

KENNETH C. BALDWIN

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Also admitted in Massachusetts
and New York

August 27, 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
236 Gates Road, Lebanon, 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 Town of Lebanon (“Town”) Planning and Zoning Commission in November of 1998. Cellco’s shared use of the tower was approved by the Council in June 2012 (TS-VER-071-120522). A copy of the Planning and Zoning Commissions November 12, 1998 meeting minutes for Application #99-13 and Cellco’s 2012 Siting Council approval are included in Attachment 1.

Cellco now intends to modify its facility by replacing nine (9) existing antennas with three (3) Samsung MT6407-77A antennas and six (6) SBNHH-1D65B antennas on new mounting frames. Cellco also intends to replace six (6) existing remote radio heads (“RRHs”) with six (6) new RRHs behind its antennas. A set of project plans showing Cellco’s proposed facility modifications and new antennas 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 Lebanon’s Chief Elected Official and Land Use Officer.

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.
2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The installation of Cellco's new antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A 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 new antenna mounting frames 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 27, 2021
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Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin". The signature is fluid and cursive, with a long horizontal stroke at the end.

Kenneth C. Baldwin

Enclosures

Copy to:

Kevin Cwilka, First Selectman for the Town of Lebanon
Philip Chester, Lebanon Town Planner
GHT LLC, Property Owner
Alex Tyurin

ATTACHMENT 1

PZC Reg. Meeting, 11/12/98

#99-12 -- Amend Sec. 6.8, Subdivision regulations, "Open Space," to permit access to dedicated open space lands by town representatives for the purpose of monitoring compliance with open space terms & conditions. This item was heard at a public hearing held on October 14, 1998. Action on this item will be postponed until next month.

#99-13 -- GHT Partners, Colin K. & Michael C. Rice, 236 Gates Road. A public hearing on a special permit to construct a communications tower and utility building was held on October 14, 1998. All fees have been paid and notification cards are in the file.

The Planning & Zoning Commission has review the special permit application #99-13, GHT Partners, Colin K. & Michael C. Rice, 236 Gates Road, Communications Tower and finds the following:

1. Communication towers are permitted uses by special permit in the RA Zone.
2. Two communication towers currently exist at this location and the proposed use is consistent with the existing use of this property.
3. At a duly warned public hearing held October 14, 1998 public comment in opposition of the proposed application was not received.
4. The engineer's report received from Al Bisacky of Pare Engineering and submitted to the record during the public hearing found that the use was in accordance with the zoning regulation.
5. The location, size and character of the proposed use is consistent with the existing use of the property and is in harmony with the orderly and appropriate development of the district and adjacent properties.
6. The location, size, intensity and nature of the proposed use will not generate vehicular or pedestrian traffic that will be detrimental to the character of the neighborhood.
7. The proposed use will not hinder or discourage the appropriate development and use of the adjacent land and buildings or impair the value thereof.

Based on these findings a motion was made by W. Jakobowski and seconded by A. Lamb to approve #99-13 with the following conditions:

1. The tower shall not exceed 190 ft. in height and shall be placed in accordance with the plan submitted as part of the application.
2. The tower shall not be painted or illuminated.
3. The existing 120 ft. tower shown on the plan as tower #2 is to be dismantled in accordance with accepted industry standards for such structures under permit to be issued by the Lebanon Building Department. Tower #2 shall be dismantled and removed off site with two (2) years from the effective date of this special permit.
4. The tower shown on the plan as tower #3 shall be erected and operated in conformance with all local, state, and federal building codes and regulations pertaining to such structures and use. Any change in the area or scope of the use for which this permit is issued shall require PZC approval.

Motion was voted and carried by unanimous vote.

Plan of Development Report

R. Chesmer reported that the Plan of Development Advisory Committee is holding weekly meetings.

ZEO Report

Sue Zimbelmann reported that she approved permits for five houses, four additions, two pools and two Certificates of Zoning Compliance.

Proposed regulation, sec. 8.10, Bed and Breakfast Tourist Home was discussed. A public hearing will be scheduled for January 13, 1999.

June 30, 2012

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: **TS-VER-071-120522** – Cellco Partnership d/b/a Verizon Wireless Request for an Order to Approve the Shared Use of an Existing Tower at 236 Gates Road, Lebanon, Connecticut.

Dear Attorney Baldwin:

At a public meeting held June 21, 2012, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures with the following conditions:

- The tower reinforcements outlined in Section 4.0 be completed in accordance with the recommendations made in the Structural Analysis Report and Reinforcement Design prepared by Centek Engineering dated May 16, 2012, and stamped by Carlo Centore;
- Prior to antenna installation, a signed letter from a Professional Engineer duly licensed in the State of Connecticut shall be submitted to the Council to certify that the recommended modifications have been completed and the tower and foundation will not exceed 100 percent of the post-construction structural rating;
- Any deviation from the proposed installation as specified in the original tower share request and supporting materials with the Council shall render this decision invalid;
- Any material changes to the proposed installation as specified in the original tower share request and supporting materials filed with the Council shall require an explicit request for modification to the Council pursuant to Connecticut General Statutes § 16-50aa, including all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65;
- Not less than 45 days after completion of the proposed installation, the Council shall be notified in writing that the installation has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

This decision is under the exclusive jurisdiction of the Council. This facility has been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction. Please be advised that the validity of this action shall expire one year from the date of this letter.

The proposed shared use is to be implemented as specified in your letter dated May 22, 2012, including the placement of all necessary equipment and shelters within the tower compound.

Thank you for your attention and cooperation.

Very truly yours,

Robert Stein
Chairman

RS/CDM/jbw

c: The Honorable Joyce R. Okonuk, First Selectman, Town of Lebanon

Philip Chester, Zoning Enforcement Officer, Town of Lebanon
GHT, LLC

ATTACHMENT 2



WIRELESS COMMUNICATIONS FACILITY UPGRADE

LEBANON CT

236 GATES ROAD

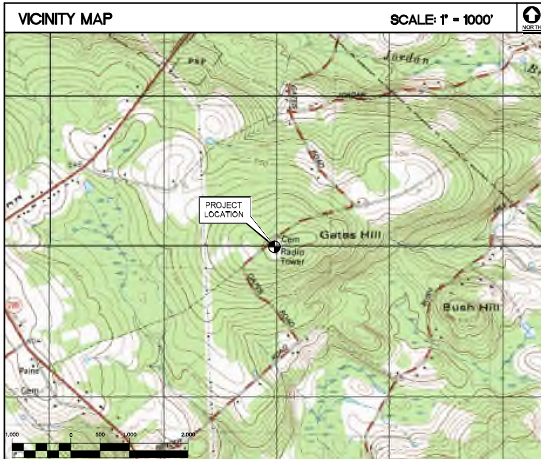
LEBANON, CT 06249

- GENERAL NOTES**
- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2018 CONNECTICUT SUPPLEMENT, INCLUDING THE IA/DA-222 REVISION "C" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2017 CONNECTICUT FIRE SAFETY CODE, NATIONAL ELECTRICAL CODE, AND LOCAL CODES.
 - SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
 - CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
 - CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
 - CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
 - CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION AND ALL TRADES AS APPLICABLE. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
 - CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
 - LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
 - THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING'S/PROPERTY OWNER.
 - DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.

SITE DIRECTIONS

FROM: 20 ALEXANDER DRIVE WALLINGFORD, CONNECTICUT **TO:** 236 GATES ROAD LEBANON, CT

- HEAD NORTH ON ALEXANDER DR. TOWARDS BARNES INDUSTRIAL RD; 0.18 MI
- TURN RIGHT ONTO BARNES INDUSTRIAL RD; 0.11 MI
- TAKE FIRST LEFT ONTO CT-68; 0.35 MI
- TURN RIGHT ONTO RAMP; 0.17 MI
- TURN RIGHT ONTO N COLONY RD/ US-5 N; 0.30 MI
- MERGE ONTO CT-15 N TOWARD HARTFORD; 3.58 MI
- MERGE ONTO I-81 N VIA EXIT 68N-E TOWARD MIDDLETOWN/HARTFORD/CT-66 E; 13.95 MI
- MERGE ONTO CT-3 N VIA EXIT 25 TOWARD GLASTONBURY; 2.34 MI
- MERGE ONTO CT-3 E TOWARD HORDONCH; 10.95 MI
- TAKE THE CT-66 EXIT, EXIT 13, TOWARD WILLIMANTIC/MARLBOROUGH; 0.26 MI
- KEEP LEFT TO TAKE THE RAMP TOWARD WILLIMANTIC/HEBRON; 0.04 MI
- TURN LEFT ONTO HEBRON ROAD/CT-66, CONTINUE TO FOLLOW CT-66; 10.00 MI
- TURN RIGHT ONTO CT-87, CONTINUE TO FOLLOW CT-87; 3.53 MI
- TURN LEFT ONTO BURHAM ROAD; 1.36 MI
- TURN RIGHT ONTO BEAUMONT HWY/CT-289; 0.62 MI
- TAKE 2ND LEFT ONTO BENDER ROAD; 0.78 MI
- TAKE 1ST LEFT ONTO GATES ROAD; 0.55 MI
- 236 GATES ROAD IS ON THE RIGHT.



- PROJECT SUMMARY**
- THE PROPOSED UPGRADE SCOPE OF WORK AT THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY GENERALLY INCLUDES THE FOLLOWING:
 - AT THE EXISTING TOWER MOUNTED ANTENNA SECTIONS:
 - REMOVE (6) EXISTING ANDREW - HBXX-6517DS-A2M ANTENNAS.
 - REMOVE (4) EXISTING ANTEL - LPA-80063/6CF 2 ANTENNAS.
 - REMOVE (2) EXISTING SWEDOOM - SCE6016REV2 ANTENNAS.
 - REMOVE (2) EXISTING HYBRID CABLES.
 - REMOVE (2) EXISTING OVP-6 BOXES.
 - REMOVE (6) EXISTING NOKIA RADIOS.
 - RETAIN (3) EXISTING ANDREW - LNX-6514DS-A1M ANTENNAS ANTENNAS.
 - INSTALL (6) ANDREW - SBNHH-1D65B ANTENNAS.
 - INSTALL (3) SAMSUNG - MT6407-77A ALL-IN-ONE ANTENNA/ RRUs.
 - INSTALL (3) SAMSUNG - B2/B86A RRH-BR049 RRUs.
 - INSTALL (3) SAMSUNG - B5/B13 RRH-BR04C RRUs.
 - INSTALL (3) COMMSCOPE - BSAMNT-SBS-1-2 ANTENNA MOUNTS.
 - INSTALL (2) OVP-6 BOXES.
 - INSTALL (2) 6x12 HYBRID CABLES.
 - PERFORM ANTENNA MOUNT MODIFICATIONS AS REFERENCED HEREIN.

PROJECT INFORMATION

SITE NAME: LEBANON CT

SITE ADDRESS: 236 GATES ROAD LEBANON, CT 06249

LESSEE/TENANT: CELCO PARTNERSHIP 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405

CONTACT PERSON: WALTER CHARCZNSKI (CONSTRUCTION MANAGER) VERIZON WIRELESS (860) 306-1806

ENGINEER: CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405 (203) 488-0580

PROJECT COORDINATES: LATITUDE: 41°-41'-59.0016"N LONGITUDE: 72°-12'-59.0004"W
COORDINATES BASED ON VERIZON WIRELESS RFDS DATED JULY 22, 2021.

SHEET INDEX

| SHT. NO. | DESCRIPTION | REV. |
|----------|--|------|
| T-1 | TITLE SHEET | 0 |
| N-1 | NOTES AND SPECIFICATIONS | 0 |
| B-1 | RF BILL OF MATERIALS | 0 |
| C-1 | COMPOUND/PARTIAL SITE PLAN AND ELEVATION | 0 |
| C-2 | ANTENNA SECTOR CONFIGURATION DETAILS | 0 |
| C-3 | RF DETAILS | 0 |
| E-1 | ELECTRICAL SPECIFICATIONS AND DETAILS | 0 |

| | |
|-------------------------|----------|
| DATE | 04/08/21 |
| SCALE | AS NOTED |
| JOB NO. | 20150.02 |
| TITLE SHEET | |
| T-1 | |
| Sheet No. 1 of 2 | |

Downloaded by: **PROFESSIONAL ENGINEER SEAL**

verizon

CELCO Partnership d/b/a Verizon Wireless

LEBANON CT

236 GATES ROAD

LEBANON, CT 06249

100 488-0580
200 488-0587 fax
43-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

CENTEK Engineering
Construction Solutions

| | | | |
|------|----------|------|--|
| DATE | 04/08/21 | REV. | |
| 0 | 04/12/21 | AKC | DMD CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION |
| 0 | 04/09/21 | AKC | DMD CONSTRUCTION DRAWINGS - REVISED PER RFDS DATED 07/22/21 |
| 0 | 04/12/21 | DMD | DMD CONSTRUCTION DRAWINGS - REVISED PER RFDS DATED 07/22/21 |
| 0 | 04/12/21 | DMD | DMD PRELIMINARY CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT COMMENTS |
| 0 | 04/08/21 | AKC | DMD PRELIMINARY CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW |
| 0 | 04/08/21 | AKC | DMD DMD |

NOTES AND SPECIFICATIONS

DESIGN BASIS:

GOVERNING CODE: 2015 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2018 CT STATE BUILDING CODE AND AMENDMENTS.

- DESIGN CRITERIA:
 - RISK CATEGORY: II (BASED ON TABLE 1604.5 OF THE 2015 IBC)
 - NOMINAL DESIGN SPEED (TOWER): 101 MPH (V_{wind}) (EXPOSURE C/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-10) PER 2015 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2018 CONNECTICUT STATE BUILDING CODE.
 - SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
- DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
- BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
- DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
- ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
- AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHORING, BRACING, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES.
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
- REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

| NO. | DATE | BY | DESCRIPTION |
|-----|----------|-----|---|
| 0 | 08/12/21 | ANC | DMD CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION |
| 1 | 07/29/21 | DMO | DMD CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 2 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 3 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 4 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 5 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 6 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 7 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 8 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 9 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 10 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 11 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 12 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 13 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 14 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 15 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 16 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 17 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 18 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 19 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 20 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 21 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 22 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 23 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 24 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 25 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 26 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 27 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 28 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 29 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 30 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 31 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
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| 35 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 36 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 37 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 38 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 39 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 40 | 07/29/21 | DMO | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |



CENTEK Engineering
 "Commitment to Excellence"
 (203) 466-4360
 (203) 466-8387 Fax
 65-2 North Ironwood Road
 Meriden, CT 06460
 www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless
LEBANON CT
 295 GATES ROAD
 LEBANON, CT 06249

DATE: 04/06/21
 SCALE: AS NOTED
 JOB NO. 20150.02

NOTES AND SPECIFICATIONS

NOTES:
 1. INFORMATION SHOWN HEREIN IS FOR USE BY VERIZON WIRELESS EQUIPMENT OPERATIONS.
 2. THIS B.O.M. DRAWING IS BASED OFF FACILITY UPGRADE DESIGN DRAWINGS PREPARED BY CENTEK ENGINEERING (REV.0 DATED: 08.12.21), & VERIZON WIRELESS RF ANTENNA EQUIPMENT RECOMMENDATION (DATED 07.22.21).

| BILL OF MATERIALS | | |
|-------------------|----------|--------------------------------------|
| TECHNOLOGY | QUANTITY | ANTENNA |
| LTE 700 | | |
| LTE 850 | | |
| LTE PCS 1900 | 6 | COMMSCOPE ANTENNA MODEL: SBNH1-10659 |
| LTE AWS 2100 | | |
| 5G | 3 | SAMSUNG ANTENNA MODEL: M16407-77A |

| CABLES | QUANTITY | LENGTH | COMMENTS |
|-------------------|----------|---------|----------------------------------|
| 6x12 HYBRID CABLE | 1 | ±175 FT | ROUTE FROM EQUIPMENT TO ANTENNAS |
| 6x12 HYBRID CABLE | 1 | ±175 FT | ROUTE FROM EQUIPMENT TO ANTENNAS |

| RADIOS | QUANTITY | COMMENTS |
|--------------|----------|------------------------------------|
| LTE 700 | | |
| LTE 850 | 3 | SAMSUNG MODEL: B5/B13 RRH-BRD4C |
| LTE PCS 1900 | | |
| LTE AWS 2100 | 3 | SAMSUNG MODEL: B2/B66A RRH-BRD49 |
| 5G | 3 | INTEGRATED INTO M16407-77A ANTENNA |

| DIPLEXERS | QUANTITY | COMMENTS |
|-----------|----------|----------|
| - | 0 | - |

| OVP BOXES | QUANTITY | COMMENTS |
|---------------------|----------|-------------------|
| OVP BOX AT ANTENNAS | 2 | 6 CIRCUIT OVP BOX |

| ANTENNA MOUNT | QUANTITY | COMMENTS |
|---------------------------|----------|--------------------------------|
| SIDE-BY-SIDE MOUNTING KIT | 3 | COMMSCOPE MODEL: BSAMT-SBS-1-2 |
| ANTENNA SECTOR FRAME | 3 | SITE PRO MODEL: VFA12-HD |

| NO. | DATE | BY | DESCRIPTION |
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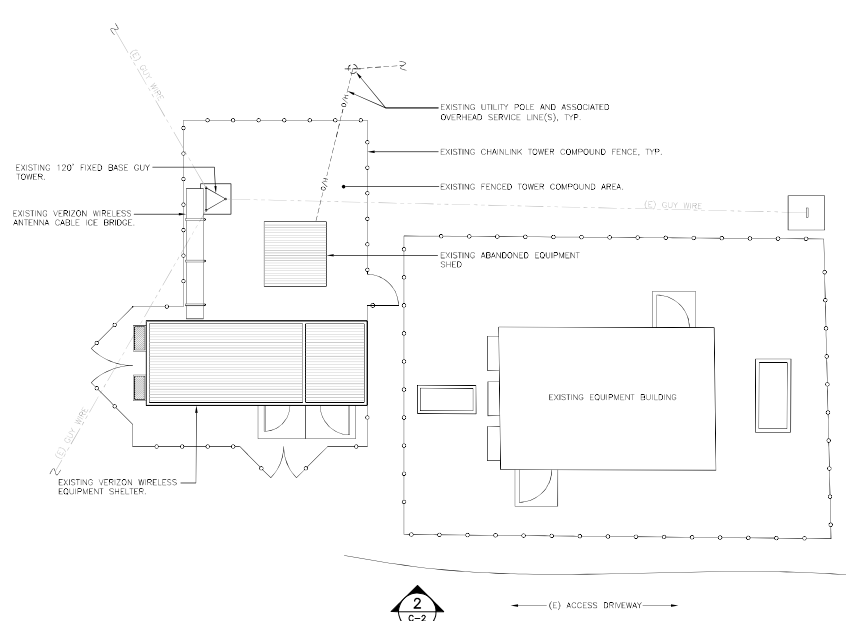
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 JOB NO. 20150.02

RF BILL OF MATERIALS

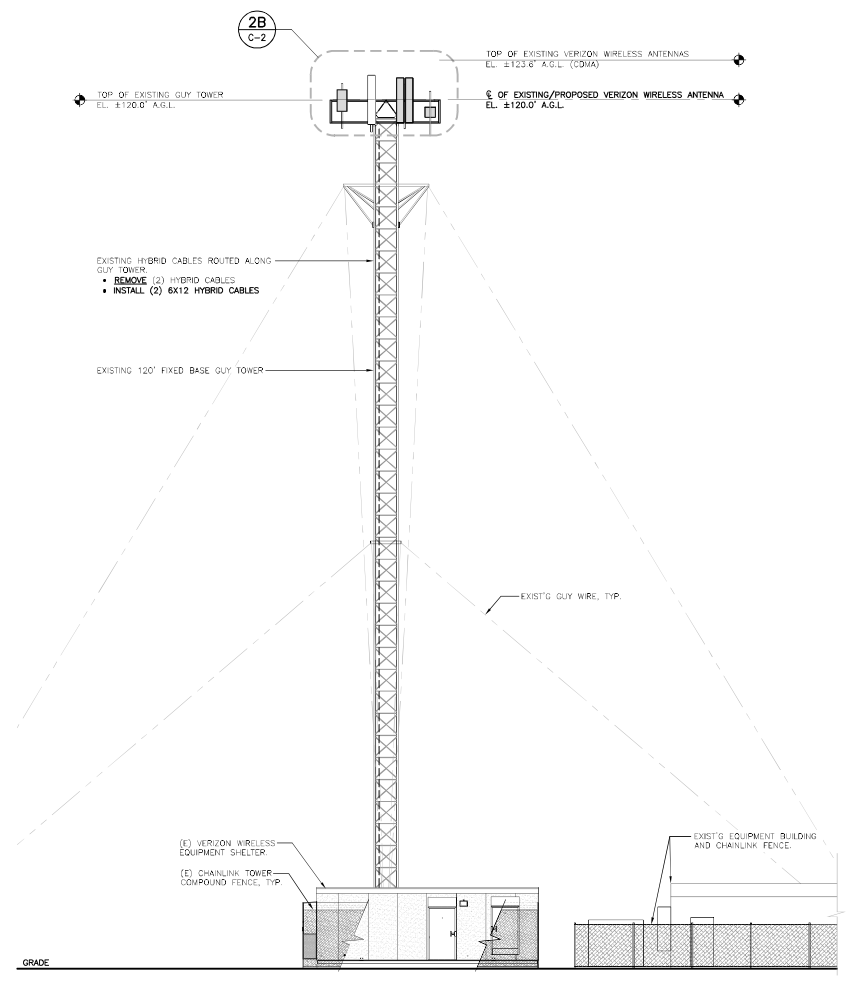
B-1
 Sheet No. 2 of 1

TOWER STRUCTURAL ANALYSIS

1. REFER TO PASSING TOWER STRUCTURAL ANALYSIS REPORT PREPARED BY CENTEK ENGINEERING DATED 08/09/2021. CENTEK PROJECT NO. 20150.02 FOR ADDITIONAL INFORMATION.



1
C-1
COMPOUND/PARTIAL SITE PLAN
SCALE: 1/8" = 1'- 0"
APPROXIMATE NORTH



2
C-1
NORTHWEST ELEVATION
SCALE: 1/8" = 1'- 0"

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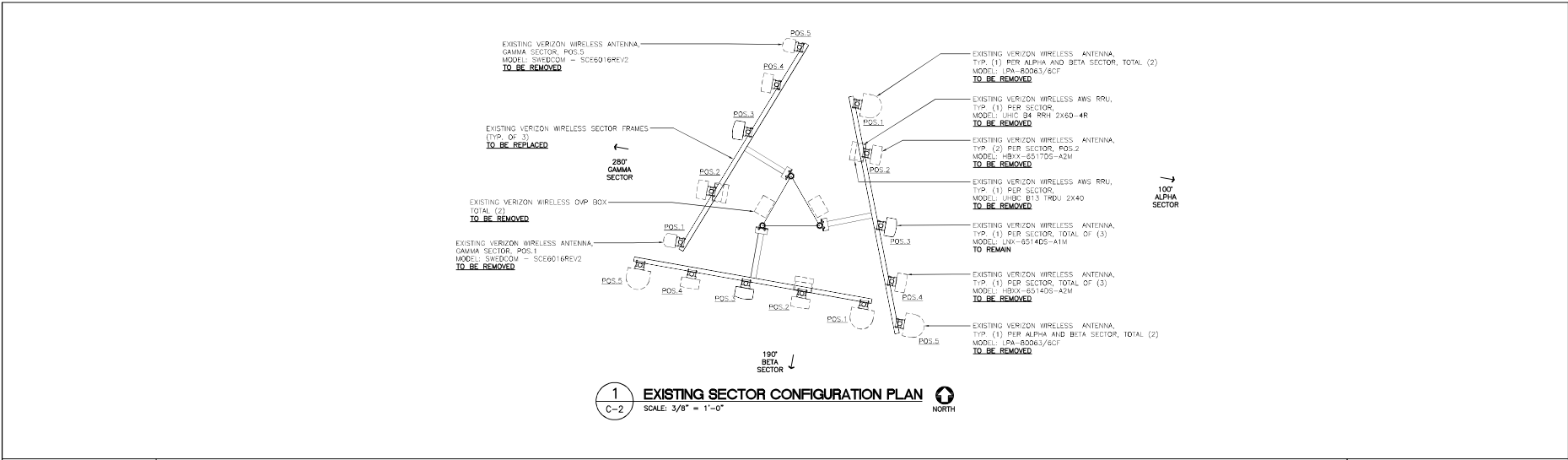
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|----------|----------|
| DATE: | 04/08/21 |
| SCALE: | AS NOTED |
| JOB NO.: | 20150.02 |

COMPOUND/PARTIAL SITE PLAN AND ELEVATION

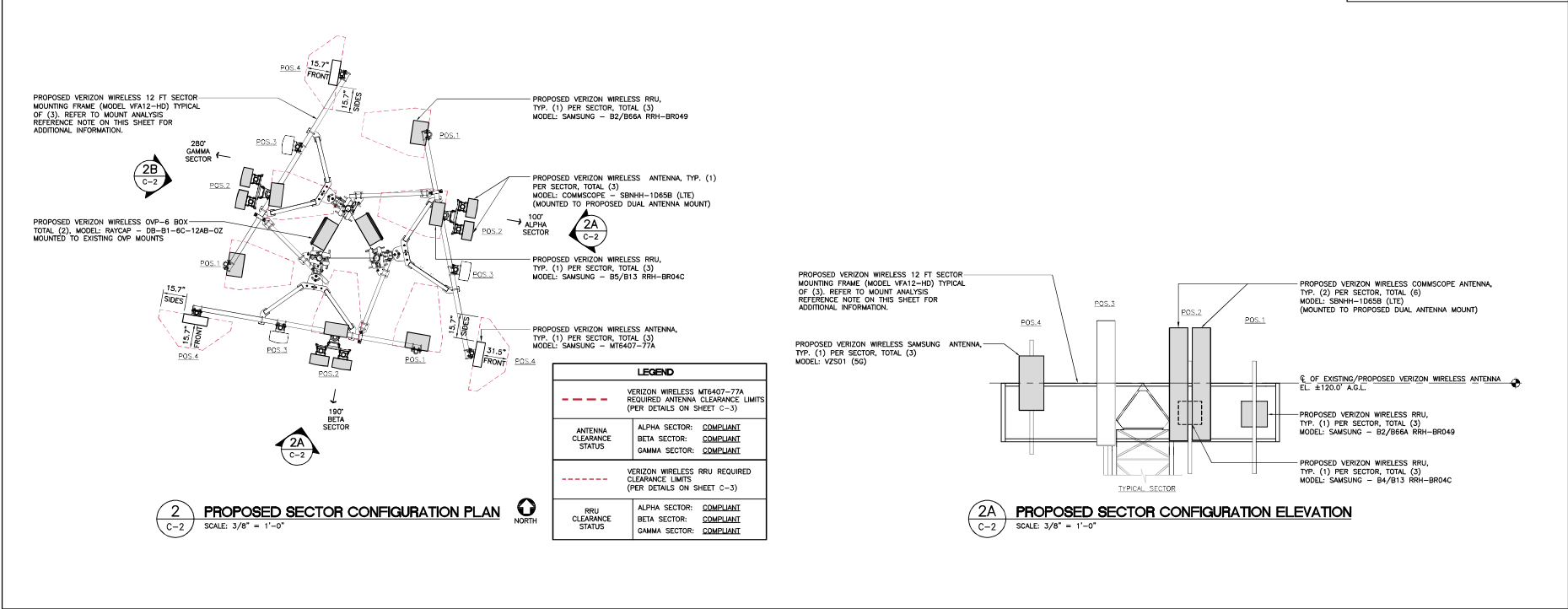
C-1

Sheet No. 4 of 1



PROPOSED ANTENNA CONFIGURATIONS

MOUNT ANALYSIS AND MOD REFERENCE NOTE:
REFER TO PASSING MOUNT ANALYSIS REPORT AND PMI REQUIREMENTS PREPARED BY MASER CONSULTING CONNECTICUT DATED AUGUST 06, 2021 FOR ADDITIONAL INFORMATION.



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ANTENNA SECTOR CONFIGURATION DETAILS

C-2
Sheet No. 2 of 1



ANTENNA FRONT

| SECTOR ANTENNA | | |
|------------------------------------|--|----------------------------|
| EQUIPMENT | DIMENSIONS | WEIGHT |
| MAKE: SAMSUNG MODEL: MTS407-77A | 35.17h x 16.17w x 5.57d (NOT TO EXCEED) | 87 LBS. (NOT TO EXCEED) |
| CLEARANCES AND SERVICE AREA | | |
| TOP: | HORIZONTAL DISTANCE: (ANT. TO ANT.): | 31.5" |
| FRONT, SIDES & BOTTOM: | VERTICAL DISTANCE: (ANT. TO ANT.): | 63.0" |

NOTES:
1. THIS ANTENNA HAS ITS OWN BUILT-IN RRH.

1 SECTOR ANTENNA DETAIL
C-3 NOT TO SCALE



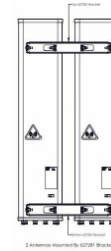
FRONT ELEVATION



BOTTOM

| 8-PORT SECTOR ANTENNA | | |
|---------------------------------------|-------------------------|---------------------------------|
| EQUIPMENT | DIMENSIONS | WEIGHT |
| MAKE: COMMSCOPE MODEL: SRNH1-10659 | 72.0'L x 11.9"W x 7.1"D | 40.6 LBS. (W/O/UT MOUNT KIT) |

2 SECTOR ANTENNA DETAIL
C-3 NOT TO SCALE



ELEVATION



UPPER DUAL MOUNT
SCISSOR BRACKET
ASSEMBLY

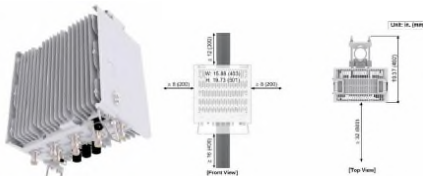


LOWER DUAL MOUNT
BRACKET ASSEMBLY

| SIDE-BY-SIDE ANTENNA MOUNTING KIT | | | |
|---|--|--------------------------------------|----------------------|
| MOUNT | DESCRIPTION | SUPPORTED ANTENNAS | GAP BETWEEN ANTENNAS |
| MAKE: COMMSCOPE MODEL: BSMNT-SBS-1-2 | (2) BRACKET KIT FOR MOUNTING (2) ANTENNAS SIDE-BY-SIDE | SRNH1 65" AND 85" NRH 62" AND 85" | 3--3/8" |

NOTES:
1. MOUNT ACCOMMODATES MAST DIAMETERS FROM 2.375" TO 4.5" (O.D.).
2. CONTRACTOR TO CONFIRM MOUNT MAKE/MODEL AND QUANTITY WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.

3 PROPOSED SIDE-BY-SIDE ANTENNA MOUNT
C-3 NOT TO SCALE



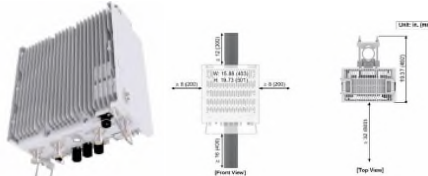
RRH ISOMETRIC

RRH CLEARANCES

| DUAL BAND RRU (REMOTE RADIO UNIT) | | | |
|---|---|--------------------------|-----------|
| EQUIPMENT | BANDS | DIMENSIONS | WEIGHT |
| MAKE: SAMSUNG MODEL: S2/B65A RRH-BRD49 (RFV01U-D1A) | B2: PCS (1900 MHz) B66: AWS (2100 MHz) | 15.07h x 15.07w x 10.07d | 84.4 LBS. |

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.

4 DUAL-BAND AWS/PCS RADIO UNIT DETAIL
C-3 NOT TO SCALE



RRH ISOMETRIC

RRH CLEARANCES

| DUAL BAND RRU (REMOTE RADIO UNIT) | | | |
|--|-----------------------------|-------------------------|-----------|
| EQUIPMENT | BANDS | DIMENSIONS | WEIGHT |
| MAKE: SAMSUNG MODEL: S5/B13 RRH-BRD4C (RFV01U-D2A) | B5: 850 MHz B13: 700 MHz | 15.07h x 15.07w x 8.17d | 70.3 LBS. |

NOTES:
1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.

5 DUAL-BAND 700/850 MHZ RADIO UNIT DETAIL
C-3 NOT TO SCALE



| OVP BOX | | |
|--------------------------------------|--------------------------|---------|
| EQUIPMENT | DIMENSIONS | WEIGHT |
| MAKE: RFS MODEL: DB-B1-6C-12AB-02 | 29.07h x 15.77w x 10.37d | 32 LBS. |

NOTES:
1. CONTRACTOR TO CONFIRM OVP BOX MAKE/MODEL AND QUANTITY WITH VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO ORDERING.

6 PROPOSED OVER-VOLTAGE PROTECTION BOX
C-3 NOT TO SCALE

| DATE | BY | DESCRIPTION |
|----------|-----|---|
| 04/08/21 | ANC | CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION |
| 07/09/21 | DMD | CONSTRUCTION DRAWINGS - REVISED PER MOUNT ANALYSIS |
| 07/09/21 | DMD | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER MOUNT ANALYSIS |
| 04/13/21 | DMD | PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER CLIENT COMMENTS |
| 04/13/21 | DMD | CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW |

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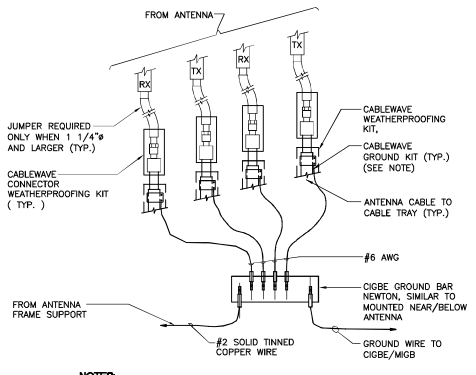
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RF DETAILS

C-3
Sheet No. 11 of 11



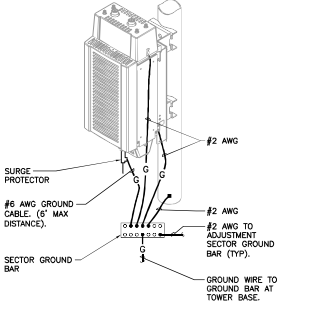
NOTES

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

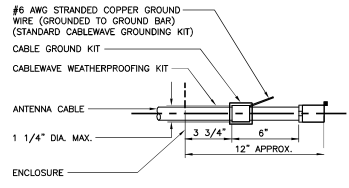
1 CONNECTION OF GROUND WIRES TO GROUND BAR
NOT TO SCALE

EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:

- AT TOP OF THE CABINET
- AT RIGHT SIDE OF THE CABINET.



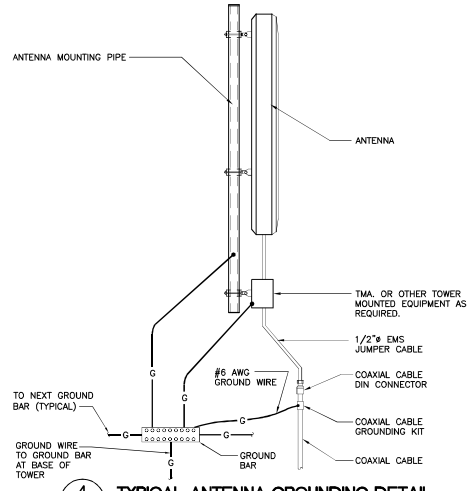
2 RRH POLE MOUNT GROUNING
NOT TO SCALE



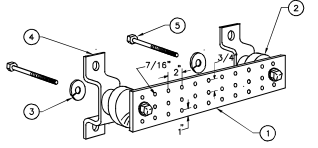
NOTES

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

3 ANTENNA CABLE GROUNING DETAIL
NOT TO SCALE



4 TYPICAL ANTENNA GROUNING DETAIL
NOT TO SCALE



- NOTES**
- TINNED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
 - INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4.
 - 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
 - WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056.
 - 5/8"-11 x 1" STAINLESS STEEL TRUSS SPANNER MACHINE SCREWS.

5 GROUND BAR DETAIL
NOT TO SCALE

ELECTRICAL SPECIFICATIONS

SECTION 16100

- 1.01. SCOPE OF WORK
- A. WORK SHALL INCLUDE ALL LABOR, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE (MAKE READY FOR OPERATION) ALL THE ELECTRICAL WORK INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
- CELLULAR GROUNING SYSTEMS CONSISTING OF ANTENNA GROUNING, GROUND BARS, ETC.
- 1.02. GENERAL REQUIREMENTS
- A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
- B. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNERS REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES THAT MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS THAT MAY BE REQUIRED BY THE LOCAL AUTHORITY.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
- E. NO MATERIAL OTHER THAN THAT CONTAINED IN THE "LATEST LIST OF ELECTRICAL FITTINGS" APPROVED BY THE UNDERWRITERS' LABORATORIES, SHALL BE USED IN ANY PART OF THE WORK. ALL MATERIAL FOR WHICH LABEL SERVICE HAS BEEN ESTABLISHED SHALL BEAR THE U.L. LABEL.
- F. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
- G. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
- H. THE ELECTRICAL CONTRACTOR SHALL SUPPLY THREE (3) COMPLETE SETS OF APPROVED DRAWINGS, ENGINEERING DATA SHEETS, MAINTENANCE AND OPERATING INSTRUCTION MANUALS FOR ALL SYSTEMS AND THEIR RESPECTIVE EQUIPMENT. THESE MANUALS SHALL BE INSERTED IN VINYL COVERED 3-RING BINDERS AND TURNED OVER TO OWNERS REPRESENTATIVE ONE (1) WEEK PRIOR TO FINAL PUNCH LIST.
- I. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND WILL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- J. ALL EQUIPMENT AND MATERIALS TO BE INSTALLED SHALL BE NEW, UNLESS OTHERWISE NOTED.
- K. BEFORE FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS (AS-BUILTS), LEGIBLY MARKED IN RED PENCIL TO SHOW ALL CHANGES FROM THE ORIGINAL PLANS.
- L. ENTIRE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH OWNER'S SPECIFICATIONS, AND REQUIREMENTS OF ALL LOCAL AUTHORITIES HAVING JURISDICTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH APPROPRIATE INDIVIDUALS TO OBTAIN ALL SUCH SPECIFICATIONS AND REQUIREMENTS. NOTHING CONTAINED IN, OR OMITTED FROM, THESE DOCUMENTS SHALL RELIEVE CONTRACTOR FROM THIS OBLIGATION.

SECTION 16450

- 1.01. GROUNING
- A. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNING SOURCES.
- B. GROUNING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
- C. EQUIPMENT GROUNING CONDUCTOR:
- EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122.
 - THE MINIMUM SIZE OF EQUIPMENT GROUND CONDUCTOR SHALL BE #12 AWG COPPER.
- D. CELLULAR GROUNING SYSTEM:
- PROVIDE THE CELLULAR GROUNING SYSTEM AS SPECIFIED ON DRAWINGS, INCLUDING, BUT NOT LIMITED TO:
- GROUND BARS
 - ANTENNA GROUND CONNECTIONS AND PLATES.
- E. ALL EQUIPMENT SHALL BE BONDED TO GROUND AS REQUIRED BY N.E.C., MFG. SPECIFICATIONS, AND OWNER'S SPECIFICATIONS.

| CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION | DATE | BY | DESCRIPTION |
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| PRELIMINARY CONSTRUCTION DRAWINGS - REVISED PER MEASUREMENT ANALYSIS | 07/22/21 | DMD | |
| CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW | 07/22/21 | DMD | |
| CONSTRUCTION DRAWINGS - ISSUED FOR CLIENT REVIEW | 07/22/21 | DMD | |

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| 1 | 07/22/21 | DMD | |
| 1 | 07/22/21 | DMD | |
| 1 | 07/22/21 | DMD | |
| 1 | 07/22/21 | DMD | |

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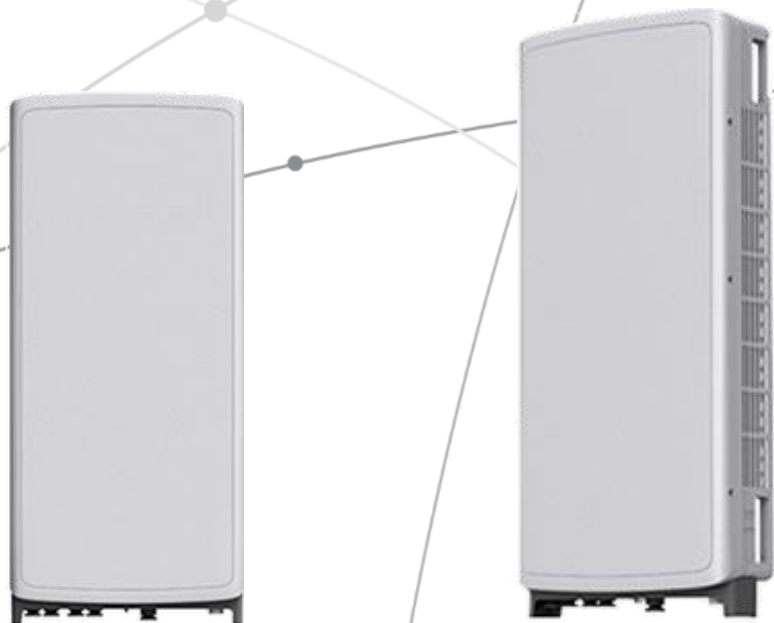
ELECTRICAL SPECIFICATIONS AND DETAILS

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



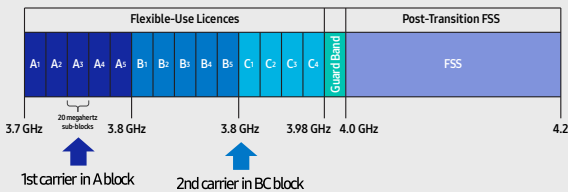
Points of Differentiation

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

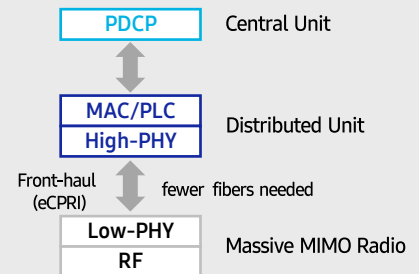
C-Band spectrum supported by Massive MIMO Radio



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.

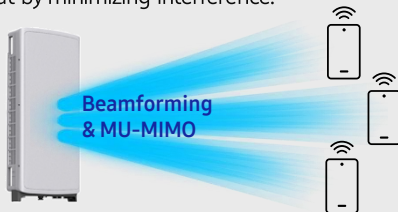


Enhanced Performance

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.

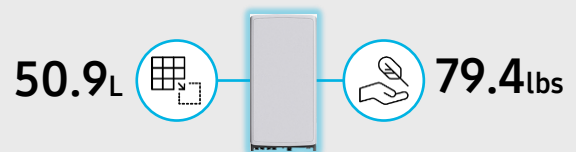
Furthermore, as C-Band massive MIMO Radio supports MU-MIMO (Multi-user MIMO), it enables to increase user throughput by minimizing interference.



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 |



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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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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

SBNHH-1D65B



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

- Interleaved dipole technology providing for attractive, low wind load mechanical package

General Specifications

| | |
|---|--|
| Antenna Type | Sector |
| Band | Multiband |
| Color | Light gray |
| Grounding Type | RF connector inner conductor and body grounded to reflector and mounting bracket |
| Performance Note | Outdoor usage Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN |
| Radome Material | Fiberglass, UV resistant |
| Radiator Material | Aluminum Low loss circuit board |
| Reflector Material | Aluminum |
| RF Connector Interface | 7-16 DIN Female |
| RF Connector Location | Bottom |
| RF Connector Quantity, high band | 4 |
| RF Connector Quantity, low band | 2 |
| RF Connector Quantity, total | 6 |

Remote Electrical Tilt (RET) Information

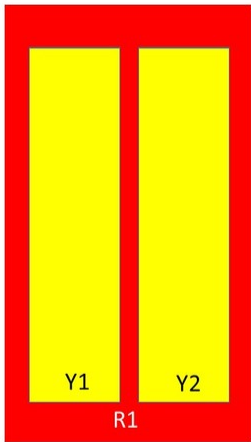
| | |
|--|-----------------------------------|
| RET Interface | 8-pin DIN Female 8-pin DIN Male |
| RET Interface, quantity | 1 female 1 male |
| Input Voltage | 10–30 Vdc |
| Internal RET | High band (1) Low band (1) |
| Power Consumption, idle state, maximum | 2 W |
| Power Consumption, normal conditions, maximum | 13 W |
| Protocol | 3GPP/AISG 2.0 (Multi-RET) |

SBNHH-1D65B

Dimensions

| | |
|---|---------------------|
| Width | 301 mm 11.85 in |
| Depth | 180 mm 7.087 in |
| Length | 1851 mm 72.874 in |
| Net Weight, without mounting kit | 18.4 kg 40.565 lb |

Array Layout



| Array | Freq (MHz) | Conns | RET (MRET) | AISG RET UID |
|-------|------------|-------|------------|------------------------|
| R1 | 698-896 | 1-2 | 1 | ARxxxxxxxxxxxxxxxxxx.1 |
| Y1 | 1695-2360 | 3-4 | 2 | ARxxxxxxxxxxxxxxxxxx.2 |
| Y2 | 1695-2360 | 5-6 | | |

Left Bottom Right

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

Electrical Specifications

| | |
|---------------------------------|---------------------------------|
| Impedance | 50 ohm |
| Operating Frequency Band | 1695 – 2360 MHz 698 – 896 MHz |
| Polarization | ±45° |

Electrical Specifications

| Frequency Band, MHz | 698–806 | 806–896 | 1695–1880 | 1850–1990 | 1920–2200 | 2300–2360 |
|---------------------------------------|---------|---------|-----------|-----------|-----------|-----------|
| Gain, dBi | 14.9 | 14.7 | 17.7 | 18.2 | 18.6 | 18.6 |
| Beamwidth, Horizontal, degrees | 68 | 65.5 | 69 | 66.2 | 63 | 58 |
| Beamwidth, Vertical, degrees | 12.1 | 10.7 | 5.6 | 5.2 | 5 | 4.5 |
| Beam Tilt, degrees | 0–14 | 0–14 | 0–7 | 0–7 | 0–7 | 0–7 |
| USLS (First Lobe), dB | 14 | 13 | 15 | 15 | 15 | 13 |
| Front-to-Back Ratio at 180°, | 27 | 29 | 28 | 28 | 28 | 27 |

SBNHH-1D65B

dB

| | | | | | | |
|---|----------|----------|----------|----------|----------|----------|
| Isolation, Cross Polarization, dB | 25 | 25 | 25 | 25 | 25 | 25 |
| Isolation, Inter-band, dB | 30 | 30 | 30 | 30 | 30 | 30 |
| VSWR Return loss, dB | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 |
| PIM, 3rd Order, 2 x 20 W, dBc | -153 | -153 | -153 | -153 | -153 | -153 |
| Input Power per Port at 50°C, maximum, watts | 300 | 300 | 300 | 300 | 300 | 250 |

Electrical Specifications, BASTA

| Frequency Band, MHz | 698–806 | 806–896 | 1695–1880 | 1850–1990 | 1920–2200 | 2300–2360 |
|--|--------------------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Gain by all Beam Tilts, average, dBi | 14.5 | 14.3 | 17.4 | 17.9 | 18.2 | 18.3 |
| Gain by all Beam Tilts Tolerance, dB | ±0.5 | ±0.8 | ±0.4 | ±0.3 | ±0.5 | ±0.3 |
| Gain by Beam Tilt, average, dBi | 0° 14.6 7° 14.6 14° 14.2 | 0° 14.5 7° 14.4 14° 13.6 | 0° 17.4 3° 17.5 7° 17.4 | 0° 17.8 3° 17.9 7° 17.9 | 0° 18.1 3° 18.3 7° 18.2 | 0° 18.2 3° 18.4 7° 18.4 |
| Beamwidth, Horizontal Tolerance, degrees | ±2.2 | ±3.4 | ±2 | ±4.6 | ±5.7 | ±4.3 |
| Beamwidth, Vertical Tolerance, degrees | ±0.8 | ±1 | ±0.3 | ±0.2 | ±0.3 | ±0.2 |
| USLS, beampeak to 20° above beampeak, dB | 16 | 14 | 16 | 16 | 16 | 15 |
| Front-to-Back Total Power at 180° ± 30°, dB | 24.5 | 25.6 | 27 | 26 | 26 | 25.6 |
| CPR at Boresight, dB | 22 | 23 | 21 | 20 | 20 | 22 |
| CPR at Sector, dB | 13 | 11 | 16 | 12 | 11 | 4 |

Mechanical Specifications

| | |
|---|---|
| Effective Projective Area (EPA), frontal | 0.27 m ² 2.906 ft ² |
| Effective Projective Area (EPA), lateral | 0.22 m ² 2.368 ft ² |
| Wind Loading at Velocity, frontal | 283.0 N @ 150 km/h 63.8 lbf @ 150 km/h |
| Wind Loading at Velocity, lateral | 234.0 N @ 150 km/h 52.6 lbf @ 150 km/h |
| Wind Loading at Velocity, maximum | 122.5 lbf @ 150 km/h 545.0 N @ 150 km/h |
| Wind Loading at Velocity, rear | 287.0 N @ 150 km/h 64.5 lbf @ 150 km/h |
| Wind Speed, maximum | 241 km/h 149.75 mph |

Packaging and Weights

SBNHH-1D65B

| | |
|-----------------------|---------------------|
| Width, packed | 390 mm 15.354 in |
| Depth, packed | 296 mm 11.654 in |
| Length, packed | 2025 mm 79.724 in |
| Weight, gross | 31 kg 68.343 lb |

Regulatory Compliance/Certifications

Agency

ISO 9001:2015



Classification

Designed, manufactured and/or distributed under this quality management system

Included Products

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

* Footnotes

Performance Note

Severe environmental conditions may degrade optimum performance

ATTACHMENT 3

Site Name: **LEBANON CT**
Cumulative Power Density

| Operator | Operating Frequency | Number of Trans. | ERP Per Trans. | Total ERP | Distance to Target | Calculated Power Density | Maximum Permissible Exposure* | Fraction of MPE |
|---|---------------------|------------------|----------------|-----------|--------------------|--------------------------|-------------------------------|-----------------|
| | (MHz) | | (watts) | (watts) | (feet) | (mW/cm ²) | (mW/cm ²) | (%) |
| VZW 700 | 751 | 2 | 697 | 1394 | 120 | 0.0035 | 0.5007 | 0.70% |
| VZW CDMA | 877.26 | 2 | 424 | 847 | 120 | 0.0021 | 0.5848 | 0.36% |
| VZW Cellular | 874 | 2 | 329 | 657 | 120 | 0.0016 | 0.5827 | 0.28% |
| VZW PCS | 1977.5 | 2 | 1467 | 2934 | 120 | 0.0073 | 1.0000 | 0.73% |
| VZW AWS | 2120 | 2 | 1656 | 3312 | 120 | 0.0083 | 1.0000 | 0.83% |
| VZW CBAND | 3730.08 | 4 | 6531 | 26125 | 120 | 0.0652 | 1.0000 | 6.52% |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Total Percentage of Maximum Permissible Exposure | | | | | | | | 9.42% |

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

**Calculation includes a -10 dB Off Beam Antenna Pattern Adjustment pursuant to Attachments B and C of the Siting Council's November 10, 2015 Memorandum for Exempt Modification filings

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 4

Structural Analysis Report

120-ft Existing Guyed Lattice Tower

*Proposed Verizon Wireless
Antenna Upgrade*

Verizon Site Ref: Lebanon

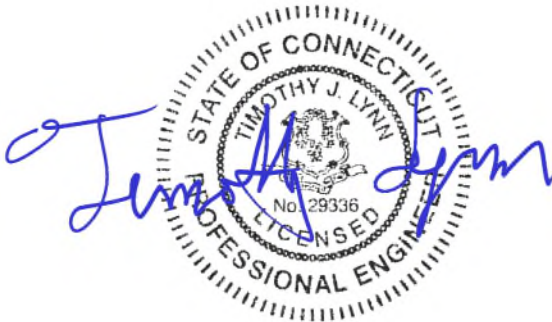
*236 Gates Road,
Lebanon, CT*

CEN TEK Project No. 20150.02

~~Date: April 6, 2021~~

Rev 1: August 9, 2021

Max Stress Ratio = 71%



Prepared for:
*Verizon Wireless
20 Alexander Drive
Wallingford, CT 06492*

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- ANTENNA AND APPURTENANCE SUMMARY
- PRIMARY ASSUMPTIONS USED IN THE ANALYSIS
- ANALYSIS
- TOWER LOADING
- TOWER CAPACITY
- CONCLUSION AND RECOMMENDATIONS

SECTION 2 – CONDITIONS & SOFTWARE

- STANDARD ENGINEERING CONDITIONS
- GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

SECTION 3 – CALCULATIONS

- tnxTower INPUT/OUTPUT SUMMARY
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- GUY ANCHOR FOUNDATION ANALYSIS
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- VERIZON RF DATA SHEET

Introduction

The purpose of this report is to summarize the results of the non-linear, P- Δ structural analysis of the antenna upgrade proposed by Verizon Wireless on the existing guyed lattice tower located in Lebanon, Connecticut.

The host tower is a 120-ft, three legged, guyed steel lattice tower. The original tower designer and manufacturer are unknown. The tower geometry, structure member sizes and foundation information were obtained from a previous structural analysis report prepared by Centek Engineering, Inc., project no. 15001.015 dated March 5, 2015.

Antenna and appurtenance inventory were obtained from the aforementioned structural analysis report prepared by Centek Engineering and a Verizon RF data sheet.

The tower consists of six (6) 20-ft long vertical sections constructed of steel pipe legs with assumed minimum yield strength of 35ksi per ASTM A53 Gr. B. Diagonal and horizontal lateral support bracing consists of steel pipe construction also assumed to conform to ASTM A53 Gr. B. The vertical tower sections are connected by internal triangular bolted flange plates with three (3) $\frac{3}{4}$ " \varnothing bolts per leg. Diagonal and horizontal bracing connections to the pipe legs consist of fully welded connections. The width of the tower face is 3.125-ft throughout its length.

Antenna and Appurtenance Summary

The proposed loads considered in the analysis consist of the following:

- **VERIZON (Existing to Remain):**
Antennas: Three (3) Andrew LNX-6514DS panel antennas panel antenna mounted on three (3) 15-ft T-Frames with a RAD center elevation of 120-ft above the existing tower base.
Coax Cables: Six (6) 1-5/8" \varnothing coaxial cables equally distributed on three faces of the tower.
- **VERIZON (Existing to Remove):**
Antennas: Four (4) Antel LPA-80063/6CF, two (2) Swedcom SCE6016 rev2 panel antenna, six (6) Andrew HBXX-6517DS panel antennas, three (3) Alcatel-Lucent RRH2x60-AWS remote radio heads, three (3) Alcatel-Lucent RRH2x60-PCS remote radio heads and two (2) RFS DB-T1-6Z-8AB-0Z main distribution boxes mounted on three (3) 15-ft T-Frames with a RAD center elevation of 120-ft above the existing tower base.
Coax Cables: Twelve (12) 1-5/8" \varnothing coaxial cables and two (2) hybrid cables.
- **VERIZON (Proposed):**
Antennas: Six (6) Commscope SBNHH-1D65B panel antennas, three (3) Commscope BSAMNT-SBS-2-2 side-by-side mounts, three (3) Samsung MT6407-77A (AKA VZS01) panel antennas, three (3) B2/B66A remote radio heads, three (3) B5/B13 remote radio heads and two (2) OVP boxes mounted on three (3) V-frames (SitePro VFA12-HD) with a RAD center elevation of 120-ft above grade level.
Mount Modifications: Mount modifications per Maser consulting report dated August 6, 2021.
Coax Cables: Two (2) hybrid cables.

Primary Assumptions Used in the Analysis

- The tower structure's theoretical capacity not including any assessment of the condition of the tower.
- The tower carries the horizontal and vertical loads due to the weight of antennas, ice load and wind.
- Tower is properly installed and maintained.
- Tower is in plumb condition.
- Tower loading for antennas and mounts as listed in this report.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds are fabricated with ER-70S-6 electrodes.
- All members are assumed to be as specified in the original tower design documents.
- All members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
- All member protective coatings are in good condition.
- All tower members were properly designed, detailed, fabricated, installed and have been properly maintained since erection.
- Any deviation from the analyzed antenna loading will require a new analysis for verification of structural adequacy.
- All coax cables routed as specified in Section 3 of this report.

A n a l y s i s

The existing tower was analyzed using a comprehensive computer program entitled tnxTower. The program analyzes the tower, considering the worst case loading condition. The tower is considered as loaded by concentric forces along the tower, and the model assumes that the tower members are subjected to bending, axial, and shear forces.

The existing tower was analyzed for the controlling basic wind speed (3-second gust) with no ice and the applicable wind and ice combination to determine stresses in members as per guidelines of TIA-222-G-2005 entitled "Structural Standard for Antenna Support Structures and Antennas", the American Institute of Steel Construction (AISC) and the Manual of Steel Construction; Load and Resistance Factor Design (LRFD).

The controlling wind speed is determined by evaluating the local available wind speed data as provided in Appendix N of the CSBC¹ and the wind speed data available in the TIA-222-G-2005 Standard.

T o w e r L o a d i n g

Tower loading was determined by the basic wind speed as applied to projected surface areas with modification factors per TIA-222-G-2005, gravity loads of the tower structure and its components, and the application of 0.75" radial ice on the tower structure and its components.

| | | |
|-------------------|---|---|
| Basic Wind Speed: | Lebanon; v = 101 mph (Vasd) | [Appendix N of the 2018 CT Building Code] |
| Load Cases: | <u>Load Case 1</u> ; 101 mph wind speed w/ no ice plus gravity load – used in calculation of tower stresses and rotation. | [Appendix N of the 2018 CT Building Code] |
| | <u>Load Case 2</u> ; 50 mph wind speed w/ 0.75" radial ice plus gravity load – used in calculation of tower stresses. | [Annex B of TIA-222-G-2005] |

¹ The 2015 International Building Code as amended by the 2018 Connecticut State Building Code (CSBC).

Tower Capacity

Tower stresses were calculated utilizing the structural analysis software tnxTower. Design flexural strength was determined based on section 4.7 and Table 4-8 of the TIA-222-G.

- Calculated stresses **were found to be within allowable limits.**

| Tower Section | Elevation | Stress Ratio (percentage of capacity) | Result |
|---------------------------|----------------|--|-------------|
| Leg (T6) | 0'-0"-20'-0" | 58.5% | PASS |
| Diagonal (T2) | 80'-0"-100'-0" | 71.1% | PASS |
| Guy B @ 86-ft radius (T1) | 120'-0" | 43.9% | PASS |

Foundation and Anchors

The existing tower base foundation consists of a 7'-2"-ft square x 3.5-ft deep concrete pedestal bearing directly on the existing sub grade. The existing guy anchor foundations consist of three (3) 8-ft long x 3.6-ft wide x 2.8-ft thick concrete anchor blocks buried 6.25-ft below existing grade and bearing directly on the existing sub grade. An allowable soil bearing capacity of 4000psf was used in the verification of the tower foundation system.

- The worst case tower base and guy anchor reactions developed from the governing Load Case were used in the verification of the anchorage foundations:

| Tower Guy Reactions | |
|------------------------------------|--|
| Vector | Proposed Reactions Guy Anchor C @ Radius of 86-ft |
| Horizontal (In Plane of GW) | 11.3 kips |
| Horizontal (Out of Plane of GW) | 0.2 kips |
| Vertical | 13.0 kips |
| Resultant Force at end of Guy Wire | 17.2 kips |
| Tower Base Reactions | |
| Vector | Proposed Reaction |
| Horizontal Shear | 1.8 kips |
| Axial Compression | 53.1 kips |
| Moment | 48 kip-ft |

| Foundation | Design Limit | TIA-222-G Section 9.4 FS ⁽¹⁾ | Proposed Loading (FS) ⁽¹⁾ | Result |
|--|--------------|---|--------------------------------------|-------------|
| Reinf. Conc. Anchor Block (C) at 86-ft radius. | Uplift | 1.0 | 2.65 | PASS |
| | Sliding | 1.0 | 3.8 | PASS |
| | | Allowable | Proposed | |
| Base Foundation | Bearing | 4.0 ksf | 2.4 ksf | PASS |
| | Overturning | 1.0 | 5.5 | PASS |

Note 1: FS denotes 'Factor of Safety'.

