

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

August 16, 2021

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
1294 Pleasant Valley Road, Groton, 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 and remote radio heads attached to a tower and related equipment on the ground, near the base of the tower. The tower was approved by the Siting Council in June 2007 (Docket No. 330). Cellco’s shared use of the tower was approved by the Council in December 2007 (Petition No. 835). A copy of the Council’s Decision and Order and Cellco’s Petition No. 835 Staff Report are included in Attachment 1.

Cellco now intends to modify its facility by removing nine (9) existing antennas and installing three (3) new Samsung MT6407-77A antennas; three (3) MX10FRO660 antennas; and three (3) MXO6FRO660-02 antennas. Cellco will also remove nine (9) existing remote radio heads (“RRHs”) and install nine (9) new RRHs all on Cellco’s existing antenna platform. A set of project plans showing Cellco’s proposed facility modifications and new antennas and RRHs specifications 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 Groton’s Chief Elected Official and Land Use Officer.

Melanie A. Bachman, Esq.
August 16, 2021
Page 2

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 replacement antennas will be installed on Cellco's existing antenna platform.
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 and RRHs will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative general power density table for Cellco's modified facility is included in Attachment 3. 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 ("SA") and Mount Analysis ("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).

Melanie A. Bachman, Esq.
August 16, 2021
Page 3

Sincerely,

A handwritten signature in black ink, appearing to read 'Kenneth C. Baldwin', with a stylized, cursive script.

Kenneth C. Baldwin

Enclosures

Copy to:

John Burt, Groton Town Manager

Jonathan Reiner, Groton Director of Planning and Development Services

JFM Enterprises LLC, Property Owner

Aleksey Tyurin

ATTACHMENT 1

DOCKET NO. 330 – Optasite Towers, LLC and Omnipoint }
Communications, Inc. application for a Certificate of }
Environmental Compatibility and Public Need for the }
construction, maintenance and operation of a telecommunications }
facility at 1294 Pleasant Valley Road North in Groton, }
Connecticut.

Connecticut

Siting

Council

June 7, 2007

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Optasite Towers, LLC for the construction, maintenance and operation of a wireless telecommunications facility to be located at 1294 Pleasant Valley Road North in Groton, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be designed as a steel monopole and shall be constructed no taller than 140 feet above ground level to provide telecommunications services to both public and private entities.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Groton and all parties and intervenors, as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antenna mountings, equipment building, access road, utility line, and landscaping; and
 - b) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council in the event other carriers locate at this facility or if circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
4. Upon the establishment of any new state or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Groton public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Groton. Any proposed modifications to this Decision and Order shall likewise be so served.
9. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
10. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.

11. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the New London Day and the Norwich Bulletin.

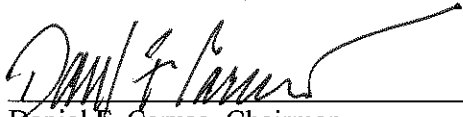
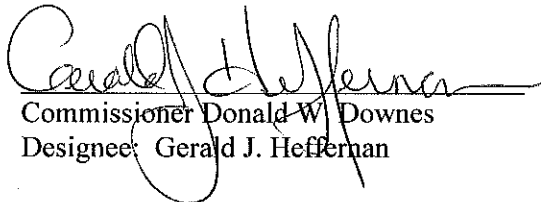
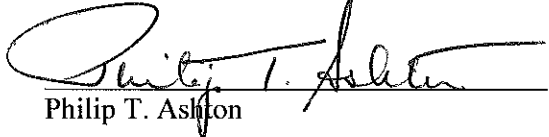
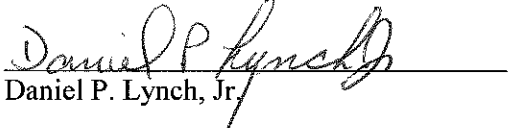
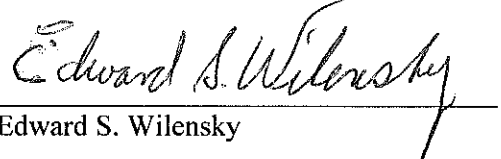
By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors in this proceeding are:

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	Optasite Towers, LLC One Research Drive, Suite 200C Westborough, MA 01581 Omnipoint Communications, Inc. 100 Filley Street Bloomfield, CT 06002	Julie Kohler, Esq. Carrie L. Larson, Esq. Cohen and Wolf, P.C. 1115 Broad Street Bridgeport, CT 06604 (203) 368-0211 (203) 394-9901 fax jkohler@cohenandwolf.com clarson@cohenandwolf.com

CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance and operation of a telecommunications facility at 1294 Pleasant Valley Road North, Groton, Connecticut; and voted as follows to approve the proposed facility located at 1294 Pleasant Valley Road North, Groton, Connecticut:

<u>Council Members</u>	<u>Vote Cast</u>
 Daniel F. Caruso, Chairman	Yes
 Colin C. Tait, Vice Chairman	Yes
 Commissioner Donald W. Downes Designee: Gerald J. Heffernan	Yes
 Commissioner Gina McCarthy Designee: Brian J. Emerick	Abstain
 Philip T. Ashton	Yes
 Daniel P. Lynch, Jr.	Abstain
 James J. Murphy, Jr.	Yes
 Dr. Barbara Currier Bell	Yes
 Edward S. Wilensky	Yes

Dated at New Britain, Connecticut, June 7, 2007.

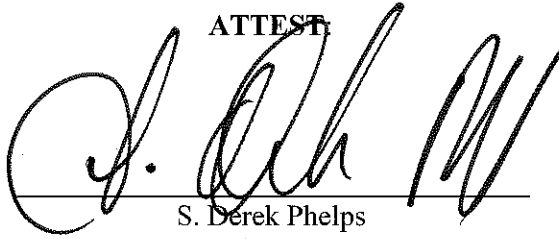
STATE OF CONNECTICUT)

ss. New Britain, Connecticut :

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Findings of Fact, Opinion, and Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

A handwritten signature in black ink, appearing to read 'S. Derek Phelps', written over a horizontal line.

S. Derek Phelps
Executive Director
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 330 has been forwarded by Certified First Class Return Receipt Requested mail on June 12, 2007, to all parties and intervenors of record as listed on the attached service list, dated February 26, 2007.

ATTEST:

A handwritten signature in black ink, appearing to read 'Lisa A. Fontaine', written over a horizontal line.

Lisa A. Fontaine
Administrative Assistant
Connecticut Siting Council

Date: February 26, 2007

Docket No. 330
Page 1 of 1

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	Optasite Towers LLC and Omnipoint Communications, Inc.	Julie Kohler, Esq. Carrie L. Larson, Esq. Deborah S. Erickson, Esq. Cohen and Wolf, P.C. 1115 Broad Street Bridgeport, CT 06604 (203) 368-0211 (203) 394-9901 fax jkohler@cohenandwolf.com clarson@cohenandwolf.com derickson@cohenandwolf.com

Petition No. 835
Cellco Partnership (Verizon)
Groton, Connecticut
Staff Report
December 6, 2007

On November 20, 2007, the Connecticut Siting Council (Council) received a petition from Cellco Partnership d/b/a Verizon Wireless (Verizon) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the ten-foot extension of a telecommunications tower located at 1294 Pleasant Valley Road North in Groton. The petition was field reviewed by Council member Jerry Murphy and Council staff member David Martin on December 5, 2007. Rachel Mayo, of Robinson & Cole, attended the field review representing Verizon. Town officials, Optasite, and abutting landowners were notified of the proposal.

Verizon seeks to add ten feet onto a newly built 140-foot monopole tower that was recently approved as Docket 330. Verizon would install twelve panel antennas at a center line height of 147 feet on a low profile platform. It would locate its ground equipment within a 12-foot by 30 equipment shelter to be erected within the facility's compound.

The proposed facility would enable Verizon to provide service along portions of Route 12 in Groton and Route 32 in New London that are not currently covered. It would also provide service to the U.S. Naval Submarine Base in Groton and help off-load calls from Verizon's adjacent sites. Verizon's RF engineers have concluded that Verizon's antennas could not satisfy the company's coverage objectives from 127 feet, the next highest available elevation on the existing tower.

The combined power density of Verizon's proposed antennas and T-Mobile's existing antennas would represent 10.08% of the FCC maximum exposure limit.

The area around the tower is characterized by scattered residential development on the east side of Route 12. The Groton submarine base is located on the west side of Route 12 and is clearly visible from the facility.

The existing tower is not readily visible from Route 12, even with leaves off the trees. Views of the tower from Pleasant Valley Road North are generally restricted to the immediate vicinity of the tower. Because the tower is set down in a lower elevation on its host property, it does not appear high above the tree line but more at eye level of drivers traveling on Pleasant Valley Road North. An extra ten feet of height should not make a significant difference in the tower's visibility in the surrounding area.

Verizon's extension would have minimal impact on the surrounding vicinity and would enable the company to fill a significant existing coverage gap. Staff recommends approval.

Existing tower



View of tower from Pleasant Valley Road North



ATTACHMENT 2



WIRELESS COMMUNICATIONS FACILITY

APPROVED

By Stephen Roth at 2:03:24 PM, 6/11/2021

SITE NAME:
GROTON 2 CT

SBA SITE # CT13075
1294 PLEASANT VALLEY RD.
GROTON, CT 06340

ANTENNA MODIFICATION

PROJECT SUMMARY

SITE NAME:	GROTON 2 CT
SITE ADDRESS:	1294 PLEASANT VALLEY RD. GROTON, CT 06340
PROPERTY OWNER:	JFM ENTERPRISES LLC 920 PLEASANT VALLEY RD. GROTON, CT 06340
TOWER OWNER/MGMT:	SBA SITE # CT13075
PARCEL ID:	178010470143
COORDINATES:	41° 23' 59.8992" N 72° 04' 45.1992" W
VERIZON CONSTRUCTION:	WALTER CHARCZYNSKI (860) 306-1806
VERIZON REAL ESTATE:	ALEX TYURIN (860) 550-3195

AERIAL MAP



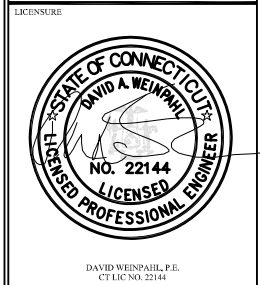
SHEET INDEX

DE-1	TITLE SHEET
DE-2	COMPOUND PLAN & ELEVATION
DE-3	ANTENNA PLANS & ELEVATION
DE-4	RF PLUMBING DIAGRAM & B.O.M.
DE-5	GENERAL CONSTRUCTION NOTES

verizon
WIRELESS COMMUNICATIONS FACILITY

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516
201-456-4624
onair@optonline.net



SUBMITTALS	
0	03.04.21 REVIEW
1	05.27.21 PERMITTING/CONSTRUCTION

NO.	DATE	DESCRIPTION
DRAWN BY:	AG	
CHECKED BY:	DW	

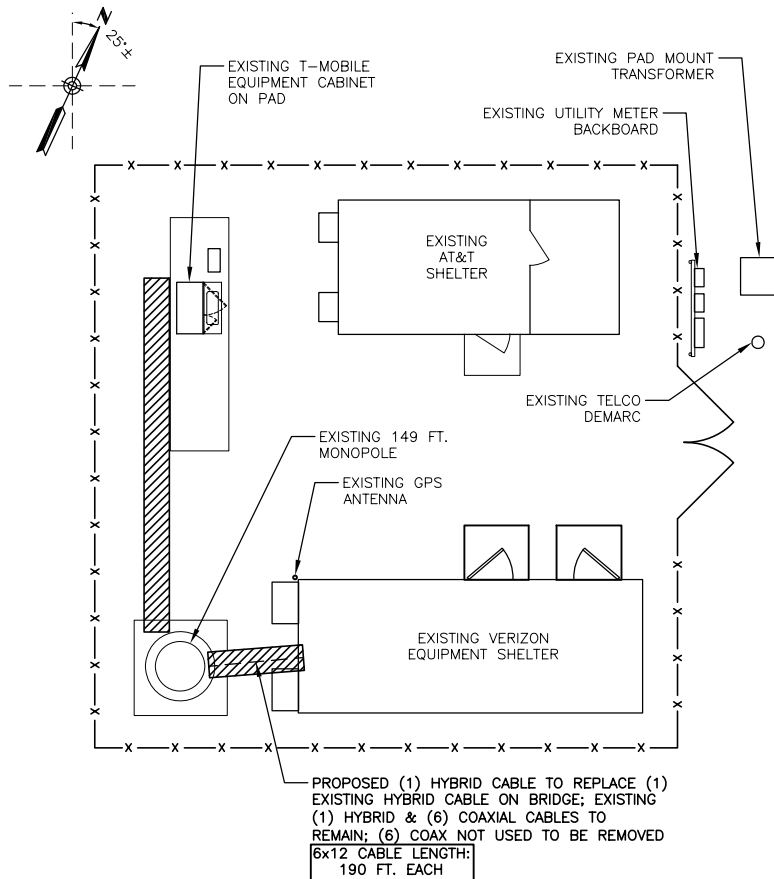
PROJECT NAME:
**ANTMO
MT6407-CBRS-850-LTE
DESIGN EXHIBITS**

SITE NAME:
GROTON 2 CT

SITE ADDRESS:
**SBA SITE # CT13075
1294 PLEASANT VALLEY RD.
GROTON, CT 06340**

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
DE-1



1
DE-2
COMPOUND PLAN
Scale: 3/32" = 1'-0"

NOTES:
1. SITE LAYOUT IS COMPILED FROM EXISTING DRAWINGS ON FILE WITH THE CT Siting COUNCIL AND A LIMITED DESIGN VISIT ON 1-20-21 FOR A PROPOSED VERIZON ANTENNA MODIFICATION.
2. PLANS ARE DIAGRAMMATIC ONLY AND NOT TO BE SCALED.
3. REFER TO STRUCTURAL TOWER AND MOUNT ANALYSIS REPORTS, BY OTHERS UNDER SEPARATE COVER, FOR ANY REQUIRED TOWER & MOUNT REINFORCEMENTS, WHICH MUST BE PERFORMED PRIOR TO ANY OTHER VERIZON ANTENNA MODIFICATIONS.

TOP OF POLE
EL. 149'-0"± A.G.L.

EXISTING VERIZON ANTENNAS
EL. 147'-0"± A.G.L.

EXISTING T-MOBILE ANTENNAS
EL. 137'-0"± A.G.L.

EXISTING AT&T ANTENNAS
EL. 127'-0"± A.G.L.

EXISTING VERIZON WIRELESS ANTENNA (TYP.), REFER TO DE-3 FOR ANTENNA PLANS & PROPOSED MODIFICATIONS

PROPOSED (1) HYBRID CABLE TO REPLACE (1) EXISTING HYBRID CABLE ROUTED UP MONOPOLE; EXISTING (1) HYBRID & (6) COAXIAL CABLES TO REMAIN; (6) COAX NOT USED TO BE REMOVED
6x12 CABLE LENGTH: 190 FT. EACH

EXISTING 149 FT. MONOPOLE

STRUCTURAL NOTE: REFER TO MOUNT ANALYSIS REPORT AND DRAWINGS FOR REQUIRED MOUNT MODIFICATIONS, PREPARED BY MASER, UNDER SEPARATE COVER.

GRADE

EXISTING VERIZON EQUIPMENT SHELTER

2
DE-2
ELEVATION
Scale: NTS

verizon
WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516
201-456-4624
onair@optonline.net

LICENSURE

DAVID WEINPAHL, P.E.
CT LIC NO. 22144

SUBMITTALS		
0	03.04.21	REVIEW
1	05.27.21	PERMITTING/CONSTRUCTION

NO.	DATE	DESCRIPTION
DRAWN BY:	AG	
CHECKED BY:	DW	

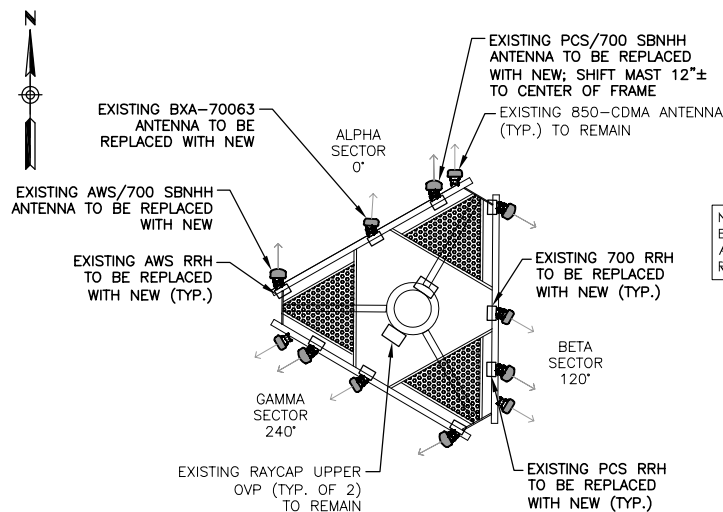
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MT6407-CBRS-850-LTE
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SITE NAME:
GROTON 2 CT

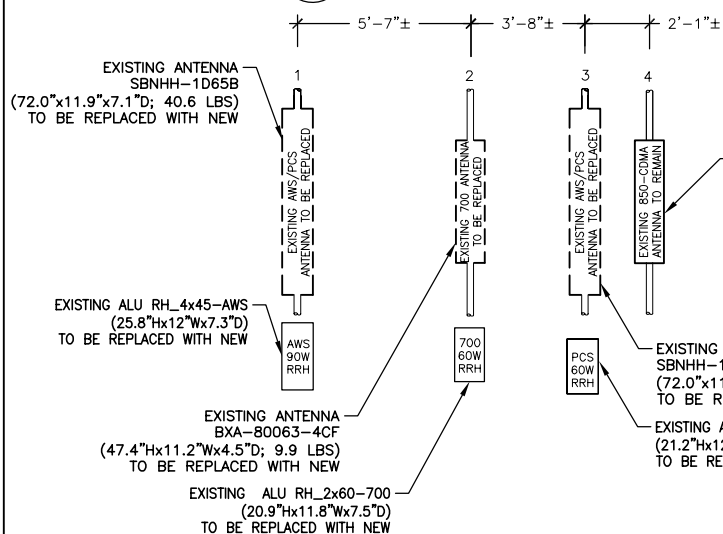
SITE ADDRESS:
**SBA SITE # CT13075
1294 PLEASANT VALLEY RD.
GROTON, CT 06340**

SHEET TITLE:
**COMPOUND PLAN
& ELEVATION**

SHEET NUMBER:
DE-2



1 ANTENNA PLAN @ 147 FT. - EXISTING
DE-3 Scale: 1/8" = 1'-0"

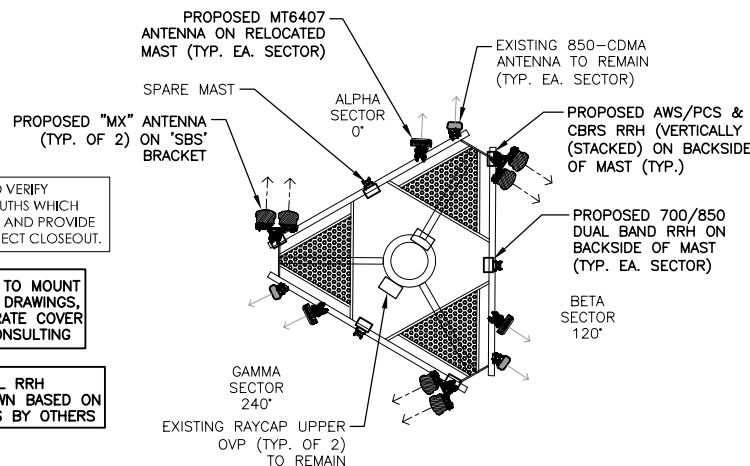


3 ANTENNA ELEVATION (TYP.) - EXISTING
DE-3 Scale: 1/4" = 1'-0"

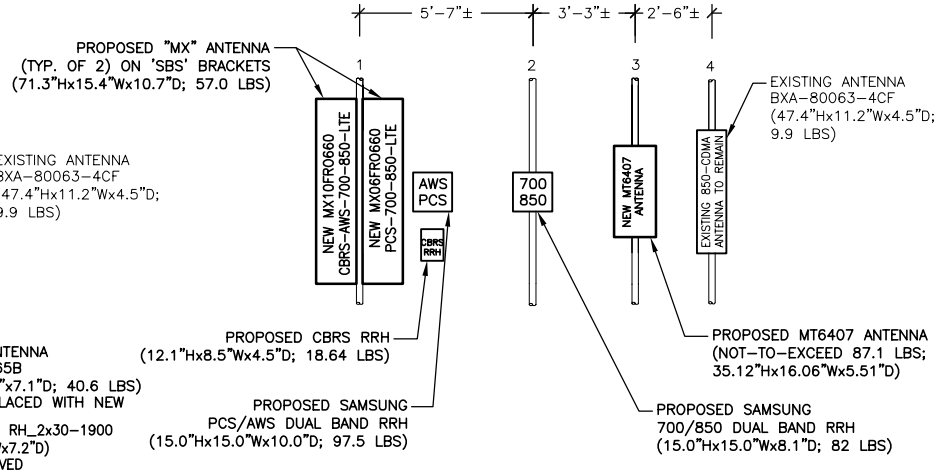
NOTES: CONTRACTOR TO VERIFY EXISTING PLATFORM AZIMUTHS WHICH APPEAR TO BE 330-90-210 AND PROVIDE REDLINE AS-BUILT AT PROJECT CLOSEOUT.

NOTE: REFER TO MOUNT MODIFICATION DRAWINGS, UNDER SEPARATE COVER BY MASER CONSULTING

NOTE: NEW DUAL RRH LOCATIONS SHOWN BASED ON MOUNT ANALYSIS BY OTHERS



2 ANTENNA PLAN @ 147 FT. - PROPOSED
DE-3 Scale: 1/8" = 1'-0"



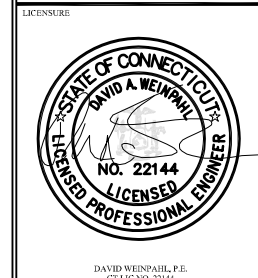
4 ANTENNA ELEVATION (TYP.) - PROPOSED
DE-3 Scale: 1/4" = 1'-0"

(VIEWED FROM BEHIND SECTOR)

verizon
WIRELESS COMMUNICATIONS FACILITY

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516
201-456-4624
onair@optonline.net



SUBMITTALS	
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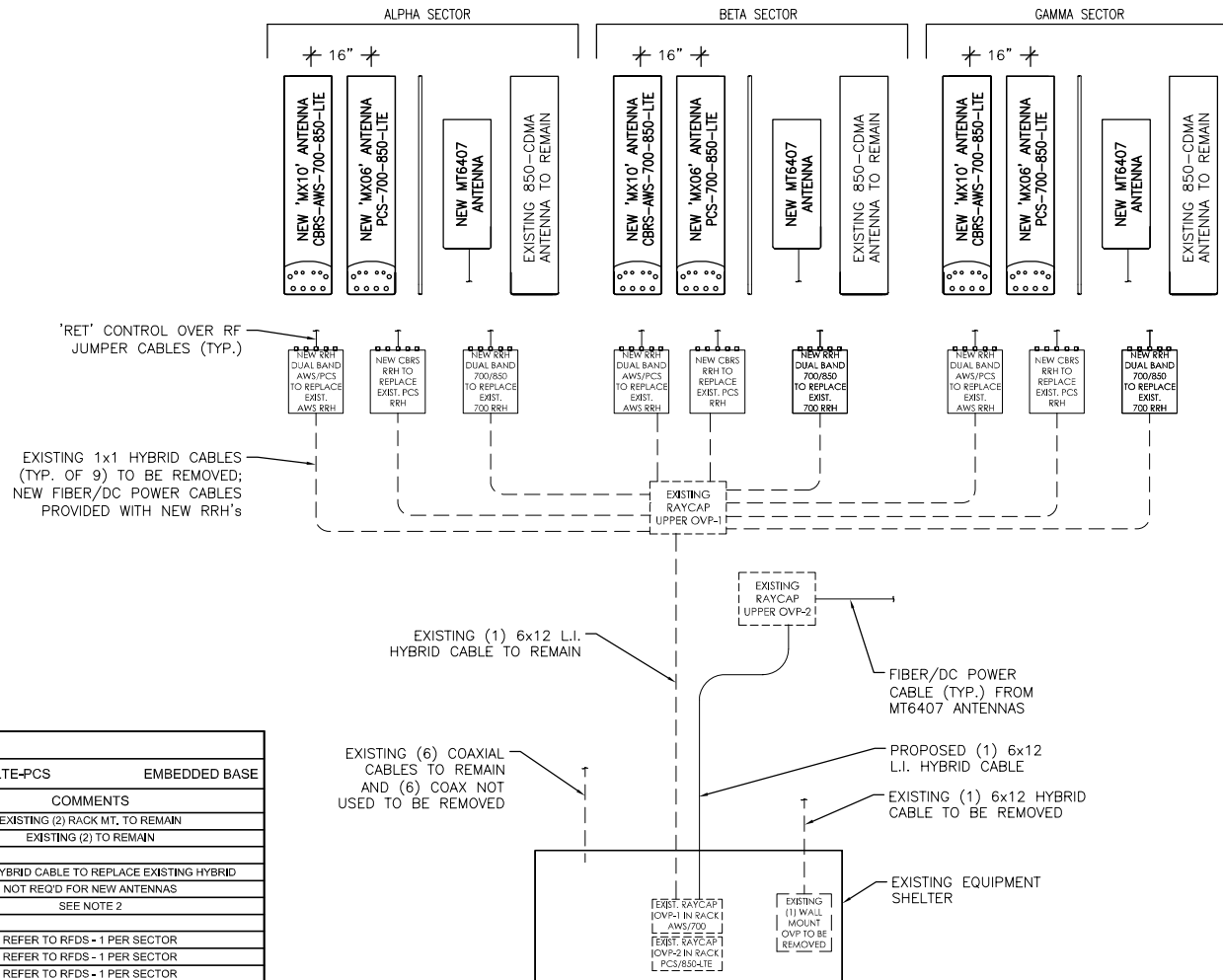
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**ANTENNA PLANS
& ELEVATION**

SHEET NUMBER:
DE-3

GENERAL NOTES:

1. CONTRACTOR SHALL REFER TO THE LATEST VERIZON WIRELESS RFDS WHICH MAY INCLUDE ANTENNA SECTOR AZIMUTHS/ANTENNA CHANGES, ETC. THAT ARE REQUIRED AS PART OF THE PROJECT.
2. CONTRACTOR SHALL SECURE ALL CONTROL CABLES IN ACCORDANCE WITH INDUSTRY STANDARDS AND MANUFACTURERS INSTRUCTIONS. EXTERIOR CABLES MAY BE TAPED OR TIE-WRAPPED TO EXISTING SUPPORTS EVERY 4 FT. MAX. FOR HORIZONTAL RUNS. CONTRACTOR MAY USE HOISTING GRIPS AT TOP OF VERTICAL CABLE RUNS WHEN REQUIRED.
3. ALL CABLES SHALL BE ROUTED AND SECURED ON STRUCTURAL MEMBERS ONLY - DO NOT "LOOP" THE CABLES IN MID-AIR BETWEEN ANTENNAS
4. REFER TO RFDS FOR DETAILED PLUMBING DIAGRAM SHOWING ALL JUMPER AND OTHER CABLING CONNECTIONS AT ANTENNAS, RRH's, DIPLEXERS OR OTHER DEVICES.

NOTE: ALL ANTENNAS VIEWED FROM REAR



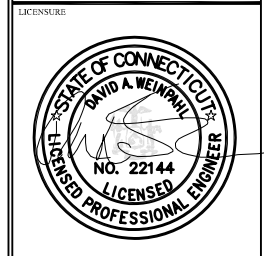
BILL OF MATERIALS			
SITE NAME: GROTON 2 CT			
ANTMO MT6407-CBR5-850-LTE-PCS			
EMBEDDED BASE			
DESCRIPTION	QTY	LENGTH	COMMENTS
LOWER OVP	-	-	EXISTING (2) RACK MT. TO REMAIN
6-CKT, UPPER OVP	-	-	EXISTING (2) TO REMAIN
6x12 L.I. HYBRID CABLE	1	190 FT.	NEW L.I. HYBRID CABLE TO REPLACE EXISTING HYBRID
'RET' CONTROL CABLE	-	-	NOT REQ'D FOR NEW ANTENNAS
1/2" JUMPER CABLE	-	-	SEE NOTE 2
AWS/PCS DUAL BAND RRH	3	-	REFER TO RFDS - 1 PER SECTOR
700/850 DUAL BAND RRH	3	-	REFER TO RFDS - 1 PER SECTOR
CBRS RRH	3	-	REFER TO RFDS - 1 PER SECTOR
MT6407 ANTENNA	3	-	SAMSUNG INTEGRATED - 1 PER SECTOR
MX10 CBR5-AWS-700-850-LTE ANTENNA	3	-	REFER TO RFDS - 1 PER SECTOR
MX06 PCS-700-850-LTE ANTENNA	3	-	REFER TO RFDS - 1 PER SECTOR
DUAL MOUNTING BRACKET	3	-	REFER TO RFDS - 1 PER SECTOR
850-CDMA ANTENNA	-	-	EXISTING (3) TO REMAIN - 1 PER SECTOR

NOTES:
1. ITEMS SHOWN ARE FOR MAJOR DESIGN ELEMENTS ONLY. REFER TO VERIZON WIRELESS RFDS FOR ALL MANUFACTURER PART NUMBERS AND ACCESSORY ITEMS REQUIRED FOR A COMPLETE INSTALLATION.
2. CONTRACTOR SHALL DETERMINE AND PROVIDE ALL REQUIRED PRE-FAB JUMPER QUANTITIES AND LENGTHS, KEEPING ALL LENGTHS TO A MINIMUM.

verizon
WIRELESS COMMUNICATIONS FACILITY

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DAVID WEINPAHL, P.E.
CT LIC NO. 22144

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1	05.27.21 PERMITTING/CONSTRUCTION

NO.	DATE	DESCRIPTION
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MT6407-CBR5-850-LTE
DESIGN EXHIBITS**

SITE NAME:
GROTON 2 CT

SITE ADDRESS:
**SBA SITE # CT13075
1294 PLEASANT VALLEY RD.
GROTON, CT 06340**

SHEET TITLE:
**RF PLUMBING
DIAGRAM & B.O.M.**

SHEET NUMBER:
DE-4

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL NOT COMMENCE ANY WORK UNTIL HE OBTAINS, AT HIS OWN EXPENSE, ALL INSURANCE REQUIRED BY *CELLCO PARTNERSHIP d/b/a VERIZON*, THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.

2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS AND ALL LOCAL LAWS AND REGULATIONS, CURRENT EDITIONS.

3. CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

4. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.

5. CONTRACTOR IS TO REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUB-CONTRACTORS AND ALL RELATED PARTIES. THE SUB-CONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.

6. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON DRAWINGS OR WRITTEN IN SPECIFICATIONS.

7. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.

8. CONTRACTOR SHALL OBTAIN AT HIS OWN EXPENSE ALL PERMITS AND ALL INSPECTIONS REQUIRED FROM FEDERAL AND STATE GOVERNMENTS, COUNTIES, MUNICIPALITIES AND OTHER REGULATORY AGENCIES WHICH MAY BE REQUIRED FOR THE PROJECT.

10. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.

11. ALL MATERIAL PROVIDED BY *CELLCO PARTNERSHIP d/b/a VERIZON* IS TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTOR PRIOR TO INSTALLATION. ANY DEFICIENCIES TO PROVIDED MATERIALS SHALL BE BROUGHT TO THE CONSTRUCTION MANAGERS ATTENTION IMMEDIATELY.

12. THE MATERIALS INSTALLED IN THE WORK SHALL MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. NO SUBSTITUTIONS ARE ALLOWED.

13. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION, FOR SEQUENCES AND PROCEDURES TO BE USED, AND TO ENSURE THE SAFETY OF THE EXISTING BUILDING AND ITS COMPONENT DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC., THAT MAY BE NECESSARY.

14. CONTRACTOR SHALL COORDINATE ALL CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS FOR THE LOCATION OF ALL OPENINGS, RECESSES, BUILT-IN WORK, ETC.

15. CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.

16. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND TO BE IN THE FIELD.

17. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST-ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.

18. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS, AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL O.S.H.A. REQUIREMENTS.

19. CONTRACTOR SHALL COORDINATE HIS WORK AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.

20. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.

21. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OR WHERE LOCAL CODES OR REGULATIONS MAY TAKE PRECEDENCE.

22. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING, ANTENNA AND ANTENNA CABLES AND REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.

23. CONTRACTOR SHALL REPAIR ALL EXISTING SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.

24. CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DEBRIS AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITIONS AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.

25. BEFORE FINAL ACCEPTANCE OF THE WORK, CONTRACTOR SHALL REMOVE ALL EQUIPMENT, TEMPORARY WORKS, UNUSED AND USELESS MATERIALS, RUBBISH AND TEMPORARY STRUCTURES.

verizon
WIRELESS COMMUNICATIONS FACILITY

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

 **On Air Engineering, LLC**
88 Foundry Pond Road
Cold Spring, NY 10516
201-456-4624
onair@optonline.net

LICENSURE



DAVID WEINPAHL, P.E.
CT LIC NO. 22144

SUBMITTALS		
0	03/04/21	REVIEW
1	05/27/21	PERMITTING/CONSTRUCTION

NO.	DATE	DESCRIPTION
DRAWN BY:	AG	
CHECKED BY:	DW	

PROJECT NAME:
**ANTMO
MT6407-CBRS-850-LTE
DESIGN EXHIBITS**

SITE NAME:
GROTON 2 CT

SITE ADDRESS:
**SBA SITE # CT13075
1294 PLEASANT VALLEY RD.
GROTON, CT 06340**

SHEET TITLE:
**GENERAL
CONSTRUCTION
NOTES**

SHEET NUMBER:
DE-5

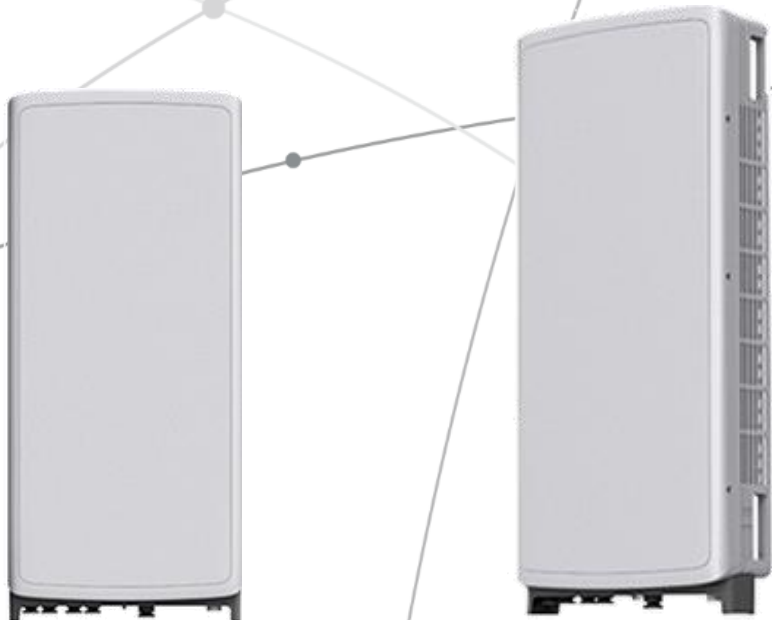
SAMSUNG

SAMSUNG C-Band 64T64R Massive MIMO Radio

for High Capacity and Wide Coverage

Samsung C-Band 64T64R Massive MIMO Radio enables mobile operators to increase coverage range, boost data speeds and ultimately offer enriched 5G experiences to users in the U.S..

Model Code : MT6407-77A



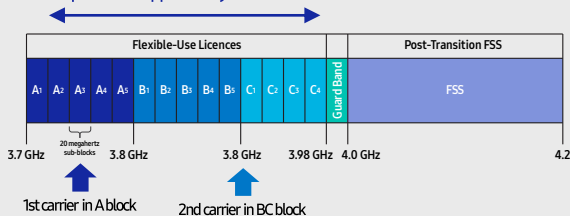
Points of Differentiation

Wide Bandwidth

With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

Samsung C-Band massive MIMO Radio covers the entire C-Band 280 MHz spectrum, so it can meet the operator's needs in current A block and future B/C blocks

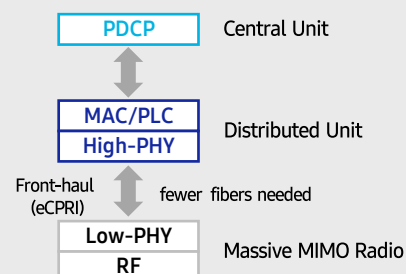
C-Band spectrum supported by Massive MIMO Radio



Future Proof Product

Samsung C-Band 64T64R Massive MIMO radio supports not only CPRI but also eCPRI as front-haul interface.

It enables operators can cut down on OPEX/CAPEX by reducing front-haul bandwidth through low layer split and using ethernet based higher efficient line.



Enhanced Performance

C-Band massive MIMO Radio creates sharp beams and extends networks' coverage on the critical mid-band spectrum using a large number of antenna elements and high output power to boost data speeds.

This helps operators reduce their CAPEX as they now need less products to cover the same area than before.

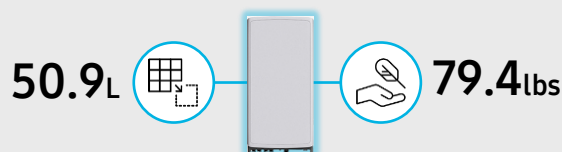
Furthermore, as C-Band massive MIMO Radio supports MU-MIMO (Multi-user MIMO), it enables to increase user throughput by minimizing interference.



Well Matched Design

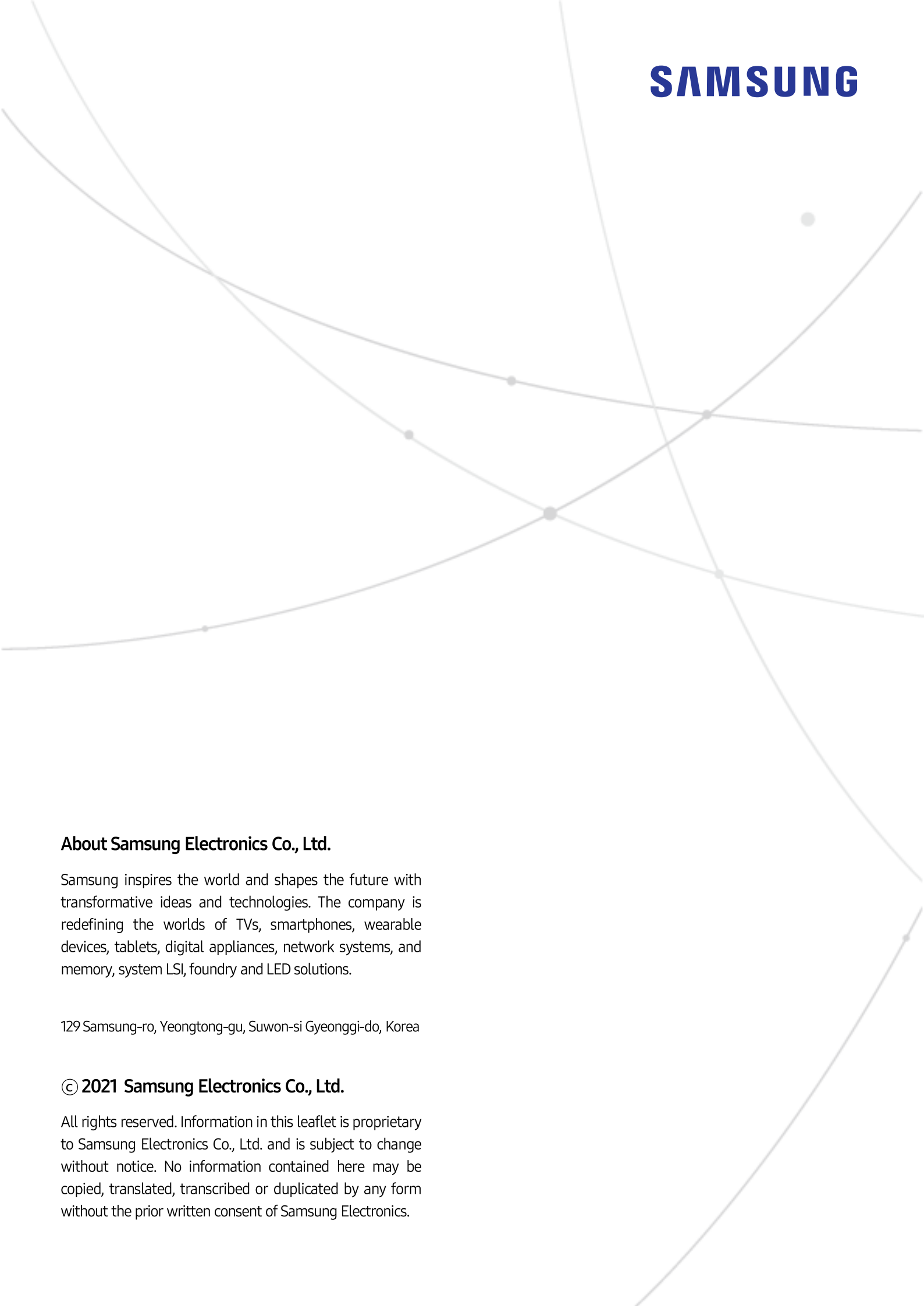
Samsung C-Band Massive MIMO radio utilizes 64 antennas, supports up to 280MHz bandwidth, and delivers a 200W output power. Despite the above advanced performance, the Radio has a compact size of 50.9L and 79.4lbs. This makes it easy to install the Radio.

It is designed to look solid and compact, with a low profile appearance so that, when installed, harmonizes well with the surrounding environment.



Technical Specifications

Item	Specification
Tech	NR
Band	n77
Frequency Band	3700 - 3980 MHz
EIRP	78.5dBm (53.0 dBm+25.5 dBi)
IBW/OBW	280 MHz / 200 MHz
Installation	Pole/Wall
Size/ Weight	16.06 x 35.06 x 5.51 inch (50.86L)/ 79.4 lbs



SAMSUNG

About Samsung Electronics Co., Ltd.

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions.

129 Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, Korea

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MX06FRO660-02

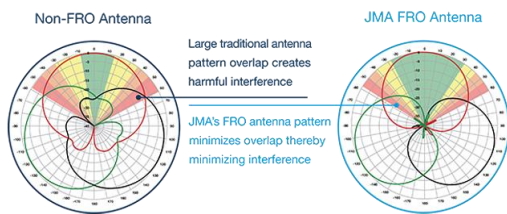
NWATM X-Pol Antenna | Hex-Port | 6 ft | 60°

X-Pol, Hex-Port 6 ft 60° Fast Roll Off with Smart Bias T

(2) 698-894 MHz & (4) 1695-2180 MHz

- Fast Roll Off (FROTM) Azimuth beam pattern improves Intra- and Inter-cell SINR
- Excellent Passive Intermodulation (PIM) performance reduces harmful interference
- Fully integrated (iRETs) with *independent* RET control for low and high bands for ease of network optimization
- SON-Ready array spacing supports beamforming capabilities
- Suitable for LTE/CDMA/PCS/UMTS/GSM Air interface technologies
- Integrated Smart BIAS-Ts reduces leasing costs

Fast Roll-Off (FRO) increased throughput, without compromising coverage.



FRO technology increases the Signal to Interference & Noise Ratio (SINR) by eliminating overlap between sectors.

LTE Throughput	SINR	Speed (bps/Hz)	Speed Increase	CQI
Excellent	>20	>5	333+ %	14-15
Good	12-20	3.3-5	277%	10-13
Fair	6-12	1.5-3.3	160%	7-9
Poor	<6	<1.5	0%	1-7



nwav
technology

Electrical Specification (Minimum/ Maximum)	Ports 1,2		Ports 3,4,5,6		
Frequency bands, MHz	698–798	824–894	1695–1880	1850–1990	1920–2180
Polarization	± 45 ⁰		± 45 ⁰		
Average gain over all tilts, dBi	15.0	14.7	17.6	18.0	18.2
Horizontal beamwidth (HBW), degrees ¹	62.5	53.5	55.0	55.0	55.5
Front-to-back ratio, co-polar power @180 ⁰ ± 30 ⁰ , dB	>23.7	>21.0	>25.0	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>17.8	>14.2	>18	>18	>15
Sector power ratio, percent	<4.8	<3.8	<3.7	<3.8	<3.6
Vertical beamwidth, (VBW), degrees ¹	13.6	11.8	6.0	5.5	5.5
Electrical downtilt (EDT) range, degrees	2-14	2-14	0-9		
First upper side lobe (USLS) suppression, dB ¹	≤ -15.0	≤ -16.5	≤ -16.0	≤ -16.0	≤ -16.0
Minimum cross-polar isolation, port-to-port, dB	25	25	25	25	25
Maximum VSWR/ return loss, dB	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0	1.5/ -14.0
Maximum passive Intermodulation (PIM), 2x 20W carrier, dBc	-153	-153	-153		
Maximum input power per any port, watts	300		250		
Total composite power all ports, watts	1500				

¹ Typical value over frequency and tilt

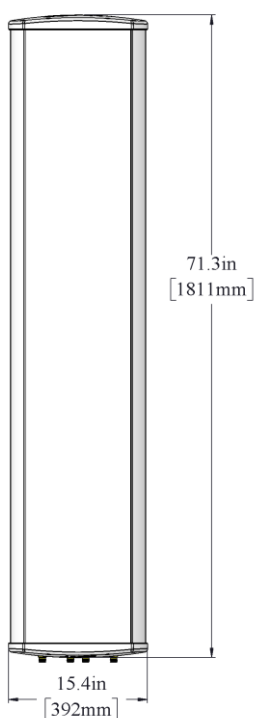
MX06FRO660-02

NWATM X-Pol Antenna | Hex-Port | 6 ft | 60°

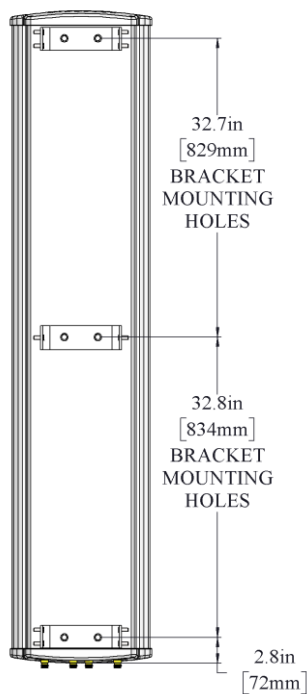
Mechanical Specifications

Dimensions height/ width/ depth, inches (mm)	71.3/ 15.4/ 10.7 (1811/ 392/ 272)
Shipping dimensions length/ width/ height, inches (mm)	82/ 20/ 15 (2083/ 508/ 381)
No. of RF input ports, connector type & location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf-in (10.85 N m or 8 lbf-ft)
Net antenna weight, lb (kg)	57 (25.91)
Shipping weight, lb (kg)	97 (44.09)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	18 (8.18)
Range of mechanical up/ down tilt	-2° to 12°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral & rear wind loading @ 150 km/h, lbf (N)	154 (685), 73 (325), 158 (703)
Equivalent flat plate @100 mph and Cd=2, sq. ft.	2.6

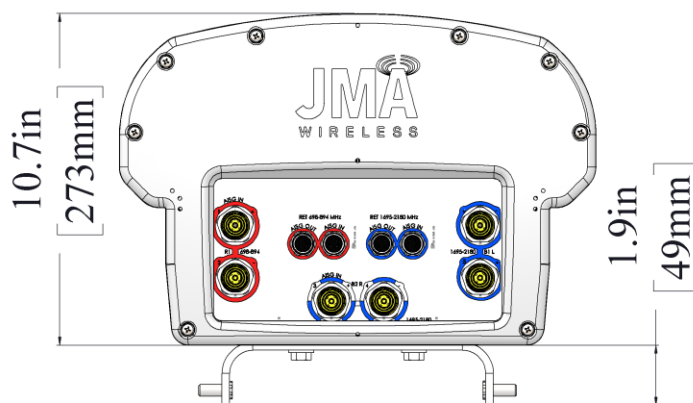
FRONT VIEW



BACK VIEW



BOTTOM VIEW



Ordering Information

Antenna Model	Description
MX06FRO660-02	6F X- Pol HEX FRO 60° 2-14°/ 0-9° RET, 4.3-10 & SBT
Optional Accessories	
992100-CA030-SC	Optional AISG jumper cable, M/F, 3.0 meters
PCU-1000	Primary control unit, USB

MX06FRO660-02

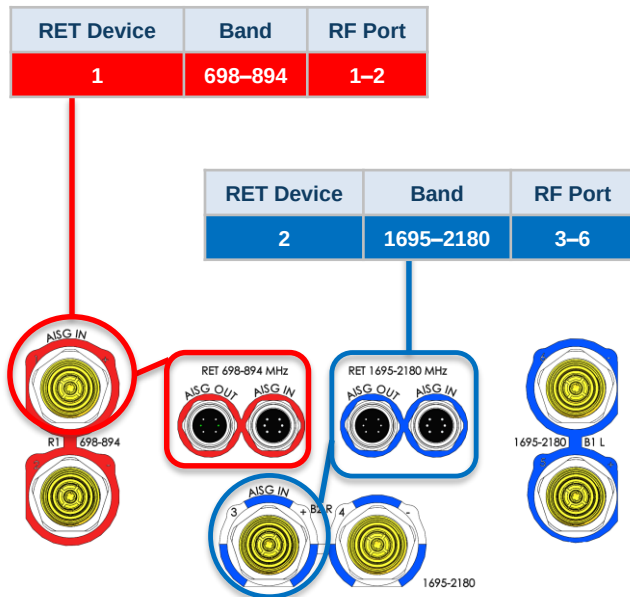
NWATM X-Pol Antenna | Hex-Port | 6 ft | 60°

Remote Electrical Tilt (RET 1000) Information

RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET interface connector quantity	2 pairs of AISG male/ female connectors
RET interface connector location	Bottom of the antenna
Total No. of internal RETs low bands	1
Total No. of internal RETs high bands	1
RET input operating voltage, vdc	10–30
RET max. power consumption, idle state, W	≤ 2.0
RET max. power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0/ 3GPP

RET & RF Connector Topology

Each RET device can be controlled either via the designated external AISG connector or RF port as shown below



Array Topology

3 sets of radiating arrays

R1: 698–894MHz
 B1: 1695–2180MHz
 B2: 1695–2180MHz

Band	RF Port
1695–2180	3–4
698–894	1–2
1695–2180	5–6



MX10FRO660-xx

NWAV™ X-Pol Ten-Port Antenna

X-Pol Ten-Port 6 ft, 60° Fast Roll Off, with Smart Bias Ts, 698-4200 MHz:

2 ports 698-894 MHz, 4 ports 1695-2180 MHz, and 4 ports 3400-4200 MHz

- Fast Roll Off (FRO™) azimuth beam pattern improves Intra- and Inter-cell SINR
- Excellent passive intermodulation (PIM) performance reduces harmful interference.
- Fully integrated (iRETs) with independent RET control for low band and mid band
- FET configured with internal RET for high band & ease of future network optimization.
- SON-Ready array spacing supports beamforming capabilities
- Suitable for 3G, 4G, and 5G interface technologies
- Integrated Smart Bias-Ts reduce leasing costs



nwav™

Fast Roll-Off antennas increase data throughput without compromising coverage

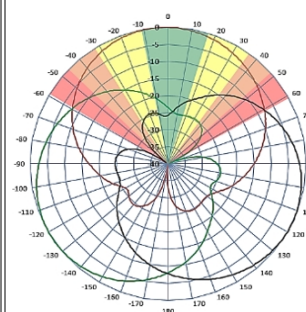
The horizontal beam produced by Fast Roll-Off (FRO) technology increases the Signal to Interference & Noise Ratio (SINR) by eliminating overlap between sectors.

