Robinson+Cole

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May 8, 2022

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

Re: **Request of Cellco Partnership d/b/a Verizon Wireless for an Order to Approve the Shared Use of an Existing Tower at 62 Babbitt Hill Road, Pomfret, Connecticut**

Dear Attorney Bachman:

Pursuant to Connecticut General Statutes ("C.G.S.") §16-50aa, as amended, Cellco Partnership d/b/a Verizon Wireless ("Cellco") hereby requests an order from the Siting Council ("Council") to approve the shared use of an existing telecommunications tower located on a 53.9-acre parcel at 62 Babbitt Hill Road in Pomfret (the "Property"). The Property is owned by the Stoddard Family Trust. The tower is owned by SBA Communications Corp. ("SBA"). Cellco identifies this site as its "Pomfret South Facility". The existing 168-foot monopole tower was approved by the Town of Pomfret ("Town") in April of 1999 for SBA. A copy of the Town's approval is included in Attachment 1.

Cellco requests that the Council find that the proposed shared use of the existing tower satisfies the criteria of C.G.S § 16-50aa and issue an order approving this request. A copy of this filing is being sent to Pomfret's First Selectman, Maureen Nicholson and Town Planner, James Rabbitt.

Background

Cellco is licensed by the Federal Communications Commission ("FCC") to provide wireless services throughout the State of Connecticut. Cellco and SBA have agreed to the proposed shared use of the Babbitt Hill Road tower pursuant to mutually acceptable terms and conditions. Likewise, SBA and Cellco have agreed to the proposed installation of equipment on the ground near the base of the tower. SBA has authorized Cellco to apply for all necessary permits and approvals that may be required to share the existing tower. (*See* Attachment 2).

Cellco proposes to install up to twenty-one (21) antennas and up to sixteen (16) remote radio heads ("RRHs") on the tower at a centerline height of 125 feet above ground level ("AGL")[1]. Cellco will also install two equipment cabinets and a 50-kW diesel-fueled backup generator on the ground near the base of the tower. Included in Attachment 3 are Cellco's project plans showing the location of Cellco's proposed site improvements. Attachment 4 contains specifications for Cellco's proposed antennas, RRHs and backup generator.

C.G.S. § 16-50aa(c)(1) provides that, upon written request for approval of a proposed shared use, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such shared use." Cellco respectfully submits that the shared use of the tower satisfies these criteria.

A. Technical Feasibility. The existing tower is structurally capable of supporting Cellco's antennas, RRHs, antenna platform and related equipment. The proposed shared use of this tower is, therefore, technically feasible. A Structural Analysis Report ("SA") dated April 3, 2023 prepared by Tower Engineering Solutions ("TES") confirms that the tower can support all of Cellco's proposed antennas and related equipment. An Antenna Mount Analysis Report ("MA") dated April 7, 2023 was also prepared for the proposed antenna and RRH mounting system. Copies of the SA and MA are included in Attachment 5.

B. Legal Feasibility. Under C.G.S. § 16-50aa, the Council has been authorized to issue orders approving the shared use of an existing tower, such as the existing Babbitt Hill Road tower. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's

[1] Initially, Cellco will install nine (9) antennas and nine (9) RRH on the proposed antenna platform. Both the Structural Analysis Report and Antenna Mount Analysis referenced below and attached hereto in Attachment 5, assume the full loading of the tower including Cellco's 21 antennas and 16 RRH.

jurisdiction. In addition, § 16-50x(a) directs the Council to "give such consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the statutory authority vested in the Council, an order by the Council approving the requested shared use would permit the Applicant to obtain a building permit for the proposed installations.

C. **Environmental Feasibility.** The proposed shared use of the existing tower would have minimal environmental effects, for the following reasons:

1. The proposed installation of up to twenty-one (21) antennas and up to sixteen (16) RRHs on an antenna platform at a height of 125 feet AGL on the existing 168-foot tower would have an insignificant incremental visual impact on the area around the Property. As mentioned above, all of Cellco's equipment will be located within a fenced portion of the Property near the base of the tower. Cellco's shared use of the existing tower would, therefore, not cause any significant change or alteration in the physical or environmental characteristics of the existing facility.

2. Noise associated with Cellco's proposed facility will comply with State and local noise standards. Noise associated with the backup generator is exempt from state and local noise standards.

3. Operation of Cellco's antennas at this site would not exceed the RF emissions standards adopted by the Federal Communications Commission ("FCC"). Included in Attachment 6 of this filing is a Calculated Radio Frequency Emissions Report that demonstrates that the modified facility will operate well within the FCC's safety standards.

4. Under ordinary operating conditions, the proposed installation would not require the use of any water or sanitary facilities and would not generate air emissions or discharges to water bodies or sanitary facilities. After construction is complete the proposed installations would not generate any increased traffic to the facility other than periodic maintenance visits to the cell site.

The proposed shared use of the existing tower would, therefore, have a minimal environmental effect, and is environmentally feasible.

D. **Economic Feasibility.** As previously mentioned, Cellco has entered into an agreement with SBA for the shared use of the existing tower subject to mutually agreeable terms. The proposed tower sharing is, therefore, economically feasible.

E. **Public Safety Concerns.** As discussed above, the tower is structurally capable of supporting Cellco's antennas, antenna mounting system, RRHs and all related equipment. Cellco is not aware of any public safety concerns relative to the proposed sharing of the existing Babbitt Hill Road tower. In fact, the provision of new and improved wireless service through Cellco's shared use of the existing tower would enhance the safety and welfare of area residents and members of the general public living in and traveling through the Town of Pomfret.

A Certificate of Mailing verifying that a copy of this filing was sent to the municipal officials, the Property owner, and SBA, the tower owner is included in Attachment 7.

Conclusion

For the reasons discussed above, the proposed shared use of the existing tower at the Property satisfies the criteria stated in C.G.S. § 16-50aa and advances the General Assembly's and the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the proposed shared use.

Thank you for your consideration of this matter.

Very truly yours,

Kenneth C. Baldwin

Enclosures
Copy to:
Maureen Nicholson, First Selectman
James Rabbitt, Town Planner
The Stoddard Family Trust, Property Owner
SBA Communications Corp., Tower Owner
Karla Hanna

ATTACHMENT 1

TOWN OF POMFRET
BOARD OF SELECTMEN'S MINUTES
MEETING OF APRIL 19, 1999

Present: David Patenaude, First Selectman, and Charles Balch, Selectman. Not Present: Thomas Pahl, Selectman. Others Present: Scott Thomae, SBA Inc., Kevin Huff, and Ford Fay.

Dave Patenaude opened the meeting at 8:00 A.M. The minutes of the previous meeting of April 5, 1999 were duly approved.

Citizen Comments: Kevin Huff commented that he was concerned about person(s)' inappropriate interference or interruptions in Town Board/Commission meetings.

Correspondence: None

Current Business

1. **Road Issues-No discussion**
2. **Selectmen's Goals 1999-No discussion**
3. **Recreation Committee-No discussion**
4. **Ad Hoc Traffic Committee-Update**

A plan was submitted to the Board of Finance for the bus turn-around. The Board of Education was told to included the expenditure in their 1999-2000 proposed budget.

5. **Positively Pomfret Day-No Update**
6. **Steak-Umm-Assessment Appeal-Tabled Until Next Meeting**

New Business

1. **Kevin Huff-357 Orchard Hill Rd: Trailer Permit**

Kevin Huff was present with his trailer permit application. Kevin said this is for a trailer that already exists on the property but he never finished the process. The septic is installed and NEDDH has already signed off on the application. Dave reviewed the trailer ordinance with Mr. Huff. A plot plan is needed, a building permit must be taken out and the Building Inspector must sign off on the trailer permit application, and the $50.00 application fee must be paid.

2. **SBA Inc.-Scott Thomae: Telecommunications Tower Application-Babbitt Hill Rd.**

Scott Thomae of SBA Inc. submitted a telecommunications tower application with all attached documentation. SBA is to build the tower only; they are not a communications company. The tower will hold up to five carriers. Mr. Thomae reviewed the proposal and findings section with the Selectmen. He reviewed the site maps for existing coverage, which included PCS digital systems and existing cellular coverage, and the projected coverage done by an electrical engineer. This showed that a second tower in Pomfret will not be needed. Mr. Thomae reviewed the basic structural design, tower specifications, copy of the lease showing the improvements to restore the area back to normal state, specifications for panel antennas, letters of integrity for safety purposes for monopole communication towers, power density study which shows maximum exposure scenario at 21%, graphs showing that the frequency won't interfere with other carriers in Town, and the map showing the places where the balloon test could be seen in Town.

The findings show that the application was in compliance in all sections except section 3.6 'Surety Bond". Mr. Thomae asked that the Selectmen, in lieu of a donations of $10,000 to the Town of Pomfret, waive the surety bond requirements. The Selectmen would like a mylar of the

plan filed in the land records. Wetlands approval has been received. Dave made motion that the requirement for a surety bond in section 3.6 of the "Town of Pomfret-Wireless Telecommunication Regulations Ordinance" for the proposed tower by SBA, Inc. be waived. Chuck seconded and the motion was approved all in favor. Motion was made by Dave that the application by SBA, Inc. to construction a telecommunications tower on Babbitt Hill Rd. be approved as presented. Motion was seconded by Chuck and approved unanimously. Mr. Thomae is to get in touch with the Building Inspector. Mr. Thomae submitted a check for $10,000 in lieu of the bond requirement to be contributed to the Town to be used for recreation or to purchase land for recreation purposes. The check also included $1,120.00 for building inspection fees.

3. **CT Small Cities Community Development Block Grant-Joint Community Application: Resolution with Town of Putnam and Ten NECCOG Towns**

Dave explained that the grant is for economic opportunities and is being submitted by the Town of Putnam. The resolutions give the Town of Putnam and NECCOG the authority to act on our behalf in regards to this grant. Motion to approve the resolution for cooperative agreement was made by Chuck. Dave seconded and the motion was approved all in favor.

Tax Refunds/Abatements: None

Gun Permits: None

Approval to Pay Bills: Checks #12548-12550 dated 3/30/99 for $133.76; #12553-12565 dated 4/2-4/14/99 for $7615.95; and bill checks to be dated 4/19/99 for $8,558.02. Motion was duly approved to pay the bills as presented.

Adjournment: The meeting was duly adjourned at 9:05 A.M.

Respectfully submitted,

Cheryl A. Grist

Cheryl A. Grist, Clerk

TOWN ON POMFRET
APPLICATION FOR WIRELESS TELECOMMUNICATION STRUCTURES

Permit Number: 99-01
Date Submitted: 4/19/99
Received by: BEB
(Section 2.3.1) Fee: $1000.00 Pd

(Procedures for this application are explained in the Wireless Telecommunication ordinance)

APPLICANT TO FILL OUT THIS SECTION - Please print

Applicant's Name SBA INC. Phone (617) 302-8344
Address 125 SHAW ST. SO. NO. NEW LONDON, CT Fax # (860) 439-0159

Co-Applicant's Name 06320 Phone
Address Fax #

If there is an agent for the applicant, please fill in name below:
Name SCOTT THOMAS, TEAM LEADER SBA INC. Phone SAME AS ABOVE
Address 125 SHAW ST SO. NO. NEW LONDON, CT Fax #

LOCATION OF TOWER

Owner of the land JOSEPH & CECILE STODDARD Phone (860) 974-0635
Address 62 RABBIT HILL ROAD
Street Name RABBIT HILL ROAD Map 23 Block D Lot 25 (Get from Assessor's office)
Nearest roads/intersections:

PROPOSED ACTIVITY: (check those that apply)

☑ Commercial ☐ Industrial ☑ Other-specify TELECOMMUNICATIONS FACILITY
☑ New Construction ☐ Addition ☐ Alteration

Please provide the following information with this application:

a. Site Plan Ingredients (section 3.2) Five (5) copies of site plan - 24" x 36" at a scale of 1" = 40' prepared by a professional land surveyor licensed in the State of Connecticut.
b. Name of Connecticut Registration Number of Land Surveyor and Professional Engineer. All final plans must have original signatures on maps.
c. Soil Erosion and Sediment Control Plan (section 3.3) a map of 1" = 50'
d. Name of Soil Scientist ROBERT GRABAREK / COMEY ENVIRONMENTAL & ENGINEERING
e. Architectural Plans (see section 4.1.2)
f. Fees: $1,000.00. Please note: If the cost to process and review the application exceeds the initial fee of $1000.00, the applicant shall pay all associated costs incurred by the Commision and/or the Town prior to the issuance of a permit. (Section 2.3).

The undersigned hereby acknowledges that this application to the best of his/her knowledge, conforms to the Wireless Telecommunications Regulations Ordinance of the Town of Pomfret and that approval of the plan is contingent upon compliance with all requirements of said ordinance. The undersigned hereby authorizes the Pomfret Board of Selectmen, or its agent, to enter upon the property for the purpose of inspection and enforcement of said regulations. The undersigned warrants and guarantees that all of the improvements as shown on the final approved site plan map will be installed in a good and workmanlike manner, and individually and severally guarantee to provide all necessary funds with respect thereto.

Signed _____ (Applicant) Dated 4/13/99

Signed Joseph P. Stoddard (Property Owner) Dated 4/22/99

Note: Before site plan approval is granted, the applicant shall file a surety with the Board of Selectmen payable to the Treasurer of the Town of Pomfret and in a form satisfactory to the Town Counsel and in an amount approved by the Board of Selectmen as sufficient to guarantee completion of those items specified by the Board of Selectmen and in conformity with the provisions of these Regulations or any amendments thereto in force at the time of filing. Such surety shall be held by the Town Clerk who shall not be authorized by the Board of Selectmen to release such bond until written certification has been received from the Building Official that all of the requirements of these Regulations have been fully satisfied.

Signed _____ Selectmen or Commission Date 4-21-99

wirecpp.wpd

Public Hearing: Yes ✓ No Date: N/A

Bond Amount: *None-Waived at Selectmen's Meeting 4/19/99

*Donation to Town for Recreation Purposes Amount of $10,000.00

Applicant has complied with all requirements of the Ordinance:

Yes: _____ No: ✓ If NO Explain: Selectmen waived bond amount at meeting of 4/19/99

ATTACHMENT 2

SBA Communications Corporation
134 Flanders Road
Suite 125
Westborough, MA 01581

T + 508.251.0720
F + 508.251.1755

sbasite.com

LETTER OF AUTHORIZATION

SBA ID / NAME: CT01364-S / Pomfret South, CT
SITE ADDRESS: 62 Babbitt Hill Road Pomfret, CT 06259
LICENSEE: Cellco Partnership D/B/A Verizon Wireless

I, Dulce Lara, Site Development Services Specialist at SBA Communications[1], owner of the telecommunications facility identified above, do hereby authorize Cellco Partnership D/B/A Verizon Wireless, its successors and assignees, and/or its agent, (collectively "the Licensee") to act as SBA Communications' non-exclusive agent for the sole purpose of filing and consummating any land-use or building permit applications(s) as may be required by the applicable permitting authorities for Licensee's telecommunications' installation.

We understand that this application may be denied, modified, or approved with conditions. The above authorization is limited to the acceptance by Licensee only of conditions related to Licensee's installation and any such conditions of approval or modifications will be Licensee's sole responsibility.

SBA COMMUNICATIONS

BY: _____
DULCE LARA
Site Development Services Specialist

[1] SBA Communications includes all of the "SBA Tower Entities"

ATTACHMENT 3

verizon

20 ALEXANDER DRIVE, 2nd FLOOR
WALLINGFORD, CT 06492

POMFRET SOUTH CT

62 BABBITT HILL ROAD
POMFRET, CT 06259
WINDHAM COUNTY

PROJECT TYPE: WIRELESS TELECOMMUNICATIONS
COLLOCATION ON EXISTING 168'± MONOPOLE

SUPPORTING DOCUMENTS

RADIO FREQUENCY (RF) DESIGN DATE: 03/16/23

ANTENNA MOUNT STRUCTURAL ANALYSIS DATE: 04/07/23 (BY TOWER ENGINEERING SOLUTIONS)

ANTENNA SUPPORT STRUCTURE (168'± MONOPOLE) STRUCTURAL ANALYSIS DATE: 04/03/23 (BY TOWER ENGINEERING SOLUTIONS)

SITE INFORMATION

VERIZON LOCATION CODE:	780742
VERIZON SITE NAME:	POMFRET SOUTH CT
SBA SITE NUMBER:	CT01364-S
SBA SITE NAME:	POMFRET
MDG LOCATION ID:	5000917542
SITE ADDRESS:	62 BABBITT HILL ROAD POMFRET, CT 06259
PROPERTY OWNER:	STODDARD FAMILY TRUST C/O JOHN STODDARD TRUSTEE 62 BABBITT HILL ROAD POMFRET CENTER, CT 06259
TOWER OWNER:	SBA TOWERS, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY	WINDHAM COUNTY, CT
ZONING DISTRICT:	RR
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	168'±
GROUND ELEVATION:	590'± AMSL
SITE CONTROL POINT:	CENTER OF EXISTING MONOPOLE N 41°-52'-12.93" (41.870258°) (NAD '83) W 71°-59'-17.67" (71.988241°) (NAD '83)
ARCHITECT/ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752

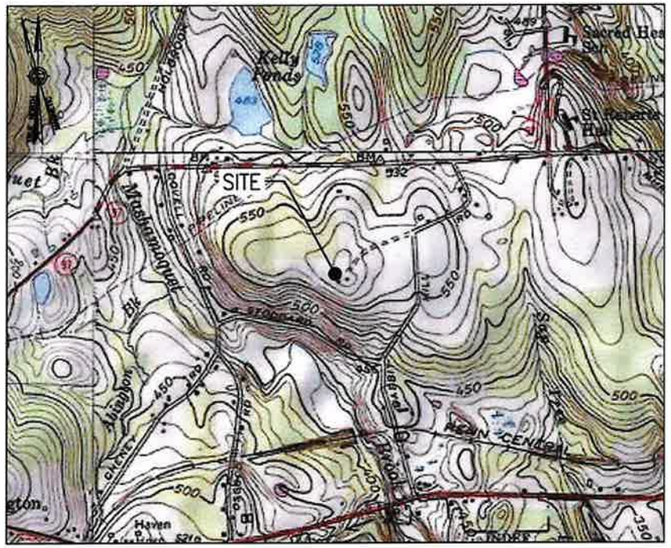
GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
2. NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2022 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS

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

VICINITY MAP

SCALE: 1"=1000'



DRIVING DIRECTIONS

FROM WALLINGFORD, TAKE I-91 NORTH TOWARD HARTFORD. TAKE EXIT 29 ON LEFT FOR U.S. 5 N/CONNECTICUT 15 N/I-84 EAST TOWARD EAST HARTFORD/BOSTON. MERGE ONTO US-5 NORTH. TAKE THE EXIT ON LEFT FOR I-84 EAST TOWARD BOSTON. TAKE EXIT 69 FOR CT-74 TOWARD U.S. 44/WILLINGTON/PUTNAM. TURN RIGHT ONTO CT-74 EAST. TURN LEFT ONTO US-44 EAST. TURN LEFT ONTO BABBITT HILL ROAD. TURN LEFT. SITE IS LOCATED STRAIGHT AHEAD.

SHEET INDEX

DO NOT SCALE DRAWINGS

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

PROJECT DESCRIPTION

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

SCOPE OF WORK

INSTALL:

- 1 LOW-PROFILE PLATFORM
- 3 SIDE-BY-SIDE ANTENNA MOUNT KITS
- 9 ANTENNAS
- 6 RADIOS
- 3 DIPLEXERS
- 1 JUNCTION BOX
- 2 HYBRID CABLES & ASSOCIATED JUMPERS
- 1 ICE BRIDGE
- 1 GPS ANTENNA & ASSOCIATED CABLE
- 1 12'x22' CONCRETE PAD
- 1 EQUIPMENT CABINET
- 1 BATTERY CABINET
- 1 11'-10"x12'-6" ICE CANOPY
- 1 50kW DIESEL GENERATOR
- 1 HOFFMAN BOX
- 1 POWER TRANSFER LOAD CENTER

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

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

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

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25987
LICENSED
PROFESSIONAL CIVIL ENGINEER
4/3/2023

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	04/05/23	CONSTRUCTION REVISED	CMC
1	03/08/23	ISSUED FOR CONSTRUCTION	CMC
0	02/07/23	ISSUED FOR REVIEW	MBC

PROJECT NAME & ADDRESS

POMFRET SOUTH CT

62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE

780742

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T01

22136.005

GENERAL NOTES:

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

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

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

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

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

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

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

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

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

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

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

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

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

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

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

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

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

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

6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

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

8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.

9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.

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

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

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

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

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

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

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

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

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

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

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND VERIZON WIRELESS SPECIFICATION 25252-000-3PS-GET-00001 UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A-36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".

2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (⅞"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.

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

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

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

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

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

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

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

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

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

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

COMPACTION EQUIPMENT:

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

CONSTRUCTION NOTES:

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

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

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

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

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

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

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

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

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

10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #3 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.

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

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

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

17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

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

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

20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.

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

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

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

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

25. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS

27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON- CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

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

30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

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

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

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25987
LICENSED
PROFESSIONAL CIVIL ENGINEER
4/5/2023

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	04/05/23	CONSTRUCTION REVISED	CMC
1	03/08/23	ISSUED FOR CONSTRUCTION	CMC
0	02/07/23	ISSUED FOR REVIEW	MBC

PROJECT NAME & ADDRESS
POMFRET SOUTH CT
62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
780742

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN01

22136.005

SITE PLAN
SCALE: 1" = 100'-0"
1
A01
0 100' 200' 300'

verizon

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
4/3/2023

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

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PROJECT NAME & ADDRESS

POMFRET SOUTH CT

62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
780742

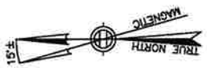
SHEET TITLE
SITE PLAN

SHEET NUMBER
A01

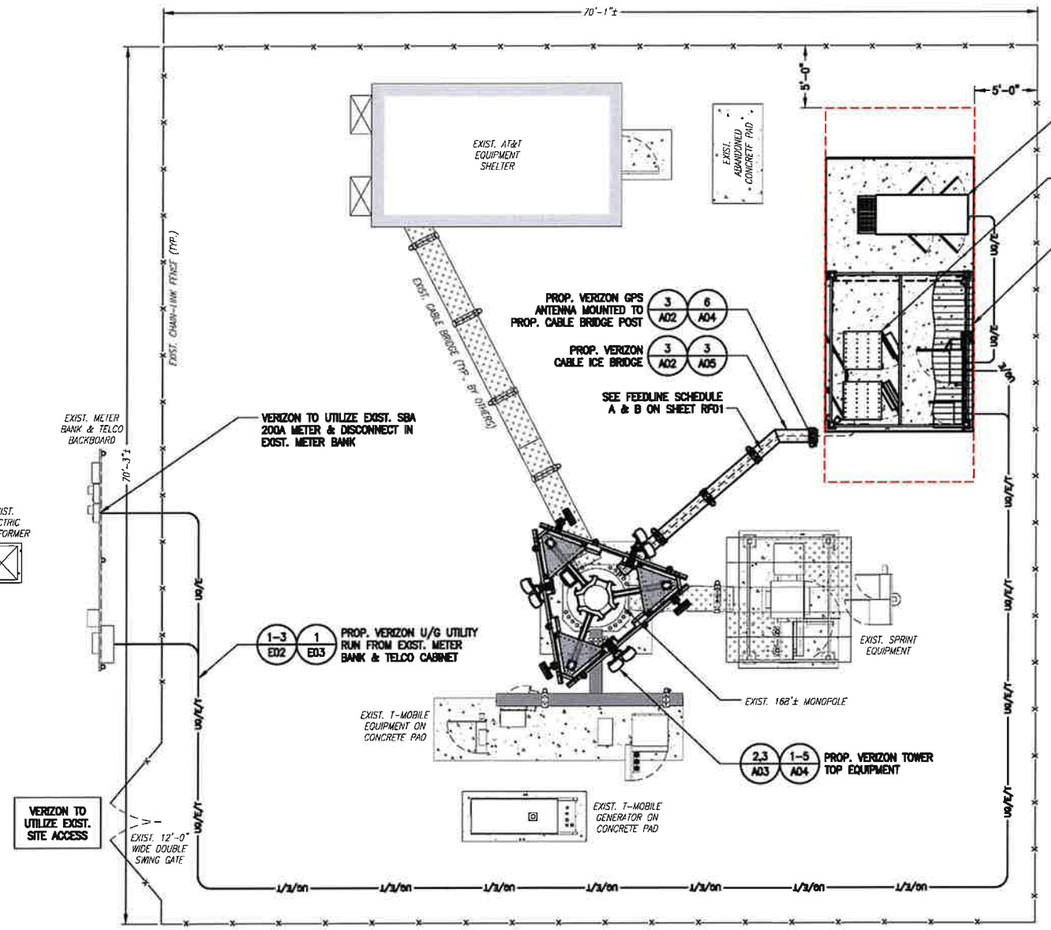
22136.005

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

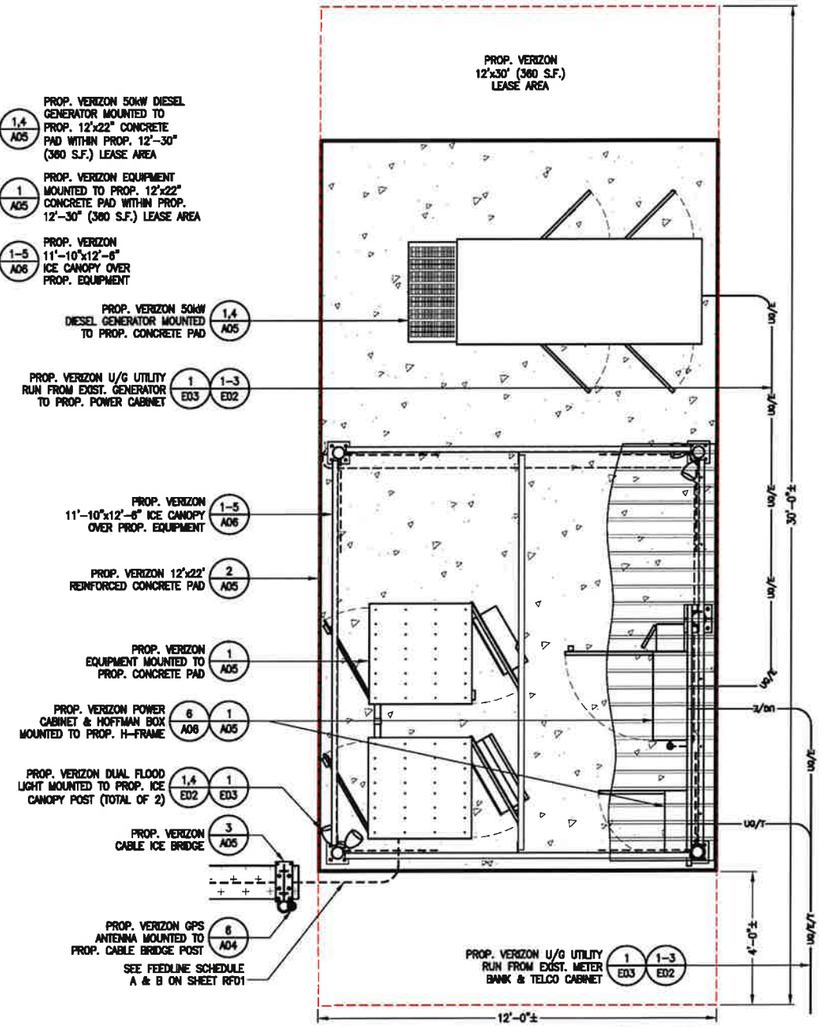
SPECIAL CONSTRUCTION WORK NOTE (HAND DUG UTILITY TRENCH EXCAVATION REQUIRED):
EXISTING UNDERGROUND UTILITY LOCATIONS ARE UNKNOWN. GENERAL CONTRACTOR SHALL HAND-EXCAVATE TO REQUIRED SUB-GRADE DEPTH SUFFICIENT TEST HOLES OR AS DIRECTED/REQUIRED BY SBA REGIONAL SITE MANAGER SHALL HAND-EXCAVATE ALL PROPOSED UNDERGROUND UTILITY TRENCHES. GENERAL CONTRACTOR RESPONSIBLE FOR ANY REQUIRED SPECIAL TEMPORARY PROTECTION OF EXISTING UNDERGROUND UTILITIES, PHYSICAL DAMAGE REPAIR, AND SERVICE RESTORATION.



PROPOSED EQUIPMENT LOCATION PHOTO (2 / A02)
SCALE: N.T.S.



COMPOUND PLAN (1 / A02)
SCALE: 3/16" = 1'-0"
0 5'-4" 10'-8" 16'-0"



PROPOSED EQUIPMENT PLAN (3 / A02)
SCALE: 1/2" = 1'-0"
0 2'-0" 4'-0" 8'-0"

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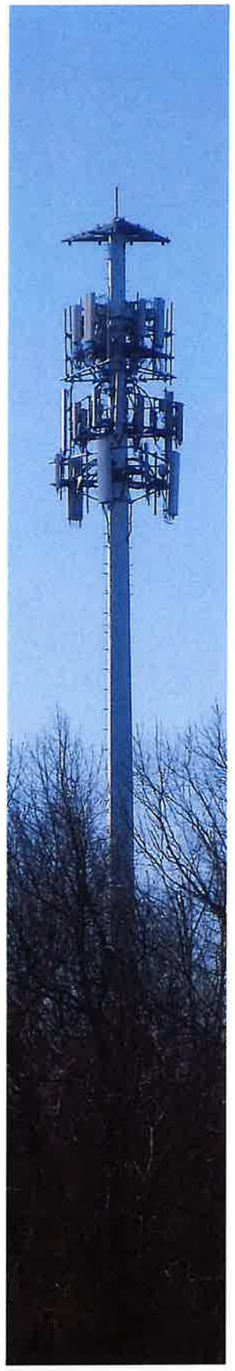
PROJECT NAME & ADDRESS
POMFRET SOUTH CT
62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
780742

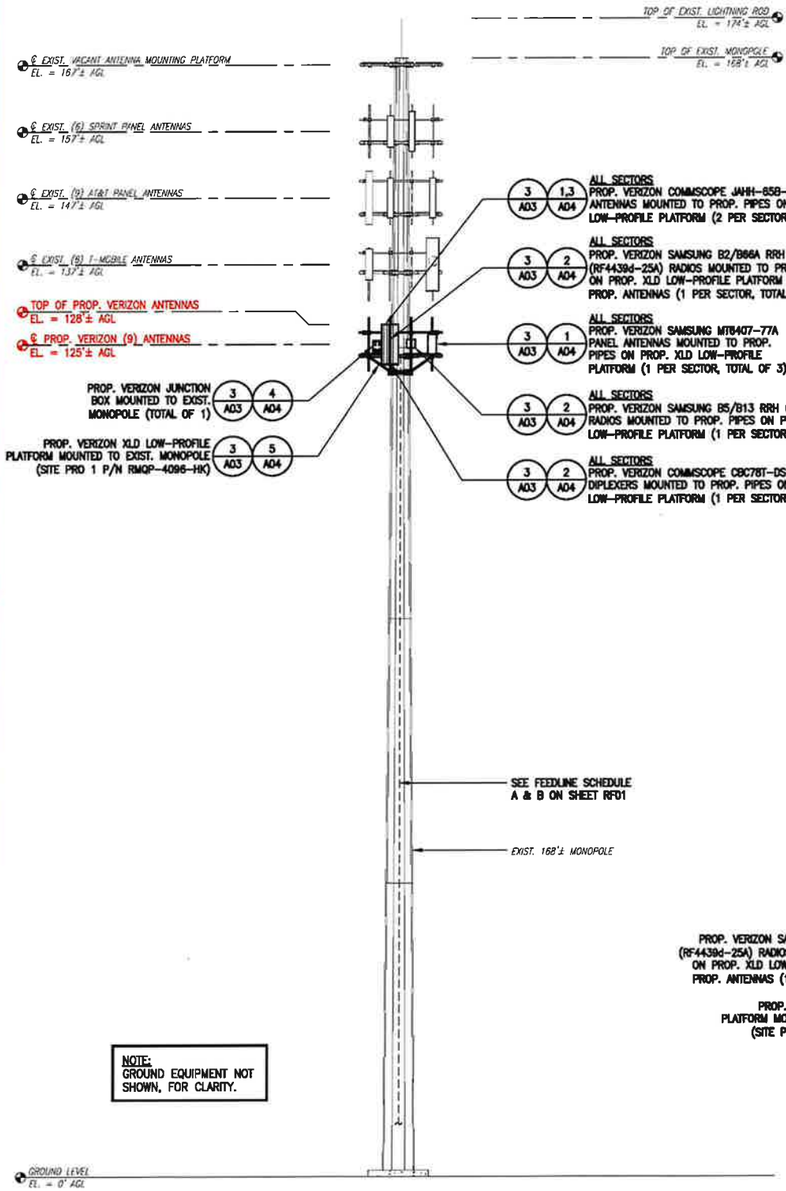
SHEET TITLE
COMPOUND & EQUIPMENT PLANS

SHEET NUMBER
A02

22138.005

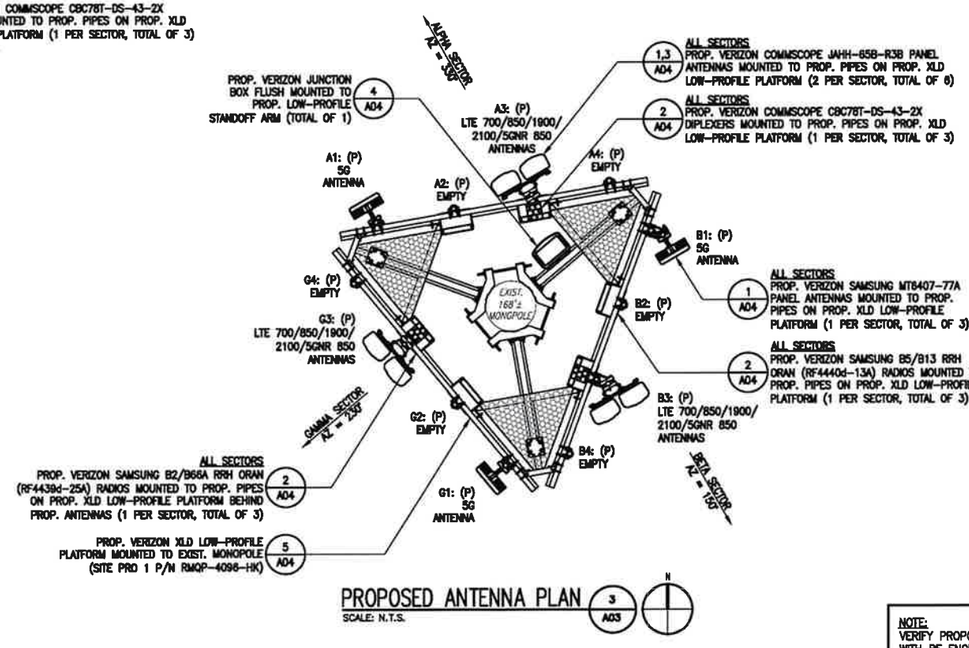


EXISTING TOWER PHOTO (1 / A03)
SCALE: N.T.S.



NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

TOWER ELEVATION (2 / A03)
SCALE: 1" =10'-0"
0 10' 20' 30'



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

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

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

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

ANTENNA STATUS LEGEND:

EMPTY – EMPTY PIPE

(E) – EXISTING
(P) – INSTALL
(F) – FUTURE

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4/5/2023

CHECKED BY: JMT

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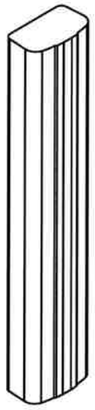
PROJECT NAME & ADDRESS
POMFRET SOUTH CT
62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
780742

SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLAN

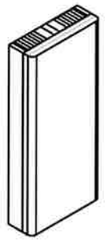
SHEET NUMBER
A03

22136.005



COMMSCOPE JAHH-65B-R3B ANTENNA

DIMENSIONS: 72.0"H x 13.8"W x 8.2"D
WEIGHT: 53.3 lbs
QUANTITY: 2 PER SECTOR, TOTAL OF 6
SECTORS: ALPHA, BETA, GAMMA



SAMSUNG MT6407-77A ANTENNA

DIMENSIONS: 35.2"H x 16.1"W x 5.6"D
WEIGHT: 57.1 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

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

SAMSUNG RF4440d-13A B5/B13 RADIO

DIMENSIONS: 15.0"H x 15.0"W x 8.0"D
WEIGHT: 70.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

SAMSUNG RF4439d-25A B2/B66A RADIO

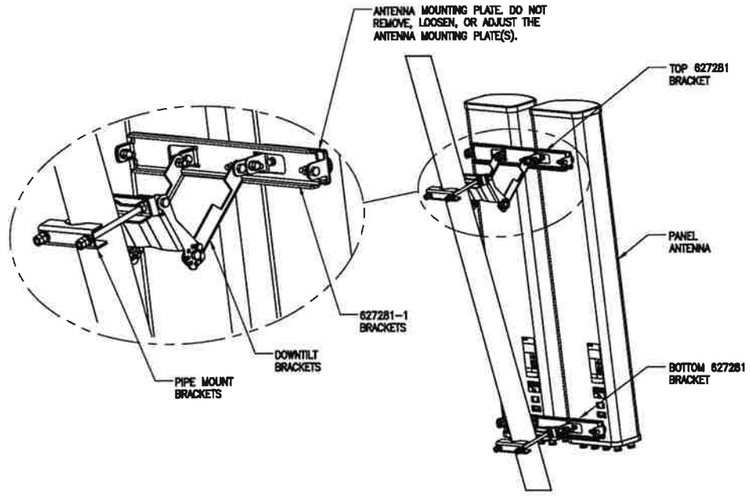
DIMENSIONS: 15.0"H x 15.0"W x 10.0"D
WEIGHT: 74.7 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

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

COMMSCOPE CBC78T-DS-43-2X
4-PACK 700/850MHz DIPLEXER

DIMENSIONS: 8.4"H x 8.9"W x 9.6"D
WEIGHT: 20.7 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

DIPLEXER DETAIL (2B/A04)
SCALE: N.T.S.



COMMSCOPE BSAMNT-SBS-1-2
SIDE-BY-SIDE ANTENNA MOUNT BRACKET

WEIGHT: 25.4 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA
NOTE: MOUNT ANTENNA PER MANUFACTURER'S SPECIFICATIONS

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

Procedure
Mounting Procedures

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

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

4.3 ***Option 2: Unistrut***

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

Gland/Insert Definitions

5.1 See picture to identify Base Gland Assembly Definitions.

Assembled in unit as shipped:

Qty	Connector Size	Pos	Insert P/N	Insert Hole	Cable Type
2	M75	A	190-0760	42mm	6x12 RL
4	M75	B	190-0738	3x 16.5mm	1x2

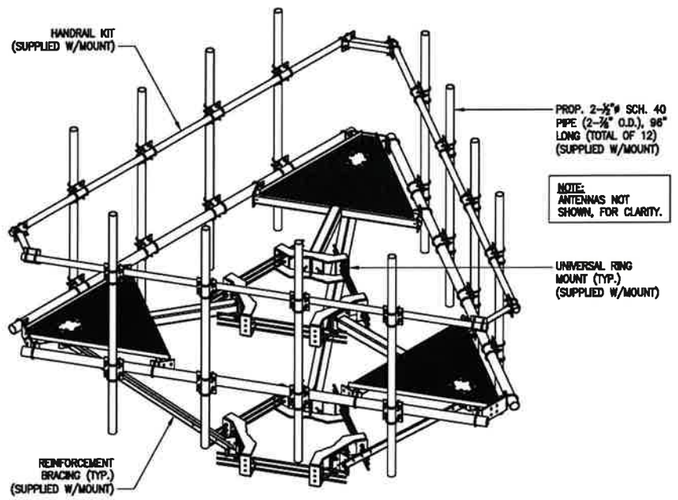
Included in kit shipped with unit:

Qty	Connector Size	Insert P/N	Insert Hole	Cable Type	Purpose	Pos
2	M75	190-0760	42mm	6x12 RL	2 glands fit 1 each 6/12 Hyb	B
2	M75	190-0747	2x 24.5mm	2x12 DC	2 glands fit 2 each #6 12 cond DC	B
1	M75	190-0905	2x 10.5mm	2x12 Fiber	1 gland fit 2 x 12 fiber trunk	B
1	M75	190-0912	2x 9.5mm	2 ETH	1 gland fits 2 ethernet cable	B

FIBER JUNCTION BOX

DIMENSIONS: 29.58"H x 16.5"W x 12.6"D
WEIGHT: 32.0 lbs
QUANTITY: TOTAL OF 1

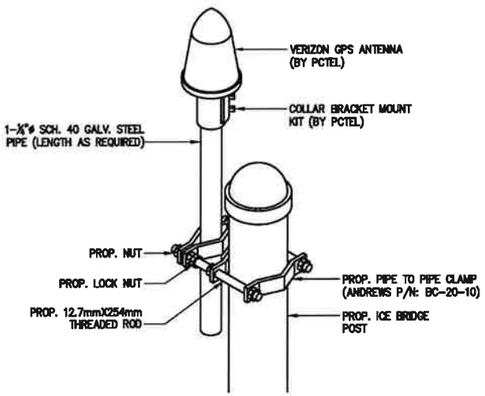
TYPICAL FIBER JUNCTION BOX DETAILS (4/A04)
SCALE: N.T.S.



SITE-PRO 1 12'-6" LOW-PROFILE
CO-LOCATION PLATFORM W/HANDRAIL KIT

PART NUMBER: RMQP-4096-HK
QUANTITY: TOTAL OF 1

ANTENNA MOUNT DETAIL (5/A04)
SCALE: N.T.S.



NOTE:
THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1"-1¼" DIAMETER GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.

GPS ANTENNA MOUNTING DETAIL (6/A04)
SCALE: N.T.S.

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STATE OF CONNECTICUT
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No. 25997
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4/5/2023

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

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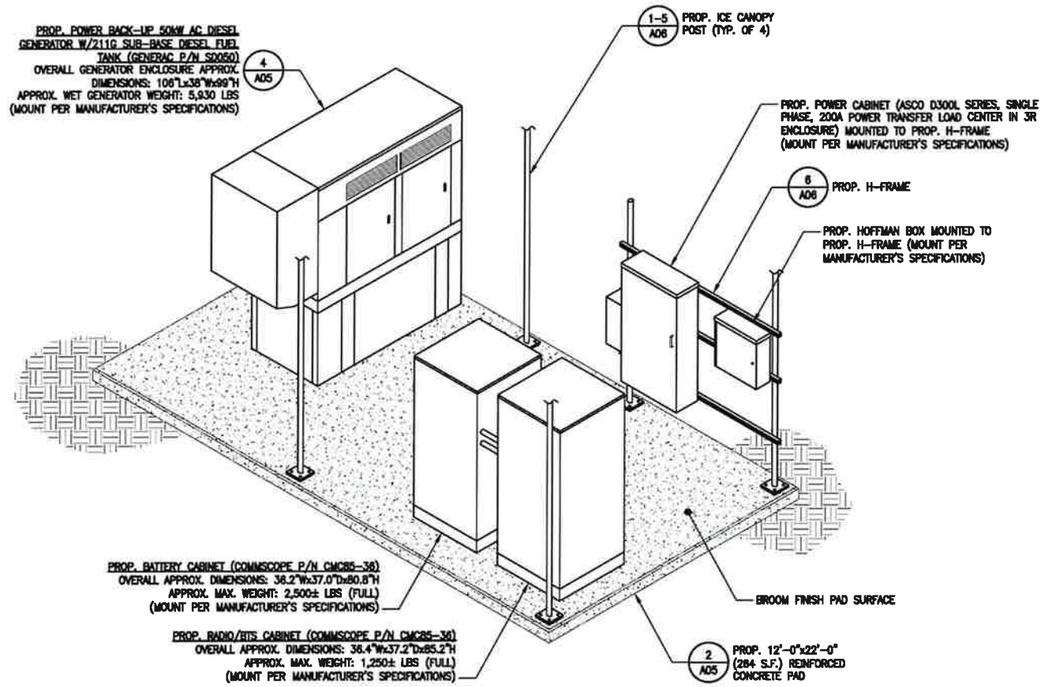
PROJECT NAME & ADDRESS
POMFRET SOUTH CT
62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
780742

SHEET TITLE
ANTENNA DETAILS

SHEET NUMBER
A04

22136.005



EQUIPMENT AREA ISOMETRIC VIEW 1 A05
SCALE: N.T.S.

CONCRETE GENERAL NOTES

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND TO THE PROJECT SPECIFICATIONS.
2. ALL CONCRETE IS TO BE NORMAL DENSITY CONCRETE WITH A MAXIMUM SLUMP OF 4 INCHES. MAXIMUM AGGREGATE SIZE ¾ INCH. NO ADDITIONAL WATER SHALL BE ADDED TO THE CONCRETE AT THE JOB SITE.
3. PROVIDE AIR ENTRAINMENT OF 4 TO 6 PERCENT IN ALL EXPOSED CONCRETE WORK WITH AIR-ENTRAINING ADMIXTURE COMPLYING WITH ASTM C 260. AT TROWEL-FINISHED FLOORS, DO NOT EXCEED AIR-ENTRAINMENT CONTENT OF 3 PERCENT.
4. NO HOLES OR SLEEVES SHALL BE MADE THROUGH CONCRETE WORK OTHER THAN THOSE INDICATED ON THE STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
5. ALL FORMWORK OFFSET TOLERANCES (PER ACI 117) TO BE CLASS A.
6. FLOOR SLAB TOLERANCES TO ASTM E1155; SPECIFIED OVERALL MINIMUM VALUE OF FLATNESS F F=25 WITH LOCAL MINIMUM F F=17, AND MINIMUM VALUE OF LEVELNESS F F=20 WITH LOCAL MINIMUM F I AND F F WITHIN 72 HOURS OF SLAB CONSTRUCTION.
7. CABINETS ON SLAB (IF APPLICABLE). ALLOWABLE CAPACITY OF CONCRETE USED IN DESIGN MIN. 4000 PSI.

FOUNDATION NOTES:

1. DESIGN INFORMATION AND GENERAL REQUIREMENTS

1.1 CODES

A. DESIGN CONFORMS TO INTERNATIONAL BUILDING CODE 2012.

B. AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318-08.

2. EARTHWORK

2.1 FOUNDATIONS

A. FOUNDATIONS HAVE BEEN DESIGNED TO BEAR ON (UNDISTURBED RESIDUAL SOILS/COMPACTED STRUCTURAL FILL), CAPABLE OF SAFELY SUPPORTING A NET ALLOWABLE BEARING PRESSURE OF 2000 PSF. IF FOUNDATION CONDITIONS PROVE UNACCEPTABLE AT ELEVATIONS SHOWN, EXCAVATION SHALL BE CARRIED DEEPER AND SHALL BE BACKFILLED WITH LEAN CONCRETE TO PLAN FOOTING BOTTOM, OR REDESIGN OF FOUNDATIONS WILL BE REQUIRED AT THE DIRECTION OF THE ENGINEER.