Conclusion

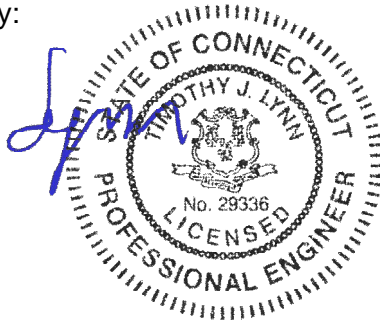
This analysis shows that the subject tower **is adequate** to support the proposed antenna configuration.

The analysis is based, in part, on the information provided to this office by Verizon Wireless. If the existing conditions are different than the information in this report, Centek Engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:

Timothy J. Lynn, PE
 Structural Engineer



*Standard Conditions for Furnishing of
Professional Engineering Services on
Existing Structures*

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.
- Information from the field and/or drawings in the possession of Centek Engineering, Inc. or generated by field inspections or measurements of the structure.
- It is the responsibility of the client to ensure that the information provided to Centek Engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the “as new” condition.
- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222
- All services performed, results obtained, and recommendations made are in accordance with generally accepted engineering principles and practices. Centek Engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

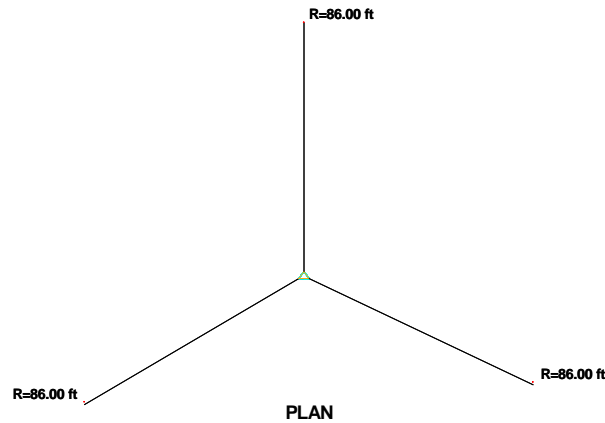
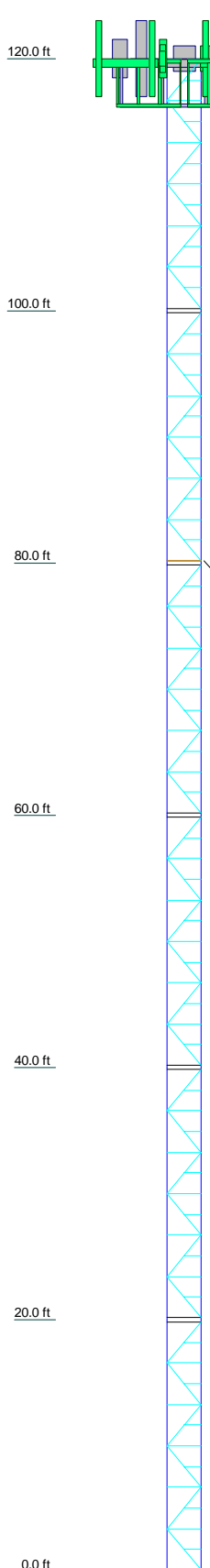
GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM

TnxTower, is an integrated structural analysis and design software package for Designed specifically for the telecommunications industry, TnxTower, formerly ERITower, automates much of the tower analysis and design required by the TIA/EIA 222 Standard.

TnxTower Features:

- TnxTower can analyze and design 3- and 4-sided guyed towers, 3- and 4-sided self-supporting towers and either round or tapered ground mounted poles with or without guys.
- The program analyzes towers using the TIA-222-G (2005) standard or any of the previous TIA/EIA standards back to RS-222 (1959). Steel design is checked using the AISC ASD 9th Edition or the AISC LRFD specifications.
- Linear and non-linear (P-delta) analyses can be used in determining displacements and forces in the structure. Wind pressures and forces are automatically calculated.
- Extensive graphics plots include material take-off, shear-moment, leg compression, displacement, twist, feed line, guy anchor and stress plots.
- TnxTower contains unique features such as True Cable behavior, hog rod take-up, foundation stiffness and much more.

| | | | | | | | | | | | |
|---------|-----------|-----------|-----------|----------------|-----------|--------------|--------------|------------------|-------------------|-----------------|-------------|
| T1 | | | | | | | | | | | |
| T2 | | | | | | | | | | | |
| T3 | | | | | | | | | | | |
| T4 | P2.5x.203 | A53-B-35 | P.75x.154 | A53-B-35 | 2x1/2 | P.75x.154 | P0.375x0.091 | 3.125 | 30 @ 3.27778 | 608.4 | |
| T5 | | | | | | | | | | 608.4 | |
| T6 | | | | | | | | | | 608.4 | |
| | | | | | | | | | | 3670.6 | |
| Section | Legs | Leg Grade | Diagonals | Diagonal Grade | Top Girts | Bottom Girts | Horizontals | Sec. Horizontals | Top Guy Pull-Offs | Face Width (ft) | Weight (lb) |
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DESIGNED APPURTENANCE LOADING

| TYPE | ELEVATION | TYPE | ELEVATION |
|--------------------------------------|-----------|---|-----------|
| LNX-6514DS (Verizon - Existing) | 120 | B5/B13 RRH (Verizon - Proposed) | 120 |
| (2) SBNHH-1D65B (Verizon - Proposed) | 120 | B5/B13 RRH (Verizon - Proposed) | 120 |
| MT6407-77A (Verizon - Proposed) | 120 | DB-T1-6Z-8AB-0Z (Verizon - Existing) | 120 |
| LNX-6514DS (Verizon - Existing) | 120 | Commscope BSAMNT-SBS-2-2 (Verizon - Proposed) | 120 |
| (2) SBNHH-1D65B (Verizon - Proposed) | 120 | Commscope BSAMNT-SBS-2-2 (Verizon - Proposed) | 120 |
| MT6407-77A (Verizon - Proposed) | 120 | Commscope BSAMNT-SBS-2-2 (Verizon - Proposed) | 120 |
| LNX-6514DS (Verizon - Existing) | 120 | Commscope BSAMNT-SBS-2-2 (Verizon - Proposed) | 120 |
| (2) SBNHH-1D65B (Verizon - Proposed) | 120 | SitePro VFA12-HD (Verizon - Proposed) | 118 |
| MT6407-77A (Verizon - Proposed) | 120 | SitePro VFA12-HD (Verizon - Proposed) | 118 |
| B2/B66A RRH (Verizon - Proposed) | 120 | SitePro VFA12-HD (Verizon - Proposed) | 118 |
| B2/B66A RRH (Verizon - Proposed) | 120 | | |
| B2/B66A RRH (Verizon - Proposed) | 120 | | |
| B5/B13 RRH (Verizon - Proposed) | 120 | | |

MATERIAL STRENGTH

| GRADE | Fy | Fu | GRADE | Fy | Fu |
|----------|--------|--------|-------|----|----|
| A53-B-35 | 35 ksi | 63 ksi | | | |

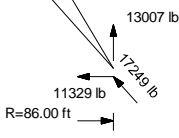
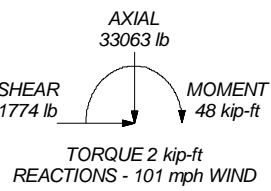
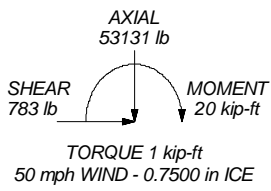
TOWER DESIGN NOTES

1. Tower designed for Exposure B to the TIA-222-G Standard.
 2. Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
 3. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
 4. Deflections are based upon a 60 mph wind.
 5. Tower Structure Class II.
 6. Topographic Category 1 with Crest Height of 0.00 ft
- TOWER RATING: 71.2%

ALL REACTIONS ARE FACTORED

MAX. CORNER F₇
DOWN: 2860⁴ lb
SHEAR: 993 lb

UPLIFT: -5417 lb
SHEAR: 691 lb



ALL REACTIONS ARE FACTORED

Centek Engineering Inc.
63-2 North Branford Rd.
Branford, CT 06405
Phone: (203) 488-0580
FAX: (203) 488-8587

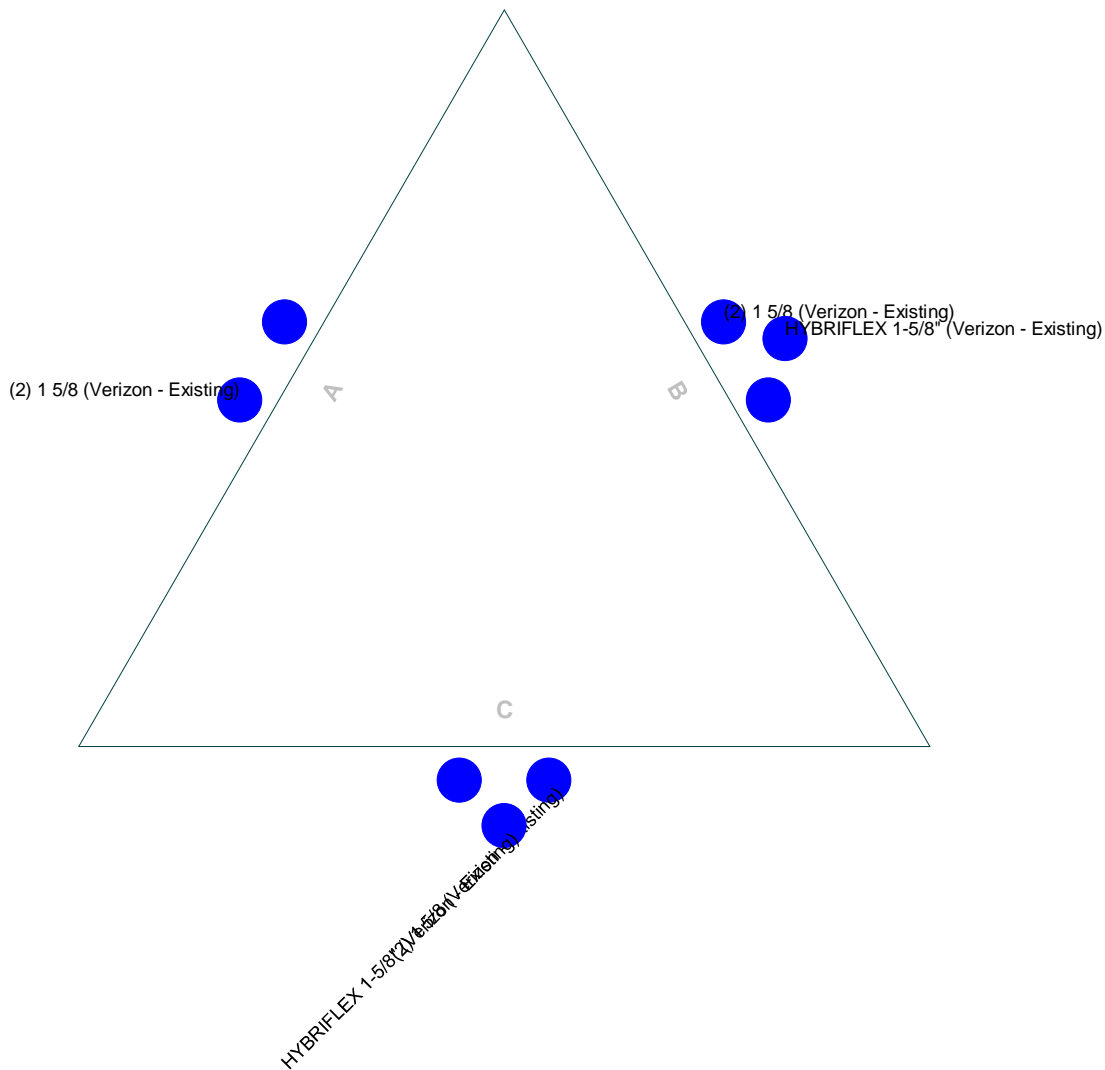
Job: **20150.02 - Lebanon**
Project: **120' Guyed Tower - 236 Gates Rd., Lebanon, CT**

| | | |
|-----------------|----------------|-------------|
| Client: Verizon | Drawn by: TJL | App'd: |
| Code: TIA-222-G | Date: 08/09/21 | Scale: NTS |
| Path: | | Dwg No. E-1 |

3/26/2015 10:00 AM Lebanon CT CT Corp Structural/Stacking Documents/Rev 11/Carrel/ENR120' Guyed Tower.dwg

Feed Line Plan

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

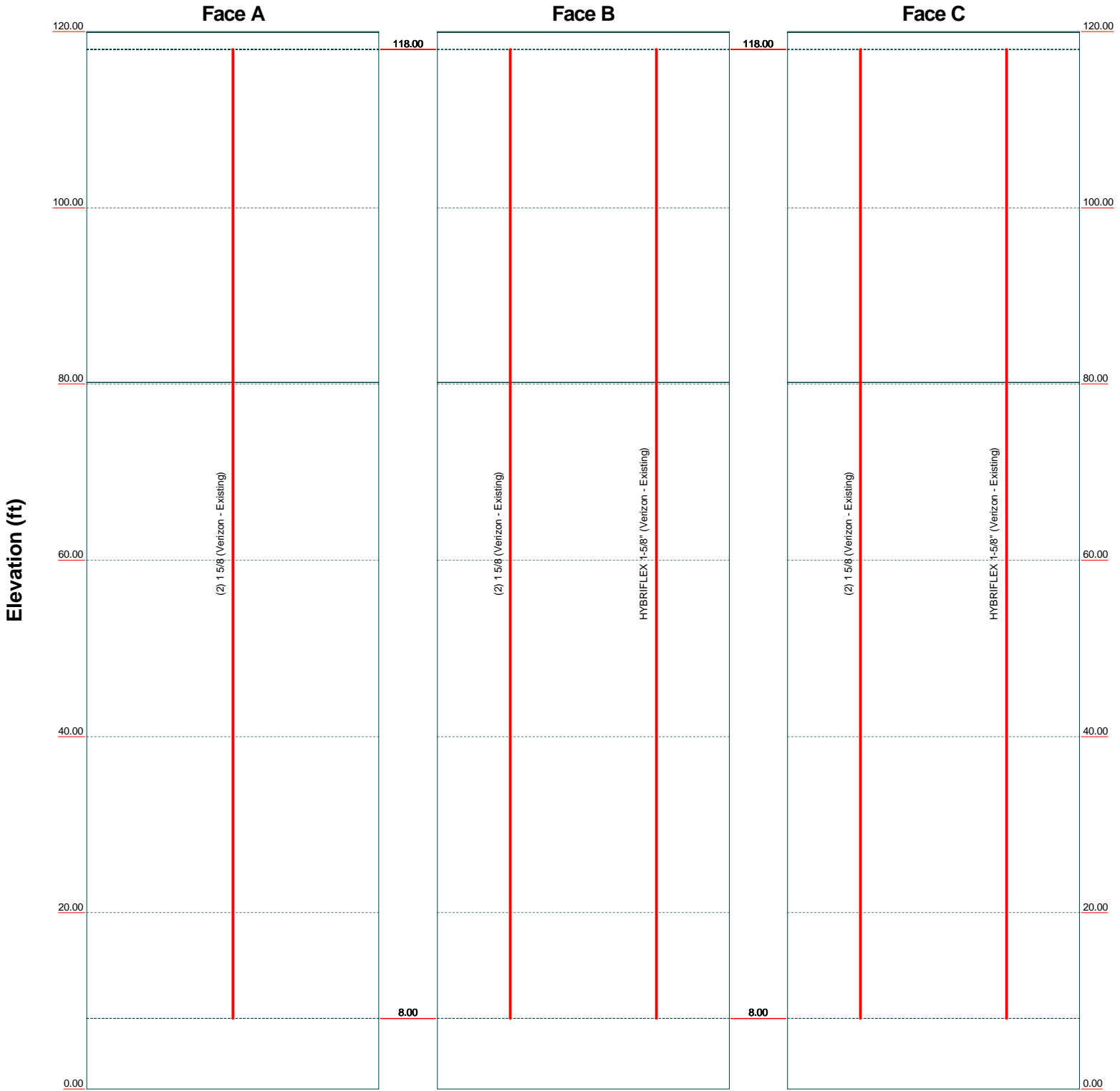


| | | | |
|---|----------------|---|--|
| Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | | Job: 20150.02 - Lebanon | |
| | | Project: 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | |
| Client: Verizon | Drawn by: T.JL | App'd: | |
| Code: TIA-222-G | Date: 08/09/21 | Scale: NTS | |
| Path: | Dwg No. E-7 | | |

J:\Jobs\2015000\WIP_Lebanon_CTE\Structural\Borings_Documentation\Rev 11\Callout\EM120' Guyed Tower.dwg

Feed Line Distribution Chart 0' - 120'

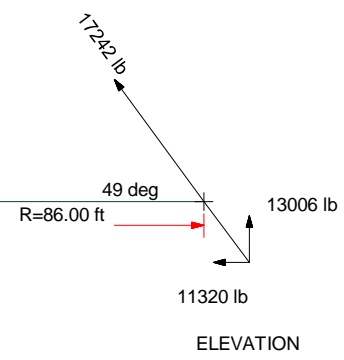
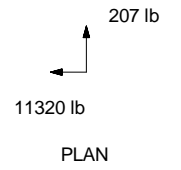
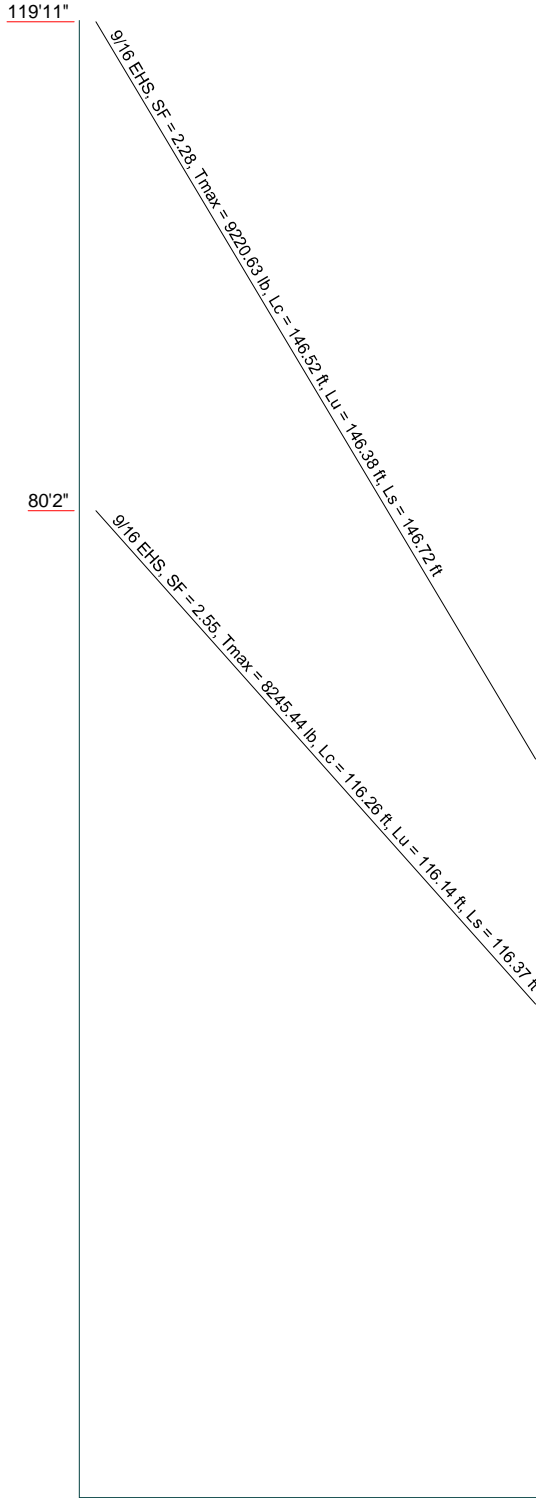
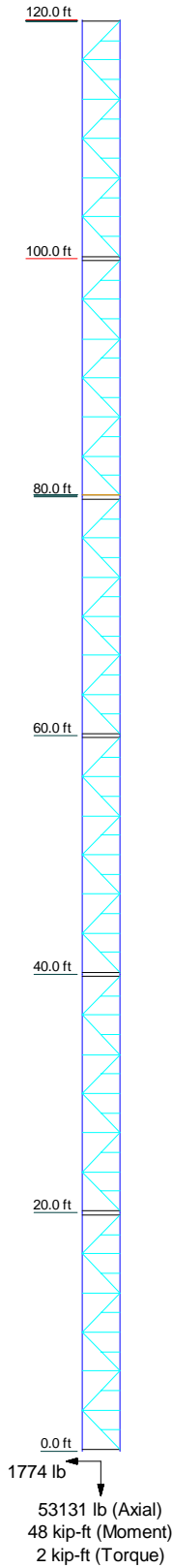
— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



| | | |
|---|----------------|------------|
| Centek Engineering Inc. | | |
| 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | | |
| Job: 20150.02 - Lebanon | | |
| Project: 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | | |
| Client: Verizon | Drawn by: T.JL | App'd: |
| Code: TIA-222-G | Date: 08/09/21 | Scale: NTS |
| Path: | Dwg No. E-7 | |

Guy Tensions and Tower Reactions
TIA-222-G - 101 mph/50 mph 0.7500 in Ice Exposure B

Maximum Values
Anchor 'C' @86 ft Azimuth 240 deg Elev 0 ft
Plane through centroid of tower



| | | | |
|---|---|----------------|-------------|
| Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job: 20150.02 - Lebanon | | |
| | Project: 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | | |
| | Client: Verizon | Drawn by: T.JL | App'd: |
| | Code: TIA-222-G | Date: 08/09/21 | Scale: NTS |
| | Path: | | Dwg No. E-6 |

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 1 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

Tower Input Data

The main tower is a 3x guyed tower with an overall height of 120.00 ft above the ground line.

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

The face width of the tower is 3.13 ft at the top and 3.13 ft at the base.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Basic wind speed of 101 mph.

Structure Class II.

Exposure Category B.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.

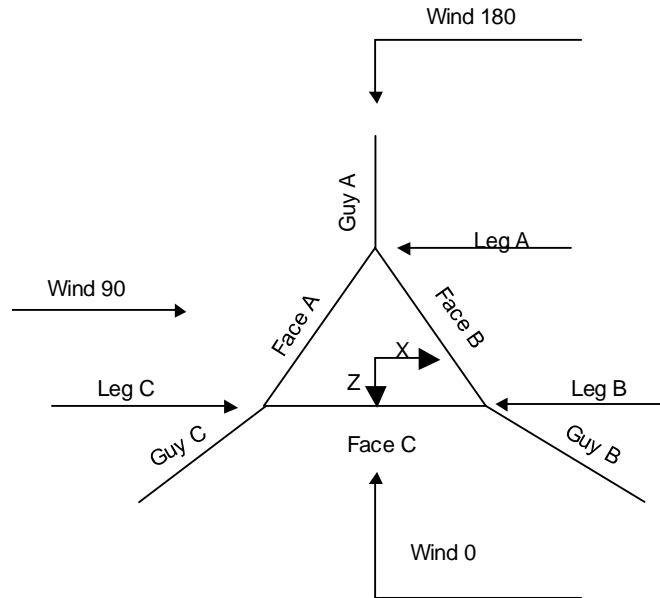
Safety factor used in guy design is 1.

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

Options

| | | |
|--|---|--|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile √ Include Bolts In Member Capacity Leg Bolts Are At Top Of Section √ Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) √ SR Members Have Cut Ends SR Members Are Concentric | <ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area √ Use Clear Spans For KL/r √ Retension Guys To Initial Tension Bypass Mast Stability Checks Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. √ Autocalc Torque Arm Areas Add IBC .6D+W Combination √ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs | <ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression √ All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-G Bracing Resist. Exemption Use TIA-222-G Tension Splice Exemption <li style="background-color: #e0e0e0;">Poles Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
|--|---|--|

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 2 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJJ |



Corner & Starmount Guyed Tower

Tower Section Geometry

| Tower Section | Tower Elevation | Assembly Database | Description | Section Width | Number of Sections | Section Length |
|---------------|-----------------|-------------------|-------------|---------------|--------------------|----------------|
| | ft | | | ft | | ft |
| T1 | 120.00-100.00 | | | 3.13 | 1 | 20.00 |
| T2 | 100.00-80.00 | | | 3.13 | 1 | 20.00 |
| T3 | 80.00-60.00 | | | 3.13 | 1 | 20.00 |
| T4 | 60.00-40.00 | | | 3.13 | 1 | 20.00 |
| T5 | 40.00-20.00 | | | 3.13 | 1 | 20.00 |
| T6 | 20.00-0.00 | | | 3.13 | 1 | 20.00 |

Tower Section Geometry (cont'd)

| Tower Section | Tower Elevation | Diagonal Spacing | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset | Bottom Girt Offset |
|---------------|-----------------|------------------|---------------|------------------------|-----------------|-----------------|--------------------|
| | ft | ft | | | | in | in |
| T1 | 120.00-100.00 | 3.29 | K Brace Right | No | Yes+Steps | 1.0000 | 2.0000 |
| T2 | 100.00-80.00 | 3.28 | K Brace Right | No | Yes+Steps | 2.0000 | 2.0000 |
| T3 | 80.00-60.00 | 3.28 | K Brace Right | No | Yes+Steps | 2.0000 | 2.0000 |
| T4 | 60.00-40.00 | 3.28 | K Brace Right | No | Yes+Steps | 2.0000 | 2.0000 |

| | | | | | |
|--|----------------|---|-------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 20150.02 - Lebanon | Page | 3 of 37 | |
| | Project | 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | | Date | 16:12:15 08/09/21 |
| | Client | Verizon | | Designed by | TJL |

| Tower Section | Tower Elevation ft | Diagonal Spacing ft | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset in | Bottom Girt Offset in |
|---------------|-----------------------|------------------------|---------------|------------------------|-----------------|-----------------------|--------------------------|
| T5 | 40.00-20.00 | 3.28 | K Brace Right | No | Yes+Steps | 2.0000 | 2.0000 |
| T6 | 20.00-0.00 | 3.28 | K Brace Right | No | Yes+Steps | 2.0000 | 2.0000 |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Leg Type | Leg Size | Leg Grade | Diagonal Type | Diagonal Size | Diagonal Grade |
|-----------------------|----------|-----------|----------------------|---------------|---------------|----------------------|
| T1 120.00-100.00 | Pipe | P2.5x.203 | A53-B-35 (35 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |
| T2 100.00-80.00 | Pipe | P2.5x.203 | A53-B-35 (35 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |
| T3 80.00-60.00 | Pipe | P2.5x.203 | A53-B-35 (35 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |
| T4 60.00-40.00 | Pipe | P2.5x.203 | A53-B-35 (35 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |
| T5 40.00-20.00 | Pipe | P2.5x.203 | A53-B-35 (35 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |
| T6 20.00-0.00 | Pipe | P2.5x.203 | A53-B-35 (35 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Top Girt Type | Top Girt Size | Top Girt Grade | Bottom Girt Type | Bottom Girt Size | Bottom Girt Grade |
|-----------------------|---------------|---------------|----------------------|------------------|------------------|-------------------|
| T1 120.00-100.00 | Pipe | P.75x.154 | A53-B-35 (35 ksi) | Flat Bar | 2x1/2 | A36 (36 ksi) |
| T2 100.00-80.00 | Flat Bar | 2x1/2 | A36 (36 ksi) | Flat Bar | 2x1/2 | A36 (36 ksi) |
| T3 80.00-60.00 | Flat Bar | 2x1/2 | A36 (36 ksi) | Flat Bar | 2x1/2 | A36 (36 ksi) |
| T4 60.00-40.00 | Flat Bar | 2x1/2 | A36 (36 ksi) | Flat Bar | 2x1/2 | A36 (36 ksi) |
| T5 40.00-20.00 | Flat Bar | 2x1/2 | A36 (36 ksi) | Flat Bar | 2x1/2 | A36 (36 ksi) |
| T6 20.00-0.00 | Flat Bar | 2x1/2 | A36 (36 ksi) | Flat Bar | 2x1/2 | A36 (36 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation ft | No. of Mid Girts | Mid Girt Type | Mid Girt Size | Mid Girt Grade | Horizontal Type | Horizontal Size | Horizontal Grade |
|-----------------------|------------------|---------------|---------------|-----------------|-----------------|-----------------|----------------------|
| T1 120.00-100.00 | None | Single Angle | | A36 (36 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |

| | | | | |
|--|----------------|---|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 20150.02 - Lebanon | Page | 4 of 37 |
| | Project | 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date | 16:12:15 08/09/21 |
| | Client | Verizon | Designed by | TJL |

| Tower Elevation ft | No. of Mid Girts | Mid Girt Type | Mid Girt Size | Mid Girt Grade | Horizontal Type | Horizontal Size | Horizontal Grade |
|-----------------------|------------------|---------------|---------------|-----------------|-----------------|-----------------|----------------------|
| T2 100.00-80.00 | None | Single Angle | | A36 (36 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |
| T3 80.00-60.00 | None | Single Angle | | A36 (36 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |
| T4 60.00-40.00 | None | Single Angle | | A36 (36 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |
| T5 40.00-20.00 | None | Single Angle | | A36 (36 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |
| T6 20.00-0.00 | None | Single Angle | | A36 (36 ksi) | Pipe | P.75x.154 | A53-B-35 (35 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Secondary Horizontal Type | Secondary Horizontal Size | Secondary Horizontal Grade | Inner Bracing Type | Inner Bracing Size | Inner Bracing Grade |
|-----------------------|---------------------------|---------------------------|----------------------------|--------------------|--------------------|---------------------|
| T1 120.00-100.00 | Pipe | P0.375x0.091 | A53-B-35 (35 ksi) | Solid Round | | A572-50 (50 ksi) |
| T2 100.00-80.00 | Pipe | P0.375x0.091 | A53-B-35 (35 ksi) | Solid Round | | A572-50 (50 ksi) |
| T3 80.00-60.00 | Pipe | P0.375x0.091 | A53-B-35 (35 ksi) | Solid Round | | A572-50 (50 ksi) |
| T4 60.00-40.00 | Pipe | P0.375x0.091 | A53-B-35 (35 ksi) | Solid Round | | A572-50 (50 ksi) |
| T5 40.00-20.00 | Pipe | P0.375x0.091 | A53-B-35 (35 ksi) | Solid Round | | A572-50 (50 ksi) |
| T6 20.00-0.00 | Pipe | P0.375x0.091 | A53-B-35 (35 ksi) | Solid Round | | A572-50 (50 ksi) |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Gusset Area (per face) ft ² | Gusset Thickness in | Gusset Grade | Adjust. Factor A _f | Adjust. Factor A _r | Weight Mult. | Double Angle Stitch Bolt Spacing Diagonals in | Double Angle Stitch Bolt Spacing Horizontals in | Double Angle Stitch Bolt Spacing Redundants in |
|-----------------------|--|------------------------|-----------------|----------------------------------|----------------------------------|--------------|---|---|--|
| T1 120.00-100.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1 | 36.0000 | 36.0000 | 36.0000 |
| T2 100.00-80.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1 | 36.0000 | 36.0000 | 36.0000 |
| T3 80.00-60.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1 | 36.0000 | 36.0000 | 36.0000 |
| T4 60.00-40.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1 | 36.0000 | 36.0000 | 36.0000 |
| T5 40.00-20.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1 | 36.0000 | 36.0000 | 36.0000 |
| T6 20.00-0.00 | 0.00 | 0.0000 | A36 (36 ksi) | 1 | 1 | 1 | 36.0000 | 36.0000 | 36.0000 |

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 6 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

Tower Section Geometry (cont'd)

| Tower Elevation ft | Leg Connection Type | Leg | | Diagonal | | Top Girt | | Bottom Girt | | Mid Girt | | Long Horizontal | | Short Horizontal | |
|-----------------------|---------------------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|------------------|-----|
| | | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. | Bolt Size in | No. |
| T1 120.00-100.00 | Flange | 0.7500 A325N | 3 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 |
| T2 100.00-80.00 | Flange | 0.7500 A325N | 3 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 |
| T3 80.00-60.00 | Flange | 0.7500 A325N | 3 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 |
| T4 60.00-40.00 | Flange | 0.7500 A325N | 3 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 |
| T5 40.00-20.00 | Flange | 0.7500 A325N | 3 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 |
| T6 20.00-0.00 | Flange | 0.7500 A325N | 3 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.0000 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 | 0.6250 A325N | 0 |

Guy Data

| Guy Elevation ft | Guy Grade | Guy Size | Initial Tension lb | % | Guy Modulus ksi | Guy Weight plf | L _u ft | Anchor Radius ft | Anchor Azimuth Adj. ° | Anchor Elevation ft | End Fitting Efficiency % |
|---------------------|-----------|----------|-----------------------|---------|--------------------|-------------------|----------------------|---------------------|--------------------------|------------------------|-----------------------------|
| 119.917 | EHS | A | 9/16 | 3500.00 | 10% | 21000 | 0.671 | 146.40 | 86.00 | 0.0000 | 100% |
| | | B | 9/16 | 3500.00 | 10% | 21000 | 0.671 | 146.40 | 86.00 | -5.0000 | 100% |
| | | C | 9/16 | 3500.00 | 10% | 21000 | 0.671 | 146.40 | 86.00 | 0.0000 | 100% |
| 80.1667 | EHS | A | 9/16 | 3850.00 | 11% | 21000 | 0.671 | 116.15 | 86.00 | 0.0000 | 100% |
| | | B | 9/16 | 3850.00 | 11% | 21000 | 0.671 | 116.15 | 86.00 | -5.0000 | 100% |
| | | C | 9/16 | 3850.00 | 11% | 21000 | 0.671 | 116.15 | 86.00 | 0.0000 | 100% |

Guy Data(cont'd)

| Guy Elevation ft | Mount Type | Torque-Arm Spread ft | Torque-Arm Leg Angle ° | Torque-Arm Style | Torque-Arm Grade | Torque-Arm Type | Torque-Arm Size |
|---------------------|------------|-------------------------|---------------------------|------------------|------------------|-----------------|-----------------|
| 119.917 | Corner | | | | | | |
| 80.1667 | Corner | | | | | | |

Guy Data (cont'd)

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 7 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJJ |

| Guy Elevation ft | Diagonal Grade | Diagonal Type | Upper Diagonal Size | Lower Diagonal Size | Is Strap. | Pull-Off Grade | Pull-Off Type | Pull-Off Size |
|---------------------|----------------------|---------------|---------------------|---------------------|-----------|-----------------|---------------|---------------|
| 119.92 | A53-B-42 (42 ksi) | Pipe | | | | A36 (36 ksi) | Flat Bar | |
| 80.17 | A53-B-42 (42 ksi) | Pipe | | | Yes | A36 (36 ksi) | Flat Bar | 1 1/4x1 1/4 |

Guy Data (cont'd)

| Guy Elevation ft | Cable Weight | Cable Weight | Cable Weight | Cable Weight | Tower Intercept | Tower Intercept | Tower Intercept | Tower Intercept |
|---------------------|--------------|--------------|--------------|--------------|-----------------------|-----------------------|-----------------------|-----------------|
| | A lb | B lb | C lb | D lb | A ft | B ft | C ft | D ft |
| 119.917 | 98.23 | 98.24 | 98.23 | | 2.03 | 2.03 | 2.03 | |
| 80.1667 | 77.93 | 77.94 | 77.93 | | 2.5 sec/pulse 1.17 | 2.5 sec/pulse 1.17 | 2.5 sec/pulse 1.17 | |
| | | | | | 1.9 sec/pulse | 1.9 sec/pulse | 1.9 sec/pulse | |

Guy Data (cont'd)

| Guy Elevation ft | Calc K Single Angles | Calc K Solid Rounds | Torque Arm | | Pull Off | | Diagonal | |
|---------------------|----------------------------|---------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | | | K _x | K _y | K _x | K _y | K _x | K _y |
| 119.917 | No | No | | | 1 | 1 | 1 | 1 |
| 80.1667 | No | No | | | 1 | 1 | 1 | 1 |

Guy Data (cont'd)

| Guy Elevation ft | Torque-Arm | | | | Pull Off | | | | Diagonal | | | |
|---------------------|-----------------|--------|---------------------------|------|-----------------|--------|---------------------------|------|-----------------|--------|---------------------------|------|
| | Bolt Size in | Number | Net Width Deduct in | U | Bolt Size in | Number | Net Width Deduct in | U | Bolt Size in | Number | Net Width Deduct in | U |
| 119.917 | 0.5000 | 4 | 0.0000 | 1 | 0.0000 | 0 | 0.0000 | 0.75 | 0.6250 | 0 | 0.0000 | 0.75 |
| 80.1667 | 0.6250 | 0 | 0.0000 | 0.75 | 0.0000 | 0 | 0.0000 | 0.75 | 0.6250 | 0 | 0.0000 | 0.75 |

Guy Pressures

| Guy Elevation ft | Guy Location | z ft | q _z psf | q _z Ice psf | Ice Thickness in |
|---------------------|--------------|---------|-----------------------|------------------------------|------------------------|
| 119.917 | A | 59.96 | 19 | 5 | 1.5923 |
| | B | 59.96 | 19 | 5 | 1.5923 |
| | C | 59.96 | 19 | 5 | 1.5923 |

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 8 of 37 |
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| Guy Elevation ft | Guy Location | z ft | q _z psf | q _z Ice psf | Ice Thickness in |
|---------------------|--------------|---------|-----------------------|------------------------------|---------------------|
| 80.1667 | A | 40.08 | 17 | 4 | 1.5295 |
| | B | 40.08 | 17 | 4 | 1.5295 |
| | C | 40.08 | 17 | 4 | 1.5295 |

Guy-Mast Forces (Excluding Wind) - No Ice

| Guy Elevation ft | Guy Location | Chord Angle ° | Guy Tension Top Bottom lb | F _x lb | F _y lb | F _z lb | M _x kip-ft | M _y kip-ft | M _z kip-ft |
|---------------------|--------------|------------------|------------------------------------|----------------------|----------------------|----------------------|--------------------------|--------------------------|--------------------------|
| 119.917 | A | 54.9266 | 3580.39 3500.00 | 0.00 | 2946.44 | -2034.14 | -5.32 | 0.00 | 0.00 |
| | B | 54.9244 | 3580.39 3500.00 | 1843.65 | 2946.37 | 859.71 | 2.66 | 0.32 | -4.60 |
| | C | 54.9266 | 3580.39 3500.00 | -1761.61 | 2946.44 | 1017.07 | 2.66 | 0.00 | 4.60 |
| | | | Sum: | 82.04 | 8839.25 | -157.36 | -0.00 | 0.32 | 0.00 |
| 80.1667 | A | 43.5958 | 3903.74 3850.00 | 0.00 | 2712.30 | -2807.60 | -4.89 | 0.00 | 0.00 |
| | B | 43.5935 | 3903.74 3850.00 | 2544.65 | 2712.19 | 1186.59 | 2.45 | 0.44 | -4.24 |
| | C | 43.5958 | 3903.74 3850.00 | -2431.45 | 2712.30 | 1403.80 | 2.45 | -0.00 | 4.24 |
| | | | Sum: | 113.19 | 8136.79 | -217.21 | -0.00 | 0.44 | 0.00 |

Guy-Mast Forces (Excluding Wind) - Ice

| Guy Elevation ft | Guy Location | Chord Angle ° | Guy Tension Top Bottom lb | F _x lb | F _y lb | F _z lb | M _x kip-ft | M _y kip-ft | M _z kip-ft |
|---------------------|--------------|------------------|------------------------------------|----------------------|----------------------|----------------------|--------------------------|--------------------------|--------------------------|
| 119.917 | A | 54.9266 | 5994.57 5412.06 | 0.00 | 5022.62 | -3272.33 | -9.06 | 0.00 | 0.00 |
| | B | 54.9244 | 5994.67 5412.16 | 2965.95 | 5022.59 | 1383.05 | 4.53 | 0.51 | -7.85 |
| | C | 54.9266 | 5994.57 5412.06 | -2833.92 | 5022.62 | 1636.17 | 4.53 | -0.00 | 7.85 |
| | | | Sum: | 132.03 | 15067.83 | -253.12 | -0.00 | 0.51 | 0.00 |
| 80.1667 | A | 43.5958 | 6081.36 5714.61 | 0.00 | 4332.30 | -4267.80 | -7.82 | 0.00 | 0.00 |
| | B | 43.5935 | 6081.45 5714.70 | 3868.15 | 4332.20 | 1803.75 | 3.91 | 0.67 | -6.77 |
| | C | 43.5958 | 6081.36 5714.61 | -3696.02 | 4332.30 | 2133.90 | 3.91 | -0.00 | 6.77 |
| | | | Sum: | 172.12 | 12996.80 | -330.15 | -0.00 | 0.67 | 0.00 |

Guy-Mast Forces (Excluding Wind) - Service

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 9 of 37 |
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| | Client Verizon | Designed by TJL |

| Guy Elevation | Guy Location | Chord Angle | Guy Tension Top Bottom lb | F _x | F _y | F _z | M _x | M _y | M _z |
|---------------|--------------|-------------|---------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| ft | | ° | | lb | lb | lb | kip-ft | kip-ft | kip-ft |
| 119.917 | A | 54.9266 | 3580.39 3500.00 | 0.00 | 2946.44 | -2034.14 | -5.32 | 0.00 | 0.00 |
| | B | 54.9244 | 3580.39 3500.00 | 1843.65 | 2946.37 | 859.71 | 2.66 | 0.32 | -4.60 |
| | C | 54.9266 | 3580.39 3500.00 | -1761.61 | 2946.44 | 1017.07 | 2.66 | 0.00 | 4.60 |
| 80.1667 | | | Sum: | 82.04 | 8839.25 | -157.36 | -0.00 | 0.32 | 0.00 |
| | A | 43.5958 | 3903.74 3850.00 | 0.00 | 2712.30 | -2807.60 | -4.89 | 0.00 | 0.00 |
| | B | 43.5935 | 3903.74 3850.00 | 2544.65 | 2712.19 | 1186.59 | 2.45 | 0.44 | -4.24 |
| | C | 43.5958 | 3903.74 3850.00 | -2431.45 | 2712.30 | 1403.80 | 2.45 | -0.00 | 4.24 |
| | | | Sum: | 113.19 | 8136.79 | -217.21 | -0.00 | 0.44 | 0.00 |

Guy-Tensioning Information

| | | Temperature At Time Of Tensioning | | | | | | | | | | | | | | | |
|---------------|---|-----------------------------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|------|
| Guy Elevation | H | V | 0 F | | 20 F | | 40 F | | 60 F | | 80 F | | 100 F | | 120 F | | |
| | | | Initial Tension lb | Intercept ft | Initial Tension lb | Intercept ft | Initial Tension lb | Intercept ft | Initial Tension lb | Intercept ft | Initial Tension lb | Intercept ft | Initial Tension lb | Intercept ft | Initial Tension lb | Intercept ft | |
| 119.917 | A | 84.20 | 119.92 | 4016 | 1.77 | 3843 | 1.85 | 3671 | 1.94 | 3500 | 2.03 | 3329 | 2.14 | 3159 | 2.25 | 2990 | 2.38 |
| | B | 84.20 | 119.92 | 4016 | 1.77 | 3843 | 1.85 | 3671 | 1.94 | 3500 | 2.03 | 3329 | 2.14 | 3159 | 2.25 | 2990 | 2.38 |
| | C | 84.20 | 119.92 | 4016 | 1.77 | 3843 | 1.85 | 3671 | 1.94 | 3500 | 2.03 | 3329 | 2.14 | 3159 | 2.25 | 2990 | 2.38 |
| 80.1667 | A | 84.20 | 80.17 | 4674 | 0.96 | 4399 | 1.02 | 4124 | 1.09 | 3850 | 1.17 | 3577 | 1.26 | 3306 | 1.36 | 3037 | 1.48 |
| | B | 84.20 | 80.17 | 4674 | 0.96 | 4399 | 1.02 | 4124 | 1.09 | 3850 | 1.17 | 3577 | 1.26 | 3306 | 1.36 | 3037 | 1.48 |
| | C | 84.20 | 80.17 | 4674 | 0.96 | 4399 | 1.02 | 4124 | 1.09 | 3850 | 1.17 | 3577 | 1.26 | 3306 | 1.36 | 3037 | 1.48 |

Feed Line/Linear Appurtenances - Entered As Round Or Flat

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Face Offset in | Lateral Offset (Frac FW) | # | # Per Row | Clear Spacing in | Width or Diameter in | Perimeter in | Weight plf |
|---------------------------------------|-------------|--------------|---------------------------------|----------------|---------------|----------------|--------------------------|---|-----------|------------------|----------------------|--------------|------------|
| 1 5/8 (Verizon - Existing) | A | No | No | Ar (CaAa) | 118.00 - 8.00 | 0.5000 | 0 | 2 | 2 | 1.9800 | 1.9800 | | 1.04 |
| 1 5/8 (Verizon - Existing) | B | No | No | Ar (CaAa) | 118.00 - 8.00 | 0.5000 | 0 | 2 | 2 | 1.9800 | 1.9800 | | 1.04 |
| 1 5/8 (Verizon - Existing) | C | No | No | Ar (CaAa) | 118.00 - 8.00 | 0.5000 | 0 | 2 | 2 | 1.9800 | 1.9800 | | 1.04 |
| HYBRIFLEX 1-5/8" (Verizon - Existing) | B | No | No | Ar (CaAa) | 118.00 - 8.00 | 2.5000 | 0 | 1 | 1 | 1.9800 | 1.9800 | | 1.90 |
| HYBRIFLEX 1-5/8" | C | No | No | Ar (CaAa) | 118.00 - 8.00 | 2.5000 | 0 | 1 | 1 | 1.9800 | 1.9800 | | 1.90 |

| | | | | | |
|--|----------------|---|-------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 20150.02 - Lebanon | Page | 10 of 37 | |
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| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Face Offset in | Lateral Offset (Frac FW) | # Per Row | # Spacing in | Clear Diameter in | Perimeter in | Weight plf |
|----------------------|-------------|--------------|---------------------------------|----------------|--------------|----------------|--------------------------|-----------|--------------|-------------------|--------------|------------|
| (Verizon - Existing) | | | | | | | | | | | | |

Feed Line/Linear Appurtenances Section Areas

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _A A _A In Face ft ² | C _A A _A Out Face ft ² | Weight lb |
|---------------|--------------------|------|--------------------------------|--------------------------------|---|--|-----------|
| T1 | 120.00-100.00 | A | 0.000 | 0.000 | 7.128 | 0.000 | 37.44 |
| | | B | 0.000 | 0.000 | 10.692 | 0.000 | 71.64 |
| | | C | 0.000 | 0.000 | 10.692 | 0.000 | 71.64 |
| T2 | 100.00-80.00 | A | 0.000 | 0.000 | 7.920 | 0.000 | 41.60 |
| | | B | 0.000 | 0.000 | 11.880 | 0.000 | 79.60 |
| | | C | 0.000 | 0.000 | 11.880 | 0.000 | 79.60 |
| T3 | 80.00-60.00 | A | 0.000 | 0.000 | 7.920 | 0.000 | 41.60 |
| | | B | 0.000 | 0.000 | 11.880 | 0.000 | 79.60 |
| | | C | 0.000 | 0.000 | 11.880 | 0.000 | 79.60 |
| T4 | 60.00-40.00 | A | 0.000 | 0.000 | 7.920 | 0.000 | 41.60 |
| | | B | 0.000 | 0.000 | 11.880 | 0.000 | 79.60 |
| | | C | 0.000 | 0.000 | 11.880 | 0.000 | 79.60 |
| T5 | 40.00-20.00 | A | 0.000 | 0.000 | 7.920 | 0.000 | 41.60 |
| | | B | 0.000 | 0.000 | 11.880 | 0.000 | 79.60 |
| | | C | 0.000 | 0.000 | 11.880 | 0.000 | 79.60 |
| T6 | 20.00-0.00 | A | 0.000 | 0.000 | 4.752 | 0.000 | 24.96 |
| | | B | 0.000 | 0.000 | 7.128 | 0.000 | 47.76 |
| | | C | 0.000 | 0.000 | 7.128 | 0.000 | 47.76 |

Feed Line/Linear Appurtenances Section Areas - With Ice

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A _R ft ² | A _F ft ² | C _A A _A In Face ft ² | C _A A _A Out Face ft ² | Weight lb |
|---------------|--------------------|-------------|------------------|--------------------------------|--------------------------------|---|--|-----------|
| T1 | 120.00-100.00 | A | 1.692 | 0.000 | 0.000 | 24.202 | 0.000 | 301.19 |
| | | B | | 0.000 | 0.000 | 33.857 | 0.000 | 472.02 |
| | | C | | 0.000 | 0.000 | 33.857 | 0.000 | 472.02 |
| T2 | 100.00-80.00 | A | 1.658 | 0.000 | 0.000 | 26.662 | 0.000 | 328.21 |
| | | B | | 0.000 | 0.000 | 37.255 | 0.000 | 513.64 |
| | | C | | 0.000 | 0.000 | 37.255 | 0.000 | 513.64 |
| T3 | 80.00-60.00 | A | 1.617 | 0.000 | 0.000 | 26.381 | 0.000 | 320.39 |
| | | B | | 0.000 | 0.000 | 36.810 | 0.000 | 500.53 |
| | | C | | 0.000 | 0.000 | 36.810 | 0.000 | 500.53 |
| T4 | 60.00-40.00 | A | 1.564 | 0.000 | 0.000 | 26.017 | 0.000 | 310.35 |
| | | B | | 0.000 | 0.000 | 36.231 | 0.000 | 483.74 |
| | | C | | 0.000 | 0.000 | 36.231 | 0.000 | 483.74 |
| T5 | 40.00-20.00 | A | 1.486 | 0.000 | 0.000 | 25.487 | 0.000 | 295.98 |
| | | B | | 0.000 | 0.000 | 35.390 | 0.000 | 459.80 |
| | | C | | 0.000 | 0.000 | 35.390 | 0.000 | 459.80 |
| T6 | 20.00-0.00 | A | 1.331 | 0.000 | 0.000 | 14.663 | 0.000 | 161.00 |
| | | B | | 0.000 | 0.000 | 20.234 | 0.000 | 248.43 |
| | | C | | 0.000 | 0.000 | 20.234 | 0.000 | 248.43 |

| | | |
|--|---|----------------------------------|
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| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

Feed Line Center of Pressure

| Section | Elevation | CP _x | CP _z | CP _x Ice | CP _z Ice |
|---------|---------------|-----------------|-----------------|------------------------|------------------------|
| | ft | in | in | in | in |
| T1 | 120.00-100.00 | 0.6857 | 0.3978 | 0.5862 | 0.3389 |
| T2 | 100.00-80.00 | 0.7013 | 0.4096 | 0.5973 | 0.3460 |
| T3 | 80.00-60.00 | 0.7126 | 0.4151 | 0.6229 | 0.3606 |
| T4 | 60.00-40.00 | 0.7126 | 0.4151 | 0.6282 | 0.3636 |
| T5 | 40.00-20.00 | 0.7126 | 0.4151 | 0.6352 | 0.3677 |
| T6 | 20.00-0.00 | 0.5239 | 0.3058 | 0.4893 | 0.2835 |

Shielding Factor Ka

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|------------------|-------------------------|--------------------------|-----------------------|
| T1 | 1 | 1 5/8 | 100.00 - 118.00 | 0.6000 | 0.4811 |
| T1 | 2 | 1 5/8 | 100.00 - 118.00 | 0.6000 | 0.4811 |
| T1 | 3 | 1 5/8 | 100.00 - 118.00 | 0.6000 | 0.4811 |
| T1 | 4 | HYBRIFLEX 1-5/8" | 100.00 - 118.00 | 0.6000 | 0.4811 |
| T1 | 5 | HYBRIFLEX 1-5/8" | 100.00 - 118.00 | 0.6000 | 0.4811 |
| T2 | 1 | 1 5/8 | 80.00 - 100.00 | 0.6000 | 0.4689 |
| T2 | 2 | 1 5/8 | 80.00 - 100.00 | 0.6000 | 0.4689 |
| T2 | 3 | 1 5/8 | 80.00 - 100.00 | 0.6000 | 0.4689 |
| T2 | 4 | HYBRIFLEX 1-5/8" | 80.00 - 100.00 | 0.6000 | 0.4689 |
| T2 | 5 | HYBRIFLEX 1-5/8" | 80.00 - 100.00 | 0.6000 | 0.4689 |
| T3 | 1 | 1 5/8 | 60.00 - 80.00 | 0.6000 | 0.4911 |
| T3 | 2 | 1 5/8 | 60.00 - 80.00 | 0.6000 | 0.4911 |
| T3 | 3 | 1 5/8 | 60.00 - 80.00 | 0.6000 | 0.4911 |
| T3 | 4 | HYBRIFLEX 1-5/8" | 60.00 - 80.00 | 0.6000 | 0.4911 |
| T3 | 5 | HYBRIFLEX 1-5/8" | 60.00 - 80.00 | 0.6000 | 0.4911 |
| T4 | 1 | 1 5/8 | 40.00 - 60.00 | 0.6000 | 0.5003 |
| T4 | 2 | 1 5/8 | 40.00 - 60.00 | 0.6000 | 0.5003 |
| T4 | 3 | 1 5/8 | 40.00 - 60.00 | 0.6000 | 0.5003 |
| T4 | 4 | HYBRIFLEX 1-5/8" | 40.00 - 60.00 | 0.6000 | 0.5003 |
| T4 | 5 | HYBRIFLEX 1-5/8" | 40.00 - 60.00 | 0.6000 | 0.5003 |
| T5 | 1 | 1 5/8 | 20.00 - 40.00 | 0.6000 | 0.5138 |
| T5 | 2 | 1 5/8 | 20.00 - 40.00 | 0.6000 | 0.5138 |
| T5 | 3 | 1 5/8 | 20.00 - 40.00 | 0.6000 | 0.5138 |
| T5 | 4 | HYBRIFLEX 1-5/8" | 20.00 - 40.00 | 0.6000 | 0.5138 |
| T5 | 5 | HYBRIFLEX 1-5/8" | 20.00 - 40.00 | 0.6000 | 0.5138 |
| T6 | 1 | 1 5/8 | 8.00 - 20.00 | 0.6000 | 0.5410 |
| T6 | 2 | 1 5/8 | 8.00 - 20.00 | 0.6000 | 0.5410 |
| T6 | 3 | 1 5/8 | 8.00 - 20.00 | 0.6000 | 0.5410 |
| T6 | 4 | HYBRIFLEX 1-5/8" | 8.00 - 20.00 | 0.6000 | 0.5410 |
| T6 | 5 | HYBRIFLEX 1-5/8" | 8.00 - 20.00 | 0.6000 | 0.5410 |

| | | | | |
|--|----------------|---|--------------------|-------------------|
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| | Project | 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date | 16:12:15 08/09/21 |
| | Client | Verizon | Designed by | TJL |

Discrete Tower Loads

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _A A _A Front | C _A A _A Side | Weight |
|--|-------------|-------------|--------------|--------|--------------------|-----------|-------------------------------------|------------------------------------|---------|
| | | | Horz Lateral | Vert | | | | | |
| | | | ft | ft | ° | ft | ft ² | ft ² | lb |
| SitePro VFA12-HD (Verizon - Proposed) | A | From Leg | 2.00 | 0.0000 | 118.00 | No Ice | 21.00 | 21.00 | 750.00 |
| | | | 0.00 | | | 1/2" Ice | 25.00 | 25.00 | 900.00 |
| | | | 0.00 | | | 1" Ice | 29.00 | 29.00 | 1050.00 |
| SitePro VFA12-HD (Verizon - Proposed) | B | From Leg | 2.00 | 0.0000 | 118.00 | No Ice | 21.00 | 21.00 | 750.00 |
| | | | 0.00 | | | 1/2" Ice | 25.00 | 25.00 | 900.00 |
| | | | 0.00 | | | 1" Ice | 29.00 | 29.00 | 1050.00 |
| SitePro VFA12-HD (Verizon - Proposed) | C | From Leg | 2.00 | 0.0000 | 118.00 | No Ice | 21.00 | 21.00 | 750.00 |
| | | | 0.00 | | | 1/2" Ice | 25.00 | 25.00 | 900.00 |
| | | | 0.00 | | | 1" Ice | 29.00 | 29.00 | 1050.00 |
| LNx-6514DS (Verizon - Existing) | A | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 8.17 | 5.41 | 38.00 |
| | | | 6.00 | | | 1/2" Ice | 8.63 | 5.86 | 88.51 |
| | | | 0.00 | | | 1" Ice | 9.10 | 6.33 | 145.15 |
| (2) SBNHH-1D65B (Verizon - Proposed) | A | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 8.08 | 5.34 | 42.00 |
| | | | 1.00 | | | 1/2" Ice | 8.53 | 5.79 | 92.05 |
| | | | 0.00 | | | 1" Ice | 9.00 | 6.26 | 148.20 |
| MT6407-77A (Verizon - Proposed) | A | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 4.71 | 1.84 | 0.09 |
| | | | -6.00 | | | 1/2" Ice | 5.00 | 2.06 | 29.40 |
| | | | 0.00 | | | 1" Ice | 5.29 | 2.29 | 62.58 |
| LNx-6514DS (Verizon - Existing) | B | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 8.17 | 5.41 | 38.00 |
| | | | 6.00 | | | 1/2" Ice | 8.63 | 5.86 | 88.51 |
| | | | 0.00 | | | 1" Ice | 9.10 | 6.33 | 145.15 |
| (2) SBNHH-1D65B (Verizon - Proposed) | B | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 8.08 | 5.34 | 42.00 |
| | | | 1.00 | | | 1/2" Ice | 8.53 | 5.79 | 92.05 |
| | | | 0.00 | | | 1" Ice | 9.00 | 6.26 | 148.20 |
| MT6407-77A (Verizon - Proposed) | B | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 4.71 | 1.84 | 0.09 |
| | | | -6.00 | | | 1/2" Ice | 5.00 | 2.06 | 29.40 |
| | | | 0.00 | | | 1" Ice | 5.29 | 2.29 | 62.58 |
| LNx-6514DS (Verizon - Existing) | C | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 8.17 | 5.41 | 38.00 |
| | | | 6.00 | | | 1/2" Ice | 8.63 | 5.86 | 88.51 |
| | | | 0.00 | | | 1" Ice | 9.10 | 6.33 | 145.15 |
| (2) SBNHH-1D65B (Verizon - Proposed) | C | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 8.08 | 5.34 | 42.00 |
| | | | 1.00 | | | 1/2" Ice | 8.53 | 5.79 | 92.05 |
| | | | 0.00 | | | 1" Ice | 9.00 | 6.26 | 148.20 |
| MT6407-77A (Verizon - Proposed) | C | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 4.71 | 1.84 | 0.09 |
| | | | -6.00 | | | 1/2" Ice | 5.00 | 2.06 | 29.40 |
| | | | 0.00 | | | 1" Ice | 5.29 | 2.29 | 62.58 |
| B2/B66A RRH (Verizon - Proposed) | A | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 2.54 | 1.61 | 60.00 |
| | | | -6.00 | | | 1/2" Ice | 2.75 | 1.79 | 80.12 |
| | | | 0.00 | | | 1" Ice | 2.97 | 1.98 | 103.35 |
| B2/B66A RRH (Verizon - Proposed) | B | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 2.54 | 1.61 | 60.00 |
| | | | -6.00 | | | 1/2" Ice | 2.75 | 1.79 | 80.12 |
| | | | 0.00 | | | 1" Ice | 2.97 | 1.98 | 103.35 |
| B2/B66A RRH (Verizon - Proposed) | C | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 2.54 | 1.61 | 60.00 |
| | | | -6.00 | | | 1/2" Ice | 2.75 | 1.79 | 80.12 |
| | | | 0.00 | | | 1" Ice | 2.97 | 1.98 | 103.35 |
| B5/B13 RRH (Verizon - Proposed) | A | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 1.87 | 1.02 | 70.00 |
| | | | -6.00 | | | 1/2" Ice | 2.03 | 1.15 | 86.42 |
| | | | 0.00 | | | 1" Ice | 2.21 | 1.29 | 105.50 |
| B5/B13 RRH (Verizon - Proposed) | B | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 1.87 | 1.02 | 70.00 |
| | | | -6.00 | | | 1/2" Ice | 2.03 | 1.15 | 86.42 |
| | | | 0.00 | | | 1" Ice | 2.21 | 1.29 | 105.50 |
| B5/B13 RRH | C | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 1.87 | 1.02 | 70.00 |

| | | | | | |
|--|----------------|---|-------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 20150.02 - Lebanon | Page | 13 of 37 | |
| | Project | 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | | Date | 16:12:15 08/09/21 |
| | Client | Verizon | | Designed by | TJL |