Non-FRO antenna

Large traditional antenna pattern overlap creates harmful interference.

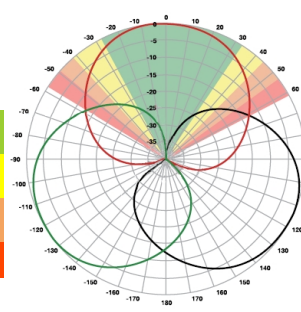
JMA's FRO antenna pattern minimizes overlap, thereby minimizing interference.

JMA FRO antenna



LTE throughput	SINR	Speed (bps/Hz)	Speed increase	CQI
Excellent	>18	>4.5	333+%	8-10
Good	15-18	3.3-4.5	277%	6-7
Fair	10-15	2-3.3	160%	4-6
Poor	<10	<2	0%	1-3

The LTE radio automatically selects the best throughput based on measured SINR.



Electrical specification (minimum/maximum)	Ports 1, 2		Ports 3, 4, 5, 6		
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2180
Polarization	± 45°		± 45°		
Average gain over all tilts, dBi	15.0	15.1	17.6	18.0	18.2
Horizontal beamwidth (HBW), degrees ¹	62.5	57.0	55.0	55.0	55.5
Front-to-back ratio, co-polar power @180°± 30°, dB	>23.7	>21.0	>25.0	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>17.8	>14.2	>18	>18	>15
Vertical beamwidth (VBW), degrees ¹	13.6	11.8	6.0	5.5	5.5
Electrical downtilt (EDT) range, degrees	2-14		0-9		
First upper side lobe (USLS) suppression, dB ¹	≤-15.0	≤-16.5	≤-16.0	≤-16.0	≤-16.0
Cross-polar isolation, port-to-port, dB ¹	25	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0		1.5:1 / -14.0		
Max passive intermodulation (PIM), 2x20W carrier, dBc	-153		-153		
Max input power per any port, watts	300		250		
Total composite power all ports (1-10), watts	1500				

¹ Typical value over frequency and tilt

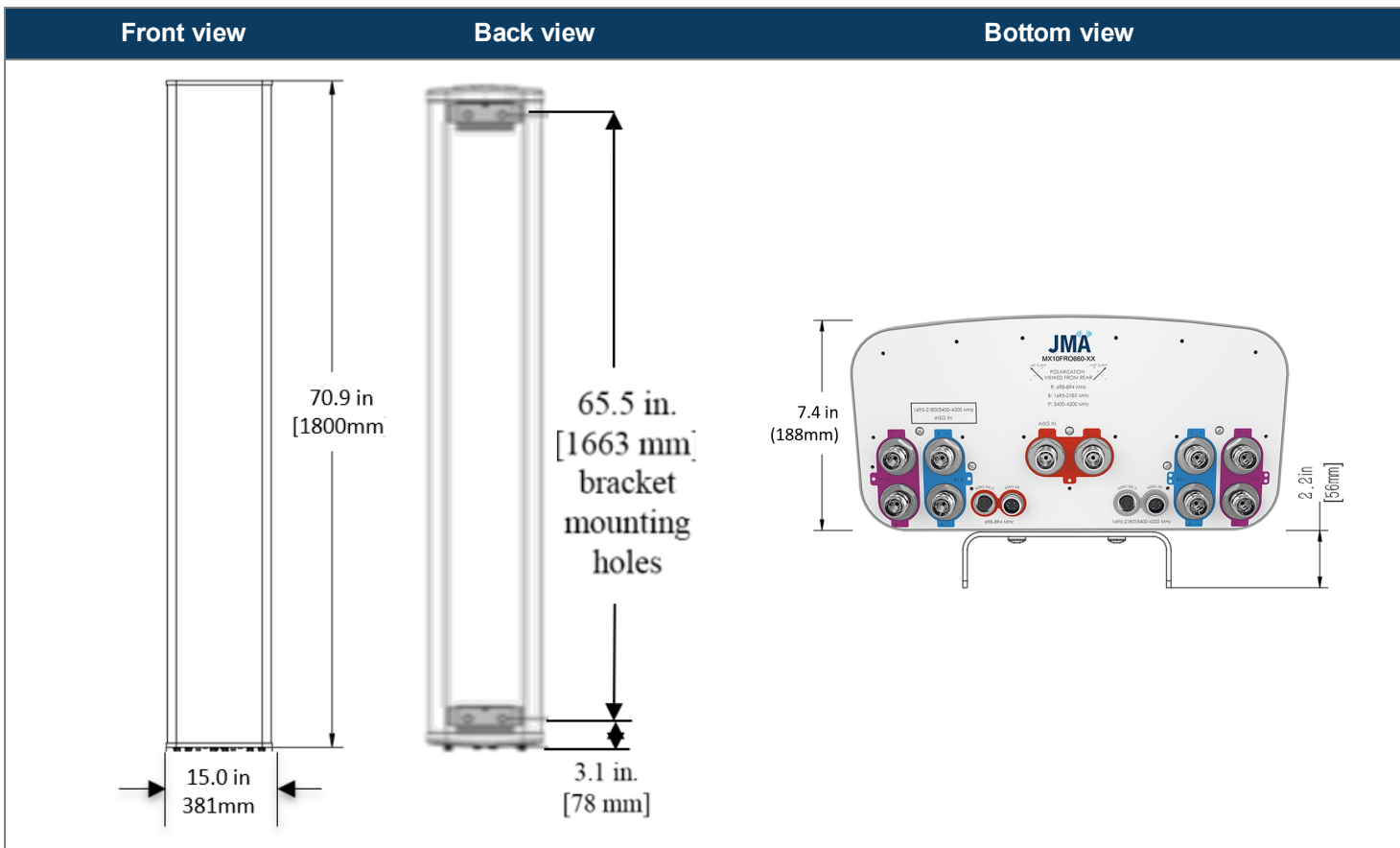
Electrical specification (minimum/maximum)	Ports 7, 8, 9, 10			
Frequency bands, MHz	3400-3550	3550-3700	3700-3950	3950-4200
Polarization	± 45°			
Average gain over all tilts, dBi	13.6	13.8	14.0	14.2
Horizontal beamwidth (HBW), degrees	64	62	60	58
Front-to-back ratio, co-polar power @180°± 30°, dB	>23	>23	>23	>22
Vertical beamwidth (VBW), degrees ¹	20	19.6	19.3	18.5
Electrical downtilt (EDT) range, degrees	2-12 orderable in 1 deg increments			
First upper side lobe (USLS) suppression, dB ¹	≤-15	≤-15	≤-15	≤-15
Cross-polar isolation, port-to-port, dB ¹	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0			
Max input power per any port, watts	150			
Total composite power all ports (1-10), watts	1500			

¹ Typical value over frequency and tilt

* For ports 7-10, the electrical downtilt is FET configured with internal RET, where the required electrical downtilt is defined at the time of order per the ordering information below.

Ordering information	
Antenna model	Description
MX10FRO660-xx (xx represents the FET in one degree increments for 3.4-4.2 GHz)	6F X- Pol 10 Port FRO 60° 2-14°/ 0-9°/ 2-12°, 4.3-10 & SBTs
	xx=02 thru 12 for each 1 degree tilt 3.4-4.2GHz Examples: MX10FRO660-02 – 2deg, MX10FRO660-09 – 9deg, MX10FRO660-12-12deg
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations
91900314-02	Dual Mount Bracket (see 91900314 bracket document for details)

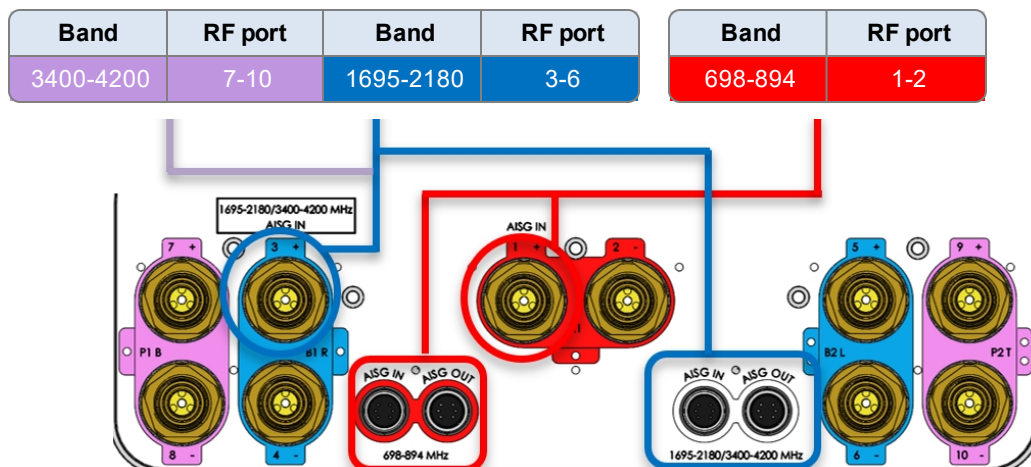
Mechanical specifications	
Dimensions height/width/depth, inches (mm)	70.9/ 15.0/ 7.4 (1800/ 381.0/ 188.0)
Shipping dimensions length/width/height, inches (mm)	76/ 20/ 14.5 (1930/ 508/ 368)
No. of RF input ports, connector type, and location	10 x 4.3-10 female, bottom
RF connector torque	96 lbf-in (10.85 N·m or 8 lbf-ft)
Net antenna weight, lb (kg)	57.3 (26)
Shipping weight, lb (kg)	100.7 (45.7)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	20.3 (9.2)
Range of mechanical up/down tilt	-2° to 12°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral, and rear wind loading @ 150 km/h, lbf (N)	84.8 (377), 24.2 (108), 92.6 (412)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	1.71



Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9 or RF port bias-t
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors and 2 RFport bias-ts
RET interface connector location	Bottom of the antenna
Total no. of internal RETs 698-894 MHz	1
Total no. of internal RETs 1695-2180 MHz	1
Total no. of internal RETs 3400-4200 MHz	1
RET input operating voltage, vdc	10-30
RET max power consumption, idle state, W	≤ 2.0
RET max power consumption, normal operating conditions, W	≤ 13.0
RET communication protocol	AISG 2.0 / 3GPP

RET and RF connector topology

Each RET device can be connected either via the designated external AISG connector or RF smart bias-t port as shown below:



Note: The RET Device for 3400-4200 MHz is connected via the 1695-2180 Port 3 Bias T port or 1695-2180/3400-4200 MHz AISG ports.

Array topology

5 sets of radiating arrays

R1: 698-894 MHz
B1: 1695-2180 MHz
B2: 1695-2180 MHz
P1: 3400-4200 MHz
P2: 3400-4200 MHz

Band	RF port
698-894	1-2
1695-2180	3-4
1695-2180	5-6
3400-4200	7-8
3400-4200	9-10

1695-2180 (B1)

698-894 (R1)

3400-4200 (P1)

3400-4200 (P2)

1695-2180 (B2)

SAMSUNG

Dual-Band Radio Unit AWS/PCS (B66/B2)

RFV01U-D1A

Samsung's RFV01U-D1A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.



The RFV01U-D1A RU targets dual-band support across Band 66 (AWS) and Band 2 (PCS), making it an ideal product for broad coverage footprints across multiple common mid-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation
- Built-in Broadcast Auxiliary Services (BAS) filter ensures compliant AWS operation without impacting footprint

Key Technical Specifications

Duplex Type: FDD

Operating Frequencies:

B66: DL(2,110-2,180MHz)/UL(1,710-1,780MHz)

B2: DL(1,930-1,990MHz)/UL(1,850-1,910MHz)

Instantaneous Bandwidth:

70MHz(B66) + 60MHz(B2)

RF Chain: 4T4R/2T4R/2T2R

Output Power: Total 320W

DU-RU Interface: CPRI (10Gbps)

Dimensions: 380 x 380 x 255mm (36.8L)

Weight: 38.3kg

Input Power: -48V DC

Operating Temp.: -40 - 55°(w/o solar load)

Cooling: Natural convection

SAMSUNG

Dual-Band Radio Unit 700/850MHz (B13/B5) RFV01U-D2A

Samsung's RFV01U-D2A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.



The RFV01U-D2A RU targets dual-band support across Band 13 (700MHz) and Band 5 (850MHz), making it an ideal product for broad coverage footprints across multiple common low-end, long-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

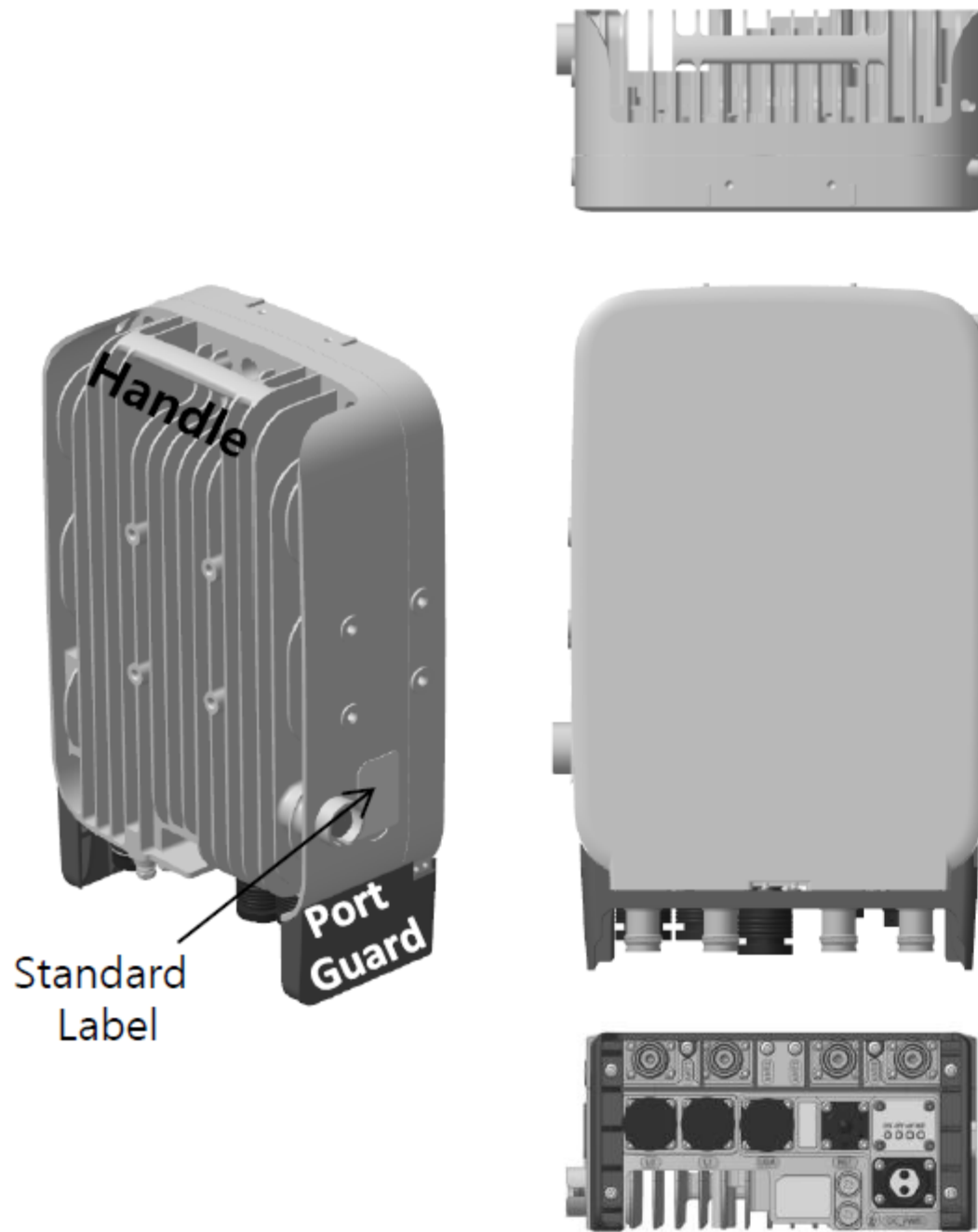
Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation

Key Technical Specifications

Duplex Type: FDD
Operating Frequencies:
 B13: DL(746-756MHz)/UL(777-787MHz)
 B5: DL(869-894MHz)/UL(824-849MHz)
Instantaneous Bandwidth: 10MHz(B13) + 25MHz(B5)
RF Chain: 4T4R/2T4R/2T2R
Output Power: Total 320W
DU-RU Interface: CPRI (10Gbps)
Dimensions: 380 x 380 x 207mm (29.9L)
Weight: 31.9kg
Input Power: -48V DC
Operating Temp.: -40 - 55°(w/o solar load)
Cooling: Natural convection

[CBRS RRH] Spec.



Current Size: 216 x 307 x 105.5 mm (6.99L)
(8.5 x 12.1 x 4.1 inch., excluding Port Guard)
Design is subject to minor change

Item	Specification
Band	Band 48 (3.5 GHz)
Frequency	3550~3700 MHz
IBW	150 MHz
OBW	80 MHz
# of Carriers	5/10/15/20 MHz x 4 carriers
RF Chain	4TX / 4RX
RF Output Power & EIRP	4 path x 5 W (Total: 20 W = 43 dBm) (EIRP: 47 dBm / 10 MHz)
RX Sensitivity	Typical : -101.5 dBm @ 1 Rx (3GPP 36.104, Wide Area)
Modulation	256-QAM support (1024-QAM with 1~2dB power back-off)
Input Power	-48 VDC (-38 to -57 VDC, 1 SKU), with clip-on AC-DC converter (Option)
Power Consumption	About 160 Watt @ 100% RF load, typical conditions
Volume	Under 7L (w/o Antenna), Under 9.6L (with antenna)
Weight	Under 8.0 kg (18.64 lb) (w/o Antenna), Under 10.5 Kg (with ant.)
Operating Temperature	-40°C (-40°F) ~ 55°C (131°F) (W/o solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 36.104 Category A [B48] : FCC 47 CFR 96.41 e)
Optic Interface	20km, 2 ports (9.8Gbps x 2), SFP, single mode, duplex or Bi-Di
CPRI Cascade	Not supported
# of Antenna Port	4
External Alarm (UDA)	4
RET	AISG 2.2
TMA & built-in Bias-T I//F and PIM cancellation	Not supported
Mounting Options	Pole, wall, tower, back to back, side by side (for external ant), 3 RRH with Clip-on Antenna on the pole
Antenna Type	Integrated (Clip-on) antenna (Option), External antenna (Option)
NB-IoT	Not Supported (HW Resource reserved for 1 Guard Band NB-IoT per LTE carrier)
Spectrum Analyzer	TX/RX Support
External Alarm (UDA)	4
5G NR	Support with S/W upgrade
XRAN	Support with S/W upgrade

ATTACHMENT 3

	General	Power	Density					
Site Name: Groton 2								
Tower Height: Verizon @ 147ft								
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total
*T-Mobile	4	1028	140	1900	0.0824	1.0000	0.82%	
*T-Mobile	2	2057	140	1900	0.0824	1.0000	0.82%	
*T-Mobile	2	2308	140	2100	0.0924	1.0000	0.92%	
*T-Mobile	2	592	140	600	0.0237	0.4000	0.59%	
*T-Mobile	1	1578	140	600	0.0316	0.4000	0.79%	
*T-Mobile	2	649	140	700	0.0260	0.4667	0.56%	
*T-Mobile	2	1102	140	1900	0.0441	1.0000	0.44%	
*T-Mobile	2	2204	140	1900	0.0883	1.0000	0.88%	
*T-Mobile	1	19239	140	2500	0.3853	1.0000	3.85%	
*T-Mobile	1	19239	140	2500	0.3853	1.0000	3.85%	
*AT&T	2	500	127	850	0.0246	0.5667	0.43%	
*AT&T	2	2951	127	700	0.1450	0.4667	3.11%	
*AT&T	1	1000	127	850	0.0246	0.5667	0.43%	
*AT&T	1	1000	127	850	0.0246	0.5667	0.43%	
*AT&T	2	4842	127	1900	0.2379	1.0000	2.38%	
*AT&T	2	5070	127	2100	0.2491	1.0000	2.49%	
*AT&T	1	1285	127	2300	0.0316	1.0000	0.32%	
VZW 700	4	610	147	0.0041	751	0.5007	0.81%	
VZW CDMA	2	367	147	0.0012	874.8	0.5832	0.21%	
VZW Cellular	4	292	147	0.0019	874	0.5827	0.33%	
VZW PCS	4	1694	147	0.0113	1977.5	1.0000	1.13%	
VZW AWS	4	1245	147	0.0083	2120	1.0000	0.83%	
VZW CBRS	4	5	147	0.0000	3550	1.0000	0.00%	
VZW CBAND	4	6531	152	0.0435	3730.08	1.0000	4.35%	
								30.79%
* Source: Siting Council								

ATTACHMENT 4



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 149 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13075-A

Customer Site Name: New London

Carrier Name: Verizon (App#: 160828, V#1)

Carrier Site ID / Name: 467245 / Groton_2_CT

Site Location: 1294 Pleasant Valley Road North

Groton, Connecticut

New London County

Latitude: 41.399972

Longitude:- 72.079222

Exp.10/31/2021



Analysis Result:

Max Structural Usage: 92.2% [Pass]

Max Foundation Usage: 97.0% [Pass]

Additional Usage Caused by Mount Modification: + 5.2%

07/22/2021

Report Prepared By: Saroj Dangol



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

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Analysis Result:

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Max Foundation Usage: 97.0% [Pass]

Additional Usage Caused by Mount Modification: + 5.2%

Report Prepared By: Saroj Dangol

Introduction

The purpose of this report is to summarize the analysis results on the 149 ft SABRE Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Design prepared by Sabre, job # 08-07173, dated 08/09/2007
Foundation Drawing	Foundation Design prepared by Sabre, job # 08-07173-E, dated 08/09/2007
Geotechnical Report	Geotechnical Report prepared by Gemini Geotechnical Associates, job # 07079CT, dated 07/20/2007
Modification Drawings	N/A
Mount Analysis	

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 135.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 105.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.158$, $S_1 = 0.057$

This structural analysis is based upon the tower being classified as a Structure Class 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.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	150.5	3	Antel- BXA-80063/4CF- Panel	Low Profile Platform	(12) 1 5/8" (2) 1 5/8" Hybrid Fiber	Verizon
-	149.0	3	Commscope- LNX-6514DS-VTM- Panel			
-		3	Commscope- SBNHH-1D65B- Panel			
-		3	Commscope- SBNHH-1D65B- Panel			
-		3	Alcatel-Lucent- RRH 2x60 700- RRH			
-		3	Alcatel-Lucent- RRH 4X45 AWS- RRH			
-		3	Alcatel-Lucent- RRH 2x60W-1900MHz- RRH			
-		1	RFS- DB-TI-6Z-8AB-0Z- Distribution Box			
-		1	RFS- DB-T1-6Z-8AB-0Z- Distribution Box			
9	137.0	3	RFS APXVAARR24_43-U-NA20	(1) Low Profile Platform (1) Support Rail Kit w/ TARM (MS-P-TARM_6) (1) Heavy collar mount (MS-H1436) + (3) 2"PST Antenna mount pipe	(10) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
10		3	Ericsson AIR32 KRD901146-1_B66A_B2A (Octo)			
11		3	Ericsson AIR6449 B41			
12		3	Ericsson KRY 112 144/1			
13		3	Ericsson 4449 B71+B85			
14		3	Ericsson 4415 B25			
15	127.0	6	Cci HPA65R-BU8A- Panel	MTC3607 Platform + HR & Kicker	(4) 1/2" Fiber (8) 3/4" DC (3) 3/8" RET	AT&T
16		3	Kaelus DBCT108F1V92-1 Diplexer			
17		3	Ericsson RRUS 4426 B66 RRU			
18		3	Ericsson RRUS 4415 B25 RRU			
19		3	Ericsson RRUS 4478 B5 RRU			
20		3	Ericsson RRUS 4478 B14 RRU			
21		6	Cci HPA-65R-BUU-H8- Panel			
22		6	Ericsson RRUS-11 RRU			
23		3	Ericsson RRUS 32 RRU			
24		4	Raycap DC6-48-60-18-8F- SP			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	150.5	3	Antel- BXA-80063/4CF ____ 5°- Panel	Low Profile Platform + Modification [VZWSMART-PLK 1+PLK-5+ PLK7]	(6) 1 5/8" (2) 1 5/8" Hybrid Fiber	Verizon
2	149.0	2	RFS DB-T1-6Z-8AB-0Z			
3		3	JMA Wireless MX06FRO660-02- Panel			
4		3	JMA Wireless MX10FRO660- Panel			
5		3	Samsung MT6407-77A- Panel			
6		3	Samsung B2/B66A RRH-BR049 (RFV01U-D1A)			
7		3	SamsungB5/B13 RRH-BR04C (RFV01U-D2A)			
8		3	Samsung CBRS RRH-RT4401-48A			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	92.2%	82.9%	76.5%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	5587.2	48.2	80.7

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.4631 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 92.20% at 100.8ft

Structure: CT13075-A-SBA
Site Name: New London
Height: 149.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: C
Gh: 1.1

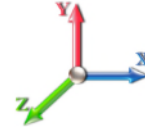
7/20/2021

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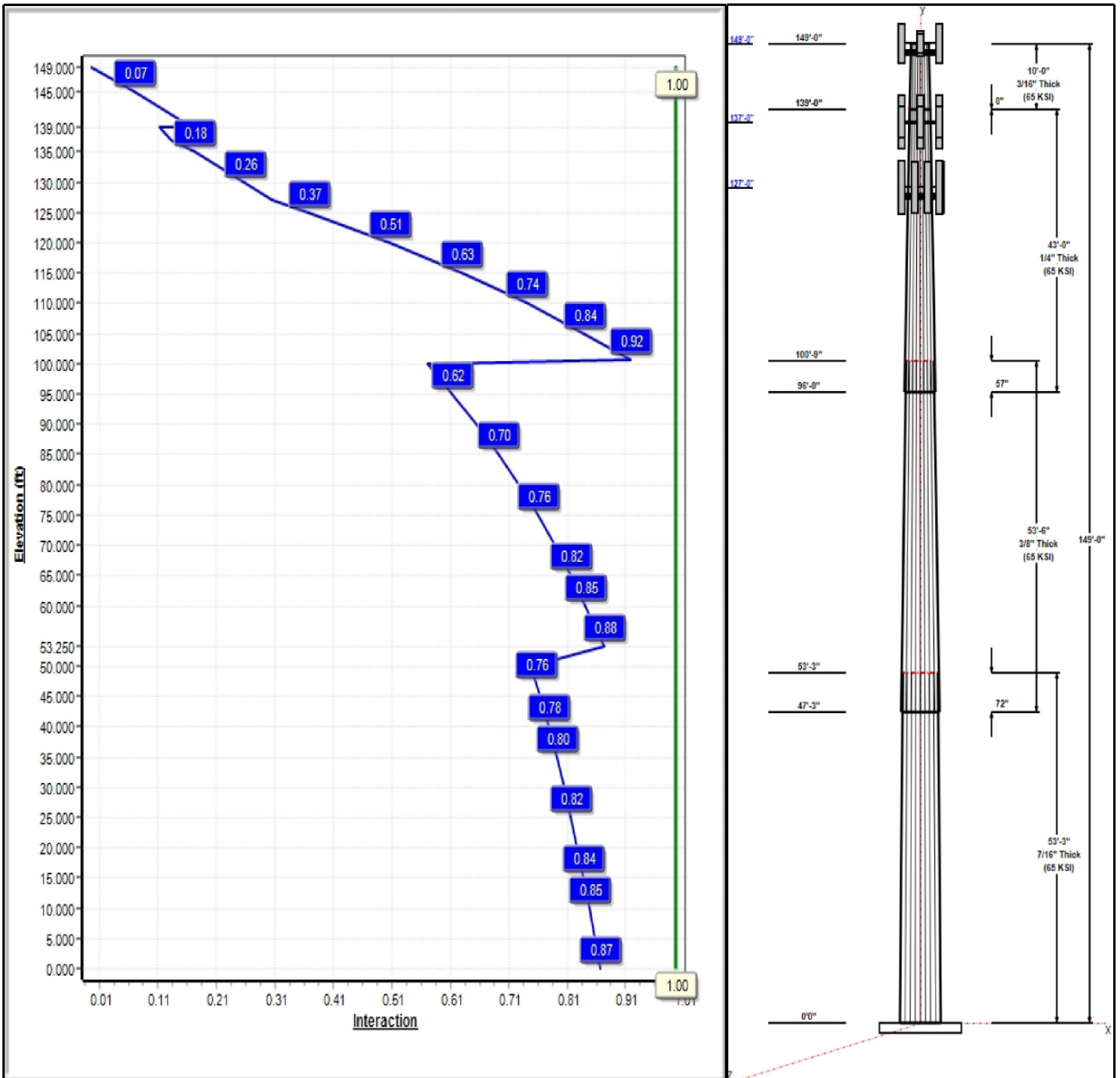
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 105 mph Wind



Iterations: 23

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Structure: CT13075-A-SBA

Type: Tapered
Site Name: New London
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23597

7/20/2021

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Shaft Properties

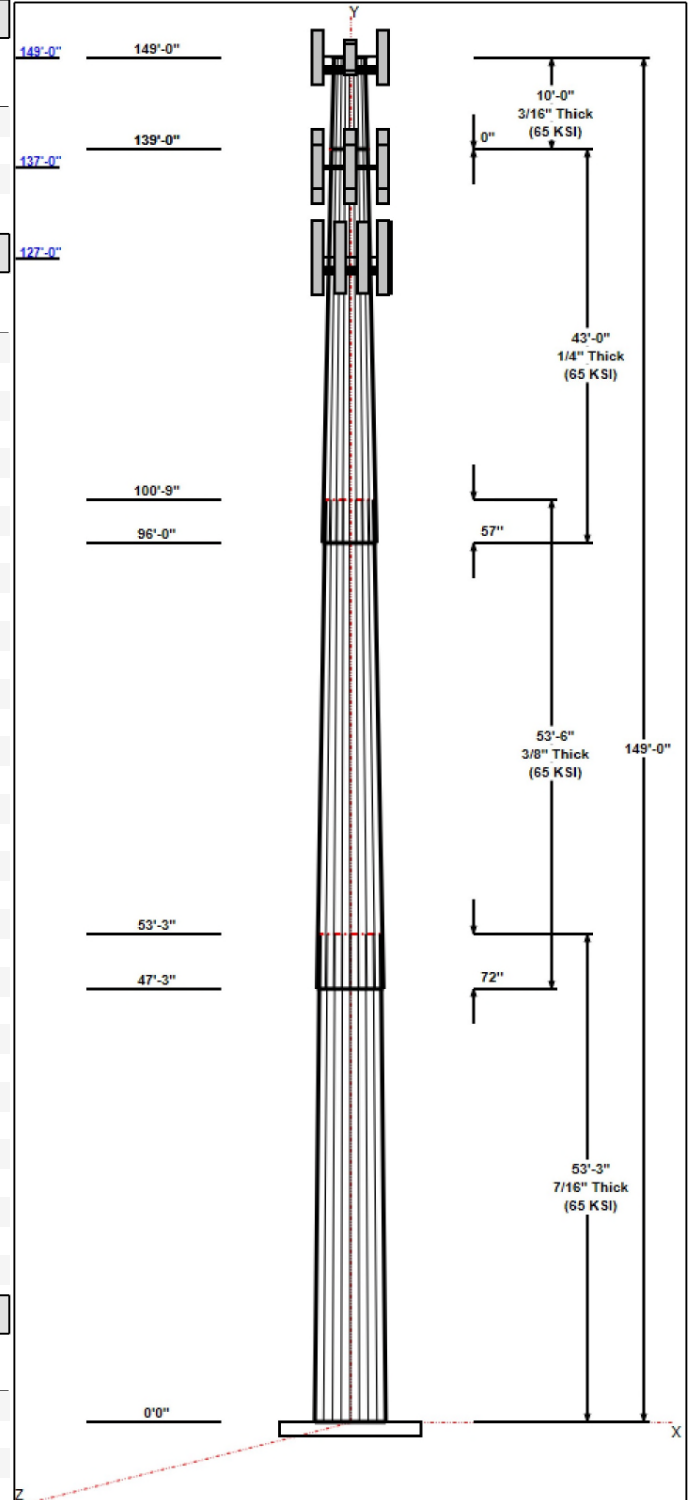
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	45.69	58.26	0.438		0.23597	65
2	53.50	35.24	47.86	0.375	Slip	0.23597	65
3	43.00	26.71	36.86	0.250	Slip	0.23597	65
4	10.00	24.35	26.71	0.188	Butt	0.23597	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
149.00	149.00	3	Antel BXA-80063/4CF	Verizon
149.00	149.00	1	RFS DB-T1-6Z-8AB-OZ	Verizon
149.00	149.00	1	RFS DB-T1-6Z-8AB-OZ	Verizon
149.00	149.00	1	Low Profile	Verizon
149.00	149.00	3	MX06FRO660-02	Verizon
149.00	149.00	3	MX06FRO660-02	Verizon
149.00	149.00	3	MT6407-77A	Verizon
149.00	149.00	3	B2/B66A RRH-BR049	Verizon
149.00	149.00	3	B5/B13 RRH-BR04C	Verizon
149.00	149.00	3	RT4401-48A (RRH only)	Verizon
149.00	149.00	1	HRK12 (Handrail Kit)	Verizon
149.00	149.00	1	PRK-1245 (kicker kit)	Verizon
137.00	137.00	1	Low Profile Platform	T-Mobile
137.00	137.00	1	(3) T-Arm Kit	T-Mobile
137.00	137.00	3	Handrail Kit	T-Mobile
137.00	137.00	1	mount pipe	T-Mobile
137.00	137.00	3	AIR6449 B41	T-Mobile
137.00	137.00	3	KRD 9011461-B66A-B2A	T-Mobile
137.00	137.00	3	APXVAARR24_43-U-NA20	T-Mobile
137.00	137.00	3	KRY 112 144/1	T-Mobile
137.00	137.00	3	4449 B71 + B12	T-Mobile
137.00	137.00	3	RRUS 4415 B25	T-Mobile
127.00	127.00	3	Ericsson RRUS 4415 B25	AT&T
127.00	127.00	3	Ericsson RRUS 4478 B5	AT&T
127.00	127.00	3	Ericsson RRUS 4478 B14	AT&T
127.00	127.00	12	Cci HPA-65R-BUU-H8	AT&T
127.00	127.00	6	Ericsson RRUS-11 RRU	AT&T
127.00	127.00	3	Ericsson RRUS 32 RRU	AT&T
127.00	127.00	4	Raycap DC6-48-60-18-8F	AT&T
127.00	127.00	1	MTC3607 Platform + HR &	AT&T
127.00	127.00	6	Cci HPA65R-BU8A	AT&T
127.00	127.00	3	Kaelus DBCT108F1V92-1	AT&T
127.00	127.00	3	Ericsson RRUS 4426 B66	AT&T

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	149.00	Inside	1 5/8" Coax	Verizon
0.00	149.00	Inside	1 5/8" Hybriflex Fiber	Verizon
0.00	149.00	Outside	Safety Cable	
0.00	149.00	Outside	Step bolts (ladder)	
0.00	137.00	Inside	1 5/8" Coax	T-Mobile
0.00	137.00	Inside	1 5/8" Fiber	T-Mobile
0.00	127.00	Inside	1/2" Fiber	AT&T
0.00	127.00	Inside	3/4" DC	AT&T
0.00	127.00	Inside	3/8" RET	AT&T



Structure: CT13075-A-SBA

Type: Tapered
Site Name: New London
Height: 149.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23597

7/20/2021

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**Anchor Bolts**

Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	65.4	60.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	5587.2	48.2	49.6
0.9D + 1.6W 105 mph Wind	5534.8	48.2	37.2
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1273.8	11.1	80.7
1.2D + 1.0E	256.0	2.1	49.7
0.9D + 1.0E	253.5	2.1	37.3
1.0D + 1.0W 60 mph Wind	1135.6	9.8	41.4

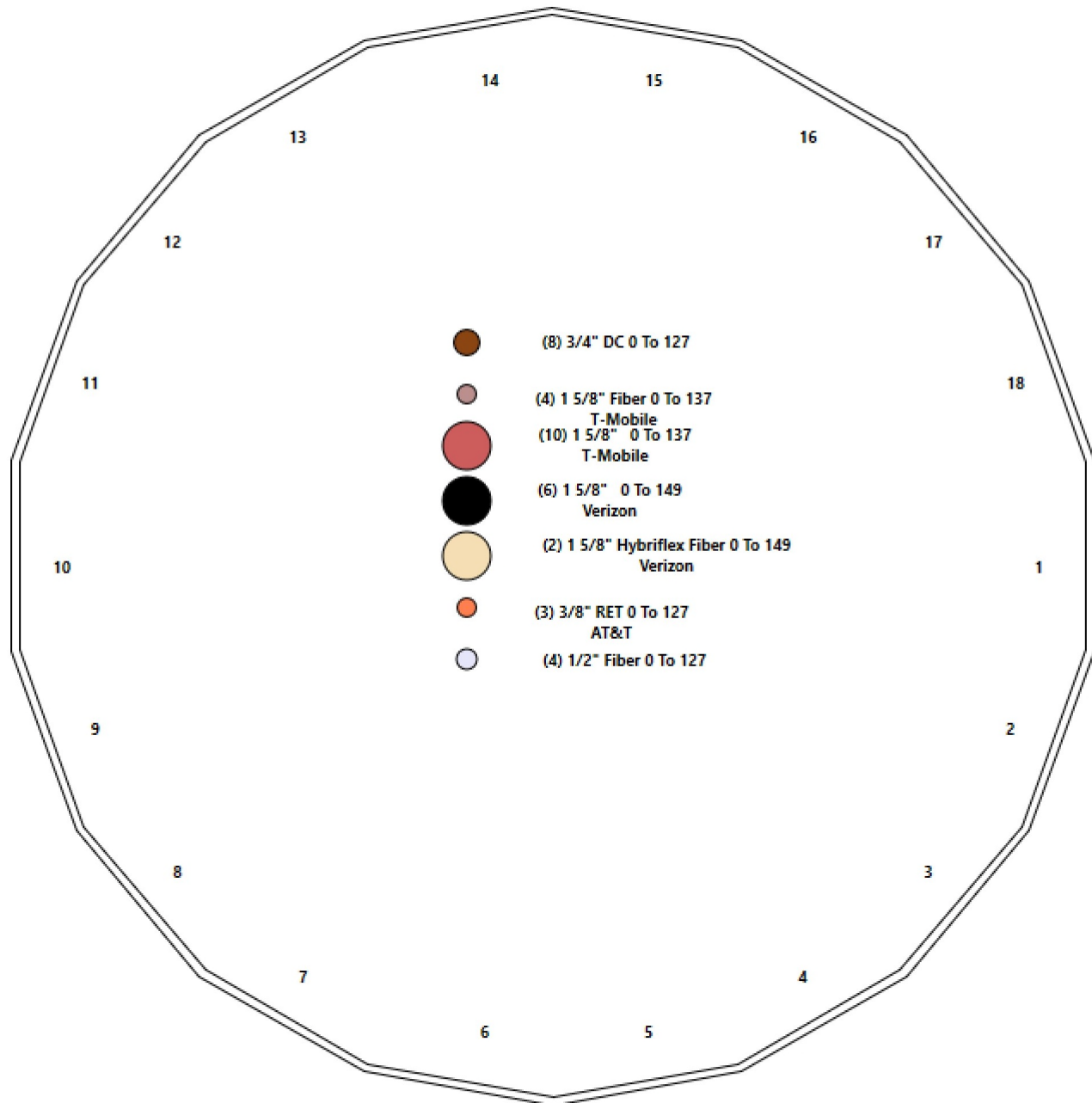
Structure: CT13075-A-SBA - Coax Line Placement

Type: Monopole
Site Name: New London
Height: 149.00 (ft)

7/20/2021



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Shaft Properties

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.4375	65		0.00	12,968
2	18	53.500	0.3750	65	Slip	72.00	8,921
3	18	43.000	0.2500	65	Slip	57.00	3,661
4	18	10.000	0.1875	65	Flange	0.00	513
Total Shaft Weight:							26,063

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	58.26	0.00	80.29	33916.66	22.07	133.17	45.69	53.25	62.84	16262.1	17.01	104.4	0.235973
2	47.86	47.25	56.52	16100.98	21.09	127.63	35.24	100.75	41.49	6370.66	15.16	93.96	0.235973
3	36.86	96.00	29.05	4917.70	24.58	147.43	26.71	139.00	21.00	1857.12	17.43	106.8	0.235973
4	26.71	139.0	15.78	1402.74	23.71	142.45	24.35	149.00	14.38	1060.65	21.49	129.8	0.235973

Load Summary

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	149.00	Antel BXA-80063/4CF	3	9.90	4.72	0.72	110.33	6.567	0.72	0.00	0.00
2	149.00	RFS DB-T1-6Z-8AB-0Z	1	18.90	4.80	0.67	162.51	5.673	0.67	0.00	0.00
3	149.00	RFS DB-T1-6Z-8AB-0Z	1	18.90	4.80	0.67	162.51	5.673	0.67	0.00	0.00
4	149.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2808.04	39.650	1.00	0.00	0.00
5	149.00	MX06FRO660-02	3	46.00	9.87	0.87	314.77	11.245	0.90	0.00	0.00
6	149.00	MX06FRO660-02	3	46.00	9.87	0.87	314.77	11.245	0.90	0.00	0.00
7	149.00	MT6407-77A	3	79.40	4.69	0.70	198.84	5.636	0.75	0.00	0.00
8	149.00	B2/B66A RRH-BR049	3	84.40	1.87	0.67	160.89	2.443	0.75	0.00	0.00
9	149.00	B5/B13 RRH-BR04C (RFV01U-D2A)	3	70.30	1.87	0.67	139.60	2.443	0.75	0.00	0.00
10	149.00	RT4401-48A (RRH only)	3	18.60	0.99	0.67	46.28	1.411	0.75	0.00	0.00
11	149.00	HRK12 (Handrail Kit)	1	504.00	8.20	1.00	1101.72	16.209	1.00	0.00	0.00
12	149.00	PRK-1245 (kicker kit)	1	440.00	11.40	1.00	746.95	23.329	1.00	0.00	0.00
13	137.00	Low Profile Platform	1	1500.00	22.00	1.00	2797.10	39.502	1.00	0.00	0.00
14	137.00	(3) T-Arm Kit	1	500.00	16.50	1.00	1088.02	32.480	1.00	0.00	0.00
15	137.00	Handrail Kit	3	45.75	2.97	1.00	90.06	6.666	1.00	0.00	0.00
16	137.00	mount pipe	1	87.00	4.31	1.00	219.41	9.647	1.00	0.00	0.00
17	137.00	AIR6449 B41	3	103.00	5.65	0.71	238.88	6.592	0.71	0.00	0.00
18	137.00	KRD 9011461-B66A-B2A	3	132.20	6.51	0.87	313.48	7.621	0.87	0.00	0.00
19	137.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.75	541.69	22.122	0.80	0.00	0.00
20	137.00	KRY 112 144/1	3	15.40	0.71	0.75	35.05	1.328	0.80	0.00	0.00
21	137.00	4449 B71 + B12	3	73.20	1.97	0.67	130.42	2.534	0.67	0.00	0.00
22	137.00	RRUS 4415 B25	3	46.00	1.64	0.67	86.73	2.151	0.67	0.00	0.00
23	127.00	Ericsson RRUS 4415 B25 RRU	3	44.10	1.86	0.67	90.76	2.423	0.67	0.00	0.00
24	127.00	Ericsson RRUS 4478 B5 RRU	3	59.90	1.84	0.67	107.98	2.379	0.67	0.00	0.00
25	127.00	Ericsson RRUS 4478 B14 RRU	3	59.40	1.65	0.67	100.18	2.160	0.67	0.00	0.00
26	127.00	Cci HPA-65R-BUU-H8	12	68.00	12.98	0.79	353.46	14.567	0.79	0.00	0.00
27	127.00	Ericsson RRUS-11 RRU	6	50.70	2.52	0.67	138.10	3.160	0.67	0.00	0.00
28	127.00	Ericsson RRUS 32 RRU	3	77.00	3.31	0.67	124.43	2.219	0.67	0.00	0.00
29	127.00	Raycap DC6-48-60-18-8F -SP	4	31.80	2.20	1.00	92.60	3.230	1.00	0.00	0.00
30	127.00	MTC3607 Platform + HR & Kicker	1	2246.00	51.70	1.00	5330.04	89.325	1.00	0.00	0.00
31	127.00	Cci HPA65R-BU8A	6	69.00	11.22	0.89	339.99	12.850	0.89	0.00	0.00
32	127.00	Kaelus DBCT108F1V92-1 Diplexer	3	19.80	0.70	1.00	44.04	0.953	1.00	0.00	0.00
33	127.00	Ericsson RRUS 4426 B66 RRU	3	48.50	1.15	0.67	86.77	1.616	0.67	0.00	0.00
Totals:			97	12,096.75			31,724.58				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	149.00	(6) 1 5/8" Coax	0.00	Inside
0.00	149.00	(2) 1 5/8" Hybriflex Fiber	0.00	Inside
0.00	149.00	(1) Safety Cable	0.38	Outside
0.00	149.00	(0) Step bolts (ladder)	0.63	Outside
0.00	137.00	(10) 1 5/8" Coax	0.00	Inside
0.00	137.00	(4) 1 5/8" Fiber	0.00	Inside
0.00	127.00	(4) 1/2" Fiber	0.00	Inside
0.00	127.00	(8) 3/4" DC	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
0.00	127.00	(3) 3/8" RET		0.00	Inside						

Shaft Section Properties

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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		0.4375	58.260	80.291	33916.7	22.07	133.17	75.4	1146.	0.0
5.00		0.4375	57.080	78.653	31882.5	21.59	130.47	76.0	1100.	1352.1
10.00		0.4375	55.900	77.014	29931.4	21.12	127.77	76.6	1054.	1324.2
15.00		0.4375	54.720	75.376	28061.5	20.64	125.08	77.1	1010.	1296.4
20.00		0.4375	53.541	73.738	26271.2	20.17	122.38	77.7	966.4	1268.5
25.00		0.4375	52.361	72.099	24558.7	19.69	119.68	78.2	923.8	1240.6
30.00		0.4375	51.181	70.461	22922.3	19.22	116.98	78.8	882.1	1212.8
35.00		0.4375	50.001	68.823	21360.3	18.74	114.29	79.4	841.4	1184.9
40.00		0.4375	48.821	67.184	19870.8	18.27	111.59	79.9	801.7	1157.0
45.00		0.4375	47.641	65.546	18452.3	17.79	108.89	80.5	762.9	1129.1
47.25	Bot - Section 2	0.4375	47.110	64.809	17836.6	17.58	107.68	80.7	745.7	499.0
50.00		0.4375	46.461	63.908	17103.0	17.31	106.20	81.0	725.0	1127.5
53.25	Top - Section 1	0.3750	46.444	54.832	14703.3	20.43	123.85	0.0	0.0	1312.3
55.00		0.3750	46.031	54.341	14311.4	20.23	122.75	77.6	612.4	325.1
60.00		0.3750	44.852	52.936	13230.3	19.68	119.60	78.3	581.0	912.6
65.00		0.3750	43.672	51.532	12205.1	19.12	116.46	78.9	550.5	888.7
70.00		0.3750	42.492	50.128	11234.3	18.57	113.31	79.6	520.7	864.8
75.00		0.3750	41.312	48.724	10316.3	18.01	110.17	80.2	491.8	840.9
80.00		0.3750	40.132	47.319	9449.8	17.46	107.02	80.9	463.8	817.0
85.00		0.3750	38.952	45.915	8633.2	16.90	103.87	81.5	436.5	793.1
90.00		0.3750	37.772	44.511	7865.0	16.35	100.73	82.2	410.1	769.2
95.00		0.3750	36.593	43.106	7143.9	15.80	97.58	82.5	384.5	745.4
96.00	Bot - Section 3	0.3750	36.357	42.826	7005.1	15.68	96.95	82.5	379.5	146.2
100.00		0.3750	35.413	41.702	6468.2	15.24	94.43	82.5	359.8	965.5
100.75	Top - Section 2	0.2500	35.736	28.157	4479.7	23.79	142.94	0.0	0.0	178.2
105.00		0.2500	34.733	27.361	4110.5	23.09	138.93	74.2	233.1	401.4
110.00		0.2500	33.553	26.425	3702.8	22.25	134.21	75.2	217.4	457.6
115.00		0.2500	32.373	25.489	3323.0	21.42	129.49	76.2	202.2	441.6
120.00		0.2500	31.193	24.553	2970.2	20.59	124.77	77.2	187.5	425.7
125.00		0.2500	30.013	23.616	2643.2	19.76	120.05	78.2	173.5	409.8
127.00		0.2500	29.541	23.242	2519.4	19.43	118.17	78.6	168.0	159.4
130.00		0.2500	28.833	22.680	2341.2	18.93	115.33	79.1	159.9	234.4
135.00		0.2500	27.654	21.744	2063.0	18.09	110.61	80.1	146.9	377.9
137.00		0.2500	27.182	21.370	1958.3	17.76	108.73	80.5	141.9	146.7
139.00	Top - Section 3	0.2500	26.710	20.995	1857.1	17.43	106.84	80.9	136.9	144.2
139.00	Bot - Section 4	0.1875	26.710	15.783	1402.7	23.24	142.45	73.5	103.4	
140.00		0.1875	26.474	15.643	1365.6	23.49	141.19	73.8	101.6	53.5
145.00		0.1875	25.294	14.941	1189.9	22.38	134.90	75.1	92.7	260.2
149.00		0.1875	24.350	14.379	1060.6	21.49	129.87	76.1	85.8	199.5