B. DESIGN, FURNISH AND INSTALL ALL TEMPORARY SHEETING, SHORING AND DRAINAGE NECESSARY TO MAINTAIN THE EXCAVATION AND PROTECT SURROUNDING STRUCTURES AND UTILITIES.

C. THOROUGHLY COMPACT ALL BOTTOM OF FOOTINGS PRIOR TO PLACING ANY CONCRETE.

3. CONCRETE

3.1 FORMWORK

A. CONCRETE CONSTRUCTION SHALL CONFORM TO "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS," (ACI 301-99).

B. FORMWORK SHALL CONFORM TO ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS."

3.2 REINFORCEMENT

A. REINFORCING STEEL ASTM A615, GRADE 60. WELDED WIRE ASTM A185 (FLAT SHEET). LAPS 40 BAR DIAMETERS UNLESS NOTED. BARS SHALL BE SECURELY HELD IN ACCURATE POSITION BY SUITABLE ACCESSORIES, TIE BARS, SUPPORT BARS, ETC. HOOK LENGTHS SHALL BE 12 BAR DIAMETERS.

B. CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

FOOTINGS & SLABS CAST AGAINST GROUND	3"
CONCRETE TO BE IN CONTACT WITH GROUND OR WEATHER AT BARS GREATER THAN #5	2"
AT BARS #5 OR LESS	1-1/2"
CONCRETE NOT TO BE EXPOSED TO GROUND OR WEATHER BEAMS, GIRDERS & COLUMNS	1-1/2"
SLABS & WALLS	3/4"

3.3 CAST-IN-PLACE-CONCRETE

A. MINIMUM 28 DAY CYLINDER STRENGHT AND MAXIMUM SLUMP, PRIOR TO ADDITION OF SUPER PLASTICIZERS, AS FOLLOWS:

	F'c (PSI)	SLUMP
CLASS I FOOTINGS	4000	3"
CLASS II FOOTINGS	4000	3"
CLASS III INTERIOR ELEVATED SLABS & WALLS	4000	4"
CLASS V OTHER WORK	4000	4"
CLASS VI LEAN CONCRETE FOR OVER EXCAVATION OF FOUNDATIONS	2000	N/A

B. MIX DESIGN TO BE IN ACCORDANCE WITH ACI 318, CHAPTER 5. NO CALCIUM CHLORIDE OR ADMIXTURE CONTAINING CHLORIDES SHALL BE USED IN ANY CONCRETE.

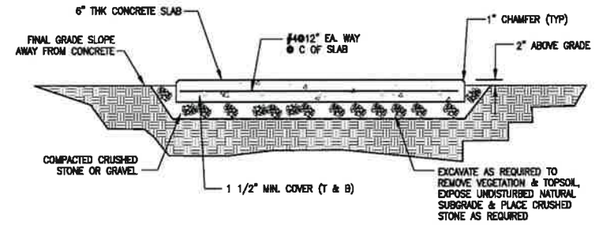
C. COARSE AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33 SIZE #57. COARSE AGGREGATE FOR LIGHT WEIGHT CONCRETE SHALL CONFORM TO ASTM C330 GRADED 3/4" TO 1/4".

D. COLD WEATHER PLACEMENT SHALL COMPLY WITH ACI 306.1.

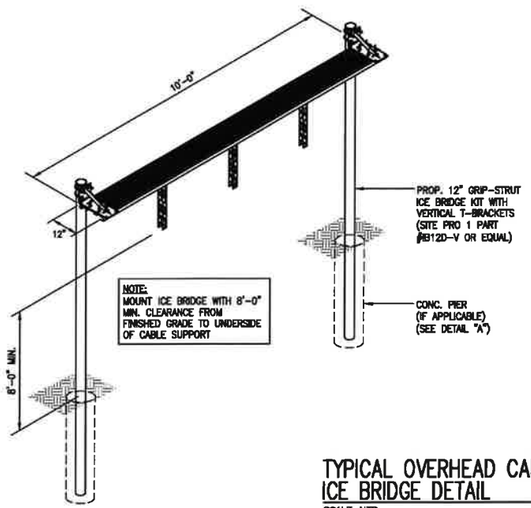
E. HOT WEATHER PLACEMENT SHALL COMPLY WITH ACI 305 R.

F. CHAMFER ALL EXPOSED EDGES 3/4".

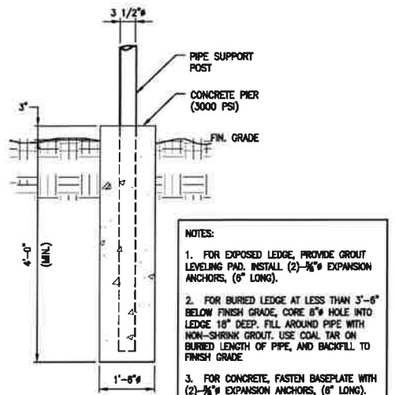
G. THE MAXIMUM TEMPERATURE OF ALL CONCRETE AT DELIVERY TO THE SITE SHALL BE 85°F. TOTAL DELIVERY TIME SHALL BE LESS THAN 75 MINUTES.



CONCRETE PAD DETAIL 2 A05
SCALE: N.T.S.



TYPICAL OVERHEAD CABLE ICE BRIDGE DETAIL 3 A05
SCALE: NTS



NOTES:

1. FOR EXPOSED LEDGE, PROVIDE GROUT LEVELING PAD. INSTALL (2)-⅜"ø EXPANSION ANCHORS, (6" LONG).
2. FOR BURIED LEDGE AT LESS THAN 3'-6" BELOW FINISH GRADE, CORE 8"ø HOLE INTO LEDGE 18" DEEP. FILL AROUND PIPE WITH NON-SHRINK GROUT. USE COAL TAR ON BURIED LENGTH OF PIPE, AND BACKFILL TO FINISH GRADE
3. FOR CONCRETE, FASTEN BASEPLATE WITH (2)-⅜"ø EXPANSION ANCHORS, (6" LONG).
4. FOR POSTS ON CONCRETE OR EXPOSED LEDGE, PROVIDE 4"x8"x¾" BASE PLATE WITH (2)-13/16"ø HOLES @ 6" O.C.

DETAIL "A"

NOTE:
GENERATOR DIESEL TANK TO BE FILLED BY CONTRACTOR

GENERAC SD050 50kW AC 211 GALLON DIESEL GENERATOR
DIMENSIONS W/SUB-BASE DIESEL TANK: 106.0"L x 38.0"W x 89.0"H
MAX IN-SERVICE WEIGHT: 5,630 lbs
QUANTITY: TOTAL OF 1

GENERATOR DETAIL 4 A05
SCALE: N.T.S.

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
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LICENSED PROFESSIONAL CIVIL ENGINEER
4/5/2023

CHECKED BY: JMT
APPROVED BY: JMT

SUBMITTALS

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POMFRET SOUTH CT
62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
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SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A05

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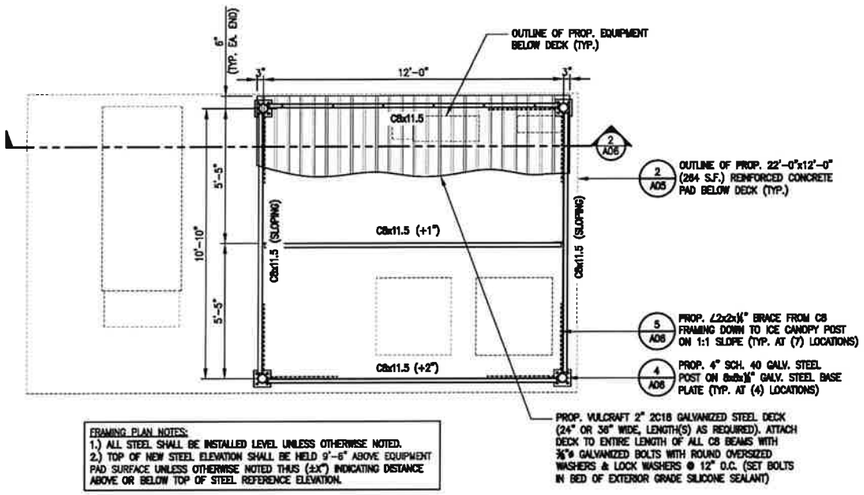
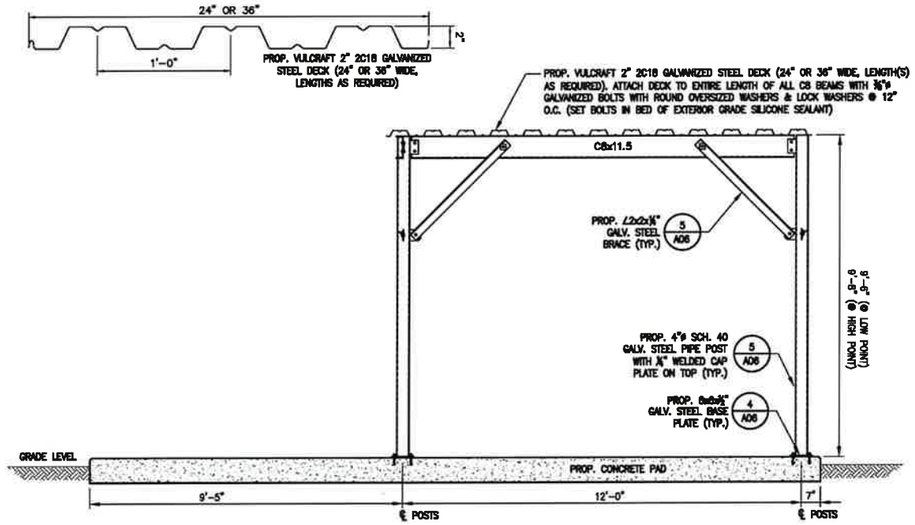


FRAMING PLAN NOTES:
1.) ALL STEEL SHALL BE INSTALLED LEVEL UNLESS OTHERWISE NOTED.
2.) TOP OF NEW STEEL ELEVATION SHALL BE HELD 9'-6" ABOVE EQUIPMENT PAD SURFACE UNLESS OTHERWISE NOTED THUS (±X") INDICATING DISTANCE ABOVE OR BELOW TOP OF STEEL REFERENCE ELEVATION.

ICE CANOPY FRAMING PLAN (1 A06)

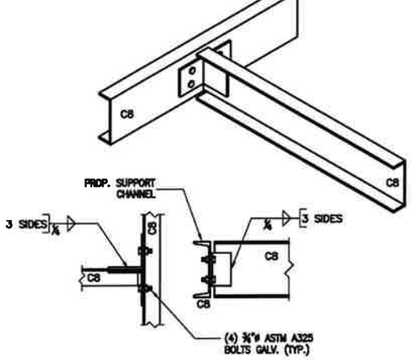
SCALE: 3/8" = 1'-0"

0 2'-8" 5'-4" 8'-0"



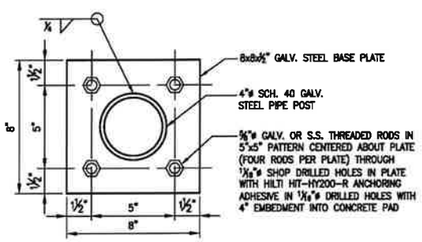
ICE CANOPY SECTION (2 A06)

SCALE: 1/2" = 1'-0"



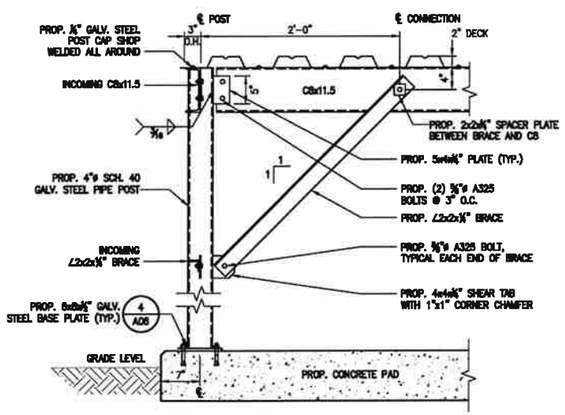
TYP. BEAM TO BEAM CONN. (3 A06)

SCALE: NOT TO SCALE



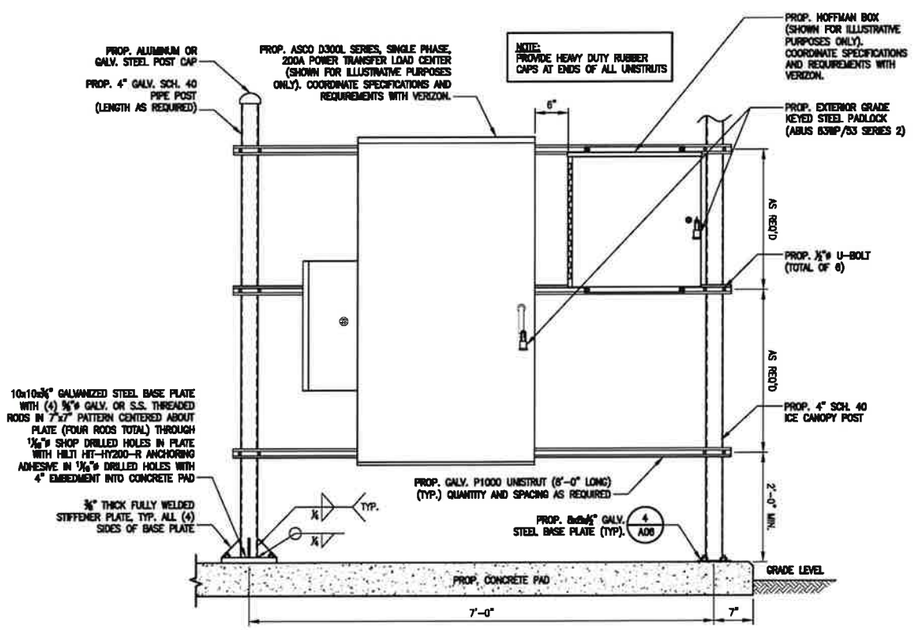
TYP. ICE CANOPY POST BASE PLATE (4 A06)

SCALE: NONE



TYP. ICE CANOPY POST DETAIL (5 A06)

SCALE: 1" = 1'-0"



H-FRAME DETAIL (6 A06)

SCALE: N.T.S.

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POMFRET, CT 06259

VZW LOCATION CODE
780742

SHEET TITLE
ICE CANOPY & H-FRAME DETAILS

SHEET NUMBER
A06

22134.005

FINAL EQUIPMENT CONFIGURATION

SECTOR	EQUIPMENT MAKE & MODEL	QTY	AZIMUTH (TRUE NORTH)	ANTENNA RAD	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	H (IN)	W (IN)	D (IN)	WEIGHT (LBS)	HYBRID CABLE SIZE & QTY
ALPHA	**COMMSCOPE JAHH-65B-R3B ANTENNAS**	**2**	**330°**	**125'± AGL**	**LTE 700/850/1900/ 2100/850 5GNR**	**0°/0°/0°/0°/0°**	**2°/6°/0°/0°/6°**	**NEW**	**72.0**	**13.8**	**8.2**	**63.3**	**PROP. (2) 6x12 (1-5/8") HYBRIFLEX CABLES** *FUTURE (10) 1-5/8" COAX CABLES*
	COMMSCOPE JAHH-65B-R3B ANTENNAS	*3*	-	-	-	-	-	*FUTURE*	*72.0*	*13.8*	*8.2*	*63.3*	
	SAMSUNG MT6407-77A ANTENNA	**1**	**330°**	**125'± AGL**	**5G LS8**	**0°**	**6°**	**NEW**	**35.2**	**16.1**	**5.6**	**67.1**	
	SAMSUNG MT6407-77A ANTENNA	*1*	-	-	-	-	-	*FUTURE*	*35.2*	*16.1*	*5.6*	*67.1*	
BETA	**COMMSCOPE JAHH-65B-R3B ANTENNAS**	**2**	**150°**	**125'± AGL**	**LTE 700/850/1900/ 2100/850 5GNR**	**0°/0°/0°/0°/0°**	**2°/6°/0°/0°/6°**	**NEW**	**72.0**	**13.8**	**8.2**	**63.3**	
	COMMSCOPE JAHH-65B-R3B ANTENNAS	*3*	-	-	-	-	-	*FUTURE*	*72.0*	*13.8*	*8.2*	*63.3*	
	SAMSUNG MT6407-77A ANTENNA	**1**	**150°**	**125'± AGL**	**5G LS8**	**0°**	**6°**	**NEW**	**35.2**	**16.1**	**5.6**	**67.1**	
	SAMSUNG MT6407-77A ANTENNA	*1*	-	-	-	-	-	*FUTURE*	*35.2*	*16.1*	*5.6*	*67.1*	
GAMMA	**COMMSCOPE JAHH-65B-R3B ANTENNAS**	**2**	**230°**	**125'± AGL**	**LTE 700/850/1900/ 2100/850 5GNR**	**0°/0°/0°/0°/0°**	**2°/6°/0°/0°/6°**	**NEW**	**72.0**	**13.8**	**8.2**	**63.3**	
	COMMSCOPE JAHH-65B-R3B ANTENNAS	*3*	-	-	-	-	-	*FUTURE*	*72.0*	*13.8*	*8.2*	*63.3*	
	SAMSUNG MT6407-77A ANTENNA	**1**	**230°**	**125'± AGL**	**5G LS8**	**0°**	**6°**	**NEW**	**35.2**	**16.1**	**5.6**	**67.1**	
	SAMSUNG MT6407-77A ANTENNA	*1*	-	-	-	-	-	*FUTURE*	*35.2*	*16.1*	*5.6*	*67.1*	
ALL	**SAMSUNG B5/B13 RRH ORAN (RF4440d-13A) RADIOS**	**3**	**-**	**-**	**-**	**-**	**-**	**NEW**	**15.0**	**15.0**	**9.0**	**70.3**	
	SAMSUNG B5/B13 RRH ORAN (RF4440d-13A RADIOS)	*5*	-	-	-	-	-	*FUTURE*	*15.0*	*15.0*	*9.0*	*70.3*	
	SAMSUNG B2/B66A RRH ORAN (RF4439d-25A) RADIOS	**3**	**-**	**-**	**-**	**-**	**-**	**NEW**	**15.0**	**15.0**	**10.0**	**74.7**	
	SAMSUNG B2/B66A RRH ORAN (RF4439d-25A) RADIOS	*5*	-	-	-	-	-	*FUTURE*	*15.0*	*15.0*	*10.0*	*74.7*	
	COMMSCOPE CBC78T-DS-43-2X DIPLEXERS	**3**	**-**	**-**	**-**	**-**	**-**	**NEW**	**6.4**	**8.9**	**9.6**	**20.7**	
	OVP 12	**1**	**-**	**-**	**-**	**-**	**-**	**NEW**	**29.6**	**16.5**	**12.6**	**32.0**	
	OVP 12	*7*	-	-	-	-	-	*FUTURE*	*29.6*	*16.5*	*12.6*	*32.0*	

NOTES:
1. "ETR" DENOTES "EXISTING TO REMAIN".
2. "ETRE" DENOTES "EXISTING TO BE REMOVED".
3. WEIGHTS LISTED ARE WITHOUT MOUNTING BRACKETS.
4. INFORMATION IS BASED ON RFDS DATED 03/16/23.

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES	LOCATION
A	*EXISTING TO REMAIN:* *N/A* *EXISTING TO BE REMOVED:* *N/A*	ROUTED PER STRUCTURAL ANALYSIS
B	**PROPOSED:** (1) ½" COAX CABLE FOR GPS ANTENNA (2) 6x12 (1-5/8") HYBRIFLEX CABLES	

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

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20 ALEXANDER DRIVE, 2ND FLOOR
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www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
4/5/2023

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	04/05/23	CONSTRUCTION REVISED	CMC
1	03/08/23	ISSUED FOR CONSTRUCTION	CMC
0	02/07/23	ISSUED FOR REVIEW	NBC

PROJECT NAME & ADDRESS
POMFRET SOUTH CT
62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
780742

SHEET TITLE
RF DATA

SHEET NUMBER
RF01

22136.005

N/A

RF PLUMBING DIAGRAM
SCALE: N.T.S.

1
RF02

verizon

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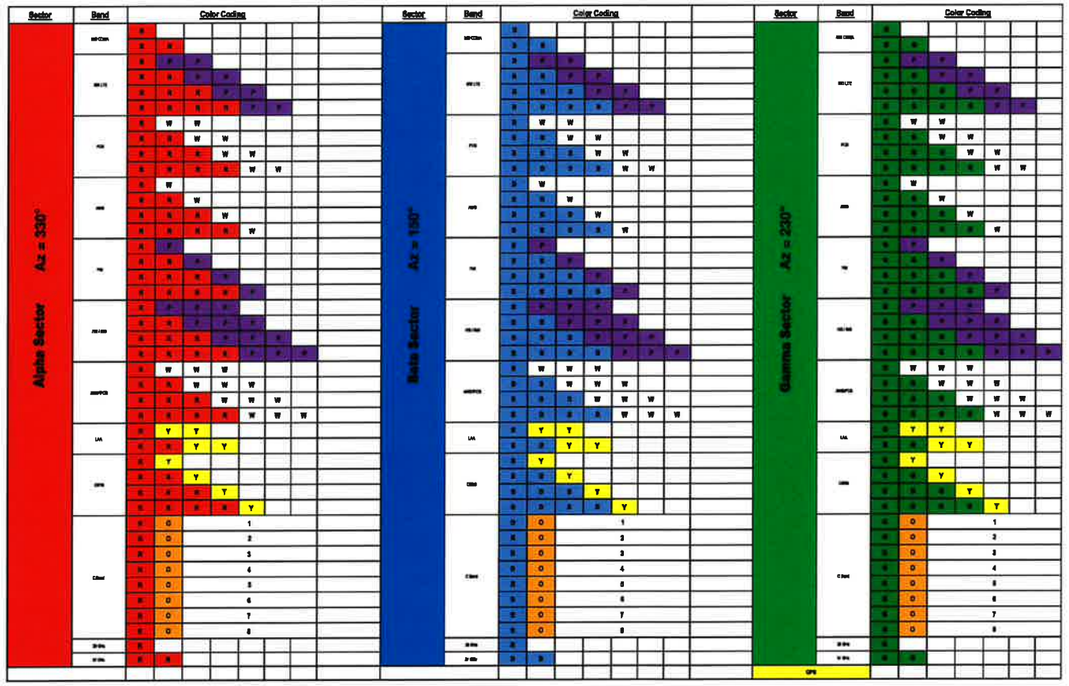
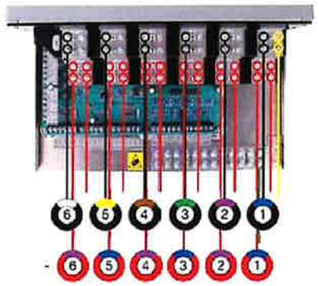


Hybrid Cable on Towers

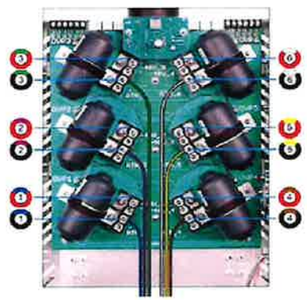
Hybrid Cable 1

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



Hybrid Cable 2

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



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

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

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

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SUBMITTALS

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POMFRET SOUTH CT
62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
780742

SHEET TITLE
RF COLOR CODE SPECIFICATIONS

SHEET NUMBER
RF03

22136.005

ELECTRICAL SPECIFICATIONS

1. FURNISH ALL LABOR, MATERIALS, EQUIPMENT, TOOLS AND INCIDENTALS REQUIRED TO MAKE READY FOR USE THE COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS. MAKE ALL NECESSARY CONNECTIONS AT "PACKAGED" EQUIPMENT.
2. THE ELECTRICAL SYSTEMS SHALL BE SUITABLE IN EVERY WAY FOR THE SERVICE REQUIRED. ALL MATERIAL AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THE WORK SHALL BE FURNISHED AT NO EXTRA COST.
3. FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL, STATE AND NATIONAL CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO:
   THE 2022 CONNECTICUT STATE BUILDING CODE
   THE 2017 NATIONAL ELECTRICAL CODE (NFPA-70)
   THE CONNECTICUT ELECTRIC CODE
   THE NATIONAL ELECTRICAL SAFETY CODE (ANSI C-2)
   THE LIFE SAFETY CODE (NFPA 101)
   THE STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURE AND ANTENNAS (TIA/EIA-222-G)
4. MATERIALS AND EQUIPMENT SHALL BE NEW, UNUSED AND UNDERWRITERS' LABORATORIES, INC. LISTED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS IN A TIMELY FASHION, INCLUDING RESPONSIBILITY FOR DETERMINING AVAILABILITY/LEAD TIME FOR ALL NECESSARY EQUIPMENT.
5. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND PAY ALL FEES FOR PERMITS AND INSPECTIONS. WHERE NEW COMMERCIAL POWER SERVICE IS PROVIDED TO THE SITE, OR EXISTING SERVICE MUST BE MODIFIED, CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH THE ELECTRIC UTILITY, SHALL PERFORM ALL OF HIS WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY, AND SHALL PAY ALL UTILITY SERVICE BACK CHARGES.
6. ALL WIRING OUTSIDE SHALL BE INSTALLED IN HEAVY-GAUGE, (SCHEDULE 40) RIGID STEEL CONDUIT, HOT-DIPPED GALVANIZED INSIDE AND OUTSIDE WITH AN ADDITIONAL FACTORY-APPLIED FINISH INSIDE AND OUTSIDE. CUT ENDS SHALL BE REAMED, THREADED AND COLD GALVANIZED. NO COMPRESSION FITTING WILL BE ACCEPTED.
7. UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40 AND INSTALLED NOT LESS THAN 30 INCHES BELOW FINISHED GRADE.
8. WIRING INSTALLED IN THE BUILDING THAT IS SHOWN TO BE IN CONDUIT SHALL BE INSTALLED IN EMT. EMT FITTINGS SHALL BE STEEL COMPRESSION TYPE.
9. LIQUID TIGHT, FLEXIBLE METAL CONDUIT SHALL BE USED FOR ALL MOTOR TERMINATIONS AND FOR CONNECTIONS TO EQUIPMENT SUBJECT TO VIBRATION. FLEXIBLE METAL CONDUIT SHALL CONSIST OF A FLEXIBLE, CORROSION RESISTANT METAL CORE WITH AN EXTRUDED, WATERTIGHT, SYNTHETIC JACKET. CONDUITS SMALLER THAN 1-1/2" SHALL HAVE A CONTINUOUS GROUND CONDUCTOR UNDER THE JACKET.
10. NO CONDUIT SMALLER THAN 3/4" ELECTRICAL TRADE SIZE SHALL BE USED, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS. BOX SIZES SHALL BE 4" SQUARE MINIMUM, BUT NOT LESS THAN THAT REQUIRED BY THE CONNECTICUT ELECTRICAL CODE.
11. FITTINGS AND EXPOSED SWITCH, OUTLET AND CONTROL STATION BOXES AND OTHER EXPOSED BOXES 4" SQUARE SHALL BE CAST OR MALLEABLE IRON WITH CADMIUM-ZINC FINISH AND CAST COVERS WITH STAINLESS STEEL SCREWS.
12. FLUSH SWITCH AND OUTLET BOXES SHALL BE HOT-DIPPED GALVANIZED, PRESSED STEEL WITH NYLON COVER PLATES, COLOR AS DETERMINED BY THE ENGINEER.
13. EXCEPT AS OTHERWISE SHOWN, TERMINAL, JUNCTION AND PULL BOXES LARGER THAT 4" SQUARE SHALL BE SHEET STEEL. STEEL BOXES SHALL BE HOT-DIPPED GALVANIZED. BOXES AND COVERS SHALL BE NOT LESS THAN 14 GAUGE METAL. COVERS SHALL BE GASKETED AND FASTENED WITH STAINLESS STEEL HARDWARE.
14. FITTINGS USED WITH LIQUID TIGHT, FLEXIBLE CONDUIT SHALL BE OF THE SCREW-IN, COMPRESSION TYPE WITH SEALING RING. FITTINGS LARGER THAN 1-1/4" SHALL BE FURNISHED WITH INTEGRAL GROUND LUGS.
15. HANGERS, RODS, BACK PLATES, BEAM CLAMPS, ETC. SHALL BE GALVANIZED IRON OR STEEL. CONDUITS SHALL BE SUPPORTED AT LEAST EVERY 5 FEET.
16. EXPOSED CONDUITS SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO WALLS. CONDUIT RUNS SHALL BE STRAIGHT AND TRUE. CONDUIT SHALL BE SUPPORTED BY MEANS OF TWO-HOLE PIPE CLAMPS. BACK PLATES SHALL BE INSTALLED WHERE REQUIRED TO RAISE CONDUITS FROM THE SURFACE. MULTIPLE, HORIZONTAL RUNS SHALL BE SUPPORTED ON TRAPEZE HANGERS WITH STEEL. HORIZONTAL MEMBERS AND THREADED RODS NOT LESS THAN 3/8 INCHES IN DIAMETER. HANGERS SHALL BE ATTACHED TO STRUCTURAL STEEL BY MEANS OF BEAM CLAMPS. SPOT TYPE INSERTS SHALL BE USED IN CONCRETE.
17. CONDUIT BENDS SHALL BE CAREFULLY MADE TO PREVENT DISTORTION OF THE CIRCULAR CROSS-SECTION. NO CONDUIT RUN SHALL HAVE MORE THAN THE EQUIVALENT OF THREE 90 DEGREE BENDS BETWEEN PULLING POINTS. CHANGES IN DIRECTION SHALL BE MADE WITH BENDS, STANDARD ELBOWS AND PULLBOXES. BENDS IN PARALLEL RUNS SHALL BE CONCENTRIC.
18. CONDUIT SHALL NOT BE SUPPORTED FROM PIPING, PIPING SUPPORTS, DUCTWORK, SUSPENDED CEILING SUPPORTS OR MECHANICAL EQUIPMENT SUBJECT TO VIBRATION OR REMOVAL.
19. THE ENDS OF ALL CONDUITS SHALL BE TIGHTLY PLUGGED DURING BUILDING CONSTRUCTION UNTIL WIRES ARE TO BE PULLED. SPARE CONDUITS SHALL BE FURNISHED WITH THREADED CAPS.
20. CONDUITS SHALL BE TERMINATED AT UNGASKETED SHEET STEEL BOXES AND ENCLOSURES WITH DOUBLE LOCK NUTS AND SUITABLE BUSHINGS. BUSHINGS INSTALLED ON CONDUITS CONTAINING GROUND WIRES SHALL BE GROUNDING TYPE. CONDUITS SHALL BE TERMINATED AT GASKETED SHEET METAL BOXES AND ENCLOSURES WITH CONDUIT HUBS.
21. CONDUCTORS SHALL BE ANNEALED, 98 PERCENT CONDUCTIVITY, SOFT-DRAWN COPPER. NO CONDUCTOR SMALLER THAT NO. 12 AWG SHALL BE USED, EXCEPT AS OTHERWISE NOTED.
22. WIRE FOR POWER AND LIGHTING BRANCH CIRCUITS SHALL BE 600 VOLT, TYPE THWN. WIRE FOR CONTROL CIRCUITS SHALL BE 600 VOLT, TYPE THWN, NO. 14 AWG, STRANDED. SERVICE CONDUCTORS AND FEEDERS SHALL BE TYPE XHHW. CONDUCTORS NO. 10 AWG AND SMALLER SHALL BE SOLID. NO. 8 AWG AND LARGER SHALL BE STRANDED..
23. ALL CONDUCTORS SHALL BE CAREFULLY HANDLED TO AVOID KINKS OR DAMAGE TO INSULATION. LUBRICATIONS SHALL BE USED TO FACILITATE WIRE PULLING. LUBRICANTS SHALL BE UL LISTED FOR USE WITH THE INSULATION SPECIFIED.
24. ALL EQUIPMENT AND MATERIALS SHALL BE GROUNDED IN STRICT ACCORDANCE WITH THE CONNECTICUT ELECTRICAL CODE, AND THE STANDARD REQUIREMENTS OF VERIZON WIRELESS AND LUCENT.
25. DISCONNECT SWITCHES SHALL BE 480 OR 240 VOLT, HEAVY-DUTY, QUICK-MAKE, QUICK BREAK, VISIBLE BLADE, 2 POLE WITH EXTERNAL OPERATING HANDLE AND FULL COVER INTERLOCK. SWITCHES INSTALLED OUTSIDE SHALL BE NEMA TYPE 3R ENCLOSED.
26. WALL SWITCHES SHALL BE SINGLE POLE 3-WAY OR 4-WAY, INDICATING, TOGGLE-ACTION, FLUSH, QUIET TYPE, SPECIFICATION GRADE, RATED 20 AMPERE, 120-277 VOLT. COLOR AS DETERMINED BY ENGINEER.
27. GENERAL PURPOSE RECEPTACLES SHALL BE DUPLEX, 2 POLE, 3 WIRE, STRAIGHT BLADE, NYLON FACE, GROUNDING TYPE, 20 AMPERE, 125 VOLT, SPECIFICATION GRADE. COLOR AS DETERMINED BY ENGINEER.
28. PANELS SHALL BE PER DIRECTED BY THESE DRAWINGS WITH TYPED DIRECTORIES.
29. CIRCUIT BREAKERS SHALL BE MOLDED CASE, THERMAL-MAGNETIC TYPE WITH RMS SYMMETRICAL INTERRUPTING RATING OF NOT LESS THAN 22,000 AMPERE FOR 240 VOLT BREAKERS. ENCLOSED BREAKERS SHALL HAVE PADLOCKING PROVISIONS AND EXTERNAL OPERATING HANDLE WITH FULL COVER INTERLOCK. BREAKERS SHALL BE 1" MODULES MINIMUN.
30. NAMEPLATES SHALL BE PROVIDED FOR ALL EQUIPMENT INDICATING VOLTAGE, PHASE, USE AND SOURCE OF ORIGIN. DEVICES SHALL BE LABELED INDICATING VOLTAGE AND BRANCH CIRCUIT. BRANCH CONDUCTORS SHALL BE LABELED INDICATING BRANCH CIRCUIT. FEEDER CONDUCTORS SHALL INDICATE PHASE.
31. ALL EXTERIOR CONDUCTOR/LUG TERMINALS SHALL HAVE AN ANTIOXIDANT APPLIED.
32. ALL SPRING TYPE WIRE CONDUCTORS USED IN EXTERIOR BOXES SHALL BE SILICON FILLED.
33. ELECTRICAL CONTRACTOR SHALL AS PART OF HIS WORK INCLUDE ALL FITTINGS, SLEEVES AND MINOR CUTTING REQUIRED FOR HIS WORK, INCLUDING FIRES-STOPPING.
34. THE ELECTRICAL CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE HIS OWN, WHERE DIRECTED, STORAGE AND OFFICE SPACE.
35. FIVE COPIES OF SHOP DRAWINGS OF ALL EQUIPMENT SHALL BE PROVIDED TO THE ENGINEER.
36. ELECTRICAL CONTRACTOR'S WORK SHALL INCLUDE ALL LABOR AND MATERIALS, SCAFFOLDING TOOL AND TRANSPORTATION NECESSARY FOR COMPLETE INSTALLATION.
37. ELECTRICAL CONTRACTOR TO FURNISH ENGINEER ONE SET OF MYLARS OF "AS BUILT" DRAWINGS.
38. ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY POWER & LIGHTING AS REQ'D.

GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE TO BECOME AWARE OF THE EXISTING CONDITIONS.
2. BRANCH CIRCUIT RUNS 100 FT AND OVER SHALL BE #10 AWG CONDUCTORS.
3. THESE DRAWINGS ARE DIAGRAMMATIC ONLY. THE EXACT LOCATION, MOUNTING HEIGHT, SIZE OF EQUIPMENT AND ROUTING OF RACEWAYS SHALL BE COORDINATED AND DETERMINED IN THE FIELD.
4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE HVAC AND PLUMBING CONTRACTORS AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT, THE POWER WIRING, THE CONTROL WIRING AND ALL ELECTRICAL CONNECTIONS REQUIRED BY THIS CONTRACTOR FOR COMPLETELY OPERATIVE HVAC AND PLUMBING SYSTEMS IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.
5. INTERRUPTIONS TO THE EXISTING ELECTRICAL SERVICE FOR SPLICING CONNECTIONS, RENOVATION OF EXISTING DISTRIBUTION, BRANCH CIRCUITS, INSTALLATION OF NEW ELECTRIC SERVICE, AND SHALL BE AS SHORT AS POSSIBLE, AND TO THE CONVENIENCE OF THE OWNER.
6. ALL CONDUIT SHALL BE SURFACE MOUNTED UNLESS OTHERWISE NOTED. NO INTERIOR HORIZONTAL CONDUIT BELOW 7'-8" AFF IN FINISHED SPACES.
7. ALL WIRING TO BE 3/4"C, 2#12 & 1#12 GROUND, UNLESS OTHERWISE NOTED.
8. NO BX OR ROMEX CABLE IS PERMITTED.
9. ALL WIRING DEVICES AND EQUIPMENT SHALL BE 20A SPECIFICATION GRADE AND UL LISTED.
10. ALL OUTLET AND JUNCTION BOXES SHALL BE SECURELY SURFACE MOUNTED.
11. ALL RECEPTACLE AND EQUIPMENT CIRCUITS SHALL BE GROUNDED USING A FULL SIZE EQUIPMENT GROUNDING CONDUCTOR RUN WITH THE CURRENT CONDUCTORS.
12. ALL WALL PENETRATIONS FOR TELCO, POWER, AND GROUNDING SHALL REQUIRE PVC SLEEVES.
13. ALL SWITCHES SHALL BE FORTY-EIGHT (48) INCHES AFF, UNLESS OTHERWISE NOTED.
14. ALL RECEPTACLES SHALL BE EIGHTEEN (18) INCHES AFF, UNLESS OTHERWISE NOTED.
15. ALL WIRING SHALL BE IN METAL RACEWAY & NO. 12 AWG COPPER MIN. UNLESS OTHERWISE NOTED.
16. WIRE COLOR SHALL BE PER STANDARD CODING BY PHASE.
17. FOR UTILITY BILLING, PLEASE SEND TO:
    VERIZON WIRELESS
    20 ALEXANDER DRIVE
    WALLINGFORD, CT 06492

GROUNDING GENERAL NOTES

1. ALL EXTERIOR CONDUCTORS SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNLESS OTHERWISE NOTED. MINIMUM BEND RADIUS SHALL BE EIGHT (8) INCHES.
2. ALL CONNECTIONS TO HALO GROUND RING AND ALL CABLE TRAY JUMPERS SHALL BE #6 AWG, INSULATED, STRANDED, COPPER WIRE.
3. ALL WIRE-TO-WIRE CONNECTIONS SHALL BE THREE-CLAMP, C TAP COMPRESSION (T&B #54740 ORANGE OR EQUIVALENT). ALL GROUND BAR CONNECTIONS SHALL BE TWO-HOLE, LONG-BARREL TYPE COMPRESSION LUGS (T&B OR EQUIVALENT). ALL OTHER CONNECTIONS TO STEEL SURFACES SHALL USE LUG-TYPE CONNECTORS.
4. MECHANICALLY BOND ANTENNA MOUNTS WITH #2 AWG, BARE, STRANDED CONDUCTORS.
5. ALL GROUNDING WORK SHALL COMPLY WITH VERIZON WIRELESS STANDARDS.
6. CONNECT GROUND CONDUCTOR TO EXISTING GROUNDING SYSTEM. ATTACH TO WALLS, PARAPET, CABLE TRAY, ETC. WITH A CLAMPS AS NECESSARY. REMOVE PAINT, FIREPROOFING, MILL SCALE, ETC. TO ACHIEVE GOOD CAD WELD GROUND CONNECTION.
7. CONNECT TO HALO GROUND USING C-TAP (#54730).
8. CONNECT TO ENCLOSURES USING BLUE GROUND LUGS.

LEGEND

ELECTRICAL SYMBOLS

(M)	METER
⊠	GROUND ROD/TEST (OBSERVATION) WELL
⊗	GROUND ROD
▲	CADWELD TYPE CONNECTION
●	COMPRESSION TYPE CONNECTION
-----	GROUNDING WIRE
E02	REPRESENTS DETAIL NUMBER
	1'X4' SURFACE MTD. FLUORESCENT LIGHTING FIXTURE
	SELF CONTAINED EMERG. LIGHTING UNIT
$	20A-120V-1P TOGGLE SWITCH
	MAGNETIC DOOR SWITCH (DOOR JAMB TYPE)
	20A-120V QUADRAPLEX RECEPTACLE, GROUNDING TYPE, 2-CKT. NO.
WP, GFI	20A-120V DUPLEX RECEPTACLE, GROUNDING TYPE. WP = WEATHERPROOF GFI = GROUND FAULT
TL	SIMPLEX RECEPTACLE, GROUNDING TYPE. TL = TWIST LOCK
	JUNCTION BOX
P1	PANELBOARD 'P1'
*(M)	MOTOR - NUMERAL DENOTES HORSEPOWER
	WEATHER PROOF DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH - '3R' & '1' - NEMA ENCLOSURE
*T	THERMOSTAT *T_{HI} - HI TEMPERATURE ALARM THERMOSTAT
*H	HUMIDISTAT *$H_{HI/LO}$ - HI/LO HUMIDITY ALARM HUMIDISTAT
	COMBINATION SMOKE/HEAT DETECTOR WITH MINI HORN SIMPLEX CAT.#2098-9698 WITH FORM A & C CONTACTS
P1-2	HOMERUN TO PANEL. (FURNISH & INSTALLED BY MECHANICAL)
SA	SURGE ARRESTOR - JOSLYN CAT. NO. 1455-85
AFF	ABOVE FINISHED FLOOR
*	MOTORIZED DAMPER
2#12-3/4"C	EXPOSED CONDUIT 2#12-3/4"C.
AC	ALARM TERMINAL CABINET

* EQUIPMENT FURNISHED AND INSTALLED BY OTHERS AND WIRED BY THIS CONTRACTOR

ABBREVIATIONS

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

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62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE

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SHEET TITLE

ELECTRICAL SPECIFICATIONS & NOTES

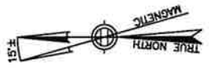
SHEET NUMBER

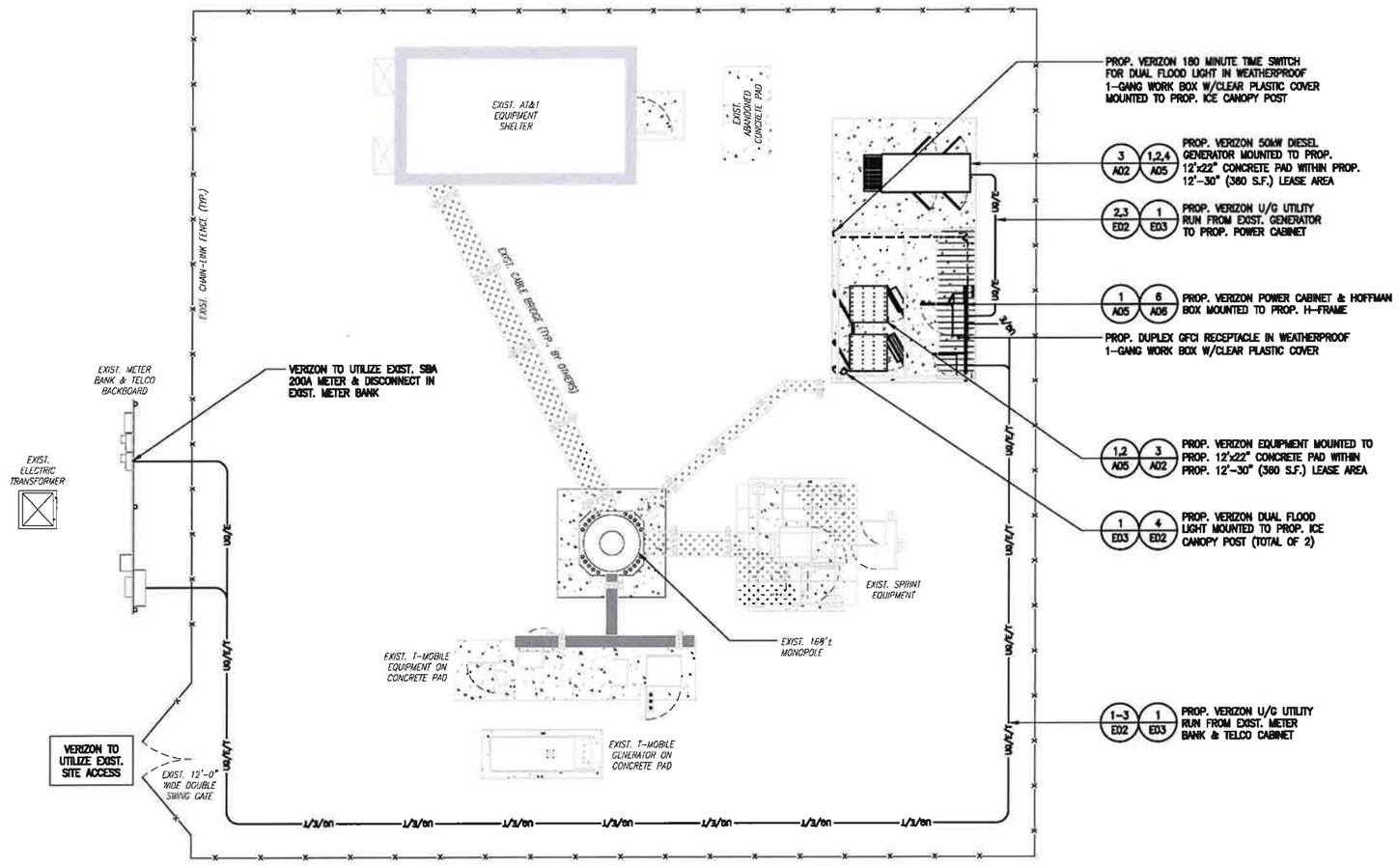
E01

22136.005

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

SPECIAL CONSTRUCTION WORK NOTE (HAND DUG UTILITY TRENCH EXCAVATION REQUIRED):
EXISTING UNDERGROUND UTILITY LOCATIONS ARE UNKNOWN. GENERAL CONTRACTOR SHALL HAND-EXCAVATE TO REQUIRED SUB-GRADE DEPTH SUFFICIENT TEST HOLES OR AS DIRECTED/REQUIRED BY SBA REGIONAL SITE MANAGER SHALL HAND-EXCAVATE ALL PROPOSED UNDERGROUND UTILITY TRENCHES. GENERAL CONTRACTOR RESPONSIBLE FOR ANY REQUIRED SPECIAL TEMPORARY PROTECTION OF EXISTING UNDERGROUND UTILITIES, PHYSICAL DAMAGE REPAIR, AND SERVICE RESTORATION.