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral Vert | Azimuth Adjustment | Placement | C _{AA} Front | C _{AA} Side | Weight |
|---|-------------|-------------|----------------------------|--------------------|-----------|-----------------------|----------------------|--------|
| | | | ft ft ft | ° | ft | ft ² | ft ² | lb |
| (Verizon - Proposed) | | | -6.00 | | 1/2" Ice | 2.03 | 1.15 | 86.42 |
| | | | 0.00 | | 1" Ice | 2.21 | 1.29 | 105.50 |
| DB-T1-6Z-8AB-0Z (Verizon - Existing) | A | From Leg | 0.50 | 0.0000 | 120.00 | No Ice | 4.80 | 44.00 |
| | | | 0.00 | | 1/2" Ice | 5.07 | 2.19 | 80.13 |
| | | | 0.00 | | 1" Ice | 5.35 | 2.39 | 120.22 |
| DB-T1-6Z-8AB-0Z (Verizon - Existing) | B | From Leg | 0.50 | 0.0000 | 120.00 | No Ice | 4.80 | 44.00 |
| | | | 0.00 | | 1/2" Ice | 5.07 | 2.19 | 80.13 |
| | | | 0.00 | | 1" Ice | 5.35 | 2.39 | 120.22 |
| Commscope BSAMNT-SBS-2-2 (Verizon - Proposed) | A | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 3.00 | 80.00 |
| | | | 1.00 | | 1/2" Ice | 4.00 | 2.50 | 100.00 |
| | | | 0.00 | | 1" Ice | 5.00 | 3.00 | 120.00 |
| Commscope BSAMNT-SBS-2-2 (Verizon - Proposed) | B | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 3.00 | 80.00 |
| | | | 1.00 | | 1/2" Ice | 4.00 | 2.50 | 100.00 |
| | | | 0.00 | | 1" Ice | 5.00 | 3.00 | 120.00 |
| Commscope BSAMNT-SBS-2-2 (Verizon - Proposed) | C | From Leg | 4.00 | 0.0000 | 120.00 | No Ice | 3.00 | 80.00 |
| | | | 1.00 | | 1/2" Ice | 4.00 | 2.50 | 100.00 |
| | | | 0.00 | | 1" Ice | 5.00 | 3.00 | 120.00 |

Tower Pressures - No Ice

$$G_H = 0.850$$

| Section Elevation | z | K _Z | q _z | A _G | F _a | A _F | A _R | A _{leg} | Leg % | C _{AA} In Face | C _{AA} Out Face |
|---------------------|--------|----------------|----------------|-----------------|----------------|-----------------|-----------------|------------------|-------|-------------------------|--------------------------|
| ft | ft | | psf | ft ² | c | ft ² | ft ² | ft ² | | ft ² | ft ² |
| T1 120.00-100.00 | 110.00 | 1.016 | 23 | 67.292 | A | 0.481 | 13.298 | 9.583 | 69.55 | 7.128 | 0.000 |
| | | | | | B | 0.481 | 13.298 | | 69.55 | 10.692 | 0.000 |
| | | | | | C | 0.481 | 13.785 | | 67.17 | 10.692 | 0.000 |
| T2 100.00-80.00 | 90.00 | 0.959 | 21 | 67.292 | A | 1.262 | 13.041 | 9.583 | 67.00 | 7.920 | 0.000 |
| | | | | | B | 1.262 | 13.041 | | 67.00 | 11.880 | 0.000 |
| | | | | | C | 1.262 | 13.528 | | 64.79 | 11.880 | 0.000 |
| T3 80.00-60.00 | 70.00 | 0.892 | 20 | 67.292 | A | 0.962 | 13.041 | 9.583 | 68.44 | 7.920 | 0.000 |
| | | | | | B | 0.962 | 13.041 | | 68.44 | 11.880 | 0.000 |
| | | | | | C | 0.962 | 13.528 | | 66.14 | 11.880 | 0.000 |
| T4 60.00-40.00 | 50.00 | 0.811 | 18 | 67.292 | A | 0.962 | 13.041 | 9.583 | 68.44 | 7.920 | 0.000 |
| | | | | | B | 0.962 | 13.041 | | 68.44 | 11.880 | 0.000 |
| | | | | | C | 0.962 | 13.528 | | 66.14 | 11.880 | 0.000 |
| T5 40.00-20.00 | 30.00 | 0.701 | 16 | 67.292 | A | 0.962 | 13.041 | 9.583 | 68.44 | 7.920 | 0.000 |
| | | | | | B | 0.962 | 13.041 | | 68.44 | 11.880 | 0.000 |
| | | | | | C | 0.962 | 13.528 | | 66.14 | 11.880 | 0.000 |
| T6 20.00-0.00 | 10.00 | 0.7 | 16 | 67.292 | A | 0.962 | 13.041 | 9.583 | 68.44 | 4.752 | 0.000 |
| | | | | | B | 0.962 | 13.041 | | 68.44 | 7.128 | 0.000 |
| | | | | | C | 0.962 | 13.528 | | 66.14 | 7.128 | 0.000 |

Tower Pressure - With Ice

| | | | | | |
|--|----------------|---|-------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 20150.02 - Lebanon | Page | 14 of 37 | |
| | Project | 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | | Date | 16:12:15 08/09/21 |
| | Client | Verizon | | Designed by | TJL |

$$G_H = 0.850$$

| Section Elevation ft | z ft | K _Z | q _z psf | t _z in | A _G ft ² | F a c e | A _F ft ² | A _R ft ² | A _{leg} ft ² | Leg % | C _A A _A In Face ft ² | C _A A _A Out Face ft ² |
|-------------------------|---------|----------------|-----------------------|----------------------|-----------------------------------|------------------|-----------------------------------|-----------------------------------|-------------------------------------|----------|--|---|
| T1 120.00-100.00 | 110.00 | 1.016 | 6 | 1.6919 | 72.931 | A | 0.481 | 37.364 | 20.863 | 55.13 | 24.202 | 0.000 |
| | | | | | | B | 0.481 | 37.364 | | | | |
| | | | | | | C | 0.481 | 40.292 | | | | |
| T2 100.00-80.00 | 90.00 | 0.959 | 5 | 1.6583 | 72.819 | A | 1.262 | 37.410 | 20.639 | 53.37 | 26.662 | 0.000 |
| | | | | | | B | 1.262 | 37.410 | | | | |
| | | | | | | C | 1.262 | 40.290 | | | | |
| T3 80.00-60.00 | 70.00 | 0.892 | 5 | 1.6171 | 72.682 | A | 0.962 | 36.028 | 20.364 | 55.05 | 26.381 | 0.000 |
| | | | | | | B | 0.962 | 36.028 | | | | |
| | | | | | | C | 0.962 | 38.848 | | | | |
| T4 60.00-40.00 | 50.00 | 0.811 | 4 | 1.5636 | 72.504 | A | 0.962 | 35.267 | 20.008 | 55.23 | 26.017 | 0.000 |
| | | | | | | B | 0.962 | 35.267 | | | | |
| | | | | | | C | 0.962 | 38.011 | | | | |
| T5 40.00-20.00 | 30.00 | 0.701 | 4 | 1.4858 | 72.244 | A | 0.962 | 34.161 | 19.488 | 55.49 | 25.487 | 0.000 |
| | | | | | | B | 0.962 | 34.161 | | | | |
| | | | | | | C | 0.962 | 36.791 | | | | |
| T6 20.00-0.00 | 10.00 | 0.7 | 4 | 1.3312 | 71.729 | A | 0.962 | 31.963 | 18.458 | 56.06 | 14.663 | 0.000 |
| | | | | | | B | 0.962 | 31.963 | | | | |
| | | | | | | C | 0.962 | 34.371 | | | | |

Tower Pressure - Service

$$G_H = 0.850$$

| Section Elevation ft | z ft | K _Z | q _z psf | A _G ft ² | F a c e | A _F ft ² | A _R ft ² | A _{leg} ft ² | Leg % | C _A A _A In Face ft ² | C _A A _A Out Face ft ² |
|-------------------------|---------|----------------|-----------------------|-----------------------------------|------------------|-----------------------------------|-----------------------------------|-------------------------------------|----------|--|---|
| T1 120.00-100.00 | 110.00 | 1.016 | 8 | 67.292 | A | 0.481 | 13.298 | 9.583 | 69.55 | 7.128 | 0.000 |
| | | | | | B | 0.481 | 13.298 | | | | |
| | | | | | C | 0.481 | 13.785 | | | | |
| T2 100.00-80.00 | 90.00 | 0.959 | 8 | 67.292 | A | 1.262 | 13.041 | 9.583 | 67.00 | 7.920 | 0.000 |
| | | | | | B | 1.262 | 13.041 | | | | |
| | | | | | C | 1.262 | 13.528 | | | | |
| T3 80.00-60.00 | 70.00 | 0.892 | 7 | 67.292 | A | 0.962 | 13.041 | 9.583 | 68.44 | 7.920 | 0.000 |
| | | | | | B | 0.962 | 13.041 | | | | |
| | | | | | C | 0.962 | 13.528 | | | | |
| T4 60.00-40.00 | 50.00 | 0.811 | 6 | 67.292 | A | 0.962 | 13.041 | 9.583 | 68.44 | 7.920 | 0.000 |
| | | | | | B | 0.962 | 13.041 | | | | |
| | | | | | C | 0.962 | 13.528 | | | | |
| T5 40.00-20.00 | 30.00 | 0.701 | 5 | 67.292 | A | 0.962 | 13.041 | 9.583 | 68.44 | 7.920 | 0.000 |
| | | | | | B | 0.962 | 13.041 | | | | |
| | | | | | C | 0.962 | 13.528 | | | | |
| T6 20.00-0.00 | 10.00 | 0.7 | 5 | 67.292 | A | 0.962 | 13.041 | 9.583 | 68.44 | 4.752 | 0.000 |
| | | | | | B | 0.962 | 13.041 | | | | |
| | | | | | C | 0.962 | 13.528 | | | | |

Tower Forces - No Ice - Wind Normal To Face

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 15 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

| Section Elevation ft | Add Weight lb | Self Weight lb | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F lb | w plf | Ctrl. Face |
|-------------------------|------------------|-------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|---------|----------|------------|
| T1 120.00-100.00 | 180.72 | 588.62 | A | 0.205 | 2.58 | 23 | 1 | 1 | 8.132 | 740.73 | 37.04 | C |
| | | | B | 0.205 | 2.58 | | | | | | | |
| | | | C | 0.212 | 2.556 | | | | | | | |
| T2 100.00-80.00 | 200.80 | 656.27 | A | 0.213 | 2.555 | 21 | 1 | 1 | 8.784 | 759.95 | 38.00 | C |
| | | | B | 0.213 | 2.555 | | | | | | | |
| | | | C | 0.22 | 2.531 | | | | | | | |
| T3 80.00-60.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 20 | 1 | 1 | 8.473 | 696.10 | 34.80 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T4 60.00-40.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 18 | 1 | 1 | 8.473 | 632.29 | 31.61 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T5 40.00-20.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 16 | 1 | 1 | 8.473 | 546.43 | 27.32 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T6 20.00-0.00 | 120.48 | 606.43 | A | 0.208 | 2.569 | 16 | 1 | 1 | 8.473 | 445.55 | 22.28 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| Sum Weight: | 1104.40 | 3670.61 | | | | | | | | 3821.06 | | |

Tower Forces - No Ice - Wind 60 To Face

| Section Elevation ft | Add Weight lb | Self Weight lb | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F lb | w plf | Ctrl. Face |
|-------------------------|------------------|-------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|---------|----------|------------|
| T1 120.00-100.00 | 180.72 | 588.62 | A | 0.205 | 2.58 | 23 | 0.8 | 1 | 8.036 | 736.02 | 36.80 | C |
| | | | B | 0.205 | 2.58 | | | | | | | |
| | | | C | 0.212 | 2.556 | | | | | | | |
| T2 100.00-80.00 | 200.80 | 656.27 | A | 0.213 | 2.555 | 21 | 0.8 | 1 | 8.532 | 748.39 | 37.42 | C |
| | | | B | 0.213 | 2.555 | | | | | | | |
| | | | C | 0.22 | 2.531 | | | | | | | |
| T3 80.00-60.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 20 | 0.8 | 1 | 8.280 | 687.85 | 34.39 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T4 60.00-40.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 18 | 0.8 | 1 | 8.280 | 624.80 | 31.24 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T5 40.00-20.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 16 | 0.8 | 1 | 8.280 | 539.96 | 27.00 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T6 20.00-0.00 | 120.48 | 606.43 | A | 0.208 | 2.569 | 16 | 0.8 | 1 | 8.280 | 439.08 | 21.95 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| Sum Weight: | 1104.40 | 3670.61 | | | | | | | | 3776.11 | | |

Tower Forces - No Ice - Wind 90 To Face

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 16 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

| Section Elevation ft | Add Weight lb | Self Weight lb | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F lb | w plf | Ctrl. Face |
|-------------------------|------------------|-------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|---------|----------|------------|
| T1 120.00-100.00 | 180.72 | 588.62 | A | 0.205 | 2.58 | 23 | 0.85 | 1 | 8.060 | 737.20 | 36.86 | C |
| | | | B | 0.205 | 2.58 | | 0.85 | 1 | 8.060 | | | |
| | | | C | 0.212 | 2.556 | | 0.85 | 1 | 8.359 | | | |
| T2 100.00-80.00 | 200.80 | 656.27 | A | 0.213 | 2.555 | 21 | 0.85 | 1 | 8.595 | 751.28 | 37.56 | C |
| | | | B | 0.213 | 2.555 | | 0.85 | 1 | 8.595 | | | |
| | | | C | 0.22 | 2.531 | | 0.85 | 1 | 8.895 | | | |
| T3 80.00-60.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 20 | 0.85 | 1 | 8.328 | 689.91 | 34.50 | C |
| | | | B | 0.208 | 2.569 | | 0.85 | 1 | 8.328 | | | |
| | | | C | 0.215 | 2.546 | | 0.85 | 1 | 8.628 | | | |
| T4 60.00-40.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 18 | 0.85 | 1 | 8.328 | 626.68 | 31.33 | C |
| | | | B | 0.208 | 2.569 | | 0.85 | 1 | 8.328 | | | |
| | | | C | 0.215 | 2.546 | | 0.85 | 1 | 8.628 | | | |
| T5 40.00-20.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 16 | 0.85 | 1 | 8.328 | 541.57 | 27.08 | C |
| | | | B | 0.208 | 2.569 | | 0.85 | 1 | 8.328 | | | |
| | | | C | 0.215 | 2.546 | | 0.85 | 1 | 8.628 | | | |
| T6 20.00-0.00 | 120.48 | 606.43 | A | 0.208 | 2.569 | 16 | 0.85 | 1 | 8.328 | 440.70 | 22.03 | C |
| | | | B | 0.208 | 2.569 | | 0.85 | 1 | 8.328 | | | |
| | | | C | 0.215 | 2.546 | | 0.85 | 1 | 8.628 | | | |
| Sum Weight: | 1104.40 | 3670.61 | | | | | | | | 3787.34 | | |

Tower Forces - With Ice - Wind Normal To Face

| Section Elevation ft | Add Weight lb | Self Weight lb | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F lb | w plf | Ctrl. Face |
|-------------------------|------------------|-------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|---------|----------|------------|
| T1 120.00-100.00 | 1245.22 | 2055.50 | A | 0.519 | 1.877 | 6 | 1 | 1 | 26.463 | 461.28 | 23.06 | C |
| | | | B | 0.519 | 1.877 | | 1 | 1 | 26.463 | | | |
| | | | C | 0.559 | 1.835 | | 1 | 1 | 29.434 | | | |
| T2 100.00-80.00 | 1355.48 | 2162.54 | A | 0.531 | 1.863 | 5 | 1 | 1 | 27.534 | 457.15 | 22.86 | C |
| | | | B | 0.531 | 1.863 | | 1 | 1 | 27.534 | | | |
| | | | C | 0.571 | 1.825 | | 1 | 1 | 30.495 | | | |
| T3 80.00-60.00 | 1321.45 | 1994.25 | A | 0.509 | 1.889 | 5 | 1 | 1 | 25.816 | 420.64 | 21.03 | C |
| | | | B | 0.509 | 1.889 | | 1 | 1 | 25.816 | | | |
| | | | C | 0.548 | 1.846 | | 1 | 1 | 28.617 | | | |
| T4 60.00-40.00 | 1277.83 | 1926.20 | A | 0.5 | 1.9 | 4 | 1 | 1 | 25.114 | 378.08 | 18.90 | C |
| | | | B | 0.5 | 1.9 | | 1 | 1 | 25.114 | | | |
| | | | C | 0.538 | 1.856 | | 1 | 1 | 27.795 | | | |
| T5 40.00-20.00 | 1215.59 | 1829.87 | A | 0.486 | 1.919 | 4 | 1 | 1 | 24.110 | 321.72 | 16.09 | C |
| | | | B | 0.486 | 1.919 | | 1 | 1 | 24.110 | | | |
| | | | C | 0.523 | 1.872 | | 1 | 1 | 26.622 | | | |
| T6 20.00-0.00 | 657.86 | 1648.14 | A | 0.459 | 1.959 | 4 | 1 | 1 | 22.177 | 247.18 | 12.36 | C |
| | | | B | 0.459 | 1.959 | | 1 | 1 | 22.177 | | | |
| | | | C | 0.493 | 1.91 | | 1 | 1 | 24.369 | | | |
| Sum Weight: | 7073.43 | 11616.49 | | | | | | | | 2286.06 | | |

Tower Forces - With Ice - Wind 60 To Face

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 17 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

| Section Elevation ft | Add Weight lb | Self Weight lb | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F lb | w plf | Ctrl. Face |
|-------------------------|------------------|-------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|---------|----------|------------|
| T1 120.00-100.00 | 1245.22 | 2055.50 | A | 0.519 | 1.877 | 6 | 0.8 | 1 | 26.367 | 460.45 | 23.02 | C |
| | | | B | 0.519 | 1.877 | | 0.8 | 1 | 26.367 | | | |
| | | | C | 0.559 | 1.835 | | 0.8 | 1 | 29.338 | | | |
| T2 100.00-80.00 | 1355.48 | 2162.54 | A | 0.531 | 1.863 | 5 | 0.8 | 1 | 27.282 | 455.11 | 22.76 | C |
| | | | B | 0.531 | 1.863 | | 0.8 | 1 | 27.282 | | | |
| | | | C | 0.571 | 1.825 | | 0.8 | 1 | 30.242 | | | |
| T3 80.00-60.00 | 1321.45 | 1994.25 | A | 0.509 | 1.889 | 5 | 0.8 | 1 | 25.624 | 419.17 | 20.96 | C |
| | | | B | 0.509 | 1.889 | | 0.8 | 1 | 25.624 | | | |
| | | | C | 0.548 | 1.846 | | 0.8 | 1 | 28.425 | | | |
| T4 60.00-40.00 | 1277.83 | 1926.20 | A | 0.5 | 1.9 | 4 | 0.8 | 1 | 24.922 | 376.74 | 18.84 | C |
| | | | B | 0.5 | 1.9 | | 0.8 | 1 | 24.922 | | | |
| | | | C | 0.538 | 1.856 | | 0.8 | 1 | 27.603 | | | |
| T5 40.00-20.00 | 1215.59 | 1829.87 | A | 0.486 | 1.919 | 4 | 0.8 | 1 | 23.917 | 320.56 | 16.03 | C |
| | | | B | 0.486 | 1.919 | | 0.8 | 1 | 23.917 | | | |
| | | | C | 0.523 | 1.872 | | 0.8 | 1 | 26.429 | | | |
| T6 20.00-0.00 | 657.86 | 1648.14 | A | 0.459 | 1.959 | 4 | 0.8 | 1 | 21.984 | 245.99 | 12.30 | C |
| | | | B | 0.459 | 1.959 | | 0.8 | 1 | 21.984 | | | |
| | | | C | 0.493 | 1.91 | | 0.8 | 1 | 24.177 | | | |
| Sum Weight: | 7073.43 | 11616.49 | | | | | | | | 2278.02 | | |

Tower Forces - With Ice - Wind 90 To Face

| Section Elevation ft | Add Weight lb | Self Weight lb | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F lb | w plf | Ctrl. Face |
|-------------------------|------------------|-------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|---------|----------|------------|
| T1 120.00-100.00 | 1245.22 | 2055.50 | A | 0.519 | 1.877 | 6 | 0.85 | 1 | 26.391 | 460.66 | 23.03 | C |
| | | | B | 0.519 | 1.877 | | 0.85 | 1 | 26.391 | | | |
| | | | C | 0.559 | 1.835 | | 0.85 | 1 | 29.362 | | | |
| T2 100.00-80.00 | 1355.48 | 2162.54 | A | 0.531 | 1.863 | 5 | 0.85 | 1 | 27.345 | 455.62 | 22.78 | C |
| | | | B | 0.531 | 1.863 | | 0.85 | 1 | 27.345 | | | |
| | | | C | 0.571 | 1.825 | | 0.85 | 1 | 30.306 | | | |
| T3 80.00-60.00 | 1321.45 | 1994.25 | A | 0.509 | 1.889 | 5 | 0.85 | 1 | 25.672 | 419.54 | 20.98 | C |
| | | | B | 0.509 | 1.889 | | 0.85 | 1 | 25.672 | | | |
| | | | C | 0.548 | 1.846 | | 0.85 | 1 | 28.473 | | | |
| T4 60.00-40.00 | 1277.83 | 1926.20 | A | 0.5 | 1.9 | 4 | 0.85 | 1 | 24.970 | 377.08 | 18.85 | C |
| | | | B | 0.5 | 1.9 | | 0.85 | 1 | 24.970 | | | |
| | | | C | 0.538 | 1.856 | | 0.85 | 1 | 27.651 | | | |
| T5 40.00-20.00 | 1215.59 | 1829.87 | A | 0.486 | 1.919 | 4 | 0.85 | 1 | 23.966 | 320.85 | 16.04 | C |
| | | | B | 0.486 | 1.919 | | 0.85 | 1 | 23.966 | | | |
| | | | C | 0.523 | 1.872 | | 0.85 | 1 | 26.477 | | | |
| T6 20.00-0.00 | 657.86 | 1648.14 | A | 0.459 | 1.959 | 4 | 0.85 | 1 | 22.032 | 246.29 | 12.31 | C |
| | | | B | 0.459 | 1.959 | | 0.85 | 1 | 22.032 | | | |
| | | | C | 0.493 | 1.91 | | 0.85 | 1 | 24.225 | | | |
| Sum Weight: | 7073.43 | 11616.49 | | | | | | | | 2280.03 | | |

Tower Forces - Service - Wind Normal To Face

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 18 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

| Section Elevation ft | Add Weight lb | Self Weight lb | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F lb | w plf | Ctrl. Face |
|-------------------------|------------------|-------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|---------|----------|------------|
| T1 120.00-100.00 | 180.72 | 588.62 | A | 0.205 | 2.58 | 8 | 1 | 1 | 8.132 | 261.41 | 13.07 | C |
| | | | B | 0.205 | 2.58 | | | | | | | |
| | | | C | 0.212 | 2.556 | | | | | | | |
| T2 100.00-80.00 | 200.80 | 656.27 | A | 0.213 | 2.555 | 8 | 1 | 1 | 8.784 | 268.19 | 13.41 | C |
| | | | B | 0.213 | 2.555 | | | | | | | |
| | | | C | 0.22 | 2.531 | | | | | | | |
| T3 80.00-60.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 7 | 1 | 1 | 8.473 | 245.66 | 12.28 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T4 60.00-40.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 6 | 1 | 1 | 8.473 | 223.14 | 11.16 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T5 40.00-20.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 5 | 1 | 1 | 8.473 | 192.84 | 9.64 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T6 20.00-0.00 | 120.48 | 606.43 | A | 0.208 | 2.569 | 5 | 1 | 1 | 8.473 | 157.24 | 7.86 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| Sum Weight: | 1104.40 | 3670.61 | | | | | | | | 1348.48 | | |

Tower Forces - Service - Wind 60 To Face

| Section Elevation ft | Add Weight lb | Self Weight lb | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F lb | w plf | Ctrl. Face |
|-------------------------|------------------|-------------------|---------|-------|----------------|-----------------------|----------------|----------------|-----------------------------------|---------|----------|------------|
| T1 120.00-100.00 | 180.72 | 588.62 | A | 0.205 | 2.58 | 8 | 0.8 | 1 | 8.036 | 259.75 | 12.99 | C |
| | | | B | 0.205 | 2.58 | | | | | | | |
| | | | C | 0.212 | 2.556 | | | | | | | |
| T2 100.00-80.00 | 200.80 | 656.27 | A | 0.213 | 2.555 | 8 | 0.8 | 1 | 8.532 | 264.11 | 13.21 | C |
| | | | B | 0.213 | 2.555 | | | | | | | |
| | | | C | 0.22 | 2.531 | | | | | | | |
| T3 80.00-60.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 7 | 0.8 | 1 | 8.280 | 242.75 | 12.14 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T4 60.00-40.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 6 | 0.8 | 1 | 8.280 | 220.50 | 11.02 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T5 40.00-20.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 5 | 0.8 | 1 | 8.280 | 190.55 | 9.53 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| T6 20.00-0.00 | 120.48 | 606.43 | A | 0.208 | 2.569 | 5 | 0.8 | 1 | 8.280 | 154.95 | 7.75 | C |
| | | | B | 0.208 | 2.569 | | | | | | | |
| | | | C | 0.215 | 2.546 | | | | | | | |
| Sum Weight: | 1104.40 | 3670.61 | | | | | | | | 1332.61 | | |

Tower Forces - Service - Wind 90 To Face

| | | | | | |
|--|----------------|---|-------------|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 20150.02 - Lebanon | Page | 19 of 37 | |
| | Project | 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | | Date | 16:12:15 08/09/21 |
| | Client | Verizon | | Designed by | TJL |

| Section Elevation | Add Weight | Self Weight | F a c e | e | C _F | q _z psf | D _F | D _R | A _E ft ² | F lb | w plf | Ctrl. Face |
|---------------------|------------|-------------|---------|-------|----------------|--------------------|----------------|----------------|--------------------------------|---------|-------|------------|
| T1 120.00-100.00 | 180.72 | 588.62 | A | 0.205 | 2.58 | 8 | 0.85 | 1 | 8.060 | 260.16 | 13.01 | C |
| | | | B | 0.205 | 2.58 | | 0.85 | 1 | 8.060 | | | |
| | | | C | 0.212 | 2.556 | | 0.85 | 1 | 8.359 | | | |
| T2 100.00-80.00 | 200.80 | 656.27 | A | 0.213 | 2.555 | 8 | 0.85 | 1 | 8.595 | 265.13 | 13.26 | C |
| | | | B | 0.213 | 2.555 | | 0.85 | 1 | 8.595 | | | |
| | | | C | 0.22 | 2.531 | | 0.85 | 1 | 8.895 | | | |
| T3 80.00-60.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 7 | 0.85 | 1 | 8.328 | 243.47 | 12.17 | C |
| | | | B | 0.208 | 2.569 | | 0.85 | 1 | 8.328 | | | |
| | | | C | 0.215 | 2.546 | | 0.85 | 1 | 8.628 | | | |
| T4 60.00-40.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 6 | 0.85 | 1 | 8.328 | 221.16 | 11.06 | C |
| | | | B | 0.208 | 2.569 | | 0.85 | 1 | 8.328 | | | |
| | | | C | 0.215 | 2.546 | | 0.85 | 1 | 8.628 | | | |
| T5 40.00-20.00 | 200.80 | 606.43 | A | 0.208 | 2.569 | 5 | 0.85 | 1 | 8.328 | 191.13 | 9.56 | C |
| | | | B | 0.208 | 2.569 | | 0.85 | 1 | 8.328 | | | |
| | | | C | 0.215 | 2.546 | | 0.85 | 1 | 8.628 | | | |
| T6 20.00-0.00 | 120.48 | 606.43 | A | 0.208 | 2.569 | 5 | 0.85 | 1 | 8.328 | 155.53 | 7.78 | C |
| | | | B | 0.208 | 2.569 | | 0.85 | 1 | 8.328 | | | |
| | | | C | 0.215 | 2.546 | | 0.85 | 1 | 8.628 | | | |
| Sum Weight: | 1104.40 | 3670.61 | | | | | | | | 1336.58 | | |

Force Totals (Does not include forces on guys)

| Load Case | Vertical Forces lb | Sum of Forces X lb | Sum of Forces Z lb | Sum of Torques kip-ft |
|--------------------------|--------------------|--------------------|--------------------|-----------------------|
| Leg Weight | 2087.47 | | | |
| Bracing Weight | 1583.14 | | | |
| Total Member Self-Weight | 3670.61 | | | |
| Guy Weight | 528.51 | | | |
| Total Weight | 8637.79 | | | |
| Wind 0 deg - No Ice | | -19.05 | -6253.22 | 0.28 |
| Wind 30 deg - No Ice | | 3082.26 | -5376.73 | 0.29 |
| Wind 60 deg - No Ice | | 5347.94 | -3087.64 | 0.22 |
| Wind 90 deg - No Ice | | 6197.51 | 19.05 | 0.09 |
| Wind 120 deg - No Ice | | 5359.27 | 3116.17 | -0.06 |
| Wind 150 deg - No Ice | | 3088.16 | 5348.85 | -0.20 |
| Wind 180 deg - No Ice | | 19.05 | 6153.98 | -0.28 |
| Wind 210 deg - No Ice | | -3055.16 | 5329.80 | -0.29 |
| Wind 240 deg - No Ice | | -5340.21 | 3083.17 | -0.22 |
| Wind 270 deg - No Ice | | -6143.32 | -19.05 | -0.09 |
| Wind 300 deg - No Ice | | -5319.98 | -3093.49 | 0.06 |
| Wind 330 deg - No Ice | | -3088.16 | -5348.85 | 0.20 |
| Member Ice | 7945.88 | | | |
| Guy Ice | 3203.12 | | | |
| Total Weight Ice | 30384.44 | | | |
| Wind 0 deg - Ice | | -5.11 | -3145.22 | 0.13 |
| Wind 30 deg - Ice | | 1562.22 | -2716.07 | 0.14 |
| Wind 60 deg - Ice | | 2709.21 | -1564.17 | 0.11 |
| Wind 90 deg - Ice | | 3133.29 | 5.11 | 0.05 |
| Wind 120 deg - Ice | | 2641.02 | 1530.70 | -0.02 |
| Wind 150 deg - Ice | | 1524.66 | 2640.80 | -0.09 |
| Wind 180 deg - Ice | | 5.11 | 3044.32 | -0.13 |
| Wind 210 deg - Ice | | -1515.81 | 2635.68 | -0.14 |

| | | |
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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 20 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

| Load Case | Vertical Forces lb | Sum of Forces X lb | Sum of Forces Z lb | Sum of Torques kip-ft |
|------------------------|-----------------------|-----------------------|-----------------------|--------------------------|
| Wind 240 deg - Ice | | -2635.91 | 1521.84 | -0.11 |
| Wind 270 deg - Ice | | -3040.47 | -5.11 | -0.05 |
| Wind 300 deg - Ice | | -2633.90 | -1526.59 | 0.02 |
| Wind 330 deg - Ice | | -1524.66 | -2640.80 | 0.09 |
| Total Weight | 8637.79 | | | |
| Wind 0 deg - Service | | -6.72 | -2206.80 | 0.10 |
| Wind 30 deg - Service | | 1087.75 | -1897.48 | 0.10 |
| Wind 60 deg - Service | | 1887.32 | -1089.65 | 0.08 |
| Wind 90 deg - Service | | 2187.14 | 6.72 | 0.03 |
| Wind 120 deg - Service | | 1891.32 | 1099.72 | -0.02 |
| Wind 150 deg - Service | | 1089.83 | 1887.64 | -0.07 |
| Wind 180 deg - Service | | 6.72 | 2171.78 | -0.10 |
| Wind 210 deg - Service | | -1078.19 | 1880.92 | -0.10 |
| Wind 240 deg - Service | | -1884.60 | 1088.07 | -0.08 |
| Wind 270 deg - Service | | -2168.02 | -6.72 | -0.03 |
| Wind 300 deg - Service | | -1877.45 | -1091.71 | 0.02 |
| Wind 330 deg - Service | | -1089.83 | -1887.64 | 0.07 |

Load Combinations

| Comb. No. | Description |
|-----------|--|
| 1 | Dead Only |
| 2 | 1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy |
| 3 | 1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy |
| 4 | 1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy |
| 5 | 1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy |
| 6 | 1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy |
| 7 | 1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy |
| 8 | 1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy |
| 9 | 1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy |
| 10 | 1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy |
| 11 | 1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy |
| 12 | 1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy |
| 13 | 1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy |
| 14 | 1.2 Dead+1.0 Ice+1.0 Temp+Guy |
| 15 | 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 16 | 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 17 | 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 18 | 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 19 | 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 20 | 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 21 | 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 22 | 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 23 | 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 24 | 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 25 | 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 26 | 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy |
| 27 | Dead+Wind 0 deg - Service+Guy |
| 28 | Dead+Wind 30 deg - Service+Guy |
| 29 | Dead+Wind 60 deg - Service+Guy |
| 30 | Dead+Wind 90 deg - Service+Guy |
| 31 | Dead+Wind 120 deg - Service+Guy |
| 32 | Dead+Wind 150 deg - Service+Guy |

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 21 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

| Comb. No. | Description |
|-----------|---------------------------------|
| 33 | Dead+Wind 180 deg - Service+Guy |
| 34 | Dead+Wind 210 deg - Service+Guy |
| 35 | Dead+Wind 240 deg - Service+Guy |
| 36 | Dead+Wind 270 deg - Service+Guy |
| 37 | Dead+Wind 300 deg - Service+Guy |
| 38 | Dead+Wind 330 deg - Service+Guy |

Maximum Member Forces

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial lb | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|----------------|----------------------|------------------|-----------------|----------|--------------------------|--------------------------|
| T1 | 120 - 100 | Leg | Max Tension | 8 | 0.00 | 0.00 | 0.00 |
| | | | Max. Compression | 12 | -9728.25 | 0.05 | 0.11 |
| | | | Max. Mx | 11 | -9278.96 | -0.35 | 0.05 |
| | | | Max. My | 2 | -7541.00 | 0.00 | -0.35 |
| | | | Max. Vy | 5 | 806.02 | -0.07 | -0.00 |
| | | | Max. Vx | 2 | -824.38 | 0.00 | 0.07 |
| | | Diagonal | Max Tension | 13 | 1272.18 | 0.00 | 0.00 |
| | | | Max. Compression | 13 | -1925.55 | 0.00 | 0.00 |
| | | | Max. Mx | 17 | -124.96 | 0.01 | 0.00 |
| | | | Max. My | 25 | -370.01 | 0.00 | -0.00 |
| | | | Max. Vy | 17 | -11.64 | 0.00 | 0.00 |
| | | | Max. Vx | 25 | 0.09 | 0.00 | 0.00 |
| | | Horizontal | Max Tension | 4 | 531.69 | 0.00 | 0.00 |
| | | | Max. Compression | 10 | -415.33 | 0.00 | 0.00 |
| | | | Max. Mx | 18 | 146.64 | 0.01 | 0.00 |
| | | | Max. My | 13 | 64.12 | 0.00 | 0.00 |
| | | | Max. Vy | 18 | 11.62 | 0.00 | 0.00 |
| | | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 |
| | | Secondary Horizontal | Max Tension | 17 | 0.01 | -0.00 | 0.00 |
| | | | Max. Compression | 25 | -0.00 | -0.00 | 0.00 |
| | | | Max. Mx | 15 | 0.00 | -0.00 | 0.00 |
| | | | Max. My | 2 | 0.00 | -0.00 | 0.00 |
| | | | Max. Vy | 15 | 5.44 | -0.00 | 0.00 |
| | | | Max. Vx | 2 | -0.00 | -0.00 | 0.00 |
| | | Top Girt | Max Tension | 2 | 3389.38 | 0.00 | 0.00 |
| | | | Max. Compression | 4 | -95.43 | 0.00 | 0.00 |
| | | | Max. Mx | 23 | 1829.64 | 0.01 | 0.00 |
| | | | Max. My | 13 | 1499.63 | 0.00 | 0.00 |
| | | | Max. Vy | 23 | -11.62 | 0.00 | 0.00 |
| | | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 |
| | | Bottom Girt | Max Tension | 2 | 425.64 | 0.00 | 0.00 |
| | | | Max. Compression | 8 | -177.27 | 0.00 | 0.00 |
| | | | Max. Mx | 18 | 108.11 | 0.01 | 0.00 |
| | | | Max. My | 13 | 403.83 | 0.00 | 0.00 |
| | | | Max. Vy | 22 | 18.50 | 0.00 | 0.00 |
| | | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 |
| | | Guy A | Bottom Tension | 8 | 9071.02 | | |
| | | | Top Tension | 8 | 9151.02 | | |
| | | | Top Cable Vert | 8 | 7536.00 | | |
| | | | Top Cable Norm | 8 | 5191.31 | | |
| | | | Top Cable Tan | 8 | 1.71 | | |
| | | | Bot Cable Vert | 8 | -7356.09 | | |
| Guy B | Bot Cable Norm | 8 | 5307.67 | | | | |
| | Bot Cable Tan | 8 | 1.71 | | | | |
| | Bottom Tension | 12 | 9140.65 | | | | |
| | Top Tension | 12 | 9220.63 | | | | |

| | | | | |
|--|----------------|---|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 20150.02 - Lebanon | Page | 22 of 37 |
| | Project | 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date | 16:12:15 08/09/21 |
| | Client | Verizon | Designed by | TJL |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial lb | Major Axis Moment kip-ft | Minor Axis Moment kip-ft | | |
|-------------|------------------|----------------------|------------------|------------------|-----------|--------------------------|--------------------------|-------|-------|
| T2 | 100 - 80 | Guy C | Top Cable Vert | 12 | 7592.52 | | | | |
| | | | Top Cable Norm | 12 | 5231.99 | | | | |
| | | | Top Cable Tan | 12 | 0.38 | | | | |
| | | | Bot Cable Vert | 12 | -7412.76 | | | | |
| | | | Bot Cable Norm | 12 | 5348.11 | | | | |
| | | | Bot Cable Tan | 12 | 15.55 | | | | |
| | | | Bottom Tension | 3 | 9132.24 | | | | |
| | | | Top Tension | 3 | 9212.06 | | | | |
| | | | Top Cable Vert | 3 | 7582.37 | | | | |
| | | | Top Cable Norm | 3 | 5231.54 | | | | |
| | | | Top Cable Tan | 3 | 27.23 | | | | |
| | | | Bot Cable Vert | 3 | -7409.17 | | | | |
| | | Bot Cable Norm | 3 | 5338.33 | | | | | |
| | | Bot Cable Tan | 3 | 64.82 | | | | | |
| | | Leg | Max Tension | 12 | 6739.69 | | -0.05 | 0.05 | |
| | | | Max. Compression | 2 | -23089.53 | | -0.19 | 0.15 | |
| | | | Max. Mx | 11 | 540.65 | | 0.39 | -0.06 | |
| | | | Max. My | 2 | 912.31 | | -0.05 | 0.41 | |
| | | | Max. Vy | 11 | 1138.49 | | 0.39 | -0.06 | |
| | | | Max. Vx | 8 | -977.42 | | -0.08 | -0.29 | |
| | | | Diagonal | Max Tension | 13 | 2457.57 | | 0.00 | 0.00 |
| | | | | Max. Compression | 13 | -2861.87 | | 0.00 | 0.00 |
| | | | | Max. Mx | 25 | 433.73 | | 0.01 | 0.00 |
| | | | | Max. My | 25 | -445.74 | | 0.00 | -0.00 |
| | | | | Max. Vy | 25 | -11.35 | | 0.00 | 0.00 |
| | | | | Max. Vx | 25 | 0.08 | | 0.00 | 0.00 |
| | | Horizontal | Max Tension | 3 | 228.04 | | 0.00 | 0.00 | |
| | | | Max. Compression | 1 | 0.00 | | 0.00 | 0.00 | |
| | | | Max. Mx | 18 | 213.42 | | 0.01 | 0.00 | |
| | | | Max. My | 13 | 124.84 | | 0.00 | 0.00 | |
| | | | Max. Vy | 22 | -11.34 | | 0.00 | 0.00 | |
| | | | Max. Vx | 13 | -0.00 | | 0.00 | 0.00 | |
| | | Secondary Horizontal | Max Tension | 17 | 0.01 | | -0.00 | 0.00 | |
| | | | Max. Compression | 25 | -0.00 | | -0.00 | 0.00 | |
| | | | Max. Mx | 15 | 0.00 | | -0.00 | 0.00 | |
| | | | Max. My | 2 | 0.00 | | -0.00 | 0.00 | |
| | | | Max. Vy | 15 | 5.28 | | -0.00 | 0.00 | |
| | | | Max. Vx | 2 | -0.00 | | -0.00 | 0.00 | |
| | | Top Girt | Max Tension | 8 | 356.26 | | 0.00 | 0.00 | |
| | | | Max. Compression | 2 | -391.40 | | 0.00 | 0.00 | |
| | | | Max. Mx | 18 | 41.57 | | 0.01 | 0.00 | |
| | | | Max. My | 13 | -359.75 | | 0.00 | 0.00 | |
| Max. Vy | 22 | | -18.16 | | 0.00 | 0.00 | | | |
| Max. Vx | 13 | | -0.00 | | 0.00 | 0.00 | | | |
| Bottom Girt | Max Tension | 2 | 1320.76 | | 0.00 | 0.00 | | | |
| | Max. Compression | 1 | 0.00 | | 0.00 | 0.00 | | | |
| | Max. Mx | 18 | 614.09 | | 0.01 | 0.00 | | | |
| | Max. My | 13 | 957.72 | | 0.00 | 0.00 | | | |
| | Max. Vy | 18 | 18.16 | | 0.00 | 0.00 | | | |
| | Max. Vx | 13 | -0.00 | | 0.00 | 0.00 | | | |
| Guy A | Bottom Tension | 8 | 8125.98 | | | | | | |
| | Top Tension | 8 | 8179.59 | | | | | | |
| | Top Cable Vert | 8 | 5680.49 | | | | | | |
| | Top Cable Norm | 8 | 5885.38 | | | | | | |
| | Top Cable Tan | 8 | 0.85 | | | | | | |
| | Bot Cable Vert | 8 | -5550.87 | | | | | | |
| Guy B | Bot Cable Norm | 8 | 5934.60 | | | | | | |
| | Bot Cable Tan | 8 | 0.85 | | | | | | |
| | Bottom Tension | 12 | 8189.49 | | | | | | |
| | Top Tension | 12 | 8243.09 | | | | | | |

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|--|----------------|---|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 20150.02 - Lebanon | Page | 23 of 37 |
| | Project | 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date | 16:12:15 08/09/21 |
| | Client | Verizon | Designed by | TJL |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial lb | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|------------------|--------------|----------------------|------------------|-----------------|----------|--------------------------|--------------------------|
| T3 | 80 - 60 | Guy C | Top Cable Vert | 12 | 5723.93 | | |
| | | | Top Cable Norm | 12 | 5931.70 | | |
| | | | Top Cable Tan | 12 | 0.40 | | |
| | | | Bot Cable Vert | 12 | -5594.29 | | |
| | | | Bot Cable Norm | 12 | 5980.93 | | |
| | | | Bot Cable Tan | 12 | 9.46 | | |
| | | | Bottom Tension | 3 | 8191.90 | | |
| | | | Top Tension | 3 | 8245.44 | | |
| | | | Top Cable Vert | 3 | 5725.13 | | |
| | | | Top Cable Norm | 3 | 5933.78 | | |
| | | | Top Cable Tan | 3 | 20.03 | | |
| | | | Bot Cable Vert | 3 | -5596.64 | | |
| | | | Bot Cable Norm | 3 | 5981.92 | | |
| | | | Bot Cable Tan | 3 | 38.42 | | |
| | | | Top Guy Pull-Off | 2 | 2063.69 | 0.00 | 0.00 |
| | | Max. Compression | 1 | 0.00 | 0.00 | 0.00 | |
| | | Max. Mx | 18 | 959.52 | 0.02 | 0.00 | |
| | | Max. My | 13 | 1496.44 | 0.00 | 0.00 | |
| | | Max. Vy | 18 | -20.81 | 0.00 | 0.00 | |
| | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 | |
| | | Leg | 12 | 1745.92 | 0.15 | -0.00 | |
| | | Max. Compression | 2 | -23090.54 | -0.16 | 0.06 | |
| | | Max. Mx | 19 | -14541.27 | 0.25 | 0.00 | |
| | | Max. My | 2 | -3238.37 | 0.01 | 0.26 | |
| | | Max. Vy | 11 | 1137.22 | 0.20 | -0.06 | |
| | | Max. Vx | 8 | -976.12 | -0.07 | -0.13 | |
| | | Diagonal | 11 | 2245.86 | 0.00 | 0.00 | |
| | | Max. Compression | 11 | -2497.34 | 0.00 | 0.00 | |
| | | Max. Mx | 25 | -173.20 | 0.01 | 0.00 | |
| | | Max. My | 25 | 727.86 | 0.00 | -0.00 | |
| | | Max. Vy | 25 | -11.01 | 0.00 | 0.00 | |
| | | Max. Vx | 25 | 0.07 | 0.00 | 0.00 | |
| | | Horizontal | 24 | 311.16 | 0.00 | 0.00 | |
| | | Max. Compression | 1 | 0.00 | 0.00 | 0.00 | |
| | | Max. Mx | 18 | 270.61 | 0.01 | 0.00 | |
| | | Max. My | 13 | 241.04 | 0.00 | 0.00 | |
| | | Max. Vy | 18 | -11.00 | 0.00 | 0.00 | |
| | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 | |
| | | Secondary Horizontal | 18 | 0.00 | -0.00 | 0.00 | |
| | | Max. Compression | 25 | -0.00 | -0.00 | 0.00 | |
| | | Max. Mx | 15 | 0.00 | -0.00 | 0.00 | |
| | | Max. My | 2 | 0.00 | -0.00 | 0.00 | |
| | | Max. Vy | 15 | 5.09 | -0.00 | 0.00 | |
| | | Max. Vx | 2 | -0.00 | -0.00 | 0.00 | |
| | | Top Girt | 6 | 702.67 | 0.00 | 0.00 | |
| Max. Compression | 11 | -486.92 | 0.00 | 0.00 | | | |
| Max. Mx | 18 | 81.86 | 0.01 | 0.00 | | | |
| Max. My | 13 | 427.10 | 0.00 | 0.00 | | | |
| Max. Vy | 18 | -17.74 | 0.00 | 0.00 | | | |
| Max. Vx | 13 | -0.00 | 0.00 | 0.00 | | | |
| Bottom Girt | 12 | 473.87 | 0.00 | 0.00 | | | |
| Max. Compression | 6 | -129.30 | 0.00 | 0.00 | | | |
| Max. Mx | 22 | 224.27 | 0.01 | 0.00 | | | |
| Max. My | 13 | 120.79 | 0.00 | 0.00 | | | |
| Max. Vy | 22 | -17.74 | 0.00 | 0.00 | | | |
| Max. Vx | 13 | -0.00 | 0.00 | 0.00 | | | |
| Leg | 1 | 0.00 | 0.00 | 0.00 | | | |
| Max. Compression | 21 | -16865.02 | -0.24 | 0.01 | | | |
| Max. Mx | 24 | -16299.36 | -0.28 | -0.02 | | | |
| Max. My | 23 | -14308.31 | 0.11 | 0.24 | | | |

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|--|----------------|---|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 20150.02 - Lebanon | Page | 24 of 37 |
| | Project | 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date | 16:12:15 08/09/21 |
| | Client | Verizon | Designed by | TJL |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial lb | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|------------------|--------------|------------------|------------------|-----------------|----------|--------------------------|--------------------------|
| T5 | 40 - 20 | Diagonal | Max. Vy | 11 | 619.70 | 0.08 | -0.11 |
| | | | Max. Vx | 2 | 594.51 | 0.06 | 0.15 |
| | | | Max Tension | 11 | 1226.99 | 0.00 | 0.00 |
| | | | Max. Compression | 11 | -1466.45 | 0.00 | 0.00 |
| | | | Max. Mx | 16 | -702.02 | 0.01 | 0.00 |
| | | | Max. My | 15 | 156.03 | 0.00 | -0.00 |
| | | | Max. Vy | 16 | -10.58 | 0.00 | 0.00 |
| | | | Max. Vx | 15 | 0.05 | 0.00 | 0.00 |
| | | | Max Tension | 25 | 343.28 | 0.00 | 0.00 |
| | | | Max. Compression | 1 | 0.00 | 0.00 | 0.00 |
| | | | Max. Mx | 24 | 287.45 | 0.01 | 0.00 |
| | | | Max. My | 13 | 252.05 | 0.00 | 0.00 |
| | | Max. Vy | 24 | -10.57 | 0.00 | 0.00 | |
| | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 | |
| | | Max Tension | 18 | 0.01 | -0.00 | -0.00 | |
| | | Max. Compression | 24 | -0.00 | -0.00 | -0.00 | |
| | | Max. Mx | 15 | 0.00 | -0.00 | 0.00 | |
| | | Max. My | 2 | 0.00 | -0.00 | 0.00 | |
| | | Max. Vy | 15 | 4.84 | -0.00 | 0.00 | |
| | | Max. Vx | 2 | -0.00 | -0.00 | 0.00 | |
| | | Max Tension | 6 | 243.89 | 0.00 | 0.00 | |
| | | Max. Compression | 12 | -247.99 | 0.00 | 0.00 | |
| | | Max. Mx | 22 | 40.55 | 0.01 | 0.00 | |
| | | Max. My | 13 | 1.03 | 0.00 | 0.00 | |
| | | Max. Vy | 22 | -17.20 | 0.00 | 0.00 | |
| | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 | |
| | | Max Tension | 15 | 326.00 | 0.00 | 0.00 | |
| | | Max. Compression | 1 | 0.00 | 0.00 | 0.00 | |
| | | Max. Mx | 15 | 260.38 | 0.01 | 0.00 | |
| | | Max. My | 13 | 320.03 | 0.00 | 0.00 | |
| | | Max. Vy | 15 | -17.20 | 0.00 | 0.00 | |
| | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 | |
| | | Max Tension | 1 | 0.00 | 0.00 | 0.00 | |
| | | Max. Compression | 15 | -19134.28 | -0.26 | 0.01 | |
| | | Max. Mx | 26 | -18847.82 | -0.31 | -0.04 | |
| | | Max. My | 23 | -17957.94 | 0.11 | 0.27 | |
| | | Max. Vy | 12 | -596.82 | -0.14 | 0.03 | |
| | | Max. Vx | 13 | -609.32 | -0.17 | 0.03 | |
| | | Max Tension | 13 | 1351.29 | 0.00 | 0.00 | |
| | | Max. Compression | 13 | -2208.69 | 0.00 | 0.00 | |
| | | Max. Mx | 26 | 452.46 | 0.01 | 0.00 | |
| | | Max. My | 15 | 145.51 | 0.00 | -0.00 | |
| Max. Vy | 26 | -9.97 | 0.00 | 0.00 | | | |
| Max. Vx | 15 | -0.03 | 0.00 | 0.00 | | | |
| Max Tension | 26 | 370.48 | 0.00 | 0.00 | | | |
| Max. Compression | 1 | 0.00 | 0.00 | 0.00 | | | |
| Max. Mx | 15 | 334.62 | 0.01 | 0.00 | | | |
| Max. My | 13 | 211.38 | 0.00 | 0.00 | | | |
| Max. Vy | 15 | 9.96 | 0.00 | 0.00 | | | |
| Max. Vx | 13 | -0.00 | 0.00 | 0.00 | | | |
| Max Tension | 18 | 0.01 | -0.00 | -0.00 | | | |
| Max. Compression | 24 | -0.01 | -0.00 | -0.00 | | | |
| Max. Mx | 15 | 0.00 | -0.00 | 0.00 | | | |
| Max. My | 2 | 0.00 | -0.00 | 0.00 | | | |
| Max. Vy | 15 | 4.50 | -0.00 | 0.00 | | | |
| Max. Vx | 2 | -0.00 | -0.00 | 0.00 | | | |
| Max Tension | 7 | 168.54 | 0.00 | 0.00 | | | |
| Max. Compression | 13 | -181.66 | 0.00 | 0.00 | | | |
| Max. Mx | 15 | 43.73 | 0.01 | 0.00 | | | |

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| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 25 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJJ |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial lb | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|------------------|----------------------|------------------|-----------------|-----------|--------------------------|--------------------------|
| T6 | 20 - 0 | Bottom Girt | Max. My | 13 | -181.66 | 0.00 | 0.00 |
| | | | Max. Vy | 15 | 16.44 | 0.00 | 0.00 |
| | | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 |
| | | | Max Tension | 2 | 512.72 | 0.00 | 0.00 |
| | | | Max. Compression | 8 | -121.71 | 0.00 | 0.00 |
| | | | Max. Mx | 15 | 227.94 | 0.01 | 0.00 |
| | | Leg | Max. My | 13 | 484.23 | 0.00 | 0.00 |
| | | | Max. Vy | 15 | 16.44 | 0.00 | 0.00 |
| | | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 |
| | | | Max Tension | 4 | 5419.04 | 0.09 | -0.07 |
| | | | Max. Compression | 2 | -28602.96 | 0.00 | 0.00 |
| | | | Max. Mx | 17 | -10785.66 | 0.67 | -0.39 |
| | | Diagonal | Max. My | 20 | -12764.63 | 0.01 | 0.78 |
| | | | Max. Vy | 17 | 4043.87 | -0.00 | 0.00 |
| | | | Max. Vx | 20 | 4676.16 | -0.00 | -0.00 |
| | | | Max Tension | 13 | 2021.33 | 0.00 | 0.00 |
| | | | Max. Compression | 13 | -2770.09 | 0.00 | 0.00 |
| | | | Max. Mx | 26 | 720.58 | 0.01 | 0.00 |
| | | Horizontal | Max. My | 15 | 149.86 | 0.00 | -0.00 |
| | | | Max. Vy | 26 | -8.83 | 0.00 | 0.00 |
| | | | Max. Vx | 15 | 0.02 | 0.00 | 0.00 |
| | | | Max Tension | 18 | 389.20 | 0.00 | 0.00 |
| | | | Max. Compression | 16 | -37.03 | 0.00 | 0.00 |
| | | | Max. Mx | 25 | 330.46 | 0.01 | 0.00 |
| | | Secondary Horizontal | Max. Vy | 25 | 8.82 | 0.00 | 0.00 |
| | | | Max. Vx | 13 | -0.00 | 0.00 | 0.00 |
| | | | Max Tension | 18 | 0.01 | -0.00 | -0.00 |
| | | | Max. Compression | 24 | -0.00 | -0.00 | -0.00 |
| | | | Max. Mx | 15 | 0.00 | -0.00 | 0.00 |
| | | | Max. My | 20 | 0.00 | -0.00 | 0.00 |
| Top Girt | Max. Vy | 15 | 3.85 | -0.00 | 0.00 | | |
| | Max. Vx | 20 | -0.00 | -0.00 | 0.00 | | |
| | Max Tension | 8 | 349.57 | 0.00 | 0.00 | | |
| | Max. Compression | 2 | -361.56 | 0.00 | 0.00 | | |
| | Max. Mx | 15 | 76.52 | 0.01 | 0.00 | | |
| | Max. My | 13 | -343.00 | 0.00 | 0.00 | | |
| Bottom Girt | Max. Vy | 15 | 15.00 | 0.00 | 0.00 | | |
| | Max. Vx | 13 | -0.00 | 0.00 | 0.00 | | |
| | Max Tension | 15 | 3072.50 | 0.00 | 0.00 | | |
| | Max. Compression | 8 | -354.20 | 0.00 | 0.00 | | |
| | Max. Mx | 14 | 2869.39 | 0.01 | 0.00 | | |
| | Max. Vy | 14 | -15.00 | 0.00 | 0.00 | | |

Maximum Reactions

| Location | Condition | Gov. Load Comb. | Vertical lb | Horizontal, X lb | Horizontal, Z lb |
|----------|---------------------|-----------------|-------------|------------------|------------------|
| Leg C | Max. Vert | 10 | 23676.45 | 476.06 | -678.78 |
| | Max. H _x | 10 | 23676.45 | 476.06 | -678.78 |
| | Max. H _z | 16 | 11579.18 | -3996.82 | 2338.73 |
| | Min. Vert | 4 | -5417.29 | -529.44 | 443.53 |
| | Min. H _x | 17 | 10800.93 | -4021.50 | 2299.99 |
| | Min. H _z | 9 | 22050.97 | 414.35 | -762.97 |
| Leg B | Max. Vert | 6 | 25645.87 | -695.61 | -146.82 |
| | Max. H _x | 24 | 12186.46 | 3976.33 | 2311.77 |

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|--|----------------|---|--------------------|-------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job | 20150.02 - Lebanon | Page | 26 of 37 |
| | Project | 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date | 16:12:15 08/09/21 |
| | Client | Verizon | Designed by | TJL |

| Location | Condition | Gov. Load Comb. | Vertical lb | Horizontal, X lb | Horizontal, Z lb |
|---|---------------------|-----------------|-------------|------------------|------------------|
| Leg A | Max. H _z | 15 | 14047.71 | 3629.65 | 2442.12 |
| | Min. Vert | 12 | -5147.50 | 482.23 | 327.43 |
| | Min. H _x | 5 | 22931.65 | -860.36 | 26.95 |
| | Min. H _z | 8 | 17476.07 | -14.00 | -309.40 |
| | Max. Vert | 2 | 28603.68 | 497.35 | 859.57 |
| | Max. H _x | 12 | 18099.89 | 755.08 | 704.54 |
| | Max. H _z | 13 | 25353.65 | 693.37 | 871.65 |
| | Min. Vert | 8 | -4753.33 | -232.07 | -722.13 |
| | Min. H _x | 6 | 3032.54 | -480.79 | -531.52 |
| | Min. H _z | 20 | 12779.97 | -50.18 | -4640.07 |
| Guy C @ 86 ft Elev 0 ft Azimuth 240 deg | Max. Vert | 10 | -628.17 | -369.99 | 213.51 |
| Guy B @ 86 ft Elev 0 ft Azimuth 115 deg | Max. H _x | 10 | -628.17 | -369.99 | 213.51 |
| | Max. H _z | 3 | -13005.81 | -9752.00 | 5749.53 |
| | Min. Vert | 3 | -13005.81 | -9752.00 | 5749.53 |
| | Min. H _x | 4 | -12945.45 | -9771.67 | 5643.51 |
| | Min. H _z | 10 | -628.17 | -369.99 | 213.51 |
| | Max. Vert | 6 | -518.94 | 310.52 | 131.72 |
| Guy A @ 86 ft Elev 0 ft Azimuth 0 deg | Max. H _x | 12 | -13007.05 | 10257.03 | 4810.52 |
| | Max. H _z | 13 | -12960.90 | 10159.98 | 4877.43 |
| | Min. Vert | 12 | -13007.05 | 10257.03 | 4810.52 |
| | Min. H _x | 6 | -518.94 | 310.52 | 131.72 |
| | Min. H _z | 6 | -518.94 | 310.52 | 131.72 |
| | Max. Vert | 2 | -411.89 | 0.14 | -247.77 |
| Guy A @ 86 ft Elev 0 ft Azimuth 0 deg | Max. H _x | 11 | -5861.77 | 196.80 | -5105.91 |
| | Max. H _z | 2 | -411.89 | 0.14 | -247.77 |
| | Min. Vert | 8 | -12906.96 | -2.57 | -11242.26 |
| | Min. H _x | 5 | -6694.53 | -200.07 | -5814.93 |
| | Min. H _z | 8 | -12906.96 | -2.57 | -11242.26 |