26063.1

Wind Loading - Shaft

Structure: CT13075-A-SBA

Code: EIA/TIA-222-G

7/20/2021

Site Name: New London

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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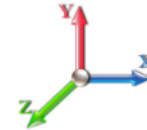


Load Case: 1.2D + 1.6W 105 mph Wind

Iterations 23

Dead Load Factor 1.20

Wind Load Factor 1.60



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	22.791	25.07	477.24	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	22.791	25.07	467.57	0.650	0.000	5.00	24.400	15.86	636.2	0.0	1622.5
10.00		1.00	0.85	22.791	25.07	457.91	0.650	0.000	5.00	23.901	15.54	623.2	0.0	1589.1
15.00		1.00	0.85	22.791	25.07	448.24	0.650	0.000	5.00	23.401	15.21	610.1	0.0	1555.6
20.00		1.00	0.90	24.182	26.60	451.77	0.650	0.000	5.00	22.902	14.89	633.6	0.0	1522.2
25.00		1.00	0.95	25.345	27.88	452.31	0.650	0.000	5.00	22.403	14.56	649.6	0.0	1488.8
30.00		1.00	0.98	26.337	28.97	450.69	0.650	0.000	5.00	21.904	14.24	660.0	0.0	1455.3
35.00		1.00	1.01	27.206	29.93	447.50	0.650	0.000	5.00	21.405	13.91	666.2	0.0	1421.9
40.00		1.00	1.04	27.981	30.78	443.13	0.650	0.000	5.00	20.906	13.59	669.2	0.0	1388.4
45.00		1.00	1.07	28.684	31.55	437.81	0.650	0.000	5.00	20.406	13.26	669.6	0.0	1355.0
47.25	Bot - Section 2	1.00	1.08	28.980	31.88	435.16	0.650	0.000	2.25	9.020	5.86	299.0	0.0	598.8
50.00		1.00	1.09	29.327	32.26	431.73	0.650	0.000	2.75	11.062	7.19	371.1	0.0	1353.0
53.25	Top - Section 1	1.00	1.11	29.719	32.69	427.43	0.650	0.000	3.25	12.878	8.37	437.8	0.0	1574.8
55.00		1.00	1.12	29.922	32.91	432.05	0.650	0.000	1.75	6.847	4.45	234.4	0.0	390.1
60.00		1.00	1.14	30.475	33.52	424.85	0.650	0.000	5.00	19.226	12.50	670.3	0.0	1095.1
65.00		1.00	1.16	30.993	34.09	417.17	0.650	0.000	5.00	18.727	12.17	664.0	0.0	1066.4
70.00		1.00	1.17	31.480	34.63	409.08	0.650	0.000	5.00	18.228	11.85	656.4	0.0	1037.8
75.00		1.00	1.19	31.941	35.13	400.62	0.650	0.000	5.00	17.728	11.52	647.8	0.0	1009.1
80.00		1.00	1.21	32.377	35.62	391.83	0.650	0.000	5.00	17.229	11.20	638.2	0.0	980.4
85.00		1.00	1.22	32.793	36.07	382.75	0.650	0.000	5.00	16.730	10.87	627.6	0.0	951.8
90.00		1.00	1.24	33.190	36.51	373.39	0.650	0.000	5.00	16.231	10.55	616.3	0.0	923.1
95.00		1.00	1.25	33.570	36.93	363.79	0.650	0.000	5.00	15.732	10.23	604.2	0.0	894.4
96.00	Bot - Section 3	1.00	1.25	33.644	37.01	361.85	0.650	0.000	1.00	3.086	2.01	118.8	0.0	175.4
100.00		1.00	1.27	33.935	37.33	353.97	0.650	0.000	4.00	12.315	8.00	478.1	0.0	1158.6
100.75	Top - Section 2	1.00	1.27	33.988	37.39	352.48	0.650	0.000	0.75	2.274	1.48	88.4	0.0	213.8
105.00		1.00	1.28	34.285	37.71	348.96	0.650	0.000	4.25	12.671	8.24	497.0	0.0	481.7
110.00		1.00	1.29	34.623	38.08	338.76	0.650	0.000	5.00	14.446	9.39	572.2	0.0	549.1
115.00		1.00	1.30	34.948	38.44	328.38	0.650	0.000	5.00	13.946	9.07	557.6	0.0	530.0
120.00		1.00	1.32	35.263	38.79	317.84	0.650	0.000	5.00	13.447	8.74	542.5	0.0	510.8
125.00		1.00	1.33	35.567	39.12	307.13	0.650	0.000	5.00	12.948	8.42	526.8	0.0	491.7
127.00	Appurtenance(s)	1.00	1.33	35.686	39.25	302.81	0.650	0.000	2.00	5.039	3.28	205.7	0.0	191.3
130.00		1.00	1.34	35.862	39.45	296.28	0.650	0.000	3.00	7.409	4.82	304.0	0.0	281.3
135.00		1.00	1.35	36.148	39.76	285.29	0.650	0.000	5.00	11.950	7.77	494.2	0.0	453.5
137.00	Appurtenance(s)	1.00	1.35	36.260	39.89	280.85	0.650	0.000	2.00	4.640	3.02	192.5	0.0	176.0
139.00	Top - Section 3	1.00	1.36	36.371	40.01	276.40	0.650	0.000	2.00	4.560	2.96	189.7	0.0	173.0
140.00		1.00	1.36	36.426	40.07	274.16	0.650	0.000	1.00	2.250	1.46	93.8	0.0	64.2
145.00		1.00	1.37	36.696	40.37	262.91	0.650	0.000	5.00	10.951	7.12	459.7	0.0	312.2
149.00	Appurtenance(s)	1.00	1.38	36.907	40.60	253.83	0.650	0.000	4.00	8.402	5.46	354.7	0.0	239.4
Totals:									149.00			17,960.4		31,275.7

Discrete Appurtenance Forces

Structure: CT13075-A-SBA

Code: EIA/TIA-222-G

7/20/2021

Site Name: New London

Exposure: C

Height: 149.00 (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



Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

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	149.00	MX06FRO660-02	3	36.907	40.597	0.87	1.00	25.76	165.60	0.000	0.000	1673.31	0.00	0.00
2	149.00	Antel BXA-80063/4CF	3	36.907	40.597	0.72	1.00	10.20	35.64	0.000	0.000	662.24	0.00	0.00
3	149.00	RFS DB-T1-6Z-8AB-OZ	1	36.907	40.597	0.67	1.00	3.22	22.68	0.000	0.000	208.90	0.00	0.00
4	149.00	RFS DB-T1-6Z-8AB-OZ	1	36.907	40.597	0.67	1.00	3.22	22.68	0.000	0.000	208.90	0.00	0.00
5	149.00	Low Profile	1	36.907	40.597	1.00	1.00	22.00	1800.00	0.000	0.000	1429.03	0.00	0.00
6	149.00	MX06FRO660-02	3	36.907	40.597	0.87	1.00	25.76	165.60	0.000	0.000	1673.31	0.00	0.00
7	149.00	PRK-1245 (kicker kit)	1	36.907	40.597	1.00	1.00	11.40	528.00	0.000	0.000	740.50	0.00	0.00
8	149.00	MT6407-77A	3	36.907	40.597	0.70	1.00	9.85	285.84	0.000	0.000	639.75	0.00	0.00
9	149.00	B2/B66A RRH-BR049	3	36.907	40.597	0.67	1.00	3.76	303.84	0.000	0.000	244.15	0.00	0.00
10	149.00	B5/B13 RRH-BR04C	3	36.907	40.597	0.67	1.00	3.76	253.08	0.000	0.000	244.15	0.00	0.00
11	149.00	RT4401-48A (RRH only)	3	36.907	40.597	0.67	1.00	1.99	66.96	0.000	0.000	129.26	0.00	0.00
12	149.00	HRK12 (Handrail Kit)	1	36.907	40.597	1.00	1.00	8.20	604.80	0.000	0.000	532.64	0.00	0.00
13	137.00	RRUS 4415 B25	3	36.260	39.886	0.50	0.75	2.47	165.60	0.000	0.000	157.78	0.00	0.00
14	137.00	4449 B71 + B12	3	36.260	39.886	0.50	0.75	2.97	263.52	0.000	0.000	189.52	0.00	0.00
15	137.00	KRY 112 144/1	3	36.260	39.886	0.56	0.75	1.20	55.44	0.000	0.000	76.46	0.00	0.00
16	137.00	APXVAARR24_43-U-NA2	3	36.260	39.886	0.56	0.75	34.16	460.80	0.000	0.000	2179.69	0.00	0.00
17	137.00	KRD 9011461-B66A-B2A	3	36.260	39.886	0.65	0.75	12.74	475.92	0.000	0.000	813.25	0.00	0.00
18	137.00	mount pipe	1	36.260	39.886	1.00	1.00	4.31	104.40	0.000	0.000	275.05	0.00	0.00
19	137.00	Handrail Kit	3	36.260	39.886	1.00	1.00	8.91	164.70	0.000	0.000	568.39	0.00	0.00
20	137.00	(3) T-Arm Kit	1	36.260	39.886	1.00	1.00	16.50	600.00	0.000	0.000	1052.99	0.00	0.00
21	137.00	Low Profile Platform	1	36.260	39.886	1.00	1.00	22.00	1800.00	0.000	0.000	1403.99	0.00	0.00
22	137.00	AIR6449 B41	3	36.260	39.886	0.53	0.75	9.03	370.80	0.000	0.000	576.01	0.00	0.00
23	127.00	Ericsson RRUS-11 RRU	6	35.686	39.255	0.54	0.80	8.10	365.04	0.000	0.000	509.01	0.00	0.00
24	127.00	Ericsson RRUS 4415 B25	3	35.686	39.255	0.54	0.80	2.99	158.76	0.000	0.000	187.85	0.00	0.00
25	127.00	Ericsson RRUS 4478 B5	3	35.686	39.255	0.54	0.80	2.96	215.64	0.000	0.000	185.83	0.00	0.00
26	127.00	Ericsson RRUS 4478 B14	3	35.686	39.255	0.54	0.80	2.65	213.84	0.000	0.000	166.64	0.00	0.00
27	127.00	Cci HPA-65R-BUU-H8	12	35.686	39.255	0.63	0.80	98.44	979.20	0.000	0.000	6182.79	0.00	0.00
28	127.00	Cci HPA65R-BU8A	6	35.686	39.255	0.71	0.80	47.93	496.80	0.000	0.000	3010.48	0.00	0.00
29	127.00	Ericsson RRUS 32 RRU	3	35.686	39.255	0.54	0.80	5.32	277.20	0.000	0.000	334.29	0.00	0.00
30	127.00	Raycap DC6-48-60-18-8F	4	35.686	39.255	0.80	0.80	7.04	152.64	0.000	0.000	442.16	0.00	0.00
31	127.00	MTC3607 Platform + HR &	1	35.686	39.255	1.00	1.00	51.70	2695.20	0.000	0.000	3247.15	0.00	0.00
32	127.00	Kaelus DBCT108F1V92-1	3	35.686	39.255	0.80	0.80	1.68	71.28	0.000	0.000	105.52	0.00	0.00
33	127.00	Ericsson RRUS 4426 B66	3	35.686	39.255	0.54	0.80	1.85	174.60	0.000	0.000	116.14	0.00	0.00

Totals: 14,516.10

30,167.10

Total Applied Force Summary

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021	
Site Name: New London	Exposure: C		
Height: 149.00 (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 + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60

Iterations 23



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		636.17	1761.35	0.00	0.00
10.00		623.16	1727.90	0.00	0.00
15.00		610.14	1694.45	0.00	0.00
20.00		633.58	1661.00	0.00	0.00
25.00		649.58	1627.55	0.00	0.00
30.00		659.95	1594.10	0.00	0.00
35.00		666.19	1560.65	0.00	0.00
40.00		669.20	1527.20	0.00	0.00
45.00		669.62	1493.75	0.00	0.00
47.25		299.04	661.28	0.00	0.00
50.00		371.12	1429.33	0.00	0.00
53.25		437.83	1664.98	0.00	0.00
55.00		234.38	438.64	0.00	0.00
60.00		670.28	1233.92	0.00	0.00
65.00		663.97	1205.25	0.00	0.00
70.00		656.43	1176.58	0.00	0.00
75.00		647.80	1147.91	0.00	0.00
80.00		638.17	1119.23	0.00	0.00
85.00		627.64	1090.56	0.00	0.00
90.00		616.28	1061.89	0.00	0.00
95.00		604.17	1033.22	0.00	0.00
96.00		118.79	203.20	0.00	0.00
100.00		478.10	1269.65	0.00	0.00
100.75		88.40	234.66	0.00	0.00
105.00		497.00	599.71	0.00	0.00
110.00		572.17	687.86	0.00	0.00
115.00		557.59	668.75	0.00	0.00
120.00		542.47	649.64	0.00	0.00
125.00		526.84	630.52	0.00	0.00
127.00	(47) attachments	14693.59	6047.06	0.00	0.00
130.00		303.98	350.94	0.00	0.00
135.00		494.16	569.61	0.00	0.00
137.00	(24) attachments	7485.61	4683.67	0.00	0.00
139.00		189.74	193.90	0.00	0.00
140.00		93.77	74.62	0.00	0.00
145.00		459.74	364.49	0.00	0.00
149.00	(26) attachments	8740.84	4535.99	0.00	0.00
Totals:		48,127.48	49,675.02	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13075-A-SBA **Code:** EIA/TIA-222-G 7/20/2021
Site Name: New London **Exposure:** C
Height: 149.00 (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



Load Case: 1.2D + 1.6W 105 mph Wind

Iterations 23

Dead Load Factor 1.20

Wind Load Factor 1.60



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	0.017	0.000	22.791	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	22.791	0.00	0.00
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	22.791	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	22.791	0.00	0.00
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	22.791	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	22.791	0.00	0.00
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.182	0.00	1.64
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.182	0.00	0.00
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	25.345	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	25.345	0.00	0.00
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	26.337	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	26.337	0.00	0.00
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	27.206	0.00	1.64
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	27.206	0.00	0.00
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	27.981	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	27.981	0.00	0.00
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	28.684	0.00	1.64
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	28.684	0.00	0.00
47.25	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.021	0.000	28.980	0.00	0.74
47.25	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.12	0.00	0.021	0.000	28.980	0.00	0.00
50.00	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.021	0.000	29.327	0.00	0.90
50.00	Step bolts (ladder)	Yes	2.75	0.000	0.63	0.14	0.00	0.021	0.000	29.327	0.00	0.00
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.022	0.000	29.719	0.00	1.06
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	0.17	0.00	0.022	0.000	29.719	0.00	0.00
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.022	0.000	29.922	0.00	0.57
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.09	0.00	0.022	0.000	29.922	0.00	0.00
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	30.475	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	30.475	0.00	0.00
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	30.993	0.00	1.64
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	30.993	0.00	0.00
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	31.480	0.00	1.64
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	31.480	0.00	0.00
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	31.941	0.00	1.64
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	31.941	0.00	0.00
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	32.377	0.00	1.64
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	32.377	0.00	0.00
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	32.793	0.00	1.64
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	32.793	0.00	0.00
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	33.190	0.00	1.64
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	33.190	0.00	0.00
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	33.570	0.00	1.64
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	33.570	0.00	0.00
96.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.027	0.000	33.644	0.00	0.33
96.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.027	0.000	33.644	0.00	0.00
100.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.028	0.000	33.935	0.00	1.31
100.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.028	0.000	33.935	0.00	0.00
100.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.028	0.000	33.988	0.00	0.25

Linear Appurtenance Segment Forces (Factored)

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021	
Site Name: New London	Exposure: C		
Height: 149.00 (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 + 1.6W 105 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 23

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)
100.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.028	0.000	33.988	0.00	0.00
105.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.028	0.000	34.285	0.00	1.39
105.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.028	0.000	34.285	0.00	0.00
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	34.623	0.00	1.64
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	34.623	0.00	0.00
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	34.948	0.00	1.64
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	34.948	0.00	0.00
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	35.263	0.00	1.64
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	35.263	0.00	0.00
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	35.567	0.00	1.64
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	35.567	0.00	0.00
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	35.686	0.00	0.66
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	35.686	0.00	0.00
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	35.862	0.00	0.98
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	35.862	0.00	0.00
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	36.148	0.00	1.64
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	36.148	0.00	0.00
137.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	36.260	0.00	0.66
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	36.260	0.00	0.00
139.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.037	0.000	36.371	0.00	0.66
139.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.037	0.000	36.371	0.00	0.00
140.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	36.426	0.00	0.33
140.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	36.426	0.00	0.00
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.038	0.000	36.696	0.00	1.64
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.038	0.000	36.696	0.00	0.00
149.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.040	0.000	36.907	0.00	1.31
149.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.040	0.000	36.907	0.00	0.00
Totals:											0.0	48.8

Calculated Forces

Structure: CT13075-A-SBA

Code: EIA/TIA-222-G

7/20/2021

Site Name: New London

Exposure: C

Height: 149.00 (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

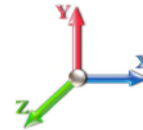


Load Case: 1.2D + 1.6W 105 mph Wind

Iterations 23

Dead Load Factor 1.20

Wind Load Factor 1.60



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	-49.58	-48.23	0.00	-5587.2	0.00	5587.22	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.871
5.00	-47.62	-47.78	0.00	-5346.0	0.00	5346.08	5379.95	2689.97	12523.2	6270.95	0.12	-0.229	0.000	0.862
10.00	-45.71	-47.34	0.00	-5107.1	0.00	5107.17	5306.65	2653.32	12093.3	6055.68	0.49	-0.462	0.000	0.852
15.00	-43.82	-46.89	0.00	-4870.4	0.00	4870.49	5231.70	2615.85	11666.9	5842.16	1.10	-0.700	0.000	0.842
20.00	-41.97	-46.41	0.00	-4636.0	0.00	4636.04	5155.10	2577.55	11244.2	5630.50	1.96	-0.941	0.000	0.832
25.00	-40.16	-45.91	0.00	-4403.9	0.00	4403.97	5076.86	2538.43	10825.5	5420.83	3.08	-1.185	0.000	0.821
30.00	-38.38	-45.38	0.00	-4174.4	0.00	4174.44	4996.96	2498.48	10411.0	5213.26	4.45	-1.434	0.000	0.809
35.00	-36.64	-44.83	0.00	-3947.5	0.00	3947.55	4915.42	2457.71	10001.0	5007.93	6.09	-1.686	0.000	0.796
40.00	-34.94	-44.27	0.00	-3723.3	0.00	3723.39	4832.22	2416.11	9595.63	4804.95	7.99	-1.941	0.000	0.782
45.00	-33.33	-43.66	0.00	-3502.0	0.00	3502.03	4747.38	2373.69	9195.21	4604.44	10.17	-2.200	0.000	0.768
47.25	-32.58	-43.41	0.00	-3403.8	0.00	3403.80	4708.66	2354.33	9016.69	4515.05	11.23	-2.320	0.000	0.761
50.00	-31.05	-43.07	0.00	-3284.4	0.00	3284.42	4660.89	2330.44	8799.96	4406.52	12.61	-2.466	0.000	0.752
53.25	-29.30	-42.62	0.00	-3144.4	0.00	3144.46	3818.32	1909.16	7226.08	3618.41	14.35	-2.640	0.000	0.877
55.00	-28.73	-42.47	0.00	-3069.8	0.00	3069.87	3795.26	1897.63	7117.54	3564.06	15.34	-2.735	0.000	0.869
60.00	-27.32	-41.88	0.00	-2857.5	0.00	2857.53	3728.27	1864.14	6809.75	3409.94	18.36	-3.030	0.000	0.846
65.00	-25.94	-41.28	0.00	-2648.1	0.00	2648.14	3659.63	1829.82	6505.57	3257.62	21.69	-3.326	0.000	0.821
70.00	-24.59	-40.68	0.00	-2441.7	0.00	2441.73	3589.34	1794.67	6205.25	3107.24	25.33	-3.622	0.000	0.793
75.00	-23.28	-40.08	0.00	-2238.3	0.00	2238.31	3517.40	1758.70	5909.03	2958.91	29.28	-3.919	0.000	0.764
80.00	-22.01	-39.48	0.00	-2037.9	0.00	2037.90	3443.81	1721.91	5617.15	2812.75	33.54	-4.213	0.000	0.731
85.00	-20.77	-38.88	0.00	-1840.5	0.00	1840.50	3368.58	1684.29	5329.85	2668.89	38.11	-4.505	0.000	0.696
90.00	-19.57	-38.27	0.00	-1646.1	0.00	1646.12	3291.69	1645.84	5047.37	2527.44	42.98	-4.793	0.000	0.658
95.00	-18.49	-37.64	0.00	-1454.7	0.00	1454.75	3202.59	1601.29	4754.28	2380.67	48.14	-5.073	0.000	0.617
96.00	-18.21	-37.55	0.00	-1417.1	0.00	1417.12	3181.72	1590.86	4692.22	2349.60	49.21	-5.130	0.000	0.609
100.00	-16.90	-36.99	0.00	-1266.9	0.00	1266.94	3098.26	1549.13	4448.03	2227.32	53.60	-5.348	0.000	0.575
100.75	-16.59	-36.92	0.00	-1239.2	0.00	1239.20	1860.42	930.21	2714.89	1359.46	54.44	-5.390	0.000	0.922
105.00	-15.86	-36.45	0.00	-1082.2	0.00	1082.29	1828.32	914.16	2592.13	1297.99	59.34	-5.610	0.000	0.844
110.00	-15.03	-35.89	0.00	-900.06	0.00	900.06	1789.04	894.52	2449.03	1226.33	65.39	-5.953	0.000	0.744
115.00	-14.24	-35.34	0.00	-720.59	0.00	720.59	1748.11	874.06	2307.59	1155.51	71.79	-6.264	0.000	0.633
120.00	-13.51	-34.79	0.00	-543.88	0.00	543.88	1705.53	852.77	2168.05	1085.64	78.49	-6.535	0.000	0.511
125.00	-12.86	-34.22	0.00	-369.94	0.00	369.94	1661.30	830.65	2030.66	1016.84	85.44	-6.754	0.000	0.373
127.00	-8.57	-18.93	0.00	-301.50	0.00	301.50	1643.15	821.58	1976.36	989.65	88.28	-6.826	0.000	0.310
130.00	-8.22	-18.60	0.00	-244.71	0.00	244.71	1615.43	807.71	1895.65	949.24	92.59	-6.919	0.000	0.263
135.00	-7.69	-18.05	0.00	-151.70	0.00	151.70	1567.90	783.95	1763.28	882.95	99.89	-7.039	0.000	0.177
137.00	-3.96	-10.05	0.00	-115.60	0.00	115.60	1548.43	774.21	1711.12	856.83	102.84	-7.076	0.000	0.138
139.00	-3.79	-9.84	0.00	-95.50	0.00	95.50	1528.69	764.34	1659.43	830.95	105.81	-7.106	0.000	0.118
139.00	-3.79	-9.84	0.00	-95.50	0.00	95.50	1044.31	522.16	1138.99	570.34	105.81	-7.106	0.000	0.171
140.00	-3.72	-9.74	0.00	-85.66	0.00	85.66	1038.69	519.35	1122.71	562.19	107.29	-7.120	0.000	0.156
145.00	-3.40	-9.24	0.00	-36.96	0.00	36.96	1009.62	504.81	1041.96	521.75	114.77	-7.184	0.000	0.075
149.00	0.00	-8.74	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	120.78	-7.202	0.000	0.000

Wind Loading - Shaft

Structure: CT13075-A-SBA

Code: EIA/TIA-222-G

7/20/2021

Site Name: New London

Exposure: C

Height: 149.00 (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

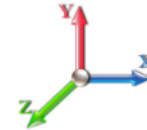


Load Case: 0.9D + 1.6W 105 mph Wind

Iterations 23

Dead Load Factor 0.90

Wind Load Factor 1.60



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	22.791	25.07	477.24	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	22.791	25.07	467.57	0.650	0.000	5.00	24.400	15.86	636.2	0.0	1216.9
10.00		1.00	0.85	22.791	25.07	457.91	0.650	0.000	5.00	23.901	15.54	623.2	0.0	1191.8
15.00		1.00	0.85	22.791	25.07	448.24	0.650	0.000	5.00	23.401	15.21	610.1	0.0	1166.7
20.00		1.00	0.90	24.182	26.60	451.77	0.650	0.000	5.00	22.902	14.89	633.6	0.0	1141.6
25.00		1.00	0.95	25.345	27.88	452.31	0.650	0.000	5.00	22.403	14.56	649.6	0.0	1116.6
30.00		1.00	0.98	26.337	28.97	450.69	0.650	0.000	5.00	21.904	14.24	660.0	0.0	1091.5
35.00		1.00	1.01	27.206	29.93	447.50	0.650	0.000	5.00	21.405	13.91	666.2	0.0	1066.4
40.00		1.00	1.04	27.981	30.78	443.13	0.650	0.000	5.00	20.906	13.59	669.2	0.0	1041.3
45.00		1.00	1.07	28.684	31.55	437.81	0.650	0.000	5.00	20.406	13.26	669.6	0.0	1016.2
47.25	Bot - Section 2	1.00	1.08	28.980	31.88	435.16	0.650	0.000	2.25	9.020	5.86	299.0	0.0	449.1
50.00		1.00	1.09	29.327	32.26	431.73	0.650	0.000	2.75	11.062	7.19	371.1	0.0	1014.7
53.25	Top - Section 1	1.00	1.11	29.719	32.69	427.43	0.650	0.000	3.25	12.878	8.37	437.8	0.0	1181.1
55.00		1.00	1.12	29.922	32.91	432.05	0.650	0.000	1.75	6.847	4.45	234.4	0.0	292.5
60.00		1.00	1.14	30.475	33.52	424.85	0.650	0.000	5.00	19.226	12.50	670.3	0.0	821.3
65.00		1.00	1.16	30.993	34.09	417.17	0.650	0.000	5.00	18.727	12.17	664.0	0.0	799.8
70.00		1.00	1.17	31.480	34.63	409.08	0.650	0.000	5.00	18.228	11.85	656.4	0.0	778.3
75.00		1.00	1.19	31.941	35.13	400.62	0.650	0.000	5.00	17.728	11.52	647.8	0.0	756.8
80.00		1.00	1.21	32.377	35.62	391.83	0.650	0.000	5.00	17.229	11.20	638.2	0.0	735.3
85.00		1.00	1.22	32.793	36.07	382.75	0.650	0.000	5.00	16.730	10.87	627.6	0.0	713.8
90.00		1.00	1.24	33.190	36.51	373.39	0.650	0.000	5.00	16.231	10.55	616.3	0.0	692.3
95.00		1.00	1.25	33.570	36.93	363.79	0.650	0.000	5.00	15.732	10.23	604.2	0.0	670.8
96.00	Bot - Section 3	1.00	1.25	33.644	37.01	361.85	0.650	0.000	1.00	3.086	2.01	118.8	0.0	131.6
100.00		1.00	1.27	33.935	37.33	353.97	0.650	0.000	4.00	12.315	8.00	478.1	0.0	869.0
100.75	Top - Section 2	1.00	1.27	33.988	37.39	352.48	0.650	0.000	0.75	2.274	1.48	88.4	0.0	160.4
105.00		1.00	1.28	34.285	37.71	348.96	0.650	0.000	4.25	12.671	8.24	497.0	0.0	361.3
110.00		1.00	1.29	34.623	38.08	338.76	0.650	0.000	5.00	14.446	9.39	572.2	0.0	411.8
115.00		1.00	1.30	34.948	38.44	328.38	0.650	0.000	5.00	13.946	9.07	557.6	0.0	397.5
120.00		1.00	1.32	35.263	38.79	317.84	0.650	0.000	5.00	13.447	8.74	542.5	0.0	383.1
125.00		1.00	1.33	35.567	39.12	307.13	0.650	0.000	5.00	12.948	8.42	526.8	0.0	368.8
127.00	Appurtenance(s)	1.00	1.33	35.686	39.25	302.81	0.650	0.000	2.00	5.039	3.28	205.7	0.0	143.5
130.00		1.00	1.34	35.862	39.45	296.28	0.650	0.000	3.00	7.409	4.82	304.0	0.0	211.0
135.00		1.00	1.35	36.148	39.76	285.29	0.650	0.000	5.00	11.950	7.77	494.2	0.0	340.1
137.00	Appurtenance(s)	1.00	1.35	36.260	39.89	280.85	0.650	0.000	2.00	4.640	3.02	192.5	0.0	132.0
139.00	Top - Section 3	1.00	1.36	36.371	40.01	276.40	0.650	0.000	2.00	4.560	2.96	189.7	0.0	129.7
140.00		1.00	1.36	36.426	40.07	274.16	0.650	0.000	1.00	2.250	1.46	93.8	0.0	48.1
145.00		1.00	1.37	36.696	40.37	262.91	0.650	0.000	5.00	10.951	7.12	459.7	0.0	234.2
149.00	Appurtenance(s)	1.00	1.38	36.907	40.60	253.83	0.650	0.000	4.00	8.402	5.46	354.7	0.0	179.6
Totals:									149.00			17,960.4		23,456.8

Discrete Appurtenance Forces

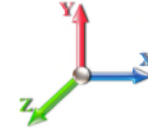
Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021	
Site Name: New London	Exposure: C		
Height: 149.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 16



Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

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	149.00	MX06FRO660-02	3	36.907	40.597	0.87	1.00	25.76	124.20	0.000	0.000	1673.31	0.00	0.00
2	149.00	Antel BXA-80063/4CF	3	36.907	40.597	0.72	1.00	10.20	26.73	0.000	0.000	662.24	0.00	0.00
3	149.00	RFS DB-T1-6Z-8AB-OZ	1	36.907	40.597	0.67	1.00	3.22	17.01	0.000	0.000	208.90	0.00	0.00
4	149.00	RFS DB-T1-6Z-8AB-OZ	1	36.907	40.597	0.67	1.00	3.22	17.01	0.000	0.000	208.90	0.00	0.00
5	149.00	Low Profile	1	36.907	40.597	1.00	1.00	22.00	1350.00	0.000	0.000	1429.03	0.00	0.00
6	149.00	MX06FRO660-02	3	36.907	40.597	0.87	1.00	25.76	124.20	0.000	0.000	1673.31	0.00	0.00
7	149.00	PRK-1245 (kicker kit)	1	36.907	40.597	1.00	1.00	11.40	396.00	0.000	0.000	740.50	0.00	0.00
8	149.00	MT6407-77A	3	36.907	40.597	0.70	1.00	9.85	214.38	0.000	0.000	639.75	0.00	0.00
9	149.00	B2/B66A RRH-BR049	3	36.907	40.597	0.67	1.00	3.76	227.88	0.000	0.000	244.15	0.00	0.00
10	149.00	B5/B13 RRH-BR04C	3	36.907	40.597	0.67	1.00	3.76	189.81	0.000	0.000	244.15	0.00	0.00
11	149.00	RT4401-48A (RRH only)	3	36.907	40.597	0.67	1.00	1.99	50.22	0.000	0.000	129.26	0.00	0.00
12	149.00	HRK12 (Handrail Kit)	1	36.907	40.597	1.00	1.00	8.20	453.60	0.000	0.000	532.64	0.00	0.00
13	137.00	RRUS 4415 B25	3	36.260	39.886	0.50	0.75	2.47	124.20	0.000	0.000	157.78	0.00	0.00
14	137.00	4449 B71 + B12	3	36.260	39.886	0.50	0.75	2.97	197.64	0.000	0.000	189.52	0.00	0.00
15	137.00	KRY 112 144/1	3	36.260	39.886	0.56	0.75	1.20	41.58	0.000	0.000	76.46	0.00	0.00
16	137.00	APXVAARR24_43-U-NA2	3	36.260	39.886	0.56	0.75	34.16	345.60	0.000	0.000	2179.69	0.00	0.00
17	137.00	KRD 9011461-B66A-B2A	3	36.260	39.886	0.65	0.75	12.74	356.94	0.000	0.000	813.25	0.00	0.00
18	137.00	mount pipe	1	36.260	39.886	1.00	1.00	4.31	78.30	0.000	0.000	275.05	0.00	0.00
19	137.00	Handrail Kit	3	36.260	39.886	1.00	1.00	8.91	123.53	0.000	0.000	568.39	0.00	0.00
20	137.00	(3) T-Arm Kit	1	36.260	39.886	1.00	1.00	16.50	450.00	0.000	0.000	1052.99	0.00	0.00
21	137.00	Low Profile Platform	1	36.260	39.886	1.00	1.00	22.00	1350.00	0.000	0.000	1403.99	0.00	0.00
22	137.00	AIR6449 B41	3	36.260	39.886	0.53	0.75	9.03	278.10	0.000	0.000	576.01	0.00	0.00
23	127.00	Ericsson RRUS-11 RRU	6	35.686	39.255	0.54	0.80	8.10	273.78	0.000	0.000	509.01	0.00	0.00
24	127.00	Ericsson RRUS 4415 B25	3	35.686	39.255	0.54	0.80	2.99	119.07	0.000	0.000	187.85	0.00	0.00
25	127.00	Ericsson RRUS 4478 B5	3	35.686	39.255	0.54	0.80	2.96	161.73	0.000	0.000	185.83	0.00	0.00
26	127.00	Ericsson RRUS 4478 B14	3	35.686	39.255	0.54	0.80	2.65	160.38	0.000	0.000	166.64	0.00	0.00
27	127.00	Cci HPA-65R-BUU-H8	12	35.686	39.255	0.63	0.80	98.44	734.40	0.000	0.000	6182.79	0.00	0.00
28	127.00	Cci HPA65R-BU8A	6	35.686	39.255	0.71	0.80	47.93	372.60	0.000	0.000	3010.48	0.00	0.00
29	127.00	Ericsson RRUS 32 RRU	3	35.686	39.255	0.54	0.80	5.32	207.90	0.000	0.000	334.29	0.00	0.00
30	127.00	Raycap DC6-48-60-18-8F	4	35.686	39.255	0.80	0.80	7.04	114.48	0.000	0.000	442.16	0.00	0.00
31	127.00	MTC3607 Platform + HR &	1	35.686	39.255	1.00	1.00	51.70	2021.40	0.000	0.000	3247.15	0.00	0.00
32	127.00	Kaelus DBCT108F1V92-1	3	35.686	39.255	0.80	0.80	1.68	53.46	0.000	0.000	105.52	0.00	0.00
33	127.00	Ericsson RRUS 4426 B66	3	35.686	39.255	0.54	0.80	1.85	130.95	0.000	0.000	116.14	0.00	0.00

Totals: 10,887.07

30,167.10

Total Applied Force Summary

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021	
Site Name: New London	Exposure: C		
Height: 149.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 17



Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

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		636.17	1321.01	0.00	0.00
10.00		623.16	1295.92	0.00	0.00
15.00		610.14	1270.84	0.00	0.00
20.00		633.58	1245.75	0.00	0.00
25.00		649.58	1220.66	0.00	0.00
30.00		659.95	1195.57	0.00	0.00
35.00		666.19	1170.49	0.00	0.00
40.00		669.20	1145.40	0.00	0.00
45.00		669.62	1120.31	0.00	0.00
47.25		299.04	495.96	0.00	0.00
50.00		371.12	1072.00	0.00	0.00
53.25		437.83	1248.74	0.00	0.00
55.00		234.38	328.98	0.00	0.00
60.00		670.28	925.44	0.00	0.00
65.00		663.97	903.94	0.00	0.00
70.00		656.43	882.43	0.00	0.00
75.00		647.80	860.93	0.00	0.00
80.00		638.17	839.43	0.00	0.00
85.00		627.64	817.92	0.00	0.00
90.00		616.28	796.42	0.00	0.00
95.00		604.17	774.92	0.00	0.00
96.00		118.79	152.40	0.00	0.00
100.00		478.10	952.24	0.00	0.00
100.75		88.40	175.99	0.00	0.00
105.00		497.00	449.78	0.00	0.00
110.00		572.17	515.90	0.00	0.00
115.00		557.59	501.56	0.00	0.00
120.00		542.47	487.23	0.00	0.00
125.00		526.84	472.89	0.00	0.00
127.00	(47) attachments	14693.59	4535.29	0.00	0.00
130.00		303.98	263.21	0.00	0.00
135.00		494.16	427.21	0.00	0.00
137.00	(24) attachments	7485.61	3512.76	0.00	0.00
139.00		189.74	145.42	0.00	0.00
140.00		93.77	55.96	0.00	0.00
145.00		459.74	273.37	0.00	0.00
149.00	(26) attachments	8740.84	3401.99	0.00	0.00
Totals:		48,127.48	37,256.26	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13075-A-SBA **Code:** EIA/TIA-222-G 7/20/2021
Site Name: New London **Exposure:** C
Height: 149.00 (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



Load Case: 0.9D + 1.6W 105 mph Wind

Iterations 23

Dead Load Factor 0.90

Wind Load Factor 1.60



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	0.017	0.000	22.791	0.00	1.23
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	22.791	0.00	0.00
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	22.791	0.00	1.23
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	22.791	0.00	0.00
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	22.791	0.00	1.23
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	22.791	0.00	0.00
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	24.182	0.00	1.23
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	24.182	0.00	0.00
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	25.345	0.00	1.23
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	25.345	0.00	0.00
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	26.337	0.00	1.23
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	26.337	0.00	0.00
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	27.206	0.00	1.23
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	27.206	0.00	0.00
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	27.981	0.00	1.23
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	27.981	0.00	0.00
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	28.684	0.00	1.23
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	28.684	0.00	0.00
47.25	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.021	0.000	28.980	0.00	0.55
47.25	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.12	0.00	0.021	0.000	28.980	0.00	0.00
50.00	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.021	0.000	29.327	0.00	0.68
50.00	Step bolts (ladder)	Yes	2.75	0.000	0.63	0.14	0.00	0.021	0.000	29.327	0.00	0.00
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.022	0.000	29.719	0.00	0.80
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	0.17	0.00	0.022	0.000	29.719	0.00	0.00
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.022	0.000	29.922	0.00	0.43
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.09	0.00	0.022	0.000	29.922	0.00	0.00
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	30.475	0.00	1.23
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	30.475	0.00	0.00
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	30.993	0.00	1.23
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	30.993	0.00	0.00
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	31.480	0.00	1.23
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	31.480	0.00	0.00
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	31.941	0.00	1.23
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	31.941	0.00	0.00
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	32.377	0.00	1.23
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	32.377	0.00	0.00
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	32.793	0.00	1.23
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	32.793	0.00	0.00
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	33.190	0.00	1.23
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	33.190	0.00	0.00
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	33.570	0.00	1.23
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	33.570	0.00	0.00
96.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.027	0.000	33.644	0.00	0.25
96.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.027	0.000	33.644	0.00	0.00
100.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.028	0.000	33.935	0.00	0.98
100.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.028	0.000	33.935	0.00	0.00
100.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.028	0.000	33.988	0.00	0.18

Linear Appurtenance Segment Forces (Factored)

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021	
Site Name: New London	Exposure: C		
Height: 149.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 19



Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 23

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)
100.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.028	0.000	33.988	0.00	0.00
105.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.028	0.000	34.285	0.00	1.04
105.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.028	0.000	34.285	0.00	0.00
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	34.623	0.00	1.23
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	34.623	0.00	0.00
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	34.948	0.00	1.23
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	34.948	0.00	0.00
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	35.263	0.00	1.23
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	35.263	0.00	0.00
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	35.567	0.00	1.23
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	35.567	0.00	0.00
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	35.686	0.00	0.49
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	35.686	0.00	0.00
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	35.862	0.00	0.74
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	35.862	0.00	0.00
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	36.148	0.00	1.23
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	36.148	0.00	0.00
137.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	36.260	0.00	0.49
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	36.260	0.00	0.00
139.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.037	0.000	36.371	0.00	0.49
139.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.037	0.000	36.371	0.00	0.00
140.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	36.426	0.00	0.25
140.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	36.426	0.00	0.00
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.038	0.000	36.696	0.00	1.23
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.038	0.000	36.696	0.00	0.00
149.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.040	0.000	36.907	0.00	0.98
149.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.040	0.000	36.907	0.00	0.00
Totals:											0.0	36.6

Calculated Forces

Structure: CT13075-A-SBA

Code: EIA/TIA-222-G

7/20/2021

Site Name: New London

Exposure: C

Height: 149.00 (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



Load Case: 0.9D + 1.6W 105 mph Wind

Iterations 23

Dead Load Factor 0.90

Wind Load Factor 1.60



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	-37.16	-48.20	0.00	-5534.7	0.00	5534.77	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.860
5.00	-35.65	-47.71	0.00	-5293.7	0.00	5293.76	5379.95	2689.97	12523.2	6270.95	0.12	-0.227	0.000	0.851
10.00	-34.16	-47.22	0.00	-5055.2	0.00	5055.23	5306.65	2653.32	12093.3	6055.68	0.48	-0.458	0.000	0.842
15.00	-32.71	-46.73	0.00	-4819.1	0.00	4819.16	5231.70	2615.85	11666.9	5842.16	1.09	-0.693	0.000	0.831
20.00	-31.28	-46.21	0.00	-4585.5	0.00	4585.52	5155.10	2577.55	11244.2	5630.50	1.94	-0.931	0.000	0.821
25.00	-29.87	-45.66	0.00	-4354.4	0.00	4354.48	5076.86	2538.43	10825.5	5420.83	3.05	-1.173	0.000	0.809
30.00	-28.50	-45.10	0.00	-4126.1	0.00	4126.17	4996.96	2498.48	10411.0	5213.26	4.41	-1.419	0.000	0.798
35.00	-27.15	-44.52	0.00	-3900.6	0.00	3900.67	4915.42	2457.71	10001.0	5007.93	6.03	-1.668	0.000	0.785
40.00	-25.83	-43.93	0.00	-3678.0	0.00	3678.06	4832.22	2416.11	9595.63	4804.95	7.91	-1.920	0.000	0.771
45.00	-24.60	-43.30	0.00	-3458.4	0.00	3458.40	4747.38	2373.69	9195.21	4604.44	10.06	-2.175	0.000	0.757
47.25	-24.02	-43.04	0.00	-3360.9	0.00	3360.97	4708.66	2354.33	9016.69	4515.05	11.11	-2.294	0.000	0.750
50.00	-22.84	-42.69	0.00	-3242.6	0.00	3242.61	4660.89	2330.44	8799.96	4406.52	12.48	-2.439	0.000	0.741
53.25	-21.52	-42.25	0.00	-3103.8	0.00	3103.88	3818.32	1909.16	7226.08	3618.41	14.20	-2.610	0.000	0.864
55.00	-21.06	-42.07	0.00	-3029.9	0.00	3029.95	3795.26	1897.63	7117.54	3564.06	15.17	-2.704	0.000	0.856
60.00	-19.95	-41.45	0.00	-2819.6	0.00	2819.61	3728.27	1864.14	6809.75	3409.94	18.16	-2.995	0.000	0.833
65.00	-18.88	-40.84	0.00	-2612.3	0.00	2612.34	3659.63	1829.82	6505.57	3257.62	21.45	-3.287	0.000	0.808
70.00	-17.83	-40.22	0.00	-2408.1	0.00	2408.15	3589.34	1794.67	6205.25	3107.24	25.05	-3.579	0.000	0.780
75.00	-16.82	-39.61	0.00	-2207.0	0.00	2207.04	3517.40	1758.70	5909.03	2958.91	28.95	-3.872	0.000	0.751
80.00	-15.83	-38.99	0.00	-2009.0	0.00	2009.02	3443.81	1721.91	5617.15	2812.75	33.16	-4.162	0.000	0.719
85.00	-14.87	-38.38	0.00	-1814.0	0.00	1814.06	3368.58	1684.29	5329.85	2668.89	37.67	-4.450	0.000	0.685
90.00	-13.94	-37.77	0.00	-1622.1	0.00	1622.18	3291.69	1645.84	5047.37	2527.44	42.48	-4.733	0.000	0.647
95.00	-13.11	-37.14	0.00	-1433.3	0.00	1433.34	3202.59	1601.29	4754.28	2380.67	47.59	-5.009	0.000	0.607
96.00	-12.88	-37.04	0.00	-1396.2	0.00	1396.20	3181.72	1590.86	4692.22	2349.60	48.64	-5.066	0.000	0.599
100.00	-11.90	-36.50	0.00	-1248.0	0.00	1248.05	3098.26	1549.13	4448.03	2227.32	52.97	-5.281	0.000	0.565
100.75	-11.64	-36.42	0.00	-1220.6	0.00	1220.67	1860.42	930.21	2714.89	1359.46	53.80	-5.321	0.000	0.906
105.00	-11.07	-35.94	0.00	-1065.8	0.00	1065.87	1828.32	914.16	2592.13	1297.99	58.64	-5.538	0.000	0.829
110.00	-10.41	-35.38	0.00	-886.17	0.00	886.17	1789.04	894.52	2449.03	1226.33	64.61	-5.876	0.000	0.730
115.00	-9.80	-34.82	0.00	-709.27	0.00	709.27	1748.11	874.06	2307.59	1155.51	70.93	-6.182	0.000	0.621
120.00	-9.23	-34.27	0.00	-535.16	0.00	535.16	1705.53	852.77	2168.05	1085.64	77.54	-6.449	0.000	0.500
125.00	-8.74	-33.71	0.00	-363.82	0.00	363.82	1661.30	830.65	2030.66	1016.84	84.40	-6.664	0.000	0.365
127.00	-5.92	-18.60	0.00	-296.39	0.00	296.39	1643.15	821.58	1976.36	989.65	87.20	-6.735	0.000	0.304
130.00	-5.66	-18.28	0.00	-240.60	0.00	240.60	1615.43	807.71	1895.65	949.24	91.46	-6.826	0.000	0.257
135.00	-5.28	-17.74	0.00	-149.22	0.00	149.22	1567.90	783.95	1763.28	882.95	98.66	-6.945	0.000	0.173
137.00	-2.69	-9.89	0.00	-113.74	0.00	113.74	1548.43	774.21	1711.12	856.83	101.57	-6.981	0.000	0.135
139.00	-2.57	-9.68	0.00	-93.97	0.00	93.97	1528.69	764.34	1659.43	830.95	104.49	-7.011	0.000	0.115
139.00	-2.57	-9.68	0.00	-93.97	0.00	93.97	1044.31	522.16	1138.99	570.34	104.49	-7.011	0.000	0.168
140.00	-2.52	-9.58	0.00	-84.29	0.00	84.29	1038.69	519.35	1122.71	562.19	105.96	-7.025	0.000	0.153
145.00	-2.30	-9.09	0.00	-36.38	0.00	36.38	1009.62	504.81	1041.96	521.75	113.34	-7.088	0.000	0.072
149.00	0.00	-8.74	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	119.27	-7.105	0.000	0.000

Wind Loading - Shaft

Structure: CT13075-A-SBA

Code: EIA/TIA-222-G

7/20/2021

Site Name: New London

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

Page: 21

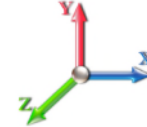


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 22

Dead Load Factor 1.20

Wind Load Factor 1.00



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	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	25.435	30.52	173.5	453.8	2076.3
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	25.010	30.01	170.6	477.3	2066.4
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	24.557	29.47	167.5	487.2	2042.9
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	24.091	28.91	174.4	491.3	2013.5
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	23.619	28.34	179.2	491.8	1980.6
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	23.142	27.77	182.4	490.2	1945.5
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	22.662	27.19	184.5	486.8	1908.7
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	22.180	26.62	185.8	482.3	1870.7
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	21.696	26.03	186.3	476.7	1831.7
47.25	Bot - Section 2	1.00	1.08	6.571	7.23	0.00	1.200	1.555	2.25	9.603	11.52	83.3	213.3	812.1
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	2.75	11.778	14.13	103.4	262.7	1615.7
53.25	Top - Section 1	1.00	1.11	6.739	7.41	0.00	1.200	1.574	3.25	13.731	16.48	122.1	307.6	1882.4
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	1.75	7.307	8.77	65.4	164.8	554.8
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	20.553	24.66	187.5	463.2	1558.3
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	20.065	24.08	186.1	455.2	1521.7
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	19.575	23.49	184.4	446.8	1484.5
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	19.085	22.90	182.5	437.9	1447.0
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	18.595	22.31	180.2	428.7	1409.2
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	18.104	21.72	177.7	419.3	1371.0
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	17.613	21.14	175.0	409.5	1332.6
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	17.121	20.55	172.0	399.5	1293.9
96.00	Bot - Section 3	1.00	1.25	7.629	8.39	0.00	1.200	1.669	1.00	3.365	4.04	33.9	79.5	254.9
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	4.00	13.433	16.12	136.4	315.6	1474.2
100.75	Top - Section 2	1.00	1.27	7.707	8.48	0.00	1.200	1.677	0.75	2.483	2.98	25.3	58.9	272.8
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	4.25	13.864	16.64	142.3	326.4	808.2
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	5.00	15.856	19.03	164.3	373.4	922.5
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	15.363	18.44	160.7	362.6	892.5
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	14.870	17.84	156.9	351.6	862.4
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	14.376	17.25	153.0	340.4	832.2
127.00	Appurtenance(s)	1.00	1.33	8.092	8.90	0.00	1.200	1.716	2.00	5.612	6.73	59.9	134.4	325.7
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	3.00	8.270	9.92	88.8	197.5	478.7
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	13.389	16.07	144.9	317.7	771.2
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	1.729	2.00	5.217	6.26	56.6	125.2	301.3
139.00	Top - Section 3	1.00	1.36	8.247	9.07	0.00	1.200	1.732	2.00	5.138	6.17	55.9	123.4	296.4
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	1.00	2.539	3.05	27.7	61.2	125.4
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	12.401	14.88	136.2	294.4	606.6
149.00	Appurtenance(s)	1.00	1.38	8.369	9.21	0.00	1.200	1.744	4.00	9.564	11.48	105.7	227.9	467.4
Totals:									149.00			5,072.5		43,711.7