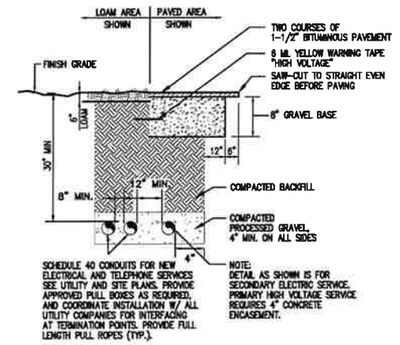




EQUIPMENT COMPOUND UTILITY PLAN 1 ED2

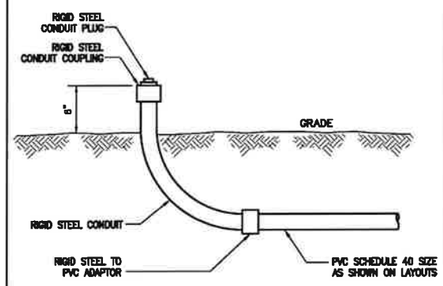
SCALE: 3/16" = 1'-0"

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



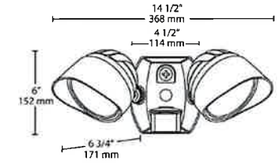
TYPICAL BURIED CONDUIT DETAIL 2 ED2

SCALE: NONE



TYPICAL CONDUIT STUB-UP DETAIL 3 ED2

SCALE: NONE



RAB LIGHTING - BULLET2X12B
24W
BLACK

MOUNT PER MANUFACTURER'S SPECIFICATIONS

TYPICAL LED FLOOD LIGHT DETAIL 4 ED2

SCALE: N.T.S.

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

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134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720

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MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
4/5/2023

CHECKED BY:	JMT
APPROVED BY:	JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
2	04/05/23	CONSTRUCTION REVISED	CMC
1	03/08/23	ISSUED FOR CONSTRUCTION	CMC
0	02/07/23	ISSUED FOR REVIEW	MBC

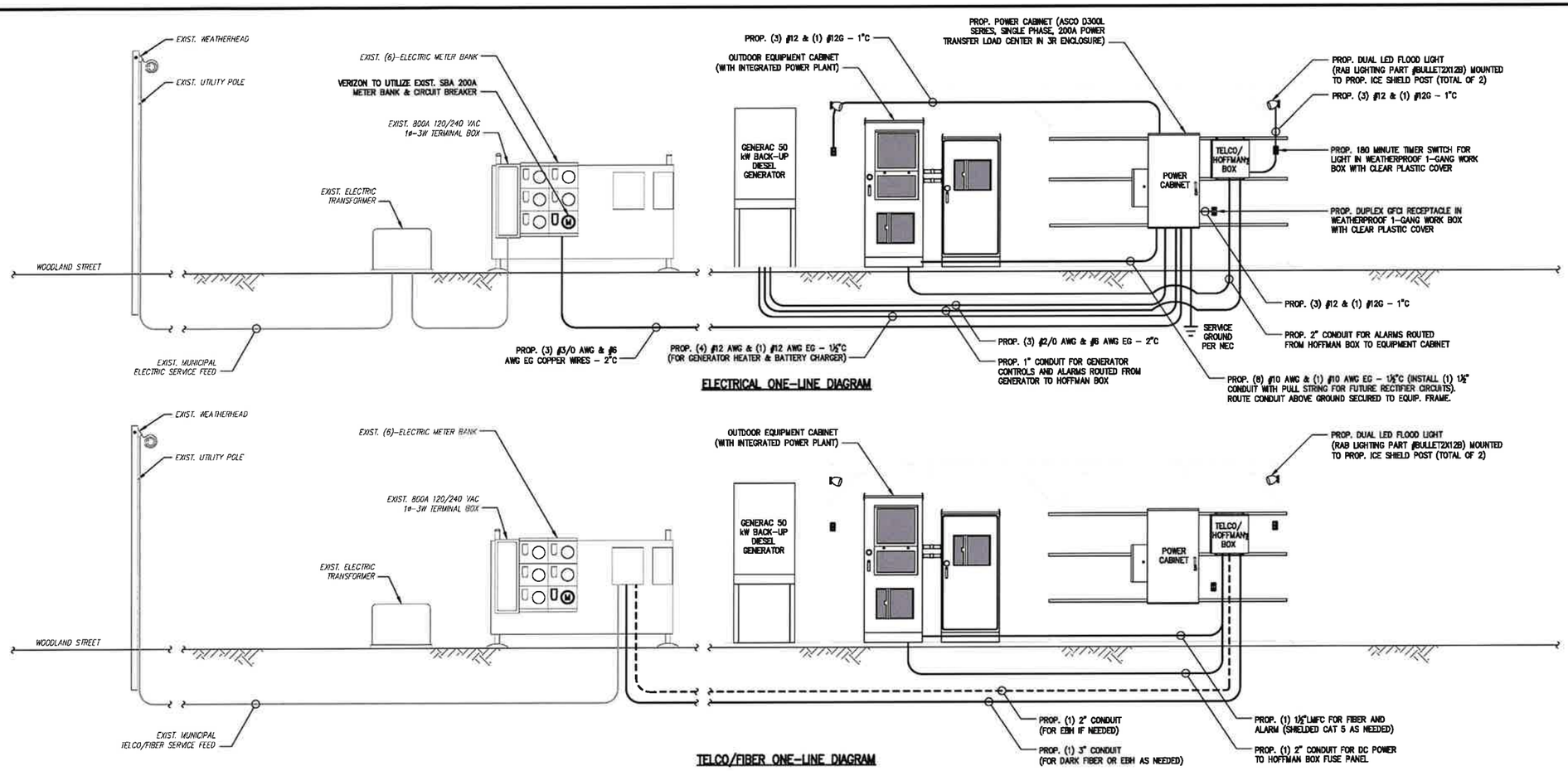
PROJECT NAME & ADDRESS
POMFRET SOUTH CT
62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
780742

SHEET TITLE
EQUIPMENT COMPOUND UTILITY PLAN & DETAILS

SHEET NUMBER
E02

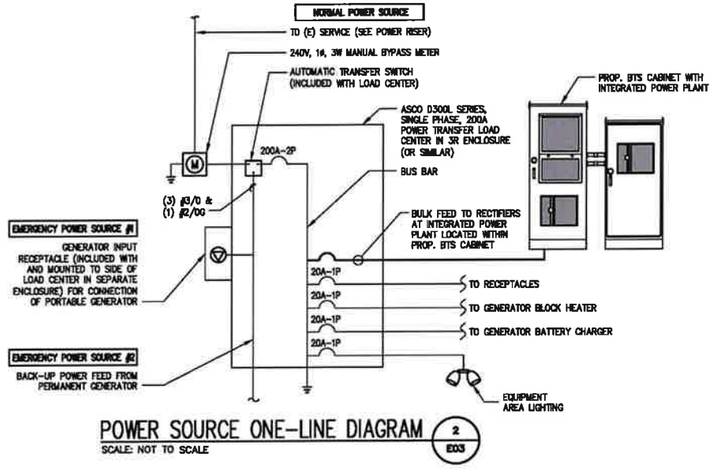
22136.005



ELECTRICAL ONE-LINE DIAGRAM

TELCO/FIBER ONE-LINE DIAGRAM

UTILTY ONE-LINE DIAGRAMS (1 / E03)
SCALE: NOT TO SCALE



POWER SOURCE ONE-LINE DIAGRAM (2 / E03)
SCALE: NOT TO SCALE

ASCO D300L SERIES, SINGLE PHASE, 200A POWER TRANSFER LOAD CENTER IN 3R ENCLOSURE

ELECTRICAL PANEL SCHEDULE

65,000 A.I.C. NEMA 3R

CKT #	DESCRIPTION	AMP	AMP	DESCRIPTION	CKT #
1	RECTIFIER #1	30	30	FUTURE RECTIFIER	2
3					4
5	RECTIFIER #2	30	30	FUTURE RECTIFIER	6
7					8
9	RECTIFIER #3	30	20	PAD LIGHTING	10
11			–	BLANK	12
13	RECTIFIER #4	30	–	BLANK	14
15			–	BLANK	16
17	GFCI RECEPTACLE/LIGHT	20	–	BLANK	18
19	GENERATOR BLOCK HEATER	20	–	BLANK	20
21	GENERATOR BATTERY CHARGER	20	–	BLANK	22
23	BLANK	–	–	BLANK	24
25	BLANK	–	–	BLANK	26
27	BLANK	–	–	BLANK	28
29	BLANK	–	–	BLANK	30

ELECTRICAL PANEL SCHEDULE (3 / E03)
SCALE: NTS

ONE-LINE DIAGRAM NOTES:
1) PROVIDE WEATHER TIGHT SEAL CONNECTORS ON ALL CONNECTIONS INSIDE AND OUT.

2) COORDINATE ANY FURTHER MISCELLANEOUS WIRING AND CONDUIT REQUIREMENTS WITH VERIZON WIRELESS AND ELECTRIC COMPANY.

3) ALL CONDUIT ROUTING SHOWN ON THESE DIAGRAMS IS SCHEMATIC IN NATURE AND INTENDED TO CONVEY GENERAL INTENT ONLY.

4) ALL PROPOSED UTILITY DESIGN ELEMENTS SHOWN ARE SUBJECT TO CHANGE BASED ON FINAL DESIGN TO BE PROVIDED BY UTILITY PROVIDERS AND VERIZON WIRELESS. CONTRACTOR SHALL OBTAIN A COPY OF THE FINAL UTILITY DESIGN BY UTILITY COMPANY PRIOR TO COMMENCEMENT OF WORK.

UTILITY CONTACTS

ELECTRICAL: EVERSOURCE ENERGY
247 STATION DRIVE, SE 210
WESTWOOD, MA 02090
(781) 441-3610

TELEPHONE: VERIZON
185 FRANKLIN STREET
BOSTON, MA 02107
(800) 941-9900

MAKE ALL CONNECTIONS AS PER UTILITY COMPANY'S REQUIREMENTS.

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

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PROJECT NAME & ADDRESS
POMFRET SOUTH CT
62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
780742

SHEET TITLE
ELECTRIC/TELCO/FIBER DIAGRAMS & PANEL SCHEDULE

SHEET NUMBER
E03

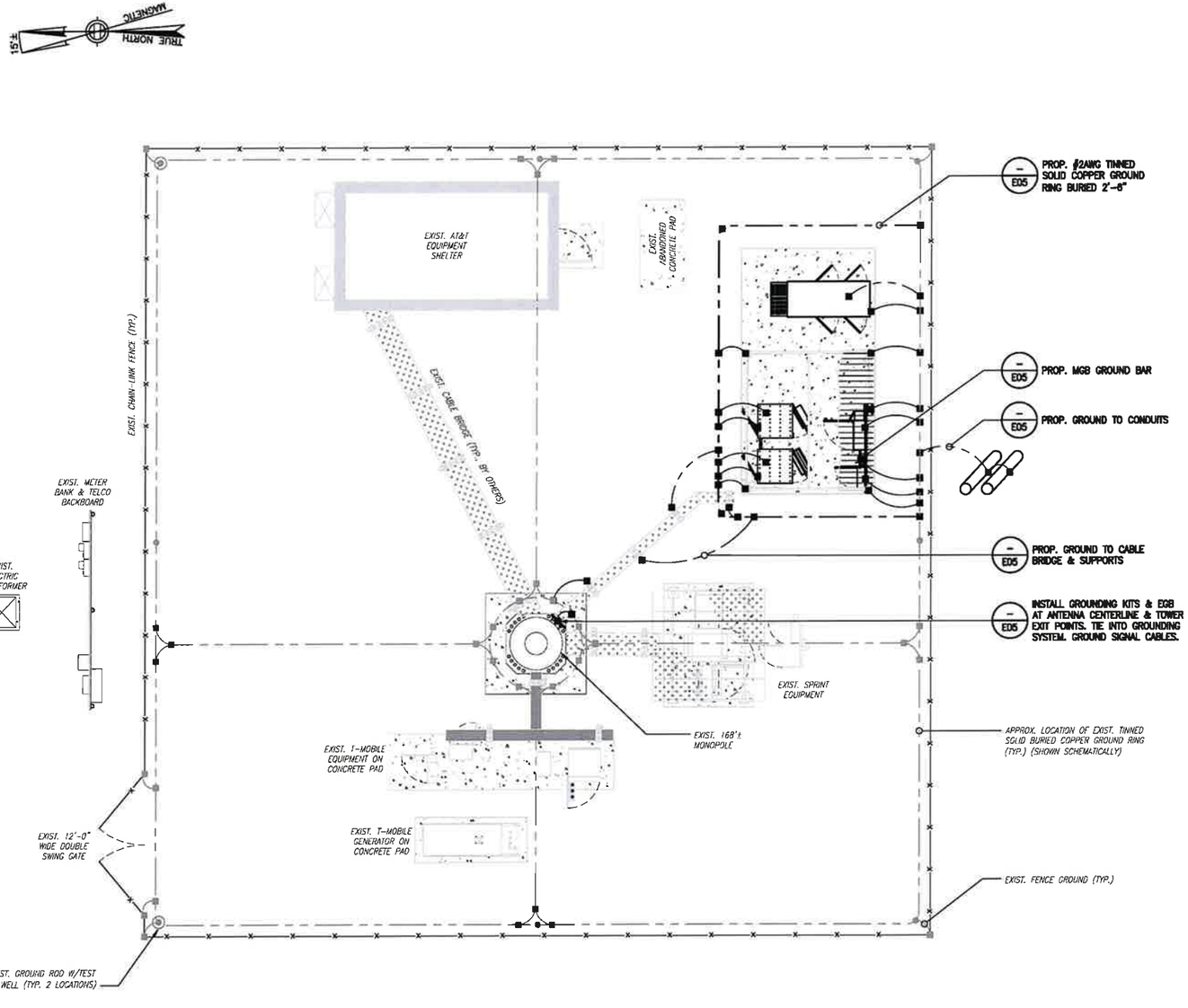
22138.005

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

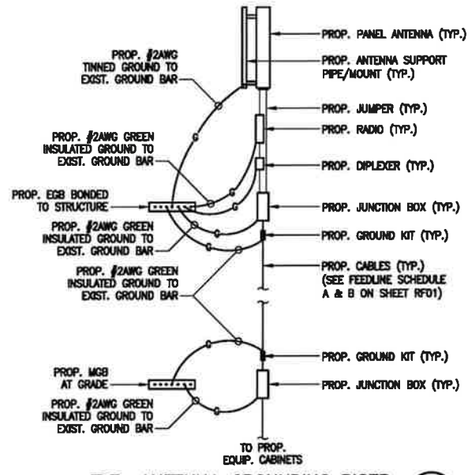
SPECIAL CONSTRUCTION WORK NOTE (HAND DUG UTILITY TRENCH EXCAVATION REQUIRED):
EXISTING UNDERGROUND UTILITY LOCATIONS ARE UNKNOWN. GENERAL CONTRACTOR SHALL HAND-EXCAVATE TO REQUIRED SUB-GRADE DEPTH SUFFICIENT TEST HOLES OR AS DIRECTED/REQUIRED BY SBA REGIONAL SITE MANAGER SHALL HAND-EXCAVATE ALL PROPOSED UNDERGROUND UTILITY TRENCHES. GENERAL CONTRACTOR RESPONSIBLE FOR ANY REQUIRED SPECIAL TEMPORARY PROTECTION OF EXISTING UNDERGROUND UTILITIES, PHYSICAL DAMAGE REPAIR, AND SERVICE RESTORATION.

GROUNDING LEGEND

- EXOTHERMIC GROUND
- GROUND ROD
- TEST WELL
- PROP. #2 AWG EQUIPMENT GROUNDING
- PROP. GROUND HALO
- EXIST. SITE GROUNDING (SHOWN SCHEMATICALLY)



SCHEMATIC GROUNDING DIAGRAM (1/E04)
SCALE: 3/16" = 1'-0"
0 5'-4" 10'-8" 16'-0"



TYP. ANTENNA GROUNDING RISER (2/E04)
SCALE: NOT TO SCALE

ELECTRICAL AND GROUNDING NOTES:

ELECTRICAL

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
3. SERVICE TO EQUIP. SHALL BE 120/240 VAC, 200 AMP, 1Ø, 60 Hz.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.

GROUNDING

5. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC (CADWELD) CONNECTIONS.
6. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
7. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
8. ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
9. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
10. ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
11. GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8"ø 10-FT. LONG, AND SHALL BE DRIVEN VERTICALLY WITH THEIR TOPS 48" BELOW FINAL GRADE.
12. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
13. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
14. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS. TESTING SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATION FOR FACILITY GROUNDING, USING FALL OF POTENTIAL METHOD.
15. ANTENNA GROUND KITS SHALL BE FURNISHED BY VERIZON AND INSTALLED BY CONTRACTOR.

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

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WESTBOROUGH, MA 01581
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STATE OF CONNECTICUT
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No. 25987
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4/5/2023

CHECKED BY: JMT

APPROVED BY: JMT

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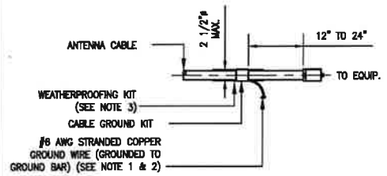
PROJECT NAME & ADDRESS
POMFRET SOUTH CT
62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE
780742

SHEET TITLE
SCHEMATIC GROUNDING PLAN & RISER DIAGRAM

SHEET NUMBER
E04

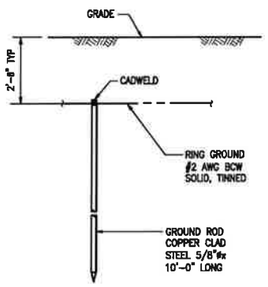
22136.005



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

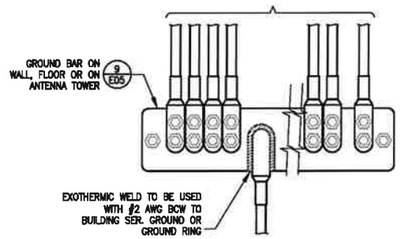
CONN. OF CABLE GROUND KIT TO ANTENNA CABLE

SCALE: N.T.S. — 1 E05



GROUND ROD

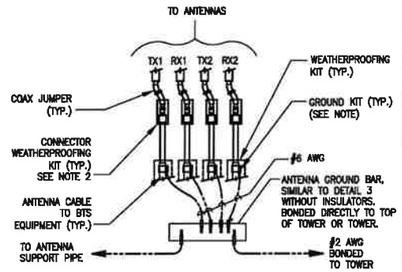
SCALE: N.T.S. — 2 E05



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

INSTALLATION OF GROUND WIRE TO GROUND BAR

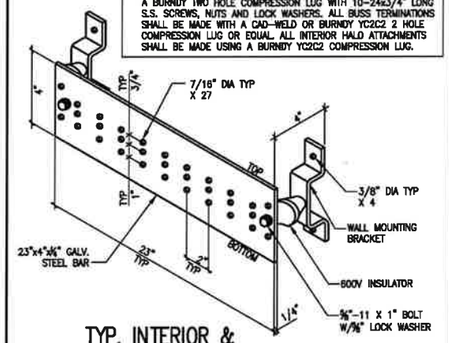
SCALE: N.T.S. — 3 E05



CONN. OF GROUND WIRE TO GROUND BAR (TOWER)

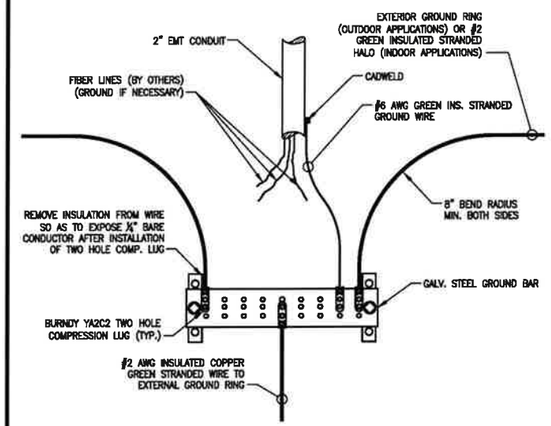
SCALE: N.T.S. — 4 E05

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



TYP. INTERIOR & EXTERIOR GROUND BAR

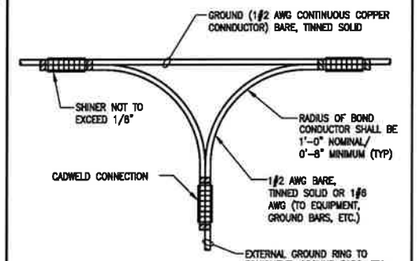
SCALE: N.T.S. — 5 E05



NOTE:
IF AN ENTRY PORT IS USED FOR THE FIBER ENTRY, THE PORT MUST BE GROUNDED TO THE GROUND BAR WITH A #2 GREEN COPPER STRANDED WIRE.

INTERIOR GROUNDING AT TELCO ENTRY

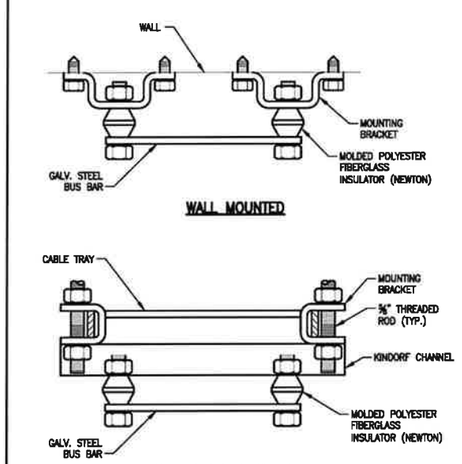
SCALE: N.T.S. — 6 E05



NOTE:
ALL CONNECTIONS TO GROUND SHALL BE NON-DIRECTIONAL.

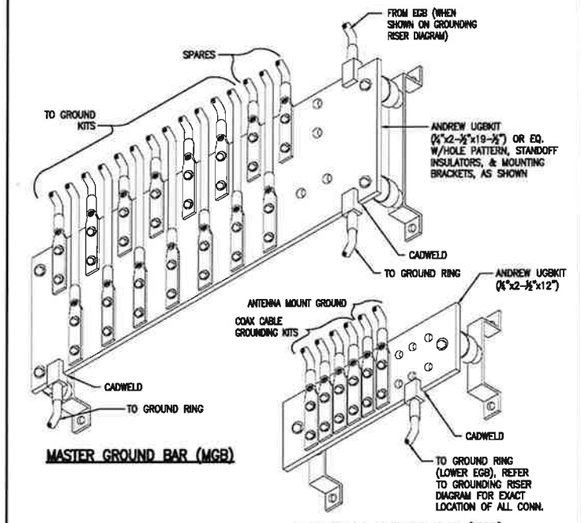
NON-DIRECTIONAL SPLICE

SCALE: N.T.S. — 7 E05



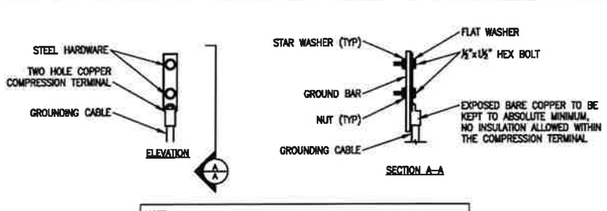
BUS BAR MOUNTING

SCALE: N.T.S. — 8 E05



GROUND BAR DETAILS

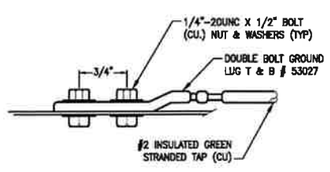
SCALE: N.T.S. — 9 E05



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

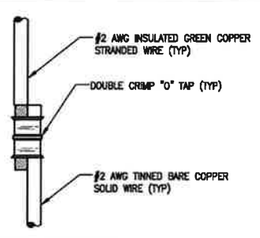
TYP. GROUND BAR CONNECTION

SCALE: N.T.S. — 10 E05



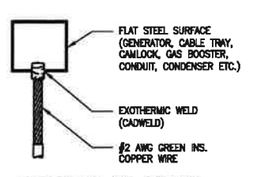
TYP. EQUIPMENT GROUND CONNECTION

SCALE: N.T.S. — 11 E05



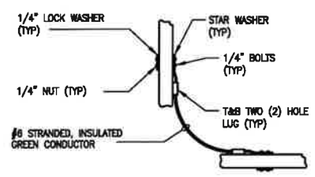
TYP. GROUND CONNECTION SPLICE

SCALE: N.T.S. — 12 E05



TYP. CADWELD #2 GREEN TO FLAT STEEL SURFACE

SCALE: N.T.S. — 13 E05



CABLE TRAY GROUNDING

SCALE: N.T.S. — 14 E05

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

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PROJECT NAME & ADDRESS

POMFRET SOUTH CT

62 BABBITT HILL ROAD
POMFRET, CT 06259

VZW LOCATION CODE

780742

SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

E05

22136.005

ATTACHMENT 4

JAHH-65B-R3B

8-port sector antenna, 2x 698–787, 2x 824–894 and 4x 1695–2360 MHz, 65° HPBW, 3x RET and low bands have diplexers. Internal SBT's on first LB(Port 1) and first HB(Port 5).

- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- One RET for 700MHz, one RET for 850MHz, and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO
- Internal filter on low band and interleaved dipole technology providing for attractive, low wind load mechanical package
- Separate RS-485 RET input/output for low and high band

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light gray
Effective Projective Area (EPA), frontal	0.28 m^2 | 3.014 ft^2
Effective Projective Area (EPA), lateral	0.24 m^2 | 2.583 ft^2
Grounding Type	RF connector body grounded to reflector and mounting bracket
Performance Note	Outdoor usage | Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
Radome Material	Fiberglass, UV resistant
Radiator Material	Aluminum | Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	4
RF Connector Quantity, low band	4
RF Connector Quantity, total	8

Remote Electrical Tilt (RET) Information, General

RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	2 female | 2 male

Dimensions

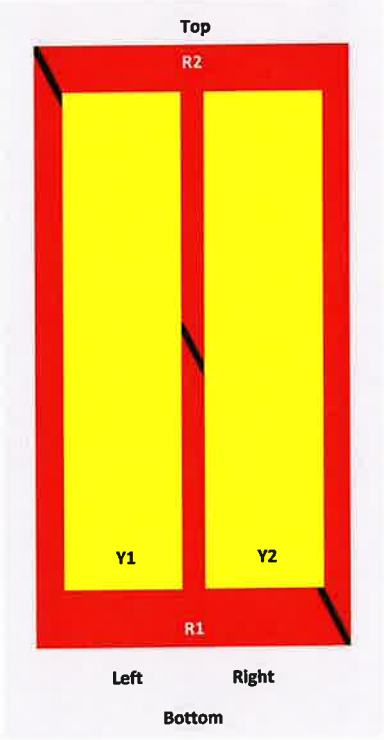
Width	350 mm | 13.78 in

JAHH-65B-R3B

Length	1828 mm | 71.969 in
Depth	208 mm | 8.189 in

Array Layout

JAHH-65A-R3B JAHH-65B-R3B JAHH-65C-R3B



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-798	1-2	1	ANxxxxxxxxxxxxxx1
R2	824-894	3-4	2	ANxxxxxxxxxxxxxx2
Y1	1695-2360	5-6	3	ANxxxxxxxxxxxxxx3
Y2	1695-2360	7-8		

View from the front of the antenna

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

Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2360 MHz | 698 – 787 MHz | 824 – 894 MHz
Polarization	±45°

Remote Electrical Tilt (RET) Information, Electrical

Protocol	3GPP/AISG 2.0 (Single RET)
Power Consumption, idle state, maximum	2 W

JAHH-65B-R3B

Power Consumption, normal conditions, maximum	13 W
Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1 | Port 5
Internal RET	High band (1) | Low band (2)

Electrical Specifications

Frequency Band, MHz	**698–787**	**824–894**	**1695–1880**	**1850–1990**	**1920–2200**	**2300–2360**
Gain, dBi	14.5	15.8	18	18.4	18.5	18.8
Beamwidth, Horizontal, degrees	67	65	63	63	65	68
Beamwidth, Vertical, degrees	12.4	10.5	5.7	5.2	4.9	4.4
Beam Tilt, degrees	2–14	2–14	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	18	18	20	20	21	23
Front-to-Back Ratio at 180°, dB	32	34	31	35	36	38
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	200	200	300	300	300	250

Electrical Specifications, BASTA

Frequency Band, MHz	**698–787**	**824–894**	**1695–1880**	**1850–1990**	**1920–2200**	**2300–2360**
Gain by all Beam Tilts, average, dBi	14.3	14.9	17.6	18.1	18.2	18.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.5	±0.6	±0.4	±0.5	±0.6
Gain by Beam Tilt, average, dBi	2 ° | 14.3 8 ° | 14.3 14 ° | 14.3	2 ° | 15.0 8 ° | 14.9 14 ° | 15.4	0 ° | 17.2 5 ° | 17.6 10 ° | 17.6	0 ° | 17.6 5 ° | 18.2 10 ° | 18.2	0 ° | 17.7 5 ° | 18.3 10 ° | 18.3	0 ° | 17.9 5 ° | 18.7 10 ° | 18.7
Beamwidth, Horizontal Tolerance, degrees	±1.2	±1.4	±4	±2.4	±2.9	±2.7
Beamwidth, Vertical Tolerance, degrees	±0.9	±0.5	±0.3	±0.2	±0.3	±0.1
USLS, beampeak to 20° above beampeak, dB	18	17	17	18	19	18
Front-to-Back Total Power at 180° ± 30°, dB	25	24	26	29	27	29
CPR at Boresight, dB	22	23	20	21	21	24

JAHH-65B-R3B

CPR at Sector, dB	11	12	11	11	11	8

Mechanical Specifications

Wind Loading at Velocity, frontal	301.0 N @ 150 km/h | 67.7 lbf @ 150 km/h
Wind Loading at Velocity, lateral	254.0 N @ 150 km/h | 57.1 lbf @ 150 km/h
Wind Loading at Velocity, maximum	143.4 lbf @ 150 km/h | 638.0 N @ 150 km/h
Wind Speed, maximum	241 km/h | 149.75 mph

Packaging and Weights

Width, packed	456 mm | 17.953 in
Depth, packed	357 mm | 14.055 in
Length, packed	1975 mm | 77.756 in
Net Weight, without mounting kit	29.2 kg | 64.375 lb
Weight, gross	42.5 kg | 93.696 lb

Regulatory Compliance/Certifications

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

Included Products

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

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

SAMSUNG

SAMSUNG C-Band 64T64R Massive MIMO Radio

for High Capacity and Wide Coverage

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

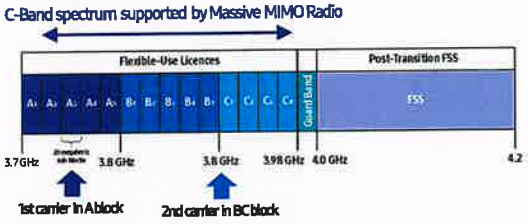
Model Code : MT6407-77A

Points of Differentiation

Wide Bandwidth

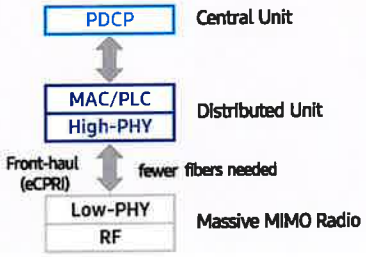
With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

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



Future Proof Product

Samsung C-Band 64T64R Massive MIMO radio supports not only CPRI but also eCPRI as front-haul interface.
It enables operators can cut down on OPEX/CAPEX by reducing front-haul bandwidth through low layer split and using ethernet based higher efficient line.



Enhanced Performance

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

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

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

Well Matched Design

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

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

Technical Specifications

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

SAMSUNG

About Samsung Electronics Co., Ltd.

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

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

SAMSUNG

AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER FOR MACRO COVERAGE

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

Model Code	RF4439d-25A

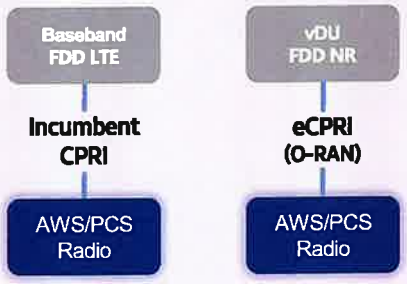
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

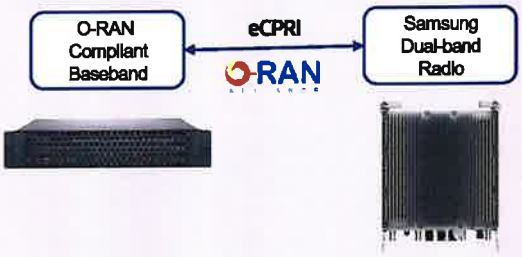
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

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

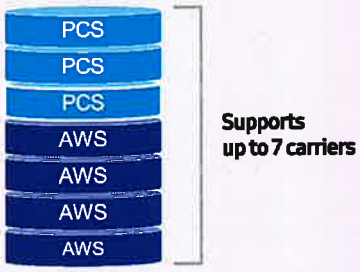
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

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

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



Brand New Features in a Compact Size

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

- **2 FH connectivity**
- **O-RAN capability**
- **More carriers and spectrum**

Same as an Incumbent radio volume

Technical Specifications

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

SAMSUNG

700/850MHZ MACRO RADIO

DUAL-BAND AND HIGH POWER FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This 700/850MHz 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

Model Code	RF4440d-13A

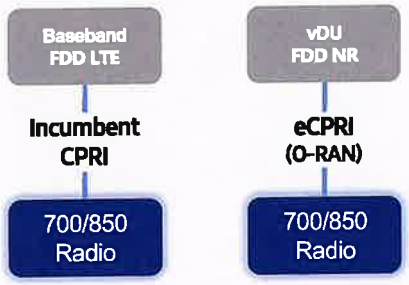
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

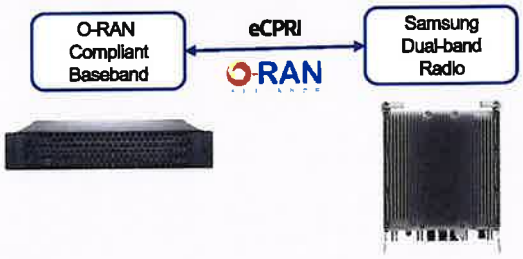
Samsung's 700/850MHz macro radio can support each incumbent CPRI interface as well as an advanced eCPRI interface. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

A standardized O-RAN radio can help when implementing cost-effective networks because it is capable of sending more data without compromising additional investments.

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



Optimum Spectrum Utilization

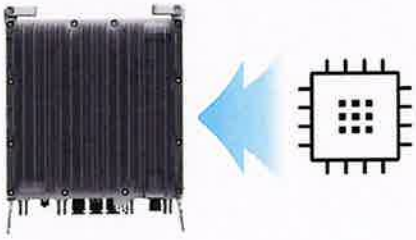
The number of required carriers varies according to site (region). The ability to support many carriers is essential for using all frequencies that the operator has available.

The new 700/850MHz dual-band radio can support up to 2 carriers in the B13 (700MHz) band and 3 carriers in the B5 (850MHz) band, respectively.

Secured Integrity

Access to sensitive data is allowed only to authorized software.

The Samsung radio's CPU can protect root of trust, which is credential information to verify SW integrity, and secure storage provides access control to sensitive data by using dedicated hardware (TPM).



Technical Specifications

Item	Specification
Tech	LTE / NR
Brand	B13(700MHz), B5(850MHz)
Frequency Band	DL: 746 – 756MHz, UL: 777 – 787MHz DL: 869 – 894MHz, UL: 824 – 849MHz
RF Power	(B13) 4 × 40W or 2 × 60W (B5) 4 × 40W or 2 × 60W
IBW/OBW	(B13) 10MHz / 10MHz (B5) 25MHz / 25MHz
Installation	Pole, Wall
Size/ Weight	14.96 x 14.96 x 9.05inch (33.2L) / 70.33 lb

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

Standby Power Rating
50 kW, 63 kVA, 60 Hz

Prime Power Rating*
45 kW, 56 kVA, 60 Hz

*EPA Certified Prime ratings are not available in the US or its Territories

Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL6200, UL1236, UL142
- CSA C22.2
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41
- IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

Powering Ahead

For over 50 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer (Enclosed Units Only)

Fuel System

- Fuel Lockoff Solenoid
- Primary Fuel Filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze
- 120 VAC Coolant Heater

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- 12 Leads (3-Phase, Non 600V)
- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Auxiliary Voltage Regulator Power Winding
- Brushless Excitation
- Sealed Bearing
- Automated Manufacturing (Winding, Insertion, Lacing, Varnishing)
- Rotor Dynamically Spin Balanced
- Full Load Capacity Alternator
- Protective Thermal Switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Only)
- Silencer of Heat Shield

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

FUEL TANKS (If Selected)

- UL 142/ULC S-601
- Double Wall Construction
- Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested - 2 psi
- Rupture Basin Alarm
- Fuel Level
- Check Valve In Supply and Return Lines
- RhinoCoat™ - Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

CONTROL SYSTEM

Digital H Control Panel- Dual 4x20 Display

Program Functions

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- All Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus® Protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 16 Channel Remote Trending
- 0.2 msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total, and Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Overspeed
- Battery Voltage
- Alarms and Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms and Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- Engine Coolant Heater
- Oil Heater
- Industrial Silencer (Open Set)
- Air Filter Restriction Indicator
- Fan and Belt Guards (Enclosed Units Only)

FUEL SYSTEM

- Flexible Fuel Lines
- Primary Fuel Filter

ELECTRICAL SYSTEM

- 10A UL Listed Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical Coating
- Permanent Magnet Excitation

GENERATOR SET

- 8 Position Load Center

CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breakers

ENCLOSURE

- Weather Protected Enclosure
- Level 1 Sound Attenuated
- Level 2 Sound Attenuated
- Level 2 Sound Attenuated with Motorized Dampers
- Steel Enclosure
- Aluminum Enclosure
- Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- AC/DC Enclosure Lighting Kit
- Door Open Alarm Switch
- Pad Vibration Isolator
- Enclosure Heater

WARRANTY (Standby Gensets Only)

- 2 Year Extended Limited Warranty
- 5 Year Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

CONTROL SYSTEM

- NFPA 110 Compliant 21-Light Remote Annunciator
- Remote Relay Assembly (8 or 16)
- Oil Temperature Sender with Alarm
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- Remote Communication - Modem
- 10A Engine Run Relay
- Ground Fault Indication and Protection Functions
- 100 dB Alarm Horn
- 120V GFCI and 240V Outlets

FUEL TANKS (Size On Last Page)

- 8 in (203.2 mm) Fill Extension
- 13 in (330.2 mm) Fill Extension
- 19 in (482.6 mm) Fill Extension
- Overfill Protection Valve
- Vent Extensions
- Tank Risers
- Fuel Drop Tube
- Return Hose
- 90% Fuel Level Alarm

ENGINEERED OPTIONS

ENGINE SYSTEM

- Coolant Heater Ball Valves
- Fluid Containment Pan

CONTROL SYSTEM

- Spare Inputs (x4) / Outputs (x4)
- Battery Disconnect Switch

ALTERNATOR SYSTEM

- 3rd Breaker System

GENERATOR SET

- Special Testing
- IBC Seismic Certification

TANKS

- UL2085 Tank
- Stainless Steel Tanks

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	4
Type	In-Line
Displacement - in^3 (L)	207.48 (3.4)
Bore - in (mm)	3.86 (98)
Stroke - in (mm)	4.45 (113)
Compression Ratio	18.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head	Cast Iron OHV
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow Cartridge
Crankcase Capacity - qt (L)	7.4 (7)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed - rpm	2,250
Fan Diameter - in (mm)	560 (22)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Fuel Specifications	ASTM
Fuel Filtering (microns)	10
Fuel Inject Pump	Bosch (VE)
Fuel Pump Type	Engine Driven Gear
Injector Type	Pintel - 2,100 psi (14,479 kPa)
Fuel Supply Line - in (mm)	0.312 (7.92) NPT
Fuel Return Line - in (mm)	0.312 (7.92) NPT

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0050124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Synchronous Brushless
Bearings	Single Sealed Cartridge
Coupling	Direct via Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SD050 | 3.4L | 50 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

OPERATING DATA

POWER RATINGS

		Standby
Single-Phase 120/240 VAC @1.0pf	50 kW	Amps: 208
Three-Phase 120/208 VAC @0.8pf	50 kW	Amps: 173
Three-Phase 120/240 VAC @0.8pf	50 kW	Amps: 150
Three-Phase 277/480 VAC @0.8pf	50 kW	Amps: 75
Three-Phase 346/600 VAC @0.8pf	50 kW	Amps: 60

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

277/480 VAC	30%	208/240 VAC	30%
K0050124Y21	98	K0050124Y21	75
K0060124Y21	124	K0060124Y21	95

FUEL CONSUMPTION RATES*

Fuel Pump Lift - ft (m)
3 (1)

Total Fuel Pump Flow (Combustion + Return) - gph (Lph)
3.6 (13.5)

Diesel - gph (Lph)

Percent Load	Standby
25%	1.3 (4.9)
50%	2.3 (8.7)
75%	3.3 (12.5)
100%	4.3 (16.4)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Coolant Flow	gpm (Lpm)	12.2 (46)
Coolant System Capacity	gal (L)	2.5 (9.5)
Heat Rejection to Coolant	BTU/hr (kW)	135,900 (39.8)
Inlet Air	scfm (m^3/hr)	7,500 (212)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power - scfm (m^3/min)	166 (4.7)

ENGINE

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	86
Piston Speed	ft/min (m/min)	1,335 (406.9)
BMEP	psi (kPa)	169 (1,165)

EXHAUST

		Standby
Exhaust Flow (Rated Output)	scfm (m^3/min)	448 (12.7)
Max. Allowable Backpressure	inHg (kPa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	1,044 (562)

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.
Standby - See Bulletin 0187500SSB
Prime - See Bulletin 0187510SSB

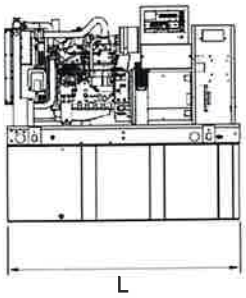
SD050 | 3.4L | 50 kW

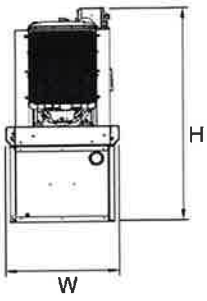
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

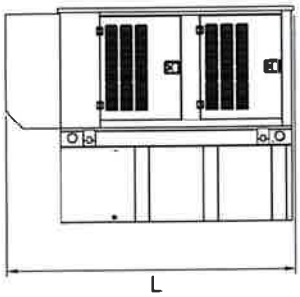
DIMENSIONS AND WEIGHTS*

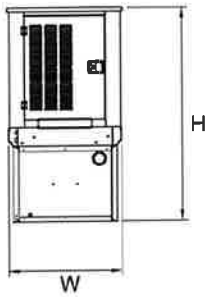




OPEN SET (Includes Exhaust Flex)

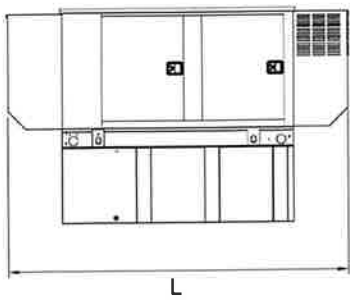
Run Time Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Minimum Weight - lbs (kg)	Maximum Weight - lbs (kg)
No Tank	-	76.7 (1,948) x 37.4 (950) x 45.2 (1,147)	1,710 (776)	1,836 (833)
12	54 (204)	76.7 (1,948) x 37.4 (950) x 58.2 (1,477)	2,190 (993)	2,316 (932)
30	132 (499)	76.7 (1,948) x 37.4 (950) x 70.2 (1,782)	2,420 (1,098)	2,546 (979)
44	190 (719)	76.7 (1,948) x 37.4 (950) x 82.2 (2,087)	2,629 (1,192)	2,755 (1,022)
49	211 (799)	106.0 (2,692) x 37.4 (950) x 71.2 (1,807)	2,634 (1,192)	2,760 (1,023)
69	300 (1,136)	92.9 (2,360) x 37.4 (950) x 85.7 (2,176)	2,692 (1,221)	2,818 (1,035)

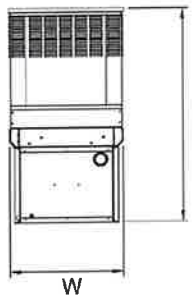




WEATHER PROTECTED ENCLOSURE

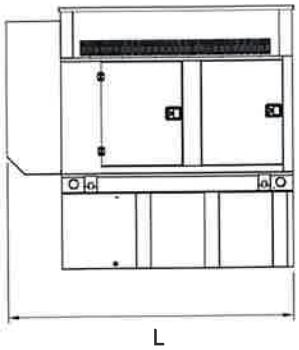
Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Steel Weight Minimum - lbs (kg)	Steel Weight Maximum - lbs (kg)	Aluminum Weight Minimum - lbs (kg)	Aluminum Weight Maximum - lbs (kg)
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)	2,158 (979)	2,286 (1,037)	1,935 (878)	2,965 (1,345)
12	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	2,638 (1,197)	2,766 (1,255)	2,415 (1,096)	3,445 (1,563)
30	132 (499)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)	2,868 (1,301)	2,996 (1,359)	2,645 (1,200)	3,675 (1,667)
44	190 (719)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)	3,077 (1,396)	3,205 (1,454)	2,854 (1,295)	3,884 (1,762)
49	211 (799)	106.0 (2,692) x 38.0 (965) x 99.0 (2,516)	4,316 (1,958)	4,572 (2,074)	3,870 (1,755)	5,930 (2,690)
69	300 (1,136)	94.8 (2,409) x 38.0 (965) x 90.0 (2,287)	3,140 (1,424)	3,268 (1,482)	2,917 (1,323)	3,947 (1,790)

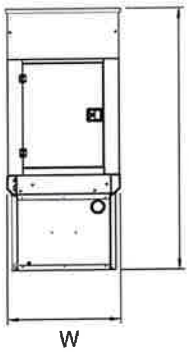




LEVEL 1 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Steel Weight Minimum - lbs (kg)	Steel Weight Maximum - lbs (kg)	Aluminum Weight Minimum - lbs (kg)	Aluminum Weight Maximum - lbs (kg)
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)	2,158 (979)	2,286 (1,037)	1,935 (878)	2,965 (1,345)
12	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	2,638 (1,197)	2,766 (1,255)	2,415 (1,096)	3,445 (1,563)
30	132 (499)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)	2,868 (1,301)	2,996 (1,359)	2,645 (1,200)	3,675 (1,667)
44	190 (719)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)	3,077 (1,396)	3,205 (1,454)	2,854 (1,295)	3,884 (1,762)
49	211 (799)	106.0 (2,692) x 38.0 (965) x 99.0 (2,516)	4,316 (1,958)	4,572 (2,074)	3,870 (1,755)	5,930 (2,690)
69	300 (1,136)	94.8 (2,409) x 38.0 (965) x 90.0 (2,287)	3,140 (1,424)	3,268 (1,482)	2,917 (1,323)	3,947 (1,790)