Tower Mast Reaction Summary

| Load Combination | Vertical | Shear | | Overtuning Moment, M _x | Overtuning Moment, M _z | Torque |
|--|----------|---------|----------|-----------------------------------|-----------------------------------|--------|
| | lb | lb | lb | kip-ft | kip-ft | kip-ft |
| Dead Only | 25026.00 | 4.23 | -18.13 | -1.09 | -0.41 | 0.61 |
| 1.2 Dead+1.6 Wind 0 deg - No Ice+1.0 Guy | 33063.05 | 6.32 | -1725.39 | -47.58 | 0.16 | 1.47 |
| 1.2 Dead+1.6 Wind 30 deg - No Ice+1.0 Guy | 31178.13 | 907.93 | -1479.44 | -39.02 | -20.12 | 1.14 |
| 1.2 Dead+1.6 Wind 60 deg - No Ice+1.0 Guy | 28917.74 | 1532.36 | -894.28 | -21.42 | -34.69 | 0.61 |
| 1.2 Dead+1.6 Wind 90 deg - No Ice+1.0 Guy | 30378.71 | 1704.58 | -65.56 | -0.56 | -40.34 | 0.19 |
| 1.2 Dead+1.6 Wind 120 deg - No Ice+1.0 Guy | 31714.65 | 1424.12 | 819.81 | 20.40 | -35.33 | -0.02 |
| 1.2 Dead+1.6 Wind 150 deg - No Ice+1.0 Guy | 31047.37 | 790.58 | 1475.88 | 34.93 | -20.53 | -0.10 |
| 1.2 Dead+1.6 Wind 180 deg - No Ice+1.0 Guy | 29655.34 | -6.00 | 1725.72 | 39.62 | -0.85 | -0.03 |
| 1.2 Dead+1.6 Wind 210 deg - No Ice+1.0 Guy | 30293.58 | -796.25 | 1468.15 | 33.53 | 18.00 | 0.29 |

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| <p style="text-align: center;">tnxTower</p> <p style="text-align: center;">Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587</p> | <p style="text-align: center;">Job</p> <p style="text-align: center;">20150.02 - Lebanon</p> | <p style="text-align: center;">Page</p> <p style="text-align: center;">27 of 37</p> |
| | <p style="text-align: center;">Project</p> <p style="text-align: center;">120' Guyed Tower - 236 Gates Rd., Lebanon, CT</p> | <p style="text-align: center;">Date</p> <p style="text-align: center;">16:12:15 08/09/21</p> |
| | <p style="text-align: center;">Client</p> <p style="text-align: center;">Verizon</p> | <p style="text-align: center;">Designed by</p> <p style="text-align: center;">TJL</p> |

| Load Combination | Vertical lb | Shear _x lb | Shear _z lb | Overturning Moment, M _x kip-ft | Overturning Moment, M _z kip-ft | Torque kip-ft |
|---|----------------|--------------------------|--------------------------|---|---|------------------|
| 1.2 Dead+1.6 Wind 240 deg - No Ice+1.0 Guy | 30485.49 | -1417.70 | 799.91 | 17.79 | 31.96 | 0.76 |
| 1.2 Dead+1.6 Wind 270 deg - No Ice+1.0 Guy | 29751.91 | -1684.62 | -70.11 | -2.59 | 38.02 | 1.20 |
| 1.2 Dead+1.6 Wind 300 deg - No Ice+1.0 Guy | 29413.56 | -1507.98 | -865.76 | -22.45 | 33.76 | 1.45 |
| 1.2 Dead+1.6 Wind 330 deg - No Ice+1.0 Guy | 31908.78 | -879.78 | -1451.55 | -39.83 | 19.85 | 1.55 |
| 1.2 Dead+1.0 Ice+1.0 Temp+Guy | 52664.78 | -6.83 | -25.47 | -1.72 | -0.52 | 0.77 |
| 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy | 52964.42 | -8.05 | -782.94 | -20.09 | -0.33 | 1.00 |
| 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy | 52854.77 | 351.87 | -671.47 | -17.24 | -8.92 | 0.93 |
| 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy | 52806.77 | 621.41 | -386.38 | -10.43 | -15.23 | 0.75 |
| 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy | 52919.69 | 731.24 | -11.58 | -1.41 | -17.77 | 0.58 |
| 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy | 53058.73 | 615.51 | 337.09 | 7.20 | -15.06 | 0.54 |
| 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy | 53090.75 | 351.80 | 582.40 | 13.31 | -8.91 | 0.56 |
| 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy | 53105.34 | -8.80 | 670.00 | 15.42 | -0.75 | 0.56 |
| 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy | 53131.20 | -367.51 | 581.36 | 13.01 | 7.49 | 0.62 |
| 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy | 53128.28 | -627.06 | 334.12 | 6.63 | 13.75 | 0.80 |
| 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy | 53024.17 | -709.43 | -16.40 | -2.13 | 15.92 | 0.97 |
| 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy | 52943.64 | -606.44 | -374.50 | -10.65 | 13.75 | 1.01 |
| 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy | 52949.43 | -351.01 | -645.75 | -16.89 | 7.84 | 1.00 |
| Dead+ Wind 0 deg - Service+Guy | 24950.82 | 4.37 | -429.18 | -10.33 | -0.33 | 0.77 |
| Dead+ Wind 30 deg - Service+Guy | 24940.00 | 205.45 | -368.81 | -8.92 | -4.76 | 0.71 |
| Dead+ Wind 60 deg - Service+Guy | 24963.68 | 351.58 | -218.44 | -5.51 | -7.98 | 0.60 |
| Dead+ Wind 90 deg - Service+Guy | 25017.42 | 407.59 | -16.33 | -0.95 | -9.23 | 0.49 |
| Dead+ Wind 120 deg - Service+Guy | 25083.29 | 351.97 | 184.53 | 3.58 | -8.04 | 0.44 |
| Dead+ Wind 150 deg - Service+Guy | 25140.09 | 202.32 | 326.40 | 6.77 | -4.80 | 0.43 |
| Dead+ Wind 180 deg - Service+Guy | 25177.74 | 3.81 | 377.17 | 7.87 | -0.48 | 0.45 |
| Dead+ Wind 210 deg - Service+Guy | 25185.26 | -194.37 | 325.46 | 6.62 | 3.85 | 0.52 |
| Dead+ Wind 240 deg - Service+Guy | 25161.04 | -343.48 | 182.80 | 3.32 | 7.15 | 0.63 |
| Dead+ Wind 270 deg - Service+Guy | 25108.02 | -391.60 | -18.25 | -1.25 | 8.27 | 0.73 |
| Dead+ Wind 300 deg - Service+Guy | 25045.25 | -336.59 | -216.36 | -5.69 | 7.12 | 0.79 |
| Dead+ Wind 330 deg - Service+Guy | 24988.67 | -193.07 | -363.39 | -8.93 | 4.00 | 0.80 |

| | | | | | |
|--|----------------|---|-------------|--------------------|-------------------|
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Solution Summary

| Load Comb. | Sum of Applied Forces | | | Sum of Reactions | | | % Error |
|------------|-----------------------|-----------|-----------|------------------|----------|-----------|---------|
| | PX lb | PY lb | PZ lb | PX lb | PY lb | PZ lb | |
| 1 | 0.00 | -8637.75 | 0.00 | 0.03 | 8637.75 | -0.06 | 0.001% |
| 2 | -36.57 | -10280.05 | -10802.06 | 36.57 | 10280.04 | 10801.84 | 0.002% |
| 3 | 5310.19 | -10244.40 | -9284.29 | -5310.21 | 10244.39 | 9284.04 | 0.002% |
| 4 | 9217.48 | -10217.08 | -5326.22 | -9217.52 | 10217.08 | 5325.86 | 0.002% |
| 5 | 10684.28 | -10256.66 | 37.69 | -10684.11 | 10256.66 | -37.58 | 0.001% |
| 6 | 9248.05 | -10291.84 | 5385.79 | -9247.91 | 10291.84 | -5385.71 | 0.001% |
| 7 | 5333.81 | -10263.57 | 9250.36 | -5333.67 | 10263.57 | -9250.28 | 0.001% |
| 8 | 36.57 | -10239.16 | 10643.28 | -36.07 | 10239.16 | -10643.05 | 0.004% |
| 9 | -5266.84 | -10274.81 | 9209.20 | 5266.71 | 10274.81 | -9209.12 | 0.001% |
| 10 | -9205.11 | -10302.13 | 5319.07 | 9204.77 | 10302.12 | -5318.84 | 0.003% |
| 11 | -10597.58 | -10262.55 | -37.69 | 10597.21 | 10262.54 | 38.03 | 0.003% |
| 12 | -9185.19 | -10227.37 | -5349.50 | 9185.23 | 10227.37 | 5349.12 | 0.003% |
| 13 | -5333.81 | -10255.64 | -9250.36 | 5333.80 | 10255.63 | 9250.05 | 0.002% |
| 14 | 0.00 | -32005.99 | 0.00 | 0.11 | 32005.99 | -0.44 | 0.001% |
| 15 | -11.22 | -32026.39 | -3948.06 | 11.20 | 32026.39 | 3947.90 | 0.001% |
| 16 | 1943.73 | -31990.69 | -3402.72 | -1943.75 | 31990.69 | 3402.26 | 0.001% |
| 17 | 3375.05 | -31963.36 | -1953.11 | -3374.98 | 31963.36 | 1952.90 | 0.001% |
| 18 | 3907.42 | -32003.01 | 12.33 | -3907.24 | 32003.00 | -12.29 | 0.001% |
| 19 | 3319.34 | -32038.26 | 1933.60 | -3319.11 | 32038.25 | -1933.42 | 0.001% |
| 20 | 1920.39 | -32009.99 | 3338.15 | -1920.20 | 32009.99 | -3337.94 | 0.001% |
| 21 | 11.22 | -31985.59 | 3847.17 | -11.14 | 31985.58 | -3846.96 | 0.001% |
| 22 | -1897.32 | -32021.28 | 3322.34 | 1897.28 | 32021.28 | -3322.16 | 0.001% |
| 23 | -3301.75 | -32048.61 | 1910.78 | 3301.63 | 32048.61 | -1910.67 | 0.001% |
| 24 | -3814.60 | -32008.97 | -12.33 | 3814.10 | 32008.97 | 12.14 | 0.002% |
| 25 | -3312.23 | -31973.72 | -1929.49 | 3312.13 | 31973.71 | 1929.19 | 0.001% |
| 26 | -1920.39 | -32001.98 | -3338.15 | 1920.31 | 32001.98 | 3337.65 | 0.002% |
| 27 | -8.07 | -8642.26 | -2382.57 | 7.97 | 8642.25 | 2382.82 | 0.003% |
| 28 | 1171.25 | -8634.39 | -2047.80 | -1171.34 | 8634.39 | 2048.03 | 0.003% |
| 29 | 2033.07 | -8628.37 | -1174.79 | -2033.12 | 8628.37 | 1175.01 | 0.003% |
| 30 | 2356.60 | -8637.10 | 8.31 | -2356.61 | 8637.10 | -8.07 | 0.003% |
| 31 | 2039.81 | -8644.86 | 1187.93 | -2039.81 | 8644.86 | -1187.69 | 0.003% |
| 32 | 1176.46 | -8638.62 | 2040.32 | -1176.46 | 8638.62 | -2040.08 | 0.003% |
| 33 | 8.07 | -8633.24 | 2347.55 | -8.10 | 8633.24 | -2347.29 | 0.003% |
| 34 | -1161.69 | -8641.10 | 2031.24 | 1161.61 | 8641.10 | -2030.95 | 0.003% |
| 35 | -2030.34 | -8647.13 | 1173.21 | 2030.32 | 8647.13 | -1173.12 | 0.001% |
| 36 | -2337.47 | -8638.40 | -8.31 | 2337.45 | 8638.40 | 8.40 | 0.001% |
| 37 | -2025.95 | -8630.64 | -1179.92 | 2025.92 | 8630.64 | 1180.00 | 0.001% |
| 38 | -1176.46 | -8636.87 | -2040.32 | 1176.44 | 8636.87 | 2040.39 | 0.001% |

Non-Linear Convergence Results

| Load Combination | Converged? | Number of Cycles | Displacement Tolerance | Force Tolerance |
|------------------|------------|------------------|------------------------|-----------------|
| 1 | Yes | 9 | 0.00000001 | 0.00003087 |
| 2 | Yes | 16 | 0.00000001 | 0.00004720 |
| 3 | Yes | 15 | 0.00000001 | 0.00005354 |
| 4 | Yes | 11 | 0.00000001 | 0.00006230 |
| 5 | Yes | 14 | 0.00000001 | 0.00004645 |
| 6 | Yes | 15 | 0.00000001 | 0.00003729 |
| 7 | Yes | 14 | 0.00000001 | 0.00003744 |
| 8 | Yes | 10 | 0.00000001 | 0.00009526 |
| 9 | Yes | 13 | 0.00000001 | 0.00003406 |
| 10 | Yes | 13 | 0.00000001 | 0.00009135 |

| | | | | |
|--|----------------|---|--------------------|-------------------|
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| | Client | Verizon | Designed by | TJL |

| | | | | |
|----|-----|----|------------|------------|
| 11 | Yes | 12 | 0.00000001 | 0.00009683 |
| 12 | Yes | 12 | 0.00000001 | 0.00007103 |
| 13 | Yes | 15 | 0.00000001 | 0.00006397 |
| 14 | Yes | 9 | 0.00000001 | 0.00004295 |
| 15 | Yes | 12 | 0.00000001 | 0.00003167 |
| 16 | Yes | 11 | 0.00000001 | 0.00007377 |
| 17 | Yes | 11 | 0.00000001 | 0.00003481 |
| 18 | Yes | 11 | 0.00000001 | 0.00004006 |
| 19 | Yes | 11 | 0.00000001 | 0.00005995 |
| 20 | Yes | 11 | 0.00000001 | 0.00005533 |
| 21 | Yes | 11 | 0.00000001 | 0.00004037 |
| 22 | Yes | 11 | 0.00000001 | 0.00003160 |
| 23 | Yes | 11 | 0.00000001 | 0.00003202 |
| 24 | Yes | 10 | 0.00000001 | 0.00009570 |
| 25 | Yes | 11 | 0.00000001 | 0.00005345 |
| 26 | Yes | 11 | 0.00000001 | 0.00008356 |
| 27 | Yes | 9 | 0.00000001 | 0.00009957 |
| 28 | Yes | 9 | 0.00000001 | 0.00008926 |
| 29 | Yes | 9 | 0.00000001 | 0.00008023 |
| 30 | Yes | 9 | 0.00000001 | 0.00007798 |
| 31 | Yes | 9 | 0.00000001 | 0.00007569 |
| 32 | Yes | 9 | 0.00000001 | 0.00007426 |
| 33 | Yes | 9 | 0.00000001 | 0.00008088 |
| 34 | Yes | 9 | 0.00000001 | 0.00009377 |
| 35 | Yes | 10 | 0.00000001 | 0.00003207 |
| 36 | Yes | 10 | 0.00000001 | 0.00003380 |
| 37 | Yes | 10 | 0.00000001 | 0.00003150 |
| 38 | Yes | 10 | 0.00000001 | 0.00002867 |

Maximum Tower Deflections - Service Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|---------------------------|-----------------------|-----------|------------|
| T1 | 120 - 100 | 0.943 | 27 | 0.0420 | 0.4630 |
| T2 | 100 - 80 | 0.737 | 27 | 0.0533 | 0.4293 |
| T3 | 80 - 60 | 0.513 | 27 | 0.0406 | 0.3824 |
| T4 | 60 - 40 | 0.380 | 27 | 0.0315 | 0.2855 |
| T5 | 40 - 20 | 0.242 | 27 | 0.0352 | 0.1889 |
| T6 | 20 - 0 | 0.090 | 27 | 0.0307 | 0.0915 |

Critical Deflections and Radius of Curvature - Service Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|------------------|-----------------------|------------------|-----------|------------|------------------------------|
| 120.00 | LNX-6514DS | 27 | 0.943 | 0.0420 | 0.4630 | 289678 |
| 119.92 | Guy | 27 | 0.943 | 0.0421 | 0.4628 | 289678 |
| 118.00 | SitePro VFA12-HD | 27 | 0.924 | 0.0438 | 0.4596 | 289678 |
| 80.17 | Guy | 27 | 0.515 | 0.0407 | 0.3830 | 30591 |

Maximum Tower Deflections - Design Wind

| | | | | | |
|--|----------------|---|-------------|--------------------|-------------------|
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| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|------------------------|-----------------|-----------|------------|
| T1 | 120 - 100 | 6.865 | 2 | 0.4149 | 0.9062 |
| T2 | 100 - 80 | 5.005 | 2 | 0.4456 | 0.8330 |
| T3 | 80 - 60 | 3.222 | 2 | 0.3371 | 0.7367 |
| T4 | 60 - 40 | 2.117 | 2 | 0.2343 | 0.5565 |
| T5 | 40 - 20 | 1.218 | 2 | 0.2040 | 0.3719 |
| T6 | 20 - 0 | 0.423 | 2 | 0.1525 | 0.1832 |

Critical Deflections and Radius of Curvature - Design Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|------------------|-----------------|------------------|-----------|------------|---------------------------|
| 120.00 | LNx-6514DS | 2 | 6.865 | 0.4149 | 0.9062 | 82261 |
| 119.92 | Guy | 2 | 6.857 | 0.4152 | 0.9059 | 82261 |
| 118.00 | SitePro VFA12-HD | 2 | 6.681 | 0.4216 | 0.8989 | 82261 |
| 80.17 | Guy | 2 | 3.234 | 0.3382 | 0.7379 | 5052 |

Bolt Design Data

| Section No. | Elevation ft | Component Type | Bolt Grade | Bolt Size in | Number Of Bolts | Maximum Load per Bolt lb | Allowable Load per Bolt lb | Ratio Load Allowable | Allowable Ratio | Criteria |
|-------------|-----------------|----------------|------------|-----------------|-----------------|-----------------------------|-------------------------------|----------------------|-----------------|----------------|
| T1 | 120 | Leg | A325N | 0.7500 | 3 | 1037.92 | 29820.60 | 0.035 | ✓ | 1 Bolt Tension |
| T2 | 100 | Leg | A325N | 0.7500 | 3 | 2565.50 | 29820.60 | 0.086 | ✓ | 1 Bolt Tension |
| T3 | 80 | Leg | A325N | 0.7500 | 3 | 1733.16 | 29820.60 | 0.058 | ✓ | 1 Bolt Tension |
| T4 | 60 | Leg | A325N | 0.7500 | 3 | 1873.89 | 29820.60 | 0.063 | ✓ | 1 Bolt Tension |
| T5 | 40 | Leg | A325N | 0.7500 | 3 | 2126.03 | 29820.60 | 0.071 | ✓ | 1 Bolt Tension |
| T6 | 20 | Leg | A325N | 0.7500 | 3 | 3178.11 | 29820.60 | 0.107 | ✓ | 1 Bolt Tension |

Guy Design Data

| Section No. | Elevation ft | Size | Initial Tension lb | Breaking Load lb | Actual T_u lb | Allowable ϕT_n lb | Required S.F. | Actual S.F. |
|-------------|---------------------|----------|-----------------------|---------------------|--------------------|----------------------------|---------------|-------------|
| T1 | 119.92 (A) (291) | 9/16 EHS | 3500.00 | 35000.04 | 9151.02 | 21000.00 | 1.000 | 2.295 ✓ |
| | 119.92 (B) (290) | 9/16 EHS | 3500.00 | 35000.04 | 9220.63 | 21000.00 | 1.000 | 2.277 ✓ |
| | 119.92 (C) (289) | 9/16 EHS | 3500.00 | 35000.04 | 9212.06 | 21000.00 | 1.000 | 2.280 ✓ |
| T2 | 80.17 (A) (297) | 9/16 EHS | 3850.00 | 35000.04 | 8179.59 | 21000.00 | 1.000 | 2.567 ✓ |

| | | |
|--|---|----------------------------------|
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| | Client Verizon | Designed by T.J.L. |

| Section No. | Elevation ft | Size | Initial Tension lb | Breaking Load lb | Actual T_u lb | Allowable ϕT_n lb | Required S.F. | Actual S.F. |
|-------------|-----------------|----------|-----------------------|---------------------|--------------------|----------------------------|---------------|-------------|
| | 80.17 (B) (296) | 9/16 EHS | 3850.00 | 35000.04 | 8243.09 | 21000.00 | 1.000 | 2.548 ✓ |
| | 80.17 (C) (292) | 9/16 EHS | 3850.00 | 35000.04 | 8245.44 | 21000.00 | 1.000 | 2.547 ✓ |

Compression Checks

Leg Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L_u ft | Kl/r | A in ² | Mast Stability Index | P_u lb | ϕP_n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|-------------|----------------|----------------------|----------------------|-------------|------------------|------------------------------|
| T1 | 120 - 100 | P2.5x.203 | 20.00 | 3.29 | 41.7 K=1.00 | 1.7040 | 1.00 | -9728.25 | 49108.30 | 0.198 ¹ ✓ |
| T2 | 100 - 80 | P2.5x.203 | 20.00 | 3.28 | 41.5 K=1.00 | 1.7040 | 1.00 | -23089.50 | 49145.10 | 0.470 ¹ ✓ |
| T3 | 80 - 60 | P2.5x.203 | 20.00 | 3.28 | 41.5 K=1.00 | 1.7040 | 0.99 | -23090.50 | 48860.10 | 0.473 ¹ ✓ |
| T4 | 60 - 40 | P2.5x.203 | 20.00 | 3.28 | 41.5 K=1.00 | 1.7040 | 0.99 | -16865.00 | 48425.10 | 0.348 ¹ ✓ |
| T5 | 40 - 20 | P2.5x.203 | 20.00 | 3.28 | 41.5 K=1.00 | 1.7040 | 0.99 | -19134.30 | 48459.50 | 0.395 ¹ ✓ |
| T6 | 20 - 0 | P2.5x.203 | 20.00 | 3.28 | 41.5 K=1.00 | 1.7040 | 0.99 | -28603.00 | 48862.80 | 0.585 ¹ ✓ |

¹ $P_u / \phi P_n$ controls

Diagonal Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L_u ft | Kl/r | A in ² | P_u lb | ϕP_n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|-------------|-----------------|----------------------|-------------|------------------|------------------------------|
| T1 | 120 - 100 | P.75x.154 | 4.54 | 4.19 | 156.5 K=1.00 | 0.4335 | -1925.55 | 4000.62 | 0.481 ¹ ✓ |
| T2 | 100 - 80 | P.75x.154 | 4.53 | 4.18 | 156.1 K=1.00 | 0.4335 | -2861.87 | 4018.41 | 0.712 ¹ ✓ |
| T3 | 80 - 60 | P.75x.154 | 4.53 | 4.18 | 156.1 K=1.00 | 0.4335 | -2497.34 | 4018.41 | 0.621 ¹ ✓ |
| T4 | 60 - 40 | P.75x.154 | 4.53 | 4.18 | 156.1 K=1.00 | 0.4335 | -1466.45 | 4018.41 | 0.365 ¹ ✓ |
| T5 | 40 - 20 | P.75x.154 | 4.53 | 4.18 | 156.1 K=1.00 | 0.4335 | -2208.69 | 4018.41 | 0.550 ¹ ✓ |
| T6 | 20 - 0 | P.75x.154 | 4.53 | 4.18 | 156.1 K=1.00 | 0.4335 | -2770.09 | 4018.41 | 0.689 ¹ ✓ |

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¹ $P_u / \phi P_n$ controls

Horizontal Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|----------------------|-----------------|----------------------|----------------------|-----------------------|---------------------------------|
| T1 | 120 - 100 | P.75x.154 | 3.13 | 2.89 | 107.7 K=1.00 | 0.4335 | -415.33 | 7539.68 | 0.055 ¹ ✓ |
| T2 | 100 - 80 | P.75x.154 | 3.13 | 2.89 | 107.7 K=1.00 | 0.4335 | -399.92 | 7539.68 | 0.053 ¹ ✓ |
| T3 | 80 - 60 | P.75x.154 | 3.13 | 2.89 | 107.7 K=1.00 | 0.4335 | -399.94 | 7539.68 | 0.053 ¹ ✓ |
| T4 | 60 - 40 | P.75x.154 | 3.13 | 2.89 | 107.7 K=1.00 | 0.4335 | -292.11 | 7539.68 | 0.039 ¹ ✓ |
| T5 | 40 - 20 | P.75x.154 | 3.13 | 2.89 | 107.7 K=1.00 | 0.4335 | -331.42 | 7539.68 | 0.044 ¹ ✓ |
| T6 | 20 - 0 | P.75x.154 | 3.13 | 2.89 | 107.7 K=1.00 | 0.4335 | -495.42 | 7539.68 | 0.066 ¹ ✓ |

¹ $P_u / \phi P_n$ controls

Secondary Horizontal Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--------------|---------|----------------------|----------------|----------------------|----------------------|-----------------------|---------------------------------|
| T1 | 120 - 100 | P0.375x0.091 | 1.56 | 1.44 | 82.9 K=1.00 | 0.1670 | -0.00 | 3700.86 | 0.000 ¹ ✓ |
| T2 | 100 - 80 | P0.375x0.091 | 1.56 | 1.44 | 82.9 K=1.00 | 0.1670 | -0.00 | 3700.86 | 0.000 ¹ ✓ |
| T3 | 80 - 60 | P0.375x0.091 | 1.56 | 1.44 | 82.9 K=1.00 | 0.1670 | -0.00 | 3700.86 | 0.000 ¹ ✓ |
| T4 | 60 - 40 | P0.375x0.091 | 1.56 | 1.44 | 82.9 K=1.00 | 0.1670 | -0.00 | 3700.86 | 0.000 ¹ ✓ |
| T5 | 40 - 20 | P0.375x0.091 | 1.56 | 1.44 | 82.9 K=1.00 | 0.1670 | -0.01 | 3700.86 | 0.000 ¹ ✓ |
| T6 | 20 - 0 | P0.375x0.091 | 1.56 | 1.44 | 82.9 K=1.00 | 0.1670 | -0.00 | 3700.86 | 0.000 ¹ ✓ |

¹ $P_u / \phi P_n$ controls

Top Girt Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|------|---------|----------------------|------|----------------------|----------------------|-----------------------|---------------------------------|
|-------------|-----------------|------|---------|----------------------|------|----------------------|----------------------|-----------------------|---------------------------------|

| | | | | | |
|--|----------------|---|-------------|--------------------|-------------------|
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| | Client | Verizon | | Designed by | TJL |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------------------|---------|----------------------|-----------------|----------------------|----------------------|-----------------------|---------------------------------|
| T1 | 120 - 100 | P.75x.154 | 3.13 | 2.89 | 107.7 K=1.00 | 0.4335 | -95.43 | 7539.68 | 0.013 ¹ |
| T2 | 100 - 80 | 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -399.92 | 3925.72 | 0.102 ¹ |
| T3 | 80 - 60 | KL/R > 200 (C) - 53 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -486.92 | 3925.72 | 0.124 ¹ |
| T4 | 60 - 40 | KL/R > 200 (C) - 100 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -292.11 | 3925.72 | 0.074 ¹ |
| T5 | 40 - 20 | KL/R > 200 (C) - 149 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -331.42 | 3925.72 | 0.084 ¹ |
| T6 | 20 - 0 | KL/R > 200 (C) - 197 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -495.42 | 3925.72 | 0.126 ¹ |
| | | KL/R > 200 (C) - 245 | | | | | | | |

¹ P_u / φP_n controls

Bottom Girt Design Data (Compression)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------------------|---------|----------------------|-----------------|----------------------|----------------------|-----------------------|---------------------------------|
| T1 | 120 - 100 | 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -177.27 | 3925.72 | 0.045 ¹ |
| T2 | 100 - 80 | KL/R > 200 (C) - 8 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -399.92 | 3925.72 | 0.102 ¹ |
| T3 | 80 - 60 | KL/R > 200 (C) - 56 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -399.94 | 3925.72 | 0.102 ¹ |
| T4 | 60 - 40 | KL/R > 200 (C) - 104 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -292.11 | 3925.72 | 0.074 ¹ |
| T5 | 40 - 20 | KL/R > 200 (C) - 152 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -331.42 | 3925.72 | 0.084 ¹ |
| T6 | 20 - 0 | KL/R > 200 (C) - 200 2x1/2 | 3.13 | 2.89 | 239.9 K=1.00 | 1.0000 | -354.20 | 3925.72 | 0.090 ¹ |
| | | KL/R > 200 (C) - 248 | | | | | | | |

¹ P_u / φP_n controls

Tension Checks

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 34 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

Leg Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|----------------------|------|----------------------|----------------------|-----------------------|---------------------------------|
| T2 | 100 - 80 | P2.5x.203 | 20.00 | 3.28 | 41.5 | 1.7040 | 6739.69 | 53677.60 | 0.126 ¹ |
| T3 | 80 - 60 | P2.5x.203 | 20.00 | 3.28 | 41.5 | 1.7040 | 1745.92 | 53677.60 | 0.033 ¹ |
| T6 | 20 - 0 | P2.5x.203 | 20.00 | 3.28 | 41.5 | 1.7040 | 5419.04 | 53677.60 | 0.101 ¹ |

¹ P_u / φP_n controls

Diagonal Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|----------------------|-------|----------------------|----------------------|-----------------------|---------------------------------|
| T1 | 120 - 100 | P.75x.154 | 4.54 | 4.19 | 156.5 | 0.4335 | 1272.18 | 13654.90 | 0.093 ¹ |
| T2 | 100 - 80 | P.75x.154 | 4.53 | 4.18 | 156.1 | 0.4335 | 2457.57 | 13654.90 | 0.180 ¹ |
| T3 | 80 - 60 | P.75x.154 | 4.53 | 4.18 | 156.1 | 0.4335 | 2245.86 | 13654.90 | 0.164 ¹ |
| T4 | 60 - 40 | P.75x.154 | 4.53 | 4.18 | 156.1 | 0.4335 | 1226.99 | 13654.90 | 0.090 ¹ |
| T5 | 40 - 20 | P.75x.154 | 4.53 | 4.18 | 156.1 | 0.4335 | 1351.29 | 13654.90 | 0.099 ¹ |
| T6 | 20 - 0 | P.75x.154 | 4.53 | 4.18 | 156.1 | 0.4335 | 2021.33 | 13654.90 | 0.148 ¹ |

¹ P_u / φP_n controls

Horizontal Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|----------------------|-------|----------------------|----------------------|-----------------------|---------------------------------|
| T1 | 120 - 100 | P.75x.154 | 3.13 | 2.89 | 107.7 | 0.4335 | 531.69 | 13654.90 | 0.039 ¹ |
| T2 | 100 - 80 | P.75x.154 | 3.13 | 2.89 | 107.7 | 0.4335 | 399.92 | 13654.90 | 0.029 ¹ |
| T3 | 80 - 60 | P.75x.154 | 3.13 | 2.89 | 107.7 | 0.4335 | 399.94 | 13654.90 | 0.029 ¹ |
| T4 | 60 - 40 | P.75x.154 | 3.13 | 2.89 | 107.7 | 0.4335 | 343.28 | 13654.90 | 0.025 ¹ |
| T5 | 40 - 20 | P.75x.154 | 3.13 | 2.89 | 107.7 | 0.4335 | 370.48 | 13654.90 | 0.027 ¹ |

| | | |
|--|---|----------------------------------|
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| | Client Verizon | Designed by T.J.L. |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|----------------------|-------|----------------------|----------------------|-----------------------|---------------------------------|
| T6 | 20 - 0 | P.75x.154 | 3.13 | 2.89 | 107.7 | 0.4335 | 495.42 | 13654.90 | 0.036 ¹ ✓ ✓ |

¹ P_u / φP_n controls

Secondary Horizontal Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--------------|---------|----------------------|------|----------------------|----------------------|-----------------------|---------------------------------|
| T1 | 120 - 100 | P0.375x0.091 | 1.56 | 1.44 | 82.9 | 0.1670 | 0.01 | 5259.14 | 0.000 ¹ ✓ |
| T2 | 100 - 80 | P0.375x0.091 | 1.56 | 1.44 | 82.9 | 0.1670 | 0.01 | 5259.14 | 0.000 ¹ ✓ |
| T3 | 80 - 60 | P0.375x0.091 | 1.56 | 1.44 | 82.9 | 0.1670 | 0.00 | 5259.14 | 0.000 ¹ ✓ |
| T4 | 60 - 40 | P0.375x0.091 | 1.56 | 1.44 | 82.9 | 0.1670 | 0.01 | 5259.14 | 0.000 ¹ ✓ |
| T5 | 40 - 20 | P0.375x0.091 | 1.56 | 1.44 | 82.9 | 0.1670 | 0.01 | 5259.14 | 0.000 ¹ ✓ |
| T6 | 20 - 0 | P0.375x0.091 | 1.56 | 1.44 | 82.9 | 0.1670 | 0.01 | 5259.14 | 0.000 ¹ ✓ |

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-----------|---------|----------------------|-------|----------------------|----------------------|-----------------------|---------------------------------|
| T1 | 120 - 100 | P.75x.154 | 3.13 | 2.89 | 107.7 | 0.4335 | 3389.38 | 13654.90 | 0.248 ¹ ✓ |
| T2 | 100 - 80 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 399.92 | 32400.00 | 0.012 ¹ ✓ |
| T3 | 80 - 60 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 702.67 | 32400.00 | 0.022 ¹ ✓ |
| T4 | 60 - 40 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 292.11 | 32400.00 | 0.009 ¹ ✓ |
| T5 | 40 - 20 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 331.42 | 32400.00 | 0.010 ¹ ✓ |
| T6 | 20 - 0 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 495.42 | 32400.00 | 0.015 ¹ ✓ |

¹ P_u / φP_n controls

| | | |
|--|---|----------------------------------|
| tnxTower Centek Engineering Inc. 63-2 North Branford Rd. Branford, CT 06405 Phone: (203) 488-0580 FAX: (203) 488-8587 | Job 20150.02 - Lebanon | Page 36 of 37 |
| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJJ |

Bottom Girt Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------|---------|----------------------|-------|----------------------|----------------------|-----------------------|---------------------------------|
| T1 | 120 - 100 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 425.64 | 32400.00 | 0.013 ¹ |
| T2 | 100 - 80 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 1320.76 | 32400.00 | 0.041 ¹ ✓ |
| T3 | 80 - 60 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 473.87 | 32400.00 | 0.015 ¹ ✓ |
| T4 | 60 - 40 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 326.00 | 32400.00 | 0.010 ¹ ✓ |
| T5 | 40 - 20 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 512.72 | 32400.00 | 0.016 ¹ ✓ |
| T6 | 20 - 0 | 2x1/2 | 3.13 | 2.89 | 239.9 | 1.0000 | 3072.50 | 32400.00 | 0.095 ¹ ✓ |

¹ P_u / φP_n controls

Top Guy Pull-Off Design Data (Tension)

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u lb | φP _n lb | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------|---------|----------------------|------|----------------------|----------------------|-----------------------|---------------------------------|
| T2 | 100 - 80 | 1 1/4x1 1/4 | 3.13 | 2.89 | 96.0 | 1.5625 | 2063.69 | 50625.00 | 0.041 ¹ ✓ |

¹ P_u / φP_n controls

Section Capacity Table

| Section No. | Elevation ft | Component Type | Size | Critical Element | P lb | φP _{allow} lb | % Capacity | Pass Fail |
|-------------|-----------------|-------------------|-----------|---------------------|-----------|---------------------------|---------------|--------------|
| T1 | 120 - 100 | Leg | P2.5x.203 | 2 | -9728.25 | 49108.30 | 19.8 | Pass |
| T2 | 100 - 80 | Leg | P2.5x.203 | 51 | -23089.50 | 49145.10 | 47.0 | Pass |
| T3 | 80 - 60 | Leg | P2.5x.203 | 99 | -23090.50 | 48860.10 | 47.3 | Pass |
| T4 | 60 - 40 | Leg | P2.5x.203 | 147 | -16865.00 | 48425.10 | 34.8 | Pass |
| T5 | 40 - 20 | Leg | P2.5x.203 | 195 | -19134.30 | 48459.50 | 39.5 | Pass |
| T6 | 20 - 0 | Leg | P2.5x.203 | 243 | -28603.00 | 48862.80 | 58.5 | Pass |
| T1 | 120 - 100 | Diagonal | P.75x.154 | 11 | -1925.55 | 4000.62 | 48.1 | Pass |
| T2 | 100 - 80 | Diagonal | P.75x.154 | 59 | -2861.87 | 4018.41 | 71.2 | Pass |
| T3 | 80 - 60 | Diagonal | P.75x.154 | 134 | -2497.34 | 4018.41 | 62.1 | Pass |
| T4 | 60 - 40 | Diagonal | P.75x.154 | 182 | -1466.45 | 4018.41 | 36.5 | Pass |
| T5 | 40 - 20 | Diagonal | P.75x.154 | 203 | -2208.69 | 4018.41 | 55.0 | Pass |
| T6 | 20 - 0 | Diagonal | P.75x.154 | 251 | -2770.09 | 4018.41 | 68.9 | Pass |
| T1 | 120 - 100 | Horizontal | P.75x.154 | 42 | -415.33 | 7539.68 | 5.5 | Pass |
| T2 | 100 - 80 | Horizontal | P.75x.154 | 70 | -399.92 | 7539.68 | 5.3 | Pass |
| T3 | 80 - 60 | Horizontal | P.75x.154 | 111 | -399.94 | 7539.68 | 5.3 | Pass |

| | | |
|--|---|----------------------------------|
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| | Project 120' Guyed Tower - 236 Gates Rd., Lebanon, CT | Date 16:12:15 08/09/21 |
| | Client Verizon | Designed by TJL |

| Section No. | Elevation ft | Component Type | Size | Critical Element | P lb | ϕP_{allow} lb | % Capacity | Pass Fail |
|-------------|--------------|--------------------------|--------------|------------------|---------|---------------------------|-------------|-------------|
| T4 | 60 - 40 | Horizontal | P.75x.154 | 166 | -292.11 | 7539.68 | 3.9 | Pass |
| T5 | 40 - 20 | Horizontal | P.75x.154 | 214 | -331.42 | 7539.68 | 4.4 | Pass |
| T6 | 20 - 0 | Horizontal | P.75x.154 | 262 | -495.42 | 7539.68 | 6.6 | Pass |
| T1 | 120 - 100 | Secondary Horizontal | P0.375x0.091 | 20 | 0.01 | 5259.14 | 0.2 | Pass |
| T2 | 100 - 80 | Secondary Horizontal | P0.375x0.091 | 96 | 0.01 | 5259.14 | 0.2 | Pass |
| T3 | 80 - 60 | Secondary Horizontal | P0.375x0.091 | 144 | 0.00 | 5259.14 | 0.2 | Pass |
| T4 | 60 - 40 | Secondary Horizontal | P0.375x0.091 | 192 | 0.00 | 5259.14 | 0.2 | Pass |
| T5 | 40 - 20 | Secondary Horizontal | P0.375x0.091 | 240 | 0.01 | 5259.14 | 0.2 | Pass |
| T6 | 20 - 0 | Secondary Horizontal | P0.375x0.091 | 288 | 0.01 | 5259.14 | 0.1 | Pass |
| T1 | 120 - 100 | Top Girt | P.75x.154 | 4 | 3389.38 | 13654.90 | 24.8 | Pass |
| T2 | 100 - 80 | Top Girt | 2x1/2 | 53 | -399.92 | 3925.72 | 10.2 | Pass |
| T3 | 80 - 60 | Top Girt | 2x1/2 | 100 | -486.92 | 3925.72 | 12.4 | Pass |
| T4 | 60 - 40 | Top Girt | 2x1/2 | 149 | -292.11 | 3925.72 | 7.4 | Pass |
| T5 | 40 - 20 | Top Girt | 2x1/2 | 197 | -331.42 | 3925.72 | 8.4 | Pass |
| T6 | 20 - 0 | Top Girt | 2x1/2 | 245 | -495.42 | 3925.72 | 12.6 | Pass |
| T1 | 120 - 100 | Bottom Girt | 2x1/2 | 8 | -177.27 | 3925.72 | 4.5 | Pass |
| T2 | 100 - 80 | Bottom Girt | 2x1/2 | 56 | -399.92 | 3925.72 | 10.2 | Pass |
| T3 | 80 - 60 | Bottom Girt | 2x1/2 | 104 | -399.94 | 3925.72 | 10.2 | Pass |
| T4 | 60 - 40 | Bottom Girt | 2x1/2 | 152 | -292.11 | 3925.72 | 7.4 | Pass |
| T5 | 40 - 20 | Bottom Girt | 2x1/2 | 200 | -331.42 | 3925.72 | 8.4 | Pass |
| T6 | 20 - 0 | Bottom Girt | 2x1/2 | 248 | 3072.50 | 32400.00 | 9.5 | Pass |
| T1 | 120 - 100 | Guy A@119.917 | 9/16 | 291 | 9151.02 | 21000.00 | 43.6 | Pass |
| T2 | 100 - 80 | Guy A@80.1667 | 9/16 | 297 | 8179.59 | 21000.00 | 39.0 | Pass |
| T1 | 120 - 100 | Guy B@119.917 | 9/16 | 290 | 9220.63 | 21000.00 | 43.9 | Pass |
| T2 | 100 - 80 | Guy B@80.1667 | 9/16 | 296 | 8243.09 | 21000.00 | 39.3 | Pass |
| T1 | 120 - 100 | Guy C@119.917 (-5 deg) | 9/16 | 289 | 9212.06 | 21000.00 | 43.9 | Pass |
| T2 | 100 - 80 | Guy C@80.1667 (-5 deg) | 9/16 | 292 | 8245.44 | 21000.00 | 39.3 | Pass |
| T2 | 100 - 80 | Top Guy Pull-Off@80.1667 | 1 1/4x1 1/4 | 293 | 2063.69 | 50625.00 | 4.1 | Pass |
| | | | | | | Summary | | |
| | | | | | | Leg (T6) | 58.5 | Pass |
| | | | | | | Diagonal (T2) | 71.2 | Pass |
| | | | | | | Horizontal (T6) | 6.6 | Pass |
| | | | | | | Secondary Horizontal (T1) | 0.2 | Pass |
| | | | | | | Top Girt (T1) | 24.8 | Pass |
| | | | | | | Bottom Girt (T3) | 10.2 | Pass |
| | | | | | | Guy A (T1) | 43.6 | Pass |
| | | | | | | Guy B (T1) | 43.9 | Pass |
| | | | | | | Guy C (T1) | 43.9 | Pass |
| | | | | | | Top Guy Pull-Off (T2) | 4.1 | Pass |
| | | | | | | Bolt Checks | 10.7 | Pass |
| | | | | | | RATING = | 71.2 | Pass |

Job : Verizon ~ Lebanon: 120-ft Guyed Lattice Tower
Address: 236 Gates Road Lebanon, CT
Description: Guy Anchor Evaluation

Project No. 20150.02
Computed by TJL
Checked by CFC

Sheet 1 of 2
Date 8/9/21
Date

CHECK UPLIFT RESISTANCE

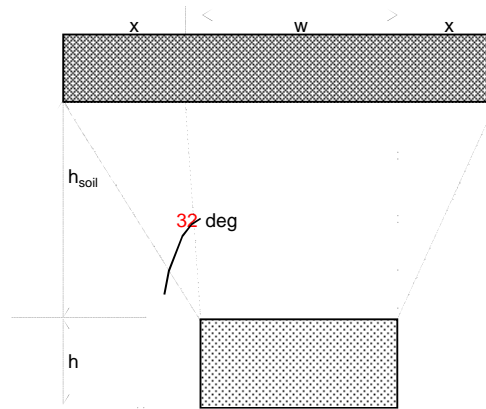
ANCHOR AT 143ft RADIUS

RESULTS FROM COMPUTER ANALYSIS:

Uplift = **13** kips
 Sliding = **11.3** kips
 Wdepth = **10** ft

CONCRETE PARAMETERS:

γ_{conc} = **150** pcf
 $\gamma_{conc.sub}$ = **87.6** pcf
 w = **3.58** ft
 h = **2.83** ft
 d = **8** ft
 Vol. = **81.05** ft³
 Vol.sub = **0.00** ft³
 Wc = **12.16** kips
 ϕ = **0.90**
10.94



Foundation Section

SOIL PARAMETERS:

γ_{soil} = **110** pcf
 $\gamma_{soil.sub}$ = **47.6** pcf
 h_{soil} = **3.42** ft
 x = **2.14** ft

Soil Weight (Wr):

B1 = 28.64
 B2 = 28.64
 B3 = 96.40

W.soil = 22.27 kips
 W.soil.sub = 0.00 kips
 Total = **22.27** kips
 ϕ = **0.75**
16.70

SF AGAINST UPLIFT

2.65 > 1 OK

GUY ANCHORS AGAINST UPLIFT ARE ADEQUATE

Job : Verizon ~ Lebanon: 120-ft Guyed Lattice Tower
Address: 236 Gates Road Lebanon, CT
Description: Guy Anchor Evaluation

Project No. 20150.02
Computed by TJL
Checked by CFC

Sheet 2 of 2
Date 8/9/21
Date

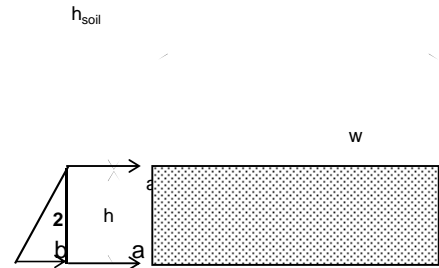
CHECK SLIDING RESISTANCE

SOIL PARAMETERS

$\gamma_{soil} = 110$ pcf
 $\gamma_{soil} = 47.6$ pcf
 $h_{soil} = 3.42$ ft
 $h = 2.83$ ft
 $\phi = 30$ degrees

ANCHOR PARAMETERS

$w = 3.6$ ft
 $h = 2.8$ ft
 $d = 8.0$ ft



Foundation Elevation View

$K_p = 3.00$

HORIZONTAL FORCES

RESIST TO SLIDING =

1.13 ksf
 2.06 ksf
 36.12 k

SOIL & CONCRETE WEIGHT =
UPLIFT REACTIONS =
SUM =

$W_r + W_c = 27.64$ k
 -13 k
 14.64 k

COEF. OF FRICTION, (0.45) =
RESIST TO SLIDING =
SUM =

6.59 k
 36.12 k
 42.71 k

SF AGAINST SLIDING

$SF = 3.8 > 1$ **OK**

GUY ANCHORS AGAINST SLIDING ARE ADEQUATE

Guyed Tower Foundation:

Input Data:

Tower Data

Shear Force = Shear := 1.8-kip (User Input from tnxTower)
 Axial Force = Axial := 53.1-kip (User Input from tnxTower)
 Axial Force = Moment := 48-kip-ft (User Input from tnxTower)
 Tower Height = $H_t := 120.0$ -ft (User Input)

Footing Data:

Overall Depth of Footing = $D_f := 3.00$ -ft (User Input)
 Length of Pier = $L_p := 0.00$ -ft (User Input)
 Extension of Pier Above Grade = $L_{pag} := 0.00$ -ft (User Input)
 Width of Pier = $d_p := 0.00$ -ft (User Input)
 Thickness of Footing = $T_f := 3.50$ -ft (User Input)
 Width of Footing = $W_f := 7.17$ -ft (User Input)

Material Properties:

Concrete Compressive Strength = $f_c := 3000$ -psi (User Input)
 Steel Reinforcement Yield Strength = $f_y := 60000$ -psi (User Input)

Internal Friction Angle of Soil = $\Phi_s := 30$ -deg (User Input)
 Allowable Soil Bearing Capacity = $q_s := 4000$ -psf (User Input)
 Unit Weight of Soil = $\gamma_{soil} := 110$ -pcf (User Input)
 Unit Weight of Concrete = $\gamma_{conc} := 150$ -pcf (User Input)
 Foundation Bouyancy = Bouyancy := 0 (User Input) (Yes=1 / No=0)
 Depth to Neglect = $n := 1.0$ -ft (User Input)
 Cohesion of Clay Type Soil = $c := 0$ -ksf (User Input) (Use 0 for Sandy Soil)

Coefficient of Friction Between Concrete = $\mu := 0.45$ (User Input)
 Overturning/Sliding Factor of Safety Required = $FS_{req} := 2$ (User Input)

Coefficient of Lateral Soil Pressure =

$$K_p := \frac{1 + \sin(\Phi_s)}{1 - \sin(\Phi_s)} = 3$$

Load Factor =

$$LF := \begin{cases} 1.333 & \text{if } H_t \leq 700\text{-ft} \\ 1.7 & \text{if } H_t \geq 1200\text{-ft} \\ 1.333 + \left(\frac{H_t - 700\text{ft}}{1200\text{ft} - 700\text{ft}} \right) \cdot 0.4 & \text{otherwise} \end{cases} = 1.333$$

Stability of Footing:

Adjusted Concrete Unit Weight =

$$\gamma_c := \text{if}(\text{Bouyancy} = 1, \gamma_{\text{conc}} - 62.4\text{pcf}, \gamma_{\text{conc}}) = 150\text{-pcf}$$

Adjusted Soil Unit Weight =

$$\gamma_s := \text{if}(\text{Bouyancy} = 1, \gamma_{\text{soil}} - 62.4\text{pcf}, \gamma_{\text{soil}}) = 110\text{-pcf}$$

Passive Pressure =

$$P_{pn} := K_p \cdot \gamma_s \cdot n + c \cdot 2 \cdot \sqrt{K_p} = 0.33\text{-ksf}$$

$$P_{pt} := K_p \cdot \gamma_s \cdot (D_f - T_f) + c \cdot 2 \cdot \sqrt{K_p} = -0.165\text{-ksf}$$

$$P_{top} := \text{if}[n < (D_f - T_f), P_{pt}, P_{pn}] = 0.33\text{-ksf}$$

$$P_{bot} := K_p \cdot \gamma_s \cdot D_f + c \cdot 2 \cdot \sqrt{K_p} = 0.99\text{-ksf}$$

$$P_{ave} := \frac{P_{top} + P_{bot}}{2} = 0.66\text{-ksf}$$

$$T_p := \text{if}[n < (D_f - T_f), T_f \cdot (D_f - n)] = 2$$

$$A_p := W_f \cdot T_p = 14.34$$

Ultimate Shear =

$$S_u := P_{ave} \cdot A_p = 9.464\text{-kip}$$

Weight of Concrete =

$$WT_c := \left[(W_f^2 \cdot T_f) + d_p^2 \cdot L_p \right] \cdot \gamma_c = 26.99\text{-kip}$$

Total Weight =

$$WT_{tot} := WT_c + \text{Axial} = 80.09\text{-kip}$$

Resisting Moment =

$$M_r := (WT_{tot}) \cdot \frac{W_f}{2} + S_u \cdot \frac{T_f}{3} = 298\text{-kip-ft}$$

Overturning Moment =

$$M_{ot} := \text{Moment} + \text{Shear} \cdot (L_p + T_f) = 54\text{-kip-ft}$$

Factor of Safety Actual =

$$FS := \frac{M_r}{M_{ot}} = 5.49$$

Factor of Safety Required =

$$FS_{req} := 1$$

$$\text{OverTurning_Moment_Check} := \text{if}(FS \geq FS_{req}, \text{"Okay"}, \text{"No Good"})$$

$$\text{OverTurning_Moment_Check} = \text{"Okay"}$$

Bearing Pressure Caused by Footing:

Overturning Moment =

$$M_{ot} := \text{Moment} + \text{Shear} \cdot (L_p + T_f) = 54 \cdot \text{kip} \cdot \text{ft}$$

Area of the Mat =

$$A_{mat} := W_f^2 = 51.41$$

Section Modulus of Mat =

$$S := \frac{W_f^3}{6} = 61.43 \cdot \text{ft}^3$$

Maximum Pressure in Mat =

$$P_{max} := \frac{WT_{tot}}{A_{mat}} + \frac{M_{ot}}{S} = 2.442 \cdot \text{ksf}$$

$$\text{Max_Pressure_Check} := \text{if}(P_{max} < q_s, \text{"Okay"}, \text{"No Good"})$$

$$\text{Max_Pressure_Check} = \text{"Okay"}$$

Minimum Pressure in Mat =

$$P_{min} := \frac{WT_{tot}}{A_{mat}} - \frac{M_{ot}}{S} = 0.674 \cdot \text{ksf}$$

$$\text{Min_Pressure_Check} := \text{if}((P_{min} \geq 0) \cdot (P_{min} < q_s), \text{"Okay"}, \text{"No Good"})$$

$$\text{Min_Pressure_Check} = \text{"Okay"}$$

Eccentricity =

$$e := \frac{M_{ot}}{WT_{tot}} = 0.678$$

Adjusted Soil Pressure =

$$P_a := \frac{2 \cdot WT_{tot}}{3 \cdot W_f \left(\frac{W_f}{2} - e \right)} = 2.562 \cdot \text{ksf}$$

$$q_{adj} := \text{if}(P_{min} < 0, P_a \cdot P_{max}) = 2.442 \cdot \text{ksf}$$

$$\text{Pressure_Check} := \text{if}(q_{adj} < q_s, \text{"Okay"}, \text{"No Good"})$$

$$\text{Pressure_Check} = \text{"Okay"}$$



EAST > North East > New England > New England West > LEBANON CT

Stevens, Wesley - wesley.stevens@verizonwireless.com - 7/22/2021 9:54:47

Project Details

| |
|---|
| FUZE Project ID: 16244191 |
| Project Name: 5G L-Sub6 - Carrier Add |
| Project Alt Name: LEBANON CT - MKT 64 - MODIFICATION |
| Project Type: Modification |
| Modification Type: VDU_UPGRADE_OR_ADD |
| Designed Sector Carrier 4G: 15 |
| Designed Sector Carrier 5G: N/A |
| Additional Sector Carrier 4G: N/A |
| Additional Sector Carrier 5G: N/A |
| FP Solution Type & Tech Type: MODIFICATION;4G_850,4G_PCS,4G_Radio Swap,5G_L-Sub6-Prep |
| Carrier Aggregation: true |
| MPT Id: |
| eCIP-0: false |
| Suffix: Rev3_20210722 |

Location Information

| |
|---|
| Site ID: 630286 |
| E-NodeB ID: 0649403,064596 |
| PSLC: 468018 |
| Switch Name: Wallingford 1 |
| Tower Owner: |
| Tower Type: Self Support (Lattice Tower) |
| Site Type: MACRO |
| Site Sub Type: TRADITIONAL |
| Street Address: 236 Gates Rd |
| City: Lebanon |
| State: CT |
| Zip Code: 06249 |
| County: New London |
| Latitude: 41.683056 / 41° 40' 59.0016" N |
| Longitude: -72.216389 / 72° 12' 59.0004" W |

RFDS Project Scope:

- Add LSub-6 and PCS/850
 - Swap antennas to side-by-side SBNHH
 - Swap RRHs to SS dual-band
 - swap OVP/hybrid cable
 - CDMA being moved to LNX antennas
- Rev3_20210722: fixed LTE antenna count (was accidentally reverted to 3 last revision, should be 6), re-using LNX antennas for CDMA to reduce antenna count (from 6 to 3 total)
- Rev2_20210401: fixed LTE antenna to 6ft version
- Rev1_20201112: swap OVP/hybrid cable
- Rev0_20201015: initial release

Antenna Summary

| Added | | | | | | | | | | | | | |
|----------|------|------|-----|--------|---------|-----------------------------|------------|------------|-------------------------------------|---|-------|------------|----------|
| 700 | 850 | 1900 | AWS | L-Sub6 | Make | Model | Centerline | Tip Height | Azimuth | RET | 4xRx | Inst. Type | Quantity |
| LTE | LTE | LTE | LTE | | ANDREW | SBNHH-ID65B | 120 | 123 | 100(D1) 190(D2) 280(D3) | false | false | PHYSICAL | 6 |
| | | | | 5G | Samsung | MT6-407-77A | 120 | 121.5 | 100(D197) 190(D198) 280(D199) | false | false | PHYSICAL | 3 |
| Removed | | | | | | | | | | | | | |
| 700 | 850 | 1900 | AWS | L-Sub6 | Make | Model | Centerline | Tip Height | Azimuth | RET <td>4xRx</td> <td>Inst. Type</td> <td>Quantity</td> | 4xRx | Inst. Type | Quantity |
| | | | LTE | | ANDREW | HBXX-6517DS-A2M | 120 | 123.1 | 100(D1) 190(D2) 280(D3) | false | false | PHYSICAL | 6 |
| | CDMA | | | | ANTEL | LPA-80063/6CF 2 (178374) | 120 | 123 | 100(D1) 280(D3) | false | false | PHYSICAL | 4 |
| | CDMA | | | | SWEDCOM | SCE6016REV2 (201108) | 120 | 123.6 | 190(D2) | false | false | PHYSICAL | 2 |
| Retained | | | | | | | | | | | | | |
| 700 | 850 | 1900 | AWS | L-Sub6 | Make | Model | Centerline | Tip Height | Azimuth | RET <td>4xRx</td> <td>Inst. Type</td> <td>Quantity</td> | 4xRx | Inst. Type | Quantity |
| | CDMA | | | | ANDREW | LNX-6514DS-A1M | 120 | 123 | 100(D1) 190(D2) 280(D3) | false | false | PHYSICAL | 3 |

Added: 9 Removed: 12 Retained: 3

Equipment Summary

Added

| Equipment Type | Location | 700 | 850 | 1900 | AWS | L-Sub6 | Make | Model | Cable Length | Cable Size | Install Type | Quantity |
|----------------|----------|-----|-----|------|-----|-----------|--------------------------------|-------|--------------|------------|--------------|----------|
| Mount | Tower | | | | | Commscope | BSAMNT-SBS-2-2 | | | | PHYSICAL | 3 |
| OVP Box | Tower | | | | | N/A | 6 circuit | | | | PHYSICAL | 2 |
| Hybrid Cable | Tower | | | | | N/A | 6x12 | | | | PHYSICAL | 2 |
| RRU | Tower | | LTE | LTE | LTE | Samsung | B2/B66A RRH-BR049 (RFV01U-D1A) | | | | PHYSICAL | 3 |
| RRU | Tower | LTE | LTE | | | Samsung | B5/B13 RRH-BR04C (RFV01U-D2A) | | | | PHYSICAL | 3 |
| RRU | Tower | | | | | 5G | MT6407-77A | | | | PHYSICAL | 3 |

Removed

| Equipment Type | Location | 700 | 850 | 1900 | AWS | L-Sub6 | Make | Model | Cable Length | Cable Size | Install Type | Quantity |
|----------------|----------|-----|-----|------|-----|--------|---------------------|-------|--------------|------------|--------------|----------|
| Hybrid Cable | Tower | | | | | N/A | N/A | | | | PHYSICAL | 2 |
| OVP Box | Tower | | | | | N/A | N/A | | | | PHYSICAL | 2 |
| RRU | Tower | LTE | | | | Nokia | UHBC B13 TRDU 2x40 | | | | PHYSICAL | 3 |
| RRU | Tower | | | | LTE | Nokia | UHIC B4 RRH 2x60-4R | | | | PHYSICAL | 3 |

Retained

| Equipment Type | Location | 700 | 850 | 1900 | AWS | L-Sub6 | Make | Model | Cable Length | Cable Size | Install Type | Quantity |
|--------------------|----------|-----|-----|------|-----|--------|------|-------|--------------|------------|--------------|----------|
| No data available. | | | | | | | | | | | | |