Discrete Appurtenance Forces

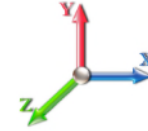
Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021	
Site Name: New London	Exposure: C		
Height: 149.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 22



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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

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	149.00	MX06FRO660-02	3	8.369	9.206	0.90	1.00	30.36	971.90	0.000	0.000	279.50	0.00	0.00
2	149.00	Antel BXA-80063/4CF	3	8.369	9.206	0.72	1.00	14.19	250.84	0.000	0.000	130.59	0.00	0.00
3	149.00	RFS DB-T1-6Z-8AB-OZ	1	8.369	9.206	0.67	1.00	3.80	166.29	0.000	0.000	34.99	0.00	0.00
4	149.00	RFS DB-T1-6Z-8AB-OZ	1	8.369	9.206	0.67	1.00	3.80	166.29	0.000	0.000	34.99	0.00	0.00
5	149.00	Low Profile	1	8.369	9.206	1.00	1.00	39.65	2808.04	0.000	0.000	365.01	0.00	0.00
6	149.00	MX06FRO660-02	3	8.369	9.206	0.90	1.00	30.36	971.90	0.000	0.000	279.50	0.00	0.00
7	149.00	PRK-1245 (kicker kit)	1	8.369	9.206	1.00	1.00	23.33	714.95	0.000	0.000	214.76	0.00	0.00
8	149.00	MT6407-77A	3	8.369	9.206	0.75	1.00	12.68	644.17	0.000	0.000	116.75	0.00	0.00
9	149.00	B2/B66A RRH-BR049	3	8.369	9.206	0.75	1.00	5.50	533.32	0.000	0.000	50.60	0.00	0.00
10	149.00	B5/B13 RRH-BR04C	3	8.369	9.206	0.75	1.00	5.50	460.98	0.000	0.000	50.60	0.00	0.00
11	149.00	RT4401-48A (RRH only)	3	8.369	9.206	0.75	1.00	3.18	131.39	0.000	0.000	29.23	0.00	0.00
12	149.00	HRK12 (Handrail Kit)	1	8.369	9.206	1.00	1.00	16.21	1706.52	0.000	0.000	149.21	0.00	0.00
13	137.00	RRUS 4415 B25	3	8.222	9.044	0.50	0.75	3.24	259.60	0.000	0.000	29.32	0.00	0.00
14	137.00	4449 B71 + B12	3	8.222	9.044	0.50	0.75	3.82	259.99	0.000	0.000	34.55	0.00	0.00
15	137.00	KRY 112 144/1	3	8.222	9.044	0.60	0.75	2.39	97.28	0.000	0.000	21.63	0.00	0.00
16	137.00	APXVAARR24_43-U-NA2	3	8.222	9.044	0.60	0.75	39.82	1701.86	0.000	0.000	360.15	0.00	0.00
17	137.00	KRD 9011461-B66A-B2A	3	8.222	9.044	0.65	0.75	14.92	1019.77	0.000	0.000	134.92	0.00	0.00
18	137.00	mount pipe	1	8.222	9.044	1.00	1.00	9.65	205.81	0.000	0.000	87.25	0.00	0.00
19	137.00	Handrail Kit	3	8.222	9.044	1.00	1.00	20.00	254.88	0.000	0.000	180.86	0.00	0.00
20	137.00	(3) T-Arm Kit	1	8.222	9.044	1.00	1.00	32.48	1038.02	0.000	0.000	293.77	0.00	0.00
21	137.00	Low Profile Platform	1	8.222	9.044	1.00	1.00	39.50	2797.10	0.000	0.000	357.28	0.00	0.00
22	137.00	AIR6449 B41	3	8.222	9.044	0.53	0.75	10.53	683.34	0.000	0.000	95.24	0.00	0.00
23	127.00	Ericsson RRUS-11 RRU	6	8.092	8.901	0.54	0.80	10.16	889.41	0.000	0.000	90.45	0.00	0.00
24	127.00	Ericsson RRUS 4415 B25	3	8.092	8.901	0.54	0.80	3.90	268.13	0.000	0.000	34.68	0.00	0.00
25	127.00	Ericsson RRUS 4478 B5	3	8.092	8.901	0.54	0.80	3.83	324.77	0.000	0.000	34.06	0.00	0.00
26	127.00	Ericsson RRUS 4478 B14	3	8.092	8.901	0.54	0.80	3.47	307.99	0.000	0.000	30.91	0.00	0.00
27	127.00	Cci HPA-65R-BUU-H8	12	8.092	8.901	0.63	0.80	110.48	4404.75	0.000	0.000	983.38	0.00	0.00
28	127.00	Cci HPA65R-BU8A	6	8.092	8.901	0.71	0.80	54.89	2122.72	0.000	0.000	488.62	0.00	0.00
29	127.00	Ericsson RRUS 32 RRU	3	8.092	8.901	0.54	0.80	3.57	419.49	0.000	0.000	31.76	0.00	0.00
30	127.00	Raycap DC6-48-60-18-8F	4	8.092	8.901	0.80	0.80	10.34	325.06	0.000	0.000	92.01	0.00	0.00
31	127.00	MTC3607 Platform + HR &	1	8.092	8.901	1.00	1.00	89.33	4775.24	0.000	0.000	795.11	0.00	0.00
32	127.00	Kaelus DBCT108F1V92-1	3	8.092	8.901	0.80	0.80	2.29	144.01	0.000	0.000	20.36	0.00	0.00
33	127.00	Ericsson RRUS 4426 B66	3	8.092	8.901	0.54	0.80	2.60	289.40	0.000	0.000	23.13	0.00	0.00
Totals:								32,115.18				5,955.17		

Total Applied Force Summary

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20

Wind Load Factor 1.00

Iterations 22



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		173.51	2235.86	0.00	0.00
10.00		170.61	2228.81	0.00	0.00
15.00		167.52	2207.24	0.00	0.00
20.00		174.38	2179.27	0.00	0.00
25.00		179.18	2147.59	0.00	0.00
30.00		182.43	2113.45	0.00	0.00
35.00		184.54	2077.55	0.00	0.00
40.00		185.76	2040.32	0.00	0.00
45.00		186.27	2002.02	0.00	0.00
47.25		83.30	888.89	0.00	0.00
50.00		103.39	1709.78	0.00	0.00
53.25		122.14	1993.79	0.00	0.00
55.00		65.45	614.89	0.00	0.00
60.00		187.48	1730.51	0.00	0.00
65.00		186.13	1694.33	0.00	0.00
70.00		184.45	1657.70	0.00	0.00
75.00		182.46	1620.65	0.00	0.00
80.00		180.21	1583.24	0.00	0.00
85.00		177.70	1545.51	0.00	0.00
90.00		174.98	1507.47	0.00	0.00
95.00		172.04	1469.16	0.00	0.00
96.00		33.88	290.00	0.00	0.00
100.00		136.44	1614.70	0.00	0.00
100.75		25.26	299.13	0.00	0.00
105.00		142.28	957.75	0.00	0.00
110.00		164.32	1098.78	0.00	0.00
115.00		160.70	1069.17	0.00	0.00
120.00		156.94	1039.37	0.00	0.00
125.00		153.05	1009.40	0.00	0.00
127.00	(47) attachments	2684.41	14667.60	0.00	0.00
130.00		88.77	571.66	0.00	0.00
135.00		144.86	926.30	0.00	0.00
137.00	(24) attachments	1651.59	8681.00	0.00	0.00
139.00		55.93	332.96	0.00	0.00
140.00		27.68	143.69	0.00	0.00
145.00		136.21	698.41	0.00	0.00
149.00	(26) attachments	1841.38	10067.60	0.00	0.00
Totals:		11,027.64	80,715.54	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13075-A-SBA **Code:** EIA/TIA-222-G 7/20/2021
Site Name: New London **Exposure:** C
Height: 149.00 (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



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

Iterations 22

Dead Load Factor 1.20

Wind Load Factor 1.00



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	0.017	0.000	5.168	0.00	12.93
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.30	0.00	0.017	0.000	5.168	0.00	9.42
10.00	Safety Cable	Yes	5.00	0.000	0.38	1.27	0.00	0.018	0.000	5.168	0.00	14.46
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.37	0.00	0.018	0.000	5.168	0.00	10.82
15.00	Safety Cable	Yes	5.00	0.000	0.38	1.31	0.00	0.018	0.000	5.168	0.00	15.46
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.42	0.00	0.018	0.000	5.168	0.00	11.74
20.00	Safety Cable	Yes	5.00	0.000	0.38	1.35	0.00	0.018	0.000	5.483	0.00	16.21
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.45	0.00	0.018	0.000	5.483	0.00	12.43
25.00	Safety Cable	Yes	5.00	0.000	0.38	1.37	0.00	0.019	0.000	5.747	0.00	16.83
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.48	0.00	0.019	0.000	5.747	0.00	13.00
30.00	Safety Cable	Yes	5.00	0.000	0.38	1.40	0.00	0.019	0.000	5.972	0.00	17.35
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.50	0.00	0.019	0.000	5.972	0.00	13.48
35.00	Safety Cable	Yes	5.00	0.000	0.38	1.42	0.00	0.020	0.000	6.169	0.00	17.80
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.52	0.00	0.020	0.000	6.169	0.00	13.91
40.00	Safety Cable	Yes	5.00	0.000	0.38	1.43	0.00	0.020	0.000	6.345	0.00	18.21
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.54	0.00	0.020	0.000	6.345	0.00	14.28
45.00	Safety Cable	Yes	5.00	0.000	0.38	1.45	0.00	0.021	0.000	6.504	0.00	18.58
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.55	0.00	0.021	0.000	6.504	0.00	14.62
47.25	Safety Cable	Yes	2.25	0.000	0.38	0.65	0.00	0.021	0.000	6.571	0.00	8.43
47.25	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.70	0.00	0.021	0.000	6.571	0.00	6.65
50.00	Safety Cable	Yes	2.75	0.000	0.38	0.80	0.00	0.021	0.000	6.650	0.00	10.40
50.00	Step bolts (ladder)	Yes	2.75	0.000	0.63	0.86	0.00	0.021	0.000	6.650	0.00	8.21
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.96	0.00	0.022	0.000	6.739	0.00	12.43
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	1.02	0.00	0.022	0.000	6.739	0.00	9.83
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.52	0.00	0.022	0.000	6.785	0.00	6.73
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.55	0.00	0.022	0.000	6.785	0.00	5.33
60.00	Safety Cable	Yes	5.00	0.000	0.38	1.49	0.00	0.022	0.000	6.910	0.00	19.51
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.59	0.00	0.022	0.000	6.910	0.00	15.49
65.00	Safety Cable	Yes	5.00	0.000	0.38	1.50	0.00	0.022	0.000	7.028	0.00	19.78
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.60	0.00	0.022	0.000	7.028	0.00	15.74
70.00	Safety Cable	Yes	5.00	0.000	0.38	1.51	0.00	0.023	0.000	7.138	0.00	20.03
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.61	0.00	0.023	0.000	7.138	0.00	15.98
75.00	Safety Cable	Yes	5.00	0.000	0.38	1.52	0.00	0.024	0.000	7.243	0.00	20.27
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.62	0.00	0.024	0.000	7.243	0.00	16.20
80.00	Safety Cable	Yes	5.00	0.000	0.38	1.52	0.00	0.024	0.000	7.342	0.00	20.49
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.63	0.00	0.024	0.000	7.342	0.00	16.41
85.00	Safety Cable	Yes	5.00	0.000	0.38	1.53	0.00	0.025	0.000	7.436	0.00	20.71
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.64	0.00	0.025	0.000	7.436	0.00	16.61
90.00	Safety Cable	Yes	5.00	0.000	0.38	1.54	0.00	0.026	0.000	7.526	0.00	20.91
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.64	0.00	0.026	0.000	7.526	0.00	16.80
95.00	Safety Cable	Yes	5.00	0.000	0.38	1.55	0.00	0.027	0.000	7.612	0.00	21.11
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.65	0.00	0.027	0.000	7.612	0.00	16.98
96.00	Safety Cable	Yes	1.00	0.000	0.38	0.31	0.00	0.027	0.000	7.629	0.00	4.23
96.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.33	0.00	0.027	0.000	7.629	0.00	3.40
100.00	Safety Cable	Yes	4.00	0.000	0.38	1.24	0.00	0.028	0.000	7.695	0.00	17.04
100.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	1.33	0.00	0.028	0.000	7.695	0.00	13.73
100.75	Safety Cable	Yes	0.75	0.000	0.38	0.23	0.00	0.028	0.000	7.707	0.00	3.20

Linear Appurtenance Segment Forces (Factored)

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

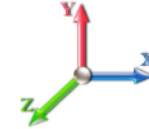


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 22

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)
100.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.25	0.00	0.028	0.000	7.707	0.00	2.58
105.00	Safety Cable	Yes	4.25	0.000	0.38	1.33	0.00	0.028	0.000	7.774	0.00	18.26
105.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	1.42	0.00	0.028	0.000	7.774	0.00	14.73
110.00	Safety Cable	Yes	5.00	0.000	0.38	1.57	0.00	0.029	0.000	7.851	0.00	21.65
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.67	0.00	0.029	0.000	7.851	0.00	17.49
115.00	Safety Cable	Yes	5.00	0.000	0.38	1.57	0.00	0.030	0.000	7.925	0.00	21.82
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.68	0.00	0.030	0.000	7.925	0.00	17.64
120.00	Safety Cable	Yes	5.00	0.000	0.38	1.58	0.00	0.031	0.000	7.996	0.00	21.98
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.68	0.00	0.031	0.000	7.996	0.00	17.79
125.00	Safety Cable	Yes	5.00	0.000	0.38	1.59	0.00	0.033	0.000	8.065	0.00	22.14
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.69	0.00	0.033	0.000	8.065	0.00	17.94
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.033	0.000	8.092	0.00	8.88
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.033	0.000	8.092	0.00	7.20
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.96	0.00	0.034	0.000	8.132	0.00	13.37
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	1.02	0.00	0.034	0.000	8.132	0.00	10.85
135.00	Safety Cable	Yes	5.00	0.000	0.38	1.60	0.00	0.035	0.000	8.197	0.00	22.43
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.70	0.00	0.035	0.000	8.197	0.00	18.22
137.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.036	0.000	8.222	0.00	9.00
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.036	0.000	8.222	0.00	7.31
139.00	Safety Cable	Yes	2.00	0.000	0.38	0.64	0.00	0.037	0.000	8.247	0.00	9.02
139.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.68	0.00	0.037	0.000	8.247	0.00	7.33
140.00	Safety Cable	Yes	1.00	0.000	0.38	0.32	0.00	0.037	0.000	8.260	0.00	4.51
140.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.34	0.00	0.037	0.000	8.260	0.00	3.67
145.00	Safety Cable	Yes	5.00	0.000	0.38	1.61	0.00	0.038	0.000	8.321	0.00	22.71
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.71	0.00	0.038	0.000	8.321	0.00	18.48
149.00	Safety Cable	Yes	4.00	0.000	0.38	1.29	0.00	0.040	0.000	8.369	0.00	18.26
149.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	1.37	0.00	0.040	0.000	8.369	0.00	14.86
Totals:											0.0	1,054.3

Calculated Forces

Structure: CT13075-A-SBA

Code: EIA/TIA-222-G

7/20/2021

Site Name: New London

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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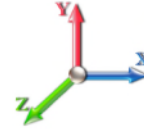


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 22

Dead Load Factor 1.20

Wind Load 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	-80.71	-11.07	0.00	-1273.8	0.00	1273.82	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.211
5.00	-78.46	-10.96	0.00	-1218.5	0.00	1218.50	5379.95	2689.97	12523.2	6270.95	0.03	-0.052	0.000	0.209
10.00	-76.23	-10.86	0.00	-1163.6	0.00	1163.69	5306.65	2653.32	12093.3	6055.68	0.11	-0.105	0.000	0.207
15.00	-74.01	-10.76	0.00	-1109.3	0.00	1109.39	5231.70	2615.85	11666.9	5842.16	0.25	-0.159	0.000	0.204
20.00	-71.82	-10.65	0.00	-1055.6	0.00	1055.60	5155.10	2577.55	11244.2	5630.50	0.45	-0.214	0.000	0.201
25.00	-69.66	-10.53	0.00	-1002.3	0.00	1002.37	5076.86	2538.43	10825.5	5420.83	0.70	-0.270	0.000	0.199
30.00	-67.54	-10.40	0.00	-949.75	0.00	949.75	4996.96	2498.48	10411.0	5213.26	1.02	-0.327	0.000	0.196
35.00	-65.45	-10.27	0.00	-897.75	0.00	897.75	4915.42	2457.71	10001.0	5007.93	1.39	-0.384	0.000	0.193
40.00	-63.40	-10.13	0.00	-846.41	0.00	846.41	4832.22	2416.11	9595.63	4804.95	1.82	-0.442	0.000	0.189
45.00	-61.40	-9.98	0.00	-795.75	0.00	795.75	4747.38	2373.69	9195.21	4604.44	2.32	-0.501	0.000	0.186
47.25	-60.50	-9.92	0.00	-773.31	0.00	773.31	4708.66	2354.33	9016.69	4515.05	2.56	-0.528	0.000	0.184
50.00	-58.79	-9.83	0.00	-746.04	0.00	746.04	4660.89	2330.44	8799.96	4406.52	2.87	-0.561	0.000	0.182
53.25	-56.79	-9.72	0.00	-714.08	0.00	714.08	3818.32	1909.16	7226.08	3618.41	3.27	-0.601	0.000	0.212
55.00	-56.17	-9.69	0.00	-697.07	0.00	697.07	3795.26	1897.63	7117.54	3564.06	3.49	-0.622	0.000	0.210
60.00	-54.43	-9.55	0.00	-648.60	0.00	648.60	3728.27	1864.14	6809.75	3409.94	4.18	-0.689	0.000	0.205
65.00	-52.73	-9.40	0.00	-600.86	0.00	600.86	3659.63	1829.82	6505.57	3257.62	4.94	-0.756	0.000	0.199
70.00	-51.06	-9.26	0.00	-553.84	0.00	553.84	3589.34	1794.67	6205.25	3107.24	5.77	-0.824	0.000	0.192
75.00	-49.43	-9.11	0.00	-507.56	0.00	507.56	3517.40	1758.70	5909.03	2958.91	6.67	-0.891	0.000	0.186
80.00	-47.84	-8.96	0.00	-462.02	0.00	462.02	3443.81	1721.91	5617.15	2812.75	7.64	-0.958	0.000	0.178
85.00	-46.29	-8.81	0.00	-417.23	0.00	417.23	3368.58	1684.29	5329.85	2668.89	8.67	-1.024	0.000	0.170
90.00	-44.78	-8.65	0.00	-373.20	0.00	373.20	3291.69	1645.84	5047.37	2527.44	9.78	-1.089	0.000	0.161
95.00	-43.30	-8.48	0.00	-329.93	0.00	329.93	3202.59	1601.29	4754.28	2380.67	10.96	-1.153	0.000	0.152
96.00	-43.01	-8.47	0.00	-321.45	0.00	321.45	3181.72	1590.86	4692.22	2349.60	11.20	-1.166	0.000	0.150
100.00	-41.40	-8.32	0.00	-287.59	0.00	287.59	3098.26	1549.13	4448.03	2227.32	12.20	-1.215	0.000	0.143
100.75	-41.09	-8.31	0.00	-281.35	0.00	281.35	1860.42	930.21	2714.89	1359.46	12.39	-1.224	0.000	0.229
105.00	-40.13	-8.19	0.00	-246.05	0.00	246.05	1828.32	914.16	2592.13	1297.99	13.50	-1.274	0.000	0.212
110.00	-39.02	-8.05	0.00	-205.10	0.00	205.10	1789.04	894.52	2449.03	1226.33	14.88	-1.353	0.000	0.189
115.00	-37.95	-7.91	0.00	-164.85	0.00	164.85	1748.11	874.06	2307.59	1155.51	16.34	-1.424	0.000	0.164
120.00	-36.91	-7.76	0.00	-125.31	0.00	125.31	1705.53	852.77	2168.05	1085.64	17.86	-1.486	0.000	0.137
125.00	-35.90	-7.60	0.00	-86.51	0.00	86.51	1661.30	830.65	2030.66	1016.84	19.45	-1.536	0.000	0.107
127.00	-21.31	-4.53	0.00	-71.30	0.00	71.30	1643.15	821.58	1976.36	989.65	20.10	-1.553	0.000	0.085
130.00	-20.73	-4.44	0.00	-57.71	0.00	57.71	1615.43	807.71	1895.65	949.24	21.08	-1.575	0.000	0.074
135.00	-19.81	-4.27	0.00	-35.54	0.00	35.54	1567.90	783.95	1763.28	882.95	22.75	-1.604	0.000	0.053
137.00	-11.18	-2.38	0.00	-27.00	0.00	27.00	1548.43	774.21	1711.12	856.83	23.42	-1.612	0.000	0.039
139.00	-10.85	-2.31	0.00	-22.24	0.00	22.24	1528.69	764.34	1659.43	830.95	24.10	-1.619	0.000	0.034
139.00	-10.85	-2.31	0.00	-22.24	0.00	22.24	1044.31	522.16	1138.99	570.34	24.10	-1.619	0.000	0.049
140.00	-10.71	-2.28	0.00	-19.93	0.00	19.93	1038.69	519.35	1122.71	562.19	24.44	-1.623	0.000	0.046
145.00	-10.01	-2.13	0.00	-8.52	0.00	8.52	1009.62	504.81	1041.96	521.75	26.14	-1.637	0.000	0.026
149.00	0.00	-1.84	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	27.52	-1.642	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E

Iterations 20

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 1.20 **Seismic Load Factor** 1.00

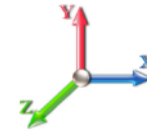
Sd1 0.09

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.38

SA 0.03

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1352.1	0.00	0.03	0.02	20.42	
10.00		1324.2	0.01	0.05	0.03	29.36	
15.00		1296.3	0.02	0.06	0.04	33.34	
20.00		1268.5	0.03	0.07	0.04	34.96	
25.00		1240.6	0.05	0.07	0.04	35.53	
30.00		1212.7	0.08	0.07	0.04	35.71	
35.00		1184.8	0.10	0.07	0.04	35.77	
40.00		1157.0	0.14	0.07	0.03	35.73	
45.00		1129.1	0.17	0.07	0.03	35.41	
47.25	Bot - Section 2	499.01	0.19	0.06	0.02	15.68	
50.00		1127.4	0.21	0.06	0.02	35.28	
53.25	Top - Section 1	1312.3	0.24	0.06	0.02	40.33	
55.00		325.05	0.26	0.05	0.02	9.82	
60.00		912.60	0.31	0.04	0.01	25.12	
65.00		888.71	0.36	0.03	0.01	20.18	
70.00		864.82	0.42	0.01	0.01	13.33	
75.00		840.92	0.48	-0.01	0.01	4.91	
80.00		817.03	0.54	-0.03	0.01	-4.06	
85.00		793.14	0.62	-0.06	0.02	-12.16	
90.00		769.25	0.69	-0.08	0.03	-18.04	
95.00		745.35	0.77	-0.11	0.05	-20.87	
96.00	Bot - Section 3	146.20	0.78	-0.11	0.05	-4.15	
100.00		965.51	0.85	-0.12	0.07	-27.28	
100.75	Top - Section 2	178.20	0.86	-0.12	0.07	-4.97	
105.00		401.45	0.94	-0.12	0.10	-9.62	
110.00		457.56	1.03	-0.10	0.15	-6.91	
115.00		441.63	1.13	-0.05	0.20	-0.74	
120.00		425.70	1.23	0.03	0.27	6.93	
125.00		409.77	1.33	0.16	0.36	15.90	
127.00	Appurtenance(s)	4992.9	1.37	0.23	0.40	245.16	
130.00		234.39	1.44	0.36	0.47	15.46	
135.00		377.91	1.55	0.64	0.61	36.96	
137.00	Appurtenance(s)	3864.3	1.60	0.77	0.67	432.30	
139.00	Top - Section 3	144.16	1.64	0.92	0.73	18.27	
140.00		53.47	1.67	1.01	0.77	7.19	
145.00		260.18	1.79	1.49	0.96	45.78	
149.00	Appurtenance(s)	3745.1	1.89	1.98	1.14	796.88	
Totals:		38,159.9				1,972.9	
						Total Wind:	48,127.5

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT13075-A-SBA **Code:** EIA/TIA-222-G 7/20/2021
Site Name: New London **Exposure:** C
Height: 149.00 (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



Load Case: 1.2D + 1.0E

Iterations 20

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 1.20

Seismic Load Factor 1.00

Sd1 0.09

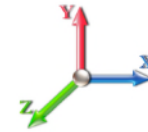
S1 0.06

Wind Load Factor 0.00

Structure Frequency (f1) 0.38

SA 0.03

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	-49.67	-2.09	0.00	-256.04	0.00	256.04	5451.60	2725.80	12956.4	6487.84		0.00	0.00	0.049
5.00	-47.91	-2.07	0.00	-245.61	0.00	245.61	5379.95	2689.97	12523.2	6270.95		0.01	-0.01	0.048
10.00	-46.18	-2.05	0.00	-235.25	0.00	235.25	5306.65	2653.32	12093.3	6055.68		0.02	-0.02	0.048
15.00	-44.49	-2.03	0.00	-224.98	0.00	224.98	5231.70	2615.85	11666.9	5842.16		0.05	-0.03	0.047
20.00	-42.83	-2.00	0.00	-214.85	0.00	214.85	5155.10	2577.55	11244.2	5630.50		0.09	-0.04	0.046
25.00	-41.20	-1.97	0.00	-204.85	0.00	204.85	5076.86	2538.43	10825.5	5420.83		0.14	-0.05	0.046
30.00	-39.61	-1.94	0.00	-195.00	0.00	195.00	4996.96	2498.48	10411.0	5213.26		0.21	-0.07	0.045
35.00	-38.05	-1.91	0.00	-185.29	0.00	185.29	4915.42	2457.71	10001.0	5007.93		0.28	-0.08	0.045
40.00	-36.52	-1.88	0.00	-175.73	0.00	175.73	4832.22	2416.11	9595.63	4804.95		0.37	-0.09	0.044
45.00	-35.02	-1.85	0.00	-166.33	0.00	166.33	4747.38	2373.69	9195.21	4604.44		0.47	-0.10	0.044
47.25	-34.36	-1.84	0.00	-162.17	0.00	162.17	4708.66	2354.33	9016.69	4515.05		0.52	-0.11	0.043
50.00	-32.93	-1.80	0.00	-157.12	0.00	157.12	4660.89	2330.44	8799.96	4406.52		0.58	-0.12	0.043
53.25	-31.27	-1.76	0.00	-151.26	0.00	151.26	3818.32	1909.16	7226.08	3618.41		0.67	-0.12	0.050
55.00	-30.83	-1.76	0.00	-148.18	0.00	148.18	3795.26	1897.63	7117.54	3564.06		0.71	-0.13	0.050
60.00	-29.59	-1.74	0.00	-139.40	0.00	139.40	3728.27	1864.14	6809.75	3409.94		0.85	-0.14	0.049
65.00	-28.39	-1.72	0.00	-130.72	0.00	130.72	3659.63	1829.82	6505.57	3257.62		1.01	-0.16	0.048
70.00	-27.21	-1.71	0.00	-122.12	0.00	122.12	3589.34	1794.67	6205.25	3107.24		1.18	-0.17	0.047
75.00	-26.06	-1.71	0.00	-113.57	0.00	113.57	3517.40	1758.70	5909.03	2958.91		1.37	-0.19	0.046
80.00	-24.94	-1.71	0.00	-105.03	0.00	105.03	3443.81	1721.91	5617.15	2812.75		1.57	-0.20	0.045
85.00	-23.85	-1.71	0.00	-96.47	0.00	96.47	3368.58	1684.29	5329.85	2668.89		1.79	-0.22	0.043
90.00	-22.79	-1.72	0.00	-87.91	0.00	87.91	3291.69	1645.84	5047.37	2527.44		2.03	-0.23	0.042
95.00	-21.76	-1.71	0.00	-79.33	0.00	79.33	3202.59	1601.29	4754.28	2380.67		2.28	-0.25	0.040
96.00	-21.55	-1.72	0.00	-77.61	0.00	77.61	3181.72	1590.86	4692.22	2349.60		2.33	-0.25	0.040
100.00	-20.28	-1.71	0.00	-70.75	0.00	70.75	3098.26	1549.13	4448.03	2227.32		2.55	-0.26	0.038
100.75	-20.05	-1.72	0.00	-69.46	0.00	69.46	1860.42	930.21	2714.89	1359.46		2.59	-0.26	0.062
105.00	-19.45	-1.72	0.00	-62.17	0.00	62.17	1828.32	914.16	2592.13	1297.99		2.83	-0.28	0.059
110.00	-18.76	-1.72	0.00	-53.59	0.00	53.59	1789.04	894.52	2449.03	1226.33		3.13	-0.30	0.054
115.00	-18.09	-1.72	0.00	-44.98	0.00	44.98	1748.11	874.06	2307.59	1155.51		3.45	-0.32	0.049
120.00	-17.44	-1.72	0.00	-36.37	0.00	36.37	1705.53	852.77	2168.05	1085.64		3.79	-0.33	0.044
125.00	-16.81	-1.70	0.00	-27.78	0.00	27.78	1661.30	830.65	2030.66	1016.84		4.15	-0.35	0.037
127.00	-10.76	-1.42	0.00	-24.38	0.00	24.38	1643.15	821.58	1976.36	989.65		4.30	-0.35	0.031
130.00	-10.41	-1.40	0.00	-20.12	0.00	20.12	1615.43	807.71	1895.65	949.24		4.52	-0.36	0.028
135.00	-9.84	-1.36	0.00	-13.10	0.00	13.10	1567.90	783.95	1763.28	882.95		4.91	-0.37	0.021
137.00	-5.16	-0.90	0.00	-10.37	0.00	10.37	1548.43	774.21	1711.12	856.83		5.06	-0.38	0.015
139.00	-4.97	-0.88	0.00	-8.57	0.00	8.57	1528.69	764.34	1659.43	830.95		5.22	-0.38	0.014
139.00	-4.97	-0.88	0.00	-8.57	0.00	8.57	1044.31	522.16	1138.99	570.34		5.22	-0.38	0.020
140.00	-4.89	-0.88	0.00	-7.69	0.00	7.69	1038.69	519.35	1122.71	562.19		5.30	-0.38	0.018
145.00	-4.53	-0.83	0.00	-3.31	0.00	3.31	1009.62	504.81	1041.96	521.75		5.70	-0.38	0.011
149.00	0.00	-0.80	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84		6.02	-0.39	0.000

Seismic Segment Forces (Factored)

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021	
Site Name: New London	Exposure: C		
Height: 149.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 29



Load Case: 0.9D + 1.0E

Iterations 20

Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 0.90 **Seismic Load Factor** 1.00

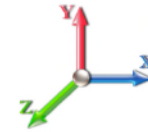
Sd1 0.09

S1 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.38

SA 0.03

Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1352.1	0.00	0.03	0.02	20.42	
10.00		1324.2	0.01	0.05	0.03	29.36	
15.00		1296.3	0.02	0.06	0.04	33.34	
20.00		1268.5	0.03	0.07	0.04	34.96	
25.00		1240.6	0.05	0.07	0.04	35.53	
30.00		1212.7	0.08	0.07	0.04	35.71	
35.00		1184.8	0.10	0.07	0.04	35.77	
40.00		1157.0	0.14	0.07	0.03	35.73	
45.00		1129.1	0.17	0.07	0.03	35.41	
47.25	Bot - Section 2	499.01	0.19	0.06	0.02	15.68	
50.00		1127.4	0.21	0.06	0.02	35.28	
53.25	Top - Section 1	1312.3	0.24	0.06	0.02	40.33	
55.00		325.05	0.26	0.05	0.02	9.82	
60.00		912.60	0.31	0.04	0.01	25.12	
65.00		888.71	0.36	0.03	0.01	20.18	
70.00		864.82	0.42	0.01	0.01	13.33	
75.00		840.92	0.48	-0.01	0.01	4.91	
80.00		817.03	0.54	-0.03	0.01	-4.06	
85.00		793.14	0.62	-0.06	0.02	-12.16	
90.00		769.25	0.69	-0.08	0.03	-18.04	
95.00		745.35	0.77	-0.11	0.05	-20.87	
96.00	Bot - Section 3	146.20	0.78	-0.11	0.05	-4.15	
100.00		965.51	0.85	-0.12	0.07	-27.28	
100.75	Top - Section 2	178.20	0.86	-0.12	0.07	-4.97	
105.00		401.45	0.94	-0.12	0.10	-9.62	
110.00		457.56	1.03	-0.10	0.15	-6.91	
115.00		441.63	1.13	-0.05	0.20	-0.74	
120.00		425.70	1.23	0.03	0.27	6.93	
125.00		409.77	1.33	0.16	0.36	15.90	
127.00	Appurtenance(s)	4992.9	1.37	0.23	0.40	245.16	
130.00		234.39	1.44	0.36	0.47	15.46	
135.00		377.91	1.55	0.64	0.61	36.96	
137.00	Appurtenance(s)	3864.3	1.60	0.77	0.67	432.30	
139.00	Top - Section 3	144.16	1.64	0.92	0.73	18.27	
140.00		53.47	1.67	1.01	0.77	7.19	
145.00		260.18	1.79	1.49	0.96	45.78	
149.00	Appurtenance(s)	3745.1	1.89	1.98	1.14	796.88	
Totals:		38,159.9				1,972.9	
						Total Wind:	48,127.5

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT13075-A-SBA **Code:** EIA/TIA-222-G 7/20/2021
Site Name: New London **Exposure:** C
Height: 149.00 (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



Load Case: 0.9D + 1.0E

Iterations 20

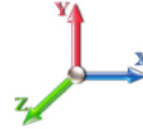
Gust Response Factor 1.10

Sds 0.17

Ss 0.16

Dead Load Factor 0.90 **Seismic Load Factor** 1.00 **Sd1** 0.09 **S1** 0.06

Wind Load Factor 0.00 **Structure Frequency (f1)** 0.38 **SA** 0.03 **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	-37.26	-2.08	0.00	-253.48	0.00	253.48	5451.60	2725.80	12956.4	6487.84		0.00	0.00	0.046
5.00	-35.93	-2.07	0.00	-243.06	0.00	243.06	5379.95	2689.97	12523.2	6270.95		0.01	-0.01	0.045
10.00	-34.64	-2.05	0.00	-232.70	0.00	232.70	5306.65	2653.32	12093.3	6055.68		0.02	-0.02	0.045
15.00	-33.37	-2.02	0.00	-222.47	0.00	222.47	5231.70	2615.85	11666.9	5842.16		0.05	-0.03	0.044
20.00	-32.12	-1.99	0.00	-212.37	0.00	212.37	5155.10	2577.55	11244.2	5630.50		0.09	-0.04	0.044
25.00	-30.90	-1.96	0.00	-202.42	0.00	202.42	5076.86	2538.43	10825.5	5420.83		0.14	-0.05	0.043
30.00	-29.70	-1.93	0.00	-192.62	0.00	192.62	4996.96	2498.48	10411.0	5213.26		0.20	-0.07	0.043
35.00	-28.53	-1.90	0.00	-182.98	0.00	182.98	4915.42	2457.71	10001.0	5007.93		0.28	-0.08	0.042
40.00	-27.39	-1.87	0.00	-173.50	0.00	173.50	4832.22	2416.11	9595.63	4804.95		0.37	-0.09	0.042
45.00	-26.27	-1.83	0.00	-164.17	0.00	164.17	4747.38	2373.69	9195.21	4604.44		0.46	-0.10	0.041
47.25	-25.77	-1.82	0.00	-160.05	0.00	160.05	4708.66	2354.33	9016.69	4515.05		0.51	-0.11	0.041
50.00	-24.70	-1.78	0.00	-155.04	0.00	155.04	4660.89	2330.44	8799.96	4406.52		0.58	-0.11	0.040
53.25	-23.45	-1.74	0.00	-149.24	0.00	149.24	3818.32	1909.16	7226.08	3618.41		0.66	-0.12	0.047
55.00	-23.12	-1.74	0.00	-146.19	0.00	146.19	3795.26	1897.63	7117.54	3564.06		0.70	-0.13	0.047
60.00	-22.19	-1.72	0.00	-137.51	0.00	137.51	3728.27	1864.14	6809.75	3409.94		0.84	-0.14	0.046
65.00	-21.29	-1.70	0.00	-128.93	0.00	128.93	3659.63	1829.82	6505.57	3257.62		1.00	-0.15	0.045
70.00	-20.41	-1.69	0.00	-120.43	0.00	120.43	3589.34	1794.67	6205.25	3107.24		1.17	-0.17	0.044
75.00	-19.55	-1.69	0.00	-111.99	0.00	111.99	3517.40	1758.70	5909.03	2958.91		1.35	-0.18	0.043
80.00	-18.71	-1.69	0.00	-103.57	0.00	103.57	3443.81	1721.91	5617.15	2812.75		1.55	-0.20	0.042
85.00	-17.89	-1.69	0.00	-95.13	0.00	95.13	3368.58	1684.29	5329.85	2668.89		1.77	-0.21	0.041
90.00	-17.09	-1.69	0.00	-86.68	0.00	86.68	3291.69	1645.84	5047.37	2527.44		2.00	-0.23	0.039
95.00	-16.32	-1.69	0.00	-78.23	0.00	78.23	3202.59	1601.29	4754.28	2380.67		2.25	-0.24	0.038
96.00	-16.16	-1.69	0.00	-76.54	0.00	76.54	3181.72	1590.86	4692.22	2349.60		2.30	-0.25	0.038
100.00	-15.21	-1.69	0.00	-69.77	0.00	69.77	3098.26	1549.13	4448.03	2227.32		2.51	-0.26	0.036
100.75	-15.03	-1.69	0.00	-68.51	0.00	68.51	1860.42	930.21	2714.89	1359.46		2.55	-0.26	0.058
105.00	-14.58	-1.69	0.00	-61.32	0.00	61.32	1828.32	914.16	2592.13	1297.99		2.79	-0.27	0.055
110.00	-14.07	-1.69	0.00	-52.86	0.00	52.86	1789.04	894.52	2449.03	1226.33		3.09	-0.29	0.051
115.00	-13.57	-1.70	0.00	-44.39	0.00	44.39	1748.11	874.06	2307.59	1155.51		3.41	-0.31	0.046
120.00	-13.08	-1.69	0.00	-35.91	0.00	35.91	1705.53	852.77	2168.05	1085.64		3.74	-0.33	0.041
125.00	-12.61	-1.67	0.00	-27.45	0.00	27.45	1661.30	830.65	2030.66	1016.84		4.10	-0.34	0.035
127.00	-8.07	-1.40	0.00	-24.11	0.00	24.11	1643.15	821.58	1976.36	989.65		4.24	-0.35	0.029
130.00	-7.81	-1.39	0.00	-19.90	0.00	19.90	1615.43	807.71	1895.65	949.24		4.46	-0.36	0.026
135.00	-7.38	-1.35	0.00	-12.97	0.00	12.97	1567.90	783.95	1763.28	882.95		4.84	-0.37	0.019
137.00	-3.87	-0.89	0.00	-10.27	0.00	10.27	1548.43	774.21	1711.12	856.83		5.00	-0.37	0.014
139.00	-3.73	-0.87	0.00	-8.49	0.00	8.49	1528.69	764.34	1659.43	830.95		5.15	-0.37	0.013
139.00	-3.73	-0.87	0.00	-8.49	0.00	8.49	1044.31	522.16	1138.99	570.34		5.15	-0.37	0.018
140.00	-3.67	-0.87	0.00	-7.61	0.00	7.61	1038.69	519.35	1122.71	562.19		5.23	-0.37	0.017
145.00	-3.40	-0.82	0.00	-3.28	0.00	3.28	1009.62	504.81	1041.96	521.75		5.63	-0.38	0.010
149.00	0.00	-0.80	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84		5.95	-0.38	0.000

Wind Loading - Shaft

Structure: CT13075-A-SBA

Code: EIA/TIA-222-G

7/20/2021

Site Name: New London

Exposure: C

Height: 149.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

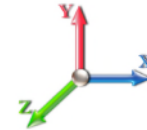
Page: 31



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 21

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	7.442	8.19	272.71	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	267.19	0.650	0.000	5.00	24.400	15.86	129.8	0.0	1352.1
10.00		1.00	0.85	7.442	8.19	261.66	0.650	0.000	5.00	23.901	15.54	127.2	0.0	1324.2
15.00		1.00	0.85	7.442	8.19	256.14	0.650	0.000	5.00	23.401	15.21	124.5	0.0	1296.4
20.00		1.00	0.90	7.896	8.69	258.15	0.650	0.000	5.00	22.902	14.89	129.3	0.0	1268.5
25.00		1.00	0.95	8.276	9.10	258.46	0.650	0.000	5.00	22.403	14.56	132.6	0.0	1240.6
30.00		1.00	0.98	8.600	9.46	257.54	0.650	0.000	5.00	21.904	14.24	134.7	0.0	1212.8
35.00		1.00	1.01	8.883	9.77	255.71	0.650	0.000	5.00	21.405	13.91	136.0	0.0	1184.9
40.00		1.00	1.04	9.137	10.05	253.21	0.650	0.000	5.00	20.906	13.59	136.6	0.0	1157.0
45.00		1.00	1.07	9.366	10.30	250.18	0.650	0.000	5.00	20.406	13.26	136.7	0.0	1129.1
47.25	Bot - Section 2	1.00	1.08	9.463	10.41	248.66	0.650	0.000	2.25	9.020	5.86	61.0	0.0	499.0
50.00		1.00	1.09	9.576	10.53	246.70	0.650	0.000	2.75	11.062	7.19	75.7	0.0	1127.5
53.25	Top - Section 1	1.00	1.11	9.704	10.67	244.24	0.650	0.000	3.25	12.878	8.37	89.4	0.0	1312.3
55.00		1.00	1.12	9.770	10.75	246.88	0.650	0.000	1.75	6.847	4.45	47.8	0.0	325.1
60.00		1.00	1.14	9.951	10.95	242.77	0.650	0.000	5.00	19.226	12.50	136.8	0.0	912.6
65.00		1.00	1.16	10.120	11.13	238.38	0.650	0.000	5.00	18.727	12.17	135.5	0.0	888.7
70.00		1.00	1.17	10.279	11.31	233.76	0.650	0.000	5.00	18.228	11.85	134.0	0.0	864.8
75.00		1.00	1.19	10.430	11.47	228.93	0.650	0.000	5.00	17.728	11.52	132.2	0.0	840.9
80.00		1.00	1.21	10.572	11.63	223.90	0.650	0.000	5.00	17.229	11.20	130.2	0.0	817.0
85.00		1.00	1.22	10.708	11.78	218.71	0.650	0.000	5.00	16.730	10.87	128.1	0.0	793.1
90.00		1.00	1.24	10.838	11.92	213.37	0.650	0.000	5.00	16.231	10.55	125.8	0.0	769.2
95.00		1.00	1.25	10.962	12.06	207.88	0.650	0.000	5.00	15.732	10.23	123.3	0.0	745.4
96.00	Bot - Section 3	1.00	1.25	10.986	12.08	206.77	0.650	0.000	1.00	3.086	2.01	24.2	0.0	146.2
100.00		1.00	1.27	11.081	12.19	202.27	0.650	0.000	4.00	12.315	8.00	97.6	0.0	965.5
100.75	Top - Section 2	1.00	1.27	11.098	12.21	201.42	0.650	0.000	0.75	2.274	1.48	18.0	0.0	178.2
105.00		1.00	1.28	11.195	12.31	199.41	0.650	0.000	4.25	12.671	8.24	101.4	0.0	401.4
110.00		1.00	1.29	11.305	12.44	193.58	0.650	0.000	5.00	14.446	9.39	116.8	0.0	457.6
115.00		1.00	1.30	11.412	12.55	187.65	0.650	0.000	5.00	13.946	9.07	113.8	0.0	441.6
120.00		1.00	1.32	11.514	12.67	181.62	0.650	0.000	5.00	13.447	8.74	110.7	0.0	425.7
125.00		1.00	1.33	11.614	12.78	175.50	0.650	0.000	5.00	12.948	8.42	107.5	0.0	409.8
127.00	Appurtenance(s)	1.00	1.33	11.653	12.82	173.03	0.650	0.000	2.00	5.039	3.28	42.0	0.0	159.4
130.00		1.00	1.34	11.710	12.88	169.30	0.650	0.000	3.00	7.409	4.82	62.0	0.0	234.4
135.00		1.00	1.35	11.803	12.98	163.02	0.650	0.000	5.00	11.950	7.77	100.8	0.0	377.9
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	160.49	0.650	0.000	2.00	4.640	3.02	39.3	0.0	146.7
139.00	Top - Section 3	1.00	1.36	11.876	13.06	157.94	0.650	0.000	2.00	4.560	2.96	38.7	0.0	144.2
140.00		1.00	1.36	11.894	13.08	156.66	0.650	0.000	1.00	2.250	1.46	19.1	0.0	53.5
145.00		1.00	1.37	11.982	13.18	150.24	0.650	0.000	5.00	10.951	7.12	93.8	0.0	260.2
149.00	Appurtenance(s)	1.00	1.38	12.051	13.26	145.04	0.650	0.000	4.00	8.402	5.46	72.4	0.0	199.5
Totals:									149.00			3,665.4		26,063.1

Discrete Appurtenance Forces

Structure: CT13075-A-SBA

Code: EIA/TIA-222-G

7/20/2021

Site Name: New London

Exposure: C

Height: 149.00 (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



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 21

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	149.00	MX06FRO660-02	3	12.051	13.256	0.87	1.00	25.76	138.00	0.000	0.000	341.49	0.00	0.00
2	149.00	Antel BXA-80063/4CF	3	12.051	13.256	0.72	1.00	10.20	29.70	0.000	0.000	135.15	0.00	0.00
3	149.00	RFS DB-T1-6Z-8AB-OZ	1	12.051	13.256	0.67	1.00	3.22	18.90	0.000	0.000	42.63	0.00	0.00
4	149.00	RFS DB-T1-6Z-8AB-OZ	1	12.051	13.256	0.67	1.00	3.22	18.90	0.000	0.000	42.63	0.00	0.00
5	149.00	Low Profile	1	12.051	13.256	1.00	1.00	22.00	1500.00	0.000	0.000	291.64	0.00	0.00
6	149.00	MX06FRO660-02	3	12.051	13.256	0.87	1.00	25.76	138.00	0.000	0.000	341.49	0.00	0.00
7	149.00	PRK-1245 (kicker kit)	1	12.051	13.256	1.00	1.00	11.40	440.00	0.000	0.000	151.12	0.00	0.00
8	149.00	MT6407-77A	3	12.051	13.256	0.70	1.00	9.85	238.20	0.000	0.000	130.56	0.00	0.00
9	149.00	B2/B66A RRH-BR049	3	12.051	13.256	0.67	1.00	3.76	253.20	0.000	0.000	49.83	0.00	0.00
10	149.00	B5/B13 RRH-BR04C	3	12.051	13.256	0.67	1.00	3.76	210.90	0.000	0.000	49.83	0.00	0.00
11	149.00	RT4401-48A (RRH only)	3	12.051	13.256	0.67	1.00	1.99	55.80	0.000	0.000	26.38	0.00	0.00
12	149.00	HRK12 (Handrail Kit)	1	12.051	13.256	1.00	1.00	8.20	504.00	0.000	0.000	108.70	0.00	0.00
13	137.00	RRUS 4415 B25	3	11.840	13.024	0.50	0.75	2.47	138.00	0.000	0.000	32.20	0.00	0.00
14	137.00	4449 B71 + B12	3	11.840	13.024	0.50	0.75	2.97	219.60	0.000	0.000	38.68	0.00	0.00
15	137.00	KRY 112 144/1	3	11.840	13.024	0.56	0.75	1.20	46.20	0.000	0.000	15.60	0.00	0.00
16	137.00	APXVAARR24_43-U-NA2	3	11.840	13.024	0.56	0.75	34.16	384.00	0.000	0.000	444.84	0.00	0.00
17	137.00	KRD 9011461-B66A-B2A	3	11.840	13.024	0.65	0.75	12.74	396.60	0.000	0.000	165.97	0.00	0.00
18	137.00	mount pipe	1	11.840	13.024	1.00	1.00	4.31	87.00	0.000	0.000	56.13	0.00	0.00
19	137.00	Handrail Kit	3	11.840	13.024	1.00	1.00	8.91	137.25	0.000	0.000	116.00	0.00	0.00
20	137.00	(3) T-Arm Kit	1	11.840	13.024	1.00	1.00	16.50	500.00	0.000	0.000	214.90	0.00	0.00
21	137.00	Low Profile Platform	1	11.840	13.024	1.00	1.00	22.00	1500.00	0.000	0.000	286.53	0.00	0.00
22	137.00	AIR6449 B41	3	11.840	13.024	0.53	0.75	9.03	309.00	0.000	0.000	117.55	0.00	0.00
23	127.00	Ericsson RRUS-11 RRU	6	11.653	12.818	0.54	0.80	8.10	304.20	0.000	0.000	103.88	0.00	0.00
24	127.00	Ericsson RRUS 4415 B25	3	11.653	12.818	0.54	0.80	2.99	132.30	0.000	0.000	38.34	0.00	0.00
25	127.00	Ericsson RRUS 4478 B5	3	11.653	12.818	0.54	0.80	2.96	179.70	0.000	0.000	37.92	0.00	0.00
26	127.00	Ericsson RRUS 4478 B14	3	11.653	12.818	0.54	0.80	2.65	178.20	0.000	0.000	34.01	0.00	0.00
27	127.00	Cci HPA-65R-BUU-H8	12	11.653	12.818	0.63	0.80	98.44	816.00	0.000	0.000	1261.79	0.00	0.00
28	127.00	Cci HPA65R-BU8A	6	11.653	12.818	0.71	0.80	47.93	414.00	0.000	0.000	614.38	0.00	0.00
29	127.00	Ericsson RRUS 32 RRU	3	11.653	12.818	0.54	0.80	5.32	231.00	0.000	0.000	68.22	0.00	0.00
30	127.00	Raycap DC6-48-60-18-8F	4	11.653	12.818	0.80	0.80	7.04	127.20	0.000	0.000	90.24	0.00	0.00
31	127.00	MTC3607 Platform + HR &	1	11.653	12.818	1.00	1.00	51.70	2246.00	0.000	0.000	662.68	0.00	0.00
32	127.00	Kaelus DBCT108F1V92-1	3	11.653	12.818	0.80	0.80	1.68	59.40	0.000	0.000	21.53	0.00	0.00
33	127.00	Ericsson RRUS 4426 B66	3	11.653	12.818	0.54	0.80	1.85	145.50	0.000	0.000	23.70	0.00	0.00
Totals:								12,096.75	6,156.55					