LEVEL 2 SOUND ATTENUATED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Steel Weight Minimum - lbs (kg)	Steel Weight Maximum - lbs (kg)	Aluminum Weight Minimum - lbs (kg)	Aluminum Weight Maximum - lbs (kg)
No Tank	-	94.8 (2,409) x 38 (965) x 70.1 (1,780)	2,389 (1,084)	2,517 (1,142)	2,035 (923)	2,163 (981)
12	54 (204)	94.8 (2,409) x 38 (965) x 62.5 (1,588)	2,638 (1,197)	2,766 (1,255)	2,415 (1,095)	3,445 (1,563)
30	132 (499)	94.8 (2,409) x 38 (965) x 74.5 (1,893)	2,868 (1,301)	2,996 (1,359)	2,645 (1,200)	3,675 (1,667)
44	190 (719)	94.8 (2,409) x 38 (965) x 86.5 (2,198)	3,077 (1,396)	3,205 (1,454)	2,854 (1,295)	3,884 (1,762)
49	211 (799)	106.0 (2,692) x 38 (965) x 99 (2,516)	4,316 (1,958)	4,572 (2,074)	3,870 (1,755)	5,930 (2,690)
69	300 (1,136)	94.8 (2,409) x 38 (965) x 110.6 (2,809)	3,371 (1,529)	3,499 (1,587)	3,017 (1,368)	3,145 (1,427)

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

SPEC SHEET

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53189
P: (262) 544-4811

Part No 0K5090
Rev. D 08/16/19

ATTACHMENT 5

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

Structural Analysis Report

Existing 168 ft SUMMIT Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT01364-S

Customer Site Name: Pomfret

Carrier Name: Verizon (App#: 217673, V6)

Carrier Site ID / Name: 5000917542 / Pomfret South CT

Site Location: 62 Babbitt Hill Road

Pomfret, Connecticut

Windham County

Latitude: 41.870258

Longitude: -71.988241

Analysis Result:

Max Structural Usage: 77.5% [Pass]

Max Foundation Usage: 97.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Zobair Ahmed

TES
Tower Engineering Solutions
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Report Prepared By: Zobair Ahmed

Introduction

The purpose of this report is to summarize the analysis results on the 168 ft SUMMIT Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Drawings prepared by Paul J. Ford and Company, Job # 4728 Dated 04/30/1999
Foundation Drawing	Dispersive Wave Propagation Testing and Rebar Investigation prepared by FDH Engineering, Project #1207133EN1 Dated 08/17/2012
Geotechnical Report	Geotechnical Report prepared by Jaworski Geotech Inc., Project # 99261G Dated 05/21/1999
Modification Drawings	N/A
Mount Analysis	TES Project Number: 137986 - Rev1, dated: 01/26/2023

Analysis Criteria

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

Wind Speed Used in the Analysis:	120.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.182, S_1 = 0.055

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	167.0	-	Vacant	(1) Low Profile Platform	-	-
2	157.0	3	RFS APXVTM14-C-I20	Low Profile Platform w/ Handrails kit & Reinforcement kit [SitePro (1) HRK-14 & (1) SitePro PRK-1245]	(4) 1 1/4" Fiber	Sprint Nextel
3		3	Commscope NNVV-65B-R4			
4		3	ALU 1900 Mhz			
5		6	ALU 800 Mhz			
6		3	ALU TD-RRH8x20-25			
7	147.0	6	Powerwave Technologies- 7770 - Panel	(1) Low Profile Platform (1) Ring Mount (Balmount LWRM)	(12) 1 5/8" (2) 3/4" DC (1) 7/16" Fiber	AT&T
8		3	KMW Communications - AM-X-CD-17-65-00T-RET - Panel			
9		6	Powerwave Allgon - LGP 21401 - TMA			
10		6	ADC Cleargain - 1900W800 - TMA			
11		6	Ericsson - RRUS 11 - RRU			
12		3	Ericsson - RRUS 12 - RRU			
13		6	Powerwave - LGP21903 - Diplexer			
14		1	Raycap - DC6-48-60-18-8F - SP			
15		3	CSS - Dual Band Combiner			
16	137.0	3	RFS APXV18-206516S-C-A20	Low Profile Platform with (1) Support rail w/ end connection (MS-HRECP-35) (1) Kicker (MS-K122-5) (1) Collar mount (MS-1436) (3) 2" STD Mount Pipe	(12) 1 5/8" (3) 1 5/8"Fiber	T-Mobile
17		3	RFS APXVAARR24_43-U-NA20			
18		3	Ericsson KRY 112 489/2			
19		3	Allen Telecom FE15501P77/75			
20		3	Ericsson Radio 4449 B71+B12			
21		3	Kathrein 782 11056			

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

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
22	125.0	15	Commscope JAHH-65B-R3B - Panel	(1) SitePro SitePro1 RMQP-4096-HK (3) Commscope BSAMNT-SBS-2-2	(10) 1 5/8" Coax (2) 1-1/4" Hybrid	Verizon
23		6	Samsung MT6407-77A- Panel			
24		3	Commscope CBC78T-DS-43-2X Diplexer			
25		8	Samsung B2/B66A RRH ORAN (RF4439d-25A)			
26		8	Samsung B5/B13 RRH ORAN (RF4440d-13A)			
27		8	Raycap RVZDC-6627-PF-48-OVP			

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

Analysis Results

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

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	**77.5%**	**70.9%**	**62.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4691.2	38.4	61.9

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

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.2903 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES.** The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

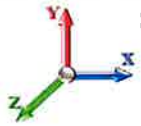
Usage Diagram - Max Ratio 77.47% at 0.0ft

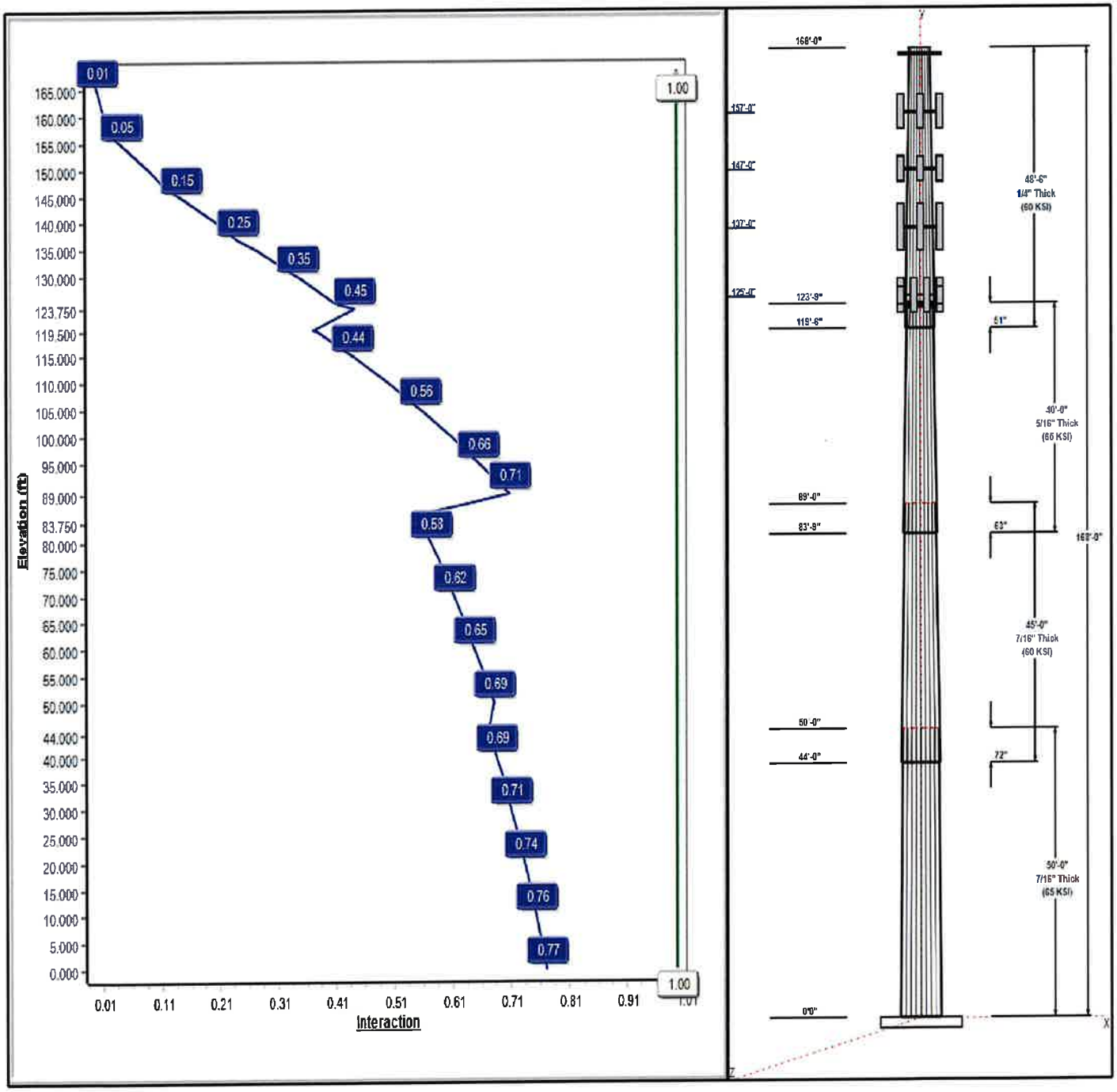
Structure:	CT01364-S-SBA	**Code:**	EIA/TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Gh:**	1.1	Page: 1	
Base Elev:	0.000 (ft)				

Tower Engineering Solutions

Dead Load Factor:	1.20	**Iterations:**	26
Wind Load Factor:	1.00		

Load Case : 1.2D + 1.0W 120 mph Wind





Structure: CT01364-S-SBA

Type: Tapered
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.20500

4/3/2023

TES Tower Engineering Solutions

Shaft Properties

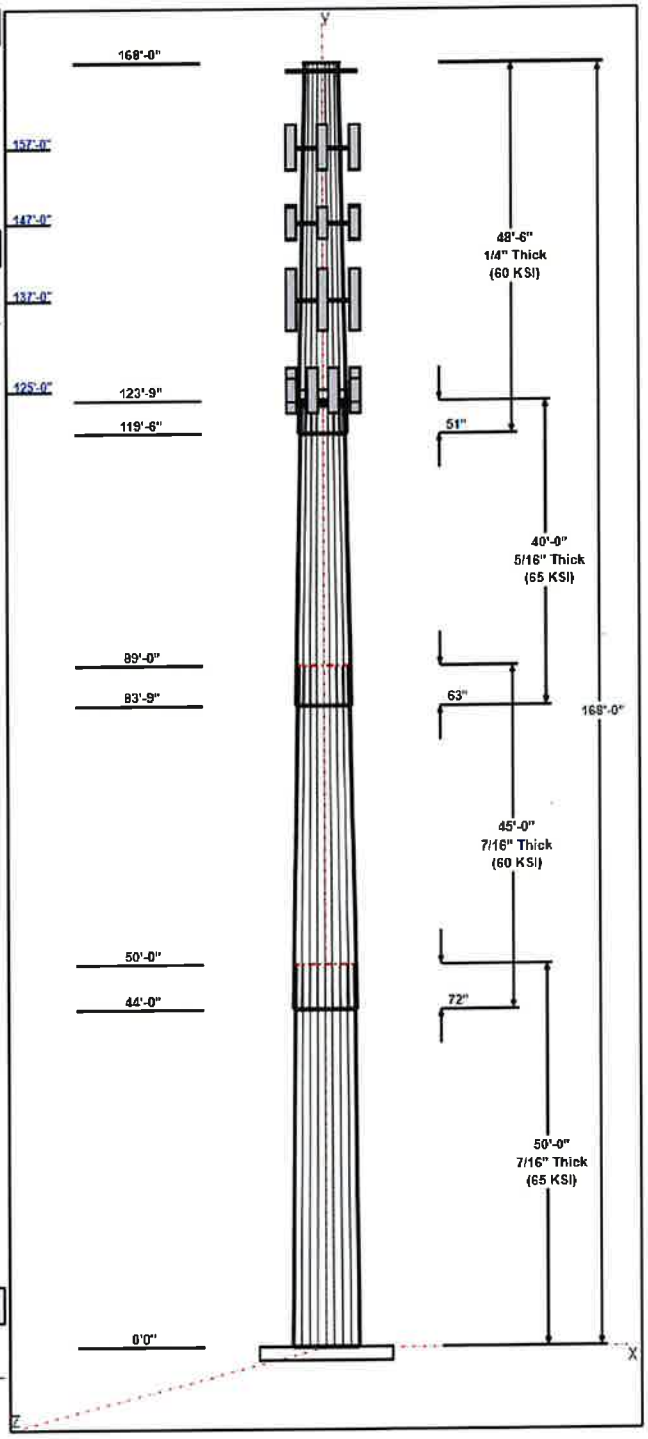
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	50.00	46.19	56.44	0.438		0.20500	65
2	45.00	39.07	48.30	0.438	Slip	0.20500	60
3	40.00	32.57	40.77	0.313	Slip	0.20500	65
4	48.50	24.00	33.94	0.250	Slip	0.20500	60

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
168.00	168.00	1	6' Lightning rod	T-Mobile
167.00	167.00	1	Low Profile Platform-flat	Vacant
157.00	157.00	1	PRK-1245 (kicker kit)	Sprint Nextel
157.00	157.00	1	RMQP-363 (LPP)	Sprint Nextel
157.00	157.00	3	APXVTM14-C-I20	Sprint Nextel
157.00	157.00	3	NNVV-65B-R4	Sprint Nextel
157.00	157.00	3	ALU 1900 Mhz	Sprint Nextel
157.00	157.00	6	ALU 800 Mhz	Sprint Nextel
157.00	157.00	3	ALU TD-RRH8x20-25	Sprint Nextel
157.00	157.00	1	HRK14	Sprint Nextel
147.00	147.00	6	LGP21903	AT&T
147.00	147.00	6	1900W800	AT&T
147.00	147.00	3	Dual Band Combiner	AT&T
147.00	147.00	1	Low Profile	AT&T
147.00	147.00	6	RRUS 11	AT&T
147.00	147.00	1	DC6-48-60-18-8F	AT&T
147.00	147.00	6	7770.00	AT&T
147.00	147.00	3	AM-X-CD-17-65-00T-RET	AT&T
147.00	147.00	6	LGP21401	AT&T
147.00	147.00	3	RRUS 12	AT&T
137.50	137.50	3	782 11056	T-Mobile
137.00	137.00	1	Low Profile Platform w/	T-Mobile
137.00	137.00	3	APXV18-206516S-C-A20	T-Mobile
137.00	137.00	3	APXVAARR24_43-U-NA20	T-Mobile
137.00	137.00	3	KRY 112 489/2	T-Mobile
137.00	137.00	3	FE15501P77/75	T-Mobile
137.00	137.00	3	4449	T-Mobile
125.00	125.00	15	JAHH-65B-R3B	Verizon
125.00	125.00	6	MT6407-77A	Verizon
125.00	125.00	1	SitePro1 RMQP-4096-HK	Verizon
125.00	125.00	3	BSAMNT-SBS-1-2	Verizon
125.00	125.00	3	CBC78T-DS-43-2X	Verizon
125.00	125.00	8	Samsung B2/B66A RRH	Verizon
125.00	125.00	8	Samsung B5/B13 RRH	Verizon
125.00	125.00	8	RVZDC-6627-PF-48	Verizon

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	167.00	Outside	Safety Cable	
0.00	167.00	Outside	Step bolts (ladder)	
0.00	157.00	Inside	1 1/4" Coax	Sprint Nextel
0.00	147.00	Inside	1 5/8" Coax	AT&T
0.00	147.00	Inside	3/4" DC	AT&T
0.00	147.00	Inside	7/16" Fiber	AT&T
0.00	137.00	Inside	1 5/8" Coax	T-Mobile



0.00	137.00	Inside	1 5/8" Fiber	T-Mobile
0.00	125.00	Inside	1 5/8" Coax	Verizon
0.00	125.00	Inside	1-1/4" Hybrid	Verizon

Anchor Bolts

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

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.2500	64.0	50.0	Clipped

Reactions

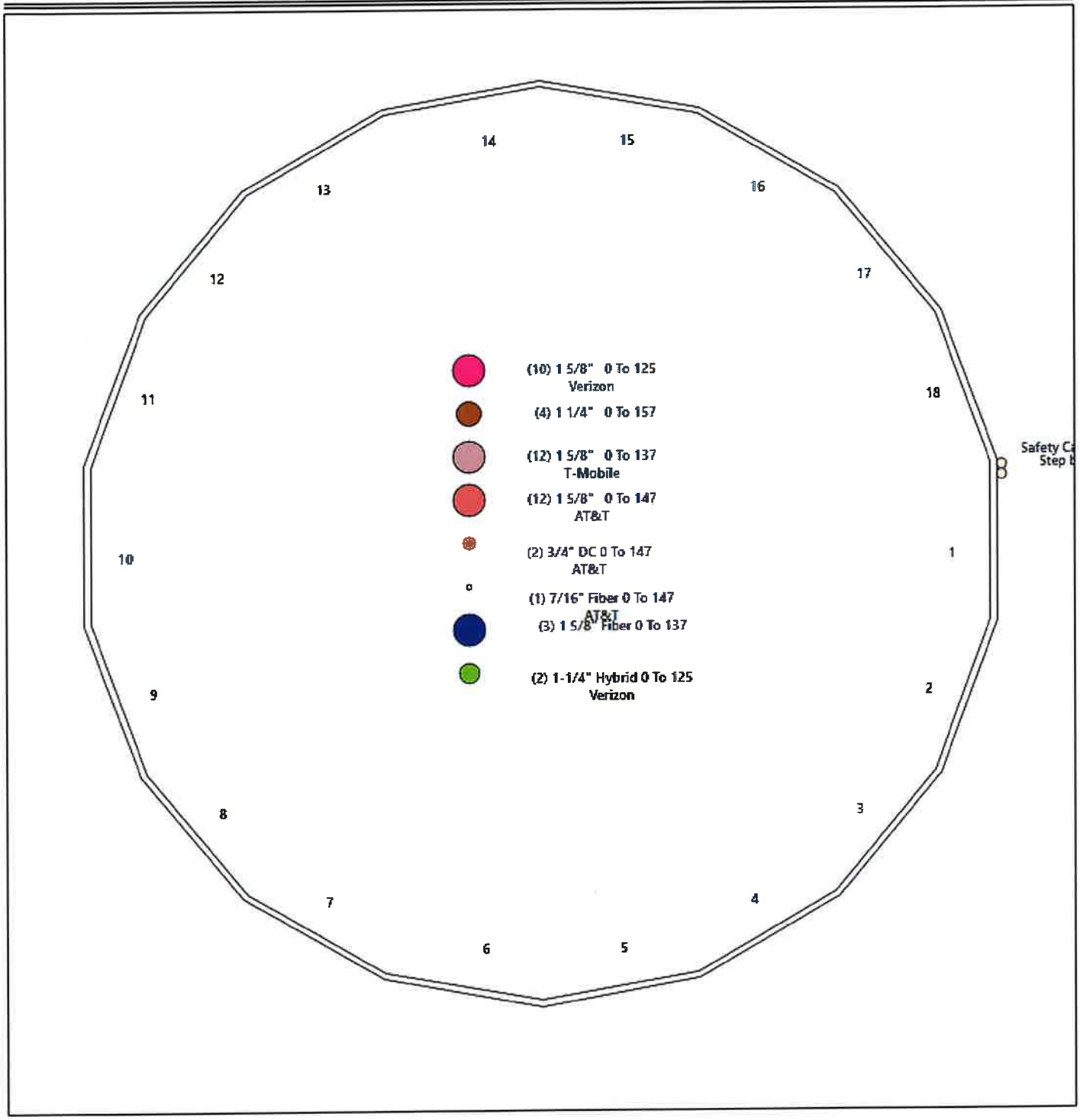
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 120 mph Wind	4691.2	38.4	61.9
0.9D + 1.0W 120 mph Wind	4625.6	38.4	46.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1234.2	10.4	82.7
1.2D + 1.0Ev + 1.0Eh	102.1	0.7	64.0
0.9D + 1.0Ev + 1.0Eh	101.1	0.7	48.5
1.0D + 1.0W 60 mph Wind	1041.1	8.6	51.6

Structure: CT01364-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Pomfret
Height: 168.00 (ft)

4/3/2023

TES Tower Engineering Solutions



Shaft Properties

Structure:	CT01364-S-SBA		**Code:**	TIA-222-H	4/3/2023
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Tower Engineering Solutions

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	50.000	0.4375	65		0.00	12,020
2	18	45.000	0.4375	60	Slip	72.00	9,195
3	18	40.000	0.3125	65	Slip	63.00	4,908
4	18	48.500	0.2500	60	Slip	51.00	3,761
					Total Shaft Weight:		**29,884**

	Bottom						Top						
Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	56.44	0.00	77.76	30813.76	21.34	129.01	46.19	50.00	63.53	16802.2	17.21	105.5	0.205000
2	48.30	44.00	66.45	19229.70	18.05	110.39	39.07	89.00	53.64	10115.3	14.34	89.30	0.205000
3	40.77	83.75	40.13	8299.11	21.59	130.47	32.57	123.75	32.00	4206.66	16.97	104.2	0.205000
4	33.94	119.5	26.73	3834.28	22.53	135.77	24.00	168.00	18.84	1343.00	15.52	96.00	0.205000

Load Summary

Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Tower Engineering Solutions

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	168.00	6' Lightning rod	1	6.50	0.38	1.00	30.98	1.113	1.00	0.00	0.00
2	167.00	Low Profile Platform-flat	1	1121.00	18.04	1.00	1780.17	28.224	1.00	0.00	0.00
3	157.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	682.26	16.162	1.00	0.00	0.00
4	157.00	RMQP-363 (LPP)	1	1495.00	30.60	1.00	2403.62	43.475	1.00	0.00	0.00
5	157.00	APXVTM14-C-I20	3	56.20	6.34	0.77	156.55	7.070	0.77	0.00	0.00
6	157.00	NNVV-65B-R4	3	77.40	12.27	0.74	268.64	13.245	0.74	0.00	0.00
7	157.00	ALU 1900 Mhz	3	60.00	2.77	0.67	115.88	3.619	0.67	0.00	0.00
8	157.00	ALU 800 Mhz	6	53.00	2.49	0.67	102.53	3.256	0.67	0.00	0.00
9	157.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.67	138.98	4.580	0.67	0.00	0.00
10	157.00	HRK14	1	302.36	8.13	1.00	542.67	13.451	1.00	0.00	0.00
11	147.00	LGP21903	6	5.50	0.27	0.50	11.11	0.535	0.50	0.00	0.00
12	147.00	1900W800	6	28.70	1.54	0.50	54.32	2.134	0.50	0.00	0.00
13	147.00	Dual Band Combiner	3	4.80	0.51	0.50	11.23	0.862	0.67	0.00	0.00
14	147.00	Low Profile Platform-Round	1	1500.00	22.00	1.00	2370.85	33.751	0.50	0.00	0.00
15	147.00	RRUS 11	6	50.70	2.52	0.67	105.66	2.941	0.67	0.00	0.00
16	147.00	DC6-48-60-18-8F	1	31.80	1.47	1.00	72.93	1.936	1.00	0.00	0.00
17	147.00	7770.00	6	35.00	5.50	0.75	118.18	6.194	0.75	0.00	0.00
18	147.00	AM-X-CD-17-65-00T-RET	3	30.80	5.00	0.76	105.32	6.247	0.77	0.00	0.00
19	147.00	LGP21401	6	14.10	1.29	0.67	30.73	1.846	0.67	0.00	0.00
20	147.00	RRUS 12	3	60.00	2.70	0.67	104.59	3.139	0.67	0.00	0.00
21	137.50	782 11056	3	1.80	0.13	0.67	3.44	0.323	0.67	0.00	0.00
22	137.00	Low Profile Platform w/ Kicker	1	1800.00	22.00	1.00	2837.68	33.668	1.00	0.00	0.00
23	137.00	APXV18-206516S-C-A20	3	18.70	3.61	0.73	65.00	4.837	0.73	0.00	0.00
24	137.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	392.29	21.480	0.70	0.00	0.00
25	137.00	KRY 112 489/2	3	13.20	0.68	0.67	25.14	1.108	0.67	0.00	0.00
26	137.00	FE15501P77/75	3	17.50	0.52	0.67	32.48	0.905	0.67	0.00	0.00
27	137.00	4449	3	70.00	1.65	0.67	111.25	1.992	0.67	0.00	0.00
28	125.00	JAHH-65B-R3B	15	63.30	9.11	0.83	205.26	9.974	0.83	0.00	0.00
29	125.00	MT6407-77A	6	79.40	4.69	0.70	152.08	5.303	0.70	0.00	0.00
30	125.00	SitePro1 RMQP-4096-HK	1	2645.00	51.70	1.00	4458.08	76.744	1.00	0.00	0.00
31	125.00	BSAMNT-SBS-1-2	3	25.35	0.00	1.00	36.93	0.000	1.00	0.00	0.00
32	125.00	CBC78T-DS-43-2X	3	10.40	0.37	0.50	21.85	0.541	0.50	0.00	0.00
33	125.00	Samsung B2/B66A RRH ORAN	8	84.40	1.87	0.50	130.43	2.234	0.50	0.00	0.00
34	125.00	Samsung B5/B13 RRH ORAN	8	70.30	1.87	0.50	111.79	2.234	0.50	0.00	0.00
35	125.00	RVZDC-6627-PF-48	8	32.00	4.06	0.67	106.58	4.598	0.67	0.00	0.00
		Totals:	**135**	**15,340.52**			**29,264.93**				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	167.00	(1) Safety Cable	0.00	Outside
0.00	167.00	(2) Step bolts (ladder)	0.00	Outside
0.00	157.00	(4) 1 1/4" Coax	0.00	Inside
0.00	147.00	(12) 1 5/8" Coax	0.00	Inside
0.00	147.00	(2) 3/4" DC	0.00	Inside
0.00	147.00	(1) 7/16" Fiber	0.00	Inside

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
0.00	137.00	(12) 1 5/8" Coax			0.00	Inside					
0.00	137.00	(3) 1 5/8" Fiber			0.00	Inside					
0.00	125.00	(10) 1 5/8" Coax			0.00	Inside					
0.00	125.00	(2) 1-1/4" Hybrid			0.00	Inside					

Shaft Section Properties

Structure: CT01364-S-SBA
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1
Topography: 1

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

4/3/2023

Tower Engineering Solutions

Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	56.440	77.764	30813.8	21.34	129.01	76.3	1075.	0.0
5.00		0.4375	55.415	76.340	29152.6	20.92	126.66	76.8	1036.	1311.0
10.00		0.4375	54.390	74.917	27552.3	20.51	124.32	77.3	997.7	1286.7
15.00		0.4375	53.365	73.494	26011.6	20.10	121.98	77.8	960.0	1262.5
20.00		0.4375	52.340	72.071	24529.4	19.68	119.63	78.2	923.1	1238.3
25.00		0.4375	51.315	70.647	23104.7	19.27	117.29	78.7	886.8	1214.1
30.00		0.4375	50.290	69.224	21736.2	18.86	114.95	79.2	851.3	1189.9
35.00		0.4375	49.265	67.801	20422.8	18.44	112.61	79.7	816.5	1165.7
40.00		0.4375	48.240	66.377	19163.5	18.03	110.26	80.2	782.4	1141.4
44.00	Bot - Section 2	0.4375	47.420	65.239	18194.1	17.70	108.39	80.6	755.7	895.7
45.00		0.4375	47.215	64.954	17957.0	17.62	107.92	80.7	749.1	447.2
50.00	Top - Section 1	0.4375	47.065	64.746	17784.8	17.56	107.58	0.0	0.0	2206.7
55.00		0.4375	46.040	63.322	16637.5	17.15	105.23	75.7	711.8	1089.5
60.00		0.4375	45.015	61.899	15540.7	16.73	102.89	76.1	680.0	1065.3
65.00		0.4375	43.990	60.476	14493.1	16.32	100.55	76.2	648.9	1041.0
70.00		0.4375	42.965	59.053	13493.7	15.91	98.21	76.2	618.6	1016.8
75.00		0.4375	41.940	57.629	12541.4	15.49	95.86	76.2	589.0	992.6
80.00		0.4375	40.915	56.206	11634.9	15.08	93.52	76.2	560.1	968.4
83.75	Bot - Section 3	0.4375	40.146	55.139	10984.5	14.77	91.76	76.2	538.9	710.4
85.00		0.4375	39.890	54.783	10773.2	14.67	91.18	76.2	531.9	403.9
89.00	Top - Section 2	0.3125	39.695	39.061	7654.3	20.99	127.02	0.0	0.0	1275.1
90.00		0.3125	39.490	38.858	7535.4	20.87	126.37	76.9	375.8	132.6
95.00		0.3125	38.465	37.841	6959.3	20.29	123.09	77.5	356.4	652.5
100.00		0.3125	37.440	36.825	6413.3	19.71	119.81	78.2	337.4	635.2
105.00		0.3125	36.415	35.808	5896.7	19.14	116.53	78.9	318.9	617.9
110.00		0.3125	35.390	34.791	5408.5	18.56	113.25	79.6	301.0	600.6
115.00		0.3125	34.365	33.775	4948.1	17.98	109.97	80.3	283.6	583.3
119.50	Bot - Section 4	0.3125	33.443	32.860	4556.8	17.46	107.02	80.9	268.4	510.2
120.00		0.3125	33.340	32.758	4514.6	17.40	106.69	80.9	266.7	101.2
123.75	Top - Section 3	0.2500	33.071	26.043	3544.5	21.91	132.28	0.0	0.0	749.3
125.00		0.2500	32.815	25.839	3462.1	21.73	131.26	70.9	207.8	110.3
130.00		0.2500	31.790	25.026	3145.4	21.01	127.16	71.7	194.9	432.7
135.00		0.2500	30.765	24.213	2848.6	20.29	123.06	72.4	182.4	418.9
137.00		0.2500	30.355	23.887	2735.3	20.00	121.42	72.7	177.5	163.7
137.50		0.2500	30.253	23.806	2707.4	19.93	121.01	72.8	176.3	40.6
140.00		0.2500	29.740	23.399	2571.0	19.57	118.96	73.2	170.3	200.8
145.00		0.2500	28.715	22.586	2312.2	18.84	114.86	73.9	158.6	391.2
147.00		0.2500	28.305	22.261	2213.7	18.55	113.22	74.2	154.0	152.6
150.00		0.2500	27.690	21.773	2071.3	18.12	110.76	74.7	147.3	224.8
155.00		0.2500	26.665	20.960	1847.7	17.40	106.66	75.5	136.5	363.5
157.00		0.2500	26.255	20.634	1763.0	17.11	105.02	75.8	132.3	141.5
160.00		0.2500	25.640	20.146	1640.9	16.67	102.56	76.2	126.0	208.2
165.00		0.2500	24.615	19.333	1450.1	15.95	98.46	76.2	116.0	335.8
167.00		0.2500	24.205	19.008	1378.1	15.66	96.82	76.2	112.1	130.5
168.00		0.2500	24.000	18.845	1343.0	15.52	96.00	76.2	110.2	64.4
										29884.3

Wind Loading - Shaft

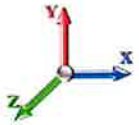
Structure: CT01364-S-SBA
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

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

4/3/2023

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 120 mph Wind
Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	29.160	32.08	522.96	0.630	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	29.160	32.08	513.46	0.630	0.000	5.00	23.663	14.91	478.2	0.0	1573.1
10.00		1.00	0.85	29.160	32.08	503.96	0.630	0.000	5.00	23.229	14.63	469.4	0.0	1544.1
15.00		1.00	0.85	29.160	32.08	494.46	0.630	0.000	5.00	22.795	14.36	460.6	0.0	1515.0
20.00		1.00	0.90	30.940	34.03	499.55	0.630	0.000	5.00	22.362	14.09	479.5	0.0	1486.0
25.00		1.00	0.95	32.428	35.67	501.41	0.630	0.000	5.00	21.928	13.81	492.8	0.0	1456.9
30.00		1.00	0.98	33.697	37.07	500.91	0.630	0.000	5.00	21.494	13.54	501.9	0.0	1427.9
35.00		1.00	1.01	34.808	38.29	498.73	0.630	0.000	5.00	21.061	13.27	508.0	0.0	1398.8
40.00		1.00	1.04	35.801	39.38	495.27	0.630	0.000	5.00	20.627	12.99	511.8	0.0	1369.7
44.00	Bot - Section 2	1.00	1.06	36.526	40.18	491.76	0.630	0.000	4.00	16.189	10.20	409.8	0.0	1074.9
45.00		1.00	1.07	36.700	40.37	490.79	0.630	0.000	1.00	4.078	2.57	103.7	0.0	536.6
50.00	Top - Section 1	1.00	1.09	37.523	41.28	485.49	0.630	0.000	5.00	20.130	12.68	523.4	0.0	2648.0
55.00		1.00	1.12	38.283	42.11	488.79	0.630	0.000	5.00	19.696	12.41	522.5	0.0	1307.4
60.00		1.00	1.14	38.991	42.89	482.31	0.630	0.000	5.00	19.262	12.14	520.5	0.0	1278.3
65.00		1.00	1.16	39.654	43.62	475.31	0.630	0.000	5.00	18.829	11.86	517.4	0.0	1249.2
70.00		1.00	1.17	40.277	44.30	467.87	0.630	0.000	5.00	18.395	11.59	513.4	0.0	1220.2
75.00		1.00	1.19	40.866	44.95	460.04	0.630	0.000	5.00	17.961	11.32	508.7	0.0	1191.1
80.00		1.00	1.21	41.426	45.57	451.86	0.630	0.000	5.00	17.528	11.04	503.2	0.0	1162.1
83.75	Bot - Section 3	1.00	1.22	41.827	46.01	445.51	0.630	0.000	3.75	12.861	8.10	372.8	0.0	852.5
85.00		1.00	1.22	41.958	46.15	443.36	0.630	0.000	1.25	4.299	2.71	125.0	0.0	484.7
89.00	Top - Section 2	1.00	1.23	42.366	46.60	436.35	0.630	0.000	4.00	13.575	8.55	398.5	0.0	1530.1
90.00		1.00	1.24	42.466	46.71	441.56	0.630	0.000	1.00	3.350	2.11	98.6	0.0	159.1
95.00		1.00	1.25	42.952	47.25	432.55	0.630	0.000	5.00	16.491	10.39	490.9	0.0	783.0
100.00		1.00	1.27	43.418	47.76	423.31	0.630	0.000	5.00	16.057	10.12	483.1	0.0	762.2
105.00		1.00	1.28	43.866	48.25	413.84	0.630	0.000	5.00	15.624	9.84	475.0	0.0	741.5
110.00		1.00	1.29	44.298	48.73	404.16	0.630	0.000	5.00	15.190	9.57	466.3	0.0	720.7
115.00		1.00	1.30	44.715	49.19	394.30	0.630	0.000	5.00	14.756	9.30	457.3	0.0	699.9
119.50	Bot - Section 4	1.00	1.31	45.077	49.59	385.27	0.630	0.000	4.50	12.910	8.13	403.3	0.0	612.2
120.00		1.00	1.32	45.117	49.63	384.26	0.630	0.000	0.50	1.434	0.90	44.8	0.0	121.5
123.75	Top - Section 3	1.00	1.32	45.410	49.95	376.61	0.630	0.000	3.75	10.616	6.69	334.1	0.0	899.2
125.00	Appurtenance(s)	1.00	1.33	45.506	50.06	379.83	0.630	0.000	1.25	3.485	2.20	109.9	0.0	132.4
130.00		1.00	1.34	45.884	50.47	369.49	0.630	0.000	5.00	13.667	8.61	434.6	0.0	519.3
135.00		1.00	1.35	46.250	50.87	359.00	0.630	0.000	5.00	13.233	8.34	424.1	0.0	502.6
137.00	Appurtenance(s)	1.00	1.35	46.393	51.03	354.77	0.630	0.000	2.00	5.172	3.26	166.3	0.0	196.4
137.50	Appurtenance(s)	1.00	1.35	46.429	51.07	353.70	0.630	0.000	0.50	1.282	0.81	41.3	0.0	48.7
140.00		1.00	1.36	46.605	51.27	348.37	0.630	0.000	2.50	6.346	4.00	204.9	0.0	240.9
145.00		1.00	1.37	46.951	51.65	337.61	0.630	0.000	5.00	12.366	7.79	402.4	0.0	469.4
147.00	Appurtenance(s)	1.00	1.37	47.086	51.79	333.27	0.630	0.000	2.00	4.825	3.04	157.4	0.0	183.1
150.00		1.00	1.38	47.287	52.02	326.72	0.630	0.000	3.00	7.107	4.48	232.9	0.0	269.7
155.00		1.00	1.39	47.615	52.38	315.72	0.630	0.000	5.00	11.499	7.24	379.4	0.0	436.2
157.00	Appurtenance(s)	1.00	1.39	47.743	52.52	311.28	0.630	0.000	2.00	4.478	2.82	148.2	0.0	169.8
160.00		1.00	1.40	47.934	52.73	304.60	0.630	0.000	3.00	6.587	4.15	218.8	0.0	249.8
165.00		1.00	1.41	48.245	53.07	293.37	0.630	0.000	5.00	10.631	6.70	355.4	0.0	403.0
167.00	Appurtenance(s)	1.00	1.41	48.368	53.20	288.85	0.630	0.000	2.00	4.131	2.60	138.5	0.0	156.6
168.00	Appurtenance(s)	1.00	1.41	48.429	53.27	286.58	0.630	0.000	1.00	2.040	1.28	68.4	0.0	77.3
								Totals:	**168.00**			**15,657.1**		**35,861.2**

Discrete Appurtenance Forces

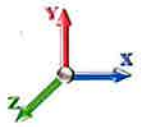
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 120 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	48.429	53.272	1.00	1.00	0.38	7.80	0.000	0.000	20.24	0.00	0.00
2	167.00	Low Profile Platform-flat	1	48.368	53.205	1.00	1.00	18.04	1345.20	0.000	0.000	959.81	0.00	0.00
3	157.00	NNVV-65B-R4	3	47.743	52.518	0.59	0.80	21.79	278.64	0.000	0.000	1144.44	0.00	0.00
4	157.00	PRK-1245 (kicker kit)	1	47.743	52.518	1.00	1.00	9.50	557.89	0.000	0.000	498.92	0.00	0.00
5	157.00	APXVTM14-C-I20	3	47.743	52.518	0.62	0.80	11.72	202.32	0.000	0.000	615.31	0.00	0.00
6	157.00	RMQP-363 (LPP)	1	47.743	52.518	1.00	1.00	30.60	1794.00	0.000	0.000	1607.04	0.00	0.00
7	157.00	ALU 800 Mhz	6	47.743	52.518	0.50	0.75	7.51	381.60	0.000	0.000	394.27	0.00	0.00
8	157.00	ALU TD-RRH8x20-25	3	47.743	52.518	0.50	0.75	6.11	252.00	0.000	0.000	320.64	0.00	0.00
9	157.00	HRK14	1	47.743	52.518	1.00	1.00	8.13	362.83	0.000	0.000	426.97	0.00	0.00
10	157.00	ALU 1900 Mhz	3	47.743	52.518	0.50	0.75	4.18	216.00	0.000	0.000	219.30	0.00	0.00
11	147.00	DC6-48-60-18-8F	1	47.086	51.795	1.00	1.00	1.47	38.16	0.000	0.000	76.14	0.00	0.00
12	147.00	Low Profile	1	47.086	51.795	1.00	1.00	22.00	1800.00	0.000	0.000	1139.49	0.00	0.00
13	147.00	RRUS 11	6	47.086	51.795	0.54	0.80	8.10	365.04	0.000	0.000	419.76	0.00	0.00
14	147.00	LGP21401	6	47.086	51.795	0.54	0.80	4.15	101.52	0.000	0.000	214.88	0.00	0.00
15	147.00	7770.00	6	47.086	51.795	0.60	0.80	19.80	252.00	0.000	0.000	1025.54	0.00	0.00
16	147.00	AM-X-CD-17-65-00T-RET	3	47.086	51.795	0.61	0.80	9.12	110.88	0.000	0.000	472.37	0.00	0.00
17	147.00	RRUS 12	3	47.086	51.795	0.54	0.80	4.34	216.00	0.000	0.000	224.87	0.00	0.00
18	147.00	Dual Band Combiner	3	47.086	51.795	0.40	0.80	0.61	17.28	0.000	0.000	31.70	0.00	0.00
19	147.00	LGP21903	6	47.086	51.795	0.40	0.80	0.65	39.60	0.000	0.000	33.56	0.00	0.00
20	147.00	1900W800	6	47.086	51.795	0.40	0.80	3.70	206.64	0.000	0.000	191.43	0.00	0.00
21	137.50	782 11056	3	46.429	51.072	0.50	0.75	0.20	6.48	0.000	0.000	10.01	0.00	0.00
22	137.00	APXVAARR24_43-U-NA2	3	46.393	51.032	0.52	0.75	31.88	460.80	0.000	0.000	1626.81	0.00	0.00
23	137.00	APXV18-206516S-C-A20	3	46.393	51.032	0.55	0.75	5.93	67.32	0.000	0.000	302.59	0.00	0.00
24	137.00	Low Profile Platform w/	1	46.393	51.032	1.00	1.00	22.00	2160.00	0.000	0.000	1122.71	0.00	0.00
25	137.00	FE15501P77/75	3	46.393	51.032	0.50	0.75	0.78	63.00	0.000	0.000	40.00	0.00	0.00
26	137.00	4449	3	46.393	51.032	0.50	0.75	2.49	252.00	0.000	0.000	126.94	0.00	0.00
27	137.00	KRY 112 489/2	3	46.393	51.032	0.50	0.75	1.03	47.52	0.000	0.000	52.31	0.00	0.00
28	125.00	BSAMNT-SBS-1-2	3	45.506	50.057	1.00	1.00	0.00	91.26	0.000	0.000	0.00	0.00	0.00
29	125.00	JAHH-65B-R3B	15	45.506	50.057	0.66	0.80	90.74	1139.40	0.000	0.000	4541.95	0.00	0.00
30	125.00	MT6407-77A	6	45.506	50.057	0.56	0.80	15.76	571.68	0.000	0.000	788.82	0.00	0.00
31	125.00	SitePro1 RMQP-4096-HK	1	45.506	50.057	1.00	1.00	51.70	3174.00	0.000	0.000	2587.95	0.00	0.00
32	125.00	Samsung B2/B66A RRH	8	45.506	50.057	0.38	0.75	5.61	810.24	0.000	0.000	280.82	0.00	0.00
33	125.00	CBC78T-DS-43-2X	3	45.506	50.057	0.38	0.75	0.42	37.44	0.000	0.000	20.84	0.00	0.00
34	125.00	Samsung B5/B13 RRH	8	45.506	50.057	0.38	0.75	5.61	674.88	0.000	0.000	280.82	0.00	0.00
35	125.00	RVZDC-6627-PF-48	8	45.506	50.057	0.50	0.75	16.32	307.20	0.000	0.000	816.99	0.00	0.00
							Totals:		**18,408.62**			**22,636.24**		

Total Applied Force Summary

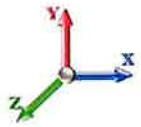
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 11	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 120 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		478.17	1850.03	0.00	0.00
10.00		469.41	1820.97	0.00	0.00
15.00		460.64	1791.92	0.00	0.00
20.00		479.46	1762.86	0.00	0.00
25.00		492.78	1733.80	0.00	0.00
30.00		501.93	1704.74	0.00	0.00
35.00		508.03	1675.68	0.00	0.00
40.00		511.75	1646.62	0.00	0.00
44.00		409.80	1296.38	0.00	0.00
45.00		103.72	591.96	0.00	0.00
50.00		523.44	2924.93	0.00	0.00
55.00		522.54	1584.25	0.00	0.00
60.00		520.49	1555.19	0.00	0.00
65.00		517.41	1526.13	0.00	0.00
70.00		513.45	1497.08	0.00	0.00
75.00		508.68	1468.02	0.00	0.00
80.00		503.18	1438.96	0.00	0.00
83.75		372.80	1060.15	0.00	0.00
85.00		125.00	553.92	0.00	0.00
89.00		398.54	1751.64	0.00	0.00
90.00		98.59	214.46	0.00	0.00
95.00		490.87	1059.86	0.00	0.00
100.00		483.15	1039.10	0.00	0.00
105.00		474.95	1018.34	0.00	0.00
110.00		466.32	997.59	0.00	0.00
115.00		457.26	976.83	0.00	0.00
119.50		403.29	861.40	0.00	0.00
120.00		44.83	149.17	0.00	0.00
123.75		334.08	1106.88	0.00	0.00
125.00	(52) attachments	9428.07	7007.73	0.00	0.00
130.00		434.57	722.29	0.00	0.00
135.00		424.14	705.69	0.00	0.00
137.00	(16) attachments	3437.65	3328.27	0.00	0.00
137.50	(3) attachments	51.26	66.00	0.00	0.00
140.00		204.95	295.13	0.00	0.00
145.00		402.35	577.80	0.00	0.00
147.00	(41) attachments	3987.19	3373.59	0.00	0.00
150.00		232.91	286.70	0.00	0.00
155.00		379.42	464.55	0.00	0.00
157.00	(21) attachments	5375.04	4226.45	0.00	0.00
160.00		218.81	257.27	0.00	0.00
165.00		355.45	415.50	0.00	0.00
167.00	(1) attachments	1098.28	1506.75	0.00	0.00
168.00	(1) attachments	88.69	85.08	0.00	0.00
	Totals:	**38,293.34**	**61,977.64**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

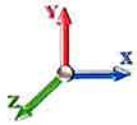
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 120 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	0.00
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	12.48
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	0.00
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	12.48
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	0.00
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	12.48
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.940	0.00	0.00
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.940	0.00	12.48
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.428	0.00	0.00
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.428	0.00	12.48
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.697	0.00	0.00
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.697	0.00	12.48
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.808	0.00	0.00
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.808	0.00	12.48
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.801	0.00	0.00
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.801	0.00	12.48
44.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	36.526	0.00	0.00
44.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	36.526	0.00	9.98
45.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	36.700	0.00	0.00
45.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	36.700	0.00	2.50
50.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	37.523	0.00	0.00
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	37.523	0.00	12.48
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.283	0.00	0.00
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.283	0.00	12.48
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.991	0.00	0.00
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.991	0.00	12.48
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	39.654	0.00	0.00
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	39.654	0.00	12.48
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.277	0.00	0.00
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.277	0.00	12.48
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.866	0.00	0.00
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.866	0.00	12.48
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	41.426	0.00	0.00
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	41.426	0.00	12.48
83.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	41.827	0.00	0.00
83.75	Step bolts (ladder)	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	41.827	0.00	9.36
85.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	41.958	0.00	0.00
85.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	41.958	0.00	3.12
89.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	42.366	0.00	0.00
89.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	42.366	0.00	9.98
90.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	42.466	0.00	0.00
90.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	42.466	0.00	2.50
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	42.952	0.00	0.00
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	42.952	0.00	12.48
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.418	0.00	0.00
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.418	0.00	12.48
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.866	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