Service Info

700 MHz LTE

| | | 0000 | | SGLS | |
|----------------------------|--------------------|--------------------|--------------------|-------------------------------|-------------------------------|
| Sector | DI | D2 | D3 | O1 | O2 |
| Azimuth | 100 | 190 | 280 | 100 | 190 |
| Cell / ENode B ID | 064596 | 064596 | 064596 | 064596 | 064596 |
| Antenna Model | LNX-6514DS-A1M | LNX-6514DS-A1M | LNX-6514DS-A1M | SBNHH-ID65B | SBNHH-ID65B |
| Antenna Make | ANDREW | ANDREW | ANDREW | ANDREW | ANDREW |
| Antenna Centerline(Ft) | 120 | 120 | 120 | 120 | 120 |
| Mechanical Down-Tilt(Deg.) | 0 | 0 | 0 | 0 | 0 |
| Electrical Down-Tilt | 4 | 4 | 4 | 4 | 4 |
| Tip Height | 123 | 123 | 123 | 123 | 123 |
| Regulatory Power | 70.33 | 70.33 | 70.33 | 77.46 | 77.46 |
| DLEARFCN | 5230 | 5230 | 5230 | 5230 | 5230 |
| Channel Bandwidth(MHz) | 10 | 10 | 10 | 10 | 10 |
| Total ERP (W) | 632.99 | 632.99 | 632.99 | 697.11 | 697.11 |
| TMA Make | | | | | |
| TMA Model | | | | | |
| RRU Model | Nokia | Nokia | Nokia | Samsung | Samsung |
| RRU Model | UHBC B13 TRDU 2x40 | UHBC B13 TRDU 2x40 | UHBC B13 TRDU 2x40 | B5/B13 RRH-BR04C (RFV01U-D2A) | B5/B13 RRH-BR04C (RFV01U-D2A) |
| Number of Tx, Rx Lines | 2,2 | 2,2 | 2,2 | 2,2 | 2,2 |
| Position | | | | | |
| Donor TX ID | null | null | null | null | null |
| Transmitter Id | 1952543 | 1952556 | 1952558 | 7841937 | 7841940 |
| Source | ATOLL_API | ATOLL_API | ATOLL_API | ATOLL_API | ATOLL_API |

850 MHz LTE

| | | 01 | | 02 | |
|----------------------------|--|-------------|-------------|-------------|-------------|
| Sector | | 100 | 190 | 120 | 120 |
| Azimuth | | 100 | 190 | 120 | 120 |
| Cell / ENode B ID | | 064596 | 064596 | 064596 | 064596 |
| Antenna Model | | SBNHH-ID65B | SBNHH-ID65B | SBNHH-ID65B | SBNHH-ID65B |
| Antenna Make | | ANDREW | ANDREW | ANDREW | ANDREW |
| Antenna Centerline(Ft) | | 120 | 120 | 120 | 120 |
| Mechanical Down-Tilt(Deg.) | | 0 | 0 | 0 | 0 |
| Electrical Down-Tilt | | 8 | 8 | 8 | 8 |
| Tip Height | | 123 | 123 | 123 | 123 |
| Regulatory Power | | 73.03 | 73.03 | 73.03 | 73.03 |
| DLEARFCN | | 2450 | 2450 | 2450 | 2450 |
| Channel Bandwidth(MHz) | | 10 | 10 | 10 | 10 |
| Total ERP (W) | | 328.62 | 328.62 | 328.62 | 328.62 |
| TMA Make | | | | | |
| TMA Model | | | | | |
| RRU Model | | | | | |
| RRU Model | | | | | |
| Number of Tx, Rx Lines | | | | | |
| Position | | | | | |
| Donor TX ID | | | | | |
| Transmitter Id | | | | | |
| Source | | | | | |

850 MHz CDMA

| | | 01 | | 02 | |
|----------------------------|--|-----------|-----------|-----------|-----------|
| Sector | | 100 | 190 | 120 | 120 |
| Azimuth | | 100 | 190 | 120 | 120 |
| Cell / ENode B ID | | 9224041 | 9224042 | 9224043 | 9224043 |
| Antenna Model | | ATOLL_API | ATOLL_API | ATOLL_API | ATOLL_API |
| Antenna Make | | | | | |
| Antenna Centerline(Ft) | | | | | |
| Mechanical Down-Tilt(Deg.) | | | | | |
| Electrical Down-Tilt | | | | | |
| Tip Height | | | | | |
| Regulatory Power | | | | | |
| DLEARFCN | | | | | |
| Channel Bandwidth(MHz) | | | | | |
| Total ERP (W) | | | | | |
| TMA Make | | | | | |
| TMA Model | | | | | |
| RRU Model | | | | | |
| RRU Model | | | | | |
| Number of Tx, Rx Lines | | | | | |
| Position | | | | | |
| Donor TX ID | | | | | |
| Transmitter Id | | | | | |
| Source | | | | | |

1900.MHZ.LTE

| | | | |
|----------------------------|-------------|-------------|-------------|
| Sector | 01 | 02 | 03 |
| Azimuth | 100 | 190 | 280 |
| Cell / ENode B ID | 064596 | 064596 | 064596 |
| Antenna Model | SBNHH-1D65B | SBNHH-1D65B | SBNHH-1D65B |
| Antenna Make | ANDREW | ANDREW | ANDREW |
| Antenna Centerline(Ft) | 120 | 120 | 120 |
| Mechanical Down-Tilt(Deg.) | 0 | 0 | 0 |
| Electrical Down-Tilt | 2 | 2 | 2 |
| Tip Height | 123 | 123 | 123 |
| Regulatory Power | 178.31 | 178.31 | 178.31 |
| DLEARFCN | 1075 | 1075 | 1075 |
| Channel Bandwidth(MHz) | 15 | 15 | 15 |
| Total ERP (W) | 1467.24 | 1467.24 | 1467.24 |
| TMA Make | | | |
| TMA Model | | | |
| RRU Make | | | |
| RRU Model | | | |
| Number of Tx, Rx Lines | | | |
| Position | | | |
| Donor TX ID | | | |
| Transmitter Id | | | |
| Source | | | |

| | | | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Samsung | Samsung | Samsung | Samsung |
| B2/B66A RRH-BR049 (RFV01U-D1A) | B2/B66A RRH-BR049 (RFV01U-D1A) | B2/B66A RRH-BR049 (RFV01U-D1A) | B2/B66A RRH-BR049 (RFV01U-D1A) |
| 2.4 | 2.4 | 2.4 | 2.4 |
| null | null | null | null |
| 9224044 | 9224045 | 9224046 | 9224046 |
| ATOLL_API | ATOLL_API | ATOLL_API | ATOLL_API |

2100.MHZ.LTE

| | | | |
|----------------------------|-------------|-------------|-------------|
| Sector | 01 | 02 | 03 |
| Azimuth | 100 | 190 | 280 |
| Cell / ENode B ID | 064596 | 064596 | 064596 |
| Antenna Model | SBNHH-1D65B | SBNHH-1D65B | SBNHH-1D65B |
| Antenna Make | ANDREW | ANDREW | ANDREW |
| Antenna Centerline(Ft) | 120 | 120 | 120 |
| Mechanical Down-Tilt(Deg.) | 0 | 0 | 0 |
| Electrical Down-Tilt | 4 | 2 | 2 |
| Tip Height | 123.1 | 123 | 123 |
| Regulatory Power | 262.14 | 257.65 | 150.91 |
| DLEARFCN | 2050 | 2050 | 2050 |
| Channel Bandwidth(MHz) | 20 | 20 | 20 |
| Total ERP (W) | 2876.07 | 1655.77 | 1655.77 |
| TMA Make | | | |
| TMA Model | | | |
| RRU Make | | | |
| RRU Model | | | |
| Number of Tx, Rx Lines | | | |
| Position | | | |
| Donor TX ID | | | |
| Transmitter Id | | | |
| Source | | | |

| | | | |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Samsung | Samsung | Samsung | Samsung |
| B2/B66A RRH-BR049 (RFV01U-D1A) | B2/B66A RRH-BR049 (RFV01U-D1A) | B2/B66A RRH-BR049 (RFV01U-D1A) | B2/B66A RRH-BR049 (RFV01U-D1A) |
| 2.4 | 2.4 | 2.4 | 2.4 |
| null | null | null | null |
| 7841941 | 7841943 | 7841945 | 7841945 |
| ATOLL_API | ATOLL_API | ATOLL_API | ATOLL_API |

nL-Sub6

| | | | |
|----------------------------|---------------------|---------------------|---------------------|
| Sector | D3 | D3 | D3 |
| Azimuth | 280 | 280 | 280 |
| Cell / ENode B ID | 064596 | 064596 | 064596 |
| Antenna Model | HBXX-6517DS-A2M | HBXX-6517DS-A2M | HBXX-6517DS-A2M |
| Antenna Make | ANDREW | ANDREW | ANDREW |
| Antenna Centerline(Ft) | 120 | 120 | 120 |
| Mechanical Down-Tilt(Deg.) | 0 | 0 | 0 |
| Electrical Down-Tilt | 3 | 1 | 1 |
| Tip Height | 123.1 | 123.1 | 123.1 |
| Regulatory Power | 263.59 | 257.65 | 150.91 |
| DLEARFCN | 2050 | 2050 | 2050 |
| Channel Bandwidth(MHz) | 20 | 20 | 20 |
| Total ERP (W) | 2892.01 | 2826.83 | 1655.77 |
| TMA Make | | | |
| TMA Model | | | |
| RRU Make | Nokia | Nokia | Nokia |
| RRU Model | UHIC B4 RRH 2X60-4R | UHIC B4 RRH 2X60-4R | UHIC B4 RRH 2X60-4R |
| Number of Tx, Rx Lines | 2,2 | 2,2 | 2,2 |
| Position | | | |
| Donor TX ID | null | null | null |
| Transmitter Id | 1963771 | 1963772 | 1963772 |
| Source | ATOLL_API | ATOLL_API | ATOLL_API |
| Sector | | | |
| Azimuth | | | |
| Cell / ENode B ID | | | |
| Antenna Model | | | |
| Antenna Make | | | |
| Antenna Centerline(Ft) | | | |
| Mechanical Down-Tilt(Deg.) | | | |
| Electrical Down-Tilt | | | |
| Tip Height | | | |
| Regulatory Power | | | |
| DLEARFCN | | | |
| Channel Bandwidth(MHz) | | | |
| Total ERP (W) | | | |
| TMA Make | | | |
| TMA Model | | | |
| RRU Make | | | |
| RRU Model | | | |
| Number of Tx, Rx Lines | | | |
| Position | | | |
| Donor TX ID | | | |

Transmitter Id
Source

SGLS

| | | |
|-------------|-------------|-------------|
| 0197 | 0198 | 0199 |
| 100 | 190 | 280 |
| 0649403 | 0649403 | 0649403 |
| MT6407-77A | MT6407-77A | MT6407-77A |
| Samsung | Samsung | Samsung |
| 120 | 120 | 120 |
| 0 | 0 | 0 |
| 6 | 6 | 6 |
| 121.5 | 121.5 | 121.5 |
| 751.94 | 751.94 | 751.94 |
| 648672 | 648672 | 648672 |
| 60 | 60 | 60 |
| 6531.31 | 6531.31 | 6531.31 |

| | | |
|------------|------------|------------|
| Samsung | Samsung | Samsung |
| MT6407-77A | MT6407-77A | MT6407-77A |
| 4,4 | 4,4 | 4,4 |

| | | |
|-----------|-----------|-----------|
| null | null | null |
| 7842001 | 7842003 | 7842005 |
| ATOLL_API | ATOLL_API | ATOLL_API |

Service Comments

Callsigns Per Antenna

| Sector | Antenna Me | Antenna Mc | Ant CL Height AGL | Tip Height | Azimuth (TT) | Electrical Tilt | Mechanical Tilt | Gain | Beamwidth | Regulatory Power | Callsigns | 2100 | 28 GHz | 31 GHz | 39 GHz | | |
|--------|------------|------------|----------------------|------------|--------------|--------------------|--------------------|------|-----------|---------------------|-----------|------|--------|--------|--------|--------|--------|
| | | | | | | | | | | | 700 | 850 | 1900 | 2100 | 28 GHz | 31 GHz | 39 GHz |

No data available.

Callsigns

| Callsign | Market | Radio Code | Market Number | Block | State | County | Licensee Name | Wholly Owned | Total MHz | Freq Range 1 | Freq Range 2 | Freq Range 3 | Freq Range 4 | Regulatory Power | Threshold (W) | POPs/Sq Mi | Status | Action | Approved for Insvc |
|----------|--|------------|---------------|-------|-------|------------|-----------------------|--------------|-----------|---------------------|-------------------|-----------------|-----------------|------------------|---------------|------------|--------|--------|--------------------|
| WQJQ689 | Northeast | WU | REA001 | C | CT | New London | Celco Partnership | Yes | 22.000 | 746.000-757.000 | 776.000-787.000 | .000-.000 | .000-.000 | 77.46 | 1000 | 412.19 | Active | added | Yes |
| KNKA745 | New London-Norwich, CT | CL | CMA154 | A | CT | New London | Celco Partnership | Yes | 25.000 | 824.000-835.000 | 869.000-880.000 | 845.000-846.500 | 890.000-891.500 | 423.55 | 500 | 412.19 | Active | added | Yes |
| WQEM954 | New London-Norwich, CT | CW | BTA319 | C | CT | New London | Celco Partnership | Yes | 10.000 | 1895.000-1900.000 | 1975.000-1980.000 | .000-.000 | .000-.000 | 178.31 | 1640 | 412.19 | Active | added | Yes |
| WQDU931 | New London-Norwich, CT | CW | BTA319 | C | CT | New London | Celco Partnership | Yes | 10.000 | 1900.000-1905.000 | 1980.000-1985.000 | .000-.000 | .000-.000 | 178.31 | 1640 | 412.19 | Active | added | Yes |
| KNLH263 | New London-Norwich, CT | CW | BTA319 | F | CT | New London | Celco Partnership | Yes | 10.000 | 1890.000-1895.000 | 1970.000-1975.000 | .000-.000 | .000-.000 | 178.31 | 1640 | 412.19 | Active | added | Yes |
| WQGD494 | New London-Norwich, CT | AW | CMA154 | A | CT | New London | Celco Partnership | Yes | 20.000 | 1710.000-1720.000 | 2110.000-2120.000 | .000-.000 | .000-.000 | 150.91 | 1640 | 412.19 | Active | added | Yes |
| WQGA906 | New York-No. New Jer.-Long Island, NY-NJ-CT-PA-MA- | AW | BEA010 | B | CT | New London | Celco Partnership | Yes | 20.000 | 1720.000-1730.000 | 2120.000-2130.000 | .000-.000 | .000-.000 | 150.91 | 1640 | 412.19 | Active | added | Yes |
| WREE835 | C09011 - New London, CT | UU | C09011 | L1 | CT | New London | Celco Partnership | Yes | 425.000 | 2750.000-27525.000 | .000-.000 | .000-.000 | .000-.000 | | | 412.19 | Active | | Yes |
| WREE836 | C09011 - New London, CT | UU | C09011 | L2 | CT | New London | Celco Partnership | Yes | 425.000 | 27525.000-28350.000 | .000-.000 | .000-.000 | .000-.000 | | | 412.19 | Active | | Yes |
| WRHD609 | New York, NY | UU | PEA001 | M1 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 3750.000-37700.000 | .000-.000 | .000-.000 | .000-.000 | | | 412.19 | Active | | Yes |
| WRHD610 | New York, NY | UU | PEA001 | M10 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 38500.000-38800.000 | .000-.000 | .000-.000 | .000-.000 | | | 412.19 | Active | | Yes |
| WRHD611 | New York, NY | UU | PEA001 | M2 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 37700.000-37800.000 | .000-.000 | .000-.000 | .000-.000 | | | 412.19 | Active | | Yes |

| | | | | | | | | | | | | | | | | |
|---------|--------------|----|--------|----|----|------------|-----------------------|-----|---------|---------------------|-----------|-----------|-----------|--------|--------|-----|
| WRHD612 | New York, NY | UU | PEA001 | M3 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 37800.000-37800.000 | .000-.000 | .000-.000 | .000-.000 | 412.19 | Active | Yes |
| WRHD613 | New York, NY | UU | PEA001 | M4 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 37900.000-38000.000 | .000-.000 | .000-.000 | .000-.000 | 412.19 | Active | Yes |
| WRHD614 | New York, NY | UU | PEA001 | M5 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 38000.000-38100.000 | .000-.000 | .000-.000 | .000-.000 | 412.19 | Active | Yes |
| WRHD615 | New York, NY | UU | PEA001 | M6 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 38100.000-38200.000 | .000-.000 | .000-.000 | .000-.000 | 412.19 | Active | Yes |
| WRHD616 | New York, NY | UU | PEA001 | M7 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 38200.000-38300.000 | .000-.000 | .000-.000 | .000-.000 | 412.19 | Active | Yes |
| WRHD617 | New York, NY | UU | PEA001 | M8 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 38300.000-38400.000 | .000-.000 | .000-.000 | .000-.000 | 412.19 | Active | Yes |
| WRHD618 | New York, NY | UU | PEA001 | M9 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 38400.000-38500.000 | .000-.000 | .000-.000 | .000-.000 | 412.19 | Active | Yes |
| WRHD619 | New York, NY | UU | PEA001 | N1 | CT | New London | Straight Path um, LLC | Yes | 100.000 | 38500.000-37700.000 | .000-.000 | .000-.000 | .000-.000 | 412.19 | Active | No |



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New/Replacement Antenna Mount Analysis Report and PMI Requirements

Mount Analysis-R

SMART Tool Project #: 10091170
Maser Consulting Connecticut Project #: 20777366A (Rev. 2)

August 6, 2021

Site Information

Site ID: 468018-VZW / Lebanon CT
Site Name: Lebanon CT
Carrier Name: Verizon Wireless
Address: 236 Gates Road
Lebanon, Connecticut 06249
New London County
Latitude: 41.683056°
Longitude: -72.216389°

Structure Information

Tower Type: 120.00-Ft Guyed
Mount Type: 12.50-Ft Sector Frame

FUZE ID # 16244191

Analysis Results

Sector Frame: **81.4% 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 may also be Noted on A & E drawings**

Report Prepared By: Frank Centone



Digitally signed by Derek Hartzel
Date: 2021.08.06 15:47:58-07'00

Executive Summary:

The objective of this report is to determine the capacity of the proposed antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. The proposed mount was assumed to be installed properly to the existing tower per the manufacturer’s instructions. Maser Consulting cannot verify that the proposed mount will fit properly and is not liable for any fit-up issues during installation.

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 |
|--|--|
| <i>Radio Frequency Data Sheet (RFDS)</i> | <i>Verizon RFDS Site ID: 630286, dated July 22, 2021</i> |
| <i>Previous Mount Analysis</i> | <i>Maser Consulting Project #: 20777366A (Rev. 2), dated July 27, 2021</i> |
| <i>Mount Specification Drawing</i> | <i>Site Pro 1, Part #: VFA12-HD</i> |

Analysis Criteria:

| | |
|-------------------------|---|
| Codes and Standards: | ANSI/TIA-222-H |
| Wind Parameters: | Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 121 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 : 0.977 |
| Seismic Parameters: | S_s : 0.193 S_1 : 0.055 |
| 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 mounts:

| Mount Elevation (ft) | Equipment Elevation (ft) | Quantity | Manufacturer | Model | Status |
|----------------------|--------------------------|----------|--------------|-------------------|----------|
| 118.40 | 120.00 | 2 | RFS | DB-B1-6C-12AB-0Z | Added |
| | | 6 | Andrew | SBNHH-1D65B | |
| | | 3 | Samsung | MT6407-77A | |
| | | 3 | Samsung | B2/B66A RRH-BR049 | |
| | | 3 | Samsung | B5/B13 RRH-BR04C | |
| | | 3 | Commscope | LNx-6514DS-A1M | Retained |

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

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

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to 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 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.
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:
- Channel, Solid Round, Angle, Plate ASTM A36 (Gr. 36)
 - HSS (Rectangular) ASTM 500 (Gr. B-46)
 - Pipe ASTM A53 (Gr. B-35)
 - Threaded Rod F1554 (Gr. 36)
 - Bolts ASTM A325

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 |
|---------------------|---------------|-----------|
| Face Horizontal | 81.4 % | Pass |
| Standoff Plate | 43.8 % | Pass |
| Standoff Horizontal | 21.1 % | Pass |
| Standoff Diagonal | 9.2 % | Pass |
| Tieback | 4.9 % | Pass |
| Antenna Pipe | 51.7 % | Pass |
| Dual Mount Pipe | 16.9 % | Pass |
| Standoff Vertical | 17.6 % | Pass |
| Mount Connection | 11.7% | Pass |

| | |
|---|--------------|
| Structure Rating – (Controlling Utilization of all Components) | 81.4% |
|---|--------------|

Recommendation:

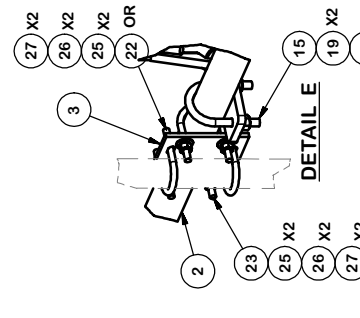
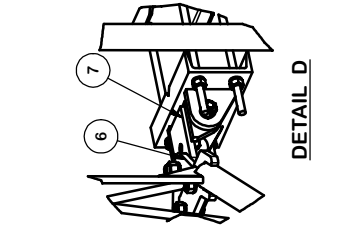
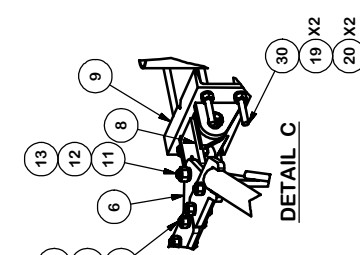
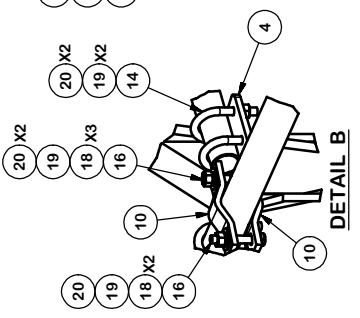
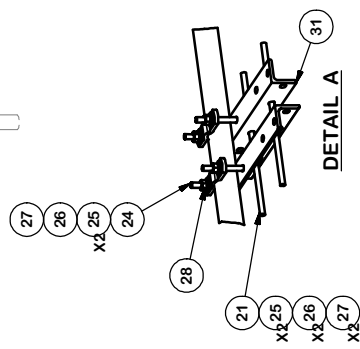
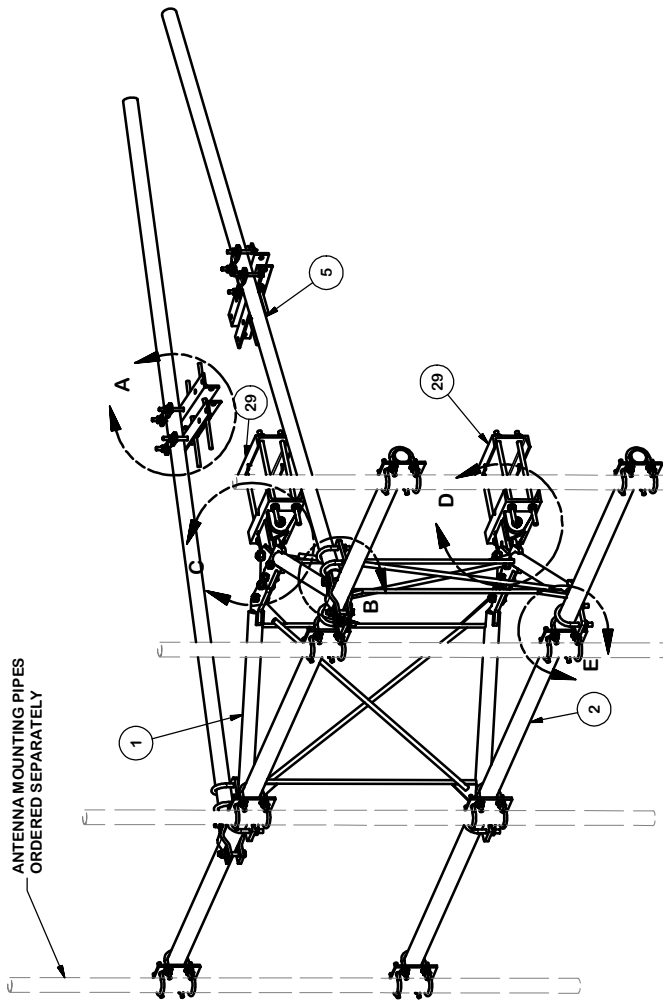
The proposed antenna mounts are **SUFFICIENT** for the final loading configuration and do not require modifications.

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

Attachments:

1. Mount Specification Drawing
2. Analysis Calculations
- 3. Contractor Required Post Installation Inspection (PMI) Report Deliverables**
4. Antenna Placement Diagrams
5. TIA Adoption and Wind Speed Usage Letter

ANTENNA MOUNTING PIPES
ORDERED SEPARATELY



| ITEM | QTY | PART NO. | PART DESCRIPTION | LENGTH | UNIT WT. | NET WT. |
|------|-----|----------|--|-----------|-------------|---------|
| 1 | 2 | X-VFAW | SUPPORT ARM | 150 in | 66.80 | 133.59 |
| 2 | 2 | P30150 | 2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE | 7 in | 76.94 | 153.87 |
| 3 | 8 | SCX2 | CROSSOVER PLATE | 5 1/2 in | 4.80 | 38.37 |
| 4 | 2 | X-SPTB | SLIDING PIPE TIE BACK PLATE | 126 in | 5.87 | 11.74 |
| 5 | 2 | P2126 | 2-3/8" OD X 126" SCH 40 GALVANIZED PIPE | 24 in | 40.75 | 81.50 |
| 6 | 2 | X-VFAPL3 | VFA-HD PIVOT PLATE | | 9.69 | 19.38 |
| 7 | 1 | X-LPB | LOWER PIVOT BRACKET | | 8.84 | 8.84 |
| 8 | 1 | X-UPB | UPPER PIVOT BRACKET | | 8.84 | 8.84 |
| 9 | 2 | X-HDPMW | HEAVY DUTY PIPE MOUNT WELDMENT | 8 1/8 in | 18.61 | 37.21 |
| 10 | 4 | DCP | 1/2" THICK, 5-3/4" CENTER TO CENTER CLAMP HALF | 2 1/2 in | 2.42 | 9.68 |
| 11 | 6 | A34212 | 3/4" X 2-1/2" UNC HEX BOLT (A325) | | 0.48 | 2.87 |
| 12 | 6 | G34LW | 3/4" HDG LOCKWASHER | | 0.04 | 0.26 |
| 13 | 6 | G34NUT | 3/4" HDG HEAVY 2H HEX NUT | | 0.21 | 1.27 |
| 14 | 4 | X-UB5258 | 5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.) | | 1.00 | 4.00 |
| 15 | 4 | X-UB5300 | 5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.) | | 1.15 | 4.60 |
| 16 | 4 | G5804 | 5/8" X 4" HDG HEX BOLT GR5 | | 0.44 | 1.78 |
| 17 | 8 | A582114 | 5/8" X 2-1/4" HDG A325 HEX BOLT | 2 1/4 in | 0.31 | 2.50 |
| 18 | 10 | G58FW | 5/8" HDG USS FLATWASHER | 1 1/8 in | 0.07 | 0.70 |
| 19 | 44 | G58LW | 5/8" HDG LOCKWASHER | | 0.03 | 1.15 |
| 20 | 46 | G58NUT | 5/8" HDG HEAVY 2H HEX NUT | | 0.13 | 5.98 |
| 21 | 4 | G12R-15 | 1/2" X 15" THREADED ROD (HDG.) | | 0.40 | 1.60 |
| 22 | 16 | X-UB1212 | 1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.) | | 0.28 | 4.11 |
| 23 | 32 | X-UB1300 | 1/2" X 3" X 5" X 2" GALV U-BOLT | | 0.74 | 23.64 |
| 24 | 8 | G12045 | 1/2" X 4.5" HDG HEX BOLT GR5 FULL THREAD | 4 1/2 in | 0.30 | 2.38 |
| 25 | 88 | G12FW | 1/2" HDG USS FLATWASHER | 3/32 in | 0.03 | 3.00 |
| 26 | 80 | G12LW | 1/2" HDG LOCKWASHER | 1 1/8 in | 0.01 | 1.11 |
| 27 | 80 | G12NUT | 1/2" HDG HEAVY 2H HEX NUT | | 0.07 | 5.73 |
| 28 | 4 | X-100064 | CLAMP (4" V-CLAMP) GALVANIZED | | 0.91 | 3.65 |
| 29 | 2 | X-HDPMBP | HEAVY DUTY PIPE MOUNT BACKING PLATE | 12 in | 13.44 | 26.89 |
| 30 | 8 | G58R-18 | 5/8" X 18" THREADED ROD (HDG.) | 18 in | 0.40 | 3.19 |
| 31 | 4 | X-LLTB | ANGLE BRACKET FOR LLTB | 16 1/2 in | 7.06 | 28.25 |
| | | | | | TOTAL WT. # | 648.71 |

SITE PRO
A Valmont COMPANY

Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Tomball, TX
Dallas, TX

Engineering
Support Team:
1-888-53-7446

PART NO. **VFA12-HD**
DWG. NO. **VFA12-HD**

DESCRIPTION
12'-6" HEAVY DUTY V-FRAME ASSEMBLY WITH TWO STIFF ARMS

DRAWN BY **CEK** 6/1/2015
ENG. APPROVAL

CHECKED BY **BMC** 2/2/2017
CUSTOMER

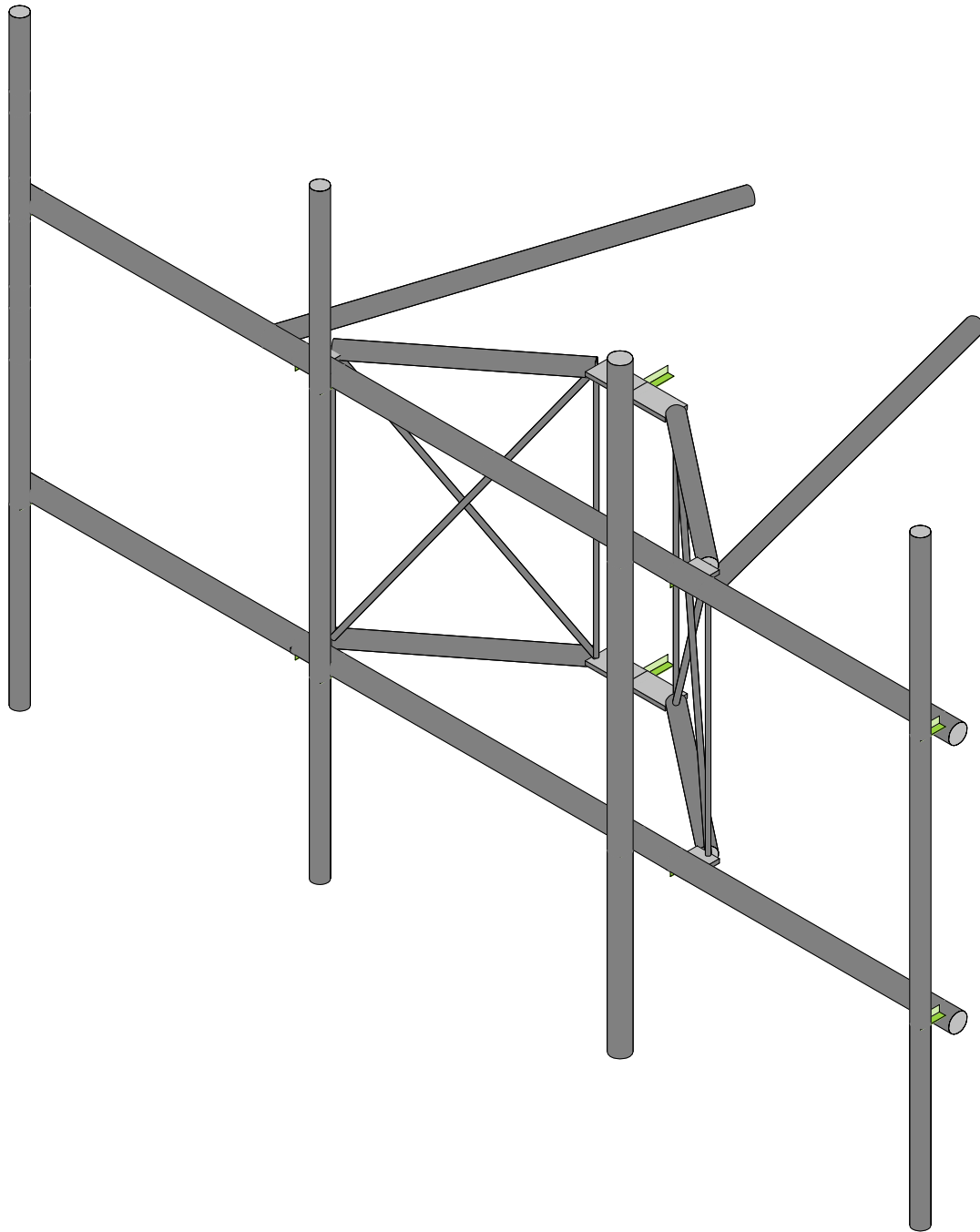
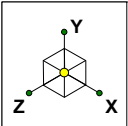
CPD NO. **81** SUB **02**

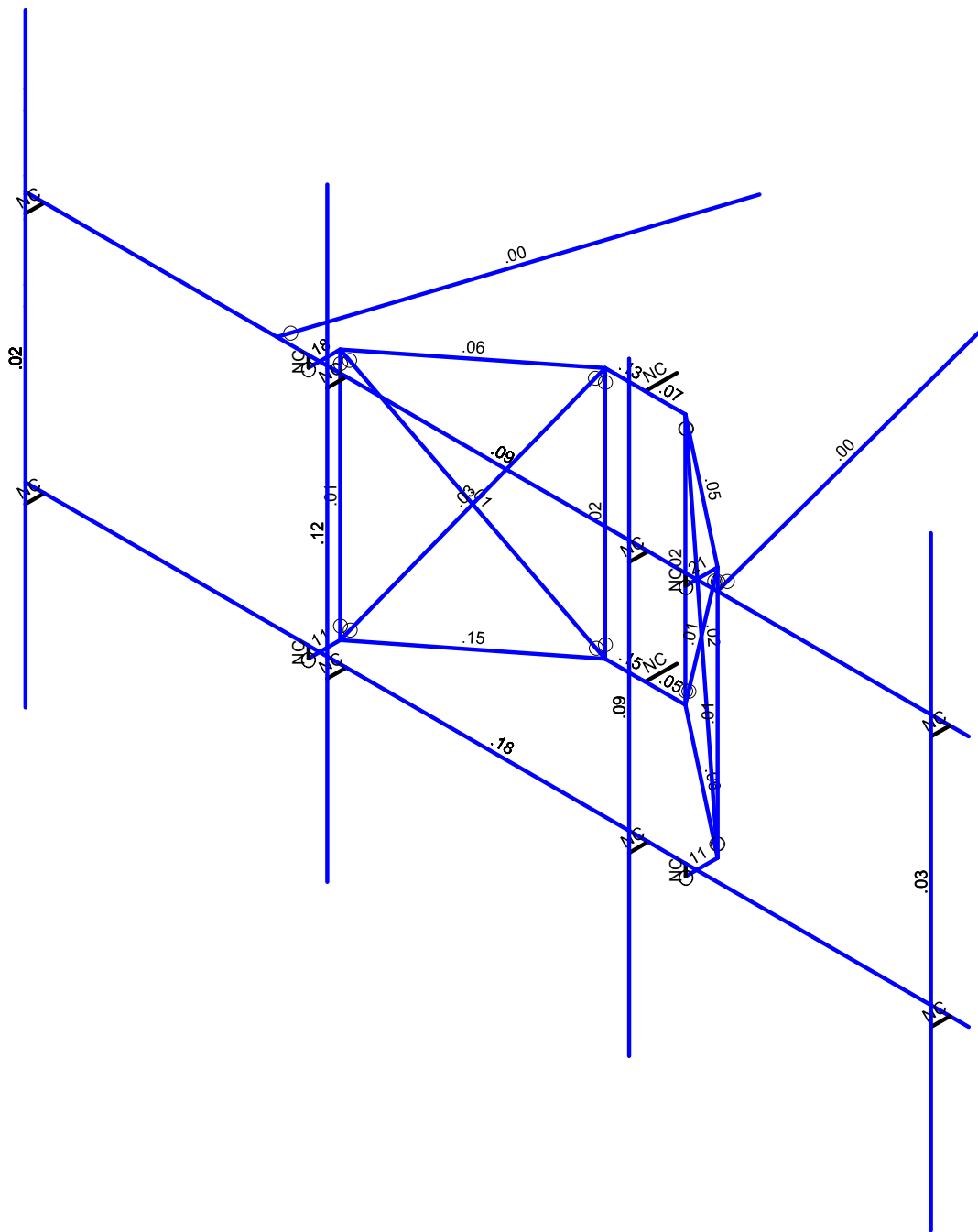
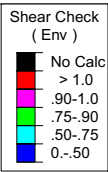
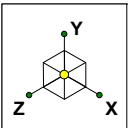
TOLERANCE NOTES
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
BENDS ARE $\pm 1/2$ DEGREE
ALL OTHER MACHINING ($\pm 0.030"$)
ALL OTHER ASSEMBLY ($\pm 0.060"$)

PROPRIETARY NOTE: THE INFORMATION CONTAINED IN THIS DRAWING IS PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

| REV | DESCRIPTION OF REVISIONS | CPD | BY | DATE |
|-----|-----------------------------------|-----|----------|------|
| A | CHANGED TIE-BACK FRONT CONNECTION | CEK | 2/2/2017 | |

REVISION HISTORY





Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.0Wo (0 Deg)

| | | |
|------------------|-----------------------------|------------------------------|
| Maser Consulting | 468018-VZW_MT_LOT_SectorA_H | SK - 3 |
| | | Aug 4, 2021 at 1:08 PM |
| | | 468018-VZW_MT_LOT_A_H_VFA... |



Basic Load Cases

| | BLC Description | Category | X Gravity | Y Gravity | Z Gravity | Joint | Point | Distributed Area(Me... | Surface(P... |
|----|------------------------|----------|-----------|-----------|-----------|-------|-------|------------------------|--------------|
| 1 | Antenna D | None | | | | | 33 | | |
| 2 | Antenna Di | None | | | | | 33 | | |
| 3 | Antenna Wo (0 Deg) | None | | | | | 33 | | |
| 4 | Antenna Wo (30 Deg) | None | | | | | 33 | | |
| 5 | Antenna Wo (60 Deg) | None | | | | | 33 | | |
| 6 | Antenna Wo (90 Deg) | None | | | | | 33 | | |
| 7 | Antenna Wo (120 Deg) | None | | | | | 33 | | |
| 8 | Antenna Wo (150 Deg) | None | | | | | 33 | | |
| 9 | Antenna Wo (180 Deg) | None | | | | | 33 | | |
| 10 | Antenna Wo (210 Deg) | None | | | | | 33 | | |
| 11 | Antenna Wo (240 Deg) | None | | | | | 33 | | |
| 12 | Antenna Wo (270 Deg) | None | | | | | 33 | | |
| 13 | Antenna Wo (300 Deg) | None | | | | | 33 | | |
| 14 | Antenna Wo (330 Deg) | None | | | | | 33 | | |
| 15 | Antenna Wi (0 Deg) | None | | | | | 33 | | |
| 16 | Antenna Wi (30 Deg) | None | | | | | 33 | | |
| 17 | Antenna Wi (60 Deg) | None | | | | | 33 | | |
| 18 | Antenna Wi (90 Deg) | None | | | | | 33 | | |
| 19 | Antenna Wi (120 Deg) | None | | | | | 33 | | |
| 20 | Antenna Wi (150 Deg) | None | | | | | 33 | | |
| 21 | Antenna Wi (180 Deg) | None | | | | | 33 | | |
| 22 | Antenna Wi (210 Deg) | None | | | | | 33 | | |
| 23 | Antenna Wi (240 Deg) | None | | | | | 33 | | |
| 24 | Antenna Wi (270 Deg) | None | | | | | 33 | | |
| 25 | Antenna Wi (300 Deg) | None | | | | | 33 | | |
| 26 | Antenna Wi (330 Deg) | None | | | | | 33 | | |
| 27 | Antenna Wm (0 Deg) | None | | | | | 33 | | |
| 28 | Antenna Wm (30 Deg) | None | | | | | 33 | | |
| 29 | Antenna Wm (60 Deg) | None | | | | | 33 | | |
| 30 | Antenna Wm (90 Deg) | None | | | | | 33 | | |
| 31 | Antenna Wm (120 Deg) | None | | | | | 33 | | |
| 32 | Antenna Wm (150 Deg) | None | | | | | 33 | | |
| 33 | Antenna Wm (180 Deg) | None | | | | | 33 | | |
| 34 | Antenna Wm (210 Deg) | None | | | | | 33 | | |
| 35 | Antenna Wm (240 Deg) | None | | | | | 33 | | |
| 36 | Antenna Wm (270 Deg) | None | | | | | 33 | | |
| 37 | Antenna Wm (300 Deg) | None | | | | | 33 | | |
| 38 | Antenna Wm (330 Deg) | None | | | | | 33 | | |
| 39 | Structure D | None | | -1 | | | | | |
| 40 | Structure Di | None | | | | | | 28 | |
| 41 | Structure Wo (0 Deg) | None | | | | | | 56 | |
| 42 | Structure Wo (30 Deg) | None | | | | | | 56 | |
| 43 | Structure Wo (60 Deg) | None | | | | | | 56 | |
| 44 | Structure Wo (90 Deg) | None | | | | | | 56 | |
| 45 | Structure Wo (120 D... | None | | | | | | 56 | |
| 46 | Structure Wo (150 D... | None | | | | | | 56 | |
| 47 | Structure Wo (180 D... | None | | | | | | 56 | |
| 48 | Structure Wo (210 D... | None | | | | | | 56 | |
| 49 | Structure Wo (240 D... | None | | | | | | 56 | |
| 50 | Structure Wo (270 D... | None | | | | | | 56 | |
| 51 | Structure Wo (300 D... | None | | | | | | 56 | |
| 52 | Structure Wo (330 D... | None | | | | | | 56 | |
| 53 | Structure Wi (0 Deg) | None | | | | | | 56 | |
| 54 | Structure Wi (30 Deg) | None | | | | | | 56 | |
| 55 | Structure Wi (60 Deg) | None | | | | | | 56 | |
| 56 | Structure Wi (90 Deg) | None | | | | | | 56 | |



Basic Load Cases (Continued)

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

Load Combinations

| | Description | So... | P... | S... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... |
|----|---------------------|-------|------|------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1 | 1.2D+1.0Wo (0 ... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 3 | 1 | 41 | 1 | | |
| 2 | 1.2D+1.0Wo (30... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 4 | 1 | 42 | 1 | | |
| 3 | 1.2D+1.0Wo (60... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 5 | 1 | 43 | 1 | | |
| 4 | 1.2D+1.0Wo (90... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 6 | 1 | 44 | 1 | | |
| 5 | 1.2D+1.0Wo (12... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 7 | 1 | 45 | 1 | | |
| 6 | 1.2D+1.0Wo (15... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 8 | 1 | 46 | 1 | | |
| 7 | 1.2D+1.0Wo (18... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 9 | 1 | 47 | 1 | | |
| 8 | 1.2D+1.0Wo (21... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 10 | 1 | 48 | 1 | | |
| 9 | 1.2D+1.0Wo (24... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 11 | 1 | 49 | 1 | | |
| 10 | 1.2D+1.0Wo (27... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 12 | 1 | 50 | 1 | | |
| 11 | 1.2D+1.0Wo (30... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 13 | 1 | 51 | 1 | | |
| 12 | 1.2D+1.0Wo (33... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 14 | 1 | 52 | 1 | | |
| 13 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 15 | 1 |
| 14 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 16 | 1 |
| 15 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 17 | 1 |
| 16 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 18 | 1 |
| 17 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 19 | 1 |
| 18 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 20 | 1 |
| 19 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 21 | 1 |
| 20 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 22 | 1 |
| 21 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 23 | 1 |
| 22 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 24 | 1 |
| 23 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 25 | 1 |
| 24 | 1.2D + 1.0Di + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 2 | 1 | 40 | 1 | 26 | 1 |
| 25 | 1.2D + 1.5Lm1 +... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 27 | 1 | 65 | 1 |
| 26 | 1.2D + 1.5Lm1 +... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 28 | 1 | 66 | 1 |
| 27 | 1.2D + 1.5Lm1 +... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 29 | 1 | 67 | 1 |
| 28 | 1.2D + 1.5Lm1 +... | Yes | Y | | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 30 | 1 | 68 | 1 |



Load Combinations (Continued)

| Description | So... | P... | S... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... | BLC Fac... |
|-------------|---------------------|------|------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 29 | 1.2D + 1.5Lm1 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 31 | 1 | 69 | 1 | |
| 30 | 1.2D + 1.5Lm1 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 32 | 1 | 70 | 1 | |
| 31 | 1.2D + 1.5Lm1 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 33 | 1 | 71 | 1 | |
| 32 | 1.2D + 1.5Lm1 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 34 | 1 | 72 | 1 | |
| 33 | 1.2D + 1.5Lm1 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 35 | 1 | 73 | 1 | |
| 34 | 1.2D + 1.5Lm1 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 36 | 1 | 74 | 1 | |
| 35 | 1.2D + 1.5Lm1 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 37 | 1 | 75 | 1 | |
| 36 | 1.2D + 1.5Lm1 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 77 | 1.5 | 38 | 1 | 76 | 1 | |
| 37 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 27 | 1 | 65 | 1 | |
| 38 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 28 | 1 | 66 | 1 | |
| 39 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 29 | 1 | 67 | 1 | |
| 40 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 30 | 1 | 68 | 1 | |
| 41 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 31 | 1 | 69 | 1 | |
| 42 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 32 | 1 | 70 | 1 | |
| 43 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 33 | 1 | 71 | 1 | |
| 44 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 34 | 1 | 72 | 1 | |
| 45 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 35 | 1 | 73 | 1 | |
| 46 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 36 | 1 | 74 | 1 | |
| 47 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 37 | 1 | 75 | 1 | |
| 48 | 1.2D + 1.5Lm2 +... | Yes | Y | 1 | 1.2 | 39 | 1.2 | 78 | 1.5 | 38 | 1 | 76 | 1 | |
| 49 | 1.2D + 1.5Lv1 | Yes | Y | 1 | 1.2 | 39 | 1.2 | 79 | 1.5 | | | | | |
| 50 | 1.2D + 1.5Lv2 | Yes | Y | 1 | 1.2 | 39 | 1.2 | 80 | 1.5 | | | | | |
| 51 | 1.4D | Yes | Y | 1 | 1.4 | 39 | 1.4 | | | | | | | |
| 52 | Seismic Mass | | Y | 1 | 1 | 39 | 1 | | | | | | | |
| 53 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | | SY | 1 | SZ | -1 | |
| 54 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | .5 | SY | 1 | SZ | -.866 | |
| 55 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | .866 | SY | 1 | SZ | -.5 | |
| 56 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | 1 | SY | 1 | SZ | | |
| 57 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | .866 | SY | 1 | SZ | .5 | |
| 58 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | .5 | SY | 1 | SZ | .866 | |
| 59 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | | SY | 1 | SZ | 1 | |
| 60 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | -.5 | SY | 1 | SZ | .866 | |
| 61 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | -.866 | SY | 1 | SZ | .5 | |
| 62 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | -1 | SY | 1 | SZ | | |
| 63 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | -.866 | SY | 1 | SZ | -.5 | |
| 64 | 1.2D + 1.0Ev + 1... | | Y | 1 | 1.2 | 39 | 1.2 | SX | -.5 | SY | 1 | SZ | -.866 | |

Joint Coordinates and Temperatures

| | Label | X [ft] | Y [ft] | Z [ft] | Temp [F] | Detach From Diap... |
|----|-------|-----------|----------|----------|----------|---------------------|
| 1 | N1 | 3.416667 | 1.645833 | 8.083333 | 0 | |
| 2 | N2 | -9.083333 | 1.645833 | 8.083333 | 0 | |
| 3 | N3 | 3.416667 | 4.979167 | 8.083333 | 0 | |
| 4 | N4 | -9.083333 | 4.979167 | 8.083333 | 0 | |
| 5 | N5 | -8.833333 | 1.645833 | 8.083333 | 0 | |
| 6 | N6 | -8.833333 | 4.979167 | 8.083333 | 0 | |
| 7 | N7 | -4.833333 | 1.645833 | 8.083333 | 0 | |
| 8 | N8 | -4.833333 | 4.979167 | 8.083333 | 0 | |
| 9 | N9 | -0.833333 | 1.645833 | 8.083333 | 0 | |
| 10 | N10 | -0.833333 | 4.979167 | 8.083333 | 0 | |
| 11 | N11 | 3.166667 | 1.645833 | 8.083333 | 0 | |
| 12 | N12 | 3.166667 | 4.979167 | 8.083333 | 0 | |
| 13 | N13 | -8.833333 | 1.645833 | 8.333333 | 0 | |
| 14 | N14 | -8.833333 | 4.979167 | 8.333333 | 0 | |
| 15 | N15 | -4.833333 | 1.645833 | 8.333333 | 0 | |
| 16 | N16 | -4.833333 | 4.979167 | 8.333333 | 0 | |



Joint Coordinates and Temperatures (Continued)

| | Label | X [ft] | Y [ft] | Z [ft] | Temp [F] | Detach From Diap... |
|----|-------|-----------|----------|----------|----------|---------------------|
| 17 | N17 | -0.833333 | 1.645833 | 8.333333 | 0 | |
| 18 | N18 | -0.833333 | 4.979167 | 8.333333 | 0 | |
| 19 | N19 | 3.166667 | 1.645833 | 8.333333 | 0 | |
| 20 | N20 | 3.166667 | 4.979167 | 8.333333 | 0 | |
| 21 | N21 | -5.333333 | 1.5 | 8.083333 | 0 | |
| 22 | N22 | -5.333333 | 4.833333 | 8.083333 | 0 | |
| 23 | N23 | -0.333333 | 1.5 | 8.083333 | 0 | |
| 24 | N24 | -0.333333 | 4.833333 | 8.083333 | 0 | |
| 25 | N25 | -5.333333 | 1.5 | 7.661458 | 0 | |
| 26 | N26 | -5.333333 | 4.833333 | 7.661458 | 0 | |
| 27 | N27 | -0.333333 | 1.5 | 7.661458 | 0 | |
| 28 | N28 | -0.333333 | 4.833333 | 7.661458 | 0 | |
| 29 | N29 | -2.833333 | 1.5 | 6.119792 | 0 | |
| 30 | N30 | -2.833333 | 4.833333 | 6.119792 | 0 | |
| 31 | N31 | -3.364583 | 1.5 | 6.119792 | 0 | |
| 32 | N32 | -3.364583 | 4.833333 | 6.119792 | 0 | |
| 33 | N33 | -2.302083 | 1.5 | 6.119792 | 0 | |
| 34 | N34 | -2.302083 | 4.833333 | 6.119792 | 0 | |
| 35 | N35 | -2.833333 | 1.5 | 5.703125 | 0 | |
| 36 | N36 | -2.833333 | 4.833333 | 5.703125 | 0 | |
| 37 | N37 | -5.75 | 4.979167 | 8.083333 | 0 | |
| 38 | N38 | 0.083333 | 4.979167 | 8.083333 | 0 | |
| 39 | N39 | -8.833333 | 7.3125 | 8.333333 | 0 | |
| 40 | N40 | -4.833333 | 7.3125 | 8.333333 | 0 | |
| 41 | N41 | -0.833333 | 7.3125 | 8.333333 | 0 | |
| 42 | N42 | 3.166667 | 7.3125 | 8.333333 | 0 | |
| 43 | N43 | -8.833333 | -0.6875 | 8.333333 | 0 | |
| 44 | N44 | -4.833333 | -0.6875 | 8.333333 | 0 | |
| 45 | N45 | -0.833333 | -0.6875 | 8.333333 | 0 | |
| 46 | N46 | 3.166667 | -0.6875 | 8.333333 | 0 | |
| 47 | N58 | -5.333333 | 4.833333 | 7.708333 | 0 | |
| 48 | N76 | -2.927083 | 1.5 | 6.119792 | 0 | |
| 49 | N77 | -3.229167 | 1.5 | 6.119792 | 0 | |
| 50 | N78 | -2.739583 | 1.5 | 6.119792 | 0 | |
| 51 | N79 | -2.4375 | 1.5 | 6.119792 | 0 | |
| 52 | N80 | -2.927083 | 4.833333 | 6.119792 | 0 | |
| 53 | N81 | -3.229167 | 4.833333 | 6.119792 | 0 | |
| 54 | N82 | -2.739583 | 4.833333 | 6.119792 | 0 | |
| 55 | N83 | -2.4375 | 4.833333 | 6.119792 | 0 | |
| 56 | N58A | -2.833333 | 4.979167 | 8.083333 | 0 | |
| 57 | N59 | -5.333333 | 1.645833 | 8.083333 | 0 | |
| 58 | N60 | -5.333333 | 4.979167 | 8.083333 | 0 | |
| 59 | N61 | -0.333333 | 1.645833 | 8.083333 | 0 | |
| 60 | N62 | -0.333333 | 4.979167 | 8.083333 | 0 | |
| 61 | N63 | -8.833333 | 4.9125 | 8.333333 | 0 | |
| 62 | N64 | -4.333333 | 4.833333 | 3.105049 | 0 | |
| 63 | N65 | -1.333333 | 4.833333 | 3.105049 | 0 | |
| 64 | N64A | -8.833333 | 5.4125 | 8.333333 | 0 | |
| 65 | N65A | -8.833333 | 4.9125 | 8.333333 | 0 | |
| 66 | N66 | -8.833333 | 6.1625 | 8.333333 | 0 | |
| 67 | N67 | -8.833333 | 4.1625 | 8.333333 | 0 | |
| 68 | N68 | -8.833333 | 6.4125 | 8.333333 | 0 | |
| 69 | N69 | -8.833333 | 3.9125 | 8.333333 | 0 | |
| 70 | N70 | -8.833333 | 3.3125 | 8.333333 | 0 | |



Hot Rolled Steel Section Sets

| | Label | Shape | Type | Design List | Material | Design ... | A [in2] | Iyy [in4] | Izz [in4] | J [in4] |
|---|-----------------------|-----------|------|-------------|-----------|------------|---------|-----------|-----------|---------|
| 1 | Antenna Pipe | PIPE 2.0 | Beam | Pipe | A53 Gr. B | Typical | 1.02 | .627 | .627 | 1.25 |
| 2 | Horizontal mount pipe | PIPE 2.5 | Beam | Pipe | Q235 | Typical | 1.61 | 1.45 | 1.45 | 2.89 |
| 3 | Standoff Horizontal | PIPE 2.0 | Beam | Pipe | Q235 | Typical | 1.02 | .627 | .627 | 1.25 |
| 4 | Standoff Diagonal | SR 0.75 | Beam | BAR | Q235 | Typical | .442 | .016 | .016 | .031 |
| 5 | Tieback | PIPE 2.0 | Beam | Pipe | Q235 | Typical | 1.02 | .627 | .627 | 1.25 |
| 6 | Standoff Vertical | SR 0.625 | Beam | BAR | Q235 | Typical | .307 | .007 | .007 | .015 |
| 7 | Standoff Plate | PL5/8X3.5 | Beam | BAR | Q235 | Typical | 2.188 | .071 | 2.233 | .253 |
| 8 | Dual Mount Pipe | PIPE 2.5 | Beam | Pipe | A53 Gr. B | Typical | 1.61 | 1.45 | 1.45 | 2.89 |

Hot Rolled Steel Properties

| | Label | E [ksi] | G [ksi] | Nu | Therm (/1E... | Density[k/ft... | Yield[ksi] | Ry | Fu[ksi] | Rt |
|---|---------------|---------|---------|----|---------------|-----------------|------------|-----|---------|-----|
| 1 | A36 Gr.36 | 29000 | 11154 | .3 | .65 | .49 | 36 | 1.5 | 58 | 1.2 |
| 2 | A53 Gr. B | 29000 | 11154 | .3 | .65 | .49 | 35 | 1.5 | 60 | 1.2 |
| 3 | A572 Gr.50 | 29000 | 11154 | .3 | .65 | .49 | 50 | 1.1 | 65 | 1.1 |
| 4 | A992 | 29000 | 11154 | .3 | .65 | .49 | 50 | 1.1 | 65 | 1.1 |
| 5 | A500 Gr. B 42 | 29000 | 11154 | .3 | .65 | .49 | 42 | 1.4 | 58 | 1.3 |
| 6 | A500 Gr. B 46 | 29000 | 11154 | .3 | .65 | .49 | 46 | 1.4 | 58 | 1.3 |
| 7 | Q235 | 29000 | 11154 | .3 | .65 | .49 | 35 | 1.5 | 58 | 1.2 |

Member Primary Data

| | Label | I Joint | J Joint | K Joint | Rotate(deg) | Section/Shape | Type | Design List | Material | Design Rules |
|----|-------|---------|---------|---------|-------------|-------------------|------|-------------|-----------|--------------|
| 1 | M1 | N2 | N1 | | | Horizontal mou... | Beam | Pipe | Q235 | Typical |
| 2 | M2 | N4 | N3 | | | Horizontal mou... | Beam | Pipe | Q235 | Typical |
| 3 | M3 | N5 | N13 | | | RIGID | None | None | RIGID | Typical |
| 4 | M4 | N6 | N14 | | | RIGID | None | None | RIGID | Typical |
| 5 | M5 | N8 | N16 | | | RIGID | None | None | RIGID | Typical |
| 6 | M6 | N7 | N15 | | | RIGID | None | None | RIGID | Typical |
| 7 | M9 | N10 | N18 | | | RIGID | None | None | RIGID | Typical |
| 8 | M10 | N9 | N17 | | | RIGID | None | None | RIGID | Typical |
| 9 | M11 | N12 | N20 | | | RIGID | None | None | RIGID | Typical |
| 10 | M12 | N11 | N19 | | | RIGID | None | None | RIGID | Typical |
| 11 | M13 | N22 | N26 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 12 | M14 | N21 | N25 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 13 | M15 | N23 | N27 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 14 | M16 | N24 | N28 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 15 | M17 | N26 | N32 | | | Standoff Horiz... | Beam | Pipe | Q235 | Typical |
| 16 | M18 | N25 | N31 | | | Standoff Horiz... | Beam | Pipe | Q235 | Typical |
| 17 | M19 | N27 | N33 | | | Standoff Horiz... | Beam | Pipe | Q235 | Typical |
| 18 | M20 | N28 | N34 | | | Standoff Horiz... | Beam | Pipe | Q235 | Typical |
| 19 | M21 | N32 | N30 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 20 | M22 | N34 | N30 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 21 | M23 | N31 | N29 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 22 | M24 | N33 | N29 | | 90 | Standoff Plate | Beam | BAR | Q235 | Typical |
| 23 | M25 | N31 | N26 | | | Standoff Diago... | Beam | BAR | Q235 | Typical |
| 24 | M26 | N32 | N25 | | | Standoff Diago... | Beam | BAR | Q235 | Typical |
| 25 | M27 | N33 | N28 | | | Standoff Diago... | Beam | BAR | Q235 | Typical |
| 26 | M28 | N27 | N34 | | | Standoff Diago... | Beam | BAR | Q235 | Typical |
| 27 | M29 | N29 | N35 | | | RIGID | None | None | RIGID | Typical |
| 28 | M30 | N30 | N36 | | | RIGID | None | None | RIGID | Typical |
| 29 | M31 | N37 | N64 | | | Tieback | Beam | Pipe | Q235 | Typical |
| 30 | M32 | N38 | N65 | | | Tieback | Beam | Pipe | Q235 | Typical |
| 31 | MP4A | N39 | N43 | | | Antenna Pipe | Beam | Pipe | A53 Gr. B | Typical |
| 32 | MP3A | N40 | N44 | | | Antenna Pipe | Beam | Pipe | A53 Gr. B | Typical |