Total Applied Force Summary

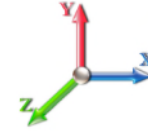
Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021	
Site Name: New London	Exposure: C		
Height: 149.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 33



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 21

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		129.83	1467.79	0.00	0.00
10.00		127.17	1439.91	0.00	0.00
15.00		124.52	1412.04	0.00	0.00
20.00		129.30	1384.16	0.00	0.00
25.00		132.57	1356.29	0.00	0.00
30.00		134.68	1328.42	0.00	0.00
35.00		135.96	1300.54	0.00	0.00
40.00		136.57	1272.67	0.00	0.00
45.00		136.66	1244.79	0.00	0.00
47.25		61.03	551.06	0.00	0.00
50.00		75.74	1191.11	0.00	0.00
53.25		89.35	1387.49	0.00	0.00
55.00		47.83	365.54	0.00	0.00
60.00		136.79	1028.26	0.00	0.00
65.00		135.50	1004.37	0.00	0.00
70.00		133.97	980.48	0.00	0.00
75.00		132.20	956.59	0.00	0.00
80.00		130.24	932.70	0.00	0.00
85.00		128.09	908.80	0.00	0.00
90.00		125.77	884.91	0.00	0.00
95.00		123.30	861.02	0.00	0.00
96.00		24.24	169.34	0.00	0.00
100.00		97.57	1058.04	0.00	0.00
100.75		18.04	195.55	0.00	0.00
105.00		101.43	499.76	0.00	0.00
110.00		116.77	573.22	0.00	0.00
115.00		113.79	557.29	0.00	0.00
120.00		110.71	541.36	0.00	0.00
125.00		107.52	525.44	0.00	0.00
127.00	(47) attachments	2998.69	5039.21	0.00	0.00
130.00		62.04	292.45	0.00	0.00
135.00		100.85	474.68	0.00	0.00
137.00	(24) attachments	1527.68	3903.06	0.00	0.00
139.00		38.72	161.58	0.00	0.00
140.00		19.14	62.18	0.00	0.00
145.00		93.82	303.74	0.00	0.00
149.00	(26) attachments	1783.85	3779.99	0.00	0.00
Totals:		9,821.93	41,395.85	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13075-A-SBA **Code:** EIA/TIA-222-G 7/20/2021
Site Name: New London **Exposure:** C
Height: 149.00 (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

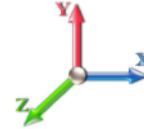


Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 21



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	0.017	0.000	7.442	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.017	0.000	7.442	0.00	0.00
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	7.442	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	7.442	0.00	0.00
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	7.442	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	7.442	0.00	0.00
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.018	0.000	7.896	0.00	1.37
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.018	0.000	7.896	0.00	0.00
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	8.276	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	8.276	0.00	0.00
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.019	0.000	8.600	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.019	0.000	8.600	0.00	0.00
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	8.883	0.00	1.37
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	8.883	0.00	0.00
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.020	0.000	9.137	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.020	0.000	9.137	0.00	0.00
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.021	0.000	9.366	0.00	1.37
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.021	0.000	9.366	0.00	0.00
47.25	Safety Cable	Yes	2.25	0.000	0.38	0.07	0.00	0.021	0.000	9.463	0.00	0.61
47.25	Step bolts (ladder)	Yes	2.25	0.000	0.63	0.12	0.00	0.021	0.000	9.463	0.00	0.00
50.00	Safety Cable	Yes	2.75	0.000	0.38	0.09	0.00	0.021	0.000	9.576	0.00	0.75
50.00	Step bolts (ladder)	Yes	2.75	0.000	0.63	0.14	0.00	0.021	0.000	9.576	0.00	0.00
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.022	0.000	9.704	0.00	0.89
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	0.17	0.00	0.022	0.000	9.704	0.00	0.00
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.022	0.000	9.770	0.00	0.48
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.09	0.00	0.022	0.000	9.770	0.00	0.00
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	9.951	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	9.951	0.00	0.00
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.022	0.000	10.120	0.00	1.37
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.022	0.000	10.120	0.00	0.00
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	10.279	0.00	1.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	10.279	0.00	0.00
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	10.430	0.00	1.37
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	10.430	0.00	0.00
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	10.572	0.00	1.37
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	10.572	0.00	0.00
85.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	10.708	0.00	1.37
85.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	10.708	0.00	0.00
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	10.838	0.00	1.37
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	10.838	0.00	0.00
95.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	10.962	0.00	1.37
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	10.962	0.00	0.00
96.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.027	0.000	10.986	0.00	0.27
96.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.027	0.000	10.986	0.00	0.00
100.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.028	0.000	11.081	0.00	1.09
100.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.028	0.000	11.081	0.00	0.00
100.75	Safety Cable	Yes	0.75	0.000	0.38	0.02	0.00	0.028	0.000	11.098	0.00	0.20

Linear Appurtenance Segment Forces (Factored)

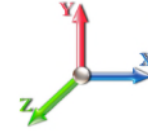
Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021	
Site Name: New London	Exposure: C		
Height: 149.00 (ft)	Crest Height: 0.00		
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil		
Gh: 1.1	Topography: 1	Struct Class: II	Page: 35



Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 21

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)
100.75	Step bolts (ladder)	Yes	0.75	0.000	0.63	0.04	0.00	0.028	0.000	11.098	0.00	0.00
105.00	Safety Cable	Yes	4.25	0.000	0.38	0.13	0.00	0.028	0.000	11.195	0.00	1.16
105.00	Step bolts (ladder)	Yes	4.25	0.000	0.63	0.22	0.00	0.028	0.000	11.195	0.00	0.00
110.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.029	0.000	11.305	0.00	1.37
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.029	0.000	11.305	0.00	0.00
115.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.030	0.000	11.412	0.00	1.37
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.030	0.000	11.412	0.00	0.00
120.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	11.514	0.00	1.37
120.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	11.514	0.00	0.00
125.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	11.614	0.00	1.37
125.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	11.614	0.00	0.00
127.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.033	0.000	11.653	0.00	0.55
127.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.033	0.000	11.653	0.00	0.00
130.00	Safety Cable	Yes	3.00	0.000	0.38	0.10	0.00	0.034	0.000	11.710	0.00	0.82
130.00	Step bolts (ladder)	Yes	3.00	0.000	0.63	0.16	0.00	0.034	0.000	11.710	0.00	0.00
135.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	11.803	0.00	1.37
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	11.803	0.00	0.00
137.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.036	0.000	11.840	0.00	0.55
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.036	0.000	11.840	0.00	0.00
139.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.037	0.000	11.876	0.00	0.55
139.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.037	0.000	11.876	0.00	0.00
140.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	11.894	0.00	0.27
140.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	11.894	0.00	0.00
145.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.038	0.000	11.982	0.00	1.37
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.038	0.000	11.982	0.00	0.00
149.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.040	0.000	12.051	0.00	1.09
149.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.040	0.000	12.051	0.00	0.00
Totals:											0.0	40.7

Calculated Forces

Structure: CT13075-A-SBA

Code: EIA/TIA-222-G

7/20/2021

Site Name: New London

Exposure: C

Height: 149.00 (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: 1.0D + 1.0W 60 mph Wind

Iterations 21

Dead Load Factor 1.00

Wind Load 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	-41.39	-9.84	0.00	-1135.5	0.00	1135.57	5451.60	2725.80	12956.4	6487.84	0.00	0.000	0.000	0.183
5.00	-39.92	-9.74	0.00	-1086.3	0.00	1086.38	5379.95	2689.97	12523.2	6270.95	0.03	-0.047	0.000	0.181
10.00	-38.47	-9.64	0.00	-1037.6	0.00	1037.67	5306.65	2653.32	12093.3	6055.68	0.10	-0.094	0.000	0.179
15.00	-37.05	-9.55	0.00	-989.46	0.00	989.46	5231.70	2615.85	11666.9	5842.16	0.22	-0.142	0.000	0.176
20.00	-35.66	-9.44	0.00	-941.72	0.00	941.72	5155.10	2577.55	11244.2	5630.50	0.40	-0.191	0.000	0.174
25.00	-34.29	-9.34	0.00	-894.50	0.00	894.50	5076.86	2538.43	10825.5	5420.83	0.63	-0.241	0.000	0.172
30.00	-32.96	-9.23	0.00	-847.81	0.00	847.81	4996.96	2498.48	10411.0	5213.26	0.91	-0.291	0.000	0.169
35.00	-31.65	-9.11	0.00	-801.68	0.00	801.68	4915.42	2457.71	10001.0	5007.93	1.24	-0.342	0.000	0.167
40.00	-30.37	-8.99	0.00	-756.13	0.00	756.13	4832.22	2416.11	9595.63	4804.95	1.62	-0.394	0.000	0.164
45.00	-29.12	-8.87	0.00	-711.16	0.00	711.16	4747.38	2373.69	9195.21	4604.44	2.07	-0.447	0.000	0.161
47.25	-28.56	-8.82	0.00	-691.21	0.00	691.21	4708.66	2354.33	9016.69	4515.05	2.28	-0.471	0.000	0.159
50.00	-27.37	-8.75	0.00	-666.97	0.00	666.97	4660.89	2330.44	8799.96	4406.52	2.56	-0.501	0.000	0.157
53.25	-25.98	-8.66	0.00	-638.54	0.00	638.54	3818.32	1909.16	7226.08	3618.41	2.92	-0.536	0.000	0.183
55.00	-25.61	-8.62	0.00	-623.40	0.00	623.40	3795.26	1897.63	7117.54	3564.06	3.12	-0.556	0.000	0.182
60.00	-24.57	-8.50	0.00	-580.29	0.00	580.29	3728.27	1864.14	6809.75	3409.94	3.73	-0.615	0.000	0.177
65.00	-23.56	-8.38	0.00	-537.78	0.00	537.78	3659.63	1829.82	6505.57	3257.62	4.41	-0.675	0.000	0.172
70.00	-22.57	-8.26	0.00	-495.89	0.00	495.89	3589.34	1794.67	6205.25	3107.24	5.15	-0.736	0.000	0.166
75.00	-21.61	-8.13	0.00	-454.61	0.00	454.61	3517.40	1758.70	5909.03	2958.91	5.95	-0.796	0.000	0.160
80.00	-20.67	-8.01	0.00	-413.94	0.00	413.94	3443.81	1721.91	5617.15	2812.75	6.82	-0.856	0.000	0.153
85.00	-19.76	-7.89	0.00	-373.88	0.00	373.88	3368.58	1684.29	5329.85	2668.89	7.74	-0.915	0.000	0.146
90.00	-18.86	-7.77	0.00	-334.43	0.00	334.43	3291.69	1645.84	5047.37	2527.44	8.73	-0.973	0.000	0.138
95.00	-18.00	-7.64	0.00	-295.59	0.00	295.59	3202.59	1601.29	4754.28	2380.67	9.79	-1.030	0.000	0.130
96.00	-17.83	-7.62	0.00	-287.95	0.00	287.95	3181.72	1590.86	4692.22	2349.60	10.00	-1.042	0.000	0.128
100.00	-16.77	-7.51	0.00	-257.46	0.00	257.46	3098.26	1549.13	4448.03	2227.32	10.89	-1.086	0.000	0.121
100.75	-16.57	-7.50	0.00	-251.82	0.00	251.82	1860.42	930.21	2714.89	1359.46	11.07	-1.095	0.000	0.194
105.00	-16.07	-7.40	0.00	-219.95	0.00	219.95	1828.32	914.16	2592.13	1297.99	12.06	-1.140	0.000	0.178
110.00	-15.49	-7.29	0.00	-182.93	0.00	182.93	1789.04	894.52	2449.03	1226.33	13.29	-1.209	0.000	0.158
115.00	-14.92	-7.18	0.00	-146.46	0.00	146.46	1748.11	874.06	2307.59	1155.51	14.60	-1.272	0.000	0.135
120.00	-14.38	-7.07	0.00	-110.55	0.00	110.55	1705.53	852.77	2168.05	1085.64	15.96	-1.328	0.000	0.110
125.00	-13.85	-6.96	0.00	-75.18	0.00	75.18	1661.30	830.65	2030.66	1016.84	17.37	-1.372	0.000	0.082
127.00	-8.89	-3.84	0.00	-61.26	0.00	61.26	1643.15	821.58	1976.36	989.65	17.95	-1.387	0.000	0.067
130.00	-8.59	-3.78	0.00	-49.73	0.00	49.73	1615.43	807.71	1895.65	949.24	18.83	-1.405	0.000	0.058
135.00	-8.12	-3.67	0.00	-30.84	0.00	30.84	1567.90	783.95	1763.28	882.95	20.32	-1.430	0.000	0.040
137.00	-4.26	-2.04	0.00	-23.51	0.00	23.51	1548.43	774.21	1711.12	856.83	20.92	-1.437	0.000	0.030
139.00	-4.10	-2.00	0.00	-19.42	0.00	19.42	1528.69	764.34	1659.43	830.95	21.52	-1.444	0.000	0.026
139.00	-4.10	-2.00	0.00	-19.42	0.00	19.42	1044.31	522.16	1138.99	570.34	21.52	-1.444	0.000	0.038
140.00	-4.03	-1.98	0.00	-17.42	0.00	17.42	1038.69	519.35	1122.71	562.19	21.82	-1.446	0.000	0.035
145.00	-3.73	-1.88	0.00	-7.52	0.00	7.52	1009.62	504.81	1041.96	521.75	23.35	-1.459	0.000	0.018
149.00	0.00	-1.78	0.00	0.00	0.00	0.00	985.17	492.59	978.22	489.84	24.57	-1.463	0.000	0.000

Final Analysis Summary

Structure: CT13075-A-SBA	Code: EIA/TIA-222-G	7/20/2021
Site Name: New London	Exposure: C	
Height: 149.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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 + 1.6W 105 mph Wind	48.2	0.00	49.58	0.00	0.00	5587.22
0.9D + 1.6W 105 mph Wind	48.2	0.00	37.16	0.00	0.00	5534.77
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.1	0.00	80.71	0.00	0.00	1273.82
1.2D + 1.0E	2.1	0.00	49.67	0.00	0.00	256.04
0.9D + 1.0E	2.1	0.00	37.26	0.00	0.00	253.48
1.0D + 1.0W 60 mph Wind	9.8	0.00	41.39	0.00	0.00	1135.57

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 + 1.6W 105 mph Wind	-16.59	-36.92	0.00	-1239.2	0.00	-1239.2	1860.42	930.21	2714.89	1359.46	100.75	0.922
0.9D + 1.6W 105 mph Wind	-11.64	-36.42	0.00	-1220.6	0.00	-1220.6	1860.42	930.21	2714.89	1359.46	100.75	0.906
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.09	-8.31	0.00	-281.35	0.00	-281.35	1860.42	930.21	2714.89	1359.46	100.75	0.229
1.2D + 1.0E	-20.05	-1.72	0.00	-69.46	0.00	-69.46	1860.42	930.21	2714.89	1359.46	100.75	0.062
0.9D + 1.0E	-15.03	-1.69	0.00	-68.51	0.00	-68.51	1860.42	930.21	2714.89	1359.46	100.75	0.058
1.0D + 1.0W 60 mph Wind	-16.57	-7.50	0.00	-251.82	0.00	-251.82	1860.42	930.21	2714.89	1359.46	100.75	0.194

Base Plate Summary

Structure: CT13075-A-SB	Code: EIA/TIA-222-G	7/20/2021
Site Name: New London	Exposure: C	
Height: 149.00 (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



Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 60.00	Bolt Circle: 64.88
Moment (kip-ft): 5442.50	Width (in): 65.38	Number Bolts: 20.00
Axial (kip): 53.57	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 49.90	Polygon Sides: 8.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 14.00	Yield (ksi): 75.00
Moment (kip-ft): 5587.22	Effective Len (in): 8.93	Ultimate (ksi): 100.00
Axial (kip): 49.58	Moment (kip-in): 697.46	Arrangement: Clustered
Shear (kip): 48.23	Allow Stress (ksi): 81.00	Cluster Dist (in): 6.00
	Applied Stress (ksi): 61.56	Start Angle (deg): 45.00
	Stress Ratio: 0.76	Compression
		Force (kip): 210.71
		Allowable (kip): 260.00
		Ratio: 0.83
		Tension
		Force (kip): 202.64
		Allowable (kip): 260.00
		Ratio: 0.80

	Monopole Mat Foundation Design		Date	
			7/20/2021	
	Customer Name:	Verizon	EIA/TIA Standard:	EIA-222-G
	Site Name:		Structure Height (Ft.):	149
	Site Number:	CT13075-A-SBA	Engineer Name:	K. Wyant
	Engr. Number:	110845	Engineer Login ID:	

Foundation Info Obtained from:

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	49.6	Shear Force (Kips):	48.2
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5587.2

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required- Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	8.0
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	23.5	Width of Pad (ft.):	23.5

Final Length of pad (ft)	23.5	Final width of pad (ft):	23.5
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Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28
---------------------------	----	---------------------------	----

Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

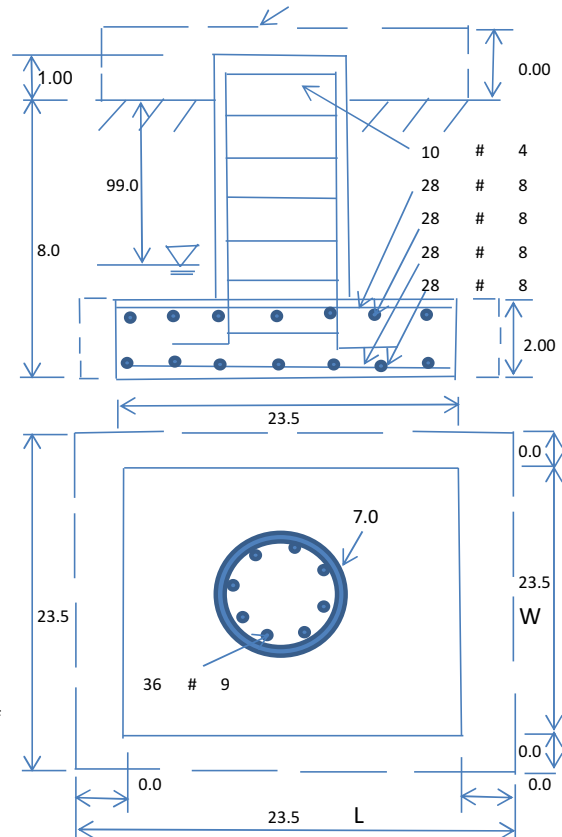
Soil Unit Weight (pcf):	100.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	20000	Ultimate Skin Friction:	100	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes	
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Botm of Pad:	25	
		Angle from Botm of Pad:	25	

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	3082.59	Total Dry Soil Weight (Kips):	308.26
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	308.26	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1373.89	Total Dry Concrete Weight (Kips):	206.08
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	206.08	Total Vertical Load on Base (Kips):	563.94

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	6031	< Allowable Factored Soil Bearing (psf):	15000	0.40	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	6022.0	> Design Factored Momont (kips-ft):	5838	0.97	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.03				OK!



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):

0.90

Strength reduction factor (Shear):

0.75

Strength reduction factor (Axial compression):

0.65

Wind Load Factor on Concrete Design:

1.00

Load/
Capacity
Ratio**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):

1.00

Tie / Stirrup Area (sq. in./each):

0.20

Calculated Moment Capacity (Mn,Kips-Ft):

6026.1

>

Design Factored Moment (Mu, Kips-Ft):

5924.6

0.98

OK!

Calculated Shear Capacity (Kips):

660.1

>

Design Factored Shear (Kips):

48.2

0.07

OK!

Calculated Tension Capacity (Tn, Kips):

1944.0

>

Design Factored Tension (Tu Kips):

0.0

0.00

OK!

Calculated Compression Capacity (Pn, Kips):

9734.2

>

Design Factored Axial Load (Pu Kips):

49.6

0.01

OK!

Moment & Axial Strength Combination:

0.98

OK!

Check Tie Spacing (Design/Required):

1

OK!

Pier Reinforcement Ratio:

0.006

Reinforcement Ratio is satisfied per ACI

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):

548.4

>

One-Way Factored Shear (L-D. Kips):

395.4

0.72

OK!

One-Way Design Shear Capacity (W-Direction, Kips):

548.4

>

One-Way Factored Shear (W-D., Kips):

395.4

0.72

OK!

One-Way Design Shear Capacity (Corner-Corner. Kips):

532.5

>

One-Way Factored Shear (C-C, Kips):

427.3

0.80

OK!

Lower Steel Pad Reinforcement Ratio (L-Direct.):

0.0038

OK!

Lower Steel Pad Reinf. Ratio (W-Direct.):

0.0038

Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):

1971.7

>

Moment at Bottom (L-Dir. K-Ft):

1779.8

0.90

OK!

Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):

1971.7

>

Moment at Bottom (W-Dir. K-Ft):

1779.8

0.90

OK!

Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):

2762.4

>

Moment at Bottom (C-C Dir. K-Ft):

2517.0

0.91

OK!

Upper Steel Pad Reinforcement Ratio (L-Direct.):

0.0038

OK!

Upper Steel Reinf. Ratio (W-Dir.):

0.0038

Upper Steel Pad Moment Capacity (L-Direct. Kips-ft):

1971.7

>

Moment at the top (L-Dir K-Ft):

837.4

0.42

OK!

Upper Steel Pad Moment Capacity (W-Direct. Kips-ft):

1971.7

>

Moment at the top (W-Dir K-Ft):

837.4

0.42

OK!

Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):

2762.4

>

Moment at the top (C-C Dir. K-Ft):

787.7

0.29

OK!

(3).Check Punching Shear Capacity due to Moment in the Pier:

Moment transferred by punching shear:

2234.9

k-ft.

Max. factored shear stress v_{u_CD} :

9.1

Psi

Max. factored shear stress v_{u_AB} :

21.4

Psi

Factored shear Strength ϕv_n :

189.7

Psi

Max. factored shear stress v_u :

21.4

Psi

Check Usage of Punching Shear Capacity:

0.11

OK!



Maser Consulting Connecticut
2000 Midlantic Drive, Suite 100
Mt. Laurel, NJ 08054
(856) 797-0412
peter.albano@colliersengineering.com

Post-Mod Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10050207
Maser Consulting Connecticut Project #: 20777642A

April 15, 2021

Site Information

Site ID: 467245-VZW / Groton 2 CT
Site Name: Groton 2 CT
Carrier Name: Verizon Wireless
Address: 1294 Pleasant Valley Road
Groton, Connecticut 06340
New London County
Latitude: 41.399972°
Longitude: -72.079222°

Structure Information

Tower Type: 150-Ft Monopole
Mount Type: 12.00-Ft Platform

FUZE ID # 16142486

Analysis Results

Platform: 76.3% Pass

***Contractor PMI Requirements:

Included at the end of this MA report

Available & Submitted via portal at <https://pmi.vzwsmart.com>

Contractor - Please Review Specific Site PMI Requirements Upon Award

Requirements also Noted on Mount Modification Drawings

Requirements may also be Noted on A & E drawings

Report Prepared By: Selene Chen



Digitally signed by Justin Linette
Date: 2021.04.15 22:01:56-04'00'

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: 674919, dated February 22, 2021
Mount Mapping Report	Hudson Design Group LLC, Site ID: 467245 dated February 11, 2021
Mount Analysis Report	Maser Consulting Connecticut, Project #: 20777642A, dated March 2, 2021
Mount Modification Drawings	Maser Consulting Connecticut, Project #: 20777642A, dated April 15, 2021

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust),	126 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	C
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e :	0.995
Seismic Parameters:	S_s :	0.192
	S_1 :	0.053
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Live Load, L_v :	250 lbs.
	Maintenance Live Load, L_m :	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
			JMA Wireless		Added
			JMA Wireless		
			Samsung		
			Samsung		
			Samsung		
			Samsung		
			Antel		Retained
			Raycap		
			Raycap		

* Equipment to be flush mounted directly to the Monopole. They are not mounted on platform mounts and are not included in this mount analysis.

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Maser Consulting Connecticut 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 Maser Consulting Connecticut 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 by Maser Consulting Connecticut, 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. Maser Consulting Connecticut 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:
- o Channel, Solid Round, Angle, Plate ASTM A36 (Gr. 36)
 - o HSS (Rectangular) ASTM 500 (Gr. B-46)
 - o Pipe ASTM A53 (Gr. B-35)
 - o Threaded Rod F1554 (Gr. 36)
 - o 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 Maser Consulting Connecticut.

Analysis Results:

Component	Utilization %	Pass/Fail
<i>Standoff Mount Pipe</i>	<i>3.7%</i>	<i>Pass</i>
<i>Cross Arm Plate</i>	<i>30.7%</i>	<i>Pass</i>
<i>Mount Pipe</i>	<i>46.2%</i>	<i>Pass</i>
<i>Face Horizontal</i>	<i>14.4%</i>	<i>Pass</i>
<i>Corner Plate</i>	<i>41.9%</i>	<i>Pass</i>
<i>Grating Support</i>	<i>52.6%</i>	<i>Pass</i>
<i>Platform Crossmember</i>	<i>76.3%</i>	<i>Pass</i>
<i>Standoff Horizontal</i>	<i>27.8%</i>	<i>Pass</i>
<i>Support Rail</i>	<i>18.9%</i>	<i>Pass</i>
<i>Support Rail Corner</i>	<i>49.3%</i>	<i>Pass</i>
<i>Connection Check</i>	<i>28.9%</i>	<i>Pass</i>

Structure Rating – (Controlling Utilization of all Components)	76.3%
---	--------------

Recommendation:

The existing mount will be **SUFFICIENT** for the final loading after the proposed modifications 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:

Mount Photos
Mount Mapping Report (for reference only)
Analysis Calculations
Contractor Required PMI Report Deliverables
Antenna Placement Diagrams
TIA Adoption and Wind Speed Usage Letter



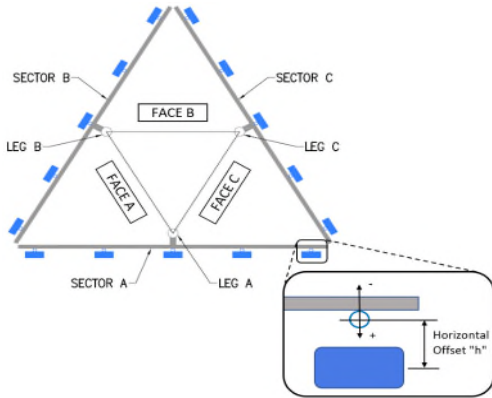
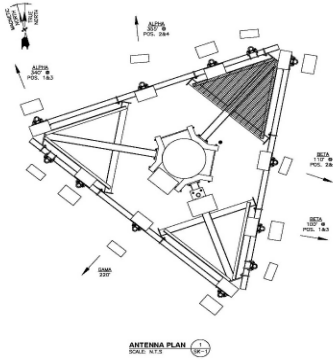


Antenna Mount Mapping Form (PATENT PENDING)

 FCC #
1260407

Tower Owner:	SBA	Mapping Date:	2/11/2021
Site Name:	GROTON 2 CT	Tower Type:	Monopole
Site Number or ID:	467245	Tower Height (Ft.):	150
Mapping Contractor:	Hudson Design Group LLC	Mount Elevation (Ft.):	147.7

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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	PIPE 2" STD. X 72" LONG	51.00	4.00	C1	PIPE 2" STD. X 72" LONG	51.00	4.00
A2	PIPE 2" STD. X 72" LONG	51.00	71.00	C2	PIPE 2" STD. X 72" LONG	51.00	71.00
A3	PIPE 2" STD. X 72" LONG	51.00	115.00	C3	PIPE 2" STD. X 72" LONG	51.00	115.00
A4	PIPE 2" STD. X 72" LONG	51.00	140.00	C4	PIPE 2" STD. X 72" LONG	51.00	140.00
A5				C5			
A6				C6			
B1	PIPE 2" STD. X 72" LONG	51.00	4.00	D1			
B2	PIPE 2" STD. X 72" LONG	51.00	71.00	D2			
B3	PIPE 2" STD. X 72" LONG	51.00	115.00	D3			
B4	PIPE 2" STD. X 72" LONG	51.00	140.00	D4			
B5				D5			
B6				D6			
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :							
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.):							
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.):							
Please enter additional information or comments below.							
2' OVERLAP W/ SPRINT ANTENNAS (BELOW)							
TOWER WALL THK.: .189"							
Tower Face Width at Mount Elev. (ft.):							
Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):							
25							

Enter antenna model. If not labeled, enter "Unknown".							Mounting Locations [Units are inches and degrees]			Photos of antennas
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances "b _{1a} , b _{2a} , b _{3a} , b _{1b} ,..." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
Sector A										
Ant _{1a}	B66A RRH 4X45	12.00	7.00	25.50		150.492	17.50	-6.50		82
Ant _{1b}	SBNH-1D65B	12.00	7.50	73.00		148.7	39.00	8.50	340.00	44
Ant _{1c}										
Ant _{2a}	B13 RRH4X30	12.00	7.00	21.00		150.2	21.00	-6.50		89
Ant _{2b}	BXA-70063/6CF-EDIN	11.00	5.00	71.00		148.95	36.00	17.00	355.00	43
Ant _{2c}										
Ant _{3a}	B25 RRH 4X30	12.00	7.00	21.00		151.158	9.50	-6.50		92
Ant _{3b}	SBNH-1D65B	12.00	7.50	73.00		148.7	39.00	8.50	340.00	44
Ant _{3c}										
Ant _{4a}										
Ant _{4b}	BXA-70063/6CF-EDIN	11.00	5.00	47.00		148.95	36.00	10.00	355.00	43
Ant _{4c}										
Ant _{5a}										
Ant _{5b}										
Ant _{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

Antenna Layout (Looking Out From Tower)

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector				Sector B																		
Sector A:	340.00	Deg	Leg A:		Deg			Ant _{1a}	B66A RRH 4X45	12.00	7.00	25.50		150.492	17.50	-6.50		82								
Sector B:	100.00	Deg	Leg B:		Deg			Ant _{1b}	SBNH-1D65B	12.00	7.50	73.00		148.7	39.00	8.50	100.00	44								
								Ant _{1c}																		
Sector C:	220.00	Deg	Leg C:		Deg			Ant _{2a}	B13 RRH4X30	12.00	7.00	21.00		150.2	21.00	-6.50		89								
Sector D:		Deg	Leg D:		Deg			Ant _{2b}	BXA-70063/6CF-EDIN	11.00	5.00	71.00		148.95	36.00	6.50	110.00	96								
Climbing Facility Information								Ant _{2c}																		
Location:	50.00	Deg		N/A				Ant _{3a}	B25 RRH 4X30	12.00	7.00	21.00		151.158	9.50	-6.50		92								
Climbing Facility	Corrosion Type:		Good condition.					Ant _{3b}	SBNH-1D65B	12.00	7.50	73.00		148.7	39.00	8.50	100.00	44								
	Access:		Climbing path was unobstructed.					Ant _{3c}																		
	Condition:		Good condition.					Ant _{4a}																		
								Ant _{4b}	BXA-70063/6CF-EDIN	11.00	5.00	47.00		148.95	36.00	10.00	100.00	96								
								Ant _{4c}																		
								Ant _{5a}																		
								Ant _{5b}																		
								Ant _{5c}																		
								Ant on Standoff	RHSDC-3315-PF-48	15.00	10.00	28.00				31.00	5.00			102						
								Ant on Standoff																		
								Ant on Tower																		
								Ant on Tower																		
								Sector C																		
																Ant _{1a}	B66A RRH 4X45	12.00	7.00	25.50		150.492	17.50	-6.50		82
																Ant _{1b}	SBNH-1D65B	12.00	7.50	73.00		148.7	39.00	8.50	240.00	44
																Ant _{1c}										
																Ant _{2a}	B13 RRH4X30	12.00	7.00	21.00		150.2	21.00	-6.50		89
																Ant _{2b}	BXA-70063/6CF-EDIN	11.00	5.00	71.00		148.95	36.00	17.00	240.00	101
																Ant _{2c}										
																Ant _{3a}	B25 RRH 4X30	12.00	7.00	21.00		151.158	9.50	-6.50		92
																Ant _{3b}	SBNH-1D65B	12.00	7.50	73.00		148.7	39.00	8.50	240.00	44
																Ant _{3c}										
																Ant _{4a}										
																Ant _{4b}	BXA-70063/6CF-EDIN	11.00	5.00	47.00		148.95	36.00	10.00	240.00	101
																Ant _{4c}										
																Ant _{5a}										
																Ant _{5b}										
																Ant _{5c}										
																Ant on Standoff										
																Ant on Standoff										
																Ant on Tower	RHSDC-3315-PF-48	15.00	10.00	28.00			25.00	5.00		102
																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	(12) 1-5/8"Ø COAX, (2) 1-1/4"Ø HYBRID	4
3	TOWER TAG INFO: MODEL/JOB#: 08-07173, TOWER HEIGHT: 140/160 FT MONO, LOCATION: NEW LONDON, CT	14
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.		



Antenna Mount Mapping Form (PATENT PENDING)

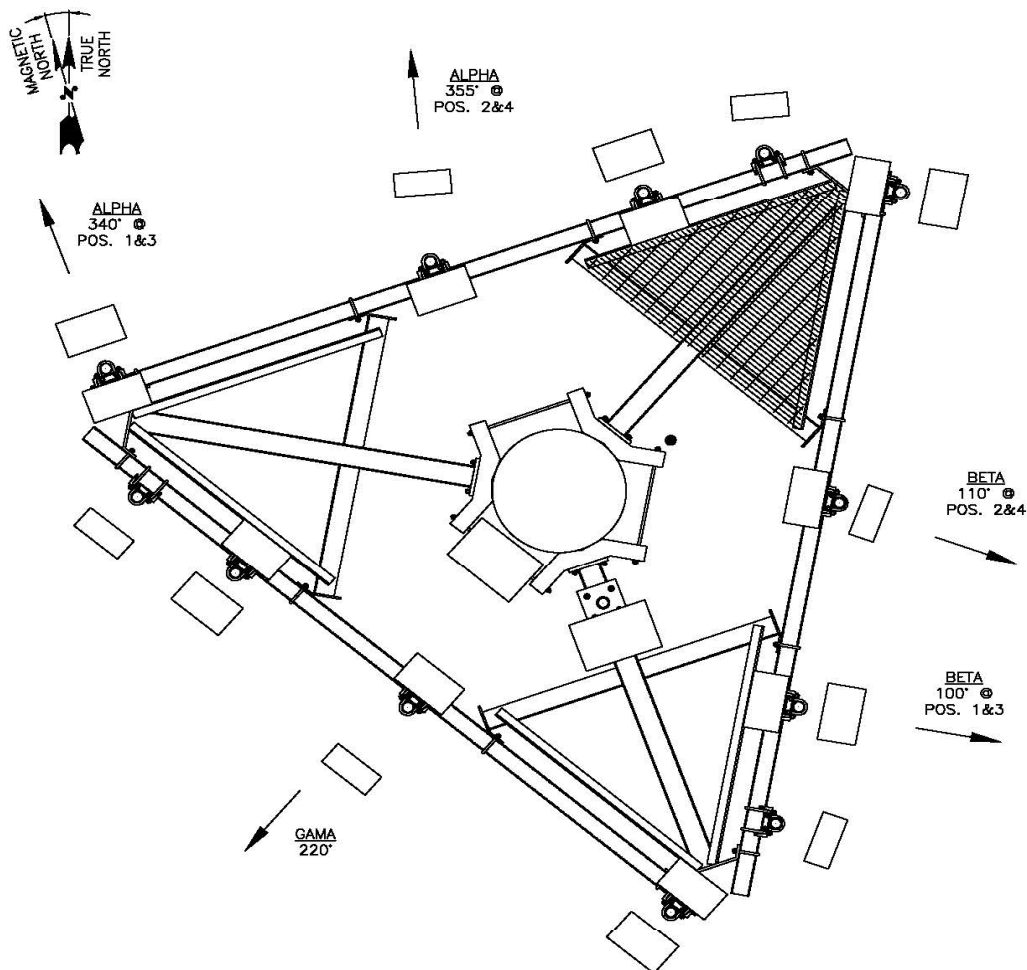
FCC #

1260407

Tower Owner:	SBA	Mapping Date:	2/11/2021
Site Name:	GROTON 2 CT	Tower Type:	Monopole
Site Number or ID:	467245	Tower Height (Ft.):	150
Mapping Contractor:	Hudson Design Group LLC	Mount Elevation (Ft.):	147.7

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Please Insert Sketches of the Antenna Mount

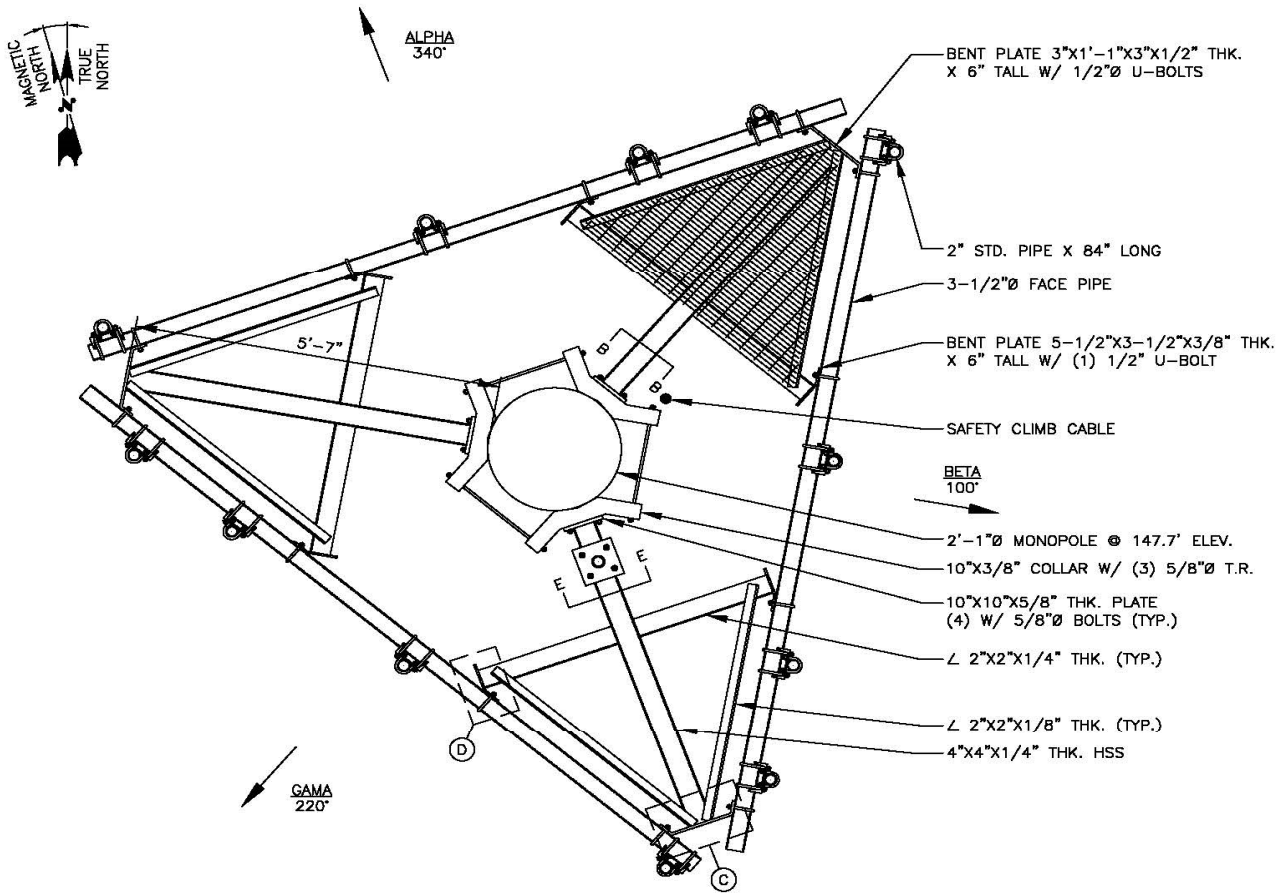


ANTENNA PLAN

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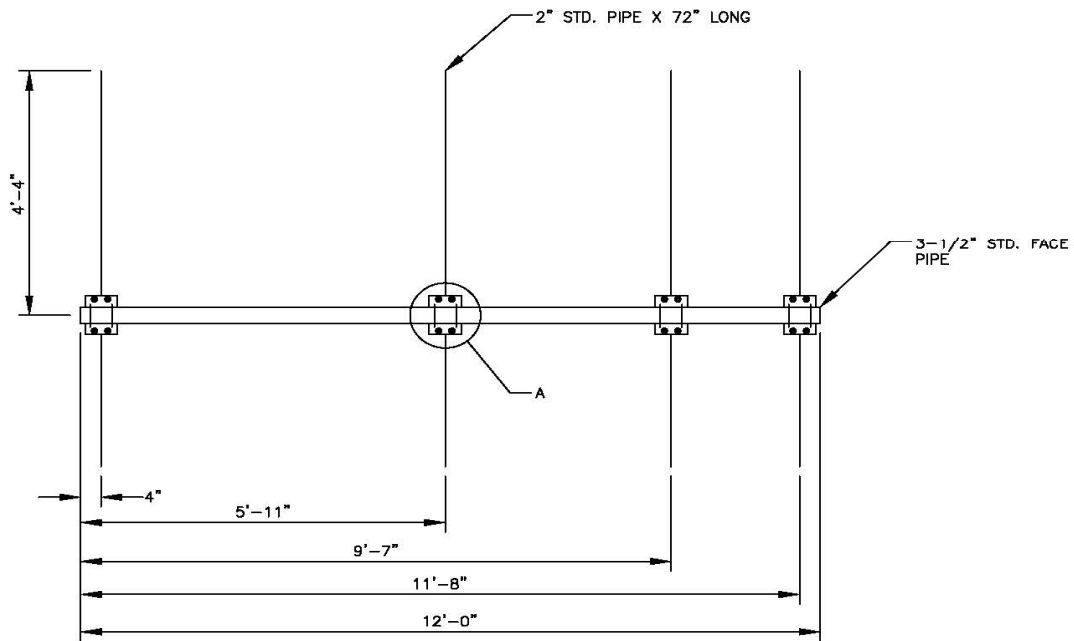
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SK-1

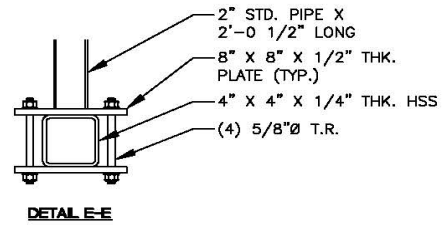
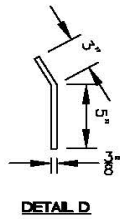
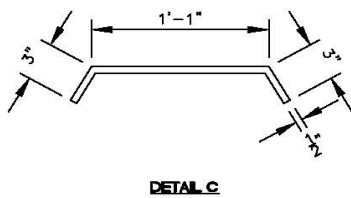
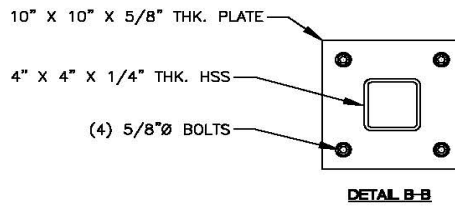
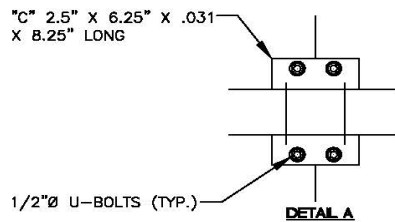


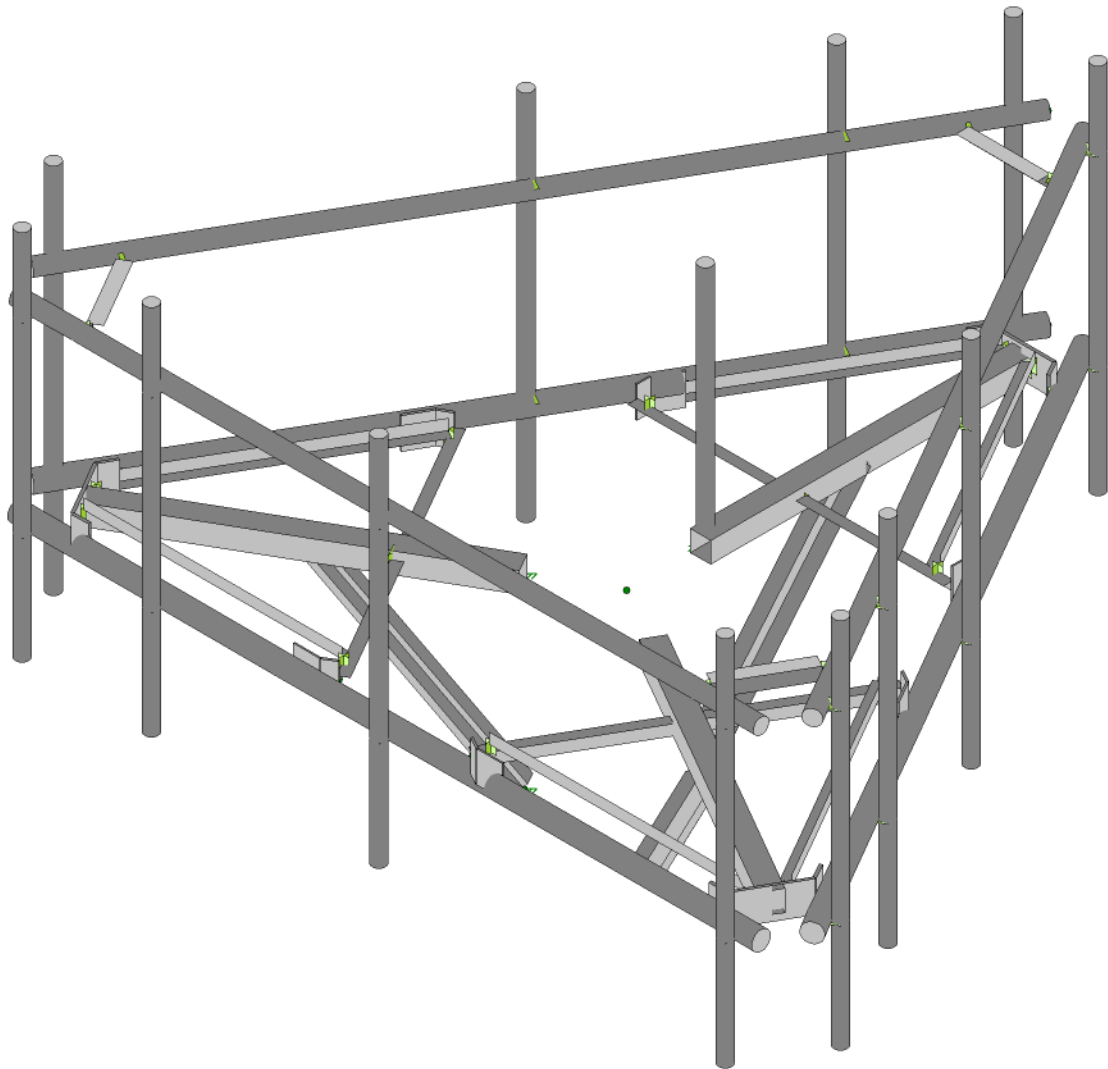
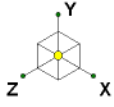
MOUNT PLAN
SCALE: N.T.S

1
SK-2



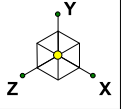
MOUNT ELEVATION 1
SK-3
SCALE: N.T.S



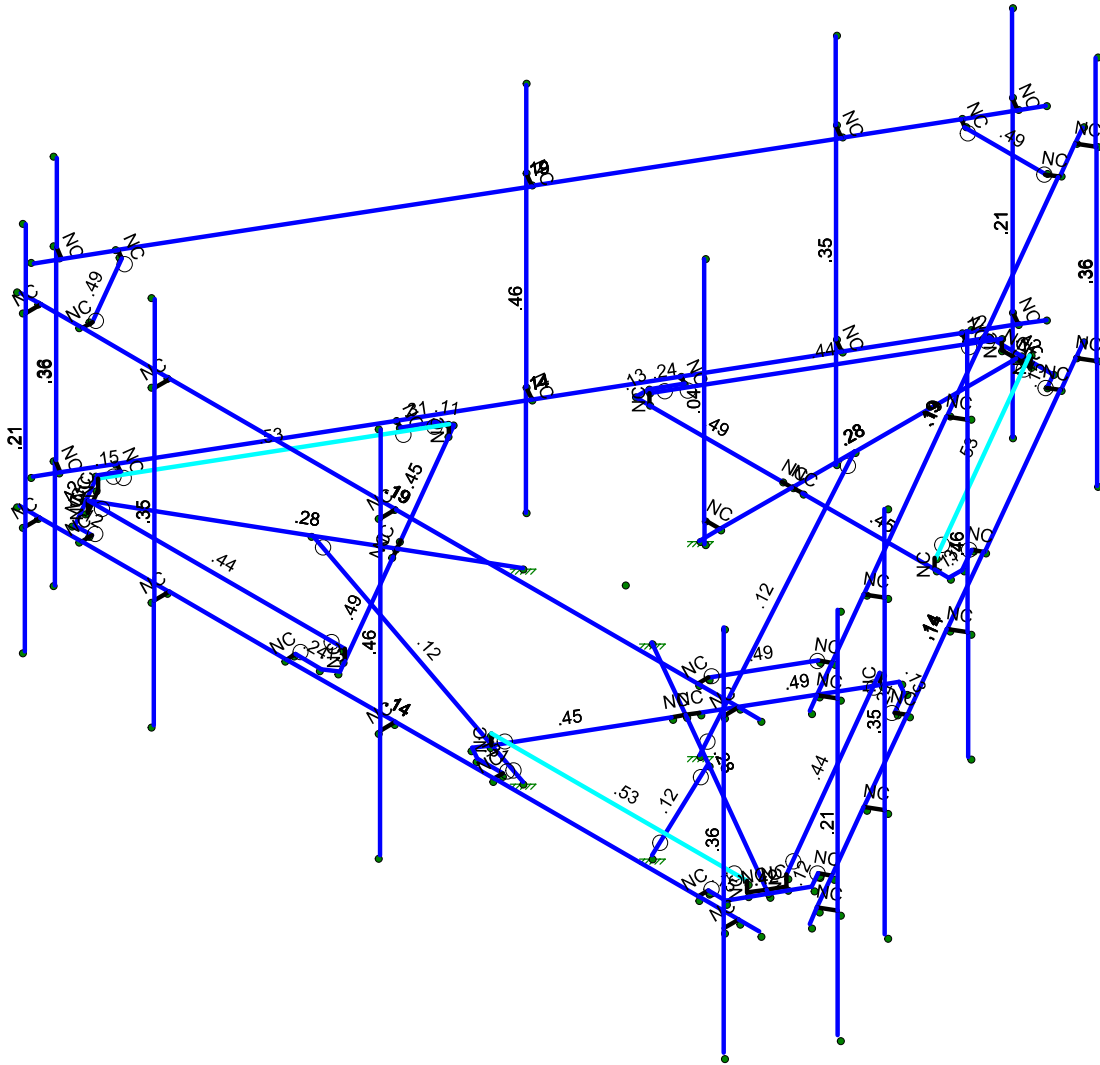


Envelope Only Solution

Maser Consulting	467245-VZW_MT_LO_H	SK - 1
FAC		Apr 14, 2021 at 2:13 PM
Project No. 10032606		MOD_467245-VZW_MT_LO_H.r3d