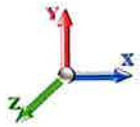
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 120 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.866	0.00	12.48
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.298	0.00	0.00
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.298	0.00	12.48
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.715	0.00	0.00
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.715	0.00	12.48
119.50	Safety Cable	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	45.077	0.00	0.00
119.50	Step bolts (ladder)	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	45.077	0.00	11.23
120.00	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	45.117	0.00	0.00
120.00	Step bolts (ladder)	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	45.117	0.00	1.25
123.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	45.410	0.00	0.00
123.75	Step bolts (ladder)	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	45.410	0.00	9.36
125.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	45.506	0.00	0.00
125.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	45.506	0.00	3.12
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.884	0.00	0.00
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.884	0.00	12.48
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.250	0.00	0.00
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.250	0.00	12.48
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.393	0.00	0.00
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.393	0.00	4.99
137.50	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	46.429	0.00	0.00
137.50	Step bolts (ladder)	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	46.429	0.00	1.25
140.00	Safety Cable	Yes	2.50	0.000	0.00	0.00	0.00	0.000	0.000	46.605	0.00	0.00
140.00	Step bolts (ladder)	Yes	2.50	0.000	0.00	0.00	0.00	0.000	0.000	46.605	0.00	6.24
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.951	0.00	0.00
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.951	0.00	12.48
147.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.086	0.00	0.00
147.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.086	0.00	4.99
150.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	47.287	0.00	0.00
150.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	47.287	0.00	7.49
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.615	0.00	0.00
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.615	0.00	12.48
157.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.743	0.00	0.00
157.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.743	0.00	4.99
160.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	47.934	0.00	0.00
160.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	47.934	0.00	7.49
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.245	0.00	0.00
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.245	0.00	12.48
167.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.368	0.00	0.00
167.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.368	0.00	4.99
										Totals:	**0.0**	**416.8**

Calculated Forces

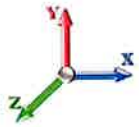
Structure: CT01364-S-SBA
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

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

4/3/2023

Tower Engineering Solutions

Load Case: 1.2D + 1.0W 120 mph Wind
Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 26

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-61.90	-38.41	0.00	-4691.2	0.00	4691.22	5340.38	1364.75	6341.26	6153.95	0.00	0.000	0.000	0.775
5.00	-59.91	-38.15	0.00	-4499.1	0.00	4499.17	5276.02	1339.77	6111.26	5967.64	0.11	-0.212	0.000	0.766
10.00	-57.95	-37.89	0.00	-4308.4	0.00	4308.42	5210.42	1314.79	5885.51	5782.69	0.45	-0.427	0.000	0.757
15.00	-56.02	-37.63	0.00	-4118.9	0.00	4118.96	5143.57	1289.82	5664.01	5599.17	1.02	-0.645	0.000	0.747
20.00	-54.12	-37.34	0.00	-3930.8	0.00	3930.83	5075.47	1264.84	5446.75	5417.17	1.81	-0.865	0.000	0.737
25.00	-52.25	-37.02	0.00	-3744.1	0.00	3744.16	5006.13	1239.86	5233.74	5236.76	2.83	-1.087	0.000	0.726
30.00	-50.41	-36.68	0.00	-3559.0	0.00	3559.08	4935.55	1214.88	5024.99	5058.02	4.09	-1.312	0.000	0.715
35.00	-48.61	-36.32	0.00	-3375.6	0.00	3375.69	4863.72	1189.90	4820.48	4881.04	5.59	-1.539	0.000	0.703
40.00	-46.85	-35.93	0.00	-3194.0	0.00	3194.08	4790.64	1164.92	4620.22	4705.88	7.32	-1.768	0.000	0.689
44.00	-45.49	-35.57	0.00	-3050.3	0.00	3050.35	4731.29	1144.94	4463.07	4567.13	8.88	-1.953	0.000	0.678
45.00	-44.82	-35.56	0.00	-3014.7	0.00	3014.78	4716.32	1139.94	4424.20	4532.64	9.30	-2.001	0.000	0.676
50.00	-41.77	-35.10	0.00	-2836.9	0.00	2836.99	4386.97	1048.88	4057.73	4202.47	11.52	-2.232	0.000	0.686
55.00	-40.07	-34.67	0.00	-2661.5	0.00	2661.50	4315.09	1025.82	3881.29	4041.90	13.98	-2.465	0.000	0.669
60.00	-38.41	-34.23	0.00	-2488.1	0.00	2488.16	4242.11	1002.77	3708.77	3883.37	16.68	-2.685	0.000	0.651
65.00	-36.78	-33.78	0.00	-2317.0	0.00	2317.03	4147.44	979.71	3540.18	3708.56	19.61	-2.905	0.000	0.635
70.00	-35.19	-33.32	0.00	-2148.1	0.00	2148.15	4049.83	956.65	3375.50	3535.21	22.77	-3.124	0.000	0.618
75.00	-33.63	-32.86	0.00	-1981.5	0.00	1981.55	3952.22	933.60	3214.75	3366.00	26.16	-3.342	0.000	0.598
80.00	-32.12	-32.37	0.00	-1817.2	0.00	1817.27	3854.61	910.54	3057.92	3200.95	29.77	-3.557	0.000	0.577
83.75	-31.02	-31.99	0.00	-1695.8	0.00	1695.88	3781.40	893.24	2942.87	3079.88	32.63	-3.719	0.000	0.560
85.00	-30.42	-31.89	0.00	-1655.8	0.00	1655.89	3757.00	887.48	2905.01	3040.04	33.61	-3.773	0.000	0.554
89.00	-28.64	-31.43	0.00	-1528.3	0.00	1528.33	2696.95	685.52	2239.96	2185.23	36.84	-3.941	0.000	0.712
90.00	-28.34	-31.39	0.00	-1496.9	0.00	1496.91	2687.67	681.95	2216.70	2166.29	37.67	-3.984	0.000	0.704
95.00	-27.18	-30.95	0.00	-1339.9	0.00	1339.95	2640.52	664.11	2102.22	2072.16	41.98	-4.251	0.000	0.659
100.00	-26.05	-30.51	0.00	-1185.2	0.00	1185.20	2592.12	646.27	1990.79	1979.09	46.57	-4.509	0.000	0.611
105.00	-24.95	-30.05	0.00	-1032.6	0.00	1032.67	2542.48	628.43	1882.38	1887.15	51.42	-4.755	0.000	0.559
110.00	-23.88	-29.60	0.00	-882.41	0.00	882.41	2491.60	610.59	1777.01	1796.42	56.53	-4.986	0.000	0.503
115.00	-22.85	-29.13	0.00	-734.43	0.00	734.43	2439.47	592.74	1674.68	1706.99	61.86	-5.199	0.000	0.442
119.50	-21.98	-28.69	0.00	-603.34	0.00	603.34	2391.49	576.69	1585.17	1627.67	66.84	-5.372	0.000	0.382
120.00	-21.80	-28.66	0.00	-588.99	0.00	588.99	2386.09	574.90	1575.38	1618.92	67.40	-5.391	0.000	0.375
123.75	-20.69	-28.25	0.00	-481.53	0.00	481.53	1658.06	421.89	1148.87	1119.99	71.68	-5.517	0.000	0.447
125.00	-14.59	-18.21	0.00	-446.23	0.00	446.23	1649.50	418.60	1131.00	1105.44	73.13	-5.556	0.000	0.414
130.00	-13.87	-17.75	0.00	-355.16	0.00	355.16	1614.57	405.42	1060.92	1047.71	79.03	-5.721	0.000	0.349
135.00	-13.18	-17.28	0.00	-266.42	0.00	266.42	1578.53	392.25	993.09	990.78	85.09	-5.862	0.000	0.279
137.00	-10.22	-13.52	0.00	-231.87	0.00	231.87	1563.80	386.98	966.58	968.24	87.56	-5.911	0.000	0.247
137.50	-10.15	-13.47	0.00	-225.11	0.00	225.11	1560.09	385.66	960.01	962.63	88.17	-5.923	0.000	0.242
140.00	-9.86	-13.25	0.00	-191.45	0.00	191.45	1541.39	379.07	927.49	934.70	91.29	-5.978	0.000	0.212
145.00	-9.31	-12.79	0.00	-125.22	0.00	125.22	1503.14	365.90	864.14	879.56	97.59	-6.066	0.000	0.150
147.00	-6.38	-8.48	0.00	-99.63	0.00	99.63	1487.53	360.63	839.42	857.78	100.13	-6.093	0.000	0.121
150.00	-6.11	-8.22	0.00	-74.20	0.00	74.20	1463.79	352.72	803.03	825.42	103.96	-6.127	0.000	0.095
155.00	-5.69	-7.79	0.00	-33.12	0.00	33.12	1423.34	339.54	744.15	772.36	110.39	-6.164	0.000	0.047
157.00	-2.06	-1.99	0.00	-17.53	0.00	17.53	1406.84	334.27	721.23	751.45	112.97	-6.171	0.000	0.025
160.00	-1.83	-1.75	0.00	-11.55	0.00	11.55	1381.63	326.37	687.52	720.36	116.84	-6.178	0.000	0.017
165.00	-1.45	-1.35	0.00	-2.80	0.00	2.80	1325.85	313.19	633.13	663.10	123.30	-6.185	0.000	0.005
167.00	-0.08	-0.10	0.00	-0.10	0.00	0.10	1303.54	307.92	612.00	640.86	125.89	-6.185	0.000	0.000
168.00	0.00	-0.09	0.00	0.00	0.00	0.00	1292.39	305.29	601.57	629.89	127.18	-6.185	0.000	0.000

Wind Loading - Shaft

Structure: CT01364-S-SBA
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

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

4/3/2023

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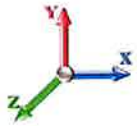
Tower Engineering Solutions

Load Case: 0.9D + 1.0W 120 mph Wind
Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	29.160	32.08	522.96	0.630	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	29.160	32.08	513.46	0.630	0.000	5.00	23.663	14.91	478.2	0.0	1179.9
10.00		1.00	0.85	29.160	32.08	503.96	0.630	0.000	5.00	23.229	14.63	469.4	0.0	1158.1
15.00		1.00	0.85	29.160	32.08	494.46	0.630	0.000	5.00	22.795	14.36	460.6	0.0	1136.3
20.00		1.00	0.90	30.940	34.03	499.55	0.630	0.000	5.00	22.362	14.09	479.5	0.0	1114.5
25.00		1.00	0.95	32.428	35.67	501.41	0.630	0.000	5.00	21.928	13.81	492.8	0.0	1092.7
30.00		1.00	0.98	33.697	37.07	500.91	0.630	0.000	5.00	21.494	13.54	501.9	0.0	1070.9
35.00		1.00	1.01	34.808	38.29	498.73	0.630	0.000	5.00	21.061	13.27	508.0	0.0	1049.1
40.00		1.00	1.04	35.801	39.38	495.27	0.630	0.000	5.00	20.627	12.99	511.8	0.0	1027.3
44.00	Bot - Section 2	1.00	1.06	36.526	40.18	491.76	0.630	0.000	4.00	16.189	10.20	409.8	0.0	806.1
45.00		1.00	1.07	36.700	40.37	490.79	0.630	0.000	1.00	4.078	2.57	103.7	0.0	402.4
50.00	Top - Section 1	1.00	1.09	37.523	41.28	485.49	0.630	0.000	5.00	20.130	12.68	523.4	0.0	1986.0
55.00		1.00	1.12	38.283	42.11	488.79	0.630	0.000	5.00	19.696	12.41	522.5	0.0	980.5
60.00		1.00	1.14	38.991	42.89	482.31	0.630	0.000	5.00	19.262	12.14	520.5	0.0	958.7
65.00		1.00	1.16	39.654	43.62	475.31	0.630	0.000	5.00	18.829	11.86	517.4	0.0	936.9
70.00		1.00	1.17	40.277	44.30	467.87	0.630	0.000	5.00	18.395	11.59	513.4	0.0	915.1
75.00		1.00	1.19	40.866	44.95	460.04	0.630	0.000	5.00	17.961	11.32	508.7	0.0	893.3
80.00		1.00	1.21	41.426	45.57	451.86	0.630	0.000	5.00	17.528	11.04	503.2	0.0	871.6
83.75	Bot - Section 3	1.00	1.22	41.827	46.01	445.51	0.630	0.000	3.75	12.861	8.10	372.8	0.0	639.4
85.00		1.00	1.22	41.958	46.15	443.36	0.630	0.000	1.25	4.299	2.71	125.0	0.0	363.5
89.00	Top - Section 2	1.00	1.23	42.366	46.60	436.35	0.630	0.000	4.00	13.575	8.55	398.5	0.0	1147.6
90.00		1.00	1.24	42.466	46.71	441.56	0.630	0.000	1.00	3.350	2.11	98.6	0.0	119.3
95.00		1.00	1.25	42.952	47.25	432.55	0.630	0.000	5.00	16.491	10.39	490.9	0.0	587.2
100.00		1.00	1.27	43.418	47.76	423.31	0.630	0.000	5.00	16.057	10.12	483.1	0.0	571.7
105.00		1.00	1.28	43.866	48.25	413.84	0.630	0.000	5.00	15.624	9.84	475.0	0.0	556.1
110.00		1.00	1.29	44.298	48.73	404.16	0.630	0.000	5.00	15.190	9.57	466.3	0.0	540.5
115.00		1.00	1.30	44.715	49.19	394.30	0.630	0.000	5.00	14.756	9.30	457.3	0.0	525.0
119.50	Bot - Section 4	1.00	1.31	45.077	49.59	385.27	0.630	0.000	4.50	12.910	8.13	403.3	0.0	459.2
120.00		1.00	1.32	45.117	49.63	384.26	0.630	0.000	0.50	1.434	0.90	44.8	0.0	91.1
123.75	Top - Section 3	1.00	1.32	45.410	49.95	376.61	0.630	0.000	3.75	10.616	6.69	334.1	0.0	674.4
125.00	Appurtenance(s)	1.00	1.33	45.506	50.06	379.83	0.630	0.000	1.25	3.485	2.20	109.9	0.0	99.3
130.00		1.00	1.34	45.884	50.47	369.49	0.630	0.000	5.00	13.667	8.61	434.6	0.0	389.4
135.00		1.00	1.35	46.250	50.87	359.00	0.630	0.000	5.00	13.233	8.34	424.1	0.0	377.0
137.00	Appurtenance(s)	1.00	1.35	46.393	51.03	354.77	0.630	0.000	2.00	5.172	3.26	166.3	0.0	147.3
137.50	Appurtenance(s)	1.00	1.35	46.429	51.07	353.70	0.630	0.000	0.50	1.282	0.81	41.3	0.0	36.5
140.00		1.00	1.36	46.605	51.27	348.37	0.630	0.000	2.50	6.346	4.00	204.9	0.0	180.7
145.00		1.00	1.37	46.951	51.65	337.61	0.630	0.000	5.00	12.366	7.79	402.4	0.0	352.1
147.00	Appurtenance(s)	1.00	1.37	47.086	51.79	333.27	0.630	0.000	2.00	4.825	3.04	157.4	0.0	137.3
150.00		1.00	1.38	47.287	52.02	326.72	0.630	0.000	3.00	7.107	4.48	232.9	0.0	202.3
155.00		1.00	1.39	47.615	52.38	315.72	0.630	0.000	5.00	11.499	7.24	379.4	0.0	327.2
157.00	Appurtenance(s)	1.00	1.39	47.743	52.52	311.28	0.630	0.000	2.00	4.478	2.82	148.2	0.0	127.4
160.00		1.00	1.40	47.934	52.73	304.60	0.630	0.000	3.00	6.587	4.15	218.8	0.0	187.3
165.00		1.00	1.41	48.245	53.07	293.37	0.630	0.000	5.00	10.631	6.70	355.4	0.0	302.3
167.00	Appurtenance(s)	1.00	1.41	48.368	53.20	288.85	0.630	0.000	2.00	4.131	2.60	138.5	0.0	117.4
168.00	Appurtenance(s)	1.00	1.41	48.429	53.27	286.58	0.630	0.000	1.00	2.040	1.28	68.4	0.0	58.0
								Totals:	**168.00**			**15,657.1**		**26,895.9**

Discrete Appurtenance Forces

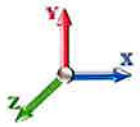
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 120 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	48.429	53.272	1.00	1.00	0.38	5.85	0.000	0.000	20.24	0.00	0.00
2	167.00	Low Profile Platform-flat	1	48.368	53.205	1.00	1.00	18.04	1008.90	0.000	0.000	959.81	0.00	0.00
3	157.00	NNVV-65B-R4	3	47.743	52.518	0.59	0.80	21.79	208.98	0.000	0.000	1144.44	0.00	0.00
4	157.00	PRK-1245 (kicker kit)	1	47.743	52.518	1.00	1.00	9.50	418.42	0.000	0.000	498.92	0.00	0.00
5	157.00	APXVTM14-C-I20	3	47.743	52.518	0.62	0.80	11.72	151.74	0.000	0.000	615.31	0.00	0.00
6	157.00	RMQP-363 (LPP)	1	47.743	52.518	1.00	1.00	30.60	1345.50	0.000	0.000	1607.04	0.00	0.00
7	157.00	ALU 800 Mhz	6	47.743	52.518	0.50	0.75	7.51	286.20	0.000	0.000	394.27	0.00	0.00
8	157.00	ALU TD-RRH8x20-25	3	47.743	52.518	0.50	0.75	6.11	189.00	0.000	0.000	320.64	0.00	0.00
9	157.00	HRK14	1	47.743	52.518	1.00	1.00	8.13	272.12	0.000	0.000	426.97	0.00	0.00
10	157.00	ALU 1900 Mhz	3	47.743	52.518	0.50	0.75	4.18	162.00	0.000	0.000	219.30	0.00	0.00
11	147.00	DC6-48-60-18-8F	1	47.086	51.795	1.00	1.00	1.47	28.62	0.000	0.000	76.14	0.00	0.00
12	147.00	Low Profile	1	47.086	51.795	1.00	1.00	22.00	1350.00	0.000	0.000	1139.49	0.00	0.00
13	147.00	RRUS 11	6	47.086	51.795	0.54	0.80	8.10	273.78	0.000	0.000	419.76	0.00	0.00
14	147.00	LGP21401	6	47.086	51.795	0.54	0.80	4.15	76.14	0.000	0.000	214.88	0.00	0.00
15	147.00	7770.00	6	47.086	51.795	0.60	0.80	19.80	189.00	0.000	0.000	1025.54	0.00	0.00
16	147.00	AM-X-CD-17-65-00T-RET	3	47.086	51.795	0.61	0.80	9.12	83.16	0.000	0.000	472.37	0.00	0.00
17	147.00	RRUS 12	3	47.086	51.795	0.54	0.80	4.34	162.00	0.000	0.000	224.87	0.00	0.00
18	147.00	Dual Band Combiner	3	47.086	51.795	0.40	0.80	0.61	12.96	0.000	0.000	31.70	0.00	0.00
19	147.00	LGP21903	6	47.086	51.795	0.40	0.80	0.65	29.70	0.000	0.000	33.56	0.00	0.00
20	147.00	1900W800	6	47.086	51.795	0.40	0.80	3.70	154.98	0.000	0.000	191.43	0.00	0.00
21	137.50	782 11056	3	46.429	51.072	0.50	0.75	0.20	4.86	0.000	0.000	10.01	0.00	0.00
22	137.00	APXVAARR24_43-U-NA2	3	46.393	51.032	0.52	0.75	31.88	345.60	0.000	0.000	1626.81	0.00	0.00
23	137.00	APXV18-206516S-C-A20	3	46.393	51.032	0.55	0.75	5.93	50.49	0.000	0.000	302.59	0.00	0.00
24	137.00	Low Profile Platform w/	1	46.393	51.032	1.00	1.00	22.00	1620.00	0.000	0.000	1122.71	0.00	0.00
25	137.00	FE15501P77/75	3	46.393	51.032	0.50	0.75	0.78	47.25	0.000	0.000	40.00	0.00	0.00
26	137.00	4449	3	46.393	51.032	0.50	0.75	2.49	189.00	0.000	0.000	126.94	0.00	0.00
27	137.00	KRY 112 489/2	3	46.393	51.032	0.50	0.75	1.03	35.64	0.000	0.000	52.31	0.00	0.00
28	125.00	BSAMNT-SBS-1-2	3	45.506	50.057	1.00	1.00	0.00	68.45	0.000	0.000	0.00	0.00	0.00
29	125.00	JAHH-65B-R3B	15	45.506	50.057	0.66	0.80	90.74	854.55	0.000	0.000	4541.95	0.00	0.00
30	125.00	MT6407-77A	6	45.506	50.057	0.56	0.80	15.76	428.76	0.000	0.000	788.82	0.00	0.00
31	125.00	SitePro1 RMQP-4096-HK	1	45.506	50.057	1.00	1.00	51.70	2380.50	0.000	0.000	2587.95	0.00	0.00
32	125.00	Samsung B2/B66A RRH	8	45.506	50.057	0.38	0.75	5.61	607.68	0.000	0.000	280.82	0.00	0.00
33	125.00	CBC78T-DS-43-2X	3	45.506	50.057	0.38	0.75	0.42	28.08	0.000	0.000	20.84	0.00	0.00
34	125.00	Samsung B5/B13 RRH	8	45.506	50.057	0.38	0.75	5.61	506.16	0.000	0.000	280.82	0.00	0.00
35	125.00	RVZDC-6627-PF-48	8	45.506	50.057	0.50	0.75	16.32	230.40	0.000	0.000	816.99	0.00	0.00
							Totals:		**13,806.47**			**22,636.24**		

Total Applied Force Summary

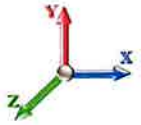
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 120 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		478.17	1387.53	0.00	0.00
10.00		469.41	1365.73	0.00	0.00
15.00		460.64	1343.94	0.00	0.00
20.00		479.46	1322.14	0.00	0.00
25.00		492.78	1300.35	0.00	0.00
30.00		501.93	1278.55	0.00	0.00
35.00		508.03	1256.76	0.00	0.00
40.00		511.75	1234.97	0.00	0.00
44.00		409.80	972.28	0.00	0.00
45.00		103.72	443.97	0.00	0.00
50.00		523.44	2193.69	0.00	0.00
55.00		522.54	1188.19	0.00	0.00
60.00		520.49	1166.39	0.00	0.00
65.00		517.41	1144.60	0.00	0.00
70.00		513.45	1122.81	0.00	0.00
75.00		508.68	1101.01	0.00	0.00
80.00		503.18	1079.22	0.00	0.00
83.75		372.80	795.11	0.00	0.00
85.00		125.00	415.44	0.00	0.00
89.00		398.54	1313.73	0.00	0.00
90.00		98.59	160.85	0.00	0.00
95.00		490.87	794.89	0.00	0.00
100.00		483.15	779.32	0.00	0.00
105.00		474.95	763.76	0.00	0.00
110.00		466.32	748.19	0.00	0.00
115.00		457.26	732.62	0.00	0.00
119.50		403.29	646.05	0.00	0.00
120.00		44.83	111.88	0.00	0.00
123.75		334.08	830.16	0.00	0.00
125.00	(52) attachments	9428.07	5255.80	0.00	0.00
130.00		434.57	541.72	0.00	0.00
135.00		424.14	529.27	0.00	0.00
137.00	(16) attachments	3437.65	2496.20	0.00	0.00
137.50	(3) attachments	51.26	49.50	0.00	0.00
140.00		204.95	221.34	0.00	0.00
145.00		402.35	433.35	0.00	0.00
147.00	(41) attachments	3987.19	2530.19	0.00	0.00
150.00		232.91	215.02	0.00	0.00
155.00		379.42	348.41	0.00	0.00
157.00	(21) attachments	5375.04	3169.84	0.00	0.00
160.00		218.81	192.95	0.00	0.00
165.00		355.45	311.62	0.00	0.00
167.00	(1) attachments	1098.28	1130.06	0.00	0.00
168.00	(1) attachments	88.69	63.81	0.00	0.00
	Totals:	**38,293.34**	**46,483.23**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

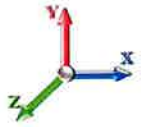
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 120 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	0.00
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	9.36
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	0.00
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	9.36
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	0.00
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.160	0.00	9.36
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.940	0.00	0.00
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.940	0.00	9.36
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.428	0.00	0.00
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.428	0.00	9.36
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.697	0.00	0.00
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.697	0.00	9.36
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.808	0.00	0.00
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	34.808	0.00	9.36
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.801	0.00	0.00
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	35.801	0.00	9.36
44.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	36.526	0.00	0.00
44.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	36.526	0.00	7.49
45.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	36.700	0.00	0.00
45.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	36.700	0.00	1.87
50.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	37.523	0.00	0.00
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	37.523	0.00	9.36
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.283	0.00	0.00
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.283	0.00	9.36
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.991	0.00	0.00
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	38.991	0.00	9.36
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	39.654	0.00	0.00
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	39.654	0.00	9.36
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.277	0.00	0.00
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.277	0.00	9.36
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.866	0.00	0.00
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	40.866	0.00	9.36
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	41.426	0.00	0.00
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	41.426	0.00	9.36
83.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	41.827	0.00	0.00
83.75	Step bolts (ladder)	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	41.827	0.00	7.02
85.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	41.958	0.00	0.00
85.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	41.958	0.00	2.34
89.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	42.366	0.00	0.00
89.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	42.366	0.00	7.49
90.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	42.466	0.00	0.00
90.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	42.466	0.00	1.87
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	42.952	0.00	0.00
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	42.952	0.00	9.36
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.418	0.00	0.00
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.418	0.00	9.36
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.866	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

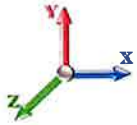
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 120 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.00



Iterations 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	43.866	0.00	9.36
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.298	0.00	0.00
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.298	0.00	9.36
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.715	0.00	0.00
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	44.715	0.00	9.36
119.50	Safety Cable	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	45.077	0.00	0.00
119.50	Step bolts (ladder)	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	45.077	0.00	8.42
120.00	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	45.117	0.00	0.00
120.00	Step bolts (ladder)	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	45.117	0.00	0.94
123.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	45.410	0.00	0.00
123.75	Step bolts (ladder)	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	45.410	0.00	7.02
125.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	45.506	0.00	0.00
125.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	45.506	0.00	2.34
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.884	0.00	0.00
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	45.884	0.00	9.36
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.250	0.00	0.00
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.250	0.00	9.36
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.393	0.00	0.00
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	46.393	0.00	3.74
137.50	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	46.429	0.00	0.00
137.50	Step bolts (ladder)	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	46.429	0.00	0.94
140.00	Safety Cable	Yes	2.50	0.000	0.00	0.00	0.00	0.000	0.000	46.605	0.00	0.00
140.00	Step bolts (ladder)	Yes	2.50	0.000	0.00	0.00	0.00	0.000	0.000	46.605	0.00	4.68
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.951	0.00	0.00
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	46.951	0.00	9.36
147.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.086	0.00	0.00
147.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.086	0.00	3.74
150.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	47.287	0.00	0.00
150.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	47.287	0.00	5.62
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.615	0.00	0.00
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	47.615	0.00	9.36
157.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.743	0.00	0.00
157.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	47.743	0.00	3.74
160.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	47.934	0.00	0.00
160.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	47.934	0.00	5.62
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.245	0.00	0.00
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	48.245	0.00	9.36
167.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.368	0.00	0.00
167.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	48.368	0.00	3.74
										Totals:	**0.0**	**312.6**

Calculated Forces

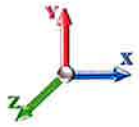
Structure: CT01364-S-SBA
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

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

4/3/2023

Tower Engineering Solutions

Load Case: 0.9D + 1.0W 120 mph Wind
Dead Load Factor 0.90
Wind Load Factor 1.00



Iterations 26

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-46.41	-38.38	0.00	-4625.5	0.00	4625.58	5340.38	1364.75	6341.26	6153.95	0.00	0.000	0.000	0.761
5.00	-44.89	-38.06	0.00	-4433.6	0.00	4433.68	5276.02	1339.77	6111.26	5967.64	0.11	-0.209	0.000	0.752
10.00	-43.38	-37.75	0.00	-4243.3	0.00	4243.37	5210.42	1314.79	5885.51	5782.69	0.44	-0.421	0.000	0.743
15.00	-41.90	-37.43	0.00	-4054.6	0.00	4054.63	5143.57	1289.82	5664.01	5599.17	1.00	-0.635	0.000	0.733
20.00	-40.45	-37.09	0.00	-3867.4	0.00	3867.46	5075.47	1264.84	5446.75	5417.17	1.78	-0.852	0.000	0.723
25.00	-39.01	-36.73	0.00	-3682.0	0.00	3682.01	5006.13	1239.86	5233.74	5236.76	2.79	-1.071	0.000	0.712
30.00	-37.60	-36.34	0.00	-3498.3	0.00	3498.38	4935.55	1214.88	5024.99	5058.02	4.03	-1.292	0.000	0.700
35.00	-36.22	-35.95	0.00	-3316.6	0.00	3316.67	4863.72	1189.90	4820.48	4881.04	5.50	-1.515	0.000	0.688
40.00	-34.87	-35.52	0.00	-3136.9	0.00	3136.93	4790.64	1164.92	4620.22	4705.88	7.21	-1.739	0.000	0.675
44.00	-33.85	-35.15	0.00	-2994.8	0.00	2994.84	4731.29	1144.94	4463.07	4567.13	8.75	-1.921	0.000	0.664
45.00	-33.32	-35.11	0.00	-2959.6	0.00	2959.69	4716.32	1139.94	4424.20	4532.64	9.15	-1.968	0.000	0.661
50.00	-31.01	-34.63	0.00	-2784.1	0.00	2784.13	4386.97	1048.88	4057.73	4202.47	11.34	-2.195	0.000	0.671
55.00	-29.71	-34.18	0.00	-2610.9	0.00	2610.96	4315.09	1025.82	3881.29	4041.90	13.76	-2.424	0.000	0.654
60.00	-28.44	-33.71	0.00	-2440.0	0.00	2440.07	4242.11	1002.77	3708.77	3883.37	16.41	-2.640	0.000	0.636
65.00	-27.20	-33.25	0.00	-2271.5	0.00	2271.50	4147.44	979.71	3540.18	3708.56	19.29	-2.855	0.000	0.620
70.00	-25.98	-32.77	0.00	-2105.2	0.00	2105.28	4049.83	956.65	3375.50	3535.21	22.40	-3.070	0.000	0.603
75.00	-24.79	-32.29	0.00	-1941.4	0.00	1941.42	3952.22	933.60	3214.75	3366.00	25.73	-3.284	0.000	0.584
80.00	-23.64	-31.80	0.00	-1779.9	0.00	1779.95	3854.61	910.54	3057.92	3200.95	29.28	-3.495	0.000	0.563
83.75	-22.82	-31.42	0.00	-1660.6	0.00	1660.68	3781.40	893.24	2942.87	3079.88	32.08	-3.652	0.000	0.546
85.00	-22.35	-31.32	0.00	-1621.4	0.00	1621.40	3757.00	887.48	2905.01	3040.04	33.05	-3.705	0.000	0.541
89.00	-21.01	-30.87	0.00	-1496.1	0.00	1496.14	2696.95	685.52	2239.96	2185.23	36.22	-3.870	0.000	0.694
90.00	-20.77	-30.82	0.00	-1465.2	0.00	1465.27	2687.67	681.95	2216.70	2166.29	37.04	-3.912	0.000	0.686
95.00	-19.88	-30.36	0.00	-1311.1	0.00	1311.19	2640.52	664.11	2102.22	2072.16	41.27	-4.174	0.000	0.642
100.00	-19.01	-29.90	0.00	-1159.3	0.00	1159.39	2592.12	646.27	1990.79	1979.09	45.78	-4.426	0.000	0.595
105.00	-18.16	-29.44	0.00	-1009.8	0.00	1009.88	2542.48	628.43	1882.38	1887.15	50.54	-4.667	0.000	0.544
110.00	-17.35	-28.98	0.00	-862.67	0.00	862.67	2491.60	610.59	1777.01	1796.42	55.54	-4.893	0.000	0.489
115.00	-16.57	-28.52	0.00	-717.77	0.00	717.77	2439.47	592.74	1674.68	1706.99	60.78	-5.101	0.000	0.430
119.50	-15.91	-28.08	0.00	-589.45	0.00	589.45	2391.49	576.69	1585.17	1627.67	65.66	-5.270	0.000	0.371
120.00	-15.77	-28.05	0.00	-575.41	0.00	575.41	2386.09	574.90	1575.38	1618.92	66.21	-5.288	0.000	0.364
123.75	-14.94	-27.66	0.00	-470.24	0.00	470.24	1658.06	421.89	1148.87	1119.99	70.41	-5.411	0.000	0.433
125.00	-10.57	-17.79	0.00	-435.66	0.00	435.66	1649.50	418.60	1131.00	1105.44	71.84	-5.450	0.000	0.402
130.00	-10.02	-17.33	0.00	-346.70	0.00	346.70	1614.57	405.42	1060.92	1047.71	77.62	-5.610	0.000	0.339
135.00	-9.51	-16.87	0.00	-260.03	0.00	260.03	1578.53	392.25	993.09	990.78	83.57	-5.748	0.000	0.270
137.00	-7.37	-13.21	0.00	-226.29	0.00	226.29	1563.80	386.98	966.58	968.24	85.98	-5.796	0.000	0.240
137.50	-7.32	-13.16	0.00	-219.68	0.00	219.68	1560.09	385.66	960.01	962.63	86.59	-5.808	0.000	0.234
140.00	-7.10	-12.94	0.00	-186.79	0.00	186.79	1541.39	379.07	927.49	934.70	89.64	-5.861	0.000	0.206
145.00	-6.70	-12.50	0.00	-122.11	0.00	122.11	1503.14	365.90	864.14	879.56	95.82	-5.947	0.000	0.144
147.00	-4.59	-8.27	0.00	-97.11	0.00	97.11	1487.53	360.63	839.42	857.78	98.31	-5.974	0.000	0.117
150.00	-4.40	-8.02	0.00	-72.29	0.00	72.29	1463.79	352.72	803.03	825.42	102.07	-6.006	0.000	0.091
155.00	-4.09	-7.61	0.00	-32.18	0.00	32.18	1423.34	339.54	744.15	772.36	108.37	-6.042	0.000	0.045
157.00	-1.50	-1.93	0.00	-16.96	0.00	16.96	1406.84	334.27	721.23	751.45	110.90	-6.050	0.000	0.024
160.00	-1.33	-1.69	0.00	-11.17	0.00	11.17	1381.63	326.37	687.52	720.36	114.69	-6.057	0.000	0.016
165.00	-1.06	-1.31	0.00	-2.71	0.00	2.71	1325.85	313.19	633.13	663.10	121.03	-6.063	0.000	0.005
167.00	-0.05	-0.09	0.00	-0.09	0.00	0.09	1303.54	307.92	612.00	640.86	123.56	-6.063	0.000	0.000
168.00	0.00	-0.09	0.00	0.00	0.00	0.00	1292.39	305.29	601.57	629.89	124.83	-6.063	0.000	0.000

Wind Loading - Shaft

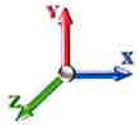
Structure: CT01364-S-SBA
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

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

4/3/2023
Page: 21

Tower Engineering Solutions

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



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.062	5.57	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.062	5.57	0.00	1.200	0.828	5.00	24.353	29.22	162.7	291.8	1864.9
10.00		1.00	0.85	5.062	5.57	0.00	1.200	0.887	5.00	23.968	28.76	160.2	307.3	1851.4
15.00		1.00	0.85	5.062	5.57	0.00	1.200	0.924	5.00	23.565	28.28	157.5	314.3	1829.4
20.00		1.00	0.90	5.372	5.91	0.00	1.200	0.951	5.00	23.154	27.79	164.2	317.6	1803.5
25.00		1.00	0.95	5.630	6.19	0.00	1.200	0.973	5.00	22.738	27.29	169.0	318.6	1775.5
30.00		1.00	0.98	5.850	6.44	0.00	1.200	0.991	5.00	22.320	26.78	172.4	318.2	1746.1
35.00		1.00	1.01	6.043	6.65	0.00	1.200	1.006	5.00	21.899	26.28	174.7	316.8	1715.6
40.00		1.00	1.04	6.215	6.84	0.00	1.200	1.019	5.00	21.476	25.77	176.2	314.6	1684.3
44.00	Bot - Section 2	1.00	1.06	6.341	6.98	0.00	1.200	1.029	4.00	16.875	20.25	141.3	249.9	1324.8
45.00		1.00	1.07	6.371	7.01	0.00	1.200	1.032	1.00	4.250	5.10	35.7	63.5	600.1
50.00	Top - Section 1	1.00	1.09	6.514	7.17	0.00	1.200	1.042	5.00	20.998	25.20	180.6	314.2	2962.2
55.00		1.00	1.12	6.646	7.31	0.00	1.200	1.052	5.00	20.573	24.69	180.5	310.5	1617.8
60.00		1.00	1.14	6.769	7.45	0.00	1.200	1.062	5.00	20.147	24.18	180.0	306.4	1584.7
65.00		1.00	1.16	6.884	7.57	0.00	1.200	1.070	5.00	19.721	23.66	179.2	302.1	1551.3
70.00		1.00	1.17	6.993	7.69	0.00	1.200	1.078	5.00	19.294	23.15	178.1	297.4	1517.6
75.00		1.00	1.19	7.095	7.80	0.00	1.200	1.086	5.00	18.866	22.64	176.7	292.6	1483.7
80.00		1.00	1.21	7.192	7.91	0.00	1.200	1.093	5.00	18.438	22.13	175.0	287.5	1449.6
83.75	Bot - Section 3	1.00	1.22	7.262	7.99	0.00	1.200	1.098	3.75	13.547	16.26	129.9	212.7	1065.2
85.00		1.00	1.22	7.284	8.01	0.00	1.200	1.099	1.25	4.528	5.43	43.5	71.6	556.3
89.00	Top - Section 2	1.00	1.23	7.355	8.09	0.00	1.200	1.104	4.00	14.311	17.17	138.9	225.8	1755.9
90.00		1.00	1.24	7.372	8.11	0.00	1.200	1.106	1.00	3.535	4.24	34.4	56.2	215.3
95.00		1.00	1.25	7.457	8.20	0.00	1.200	1.112	5.00	17.417	20.90	171.4	275.6	1058.5
100.00		1.00	1.27	7.538	8.29	0.00	1.200	1.117	5.00	16.989	20.39	169.0	269.8	1032.0
105.00		1.00	1.28	7.616	8.38	0.00	1.200	1.123	5.00	16.559	19.87	166.5	264.0	1005.4
110.00		1.00	1.29	7.691	8.46	0.00	1.200	1.128	5.00	16.130	19.36	163.7	258.0	978.7
115.00		1.00	1.30	7.763	8.54	0.00	1.200	1.133	5.00	15.701	18.84	160.9	251.9	951.9
119.50	Bot - Section 4	1.00	1.31	7.826	8.61	0.00	1.200	1.137	4.50	13.763	16.52	142.2	221.7	833.9
120.00		1.00	1.32	7.833	8.62	0.00	1.200	1.138	0.50	1.529	1.83	15.8	24.9	146.4
123.75	Top - Section 3	1.00	1.32	7.884	8.67	0.00	1.200	1.141	3.75	11.329	13.60	117.9	183.4	1082.6
125.00	Appurtenance(s)	1.00	1.33	7.900	8.69	0.00	1.200	1.142	1.25	3.723	4.47	38.8	60.7	193.2
130.00		1.00	1.34	7.966	8.76	0.00	1.200	1.147	5.00	14.623	17.55	153.8	236.6	755.9
135.00		1.00	1.35	8.029	8.83	0.00	1.200	1.151	5.00	14.193	17.03	150.4	230.1	732.8
137.00	Appurtenance(s)	1.00	1.35	8.054	8.86	0.00	1.200	1.153	2.00	5.556	6.67	59.1	91.0	287.4
137.50	Appurtenance(s)	1.00	1.35	8.061	8.87	0.00	1.200	1.153	0.50	1.378	1.65	14.7	22.7	71.4
140.00		1.00	1.36	8.091	8.90	0.00	1.200	1.155	2.50	6.827	8.19	72.9	111.8	352.7
145.00		1.00	1.37	8.151	8.97	0.00	1.200	1.160	5.00	13.332	16.00	143.4	217.0	686.4
147.00	Appurtenance(s)	1.00	1.37	8.175	8.99	0.00	1.200	1.161	2.00	5.212	6.25	56.2	85.7	268.8
150.00		1.00	1.38	8.210	9.03	0.00	1.200	1.163	3.00	7.689	9.23	83.3	126.1	395.9
155.00		1.00	1.39	8.266	9.09	0.00	1.200	1.167	5.00	12.471	14.97	136.1	203.5	639.7
157.00	Appurtenance(s)	1.00	1.39	8.289	9.12	0.00	1.200	1.169	2.00	4.868	5.84	53.3	80.3	250.1
160.00		1.00	1.40	8.322	9.15	0.00	1.200	1.171	3.00	7.172	8.61	78.8	118.0	367.8
165.00		1.00	1.41	8.376	9.21	0.00	1.200	1.175	5.00	11.610	13.93	128.4	189.7	592.7
167.00	Appurtenance(s)	1.00	1.41	8.397	9.24	0.00	1.200	1.176	2.00	4.523	5.43	50.1	74.8	231.3
168.00	Appurtenance(s)	1.00	1.41	8.408	9.25	0.00	1.200	1.177	1.00	2.236	2.68	24.8	37.1	114.4
								Totals:	**168.00**			**5,462.2**		**44,985.2**

Discrete Appurtenance Forces

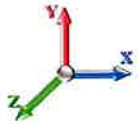
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	8.408	9.249	1.00	1.00	1.11	26.98	0.000	0.000	10.30	0.00	0.00
2	167.00	Low Profile Platform-flat	1	8.397	9.237	1.00	1.00	28.22	1625.37	0.000	0.000	260.70	0.00	0.00
3	157.00	NNVV-65B-R4	3	8.289	9.118	0.59	0.80	23.52	654.97	0.000	0.000	214.48	0.00	0.00
4	157.00	PRK-1245 (kicker kit)	1	8.289	9.118	1.00	1.00	16.16	680.16	0.000	0.000	147.36	0.00	0.00
5	157.00	APXVTM14-C-I20	3	8.289	9.118	0.62	0.80	13.06	503.38	0.000	0.000	119.12	0.00	0.00
6	157.00	RMQP-363 (LPP)	1	8.289	9.118	1.00	1.00	43.48	2288.62	0.000	0.000	396.39	0.00	0.00
7	157.00	ALU 800 Mhz	6	8.289	9.118	0.50	0.75	9.82	552.19	0.000	0.000	89.51	0.00	0.00
8	157.00	ALU TD-RRH8x20-25	3	8.289	9.118	0.50	0.75	6.90	458.94	0.000	0.000	62.95	0.00	0.00
9	157.00	HRK14	1	8.289	9.118	1.00	1.00	13.45	905.50	0.000	0.000	122.64	0.00	0.00
10	157.00	ALU 1900 Mhz	3	8.289	9.118	0.50	0.75	5.46	311.93	0.000	0.000	49.75	0.00	0.00
11	147.00	DC6-48-60-18-8F	1	8.175	8.992	1.00	1.00	1.94	61.59	0.000	0.000	17.41	0.00	0.00
12	147.00	Low Profile	1	8.175	8.992	0.50	1.00	16.88	2370.85	0.000	0.000	151.75	0.00	0.00
13	147.00	RRUS 11	6	8.175	8.992	0.54	0.80	9.46	694.82	0.000	0.000	85.04	0.00	0.00
14	147.00	LGP21401	6	8.175	8.992	0.54	0.80	5.94	158.72	0.000	0.000	53.38	0.00	0.00
15	147.00	7770.00	6	8.175	8.992	0.60	0.80	22.30	751.09	0.000	0.000	200.50	0.00	0.00
16	147.00	AM-X-CD-17-65-00T-RET	3	8.175	8.992	0.62	0.80	11.54	237.83	0.000	0.000	103.81	0.00	0.00
17	147.00	RRUS 12	3	8.175	8.992	0.54	0.80	5.05	302.66	0.000	0.000	45.39	0.00	0.00
18	147.00	Dual Band Combiner	3	8.175	8.992	0.54	0.80	1.39	27.88	0.000	0.000	12.47	0.00	0.00
19	147.00	LGP21903	6	8.175	8.992	0.40	0.80	1.28	58.84	0.000	0.000	11.54	0.00	0.00
20	147.00	1900W800	6	8.175	8.992	0.40	0.80	5.12	294.96	0.000	0.000	46.05	0.00	0.00
21	137.50	782 11056	3	8.061	8.867	0.50	0.75	0.49	4.80	0.000	0.000	4.32	0.00	0.00
22	137.00	APXVAARR24_43-U-NA2	3	8.054	8.860	0.52	0.75	33.83	1253.67	0.000	0.000	299.73	0.00	0.00
23	137.00	APXV18-206516S-C-A20	3	8.054	8.860	0.55	0.75	7.94	146.21	0.000	0.000	70.39	0.00	0.00
24	137.00	Low Profile Platform w/	1	8.054	8.860	1.00	1.00	33.67	2797.68	0.000	0.000	298.29	0.00	0.00
25	137.00	FE15501P77/75	3	8.054	8.860	0.50	0.75	1.36	110.94	0.000	0.000	12.09	0.00	0.00
26	137.00	4449	3	8.054	8.860	0.50	0.75	3.00	375.76	0.000	0.000	26.60	0.00	0.00
27	137.00	KRY 112 489/2	3	8.054	8.860	0.50	0.75	1.67	68.03	0.000	0.000	14.80	0.00	0.00
28	125.00	BSAMNT-SBS-1-2	3	7.900	8.690	1.00	1.00	0.00	122.56	0.000	0.000	0.00	0.00	0.00
29	125.00	JAHH-65B-R3B	15	7.900	8.690	0.66	0.80	99.34	3268.83	0.000	0.000	863.30	0.00	0.00
30	125.00	MT6407-77A	6	7.900	8.690	0.56	0.80	17.82	1007.74	0.000	0.000	154.86	0.00	0.00
31	125.00	SitePro1 RMQP-4096-HK	1	7.900	8.690	1.00	1.00	76.74	4232.08	0.000	0.000	666.94	0.00	0.00
32	125.00	Samsung B2/B66A RRH	8	7.900	8.690	0.38	0.75	6.70	1178.48	0.000	0.000	58.23	0.00	0.00
33	125.00	CBC78T-DS-43-2X	3	7.900	8.690	0.38	0.75	0.61	71.78	0.000	0.000	5.29	0.00	0.00
34	125.00	Samsung B5/B13 RRH	8	7.900	8.690	0.38	0.75	6.70	1006.78	0.000	0.000	58.23	0.00	0.00
35	125.00	RVZDC-6627-PF-48	8	7.900	8.690	0.50	0.75	18.48	702.24	0.000	0.000	160.64	0.00	0.00
							Totals:		**29,314.85**			**4,894.23**		