Member Primary Data (Continued)

| | Label | I Joint | J Joint | K Joint | Rotate(deg) | Section/Shape | Type | Design List | Material | Design Rules |
|----|-------|---------|---------|---------|-------------|-------------------|------|-------------|-----------|--------------|
| 33 | MP2A | N41 | N45 | | | Dual Mount Pipe | Beam | Pipe | A53 Gr. B | Typical |
| 34 | MP1A | N42 | N46 | | | Antenna Pipe | Beam | Pipe | A53 Gr. B | Typical |
| 35 | M44 | N25 | N26 | | | Standoff Vertical | Beam | BAR | Q235 | Typical |
| 36 | M45 | N31 | N32 | | | Standoff Vertical | Beam | BAR | Q235 | Typical |
| 37 | M46 | N33 | N34 | | | Standoff Vertical | Beam | BAR | Q235 | Typical |
| 38 | M47 | N27 | N28 | | | Standoff Vertical | Beam | BAR | Q235 | Typical |
| 39 | M47B | N22 | N60 | | | RIGID | None | None | RIGID | Typical |
| 40 | M48A | N21 | N59 | | | RIGID | None | None | RIGID | Typical |
| 41 | M49A | N24 | N62 | | | RIGID | None | None | RIGID | Typical |
| 42 | M50A | N23 | N61 | | | RIGID | None | None | RIGID | Typical |
| 43 | M51A | N30 | N36 | | | RIGID | None | None | RIGID | Typical |
| 44 | M52A | N29 | N35 | | | RIGID | None | None | RIGID | Typical |

Hot Rolled Steel Design Parameters

| | Label | Shape | Length[ft] | Lbyy[ft] | Lbzz[ft] | Lcomp top[ft] | Lcomp bot[ft] | L-torqu... | Kyy | Kzz | Cb | Function |
|----|-------|-----------------|------------|----------|----------|---------------|---------------|------------|-----|-----|----|----------|
| 1 | M1 | Horizontal ... | 12.5 | | | Lbyy | | | | | | Lateral |
| 2 | M2 | Horizontal ... | 12.5 | | | Lbyy | | | | | | Lateral |
| 3 | M13 | Standoff Pla... | .422 | | | | | | | | | Lateral |
| 4 | M14 | Standoff Pla... | .422 | | | | | | | | | Lateral |
| 5 | M15 | Standoff Pla... | .422 | | | | | | | | | Lateral |
| 6 | M16 | Standoff Pla... | .422 | | | | | | | | | Lateral |
| 7 | M17 | Standoff Ho... | 2.501 | | | Lbyy | | | .65 | .65 | | Lateral |
| 8 | M18 | Standoff Ho... | 2.501 | | | Lbyy | | | .65 | .65 | | Lateral |
| 9 | M19 | Standoff Ho... | 2.501 | | | Lbyy | | | .65 | .65 | | Lateral |
| 10 | M20 | Standoff Ho... | 2.501 | | | Lbyy | | | .65 | .65 | | Lateral |
| 11 | M21 | Standoff Pla... | .531 | .292 | | | | | | | | Lateral |
| 12 | M22 | Standoff Pla... | .531 | .292 | | | | | | | | Lateral |
| 13 | M23 | Standoff Pla... | .531 | .292 | | | | | | | | Lateral |
| 14 | M24 | Standoff Pla... | .531 | .292 | | | | | | | | Lateral |
| 15 | M25 | Standoff Di... | 4.167 | | | Lbyy | | | .7 | .7 | | Lateral |
| 16 | M26 | Standoff Di... | 4.167 | | | Lbyy | | | .7 | .7 | | Lateral |
| 17 | M27 | Standoff Di... | 4.167 | | | Lbyy | | | .7 | .7 | | Lateral |
| 18 | M28 | Standoff Di... | 4.167 | | | Lbyy | | | .7 | .7 | | Lateral |
| 19 | M31 | Tieback | 5.178 | | | Lbyy | | | | | | Lateral |
| 20 | M32 | Tieback | 5.178 | | | Lbyy | | | | | | Lateral |
| 21 | MP4A | Antenna Pipe | 8 | | | Lbyy | | | | | | Lateral |
| 22 | MP3A | Antenna Pipe | 8 | | | Lbyy | | | | | | Lateral |
| 23 | MP2A | Dual Mount ... | 8 | | | Lbyy | | | | | | Lateral |
| 24 | MP1A | Antenna Pipe | 8 | | | Lbyy | | | | | | Lateral |
| 25 | M44 | Standoff Ve... | 3.333 | | | Lbyy | | | .7 | .7 | | Lateral |
| 26 | M45 | Standoff Ve... | 3.333 | | | Lbyy | | | .7 | .7 | | Lateral |
| 27 | M46 | Standoff Ve... | 3.333 | | | Lbyy | | | .7 | .7 | | Lateral |
| 28 | M47 | Standoff Ve... | 3.333 | | | Lbyy | | | .7 | .7 | | Lateral |

Member Point Loads (BLC 1 : Antenna D)

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft, %] |
|---|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | Y | -20 | 1.65 |
| 2 | MP2A | My | .013 | 1.65 |
| 3 | MP2A | Mz | -.012 | 1.65 |
| 4 | MP2A | Y | -20 | 5.15 |
| 5 | MP2A | My | .013 | 5.15 |
| 6 | MP2A | Mz | -.012 | 5.15 |
| 7 | MP2A | Y | -20 | 1.65 |
| 8 | MP2A | My | .013 | 1.65 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|----|--------------|-----------|--------------------|-----------------|
| 9 | MP2A | Mz | .012 | 1.65 |
| 10 | MP2A | Y | -20 | 5.15 |
| 11 | MP2A | My | .013 | 5.15 |
| 12 | MP2A | Mz | .012 | 5.15 |
| 13 | MP4A | Y | -43.55 | 2.4 |
| 14 | MP4A | My | -.022 | 2.4 |
| 15 | MP4A | Mz | 0 | 2.4 |
| 16 | MP4A | Y | -43.55 | 4.4 |
| 17 | MP4A | My | -.022 | 4.4 |
| 18 | MP4A | Mz | 0 | 4.4 |
| 19 | MP1A | Y | -84.4 | 4 |
| 20 | MP1A | My | -.042 | 4 |
| 21 | MP1A | Mz | 0 | 4 |
| 22 | MP2A | Y | -70.3 | 4 |
| 23 | MP2A | My | -.035 | 4 |
| 24 | MP2A | Mz | 0 | 4 |
| 25 | MP3A | Y | -22.95 | 1.65 |
| 26 | MP3A | My | .011 | 1.65 |
| 27 | MP3A | Mz | 0 | 1.65 |
| 28 | MP3A | Y | -22.95 | 5.15 |
| 29 | MP3A | My | .011 | 5.15 |
| 30 | MP3A | Mz | 0 | 5.15 |
| 31 | M20 | Y | -32 | 2 |
| 32 | M20 | My | 0 | 2 |
| 33 | M20 | Mz | 0 | 2 |

Member Point Loads (BLC 2 : Antenna Di)

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | Y | -60.026 | 1.65 |
| 2 | MP2A | My | .04 | 1.65 |
| 3 | MP2A | Mz | -.035 | 1.65 |
| 4 | MP2A | Y | -60.026 | 5.15 |
| 5 | MP2A | My | .04 | 5.15 |
| 6 | MP2A | Mz | -.035 | 5.15 |
| 7 | MP2A | Y | -60.026 | 1.65 |
| 8 | MP2A | My | .04 | 1.65 |
| 9 | MP2A | Mz | .035 | 1.65 |
| 10 | MP2A | Y | -60.026 | 5.15 |
| 11 | MP2A | My | .04 | 5.15 |
| 12 | MP2A | Mz | .035 | 5.15 |
| 13 | MP4A | Y | -35.005 | 2.4 |
| 14 | MP4A | My | -.018 | 2.4 |
| 15 | MP4A | Mz | 0 | 2.4 |
| 16 | MP4A | Y | -35.005 | 4.4 |
| 17 | MP4A | My | -.018 | 4.4 |
| 18 | MP4A | Mz | 0 | 4.4 |
| 19 | MP1A | Y | -44.122 | 4 |
| 20 | MP1A | My | -.022 | 4 |
| 21 | MP1A | Mz | 0 | 4 |
| 22 | MP2A | Y | -39.674 | 4 |
| 23 | MP2A | My | -.02 | 4 |
| 24 | MP2A | Mz | 0 | 4 |
| 25 | MP3A | Y | -66.149 | 1.65 |
| 26 | MP3A | My | .033 | 1.65 |
| 27 | MP3A | Mz | 0 | 1.65 |
| 28 | MP3A | Y | -66.149 | 5.15 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 29 | MP3A | My | .033 | 5.15 |
| 30 | MP3A | Mz | 0 | 5.15 |
| 31 | M20 | Y | -74.664 | 2 |
| 32 | M20 | My | 0 | 2 |
| 33 | M20 | Mz | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | 0 | 1.65 |
| 2 | MP2A | Z | -167.461 | 1.65 |
| 3 | MP2A | Mx | .098 | 1.65 |
| 4 | MP2A | X | 0 | 5.15 |
| 5 | MP2A | Z | -167.461 | 5.15 |
| 6 | MP2A | Mx | .098 | 5.15 |
| 7 | MP2A | X | 0 | 1.65 |
| 8 | MP2A | Z | -167.461 | 1.65 |
| 9 | MP2A | Mx | -.098 | 1.65 |
| 10 | MP2A | X | 0 | 5.15 |
| 11 | MP2A | Z | -167.461 | 5.15 |
| 12 | MP2A | Mx | -.098 | 5.15 |
| 13 | MP4A | X | 0 | 2.4 |
| 14 | MP4A | Z | -96.454 | 2.4 |
| 15 | MP4A | Mx | 0 | 2.4 |
| 16 | MP4A | X | 0 | 4.4 |
| 17 | MP4A | Z | -96.454 | 4.4 |
| 18 | MP4A | Mx | 0 | 4.4 |
| 19 | MP1A | X | 0 | 4 |
| 20 | MP1A | Z | -76.753 | 4 |
| 21 | MP1A | Mx | 0 | 4 |
| 22 | MP2A | X | 0 | 4 |
| 23 | MP2A | Z | -76.753 | 4 |
| 24 | MP2A | Mx | 0 | 4 |
| 25 | MP3A | X | 0 | 1.65 |
| 26 | MP3A | Z | -189.419 | 1.65 |
| 27 | MP3A | Mx | 0 | 1.65 |
| 28 | MP3A | X | 0 | 5.15 |
| 29 | MP3A | Z | -189.419 | 5.15 |
| 30 | MP3A | Mx | 0 | 5.15 |
| 31 | M20 | X | 0 | 2 |
| 32 | M20 | Z | -104.553 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | 76.641 | 1.65 |
| 2 | MP2A | Z | -132.746 | 1.65 |
| 3 | MP2A | Mx | .129 | 1.65 |
| 4 | MP2A | X | 76.641 | 5.15 |
| 5 | MP2A | Z | -132.746 | 5.15 |
| 6 | MP2A | Mx | .129 | 5.15 |
| 7 | MP2A | X | 76.641 | 1.65 |
| 8 | MP2A | Z | -132.746 | 1.65 |
| 9 | MP2A | Mx | -.026 | 1.65 |
| 10 | MP2A | X | 76.641 | 5.15 |
| 11 | MP2A | Z | -132.746 | 5.15 |
| 12 | MP2A | Mx | -.026 | 5.15 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | 110.743 | 1.65 |
| 2 | MP2A | Z | 0 | 1.65 |
| 3 | MP2A | Mx | .074 | 1.65 |
| 4 | MP2A | X | 110.743 | 5.15 |
| 5 | MP2A | Z | 0 | 5.15 |
| 6 | MP2A | Mx | .074 | 5.15 |
| 7 | MP2A | X | 110.743 | 1.65 |
| 8 | MP2A | Z | 0 | 1.65 |
| 9 | MP2A | Mx | .074 | 1.65 |
| 10 | MP2A | X | 110.743 | 5.15 |
| 11 | MP2A | Z | 0 | 5.15 |
| 12 | MP2A | Mx | .074 | 5.15 |
| 13 | MP4A | X | 37.762 | 2.4 |
| 14 | MP4A | Z | 0 | 2.4 |
| 15 | MP4A | Mx | -.019 | 2.4 |
| 16 | MP4A | X | 37.762 | 4.4 |
| 17 | MP4A | Z | 0 | 4.4 |
| 18 | MP4A | Mx | -.019 | 4.4 |
| 19 | MP1A | X | 51.305 | 4 |
| 20 | MP1A | Z | 0 | 4 |
| 21 | MP1A | Mx | -.026 | 4 |
| 22 | MP2A | X | 41.557 | 4 |
| 23 | MP2A | Z | 0 | 4 |
| 24 | MP2A | Mx | -.021 | 4 |
| 25 | MP3A | X | 126.009 | 1.65 |
| 26 | MP3A | Z | 0 | 1.65 |
| 27 | MP3A | Mx | .063 | 1.65 |
| 28 | MP3A | X | 126.009 | 5.15 |
| 29 | MP3A | Z | 0 | 5.15 |
| 30 | MP3A | Mx | .063 | 5.15 |
| 31 | M20 | X | 153.972 | 2 |
| 32 | M20 | Z | 0 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | 108.186 | 1.65 |
| 2 | MP2A | Z | 62.461 | 1.65 |
| 3 | MP2A | Mx | .036 | 1.65 |
| 4 | MP2A | X | 108.186 | 5.15 |
| 5 | MP2A | Z | 62.461 | 5.15 |
| 6 | MP2A | Mx | .036 | 5.15 |
| 7 | MP2A | X | 108.186 | 1.65 |
| 8 | MP2A | Z | 62.461 | 1.65 |
| 9 | MP2A | Mx | .109 | 1.65 |
| 10 | MP2A | X | 108.186 | 5.15 |
| 11 | MP2A | Z | 62.461 | 5.15 |
| 12 | MP2A | Mx | .109 | 5.15 |
| 13 | MP4A | X | 45.41 | 2.4 |
| 14 | MP4A | Z | 26.217 | 2.4 |
| 15 | MP4A | Mx | -.023 | 2.4 |
| 16 | MP4A | X | 45.41 | 4.4 |



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

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 17 | MP4A | Z | 26.217 | 4.4 |
| 18 | MP4A | Mx | -.023 | 4.4 |
| 19 | MP1A | X | 49.941 | 4 |
| 20 | MP1A | Z | 28.834 | 4 |
| 21 | MP1A | Mx | -.025 | 4 |
| 22 | MP2A | X | 43.61 | 4 |
| 23 | MP2A | Z | 25.178 | 4 |
| 24 | MP2A | Mx | -.022 | 4 |
| 25 | MP3A | X | 122.856 | 1.65 |
| 26 | MP3A | Z | 70.931 | 1.65 |
| 27 | MP3A | Mx | .061 | 1.65 |
| 28 | MP3A | X | 122.856 | 5.15 |
| 29 | MP3A | Z | 70.931 | 5.15 |
| 30 | MP3A | Mx | .061 | 5.15 |
| 31 | M20 | X | 115.899 | 2 |
| 32 | M20 | Z | 66.914 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | 76.641 | 1.65 |
| 2 | MP2A | Z | 132.746 | 1.65 |
| 3 | MP2A | Mx | -.026 | 1.65 |
| 4 | MP2A | X | 76.641 | 5.15 |
| 5 | MP2A | Z | 132.746 | 5.15 |
| 6 | MP2A | Mx | -.026 | 5.15 |
| 7 | MP2A | X | 76.641 | 1.65 |
| 8 | MP2A | Z | 132.746 | 1.65 |
| 9 | MP2A | Mx | .129 | 1.65 |
| 10 | MP2A | X | 76.641 | 5.15 |
| 11 | MP2A | Z | 132.746 | 5.15 |
| 12 | MP2A | Mx | .129 | 5.15 |
| 13 | MP4A | X | 40.89 | 2.4 |
| 14 | MP4A | Z | 70.824 | 2.4 |
| 15 | MP4A | Mx | -.02 | 2.4 |
| 16 | MP4A | X | 40.89 | 4.4 |
| 17 | MP4A | Z | 70.824 | 4.4 |
| 18 | MP4A | Mx | -.02 | 4.4 |
| 19 | MP1A | X | 35.195 | 4 |
| 20 | MP1A | Z | 60.96 | 4 |
| 21 | MP1A | Mx | -.018 | 4 |
| 22 | MP2A | X | 33.977 | 4 |
| 23 | MP2A | Z | 58.85 | 4 |
| 24 | MP2A | Mx | -.017 | 4 |
| 25 | MP3A | X | 86.783 | 1.65 |
| 26 | MP3A | Z | 150.313 | 1.65 |
| 27 | MP3A | Mx | .043 | 1.65 |
| 28 | MP3A | X | 86.783 | 5.15 |
| 29 | MP3A | Z | 150.313 | 5.15 |
| 30 | MP3A | Mx | .043 | 5.15 |
| 31 | M20 | X | 54.56 | 2 |
| 32 | M20 | Z | 94.5 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft,%] |
|--|--------------|-----------|--------------------|----------------|
|--|--------------|-----------|--------------------|----------------|



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 5 | MP2A | Z | 0 | 5.15 |
| 6 | MP2A | Mx | -.074 | 5.15 |
| 7 | MP2A | X | -110.743 | 1.65 |
| 8 | MP2A | Z | 0 | 1.65 |
| 9 | MP2A | Mx | -.074 | 1.65 |
| 10 | MP2A | X | -110.743 | 5.15 |
| 11 | MP2A | Z | 0 | 5.15 |
| 12 | MP2A | Mx | -.074 | 5.15 |
| 13 | MP4A | X | -37.762 | 2.4 |
| 14 | MP4A | Z | 0 | 2.4 |
| 15 | MP4A | Mx | .019 | 2.4 |
| 16 | MP4A | X | -37.762 | 4.4 |
| 17 | MP4A | Z | 0 | 4.4 |
| 18 | MP4A | Mx | .019 | 4.4 |
| 19 | MP1A | X | -51.305 | 4 |
| 20 | MP1A | Z | 0 | 4 |
| 21 | MP1A | Mx | .026 | 4 |
| 22 | MP2A | X | -41.557 | 4 |
| 23 | MP2A | Z | 0 | 4 |
| 24 | MP2A | Mx | .021 | 4 |
| 25 | MP3A | X | -126.009 | 1.65 |
| 26 | MP3A | Z | 0 | 1.65 |
| 27 | MP3A | Mx | -.063 | 1.65 |
| 28 | MP3A | X | -126.009 | 5.15 |
| 29 | MP3A | Z | 0 | 5.15 |
| 30 | MP3A | Mx | -.063 | 5.15 |
| 31 | M20 | X | -153.972 | 2 |
| 32 | M20 | Z | 0 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | -108.186 | 1.65 |
| 2 | MP2A | Z | -62.461 | 1.65 |
| 3 | MP2A | Mx | -.036 | 1.65 |
| 4 | MP2A | X | -108.186 | 5.15 |
| 5 | MP2A | Z | -62.461 | 5.15 |
| 6 | MP2A | Mx | -.036 | 5.15 |
| 7 | MP2A | X | -108.186 | 1.65 |
| 8 | MP2A | Z | -62.461 | 1.65 |
| 9 | MP2A | Mx | -.109 | 1.65 |
| 10 | MP2A | X | -108.186 | 5.15 |
| 11 | MP2A | Z | -62.461 | 5.15 |
| 12 | MP2A | Mx | -.109 | 5.15 |
| 13 | MP4A | X | -45.41 | 2.4 |
| 14 | MP4A | Z | -26.217 | 2.4 |
| 15 | MP4A | Mx | .023 | 2.4 |
| 16 | MP4A | X | -45.41 | 4.4 |
| 17 | MP4A | Z | -26.217 | 4.4 |
| 18 | MP4A | Mx | .023 | 4.4 |
| 19 | MP1A | X | -49.941 | 4 |
| 20 | MP1A | Z | -28.834 | 4 |
| 21 | MP1A | Mx | .025 | 4 |
| 22 | MP2A | X | -43.61 | 4 |
| 23 | MP2A | Z | -25.178 | 4 |
| 24 | MP2A | Mx | .022 | 4 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%,] |
|----|--------------|-----------|--------------------|-----------------|
| 25 | MP3A | X | -122.856 | 1.65 |
| 26 | MP3A | Z | -70.931 | 1.65 |
| 27 | MP3A | Mx | -.061 | 1.65 |
| 28 | MP3A | X | -122.856 | 5.15 |
| 29 | MP3A | Z | -70.931 | 5.15 |
| 30 | MP3A | Mx | -.061 | 5.15 |
| 31 | M20 | X | -115.899 | 2 |
| 32 | M20 | Z | -66.914 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%,] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | -76.641 | 1.65 |
| 2 | MP2A | Z | -132.746 | 1.65 |
| 3 | MP2A | Mx | .026 | 1.65 |
| 4 | MP2A | X | -76.641 | 5.15 |
| 5 | MP2A | Z | -132.746 | 5.15 |
| 6 | MP2A | Mx | .026 | 5.15 |
| 7 | MP2A | X | -76.641 | 1.65 |
| 8 | MP2A | Z | -132.746 | 1.65 |
| 9 | MP2A | Mx | -.129 | 1.65 |
| 10 | MP2A | X | -76.641 | 5.15 |
| 11 | MP2A | Z | -132.746 | 5.15 |
| 12 | MP2A | Mx | -.129 | 5.15 |
| 13 | MP4A | X | -40.89 | 2.4 |
| 14 | MP4A | Z | -70.824 | 2.4 |
| 15 | MP4A | Mx | .02 | 2.4 |
| 16 | MP4A | X | -40.89 | 4.4 |
| 17 | MP4A | Z | -70.824 | 4.4 |
| 18 | MP4A | Mx | .02 | 4.4 |
| 19 | MP1A | X | -35.195 | 4 |
| 20 | MP1A | Z | -60.96 | 4 |
| 21 | MP1A | Mx | .018 | 4 |
| 22 | MP2A | X | -33.977 | 4 |
| 23 | MP2A | Z | -58.85 | 4 |
| 24 | MP2A | Mx | .017 | 4 |
| 25 | MP3A | X | -86.783 | 1.65 |
| 26 | MP3A | Z | -150.313 | 1.65 |
| 27 | MP3A | Mx | -.043 | 1.65 |
| 28 | MP3A | X | -86.783 | 5.15 |
| 29 | MP3A | Z | -150.313 | 5.15 |
| 30 | MP3A | Mx | -.043 | 5.15 |
| 31 | M20 | X | -54.56 | 2 |
| 32 | M20 | Z | -94.5 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%,] |
|---|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | 0 | 1.65 |
| 2 | MP2A | Z | -31.485 | 1.65 |
| 3 | MP2A | Mx | .018 | 1.65 |
| 4 | MP2A | X | 0 | 5.15 |
| 5 | MP2A | Z | -31.485 | 5.15 |
| 6 | MP2A | Mx | .018 | 5.15 |
| 7 | MP2A | X | 0 | 1.65 |
| 8 | MP2A | Z | -31.485 | 1.65 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|----|--------------|-----------|--------------------|-----------------|
| 9 | MP2A | Mx | -.018 | 1.65 |
| 10 | MP2A | X | 0 | 5.15 |
| 11 | MP2A | Z | -31.485 | 5.15 |
| 12 | MP2A | Mx | -.018 | 5.15 |
| 13 | MP4A | X | 0 | 2.4 |
| 14 | MP4A | Z | -18.572 | 2.4 |
| 15 | MP4A | Mx | 0 | 2.4 |
| 16 | MP4A | X | 0 | 4.4 |
| 17 | MP4A | Z | -18.572 | 4.4 |
| 18 | MP4A | Mx | 0 | 4.4 |
| 19 | MP1A | X | 0 | 4 |
| 20 | MP1A | Z | -15.639 | 4 |
| 21 | MP1A | Mx | 0 | 4 |
| 22 | MP2A | X | 0 | 4 |
| 23 | MP2A | Z | -15.639 | 4 |
| 24 | MP2A | Mx | 0 | 4 |
| 25 | MP3A | X | 0 | 1.65 |
| 26 | MP3A | Z | -35.54 | 1.65 |
| 27 | MP3A | Mx | 0 | 1.65 |
| 28 | MP3A | X | 0 | 5.15 |
| 29 | MP3A | Z | -35.54 | 5.15 |
| 30 | MP3A | Mx | 0 | 5.15 |
| 31 | M20 | X | 0 | 2 |
| 32 | M20 | Z | -20.883 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | 14.519 | 1.65 |
| 2 | MP2A | Z | -25.148 | 1.65 |
| 3 | MP2A | Mx | .024 | 1.65 |
| 4 | MP2A | X | 14.519 | 5.15 |
| 5 | MP2A | Z | -25.148 | 5.15 |
| 6 | MP2A | Mx | .024 | 5.15 |
| 7 | MP2A | X | 14.519 | 1.65 |
| 8 | MP2A | Z | -25.148 | 1.65 |
| 9 | MP2A | Mx | -.005 | 1.65 |
| 10 | MP2A | X | 14.519 | 5.15 |
| 11 | MP2A | Z | -25.148 | 5.15 |
| 12 | MP2A | Mx | -.005 | 5.15 |
| 13 | MP4A | X | 7.952 | 2.4 |
| 14 | MP4A | Z | -13.774 | 2.4 |
| 15 | MP4A | Mx | -.004 | 2.4 |
| 16 | MP4A | X | 7.952 | 4.4 |
| 17 | MP4A | Z | -13.774 | 4.4 |
| 18 | MP4A | Mx | -.004 | 4.4 |
| 19 | MP1A | X | 7.224 | 4 |
| 20 | MP1A | Z | -12.512 | 4 |
| 21 | MP1A | Mx | -.004 | 4 |
| 22 | MP2A | X | 6.997 | 4 |
| 23 | MP2A | Z | -12.12 | 4 |
| 24 | MP2A | Mx | -.003 | 4 |
| 25 | MP3A | X | 16.394 | 1.65 |
| 26 | MP3A | Z | -28.396 | 1.65 |
| 27 | MP3A | Mx | .008 | 1.65 |
| 28 | MP3A | X | 16.394 | 5.15 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 33 | M20 | Mx | 0 | 2 |

Member Point Loads (BLC 20 : Antenna Wi (150 Deg))

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | 14.519 | 1.65 |
| 2 | MP2A | Z | 25.148 | 1.65 |
| 3 | MP2A | Mx | -.005 | 1.65 |
| 4 | MP2A | X | 14.519 | 5.15 |
| 5 | MP2A | Z | 25.148 | 5.15 |
| 6 | MP2A | Mx | -.005 | 5.15 |
| 7 | MP2A | X | 14.519 | 1.65 |
| 8 | MP2A | Z | 25.148 | 1.65 |
| 9 | MP2A | Mx | .024 | 1.65 |
| 10 | MP2A | X | 14.519 | 5.15 |
| 11 | MP2A | Z | 25.148 | 5.15 |
| 12 | MP2A | Mx | .024 | 5.15 |
| 13 | MP4A | X | 7.952 | 2.4 |
| 14 | MP4A | Z | 13.774 | 2.4 |
| 15 | MP4A | Mx | -.004 | 2.4 |
| 16 | MP4A | X | 7.952 | 4.4 |
| 17 | MP4A | Z | 13.774 | 4.4 |
| 18 | MP4A | Mx | -.004 | 4.4 |
| 19 | MP1A | X | 7.224 | 4 |
| 20 | MP1A | Z | 12.512 | 4 |
| 21 | MP1A | Mx | -.004 | 4 |
| 22 | MP2A | X | 6.997 | 4 |
| 23 | MP2A | Z | 12.12 | 4 |
| 24 | MP2A | Mx | -.003 | 4 |
| 25 | MP3A | X | 16.394 | 1.65 |
| 26 | MP3A | Z | 28.396 | 1.65 |
| 27 | MP3A | Mx | .008 | 1.65 |
| 28 | MP3A | X | 16.394 | 5.15 |
| 29 | MP3A | Z | 28.396 | 5.15 |
| 30 | MP3A | Mx | .008 | 5.15 |
| 31 | M20 | X | 10.856 | 2 |
| 32 | M20 | Z | 18.802 | 2 |
| 33 | M20 | Mx | 0 | 2 |

Member Point Loads (BLC 21 : Antenna Wi (180 Deg))

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | 0 | 1.65 |
| 2 | MP2A | Z | 31.485 | 1.65 |
| 3 | MP2A | Mx | -.018 | 1.65 |
| 4 | MP2A | X | 0 | 5.15 |
| 5 | MP2A | Z | 31.485 | 5.15 |
| 6 | MP2A | Mx | -.018 | 5.15 |
| 7 | MP2A | X | 0 | 1.65 |
| 8 | MP2A | Z | 31.485 | 1.65 |
| 9 | MP2A | Mx | .018 | 1.65 |
| 10 | MP2A | X | 0 | 5.15 |
| 11 | MP2A | Z | 31.485 | 5.15 |
| 12 | MP2A | Mx | .018 | 5.15 |
| 13 | MP4A | X | 0 | 2.4 |
| 14 | MP4A | Z | 18.572 | 2.4 |
| 15 | MP4A | Mx | 0 | 2.4 |
| 16 | MP4A | X | 0 | 4.4 |



Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft, %] |
|----|--------------|-----------|--------------------|-----------------|
| 17 | MP4A | Z | 18.572 | 4.4 |
| 18 | MP4A | Mx | 0 | 4.4 |
| 19 | MP1A | X | 0 | 4 |
| 20 | MP1A | Z | 15.639 | 4 |
| 21 | MP1A | Mx | 0 | 4 |
| 22 | MP2A | X | 0 | 4 |
| 23 | MP2A | Z | 15.639 | 4 |
| 24 | MP2A | Mx | 0 | 4 |
| 25 | MP3A | X | 0 | 1.65 |
| 26 | MP3A | Z | 35.54 | 1.65 |
| 27 | MP3A | Mx | 0 | 1.65 |
| 28 | MP3A | X | 0 | 5.15 |
| 29 | MP3A | Z | 35.54 | 5.15 |
| 30 | MP3A | Mx | 0 | 5.15 |
| 31 | M20 | X | 0 | 2 |
| 32 | M20 | Z | 20.883 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft, %] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | -14.519 | 1.65 |
| 2 | MP2A | Z | 25.148 | 1.65 |
| 3 | MP2A | Mx | -.024 | 1.65 |
| 4 | MP2A | X | -14.519 | 5.15 |
| 5 | MP2A | Z | 25.148 | 5.15 |
| 6 | MP2A | Mx | -.024 | 5.15 |
| 7 | MP2A | X | -14.519 | 1.65 |
| 8 | MP2A | Z | 25.148 | 1.65 |
| 9 | MP2A | Mx | .005 | 1.65 |
| 10 | MP2A | X | -14.519 | 5.15 |
| 11 | MP2A | Z | 25.148 | 5.15 |
| 12 | MP2A | Mx | .005 | 5.15 |
| 13 | MP4A | X | -7.952 | 2.4 |
| 14 | MP4A | Z | 13.774 | 2.4 |
| 15 | MP4A | Mx | .004 | 2.4 |
| 16 | MP4A | X | -7.952 | 4.4 |
| 17 | MP4A | Z | 13.774 | 4.4 |
| 18 | MP4A | Mx | .004 | 4.4 |
| 19 | MP1A | X | -7.224 | 4 |
| 20 | MP1A | Z | 12.512 | 4 |
| 21 | MP1A | Mx | .004 | 4 |
| 22 | MP2A | X | -6.997 | 4 |
| 23 | MP2A | Z | 12.12 | 4 |
| 24 | MP2A | Mx | .003 | 4 |
| 25 | MP3A | X | -16.394 | 1.65 |
| 26 | MP3A | Z | 28.396 | 1.65 |
| 27 | MP3A | Mx | -.008 | 1.65 |
| 28 | MP3A | X | -16.394 | 5.15 |
| 29 | MP3A | Z | 28.396 | 5.15 |
| 30 | MP3A | Mx | -.008 | 5.15 |
| 31 | M20 | X | -12.267 | 2 |
| 32 | M20 | Z | 21.248 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft, %] |
|--|--------------|-----------|--------------------|-----------------|
|--|--------------|-----------|--------------------|-----------------|



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | -20.912 | 1.65 |
| 2 | MP2A | Z | 12.073 | 1.65 |
| 3 | MP2A | Mx | -.021 | 1.65 |
| 4 | MP2A | X | -20.912 | 5.15 |
| 5 | MP2A | Z | 12.073 | 5.15 |
| 6 | MP2A | Mx | -.021 | 5.15 |
| 7 | MP2A | X | -20.912 | 1.65 |
| 8 | MP2A | Z | 12.073 | 1.65 |
| 9 | MP2A | Mx | -.007 | 1.65 |
| 10 | MP2A | X | -20.912 | 5.15 |
| 11 | MP2A | Z | 12.073 | 5.15 |
| 12 | MP2A | Mx | -.007 | 5.15 |
| 13 | MP4A | X | -9.153 | 2.4 |
| 14 | MP4A | Z | 5.284 | 2.4 |
| 15 | MP4A | Mx | .005 | 2.4 |
| 16 | MP4A | X | -9.153 | 4.4 |
| 17 | MP4A | Z | 5.284 | 4.4 |
| 18 | MP4A | Mx | .005 | 4.4 |
| 19 | MP1A | X | -10.448 | 4 |
| 20 | MP1A | Z | 6.032 | 4 |
| 21 | MP1A | Mx | .005 | 4 |
| 22 | MP2A | X | -9.271 | 4 |
| 23 | MP2A | Z | 5.353 | 4 |
| 24 | MP2A | Mx | .005 | 4 |
| 25 | MP3A | X | -23.631 | 1.65 |
| 26 | MP3A | Z | 13.643 | 1.65 |
| 27 | MP3A | Mx | -.012 | 1.65 |
| 28 | MP3A | X | -23.631 | 5.15 |
| 29 | MP3A | Z | 13.643 | 5.15 |
| 30 | MP3A | Mx | -.012 | 5.15 |
| 31 | M20 | X | -25.126 | 2 |
| 32 | M20 | Z | 14.507 | 2 |
| 33 | M20 | Mx | 0 | 2 |

Member Point Loads (BLC 24 : Antenna Wi (270 Deg))

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | -21.701 | 1.65 |
| 2 | MP2A | Z | 0 | 1.65 |
| 3 | MP2A | Mx | -.014 | 1.65 |
| 4 | MP2A | X | -21.701 | 5.15 |
| 5 | MP2A | Z | 0 | 5.15 |
| 6 | MP2A | Mx | -.014 | 5.15 |
| 7 | MP2A | X | -21.701 | 1.65 |
| 8 | MP2A | Z | 0 | 1.65 |
| 9 | MP2A | Mx | -.014 | 1.65 |
| 10 | MP2A | X | -21.701 | 5.15 |
| 11 | MP2A | Z | 0 | 5.15 |
| 12 | MP2A | Mx | -.014 | 5.15 |
| 13 | MP4A | X | -7.901 | 2.4 |
| 14 | MP4A | Z | 0 | 2.4 |
| 15 | MP4A | Mx | .004 | 2.4 |
| 16 | MP4A | X | -7.901 | 4.4 |
| 17 | MP4A | Z | 0 | 4.4 |
| 18 | MP4A | Mx | .004 | 4.4 |
| 19 | MP1A | X | -10.872 | 4 |
| 20 | MP1A | Z | 0 | 4 |



Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|----|--------------|-----------|--------------------|-----------------|
| 21 | MP1A | Mx | .005 | 4 |
| 22 | MP2A | X | -9.06 | 4 |
| 23 | MP2A | Z | 0 | 4 |
| 24 | MP2A | Mx | .005 | 4 |
| 25 | MP3A | X | -24.536 | 1.65 |
| 26 | MP3A | Z | 0 | 1.65 |
| 27 | MP3A | Mx | -.012 | 1.65 |
| 28 | MP3A | X | -24.536 | 5.15 |
| 29 | MP3A | Z | 0 | 5.15 |
| 30 | MP3A | Mx | -.012 | 5.15 |
| 31 | M20 | X | -29.841 | 2 |
| 32 | M20 | Z | 0 | 2 |
| 33 | M20 | Mx | 0 | 2 |

Member Point Loads (BLC 25 : Antenna Wi (300 Deg))

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | -20.912 | 1.65 |
| 2 | MP2A | Z | -12.073 | 1.65 |
| 3 | MP2A | Mx | -.007 | 1.65 |
| 4 | MP2A | X | -20.912 | 5.15 |
| 5 | MP2A | Z | -12.073 | 5.15 |
| 6 | MP2A | Mx | -.007 | 5.15 |
| 7 | MP2A | X | -20.912 | 1.65 |
| 8 | MP2A | Z | -12.073 | 1.65 |
| 9 | MP2A | Mx | -.021 | 1.65 |
| 10 | MP2A | X | -20.912 | 5.15 |
| 11 | MP2A | Z | -12.073 | 5.15 |
| 12 | MP2A | Mx | -.021 | 5.15 |
| 13 | MP4A | X | -9.153 | 2.4 |
| 14 | MP4A | Z | -5.284 | 2.4 |
| 15 | MP4A | Mx | .005 | 2.4 |
| 16 | MP4A | X | -9.153 | 4.4 |
| 17 | MP4A | Z | -5.284 | 4.4 |
| 18 | MP4A | Mx | .005 | 4.4 |
| 19 | MP1A | X | -10.448 | 4 |
| 20 | MP1A | Z | -6.032 | 4 |
| 21 | MP1A | Mx | .005 | 4 |
| 22 | MP2A | X | -9.271 | 4 |
| 23 | MP2A | Z | -5.353 | 4 |
| 24 | MP2A | Mx | .005 | 4 |
| 25 | MP3A | X | -23.631 | 1.65 |
| 26 | MP3A | Z | -13.643 | 1.65 |
| 27 | MP3A | Mx | -.012 | 1.65 |
| 28 | MP3A | X | -23.631 | 5.15 |
| 29 | MP3A | Z | -13.643 | 5.15 |
| 30 | MP3A | Mx | -.012 | 5.15 |
| 31 | M20 | X | -22.681 | 2 |
| 32 | M20 | Z | -13.095 | 2 |
| 33 | M20 | Mx | 0 | 2 |

Member Point Loads (BLC 26 : Antenna Wi (330 Deg))

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|---|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | -14.519 | 1.65 |
| 2 | MP2A | Z | -25.148 | 1.65 |
| 3 | MP2A | Mx | .005 | 1.65 |
| 4 | MP2A | X | -14.519 | 5.15 |



Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 25 | MP3A | X | 0 | 1.65 |
| 26 | MP3A | Z | -11.644 | 1.65 |
| 27 | MP3A | Mx | 0 | 1.65 |
| 28 | MP3A | X | 0 | 5.15 |
| 29 | MP3A | Z | -11.644 | 5.15 |
| 30 | MP3A | Mx | 0 | 5.15 |
| 31 | M20 | X | 0 | 2 |
| 32 | M20 | Z | -6.427 | 2 |
| 33 | M20 | Mx | 0 | 2 |

Member Point Loads (BLC 28 : Antenna Wm (30 Deg))

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | 4.711 | 1.65 |
| 2 | MP2A | Z | -8.16 | 1.65 |
| 3 | MP2A | Mx | .008 | 1.65 |
| 4 | MP2A | X | 4.711 | 5.15 |
| 5 | MP2A | Z | -8.16 | 5.15 |
| 6 | MP2A | Mx | .008 | 5.15 |
| 7 | MP2A | X | 4.711 | 1.65 |
| 8 | MP2A | Z | -8.16 | 1.65 |
| 9 | MP2A | Mx | -.002 | 1.65 |
| 10 | MP2A | X | 4.711 | 5.15 |
| 11 | MP2A | Z | -8.16 | 5.15 |
| 12 | MP2A | Mx | -.002 | 5.15 |
| 13 | MP4A | X | 2.514 | 2.4 |
| 14 | MP4A | Z | -4.354 | 2.4 |
| 15 | MP4A | Mx | -.001 | 2.4 |
| 16 | MP4A | X | 2.514 | 4.4 |
| 17 | MP4A | Z | -4.354 | 4.4 |
| 18 | MP4A | Mx | -.001 | 4.4 |
| 19 | MP1A | X | 2.164 | 4 |
| 20 | MP1A | Z | -3.747 | 4 |
| 21 | MP1A | Mx | -.001 | 4 |
| 22 | MP2A | X | 2.089 | 4 |
| 23 | MP2A | Z | -3.618 | 4 |
| 24 | MP2A | Mx | -.001 | 4 |
| 25 | MP3A | X | 5.335 | 1.65 |
| 26 | MP3A | Z | -9.24 | 1.65 |
| 27 | MP3A | Mx | .003 | 1.65 |
| 28 | MP3A | X | 5.335 | 5.15 |
| 29 | MP3A | Z | -9.24 | 5.15 |
| 30 | MP3A | Mx | .003 | 5.15 |
| 31 | M20 | X | 3.833 | 2 |
| 32 | M20 | Z | -6.638 | 2 |
| 33 | M20 | Mx | 0 | 2 |

Member Point Loads (BLC 29 : Antenna Wm (60 Deg))

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%] |
|---|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | 6.65 | 1.65 |
| 2 | MP2A | Z | -3.84 | 1.65 |
| 3 | MP2A | Mx | .007 | 1.65 |
| 4 | MP2A | X | 6.65 | 5.15 |
| 5 | MP2A | Z | -3.84 | 5.15 |
| 6 | MP2A | Mx | .007 | 5.15 |
| 7 | MP2A | X | 6.65 | 1.65 |
| 8 | MP2A | Z | -3.84 | 1.65 |



Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|----|--------------|-----------|--------------------|-----------------|
| 9 | MP2A | Mx | .002 | 1.65 |
| 10 | MP2A | X | 6.65 | 5.15 |
| 11 | MP2A | Z | -3.84 | 5.15 |
| 12 | MP2A | Mx | .002 | 5.15 |
| 13 | MP4A | X | 2.791 | 2.4 |
| 14 | MP4A | Z | -1.612 | 2.4 |
| 15 | MP4A | Mx | -.001 | 2.4 |
| 16 | MP4A | X | 2.791 | 4.4 |
| 17 | MP4A | Z | -1.612 | 4.4 |
| 18 | MP4A | Mx | -.001 | 4.4 |
| 19 | MP1A | X | 3.07 | 4 |
| 20 | MP1A | Z | -1.772 | 4 |
| 21 | MP1A | Mx | -.002 | 4 |
| 22 | MP2A | X | 2.681 | 4 |
| 23 | MP2A | Z | -1.548 | 4 |
| 24 | MP2A | Mx | -.001 | 4 |
| 25 | MP3A | X | 7.552 | 1.65 |
| 26 | MP3A | Z | -4.36 | 1.65 |
| 27 | MP3A | Mx | .004 | 1.65 |
| 28 | MP3A | X | 7.552 | 5.15 |
| 29 | MP3A | Z | -4.36 | 5.15 |
| 30 | MP3A | Mx | .004 | 5.15 |
| 31 | M20 | X | 7.954 | 2 |
| 32 | M20 | Z | -4.592 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.-%] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | 6.808 | 1.65 |
| 2 | MP2A | Z | 0 | 1.65 |
| 3 | MP2A | Mx | .005 | 1.65 |
| 4 | MP2A | X | 6.808 | 5.15 |
| 5 | MP2A | Z | 0 | 5.15 |
| 6 | MP2A | Mx | .005 | 5.15 |
| 7 | MP2A | X | 6.808 | 1.65 |
| 8 | MP2A | Z | 0 | 1.65 |
| 9 | MP2A | Mx | .005 | 1.65 |
| 10 | MP2A | X | 6.808 | 5.15 |
| 11 | MP2A | Z | 0 | 5.15 |
| 12 | MP2A | Mx | .005 | 5.15 |
| 13 | MP4A | X | 2.321 | 2.4 |
| 14 | MP4A | Z | 0 | 2.4 |
| 15 | MP4A | Mx | -.001 | 2.4 |
| 16 | MP4A | X | 2.321 | 4.4 |
| 17 | MP4A | Z | 0 | 4.4 |
| 18 | MP4A | Mx | -.001 | 4.4 |
| 19 | MP1A | X | 3.154 | 4 |
| 20 | MP1A | Z | 0 | 4 |
| 21 | MP1A | Mx | -.002 | 4 |
| 22 | MP2A | X | 2.555 | 4 |
| 23 | MP2A | Z | 0 | 4 |
| 24 | MP2A | Mx | -.001 | 4 |
| 25 | MP3A | X | 7.746 | 1.65 |
| 26 | MP3A | Z | 0 | 1.65 |
| 27 | MP3A | Mx | .004 | 1.65 |
| 28 | MP3A | X | 7.746 | 5.15 |



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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | -4.711 | 1.65 |
| 2 | MP2A | Z | 8.16 | 1.65 |
| 3 | MP2A | Mx | -.008 | 1.65 |
| 4 | MP2A | X | -4.711 | 5.15 |
| 5 | MP2A | Z | 8.16 | 5.15 |
| 6 | MP2A | Mx | -.008 | 5.15 |
| 7 | MP2A | X | -4.711 | 1.65 |
| 8 | MP2A | Z | 8.16 | 1.65 |
| 9 | MP2A | Mx | .002 | 1.65 |
| 10 | MP2A | X | -4.711 | 5.15 |
| 11 | MP2A | Z | 8.16 | 5.15 |
| 12 | MP2A | Mx | .002 | 5.15 |
| 13 | MP4A | X | -2.514 | 2.4 |
| 14 | MP4A | Z | 4.354 | 2.4 |
| 15 | MP4A | Mx | .001 | 2.4 |
| 16 | MP4A | X | -2.514 | 4.4 |
| 17 | MP4A | Z | 4.354 | 4.4 |
| 18 | MP4A | Mx | .001 | 4.4 |
| 19 | MP1A | X | -2.164 | 4 |
| 20 | MP1A | Z | 3.747 | 4 |
| 21 | MP1A | Mx | .001 | 4 |
| 22 | MP2A | X | -2.089 | 4 |
| 23 | MP2A | Z | 3.618 | 4 |
| 24 | MP2A | Mx | .001 | 4 |
| 25 | MP3A | X | -5.335 | 1.65 |
| 26 | MP3A | Z | 9.24 | 1.65 |
| 27 | MP3A | Mx | -.003 | 1.65 |
| 28 | MP3A | X | -5.335 | 5.15 |
| 29 | MP3A | Z | 9.24 | 5.15 |
| 30 | MP3A | Mx | -.003 | 5.15 |
| 31 | M20 | X | -3.833 | 2 |
| 32 | M20 | Z | 6.638 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft,%] |
|----|--------------|-----------|--------------------|----------------|
| 1 | MP2A | X | -6.65 | 1.65 |
| 2 | MP2A | Z | 3.84 | 1.65 |
| 3 | MP2A | Mx | -.007 | 1.65 |
| 4 | MP2A | X | -6.65 | 5.15 |
| 5 | MP2A | Z | 3.84 | 5.15 |
| 6 | MP2A | Mx | -.007 | 5.15 |
| 7 | MP2A | X | -6.65 | 1.65 |
| 8 | MP2A | Z | 3.84 | 1.65 |
| 9 | MP2A | Mx | -.002 | 1.65 |
| 10 | MP2A | X | -6.65 | 5.15 |
| 11 | MP2A | Z | 3.84 | 5.15 |
| 12 | MP2A | Mx | -.002 | 5.15 |
| 13 | MP4A | X | -2.791 | 2.4 |
| 14 | MP4A | Z | 1.612 | 2.4 |
| 15 | MP4A | Mx | .001 | 2.4 |
| 16 | MP4A | X | -2.791 | 4.4 |



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

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft, %] |
|----|--------------|-----------|--------------------|-----------------|
| 17 | MP4A | Z | 1.612 | 4.4 |
| 18 | MP4A | Mx | .001 | 4.4 |
| 19 | MP1A | X | -3.07 | 4 |
| 20 | MP1A | Z | 1.772 | 4 |
| 21 | MP1A | Mx | .002 | 4 |
| 22 | MP2A | X | -2.681 | 4 |
| 23 | MP2A | Z | 1.548 | 4 |
| 24 | MP2A | Mx | .001 | 4 |
| 25 | MP3A | X | -7.552 | 1.65 |
| 26 | MP3A | Z | 4.36 | 1.65 |
| 27 | MP3A | Mx | -.004 | 1.65 |
| 28 | MP3A | X | -7.552 | 5.15 |
| 29 | MP3A | Z | 4.36 | 5.15 |
| 30 | MP3A | Mx | -.004 | 5.15 |
| 31 | M20 | X | -7.954 | 2 |
| 32 | M20 | Z | 4.592 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft, %] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | -6.808 | 1.65 |
| 2 | MP2A | Z | 0 | 1.65 |
| 3 | MP2A | Mx | -.005 | 1.65 |
| 4 | MP2A | X | -6.808 | 5.15 |
| 5 | MP2A | Z | 0 | 5.15 |
| 6 | MP2A | Mx | -.005 | 5.15 |
| 7 | MP2A | X | -6.808 | 1.65 |
| 8 | MP2A | Z | 0 | 1.65 |
| 9 | MP2A | Mx | -.005 | 1.65 |
| 10 | MP2A | X | -6.808 | 5.15 |
| 11 | MP2A | Z | 0 | 5.15 |
| 12 | MP2A | Mx | -.005 | 5.15 |
| 13 | MP4A | X | -2.321 | 2.4 |
| 14 | MP4A | Z | 0 | 2.4 |
| 15 | MP4A | Mx | .001 | 2.4 |
| 16 | MP4A | X | -2.321 | 4.4 |
| 17 | MP4A | Z | 0 | 4.4 |
| 18 | MP4A | Mx | .001 | 4.4 |
| 19 | MP1A | X | -3.154 | 4 |
| 20 | MP1A | Z | 0 | 4 |
| 21 | MP1A | Mx | .002 | 4 |
| 22 | MP2A | X | -2.555 | 4 |
| 23 | MP2A | Z | 0 | 4 |
| 24 | MP2A | Mx | .001 | 4 |
| 25 | MP3A | X | -7.746 | 1.65 |
| 26 | MP3A | Z | 0 | 1.65 |
| 27 | MP3A | Mx | -.004 | 1.65 |
| 28 | MP3A | X | -7.746 | 5.15 |
| 29 | MP3A | Z | 0 | 5.15 |
| 30 | MP3A | Mx | -.004 | 5.15 |
| 31 | M20 | X | -9.465 | 2 |
| 32 | M20 | Z | 0 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft, %] |
|--|--------------|-----------|--------------------|-----------------|
|--|--------------|-----------|--------------------|-----------------|



Company : Maser Consulting
 Designer :
 Job Number :
 Model Name : 468018-VZW_MT_LOT_SectorA_H

Aug 4, 2021
 1:08 PM
 Checked By: _____

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%,] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | -6.65 | 1.65 |
| 2 | MP2A | Z | -3.84 | 1.65 |
| 3 | MP2A | Mx | -.002 | 1.65 |
| 4 | MP2A | X | -6.65 | 5.15 |
| 5 | MP2A | Z | -3.84 | 5.15 |
| 6 | MP2A | Mx | -.002 | 5.15 |
| 7 | MP2A | X | -6.65 | 1.65 |
| 8 | MP2A | Z | -3.84 | 1.65 |
| 9 | MP2A | Mx | -.007 | 1.65 |
| 10 | MP2A | X | -6.65 | 5.15 |
| 11 | MP2A | Z | -3.84 | 5.15 |
| 12 | MP2A | Mx | -.007 | 5.15 |
| 13 | MP4A | X | -2.791 | 2.4 |
| 14 | MP4A | Z | -1.612 | 2.4 |
| 15 | MP4A | Mx | .001 | 2.4 |
| 16 | MP4A | X | -2.791 | 4.4 |
| 17 | MP4A | Z | -1.612 | 4.4 |
| 18 | MP4A | Mx | .001 | 4.4 |
| 19 | MP1A | X | -3.07 | 4 |
| 20 | MP1A | Z | -1.772 | 4 |
| 21 | MP1A | Mx | .002 | 4 |
| 22 | MP2A | X | -2.681 | 4 |
| 23 | MP2A | Z | -1.548 | 4 |
| 24 | MP2A | Mx | .001 | 4 |
| 25 | MP3A | X | -7.552 | 1.65 |
| 26 | MP3A | Z | -4.36 | 1.65 |
| 27 | MP3A | Mx | -.004 | 1.65 |
| 28 | MP3A | X | -7.552 | 5.15 |
| 29 | MP3A | Z | -4.36 | 5.15 |
| 30 | MP3A | Mx | -.004 | 5.15 |
| 31 | M20 | X | -7.124 | 2 |
| 32 | M20 | Z | -4.113 | 2 |
| 33 | M20 | Mx | 0 | 2 |

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

| | Member Label | Direction | Magnitude[lb.k-ft] | Location[ft.%,] |
|----|--------------|-----------|--------------------|-----------------|
| 1 | MP2A | X | -4.711 | 1.65 |
| 2 | MP2A | Z | -8.16 | 1.65 |
| 3 | MP2A | Mx | .002 | 1.65 |
| 4 | MP2A | X | -4.711 | 5.15 |
| 5 | MP2A | Z | -8.16 | 5.15 |
| 6 | MP2A | Mx | .002 | 5.15 |
| 7 | MP2A | X | -4.711 | 1.65 |
| 8 | MP2A | Z | -8.16 | 1.65 |
| 9 | MP2A | Mx | -.008 | 1.65 |
| 10 | MP2A | X | -4.711 | 5.15 |
| 11 | MP2A | Z | -8.16 | 5.15 |
| 12 | MP2A | Mx | -.008 | 5.15 |
| 13 | MP4A | X | -2.514 | 2.4 |
| 14 | MP4A | Z | -4.354 | 2.4 |
| 15 | MP4A | Mx | .001 | 2.4 |
| 16 | MP4A | X | -2.514 | 4.4 |
| 17 | MP4A | Z | -4.354 | 4.4 |
| 18 | MP4A | Mx | .001 | 4.4 |
| 19 | MP1A | X | -2.164 | 4 |
| 20 | MP1A | Z | -3.747 | 4 |



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

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft, %] |
|----|--------------|-----------|--------------------|-----------------|
| 21 | MP1A | Mx | .001 | 4 |
| 22 | MP2A | X | -2.089 | 4 |
| 23 | MP2A | Z | -3.618 | 4 |
| 24 | MP2A | Mx | .001 | 4 |
| 25 | MP3A | X | -5.335 | 1.65 |
| 26 | MP3A | Z | -9.24 | 1.65 |
| 27 | MP3A | Mx | -.003 | 1.65 |
| 28 | MP3A | X | -5.335 | 5.15 |
| 29 | MP3A | Z | -9.24 | 5.15 |
| 30 | MP3A | Mx | -.003 | 5.15 |
| 31 | M20 | X | -3.354 | 2 |
| 32 | M20 | Z | -5.809 | 2 |
| 33 | M20 | Mx | 0 | 2 |

Member Point Loads (BLC 77 : Lm1)

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft, %] |
|---|--------------|-----------|--------------------|-----------------|
| 1 | M3 | Y | -500 | 0 |

Member Point Loads (BLC 78 : Lm2)

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft, %] |
|---|--------------|-----------|--------------------|-----------------|
| 1 | M10 | Y | -500 | 0 |

Member Point Loads (BLC 79 : Lv1)

| | Member Label | Direction | Magnitude[lb,k-ft] | Location[ft, %] |
|---|--------------|-----------|--------------------|-----------------|
| 1 | M1 | Y | -250 | %50 |

Member Point Loads (BLC 80 : Lv2)

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

Member Distributed Loads (BLC 40 : Structure Di)

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | Y | -5.569 | -5.569 | 0 | %100 |
| 2 | M2 | Y | -5.569 | -5.569 | 0 | %100 |
| 3 | M13 | Y | -6.513 | -6.513 | 0 | %100 |
| 4 | M14 | Y | -6.513 | -6.513 | 0 | %100 |
| 5 | M15 | Y | -6.513 | -6.513 | 0 | %100 |
| 6 | M16 | Y | -6.513 | -6.513 | 0 | %100 |
| 7 | M17 | Y | -4.874 | -4.874 | 0 | %100 |
| 8 | M18 | Y | -4.874 | -4.874 | 0 | %100 |
| 9 | M19 | Y | -4.874 | -4.874 | 0 | %100 |
| 10 | M20 | Y | -4.874 | -4.874 | 0 | %100 |
| 11 | M21 | Y | -6.513 | -6.513 | 0 | %100 |
| 12 | M22 | Y | -6.513 | -6.513 | 0 | %100 |
| 13 | M23 | Y | -6.513 | -6.513 | 0 | %100 |
| 14 | M24 | Y | -6.513 | -6.513 | 0 | %100 |
| 15 | M25 | Y | -2.619 | -2.619 | 0 | %100 |
| 16 | M26 | Y | -2.619 | -2.619 | 0 | %100 |
| 17 | M27 | Y | -2.619 | -2.619 | 0 | %100 |
| 18 | M28 | Y | -2.619 | -2.619 | 0 | %100 |
| 19 | M31 | Y | -4.874 | -4.874 | 0 | %100 |
| 20 | M32 | Y | -4.874 | -4.874 | 0 | %100 |
| 21 | MP4A | Y | -4.874 | -4.874 | 0 | %100 |



Member Distributed Loads (BLC 44 : Structure Wo (90 Deg)) (Continued)

| | Member Label | Direction | Start Magnitude[lb/ft.... | End Magnitude[lb/ft.F... | Start Location[ft.%] | End Location[ft.%] |
|----|--------------|-----------|---------------------------|--------------------------|----------------------|--------------------|
| 38 | M31 | Z | 0 | 0 | 0 | %100 |
| 39 | M32 | X | 9.018 | 9.018 | 0 | %100 |
| 40 | M32 | Z | 0 | 0 | 0 | %100 |
| 41 | MP4A | X | 9.748 | 9.748 | 0 | %100 |
| 42 | MP4A | Z | 0 | 0 | 0 | %100 |
| 43 | MP3A | X | 9.748 | 9.748 | 0 | %100 |
| 44 | MP3A | Z | 0 | 0 | 0 | %100 |
| 45 | MP2A | X | 11.8 | 11.8 | 0 | %100 |
| 46 | MP2A | Z | 0 | 0 | 0 | %100 |
| 47 | MP1A | X | 9.748 | 9.748 | 0 | %100 |
| 48 | MP1A | Z | 0 | 0 | 0 | %100 |
| 49 | M44 | X | 2.565 | 2.565 | 0 | %100 |
| 50 | M44 | Z | 0 | 0 | 0 | %100 |
| 51 | M45 | X | 2.565 | 2.565 | 0 | %100 |
| 52 | M45 | Z | 0 | 0 | 0 | %100 |
| 53 | M46 | X | 2.565 | 2.565 | 0 | %100 |
| 54 | M46 | Z | 0 | 0 | 0 | %100 |
| 55 | M47 | X | 2.565 | 2.565 | 0 | %100 |
| 56 | M47 | Z | 0 | 0 | 0 | %100 |