Code Check (Env)	
No Calc	
> 1.0	
.90-1.0	
.75-.90	
.50-.75	
0.-.50	

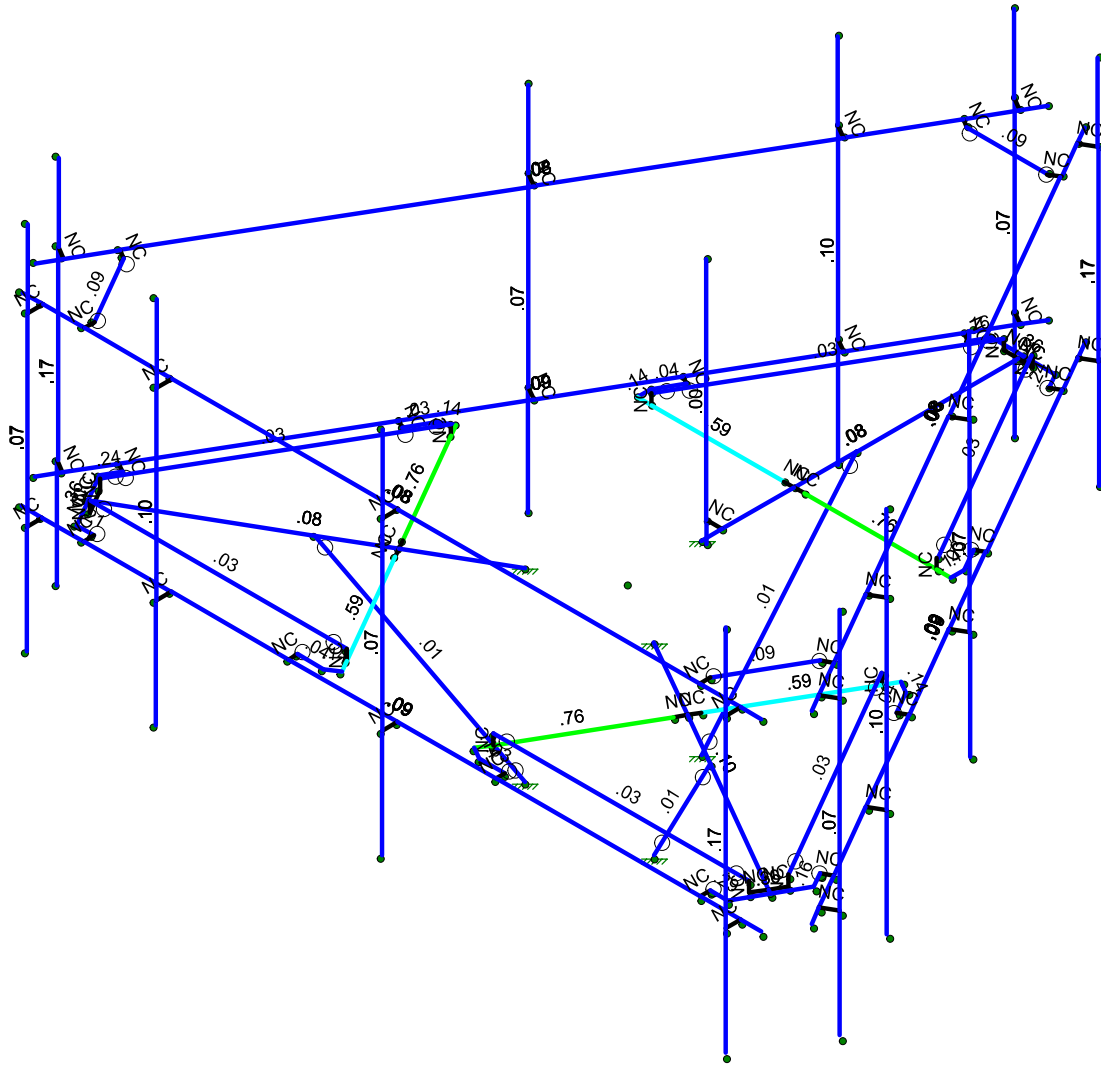
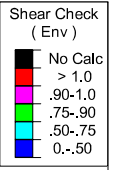
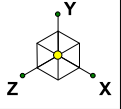


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Maser Consulting
FAC
Project No. 10032606

467245-VZW_MT_LO_H

SK - 2
Apr 14, 2021 at 2:13 PM
MOD_467245-VZW_MT_LO_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Maser Consulting

FAC

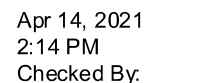
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467245-VZW_MT_LO_H

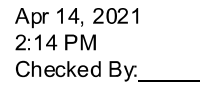
SK - 3

Apr 14, 2021 at 2:14 PM

MOD_467245-VZW_MT_LO_H.r3d

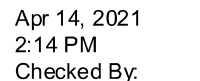


BLC Description		Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Antenna D	None					108		
2	Antenna Di	None					108		
3	Antenna Wo (0 Deg)	None					108		
4	Antenna Wo (30 Deg)	None					108		
5	Antenna Wo (60 Deg)	None					108		
6	Antenna Wo (90 Deg)	None					108		
7	Antenna Wo (120 Deg)	None					108		
8	Antenna Wo (150 Deg)	None					108		
9	Antenna Wo (180 Deg)	None					108		
10	Antenna Wo (210 Deg)	None					108		
11	Antenna Wo (240 Deg)	None					108		
12	Antenna Wo (270 Deg)	None					108		
13	Antenna Wo (300 Deg)	None					108		
14	Antenna Wo (330 Deg)	None					108		
15	Antenna Wi (0 Deg)	None					108		
16	Antenna Wi (30 Deg)	None					108		
17	Antenna Wi (60 Deg)	None					108		
18	Antenna Wi (90 Deg)	None					108		
19	Antenna Wi (120 Deg)	None					108		
20	Antenna Wi (150 Deg)	None					108		
21	Antenna Wi (180 Deg)	None					108		
22	Antenna Wi (210 Deg)	None					108		
23	Antenna Wi (240 Deg)	None					108		
24	Antenna Wi (270 Deg)	None					108		
25	Antenna Wi (300 Deg)	None					108		
26	Antenna Wi (330 Deg)	None					108		
27	Antenna W m (0 Deg)	None					108		
28	Antenna W m (30 Deg)	None					108		
29	Antenna W m (60 Deg)	None					108		
30	Antenna W m (90 Deg)	None					108		
31	Antenna W m (120 De...	None					108		
32	Antenna W m (150 De...	None					108		
33	Antenna W m (180 De...	None					108		
34	Antenna W m (210 De...	None					108		
35	Antenna W m (240 De...	None					108		
36	Antenna W m (270 De...	None					108		
37	Antenna W m (300 De...	None					108		
38	Antenna W m (330 De...	None					108		
39	Structure D	None		-1					9
40	Structure Di	None						61	3
41	Structure Wo (0 Deg)	None						122	
42	Structure Wo (30 Deg)	None						122	
43	Structure Wo (60 Deg)	None						122	
44	Structure Wo (90 Deg)	None						122	
45	Structure Wo (120 D...	None						122	
46	Structure Wo (150 D...	None						122	
47	Structure Wo (180 D...	None						122	
48	Structure Wo (210 D...	None						122	
49	Structure Wo (240 D...	None						122	
50	Structure Wo (270 D...	None						122	
51	Structure Wo (300 D...	None						122	



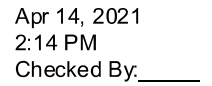
	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
52	Structure Wo (330 De...	None						122	
53	Structure Wi (0 Deg)	None						122	
54	Structure Wi (30 Deg)	None						122	
55	Structure Wi (60 Deg)	None						122	
56	Structure Wi (90 Deg)	None						122	
57	Structure Wi (120 De...	None						122	
58	Structure Wi (150 De...	None						122	
59	Structure Wi (180 De...	None						122	
60	Structure Wi (210 De...	None						122	
61	Structure Wi (240 De...	None						122	
62	Structure Wi (270 De...	None						122	
63	Structure Wi (300 De...	None						122	
64	Structure Wi (330 De...	None						122	
65	Structure Wm (0 Deg)	None						122	
66	Structure Wm (30 D...	None						122	
67	Structure Wm (60 D...	None						122	
68	Structure Wm (90 D...	None						122	
69	Structure Wm (120 ...	None						122	
70	Structure Wm (150 ...	None						122	
71	Structure Wm (180 ...	None						122	
72	Structure Wm (210 ...	None						122	
73	Structure Wm (240 ...	None						122	
74	Structure Wm (270 ...	None						122	
75	Structure Wm (300 ...	None						122	
76	Structure Wm (330 ...	None						122	
77	Lm1	None					1		
78	Lm2	None					1		
79	Lv1	None					1		
80	Lv2	None					1		
81	BLC 39 Transient Are...	None						30	
82	BLC 40 Transient Are...	None						30	

[illegible]

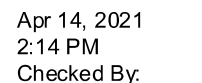


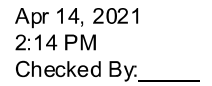
Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	6	0	3.810523	0	
2	N2	-6	0	3.810523	0	
3	N3	0	0	-1.208333	0	
4	N5	-2.541667	0	-2.708333	0	
5	N6	2.315104	0.166667	-2.708333	0	
6	N7	-2.315104	0.166667	-2.708333	0	
7	N8	5.666667	0	3.810523	0	
8	N9	5.666667	0	4.060523	0	
9	N10	-5.666667	0	3.810523	0	
10	N11	-5.666667	0	4.060523	0	
11	N12	0.083333	0	3.810523	0	
12	N13	0.083333	0	4.060523	0	
13	N14	-3.583333	0	3.810523	0	
14	N15	-3.583333	0	4.060523	0	
15	N16	-3.583333	-1.75	4.060523	0	
16	N17	-3.583333	4.25	4.060523	0	
17	N18	-5.666667	-1.75	4.060523	0	
18	N19	-5.666667	4.25	4.060523	0	
19	N20	0.083333	-1.75	4.060523	0	
20	N21	0.083333	4.25	4.060523	0	
21	N22	5.666667	-1.75	4.060523	0	
22	N23	5.666667	4.25	4.060523	0	
23	N24	0	0	-2.708333	0	
24	N27	0	0	-6.395833	0	
25	CP	0	0	0	0	
26	N29	2.315104	0	-2.708333	0	
27	N30	-2.315104	0	-2.708333	0	
28	N101	2.541667	0	-2.708333	0	
29	N102	-0.166667	0	-2.708333	0	
30	N103A	0.166667	0	-2.708333	0	
31	N104A	-2.541667	0	-2.927083	0	
32	N105	2.541667	0	-2.927083	0	
33	N86C	-0.515625	0	-6.395833	0	
34	N87A	0.515625	0	-6.395833	0	
35	N88A	0	0	-6.3125	0	
36	N87C	0.234238	0.166667	-6.3125	0	
37	N86G	0.234238	0	-6.3125	0	
38	N87B	-0.234238	0.166667	-6.3125	0	
39	N88C	-0.234238	0	-6.3125	0	
40	N87D	-1.046447	0	0.604167	0	
41	N88B	-1.074652	0	3.555315	0	
42	N89	-3.503038	0.166667	-0.650772	0	
43	N90	-1.187933	0.166667	3.359106	0	
44	N91	-2.345485	0	1.354167	0	
45	N92	-5.538954	0	3.197917	0	
46	N93	-3.503038	0	-0.650772	0	
47	N94	-1.187933	0	3.359106	0	
48	N95	-3.616319	0	-0.846981	0	
49	N96	-2.262152	0	1.498504	0	
50	N97	-2.428819	0	1.209829	0	
51	N98	-1.264095	0	3.66469	0	



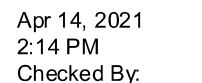
RISA-3D Version 17.0.4 [\\.\...\RISA\MOD 467245-VZW MT LO H.r3d] Page 5





	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
156	N156	6.30001	3	3.290891	0	
157	N157	0.466677	3	-6.812739	0	
158	N158	0.683183	3	-6.937739	0	
159	N159	6.133343	3	3.002216	0	
160	N160	6.34985	3	2.877216	0	
161	N161	3.258343	3	-1.97743	0	
162	N162	3.47485	3	-2.10243	0	
163	N163	5.091677	3	1.197996	0	
164	N164	5.308183	3	1.072996	0	
165	N165	-6.30001	3	3.290891	0	
166	N166	-0.30001	3	-7.101414	0	
167	N167	-6.133343	3	3.002216	0	
168	N168	-6.34985	3	2.877216	0	
169	N169	-0.466677	3	-6.812739	0	
170	N170	-0.683183	3	-6.937739	0	
171	N171	-3.341677	3	-1.833093	0	
172	N172	-3.558183	3	-1.958093	0	
173	N173	-1.508343	3	-5.008519	0	
174	N174	-1.72485	3	-5.133519	0	
175	N175	-5	3	3.810523	0	
176	N176	-5	3	3.643857	0	
177	N177	5	3	3.810523	0	
178	N178	5	3	3.643857	0	
179	N179	5.80001	3	2.424865	0	
180	N180	5.655672	3	2.508199	0	
181	N181	0.80001	3	-6.235389	0	
182	N182	0.655672	3	-6.152055	0	
183	N183	-0.80001	3	-6.235389	0	
184	N184	-0.655672	3	-6.152055	0	
185	N185	-5.80001	3	2.424865	0	
186	N186	-5.655672	3	2.508199	0	
187	N187	0	0	-3.708333	0	
188	N188	0	-3	-1.208333	0	
189	N189	-3.211511	0	1.854167	0	
190	N190	-1.046447	-3	0.604167	0	
191	N191	3.211511	0	1.854167	0	
192	N192	1.046447	-3	0.604167	0	

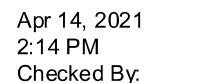
	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	l _{yy} [in4]	l _{zz} [in4]	J [in4]
1	Face Horizontal	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	Standoff Horizontal	HSS4X4X4	Beam	SquareTube	A500 Gr.B ...	Typical	3.37	7.8	7.8	12.8
3	Corner Plate	PL1/2X6	Beam	RECT	A36 Gr.36	Typical	3	.063	9	.237
4	Platform Crossmemb...	L2x2x4	Beam	Single Angle	A36 Gr.36	Typical	.944	.346	.346	.021
5	Grating Support	L2x2x2	Beam	Single Angle	A36 Gr.36	Typical	.491	.189	.189	.003
6	Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	Cross Arm Plate	PL3/8x6	Column	RECT	A36 Gr.36	Typical	2.25	.026	6.75	.101
8	Standoff Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
9	Kicker	LL3x3x3x6	Column	Double Ang...	A36 Gr.36	Typical	2.18	4.97	1.9	.027
10	Support Rail	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89



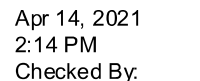
	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
11	Support Rail Corner ...	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026

	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
8	Q235	29000	11154	.3	.65	.49	35	1.5	58	1.2

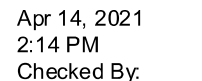
	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
2	M4	N3	N27			Standoff Horiz...	Beam	SquareTube	A500 Gr.B...	Typical
3	M10	N101	N103A		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
4	M19	N8	N9			RIGID	None	None	RIGID	Typical
5	M20	N10	N11			RIGID	None	None	RIGID	Typical
6	M21	N12	N13			RIGID	None	None	RIGID	Typical
7	M22	N14	N15			RIGID	None	None	RIGID	Typical
8	MP3A	N17	N16			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
9	MP4A	N19	N18			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
10	MP2A	N21	N20			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
11	MP1A	N23	N22			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
12	M43	N102	N5		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
13	M46	N86C	N87A			Corner Plate	Beam	RECT	A36 Gr.36	Typical
14	M35A	N7	N30			RIGID	None	None	RIGID	Typical
15	M36A	N6	N29			RIGID	None	None	RIGID	Typical
16	M51B	N87C	N6			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
17	M52B	N7	N87B			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
18	M52	N87B	N88C			RIGID	None	None	RIGID	Typical
19	M58	N102	N24			RIGID	None	None	RIGID	Typical
20	M59	N24	N103A			RIGID	None	None	RIGID	Typical
21	M76	N101	N105			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
22	M84	N5	N104A			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
23	M50	N88C	N88A			RIGID	None	None	RIGID	Typical
24	M51	N88A	N86G			RIGID	None	None	RIGID	Typical
25	M51A	N87C	N86G			RIGID	None	None	RIGID	Typical
26	M52A	N87D	N92			Standoff Horiz...	Beam	SquareTube	A500 Gr.B...	Typical
27	M53	N95	N97		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
28	M54	N96	N88B		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
29	M55	N106	N107			Corner Plate	Beam	RECT	A36 Gr.36	Typical
30	M56	N90	N94			RIGID	None	None	RIGID	Typical
31	M57	N89	N93			RIGID	None	None	RIGID	Typical
32	M58A	N111	N89			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
33	M59A	N90	N113			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
34	M60	N113	N114			RIGID	None	None	RIGID	Typical



	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
35	M61	N96	N91			RIGID	None	None	RIGID	Typical
36	M62	N91	N97			RIGID	None	None	RIGID	Typical
37	M63	N95	N99			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
38	M68	N88B	N98			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
39	M69	N98	N102A			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
40	M70	N102A	N105A			RIGID	None	None	RIGID	Typical
41	M71	N106	N103			Corner Plate	Beam	RECT	A36 Gr.36	Typical
42	M72	N103	N109			RIGID	None	None	RIGID	Typical
43	M73	N114	N110			RIGID	None	None	RIGID	Typical
44	M74	N110	N112			RIGID	None	None	RIGID	Typical
45	M75	N111	N112			RIGID	None	None	RIGID	Typical
46	M76A	N115	N120			Standoff Horiz...	Beam	SquareTube	A500 Gr.B...	Typical
47	M77A	N123	N125		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
48	M78	N124	N116		180	Platform Cross...	Beam	Single Angle	A36 Gr.36	Typical
49	M79A	N134	N135A			Corner Plate	Beam	RECT	A36 Gr.36	Typical
50	M80A	N118	N122			RIGID	None	None	RIGID	Typical
51	M81	N117	N121			RIGID	None	None	RIGID	Typical
52	M82	N139	N117			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
53	M83A	N118	N141			Grating Support	Beam	Single Angle	A36 Gr.36	Typical
54	M84A	N141	N142			RIGID	None	None	RIGID	Typical
55	M85A	N124	N119			RIGID	None	None	RIGID	Typical
56	M86	N119	N125			RIGID	None	None	RIGID	Typical
57	M87	N123	N127			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
58	M88A	N127	N128			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
59	M89	N128	N132			RIGID	None	None	RIGID	Typical
60	M90	N135A	N129			Corner Plate	Beam	RECT	A36 Gr.36	Typical
61	M91A	N129	N136			RIGID	None	None	RIGID	Typical
62	M92A	N116	N126			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
63	M97	N142	N138			RIGID	None	None	RIGID	Typical
64	M98	N138	N140			RIGID	None	None	RIGID	Typical
65	M99	N139	N140			RIGID	None	None	RIGID	Typical
66	M82A	N104B	N105B			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
67	M83B	N106A	N107A			RIGID	None	None	RIGID	Typical
68	M84B	N108A	N109A			RIGID	None	None	RIGID	Typical
69	M85B	N110A	N111A			RIGID	None	None	RIGID	Typical
70	M86A	N112A	N113A			RIGID	None	None	RIGID	Typical
71	MP3C	N115A	N114A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
72	MP4C	N117A	N116A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
73	MP2C	N119A	N118A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
74	MP1C	N121A	N120A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
75	M91B	N122A	N123A			Face Horizontal	Beam	Pipe	A53 Gr.B	Typical
76	M92B	N124A	N125A			RIGID	None	None	RIGID	Typical
77	M93A	N126A	N127A			RIGID	None	None	RIGID	Typical
78	M94A	N128A	N129A			RIGID	None	None	RIGID	Typical
79	M95A	N130A	N131B			RIGID	None	None	RIGID	Typical
80	MP3B	N133A	N132A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
81	MP4B	N135B	N134A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
82	MP2B	N137A	N136A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
83	MP1B	N139A	N138A			Mount Pipe	Column	Pipe	A53 Gr.B	Typical
84	M92C	N126	N133			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical
85	M93	N133	N134B			RIGID	None	None	RIGID	Typical
86	M94	N105	N136B			Cross Arm Plate	Column	RECT	A36 Gr.36	Typical



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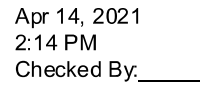


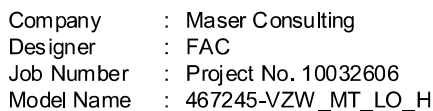
Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
96	MP4A	Mz	0	4.98
97	MP4B	Y	-4.95	1.03
98	MP4B	My	.001	1.03
99	MP4B	Mz	-.002	1.03
100	MP4B	Y	-4.95	4.98
101	MP4B	My	.001	4.98
102	MP4B	Mz	-.002	4.98
103	MP4C	Y	-4.95	1.03
104	MP4C	My	.001	1.03
105	MP4C	Mz	.002	1.03
106	MP4C	Y	-4.95	4.98
107	MP4C	My	.001	4.98
108	MP4C	Mz	.002	4.98

Member Point Loads (BLC 2 : Antenna Di)

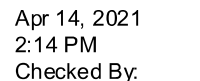
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-82.955	1
2	MP1A	My	-.055	1
3	MP1A	Mz	-.062	1
4	MP1A	Y	-82.955	5
5	MP1A	My	-.055	5
6	MP1A	Mz	-.062	5
7	MP1B	Y	-82.955	1
8	MP1B	My	.082	1
9	MP1B	Mz	-.017	1
10	MP1B	Y	-82.955	5
11	MP1B	My	.082	5
12	MP1B	Mz	-.017	5
13	MP1C	Y	-82.955	1
14	MP1C	My	-.026	1
15	MP1C	Mz	.079	1
16	MP1C	Y	-82.955	5
17	MP1C	My	-.026	5
18	MP1C	Mz	.079	5
19	MP1A	Y	-70.395	1
20	MP1A	My	-.047	1
21	MP1A	Mz	.053	1
22	MP1A	Y	-70.395	5
23	MP1A	My	-.047	5
24	MP1A	Mz	.053	5
25	MP1B	Y	-70.395	1
26	MP1B	My	-.022	1
27	MP1B	Mz	-.067	1
28	MP1B	Y	-70.395	5
29	MP1B	My	-.022	5
30	MP1B	Mz	-.067	5
31	MP1C	Y	-70.395	1
32	MP1C	My	.069	1
33	MP1C	Mz	.014	1
34	MP1C	Y	-70.395	5
35	MP1C	My	.069	5



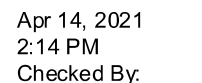


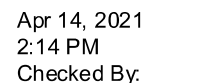
Apr 14, 2021
2:14 PM
Checked By:

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
20	MP1A	Z	-175.337	1
21	MP1A	Mx	-.199	1
22	MP1A	X	101.231	5
23	MP1A	Z	-175.337	5
24	MP1A	Mx	-.199	5
25	MP1B	X	64.134	1
26	MP1B	Z	-111.084	1
27	MP1B	Mx	.086	1
28	MP1B	X	64.134	5
29	MP1B	Z	-111.084	5
30	MP1B	Mx	.086	5
31	MP1C	X	101.231	1
32	MP1C	Z	-175.337	1
33	MP1C	Mx	.064	1
34	MP1C	X	101.231	5
35	MP1C	Z	-175.337	5
36	MP1C	Mx	.064	5
37	MP3A	X	42.161	2
38	MP3A	Z	-73.025	2
39	MP3A	Mx	-.028	2
40	MP3A	X	42.161	4
41	MP3A	Z	-73.025	4
42	MP3A	Mx	-.028	4
43	MP3B	X	25.435	2
44	MP3B	Z	-44.054	2
45	MP3B	Mx	.034	2
46	MP3B	X	25.435	4
47	MP3B	Z	-44.054	4
48	MP3B	Mx	.034	4
49	MP3C	X	42.161	2
50	MP3C	Z	-73.025	2
51	MP3C	Mx	-.028	2
52	MP3C	X	42.161	4
53	MP3C	Z	-73.025	4
54	MP3C	Mx	-.028	4
55	MP1A	X	39.223	2
56	MP1A	Z	-67.936	2
57	MP1A	Mx	-.026	2
58	MP1B	X	23.987	2
59	MP1B	Z	-41.546	2
60	MP1B	Mx	.032	2
61	MP1C	X	39.223	2
62	MP1C	Z	-67.936	2
63	MP1C	Mx	-.026	2
64	MP1A	X	20.736	4
65	MP1A	Z	-35.915	4
66	MP1A	Mx	.014	4
67	MP1B	X	11.871	4
68	MP1B	Z	-20.561	4
69	MP1B	Mx	-.016	4
70	MP1C	X	20.736	4
71	MP1C	Z	-35.915	4

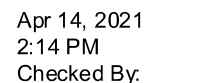


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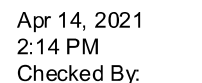


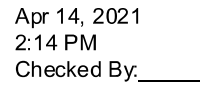


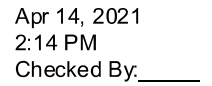
	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
4	MP1A	X	173.841	5
5	MP1A	Z	0	5
6	MP1A	Mx	-.116	5
7	MP1B	X	218.83	1
8	MP1B	Z	0	1
9	MP1B	Mx	.215	1
10	MP1B	X	218.83	5
11	MP1B	Z	0	5
12	MP1B	Mx	.215	5
13	MP1C	X	218.83	1
14	MP1C	Z	0	1
15	MP1C	Mx	-.069	1
16	MP1C	X	218.83	5
17	MP1C	Z	0	5
18	MP1C	Mx	-.069	5
19	MP1A	X	128.269	1
20	MP1A	Z	0	1
21	MP1A	Mx	-.086	1
22	MP1A	X	128.269	5
23	MP1A	Z	0	5
24	MP1A	Mx	-.086	5
25	MP1B	X	202.462	1
26	MP1B	Z	0	1
27	MP1B	Mx	-.064	1
28	MP1B	X	202.462	5
29	MP1B	Z	0	5
30	MP1B	Mx	-.064	5
31	MP1C	X	202.462	1
32	MP1C	Z	0	1
33	MP1C	Mx	.199	1
34	MP1C	X	202.462	5
35	MP1C	Z	0	5
36	MP1C	Mx	.199	5
37	MP3A	X	50.869	2
38	MP3A	Z	0	2
39	MP3A	Mx	-.034	2
40	MP3A	X	50.869	4
41	MP3A	Z	0	4
42	MP3A	Mx	-.034	4
43	MP3B	X	84.322	2
44	MP3B	Z	0	2
45	MP3B	Mx	.028	2
46	MP3B	X	84.322	4
47	MP3B	Z	0	4
48	MP3B	Mx	.028	4
49	MP3C	X	84.322	2
50	MP3C	Z	0	2
51	MP3C	Mx	.028	2
52	MP3C	X	84.322	4
53	MP3C	Z	0	4
54	MP3C	Mx	.028	4
55	MP1A	X	47.974	2



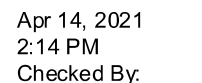
RISA-3D Version 17.0.4 [\\...\RISA\MOD 467245-VZW MT LO H.r3d] Page 25







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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
84	MP2B	Mx	-.014	3.63
85	MP2C	X	0	2.38
86	MP2C	Z	33.285	2.38
87	MP2C	Mx	.014	2.38
88	MP2C	X	0	3.63
89	MP2C	Z	33.285	3.63
90	MP2C	Mx	.014	3.63
91	MP4A	X	0	1.03
92	MP4A	Z	111.82	1.03
93	MP4A	Mx	0	1.03
94	MP4A	X	0	4.98
95	MP4A	Z	111.82	4.98
96	MP4A	Mx	0	4.98
97	MP4B	X	0	1.03
98	MP4B	Z	67.901	1.03
99	MP4B	Mx	-.029	1.03
100	MP4B	X	0	4.98
101	MP4B	Z	67.901	4.98
102	MP4B	Mx	-.029	4.98
103	MP4C	X	0	1.03
104	MP4C	Z	67.901	1.03
105	MP4C	Mx	.029	1.03
106	MP4C	X	0	4.98
107	MP4C	Z	67.901	4.98
108	MP4C	Mx	.029	4.98

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

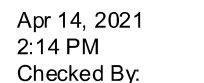
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-109.415	1
2	MP1A	Z	189.512	1
3	MP1A	Mx	-.069	1
4	MP1A	X	-109.415	5
5	MP1A	Z	189.512	5
6	MP1A	Mx	-.069	5
7	MP1B	X	-86.92	1
8	MP1B	Z	150.551	1
9	MP1B	Mx	-.116	1
10	MP1B	X	-86.92	5
11	MP1B	Z	150.551	5
12	MP1B	Mx	-.116	5
13	MP1C	X	-109.415	1
14	MP1C	Z	189.512	1
15	MP1C	Mx	.215	1
16	MP1C	X	-109.415	5
17	MP1C	Z	189.512	5
18	MP1C	Mx	.215	5
19	MP1A	X	-101.231	1
20	MP1A	Z	175.337	1
21	MP1A	Mx	.199	1
22	MP1A	X	-101.231	5
23	MP1A	Z	175.337	5

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

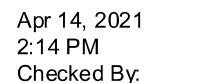
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
76	MP2A	X	-20.315	3.63
77	MP2A	Z	35.186	3.63
78	MP2A	Mx	.01	3.63
79	MP2B	X	-14.807	2.38
80	MP2B	Z	25.646	2.38
81	MP2B	Mx	-.015	2.38
82	MP2B	X	-14.807	3.63
83	MP2B	Z	25.646	3.63
84	MP2B	Mx	-.015	3.63
85	MP2C	X	-20.315	2.38
86	MP2C	Z	35.186	2.38
87	MP2C	Mx	.01	2.38
88	MP2C	X	-20.315	3.63
89	MP2C	Z	35.186	3.63
90	MP2C	Mx	.01	3.63
91	MP4A	X	-48.59	1.03
92	MP4A	Z	84.161	1.03
93	MP4A	Mx	.024	1.03
94	MP4A	X	-48.59	4.98
95	MP4A	Z	84.161	4.98
96	MP4A	Mx	.024	4.98
97	MP4B	X	-26.631	1.03
98	MP4B	Z	46.126	1.03
99	MP4B	Mx	-.027	1.03
100	MP4B	X	-26.631	4.98
101	MP4B	Z	46.126	4.98
102	MP4B	Mx	-.027	4.98
103	MP4C	X	-48.59	1.03
104	MP4C	Z	84.161	1.03
105	MP4C	Mx	.024	1.03
106	MP4C	X	-48.59	4.98
107	MP4C	Z	84.161	4.98
108	MP4C	Mx	.024	4.98

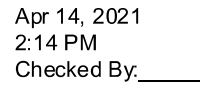
Member Point Loads (BLC 11 : Antenna Wo (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-163.538	1
2	MP1A	Z	94.419	1
3	MP1A	Mx	.038	1
4	MP1A	X	-163.538	5
5	MP1A	Z	94.419	5
6	MP1A	Mx	.038	5
7	MP1B	X	-163.538	1
8	MP1B	Z	94.419	1
9	MP1B	Mx	-.18	1
10	MP1B	X	-163.538	5
11	MP1B	Z	94.419	5
12	MP1B	Mx	-.18	5
13	MP1C	X	-202.5	1
14	MP1C	Z	116.913	1
15	MP1C	Mx	.175	1

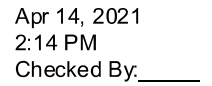


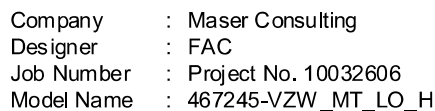
RISA-3D Version 17.0.4 [\\.\..\..\..\RISA\MOD 467245-VZW MT LO H.r3d] Page 34





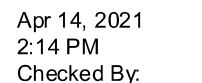
RISA-3D Version 17.0.4 [\\.\...\RISA\MOD 467245-VZW MT LO H.r3d] Page 36

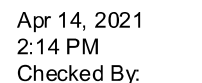


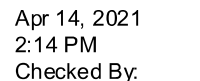


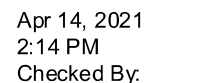
Apr 14, 2021
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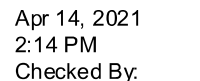
	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	MP1A	X	-163.538	1
2	MP1A	Z	-94.419	1
3	MP1A	Mx	.18	1
4	MP1A	X	-163.538	5
5	MP1A	Z	-94.419	5
6	MP1A	Mx	.18	5
7	MP1B	X	-202.5	1
8	MP1B	Z	-116.913	1
9	MP1B	Mx	-.175	1
10	MP1B	X	-202.5	5
11	MP1B	Z	-116.913	5
12	MP1B	Mx	-.175	5
13	MP1C	X	-163.538	1
14	MP1C	Z	-94.419	1
15	MP1C	Mx	-.038	1
16	MP1C	X	-163.538	5
17	MP1C	Z	-94.419	5
18	MP1C	Mx	-.038	5
19	MP1A	X	-132.502	1
20	MP1A	Z	-76.5	1
21	MP1A	Mx	.031	1
22	MP1A	X	-132.502	5
23	MP1A	Z	-76.5	5
24	MP1A	Mx	.031	5
25	MP1B	X	-196.755	1
26	MP1B	Z	-113.597	1
27	MP1B	Mx	.17	1
28	MP1B	X	-196.755	5
29	MP1B	Z	-113.597	5
30	MP1B	Mx	.17	5
31	MP1C	X	-132.502	1
32	MP1C	Z	-76.5	1
33	MP1C	Mx	-.146	1
34	MP1C	X	-132.502	5
35	MP1C	Z	-76.5	5
36	MP1C	Mx	-.146	5
37	MP3A	X	-53.711	2
38	MP3A	Z	-31.01	2
39	MP3A	Mx	.036	2
40	MP3A	X	-53.711	4
41	MP3A	Z	-31.01	4
42	MP3A	Mx	.036	4
43	MP3B	X	-82.682	2
44	MP3B	Z	-47.737	2
45	MP3B	Mx	0	2
46	MP3B	X	-82.682	4
47	MP3B	Z	-47.737	4
48	MP3B	Mx	0	4
49	MP3C	X	-53.711	2
50	MP3C	Z	-31.01	2
51	MP3C	Mx	-.036	2
52	MP3C	X	-53.711	4

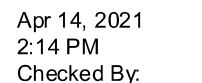


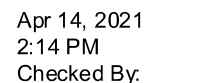


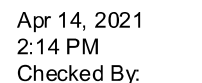


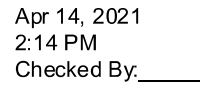


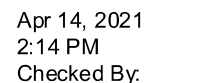




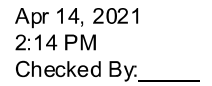


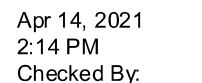
[\\...\\RISA\\MOD 467245-VZW MT LO H.r3d] Page 50

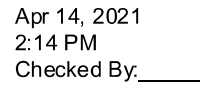




	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	MP1A	X	18.863	1
2	MP1A	Z	32.671	1
3	MP1A	Mx	-.037	1
4	MP1A	X	18.863	5
5	MP1A	Z	32.671	5
6	MP1A	Mx	-.037	5
7	MP1B	X	18.863	1
8	MP1B	Z	32.671	1
9	MP1B	Mx	.012	1
10	MP1B	X	18.863	5
11	MP1B	Z	32.671	5
12	MP1B	Mx	.012	5
13	MP1C	X	15.196	1
14	MP1C	Z	26.32	1
15	MP1C	Mx	.02	1
16	MP1C	X	15.196	5
17	MP1C	Z	26.32	5
18	MP1C	Mx	.02	5
19	MP1A	X	17.561	1
20	MP1A	Z	30.416	1
21	MP1A	Mx	.011	1
22	MP1A	X	17.561	5
23	MP1A	Z	30.416	5
24	MP1A	Mx	.011	5
25	MP1B	X	17.561	1
26	MP1B	Z	30.416	1
27	MP1B	Mx	-.035	1
28	MP1B	X	17.561	5
29	MP1B	Z	30.416	5
30	MP1B	Mx	-.035	5
31	MP1C	X	11.603	1
32	MP1C	Z	20.096	1
33	MP1C	Mx	.015	1
34	MP1C	X	11.603	5
35	MP1C	Z	20.096	5
36	MP1C	Mx	.015	5
37	MP3A	X	7.601	2
38	MP3A	Z	13.165	2
39	MP3A	Mx	-.005	2
40	MP3A	X	7.601	4
41	MP3A	Z	13.165	4
42	MP3A	Mx	-.005	4
43	MP3B	X	7.601	2
44	MP3B	Z	13.165	2
45	MP3B	Mx	-.005	2
46	MP3B	X	7.601	4
47	MP3B	Z	13.165	4
48	MP3B	Mx	-.005	4
49	MP3C	X	4.795	2
50	MP3C	Z	8.305	2
51	MP3C	Mx	.006	2
52	MP3C	X	4.795	4





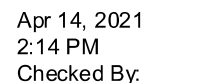


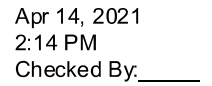
Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

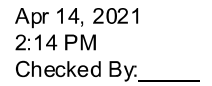
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
89	MP2C	Z	6.685	3.63
90	MP2C	Mx	.002	3.63
91	MP4A	X	-8.759	1.03
92	MP4A	Z	15.17	1.03
93	MP4A	Mx	.004	1.03
94	MP4A	X	-8.759	4.98
95	MP4A	Z	15.17	4.98
96	MP4A	Mx	.004	4.98
97	MP4B	X	-5.209	1.03
98	MP4B	Z	9.023	1.03
99	MP4B	Mx	-.005	1.03
100	MP4B	X	-5.209	4.98
101	MP4B	Z	9.023	4.98
102	MP4B	Mx	-.005	4.98
103	MP4C	X	-8.759	1.03
104	MP4C	Z	15.17	1.03
105	MP4C	Mx	.004	1.03
106	MP4C	X	-8.759	4.98
107	MP4C	Z	15.17	4.98
108	MP4C	Mx	.004	4.98

Member Point Loads (BLC 23 : Antenna Wi (240 Deg))

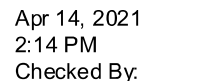
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-28.437	1
2	MP1A	Z	16.418	1
3	MP1A	Mx	.007	1
4	MP1A	X	-28.437	5
5	MP1A	Z	16.418	5
6	MP1A	Mx	.007	5
7	MP1B	X	-28.437	1
8	MP1B	Z	16.418	1
9	MP1B	Mx	-.031	1
10	MP1B	X	-28.437	5
11	MP1B	Z	16.418	5
12	MP1B	Mx	-.031	5
13	MP1C	X	-34.788	1
14	MP1C	Z	20.085	1
15	MP1C	Mx	.03	1
16	MP1C	X	-34.788	5
17	MP1C	Z	20.085	5
18	MP1C	Mx	.03	5
19	MP1A	X	-23.536	1
20	MP1A	Z	13.589	1
21	MP1A	Mx	.026	1
22	MP1A	X	-23.536	5
23	MP1A	Z	13.589	5
24	MP1A	Mx	.026	5
25	MP1B	X	-23.536	1
26	MP1B	Z	13.589	1
27	MP1B	Mx	-.005	1
28	MP1B	X	-23.536	5

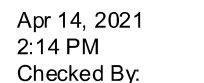


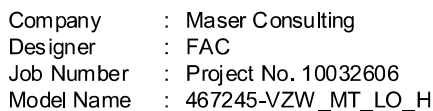




[\\...\\RISA\\MOD 467245-VZW MT LO H.r3d] Page 63

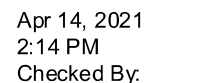


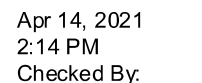


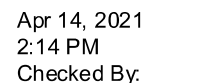


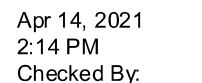
Apr 14, 2021
2:14 PM
Checked By:

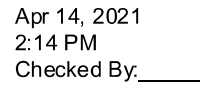
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
57	MP1A	Mx	.005	2
58	MP1B	X	-7.478	2
59	MP1B	Z	-12.952	2
60	MP1B	Mx	.005	2
61	MP1C	X	-4.847	2
62	MP1C	Z	-8.395	2
63	MP1C	Mx	-.006	2
64	MP1A	X	-4.239	4
65	MP1A	Z	-7.343	4
66	MP1A	Mx	-.003	4
67	MP1B	X	-4.239	4
68	MP1B	Z	-7.343	4
69	MP1B	Mx	-.003	4
70	MP1C	X	-2.674	4
71	MP1C	Z	-4.632	4
72	MP1C	Mx	.004	4
73	MP2A	X	-3.86	2.38
74	MP2A	Z	-6.685	2.38
75	MP2A	Mx	.002	2.38
76	MP2A	X	-3.86	3.63
77	MP2A	Z	-6.685	3.63
78	MP2A	Mx	.002	3.63
79	MP2B	X	-3.86	2.38
80	MP2B	Z	-6.685	2.38
81	MP2B	Mx	.002	2.38
82	MP2B	X	-3.86	3.63
83	MP2B	Z	-6.685	3.63
84	MP2B	Mx	.002	3.63
85	MP2C	X	-2.906	2.38
86	MP2C	Z	-5.034	2.38
87	MP2C	Mx	-.003	2.38
88	MP2C	X	-2.906	3.63
89	MP2C	Z	-5.034	3.63
90	MP2C	Mx	-.003	3.63
91	MP4A	X	-8.759	1.03
92	MP4A	Z	-15.17	1.03
93	MP4A	Mx	.004	1.03
94	MP4A	X	-8.759	4.98
95	MP4A	Z	-15.17	4.98
96	MP4A	Mx	.004	4.98
97	MP4B	X	-8.759	1.03
98	MP4B	Z	-15.17	1.03
99	MP4B	Mx	.004	1.03
100	MP4B	X	-8.759	4.98
101	MP4B	Z	-15.17	4.98
102	MP4B	Mx	.004	4.98
103	MP4C	X	-5.209	1.03
104	MP4C	Z	-9.023	1.03
105	MP4C	Mx	-.005	1.03
106	MP4C	X	-5.209	4.98
107	MP4C	Z	-9.023	4.98
108	MP4C	Mx	-.005	4.98







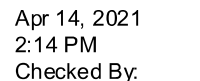




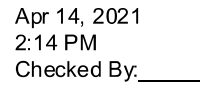
	Member Label	Direction	Magnitude[lb, k-ft]	Location[ft, %]
37	MP3A	X	3.045	2
38	MP3A	Z	-1.758	2
39	MP3A	Mx	-.002	2
40	MP3A	X	3.045	4
41	MP3A	Z	-1.758	4
42	MP3A	Mx	-.002	4
43	MP3B	X	3.045	2
44	MP3B	Z	-1.758	2
45	MP3B	Mx	.002	2
46	MP3B	X	3.045	4
47	MP3B	Z	-1.758	4
48	MP3B	Mx	.002	4
49	MP3C	X	4.687	2
50	MP3C	Z	-2.706	2
51	MP3C	Mx	0	2
52	MP3C	X	4.687	4
53	MP3C	Z	-2.706	4
54	MP3C	Mx	0	4
55	MP1A	X	2.854	2
56	MP1A	Z	-1.648	2
57	MP1A	Mx	-.002	2
58	MP1B	X	2.854	2
59	MP1B	Z	-1.648	2
60	MP1B	Mx	.002	2
61	MP1C	X	4.35	2
62	MP1C	Z	-2.511	2
63	MP1C	Mx	0	2
64	MP1A	X	1.456	4
65	MP1A	Z	-.84	4
66	MP1A	Mx	.000971	4
67	MP1B	X	1.456	4
68	MP1B	Z	-.84	4
69	MP1B	Mx	-.00097	4
70	MP1C	X	2.326	4
71	MP1C	Z	-1.343	4
72	MP1C	Mx	0	4
73	MP2A	X	1.634	2.38
74	MP2A	Z	-.943	2.38
75	MP2A	Mx	-.000817	2.38
76	MP2A	X	1.634	3.63
77	MP2A	Z	-.943	3.63
78	MP2A	Mx	-.000817	3.63
79	MP2B	X	1.634	2.38
80	MP2B	Z	-.943	2.38
81	MP2B	Mx	.000817	2.38
82	MP2B	X	1.634	3.63
83	MP2B	Z	-.943	3.63
84	MP2B	Mx	.000817	3.63
85	MP2C	X	2.175	2.38
86	MP2C	Z	-1.256	2.38
87	MP2C	Mx	0	2.38
88	MP2C	X	2.175	3.63

Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

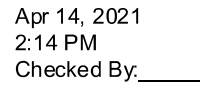
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP1B	Z	0	5
30	MP1B	Mx	-.004	5
31	MP1C	X	11.477	1
32	MP1C	Z	0	1
33	MP1C	Mx	.011	1
34	MP1C	X	11.477	5
35	MP1C	Z	0	5
36	MP1C	Mx	.011	5
37	MP3A	X	2.884	2
38	MP3A	Z	0	2
39	MP3A	Mx	-.002	2
40	MP3A	X	2.884	4
41	MP3A	Z	0	4
42	MP3A	Mx	-.002	4
43	MP3B	X	4.78	2
44	MP3B	Z	0	2
45	MP3B	Mx	.002	2
46	MP3B	X	4.78	4
47	MP3B	Z	0	4
48	MP3B	Mx	.002	4
49	MP3C	X	4.78	2
50	MP3C	Z	0	2
51	MP3C	Mx	.002	2
52	MP3C	X	4.78	4
53	MP3C	Z	0	4
54	MP3C	Mx	.002	4
55	MP1A	X	2.72	2
56	MP1A	Z	0	2
57	MP1A	Mx	-.002	2
58	MP1B	X	4.447	2
59	MP1B	Z	0	2
60	MP1B	Mx	.001	2
61	MP1C	X	4.447	2
62	MP1C	Z	0	2
63	MP1C	Mx	.001	2
64	MP1A	X	1.346	4
65	MP1A	Z	0	4
66	MP1A	Mx	.000897	4
67	MP1B	X	2.351	4
68	MP1B	Z	0	4
69	MP1B	Mx	-.000784	4
70	MP1C	X	2.351	4
71	MP1C	Z	0	4
72	MP1C	Mx	-.000784	4
73	MP2A	X	1.679	2.38
74	MP2A	Z	0	2.38
75	MP2A	Mx	-.00084	2.38
76	MP2A	X	1.679	3.63
77	MP2A	Z	0	3.63
78	MP2A	Mx	-.00084	3.63
79	MP2B	X	2.303	2.38
80	MP2B	Z	0	2.38



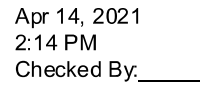
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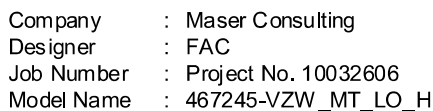
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Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

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Member Point Loads (BLC 33 : Antenna Wm (180 Deg)) (Continued)

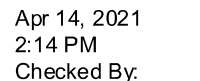
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
57	MP1A	Mx	0	2
58	MP1B	X	0	2
59	MP1B	Z	3.295	2
60	MP1B	Mx	-.002	2
61	MP1C	X	0	2
62	MP1C	Z	3.295	2
63	MP1C	Mx	.002	2
64	MP1A	X	0	4
65	MP1A	Z	2.686	4
66	MP1A	Mx	0	4
67	MP1B	X	0	4
68	MP1B	Z	1.681	4
69	MP1B	Mx	.000971	4
70	MP1C	X	0	4
71	MP1C	Z	1.681	4
72	MP1C	Mx	-.000971	4
73	MP2A	X	0	2.38
74	MP2A	Z	2.511	2.38
75	MP2A	Mx	0	2.38
76	MP2A	X	0	3.63
77	MP2A	Z	2.511	3.63
78	MP2A	Mx	0	3.63
79	MP2B	X	0	2.38
80	MP2B	Z	1.887	2.38
81	MP2B	Mx	-.000817	2.38
82	MP2B	X	0	3.63
83	MP2B	Z	1.887	3.63
84	MP2B	Mx	-.000817	3.63
85	MP2C	X	0	2.38
86	MP2C	Z	1.887	2.38
87	MP2C	Mx	.000817	2.38
88	MP2C	X	0	3.63
89	MP2C	Z	1.887	3.63
90	MP2C	Mx	.000817	3.63
91	MP4A	X	0	1.03
92	MP4A	Z	6.339	1.03
93	MP4A	Mx	0	1.03
94	MP4A	X	0	4.98
95	MP4A	Z	6.339	4.98
96	MP4A	Mx	0	4.98
97	MP4B	X	0	1.03
98	MP4B	Z	3.849	1.03
99	MP4B	Mx	-.002	1.03
100	MP4B	X	0	4.98
101	MP4B	Z	3.849	4.98
102	MP4B	Mx	-.002	4.98
103	MP4C	X	0	1.03
104	MP4C	Z	3.849	1.03
105	MP4C	Mx	.002	1.03
106	MP4C	X	0	4.98
107	MP4C	Z	3.849	4.98
108	MP4C	Mx	.002	4.98

Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[<u>lb,k-ft</u>]	Location[<u>ft,%</u>]
105	MP4C	Mx	.001	1.03
106	MP4C	X	-2.755	4.98
107	MP4C	Z	4.771	4.98
108	MP4C	Mx	.001	4.98

Member Point Loads (BLC 35 : Antenna Wm (240 Deg))

	Member Label	Direction	Magnitude[lb.k-ft]	Location[ft, %]
1	MP1A	X	-9.271	1
2	MP1A	Z	5.353	1
3	MP1A	Mx	.002	1
4	MP1A	X	-9.271	5
5	MP1A	Z	5.353	5
6	MP1A	Mx	.002	5
7	MP1B	X	-9.271	1
8	MP1B	Z	5.353	1
9	MP1B	Mx	-.01	1
10	MP1B	X	-9.271	5
11	MP1B	Z	5.353	5
12	MP1B	Mx	-.01	5
13	MP1C	X	-11.48	1
14	MP1C	Z	6.628	1
15	MP1C	Mx	.01	1
16	MP1C	X	-11.48	5
17	MP1C	Z	6.628	5
18	MP1C	Mx	.01	5
19	MP1A	X	-7.511	1
20	MP1A	Z	4.337	1
21	MP1A	Mx	.008	1
22	MP1A	X	-7.511	5
23	MP1A	Z	4.337	5
24	MP1A	Mx	.008	5
25	MP1B	X	-7.511	1
26	MP1B	Z	4.337	1
27	MP1B	Mx	-.002	1
28	MP1B	X	-7.511	5
29	MP1B	Z	4.337	5
30	MP1B	Mx	-.002	5
31	MP1C	X	-11.154	1
32	MP1C	Z	6.44	1
33	MP1C	Mx	-.01	1
34	MP1C	X	-11.154	5
35	MP1C	Z	6.44	5
36	MP1C	Mx	-.01	5
37	MP3A	X	-3.045	2
38	MP3A	Z	1.758	2
39	MP3A	Mx	.002	2
40	MP3A	X	-3.045	4
41	MP3A	Z	1.758	4
42	MP3A	Mx	.002	4
43	MP3B	X	-3.045	2
44	MP3B	Z	1.758	2



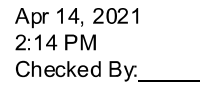
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Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

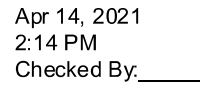
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
89	MP2C	Z	0	3.63
90	MP2C	Mx	-.000576	3.63
91	MP4A	X	-3.019	1.03
92	MP4A	Z	0	1.03
93	MP4A	Mx	.002	1.03
94	MP4A	X	-3.019	4.98
95	MP4A	Z	0	4.98
96	MP4A	Mx	.002	4.98
97	MP4B	X	-5.509	1.03
98	MP4B	Z	0	1.03
99	MP4B	Mx	-.001	1.03
100	MP4B	X	-5.509	4.98
101	MP4B	Z	0	4.98
102	MP4B	Mx	-.001	4.98
103	MP4C	X	-5.509	1.03
104	MP4C	Z	0	1.03
105	MP4C	Mx	-.001	1.03
106	MP4C	X	-5.509	4.98
107	MP4C	Z	0	4.98
108	MP4C	Mx	-.001	4.98

Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-9.271	1
2	MP1A	Z	-5.353	1
3	MP1A	Mx	.01	1
4	MP1A	X	-9.271	5
5	MP1A	Z	-5.353	5
6	MP1A	Mx	.01	5
7	MP1B	X	-11.48	1
8	MP1B	Z	-6.628	1
9	MP1B	Mx	-.01	1
10	MP1B	X	-11.48	5
11	MP1B	Z	-6.628	5
12	MP1B	Mx	-.01	5
13	MP1C	X	-9.271	1
14	MP1C	Z	-5.353	1
15	MP1C	Mx	-.002	1
16	MP1C	X	-9.271	5
17	MP1C	Z	-5.353	5
18	MP1C	Mx	-.002	5
19	MP1A	X	-7.511	1
20	MP1A	Z	-4.337	1
21	MP1A	Mx	.002	1
22	MP1A	X	-7.511	5
23	MP1A	Z	-4.337	5
24	MP1A	Mx	.002	5
25	MP1B	X	-11.154	1
26	MP1B	Z	-6.44	1
27	MP1B	Mx	.01	1
28	MP1B	X	-11.154	5



	Member Label	Direction	Magnitude[lb, k-ft]	Location[ft, %]
29	MP1B	Z	-6.44	5
30	MP1B	Mx	.01	5
31	MP1C	X	-7.511	1
32	MP1C	Z	-4.337	1
33	MP1C	Mx	-.008	1
34	MP1C	X	-7.511	5
35	MP1C	Z	-4.337	5
36	MP1C	Mx	-.008	5
37	MP3A	X	-3.045	2
38	MP3A	Z	-1.758	2
39	MP3A	Mx	.002	2
40	MP3A	X	-3.045	4
41	MP3A	Z	-1.758	4
42	MP3A	Mx	.002	4
43	MP3B	X	-4.687	2
44	MP3B	Z	-2.706	2
45	MP3B	Mx	0	2
46	MP3B	X	-4.687	4
47	MP3B	Z	-2.706	4
48	MP3B	Mx	0	4
49	MP3C	X	-3.045	2
50	MP3C	Z	-1.758	2
51	MP3C	Mx	-.002	2
52	MP3C	X	-3.045	4
53	MP3C	Z	-1.758	4
54	MP3C	Mx	-.002	4
55	MP1A	X	-2.854	2
56	MP1A	Z	-1.648	2
57	MP1A	Mx	.002	2
58	MP1B	X	-4.35	2
59	MP1B	Z	-2.511	2
60	MP1B	Mx	0	2
61	MP1C	X	-2.854	2
62	MP1C	Z	-1.648	2
63	MP1C	Mx	-.002	2
64	MP1A	X	-1.456	4
65	MP1A	Z	-.84	4
66	MP1A	Mx	-.000971	4
67	MP1B	X	-2.326	4
68	MP1B	Z	-1.343	4
69	MP1B	Mx	0	4
70	MP1C	X	-1.456	4
71	MP1C	Z	-.84	4
72	MP1C	Mx	.00097	4
73	MP2A	X	-1.634	2.38
74	MP2A	Z	-.943	2.38
75	MP2A	Mx	.000817	2.38
76	MP2A	X	-1.634	3.63
77	MP2A	Z	-.943	3.63
78	MP2A	Mx	.000817	3.63
79	MP2B	X	-2.175	2.38
80	MP2B	Z	-1.256	2.38



Member Point Loads (BLC 38 : Antenna Wm (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
73	MP2A	X	-1.152	2.38
74	MP2A	Z	-1.995	2.38
75	MP2A	Mx	.000576	2.38
76	MP2A	X	-1.152	3.63
77	MP2A	Z	-1.995	3.63
78	MP2A	Mx	.000576	3.63
79	MP2B	X	-1.152	2.38
80	MP2B	Z	-1.995	2.38
81	MP2B	Mx	.000576	2.38
82	MP2B	X	-1.152	3.63
83	MP2B	Z	-1.995	3.63
84	MP2B	Mx	.000576	3.63
85	MP2C	X	-.839	2.38
86	MP2C	Z	-1.454	2.38
87	MP2C	Mx	-.000839	2.38
88	MP2C	X	-.839	3.63
89	MP2C	Z	-1.454	3.63
90	MP2C	Mx	-.000839	3.63
91	MP4A	X	-2.755	1.03
92	MP4A	Z	-4.771	1.03
93	MP4A	Mx	.001	1.03
94	MP4A	X	-2.755	4.98
95	MP4A	Z	-4.771	4.98
96	MP4A	Mx	.001	4.98
97	MP4B	X	-2.755	1.03
98	MP4B	Z	-4.771	1.03
99	MP4B	Mx	.001	1.03
100	MP4B	X	-2.755	4.98
101	MP4B	Z	-4.771	4.98
102	MP4B	Mx	.001	4.98
103	MP4C	X	-1.51	1.03
104	MP4C	Z	-2.615	1.03
105	MP4C	Mx	-.002	1.03
106	MP4C	X	-1.51	4.98
107	MP4C	Z	-2.615	4.98
108	MP4C	Mx	-.002	4.98

Member Point Loads (BLC 77 : Lm1)

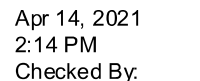
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-500	%3

Member Point Loads (BLC 78 : Lm2)

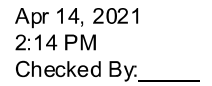
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-500	%80

Member Point Loads (BLC 79 : Lv1)

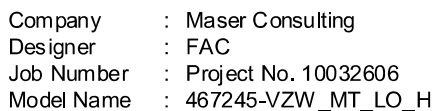
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-250	%100



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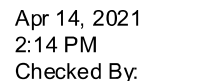


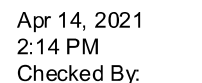
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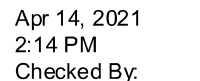


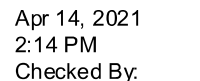
Apr 14, 2021
2:14 PM
Checked By:

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
34	M55	Z	-7.107	-7.107	0	%100
35	M58A	X	0	0	0	%100
36	M58A	Z	-3.946	-3.946	0	%100
37	M59A	X	0	0	0	%100
38	M59A	Z	-15.786	-15.786	0	%100
39	M63	X	0	0	0	%100
40	M63	Z	-21.322	-21.322	0	%100
41	M68	X	0	0	0	%100
42	M68	Z	-21.322	-21.322	0	%100
43	M69	X	0	0	0	%100
44	M69	Z	-28.429	-28.429	0	%100
45	M71	X	0	0	0	%100
46	M71	Z	-28.429	-28.429	0	%100
47	M76A	X	0	0	0	%100
48	M76A	Z	-12.633	-12.633	0	%100
49	M77A	X	0	0	0	%100
50	M77A	Z	-3.241	-3.241	0	%100
51	M78	X	0	0	0	%100
52	M78	Z	-3.241	-3.241	0	%100
53	M79A	X	0	0	0	%100
54	M79A	Z	-7.107	-7.107	0	%100
55	M82	X	0	0	0	%100
56	M82	Z	-15.786	-15.786	0	%100
57	M83A	X	0	0	0	%100
58	M83A	Z	-3.946	-3.946	0	%100
59	M87	X	0	0	0	%100
60	M87	Z	-21.322	-21.322	0	%100
61	M88A	X	0	0	0	%100
62	M88A	Z	-28.429	-28.429	0	%100
63	M90	X	0	0	0	%100
64	M90	Z	-28.429	-28.429	0	%100
65	M92A	X	0	0	0	%100
66	M92A	Z	-21.322	-21.322	0	%100
67	M82A	X	0	0	0	%100
68	M82A	Z	-3.768	-3.768	0	%100
69	MP3C	X	0	0	0	%100
70	MP3C	Z	-11.253	-11.253	0	%100
71	MP4C	X	0	0	0	%100
72	MP4C	Z	-11.253	-11.253	0	%100
73	MP2C	X	0	0	0	%100
74	MP2C	Z	-11.253	-11.253	0	%100
75	MP1C	X	0	0	0	%100
76	MP1C	Z	-11.253	-11.253	0	%100
77	M91B	X	0	0	0	%100
78	M91B	Z	-3.768	-3.768	0	%100
79	MP3B	X	0	0	0	%100
80	MP3B	Z	-11.253	-11.253	0	%100
81	MP4B	X	0	0	0	%100
82	MP4B	Z	-11.253	-11.253	0	%100
83	MP2B	X	0	0	0	%100
84	MP2B	Z	-11.253	-11.253	0	%100
85	MP1B	X	0	0	0	%100



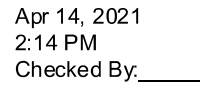


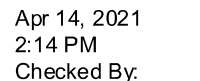


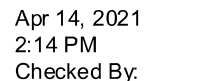


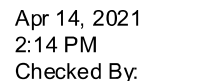
Member Distributed Loads (BLC 43 : Structure Wo (60 Deg)) (Continued)

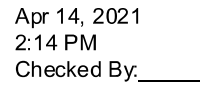
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
42	M68	Z	0	0	0	%100
43	M69	X	6.155	6.155	0	%100
44	M69	Z	-3.554	-3.554	0	%100
45	M71	X	6.155	6.155	0	%100
46	M71	Z	-3.554	-3.554	0	%100
47	M76A	X	10.94	10.94	0	%100
48	M76A	Z	-6.316	-6.316	0	%100
49	M77A	X	2.807	2.807	0	%100
50	M77A	Z	-1.621	-1.621	0	%100
51	M78	X	2.807	2.807	0	%100
52	M78	Z	-1.621	-1.621	0	%100
53	M79A	X	6.155	6.155	0	%100
54	M79A	Z	-3.554	-3.554	0	%100
55	M82	X	3.418	3.418	0	%100
56	M82	Z	-1.973	-1.973	0	%100
57	M83A	X	13.671	13.671	0	%100
58	M83A	Z	-7.893	-7.893	0	%100
59	M87	X	18.465	18.465	0	%100
60	M87	Z	-10.661	-10.661	0	%100
61	M88A	X	6.155	6.155	0	%100
62	M88A	Z	-3.554	-3.554	0	%100
63	M90	X	6.155	6.155	0	%100
64	M90	Z	-3.554	-3.554	0	%100
65	M92A	X	18.465	18.465	0	%100
66	M92A	Z	-10.661	-10.661	0	%100
67	M82A	X	13.052	13.052	0	%100
68	M82A	Z	-7.536	-7.536	0	%100
69	MP3C	X	9.745	9.745	0	%100
70	MP3C	Z	-5.627	-5.627	0	%100
71	MP4C	X	9.745	9.745	0	%100
72	MP4C	Z	-5.627	-5.627	0	%100
73	MP2C	X	9.745	9.745	0	%100
74	MP2C	Z	-5.627	-5.627	0	%100
75	MP1C	X	9.745	9.745	0	%100
76	MP1C	Z	-5.627	-5.627	0	%100
77	M91B	X	3.263	3.263	0	%100
78	M91B	Z	-1.884	-1.884	0	%100
79	MP3B	X	9.745	9.745	0	%100
80	MP3B	Z	-5.627	-5.627	0	%100
81	MP4B	X	9.745	9.745	0	%100
82	MP4B	Z	-5.627	-5.627	0	%100
83	MP2B	X	9.745	9.745	0	%100
84	MP2B	Z	-5.627	-5.627	0	%100
85	MP1B	X	9.745	9.745	0	%100
86	MP1B	Z	-5.627	-5.627	0	%100
87	M92C	X	24.62	24.62	0	%100
88	M92C	Z	-14.214	-14.214	0	%100
89	M94	X	24.62	24.62	0	%100
90	M94	Z	-14.214	-14.214	0	%100
91	M96A	X	6.155	6.155	0	%100
92	M96A	Z	-3.554	-3.554	0	%100
93	M98A	X	6.155	6.155	0	%100

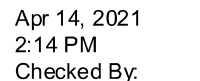
[\\...\\RISA\\MOD 467245-VZW MT LO H.r3d] Page 102

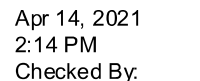


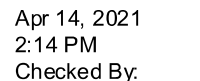






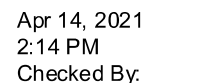






Member Distributed Loads (BLC 47 : Structure Wo (180 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
9	MP4A	X	0	0	0	%100
10	MP4A	Z	11.253	11.253	0	%100
11	MP2A	X	0	0	0	%100
12	MP2A	Z	11.253	11.253	0	%100
13	MP1A	X	0	0	0	%100
14	MP1A	Z	11.253	11.253	0	%100
15	M43	X	0	0	0	%100
16	M43	Z	12.964	12.964	0	%100
17	M46	X	0	0	0	%100
18	M46	Z	28.429	28.429	0	%100
19	M51B	X	0	0	0	%100
20	M51B	Z	3.946	3.946	0	%100
21	M52B	X	0	0	0	%100
22	M52B	Z	3.946	3.946	0	%100
23	M76	X	0	0	0	%100
24	M76	Z	0	0	0	%100
25	M84	X	0	0	0	%100
26	M84	Z	0	0	0	%100
27	M52A	X	0	0	0	%100
28	M52A	Z	12.633	12.633	0	%100
29	M53	X	0	0	0	%100
30	M53	Z	3.241	3.241	0	%100
31	M54	X	0	0	0	%100
32	M54	Z	3.241	3.241	0	%100
33	M55	X	0	0	0	%100
34	M55	Z	7.107	7.107	0	%100
35	M58A	X	0	0	0	%100
36	M58A	Z	3.946	3.946	0	%100
37	M59A	X	0	0	0	%100
38	M59A	Z	15.786	15.786	0	%100
39	M63	X	0	0	0	%100
40	M63	Z	21.322	21.322	0	%100
41	M68	X	0	0	0	%100
42	M68	Z	21.322	21.322	0	%100
43	M69	X	0	0	0	%100
44	M69	Z	28.429	28.429	0	%100
45	M71	X	0	0	0	%100
46	M71	Z	28.429	28.429	0	%100
47	M76A	X	0	0	0	%100
48	M76A	Z	12.633	12.633	0	%100
49	M77A	X	0	0	0	%100
50	M77A	Z	3.241	3.241	0	%100
51	M78	X	0	0	0	%100
52	M78	Z	3.241	3.241	0	%100
53	M79A	X	0	0	0	%100
54	M79A	Z	7.107	7.107	0	%100
55	M82	X	0	0	0	%100
56	M82	Z	15.786	15.786	0	%100
57	M83A	X	0	0	0	%100
58	M83A	Z	3.946	3.946	0	%100
59	M87	X	0	0	0	%100
60	M87	Z	21.322	21.322	0	%100

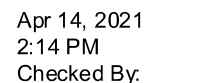


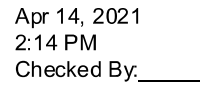
Member Distributed Loads (BLC 47 : Structure Wo (180 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
113	M124	X	0	0	0	%100
114	M124	Z	13.51	13.51	0	%100
115	M125	X	0	0	0	%100
116	M125	Z	3.377	3.377	0	%100
117	M126	X	0	0	0	%100
118	M126	Z	20.971	20.971	0	%100
119	M127	X	0	0	0	%100
120	M127	Z	20.233	20.233	0	%100
121	M128	X	0	0	0	%100
122	M128	Z	20.233	20.233	0	%100

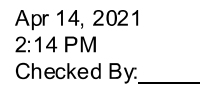
Member Distributed Loads (BLC 48 : Structure Wo (210 Deg))

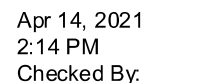
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-5.652	-5.652	0	%100
2	M1	Z	9.789	9.789	0	%100
3	M4	X	-2.105	-2.105	0	%100
4	M4	Z	3.647	3.647	0	%100
5	M10	X	-4.862	-4.862	0	%100
6	M10	Z	8.42	8.42	0	%100
7	MP3A	X	-5.627	-5.627	0	%100
8	MP3A	Z	9.745	9.745	0	%100
9	MP4A	X	-5.627	-5.627	0	%100
10	MP4A	Z	9.745	9.745	0	%100
11	MP2A	X	-5.627	-5.627	0	%100
12	MP2A	Z	9.745	9.745	0	%100
13	MP1A	X	-5.627	-5.627	0	%100
14	MP1A	Z	9.745	9.745	0	%100
15	M43	X	-4.862	-4.862	0	%100
16	M43	Z	8.42	8.42	0	%100
17	M46	X	-10.661	-10.661	0	%100
18	M46	Z	18.465	18.465	0	%100
19	M51B	X	-5.92	-5.92	0	%100
20	M51B	Z	10.253	10.253	0	%100
21	M52B	X	0	0	0	%100
22	M52B	Z	0	0	0	%100
23	M76	X	-3.554	-3.554	0	%100
24	M76	Z	6.155	6.155	0	%100
25	M84	X	-3.554	-3.554	0	%100
26	M84	Z	6.155	6.155	0	%100
27	M52A	X	-2.105	-2.105	0	%100
28	M52A	Z	3.647	3.647	0	%100
29	M53	X	-4.862	-4.862	0	%100
30	M53	Z	8.42	8.42	0	%100
31	M54	X	-4.862	-4.862	0	%100
32	M54	Z	8.42	8.42	0	%100
33	M55	X	-10.661	-10.661	0	%100
34	M55	Z	18.465	18.465	0	%100
35	M58A	X	0	0	0	%100
36	M58A	Z	0	0	0	%100
37	M59A	X	-5.92	-5.92	0	%100
38	M59A	Z	10.253	10.253	0	%100

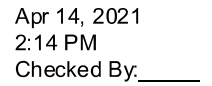




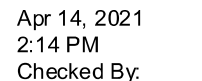
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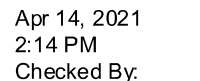






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Member Distributed Loads (BLC 51 : Structure Wo (300 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
25	M84	X	-18.465	-18.465	0	%100
26	M84	Z	-10.661	-10.661	0	%100
27	M52A	X	-10.94	-10.94	0	%100
28	M52A	Z	-6.316	-6.316	0	%100
29	M53	X	-2.807	-2.807	0	%100
30	M53	Z	-1.621	-1.621	0	%100
31	M54	X	-2.807	-2.807	0	%100
32	M54	Z	-1.621	-1.621	0	%100
33	M55	X	-6.155	-6.155	0	%100
34	M55	Z	-3.554	-3.554	0	%100
35	M58A	X	-13.671	-13.671	0	%100
36	M58A	Z	-7.893	-7.893	0	%100
37	M59A	X	-3.418	-3.418	0	%100
38	M59A	Z	-1.973	-1.973	0	%100
39	M63	X	-18.465	-18.465	0	%100
40	M63	Z	-10.661	-10.661	0	%100
41	M68	X	-18.465	-18.465	0	%100
42	M68	Z	-10.661	-10.661	0	%100
43	M69	X	-6.155	-6.155	0	%100
44	M69	Z	-3.554	-3.554	0	%100
45	M71	X	-6.155	-6.155	0	%100
46	M71	Z	-3.554	-3.554	0	%100
47	M76A	X	0	0	0	%100
48	M76A	Z	0	0	0	%100
49	M77A	X	-11.227	-11.227	0	%100
50	M77A	Z	-6.482	-6.482	0	%100
51	M78	X	-11.227	-11.227	0	%100
52	M78	Z	-6.482	-6.482	0	%100
53	M79A	X	-24.62	-24.62	0	%100
54	M79A	Z	-14.214	-14.214	0	%100
55	M82	X	-3.418	-3.418	0	%100
56	M82	Z	-1.973	-1.973	0	%100
57	M83A	X	-3.418	-3.418	0	%100
58	M83A	Z	-1.973	-1.973	0	%100
59	M87	X	0	0	0	%100
60	M87	Z	0	0	0	%100
61	M88A	X	-6.155	-6.155	0	%100
62	M88A	Z	-3.554	-3.554	0	%100
63	M90	X	-6.155	-6.155	0	%100
64	M90	Z	-3.554	-3.554	0	%100
65	M92A	X	0	0	0	%100
66	M92A	Z	0	0	0	%100
67	M82A	X	-3.263	-3.263	0	%100
68	M82A	Z	-1.884	-1.884	0	%100
69	MP3C	X	-9.745	-9.745	0	%100
70	MP3C	Z	-5.627	-5.627	0	%100
71	MP4C	X	-9.745	-9.745	0	%100
72	MP4C	Z	-5.627	-5.627	0	%100
73	MP2C	X	-9.745	-9.745	0	%100
74	MP2C	Z	-5.627	-5.627	0	%100
75	MP1C	X	-9.745	-9.745	0	%100
76	MP1C	Z	-5.627	-5.627	0	%100

Member Distributed Loads (BLC 51 : Structure Wo (300 Deg)) (Continued)

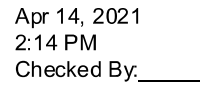
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
77	M91B	X	-13.052	-13.052	0	%100
78	M91B	Z	-7.536	-7.536	0	%100
79	MP3B	X	-9.745	-9.745	0	%100
80	MP3B	Z	-5.627	-5.627	0	%100
81	MP4B	X	-9.745	-9.745	0	%100
82	MP4B	Z	-5.627	-5.627	0	%100
83	MP2B	X	-9.745	-9.745	0	%100
84	MP2B	Z	-5.627	-5.627	0	%100
85	MP1B	X	-9.745	-9.745	0	%100
86	MP1B	Z	-5.627	-5.627	0	%100
87	M92C	X	-6.155	-6.155	0	%100
88	M92C	Z	-3.554	-3.554	0	%100
89	M94	X	-6.155	-6.155	0	%100
90	M94	Z	-3.554	-3.554	0	%100
91	M96A	X	-24.62	-24.62	0	%100
92	M96A	Z	-14.214	-14.214	0	%100
93	M98A	X	-24.62	-24.62	0	%100
94	M98A	Z	-14.214	-14.214	0	%100
95	M100	X	-8.881	-8.881	0	%100
96	M100	Z	-5.127	-5.127	0	%100
97	M93B	X	-6.155	-6.155	0	%100
98	M93B	Z	-3.554	-3.554	0	%100
99	M95	X	-6.155	-6.155	0	%100
100	M95	Z	-3.554	-3.554	0	%100
101	M97B	X	-24.62	-24.62	0	%100
102	M97B	Z	-14.214	-14.214	0	%100
103	M99B	X	-24.62	-24.62	0	%100
104	M99B	Z	-14.214	-14.214	0	%100
105	M102	X	-2.949	-2.949	0	%100
106	M102	Z	-1.703	-1.703	0	%100
107	M107	X	-2.949	-2.949	0	%100
108	M107	Z	-1.703	-1.703	0	%100
109	M112	X	-11.797	-11.797	0	%100
110	M112	Z	-6.811	-6.811	0	%100
111	M123	X	-2.925	-2.925	0	%100
112	M123	Z	-1.689	-1.689	0	%100
113	M124	X	-2.925	-2.925	0	%100
114	M124	Z	-1.689	-1.689	0	%100
115	M125	X	-11.7	-11.7	0	%100
116	M125	Z	-6.755	-6.755	0	%100
117	M126	X	-17.522	-17.522	0	%100
118	M126	Z	-10.117	-10.117	0	%100
119	M127	X	-17.522	-17.522	0	%100
120	M127	Z	-10.117	-10.117	0	%100
121	M128	X	-18.161	-18.161	0	%100
122	M128	Z	-10.485	-10.485	0	%100

Member Distributed Loads (BLC 52 : Structure Wo (330 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-5.652	-5.652	0	%100
2	M1	Z	-9.789	-9.789	0	%100

Member Distributed Loads (BLC 52 : Structure Wo (330 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
3	M4	X	-2.105	-2.105	0	%100
4	M4	Z	-3.647	-3.647	0	%100
5	M10	X	-4.862	-4.862	0	%100
6	M10	Z	-8.42	-8.42	0	%100
7	MP3A	X	-5.627	-5.627	0	%100
8	MP3A	Z	-9.745	-9.745	0	%100
9	MP4A	X	-5.627	-5.627	0	%100
10	MP4A	Z	-9.745	-9.745	0	%100
11	MP2A	X	-5.627	-5.627	0	%100
12	MP2A	Z	-9.745	-9.745	0	%100
13	MP1A	X	-5.627	-5.627	0	%100
14	MP1A	Z	-9.745	-9.745	0	%100
15	M43	X	-4.862	-4.862	0	%100
16	M43	Z	-8.42	-8.42	0	%100
17	M46	X	-10.661	-10.661	0	%100
18	M46	Z	-18.465	-18.465	0	%100
19	M51B	X	0	0	0	%100
20	M51B	Z	0	0	0	%100
21	M52B	X	-5.92	-5.92	0	%100
22	M52B	Z	-10.253	-10.253	0	%100
23	M76	X	-3.554	-3.554	0	%100
24	M76	Z	-6.155	-6.155	0	%100
25	M84	X	-3.554	-3.554	0	%100
26	M84	Z	-6.155	-6.155	0	%100
27	M52A	X	-8.422	-8.422	0	%100
28	M52A	Z	-14.587	-14.587	0	%100
29	M53	X	0	0	0	%100
30	M53	Z	0	0	0	%100
31	M54	X	0	0	0	%100
32	M54	Z	0	0	0	%100
33	M55	X	0	0	0	%100
34	M55	Z	0	0	0	%100
35	M58A	X	-5.92	-5.92	0	%100
36	M58A	Z	-10.253	-10.253	0	%100
37	M59A	X	-5.92	-5.92	0	%100
38	M59A	Z	-10.253	-10.253	0	%100
39	M63	X	-14.214	-14.214	0	%100
40	M63	Z	-24.62	-24.62	0	%100
41	M68	X	-14.214	-14.214	0	%100
42	M68	Z	-24.62	-24.62	0	%100
43	M69	X	-10.661	-10.661	0	%100
44	M69	Z	-18.465	-18.465	0	%100
45	M71	X	-10.661	-10.661	0	%100
46	M71	Z	-18.465	-18.465	0	%100
47	M76A	X	-2.105	-2.105	0	%100
48	M76A	Z	-3.647	-3.647	0	%100
49	M77A	X	-4.862	-4.862	0	%100
50	M77A	Z	-8.42	-8.42	0	%100
51	M78	X	-4.862	-4.862	0	%100
52	M78	Z	-8.42	-8.42	0	%100
53	M79A	X	-10.661	-10.661	0	%100
54	M79A	Z	-18.465	-18.465	0	%100

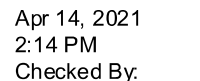


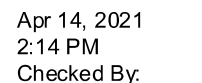
Member Distributed Loads (BLC 52 : Structure Wo (330 Deg)) (Continued)

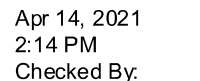
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
107	M107	X	0	0	0	%100
108	M107	Z	0	0	0	%100
109	M112	X	-5.108	-5.108	0	%100
110	M112	Z	-8.848	-8.848	0	%100
111	M123	X	0	0	0	%100
112	M123	Z	0	0	0	%100
113	M124	X	-5.066	-5.066	0	%100
114	M124	Z	-8.775	-8.775	0	%100
115	M125	X	-5.066	-5.066	0	%100
116	M125	Z	-8.775	-8.775	0	%100
117	M126	X	-10.363	-10.363	0	%100
118	M126	Z	-17.948	-17.948	0	%100
119	M127	X	-9.994	-9.994	0	%100
120	M127	Z	-17.309	-17.309	0	%100
121	M128	X	-10.363	-10.363	0	%100
122	M128	Z	-17.948	-17.948	0	%100

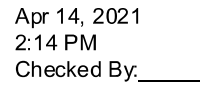
Member Distributed Loads (BLC 53 : Structure Wi (0 Deg))

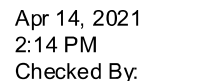
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	0	0	0	%100
2	M1	Z	-4.343	-4.343	0	%100
3	M4	X	0	0	0	%100
4	M4	Z	0	0	0	%100
5	M10	X	0	0	0	%100
6	M10	Z	-3.365	-3.365	0	%100
7	MP3A	X	0	0	0	%100
8	MP3A	Z	-3.504	-3.504	0	%100
9	MP4A	X	0	0	0	%100
10	MP4A	Z	-3.504	-3.504	0	%100
11	MP2A	X	0	0	0	%100
12	MP2A	Z	-3.504	-3.504	0	%100
13	MP1A	X	0	0	0	%100
14	MP1A	Z	-3.504	-3.504	0	%100
15	M43	X	0	0	0	%100
16	M43	Z	-3.365	-3.365	0	%100
17	M46	X	0	0	0	%100
18	M46	Z	-5.578	-5.578	0	%100
19	M51B	X	0	0	0	%100
20	M51B	Z	-1.026	-1.026	0	%100
21	M52B	X	0	0	0	%100
22	M52B	Z	-1.026	-1.026	0	%100
23	M76	X	0	0	0	%100
24	M76	Z	0	0	0	%100
25	M84	X	0	0	0	%100
26	M84	Z	0	0	0	%100
27	M52A	X	0	0	0	%100
28	M52A	Z	-3.288	-3.288	0	%100
29	M53	X	0	0	0	%100
30	M53	Z	-.841	-.841	0	%100
31	M54	X	0	0	0	%100
32	M54	Z	-.841	-.841	0	%100

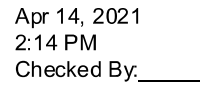


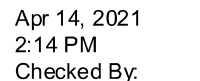


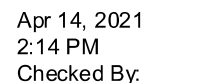


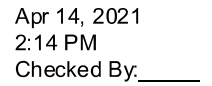




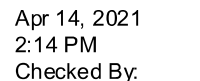


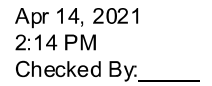




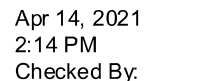


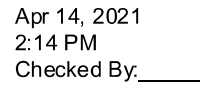
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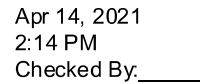


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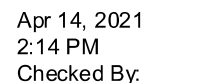
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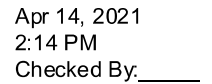


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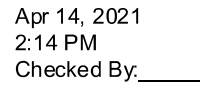
Member Distributed Loads (BLC 59 : Structure Wi (180 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
9	MP4A	X	0	0	0	%100
10	MP4A	Z	3.504	3.504	0	%100
11	MP2A	X	0	0	0	%100
12	MP2A	Z	3.504	3.504	0	%100
13	MP1A	X	0	0	0	%100
14	MP1A	Z	3.504	3.504	0	%100
15	M43	X	0	0	0	%100
16	M43	Z	3.365	3.365	0	%100
17	M46	X	0	0	0	%100
18	M46	Z	5.578	5.578	0	%100
19	M51B	X	0	0	0	%100
20	M51B	Z	1.026	1.026	0	%100
21	M52B	X	0	0	0	%100
22	M52B	Z	1.026	1.026	0	%100
23	M76	X	0	0	0	%100
24	M76	Z	0	0	0	%100
25	M84	X	0	0	0	%100
26	M84	Z	0	0	0	%100
27	M52A	X	0	0	0	%100
28	M52A	Z	3.288	3.288	0	%100
29	M53	X	0	0	0	%100
30	M53	Z	.841	.841	0	%100
31	M54	X	0	0	0	%100
32	M54	Z	.841	.841	0	%100
33	M55	X	0	0	0	%100
34	M55	Z	1.394	1.394	0	%100
35	M58A	X	0	0	0	%100
36	M58A	Z	1.026	1.026	0	%100
37	M59A	X	0	0	0	%100
38	M59A	Z	4.106	4.106	0	%100
39	M63	X	0	0	0	%100
40	M63	Z	4.115	4.115	0	%100
41	M68	X	0	0	0	%100
42	M68	Z	4.115	4.115	0	%100
43	M69	X	0	0	0	%100
44	M69	Z	5.487	5.487	0	%100
45	M71	X	0	0	0	%100
46	M71	Z	5.487	5.487	0	%100
47	M76A	X	0	0	0	%100
48	M76A	Z	3.288	3.288	0	%100
49	M77A	X	0	0	0	%100
50	M77A	Z	.841	.841	0	%100
51	M78	X	0	0	0	%100
52	M78	Z	.841	.841	0	%100
53	M79A	X	0	0	0	%100
54	M79A	Z	1.394	1.394	0	%100
55	M82	X	0	0	0	%100
56	M82	Z	4.106	4.106	0	%100
57	M83A	X	0	0	0	%100
58	M83A	Z	1.026	1.026	0	%100
59	M87	X	0	0	0	%100
60	M87	Z	4.115	4.115	0	%100

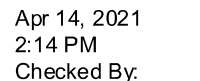


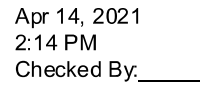


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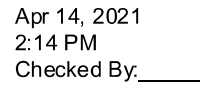


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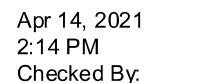


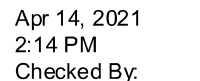


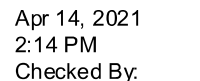
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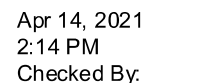


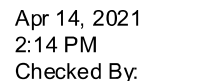
Member Distributed Loads (BLC 63 : Structure Wi (300 Deg)) (Continued)

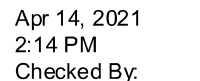
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
77	M91B	X	-3.761	-3.761	0	%100
78	M91B	Z	-2.171	-2.171	0	%100
79	MP3B	X	-3.034	-3.034	0	%100
80	MP3B	Z	-1.752	-1.752	0	%100
81	MP4B	X	-3.034	-3.034	0	%100
82	MP4B	Z	-1.752	-1.752	0	%100
83	MP2B	X	-3.034	-3.034	0	%100
84	MP2B	Z	-1.752	-1.752	0	%100
85	MP1B	X	-3.034	-3.034	0	%100
86	MP1B	Z	-1.752	-1.752	0	%100
87	M92C	X	-1.188	-1.188	0	%100
88	M92C	Z	-.686	-.686	0	%100
89	M94	X	-1.188	-1.188	0	%100
90	M94	Z	-.686	-.686	0	%100
91	M96A	X	-4.752	-4.752	0	%100
92	M96A	Z	-2.743	-2.743	0	%100
93	M98A	X	-4.752	-4.752	0	%100
94	M98A	Z	-2.743	-2.743	0	%100
95	M100	X	-2.778	-2.778	0	%100
96	M100	Z	-1.604	-1.604	0	%100
97	M93B	X	-1.188	-1.188	0	%100
98	M93B	Z	-.686	-.686	0	%100
99	M95	X	-1.188	-1.188	0	%100
100	M95	Z	-.686	-.686	0	%100
101	M97B	X	-4.752	-4.752	0	%100
102	M97B	Z	-2.743	-2.743	0	%100
103	M99B	X	-4.752	-4.752	0	%100
104	M99B	Z	-2.743	-2.743	0	%100
105	M102	X	-.839	-.839	0	%100
106	M102	Z	-.485	-.485	0	%100
107	M107	X	-.839	-.839	0	%100
108	M107	Z	-.485	-.485	0	%100
109	M112	X	-3.357	-3.357	0	%100
110	M112	Z	-1.938	-1.938	0	%100
111	M123	X	-.709	-.709	0	%100
112	M123	Z	-.409	-.409	0	%100
113	M124	X	-.709	-.709	0	%100
114	M124	Z	-.409	-.409	0	%100
115	M125	X	-2.836	-2.836	0	%100
116	M125	Z	-1.637	-1.637	0	%100
117	M126	X	-3.985	-3.985	0	%100
118	M126	Z	-2.301	-2.301	0	%100
119	M127	X	-3.985	-3.985	0	%100
120	M127	Z	-2.301	-2.301	0	%100
121	M128	X	-3.666	-3.666	0	%100
122	M128	Z	-2.117	-2.117	0	%100

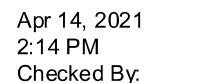
Member Distributed Loads (BLC 64 : Structure Wi (330 Deg))

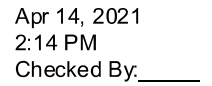
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	-1.629	-1.629	0	%100
2	M1	Z	-2.821	-2.821	0	%100



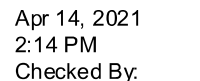


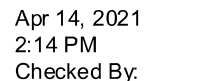


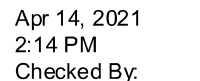


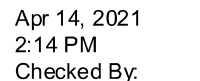


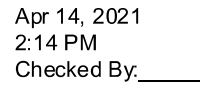
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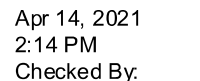






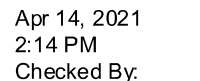


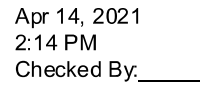


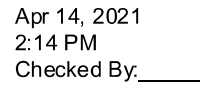


Member Distributed Loads (BLC 70 : Structure Wm (150 Deg)) (Continued)

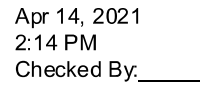
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
31	M54	X	0	0	0	%100
32	M54	Z	0	0	0	%100
33	M55	X	0	0	0	%100
34	M55	Z	0	0	0	%100
35	M58A	X	.336	.336	0	%100
36	M58A	Z	.581	.581	0	%100
37	M59A	X	.336	.336	0	%100
38	M59A	Z	.581	.581	0	%100
39	M63	X	.806	.806	0	%100
40	M63	Z	1.396	1.396	0	%100
41	M68	X	.806	.806	0	%100
42	M68	Z	1.396	1.396	0	%100
43	M69	X	.604	.604	0	%100
44	M69	Z	1.047	1.047	0	%100
45	M71	X	.604	.604	0	%100
46	M71	Z	1.047	1.047	0	%100
47	M76A	X	.119	.119	0	%100
48	M76A	Z	.207	.207	0	%100
49	M77A	X	.276	.276	0	%100
50	M77A	Z	.477	.477	0	%100
51	M78	X	.276	.276	0	%100
52	M78	Z	.477	.477	0	%100
53	M79A	X	.604	.604	0	%100
54	M79A	Z	1.047	1.047	0	%100
55	M82	X	.336	.336	0	%100
56	M82	Z	.581	.581	0	%100
57	M83A	X	0	0	0	%100
58	M83A	Z	0	0	0	%100
59	M87	X	.201	.201	0	%100
60	M87	Z	.349	.349	0	%100
61	M88A	X	.604	.604	0	%100
62	M88A	Z	1.047	1.047	0	%100
63	M90	X	.604	.604	0	%100
64	M90	Z	1.047	1.047	0	%100
65	M92A	X	.201	.201	0	%100
66	M92A	Z	.349	.349	0	%100
67	M82A	X	0	0	0	%100
68	M82A	Z	0	0	0	%100
69	MP3C	X	.319	.319	0	%100
70	MP3C	Z	.552	.552	0	%100
71	MP4C	X	.319	.319	0	%100
72	MP4C	Z	.552	.552	0	%100
73	MP2C	X	.319	.319	0	%100
74	MP2C	Z	.552	.552	0	%100
75	MP1C	X	.319	.319	0	%100
76	MP1C	Z	.552	.552	0	%100
77	M91B	X	.32	.32	0	%100
78	M91B	Z	.555	.555	0	%100
79	MP3B	X	.319	.319	0	%100
80	MP3B	Z	.552	.552	0	%100
81	MP4B	X	.319	.319	0	%100
82	MP4B	Z	.552	.552	0	%100

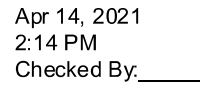


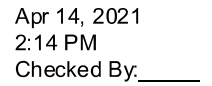




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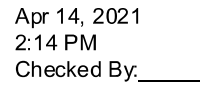


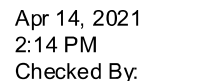
Member Distributed Loads (BLC 73 : Structure Wm (240 Deg)) (Continued)

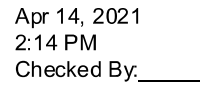
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
121	M128	X	-.993	-.993	0	%100
122	M128	Z	.574	.574	0	%100

Member Distributed Loads (BLC 74 : Structure Wm (270 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M4	X	-.955	-.955	0	%100
4	M4	Z	0	0	0	%100
5	M10	X	0	0	0	%100
6	M10	Z	0	0	0	%100
7	MP3A	X	-.638	-.638	0	%100
8	MP3A	Z	0	0	0	%100
9	MP4A	X	-.638	-.638	0	%100
10	MP4A	Z	0	0	0	%100
11	MP2A	X	-.638	-.638	0	%100
12	MP2A	Z	0	0	0	%100
13	MP1A	X	-.638	-.638	0	%100
14	MP1A	Z	0	0	0	%100
15	M43	X	0	0	0	%100
16	M43	Z	0	0	0	%100
17	M46	X	0	0	0	%100
18	M46	Z	0	0	0	%100
19	M51B	X	-.671	-.671	0	%100
20	M51B	Z	0	0	0	%100
21	M52B	X	-.671	-.671	0	%100
22	M52B	Z	0	0	0	%100
23	M76	X	-1.612	-1.612	0	%100
24	M76	Z	0	0	0	%100
25	M84	X	-1.612	-1.612	0	%100
26	M84	Z	0	0	0	%100
27	M52A	X	-.239	-.239	0	%100
28	M52A	Z	0	0	0	%100
29	M53	X	-.551	-.551	0	%100
30	M53	Z	0	0	0	%100
31	M54	X	-.551	-.551	0	%100
32	M54	Z	0	0	0	%100
33	M55	X	-1.209	-1.209	0	%100
34	M55	Z	0	0	0	%100
35	M58A	X	-.671	-.671	0	%100
36	M58A	Z	0	0	0	%100
37	M59A	X	0	0	0	%100
38	M59A	Z	0	0	0	%100
39	M63	X	-.403	-.403	0	%100
40	M63	Z	0	0	0	%100
41	M68	X	-.403	-.403	0	%100
42	M68	Z	0	0	0	%100
43	M69	X	0	0	0	%100
44	M69	Z	0	0	0	%100
45	M71	X	0	0	0	%100
46	M71	Z	0	0	0	%100





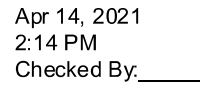


Member Distributed Loads (BLC 75 : Structure Wm (300 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
77	M91B	X	-.74	-.74	0	%100
78	M91B	Z	-.427	-.427	0	%100
79	MP3B	X	-.552	-.552	0	%100
80	MP3B	Z	-.319	-.319	0	%100
81	MP4B	X	-.552	-.552	0	%100
82	MP4B	Z	-.319	-.319	0	%100
83	MP2B	X	-.552	-.552	0	%100
84	MP2B	Z	-.319	-.319	0	%100
85	MP1B	X	-.552	-.552	0	%100
86	MP1B	Z	-.319	-.319	0	%100
87	M92C	X	-.349	-.349	0	%100
88	M92C	Z	-.201	-.201	0	%100
89	M94	X	-.349	-.349	0	%100
90	M94	Z	-.201	-.201	0	%100
91	M96A	X	-1.396	-1.396	0	%100
92	M96A	Z	-.806	-.806	0	%100
93	M98A	X	-1.396	-1.396	0	%100
94	M98A	Z	-.806	-.806	0	%100
95	M100	X	-.503	-.503	0	%100
96	M100	Z	-.291	-.291	0	%100
97	M93B	X	-.349	-.349	0	%100
98	M93B	Z	-.201	-.201	0	%100
99	M95	X	-.349	-.349	0	%100
100	M95	Z	-.201	-.201	0	%100
101	M97B	X	-1.396	-1.396	0	%100
102	M97B	Z	-.806	-.806	0	%100
103	M99B	X	-1.396	-1.396	0	%100
104	M99B	Z	-.806	-.806	0	%100
105	M102	X	-.167	-.167	0	%100
106	M102	Z	-.097	-.097	0	%100
107	M107	X	-.167	-.167	0	%100
108	M107	Z	-.097	-.097	0	%100
109	M112	X	-.669	-.669	0	%100
110	M112	Z	-.386	-.386	0	%100
111	M123	X	-.166	-.166	0	%100
112	M123	Z	-.096	-.096	0	%100
113	M124	X	-.166	-.166	0	%100
114	M124	Z	-.096	-.096	0	%100
115	M125	X	-.663	-.663	0	%100
116	M125	Z	-.383	-.383	0	%100
117	M126	X	-.993	-.993	0	%100
118	M126	Z	-.574	-.574	0	%100
119	M127	X	-.993	-.993	0	%100
120	M127	Z	-.574	-.574	0	%100
121	M128	X	-1.03	-1.03	0	%100
122	M128	Z	-.594	-.594	0	%100

Member Distributed Loads (BLC 76 : Structure Wm (330 Deg))

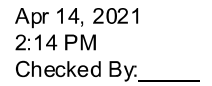
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	-.32	-.32	0	%100
2	M1	Z	-.555	-.555	0	%100



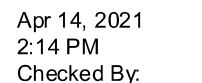
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Member Distributed Loads (BLC 76 : Structure Wm (330 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
55	M82	X	-.336	-.336	0	%100
56	M82	Z	-.581	-.581	0	%100
57	M83A	X	0	0	0	%100
58	M83A	Z	0	0	0	%100
59	M87	X	-.201	-.201	0	%100
60	M87	Z	-.349	-.349	0	%100
61	M88A	X	-.604	-.604	0	%100
62	M88A	Z	-1.047	-1.047	0	%100
63	M90	X	-.604	-.604	0	%100
64	M90	Z	-1.047	-1.047	0	%100
65	M92A	X	-.201	-.201	0	%100
66	M92A	Z	-.349	-.349	0	%100
67	M82A	X	0	0	0	%100
68	M82A	Z	0	0	0	%100
69	MP3C	X	-.319	-.319	0	%100
70	MP3C	Z	-.552	-.552	0	%100
71	MP4C	X	-.319	-.319	0	%100
72	MP4C	Z	-.552	-.552	0	%100
73	MP2C	X	-.319	-.319	0	%100
74	MP2C	Z	-.552	-.552	0	%100
75	MP1C	X	-.319	-.319	0	%100
76	MP1C	Z	-.552	-.552	0	%100
77	M91B	X	-.32	-.32	0	%100
78	M91B	Z	-.555	-.555	0	%100
79	MP3B	X	-.319	-.319	0	%100
80	MP3B	Z	-.552	-.552	0	%100
81	MP4B	X	-.319	-.319	0	%100
82	MP4B	Z	-.552	-.552	0	%100
83	MP2B	X	-.319	-.319	0	%100
84	MP2B	Z	-.552	-.552	0	%100
85	MP1B	X	-.319	-.319	0	%100
86	MP1B	Z	-.552	-.552	0	%100
87	M92C	X	0	0	0	%100
88	M92C	Z	0	0	0	%100
89	M94	X	0	0	0	%100
90	M94	Z	0	0	0	%100
91	M96A	X	-.604	-.604	0	%100
92	M96A	Z	-1.047	-1.047	0	%100
93	M98A	X	-.604	-.604	0	%100
94	M98A	Z	-1.047	-1.047	0	%100
95	M100	X	-.291	-.291	0	%100
96	M100	Z	-.503	-.503	0	%100
97	M93B	X	0	0	0	%100
98	M93B	Z	0	0	0	%100
99	M95	X	0	0	0	%100
100	M95	Z	0	0	0	%100
101	M97B	X	-.604	-.604	0	%100
102	M97B	Z	-1.047	-1.047	0	%100
103	M99B	X	-.604	-.604	0	%100
104	M99B	Z	-1.047	-1.047	0	%100
105	M102	X	-.29	-.29	0	%100
106	M102	Z	-.502	-.502	0	%100



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Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)

	Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-...	phi*Mn z-...	Cb	Eqn
33	M92A	PL3/8x6	.127	0	2	.140	0	y	11	70677.939	72900	.57	9.113	1....	H1-1b
34	M82A	PIPE 3.0	.144	1	12	.087	.875		9	30165.191	65205	5.749	5.749	2....	H1-1b
35	MP3C	PIPE 2.0	.355	4.25	6	.103	4.25		4	20866.733	32130	1.872	1.872	2....	H1-1b
36	MP4C	PIPE 2.0	.209	4.25	6	.072	4.25		7	20866.733	32130	1.872	1.872	2....	H1-1b
37	MP2C	PIPE 2.0	.462	4.25	12	.070	4.25		11	20866.733	32130	1.872	1.872	2....	H1-1b
38	MP1C	PIPE 2.0	.361	4.25	6	.168	4.25		1	20866.733	32130	1.872	1.872	2....	H1-1b
39	M91B	PIPE 3.0	.144	1	8	.087	.875		5	30165.191	65205	5.749	5.749	2....	H1-1b
40	MP3B	PIPE 2.0	.355	4.25	2	.103	4.25		12	20866.733	32130	1.872	1.872	2....	H1-1b
41	MP4B	PIPE 2.0	.209	4.25	2	.072	4.25		3	20866.733	32130	1.872	1.872	2....	H1-1b
42	MP2B	PIPE 2.0	.462	4.25	8	.070	4.25		7	20866.733	32130	1.872	1.872	2....	H1-1b
43	MP1B	PIPE 2.0	.361	4.25	2	.168	4.25		9	20866.733	32130	1.872	1.872	2....	H1-1b
44	M92C	PL3/8x6	.241	.417	10	.036	0	y	15	65155.695	72900	.57	9.113	1....	H1-1b
45	M94	PL3/8x6	.307	.417	8	.033	0	y	1	65155.695	72900	.57	8.885	1....	H1-1b
46	M96A	PL3/8x6	.241	.417	6	.036	0	y	23	65155.695	72900	.57	9.113	1....	H1-1b
47	M98A	PL3/8x6	.307	.417	4	.033	0	y	9	65155.695	72900	.57	8.887	1....	H1-1b
48	M100	PIPE 2.0	.037	.333	8	.004	.333		8	26521.424	32130	1.872	1.872	2....	H1-1b
49	M93B	PL1/2X6	.118	.279	5	.165	0	y	6	94492.26	97200	1.012	12.15	1....	H1-1b
50	M95	PL1/2X6	.147	0	9	.236	0	y	24	94492.26	97200	1.012	12.15	2....	H1-1b
51	M97B	PL1/2X6	.118	.279	1	.165	0	y	2	94492.26	97200	1.012	12.15	1....	H1-1b
52	M99B	PL1/2X6	.147	0	5	.236	0	y	20	94492.26	97200	1.012	12.15	2....	H1-1b
53	M102	PIPE 2.5	.189	1	8	.078	1		6	15797.3	50715	3.596	3.596	1....	H1-1b
54	M107	PIPE 2.5	.189	1	4	.078	1		2	15797.3	50715	3.596	3.596	1....	H1-1b
55	M112	PIPE 2.5	.189	1	12	.078	1		10	15797.3	50715	3.596	3.596	1....	H1-1b
56	M123	L2.5x2.5x4	.493	1.311	12	.086	0	y	5	36452.129	38556	1.114	2.537	2....	H2-1
57	M124	L2.5x2.5x4	.493	1.311	4	.086	0	y	9	36452.129	38556	1.114	2.537	2....	H2-1
58	M125	L2.5x2.5x4	.493	1.311	8	.086	0	y	1	36452.129	38556	1.114	2.537	2....	H2-1
59	M126	LL3x3x3x6	.123	3.905	13	.007	3.905	z	10	46600.131	70632	6.362	3.751	1	H1-1b*
60	M127	LL3x3x3x6	.123	3.905	21	.007	3.905	z	6	46600.131	70632	6.362	3.751	1	H1-1b*
61	M128	LL3x3x3x6	.123	3.905	17	.007	3.905	z	2	46600.131	70632	6.362	3.751	1	H1-1b*



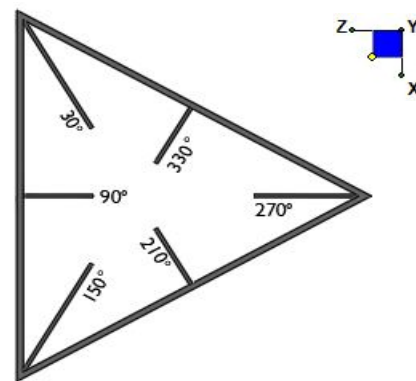
Client:	Verizon Wireless	Date:	4/14/2021
Site Name:	Groton 2 CT		
Project No.	20777642A		
Title:	Antenna Mount Fix	Page:	1

Version 3.1

I. Mount-to-Tower Connection Check

RISA Model Data

Nodes (labeled per RISA)	Orientation (per graphic of typical platform)
N87D	30
N115	150
N3	270



TYPICAL PLATFORM

Tower Connection Bolt Checks

Any moment resistance?:

Bolt Quantity per Reaction:

d_x (in) (Delta X of typ. bolt config. sketch):

d_y (in) (Delta Y of typ. bolt config. sketch):

Bolt Type:

Bolt Diameter (in):

Required Tensile Strength (kips):

Required Shear Strength (kips):

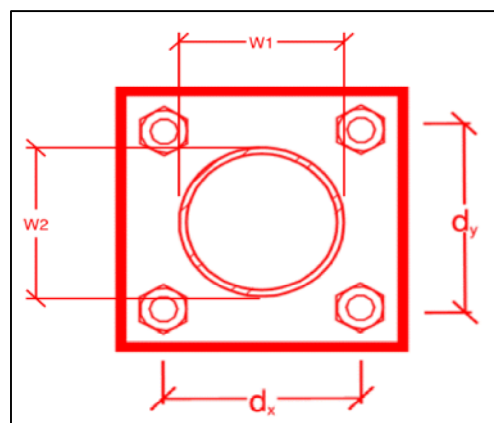
Tensile Strength / bolt (kips):

Shear Strength / bolt (kips):

Tensile Capacity Overall:

Shear Capacity Overall:

yes
4
6.5
6.5
A325N
0.625
11.5
3.7
20.7
12.4
13.9%*
7.5%



*Note: Tension reduction not required if tension or shear capacity < 30%

Tower Connection Plate and Weld Check

Connecting Standoff Member Shape:

Plate Width (in):

Plate Height (in):

W1 (in):

W2 (in):

Fy (ksi, plate):

t_{plate} (in):

Weld Size (1/16 in):

$\Phi \cdot R_n$ (kip/in):

Required Weld Strength (kip/in):

Plate Bending Capacity:

Weld Capacity:

Rect
10
10
4
4
36
0.625
4
5.57
1.61
27.1%
28.9%

Max Plate Bending Strengths

$M_{u_{xx}}$ (kip-in):	3.1
$\Phi \cdot M_{n_{xx}}$ (kip-in):	31.6
$M_{u_{yy}}$ (kip-in):	5.5
$\Phi \cdot M_{n_{yy}}$ (kip-in):	31.6

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

Purpose – to provide Maser Consulting Connecticut the proper documentation in order 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:

- 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) must be shown.
- Notation that all hardware was properly installed, and the existing hardware was inspected for any issues.
- Verification that loading is as communicated in the modification drawings. NOTE If loading is different than what is conveyed in the modification drawing contact Maser Consulting Connecticut immediately.
- Each photo should be time and date stamped
- Photos should be high resolution and submitted in a Zip File and should be organized in the file structure as depicted in Schedule A attached.
- Contractor shall ensure that the safety climb wire rope is supported and 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.
- The photos in the file structure should be uploaded to <https://pmi.vzwsmart.com> as depicted on the drawings

Photo Requirements:

- Base and “During Installation Photos”
 - Base pictures include
 - Photo of Gate Signs showing the tower owner, site name, and number
 - Photo of carrier shelter showing the carrier site name and number if available
 - Photos of the galvanizing compound and/or paint used (if applicable), clearly showing the label and name
 - “During Installation Photos if provided - must be placed only in this folder
- Photos taken at ground level
 - Overall tower structure before and after installation of the modifications
 - Photos of the appropriate mount before and 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 each individual sector before and also after installation of modifications. Each entire sector must be in one photo to show in the inter-connection of members.
 - These photos should also certify that the placement and geometry of the equipment on the mount is as depicted on the sketch and table in the mount analysis
 - Close-up photos of each installed modification per the modification drawings; pictures should also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
 - Photos showing the measurements of the installed modification member sizes (i.e. lengths, widths, depths, diameters, thicknesses)
 - Photos showing the elevation or distances of the installed modifications from the appropriate reference locations shown in the modification drawings
 - Photos showing the installed modifications onto the tower with tape drop measurements (if applicable) (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, a tape drop measurement shall be provided before the elevation change
 - 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.

Material Certification:

- Materials utilized must be as per specification on the drawings or the equivalent as validated by Maser Consulting Connecticut.
 - If the drawings are as specified on the drawings
 - The contractor should provide the packing list or the materials utilized to perform the mount modification
 - If an equivalent is utilized
 - It is required that the Maser Consulting Connecticut certification of such is included in the contractor submission package. There may be an additional charge for this certification if the equivalent submission doesn't meet specifications as prescribed in the drawings.
- The contractor must certify that the materials meet these specifications by one of these methods.

☐ The Material utilized was as specified on the Maser Consulting Connecticut Mount Modification Drawings and included in the Material certification folder is a packing list or invoice for these materials

☐ The material utilized was an "equivalent" and included as part of the contractor submission is the Maser Consulting Connecticut certification, invoices, or specifications validating accepted status

Certifying Individual: Company _____

Name _____

Signature _____

Antenna & equipment placement and Geometry Confirmation:

- The contractor must certify that the antenna & equipment placement and geometry is in accordance with the antenna placement diagrams as included in this mount analysis.
- ☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the antenna placement diagrams as included in this mount analysis.
- ☐ The contractor notes that the equipment on the mount is not in accordance with the antenna placement diagrams and has accordingly marked up the diagrams or provided a diagram outlining the differences.

Certifying Individual:

Company _____

Name _____

Signature _____

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

Issue:

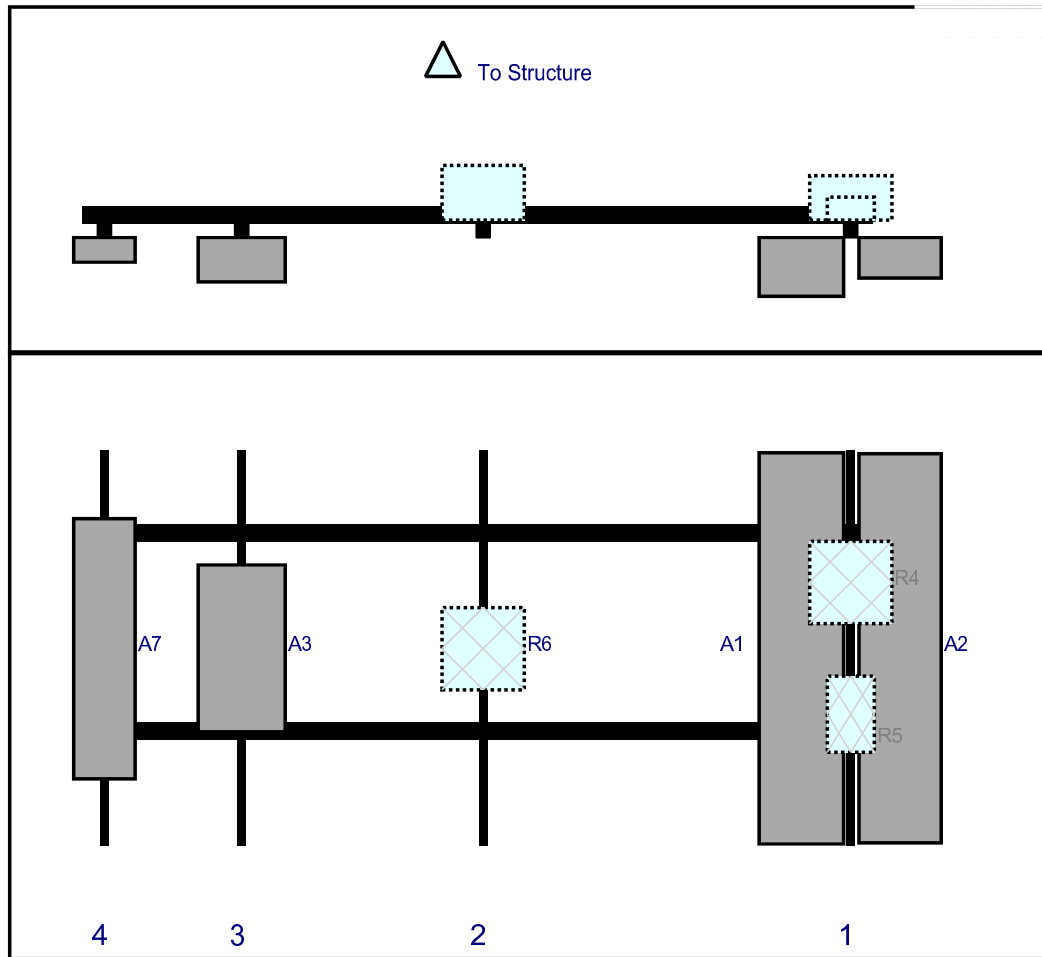
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Response:

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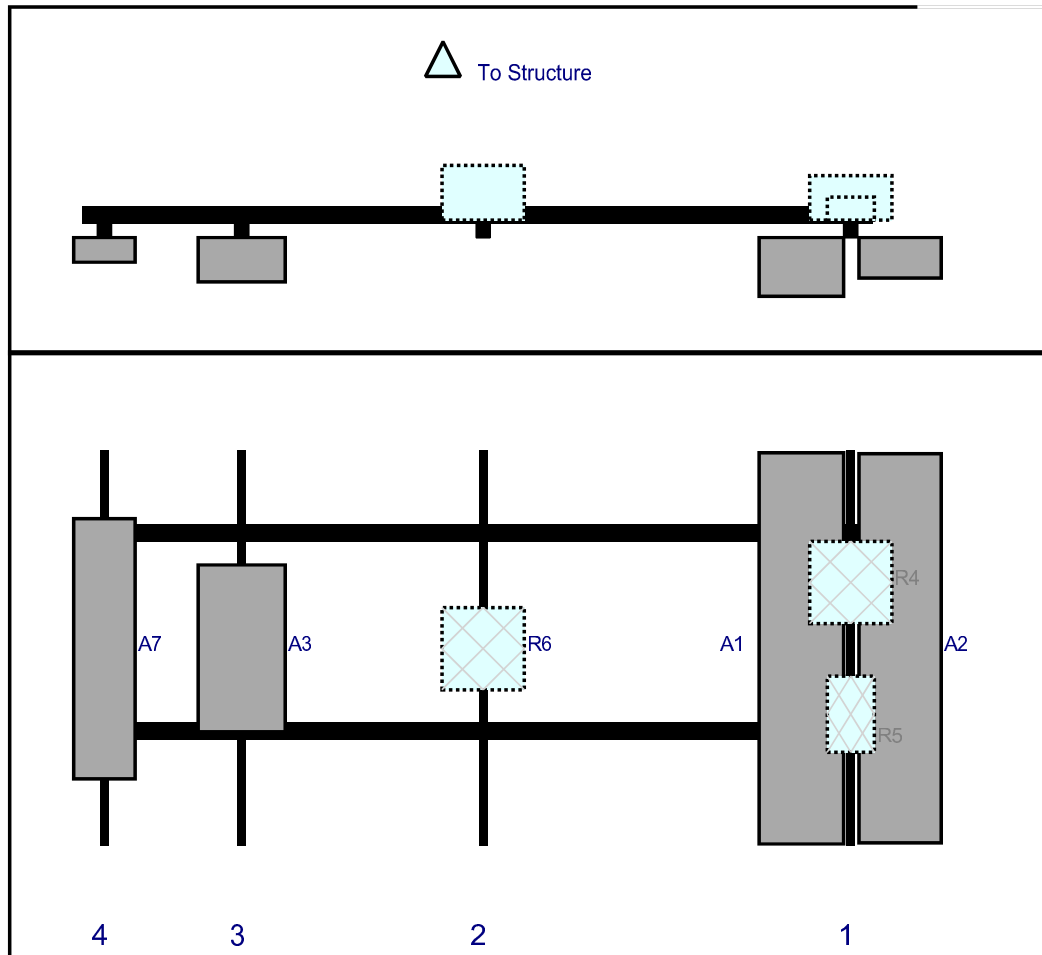
Schedule A – Photo & Document File Structure

-  VzW Site Number / Name
 -  Base & “During Installation” Photos
 -  Pre-Installation Photos
 -  Alpha
 -  Beta
 -  Gamma
 -  Ground Level
 -  Tape Drop
 -  Post-Installation Photos
 -  Alpha
 -  Beta
 -  Gamma
 -  Ground Level
 -  Tape Drop
 -  Photos of climbing facility and safety climb – If Present
-  Certifications – Submission of this document including certifications
-  Specific Required Additional Photos

Plan View

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
A1	MX06FRO660-02	71.3	15.4	140	1	a	Front	36	-9	Added	
A2	MX10FRO660-xx	70.9	15	140	1	a	Front	36	9	Added	
R4	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	140	1	a	Behind	24	0	Added	
R5	CBRS RRH - RT4401-48A	13.9	8.6	140	1	a	Behind	48	0	Added	
R6	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	73	2	a	Behind	36.06	0	Added	
A3	MT6407-77A	30.4	15.9	29	3	a	Front	36	0	Added	
A7	BXA-80063/4	47.4	11.2	4	4	a	Front	36.06	0	Retained	02/11/2021

Plan View

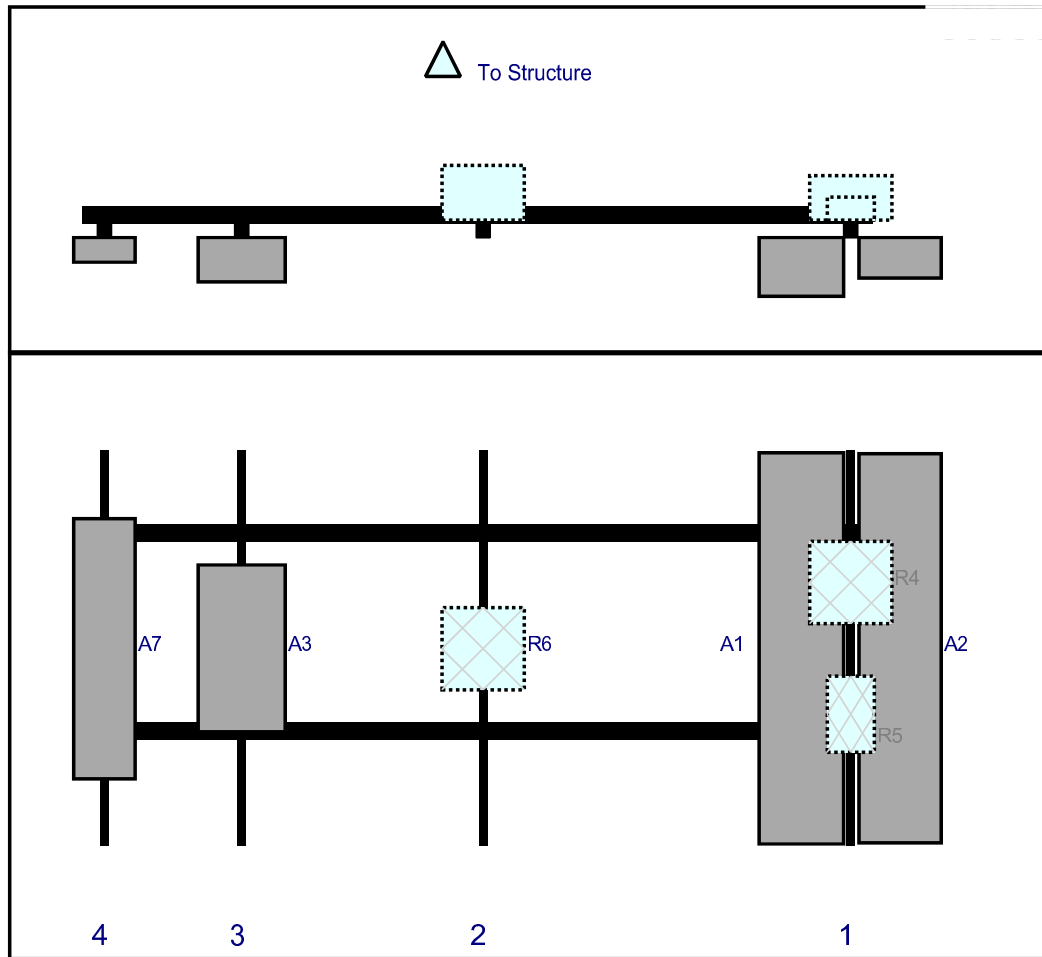


Front View

Looking at Structure

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
A1	MX06FRO660-02	71.3	15.4	140	1	a	Front	36	-9	Added	
A2	MX10FRO660-xx	70.9	15	140	1	a	Front	36	9	Added	
R4	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	140	1	a	Behind	24	0	Added	
R5	CBRS RRH - RT4401-48A	13.9	8.6	140	1	a	Behind	48	0	Added	
R6	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	73	2	a	Behind	36.06	0	Added	
A3	MT6407-77A	30.4	15.9	29	3	a	Front	36	0	Added	
A7	BXA-80063/4	47.4	11.2	4	4	a	Front	36.06	0	Retained	02/11/2021

Plan View



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
A1	MX06FRO660-02	71.3	15.4	140	1	a	Front	36	-9	Added	
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R5	CBRS RRH - RT4401-48A	13.9	8.6	140	1	a	Behind	48	0	Added	
R6	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	73	2	a	Behind	36.06	0	Added	
A3	MT6407-77A	30.4	15.9	29	3	a	Front	36	0	Added	
A7	BXA-80063/4	47.4	11.2	4	4	a	Front	36.06	0	Retained	02/11/2021

Maser Consulting Connecticut

Subject

TIA-222H Usage

Site Information

Site ID: 467245-VZW / Groton 2 CT
Site Name: Groton 2 CT
Carrier Name: Verizon Wireless
Address: 1294 Pleasant Valley Road
Groton, Connecticut 06340
New London County
Latitude: 41.399972°
Longitude: -72.079222°

Structure Information

Tower Type: 150-Ft Monopole
Mount Type: 12.00-Ft Platform

To Whom It May Concern,

We respectfully submit the above referenced Antenna Mount Structural Analysis report in conformance with ANSI/TIA-222-H, Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures.

The 2018 International Building Code states that, in Section 3108, telecommunication towers shall be designed and constructed in accordance with the provisions of TIA-222. TIA-222-H is the latest revision of the TIA-222 Standard, effective as of January 01, 2018.

As with all ANSI standards and engineering best practice is to apply the most current revision of the standard. This ensures the engineer is applying all updates. As an example, the TIA-222-H Standard includes updates to bring it in line with the latest AISC and ACI standards and it also incorporates the latest wind speed maps by ASCE 7 based on updated studies of the wind data.

The TIA-222-H standard clarifies these specific requirements for the antenna mount analysis such as modeling methods, seismic analysis, 30-degree increment wind directions and maintenance loading. Therefore, it is our opinion that TIA-222-H is the most appropriate standard for antenna mount structural analysis and is acceptable for use at this site to ensure the engineer is taking into account the most current engineering standard available.

Sincerely,



Digitally signed by Justin Linette
Date: 2021.04.15 22:01:00-04'00'

Justin Linette, PE
Sr. Technical Manager

I. SEE MODIFICATION NOTES

2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODE ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, COUNTY AND STATE OF CALIFORNIA AND ALL APPLICABLE UTILITY COMPANIES OR OTHER PUBLIC GOVERNING AUTHORITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
4. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
6. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO CONSTRUCT AND COMMISSION THE FACILITY IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE FACILITY TO BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
8. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ANY DISCREPANCIES OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
9. SINCE THE SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF RADIATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING UP SHUTDOWNS PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RADIATION MONITORS ARE REQUIRED TO BE WORN BY ALL PERSONNEL AT ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.
10. NO NOISE, SHOCK, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
11. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).

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MOUNT MODIFICATION DRAWINGS

SITE NAME: GROTON 2 CT
SITE NUMBER: 467245

1294 PLEASANT VALLEY ROAD
GROTON, CT 06340
NEW LONDON COUNTY

PROJECT INFORMATION

SITE INFORMATION
41.399972° N
LATITUDE: 72.079227° W
JURISDICTION: NEW LONDON COUNTY
APPLICANT/LESSEE

COMPANY: VERIZON WIRELESS

CLIENT REPRESENTATIVE
VERIZON WIRELESS
THIRD FLOOR
100 WESTBOROUGH, MA 01581
CITY, STATE, ZIP:
CONTACT: ANDREW CANDIELLO
EMAIL: ANDREW.CANDIELLO@VERIZONWIRELESS.COM

PROJECT MANAGER
PACER CONSULTING CONNECTICUT
COMPANY: PACER CONSULTING
ADDRESS: 1000 WASHINGTON STREET
PHONE: (615) 686-2575
FAX: (615) 686-2575
EMAIL: GREG.DULNICK@COLLIERSENGINEERING.COM

SHEET INDEX

[illegible]

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION: SMART TOOL PROJECT #: VZW LOCATION CODE (P5LC): FUZE ID:	HTTPS://PMI.VZWSMART.COM 10052027 467245 16142486
PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT	

REFERENCED DOCUMENTS

FALLING MOUNT ANALYSIS REPORT
SMART TOOL PROJECT #: 10037606
MASER CONSULTING PROJECT #: 20777642A
ANALYSIS DATE: 3/27/2021



- Office Locations:**
- NEW JERSEY
 - NEW YORK
 - PENNSYLVANIA
 - VIRGINIA
 - FLORIDA
 - NORTH CAROLINA
 - SOUTH CAROLINA
 - NEW MEXICO
 - MARYLAND
 - GEORGIA
 - TEXAS
 - TENNESSEE
 - COLORADO



811  **PROTECT YOURSELF**
ALL STATES REQUIRE NOTIFICATION OF
EXCAVATION, DESIGNERS OR ANY PERSON
PREPARING TO DISTURB THE EARTH'S
SURFACE ANYWHERE IN ANY STATE

Know what's below.
Call before you dig.

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT:

[illegible]

Digitally signed by Justin P
Date: 2021.04.15 21:54

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:

GROTON 2 CT
467245
1294 PLEASANT VALLEY
ROAD
GROTON, CT 06340
NEW LONDON COUNTY



MT LAUREL OFFICE
2000 Mullicane Drive
Suite 100
Mount Laurel, NJ 08054
Phone: 856.797.0412

TITLE SHEET

DATE: 11/11/11

T-1

BILL OF MATERIALS					
VZWSMART KITS					
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET S-2.	
1		VZWSMART-PLK5	KICKER KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET S-2.	
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		

NOTE: ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 301-1492
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) 887-4723
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.SABRESITECOLUTIONS.COM
SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9849
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM



1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H, FIBER OPTIC CABLES 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 THE DRAWINGS, OR ANY CONDITIONS THAT MAY BE AFFECTED BY 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. RESCUE PLANS FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ALL RELEVANT STANDARDS AND REQUIREMENTS OF THE LOCAL AND NATIONAL STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322.1 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.

- WIND LOADS
 - a. BASIC WIND SPEED (β SECOND GUST), $V = 126$ MPH
 - b. EXPOSURE CATEGORY C
 - c. TOPOGRAPHIC CATEGORY I
 - d. MEAN BASE ELEVATION (AHSI) = 142.7'
 - e. ICE WIND SPEED (β SECOND GUST), $V = 50$ MPH
 - f. ICE THICKNESS = 1.00 IN
 - SEISMIC LOADS
 - a. SEISMIC DESIGN CATEGORY B
 - b. SHORT TERM GROUND MOTION, $S_e = .192$
 - c. LONG TERM GROUND MOTION, $S_e = .063$

a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)

2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS 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 VERIFYING THE SUBSTITUTE'S EQUIVALENCY TO THE ORIGINAL. CONTRACTOR SHALL SUBMIT DRAWINGS BASED ON THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COST DIFFERENCES 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
GREG.DULNIK@COLLIERENGINEERING.COM

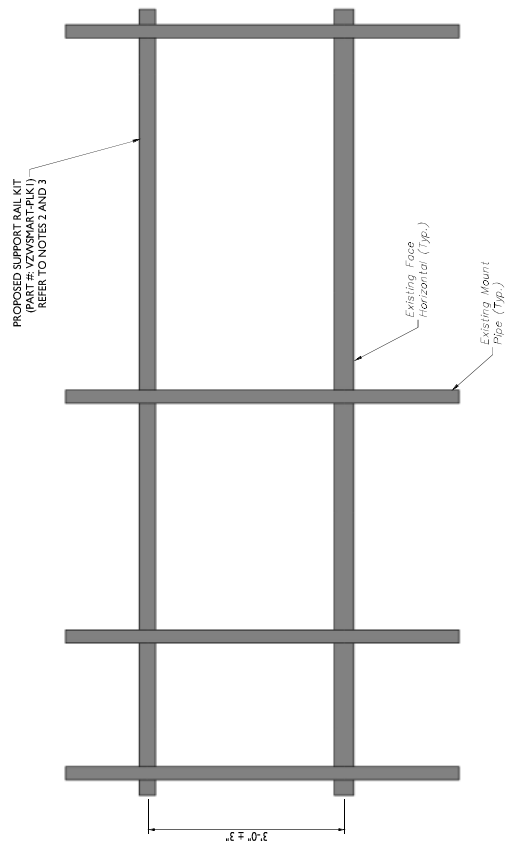
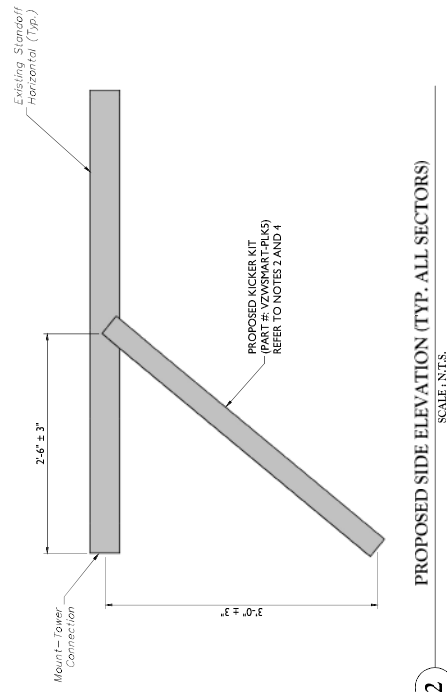
b. PROVIDE MASER CONSULTING PROJECT # AND MASER CONSULTING PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.

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 DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE DRILLING DEVICES TO BE INSTALLED IN ACCORDANCE WITH ITA-222-8 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 AS 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 PROTECTION SHALL BE HOT DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO

14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINGA OR ZINC COTE), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE)

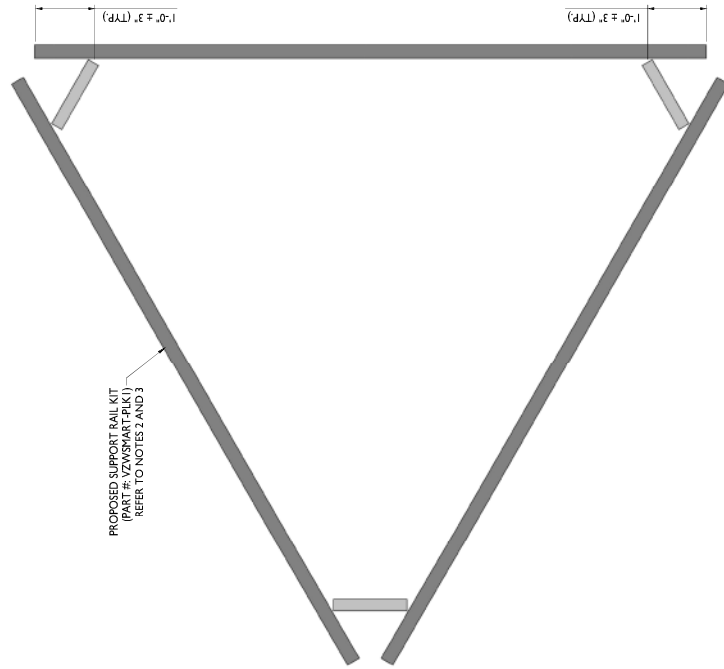
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION



PROPOSED FRONT ELEVATION (TYP. ALL SECTORS)

SCALE: N.T.S.



PROPOSED PLAN VIEW

SCALE : N.T.S.

 MASER CONSULTING CONNECTICUT www.maserconsulting.com Customer Loyalty through Client Satisfaction www.maserconsulting.com		NEW JERSEY ■ NEW MEXICO PENNSYLVANIA ■ GEORGIA FLORIDA ■ TENNESSEE NORTH CAROLINA ■ COLORADO SOUTH CAROLINA ■						811 Call before you dig Call before you dig Call before you dig		PROTECT YOURSELF FROM THE HARM OF AUTOMATIC UPGRADES OR SUBJECT AGREEMENT IN ANY STATE Call before you dig Call before you dig Call before you dig		AS SHOWN EXISTING 207746A <table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DWG. J.</th> <th>CHANGED BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>8/3/2010</td> <td>PER EXISTING</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		REV	DATE	DESCRIPTION	DWG. J.	CHANGED BY	DATE	0	8/3/2010	PER EXISTING				1								Details signed by Judith Pappas JEFFREY A. LORETTO, License No. 11666 JAL		SITE NAME: GROTON 2 CT 467245 1294 PLEASANT VALLEY ROAD GROTON, CT 06340 NEW LONDON COUNTY		 MASER CONSULTING CONNECTICUT www.maserconsulting.com 1000 Main Street, Suite 100 Newtown, CT 06456 Phone: 860.792.0412 Fax: 860.792.1120		MODIFICATION DETAILS		REVISED		REVISED	
REV	DATE	DESCRIPTION	DWG. J.	CHANGED BY	DATE																																								
0	8/3/2010	PER EXISTING																																											
1																																													



- NEW JERSEY
- NEW YORK
- PENNSYLVANIA
- VIRGINIA
- FLORIDA
- NORTH CAROLINA
- SOUTH CAROLINA
- NEW MEXICO
- MARYLAND
- GEORGIA
- TEXAS
- TENNESSEE
- COLORADO

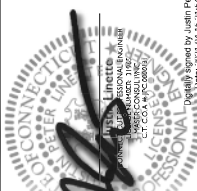


811  **PROTECT YOURSELF**
ALL STATES REQUIRE NOTIFICATION OF
DIGITATIONS, DESIGNERS, OR ANY PERSON
PREPARING TO TUNNEL THE EARTH'S
SURFACE ANYWHERE IN ANY STATE

Know what's below.
Call before you dig.

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT:

DATE:		AS SHOWN		JOB NUMBER: 2077642A	
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
D	4/15/09	ISSUED FOR CONSTRUCTION		FAC	J
				DRAWN	CHECKED



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL EMPLOYER, TO ALLOW THE POOL TO BE

SITE NAME:
GROTON 2 CT
467245
1294 PLEASANT VALLEY
ROAD
GROTON, CT 06340
NEW LONDON COUNTY



MOUNT PHOTOS

5-6



MOUNT PHOTO 2



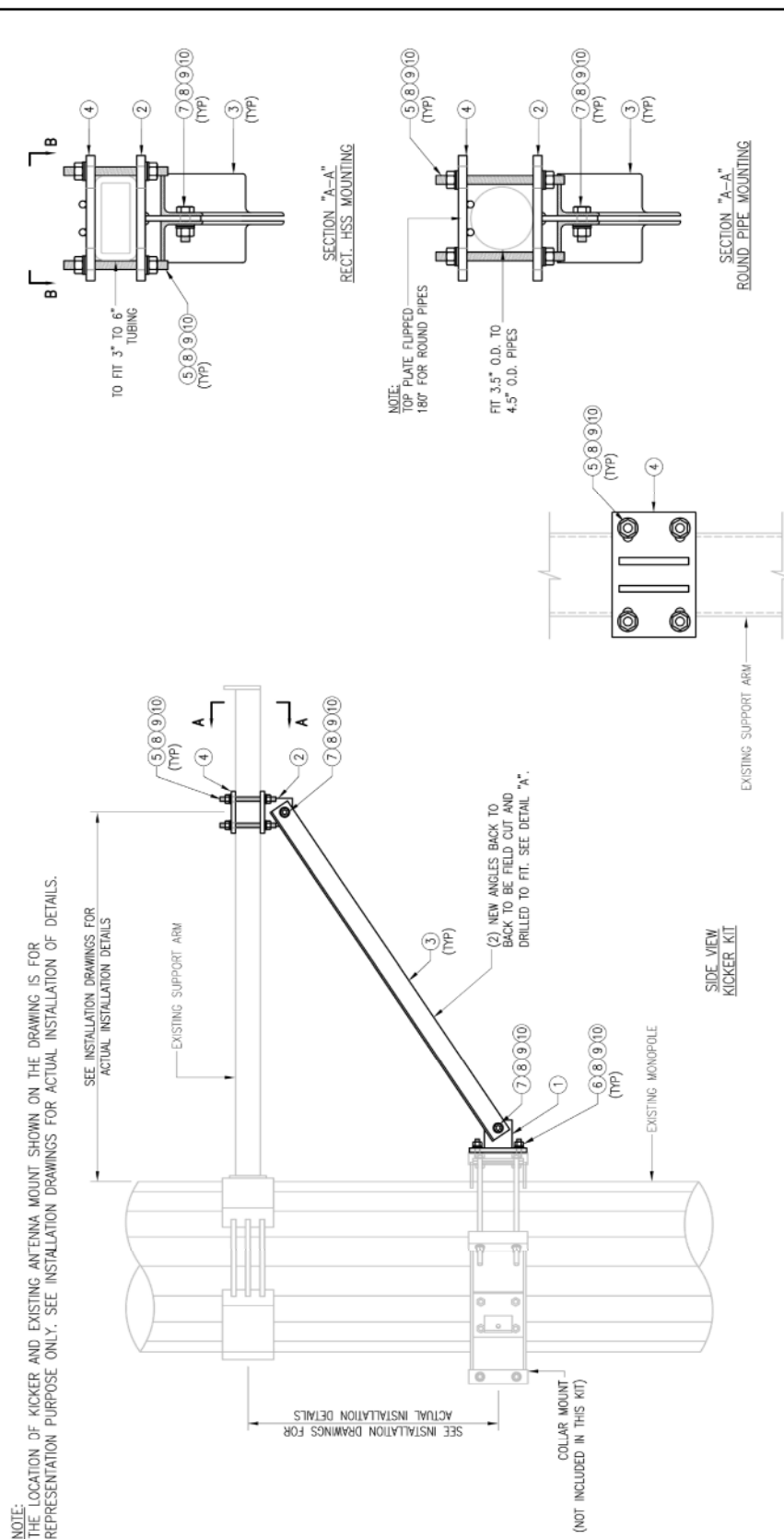
MOUNT PHOTO 4

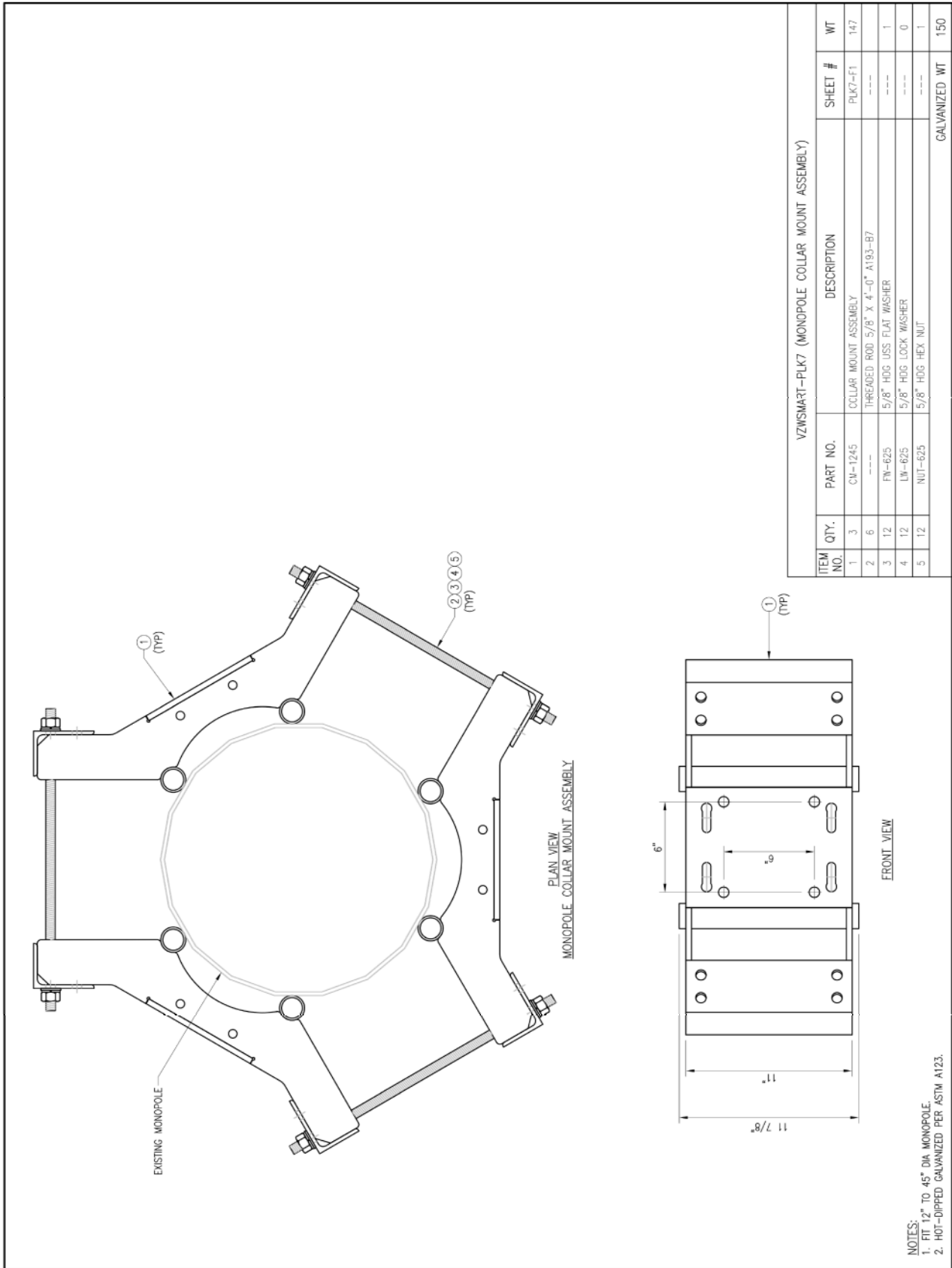


MOUNT PHOTO 1



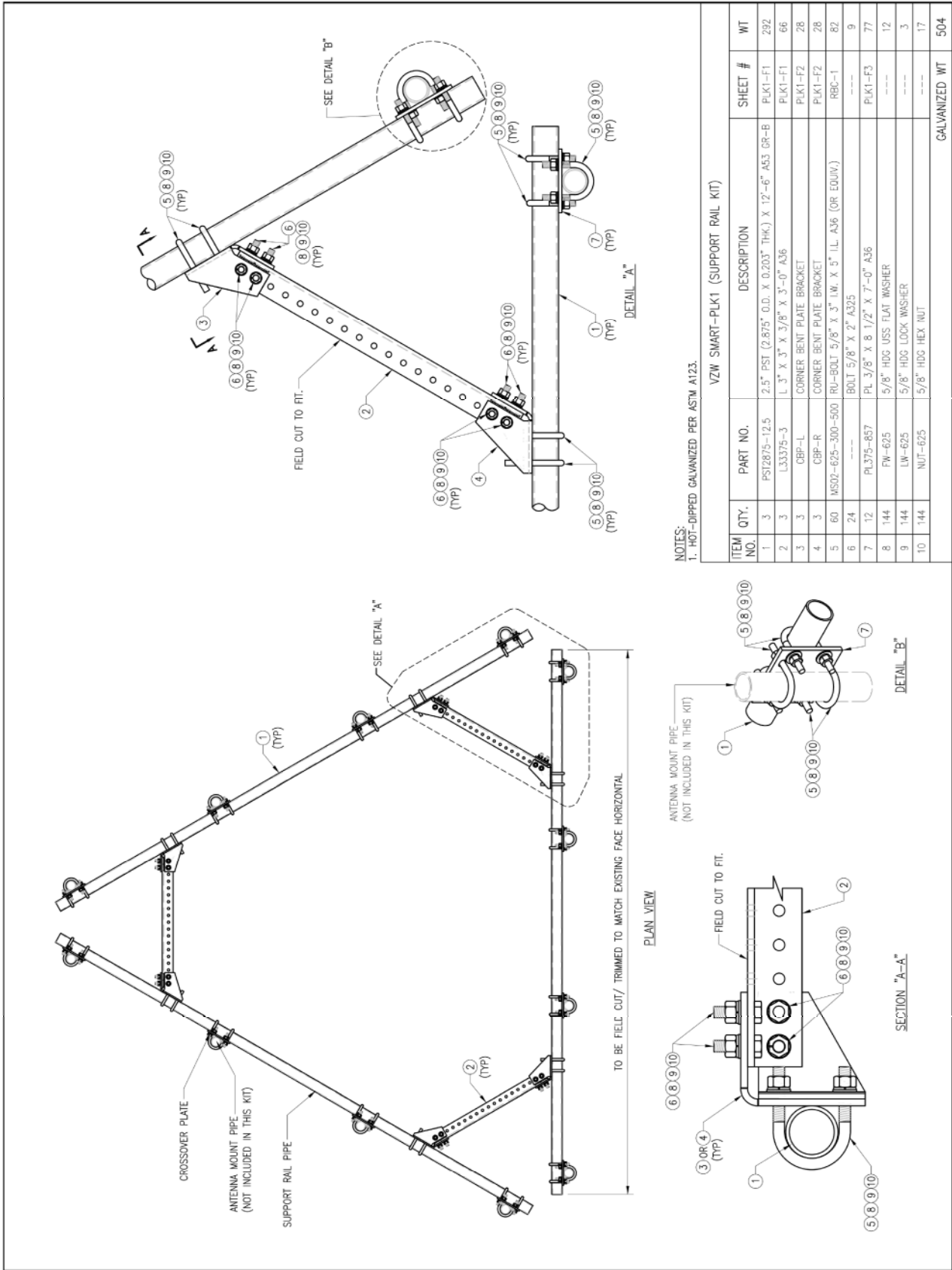
MOUNT PHOTO 3





NOTES:

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



ATTACHMENT 5



Commercial Property Card

Print Date: 8/9/2021

Card 1 of 1

Account	Location	Zoning	Deed Book/Page	Acres
178010470143	1294 PLEASANT VALLEY RD NORTH	RU-20	774/624	3.66

District	Use Code
POQUONNOCK BRIDGE	SMALL RETAIL AND SERVICE STORES

Current Owner

JFM ENTERPRISES LLC
C/O JENNIFER MACIEROWSKI
920 PLEASANT VALLEY RD N
GROTON CT 06340

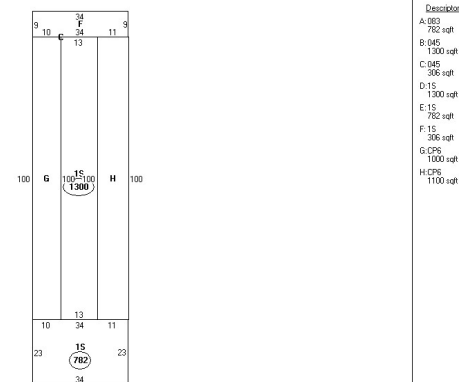
Property Picture



Building Information

Building No:	1
Year Built:	1975
No of Units:	1
Structure Type:	RETAIL - SINGLE OCCUPANCY
Building Total Area:	2388 sqft.
Grade:	D+
Identical Units:	1

Building Sketch



Valuation

Land:	\$197,900
Building:	\$75,100
Total:	\$273,000
Total Assessed Value:	\$191,100

Sketch Legend

Recent Sales

Book/Page	Date	Price
651/124	10/1/1997	\$123,380
721/770	10/23/2000	\$140,000
774/624	6/20/2002	\$150,000

-----	Main Living Area	1SMA	Masonry	GRHS	Attached Greenhouse
1FR	Frame	OMP	Open Masonry Porch	CAT	Cathedral Ceiling
OPF	Open Frame Porch	EMP	Enclosed Msry Porch	SOP	Screen Open Frame Prch
EFB	Enclosed Frame Porch	MUB	Masonry Utility	SMP	Screen Open Msrny Prch
FUB	Frame Utility Building	MB	Masonry Bay	CPAT	Concrete Patio
FB	Frame Bay	MOH	Masonry Overhang	B	Basement
FG	Frame Garage	.SMA	1/2 Story Masonry		
FOH	Frame Overhang	MP	Masonry Patio		
.SFR	1/2 Story Frame	WD	Wood Deck		
A(U)	Attic (Unfinished)	CPY	Canopy		
A(F)	Attic (Finished)				

Exterior/Interior Information

Levels	Use Type	Ext. Walls	Const. Type	Heating	A/C	Condition
01 - 01	MULTI-USE SALES	CONCRETE BLOCK	WOOD JOIST	HOT AIR	NONE	NORMAL
01 - 01	WAREHOUSE	CONCRETE BLOCK	WOOD JOIST	HOT AIR	NONE	NORMAL
01 - 01	WAREHOUSE	FRAME	WOOD JOIST	NONE	NONE	NORMAL

ATTACHMENT 6



GROTON 2
Certificate of Mailing — Firm

Name and Address of Sender Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	TOTAL NO. of Pieces Listed by Sender 3	TOTAL NO. of Pieces Received at Post Office™ 3	Affi Pos	neopost[®] 08/16/2021 US POSTAGE \$002.83⁹  ZIP 06103 041L12203937 neopost[®] 08/16/2021 US POSTAGE \$000.06⁹  ZIP 06103 041L12203937		
	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.	John Burt, Town Manager Town of Groton 45 Fort Hill Road Groton, CT 06340					
2.	Jonathan Reiner, Director of Planning and Development Services Town of Groton 45 Fort Hill Road Groton, CT 06340					
3.	JFM Enterprises LLC 920 Pleasant Valley Road Groton, CT 06340					
4.						
5.						
6.						