Total Applied Force Summary

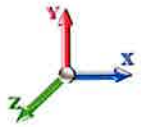
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		162.74	2154.54	0.00	0.00
10.00		160.17	2142.58	0.00	0.00
15.00		157.48	2121.51	0.00	0.00
20.00		164.17	2096.42	0.00	0.00
25.00		168.98	2069.02	0.00	0.00
30.00		172.36	2040.08	0.00	0.00
35.00		174.69	2010.05	0.00	0.00
40.00		176.20	1979.19	0.00	0.00
44.00		141.26	1560.89	0.00	0.00
45.00		35.74	659.11	0.00	0.00
50.00		180.57	3257.76	0.00	0.00
55.00		180.49	1913.70	0.00	0.00
60.00		180.02	1880.88	0.00	0.00
65.00		179.21	1847.73	0.00	0.00
70.00		178.08	1814.29	0.00	0.00
75.00		176.68	1780.60	0.00	0.00
80.00		175.04	1746.69	0.00	0.00
83.75		129.85	1288.11	0.00	0.00
85.00		43.54	630.67	0.00	0.00
89.00		138.94	1993.89	0.00	0.00
90.00		34.40	274.81	0.00	0.00
95.00		171.44	1356.24	0.00	0.00
100.00		169.04	1329.94	0.00	0.00
105.00		166.47	1303.51	0.00	0.00
110.00		163.75	1276.94	0.00	0.00
115.00		160.89	1250.26	0.00	0.00
119.50		142.18	1102.60	0.00	0.00
120.00		15.81	176.27	0.00	0.00
123.75		117.90	1306.65	0.00	0.00
125.00	(52) attachments	2006.30	11858.32	0.00	0.00
130.00		153.76	980.87	0.00	0.00
135.00		150.43	957.94	0.00	0.00
137.00	(16) attachments	780.98	5129.80	0.00	0.00
137.50	(3) attachments	18.98	89.22	0.00	0.00
140.00		72.92	418.05	0.00	0.00
145.00		143.45	817.14	0.00	0.00
147.00	(41) attachments	783.57	5280.39	0.00	0.00
150.00		83.32	426.36	0.00	0.00
155.00		136.08	690.66	0.00	0.00
157.00	(21) attachments	1255.46	6626.24	0.00	0.00
160.00		78.79	388.90	0.00	0.00
165.00		128.36	628.09	0.00	0.00
167.00	(1) attachments	310.83	1870.86	0.00	0.00
168.00	(1) attachments	35.11	141.36	0.00	0.00
	Totals:	**10,356.41**	**82,669.12**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

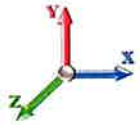
Structure: CT01364-S-SBA
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

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

4/3/2023

Tower Engineering Solutions

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



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.062	0.00	4.19
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.062	0.00	21.02
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.062	0.00	4.81
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.062	0.00	21.93
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.062	0.00	5.22
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.062	0.00	22.52
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.372	0.00	5.53
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.372	0.00	22.96
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.630	0.00	5.78
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.630	0.00	23.31
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.850	0.00	5.99
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.850	0.00	23.61
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.043	0.00	6.18
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.043	0.00	23.88
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.215	0.00	6.35
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.215	0.00	24.11
44.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	6.341	0.00	5.18
44.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	6.341	0.00	19.42
45.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.371	0.00	1.30
45.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	6.371	0.00	4.86
50.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.514	0.00	6.64
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.514	0.00	24.51
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.646	0.00	6.77
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.646	0.00	24.69
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.769	0.00	6.88
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.769	0.00	24.85
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.884	0.00	7.00
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.884	0.00	25.00
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.993	0.00	7.10
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.993	0.00	25.15
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.095	0.00	7.20
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.095	0.00	25.28
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.192	0.00	7.29
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.192	0.00	25.41
83.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	7.262	0.00	5.52
83.75	Step bolts (ladder)	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	7.262	0.00	19.13
85.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	7.284	0.00	1.85
85.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	7.284	0.00	6.38
89.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.355	0.00	5.96
89.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	7.355	0.00	20.50
90.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.372	0.00	1.49
90.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	7.372	0.00	5.13
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.457	0.00	7.55
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.457	0.00	25.76
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.538	0.00	7.63
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.538	0.00	25.86
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.616	0.00	7.70

Linear Appurtenance Segment Forces (Factored)

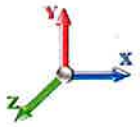
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.616	0.00	25.96
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.691	0.00	7.77
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.691	0.00	26.06
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.763	0.00	7.84
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.763	0.00	26.15
119.50	Safety Cable	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	7.826	0.00	7.11
119.50	Step bolts (ladder)	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	7.826	0.00	23.61
120.00	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	7.833	0.00	0.79
120.00	Step bolts (ladder)	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	7.833	0.00	2.62
123.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	7.884	0.00	5.97
123.75	Step bolts (ladder)	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	7.884	0.00	19.73
125.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	7.900	0.00	1.99
125.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	7.900	0.00	6.58
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.966	0.00	8.04
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.966	0.00	26.42
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.029	0.00	8.10
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.029	0.00	26.50
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.054	0.00	3.25
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.054	0.00	10.61
137.50	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	8.061	0.00	0.81
137.50	Step bolts (ladder)	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	8.061	0.00	2.65
140.00	Safety Cable	Yes	2.50	0.000	0.00	0.00	0.00	0.000	0.000	8.091	0.00	4.08
140.00	Step bolts (ladder)	Yes	2.50	0.000	0.00	0.00	0.00	0.000	0.000	8.091	0.00	13.29
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.151	0.00	8.21
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.151	0.00	26.66
147.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.175	0.00	3.29
147.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.175	0.00	10.67
150.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.210	0.00	4.96
150.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.210	0.00	16.04
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.266	0.00	8.32
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.266	0.00	26.80
157.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.289	0.00	3.34
157.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.289	0.00	10.73
160.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.322	0.00	5.03
160.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.322	0.00	16.12
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.376	0.00	8.43
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.376	0.00	26.94
167.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.397	0.00	3.38
167.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.397	0.00	10.79
										Totals:	**0.0**	**1,078.0**

Calculated Forces

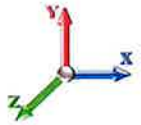
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

Tower Engineering Solutions

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

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 25

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-82.66	-10.40	0.00	-1234.1	0.00	1234.18	5340.38	1364.75	6341.26	6153.95	0.00	0.000	0.000	0.216
5.00	-80.50	-10.31	0.00	-1182.2	0.00	1182.20	5276.02	1339.77	6111.26	5967.64	0.03	-0.056	0.000	0.213
10.00	-78.35	-10.23	0.00	-1130.6	0.00	1130.64	5210.42	1314.79	5885.51	5782.69	0.12	-0.112	0.000	0.211
15.00	-76.22	-10.14	0.00	-1079.5	0.00	1079.51	5143.57	1289.82	5664.01	5599.17	0.27	-0.169	0.000	0.208
20.00	-74.11	-10.04	0.00	-1028.8	0.00	1028.81	5075.47	1264.84	5446.75	5417.17	0.48	-0.227	0.000	0.205
25.00	-72.03	-9.94	0.00	-978.60	0.00	978.60	5006.13	1239.86	5233.74	5236.76	0.74	-0.285	0.000	0.201
30.00	-69.98	-9.83	0.00	-928.90	0.00	928.90	4935.55	1214.88	5024.99	5058.02	1.07	-0.344	0.000	0.198
35.00	-67.96	-9.71	0.00	-879.77	0.00	879.77	4863.72	1189.90	4820.48	4881.04	1.47	-0.403	0.000	0.194
40.00	-65.98	-9.58	0.00	-831.22	0.00	831.22	4790.64	1164.92	4620.22	4705.88	1.92	-0.463	0.000	0.190
44.00	-64.41	-9.46	0.00	-792.90	0.00	792.90	4731.29	1144.94	4463.07	4567.13	2.33	-0.511	0.000	0.187
45.00	-63.75	-9.46	0.00	-783.44	0.00	783.44	4716.32	1139.94	4424.20	4532.64	2.44	-0.523	0.000	0.186
50.00	-60.48	-9.31	0.00	-736.15	0.00	736.15	4386.97	1048.88	4057.73	4202.47	3.02	-0.583	0.000	0.189
55.00	-58.56	-9.17	0.00	-689.60	0.00	689.60	4315.09	1025.82	3881.29	4041.90	3.66	-0.644	0.000	0.184
60.00	-56.67	-9.02	0.00	-643.75	0.00	643.75	4242.11	1002.77	3708.77	3883.37	4.37	-0.701	0.000	0.179
65.00	-54.82	-8.88	0.00	-598.63	0.00	598.63	4147.44	979.71	3540.18	3708.56	5.13	-0.758	0.000	0.175
70.00	-53.00	-8.72	0.00	-554.26	0.00	554.26	4049.83	956.65	3375.50	3535.21	5.95	-0.814	0.000	0.170
75.00	-51.21	-8.57	0.00	-510.64	0.00	510.64	3952.22	933.60	3214.75	3366.00	6.84	-0.870	0.000	0.165
80.00	-49.46	-8.41	0.00	-467.78	0.00	467.78	3854.61	910.54	3057.92	3200.95	7.78	-0.926	0.000	0.159
83.75	-48.17	-8.28	0.00	-436.24	0.00	436.24	3781.40	893.24	2942.87	3079.88	8.52	-0.967	0.000	0.154
85.00	-47.54	-8.25	0.00	-425.89	0.00	425.89	3757.00	887.48	2905.01	3040.04	8.78	-0.981	0.000	0.153
89.00	-45.54	-8.10	0.00	-392.88	0.00	392.88	2696.95	685.52	2239.96	2185.23	9.62	-1.024	0.000	0.197
90.00	-45.26	-8.09	0.00	-384.78	0.00	384.78	2687.67	681.95	2216.70	2166.29	9.83	-1.035	0.000	0.195
95.00	-43.90	-7.95	0.00	-344.32	0.00	344.32	2640.52	664.11	2102.22	2072.16	10.96	-1.104	0.000	0.183
100.00	-42.57	-7.80	0.00	-304.58	0.00	304.58	2592.12	646.27	1990.79	1979.09	12.15	-1.170	0.000	0.170
105.00	-41.26	-7.65	0.00	-265.58	0.00	265.58	2542.48	628.43	1882.38	1887.15	13.41	-1.234	0.000	0.157
110.00	-39.98	-7.50	0.00	-227.32	0.00	227.32	2491.60	610.59	1777.01	1796.42	14.73	-1.293	0.000	0.143
115.00	-38.73	-7.34	0.00	-189.83	0.00	189.83	2439.47	592.74	1674.68	1706.99	16.12	-1.348	0.000	0.127
119.50	-37.62	-7.19	0.00	-156.79	0.00	156.79	2391.49	576.69	1585.17	1627.67	17.41	-1.393	0.000	0.112
120.00	-37.44	-7.18	0.00	-153.19	0.00	153.19	2386.09	574.90	1575.38	1618.92	17.56	-1.398	0.000	0.110
123.75	-36.14	-7.05	0.00	-126.26	0.00	126.26	1658.06	421.89	1148.87	1119.99	18.67	-1.431	0.000	0.135
125.00	-24.33	-4.75	0.00	-117.45	0.00	117.45	1649.50	418.60	1131.00	1105.44	19.04	-1.441	0.000	0.121
130.00	-23.35	-4.59	0.00	-93.67	0.00	93.67	1614.57	405.42	1060.92	1047.71	20.58	-1.484	0.000	0.104
135.00	-22.40	-4.43	0.00	-70.71	0.00	70.71	1578.53	392.25	993.09	990.78	22.15	-1.522	0.000	0.086
137.00	-17.29	-3.51	0.00	-61.86	0.00	61.86	1563.80	386.98	966.58	968.24	22.79	-1.535	0.000	0.075
137.50	-17.20	-3.49	0.00	-60.10	0.00	60.10	1560.09	385.66	960.01	962.63	22.95	-1.538	0.000	0.074
140.00	-16.78	-3.41	0.00	-51.37	0.00	51.37	1541.39	379.07	927.49	934.70	23.76	-1.553	0.000	0.066
145.00	-15.97	-3.25	0.00	-34.30	0.00	34.30	1503.14	365.90	864.14	879.56	25.40	-1.576	0.000	0.050
147.00	-10.71	-2.33	0.00	-27.79	0.00	27.79	1487.53	360.63	839.42	857.78	26.07	-1.584	0.000	0.040
150.00	-10.29	-2.23	0.00	-20.82	0.00	20.82	1463.79	352.72	803.03	825.42	27.06	-1.593	0.000	0.032
155.00	-9.60	-2.08	0.00	-9.65	0.00	9.65	1423.34	339.54	744.15	772.36	28.74	-1.604	0.000	0.019
157.00	-3.01	-0.64	0.00	-5.50	0.00	5.50	1406.84	334.27	721.23	751.45	29.41	-1.606	0.000	0.009
160.00	-2.63	-0.55	0.00	-3.58	0.00	3.58	1381.63	326.37	687.52	720.36	30.42	-1.608	0.000	0.007
165.00	-2.00	-0.40	0.00	-0.84	0.00	0.84	1325.85	313.19	633.13	663.10	32.11	-1.610	0.000	0.003
167.00	-0.14	-0.04	0.00	-0.04	0.00	0.04	1303.54	307.92	612.00	640.86	32.78	-1.610	0.000	0.000
168.00	0.00	-0.04	0.00	0.00	0.00	0.00	1292.39	305.29	601.57	629.89	33.12	-1.610	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 27	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.19	**Iterations**	22
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09	**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.27	**SA**	0.02	**S1**	0.06
						Seismic Importance Factor	1.00

R: 1.50

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)
0.00		0.00	0.00	0.00	0.00
5.00		1587.8	2.50	61.65	0.01
10.00		1563.6	7.50	60.71	0.07
15.00		1539.4	12.50	59.77	0.20
20.00		1515.2	17.50	58.83	0.37
25.00		1490.9	22.50	57.89	0.59
30.00		1466.7	27.50	56.95	0.86
35.00		1442.5	32.50	56.01	1.16
40.00		1418.3	37.50	55.07	1.49
44.00	Bot - Section 2	1117.2	42.00	43.38	1.16
45.00		502.53	44.50	19.51	0.26
50.00	Top - Section 1	2483.5	47.50	96.43	7.33
55.00		1366.3	52.50	53.05	2.71
60.00		1342.1	57.50	52.11	3.14
65.00		1317.9	62.50	51.17	3.58
70.00		1293.7	67.50	50.23	4.02
75.00		1269.4	72.50	49.29	4.46
80.00		1245.2	77.50	48.35	4.91
83.75	Bot - Section 3	918.07	81.88	35.65	2.98
85.00		473.14	84.38	18.37	0.84
89.00	Top - Section 2	1496.6	87.00	58.11	8.94
90.00		187.95	89.50	7.30	0.15
95.00		929.36	92.50	36.08	3.89
100.00		912.06	97.50	35.41	4.17
105.00		894.77	102.50	34.74	4.43
110.00		877.47	107.50	34.07	4.69
115.00		860.17	112.50	33.40	4.94
119.50	Bot - Section 4	759.37	117.25	29.48	4.18
120.00		128.93	119.75	5.01	0.13
123.75	Top - Section 3	957.01	121.88	37.16	7.17
125.00	Appurtenance(s)	5851.3	124.38	227.19	279.13
130.00		635.75	127.50	24.68	3.46
135.00		621.91	132.50	24.15	3.58
137.00	Appurtenance(s)	2787.0	136.00	108.21	75.72
137.50	Appurtenance(s)	56.81	137.25	2.21	0.03
140.00		254.97	138.75	9.90	0.66
145.00		499.56	142.50	19.40	2.67
147.00	Appurtenance(s)	2818.5	146.00	109.43	89.25
150.00		241.75	148.50	9.39	0.68
155.00		391.84	152.50	15.21	1.88
157.00	Appurtenance(s)	3523.9	156.00	136.82	159.27
160.00		215.64	158.50	8.37	0.62
165.00		348.33	162.50	13.52	1.69
167.00	Appurtenance(s)	1256.4	166.00	48.78	22.93
168.00	Appurtenance(s)	70.90	167.50	2.75	0.07
	Totals:	**52,932.7**		**2,055.2**	**724.5**

Total Wind: **38,293.3**

Seismic Segment Forces (Factored)

Structure:	CT01364-S-SBA		**Code:**	TIA-222-H	4/3/2023
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 28

Tower Engineering Solutions

Calculated Forces

Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

Tower Engineering Solutions

Load Case: 1.2D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.19			**Iterations**	22
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.09			**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.27	**SA**	0.02			**S1**	0.06
								Seismic Importance Factor	1.00

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-64.03	-0.73	0.00	-102.14	0.00	102.14	5340.38	1364.75	6341.26	6153.95		0.00	0.00	0.029
5.00	-62.12	-0.73	0.00	-98.52	0.00	98.52	5276.02	1339.77	6111.26	5967.64		0.00	0.00	0.028
10.00	-60.24	-0.74	0.00	-94.86	0.00	94.86	5210.42	1314.79	5885.51	5782.69		0.01	-0.01	0.028
15.00	-58.39	-0.74	0.00	-91.18	0.00	91.18	5143.57	1289.82	5664.01	5599.17		0.02	-0.01	0.028
20.00	-56.57	-0.74	0.00	-87.48	0.00	87.48	5075.47	1264.84	5446.75	5417.17		0.04	-0.02	0.027
25.00	-54.77	-0.75	0.00	-83.77	0.00	83.77	5006.13	1239.86	5233.74	5236.76		0.06	-0.02	0.027
30.00	-53.01	-0.75	0.00	-80.03	0.00	80.03	4935.55	1214.88	5024.99	5058.02		0.09	-0.03	0.027
35.00	-51.28	-0.75	0.00	-76.28	0.00	76.28	4863.72	1189.90	4820.48	4881.04		0.12	-0.03	0.026
40.00	-49.58	-0.75	0.00	-72.51	0.00	72.51	4790.64	1164.92	4620.22	4705.88		0.16	-0.04	0.026
44.00	-48.24	-0.75	0.00	-69.49	0.00	69.49	4731.29	1144.94	4463.07	4567.13		0.20	-0.04	0.025
45.00	-47.63	-0.76	0.00	-68.74	0.00	68.74	4716.32	1139.94	4424.20	4532.64		0.21	-0.04	0.025
50.00	-44.61	-0.75	0.00	-64.96	0.00	64.96	4386.97	1048.88	4057.73	4202.47		0.26	-0.05	0.026
55.00	-42.97	-0.75	0.00	-61.20	0.00	61.20	4315.09	1025.82	3881.29	4041.90		0.31	-0.06	0.025
60.00	-41.36	-0.75	0.00	-57.45	0.00	57.45	4242.11	1002.77	3708.77	3883.37		0.37	-0.06	0.025
65.00	-39.78	-0.75	0.00	-53.71	0.00	53.71	4147.44	979.71	3540.18	3708.56		0.44	-0.07	0.024
70.00	-38.24	-0.75	0.00	-49.97	0.00	49.97	4049.83	956.65	3375.50	3535.21		0.51	-0.07	0.024
75.00	-36.72	-0.74	0.00	-46.24	0.00	46.24	3952.22	933.60	3214.75	3366.00		0.58	-0.08	0.023
80.00	-35.23	-0.74	0.00	-42.53	0.00	42.53	3854.61	910.54	3057.92	3200.95		0.67	-0.08	0.022
83.75	-34.14	-0.73	0.00	-39.77	0.00	39.77	3781.40	893.24	2942.87	3079.88		0.73	-0.08	0.022
85.00	-33.56	-0.73	0.00	-38.85	0.00	38.85	3757.00	887.48	2905.01	3040.04		0.75	-0.09	0.022
89.00	-31.75	-0.72	0.00	-35.91	0.00	35.91	2696.95	685.52	2239.96	2185.23		0.83	-0.09	0.028
90.00	-31.53	-0.73	0.00	-35.19	0.00	35.19	2687.67	681.95	2216.70	2166.29		0.85	-0.09	0.028
95.00	-30.44	-0.72	0.00	-31.56	0.00	31.56	2640.52	664.11	2102.22	2072.16		0.94	-0.10	0.027
100.00	-29.36	-0.72	0.00	-27.94	0.00	27.94	2592.12	646.27	1990.79	1979.09		1.05	-0.10	0.025
105.00	-28.31	-0.72	0.00	-24.34	0.00	24.34	2542.48	628.43	1882.38	1887.15		1.16	-0.11	0.024
110.00	-27.28	-0.71	0.00	-20.75	0.00	20.75	2491.60	610.59	1777.01	1796.42		1.28	-0.11	0.023
115.00	-26.27	-0.71	0.00	-17.19	0.00	17.19	2439.47	592.74	1674.68	1706.99		1.40	-0.12	0.021
119.50	-25.38	-0.70	0.00	-14.00	0.00	14.00	2391.49	576.69	1585.17	1627.67		1.51	-0.12	0.019
120.00	-25.22	-0.70	0.00	-13.65	0.00	13.65	2386.09	574.90	1575.38	1618.92		1.53	-0.12	0.019
123.75	-24.08	-0.69	0.00	-11.02	0.00	11.02	1658.06	421.89	1148.87	1119.99		1.63	-0.13	0.024
125.00	-16.84	-0.40	0.00	-10.15	0.00	10.15	1649.50	418.60	1131.00	1105.44		1.66	-0.13	0.019
130.00	-16.10	-0.40	0.00	-8.15	0.00	8.15	1614.57	405.42	1060.92	1047.71		1.79	-0.13	0.018
135.00	-15.37	-0.39	0.00	-6.17	0.00	6.17	1578.53	392.25	993.09	990.78		1.93	-0.13	0.016
137.00	-11.93	-0.31	0.00	-5.39	0.00	5.39	1563.80	386.98	966.58	968.24		1.99	-0.14	0.013
137.50	-11.86	-0.31	0.00	-5.24	0.00	5.24	1560.09	385.66	960.01	962.63		2.00	-0.14	0.013
140.00	-11.56	-0.31	0.00	-4.47	0.00	4.47	1541.39	379.07	927.49	934.70		2.08	-0.14	0.012
145.00	-10.96	-0.30	0.00	-2.94	0.00	2.94	1503.14	365.90	864.14	879.56		2.22	-0.14	0.011
147.00	-7.48	-0.21	0.00	-2.33	0.00	2.33	1487.53	360.63	839.42	857.78		2.28	-0.14	0.008
150.00	-7.18	-0.20	0.00	-1.71	0.00	1.71	1463.79	352.72	803.03	825.42		2.37	-0.14	0.007
155.00	-6.70	-0.20	0.00	-0.70	0.00	0.70	1423.34	339.54	744.15	772.36		2.52	-0.14	0.006
157.00	-2.34	-0.03	0.00	-0.29	0.00	0.29	1406.84	334.27	721.23	751.45		2.58	-0.14	0.002
160.00	-2.07	-0.03	0.00	-0.20	0.00	0.20	1381.63	326.37	687.52	720.36		2.66	-0.14	0.002
165.00	-1.64	-0.03	0.00	-0.05	0.00	0.05	1325.85	313.19	633.13	663.10		2.81	-0.14	0.001
167.00	-0.09	0.00	0.00	0.00	0.00	0.00	1303.54	307.92	612.00	640.86		2.87	-0.14	0.000
168.00	0.00	0.00	0.00	0.00	0.00	0.00	1292.39	305.29	601.57	629.89		2.90	-0.14	0.000

Seismic Segment Forces (Factored)

Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 30	

Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.19	**Iterations**	22
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09	**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.27	**SA**	0.02	**S1**	0.06
						Seismic Importance Factor	1.00

Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		1518.6	2.50	58.96	0.01	
10.00		1494.4	7.50	58.02	0.07	
15.00		1470.1	12.50	57.08	0.18	
20.00		1445.9	17.50	56.14	0.34	
25.00		1421.7	22.50	55.20	0.55	
30.00		1397.5	27.50	54.26	0.79	
35.00		1373.3	32.50	53.32	1.07	
40.00		1349.1	37.50	52.38	1.38	
44.00	Bot - Section 2	1061.8	42.00	41.23	1.07	
45.00		488.68	44.50	18.97	0.25	
50.00	Top - Section 1	2414.3	47.50	93.74	7.07	
55.00		1297.1	52.50	50.36	2.49	
60.00		1272.9	57.50	49.42	2.88	
65.00		1248.7	62.50	48.48	3.28	
70.00		1224.4	67.50	47.54	3.67	
75.00		1200.2	72.50	46.60	4.07	
80.00		1176.0	77.50	45.66	4.47	
83.75	Bot - Section 3	866.15	81.88	33.63	2.70	
85.00		455.84	84.38	17.70	0.80	
89.00	Top - Section 2	1441.2	87.00	55.96	8.45	
90.00		174.10	89.50	6.76	0.13	
95.00		860.14	92.50	33.40	3.40	
100.00		842.84	97.50	32.72	3.63	
105.00		825.55	102.50	32.05	3.85	
110.00		808.25	107.50	31.38	4.06	
115.00		790.95	112.50	30.71	4.26	
119.50	Bot - Section 4	697.07	117.25	27.06	3.59	
120.00		122.00	119.75	4.74	0.11	
123.75	Top - Section 3	905.10	121.88	35.14	6.54	
125.00	Appurtenance(s)	5834.0	124.38	226.52	283.13	
130.00		584.99	127.50	22.71	2.99	
135.00		571.15	132.50	22.18	3.08	
137.00	Appurtenance(s)	2766.7	136.00	107.43	76.14	
137.50	Appurtenance(s)	54.10	137.25	2.10	0.03	
140.00		241.42	138.75	9.37	0.60	
145.00		472.47	142.50	18.34	2.44	
147.00	Appurtenance(s)	2807.7	146.00	109.01	90.36	
150.00		237.50	148.50	9.22	0.67	
155.00		384.76	152.50	14.94	1.85	
157.00	Appurtenance(s)	3521.1	156.00	136.71	162.25	
160.00		213.77	158.50	8.30	0.62	
165.00		345.21	162.50	13.40	1.69	
167.00	Appurtenance(s)	1255.2	166.00	48.74	23.35	
168.00	Appurtenance(s)	70.90	167.50	2.75	0.08	
	Totals:	**51,005.7**		**1,980.4**	**724.5**	**Total Wind:** **38,293.3**

Seismic Segment Forces (Factored)

Structure:	CT01364-S-SBA		**Code:**	TIA-222-H	4/3/2023
Site Name:	Pomfret		**Exposure:**	C	
Height:	168.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 31

Tower Engineering Solutions

Calculated Forces

Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 32	

Tower Engineering Solutions

Load Case: 0.9D + 1.0Ev + 1.0Eh

Gust Response Factor	1.10			**Sds**	0.19			**Iterations**	22
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.09			**Ss**	0.18
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.27	**SA**	0.02	**Seismic Importance Factor**		**S1**	0.06

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-48.46	-0.73	0.00	-101.07	0.00	101.07	5340.38	1364.75	6341.26	6153.95		0.00	0.00	0.025
5.00	-47.02	-0.73	0.00	-97.44	0.00	97.44	5276.02	1339.77	6111.26	5967.64		0.00	0.00	0.025
10.00	-45.59	-0.73	0.00	-93.80	0.00	93.80	5210.42	1314.79	5885.51	5782.69		0.01	-0.01	0.025
15.00	-44.19	-0.74	0.00	-90.14	0.00	90.14	5143.57	1289.82	5664.01	5599.17		0.02	-0.01	0.025
20.00	-42.81	-0.74	0.00	-86.46	0.00	86.46	5075.47	1264.84	5446.75	5417.17		0.04	-0.02	0.024
25.00	-41.46	-0.74	0.00	-82.76	0.00	82.76	5006.13	1239.86	5233.74	5236.76		0.06	-0.02	0.024
30.00	-40.13	-0.74	0.00	-79.06	0.00	79.06	4935.55	1214.88	5024.99	5058.02		0.09	-0.03	0.024
35.00	-38.82	-0.74	0.00	-75.34	0.00	75.34	4863.72	1189.90	4820.48	4881.04		0.12	-0.03	0.023
40.00	-37.53	-0.75	0.00	-71.62	0.00	71.62	4790.64	1164.92	4620.22	4705.88		0.16	-0.04	0.023
44.00	-36.51	-0.75	0.00	-68.63	0.00	68.63	4731.29	1144.94	4463.07	4567.13		0.19	-0.04	0.023
45.00	-36.05	-0.75	0.00	-67.89	0.00	67.89	4716.32	1139.94	4424.20	4532.64		0.20	-0.04	0.023
50.00	-33.76	-0.74	0.00	-64.15	0.00	64.15	4386.97	1048.88	4057.73	4202.47		0.25	-0.05	0.023
55.00	-32.53	-0.74	0.00	-60.45	0.00	60.45	4315.09	1025.82	3881.29	4041.90		0.31	-0.05	0.022
60.00	-31.31	-0.74	0.00	-56.75	0.00	56.75	4242.11	1002.77	3708.77	3883.37		0.37	-0.06	0.022
65.00	-30.12	-0.74	0.00	-53.05	0.00	53.05	4147.44	979.71	3540.18	3708.56		0.43	-0.06	0.022
70.00	-28.95	-0.73	0.00	-49.36	0.00	49.36	4049.83	956.65	3375.50	3535.21		0.50	-0.07	0.021
75.00	-27.80	-0.73	0.00	-45.69	0.00	45.69	3952.22	933.60	3214.75	3366.00		0.58	-0.07	0.021
80.00	-26.67	-0.73	0.00	-42.03	0.00	42.03	3854.61	910.54	3057.92	3200.95		0.66	-0.08	0.020
83.75	-25.84	-0.73	0.00	-39.30	0.00	39.30	3781.40	893.24	2942.87	3079.88		0.72	-0.08	0.020
85.00	-25.41	-0.72	0.00	-38.40	0.00	38.40	3757.00	887.48	2905.01	3040.04		0.75	-0.08	0.019
89.00	-24.04	-0.72	0.00	-35.50	0.00	35.50	2696.95	685.52	2239.96	2185.23		0.82	-0.09	0.025
90.00	-23.87	-0.72	0.00	-34.78	0.00	34.78	2687.67	681.95	2216.70	2166.29		0.84	-0.09	0.025
95.00	-23.05	-0.71	0.00	-31.20	0.00	31.20	2640.52	664.11	2102.22	2072.16		0.93	-0.10	0.024
100.00	-22.23	-0.71	0.00	-27.63	0.00	27.63	2592.12	646.27	1990.79	1979.09		1.04	-0.10	0.023
105.00	-21.44	-0.71	0.00	-24.07	0.00	24.07	2542.48	628.43	1882.38	1887.15		1.15	-0.11	0.021
110.00	-20.66	-0.70	0.00	-20.53	0.00	20.53	2491.60	610.59	1777.01	1796.42		1.26	-0.11	0.020
115.00	-19.89	-0.70	0.00	-17.01	0.00	17.01	2439.47	592.74	1674.68	1706.99		1.38	-0.12	0.018
119.50	-19.22	-0.70	0.00	-13.86	0.00	13.86	2391.49	576.69	1585.17	1627.67		1.50	-0.12	0.017
120.00	-19.10	-0.70	0.00	-13.51	0.00	13.51	2386.09	574.90	1575.38	1618.92		1.51	-0.12	0.016
123.75	-18.24	-0.69	0.00	-10.90	0.00	10.90	1658.06	421.89	1148.87	1119.99		1.61	-0.13	0.021
125.00	-12.76	-0.39	0.00	-10.04	0.00	10.04	1649.50	418.60	1131.00	1105.44		1.64	-0.13	0.017
130.00	-12.19	-0.39	0.00	-8.07	0.00	8.07	1614.57	405.42	1060.92	1047.71		1.77	-0.13	0.015
135.00	-11.64	-0.39	0.00	-6.12	0.00	6.12	1578.53	392.25	993.09	990.78		1.91	-0.13	0.014
137.00	-9.04	-0.30	0.00	-5.34	0.00	5.34	1563.80	386.98	966.58	968.24		1.97	-0.13	0.011
137.50	-8.99	-0.30	0.00	-5.19	0.00	5.19	1560.09	385.66	960.01	962.63		1.98	-0.13	0.011
140.00	-8.76	-0.30	0.00	-4.43	0.00	4.43	1541.39	379.07	927.49	934.70		2.05	-0.14	0.010
145.00	-8.30	-0.30	0.00	-2.91	0.00	2.91	1503.14	365.90	864.14	879.56		2.20	-0.14	0.009
147.00	-5.67	-0.20	0.00	-2.31	0.00	2.31	1487.53	360.63	839.42	857.78		2.25	-0.14	0.007
150.00	-5.44	-0.20	0.00	-1.70	0.00	1.70	1463.79	352.72	803.03	825.42		2.34	-0.14	0.006
155.00	-5.08	-0.20	0.00	-0.69	0.00	0.69	1423.34	339.54	744.15	772.36		2.49	-0.14	0.004
157.00	-1.77	-0.03	0.00	-0.29	0.00	0.29	1406.84	334.27	721.23	751.45		2.55	-0.14	0.002
160.00	-1.57	-0.03	0.00	-0.20	0.00	0.20	1381.63	326.37	687.52	720.36		2.63	-0.14	0.001
165.00	-1.25	-0.03	0.00	-0.05	0.00	0.05	1325.85	313.19	633.13	663.10		2.78	-0.14	0.001
167.00	-0.07	0.00	0.00	0.00	0.00	0.00	1303.54	307.92	612.00	640.86		2.84	-0.14	0.000
168.00	0.00	0.00	0.00	0.00	0.00	0.00	1292.39	305.29	601.57	629.89		2.87	-0.14	0.000

Wind Loading - Shaft

Structure: CT01364-S-SBA
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

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

4/3/2023
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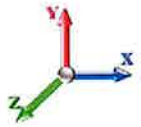
IES Tower Engineering Solutions

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



Iterations 24

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	6.523	7.17	261.48	0.630	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.523	7.17	256.73	0.630	0.000	5.00	23.663	14.91	107.0	0.0	1311.0
10.00		1.00	0.85	6.523	7.17	251.98	0.630	0.000	5.00	23.229	14.63	105.0	0.0	1286.7
15.00		1.00	0.85	6.523	7.17	247.23	0.630	0.000	5.00	22.795	14.36	103.0	0.0	1262.5
20.00		1.00	0.90	6.921	7.61	249.77	0.630	0.000	5.00	22.362	14.09	107.2	0.0	1238.3
25.00		1.00	0.95	7.254	7.98	250.70	0.630	0.000	5.00	21.928	13.81	110.2	0.0	1214.1
30.00		1.00	0.98	7.537	8.29	250.46	0.630	0.000	5.00	21.494	13.54	112.3	0.0	1189.9
35.00		1.00	1.01	7.786	8.56	249.37	0.630	0.000	5.00	21.061	13.27	113.6	0.0	1165.7
40.00		1.00	1.04	8.008	8.81	247.63	0.630	0.000	5.00	20.627	12.99	114.5	0.0	1141.4
44.00	Bot - Section 2	1.00	1.06	8.170	8.99	245.88	0.630	0.000	4.00	16.189	10.20	91.7	0.0	895.7
45.00		1.00	1.07	8.209	9.03	245.40	0.630	0.000	1.00	4.078	2.57	23.2	0.0	447.2
50.00	Top - Section 1	1.00	1.09	8.393	9.23	242.75	0.630	0.000	5.00	20.130	12.68	117.1	0.0	2206.7
55.00		1.00	1.12	8.563	9.42	244.40	0.630	0.000	5.00	19.696	12.41	116.9	0.0	1089.5
60.00		1.00	1.14	8.722	9.59	241.15	0.630	0.000	5.00	19.262	12.14	116.4	0.0	1065.3
65.00		1.00	1.16	8.870	9.76	237.66	0.630	0.000	5.00	18.829	11.86	115.7	0.0	1041.0
70.00		1.00	1.17	9.009	9.91	233.94	0.630	0.000	5.00	18.395	11.59	114.8	0.0	1016.8
75.00		1.00	1.19	9.141	10.06	230.02	0.630	0.000	5.00	17.961	11.32	113.8	0.0	992.6
80.00		1.00	1.21	9.266	10.19	225.93	0.630	0.000	5.00	17.528	11.04	112.6	0.0	968.4
83.75	Bot - Section 3	1.00	1.22	9.356	10.29	222.76	0.630	0.000	3.75	12.861	8.10	83.4	0.0	710.4
85.00		1.00	1.22	9.385	10.32	221.68	0.630	0.000	1.25	4.299	2.71	28.0	0.0	403.9
89.00	Top - Section 2	1.00	1.23	9.477	10.42	218.18	0.630	0.000	4.00	13.575	8.55	89.1	0.0	1275.1
90.00		1.00	1.24	9.499	10.45	220.78	0.630	0.000	1.00	3.350	2.11	22.1	0.0	132.6
95.00		1.00	1.25	9.608	10.57	216.28	0.630	0.000	5.00	16.491	10.39	109.8	0.0	652.5
100.00		1.00	1.27	9.712	10.68	211.65	0.630	0.000	5.00	16.057	10.12	108.1	0.0	635.2
105.00		1.00	1.28	9.812	10.79	206.92	0.630	0.000	5.00	15.624	9.84	106.2	0.0	617.9
110.00		1.00	1.29	9.909	10.90	202.08	0.630	0.000	5.00	15.190	9.57	104.3	0.0	600.6
115.00		1.00	1.30	10.002	11.00	197.15	0.630	0.000	5.00	14.756	9.30	102.3	0.0	583.3
119.50	Bot - Section 4	1.00	1.31	10.083	11.09	192.63	0.630	0.000	4.50	12.910	8.13	90.2	0.0	510.2
120.00		1.00	1.32	10.092	11.10	192.13	0.630	0.000	0.50	1.434	0.90	10.0	0.0	101.2
123.75	Top - Section 3	1.00	1.32	10.158	11.17	188.31	0.630	0.000	3.75	10.616	6.69	74.7	0.0	749.3
125.00	Appurtenance(s)	1.00	1.33	10.179	11.20	189.92	0.630	0.000	1.25	3.485	2.20	24.6	0.0	110.3
130.00		1.00	1.34	10.263	11.29	184.75	0.630	0.000	5.00	13.667	8.61	97.2	0.0	432.7
135.00		1.00	1.35	10.345	11.38	179.50	0.630	0.000	5.00	13.233	8.34	94.9	0.0	418.9
137.00	Appurtenance(s)	1.00	1.35	10.377	11.42	177.38	0.630	0.000	2.00	5.172	3.26	37.2	0.0	163.7
137.50	Appurtenance(s)	1.00	1.35	10.385	11.42	176.85	0.630	0.000	0.50	1.282	0.81	9.2	0.0	40.6
140.00		1.00	1.36	10.425	11.47	174.19	0.630	0.000	2.50	6.346	4.00	45.8	0.0	200.8
145.00		1.00	1.37	10.502	11.55	168.81	0.630	0.000	5.00	12.366	7.79	90.0	0.0	391.2
147.00	Appurtenance(s)	1.00	1.37	10.532	11.59	166.63	0.630	0.000	2.00	4.825	3.04	35.2	0.0	152.6
150.00		1.00	1.38	10.577	11.64	163.36	0.630	0.000	3.00	7.107	4.48	52.1	0.0	224.8
155.00		1.00	1.39	10.651	11.72	157.86	0.630	0.000	5.00	11.499	7.24	84.9	0.0	363.5
157.00	Appurtenance(s)	1.00	1.39	10.679	11.75	155.64	0.630	0.000	2.00	4.478	2.82	33.1	0.0	141.5
160.00		1.00	1.40	10.722	11.79	152.30	0.630	0.000	3.00	6.587	4.15	48.9	0.0	208.2
165.00		1.00	1.41	10.792	11.87	146.68	0.630	0.000	5.00	10.631	6.70	79.5	0.0	335.8
167.00	Appurtenance(s)	1.00	1.41	10.819	11.90	144.42	0.630	0.000	2.00	4.131	2.60	31.0	0.0	130.5
168.00	Appurtenance(s)	1.00	1.41	10.833	11.92	143.29	0.630	0.000	1.00	2.040	1.28	15.3	0.0	64.4
								Totals:	**168.00**			**3,502.2**		**29,884.3**

Discrete Appurtenance Forces

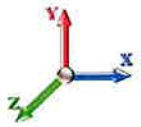
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 34	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	168.00	6' Lightning rod	1	10.833	11.916	1.00	1.00	0.38	6.50	0.000	0.000	4.53	0.00	0.00
2	167.00	Low Profile Platform-flat	1	10.819	11.901	1.00	1.00	18.04	1121.00	0.000	0.000	214.70	0.00	0.00
3	157.00	NNVV-65B-R4	3	10.679	11.747	0.59	0.80	21.79	232.20	0.000	0.000	255.99	0.00	0.00
4	157.00	PRK-1245 (kicker kit)	1	10.679	11.747	1.00	1.00	9.50	464.91	0.000	0.000	111.60	0.00	0.00
5	157.00	APXVTM14-C-I20	3	10.679	11.747	0.62	0.80	11.72	168.60	0.000	0.000	137.64	0.00	0.00
6	157.00	RMQP-363 (LPP)	1	10.679	11.747	1.00	1.00	30.60	1495.00	0.000	0.000	359.47	0.00	0.00
7	157.00	ALU 800 Mhz	6	10.679	11.747	0.50	0.75	7.51	318.00	0.000	0.000	88.19	0.00	0.00
8	157.00	ALU TD-RRH8x20-25	3	10.679	11.747	0.50	0.75	6.11	210.00	0.000	0.000	71.72	0.00	0.00
9	157.00	HRK14	1	10.679	11.747	1.00	1.00	8.13	302.36	0.000	0.000	95.51	0.00	0.00
10	157.00	ALU 1900 Mhz	3	10.679	11.747	0.50	0.75	4.18	180.00	0.000	0.000	49.05	0.00	0.00
11	147.00	DC6-48-60-18-8F	1	10.532	11.586	1.00	1.00	1.47	31.80	0.000	0.000	17.03	0.00	0.00
12	147.00	Low Profile	1	10.532	11.586	1.00	1.00	22.00	1500.00	0.000	0.000	254.89	0.00	0.00
13	147.00	RRUS 11	6	10.532	11.586	0.54	0.80	8.10	304.20	0.000	0.000	93.89	0.00	0.00
14	147.00	LGP21401	6	10.532	11.586	0.54	0.80	4.15	84.60	0.000	0.000	48.06	0.00	0.00
15	147.00	7770.00	6	10.532	11.586	0.60	0.80	19.80	210.00	0.000	0.000	229.40	0.00	0.00
16	147.00	AM-X-CD-17-65-00T-RET	3	10.532	11.586	0.61	0.80	9.12	92.40	0.000	0.000	105.66	0.00	0.00
17	147.00	RRUS 12	3	10.532	11.586	0.54	0.80	4.34	180.00	0.000	0.000	50.30	0.00	0.00
18	147.00	Dual Band Combiner	3	10.532	11.586	0.40	0.80	0.61	14.40	0.000	0.000	7.09	0.00	0.00
19	147.00	LGP21903	6	10.532	11.586	0.40	0.80	0.65	33.00	0.000	0.000	7.51	0.00	0.00
20	147.00	1900W800	6	10.532	11.586	0.40	0.80	3.70	172.20	0.000	0.000	42.82	0.00	0.00
21	137.50	782 11056	3	10.385	11.424	0.50	0.75	0.20	5.40	0.000	0.000	2.24	0.00	0.00
22	137.00	APXVAARR24_43-U-NA2	3	10.377	11.415	0.52	0.75	31.88	384.00	0.000	0.000	363.89	0.00	0.00
23	137.00	APXV18-206516S-C-A20	3	10.377	11.415	0.55	0.75	5.93	56.10	0.000	0.000	67.69	0.00	0.00
24	137.00	Low Profile Platform w/	1	10.377	11.415	1.00	1.00	22.00	1800.00	0.000	0.000	251.13	0.00	0.00
25	137.00	FE15501P77/75	3	10.377	11.415	0.50	0.75	0.78	52.50	0.000	0.000	8.95	0.00	0.00
26	137.00	4449	3	10.377	11.415	0.50	0.75	2.49	210.00	0.000	0.000	28.39	0.00	0.00
27	137.00	KRY 112 489/2	3	10.377	11.415	0.50	0.75	1.03	39.60	0.000	0.000	11.70	0.00	0.00
28	125.00	BSAMNT-SBS-1-2	3	10.179	11.197	1.00	1.00	0.00	76.05	0.000	0.000	0.00	0.00	0.00
29	125.00	JAHH-65B-R3B	15	10.179	11.197	0.66	0.80	90.74	949.50	0.000	0.000	1015.96	0.00	0.00
30	125.00	MT6407-77A	6	10.179	11.197	0.56	0.80	15.76	476.40	0.000	0.000	176.45	0.00	0.00
31	125.00	SitePro1 RMQP-4096-HK	1	10.179	11.197	1.00	1.00	51.70	2645.00	0.000	0.000	578.88	0.00	0.00
32	125.00	Samsung B2/B66A RRH	8	10.179	11.197	0.38	0.75	5.61	675.20	0.000	0.000	62.81	0.00	0.00
33	125.00	CBC78T-DS-43-2X	3	10.179	11.197	0.38	0.75	0.42	31.20	0.000	0.000	4.66	0.00	0.00
34	125.00	Samsung B5/B13 RRH	8	10.179	11.197	0.38	0.75	5.61	562.40	0.000	0.000	62.81	0.00	0.00
35	125.00	RVZDC-6627-PF-48	8	10.179	11.197	0.50	0.75	16.32	256.00	0.000	0.000	182.75	0.00	0.00
							Totals:		**15,340.52**			**5,063.37**		

Total Applied Force Summary

Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 35	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00

Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		106.96	1541.69	0.00	0.00
10.00		105.00	1517.48	0.00	0.00
15.00		103.04	1493.26	0.00	0.00
20.00		107.25	1469.05	0.00	0.00
25.00		110.23	1444.83	0.00	0.00
30.00		112.27	1420.62	0.00	0.00
35.00		113.64	1396.40	0.00	0.00
40.00		114.47	1372.18	0.00	0.00
44.00		91.67	1080.31	0.00	0.00
45.00		23.20	493.30	0.00	0.00
50.00		117.09	2437.44	0.00	0.00
55.00		116.88	1320.21	0.00	0.00
60.00		116.42	1295.99	0.00	0.00
65.00		115.74	1271.78	0.00	0.00
70.00		114.85	1247.56	0.00	0.00
75.00		113.78	1223.35	0.00	0.00
80.00		112.55	1199.13	0.00	0.00
83.75		83.39	883.46	0.00	0.00
85.00		27.96	461.60	0.00	0.00
89.00		89.15	1459.70	0.00	0.00
90.00		22.05	178.72	0.00	0.00
95.00		109.80	883.21	0.00	0.00
100.00		108.07	865.92	0.00	0.00
105.00		106.24	848.62	0.00	0.00
110.00		104.31	831.32	0.00	0.00
115.00		102.28	814.03	0.00	0.00
119.50		90.21	717.83	0.00	0.00
120.00		10.03	124.31	0.00	0.00
123.75		74.73	922.40	0.00	0.00
125.00	(52) attachments	2108.91	5839.77	0.00	0.00
130.00		97.21	601.91	0.00	0.00
135.00		94.87	588.07	0.00	0.00
137.00	(16) attachments	768.95	2773.55	0.00	0.00
137.50	(3) attachments	11.47	55.00	0.00	0.00
140.00		45.84	245.94	0.00	0.00
145.00		90.00	481.50	0.00	0.00
147.00	(41) attachments	891.87	2811.32	0.00	0.00
150.00		52.10	238.92	0.00	0.00
155.00		84.87	387.12	0.00	0.00
157.00	(21) attachments	1202.31	3522.04	0.00	0.00
160.00		48.94	214.39	0.00	0.00
165.00		79.51	346.25	0.00	0.00
167.00	(1) attachments	245.67	1255.62	0.00	0.00
168.00	(1) attachments	19.84	70.90	0.00	0.00
	Totals:	**8,565.62**	**51,648.03**	**0.00**	**0.00**

Linear Appurtenance Segment Forces (Factored)

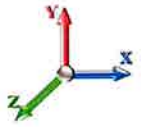
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 36	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.523	0.00	0.00
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.523	0.00	10.40
10.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.523	0.00	0.00
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.523	0.00	10.40
15.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.523	0.00	0.00
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.523	0.00	10.40
20.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.921	0.00	0.00
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.921	0.00	10.40
25.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.254	0.00	0.00
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.254	0.00	10.40
30.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.537	0.00	0.00
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.537	0.00	10.40
35.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.786	0.00	0.00
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.786	0.00	10.40
40.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.008	0.00	0.00
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.008	0.00	10.40
44.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.170	0.00	0.00
44.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.170	0.00	8.32
45.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.209	0.00	0.00
45.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.209	0.00	2.08
50.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.393	0.00	0.00
50.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.393	0.00	10.40
55.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.563	0.00	0.00
55.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.563	0.00	10.40
60.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.722	0.00	0.00
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.722	0.00	10.40
65.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.870	0.00	0.00
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.870	0.00	10.40
70.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.009	0.00	0.00
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.009	0.00	10.40
75.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.141	0.00	0.00
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.141	0.00	10.40
80.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.266	0.00	0.00
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.266	0.00	10.40
83.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	9.356	0.00	0.00
83.75	Step bolts (ladder)	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	9.356	0.00	7.80
85.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	9.385	0.00	0.00
85.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	9.385	0.00	2.60
89.00	Safety Cable	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	9.477	0.00	0.00
89.00	Step bolts (ladder)	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	9.477	0.00	8.32
90.00	Safety Cable	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.499	0.00	0.00
90.00	Step bolts (ladder)	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	9.499	0.00	2.08
95.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.608	0.00	0.00
95.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.608	0.00	10.40
100.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.712	0.00	0.00
100.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.712	0.00	10.40
105.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.812	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

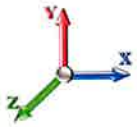
Structure:	CT01364-S-SBA	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 37	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 24

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
105.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.812	0.00	10.40
110.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.909	0.00	0.00
110.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.909	0.00	10.40
115.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.002	0.00	0.00
115.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.002	0.00	10.40
119.50	Safety Cable	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	10.083	0.00	0.00
119.50	Step bolts (ladder)	Yes	4.50	0.000	0.00	0.00	0.00	0.000	0.000	10.083	0.00	9.36
120.00	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	10.092	0.00	0.00
120.00	Step bolts (ladder)	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	10.092	0.00	1.04
123.75	Safety Cable	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	10.158	0.00	0.00
123.75	Step bolts (ladder)	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	10.158	0.00	7.80
125.00	Safety Cable	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	10.179	0.00	0.00
125.00	Step bolts (ladder)	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	10.179	0.00	2.60
130.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.263	0.00	0.00
130.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.263	0.00	10.40
135.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.345	0.00	0.00
135.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.345	0.00	10.40
137.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.377	0.00	0.00
137.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.377	0.00	4.16
137.50	Safety Cable	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	10.385	0.00	0.00
137.50	Step bolts (ladder)	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	10.385	0.00	1.04
140.00	Safety Cable	Yes	2.50	0.000	0.00	0.00	0.00	0.000	0.000	10.425	0.00	0.00
140.00	Step bolts (ladder)	Yes	2.50	0.000	0.00	0.00	0.00	0.000	0.000	10.425	0.00	5.20
145.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.502	0.00	0.00
145.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.502	0.00	10.40
147.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.532	0.00	0.00
147.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.532	0.00	4.16
150.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.577	0.00	0.00
150.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.577	0.00	6.24
155.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.651	0.00	0.00
155.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.651	0.00	10.40
157.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.679	0.00	0.00
157.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.679	0.00	4.16
160.00	Safety Cable	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.722	0.00	0.00
160.00	Step bolts (ladder)	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	10.722	0.00	6.24
165.00	Safety Cable	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.792	0.00	0.00
165.00	Step bolts (ladder)	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.792	0.00	10.40
167.00	Safety Cable	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.819	0.00	0.00
167.00	Step bolts (ladder)	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	10.819	0.00	4.16
									Totals:		**0.0**	**347.4**

Calculated Forces

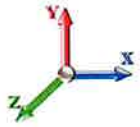
Structure: CT01364-S-SBA
Site Name: Pomfret
Height: 168.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1 **Topography:** 1

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

4/3/2023

Tower Engineering Solutions

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



Iterations 24

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-51.64	-8.59	0.00	-1041.1	0.00	1041.14	5340.38	1364.75	6341.26	6153.95	0.00	0.000	0.000	0.179
5.00	-50.10	-8.52	0.00	-998.21	0.00	998.21	5276.02	1339.77	6111.26	5967.64	0.03	-0.047	0.000	0.177
10.00	-48.57	-8.45	0.00	-955.61	0.00	955.61	5210.42	1314.79	5885.51	5782.69	0.10	-0.095	0.000	0.175
15.00	-47.07	-8.39	0.00	-913.35	0.00	913.35	5143.57	1289.82	5664.01	5599.17	0.23	-0.143	0.000	0.172
20.00	-45.60	-8.31	0.00	-871.41	0.00	871.41	5075.47	1264.84	5446.75	5417.17	0.40	-0.192	0.000	0.170
25.00	-44.14	-8.24	0.00	-829.84	0.00	829.84	5006.13	1239.86	5233.74	5236.76	0.63	-0.241	0.000	0.167
30.00	-42.72	-8.16	0.00	-788.65	0.00	788.65	4935.55	1214.88	5024.99	5058.02	0.91	-0.291	0.000	0.165
35.00	-41.31	-8.07	0.00	-747.87	0.00	747.87	4863.72	1189.90	4820.48	4881.04	1.24	-0.341	0.000	0.162
40.00	-39.94	-7.98	0.00	-707.52	0.00	707.52	4790.64	1164.92	4620.22	4705.88	1.62	-0.392	0.000	0.159
44.00	-38.85	-7.90	0.00	-675.60	0.00	675.60	4731.29	1144.94	4463.07	4567.13	1.97	-0.433	0.000	0.156
45.00	-38.36	-7.89	0.00	-667.71	0.00	667.71	4716.32	1139.94	4424.20	4532.64	2.06	-0.443	0.000	0.155
50.00	-35.91	-7.79	0.00	-628.25	0.00	628.25	4386.97	1048.88	4057.73	4202.47	2.55	-0.495	0.000	0.158
55.00	-34.59	-7.69	0.00	-589.32	0.00	589.32	4315.09	1025.82	3881.29	4041.90	3.10	-0.546	0.000	0.154
60.00	-33.29	-7.59	0.00	-550.88	0.00	550.88	4242.11	1002.77	3708.77	3883.37	3.70	-0.595	0.000	0.150
65.00	-32.01	-7.48	0.00	-512.95	0.00	512.95	4147.44	979.71	3540.18	3708.56	4.35	-0.644	0.000	0.146
70.00	-30.76	-7.38	0.00	-475.52	0.00	475.52	4049.83	956.65	3375.50	3535.21	5.05	-0.692	0.000	0.142
75.00	-29.53	-7.28	0.00	-438.62	0.00	438.62	3952.22	933.60	3214.75	3366.00	5.80	-0.740	0.000	0.138
80.00	-28.33	-7.17	0.00	-402.24	0.00	402.24	3854.61	910.54	3057.92	3200.95	6.60	-0.788	0.000	0.133
83.75	-27.44	-7.08	0.00	-375.35	0.00	375.35	3781.40	893.24	2942.87	3079.88	7.23	-0.824	0.000	0.129
85.00	-26.98	-7.06	0.00	-366.50	0.00	366.50	3757.00	887.48	2905.01	3040.04	7.45	-0.836	0.000	0.128
89.00	-25.51	-6.96	0.00	-338.25	0.00	338.25	2696.95	685.52	2239.96	2185.23	8.17	-0.873	0.000	0.164
90.00	-25.33	-6.95	0.00	-331.29	0.00	331.29	2687.67	681.95	2216.70	2166.29	8.35	-0.882	0.000	0.162
95.00	-24.44	-6.85	0.00	-296.54	0.00	296.54	2640.52	664.11	2102.22	2072.16	9.31	-0.942	0.000	0.152
100.00	-23.57	-6.75	0.00	-262.27	0.00	262.27	2592.12	646.27	1990.79	1979.09	10.33	-0.999	0.000	0.142
105.00	-22.72	-6.65	0.00	-228.51	0.00	228.51	2542.48	628.43	1882.38	1887.15	11.40	-1.053	0.000	0.130
110.00	-21.89	-6.55	0.00	-195.25	0.00	195.25	2491.60	610.59	1777.01	1796.42	12.53	-1.104	0.000	0.118
115.00	-21.07	-6.45	0.00	-162.50	0.00	162.50	2439.47	592.74	1674.68	1706.99	13.72	-1.151	0.000	0.104
119.50	-20.35	-6.35	0.00	-133.48	0.00	133.48	2391.49	576.69	1585.17	1627.67	14.82	-1.190	0.000	0.091
120.00	-20.23	-6.34	0.00	-130.30	0.00	130.30	2386.09	574.90	1575.38	1618.92	14.94	-1.194	0.000	0.089
123.75	-19.30	-6.26	0.00	-106.51	0.00	106.51	1658.06	421.89	1148.87	1119.99	15.89	-1.222	0.000	0.107
125.00	-13.51	-4.03	0.00	-98.69	0.00	98.69	1649.50	418.60	1131.00	1105.44	16.22	-1.230	0.000	0.098
130.00	-12.91	-3.93	0.00	-78.55	0.00	78.55	1614.57	405.42	1060.92	1047.71	17.52	-1.267	0.000	0.083
135.00	-12.32	-3.82	0.00	-58.92	0.00	58.92	1578.53	392.25	993.09	990.78	18.87	-1.298	0.000	0.067
137.00	-9.56	-2.99	0.00	-51.28	0.00	51.28	1563.80	386.98	966.58	968.24	19.41	-1.309	0.000	0.059
137.50	-9.51	-2.98	0.00	-49.78	0.00	49.78	1560.09	385.66	960.01	962.63	19.55	-1.312	0.000	0.058
140.00	-9.26	-2.93	0.00	-42.34	0.00	42.34	1541.39	379.07	927.49	934.70	20.24	-1.324	0.000	0.051
145.00	-8.78	-2.83	0.00	-27.68	0.00	27.68	1503.14	365.90	864.14	879.56	21.64	-1.343	0.000	0.037
147.00	-5.99	-1.87	0.00	-22.02	0.00	22.02	1487.53	360.63	839.42	857.78	22.20	-1.349	0.000	0.030
150.00	-5.75	-1.82	0.00	-16.39	0.00	16.39	1463.79	352.72	803.03	825.42	23.05	-1.357	0.000	0.024
155.00	-5.37	-1.72	0.00	-7.30	0.00	7.30	1423.34	339.54	744.15	772.36	24.48	-1.365	0.000	0.013
157.00	-1.88	-0.44	0.00	-3.85	0.00	3.85	1406.84	334.27	721.23	751.45	25.05	-1.366	0.000	0.006
160.00	-1.66	-0.38	0.00	-2.54	0.00	2.54	1381.63	326.37	687.52	720.36	25.91	-1.368	0.000	0.005
165.00	-1.32	-0.30	0.00	-0.62	0.00	0.62	1325.85	313.19	633.13	663.10	27.34	-1.369	0.000	0.002
167.00	-0.07	-0.02	0.00	-0.02	0.00	0.02	1303.54	307.92	612.00	640.86	27.92	-1.370	0.000	0.000
168.00	0.00	-0.02	0.00	0.00	0.00	0.00	1292.39	305.29	601.57	629.89	28.20	-1.370	0.000	0.000

Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 120 mph Wind	38.4	0.00	61.90	0.00	0.00	4691.22
0.9D + 1.0W 120 mph Wind	38.4	0.00	46.41	0.00	0.00	4625.58
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.4	0.00	82.66	0.00	0.00	1234.18
1.2D + 1.0Ev + 1.0Eh	0.7	0.00	64.03	0.00	0.00	102.14
0.9D + 1.0Ev + 1.0Eh	0.7	0.00	48.46	0.00	0.00	101.07
1.0D + 1.0W 60 mph Wind	8.6	0.00	51.64	0.00	0.00	1041.14

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 120 mph Wind	-61.90	-38.41	0.00	-4691.2	0.00	-4691.2	5340.38	1364.7	6341.26	6153.95	0.00	0.775
0.9D + 1.0W 120 mph Wind	-46.41	-38.38	0.00	-4625.5	0.00	-4625.5	5340.38	1364.7	6341.26	6153.95	0.00	0.761
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-82.66	-10.40	0.00	-1234.1	0.00	-1234.1	5340.38	1364.7	6341.26	6153.95	0.00	0.216
1.2D + 1.0Ev + 1.0Eh	-64.03	-0.73	0.00	-102.14	0.00	-102.14	5340.38	1364.7	6341.26	6153.95	0.00	0.029
0.9D + 1.0Ev + 1.0Eh	-48.46	-0.73	0.00	-101.07	0.00	-101.07	5340.38	1364.7	6341.26	6153.95	0.00	0.025
1.0D + 1.0W 60 mph Wind	-51.64	-8.59	0.00	-1041.1	0.00	-1041.1	5340.38	1364.7	6341.26	6153.95	0.00	0.179

Base Plate Summary

Structure:	CT01364-S-SB	**Code:**	TIA-222-H	4/3/2023	
Site Name:	Pomfret	**Exposure:**	C		
Height:	168.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 40	

Tower Engineering Solutions

Reactions		Base Plate		Anchor Bolts	
Original Design		**Yield (ksi):**	50.00	**Bolt Circle:**	64.00
Moment (kip-ft):	4615.00	**Width (in):**	64.00	**Number Bolts:**	20.00
Axial (kip):	34.00	**Style:**	Clipped	**Bolt Type:**	2.25" 18J
Shear (kip):	37.00	**Polygon Sides:**	0.00	**Bolt Diameter (in):**	2.25
		Clip Length (in):	11.00	**Yield (ksi):**	75.00
Analysis (1.2D + 1.0W)				**Ultimate (ksi):**	100.00
Moment (kip-ft):	4691.22	**Effective Len (in):**	9.17	**Arrangement:**	Clustered
Axial (kip):	61.90	**Moment (kip-in):**	676.68	**Cluster Dist (in):**	6.00
Shear (kip):	38.41	**Allow Stress (ksi):**	67.50	**Start Angle (deg):**	45.00
		Applied Stress (ksi):	41.85	Compression	
		Stress Ratio:	0.62	**Force (kip):**	179.02
				Allowable (kip):	268.39
				Ratio:	0.67
				Tension	
				Force (kip):	172.83
				Allowable (kip):	243.75
				Ratio:	0.71

Monopole Mat Foundation Design

Customer Name:	Verizon	**TIA Standard:**	TIA-222-H
Site Name:		**Structure Height (Ft.):**	168
Site Number:	CT01364-S-SBA	**Engineer Name:**	J. Tibbetts
Engr. Number:	139729	**Engineer Login ID:**	

Date 3/31/2023

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Monopole

Analysis or Design? Analysis

Base Reactions (Factored):

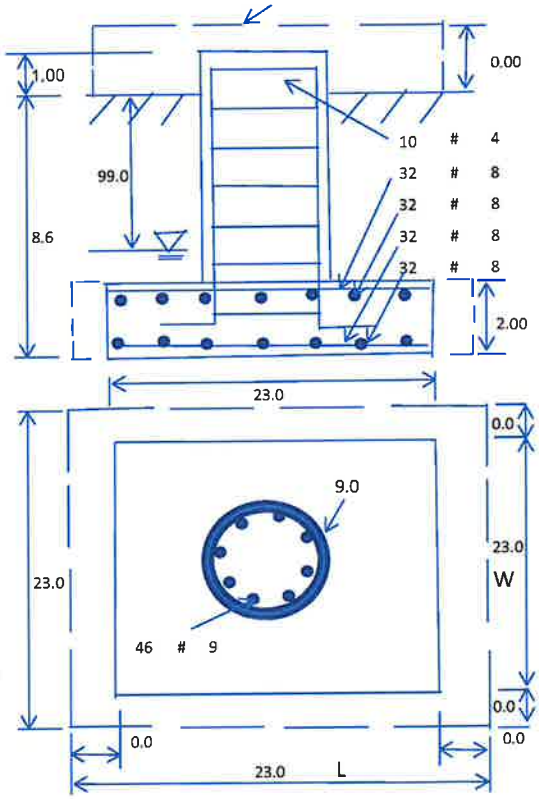
Axial Load (Kips):	61.9	Shear Force (Kips):	38.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4691.2

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	9.0	Depth of Base BG (ft.):	8.6
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	2.00
Length of Pad (ft.):	23	Width of Pad (ft.):	23
Final Length of pad (ft)	23.0	Final width of pad (ft):	23.0

Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	46	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	32	Qty. of Rebar in Pad (W):	32	



Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	9000	Ultimate Skin Friction:		Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):		No	Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:			1.00	

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.75

Total Dry Soil Volume (cu. Ft.):	3071.53	Total Dry Soil Weight (Kips):	383.94
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	383.94	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	1541.49	Total Dry Concrete Weight (Kips):	231.22
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	231.22	Total Vertical Load on Base (Kips):	677.06

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	4221	<	Allowable Factored Soil Bearing (psf): 6750	0.63	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7078.8	>	Design Factored Momont (kips-ft): 4736	0.67	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.49	OK!			

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90		Strength reduction factor (Shear):	0.75			
Strength reduction factor (Axial compresion):	0.65		Wind Load Factor on Concrete Design:	1.00			
					Load/ Capacity Ratio		
(1) Concrete Pier:							
Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.20			
Calculated Moment Capacity (Mn,Kips-Ft):	9927.8	>	Design Factored Moment (Mu, Kips-F	4983.1	0.50	OK!	
Calculated Shear Capacity (Kips):	925.4	>	Design Factored Shear (Kips):	38.4	0.04	OK!	
Calculated Tension Capacity (Tn, Kips):	2484.0	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!	
Calculated Compression Capacity (Pn, Kips):	12086.3	>	Design Factored Axial Load (Pu Kips):	61.9	0.01	OK!	
Moment & Axial Strength Combination:	0.50	OK!	Check Tie Spacing (Design/Required):		1	OK!	
Pier Reinforcement Ratio:	0.005		Reinforcement Ratio is satisfied per ACI				
(2).Concrete Pad:							
One-Way Design Shear Capacity (L-Direction, Kips):	464.9	>	One-Way Factored Shear (L-D. Kips):	283.0	0.61	OK!	
One-Way Design Shear Capacity (W-Direction, Kips):	464.9	>	One-Way Factored Shear (W-D., Kips)	283.0	0.61	OK!	
One-Way Design Shear Capacity (Corner-Corner. Kips):	406.4	>	One-Way Factored Shear (C-C, Kips):	273.8	0.67	OK!	
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0045	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0045			
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	2209.5	>	Moment at Bottom (L-Dir. K-Ft):	1166.7	0.53	OK!	
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	2209.5	>	Moment at Bottom (W-Dir. K-Ft):	1166.7	0.53	OK!	
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	3058.4	>	Moment at Bottom (C-C Dir. K-Ft):	1650.0	0.54	OK!	
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0045	OK!	Upper Steel Reinf. Ratio (W-Dir.):	0.0045			
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	2209.5	>	Moment at the top (L-Dir K-Ft):	508.9	0.23	OK!	
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	2209.5	>	Moment at the top (W-Dir K-Ft):	508.9	0.23	OK!	
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	3058.4	>	Moment at the top (C-C Dir. K-Ft):	490.1	0.16	OK!	
(3).Check Punching Shear Capacity due to Moment in the Pier:							
Moment transferred by punching shear:	1876.5	k-ft.	Max. factored shear stress v_{u_CD}:		0.6	Psi	
Max. factored shear stress v_{u_AB}:	13.5	Psi	Factored shear Strength ϕv_n:		164.3	Psi	
Max. factored shear stress v_u:	13.5	Psi	Check Usage of Punching Shear Capacity:		0.08	OK!	
(4).Check Bending Capacity of the Pad Within the Effective Slab Width:							
Overturning moment to be transferred by flexure:	1407.4	k-ft.	Effective Width for resisting OT moment:		15.0	ft.	
Calculated number of Rebar in Effective width:	21		Actual number of Rebar in Effective width:		21		
Steel Pad Moment Capacity (L-Direc. Kips-ft):	1449.5	k-ft.	Check Usage of the Flexure Capacity:		0.97	OK!	

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

Antenna Mount Analysis Report and PMI Requirements

Existing 168-Ft Monopole Tower
SBA Communications Corp
Location Code: CT01364-S-SBA
Site Name: Pomfret
Verizon (App#: 217673, v6)

Site Location: 62 Babbitt Hill Road
Pomfret, Connecticut
Windham County
Latitude: 41.870258
Longitude: -71.988241

Analysis Result:

Max Structural Usage: 63.0% [Pass]

Report Prepared By: Sandesh Khawas Bhujel

NOTE: The proposed mount [(1) SitePro1 RMPQ-4096-HK + (2) SP1-MSK3D + (2) P3096] was assumed to be installed properly to the existing tower per the manufacturer's instructions. Tower Engineering Solutions, LLC is not liable for any fit-up issues during installation.

TES
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Introduction

The purpose of this report is to summarize the analysis results on the [(1) SitePro1 RMPQ-4096-HK + (2) SP1-MSK3D + (2) P3096] at 125.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount Assembly Drawing, SitePro1 RMQP-4096-HK
Antenna Loading	SBA Application #: 217673, v6, dated 4/5/2023
Construction Drawings	CD by Chappell Engineering Associates, LLC, dated 3/6/2023

Analysis Criteria

Wind Speed Used in the Analysis: V_{ULT} = 125 mph (3-Sec. Gust) mph (3-Sec. Gust)
Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed: 30 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-H / IBC 2021 / 2022 Connecticut State Building Code
Exposure Category: C
Risk Category: II
Topographic Category: 1
Crest Height (Ft): 0
Ground Elevation Factor: 0.980

Mount Information

[(1) SitePro1 RMPQ-4096-HK + (2) SP1-MSK3D + (2) P3096] at 125.00' elevation

Final Antenna Configuration

Quantity	Manufacturer	Model	Status
6	Commscope	JAHH-65B-R3B	Added
9	Commscope	JAHH-65B-R3B**	Added
3	Samsung	MT6407-77A	Added
3	Samsung	MT6407-77A**	Added
3	Commscope	BSAMNT-SBS-2-2	Added
3	Commscope	CBC78T-DS-43-2X	Added
3	Samsung	B2/B66A RRH ORAN (RF4439d-25A)	Added
5	Samsung	B2/B66A RRH ORAN (RF4439d-25A) **	Added
3	Samsung	B5/B13 RRH ORAN (RF4440d-13A)	Added
5	Samsung	B5/B13 RRH ORAN (RF4440d-13A) **	Added
1	Raycap	RVZDC-6627-PF-48*	Added
7	Raycap	RVZDC-6627-PF-48**	Added

* Equipment to be flush mounted directly to the Standoff arm and are not shown in the placement diagram.

** Equipment are reserved for lease rights only and are not considered in the MA.

In addition to the proposed equipment loading, a 500 lb serviceability load was also considered in this analysis in accordance with TIA requirements.

Analysis Results

Our calculations have determined that under design wind load the proposed mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 63.0%, which occurs in the all thread connection. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

NOTE: The proposed mount [(1) SitePro1 RMPQ-4096-HK + (2) SP1-MSK3D + (2) P3096] was assumed to be installed properly to the existing tower per the manufacturer's instructions. Tower Engineering Solutions, LLC is not liable for any fit-up issues during installation.

Attachments

1. Mount Drawing
2. **Contractor Required PMI Report Deliverables**
3. Antenna Placement Diagrams
4. Analysis Calculations

Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.

2. The analysis is based on the presumption that the antenna mount members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.

4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.

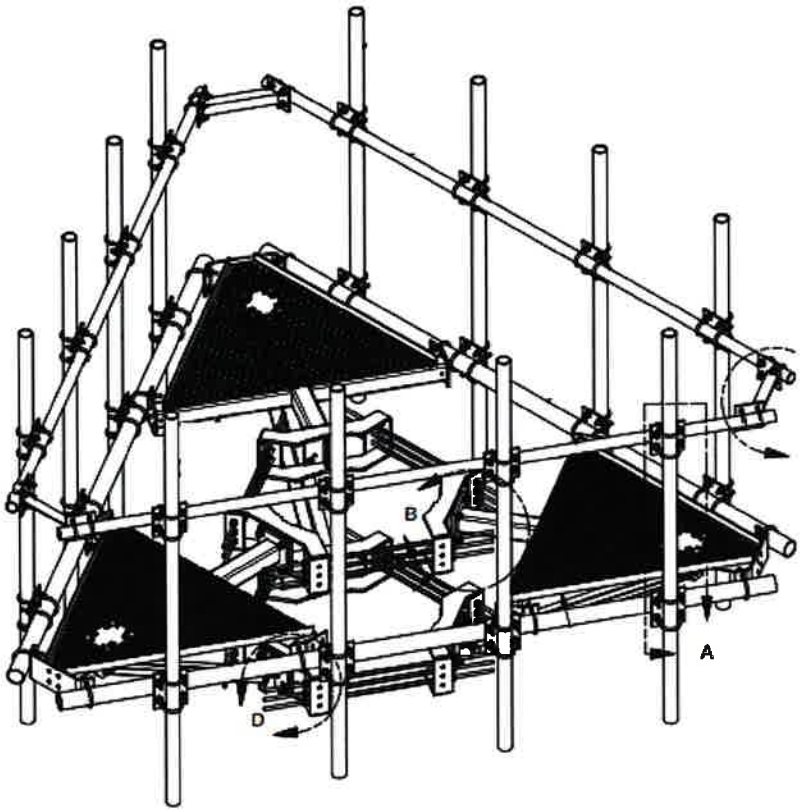
5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.

6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.

7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.

8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.

9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.


B
A
D

TES **Tower Engineering Solutions**

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – New Mount Passing MA

Purpose – to provide TES 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 TES 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 **vzwpmi@testower.us** 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
  - Photos showing the safety climb wire rope above and below the mount prior to modification.
  - Photos showing the climbing facility and safety climb if present.
  - Photos showing the climbing facility and safety climb if present.

Antenna & equipment placement and Geometry Confirmation:

- The contractor must certify that the antenna & equipment placement and geometry is in accordance with the antenna placement diagrams as included in this mount analysis.

☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the antenna placement diagrams as included in this mount analysis.

☐ The contractor notes that the equipment on the mount is not in accordance with the antenna placement diagrams and has accordingly marked up the diagrams or provided a diagram outlining the differences.

Certifying Individual: Company _____

Name _____

Signature _____

New Mount Certification:

- The contractor must certify that the New Mount installed is as specified

☐ The contractor certifies that the New Mount installed is as specified in the Passing Mount Analysis

☐ The contractor notes that the New Mount installed is not as specified and engineering approval was received for the New Mount Installed

☐ The contractor did not install the New Mount specified in the Passing Mount Analysis

Certifying Individual: Company _____

Name _____

Signature _____

Special Instructions / Validation as required from the MA or any other issues Identified during installation:

Issue: _____

_____

_____

Response: _____

_____

_____

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

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

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

Structure: CT01364-S-SBA - Pomfret

Sector: A

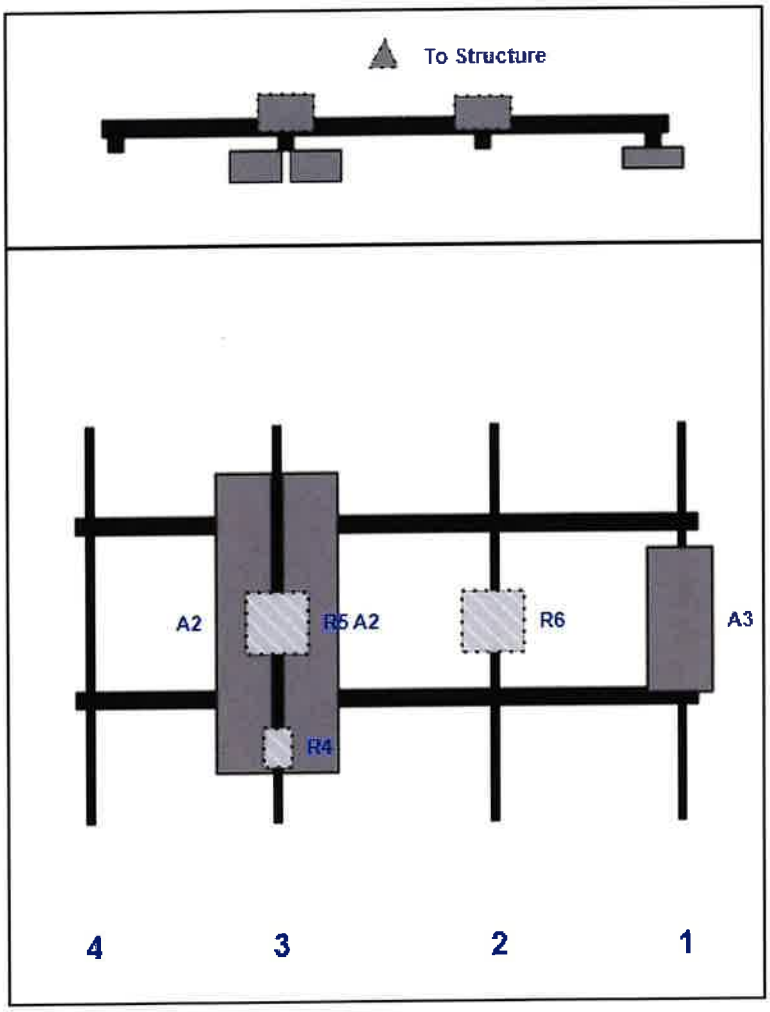
Structure Type: Monopole

Mount Elev: 125.00

4/7/2023

Tower Engineering Solutions

Plan View



Front View

Looking Toward Structure

Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A3	MT6407-77A	35.06	16.06	146.00	1	a	Front	48.00		Added	
R6	B5/B13 RRH ORAN (RF4440d-13A)	14.96	14.96	101.00	2	a	Behind	48.00		Added	
A2	JAHH-65B-R3B	72.00	13.80	49.00	3	a	Front	48.00	8.00	Added	
R4	CBC78T-DS-43-2X	9.64	6.92	49.00	3	a	Behind	78.00		Added	
R5	B2/B66A RRH ORAN (RF4439d-25A)	14.96	14.96	49.00	3	a	Behind	48.00		Added	
A2	JAHH-65B-R3B	72.00	13.80	49.00	3	b	Front	48.00	-8.00	Added	

Structure: CT01364-S-SBA - Pomfret

Sector: B

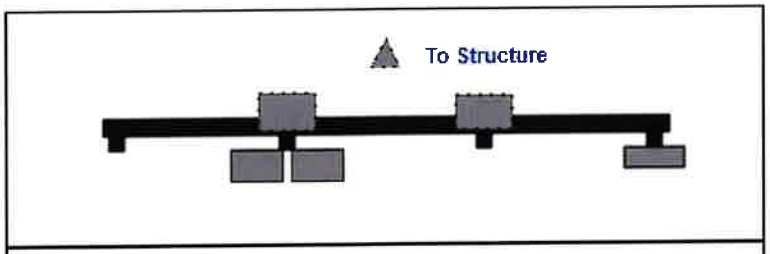
Structure Type: Monopole

Mount Elev: 125.00

4/7/2023

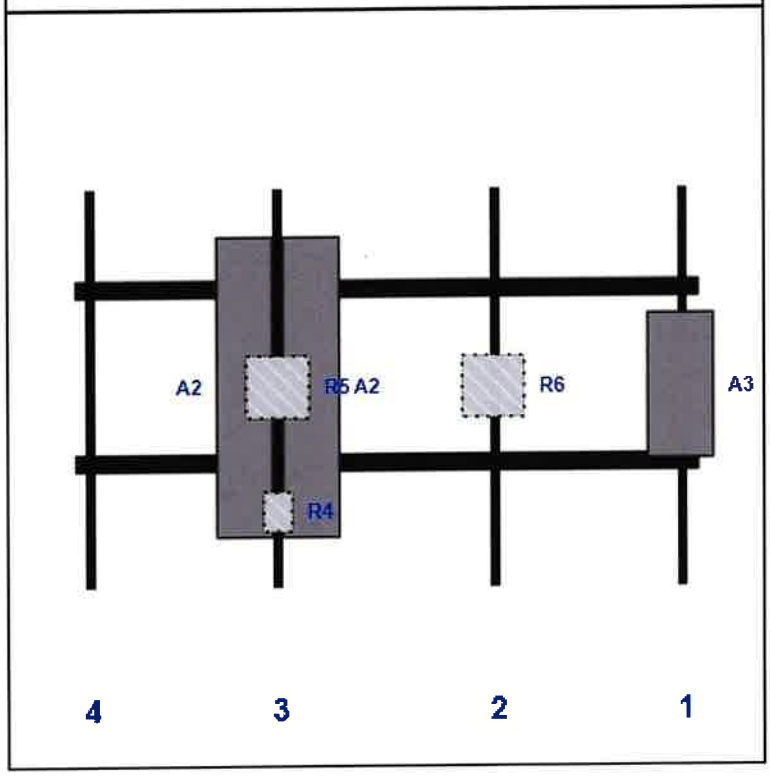
TES Tower Engineering Solutions

Plan View



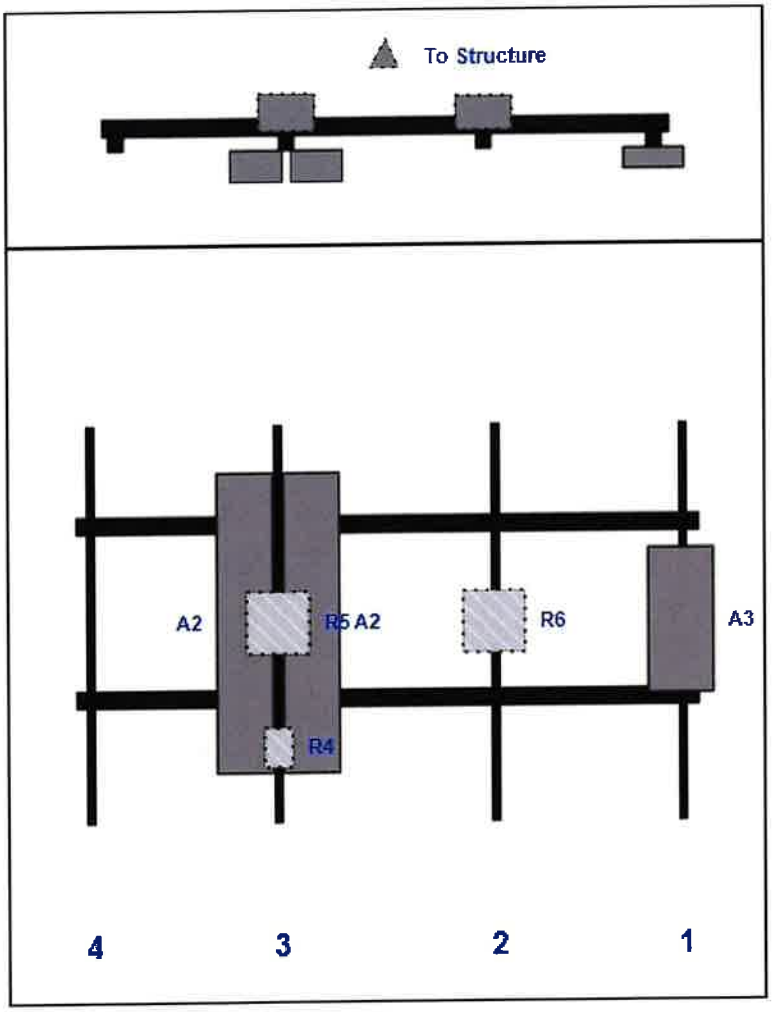
Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A3	MT6407-77A	35.06	16.06	146.00	1	a	Front	48.00		Added	
R6	B5/B13 RRH ORAN (RF4440d-13A)	14.96	14.96	101.00	2	a	Behind	48.00		Added	
A2	JAHH-65B-R3B	72.00	13.80	49.00	3	a	Front	48.00	8.00	Added	
R4	CBC78T-DS-43-2X	9.64	6.92	49.00	3	a	Behind	78.00		Added	
R5	B2/B66A RRH ORAN (RF4439d-25A)	14.96	14.96	49.00	3	a	Behind	48.00		Added	
A2	JAHH-65B-R3B	72.00	13.80	49.00	3	b	Front	48.00	-8.00	Added	

Plan View

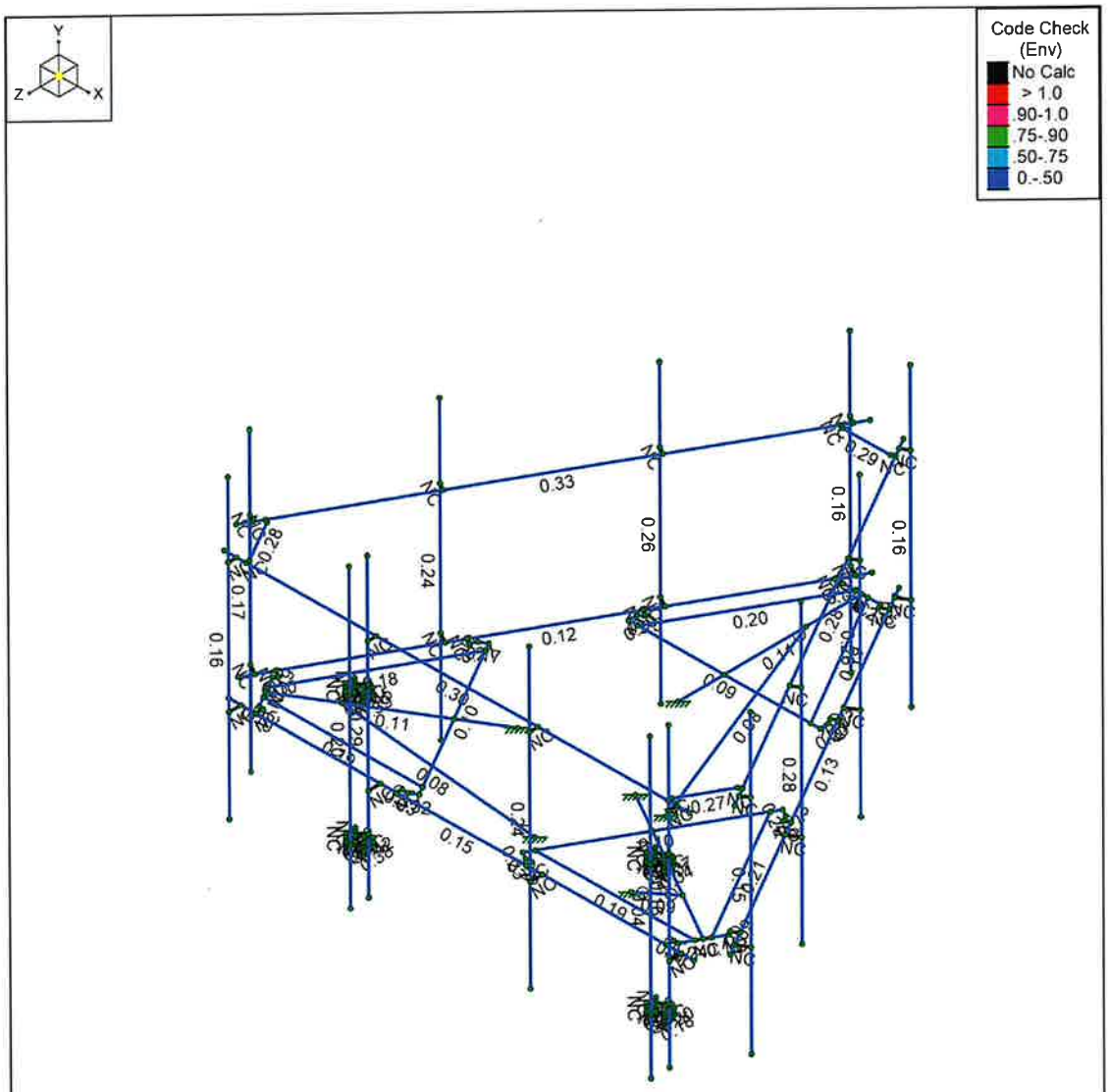


Front View

Looking Toward Structure

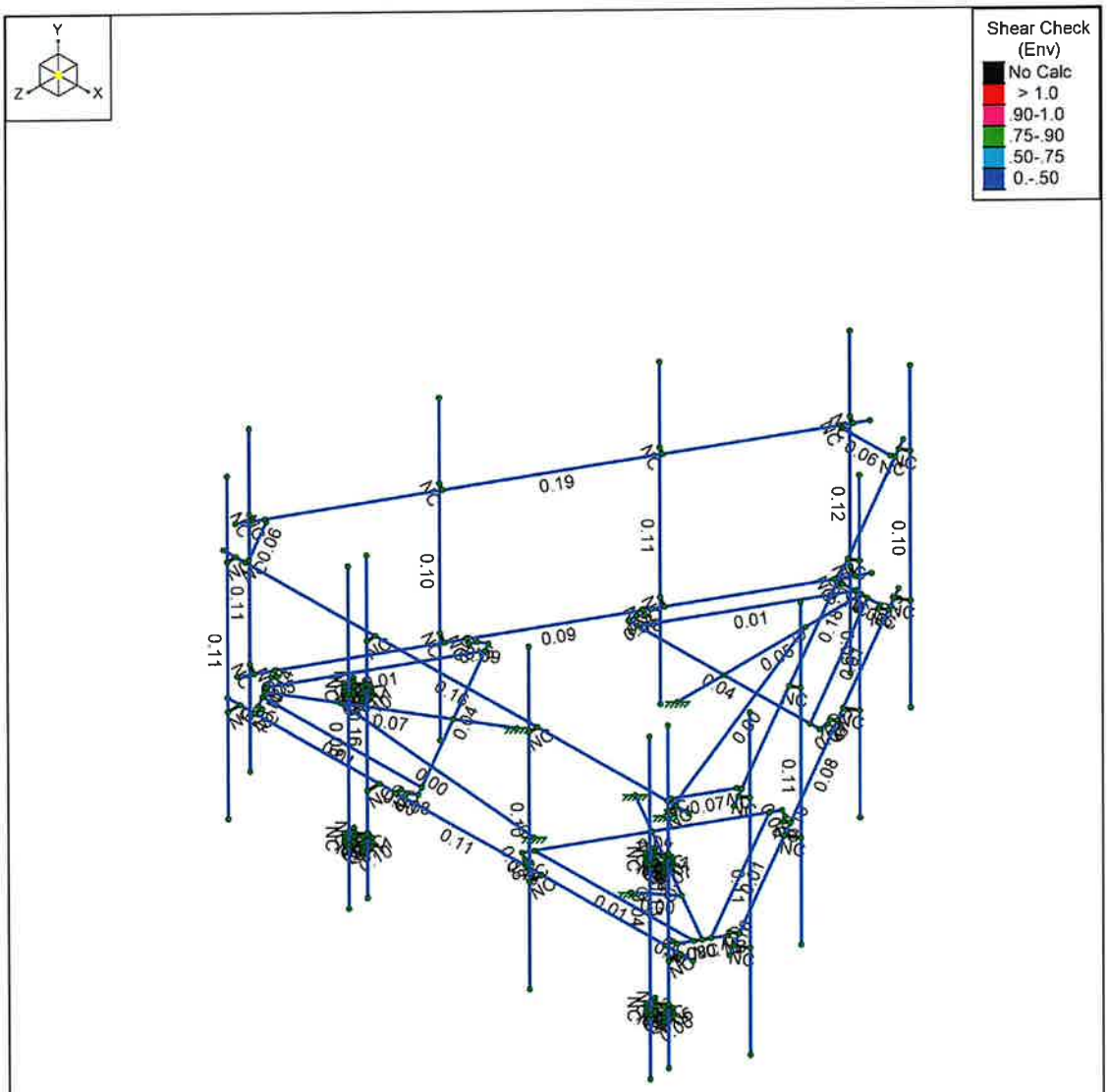
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A3	MT6407-77A	35.06	16.06	146.00	1	a	Front	48.00		Added	
R6	B5/B13 RRH ORAN (RF4440d-13A)	14.96	14.96	101.00	2	a	Behind	48.00		Added	
A2	JAHH-65B-R3B	72.00	13.80	49.00	3	a	Front	48.00	8.00	Added	
R4	CBC78T-DS-43-2X	9.64	6.92	49.00	3	a	Behind	78.00		Added	
R5	B2/B66A RRH ORAN (RF4439d-25A)	14.96	14.96	49.00	3	a	Behind	48.00		Added	
A2	JAHH-65B-R3B	72.00	13.80	49.00	3	b	Front	48.00	-8.00	Added	

Tower Engineering Solutions, LLC	CT01364-S-SBA_MT_LO_Loads Only_H	SK-1
KW		Apr 07, 2023
TES Project No. 139859		CT01364-S-SBA_139859_H_RIS...