Member Distributed Loads (BLC 45 : Structure Wo (120 Deg))

| | Member Label | Direction | Start Magnitude[lb/ft.... | End Magnitude[lb/ft.F... | Start Location[ft.%] | End Location[ft.%] |
|----|--------------|-----------|---------------------------|--------------------------|----------------------|--------------------|
| 1 | M1 | X | 2.555 | 2.555 | 0 | %100 |
| 2 | M1 | Z | 1.475 | 1.475 | 0 | %100 |
| 3 | M2 | X | 2.555 | 2.555 | 0 | %100 |
| 4 | M2 | Z | 1.475 | 1.475 | 0 | %100 |
| 5 | M13 | X | 1.666 | 1.666 | 0 | %100 |
| 6 | M13 | Z | .962 | .962 | 0 | %100 |
| 7 | M14 | X | 1.666 | 1.666 | 0 | %100 |
| 8 | M14 | Z | .962 | .962 | 0 | %100 |
| 9 | M15 | X | 1.666 | 1.666 | 0 | %100 |
| 10 | M15 | Z | .962 | .962 | 0 | %100 |
| 11 | M16 | X | 1.666 | 1.666 | 0 | %100 |
| 12 | M16 | Z | .962 | .962 | 0 | %100 |
| 13 | M17 | X | 5.6 | 5.6 | 0 | %100 |
| 14 | M17 | Z | 3.233 | 3.233 | 0 | %100 |
| 15 | M18 | X | 5.6 | 5.6 | 0 | %100 |
| 16 | M18 | Z | 3.233 | 3.233 | 0 | %100 |
| 17 | M19 | X | .128 | .128 | 0 | %100 |
| 18 | M19 | Z | .074 | .074 | 0 | %100 |
| 19 | M20 | X | .128 | .128 | 0 | %100 |
| 20 | M20 | Z | .074 | .074 | 0 | %100 |
| 21 | M21 | X | .555 | .555 | 0 | %100 |
| 22 | M21 | Z | .321 | .321 | 0 | %100 |
| 23 | M22 | X | .555 | .555 | 0 | %100 |
| 24 | M22 | Z | .321 | .321 | 0 | %100 |
| 25 | M23 | X | .555 | .555 | 0 | %100 |
| 26 | M23 | Z | .321 | .321 | 0 | %100 |
| 27 | M24 | X | .555 | .555 | 0 | %100 |
| 28 | M24 | Z | .321 | .321 | 0 | %100 |
| 29 | M25 | X | 2.532 | 2.532 | 0 | %100 |
| 30 | M25 | Z | 1.462 | 1.462 | 0 | %100 |
| 31 | M26 | X | 2.532 | 2.532 | 0 | %100 |
| 32 | M26 | Z | 1.462 | 1.462 | 0 | %100 |
| 33 | M27 | X | 1.725 | 1.725 | 0 | %100 |
| 34 | M27 | Z | .996 | .996 | 0 | %100 |



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Member Distributed Loads (BLC 45 : Structure Wo (120 Deg)) (Continued)

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 35 | M28 | X | 1.725 | 1.725 | 0 | %100 |
| 36 | M28 | Z | .996 | .996 | 0 | %100 |
| 37 | M31 | X | 7.94 | 7.94 | 0 | %100 |
| 38 | M31 | Z | 4.584 | 4.584 | 0 | %100 |
| 39 | M32 | X | 4.094 | 4.094 | 0 | %100 |
| 40 | M32 | Z | 2.364 | 2.364 | 0 | %100 |
| 41 | MP4A | X | 8.442 | 8.442 | 0 | %100 |
| 42 | MP4A | Z | 4.874 | 4.874 | 0 | %100 |
| 43 | MP3A | X | 8.442 | 8.442 | 0 | %100 |
| 44 | MP3A | Z | 4.874 | 4.874 | 0 | %100 |
| 45 | MP2A | X | 10.219 | 10.219 | 0 | %100 |
| 46 | MP2A | Z | 5.9 | 5.9 | 0 | %100 |
| 47 | MP1A | X | 8.442 | 8.442 | 0 | %100 |
| 48 | MP1A | Z | 4.874 | 4.874 | 0 | %100 |
| 49 | M44 | X | 2.222 | 2.222 | 0 | %100 |
| 50 | M44 | Z | 1.283 | 1.283 | 0 | %100 |
| 51 | M45 | X | 2.222 | 2.222 | 0 | %100 |
| 52 | M45 | Z | 1.283 | 1.283 | 0 | %100 |
| 53 | M46 | X | 2.222 | 2.222 | 0 | %100 |
| 54 | M46 | Z | 1.283 | 1.283 | 0 | %100 |
| 55 | M47 | X | 2.222 | 2.222 | 0 | %100 |
| 56 | M47 | Z | 1.283 | 1.283 | 0 | %100 |

Member Distributed Loads (BLC 46 : Structure Wo (150 Deg))

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | 4.425 | 4.425 | 0 | %100 |
| 2 | M1 | Z | 7.664 | 7.664 | 0 | %100 |
| 3 | M2 | X | 4.425 | 4.425 | 0 | %100 |
| 4 | M2 | Z | 7.664 | 7.664 | 0 | %100 |
| 5 | M13 | X | .321 | .321 | 0 | %100 |
| 6 | M13 | Z | .555 | .555 | 0 | %100 |
| 7 | M14 | X | .321 | .321 | 0 | %100 |
| 8 | M14 | Z | .555 | .555 | 0 | %100 |
| 9 | M15 | X | .321 | .321 | 0 | %100 |
| 10 | M15 | Z | .555 | .555 | 0 | %100 |
| 11 | M16 | X | .321 | .321 | 0 | %100 |
| 12 | M16 | Z | .555 | .555 | 0 | %100 |
| 13 | M17 | X | 3.684 | 3.684 | 0 | %100 |
| 14 | M17 | Z | 6.381 | 6.381 | 0 | %100 |
| 15 | M18 | X | 3.684 | 3.684 | 0 | %100 |
| 16 | M18 | Z | 6.381 | 6.381 | 0 | %100 |
| 17 | M19 | X | .524 | .524 | 0 | %100 |
| 18 | M19 | Z | .908 | .908 | 0 | %100 |
| 19 | M20 | X | .524 | .524 | 0 | %100 |
| 20 | M20 | Z | .908 | .908 | 0 | %100 |
| 21 | M21 | X | .962 | .962 | 0 | %100 |
| 22 | M21 | Z | 1.666 | 1.666 | 0 | %100 |
| 23 | M22 | X | .962 | .962 | 0 | %100 |
| 24 | M22 | Z | 1.666 | 1.666 | 0 | %100 |
| 25 | M23 | X | .962 | .962 | 0 | %100 |
| 26 | M23 | Z | 1.666 | 1.666 | 0 | %100 |
| 27 | M24 | X | .962 | .962 | 0 | %100 |
| 28 | M24 | Z | 1.666 | 1.666 | 0 | %100 |
| 29 | M25 | X | 1.528 | 1.528 | 0 | %100 |
| 30 | M25 | Z | 2.647 | 2.647 | 0 | %100 |
| 31 | M26 | X | 1.528 | 1.528 | 0 | %100 |



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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, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 29 | M25 | X | 0 | 0 | 0 | %100 |
| 30 | M25 | Z | 2.657 | 2.657 | 0 | %100 |
| 31 | M26 | X | 0 | 0 | 0 | %100 |
| 32 | M26 | Z | 2.657 | 2.657 | 0 | %100 |
| 33 | M27 | X | 0 | 0 | 0 | %100 |
| 34 | M27 | Z | 2.657 | 2.657 | 0 | %100 |
| 35 | M28 | X | 0 | 0 | 0 | %100 |
| 36 | M28 | Z | 2.657 | 2.657 | 0 | %100 |
| 37 | M31 | X | 0 | 0 | 0 | %100 |
| 38 | M31 | Z | .737 | .737 | 0 | %100 |
| 39 | M32 | X | 0 | 0 | 0 | %100 |
| 40 | M32 | Z | .737 | .737 | 0 | %100 |
| 41 | MP4A | X | 0 | 0 | 0 | %100 |
| 42 | MP4A | Z | 9.748 | 9.748 | 0 | %100 |
| 43 | MP3A | X | 0 | 0 | 0 | %100 |
| 44 | MP3A | Z | 9.748 | 9.748 | 0 | %100 |
| 45 | MP2A | X | 0 | 0 | 0 | %100 |
| 46 | MP2A | Z | 11.8 | 11.8 | 0 | %100 |
| 47 | MP1A | X | 0 | 0 | 0 | %100 |
| 48 | MP1A | Z | 9.748 | 9.748 | 0 | %100 |
| 49 | M44 | X | 0 | 0 | 0 | %100 |
| 50 | M44 | Z | 2.565 | 2.565 | 0 | %100 |
| 51 | M45 | X | 0 | 0 | 0 | %100 |
| 52 | M45 | Z | 2.565 | 2.565 | 0 | %100 |
| 53 | M46 | X | 0 | 0 | 0 | %100 |
| 54 | M46 | Z | 2.565 | 2.565 | 0 | %100 |
| 55 | M47 | X | 0 | 0 | 0 | %100 |
| 56 | M47 | Z | 2.565 | 2.565 | 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 | -4.425 | -4.425 | 0 | %100 |
| 2 | M1 | Z | 7.664 | 7.664 | 0 | %100 |
| 3 | M2 | X | -4.425 | -4.425 | 0 | %100 |
| 4 | M2 | Z | 7.664 | 7.664 | 0 | %100 |
| 5 | M13 | X | -.321 | -.321 | 0 | %100 |
| 6 | M13 | Z | .555 | .555 | 0 | %100 |
| 7 | M14 | X | -.321 | -.321 | 0 | %100 |
| 8 | M14 | Z | .555 | .555 | 0 | %100 |
| 9 | M15 | X | -.321 | -.321 | 0 | %100 |
| 10 | M15 | Z | .555 | .555 | 0 | %100 |
| 11 | M16 | X | -.321 | -.321 | 0 | %100 |
| 12 | M16 | Z | .555 | .555 | 0 | %100 |
| 13 | M17 | X | -.524 | -.524 | 0 | %100 |
| 14 | M17 | Z | .908 | .908 | 0 | %100 |
| 15 | M18 | X | -.524 | -.524 | 0 | %100 |
| 16 | M18 | Z | .908 | .908 | 0 | %100 |
| 17 | M19 | X | -3.684 | -3.684 | 0 | %100 |
| 18 | M19 | Z | 6.381 | 6.381 | 0 | %100 |
| 19 | M20 | X | -3.684 | -3.684 | 0 | %100 |
| 20 | M20 | Z | 6.381 | 6.381 | 0 | %100 |
| 21 | M21 | X | -.962 | -.962 | 0 | %100 |
| 22 | M21 | Z | 1.666 | 1.666 | 0 | %100 |
| 23 | M22 | X | -.962 | -.962 | 0 | %100 |
| 24 | M22 | Z | 1.666 | 1.666 | 0 | %100 |
| 25 | M23 | X | -.962 | -.962 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 26 | M23 | Z | 1.666 | 1.666 | 0 | %100 |
| 27 | M24 | X | -.962 | -.962 | 0 | %100 |
| 28 | M24 | Z | 1.666 | 1.666 | 0 | %100 |
| 29 | M25 | X | -1.062 | -1.062 | 0 | %100 |
| 30 | M25 | Z | 1.84 | 1.84 | 0 | %100 |
| 31 | M26 | X | -1.062 | -1.062 | 0 | %100 |
| 32 | M26 | Z | 1.84 | 1.84 | 0 | %100 |
| 33 | M27 | X | -1.528 | -1.528 | 0 | %100 |
| 34 | M27 | Z | 2.647 | 2.647 | 0 | %100 |
| 35 | M28 | X | -1.528 | -1.528 | 0 | %100 |
| 36 | M28 | Z | 2.647 | 2.647 | 0 | %100 |
| 37 | M31 | X | -.294 | -.294 | 0 | %100 |
| 38 | M31 | Z | .508 | .508 | 0 | %100 |
| 39 | M32 | X | -2.514 | -2.514 | 0 | %100 |
| 40 | M32 | Z | 4.355 | 4.355 | 0 | %100 |
| 41 | MP4A | X | -4.874 | -4.874 | 0 | %100 |
| 42 | MP4A | Z | 8.442 | 8.442 | 0 | %100 |
| 43 | MP3A | X | -4.874 | -4.874 | 0 | %100 |
| 44 | MP3A | Z | 8.442 | 8.442 | 0 | %100 |
| 45 | MP2A | X | -5.9 | -5.9 | 0 | %100 |
| 46 | MP2A | Z | 10.219 | 10.219 | 0 | %100 |
| 47 | MP1A | X | -4.874 | -4.874 | 0 | %100 |
| 48 | MP1A | Z | 8.442 | 8.442 | 0 | %100 |
| 49 | M44 | X | -1.283 | -1.283 | 0 | %100 |
| 50 | M44 | Z | 2.222 | 2.222 | 0 | %100 |
| 51 | M45 | X | -1.283 | -1.283 | 0 | %100 |
| 52 | M45 | Z | 2.222 | 2.222 | 0 | %100 |
| 53 | M46 | X | -1.283 | -1.283 | 0 | %100 |
| 54 | M46 | Z | 2.222 | 2.222 | 0 | %100 |
| 55 | M47 | X | -1.283 | -1.283 | 0 | %100 |
| 56 | M47 | Z | 2.222 | 2.222 | 0 | %100 |

Member Distributed Loads (BLC 49 : Structure Wo (240 Deg))

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | -2.555 | -2.555 | 0 | %100 |
| 2 | M1 | Z | 1.475 | 1.475 | 0 | %100 |
| 3 | M2 | X | -2.555 | -2.555 | 0 | %100 |
| 4 | M2 | Z | 1.475 | 1.475 | 0 | %100 |
| 5 | M13 | X | -1.666 | -1.666 | 0 | %100 |
| 6 | M13 | Z | .962 | .962 | 0 | %100 |
| 7 | M14 | X | -1.666 | -1.666 | 0 | %100 |
| 8 | M14 | Z | .962 | .962 | 0 | %100 |
| 9 | M15 | X | -1.666 | -1.666 | 0 | %100 |
| 10 | M15 | Z | .962 | .962 | 0 | %100 |
| 11 | M16 | X | -1.666 | -1.666 | 0 | %100 |
| 12 | M16 | Z | .962 | .962 | 0 | %100 |
| 13 | M17 | X | -.128 | -.128 | 0 | %100 |
| 14 | M17 | Z | .074 | .074 | 0 | %100 |
| 15 | M18 | X | -.128 | -.128 | 0 | %100 |
| 16 | M18 | Z | .074 | .074 | 0 | %100 |
| 17 | M19 | X | -5.6 | -5.6 | 0 | %100 |
| 18 | M19 | Z | 3.233 | 3.233 | 0 | %100 |
| 19 | M20 | X | -5.6 | -5.6 | 0 | %100 |
| 20 | M20 | Z | 3.233 | 3.233 | 0 | %100 |
| 21 | M21 | X | -.555 | -.555 | 0 | %100 |
| 22 | M21 | Z | .321 | .321 | 0 | %100 |



Member Distributed Loads (BLC 50 : Structure Wo (270 Deg)) (Continued)

| | Member Label | Direction | Start Magnitude[lb/ft.... | End Magnitude[lb/ft,F... | Start Location[ft.%] | End Location[ft.%] |
|----|--------------|-----------|---------------------------|--------------------------|----------------------|--------------------|
| 20 | M20 | Z | 0 | 0 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | 0 | 0 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | 0 | 0 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | 0 | 0 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | 0 | 0 | 0 | %100 |
| 29 | M25 | X | -2.391 | -2.391 | 0 | %100 |
| 30 | M25 | Z | 0 | 0 | 0 | %100 |
| 31 | M26 | X | -2.391 | -2.391 | 0 | %100 |
| 32 | M26 | Z | 0 | 0 | 0 | %100 |
| 33 | M27 | X | -2.391 | -2.391 | 0 | %100 |
| 34 | M27 | Z | 0 | 0 | 0 | %100 |
| 35 | M28 | X | -2.391 | -2.391 | 0 | %100 |
| 36 | M28 | Z | 0 | 0 | 0 | %100 |
| 37 | M31 | X | -9.018 | -9.018 | 0 | %100 |
| 38 | M31 | Z | 0 | 0 | 0 | %100 |
| 39 | M32 | X | -9.018 | -9.018 | 0 | %100 |
| 40 | M32 | Z | 0 | 0 | 0 | %100 |
| 41 | MP4A | X | -9.748 | -9.748 | 0 | %100 |
| 42 | MP4A | Z | 0 | 0 | 0 | %100 |
| 43 | MP3A | X | -9.748 | -9.748 | 0 | %100 |
| 44 | MP3A | Z | 0 | 0 | 0 | %100 |
| 45 | MP2A | X | -11.8 | -11.8 | 0 | %100 |
| 46 | MP2A | Z | 0 | 0 | 0 | %100 |
| 47 | MP1A | X | -9.748 | -9.748 | 0 | %100 |
| 48 | MP1A | Z | 0 | 0 | 0 | %100 |
| 49 | M44 | X | -2.565 | -2.565 | 0 | %100 |
| 50 | M44 | Z | 0 | 0 | 0 | %100 |
| 51 | M45 | X | -2.565 | -2.565 | 0 | %100 |
| 52 | M45 | Z | 0 | 0 | 0 | %100 |
| 53 | M46 | X | -2.565 | -2.565 | 0 | %100 |
| 54 | M46 | Z | 0 | 0 | 0 | %100 |
| 55 | M47 | X | -2.565 | -2.565 | 0 | %100 |
| 56 | M47 | Z | 0 | 0 | 0 | %100 |

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

| | Member Label | Direction | Start Magnitude[lb/ft.... | End Magnitude[lb/ft,F... | Start Location[ft.%] | End Location[ft.%] |
|----|--------------|-----------|---------------------------|--------------------------|----------------------|--------------------|
| 1 | M1 | X | -2.555 | -2.555 | 0 | %100 |
| 2 | M1 | Z | -1.475 | -1.475 | 0 | %100 |
| 3 | M2 | X | -2.555 | -2.555 | 0 | %100 |
| 4 | M2 | Z | -1.475 | -1.475 | 0 | %100 |
| 5 | M13 | X | -1.666 | -1.666 | 0 | %100 |
| 6 | M13 | Z | -.962 | -.962 | 0 | %100 |
| 7 | M14 | X | -1.666 | -1.666 | 0 | %100 |
| 8 | M14 | Z | -.962 | -.962 | 0 | %100 |
| 9 | M15 | X | -1.666 | -1.666 | 0 | %100 |
| 10 | M15 | Z | -.962 | -.962 | 0 | %100 |
| 11 | M16 | X | -1.666 | -1.666 | 0 | %100 |
| 12 | M16 | Z | -.962 | -.962 | 0 | %100 |
| 13 | M17 | X | -5.6 | -5.6 | 0 | %100 |
| 14 | M17 | Z | -3.233 | -3.233 | 0 | %100 |
| 15 | M18 | X | -5.6 | -5.6 | 0 | %100 |
| 16 | M18 | Z | -3.233 | -3.233 | 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, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 17 | M19 | X | -128 | -128 | 0 | %100 |
| 18 | M19 | Z | -074 | -074 | 0 | %100 |
| 19 | M20 | X | -128 | -128 | 0 | %100 |
| 20 | M20 | Z | -074 | -074 | 0 | %100 |
| 21 | M21 | X | -555 | -555 | 0 | %100 |
| 22 | M21 | Z | -321 | -321 | 0 | %100 |
| 23 | M22 | X | -555 | -555 | 0 | %100 |
| 24 | M22 | Z | -321 | -321 | 0 | %100 |
| 25 | M23 | X | -555 | -555 | 0 | %100 |
| 26 | M23 | Z | -321 | -321 | 0 | %100 |
| 27 | M24 | X | -555 | -555 | 0 | %100 |
| 28 | M24 | Z | -321 | -321 | 0 | %100 |
| 29 | M25 | X | -2.532 | -2.532 | 0 | %100 |
| 30 | M25 | Z | -1.462 | -1.462 | 0 | %100 |
| 31 | M26 | X | -2.532 | -2.532 | 0 | %100 |
| 32 | M26 | Z | -1.462 | -1.462 | 0 | %100 |
| 33 | M27 | X | -1.725 | -1.725 | 0 | %100 |
| 34 | M27 | Z | -996 | -996 | 0 | %100 |
| 35 | M28 | X | -1.725 | -1.725 | 0 | %100 |
| 36 | M28 | Z | -996 | -996 | 0 | %100 |
| 37 | M31 | X | -7.94 | -7.94 | 0 | %100 |
| 38 | M31 | Z | -4.584 | -4.584 | 0 | %100 |
| 39 | M32 | X | -4.094 | -4.094 | 0 | %100 |
| 40 | M32 | Z | -2.364 | -2.364 | 0 | %100 |
| 41 | MP4A | X | -8.442 | -8.442 | 0 | %100 |
| 42 | MP4A | Z | -4.874 | -4.874 | 0 | %100 |
| 43 | MP3A | X | -8.442 | -8.442 | 0 | %100 |
| 44 | MP3A | Z | -4.874 | -4.874 | 0 | %100 |
| 45 | MP2A | X | -10.219 | -10.219 | 0 | %100 |
| 46 | MP2A | Z | -5.9 | -5.9 | 0 | %100 |
| 47 | MP1A | X | -8.442 | -8.442 | 0 | %100 |
| 48 | MP1A | Z | -4.874 | -4.874 | 0 | %100 |
| 49 | M44 | X | -2.222 | -2.222 | 0 | %100 |
| 50 | M44 | Z | -1.283 | -1.283 | 0 | %100 |
| 51 | M45 | X | -2.222 | -2.222 | 0 | %100 |
| 52 | M45 | Z | -1.283 | -1.283 | 0 | %100 |
| 53 | M46 | X | -2.222 | -2.222 | 0 | %100 |
| 54 | M46 | Z | -1.283 | -1.283 | 0 | %100 |
| 55 | M47 | X | -2.222 | -2.222 | 0 | %100 |
| 56 | M47 | Z | -1.283 | -1.283 | 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 | -4.425 | -4.425 | 0 | %100 |
| 2 | M1 | Z | -7.664 | -7.664 | 0 | %100 |
| 3 | M2 | X | -4.425 | -4.425 | 0 | %100 |
| 4 | M2 | Z | -7.664 | -7.664 | 0 | %100 |
| 5 | M13 | X | -321 | -321 | 0 | %100 |
| 6 | M13 | Z | -555 | -555 | 0 | %100 |
| 7 | M14 | X | -321 | -321 | 0 | %100 |
| 8 | M14 | Z | -555 | -555 | 0 | %100 |
| 9 | M15 | X | -321 | -321 | 0 | %100 |
| 10 | M15 | Z | -555 | -555 | 0 | %100 |
| 11 | M16 | X | -321 | -321 | 0 | %100 |
| 12 | M16 | Z | -555 | -555 | 0 | %100 |
| 13 | M17 | X | -3.684 | -3.684 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 11 | M16 | X | 0 | 0 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | M17 | X | 0 | 0 | 0 | %100 |
| 14 | M17 | Z | -1.567 | -1.567 | 0 | %100 |
| 15 | M18 | X | 0 | 0 | 0 | %100 |
| 16 | M18 | Z | -1.567 | -1.567 | 0 | %100 |
| 17 | M19 | X | 0 | 0 | 0 | %100 |
| 18 | M19 | Z | -1.567 | -1.567 | 0 | %100 |
| 19 | M20 | X | 0 | 0 | 0 | %100 |
| 20 | M20 | Z | -1.567 | -1.567 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | -1.376 | -1.376 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | -1.376 | -1.376 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | -1.376 | -1.376 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | -1.376 | -1.376 | 0 | %100 |
| 29 | M25 | X | 0 | 0 | 0 | %100 |
| 30 | M25 | Z | -1.752 | -1.752 | 0 | %100 |
| 31 | M26 | X | 0 | 0 | 0 | %100 |
| 32 | M26 | Z | -1.752 | -1.752 | 0 | %100 |
| 33 | M27 | X | 0 | 0 | 0 | %100 |
| 34 | M27 | Z | -1.752 | -1.752 | 0 | %100 |
| 35 | M28 | X | 0 | 0 | 0 | %100 |
| 36 | M28 | Z | -1.752 | -1.752 | 0 | %100 |
| 37 | M31 | X | 0 | 0 | 0 | %100 |
| 38 | M31 | Z | -.246 | -.246 | 0 | %100 |
| 39 | M32 | X | 0 | 0 | 0 | %100 |
| 40 | M32 | Z | -.246 | -.246 | 0 | %100 |
| 41 | MP4A | X | 0 | 0 | 0 | %100 |
| 42 | MP4A | Z | -3.257 | -3.257 | 0 | %100 |
| 43 | MP3A | X | 0 | 0 | 0 | %100 |
| 44 | MP3A | Z | -3.257 | -3.257 | 0 | %100 |
| 45 | MP2A | X | 0 | 0 | 0 | %100 |
| 46 | MP2A | Z | -3.608 | -3.608 | 0 | %100 |
| 47 | MP1A | X | 0 | 0 | 0 | %100 |
| 48 | MP1A | Z | -3.257 | -3.257 | 0 | %100 |
| 49 | M44 | X | 0 | 0 | 0 | %100 |
| 50 | M44 | Z | -1.813 | -1.813 | 0 | %100 |
| 51 | M45 | X | 0 | 0 | 0 | %100 |
| 52 | M45 | Z | -1.813 | -1.813 | 0 | %100 |
| 53 | M46 | X | 0 | 0 | 0 | %100 |
| 54 | M46 | Z | -1.813 | -1.813 | 0 | %100 |
| 55 | M47 | X | 0 | 0 | 0 | %100 |
| 56 | M47 | Z | -1.813 | -1.813 | 0 | %100 |

Member Distributed Loads (BLC 54 : Structure Wi (30 Deg))

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|---|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | 1.353 | 1.353 | 0 | %100 |
| 2 | M1 | Z | -2.343 | -2.343 | 0 | %100 |
| 3 | M2 | X | 1.353 | 1.353 | 0 | %100 |
| 4 | M2 | Z | -2.343 | -2.343 | 0 | %100 |
| 5 | M13 | X | .171 | .171 | 0 | %100 |
| 6 | M13 | Z | -.296 | -.296 | 0 | %100 |
| 7 | M14 | X | .171 | .171 | 0 | %100 |



Member Distributed Loads (BLC 54 : Structure Wi (30 Deg)) (Continued)

| | Member Label | Direction | Start Magnitude[lb/ft.... | End Magnitude[lb/ft.F... | Start Location[ft.%] | End Location[ft.%] |
|----|--------------|-----------|---------------------------|--------------------------|----------------------|--------------------|
| 8 | M14 | Z | -.296 | -.296 | 0 | %100 |
| 9 | M15 | X | .171 | .171 | 0 | %100 |
| 10 | M15 | Z | -.296 | -.296 | 0 | %100 |
| 11 | M16 | X | .171 | .171 | 0 | %100 |
| 12 | M16 | Z | -.296 | -.296 | 0 | %100 |
| 13 | M17 | X | .176 | .176 | 0 | %100 |
| 14 | M17 | Z | -.306 | -.306 | 0 | %100 |
| 15 | M18 | X | .176 | .176 | 0 | %100 |
| 16 | M18 | Z | -.306 | -.306 | 0 | %100 |
| 17 | M19 | X | 1.239 | 1.239 | 0 | %100 |
| 18 | M19 | Z | -2.146 | -2.146 | 0 | %100 |
| 19 | M20 | X | 1.239 | 1.239 | 0 | %100 |
| 20 | M20 | Z | -2.146 | -2.146 | 0 | %100 |
| 21 | M21 | X | .516 | .516 | 0 | %100 |
| 22 | M21 | Z | -.894 | -.894 | 0 | %100 |
| 23 | M22 | X | .516 | .516 | 0 | %100 |
| 24 | M22 | Z | -.894 | -.894 | 0 | %100 |
| 25 | M23 | X | .516 | .516 | 0 | %100 |
| 26 | M23 | Z | -.894 | -.894 | 0 | %100 |
| 27 | M24 | X | .516 | .516 | 0 | %100 |
| 28 | M24 | Z | -.894 | -.894 | 0 | %100 |
| 29 | M25 | X | .7 | .7 | 0 | %100 |
| 30 | M25 | Z | -1.213 | -1.213 | 0 | %100 |
| 31 | M26 | X | .7 | .7 | 0 | %100 |
| 32 | M26 | Z | -1.213 | -1.213 | 0 | %100 |
| 33 | M27 | X | 1.008 | 1.008 | 0 | %100 |
| 34 | M27 | Z | -1.746 | -1.746 | 0 | %100 |
| 35 | M28 | X | 1.008 | 1.008 | 0 | %100 |
| 36 | M28 | Z | -1.746 | -1.746 | 0 | %100 |
| 37 | M31 | X | .098 | .098 | 0 | %100 |
| 38 | M31 | Z | -.17 | -.17 | 0 | %100 |
| 39 | M32 | X | .84 | .84 | 0 | %100 |
| 40 | M32 | Z | -1.455 | -1.455 | 0 | %100 |
| 41 | MP4A | X | 1.629 | 1.629 | 0 | %100 |
| 42 | MP4A | Z | -2.821 | -2.821 | 0 | %100 |
| 43 | MP3A | X | 1.629 | 1.629 | 0 | %100 |
| 44 | MP3A | Z | -2.821 | -2.821 | 0 | %100 |
| 45 | MP2A | X | 1.804 | 1.804 | 0 | %100 |
| 46 | MP2A | Z | -3.124 | -3.124 | 0 | %100 |
| 47 | MP1A | X | 1.629 | 1.629 | 0 | %100 |
| 48 | MP1A | Z | -2.821 | -2.821 | 0 | %100 |
| 49 | M44 | X | .906 | .906 | 0 | %100 |
| 50 | M44 | Z | -1.57 | -1.57 | 0 | %100 |
| 51 | M45 | X | .906 | .906 | 0 | %100 |
| 52 | M45 | Z | -1.57 | -1.57 | 0 | %100 |
| 53 | M46 | X | .906 | .906 | 0 | %100 |
| 54 | M46 | Z | -1.57 | -1.57 | 0 | %100 |
| 55 | M47 | X | .906 | .906 | 0 | %100 |
| 56 | M47 | Z | -1.57 | -1.57 | 0 | %100 |

Member Distributed Loads (BLC 55 : Structure Wi (60 Deg))

| | Member Label | Direction | Start Magnitude[lb/ft.... | End Magnitude[lb/ft.F... | Start Location[ft.%] | End Location[ft.%] |
|---|--------------|-----------|---------------------------|--------------------------|----------------------|--------------------|
| 1 | M1 | X | .781 | .781 | 0 | %100 |
| 2 | M1 | Z | -.451 | -.451 | 0 | %100 |
| 3 | M2 | X | .781 | .781 | 0 | %100 |
| 4 | M2 | Z | -.451 | -.451 | 0 | %100 |



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Member Distributed Loads (BLC 55 : Structure Wi (60 Deg)) (Continued)

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 5 | M13 | X | .888 | .888 | 0 | %100 |
| 6 | M13 | Z | -.513 | -.513 | 0 | %100 |
| 7 | M14 | X | .888 | .888 | 0 | %100 |
| 8 | M14 | Z | -.513 | -.513 | 0 | %100 |
| 9 | M15 | X | .888 | .888 | 0 | %100 |
| 10 | M15 | Z | -.513 | -.513 | 0 | %100 |
| 11 | M16 | X | .888 | .888 | 0 | %100 |
| 12 | M16 | Z | -.513 | -.513 | 0 | %100 |
| 13 | M17 | X | .043 | .043 | 0 | %100 |
| 14 | M17 | Z | -.025 | -.025 | 0 | %100 |
| 15 | M18 | X | .043 | .043 | 0 | %100 |
| 16 | M18 | Z | -.025 | -.025 | 0 | %100 |
| 17 | M19 | X | 1.884 | 1.884 | 0 | %100 |
| 18 | M19 | Z | -1.088 | -1.088 | 0 | %100 |
| 19 | M20 | X | 1.884 | 1.884 | 0 | %100 |
| 20 | M20 | Z | -1.088 | -1.088 | 0 | %100 |
| 21 | M21 | X | .298 | .298 | 0 | %100 |
| 22 | M21 | Z | -.172 | -.172 | 0 | %100 |
| 23 | M22 | X | .298 | .298 | 0 | %100 |
| 24 | M22 | Z | -.172 | -.172 | 0 | %100 |
| 25 | M23 | X | .298 | .298 | 0 | %100 |
| 26 | M23 | Z | -.172 | -.172 | 0 | %100 |
| 27 | M24 | X | .298 | .298 | 0 | %100 |
| 28 | M24 | Z | -.172 | -.172 | 0 | %100 |
| 29 | M25 | X | 1.137 | 1.137 | 0 | %100 |
| 30 | M25 | Z | -.657 | -.657 | 0 | %100 |
| 31 | M26 | X | 1.137 | 1.137 | 0 | %100 |
| 32 | M26 | Z | -.657 | -.657 | 0 | %100 |
| 33 | M27 | X | 1.67 | 1.67 | 0 | %100 |
| 34 | M27 | Z | -.964 | -.964 | 0 | %100 |
| 35 | M28 | X | 1.67 | 1.67 | 0 | %100 |
| 36 | M28 | Z | -.964 | -.964 | 0 | %100 |
| 37 | M31 | X | 1.368 | 1.368 | 0 | %100 |
| 38 | M31 | Z | -.79 | -.79 | 0 | %100 |
| 39 | M32 | X | 2.653 | 2.653 | 0 | %100 |
| 40 | M32 | Z | -1.532 | -1.532 | 0 | %100 |
| 41 | MP4A | X | 2.821 | 2.821 | 0 | %100 |
| 42 | MP4A | Z | -1.629 | -1.629 | 0 | %100 |
| 43 | MP3A | X | 2.821 | 2.821 | 0 | %100 |
| 44 | MP3A | Z | -1.629 | -1.629 | 0 | %100 |
| 45 | MP2A | X | 3.124 | 3.124 | 0 | %100 |
| 46 | MP2A | Z | -1.804 | -1.804 | 0 | %100 |
| 47 | MP1A | X | 2.821 | 2.821 | 0 | %100 |
| 48 | MP1A | Z | -1.629 | -1.629 | 0 | %100 |
| 49 | M44 | X | 1.57 | 1.57 | 0 | %100 |
| 50 | M44 | Z | -.906 | -.906 | 0 | %100 |
| 51 | M45 | X | 1.57 | 1.57 | 0 | %100 |
| 52 | M45 | Z | -.906 | -.906 | 0 | %100 |
| 53 | M46 | X | 1.57 | 1.57 | 0 | %100 |
| 54 | M46 | Z | -.906 | -.906 | 0 | %100 |
| 55 | M47 | X | 1.57 | 1.57 | 0 | %100 |
| 56 | M47 | Z | -.906 | -.906 | 0 | %100 |

Member Distributed Loads (BLC 56 : Structure Wi (90 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 |



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Member Distributed Loads (BLC 57 : Structure Wi (120 Deg))

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | .781 | .781 | 0 | %100 |
| 2 | M1 | Z | .451 | .451 | 0 | %100 |
| 3 | M2 | X | .781 | .781 | 0 | %100 |
| 4 | M2 | Z | .451 | .451 | 0 | %100 |
| 5 | M13 | X | .888 | .888 | 0 | %100 |
| 6 | M13 | Z | .513 | .513 | 0 | %100 |
| 7 | M14 | X | .888 | .888 | 0 | %100 |
| 8 | M14 | Z | .513 | .513 | 0 | %100 |
| 9 | M15 | X | .888 | .888 | 0 | %100 |
| 10 | M15 | Z | .513 | .513 | 0 | %100 |
| 11 | M16 | X | .888 | .888 | 0 | %100 |
| 12 | M16 | Z | .513 | .513 | 0 | %100 |
| 13 | M17 | X | 1.884 | 1.884 | 0 | %100 |
| 14 | M17 | Z | 1.088 | 1.088 | 0 | %100 |
| 15 | M18 | X | 1.884 | 1.884 | 0 | %100 |
| 16 | M18 | Z | 1.088 | 1.088 | 0 | %100 |
| 17 | M19 | X | .043 | .043 | 0 | %100 |
| 18 | M19 | Z | .025 | .025 | 0 | %100 |
| 19 | M20 | X | .043 | .043 | 0 | %100 |
| 20 | M20 | Z | .025 | .025 | 0 | %100 |
| 21 | M21 | X | .298 | .298 | 0 | %100 |
| 22 | M21 | Z | .172 | .172 | 0 | %100 |
| 23 | M22 | X | .298 | .298 | 0 | %100 |
| 24 | M22 | Z | .172 | .172 | 0 | %100 |
| 25 | M23 | X | .298 | .298 | 0 | %100 |
| 26 | M23 | Z | .172 | .172 | 0 | %100 |
| 27 | M24 | X | .298 | .298 | 0 | %100 |
| 28 | M24 | Z | .172 | .172 | 0 | %100 |
| 29 | M25 | X | 1.67 | 1.67 | 0 | %100 |
| 30 | M25 | Z | .964 | .964 | 0 | %100 |
| 31 | M26 | X | 1.67 | 1.67 | 0 | %100 |
| 32 | M26 | Z | .964 | .964 | 0 | %100 |
| 33 | M27 | X | 1.137 | 1.137 | 0 | %100 |
| 34 | M27 | Z | .657 | .657 | 0 | %100 |
| 35 | M28 | X | 1.137 | 1.137 | 0 | %100 |
| 36 | M28 | Z | .657 | .657 | 0 | %100 |
| 37 | M31 | X | 2.653 | 2.653 | 0 | %100 |
| 38 | M31 | Z | 1.532 | 1.532 | 0 | %100 |
| 39 | M32 | X | 1.368 | 1.368 | 0 | %100 |
| 40 | M32 | Z | .79 | .79 | 0 | %100 |
| 41 | MP4A | X | 2.821 | 2.821 | 0 | %100 |
| 42 | MP4A | Z | 1.629 | 1.629 | 0 | %100 |
| 43 | MP3A | X | 2.821 | 2.821 | 0 | %100 |
| 44 | MP3A | Z | 1.629 | 1.629 | 0 | %100 |
| 45 | MP2A | X | 3.124 | 3.124 | 0 | %100 |
| 46 | MP2A | Z | 1.804 | 1.804 | 0 | %100 |
| 47 | MP1A | X | 2.821 | 2.821 | 0 | %100 |
| 48 | MP1A | Z | 1.629 | 1.629 | 0 | %100 |
| 49 | M44 | X | 1.57 | 1.57 | 0 | %100 |
| 50 | M44 | Z | .906 | .906 | 0 | %100 |
| 51 | M45 | X | 1.57 | 1.57 | 0 | %100 |
| 52 | M45 | Z | .906 | .906 | 0 | %100 |
| 53 | M46 | X | 1.57 | 1.57 | 0 | %100 |
| 54 | M46 | Z | .906 | .906 | 0 | %100 |
| 55 | M47 | X | 1.57 | 1.57 | 0 | %100 |
| 56 | M47 | Z | .906 | .906 | 0 | %100 |



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Member Distributed Loads (BLC 58 : Structure Wi (150 Deg))

| Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | 1.353 | 1.353 | 0 %100 |
| 2 | M1 | Z | 2.343 | 2.343 | 0 %100 |
| 3 | M2 | X | 1.353 | 1.353 | 0 %100 |
| 4 | M2 | Z | 2.343 | 2.343 | 0 %100 |
| 5 | M13 | X | .171 | .171 | 0 %100 |
| 6 | M13 | Z | .296 | .296 | 0 %100 |
| 7 | M14 | X | .171 | .171 | 0 %100 |
| 8 | M14 | Z | .296 | .296 | 0 %100 |
| 9 | M15 | X | .171 | .171 | 0 %100 |
| 10 | M15 | Z | .296 | .296 | 0 %100 |
| 11 | M16 | X | .171 | .171 | 0 %100 |
| 12 | M16 | Z | .296 | .296 | 0 %100 |
| 13 | M17 | X | 1.239 | 1.239 | 0 %100 |
| 14 | M17 | Z | 2.146 | 2.146 | 0 %100 |
| 15 | M18 | X | 1.239 | 1.239 | 0 %100 |
| 16 | M18 | Z | 2.146 | 2.146 | 0 %100 |
| 17 | M19 | X | .176 | .176 | 0 %100 |
| 18 | M19 | Z | .306 | .306 | 0 %100 |
| 19 | M20 | X | .176 | .176 | 0 %100 |
| 20 | M20 | Z | .306 | .306 | 0 %100 |
| 21 | M21 | X | .516 | .516 | 0 %100 |
| 22 | M21 | Z | .894 | .894 | 0 %100 |
| 23 | M22 | X | .516 | .516 | 0 %100 |
| 24 | M22 | Z | .894 | .894 | 0 %100 |
| 25 | M23 | X | .516 | .516 | 0 %100 |
| 26 | M23 | Z | .894 | .894 | 0 %100 |
| 27 | M24 | X | .516 | .516 | 0 %100 |
| 28 | M24 | Z | .894 | .894 | 0 %100 |
| 29 | M25 | X | 1.008 | 1.008 | 0 %100 |
| 30 | M25 | Z | 1.746 | 1.746 | 0 %100 |
| 31 | M26 | X | 1.008 | 1.008 | 0 %100 |
| 32 | M26 | Z | 1.746 | 1.746 | 0 %100 |
| 33 | M27 | X | .7 | .7 | 0 %100 |
| 34 | M27 | Z | 1.213 | 1.213 | 0 %100 |
| 35 | M28 | X | .7 | .7 | 0 %100 |
| 36 | M28 | Z | 1.213 | 1.213 | 0 %100 |
| 37 | M31 | X | .84 | .84 | 0 %100 |
| 38 | M31 | Z | 1.455 | 1.455 | 0 %100 |
| 39 | M32 | X | .098 | .098 | 0 %100 |
| 40 | M32 | Z | .17 | .17 | 0 %100 |
| 41 | MP4A | X | 1.629 | 1.629 | 0 %100 |
| 42 | MP4A | Z | 2.821 | 2.821 | 0 %100 |
| 43 | MP3A | X | 1.629 | 1.629 | 0 %100 |
| 44 | MP3A | Z | 2.821 | 2.821 | 0 %100 |
| 45 | MP2A | X | 1.804 | 1.804 | 0 %100 |
| 46 | MP2A | Z | 3.124 | 3.124 | 0 %100 |
| 47 | MP1A | X | 1.629 | 1.629 | 0 %100 |
| 48 | MP1A | Z | 2.821 | 2.821 | 0 %100 |
| 49 | M44 | X | .906 | .906 | 0 %100 |
| 50 | M44 | Z | 1.57 | 1.57 | 0 %100 |
| 51 | M45 | X | .906 | .906 | 0 %100 |
| 52 | M45 | Z | 1.57 | 1.57 | 0 %100 |
| 53 | M46 | X | .906 | .906 | 0 %100 |
| 54 | M46 | Z | 1.57 | 1.57 | 0 %100 |
| 55 | M47 | X | .906 | .906 | 0 %100 |
| 56 | M47 | Z | 1.57 | 1.57 | 0 %100 |



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Member Distributed Loads (BLC 60 : Structure Wi (210 Deg))

| Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | -1.353 | -1.353 | 0 %100 |
| 2 | M1 | Z | 2.343 | 2.343 | 0 %100 |
| 3 | M2 | X | -1.353 | -1.353 | 0 %100 |
| 4 | M2 | Z | 2.343 | 2.343 | 0 %100 |
| 5 | M13 | X | -.171 | -.171 | 0 %100 |
| 6 | M13 | Z | .296 | .296 | 0 %100 |
| 7 | M14 | X | -.171 | -.171 | 0 %100 |
| 8 | M14 | Z | .296 | .296 | 0 %100 |
| 9 | M15 | X | -.171 | -.171 | 0 %100 |
| 10 | M15 | Z | .296 | .296 | 0 %100 |
| 11 | M16 | X | -.171 | -.171 | 0 %100 |
| 12 | M16 | Z | .296 | .296 | 0 %100 |
| 13 | M17 | X | -.176 | -.176 | 0 %100 |
| 14 | M17 | Z | .306 | .306 | 0 %100 |
| 15 | M18 | X | -.176 | -.176 | 0 %100 |
| 16 | M18 | Z | .306 | .306 | 0 %100 |
| 17 | M19 | X | -1.239 | -1.239 | 0 %100 |
| 18 | M19 | Z | 2.146 | 2.146 | 0 %100 |
| 19 | M20 | X | -1.239 | -1.239 | 0 %100 |
| 20 | M20 | Z | 2.146 | 2.146 | 0 %100 |
| 21 | M21 | X | -.516 | -.516 | 0 %100 |
| 22 | M21 | Z | .894 | .894 | 0 %100 |
| 23 | M22 | X | -.516 | -.516 | 0 %100 |
| 24 | M22 | Z | .894 | .894 | 0 %100 |
| 25 | M23 | X | -.516 | -.516 | 0 %100 |
| 26 | M23 | Z | .894 | .894 | 0 %100 |
| 27 | M24 | X | -.516 | -.516 | 0 %100 |
| 28 | M24 | Z | .894 | .894 | 0 %100 |
| 29 | M25 | X | -.7 | -.7 | 0 %100 |
| 30 | M25 | Z | 1.213 | 1.213 | 0 %100 |
| 31 | M26 | X | -.7 | -.7 | 0 %100 |
| 32 | M26 | Z | 1.213 | 1.213 | 0 %100 |
| 33 | M27 | X | -1.008 | -1.008 | 0 %100 |
| 34 | M27 | Z | 1.746 | 1.746 | 0 %100 |
| 35 | M28 | X | -1.008 | -1.008 | 0 %100 |
| 36 | M28 | Z | 1.746 | 1.746 | 0 %100 |
| 37 | M31 | X | -.098 | -.098 | 0 %100 |
| 38 | M31 | Z | .17 | .17 | 0 %100 |
| 39 | M32 | X | -.84 | -.84 | 0 %100 |
| 40 | M32 | Z | 1.455 | 1.455 | 0 %100 |
| 41 | MP4A | X | -1.629 | -1.629 | 0 %100 |
| 42 | MP4A | Z | 2.821 | 2.821 | 0 %100 |
| 43 | MP3A | X | -1.629 | -1.629 | 0 %100 |
| 44 | MP3A | Z | 2.821 | 2.821 | 0 %100 |
| 45 | MP2A | X | -1.804 | -1.804 | 0 %100 |
| 46 | MP2A | Z | 3.124 | 3.124 | 0 %100 |
| 47 | MP1A | X | -1.629 | -1.629 | 0 %100 |
| 48 | MP1A | Z | 2.821 | 2.821 | 0 %100 |
| 49 | M44 | X | -.906 | -.906 | 0 %100 |
| 50 | M44 | Z | 1.57 | 1.57 | 0 %100 |
| 51 | M45 | X | -.906 | -.906 | 0 %100 |
| 52 | M45 | Z | 1.57 | 1.57 | 0 %100 |
| 53 | M46 | X | -.906 | -.906 | 0 %100 |
| 54 | M46 | Z | 1.57 | 1.57 | 0 %100 |
| 55 | M47 | X | -.906 | -.906 | 0 %100 |
| 56 | M47 | Z | 1.57 | 1.57 | 0 %100 |



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 Job Number :
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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 | -1.353 | -1.353 | 0 %100 |
| 2 | M1 | Z | -2.343 | -2.343 | 0 %100 |
| 3 | M2 | X | -1.353 | -1.353 | 0 %100 |
| 4 | M2 | Z | -2.343 | -2.343 | 0 %100 |
| 5 | M13 | X | -.171 | -.171 | 0 %100 |
| 6 | M13 | Z | -.296 | -.296 | 0 %100 |
| 7 | M14 | X | -.171 | -.171 | 0 %100 |
| 8 | M14 | Z | -.296 | -.296 | 0 %100 |
| 9 | M15 | X | -.171 | -.171 | 0 %100 |
| 10 | M15 | Z | -.296 | -.296 | 0 %100 |
| 11 | M16 | X | -.171 | -.171 | 0 %100 |
| 12 | M16 | Z | -.296 | -.296 | 0 %100 |
| 13 | M17 | X | -1.239 | -1.239 | 0 %100 |
| 14 | M17 | Z | -2.146 | -2.146 | 0 %100 |
| 15 | M18 | X | -1.239 | -1.239 | 0 %100 |
| 16 | M18 | Z | -2.146 | -2.146 | 0 %100 |
| 17 | M19 | X | -.176 | -.176 | 0 %100 |
| 18 | M19 | Z | -.306 | -.306 | 0 %100 |
| 19 | M20 | X | -.176 | -.176 | 0 %100 |
| 20 | M20 | Z | -.306 | -.306 | 0 %100 |
| 21 | M21 | X | -.516 | -.516 | 0 %100 |
| 22 | M21 | Z | -.894 | -.894 | 0 %100 |
| 23 | M22 | X | -.516 | -.516 | 0 %100 |
| 24 | M22 | Z | -.894 | -.894 | 0 %100 |
| 25 | M23 | X | -.516 | -.516 | 0 %100 |
| 26 | M23 | Z | -.894 | -.894 | 0 %100 |
| 27 | M24 | X | -.516 | -.516 | 0 %100 |
| 28 | M24 | Z | -.894 | -.894 | 0 %100 |
| 29 | M25 | X | -1.008 | -1.008 | 0 %100 |
| 30 | M25 | Z | -1.746 | -1.746 | 0 %100 |
| 31 | M26 | X | -1.008 | -1.008 | 0 %100 |
| 32 | M26 | Z | -1.746 | -1.746 | 0 %100 |
| 33 | M27 | X | -.7 | -.7 | 0 %100 |
| 34 | M27 | Z | -1.213 | -1.213 | 0 %100 |
| 35 | M28 | X | -.7 | -.7 | 0 %100 |
| 36 | M28 | Z | -1.213 | -1.213 | 0 %100 |
| 37 | M31 | X | -.84 | -.84 | 0 %100 |
| 38 | M31 | Z | -1.455 | -1.455 | 0 %100 |
| 39 | M32 | X | -.098 | -.098 | 0 %100 |
| 40 | M32 | Z | -.17 | -.17 | 0 %100 |
| 41 | MP4A | X | -1.629 | -1.629 | 0 %100 |
| 42 | MP4A | Z | -2.821 | -2.821 | 0 %100 |
| 43 | MP3A | X | -1.629 | -1.629 | 0 %100 |
| 44 | MP3A | Z | -2.821 | -2.821 | 0 %100 |
| 45 | MP2A | X | -1.804 | -1.804 | 0 %100 |
| 46 | MP2A | Z | -3.124 | -3.124 | 0 %100 |
| 47 | MP1A | X | -1.629 | -1.629 | 0 %100 |
| 48 | MP1A | Z | -2.821 | -2.821 | 0 %100 |
| 49 | M44 | X | -.906 | -.906 | 0 %100 |
| 50 | M44 | Z | -1.57 | -1.57 | 0 %100 |
| 51 | M45 | X | -.906 | -.906 | 0 %100 |
| 52 | M45 | Z | -1.57 | -1.57 | 0 %100 |
| 53 | M46 | X | -.906 | -.906 | 0 %100 |
| 54 | M46 | Z | -1.57 | -1.57 | 0 %100 |
| 55 | M47 | X | -.906 | -.906 | 0 %100 |
| 56 | M47 | Z | -1.57 | -1.57 | 0 %100 |



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Member Distributed Loads (BLC 66 : Structure Wm (30 Deg))

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | .272 | .272 | 0 | %100 |
| 2 | M1 | Z | -.471 | -.471 | 0 | %100 |
| 3 | M2 | X | .272 | .272 | 0 | %100 |
| 4 | M2 | Z | -.471 | -.471 | 0 | %100 |
| 5 | M13 | X | .02 | .02 | 0 | %100 |
| 6 | M13 | Z | -.034 | -.034 | 0 | %100 |
| 7 | M14 | X | .02 | .02 | 0 | %100 |
| 8 | M14 | Z | -.034 | -.034 | 0 | %100 |
| 9 | M15 | X | .02 | .02 | 0 | %100 |
| 10 | M15 | Z | -.034 | -.034 | 0 | %100 |
| 11 | M16 | X | .02 | .02 | 0 | %100 |
| 12 | M16 | Z | -.034 | -.034 | 0 | %100 |
| 13 | M17 | X | .032 | .032 | 0 | %100 |
| 14 | M17 | Z | -.056 | -.056 | 0 | %100 |
| 15 | M18 | X | .032 | .032 | 0 | %100 |
| 16 | M18 | Z | -.056 | -.056 | 0 | %100 |
| 17 | M19 | X | .226 | .226 | 0 | %100 |
| 18 | M19 | Z | -.392 | -.392 | 0 | %100 |
| 19 | M20 | X | .226 | .226 | 0 | %100 |
| 20 | M20 | Z | -.392 | -.392 | 0 | %100 |
| 21 | M21 | X | .059 | .059 | 0 | %100 |
| 22 | M21 | Z | -.102 | -.102 | 0 | %100 |
| 23 | M22 | X | .059 | .059 | 0 | %100 |
| 24 | M22 | Z | -.102 | -.102 | 0 | %100 |
| 25 | M23 | X | .059 | .059 | 0 | %100 |
| 26 | M23 | Z | -.102 | -.102 | 0 | %100 |
| 27 | M24 | X | .059 | .059 | 0 | %100 |
| 28 | M24 | Z | -.102 | -.102 | 0 | %100 |
| 29 | M25 | X | .065 | .065 | 0 | %100 |
| 30 | M25 | Z | -.113 | -.113 | 0 | %100 |
| 31 | M26 | X | .065 | .065 | 0 | %100 |
| 32 | M26 | Z | -.113 | -.113 | 0 | %100 |
| 33 | M27 | X | .094 | .094 | 0 | %100 |
| 34 | M27 | Z | -.163 | -.163 | 0 | %100 |
| 35 | M28 | X | .094 | .094 | 0 | %100 |
| 36 | M28 | Z | -.163 | -.163 | 0 | %100 |
| 37 | M31 | X | .018 | .018 | 0 | %100 |
| 38 | M31 | Z | -.031 | -.031 | 0 | %100 |
| 39 | M32 | X | .155 | .155 | 0 | %100 |
| 40 | M32 | Z | -.268 | -.268 | 0 | %100 |
| 41 | MP4A | X | .3 | .3 | 0 | %100 |
| 42 | MP4A | Z | -.519 | -.519 | 0 | %100 |
| 43 | MP3A | X | .3 | .3 | 0 | %100 |
| 44 | MP3A | Z | -.519 | -.519 | 0 | %100 |
| 45 | MP2A | X | .363 | .363 | 0 | %100 |
| 46 | MP2A | Z | -.628 | -.628 | 0 | %100 |
| 47 | MP1A | X | .3 | .3 | 0 | %100 |
| 48 | MP1A | Z | -.519 | -.519 | 0 | %100 |
| 49 | M44 | X | .079 | .079 | 0 | %100 |
| 50 | M44 | Z | -.137 | -.137 | 0 | %100 |
| 51 | M45 | X | .079 | .079 | 0 | %100 |
| 52 | M45 | Z | -.137 | -.137 | 0 | %100 |
| 53 | M46 | X | .079 | .079 | 0 | %100 |
| 54 | M46 | Z | -.137 | -.137 | 0 | %100 |
| 55 | M47 | X | .079 | .079 | 0 | %100 |
| 56 | M47 | Z | -.137 | -.137 | 0 | %100 |



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Member Distributed Loads (BLC 67 : Structure Wm (60 Deg))

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | .157 | .157 | 0 | %100 |
| 2 | M1 | Z | -.091 | -.091 | 0 | %100 |
| 3 | M2 | X | .157 | .157 | 0 | %100 |
| 4 | M2 | Z | -.091 | -.091 | 0 | %100 |
| 5 | M13 | X | .102 | .102 | 0 | %100 |
| 6 | M13 | Z | -.059 | -.059 | 0 | %100 |
| 7 | M14 | X | .102 | .102 | 0 | %100 |
| 8 | M14 | Z | -.059 | -.059 | 0 | %100 |
| 9 | M15 | X | .102 | .102 | 0 | %100 |
| 10 | M15 | Z | -.059 | -.059 | 0 | %100 |
| 11 | M16 | X | .102 | .102 | 0 | %100 |
| 12 | M16 | Z | -.059 | -.059 | 0 | %100 |
| 13 | M17 | X | .008 | .008 | 0 | %100 |
| 14 | M17 | Z | -.005 | -.005 | 0 | %100 |
| 15 | M18 | X | .008 | .008 | 0 | %100 |
| 16 | M18 | Z | -.005 | -.005 | 0 | %100 |
| 17 | M19 | X | .344 | .344 | 0 | %100 |
| 18 | M19 | Z | -.199 | -.199 | 0 | %100 |
| 19 | M20 | X | .344 | .344 | 0 | %100 |
| 20 | M20 | Z | -.199 | -.199 | 0 | %100 |
| 21 | M21 | X | .034 | .034 | 0 | %100 |
| 22 | M21 | Z | -.02 | -.02 | 0 | %100 |
| 23 | M22 | X | .034 | .034 | 0 | %100 |
| 24 | M22 | Z | -.02 | -.02 | 0 | %100 |
| 25 | M23 | X | .034 | .034 | 0 | %100 |
| 26 | M23 | Z | -.02 | -.02 | 0 | %100 |
| 27 | M24 | X | .034 | .034 | 0 | %100 |
| 28 | M24 | Z | -.02 | -.02 | 0 | %100 |
| 29 | M25 | X | .106 | .106 | 0 | %100 |
| 30 | M25 | Z | -.061 | -.061 | 0 | %100 |
| 31 | M26 | X | .106 | .106 | 0 | %100 |
| 32 | M26 | Z | -.061 | -.061 | 0 | %100 |
| 33 | M27 | X | .156 | .156 | 0 | %100 |
| 34 | M27 | Z | -.09 | -.09 | 0 | %100 |
| 35 | M28 | X | .156 | .156 | 0 | %100 |
| 36 | M28 | Z | -.09 | -.09 | 0 | %100 |
| 37 | M31 | X | .252 | .252 | 0 | %100 |
| 38 | M31 | Z | -.145 | -.145 | 0 | %100 |
| 39 | M32 | X | .488 | .488 | 0 | %100 |
| 40 | M32 | Z | -.282 | -.282 | 0 | %100 |
| 41 | MP4A | X | .519 | .519 | 0 | %100 |
| 42 | MP4A | Z | -.3 | -.3 | 0 | %100 |
| 43 | MP3A | X | .519 | .519 | 0 | %100 |
| 44 | MP3A | Z | -.3 | -.3 | 0 | %100 |
| 45 | MP2A | X | .628 | .628 | 0 | %100 |
| 46 | MP2A | Z | -.363 | -.363 | 0 | %100 |
| 47 | MP1A | X | .519 | .519 | 0 | %100 |
| 48 | MP1A | Z | -.3 | -.3 | 0 | %100 |
| 49 | M44 | X | .137 | .137 | 0 | %100 |
| 50 | M44 | Z | -.079 | -.079 | 0 | %100 |
| 51 | M45 | X | .137 | .137 | 0 | %100 |
| 52 | M45 | Z | -.079 | -.079 | 0 | %100 |
| 53 | M46 | X | .137 | .137 | 0 | %100 |
| 54 | M46 | Z | -.079 | -.079 | 0 | %100 |
| 55 | M47 | X | .137 | .137 | 0 | %100 |
| 56 | M47 | Z | -.079 | -.079 | 0 | %100 |



