	-3.35	.989	.375
186	24	N77	829.295	1085.925	1340.201	1.8	-1.141	2.538
187	24	N109	-394.29	1125.806	803.217	1.337	.757	-3.081
188	24	N129	5	2423.236	-4273.095	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
189	24	N130	-3220.256	2122.456	1880.802	0	0	0
190	24	N131	2367.73	1576.609	1372.769	0	0	0
191	24	Totals:	771.908	9522.659	1336.899			
192	24	COG (ft):	X: -.181	Y: 1.697	Z: -.08			
193	25	N2	920.981	429.674	114.969	-1.348	.742	.101
194	25	N77	159.36	357.668	235.074	.597	-.197	.819
195	25	N109	300.408	321.346	-560.381	.472	-.464	-.941
196	25	N129	-.04	749.789	-1319.191	0	0	0
197	25	N130	-2293.312	1474.538	1327.631	0	0	0
198	25	N131	912.608	603.925	530.579	0	0	0
199	25	Totals:	.007	3936.94	328.681			
200	25	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
201	26	N2	733.389	425.198	104.56	-1.337	.577	.093
202	26	N77	99.927	356.238	162.569	.605	-.146	.818
203	26	N109	281.35	326.338	-555.075	.473	-.473	-.947
204	26	N129	-1.213	737.445	-1296.259	0	0	0
205	26	N130	-2251.828	1447.71	1301.498	0	0	0
206	26	N131	974.047	644.011	567.326	0	0	0
207	26	Totals:	-164.329	3936.94	284.618			
208	26	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
209	27	N2	642.611	419.672	87.069	-1.327	.527	.087
210	27	N77	-.33	358.05	2.134	.617	.02	.821
211	27	N109	278.116	330.245	-575.979	.477	-.464	-.947
212	27	N129	-3.139	707.326	-1241.319	0	0	0
213	27	N130	-2237.891	1438.742	1292.084	0	0	0
214	27	N131	1034.705	682.905	601.083	0	0	0
215	27	Totals:	-285.928	3936.94	165.073			
216	27	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
217	28	N2	622.755	414.684	73.398	-1.322	.529	.085
218	28	N77	-85.014	362.554	-164.308	.63	.181	.826
219	28	N109	312.896	331.949	-666.427	.483	-.521	-.942
220	28	N129	-4.241	666.903	-1169.11	0	0	0
221	28	N130	-2257.262	1450.393	1301.911	0	0	0
222	28	N131	1079.177	710.457	624.533	0	0	0
223	28	Totals:	-331.688	3936.939	-.002			
224	28	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
225	29	N2	632.772	410.96	60.511	-1.32	.509	.088
226	29	N77	-111.968	367.762	-244.874	.64	.218	.831
227	29	N109	407.086	330.294	-842.034	.486	-.701	-.93
228	29	N129	-3.149	627.797	-1099.317	0	0	0
229	29	N130	-2306.221	1480.748	1328.017	0	0	0
230	29	N131	1094.203	719.379	631.844	0	0	0
231	29	Totals:	-287.276	3936.939	-165.852			
232	29	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
233	30	N2	720.192	409.386	45.647	-1.322	.55	.095
234	30	N77	-103.503	372.341	-256.93	.643	.198	.834
235	30	N109	514.127	325.796	-1006.81	.488	-.879	-.916
236	30	N129	-1.221	601.082	-1050.62	0	0	0
237	30	N130	-2369.616	1521.315	1363.408	0	0	0
238	30	N131	1074.909	707.018	619.339	0	0	0
239	30	Totals:	-165.111	3936.939	-285.964			
240	30	COG (ft):	X: -1.259	Y: 1.382	Z: .758			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
241	31	N2	907.942	411	39.489	-1.329	.713	.103
242	31	N77	-81.352	375.841	-244.528	.641	.2	.837
243	31	N109	574.635	320.365	-1076.763	.488	-.931	-.905
244	31	N129	-.049	593.125	-1035.724	0	0	0
245	31	N130	-2428.993	1560.014	1398.925	0	0	0
246	31	N131	1027.816	676.594	589.916	0	0	0
247	31	Totals:	-.002	3936.938	-328.684			
248	31	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
249	32	N2	1095.518	415.481	49.898	-1.34	.877	.111
250	32	N77	-21.908	377.262	-172.028	.633	.149	.838
251	32	N109	593.692	315.377	-1082.052	.487	-.922	-.899
252	32	N129	1.123	605.475	-1058.659	0	0	0
253	32	N130	-2470.473	1586.83	1425.051	0	0	0
254	32	N131	966.381	636.514	553.168	0	0	0
255	32	Totals:	164.333	3936.938	-284.621			
256	32	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
257	33	N2	1186.296	421.016	67.377	-1.35	.927	.118
258	33	N77	78.364	375.448	-11.58	.621	-.017	.835
259	33	N109	596.914	311.462	-1061.134	.482	-.93	-.899
260	33	N129	3.053	635.608	-1113.61	0	0	0
261	33	N130	-2484.41	1595.794	1434.466	0	0	0
262	33	N131	905.716	597.61	519.405	0	0	0
263	33	Totals:	285.933	3936.939	-165.076			
264	33	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
265	34	N2	1206.172	426.006	81.037	-1.356	.926	.12
266	34	N77	163.053	370.949	154.876	.608	-.178	.83
267	34	N109	562.125	309.75	-970.691	.477	-.874	-.904
268	34	N129	4.15	676.036	-1185.822	0	0	0
269	34	N130	-2465.043	1584.151	1424.642	0	0	0
270	34	N131	861.236	570.047	495.957	0	0	0
271	34	Totals:	331.693	3936.939	-.001			
272	34	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
273	35	N2	1196.173	429.722	93.926	-1.358	.946	.117
274	35	N77	189.997	365.75	235.451	.598	-.216	.825
275	35	N109	467.94	311.405	-795.103	.474	-.693	-.916
276	35	N129	3.055	715.132	-1255.605	0	0	0
277	35	N130	-2416.096	1553.81	1398.537	0	0	0
278	35	N131	846.212	561.121	488.643	0	0	0
279	35	Totals:	287.281	3936.939	165.849			
280	35	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
281	36	N2	1108.749	431.287	108.802	-1.356	.905	.11
282	36	N77	181.517	361.175	247.497	.595	-.195	.822
283	36	N109	360.906	315.906	-630.34	.472	-.516	-.93
284	36	N129	1.133	741.836	-1304.296	0	0	0
285	36	N130	-2352.701	1513.248	1363.15	0	0	0
286	36	N131	865.511	573.489	501.147	0	0	0
287	36	Totals:	165.116	3936.94	285.961			
288	36	COG (ft):	X: -1.259	Y: 1.382	Z: .758			
289	37	N2	-123.404	859.893	65.991	-2.569	-.122	.404
290	37	N77	10.394	348.791	21.065	.603	-.031	.813
291	37	N109	-123.745	372.238	176.01	.434	.163	-.997
292	37	N129	.019	764.651	-1346.501	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
293	37	N130	-1098.32	721.022	637.712	0	0	0
294	37	N131	1335.058	870.349	774.404	0	0	0
295	37	Totals:	.002	3936.943	328.68			
296	37	COG (ft):	X: .265	Y: 1.382	Z: .758			
297	38	N2	-310.996	855.486	55.475	-2.558	-.287	.396
298	38	N77	-48.992	347.377	-51.294	.61	.02	.812
299	38	N109	-142.815	377.244	181.416	.435	.155	-1.003
300	38	N129	-1.156	752.331	-1323.612	0	0	0
301	38	N130	-1056.822	694.131	611.526	0	0	0
302	38	N131	1396.448	910.375	811.106	0	0	0
303	38	Totals:	-164.333	3936.943	284.617			
304	38	COG (ft):	X: .265	Y: 1.382	Z: .758			
305	39	N2	-401.75	850.026	37.851	-2.548	-.336	.39
306	39	N77	-149.19	349.204	-211.563	.622	.185	.815
307	39	N109	-146.102	381.148	160.586	.439	.163	-1.004
308	39	N129	-3.083	722.244	-1268.725	0	0	0
309	39	N130	-1042.837	685.121	602.095	0	0	0
310	39	N131	1457.031	949.2	844.827	0	0	0
311	39	Totals:	-285.932	3936.943	165.071			
312	39	COG (ft):	X: .265	Y: 1.382	Z: .758			
313	40	N2	-421.567	845.099	24.076	-2.543	-.335	.388
314	40	N77	-233.812	353.717	-377.845	.635	.346	.821
315	40	N109	-111.416	382.842	70.198	.444	.107	-.998
316	40	N129	-4.188	681.851	-1196.562	0	0	0
317	40	N130	-1062.137	696.745	611.887	0	0	0
318	40	N131	1501.426	976.688	868.243	0	0	0
319	40	Totals:	-331.693	3936.943	-.003			
320	40	COG (ft):	X: .265	Y: 1.382	Z: .758			
321	41	N2	-411.496	841.408	11.148	-2.541	-.355	.391
322	41	N77	-260.701	358.929	-458.27	.645	.384	.825
323	41	N109	-17.336	381.171	-105.356	.448	-.074	-.987
324	41	N129	-3.1	642.767	-1126.801	0	0	0
325	41	N130	-1111.047	727.098	637.909	0	0	0
326	41	N131	1516.4	985.569	875.516	0	0	0
327	41	Totals:	-287.281	3936.942	-165.853			
328	41	COG (ft):	X: .265	Y: 1.382	Z: .758			
329	42	N2	-324.023	839.819	-3.702	-2.543	-.314	.398
330	42	N77	-252.194	363.507	-470.26	.648	.363	.828
331	42	N109	89.619	376.645	-270.131	.45	-.251	-.973
332	42	N129	-1.174	616.063	-1078.119	0	0	0
333	42	N130	-1174.43	767.706	673.25	0	0	0
334	42	N131	1497.087	973.202	862.996	0	0	0
335	42	Totals:	-165.115	3936.942	-285.966			
336	42	COG (ft):	X: .265	Y: 1.382	Z: .758			
337	43	N2	-136.243	841.376	-9.802	-2.55	-.151	.407
338	43	N77	-230.05	366.999	-457.914	.646	.365	.831
339	43	N109	150.092	371.183	-340.162	.45	-.303	-.961
340	43	N129	-.003	608.1	-1063.21	0	0	0
341	43	N130	-1233.81	806.474	708.802	0	0	0
342	43	N131	1450.008	942.811	833.599	0	0	0
343	43	Totals:	-.006	3936.942	-328.686			
344	43	COG (ft):	X: .265	Y: 1.382	Z: .758			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
345	44	N2	51.332	845.788	.714	-2.561	.014	.415
346	44	N77	-170.653	368.404	-385.56	.638	.314	.832
347	44	N109	169.162	366.18	-345.551	.449	-.295	-.955
348	44	N129	1.17	620.426	-1086.103	0	0	0
349	44	N130	-1275.304	833.352	734.98	0	0	0
350	44	N131	1388.621	902.791	796.897	0	0	0
351	44	Totals:	164.329	3936.942	-284.623			
352	44	COG (ft):	X: .265	Y: 1.382	Z: .758			
353	45	N2	142.086	851.257	18.326	-2.571	.064	.421
354	45	N77	-70.44	366.575	-225.279	.626	.148	.829
355	45	N109	172.438	362.269	-324.707	.445	-.303	-.955
356	45	N129	3.101	650.526	-1141	0	0	0
357	45	N130	-1289.289	842.358	744.413	0	0	0
358	45	N131	1328.032	863.957	763.17	0	0	0
359	45	Totals:	285.928	3936.942	-165.077			
360	45	COG (ft):	X: .265	Y: 1.382	Z: .758			
361	46	N2	161.923	856.186	32.09	-2.577	.062	.423
362	46	N77	14.187	362.066	-58.982	.613	-.012	.824
363	46	N109	137.742	360.566	-234.324	.44	-.247	-.961
364	46	N129	4.201	690.925	-1213.167	0	0	0
365	46	N130	-1269.993	830.742	734.625	0	0	0
366	46	N131	1283.629	836.457	739.755	0	0	0
367	46	Totals:	331.689	3936.942	-.003			
368	46	COG (ft):	X: .265	Y: 1.382	Z: .758			
369	47	N2	151.871	859.868	45.021	-2.579	.082	.42
370	47	N77	41.066	356.864	21.451	.604	-.05	.819
371	47	N109	43.667	362.237	-58.79	.436	-.066	-.972
372	47	N129	3.111	729.999	-1282.917	0	0	0
373	47	N130	-1221.095	800.404	708.603	0	0	0
374	47	N131	1268.657	827.572	732.479	0	0	0
375	47	Totals:	287.277	3936.943	165.847			
376	47	COG (ft):	X: .265	Y: 1.382	Z: .758			
377	48	N2	64.395	861.449	59.883	-2.576	.041	.413
378	48	N77	32.544	352.29	33.431	.6	-.029	.816
379	48	N109	-63.281	366.768	105.973	.434	.111	-.986
380	48	N129	1.192	756.691	-1331.593	0	0	0
381	48	N130	-1157.713	759.801	673.266	0	0	0
382	48	N131	1287.974	839.945	744.999	0	0	0
383	48	Totals:	165.111	3936.943	285.959			
384	48	COG (ft):	X: .265	Y: 1.382	Z: .758			
385	49	N2	59.286	675.223	17.251	-1.998	.034	.116
386	49	N77	14.768	370.335	-18.24	.631	-.008	.847
387	49	N109	2.357	378.83	-54.13	.444	-.047	-.995
388	49	N129	-.006	692.443	-1215.985	0	0	0
389	49	N130	-1139.01	746.653	657.607	0	0	0
390	49	N131	1062.604	698.458	613.495	0	0	0
391	49	Totals:	0	3561.943	-.001			
392	49	COG (ft):	X: -.09	Y: 1.528	Z: .401			
393	50	N2	-450.261	358.842	41.778	-1.11	-.363	.08
394	50	N77	-199.564	357.72	-430.013	.684	.36	.881
395	50	N109	-24.945	380.117	-21.924	.438	-.014	-.987
396	50	N129	.033	672.42	-1179.27	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
397	50	N130	-1039.087	683.667	599.957	0	0	0
398	50	N131	1713.818	1109.177	989.471	0	0	0
399	50	Totals:	-.005	3561.943	-.001			
400	50	COG (ft):	X: .666	Y: 1.528	Z: .401			
401	51	N2	68.392	445.872	30.191	-1.266	.039	.136
402	51	N77	45.514	436.044	24.201	.74	-.047	.998
403	51	N109	-24.755	446.574	-17.985	.521	-.015	-1.171
404	51	N129	-.007	809.795	-1422.267	0	0	0
405	51	N130	-1244.765	818.022	718.663	0	0	0
406	51	N131	1155.619	761.794	667.196	0	0	0
407	51	Totals:	-.001	3718.101	-.002			
408	51	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
409	52	N2	60.768	401.266	54.273	-1.128	.038	.12
410	52	N77	136.755	381.645	216.765	.644	-.206	.882
411	52	N109	-124.156	396.265	187.461	.457	.164	-1.05
412	52	N129	-.002	773.493	-1360.126	0	0	0
413	52	N130	-1058.62	696.938	613.639	0	0	0
414	52	N131	985.257	650.66	571.292	0	0	0
415	52	Totals:	.002	3300.267	283.303			
416	52	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
417	53	N2	-66.652	398.974	50.1	-1.122	-.06	.115
418	53	N77	80.542	380.872	139.11	.649	-.133	.882
419	53	N109	-152.746	399.458	209.151	.457	.189	-1.054
420	53	N129	-1.225	765.018	-1344.934	0	0	0
421	53	N130	-1029.342	677.701	595.7	0	0	0
422	53	N131	1027.767	678.243	596.214	0	0	0
423	53	Totals:	-141.656	3300.267	245.34			
424	53	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
425	54	N2	-159.933	395.826	39.685	-1.117	-.132	.111
426	54	N77	13.583	381.757	29.952	.656	-.035	.883
427	54	N109	-146.303	401.829	170.526	.459	.161	-1.053
428	54	N129	-2.122	744.158	-1307.631	0	0	0
429	54	N130	-1020.295	671.43	589.063	0	0	0
430	54	N131	1069.721	705.266	620.055	0	0	0
431	54	Totals:	-245.35	3300.267	141.651			
432	54	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
433	55	N2	-194.101	392.663	25.818	-1.114	-.16	.11
434	55	N77	-46.198	384.063	-81.483	.664	.061	.885
435	55	N109	-106.548	402.745	81.926	.462	.086	-1.049
436	55	N129	-2.453	716.496	-1258.202	0	0	0
437	55	N130	-1033.901	679.805	595.506	0	0	0
438	55	N131	1099.886	724.494	636.434	0	0	0
439	55	Totals:	-283.315	3300.266	-.001			
440	55	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
441	56	N2	-159.98	390.332	12.218	-1.114	-.135	.112
442	56	N77	-82.772	387.171	-165.329	.669	.129	.887
443	56	N109	-44.128	401.961	-32.912	.465	-.016	-1.042
444	56	N129	-2.128	689.444	-1209.894	0	0	0
445	56	N130	-1066.519	700.584	613.305	0	0	0
446	56	N131	1110.174	730.773	640.959	0	0	0
447	56	Totals:	-245.353	3300.266	-141.654			
448	56	COG (ft):	X: -.101	Y: 1.707	Z: -.04			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
449	57	N2	-66.743	389.46	2.528	-1.116	-.065	.116
450	57	N77	-86.345	390.246	-199.123	.672	.152	.889
451	57	N109	24.222	399.689	-143.198	.467	-.118	-1.035
452	57	N129	-1.233	670.253	-1175.654	0	0	0
453	57	N130	-1109.398	728.19	637.684	0	0	0
454	57	N131	1097.836	722.427	632.419	0	0	0
455	57	Totals:	-141.661	3300.266	-245.343			
456	57	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
457	58	N2	60.644	390.282	-.66	-1.12	.032	.122
458	58	N77	-55.954	392.463	-173.814	.67	.123	.89
459	58	N109	80.196	396.536	-219.398	.468	-.191	-1.029
460	58	N129	-.009	664.066	-1164.653	0	0	0
461	58	N130	-1151.056	755.231	662.116	0	0	0
462	58	N131	1066.173	701.688	613.102	0	0	0
463	58	Totals:	-.004	3300.265	-283.306			
464	58	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
465	59	N2	188.049	392.579	3.511	-1.126	.129	.127
466	59	N77	.266	393.23	-96.162	.665	.049	.89
467	59	N109	108.783	393.344	-241.073	.468	-.217	-1.025
468	59	N129	1.216	672.546	-1179.85	0	0	0
469	59	N130	-1180.327	774.458	680.051	0	0	0
470	59	N131	1023.667	674.108	588.18	0	0	0
471	59	Totals:	141.653	3300.265	-245.343			
472	59	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
473	60	N2	281.331	395.732	13.919	-1.131	.202	.131
474	60	N77	67.237	392.343	13.007	.657	-.049	.889
475	60	N109	102.331	390.968	-202.438	.465	-.188	-1.026
476	60	N129	2.112	693.415	-1217.161	0	0	0
477	60	N130	-1189.373	780.726	686.685	0	0	0
478	60	N131	981.709	647.081	564.335	0	0	0
479	60	Totals:	245.347	3300.266	-141.654			
480	60	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
481	61	N2	315.514	398.896	27.782	-1.134	.229	.132
482	61	N77	127.022	390.041	124.456	.65	-.144	.887
483	61	N109	62.571	390.047	-113.842	.463	-.113	-1.03
484	61	N129	2.441	721.08	-1266.593	0	0	0
485	61	N130	-1175.772	772.357	680.244	0	0	0
486	61	N131	951.537	627.844	547.952	0	0	0
487	61	Totals:	283.313	3300.266	-.001			
488	61	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
489	62	N2	281.408	401.222	41.384	-1.134	.205	.13
490	62	N77	163.59	386.939	208.305	.644	-.213	.885
491	62	N109	.154	390.83	.982	.46	-.011	-1.037
492	62	N129	2.114	748.127	-1314.896	0	0	0
493	62	N130	-1143.162	751.587	662.449	0	0	0
494	62	N131	941.246	621.561	543.427	0	0	0
495	62	Totals:	245.35	3300.266	141.651			
496	62	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
497	63	N2	188.171	402.089	51.081	-1.132	.135	.126
498	63	N77	167.151	383.866	242.088	.642	-.235	.883
499	63	N109	-68.187	393.106	111.257	.458	.09	-1.044
500	63	N129	1.22	767.309	-1349.128	0	0	0