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Member Distributed Loads (BLC 68 : Structure Wm (90 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 | M2 | X | 0 | 0 | 0 | %100 |
| 4 | M2 | Z | 0 | 0 | 0 | %100 |
| 5 | M13 | X | .158 | .158 | 0 | %100 |
| 6 | M13 | Z | 0 | 0 | 0 | %100 |
| 7 | M14 | X | .158 | .158 | 0 | %100 |
| 8 | M14 | Z | 0 | 0 | 0 | %100 |
| 9 | M15 | X | .158 | .158 | 0 | %100 |
| 10 | M15 | Z | 0 | 0 | 0 | %100 |
| 11 | M16 | X | .158 | .158 | 0 | %100 |
| 12 | M16 | Z | 0 | 0 | 0 | %100 |
| 13 | M17 | X | .176 | .176 | 0 | %100 |
| 14 | M17 | Z | 0 | 0 | 0 | %100 |
| 15 | M18 | X | .176 | .176 | 0 | %100 |
| 16 | M18 | Z | 0 | 0 | 0 | %100 |
| 17 | M19 | X | .176 | .176 | 0 | %100 |
| 18 | M19 | Z | 0 | 0 | 0 | %100 |
| 19 | M20 | X | .176 | .176 | 0 | %100 |
| 20 | M20 | Z | 0 | 0 | 0 | %100 |
| 21 | M21 | X | 0 | 0 | 0 | %100 |
| 22 | M21 | Z | 0 | 0 | 0 | %100 |
| 23 | M22 | X | 0 | 0 | 0 | %100 |
| 24 | M22 | Z | 0 | 0 | 0 | %100 |
| 25 | M23 | X | 0 | 0 | 0 | %100 |
| 26 | M23 | Z | 0 | 0 | 0 | %100 |
| 27 | M24 | X | 0 | 0 | 0 | %100 |
| 28 | M24 | Z | 0 | 0 | 0 | %100 |
| 29 | M25 | X | .147 | .147 | 0 | %100 |
| 30 | M25 | Z | 0 | 0 | 0 | %100 |
| 31 | M26 | X | .147 | .147 | 0 | %100 |
| 32 | M26 | Z | 0 | 0 | 0 | %100 |
| 33 | M27 | X | .147 | .147 | 0 | %100 |
| 34 | M27 | Z | 0 | 0 | 0 | %100 |
| 35 | M28 | X | .147 | .147 | 0 | %100 |
| 36 | M28 | Z | 0 | 0 | 0 | %100 |
| 37 | M31 | X | .554 | .554 | 0 | %100 |
| 38 | M31 | Z | 0 | 0 | 0 | %100 |
| 39 | M32 | X | .554 | .554 | 0 | %100 |
| 40 | M32 | Z | 0 | 0 | 0 | %100 |
| 41 | MP4A | X | .599 | .599 | 0 | %100 |
| 42 | MP4A | Z | 0 | 0 | 0 | %100 |
| 43 | MP3A | X | .599 | .599 | 0 | %100 |
| 44 | MP3A | Z | 0 | 0 | 0 | %100 |
| 45 | MP2A | X | .725 | .725 | 0 | %100 |
| 46 | MP2A | Z | 0 | 0 | 0 | %100 |
| 47 | MP1A | X | .599 | .599 | 0 | %100 |
| 48 | MP1A | Z | 0 | 0 | 0 | %100 |
| 49 | M44 | X | .158 | .158 | 0 | %100 |
| 50 | M44 | Z | 0 | 0 | 0 | %100 |
| 51 | M45 | X | .158 | .158 | 0 | %100 |
| 52 | M45 | Z | 0 | 0 | 0 | %100 |
| 53 | M46 | X | .158 | .158 | 0 | %100 |
| 54 | M46 | Z | 0 | 0 | 0 | %100 |
| 55 | M47 | X | .158 | .158 | 0 | %100 |
| 56 | M47 | Z | 0 | 0 | 0 | %100 |



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Member Distributed Loads (BLC 69 : Structure Wm (120 Deg))

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | .157 | .157 | 0 | %100 |
| 2 | M1 | Z | .091 | .091 | 0 | %100 |
| 3 | M2 | X | .157 | .157 | 0 | %100 |
| 4 | M2 | Z | .091 | .091 | 0 | %100 |
| 5 | M13 | X | .102 | .102 | 0 | %100 |
| 6 | M13 | Z | .059 | .059 | 0 | %100 |
| 7 | M14 | X | .102 | .102 | 0 | %100 |
| 8 | M14 | Z | .059 | .059 | 0 | %100 |
| 9 | M15 | X | .102 | .102 | 0 | %100 |
| 10 | M15 | Z | .059 | .059 | 0 | %100 |
| 11 | M16 | X | .102 | .102 | 0 | %100 |
| 12 | M16 | Z | .059 | .059 | 0 | %100 |
| 13 | M17 | X | .344 | .344 | 0 | %100 |
| 14 | M17 | Z | .199 | .199 | 0 | %100 |
| 15 | M18 | X | .344 | .344 | 0 | %100 |
| 16 | M18 | Z | .199 | .199 | 0 | %100 |
| 17 | M19 | X | .008 | .008 | 0 | %100 |
| 18 | M19 | Z | .005 | .005 | 0 | %100 |
| 19 | M20 | X | .008 | .008 | 0 | %100 |
| 20 | M20 | Z | .005 | .005 | 0 | %100 |
| 21 | M21 | X | .034 | .034 | 0 | %100 |
| 22 | M21 | Z | .02 | .02 | 0 | %100 |
| 23 | M22 | X | .034 | .034 | 0 | %100 |
| 24 | M22 | Z | .02 | .02 | 0 | %100 |
| 25 | M23 | X | .034 | .034 | 0 | %100 |
| 26 | M23 | Z | .02 | .02 | 0 | %100 |
| 27 | M24 | X | .034 | .034 | 0 | %100 |
| 28 | M24 | Z | .02 | .02 | 0 | %100 |
| 29 | M25 | X | .156 | .156 | 0 | %100 |
| 30 | M25 | Z | .09 | .09 | 0 | %100 |
| 31 | M26 | X | .156 | .156 | 0 | %100 |
| 32 | M26 | Z | .09 | .09 | 0 | %100 |
| 33 | M27 | X | .106 | .106 | 0 | %100 |
| 34 | M27 | Z | .061 | .061 | 0 | %100 |
| 35 | M28 | X | .106 | .106 | 0 | %100 |
| 36 | M28 | Z | .061 | .061 | 0 | %100 |
| 37 | M31 | X | .488 | .488 | 0 | %100 |
| 38 | M31 | Z | .282 | .282 | 0 | %100 |
| 39 | M32 | X | .252 | .252 | 0 | %100 |
| 40 | M32 | Z | .145 | .145 | 0 | %100 |
| 41 | MP4A | X | .519 | .519 | 0 | %100 |
| 42 | MP4A | Z | .3 | .3 | 0 | %100 |
| 43 | MP3A | X | .519 | .519 | 0 | %100 |
| 44 | MP3A | Z | .3 | .3 | 0 | %100 |
| 45 | MP2A | X | .628 | .628 | 0 | %100 |
| 46 | MP2A | Z | .363 | .363 | 0 | %100 |
| 47 | MP1A | X | .519 | .519 | 0 | %100 |
| 48 | MP1A | Z | .3 | .3 | 0 | %100 |
| 49 | M44 | X | .137 | .137 | 0 | %100 |
| 50 | M44 | Z | .079 | .079 | 0 | %100 |
| 51 | M45 | X | .137 | .137 | 0 | %100 |
| 52 | M45 | Z | .079 | .079 | 0 | %100 |
| 53 | M46 | X | .137 | .137 | 0 | %100 |
| 54 | M46 | Z | .079 | .079 | 0 | %100 |
| 55 | M47 | X | .137 | .137 | 0 | %100 |
| 56 | M47 | Z | .079 | .079 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | .272 | .272 | 0 | %100 |
| 2 | M1 | Z | .471 | .471 | 0 | %100 |
| 3 | M2 | X | .272 | .272 | 0 | %100 |
| 4 | M2 | Z | .471 | .471 | 0 | %100 |
| 5 | M13 | X | .02 | .02 | 0 | %100 |
| 6 | M13 | Z | .034 | .034 | 0 | %100 |
| 7 | M14 | X | .02 | .02 | 0 | %100 |
| 8 | M14 | Z | .034 | .034 | 0 | %100 |
| 9 | M15 | X | .02 | .02 | 0 | %100 |
| 10 | M15 | Z | .034 | .034 | 0 | %100 |
| 11 | M16 | X | .02 | .02 | 0 | %100 |
| 12 | M16 | Z | .034 | .034 | 0 | %100 |
| 13 | M17 | X | .226 | .226 | 0 | %100 |
| 14 | M17 | Z | .392 | .392 | 0 | %100 |
| 15 | M18 | X | .226 | .226 | 0 | %100 |
| 16 | M18 | Z | .392 | .392 | 0 | %100 |
| 17 | M19 | X | .032 | .032 | 0 | %100 |
| 18 | M19 | Z | .056 | .056 | 0 | %100 |
| 19 | M20 | X | .032 | .032 | 0 | %100 |
| 20 | M20 | Z | .056 | .056 | 0 | %100 |
| 21 | M21 | X | .059 | .059 | 0 | %100 |
| 22 | M21 | Z | .102 | .102 | 0 | %100 |
| 23 | M22 | X | .059 | .059 | 0 | %100 |
| 24 | M22 | Z | .102 | .102 | 0 | %100 |
| 25 | M23 | X | .059 | .059 | 0 | %100 |
| 26 | M23 | Z | .102 | .102 | 0 | %100 |
| 27 | M24 | X | .059 | .059 | 0 | %100 |
| 28 | M24 | Z | .102 | .102 | 0 | %100 |
| 29 | M25 | X | .094 | .094 | 0 | %100 |
| 30 | M25 | Z | .163 | .163 | 0 | %100 |
| 31 | M26 | X | .094 | .094 | 0 | %100 |
| 32 | M26 | Z | .163 | .163 | 0 | %100 |
| 33 | M27 | X | .065 | .065 | 0 | %100 |
| 34 | M27 | Z | .113 | .113 | 0 | %100 |
| 35 | M28 | X | .065 | .065 | 0 | %100 |
| 36 | M28 | Z | .113 | .113 | 0 | %100 |
| 37 | M31 | X | .155 | .155 | 0 | %100 |
| 38 | M31 | Z | .268 | .268 | 0 | %100 |
| 39 | M32 | X | .018 | .018 | 0 | %100 |
| 40 | M32 | Z | .031 | .031 | 0 | %100 |
| 41 | MP4A | X | .3 | .3 | 0 | %100 |
| 42 | MP4A | Z | .519 | .519 | 0 | %100 |
| 43 | MP3A | X | .3 | .3 | 0 | %100 |
| 44 | MP3A | Z | .519 | .519 | 0 | %100 |
| 45 | MP2A | X | .363 | .363 | 0 | %100 |
| 46 | MP2A | Z | .628 | .628 | 0 | %100 |
| 47 | MP1A | X | .3 | .3 | 0 | %100 |
| 48 | MP1A | Z | .519 | .519 | 0 | %100 |
| 49 | M44 | X | .079 | .079 | 0 | %100 |
| 50 | M44 | Z | .137 | .137 | 0 | %100 |
| 51 | M45 | X | .079 | .079 | 0 | %100 |
| 52 | M45 | Z | .137 | .137 | 0 | %100 |
| 53 | M46 | X | .079 | .079 | 0 | %100 |
| 54 | M46 | Z | .137 | .137 | 0 | %100 |
| 55 | M47 | X | .079 | .079 | 0 | %100 |
| 56 | M47 | Z | .137 | .137 | 0 | %100 |



Company : Maser Consulting
 Designer :
 Job Number :
 Model Name : 468018-VZW_MT_LOT_SectorA_H

Aug 4, 2021
 1:08 PM
 Checked By: _____

Member Distributed Loads (BLC 72 : Structure Wm (210 Deg))

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | -.272 | -.272 | 0 | %100 |
| 2 | M1 | Z | .471 | .471 | 0 | %100 |
| 3 | M2 | X | -.272 | -.272 | 0 | %100 |
| 4 | M2 | Z | .471 | .471 | 0 | %100 |
| 5 | M13 | X | -.02 | -.02 | 0 | %100 |
| 6 | M13 | Z | .034 | .034 | 0 | %100 |
| 7 | M14 | X | -.02 | -.02 | 0 | %100 |
| 8 | M14 | Z | .034 | .034 | 0 | %100 |
| 9 | M15 | X | -.02 | -.02 | 0 | %100 |
| 10 | M15 | Z | .034 | .034 | 0 | %100 |
| 11 | M16 | X | -.02 | -.02 | 0 | %100 |
| 12 | M16 | Z | .034 | .034 | 0 | %100 |
| 13 | M17 | X | -.032 | -.032 | 0 | %100 |
| 14 | M17 | Z | .056 | .056 | 0 | %100 |
| 15 | M18 | X | -.032 | -.032 | 0 | %100 |
| 16 | M18 | Z | .056 | .056 | 0 | %100 |
| 17 | M19 | X | -.226 | -.226 | 0 | %100 |
| 18 | M19 | Z | .392 | .392 | 0 | %100 |
| 19 | M20 | X | -.226 | -.226 | 0 | %100 |
| 20 | M20 | Z | .392 | .392 | 0 | %100 |
| 21 | M21 | X | -.059 | -.059 | 0 | %100 |
| 22 | M21 | Z | .102 | .102 | 0 | %100 |
| 23 | M22 | X | -.059 | -.059 | 0 | %100 |
| 24 | M22 | Z | .102 | .102 | 0 | %100 |
| 25 | M23 | X | -.059 | -.059 | 0 | %100 |
| 26 | M23 | Z | .102 | .102 | 0 | %100 |
| 27 | M24 | X | -.059 | -.059 | 0 | %100 |
| 28 | M24 | Z | .102 | .102 | 0 | %100 |
| 29 | M25 | X | -.065 | -.065 | 0 | %100 |
| 30 | M25 | Z | .113 | .113 | 0 | %100 |
| 31 | M26 | X | -.065 | -.065 | 0 | %100 |
| 32 | M26 | Z | .113 | .113 | 0 | %100 |
| 33 | M27 | X | -.094 | -.094 | 0 | %100 |
| 34 | M27 | Z | .163 | .163 | 0 | %100 |
| 35 | M28 | X | -.094 | -.094 | 0 | %100 |
| 36 | M28 | Z | .163 | .163 | 0 | %100 |
| 37 | M31 | X | -.018 | -.018 | 0 | %100 |
| 38 | M31 | Z | .031 | .031 | 0 | %100 |
| 39 | M32 | X | -.155 | -.155 | 0 | %100 |
| 40 | M32 | Z | .268 | .268 | 0 | %100 |
| 41 | MP4A | X | -.3 | -.3 | 0 | %100 |
| 42 | MP4A | Z | .519 | .519 | 0 | %100 |
| 43 | MP3A | X | -.3 | -.3 | 0 | %100 |
| 44 | MP3A | Z | .519 | .519 | 0 | %100 |
| 45 | MP2A | X | -.363 | -.363 | 0 | %100 |
| 46 | MP2A | Z | .628 | .628 | 0 | %100 |
| 47 | MP1A | X | -.3 | -.3 | 0 | %100 |
| 48 | MP1A | Z | .519 | .519 | 0 | %100 |
| 49 | M44 | X | -.079 | -.079 | 0 | %100 |
| 50 | M44 | Z | .137 | .137 | 0 | %100 |
| 51 | M45 | X | -.079 | -.079 | 0 | %100 |
| 52 | M45 | Z | .137 | .137 | 0 | %100 |
| 53 | M46 | X | -.079 | -.079 | 0 | %100 |
| 54 | M46 | Z | .137 | .137 | 0 | %100 |
| 55 | M47 | X | -.079 | -.079 | 0 | %100 |
| 56 | M47 | Z | .137 | .137 | 0 | %100 |



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

| | Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|----|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | -.157 | -.157 | 0 | %100 |
| 2 | M1 | Z | .091 | .091 | 0 | %100 |
| 3 | M2 | X | -.157 | -.157 | 0 | %100 |
| 4 | M2 | Z | .091 | .091 | 0 | %100 |
| 5 | M13 | X | -.102 | -.102 | 0 | %100 |
| 6 | M13 | Z | .059 | .059 | 0 | %100 |
| 7 | M14 | X | -.102 | -.102 | 0 | %100 |
| 8 | M14 | Z | .059 | .059 | 0 | %100 |
| 9 | M15 | X | -.102 | -.102 | 0 | %100 |
| 10 | M15 | Z | .059 | .059 | 0 | %100 |
| 11 | M16 | X | -.102 | -.102 | 0 | %100 |
| 12 | M16 | Z | .059 | .059 | 0 | %100 |
| 13 | M17 | X | -.008 | -.008 | 0 | %100 |
| 14 | M17 | Z | .005 | .005 | 0 | %100 |
| 15 | M18 | X | -.008 | -.008 | 0 | %100 |
| 16 | M18 | Z | .005 | .005 | 0 | %100 |
| 17 | M19 | X | -.344 | -.344 | 0 | %100 |
| 18 | M19 | Z | .199 | .199 | 0 | %100 |
| 19 | M20 | X | -.344 | -.344 | 0 | %100 |
| 20 | M20 | Z | .199 | .199 | 0 | %100 |
| 21 | M21 | X | -.034 | -.034 | 0 | %100 |
| 22 | M21 | Z | .02 | .02 | 0 | %100 |
| 23 | M22 | X | -.034 | -.034 | 0 | %100 |
| 24 | M22 | Z | .02 | .02 | 0 | %100 |
| 25 | M23 | X | -.034 | -.034 | 0 | %100 |
| 26 | M23 | Z | .02 | .02 | 0 | %100 |
| 27 | M24 | X | -.034 | -.034 | 0 | %100 |
| 28 | M24 | Z | .02 | .02 | 0 | %100 |
| 29 | M25 | X | -.106 | -.106 | 0 | %100 |
| 30 | M25 | Z | .061 | .061 | 0 | %100 |
| 31 | M26 | X | -.106 | -.106 | 0 | %100 |
| 32 | M26 | Z | .061 | .061 | 0 | %100 |
| 33 | M27 | X | -.156 | -.156 | 0 | %100 |
| 34 | M27 | Z | .09 | .09 | 0 | %100 |
| 35 | M28 | X | -.156 | -.156 | 0 | %100 |
| 36 | M28 | Z | .09 | .09 | 0 | %100 |
| 37 | M31 | X | -.252 | -.252 | 0 | %100 |
| 38 | M31 | Z | .145 | .145 | 0 | %100 |
| 39 | M32 | X | -.488 | -.488 | 0 | %100 |
| 40 | M32 | Z | .282 | .282 | 0 | %100 |
| 41 | MP4A | X | -.519 | -.519 | 0 | %100 |
| 42 | MP4A | Z | .3 | .3 | 0 | %100 |
| 43 | MP3A | X | -.519 | -.519 | 0 | %100 |
| 44 | MP3A | Z | .3 | .3 | 0 | %100 |
| 45 | MP2A | X | -.628 | -.628 | 0 | %100 |
| 46 | MP2A | Z | .363 | .363 | 0 | %100 |
| 47 | MP1A | X | -.519 | -.519 | 0 | %100 |
| 48 | MP1A | Z | .3 | .3 | 0 | %100 |
| 49 | M44 | X | -.137 | -.137 | 0 | %100 |
| 50 | M44 | Z | .079 | .079 | 0 | %100 |
| 51 | M45 | X | -.137 | -.137 | 0 | %100 |
| 52 | M45 | Z | .079 | .079 | 0 | %100 |
| 53 | M46 | X | -.137 | -.137 | 0 | %100 |
| 54 | M46 | Z | .079 | .079 | 0 | %100 |
| 55 | M47 | X | -.137 | -.137 | 0 | %100 |
| 56 | M47 | Z | .079 | .079 | 0 | %100 |



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

| Member Label | Direction | Start Magnitude[lb/ft,... | End Magnitude[lb/ft,F... | Start Location[ft, %] | End Location[ft, %] |
|--------------|-----------|---------------------------|--------------------------|-----------------------|---------------------|
| 1 | M1 | X | -.157 | -.157 | 0 %100 |
| 2 | M1 | Z | -.091 | -.091 | 0 %100 |
| 3 | M2 | X | -.157 | -.157 | 0 %100 |
| 4 | M2 | Z | -.091 | -.091 | 0 %100 |
| 5 | M13 | X | -.102 | -.102 | 0 %100 |
| 6 | M13 | Z | -.059 | -.059 | 0 %100 |
| 7 | M14 | X | -.102 | -.102 | 0 %100 |
| 8 | M14 | Z | -.059 | -.059 | 0 %100 |
| 9 | M15 | X | -.102 | -.102 | 0 %100 |
| 10 | M15 | Z | -.059 | -.059 | 0 %100 |
| 11 | M16 | X | -.102 | -.102 | 0 %100 |
| 12 | M16 | Z | -.059 | -.059 | 0 %100 |
| 13 | M17 | X | -.344 | -.344 | 0 %100 |
| 14 | M17 | Z | -.199 | -.199 | 0 %100 |
| 15 | M18 | X | -.344 | -.344 | 0 %100 |
| 16 | M18 | Z | -.199 | -.199 | 0 %100 |
| 17 | M19 | X | -.008 | -.008 | 0 %100 |
| 18 | M19 | Z | -.005 | -.005 | 0 %100 |
| 19 | M20 | X | -.008 | -.008 | 0 %100 |
| 20 | M20 | Z | -.005 | -.005 | 0 %100 |
| 21 | M21 | X | -.034 | -.034 | 0 %100 |
| 22 | M21 | Z | -.02 | -.02 | 0 %100 |
| 23 | M22 | X | -.034 | -.034 | 0 %100 |
| 24 | M22 | Z | -.02 | -.02 | 0 %100 |
| 25 | M23 | X | -.034 | -.034 | 0 %100 |
| 26 | M23 | Z | -.02 | -.02 | 0 %100 |
| 27 | M24 | X | -.034 | -.034 | 0 %100 |
| 28 | M24 | Z | -.02 | -.02 | 0 %100 |
| 29 | M25 | X | -.156 | -.156 | 0 %100 |
| 30 | M25 | Z | -.09 | -.09 | 0 %100 |
| 31 | M26 | X | -.156 | -.156 | 0 %100 |
| 32 | M26 | Z | -.09 | -.09 | 0 %100 |
| 33 | M27 | X | -.106 | -.106 | 0 %100 |
| 34 | M27 | Z | -.061 | -.061 | 0 %100 |
| 35 | M28 | X | -.106 | -.106 | 0 %100 |
| 36 | M28 | Z | -.061 | -.061 | 0 %100 |
| 37 | M31 | X | -.488 | -.488 | 0 %100 |
| 38 | M31 | Z | -.282 | -.282 | 0 %100 |
| 39 | M32 | X | -.252 | -.252 | 0 %100 |
| 40 | M32 | Z | -.145 | -.145 | 0 %100 |
| 41 | MP4A | X | -.519 | -.519 | 0 %100 |
| 42 | MP4A | Z | -.3 | -.3 | 0 %100 |
| 43 | MP3A | X | -.519 | -.519 | 0 %100 |
| 44 | MP3A | Z | -.3 | -.3 | 0 %100 |
| 45 | MP2A | X | -.628 | -.628 | 0 %100 |
| 46 | MP2A | Z | -.363 | -.363 | 0 %100 |
| 47 | MP1A | X | -.519 | -.519 | 0 %100 |
| 48 | MP1A | Z | -.3 | -.3 | 0 %100 |
| 49 | M44 | X | -.137 | -.137 | 0 %100 |
| 50 | M44 | Z | -.079 | -.079 | 0 %100 |
| 51 | M45 | X | -.137 | -.137 | 0 %100 |
| 52 | M45 | Z | -.079 | -.079 | 0 %100 |
| 53 | M46 | X | -.137 | -.137 | 0 %100 |
| 54 | M46 | Z | -.079 | -.079 | 0 %100 |
| 55 | M47 | X | -.137 | -.137 | 0 %100 |
| 56 | M47 | Z | -.079 | -.079 | 0 %100 |



Company : Maser Consulting
 Designer :
 Job Number :
 Model Name : 468018-VZW_MT_LOT_SectorA_H

Aug 4, 2021
 1:08 PM
 Checked By: _____

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 | -.272 | -.272 | 0 | %100 |
| 2 | M1 | Z | -.471 | -.471 | 0 | %100 |
| 3 | M2 | X | -.272 | -.272 | 0 | %100 |
| 4 | M2 | Z | -.471 | -.471 | 0 | %100 |
| 5 | M13 | X | -.02 | -.02 | 0 | %100 |
| 6 | M13 | Z | -.034 | -.034 | 0 | %100 |
| 7 | M14 | X | -.02 | -.02 | 0 | %100 |
| 8 | M14 | Z | -.034 | -.034 | 0 | %100 |
| 9 | M15 | X | -.02 | -.02 | 0 | %100 |
| 10 | M15 | Z | -.034 | -.034 | 0 | %100 |
| 11 | M16 | X | -.02 | -.02 | 0 | %100 |
| 12 | M16 | Z | -.034 | -.034 | 0 | %100 |
| 13 | M17 | X | -.226 | -.226 | 0 | %100 |
| 14 | M17 | Z | -.392 | -.392 | 0 | %100 |
| 15 | M18 | X | -.226 | -.226 | 0 | %100 |
| 16 | M18 | Z | -.392 | -.392 | 0 | %100 |
| 17 | M19 | X | -.032 | -.032 | 0 | %100 |
| 18 | M19 | Z | -.056 | -.056 | 0 | %100 |
| 19 | M20 | X | -.032 | -.032 | 0 | %100 |
| 20 | M20 | Z | -.056 | -.056 | 0 | %100 |
| 21 | M21 | X | -.059 | -.059 | 0 | %100 |
| 22 | M21 | Z | -.102 | -.102 | 0 | %100 |
| 23 | M22 | X | -.059 | -.059 | 0 | %100 |
| 24 | M22 | Z | -.102 | -.102 | 0 | %100 |
| 25 | M23 | X | -.059 | -.059 | 0 | %100 |
| 26 | M23 | Z | -.102 | -.102 | 0 | %100 |
| 27 | M24 | X | -.059 | -.059 | 0 | %100 |
| 28 | M24 | Z | -.102 | -.102 | 0 | %100 |
| 29 | M25 | X | -.094 | -.094 | 0 | %100 |
| 30 | M25 | Z | -.163 | -.163 | 0 | %100 |
| 31 | M26 | X | -.094 | -.094 | 0 | %100 |
| 32 | M26 | Z | -.163 | -.163 | 0 | %100 |
| 33 | M27 | X | -.065 | -.065 | 0 | %100 |
| 34 | M27 | Z | -.113 | -.113 | 0 | %100 |
| 35 | M28 | X | -.065 | -.065 | 0 | %100 |
| 36 | M28 | Z | -.113 | -.113 | 0 | %100 |
| 37 | M31 | X | -.155 | -.155 | 0 | %100 |
| 38 | M31 | Z | -.268 | -.268 | 0 | %100 |
| 39 | M32 | X | -.018 | -.018 | 0 | %100 |
| 40 | M32 | Z | -.031 | -.031 | 0 | %100 |
| 41 | MP4A | X | -.3 | -.3 | 0 | %100 |
| 42 | MP4A | Z | -.519 | -.519 | 0 | %100 |
| 43 | MP3A | X | -.3 | -.3 | 0 | %100 |
| 44 | MP3A | Z | -.519 | -.519 | 0 | %100 |
| 45 | MP2A | X | -.363 | -.363 | 0 | %100 |
| 46 | MP2A | Z | -.628 | -.628 | 0 | %100 |
| 47 | MP1A | X | -.3 | -.3 | 0 | %100 |
| 48 | MP1A | Z | -.519 | -.519 | 0 | %100 |
| 49 | M44 | X | -.079 | -.079 | 0 | %100 |
| 50 | M44 | Z | -.137 | -.137 | 0 | %100 |
| 51 | M45 | X | -.079 | -.079 | 0 | %100 |
| 52 | M45 | Z | -.137 | -.137 | 0 | %100 |
| 53 | M46 | X | -.079 | -.079 | 0 | %100 |
| 54 | M46 | Z | -.137 | -.137 | 0 | %100 |
| 55 | M47 | X | -.079 | -.079 | 0 | %100 |
| 56 | M47 | Z | -.137 | -.137 | 0 | %100 |



Member Area Loads

| Joint A | Joint B | Joint C | Joint D | Direction | Distribution | Magnitude[ksf] |
|----------------------|---------|---------|---------|-----------|--------------|----------------|
| No Data to Print ... | | | | | | |

Envelope Joint Reactions

| | Joint | | X [lb] | LC | Y [lb] | LC | Z [lb] | LC | MX [k-ft] | LC | MY [k-ft] | LC | MZ [k-ft] | LC |
|----|---------|-----|-----------|----|----------|----|-----------|----|-----------|----|-----------|----|-----------|----|
| 1 | N35 | max | 715.81 | 50 | 1089.32 | 25 | 1343.182 | 1 | -.178 | 7 | 0 | 51 | .133 | 50 |
| 2 | | min | -1140.444 | 27 | 468.323 | 6 | -249.65 | 7 | -.533 | 25 | 0 | 1 | -.276 | 29 |
| 3 | N36 | max | 1370.95 | 10 | 1007.11 | 19 | -308.374 | 11 | -.16 | 1 | 0 | 51 | .128 | 50 |
| 4 | | min | -1538.24 | 4 | 410.232 | 1 | -963.518 | 17 | -.426 | 19 | 0 | 1 | -.218 | 29 |
| 5 | N64 | max | 289.727 | 6 | 38.436 | 12 | 961.762 | 12 | 0 | 51 | 0 | 51 | 0 | 51 |
| 6 | | min | -264.481 | 12 | -19.381 | 6 | -1054.501 | 6 | 0 | 1 | 0 | 1 | 0 | 1 |
| 7 | N65 | max | 306.794 | 2 | 42.726 | 2 | 1109.965 | 2 | 0 | 51 | 0 | 51 | 0 | 51 |
| 8 | | min | -331.718 | 8 | -23.765 | 8 | -1202.027 | 8 | 0 | 1 | 0 | 1 | 0 | 1 |
| 9 | Totals: | max | 1546.059 | 10 | 2064.097 | 17 | 2261.201 | 1 | | | | | | |
| 10 | | min | -1546.059 | 4 | 962.163 | 11 | -2261.202 | 7 | | | | | | |

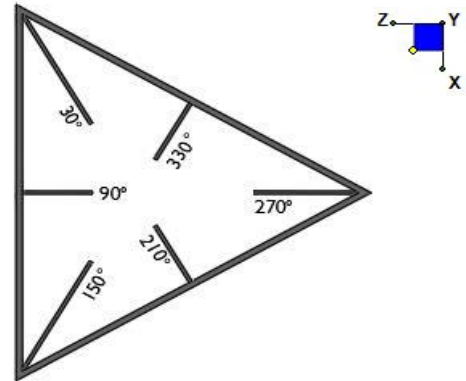
Envelope AISC 15th(360-16): LRFD Steel Code Checks

| Member | Shape | Code Check | Loc[ft] | LC | Shear ... Loc[ft] | Dir | LC | phi*Pnc ... | phi*Pnt [...] | phi*Mn y... | phi*Mn z... | Cb | Eqn | |
|--------|-------|------------|---------|-------|-------------------|------|-------|-------------|---------------|-------------|-------------|-------|------|--------|
| 1 | M1 | PIPE 2.5 | .814 | 3.776 | 35 | .185 | 3.776 | 31 | 14558.7... | 50715 | 3.596 | 3.596 | 2... | H1-1b |
| 2 | M2 | PIPE 2.5 | .153 | 8.724 | 50 | .090 | 9.115 | 8 | 14558.7... | 50715 | 3.596 | 3.596 | 1... | H1-1b |
| 3 | M13 | PL5/8X3.5 | .138 | .422 | 9 | .183 | .422 | y 5 | 66184.77 | 68906.25 | .897 | 5.024 | 1... | H1-1b |
| 4 | M14 | PL5/8X3.5 | .438 | 0 | 26 | .110 | .422 | y 2 | 66184.77 | 68906.25 | .897 | 5.024 | 1... | H1-1b |
| 5 | M15 | PL5/8X3.5 | .173 | 0 | 48 | .115 | .422 | y 12 | 66184.77 | 68906.25 | .897 | 5.024 | 1... | H1-1b |
| 6 | M16 | PL5/8X3.5 | .166 | .422 | 3 | .208 | .422 | y 3 | 66184.77 | 68906.25 | .897 | 5.024 | 1... | H1-1b |
| 7 | M17 | PIPE 2.0 | .175 | 0 | 9 | .058 | 0 | 5 | 31128.25 | 32130 | 1.872 | 1.872 | 2... | H1-1b |
| 8 | M18 | PIPE 2.0 | .109 | 2.501 | 26 | .152 | 0 | 27 | 31128.25 | 32130 | 1.872 | 1.872 | 2... | H1-1b |
| 9 | M19 | PIPE 2.0 | .112 | 0 | 12 | .061 | 0 | 37 | 31128.25 | 32130 | 1.872 | 1.872 | 1... | H1-1b |
| 10 | M20 | PIPE 2.0 | .211 | 0 | 3 | .054 | 0 | 21 | 31128.25 | 32130 | 1.872 | 1.872 | 2... | H1-1b |
| 11 | M21 | PL5/8X3.5 | .348 | .531 | 33 | .128 | .443 | y 35 | 67591.76 | 68906.25 | .897 | 5.024 | 1... | H1-1b |
| 12 | M22 | PL5/8X3.5 | .265 | .531 | 41 | .073 | .443 | y 4 | 67591.76 | 68906.25 | .897 | 5.024 | 1... | H1-1b |
| 13 | M23 | PL5/8X3.5 | .428 | .531 | 26 | .147 | .133 | y 25 | 67591.76 | 68906.25 | .897 | 5.024 | 1... | H1-1b |
| 14 | M24 | PL5/8X3.5 | .289 | .531 | 24 | .045 | .531 | y 1 | 67591.76 | 68906.25 | .897 | 5.024 | 1... | H1-1b |
| 15 | M25 | SR 0.75 | .000 | 0 | 51 | .010 | 4.167 | 36 | 2863.936 | 13916.2... | .174 | .174 | 1... | H1-1a |
| 16 | M26 | SR 0.75 | .092 | 0 | 30 | .029 | 0 | 27 | 2863.936 | 13916.2... | .174 | .174 | 1... | H1-1b* |
| 17 | M27 | SR 0.75 | .000 | 4.167 | 29 | .008 | 0 | 50 | 2863.936 | 13916.2... | .174 | .174 | 1... | H1-1b* |
| 18 | M28 | SR 0.75 | .056 | 4.167 | 44 | .019 | 0 | 11 | 2863.936 | 13916.2... | .174 | .174 | 1... | H1-1b* |
| 19 | M31 | PIPE 2.0 | .043 | 5.178 | 12 | .003 | 0 | 5 | 23296.9... | 32130 | 1.872 | 1.872 | 1... | H1-1b* |
| 20 | M32 | PIPE 2.0 | .049 | 5.178 | 2 | .003 | 0 | 9 | 23296.9... | 32130 | 1.872 | 1.872 | 1... | H1-1b* |
| 21 | MP4A | PIPE 2.0 | .109 | 5.667 | 7 | .024 | 5.667 | 8 | 14916.0... | 32130 | 1.872 | 1.872 | 3... | H1-1b |
| 22 | MP3A | PIPE 2.0 | .517 | 5.667 | 35 | .116 | 5.667 | 5 | 14916.0... | 32130 | 1.872 | 1.872 | 3... | H1-1b |
| 23 | MP2A | PIPE 2.5 | .169 | 5.667 | 29 | .087 | 5.667 | 9 | 30038.4... | 50715 | 3.596 | 3.596 | 3... | H1-1b |
| 24 | MP1A | PIPE 2.0 | .248 | 5.667 | 50 | .032 | 2.333 | 50 | 14916.0... | 32130 | 1.872 | 1.872 | 4... | H1-1b |
| 25 | M44 | SR 0.625 | .046 | 1.667 | 8 | .009 | 0 | 50 | 2158.269 | 9664.074 | .101 | .101 | 1... | H1-1b |
| 26 | M45 | SR 0.625 | .176 | 0 | 33 | .019 | 0 | 11 | 2158.269 | 9664.074 | .101 | .101 | 1... | H1-1b* |
| 27 | M46 | SR 0.625 | .047 | 1.667 | 5 | .018 | 0 | 5 | 2158.269 | 9664.074 | .101 | .101 | 1... | H1-1b |
| 28 | M47 | SR 0.625 | .052 | 1.667 | 3 | .010 | 0 | 50 | 2158.269 | 9664.074 | .101 | .101 | 1... | H1-1b |

I. Mount-to-Tower Connection Check

RISA Model Data

| Nodes (labeled per RISA) | Orientation (per graphic of typical platform) |
|-----------------------------|--|
| N36 | 90 |
| N35 | 90 |
| | |
| | |
| | |
| | |
| | |
| | |
| | |



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):

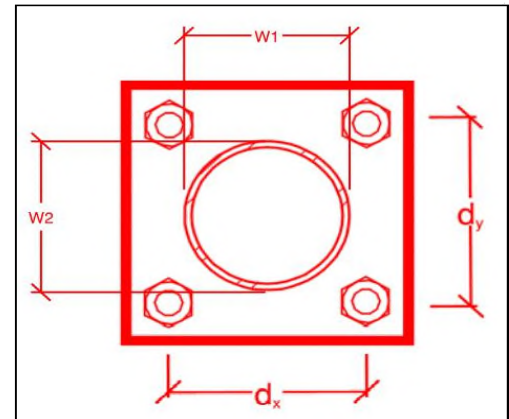
Tensile Strength / bolt (kips):

Shear Strength / bolt (kips):

Tensile Capacity Overall:

Shear Capacity Overall:

| |
|---------------|
| yes |
| 4 |
| 9.5 |
| 3.5 |
| A307 |
| 0.625 |
| 4.7 |
| 2.3 |
| 10.0 |
| 6.0 |
| 11.7%* |
| 9.5% |



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

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – **New Mount Passing MA**

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, this includes safety issues.

Base Requirements:

Any special photos outside of the standard requirements will be indicated on the passing MA Verification that loading is as communicated in the Mount Analysis. NOTE If loading is different than what is conveyed in the modification drawing contact Maser Consulting Connecticut immediately.

Verification that the New Mount Installed is as specified in the MA

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.vzsmart.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 new mount;

Photos taken at Mount Elevation

- Photos showing each individual sector before and also after installation of equipment. 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
- Photos showing the newly installed mount that is as specified in the Mount Analysis

Special Instructions / Validation as required from the MA or any other information the contractor deems necessary to share that was identified:

Issue:

Contractor shall install (3) new 96" long P2 STD mount pipes in positions 1, 3, and 4 on all sectors (position 1 being on the right side of the mount when looking from the front).

Contractor shall install (1) new 96" long P2 1/2 STD mount pipe in position 2 on all sectors. Connect to proposed mount face members using new crossover plates (VZWSMART-MSK1).

All proposed mount pipes shall have a vertical offset of 83" from the bottom face horizontal and shall be spaced at 48" O.C.


















Contractor to install proposed OVP onto Alpha & Beta sector right standoff horizontal (when viewing mount from behind) 12" from the mount connection.

Contractor shall install tiebacks to match the configuration shown in the rendered view of the mount analysis. Install (2) tiebacks on the top horizontal no more than 6" from the standoff connection point on either side. Connect the other end to adjacent tower leg.

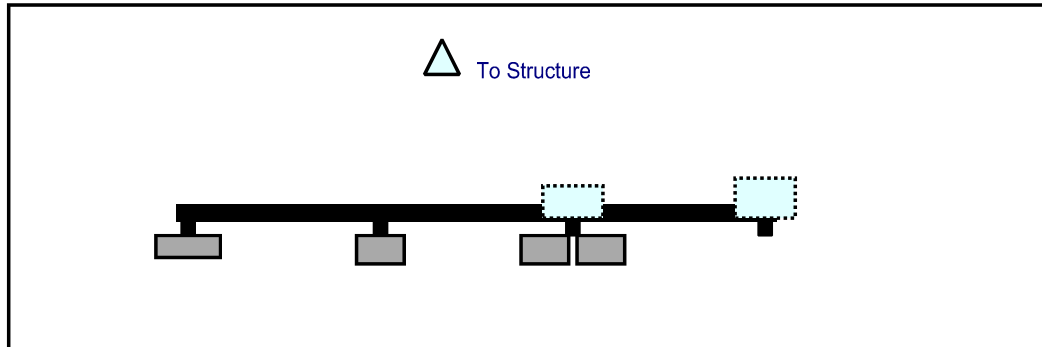
Response:

| |
|--|
| |
|--|

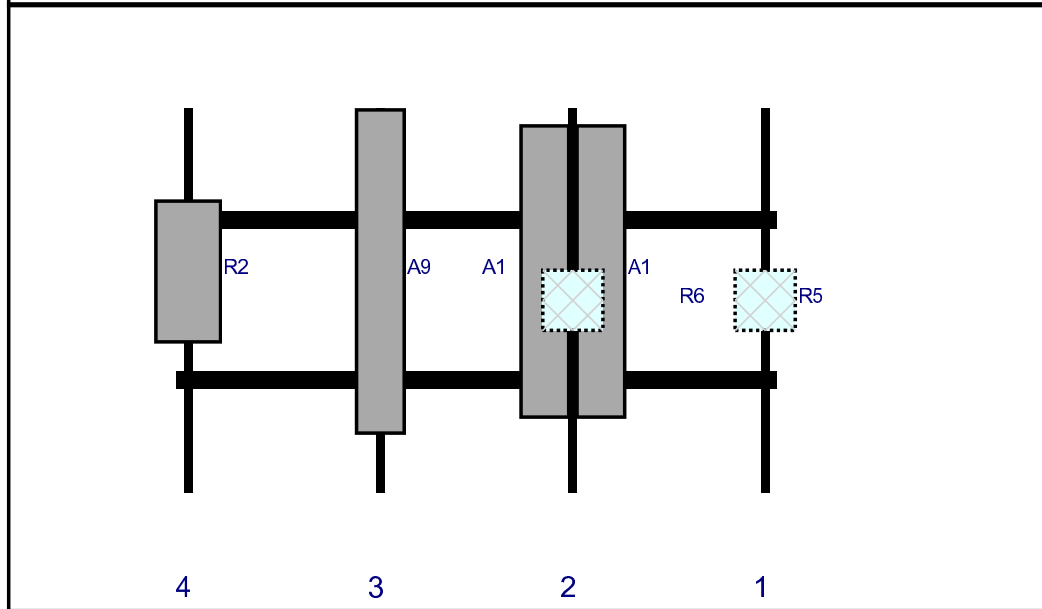
Schedule A – Photo & Document File Structure

-  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

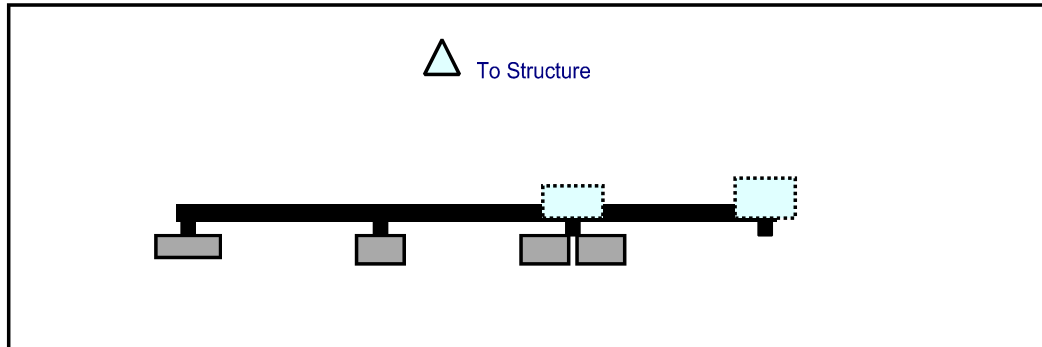


Front View
Looking at Structure

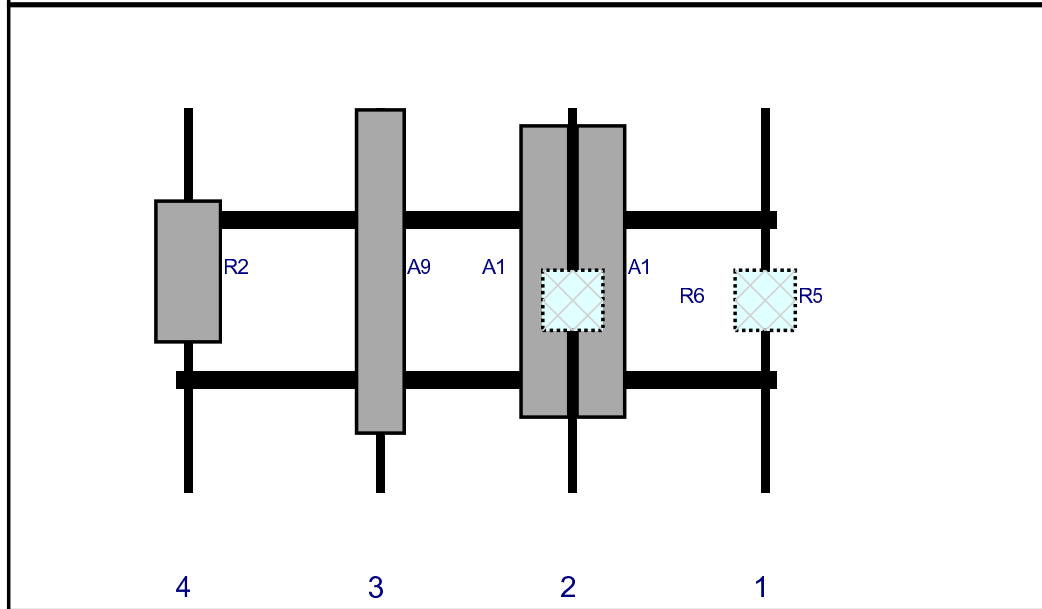


| Ref# | Model | Height (in) | Width (in) | H Dist Frm L. | Pipe # | Pipe Pos V | Ant Pos | C. Ant Frm T. | Ant H Off | Status | Validation |
|------|-------------------|-------------|------------|---------------|--------|------------|---------|---------------|-----------|----------|------------|
| R5 | B2/B66A RRH-BR049 | 15 | 15 | 147 | 1 | a | Behind | 48 | 0 | Added | |
| A1 | SBNHH-1D65B | 72.6 | 11.9 | 99 | 2 | a | Front | 40.8 | 7 | Added | |
| A1 | SBNHH-1D65B | 72.6 | 11.9 | 99 | 2 | b | Front | 40.8 | -7 | Added | |
| R6 | B5/B13 RRH-BR04C | 15 | 15 | 99 | 2 | a | Behind | 48 | 0 | Added | |
| A9 | LNx-6514DS-A1M | 80.6 | 11.9 | 51 | 3 | a | Front | 40.8 | 0 | Retained | 11/11/2020 |
| R2 | MT6407-77A | 35.1 | 16.1 | 3 | 4 | a | Front | 40.8 | 0 | Added | |

Plan View

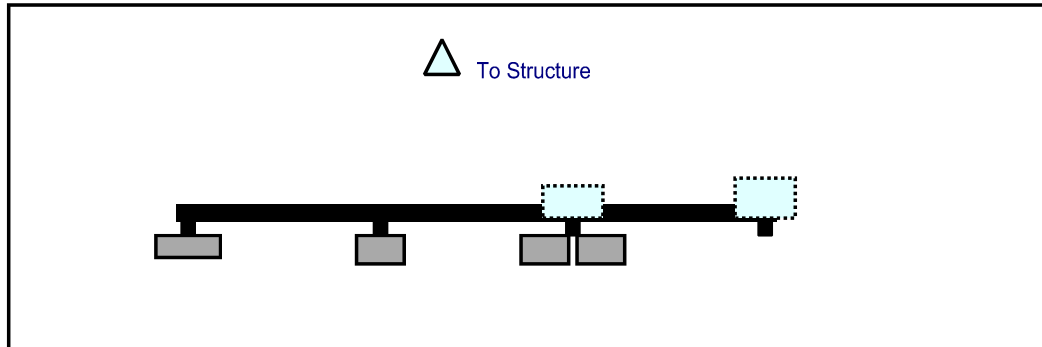


Front View
 Looking at Structure

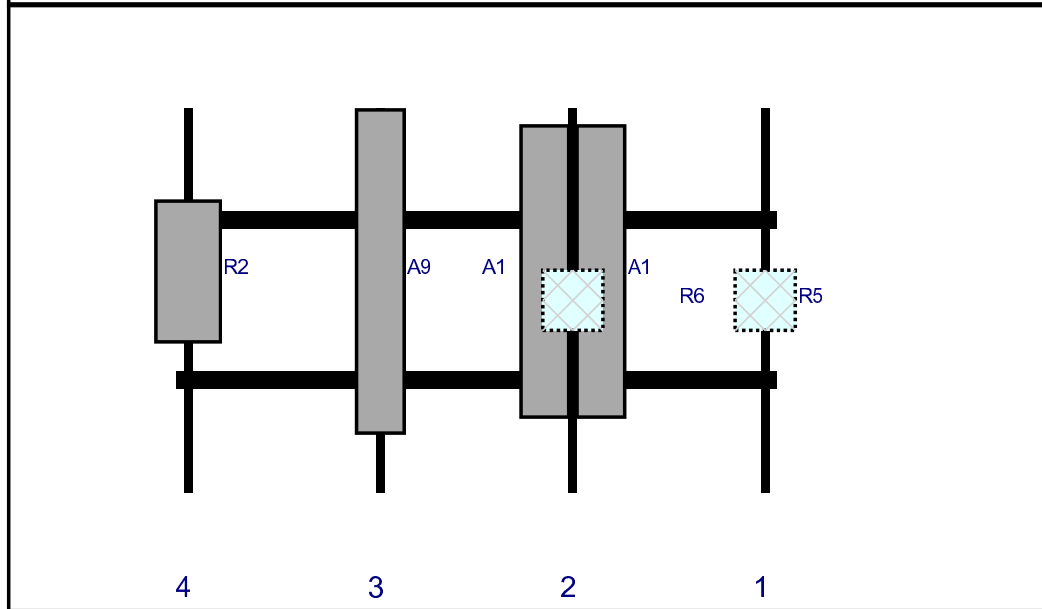


| Ref# | Model | Height (in) | Width (in) | H Dist Frm L. | Pipe # | Pipe Pos V | Ant Pos | C. Ant Frm T. | Ant H Off | Status | Validation |
|------|-------------------|-------------|------------|---------------|--------|------------|---------|---------------|-----------|----------|------------|
| R5 | B2/B66A RRH-BR049 | 15 | 15 | 147 | 1 | a | Behind | 48 | 0 | Added | |
| A1 | SBNHH-1D65B | 72.6 | 11.9 | 99 | 2 | a | Front | 40.8 | 7 | Added | |
| A1 | SBNHH-1D65B | 72.6 | 11.9 | 99 | 2 | b | Front | 40.8 | -7 | Added | |
| R6 | B5/B13 RRH-BR04C | 15 | 15 | 99 | 2 | a | Behind | 48 | 0 | Added | |
| A9 | LNx-6514DS-A1M | 80.6 | 11.9 | 51 | 3 | a | Front | 40.8 | 0 | Retained | 11/11/2020 |
| R2 | MT6407-77A | 35.1 | 16.1 | 3 | 4 | a | Front | 40.8 | 0 | Added | |

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 |
|------|-------------------|-------------|------------|---------------|--------|------------|---------|---------------|-----------|----------|------------|
| R5 | B2/B66A RRH-BR049 | 15 | 15 | 147 | 1 | a | Behind | 48 | 0 | Added | |
| A1 | SBNHH-1D65B | 72.6 | 11.9 | 99 | 2 | a | Front | 40.8 | 7 | Added | |
| A1 | SBNHH-1D65B | 72.6 | 11.9 | 99 | 2 | b | Front | 40.8 | -7 | Added | |
| R6 | B5/B13 RRH-BR04C | 15 | 15 | 99 | 2 | a | Behind | 48 | 0 | Added | |
| A9 | LNx-6514DS-A1M | 80.6 | 11.9 | 51 | 3 | a | Front | 40.8 | 0 | Retained | 11/11/2020 |
| R2 | MT6407-77A | 35.1 | 16.1 | 3 | 4 | a | Front | 40.8 | 0 | Added | |

| | | |
|-------------------------------------|---------------|---|
| <u>Subject</u> | | TIA-222-H Usage |
| <u>Site Information</u> | Site ID: | 468018-VZW / Lebanon CT |
| | Site Name: | Lebanon CT |
| | Carrier Name: | Verizon Wireless |
| | Address: | 236 Gates Road Lebanon, Connecticut 06249 New London County |
| | Latitude: | 41.683056° |
| | Longitude: | -72.216389° |
| <u>Structure Information</u> | Tower Type: | 120.00-Ft Guyed |
| | Mount Type: | 12.83-Ft T-Frame |

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 2015 International Building Code states that, in Section 3108, telecommunication towers shall be designed and constructed in accordance with the provisions of TIA-222. The 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 map by ASCE 7 based on updated studies of the wind data.

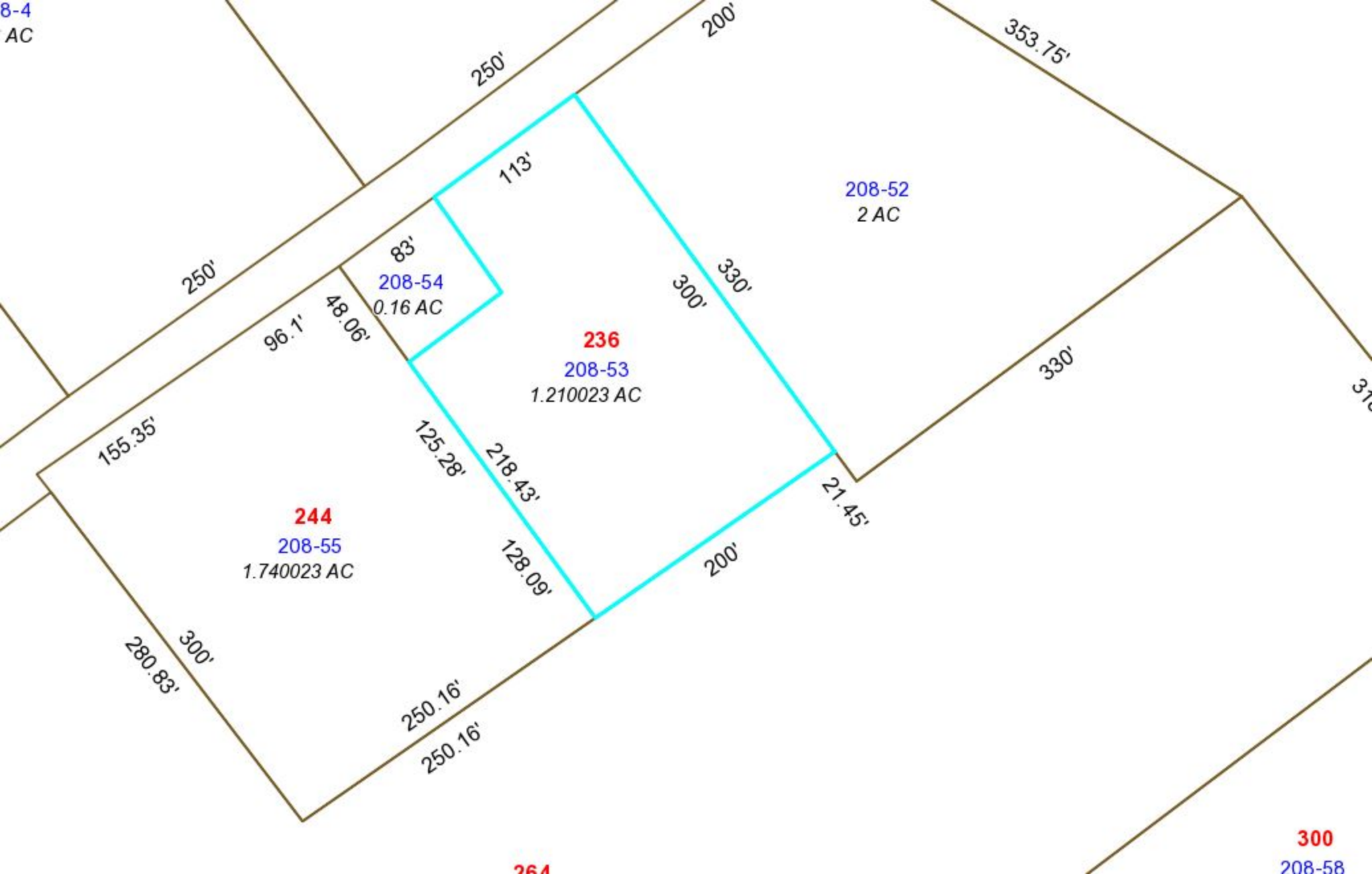
The TIA-222-H standard clarifies these specific requirements for the antenna mount analysis such as modeling method, seismic analysis, 30-degree increment wind direction and maintenance loading. Therefore, it is our opinion that TIA-222-H is the most appropriate standard for antenna mount structural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

Sincerely,



Derek Hartzell, PE
Technical Specialist

ATTACHMENT 5





Town of Lebanon, Connecticut
Property Record Card



MainStreetGIS, LLC
www.mainstreetgis.com

236 GATES RD

ID: 208-53 Account #: R0136400

ID: 1089



Owner: GHT LLC
Co-Owner:

Address: PO BOX 594
WILLIMANTIC CT 06226

Assessment: Total: \$275,840
Improvements: \$12,100 Land: \$157,170

Sales History

Grantee
GHT LLC
RICE COLIN K & MICHAEL C

Book / Page

0234 / 0056

0093 / 0281

Sale Date

2005-08-11

Sale Price

\$0

\$0

Land Information

Land Area: 1.21 AC
Zoning: (See Map)
Land Use: 4330 - RAD/TV TR

Building Information

Style:
Year Built:
Stories:
Rooms: Bedrooms:
Baths: Half Baths:
Living Area:
Grade:
Condition:

Heat Type:
Heat Fuel:
AC Type:
Fireplaces:
Roof Structure:
Roof Covering:
Exterior Wall:
Interior Floor:
Basement:

Extra Features

Description
FN4 FENCE-8' CHAIN
TW1 LATTICE TOWER
SHDC Shed - Cell tower
SHDC Shed - Cell tower
FN3 FENCE-6' CHAIN
TW2 CELL TOWER
GEN Generator

Sub Areas

Description
BAS First Floor

Area / Units

320.00 L.F.
200.00 HEIGHT
240.00 S.F.
580.00 S.F.
200.00 L.F.
120.00 HEIGHT
UNITS

Living Area

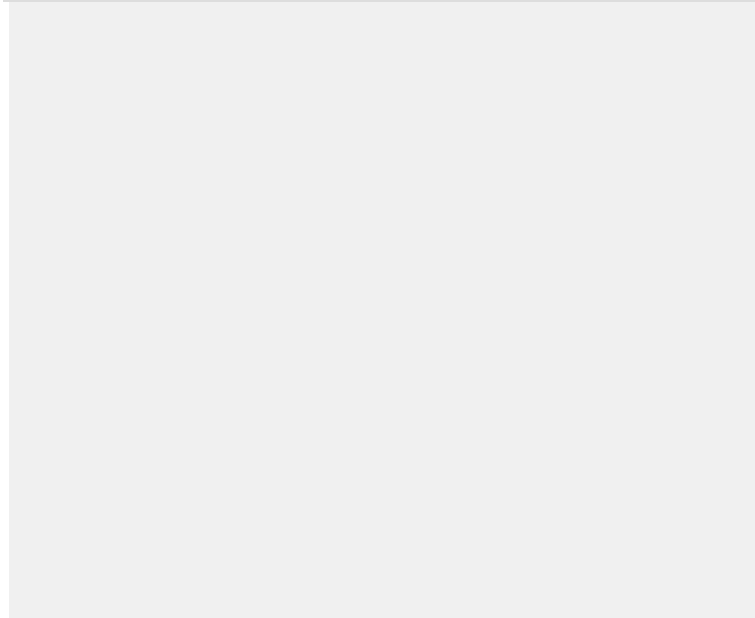
400

Assessment

\$1,230
\$24,500
\$4,370
\$5,280
\$880
\$70,310

\$0

Gross Area
400



Printed on 8/16/2021 from: <https://www.mainstreetmaps.com/ct/lebanon/>

ATTACHMENT 6



LEBANON
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 <div style="font-size: 2em; font-family: cursive;">3</div> | TOTAL NO. of Pieces Received at Post Office™ <div style="font-size: 2em; font-family: cursive;">3</div> | Affix Stamp Here <i>Postmark with Date of Receipt.</i> <div style="text-align: right; color: magenta;"> neopost® 08/27/2021 US POSTAGE \$002.89⁰ ZIP 06103 041L12203937 </div> |
| Postmaster, per (name of receiving employee) <div style="font-size: 2em; font-family: cursive; text-align: center;">V.P.</div> | | | |

| USPS® Tracking Number Firm-specific Identifier | Address (Name, Street, City, State, and ZIP Code™) | Postage | Fee | Special Handling | Parcel Airlift |
|---|--|---------|-----|------------------|----------------|
| 1. | Kevin Cwilka, First Selectman Lebanon Town Hall 579 Exeter Road Lebanon, CT 06226 | | | | |
| 2. | Philip Chester, Town Planner Lebanon Town Hall 579 Exeter Road Lebanon, CT 06226 | | | | |
| 3. | GHT LLC 90 South Park Street Willimantic, CT 06226 | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |