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
501	63	N130	-1100.284	723.984	638.072	0	0	0
502	63	N131	953.588	629.912	551.97	0	0	0
503	63	Totals:	141.658	3300.267	245.34			
504	63	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
505	64	N2	41.929	278.558	46.023	-.779	.027	.083
506	64	N77	124.138	261.635	209.927	.44	-.193	.607
507	64	N109	-117.251	273.357	192.246	.313	.168	-.728
508	64	N129	0	550.515	-968.416	0	0	0
509	64	N130	-716.023	471.809	415.85	0	0	0
510	64	N131	667.209	441.011	387.673	0	0	0
511	64	Totals:	.002	2276.886	283.304			
512	64	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
513	65	N2	-85.371	276.266	41.846	-.774	-.07	.077
514	65	N77	67.955	260.861	132.356	.445	-.12	.607
515	65	N109	-145.841	276.552	213.898	.314	.194	-.731
516	65	N129	-1.227	542.052	-953.251	0	0	0
517	65	N130	-686.806	452.603	397.944	0	0	0
518	65	N131	709.635	468.551	412.548	0	0	0
519	65	Totals:	-141.655	2276.886	245.341			
520	65	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
521	66	N2	-178.56	273.117	31.417	-.769	-.143	.073
522	66	N77	1.048	261.747	23.307	.453	-.022	.608
523	66	N109	-139.431	278.925	175.289	.316	.165	-.731
524	66	N129	-2.127	521.223	-916.019	0	0	0
525	66	N130	-677.785	446.344	391.317	0	0	0
526	66	N131	751.505	495.53	436.34	0	0	0
527	66	Totals:	-245.349	2276.885	141.651			
528	66	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
529	67	N2	-212.688	269.952	17.531	-.766	-.17	.072
530	67	N77	-58.671	264.054	-88.026	.46	.074	.61
531	67	N109	-99.732	279.842	86.752	.319	.09	-.727
532	67	N129	-2.458	493.602	-866.684	0	0	0
533	67	N130	-691.374	454.71	397.744	0	0	0
534	67	N131	781.609	514.725	452.681	0	0	0
535	67	Totals:	-283.315	2276.885	-.001			
536	67	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
537	68	N2	-178.591	267.62	3.911	-.765	-.146	.074
538	68	N77	-95.192	267.164	-171.8	.466	.142	.612
539	68	N109	-37.375	279.058	-27.991	.322	-.012	-.72
540	68	N129	-2.131	466.591	-818.469	0	0	0
541	68	N130	-723.937	475.461	415.507	0	0	0
542	68	N131	791.874	520.992	457.189	0	0	0
543	68	Totals:	-245.352	2276.885	-141.653			
544	68	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
545	69	N2	-85.435	266.746	-5.793	-.767	-.076	.079
546	69	N77	-98.733	270.241	-205.574	.468	.165	.614
547	69	N109	30.92	276.784	-138.177	.324	-.113	-.712
548	69	N129	-1.233	447.43	-784.297	0	0	0
549	69	N130	-766.737	503.028	439.84	0	0	0
550	69	N131	779.558	512.656	448.659	0	0	0
551	69	Totals:	-141.66	2276.884	-245.343			
552	69	COG (ft):	X: -.101	Y: 1.707	Z: -.04			

Joint Reactions (Continued)

	LC	Joint Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
553	70	N2	41.837	267.568	-8.987	-.772	.021	.084
554	70	N77	-68.341	272.46	-180.302	.466	.135	.615
555	70	N109	86.863	273.629	-214.297	.325	-.187	-.706
556	70	N129	-.005	441.253	-773.32	0	0	0
557	70	N130	-808.314	530.028	464.227	0	0	0
558	70	N131	747.957	491.947	429.374	0	0	0
559	70	Totals:	-.004	2276.884	-283.306			
560	70	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
561	71	N2	169.121	269.864	-4.813	-.777	.118	.09
562	71	N77	-12.151	273.228	-102.734	.461	.062	.615
563	71	N109	115.45	270.435	-235.935	.324	-.213	-.703
564	71	N129	1.224	449.721	-788.49	0	0	0
565	71	N130	-837.524	549.225	482.129	0	0	0
566	71	N131	705.534	464.411	404.499	0	0	0
567	71	Totals:	141.654	2276.884	-245.343			
568	71	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
569	72	N2	262.312	273.019	5.609	-.782	.191	.094
570	72	N77	54.767	272.341	6.327	.454	-.036	.614
571	72	N109	109.03	268.058	-197.315	.322	-.184	-.704
572	72	N129	2.123	470.559	-825.73	0	0	0
573	72	N130	-846.544	555.481	488.753	0	0	0
574	72	N131	663.66	437.427	380.703	0	0	0
575	72	Totals:	245.348	2276.884	-141.653			
576	72	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
577	73	N2	296.455	276.185	19.491	-.785	.218	.095
578	73	N77	114.491	270.037	117.673	.446	-.131	.612
579	73	N109	69.326	267.136	-108.782	.319	-.109	-.708
580	73	N129	2.453	498.183	-875.067	0	0	0
581	73	N130	-832.96	547.12	482.327	0	0	0
582	73	N131	633.55	418.222	364.358	0	0	0
583	73	Totals:	283.313	2276.885	0			
584	73	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
585	74	N2	262.373	278.513	33.113	-.786	.194	.093
586	74	N77	151.006	266.933	201.45	.44	-.2	.61
587	74	N109	6.973	267.919	5.947	.316	-.007	-.714
588	74	N129	2.124	525.189	-923.277	0	0	0
589	74	N130	-800.405	526.379	464.568	0	0	0
590	74	N131	623.281	411.952	359.851	0	0	0
591	74	Totals:	245.351	2276.885	141.651			
592	74	COG (ft):	X: -.101	Y: 1.707	Z: -.04			
593	75	N2	169.216	279.381	42.825	-.783	.124	.088
594	75	N77	154.535	263.858	235.214	.438	-.222	.608
595	75	N109	-61.313	270.197	116.122	.314	.094	-.722
596	75	N129	1.226	544.342	-957.442	0	0	0
597	75	N130	-757.606	498.815	440.238	0	0	0
598	75	N131	635.601	420.293	368.385	0	0	0
599	75	Totals:	141.659	2276.885	245.341			
600	75	COG (ft):	X: -.101	Y: 1.707	Z: -.04			

Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc ...	phi*Pnt [..	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	M1	HSS4X4X4	.305	0	11	.153	0	z	10	138875....	139518	16.181	16.181	1....	H1-1b
2	M2	HSS4.5X4....	.163	0	22	.067	0	y	21	119784....	121302	16.25	16.25	1....	H1-1b
3	M5	LL3x3x4x0	.412	0	13	.068	1.708	y	13	76288.1...	93312	6.48	4.357	2....	H1-1b
4	M6	LL3x3x4x0	.416	0	21	.069	1.708	y	21	76288.1...	93312	6.48	4.357	1....	H1-1b
5	M7	LL3x3x4x0	.364	0	17	.063	1.708	y	17	76288.1...	93312	6.48	4.357	1....	H1-1b
6	M6A	L3X3X4	.356	0	11	.017	7.433	z	21	13991.9...	46656	1.688	3.406	1....	H2-1
7	M7A	L3X3X4	.881	0	9	.178	7.181	y	1	3748.406	46656	1.688	3.074	2....	H2-1
8	MP4A	PIPE_2.0	.329	4.25	11	.176	2.188		12	20866.7...	32130	1.872	1.872	2....	H1-1b
9	M23A	L3X3X4	.354	7.433	11	.017	0	z	13	13991.9...	46656	1.688	3.571	2....	H2-1
10	M24	L3X3X4	.875	0	5	.179	7.181	y	9	3748.406	46656	1.688	2.98	2....	H2-1
11	M38	HSS4X4X4	.290	0	5	.150	0	z	6	138875....	139518	16.181	16.181	1....	H1-1b
12	M39A	L3X3X4	.354	7.433	7	.017	0	z	21	13991.9...	46656	1.688	3.455	2....	H2-1
13	M40	L3X3X4	.872	0	1	.186	7.181	y	5	3748.406	46656	1.688	2.988	2....	H2-1
14	M54	HSS4X4X4	.318	0	3	.158	0	z	2	138875....	139518	16.181	16.181	1....	H1-1b
15	M55	HSS4.5X4....	.155	0	24	.072	0	y	17	119784....	121302	16.25	16.25	1....	H1-1b
16	M56	HSS4.5X4....	.157	0	14	.071	0	y	13	119784....	121302	16.25	16.25	1....	H1-1b
17	MP3A	PIPE_2.0	.482	1.25	10	.187	4.25		12	20866.7...	32130	1.872	1.872	2....	H1-1b
18	MP2A	PIPE_2.0	.662	6.25	10	.290	6.25		5	14916.0...	32130	1.872	1.872	1....	H1-1b
19	MP1A	PIPE_2.0	.540	4.25	4	.192	1.25		1	20866.7...	32130	1.872	1.872	2....	H1-1b
20	MP4C	PIPE_2.0	.310	4.25	6	.157	1.25		8	20866.7...	32130	1.872	1.872	2....	H1-1b
21	MP3C	PIPE_2.0	.494	1.25	6	.175	4.25		8	20866.7...	32130	1.872	1.872	2....	H1-1b
22	MP2C	PIPE_2.0	.660	6.25	6	.268	6.25		1	14916.0...	32130	1.872	1.872	1....	H1-1b
23	MP1C	PIPE_2.0	.530	4.25	12	.184	1.25		9	20866.7...	32130	1.872	1.872	2....	H1-1b
24	MP4B	PIPE_2.0	.339	4.25	3	.178	1.25		4	20866.7...	32130	1.872	1.872	2....	H1-1b
25	MP3B	PIPE_2.0	.504	1.25	2	.194	1.25		5	20866.7...	32130	1.872	1.872	2....	H1-1b
26	MP2B	PIPE_2.0	.688	6.25	2	.291	6.25		9	14916.0...	32130	1.872	1.872	1....	H1-1b
27	MP1B	PIPE_2.0	.568	4.25	8	.198	1.25		5	20866.7...	32130	1.872	1.872	2....	H1-1b
28	M40A	PIPE_2.5	.399	2.505	10	.205	11.274		6	12741.7...	50715	3.596	3.596	1....	H1-1b
29	M47A	PIPE_2.5	.387	2.505	6	.184	11.413		2	12741.7...	50715	3.596	3.596	1....	H1-1b
30	M54A	PIPE_2.5	.402	2.505	2	.202	11.413		10	12741.7...	50715	3.596	3.596	1....	H1-1b
31	M61	L3X3X4	.669	0	3	.068	0	y	4	42442.9...	46656	1.688	3.756	2....	H2-1
32	M62	L3X3X4	.706	0	11	.068	0	y	12	42442.9...	46656	1.688	3.756	2....	H2-1
33	M63	L3X3X4	.640	0	7	.057	1.55	y	8	42442.9...	46656	1.688	3.756	2....	H2-1
34	M64	LL3x3x3x6	.108	6.254	13	.005	0	y	14	46027.0...	70632	6.362	3.751	1	H1-1b*
35	M65	LL3x3x3x6	.110	6.254	21	.005	0	y	22	46027.0...	70632	6.362	3.751	1	H1-1b*
36	M66	LL3x3x3x6	.098	6.254	17	.005	0	y	18	46027.0...	70632	6.362	3.751	1	H1-1b*

VzW SMART Tool© Vendor

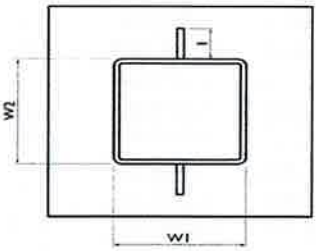
Client:	Verizon Wireless	Date:	2/13/2024
Site Name:	E GLASTONBURY 2 CT		
MDG #:	5000386583		
Fuze ID #:	2559329	Page:	1

Version 2.00

I. Mount-to-Tower Connection Check

Custom Orientation Required	No
Tower Connection Bolt Checks	No
Tower Connection Baseplate Checks	No
Tower Connection Weld Checks	Yes

Weld Shape:	Rectangle
Weld Stiffener Configuration:	(1) Stiffener on top/bottom
Stiffener Notch Present?	No
Stiffener Length, l (in):	4
Stiffener Spacing/Width, s (in):	
Weld Size (1/16 in):	4
W1 (in):	4
W2 (in):	4
Weld Total Length (in):	32.00
Z_x (in^3/in):	67.56
Z_y (in^3/in):	21.33
J_p (in^4/in):	362.67
c_x (in)	6
c_y (in)	6
Required combined strength (kip/in):	1.79
Weld Capacity (kip/in):	5.57
Weld Utilization:	**32.2%**



verizon

MOUNT MODIFICATION DRAWINGS
EXISTING 14.00' PLATFORM

TOWER OWNER: SBA COMMUNICATIONS CORPORATION
TOWER OWNER SITE NUMBER: CT02216

CARRIER SITE NAME: E GLASTONBURY 2 CT
CARRIER SITE NUMBER: 5000386583
FUZE ID: 2559329

175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

LATITUDE: 41.65590000° N
LONGITUDE: 72.52327500° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 120 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY: 1
TOPOGRAPHIC CONSIDERED: N/A
TOPOGRAPHIC METHOD: N/A
MEAN BASE ELEVATION (AMSL) = 462.99'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.50 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_S = .200
LONG TERM MCER GROUND MOTION, S_1 = .055

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY: VERIZON WIRELESS

PROJECT MANAGER

COMPANY: COLLIERS ENGINEERING & DESIGN
CONTACT: PETER ALBANO
PHONE: 856.797.0412
E-MAIL: PETER.ALBANO@COLLIERSENG.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #: 10222811
VZW MDG #: 5000386583
ANALYSIS DATE: 2/20/2024

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

Colliers Engineering & Design
www.colliersengineering.com
Doing Business as MASER

verizon

811 Know what's below. Call before you dig.

AS SHOWN | 22777014

STATE OF CONNECTICUT DEJIAN XU No. 33733 LICENSED PROFESSIONAL ENGINEER 02/20/2024

SITE NAME

E GLASTONBURY 2 CT
5000386583
175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

TITLE SHEET

ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	VZWSMART	VZWSMART-PLK5	KICKER KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	291	291
1	VZWSMART	VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150
3	VZWSMART	VZWSMART-P40-238X096	96" LONG, PIPE 2 SCH40 (2.375"OD X 0.154" THK)		29	87
12	VZWSMART	VZWSMART-MSK2	CROSSOVER PLATE		15	180
3	VZWSMART	VZWSMART-PLK3	SUPPORT RAIL CORNER BRACKET		30	90

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	-	-	162" LONG, PIPE 2.5 SCH40	GALVANIZED	78	234
3	-	-	30" LONG, L3X3X1/4	GALVANIZED	15	45
6	-	-	8" LONG, HSS 3X2X1/4	GALVANIZED	12	72
-	-	-	J429 GR-1 U-BOLT	GALVANIZED	-	-

SECTION 3 - REQUIRED SAFETY CLIMB PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
1	PERFECT VISON	PV-SCRB-RM-U	ROUTING BRACKET	OR EOR APPROVED EQUIVALENT	-	-
1	PERFECT VISION	PV-CMX-CG-BO	WIRE ROPE GUIDE	OR EOR APPROVED EQUIVALENT	-	-
					TOTAL:	1149

*FOR ACTUAL INSTALL WEIGHT PLEASE CHECK THE MA REPORT

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.

2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM

METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM

SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

Colliers Engineering & Design

www.colliersengineering.com

Doing Business as MASER

verizon

811 Know what's below. Call before you dig.

AS SHOWN

22777034

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	02/20/24	ISSUED FOR CONSTRUCTION	GA	DA
0	08/04/23	ISSUED FOR CONSTRUCTION	GER	DH

STATE OF CONNECTICUT DEJIAN XU No. 33733 LICENSED PROFESSIONAL ENGINEER 02/20/2024

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

SITE NAME:

E GLASTONBURY 2 CT
5000386583
175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

STAMFORD
1055 Washington Boulevard
Stamford, CT 06901

BILL OF MATERIALS

SBOM-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

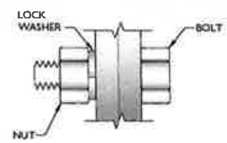
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO
      PETER.ALBANO@COLLIERSENG.COM
   b. PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
9. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
10. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
11. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
12. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
13. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 1 1/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

WORKABLE GAGES (IN.)

LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8

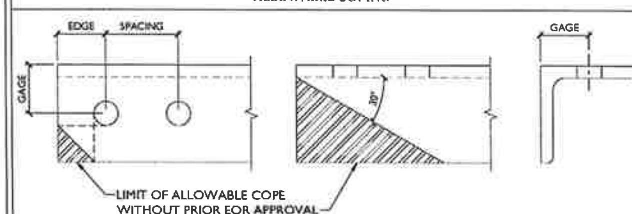


TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

ALLOWABLE COPING



Colliers Engineering & Design
www.colliersengineering.com

Doing Business as MASER

verizon

811 Know what's below. Call before you dig.

SCALE: AS SHOWN	JOB NUMBER: 22777014

STATE OF CONNECTICUT · DEJIAN XU · No. 33733 · LICENSED PROFESSIONAL ENGINEER
02/20/2024

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

SITE NAME:

E GLASTONBURY 2 CT
5000386583

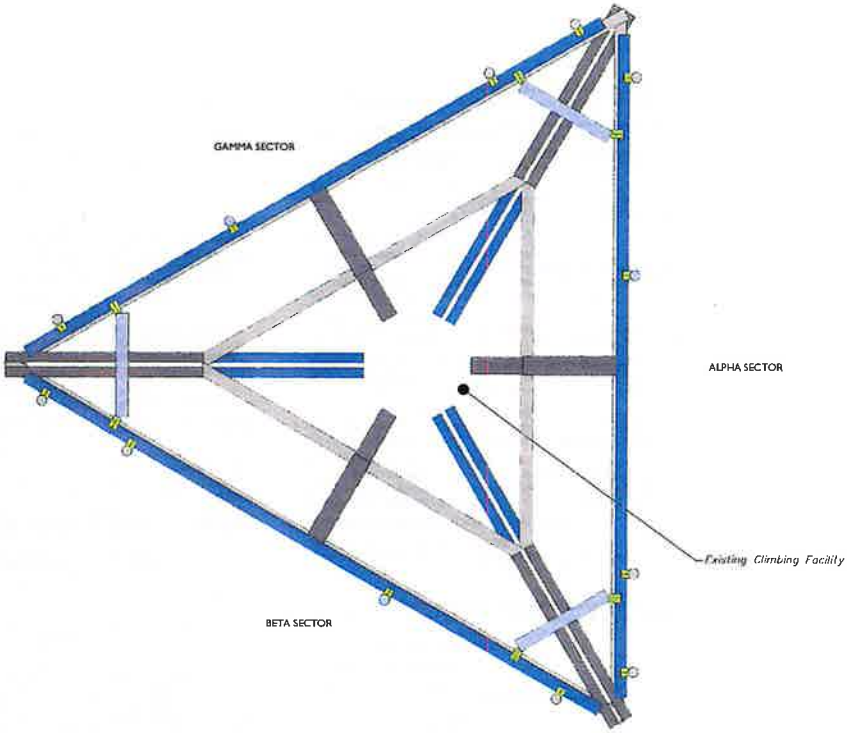
175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901

GENERAL NOTES

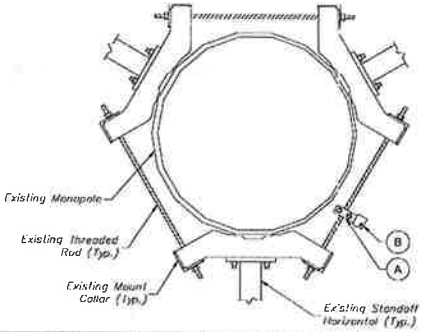
SGN-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



1 CLIMBING FACILITY LOCATION

SCALE: N.T.S.



ITEM #	QTY	PART NUMBER	DESCRIPTIONS
A	1	PV-SCRB-RM-U	ROUTING BRACKET (PERFECT VISION OR EOR APPROVED EQ.)
B	1	PV-CMX-CG-BO	WIRE ROPE GUIDE (PERFECT VISION OR EOR APPROVED EQ.)

2 PROPOSED WIRE ROPE GUIDE ATTACHMENT - PLAN VIEW

SCALE: N.T.S.

NOTE: CONTRACTOR SHALL ENSURE THAT WIRE ROPE GUIDE DOES NOT PUSH THE WIRE ROPE OUTSIDE OF THE VERTICAL PLANE OF THE SAFETY CLIMB. CONTRACT EOR WITH PHOTOS OF SAFETY CLIMB AND COLLAR FOR FURTHER DIRECTION IF NEEDED.

CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY TOWER ENGINEERING PROFESSIONALS ON 6/28/2022, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (164'-00") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

Colliers Engineering & Design

www.colliersengineering.com

Doing Business as MASER

verizon

811 PROTECT YOUR SPACE

Know what's below. Call before you dig.

FOR STATE SPECIFIC DIGSAFE PHONE NUMBERS VISIT WWW.CALL811.COM

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	02/20/24		SH	EH
0	09/29/22		DRS	DH

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
02/20/2024

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

SITE NAME:

E GLASTONBURY 2 CT
5000386583

175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

Colliers Engineering & Design

STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.6800

CLIMBING FACILITY DETAIL

SCF-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

LEGEND:

PROPOSED

RELOCATED

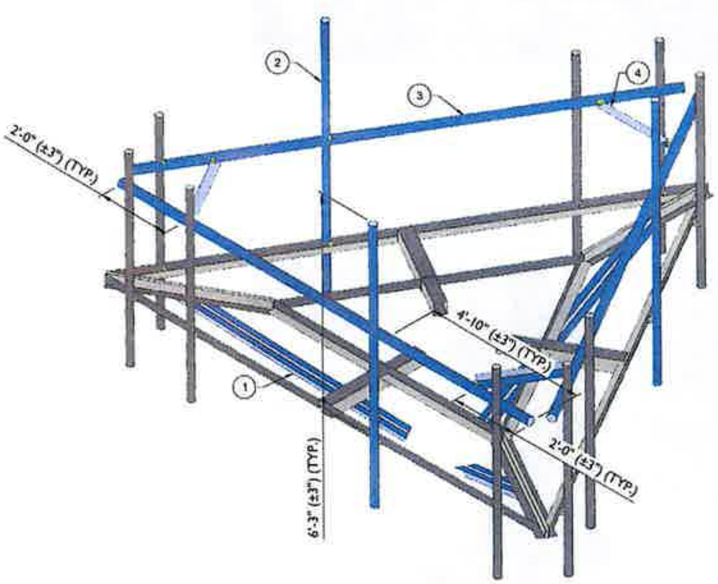
EXISTING

MOUNT MODIFICATION SCHEDULE

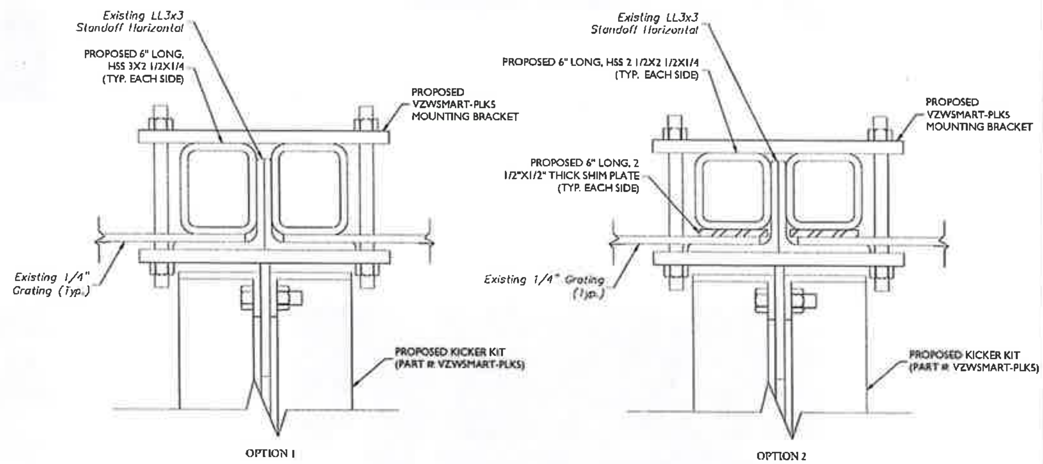
NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	164'-00"	1	PROPOSED KICKER KIT (PART #: VZWSMART-PLK5)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONNECT TO THE GRATING ANGLES WIH PROVIDED HARDWARE. UTILIZE THE PROPOSED 8" LONG HSS3X2X1/4 TUBING SHIM MATERIAL BETWEEN THE ANGLE MEMBERS AND KICKER CONNECTION PLATES. TRIM GRATING AND RELOCATE EXISTING STITCH BOLTING AS NEEDED. SEE GENERAL NOTE B.
2		3	PROPOSED 96" LONG, PIPE 2 SCH40 (PART #: VZWSMART-P40-238X096)	REPLACE EXISTING MOUNT PIPE WITH NEW 96" LONG P2 SCH 40 PIPE. CONNECT TO THE EXISTING WELDED PLATE ON THE FACE HORIZONTAL WITH NEW 1/2" DIA. U-BOLTS.
3		3	PROPOSED 162" LONG, PIPE 2.5 SCH40	RADIO AND/OR THE POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE. CONNECT NEW HORIZONTAL TO ALL EXISTING AND PROPOSED VERTICAL MOUNT PIPES WITH CROSSOVER PLATES (PART #: VZWSMART-MSK1).
4		3	PROPOSED 30" LONG, L3X3X1/4	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONTRACTOR SHALL CONNECT PROPOSED ANGLES TO SUPPORT RAIL CORNER BRACKET (PART #: VZWSMART-PLK3) USING THE PROVIDED (8) 5/8" DIA. BOLTS, (4) BOLTS PER CONNECTION.

GENERAL NOTES:

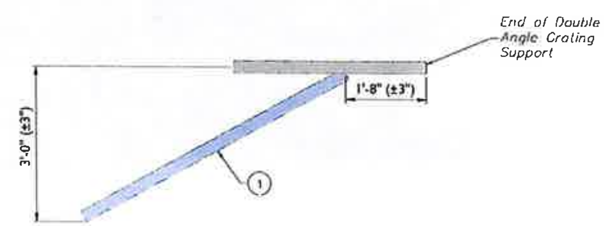
A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR.
B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).
C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.



1 PROPOSED ISOMETRIC VIEW
SCALE: N.T.S.



3 KICKER TO STANDOFF HORIZONTAL CONNECTION DETAIL
SCALE: N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)
SCALE: N.T.S.

Colliers Engineering & Design
www.colliersengineering.com

Doing Business as MASER

verizon

811 Know what's below. Call before you dig.

SCALE: AS SHOWN | JOB NUMBER: 22777014

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	03/02/24	[illegible]	GA	DK
0	08/04/23	[illegible]	[illegible]	DK

STATE OF CONNECTICUT DEJIAN XU No. 33733 LICENSED PROFESSIONAL ENGINEER 02/20/2024

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

SITE NAME:

E GLASTONBURY 2 CT
5000386583
175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

Colliers Engineering & Design
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901

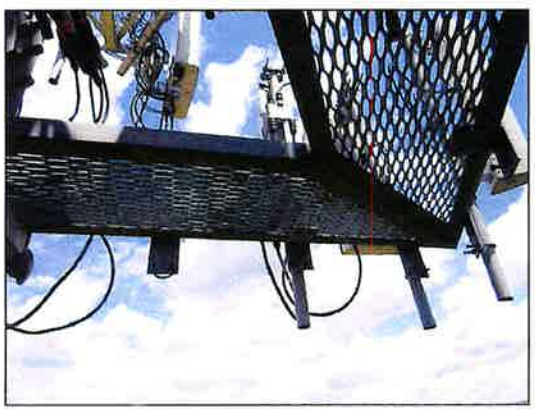
MODIFICATION DETAILS

SS-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

MOUNT PHOTO 1

MOUNT PHOTO 2



MOUNT PHOTO 3

MOUNT PHOTO 4

Colliers Engineering & Design

www.colliersengineering.com

verizon

AS SHOWN | 22777014

SITE NAME:

E GLASTONBURY 2 CT
5000386583
175 DICKINSON RD.
GLASTONBURY, CT 06033
HARTFORD COUNTY

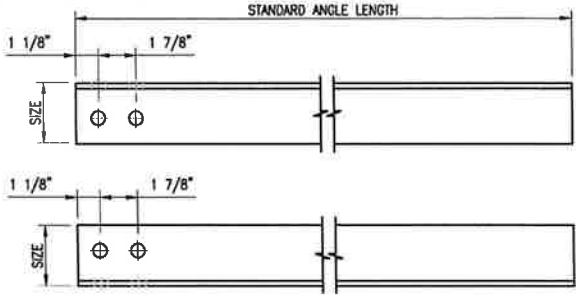
STATE OF CONNECTICUT DEJIAN XU No. 33733 LICENSED PROFESSIONAL ENGINEER 02/20/2024

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

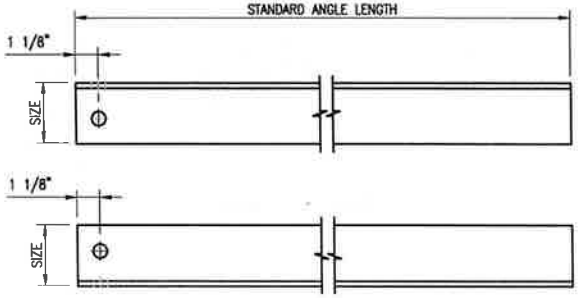
MOUNT PHOTOS

SS-2

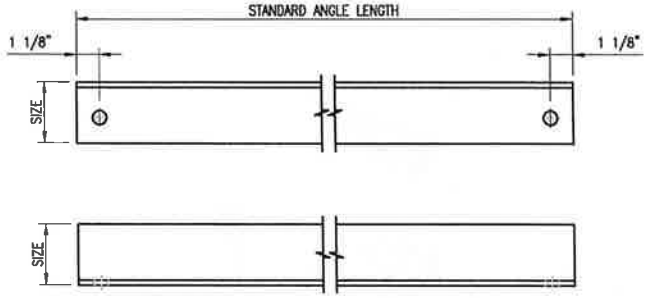
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



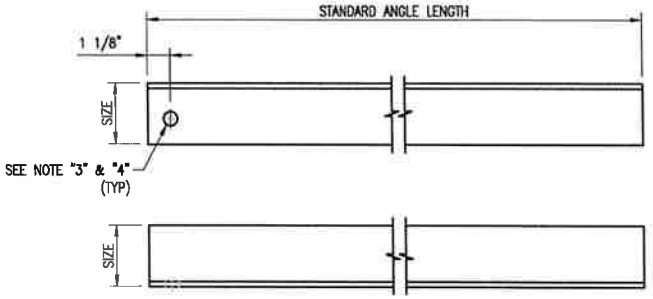
HOLE STYLE "A"



HOLE STYLE "B"



HOLE STYLE "C"



HOLE STYLE "D"

VZWSMART Standard Angle					
VZWSMART Number	Size	Length	Hole Style	Hole Gage	Also Used In:
A-PLK2-01	L 3" X 3" X 1/4"	96"	A	1-3/4"	VZWSMART-PLK2
A-PLK5-01	L 3"X 3" X 3/16"	96"	B	1-3/4"	VZWSMART-PLK5
A-SFK3-01	L 2-1/2" X 2-1/2" X 1/4"	96"	C	1-3/8"	VZWSMART-SFK3,-SFK3-SL, -PLK6, & -PLK8
A-L25X25X4X120	L 2-1/2" X 2-1/2" X 1/4"	120"	D	1-5/16"	
A-L25X25X4X240	L 2-1/2" X 2-1/2" X 1/4"	240"	D	1-5/16"	
A-L30X30X4X120	L 3" X 3" X 1/4"	120"	D	1-1/2"	
A-L30X30X4X240	L 3" X 3" X 1/4"	240"	D	1-1/2"	
A-L40X40X4X120	L 4" X 4" X 1/4"	120"	D	2"	
A-L40X40X4X240	L 4" X 4" X 1/4"	240"	D	2"	
A-L50X30X6X120	L 5" X 3" X 3/8"	120"	D	2-1/2"	
A-L50X50X6X120	L 5" X 5" X 3/8"	120"	D	2-1/2"	

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION ANGLES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE. SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

NOTES:
1. ALL ANGLE GRADE A36 OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. U.N.O
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

VzW SMART Tool© Vendor

verizon

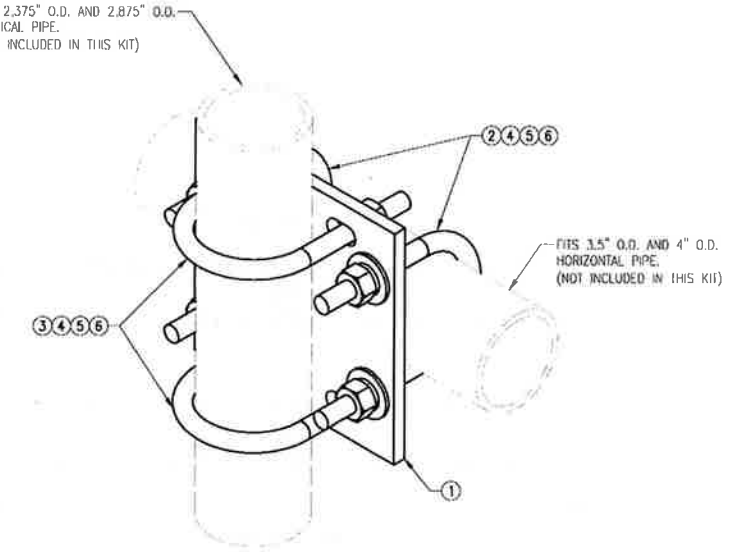
FOR REFERENCE ONLY

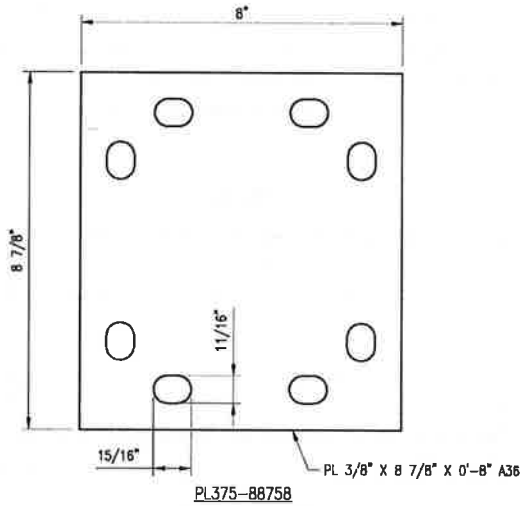
DRAWN BY: BT | CHECKED BY: HMA/KW

REV	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

SHEET TITLE:
VZWSMART STANDARD ANGLE

SHEET NUMBER: VZWSMART-ANGLE | REV #: 0





PL375-88758

VZWSMART-MSK2 (CROSSOVER PLATE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-88758	PL 3/8" X 8 3/4" X 0'-8" A36	MSK2-F1	8
2	2	MS02-625-4125-600	RU-BOLT 5/8" X 4 1/8" I.W. X 6" I.L. A36 (OR EQUIV.)	RBC-1	3
3	2	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	3
4	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
5	8	LW-625	5/8" HDG LOCK WASHER	---	0
6	8	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	15

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

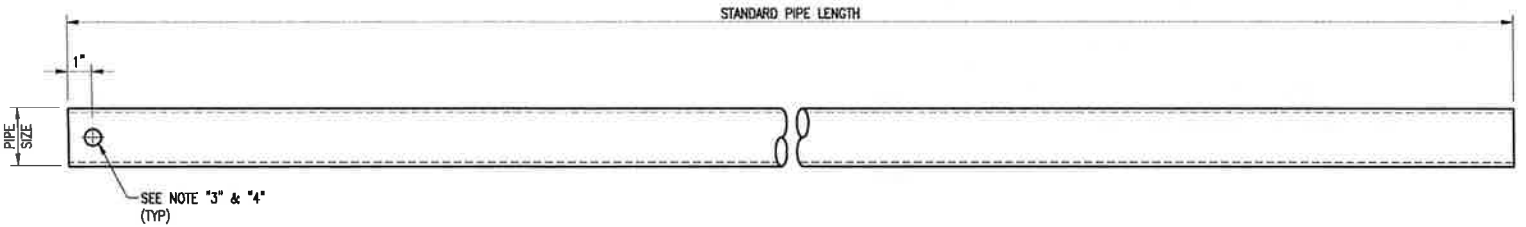
DRAWN BY: HLR | CHECKED BY: HMA

REV	DESCRIPTION	BY	DATE
1	FIRST ISSUE	HLR	05/08/20

SHEET TITLE:
VZWSMART-MSK2
CROSSOVER PLATE

SHEET NUMBER: VZWSMART-MSK2

REV #: 0



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE. SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

NOTES:
1. ALL PIPE GRADE A53-B OR BETTER.
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. U.N.O
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

VzW SMART Tool© Vendor

verizon

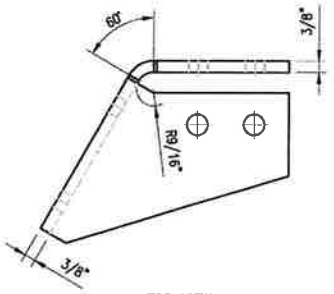
FOR REFERENCE ONLY

DRAWN BY: BT | CHECKED BY: HMA/KW

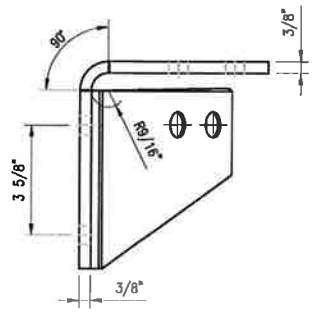
REV	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	08/04/21

SHEET TITLE:
VZWSMART STANDARD PIPE

SHEET NUMBER: VZWSMART-PIPE | REV #: 0

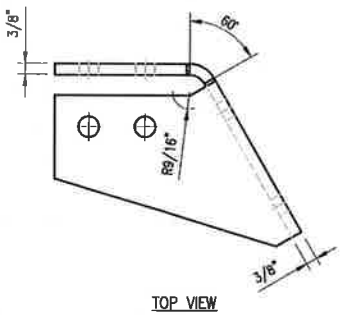


TOP VIEW

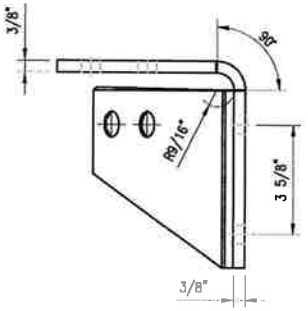


SIDE VIEW

CBP-L



TOP VIEW



SIDE VIEW

CBP-R

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-PLK3 (SUPPORT RAIL CORNER BRACKET)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	CBP-L	CORNER BENT PLATE BRACKET	PLK3-F1	9
2	1	CBP-R	CORNER BENT PLATE BRACKET	PLK3-F1	9
3	4	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	5
4	8	---	BOLT 5/8" X 2" A325	---	3
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW-625	5/8" HDG LOCK WASHER	---	0
7	16	NUT-625	5/8" HDG HEX NUT	---	2
				GALVANIZED WT	30

VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: H.R | CHECKED BY: HMA

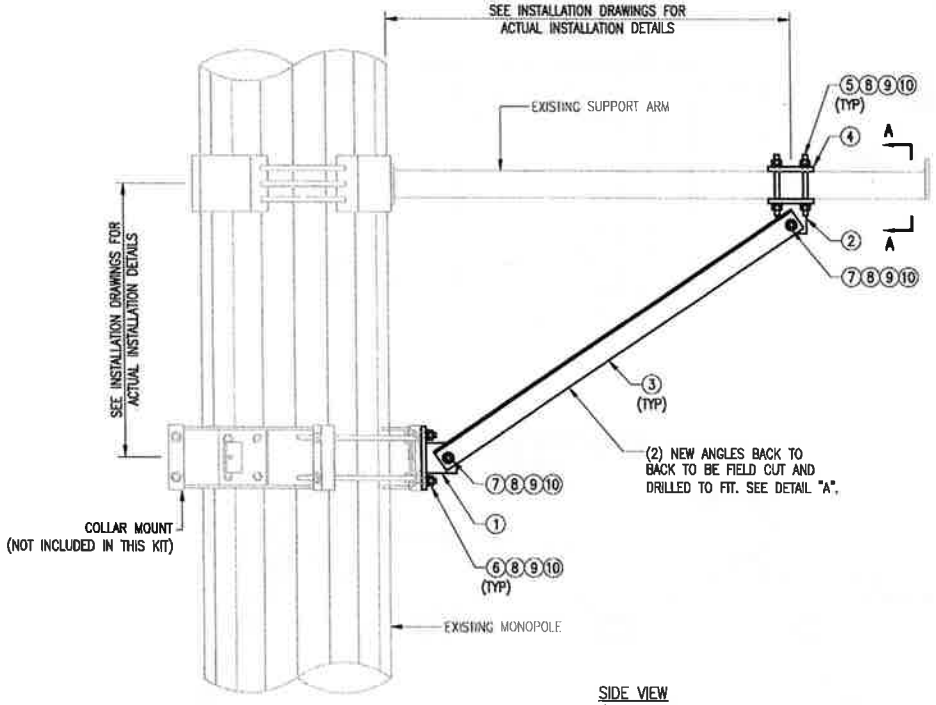
REV	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:
VZWSMART-PLK3 SUPPORT RAIL CORNER BRACKET

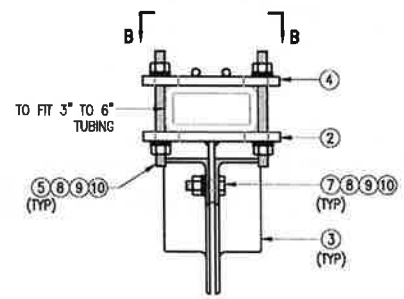
SHEET NUMBER: VZWSMART-PLK3

REV #: 0

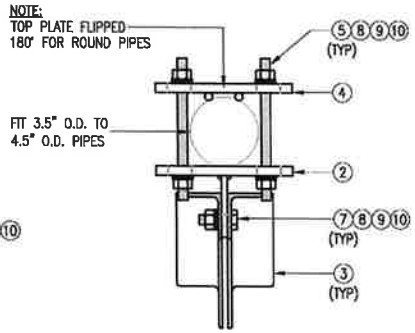
NOTE:
THE LOCATION OF KICKER AND EXISTING ANTENNA MOUNT SHOWN ON THE DRAWING IS FOR REPRESENTATION PURPOSE ONLY. SEE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION OF DETAILS.



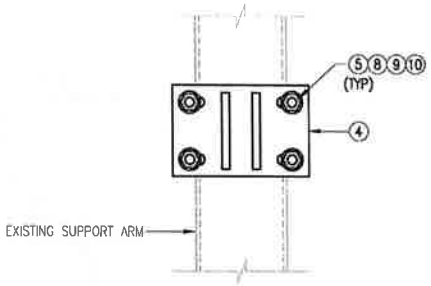
SIDE VIEW
KICKER KIT



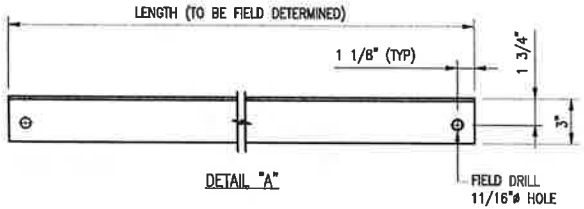
SECTION "A-A"
RECT. HSS MOUNTING



SECTION "A-A"
ROUND PIPE MOUNTING



SECTION "B-B"



DETAIL "A"

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
VZWSMART-PLK5 (KICKER KIT)					
1	3	BRKW-XXX	BRACKET WELDMENT A36	PLK5-F3	43.8
2	3	BRKW-XXXX	BRACKET WELDMENT A36	PLK5-F2	35.7
3	6	L331875-8	L 3" X 3" X 3/16" X 8'-0" A36	PLK5-F4	182.9
4	3	PL-KI	PL 5/8" X 6" X 9" A36	PLK5-F1	29.0
5	12	---	THREADED ROD 5/8" DIA. X 1'-0" F1554-36 HDG	---	---
6	6	---	BOLT 5/8" X 2" A325	---	---
7	12	---	BOLT 5/8" X 2 1/2" A325	---	---
8	42	FW-625	5/8" HDG USS FLAT WASHER	---	3
9	42	LW-625	5/8" HDG LOCK WASHER	---	1
10	42	NUT-625	5/8" HDG HEX NUT	---	5
				GALVANIZED WT	291

NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT-DIPPED GALVANIZED PER ASTM A123.
3. FIT UP TO 6" SQ. TUBING OR 4 1/2" O.D. PIPE

VzW SMART Tool© Vendor

verizon

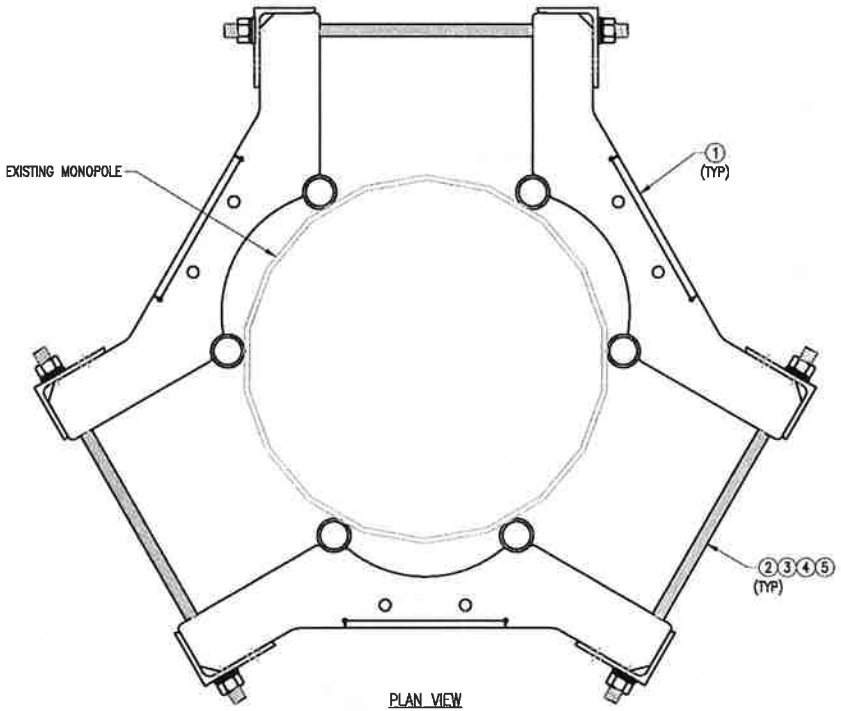
FOR REFERENCE ONLY

DRAWN BY: MN | CHECKED BY: HMA/KW

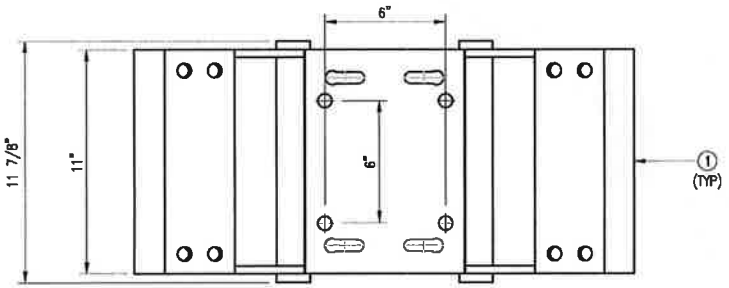
REV	DESCRIPTION	BY	DATE
1	FIRST ISSUE	MN	05/08/20

SHEET TITLE:
VZWSMART-PLK5
KICKER KIT

SHEET NUMBER: VZWSMART-PLK5 | REV #: 0



PLAN VIEW
MONOPOLE COLLAR MOUNT ASSEMBLY



FRONT VIEW

NOTES:
1. FIT 12" TO 45" DIA MONOPOLE.
2. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	150

VzW SMART Tool© Vendor

verizon

FOR REFERENCE ONLY

DRAWN BY: BT | CHECKED BY: HMA/KW

REV	DESCRIPTION	BY	DATE
1	FIRST ISSU:	BT	05/11/20
2			
3			
4			
5			

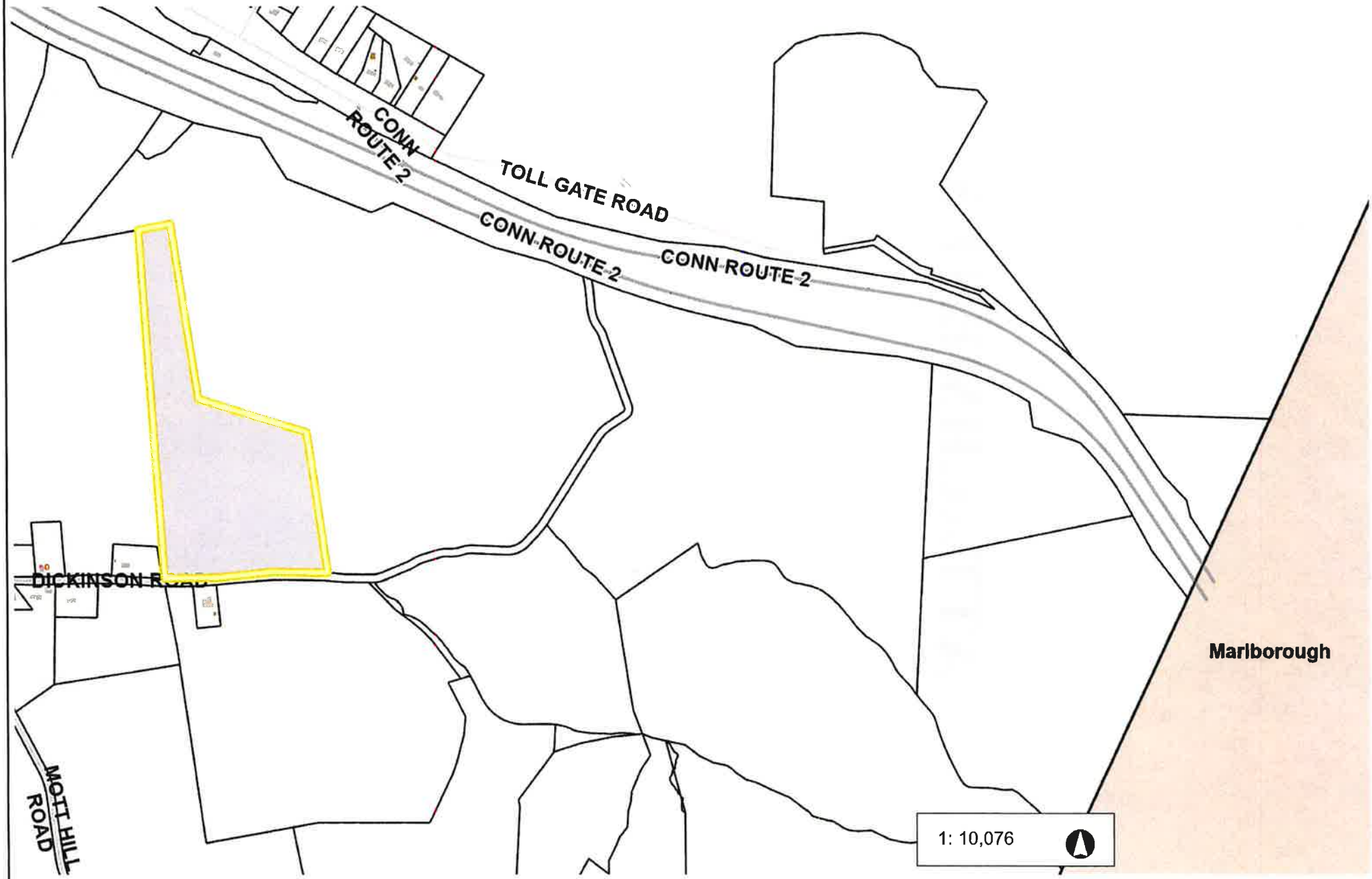
SHEET TITLE:
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: VZWSMART-PLK7

REV #: 0

ATTACHMENT 5

Town of Glastonbury GIS



1,679 0 840 1,679 Feet

NAD_1983_StatePlane_Connecticut_FIPS_0600_Feet

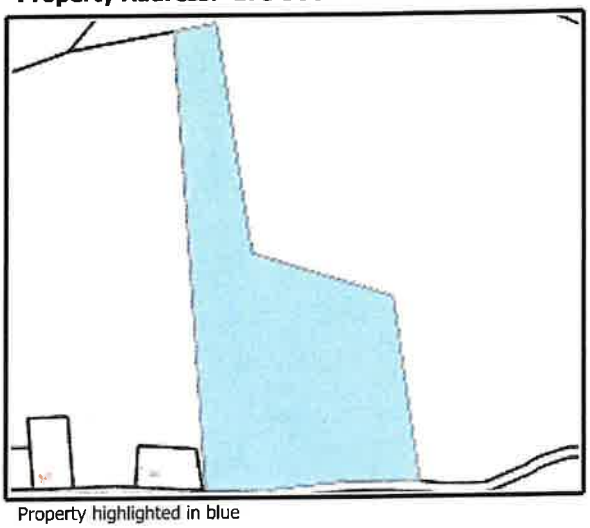
Town of Glastonbury GIS Parcel Report

Report Generated 4/29/2024 11:16:26 AM

Owner of Record

GIS ID: 18600175
Owner: CHAPMAN RANDALL S+
Co-Owner: BRONZI KARRIE-LYNNE
Address: PO BOX 7
City, State ZIP: TROY, ME 04987-0007

Account Number: 18600175
Property Address: 175 DICKINSON RD



Property highlighted in blue

Parcel Information

Map/Street/Lot J12 / 1860 / N0003 **Property ID:** 1492
Developer Lot ID: **Water:** Well
Parcel Acreage: 30.35 **Sewer:** Septic
Zoning Code: RR **Census:** 5205.02

Valuation Summary

Item	Appraised Value	Assessed Value
Buildings	0	0
Land	1456400	1019500
Appurtenances	0	0
Total	**1456400**	**1019500**

Building Picture Not Applicable

Owner of Record	Deed / Page	Sale Date	Sale Price
CHAPMAN RANDALL S+	3456/0161	2017-11-07	0
CHAPMAN RANDALL S+	3379/0090	2016-10-20	0
CHAPMAN RANDALL S+	3057/0041	2013-01-11	0
CHAPMAN RANDALL S+	3057/0039	2013-01-11	0
CHAPMAN RANDALL S+	2684/0333	2009-08-03	0
CHAPMAN RANDALL S+	2295/0261	2006-02-02	0
CHAPMAN DONALD A (LU)+ RANDALL S+	1582/0249	2002-05-08	0
CHAPMAN DONALD A+BRONZI	0442/0018	1988-08-25	0

Building Information

Building ID 0

Year Constructed :
Building Type :
Style :
Occupany :
Stories :
Building Zone :
Roof Type :
Roof Material :
Est. Gross S.F. :
Est. Living S.F. :

Number of Rooms :
Number of Bedrooms :
Number of Bathrooms :
Number of Half-Baths :
Exterior Wall :
Interior Wall :
Interior Floor :
Interior Floor #2 :
Air Conditioning Type :
Heat Type :
Fuel Type :

Building Sketch Not Applicable

Subarea Type	Est. Gross S.F.	Est. Living S.F.

Outbuilding Type	Est. Gross S.F.	Comments

ATTACHMENT 6

Verizon/East Glastonbury 2

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	quadient CORRECTION IMI $003.34 05/22/2024 ZIP 06101 043M3220615 US POSTAGE
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Jonathan Luiz, Town Manager Town of Glastonbury 2155 Main Street Glastonbury, CT 06033				
2.	Shelley Caltagirone, Director of Community Development Town of Glastonbury 2155 Main Street Glastonbury, CT 06033				
3.	Randall Chapman and Karrie-Lynn Bronzi P.O. Box 7 Troy, ME 04987-0007				
4.					
5.					
6.					

OLD STATE HOUSE POST OFFICE
MAY 22 2024
HARTFORD, CT 06103