Member Code Checks Displayed (Enveloped)

Tower Engineering Solutions, LLC	CT01364-S-SBA_MT_LO_Loads Only_H	SK-2
KW		Apr 07, 2023
TES Project No. 139859		CT01364-S-SBA_139859_H_RIS...



Member Shear Checks Displayed (Enveloped)

Tower Engineering Solutions, LLC	CT01364-S-SBA_MT_LO_Loads Only_H	SK-3
KW		Apr 07, 2023
TES Project No. 139859		CT01364-S-SBA_139859_H_RIS...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed	Area(Member)
1	Antenna D	None				84		
2	Antenna Di	None				84		
3	Antenna Wo (0 Deg)	None				84		
4	Antenna Wo (30 Deg)	None				84		
5	Antenna Wo (60 Deg)	None				84		
6	Antenna Wo (90 Deg)	None				84		
7	Antenna Wo (120 Deg)	None				84		
8	Antenna Wo (150 Deg)	None				84		
9	Antenna Wo (180 Deg)	None				84		
10	Antenna Wo (210 Deg)	None				84		
11	Antenna Wo (240 Deg)	None				84		
12	Antenna Wo (270 Deg)	None				84		
13	Antenna Wo (300 Deg)	None				84		
14	Antenna Wo (330 Deg)	None				84		
15	Antenna Wi (0 Deg)	None				84		
16	Antenna Wi (30 Deg)	None				84		
17	Antenna Wi (60 Deg)	None				84		
18	Antenna Wi (90 Deg)	None				84		
19	Antenna Wi (120 Deg)	None				84		
20	Antenna Wi (150 Deg)	None				84		
21	Antenna Wi (180 Deg)	None				84		
22	Antenna Wi (210 Deg)	None				84		
23	Antenna Wi (240 Deg)	None				84		
24	Antenna Wi (270 Deg)	None				84		
25	Antenna Wi (300 Deg)	None				84		
26	Antenna Wi (330 Deg)	None				84		
27	Antenna Wm (0 Deg)	None				84		
28	Antenna Wm (30 Deg)	None				84		
29	Antenna Wm (60 Deg)	None				84		
30	Antenna Wm (90 Deg)	None				84		
31	Antenna Wm (120 Deg)	None				84		
32	Antenna Wm (150 Deg)	None				84		
33	Antenna Wm (180 Deg)	None				84		
34	Antenna Wm (210 Deg)	None				84		
35	Antenna Wm (240 Deg)	None				84		
36	Antenna Wm (270 Deg)	None				84		
37	Antenna Wm (300 Deg)	None				84		
38	Antenna Wm (330 Deg)	None				84		
39	Structure D	None		-1				3
40	Structure Di	None					78	3
41	Structure Wo (0 Deg)	None					156	
42	Structure Wo (30 Deg)	None					156	
43	Structure Wo (60 Deg)	None					156	
44	Structure Wo (90 Deg)	None					156	
45	Structure Wo (120 Deg)	None					156	
46	Structure Wo (150 Deg)	None					156	
47	Structure Wo (180 Deg)	None					156	
48	Structure Wo (210 Deg)	None					156	
49	Structure Wo (240 Deg)	None					156	
50	Structure Wo (270 Deg)	None					156	
51	Structure Wo (300 Deg)	None					156	
52	Structure Wo (330 Deg)	None					156	
53	Structure Wi (0 Deg)	None					156	
54	Structure Wi (30 Deg)	None					156	
55	Structure Wi (60 Deg)	None					156	

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed	Area(Member)
56	Structure Wi (90 Deg)	None					156	
57	Structure Wi (120 Deg)	None					156	
58	Structure Wi (150 Deg)	None					156	
59	Structure Wi (180 Deg)	None					156	
60	Structure Wi (210 Deg)	None					156	
61	Structure Wi (240 Deg)	None					156	
62	Structure Wi (270 Deg)	None					156	
63	Structure Wi (300 Deg)	None					156	
64	Structure Wi (330 Deg)	None					156	
65	Structure Wm (0 Deg)	None					156	
66	Structure Wm (30 Deg)	None					156	
67	Structure Wm (60 Deg)	None					156	
68	Structure Wm (90 Deg)	None					156	
69	Structure Wm (120 Deg)	None					156	
70	Structure Wm (150 Deg)	None					156	
71	Structure Wm (180 Deg)	None					156	
72	Structure Wm (210 Deg)	None					156	
73	Structure Wm (240 Deg)	None					156	
74	Structure Wm (270 Deg)	None					156	
75	Structure Wm (300 Deg)	None					156	
76	Structure Wm (330 Deg)	None					156	
77	Lm1	None				1		
78	Lm2	None				1		
79	Lv1	None				1		
80	Lv2	None				1		
81	Antenna Ev	None				84		
82	Antenna Eh (0 Deg)	None				56		
83	Antenna Eh (90 Deg)	None				56		
84	Structure Ev	ELY		-0.039				3
85	Structure Eh (0 Deg)	ELZ			-0.097			3
86	Structure Eh (90 Deg)	ELX	0.097					3
87	BLC 39 Transient Area Loads	None					51	
88	BLC 40 Transient Area Loads	None					51	
89	BLC 84 Transient Area Loads	None					51	
90	BLC 85 Transient Area Loads	None					51	
91	BLC 86 Transient Area Loads	None					51	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.2D+1.0Wo (0 Deg)	Yes	Y	1	1.2	39	1.2	3	1	41	1								
2	1.2D+1.0Wo (30 Deg)	Yes	Y	1	1.2	39	1.2	4	1	42	1								
3	1.2D+1.0Wo (60 Deg)	Yes	Y	1	1.2	39	1.2	5	1	43	1								
4	1.2D+1.0Wo (90 Deg)	Yes	Y	1	1.2	39	1.2	6	1	44	1								
5	1.2D+1.0Wo (120 Deg)	Yes	Y	1	1.2	39	1.2	7	1	45	1								
6	1.2D+1.0Wo (150 Deg)	Yes	Y	1	1.2	39	1.2	8	1	46	1								
7	1.2D+1.0Wo (180 Deg)	Yes	Y	1	1.2	39	1.2	9	1	47	1								
8	1.2D+1.0Wo (210 Deg)	Yes	Y	1	1.2	39	1.2	10	1	48	1								
9	1.2D+1.0Wo (240 Deg)	Yes	Y	1	1.2	39	1.2	11	1	49	1								
10	1.2D+1.0Wo (270 Deg)	Yes	Y	1	1.2	39	1.2	12	1	50	1								
11	1.2D+1.0Wo (300 Deg)	Yes	Y	1	1.2	39	1.2	13	1	51	1								
12	1.2D+1.0Wo (330 Deg)	Yes	Y	1	1.2	39	1.2	14	1	52	1								
13	1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	15	1	53	1				
14	1.2D + 1.0Di + 1.0Wi (30 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	16	1	54	1				
15	1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	17	1	55	1				
16	1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	18	1	56	1				

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
17	1.2D + 1.0Di + 1.0Wi (120 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	19	1	57	1				
18	1.2D + 1.0Di + 1.0Wi (150 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	20	1	58	1				
19	1.2D + 1.0Di + 1.0Wi (180 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	21	1	59	1				
20	1.2D + 1.0Di + 1.0Wi (210 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	22	1	60	1				
21	1.2D + 1.0Di + 1.0Wi (240 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	23	1	61	1				
22	1.2D + 1.0Di + 1.0Wi (270 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	24	1	62	1				
23	1.2D + 1.0Di + 1.0Wi (300 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	25	1	63	1				
24	1.2D + 1.0Di + 1.0Wi (330 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	26	1	64	1				
25	1.2D + 1.5Lm1 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	27	1	65	1						
26	1.2D + 1.5Lm1 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	28	1	66	1						
27	1.2D + 1.5Lm1 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	29	1	67	1						
28	1.2D + 1.5Lm1 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	30	1	68	1						
29	1.2D + 1.5Lm1 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	31	1	69	1						
30	1.2D + 1.5Lm1 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	32	1	70	1						
31	1.2D + 1.5Lm1 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	33	1	71	1						
32	1.2D + 1.5Lm1 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	34	1	72	1						
33	1.2D + 1.5Lm1 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	35	1	73	1						
34	1.2D + 1.5Lm1 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	36	1	74	1						
35	1.2D + 1.5Lm1 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	37	1	75	1						
36	1.2D + 1.5Lm1 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	38	1	76	1						
37	1.2D + 1.5Lm2 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	27	1	65	1						
38	1.2D + 1.5Lm2 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	28	1	66	1						
39	1.2D + 1.5Lm2 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	29	1	67	1						
40	1.2D + 1.5Lm2 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	30	1	68	1						
41	1.2D + 1.5Lm2 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	31	1	69	1						
42	1.2D + 1.5Lm2 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	32	1	70	1						
43	1.2D + 1.5Lm2 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	33	1	71	1						
44	1.2D + 1.5Lm2 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	34	1	72	1						
45	1.2D + 1.5Lm2 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	35	1	73	1						
46	1.2D + 1.5Lm2 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	36	1	74	1						
47	1.2D + 1.5Lm2 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	37	1	75	1						
48	1.2D + 1.5Lm2 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	38	1	76	1						
49	1.2D + 1.5Lv1	Yes	Y	1	1.2	39	1.2	79	1.5										
50	1.2D + 1.5Lv2	Yes	Y	1	1.2	39	1.2	80	1.5										
51	1.4D	Yes	Y	1	1.4	39	1.4												
52	1.2D + 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX	
53	1.2D + 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
54	1.2D + 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
55	1.2D + 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1
56	1.2D + 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
57	1.2D + 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
58	1.2D + 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX	
59	1.2D + 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5
60	1.2D + 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
61	1.2D + 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1
62	1.2D + 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
63	1.2D + 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5
64	0.9D - 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX	
65	0.9D - 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
66	0.9D - 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
67	0.9D - 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1
68	0.9D - 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
69	0.9D - 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
70	0.9D - 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX	
71	0.9D - 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
72	0.9D - 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
73	0.9D - 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1
74	0.9D - 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
75	0.9D - 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	N1	2.166667	3.5	4.350607	
2	N2	0	0	-1.833333	
3	N3	0	0	-3.078125	
4	N4	0	0	-6.786458	
5	N5	-2.572917	0	-3.078125	
6	N6	2.572917	0	-3.078125	
7	N7	-2.572917	0	-3.296875	
8	N8	2.572917	0	-3.296875	
9	N10	2.489584	0	-3.441213	
10	N11	-0.5	0	-6.786458	
11	N12	0.5	0	-6.786458	
12	N13	-0.556	0	-6.689463	
13	N14	0.556	0	-6.689463	
14	N9	-2.489583	0	-3.441213	
15	N15	-2.322917	0	-3.078125	
16	N18	-0.166667	0	-6.786458	
17	N18A	2.322917	0	-3.078125	
18	N19	0.166667	0	-6.786458	
19	N19A	2.615879	0	-3.514129	
20	N20	0.72595	0	-6.787583	
21	N23	-2.615879	0	-3.514129	
22	N24	-0.72595	0	-6.787583	
23	N25	-2.665734	0	1.539063	
24	N26	-5.877245	0	3.393229	
25	N27	-1.379276	0	3.767274	
26	N28	-3.952193	0	-0.689149	
27	N29	-1.568719	0	3.876649	
28	N30	-4.141636	0	-0.579774	
29	N31	-4.22497	0	-0.435436	
30	N32	-5.627245	0	3.826242	
31	N33	-6.127245	0	2.960216	
32	N34	-5.515245	0	3.826242	
33	N35	-6.071245	0	2.863222	
34	N36	-1.735386	0	3.876649	
35	N37	-1.504276	0	3.550767	
36	N38	-5.793912	0	3.537567	
37	N39	-3.827193	0	-0.472642	
38	N40	-5.960579	0	3.248891	
39	N41	-4.351265	0	-0.508353	
40	N42	-6.241194	0	2.765101	
41	N43	-1.735386	0	4.022482	
42	N44	-5.515245	0	4.022482	
43	N47	2.665734	0	1.539063	
44	N48	5.877245	0	3.393229	
45	N49	3.952193	0	-0.689149	
46	N50	1.379276	0	3.767274	
47	N51	4.141636	0	-0.579774	
48	N52	1.568719	0	3.876649	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
49	N53	1.735386	0	3.876649	
50	N54	6.127245	0	2.960216	
51	N55	5.627245	0	3.826242	
52	N56	6.071245	0	2.863222	
53	N57	5.515245	0	3.826242	
54	N58	4.224969	0	-0.435436	
55	N59	3.827193	0	-0.472642	
56	N60	5.960579	0	3.248891	
57	N61	1.504276	0	3.550767	
58	N62	5.793912	0	3.537567	
59	N63	1.735386	0	4.022482	
60	N64	5.515245	0	4.022482	
61	N65	4.351265	0	-0.508353	
62	N66	6.241194	0	2.765101	
63	N65A	-6.25	0	4.022482	
64	N66A	6.25	0	4.022482	
65	N67	-5.916667	0	4.022482	
66	N68	-2.166667	0	4.022482	
67	N69	5.916667	0	4.022482	
68	N70	2.166667	0	4.022482	
69	N71	-5.916667	0	4.350607	
70	N72	-2.166667	0	4.350607	
71	N73	5.916667	0	4.350607	
72	N74	2.166667	0	4.350607	
73	N75	-6.25	3.5	4.12144	
74	N76	6.25	3.5	4.12144	
75	N77	-5.916667	3.5	4.12144	
76	N78	-2.166667	3.5	4.12144	
77	N79	5.916667	3.5	4.12144	
78	N80	2.166667	3.5	4.12144	
79	N81	-5.916667	3.5	4.350607	
80	N82	-2.166667	3.5	4.350607	
81	N83	5.916667	3.5	4.350607	
82	N85	-5.916667	5.5	4.350607	
83	N86	-2.166667	5.5	4.350607	
84	N87	5.916667	5.5	4.350607	
85	N88	2.166667	5.5	4.350607	
86	N89	-5.916667	-2.5	4.350607	
87	N90	-2.166667	-2.5	4.350607	
88	N91	5.916667	-2.5	4.350607	
89	N92	2.166667	-2.5	4.350607	
90	N94	6.608572	0	3.401418	
91	N95	0.358572	0	-7.4239	
92	N96	6.441905	0	3.112743	
93	N99	2.400238	0	-3.88763	
94	N100	6.72607	0	2.94868	
95	N103	2.684403	0	-4.051692	
96	N104	6.694272	3.5	3.351939	
97	N105	0.444272	3.5	-7.473379	
98	N106	6.527606	3.5	3.063264	
99	N109	2.485939	3.5	-3.937109	
100	N110	6.72607	3.5	2.94868	
101	N113	2.684403	3.5	-4.051692	
102	N114	6.72607	5.5	2.94868	
103	N118	6.72607	-2.5	2.94868	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
104	N123	-0.358572	0	-7.4239	
105	N124	-6.608572	0	3.401418	
106	N125	-0.525238	0	-7.135225	
107	N126	-2.400238	0	-3.88763	
108	N127	-6.441905	0	3.112743	
109	N128	-4.566905	0	-0.134852	
110	N129	-0.809403	0	-7.299287	
111	N130	-2.684403	0	-4.051692	
112	N131	-6.72607	0	2.94868	
113	N132	-4.85107	0	-0.298915	
114	N133	-0.444272	3.5	-7.473379	
115	N134	-6.694272	3.5	3.351939	
116	N135	-0.610939	3.5	-7.184704	
117	N136	-2.485939	3.5	-3.937109	
118	N137	-6.527606	3.5	3.063264	
119	N138	-4.652605	3.5	-0.184332	
120	N139	-0.809403	3.5	-7.299287	
121	N140	-2.684403	3.5	-4.051692	
122	N141	-6.72607	3.5	2.94868	
123	N142	-4.85107	3.5	-0.298915	
124	N143	-0.809403	5.5	-7.299287	
125	N144	-2.684403	5.5	-4.051692	
126	N145	-6.72607	5.5	2.94868	
127	N146	-4.85107	5.5	-0.298915	
128	N147	-0.809403	-2.5	-7.299287	
129	N148	-2.684403	-2.5	-4.051692	
130	N149	-6.72607	-2.5	2.94868	
131	N150	-4.85107	-2.5	-0.298915	
132	N149A	-5.668667	3.5	4.12144	
133	N150A	-5.668667	3.5	4.022482	
134	N151	5.668667	3.5	4.12144	
135	N152	5.668667	3.5	4.022482	
136	N153	6.403605	3.5	2.848489	
137	N154	6.317905	3.5	2.897969	
138	N155	0.734939	3.5	-6.96993	
139	N156	0.649238	3.5	-6.920451	
140	N157	-0.734939	3.5	-6.96993	
141	N158	-0.649238	3.5	-6.920451	
142	N159	-6.403605	3.5	2.848489	
143	N160	-6.317905	3.5	2.897969	
144	N161	0	0	-5.286458	
145	N162	0	-2.5	-1.5	
146	N163	-4.578207	0	2.643229	
147	N164	-1.299038	-2.5	0.75	
148	N165	4.578207	0	2.643229	
149	N166	1.299038	-2.5	0.75	
150	N239	-2.406667	-1.09375	4.725607	
151	N241	0.525238	0	-7.135225	
152	N248	-2.406667	2.40625	4.475607	
153	N249	-2.406667	-1.09375	4.475607	
154	N250	-2.166667	-2.5	4.850607	
155	N251	4.566905	0	-0.134852	
156	N252	-2.406667	2.40625	4.725607	
157	N253	4.85107	0	-0.298915	
158	N254	0.809403	0	-7.299287	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
159	N255	4.652605	3.5	-0.184331	
160	N256	0.610939	3.5	-7.184704	
161	N258	4.85107	3.5	-0.298915	
162	N259	0.809403	3.5	-7.299287	
163	N261	0.809403	5.5	-7.299287	
164	N262	0.809403	-2.5	-7.299287	
165	N263	-2.406667	2.5	4.725607	
166	N265	-1.916667	2.59375	4.475607	
167	N266	-2.166667	2.5	4.725607	
168	N267	-2.406667	2.59375	4.725607	
169	N269	-1.916667	2.40625	4.725607	
170	N270	-1.916667	2.5	4.475607	
171	N271	-1.916667	2.40625	4.475607	
172	N272	-2.166667	2.5	4.350607	
173	N273	-1.916667	-1.09375	4.725607	
174	N274	-2.166667	-1	4.350607	
175	N275	-2.166667	2.5	4.850607	
176	N276	-2.406667	2.59375	4.475607	
177	N277	-1.916667	2.59375	4.725607	
178	N278	-2.166667	2.5	4.475607	
179	N279	-1.916667	2.5	4.725607	
180	N280	-2.406667	2.5	4.475607	
181	N281	-1.916667	-0.90625	4.475607	
182	N282	-1.916667	-1	4.475607	
183	N283	-1.916667	-1.09375	4.475607	
184	N284	-2.166667	-1	4.725607	
185	N285	-2.166667	-1	4.850607	
186	N286	-2.406667	-0.90625	4.475607	
187	N287	-2.406667	-0.90625	4.725607	
188	N288	-1.916667	-0.90625	4.725607	
189	N289	-2.166667	-1	4.475607	
190	N290	-2.406667	-1	4.725607	
191	N291	-1.916667	-1	4.725607	
192	N292	-2.406667	-1	4.475607	
193	N316	-2.166667	5.5	4.850607	
194	N201	5.676667	-0.90625	4.725607	
195	N202	5.916667	2.5	4.850607	
196	N203	6.166667	-1.09375	4.475607	
197	N204	5.916667	-1	4.725607	
198	N205	5.676667	2.59375	4.725607	
199	N206	5.916667	2.5	4.350607	
200	N207	5.676667	-1	4.725607	
201	N208	6.166667	-1	4.725607	
202	N209	6.166667	-1.09375	4.725607	
203	N210	5.676667	-1.09375	4.725607	
204	N211	5.676667	2.40625	4.475607	
205	N212	5.676667	-1.09375	4.475607	
206	N213	5.676667	2.40625	4.725607	
207	N214	5.676667	2.5	4.725607	
208	N215	5.916667	2.5	4.725607	
209	N216	6.166667	2.59375	4.475607	
210	N217	6.166667	2.40625	4.725607	
211	N218	6.166667	2.5	4.475607	
212	N219	6.166667	2.40625	4.475607	
213	N220	5.916667	-1	4.350607	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
214	N221	5.676667	2.59375	4.475607	
215	N222	6.166667	2.59375	4.725607	
216	N223	5.916667	2.5	4.475607	
217	N224	6.166667	2.5	4.725607	
218	N225	5.676667	2.5	4.475607	
219	N226	6.166667	-0.90625	4.475607	
220	N227	6.166667	-1	4.475607	
221	N228	5.916667	-1	4.850607	
222	N229	5.676667	-0.90625	4.475607	
223	N230	6.166667	-0.90625	4.725607	
224	N231	5.916667	-1	4.475607	
225	N232	5.676667	-1	4.475607	
226	N233	5.916667	5.5	4.850607	
227	N235	5.916667	-2.5	4.850607	
228	N234	-1.587713	0	0.916667	
229	N237	1.587713	0	0.916667	
230	N236	4.85107	5.5	-0.298915	
231	N238	4.85107	-2.5	-0.298915	
232	N244	2.684403	5.5	-4.051692	
233	N245	2.684403	-2.5	-4.051692	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	Standoff Arms	HSS4X4X4	Beam	SquareTube	A500 Gr.B RECT	Typical	3.37	7.8	7.8	12.8
2	Plan Bracing	HSS4X4X4	Beam	SquareTube	A500 Gr.B RECT	Typical	3.37	7.8	7.8	12.8
3	Face Horizontals	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
4	Mount Pipes	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
5	Support Rail	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
6	Bottom Corner Plate	PL1/2X6	Beam	RECT	A36 Gr.36	Typical	3	0.063	9	0.237
7	Plan Brace Connection Plate	PL3/8X6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
8	Top Corner Braces	L2.5X2.5X4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
9	Grating Support Angles	L2X2X3	Beam	Single Angle	A36 Gr.36	Typical	0.722	0.271	0.271	0.009
10	Kickers	LL2.5X2.5X3X3	Beam	Double Angle (3/8 Gap)	A36 Gr.36	Typical	1.8	2.46	1.07	0.023
11	All Thread Connection	0.625_ALL_THREAD	Beam	BAR	A36 Gr.36	Typical_APP	0.226	0.004	0.004	0.008

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	Plan Bracing 1	4CU4X375	Beam	None	A653 SS Gr33	Typical	3.977	6.309	9.989	0.186
2	CF	4CU5.25X0375	Beam	CU	A570 Gr.33	Typical	4.854	13.238	12.817	0.228
3	CF1A	1.5CU1.25X035	Beam	CU	A570_33	Typical_APP	0.131	0.022	0.052	5.4e-5

Aluminum Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	Grating Support Angles 1	L2X2X0.188	Beam	Single Angle	6061-T6	Typical	0.723	0.268	0.268	0.008
2	AL1A	AACS14X13.9	Beam	AA Channel	3003-H14	Typical	11.8	44.7	401	1.19
3	AL1	AA CS14X13.9	Beam	AA Channel	3003-H14	Typical_APP	0	0	0	0

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e5°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B RECT	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A500 Gr.C RND	29000	11154	0.3	0.65	0.527	46	1.4	62	1.3
7	A500 Gr.C RECT	29000	11154	0.3	0.65	0.527	50	1.4	62	1.3
8	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
9	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
10	A913 Gr.65	29000	11154	0.3	0.65	0.49	65	1.1	80	1.1
11	A500 Gr.42	29000	11154	0.3	0.65	0.49	42	1.3	58	1.1
12	A500 Gr.46	29000	11154	0.3	0.65	0.49	46	1.2	58	1.1
13	Q235	29000	11154	0.3	0.65	0.49	34	1.5	58	1.2
14	J429-Gr5	29000	11154	0.3	0.65	0.49	92	1.5	120	1.2

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e5°F⁻¹]	Density [k/ft³]	Yield [ksi]	Fu [ksi]
1	A653 SS Gr33	29500	11346	0.3	0.65	0.49	33	45
2	A653 SS Gr50/1	29500	11346	0.3	0.65	0.49	50	65
3	A570 Gr.33	29500	11346	0.3	0.65	0.49	33	52
4	A607 C1 Gr.55	29500	11346	0.3	0.65	0.49	55	70
5	A570 33	29500	11346	0.3	0.65	0.49	33	52
6	A607 C1 55	29500	11346	0.3	0.65	0.49	55	70

Aluminum Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e5°F⁻¹]	Density [k/ft³]	Table B.4	kt	Ftu [ksi]	Fty [ksi]	Fcy [ksi]	Fsu [ksi]	Ct
1	3003-H14	10100	3787.5	0.33	1.3	0.173	Table B.4-1	1	19	16	13	12	141
2	6061-T6	10100	3787.5	0.33	1.3	0.173	Table B.4-2	1	38	35	35	24	141
3	6063-T5	10100	3787.5	0.33	1.3	0.173	Table B.4-2	1	22	16	16	13	141
4	6063-T6	10100	3787.5	0.33	1.3	0.173	Table B.4-2	1	30	25	25	19	141
5	5052-H34	10200	3787.5	0.33	1.3	0.173	Table B.4-1	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	0.33	1.3	0.173	Table B.4-1	1	24	15	15	15	141

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N2	N4		Standoff Arms	Beam	SquareTube	A500 Gr.B RECT	Typical
2	M2	N5	N6		Plan Bracing	Beam	SquareTube	A500 Gr.B RECT	Typical
3	M3	N5	N7		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
4	M4	N7	N9		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
5	M5	N6	N8		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
6	M6	N8	N10		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
7	M7	N18	N11		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
8	M8	N11	N13		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
9	M9	N19	N12		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
10	M10	N12	N14		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
11	M11	N15	N18		Grating Support Angles	Beam	Single Angle	A36 Gr.36	Typical
12	M12	N18A	N19	270	Grating Support Angles	Beam	Single Angle	A36 Gr.36	Typical
13	M13	N18	N19		RIGID	None	None	RIGID	Typical
14	M14	N14	N20		RIGID	None	None	RIGID	Typical
15	M15	N10	N19A		RIGID	None	None	RIGID	Typical
16	M16	N13	N24		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
17	M17	N9	N23		RIGID	None	None	RIGID	Typical
18	M18	N27	N28		Plan Bracing	Beam	SquareTube	A500 Gr.B RECT	Typical
19	M19	N27	N29		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
20	M20	N29	N36		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
21	M21	N28	N30		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
22	M22	N30	N31		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
23	M23	N38	N32		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
24	M24	N32	N34		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
25	M25	N40	N33		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
26	M26	N33	N35		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
27	M27	N37	N38		Grating Support Angles	Beam	Single Angle	A36 Gr.36	Typical
28	M28	N39	N40	270	Grating Support Angles	Beam	Single Angle	A36 Gr.36	Typical
29	M29	N38	N40		RIGID	None	None	RIGID	Typical
30	M30	N35	N42		RIGID	None	None	RIGID	Typical
31	M31	N31	N41		RIGID	None	None	RIGID	Typical
32	M32	N34	N44		RIGID	None	None	RIGID	Typical
33	M33	N36	N43		RIGID	None	None	RIGID	Typical
34	M34	N49	N50		Plan Bracing	Beam	SquareTube	A500 Gr.B RECT	Typical
35	M35	N49	N51		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
36	M36	N51	N58		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
37	M37	N50	N52		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
38	M38	N52	N53		Plan Brace Connection Plate	Beam	RECT	A36 Gr.36	Typical
39	M39	N60	N54		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
40	M40	N54	N56		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
41	M41	N62	N55		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
42	M42	N55	N57		Bottom Corner Plate	Beam	RECT	A36 Gr.36	Typical
43	M43	N59	N60		Grating Support Angles	Beam	Single Angle	A36 Gr.36	Typical
44	M44	N61	N62	270	Grating Support Angles	Beam	Single Angle	A36 Gr.36	Typical
45	M45	N60	N62		RIGID	None	None	RIGID	Typical
46	M46	N57	N64		RIGID	None	None	RIGID	Typical
47	M47	N53	N63		RIGID	None	None	RIGID	Typical
48	M48	N56	N66		RIGID	None	None	RIGID	Typical
49	M49	N58	N65		RIGID	None	None	RIGID	Typical
50	M50	N65A	N66A		Face Horizontals	Beam	Pipe	A53 Gr.B	Typical
51	M51	N75	N76		Support Rail	Beam	Pipe	A53 Gr.B	Typical
52	M52	N69	N73		RIGID	None	None	RIGID	Typical
53	M53	N79	N83		RIGID	None	None	RIGID	Typical
54	M54	N80	N1		RIGID	None	None	RIGID	Typical
55	M55	N70	N74		RIGID	None	None	RIGID	Typical
56	M56	N68	N72		RIGID	None	None	RIGID	Typical
57	M57	N78	N82		RIGID	None	None	RIGID	Typical
58	M58	N77	N81		RIGID	None	None	RIGID	Typical
59	M59	N67	N71		RIGID	None	None	RIGID	Typical
60	M60	N87	N91		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
61	MP2A	N88	N92		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
62	M62	N86	N90		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
63	MP4A	N85	N89		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
64	M64	N94	N95		Face Horizontals	Beam	Pipe	A53 Gr.B	Typical
65	M65	N104	N105		Support Rail	Beam	Pipe	A53 Gr.B	Typical
66	M66	N109	N113		RIGID	None	None	RIGID	Typical
67	M67	N99	N103		RIGID	None	None	RIGID	Typical
68	M68	N106	N110		RIGID	None	None	RIGID	Typical
69	M69	N96	N100		RIGID	None	None	RIGID	Typical
70	MP4C	N114	N118		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
71	M72	N123	N124		Face Horizontals	Beam	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
72	M73	N133	N134		Support Rail	Beam	Pipe	A53 Gr.B	Typical
73	M74	N127	N131		RIGID	None	None	RIGID	Typical
74	M75	N137	N141		RIGID	None	None	RIGID	Typical
75	M76	N138	N142		RIGID	None	None	RIGID	Typical
76	M77	N128	N132		RIGID	None	None	RIGID	Typical
77	M78	N126	N130		RIGID	None	None	RIGID	Typical
78	M79	N136	N140		RIGID	None	None	RIGID	Typical
79	M80	N135	N139		RIGID	None	None	RIGID	Typical
80	M81	N125	N129		RIGID	None	None	RIGID	Typical
81	MP1B	N145	N149		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
82	MP2B	N146	N150		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
83	MP3B	N144	N148		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
84	MP4B	N143	N147		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
85	M86	N149A	N150A		RIGID	None	None	RIGID	Typical
86	M87	N151	N152		RIGID	None	None	RIGID	Typical
87	M88	N153	N154		RIGID	None	None	RIGID	Typical
88	M89	N155	N156		RIGID	None	None	RIGID	Typical
89	M90	N157	N158		RIGID	None	None	RIGID	Typical
90	M91	N159	N160		RIGID	None	None	RIGID	Typical
91	M92	N150A	N160	180	Top Corner Braces	Beam	Single Angle	A36 Gr.36	Typical
92	M93	N158	N156	180	Top Corner Braces	Beam	Single Angle	A36 Gr.36	Typical
93	M94	N154	N152	180	Top Corner Braces	Beam	Single Angle	A36 Gr.36	Typical
94	M95	N162	N161		Kickers	Beam	Double Angle (3/8 Gap)	A36 Gr.36	Typical
95	M96	N164	N163		Kickers	Beam	Double Angle (3/8 Gap)	A36 Gr.36	Typical
96	M97	N166	N165		Kickers	Beam	Double Angle (3/8 Gap)	A36 Gr.36	Typical
97	M98	N256	N259		RIGID	None	None	RIGID	Typical
98	M99	N283	N273		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
99	M100	N271	N269		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
100	M101	N286	N249	120	RIGID_2	Beam	None	RIGID	DR1_1
101	M102	N276	N248	120	RIGID_2	Beam	None	RIGID	DR1_1
102	M103	N241	N254		RIGID	None	None	RIGID	Typical
103	M104	N251	N253		RIGID	None	None	RIGID	Typical
104	M105	N255	N258		RIGID	None	None	RIGID	Typical
105	MP1C	N261	N262		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
106	M108	N280	N270		RIGID_2	Beam	None	RIGID	DR1_1
107	M109	N274	N289		RIGID_2	Beam	None	RIGID	DR1_1
108	M110	N276	N267		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
109	M111	N287	N239	120	RIGID_2	Beam	None	RIGID	DR1_1
110	M112	N267	N252	120	RIGID_2	Beam	None	RIGID	DR1_1
111	M113	N281	N283	120	RIGID_2	Beam	None	RIGID	DR1_1
112	M114	N266	N275		RIGID_2	Beam	None	RIGID	DR1_1
113	M115	N290	N291		RIGID_2	Beam	None	RIGID	DR1_1
114	M116	N248	N252		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
115	M117	N265	N277		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
116	M118	N272	N278		RIGID_2	Beam	None	RIGID	DR1_1
117	M119	N277	N269	120	RIGID_2	Beam	None	RIGID	DR1_1
118	M120	N265	N271	120	RIGID_2	Beam	None	RIGID	DR1_1
119	M121	N263	N279		RIGID_2	Beam	None	RIGID	DR1_1
120	M122	N249	N239		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
121	M123	N286	N287		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
122	M124	N281	N288		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
123	M125	N284	N285		RIGID_2	Beam	None	RIGID	DR1_1
124	M126	N288	N273	120	RIGID_2	Beam	None	RIGID	DR1_1
125	M127	N292	N282		RIGID_2	Beam	None	RIGID	DR1_1
126	MP3A	N316	N250	120	Mount Pipes	Beam	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
127	M129	N211	N213		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
128	M130	N214	N224		RIGID 2	Beam	None	RIGID	DR1 1
129	M131	N215	N202		RIGID 2	Beam	None	RIGID	DR1 1
130	M132	N212	N210		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
131	M133	N207	N208		RIGID 2	Beam	None	RIGID	DR1 1
132	M134	N206	N223		RIGID 2	Beam	None	RIGID	DR1 1
133	M135	N216	N219		RIGID 2	Beam	None	RIGID	DR1 1
134	M136	N203	N209		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
135	M137	N219	N217		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
136	M138	N229	N212		RIGID 2	Beam	None	RIGID	DR1 1
137	M139	N221	N211		RIGID 2	Beam	None	RIGID	DR1 1
138	M140	N225	N218		RIGID 2	Beam	None	RIGID	DR1 1
139	M141	N220	N231		RIGID 2	Beam	None	RIGID	DR1 1
140	M142	N221	N205		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
141	M143	N201	N210		RIGID 2	Beam	None	RIGID	DR1 1
142	M144	N205	N213		RIGID 2	Beam	None	RIGID	DR1 1
143	M145	N226	N203		RIGID 2	Beam	None	RIGID	DR1 1
144	M146	N216	N222		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
145	M147	N222	N217		RIGID 2	Beam	None	RIGID	DR1 1
146	M148	N229	N201		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
147	M149	N226	N230		All Thread Connection	Beam	BAR	A36 Gr.36	Typical APP
148	M150	N204	N228		RIGID 2	Beam	None	RIGID	DR1 1
149	M151	N230	N209		RIGID 2	Beam	None	RIGID	DR1 1
150	M152	N232	N227		RIGID 2	Beam	None	RIGID	DR1 1
151	MP1A	N233	N235		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
152	MP5	N234	N26		Standoff Arms	Beam	SquareTube	A500 Gr.B RECT	Typical
153	MP5A	N237	N48		Standoff Arms	Beam	SquareTube	A500 Gr.B RECT	Typical
154	MP3C	N236	N238	120	Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
155	MP2C	N244	N245		Mount Pipes	Beam	Pipe	A53 Gr.B	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
1	M1			Yes	N/A	None
2	M2			Yes	N/A	None
3	M3			Yes	N/A	None
4	M4			Yes	N/A	None
5	M5			Yes	N/A	None
6	M6			Yes	N/A	None
7	M7			Yes	N/A	None
8	M8			Yes	N/A	None
9	M9			Yes	N/A	None
10	M10			Yes	N/A	None
11	M11			Yes	N/A	None
12	M12			Yes	N/A	None
13	M13			Yes	** NA **	None
14	M14		BenPIN	Yes	** NA **	None
15	M15		BenPIN	Yes	** NA **	None
16	M16		BenPIN	Yes	** NA **	None
17	M17		BenPIN	Yes	** NA **	None
18	M18			Yes	N/A	None
19	M19			Yes	N/A	None
20	M20			Yes	N/A	None
21	M21			Yes	N/A	None
22	M22			Yes	N/A	None
23	M23			Yes	N/A	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
24	M24			Yes	N/A	None
25	M25			Yes	N/A	None
26	M26			Yes	N/A	None
27	M27			Yes	N/A	None
28	M28			Yes	N/A	None
29	M29			Yes	** NA **	None
30	M30		BenPIN	Yes	** NA **	None
31	M31		BenPIN	Yes	** NA **	None
32	M32		BenPIN	Yes	** NA **	None
33	M33		BenPIN	Yes	** NA **	None
34	M34			Yes	N/A	None
35	M35			Yes	N/A	None
36	M36			Yes	N/A	None
37	M37			Yes	N/A	None
38	M38			Yes	N/A	None
39	M39			Yes	N/A	None
40	M40			Yes	N/A	None
41	M41			Yes	N/A	None
42	M42			Yes	N/A	None
43	M43			Yes	N/A	None
44	M44			Yes	N/A	None
45	M45			Yes	** NA **	None
46	M46		BenPIN	Yes	** NA **	None
47	M47		BenPIN	Yes	** NA **	None
48	M48		BenPIN	Yes	** NA **	None
49	M49		BenPIN	Yes	** NA **	None
50	M50			Yes	N/A	None
51	M51			Yes	N/A	None
52	M52			Yes	** NA **	None
53	M53			Yes	** NA **	None
54	M54			Yes	** NA **	None
55	M55			Yes	** NA **	None
56	M56			Yes	** NA **	None
57	M57			Yes	** NA **	None
58	M58			Yes	** NA **	None
59	M59			Yes	** NA **	None
60	M60			Yes	N/A	None
61	MP2A			Yes	N/A	None
62	M62			Yes	N/A	None
63	MP4A			Yes	N/A	None
64	M64			Yes	N/A	None
65	M65			Yes	N/A	None
66	M66			Yes	** NA **	None
67	M67			Yes	** NA **	None
68	M68			Yes	** NA **	None
69	M69			Yes	** NA **	None
70	MP4C			Yes	N/A	None
71	M72			Yes	N/A	None
72	M73			Yes	N/A	None
73	M74			Yes	** NA **	None
74	M75			Yes	** NA **	None
75	M76			Yes	** NA **	None
76	M77			Yes	** NA **	None
77	M78			Yes	** NA **	None
78	M79			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
79	M80			Yes	** NA **	None
80	M81			Yes	** NA **	None
81	MP1B			Yes	N/A	None
82	MP2B			Yes	N/A	None
83	MP3B			Yes	N/A	None
84	MP4B			Yes	N/A	None
85	M86			Yes	** NA **	None
86	M87			Yes	** NA **	None
87	M88			Yes	** NA **	None
88	M89			Yes	** NA **	None
89	M90			Yes	** NA **	None
90	M91			Yes	** NA **	None
91	M92			Yes	N/A	None
92	M93			Yes	N/A	None
93	M94			Yes	N/A	None
94	M95	BenPIN	BenPIN	Yes	N/A	None
95	M96	BenPIN	BenPIN	Yes	N/A	None
96	M97	BenPIN	BenPIN	Yes	N/A	None
97	M98			Yes	** NA **	None
98	M99			Yes	N/A	None
99	M100			Yes	N/A	None
100	M101			Yes	N/A	None
101	M102			Yes	N/A	None
102	M103			Yes	** NA **	None
103	M104			Yes	** NA **	None
104	M105			Yes	** NA **	None
105	MP1C			Yes	N/A	None
106	M108			Yes	N/A	None
107	M109			Yes	N/A	None
108	M110			Yes	N/A	None
109	M111			Yes	N/A	None
110	M112			Yes	N/A	None
111	M113			Yes	N/A	None
112	M114			Yes	N/A	None
113	M115			Yes	N/A	None
114	M116			Yes	N/A	None
115	M117			Yes	N/A	None
116	M118			Yes	N/A	None
117	M119			Yes	N/A	None
118	M120			Yes	N/A	None
119	M121			Yes	N/A	None
120	M122			Yes	N/A	None
121	M123			Yes	N/A	None
122	M124			Yes	N/A	None
123	M125			Yes	N/A	None
124	M126			Yes	N/A	None
125	M127			Yes	N/A	None
126	MP3A			Yes	N/A	None
127	M129			Yes	N/A	None
128	M130			Yes	N/A	None
129	M131			Yes	N/A	None
130	M132			Yes	N/A	None
131	M133			Yes	N/A	None
132	M134			Yes	N/A	None
133	M135			Yes	N/A	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
134	M136			Yes	N/A	None
135	M137			Yes	N/A	None
136	M138			Yes	N/A	None
137	M139			Yes	N/A	None
138	M140			Yes	N/A	None
139	M141			Yes	N/A	None
140	M142			Yes	N/A	None
141	M143			Yes	N/A	None
142	M144			Yes	N/A	None
143	M145			Yes	N/A	None
144	M146			Yes	N/A	None
145	M147			Yes	N/A	None
146	M148			Yes	N/A	None
147	M149			Yes	N/A	None
148	M150			Yes	N/A	None
149	M151			Yes	N/A	None
150	M152			Yes	N/A	None
151	MP1A			Yes	N/A	None
152	MP5			Yes	N/A	None
153	MP5A			Yes	N/A	None
154	MP3C			Yes	N/A	None
155	MP2C			Yes	N/A	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
1	M1	Standoff Arms	4.953	Lbyy			N/A	N/A	Lateral
2	M2	Plan Bracing	5.146	Lbyy			N/A	N/A	Lateral
3	M3	Plan Brace Connection Plate	0.219	Lbyy			N/A	N/A	Lateral
4	M4	Plan Brace Connection Plate	0.167	Lbyy			N/A	N/A	Lateral
5	M5	Plan Brace Connection Plate	0.219	Lbyy			N/A	N/A	Lateral
6	M6	Plan Brace Connection Plate	0.167	Lbyy			N/A	N/A	Lateral
7	M7	Bottom Corner Plate	0.333	Lbyy			N/A	N/A	Lateral
8	M8	Bottom Corner Plate	0.112	Lbyy			N/A	N/A	Lateral
9	M9	Bottom Corner Plate	0.333	Lbyy			N/A	N/A	Lateral
10	M10	Bottom Corner Plate	0.112	Lbyy			N/A	N/A	Lateral
11	M11	Grating Support Angles	4.29	Lbyy			N/A	N/A	Lateral
12	M12	Grating Support Angles	4.29	Lbyy			N/A	N/A	Lateral
13	M18	Plan Bracing	5.146	Lbyy			N/A	N/A	Lateral
14	M19	Plan Brace Connection Plate	0.219	Lbyy			N/A	N/A	Lateral
15	M20	Plan Brace Connection Plate	0.167	Lbyy			N/A	N/A	Lateral
16	M21	Plan Brace Connection Plate	0.219	Lbyy			N/A	N/A	Lateral
17	M22	Plan Brace Connection Plate	0.167	Lbyy			N/A	N/A	Lateral
18	M23	Bottom Corner Plate	0.333	Lbyy			N/A	N/A	Lateral
19	M24	Bottom Corner Plate	0.112	Lbyy			N/A	N/A	Lateral
20	M25	Bottom Corner Plate	0.333	Lbyy			N/A	N/A	Lateral
21	M26	Bottom Corner Plate	0.112	Lbyy			N/A	N/A	Lateral
22	M27	Grating Support Angles	4.29	Lbyy			N/A	N/A	Lateral
23	M28	Grating Support Angles	4.29	Lbyy			N/A	N/A	Lateral
24	M34	Plan Bracing	5.146	Lbyy			N/A	N/A	Lateral
25	M35	Plan Brace Connection Plate	0.219	Lbyy			N/A	N/A	Lateral
26	M36	Plan Brace Connection Plate	0.167	Lbyy			N/A	N/A	Lateral
27	M37	Plan Brace Connection Plate	0.219	Lbyy			N/A	N/A	Lateral
28	M38	Plan Brace Connection Plate	0.167	Lbyy			N/A	N/A	Lateral
29	M39	Bottom Corner Plate	0.333	Lbyy			N/A	N/A	Lateral
30	M40	Bottom Corner Plate	0.112	Lbyy			N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	K y-y	K z-z	Channel Conn.	a [ft]	Function
31	M41	Bottom Corner Plate	0.333	Lbyy			N/A	N/A	Lateral
32	M42	Bottom Corner Plate	0.112	Lbyy			N/A	N/A	Lateral
33	M43	Grating Support Angles	4.29	Lbyy			N/A	N/A	Lateral
34	M44	Grating Support Angles	4.29	Lbyy			N/A	N/A	Lateral
35	M50	Face Horizontals	12.5	Lbyy			N/A	N/A	Lateral
36	M51	Support Rail	12.5	Lbyy			N/A	N/A	Lateral
37	M60	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
38	MP2A	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
39	M62	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
40	MP4A	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
41	M64	Face Horizontals	12.5	Lbyy			N/A	N/A	Lateral
42	M65	Support Rail	12.5	Lbyy			N/A	N/A	Lateral
43	MP4C	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
44	M72	Face Horizontals	12.5	Lbyy			N/A	N/A	Lateral
45	M73	Support Rail	12.5	Lbyy			N/A	N/A	Lateral
46	MP1B	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
47	MP2B	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
48	MP3B	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
49	MP4B	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
50	M92	Top Corner Braces	1.298	Lbyy			N/A	N/A	Lateral
51	M93	Top Corner Braces	1.298	Lbyy			N/A	N/A	Lateral
52	M94	Top Corner Braces	1.298	Lbyy			N/A	N/A	Lateral
53	M95	Kickers	4.537	Lbyy			N/A	N/A	Lateral
54	M96	Kickers	4.537	Lbyy			N/A	N/A	Lateral
55	M97	Kickers	4.537	Lbyy			N/A	N/A	Lateral
56	M99	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
57	M100	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
58	MP1C	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
59	M110	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
60	M116	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
61	M117	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
62	M122	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
63	M123	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
64	M124	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
65	MP3A	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
66	M129	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
67	M132	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
68	M136	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
69	M137	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
70	M142	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
71	M146	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
72	M148	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
73	M149	All Thread Connection	0.25	Lbyy	0.65	0.65	N/A	N/A	Lateral
74	MP1A	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
75	MP5	Standoff Arms	4.953	Lbyy			N/A	N/A	Lateral
76	MP5A	Standoff Arms	4.953	Lbyy			N/A	N/A	Lateral
77	MP3C	Mount Pipes	8	Lbyy			N/A	N/A	Lateral
78	MP2C	Mount Pipes	8	Lbyy			N/A	N/A	Lateral

Cold Formed Steel Design Parameters

No Data to Print...

Aluminum Design Parameters

No Data to Print...

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	N2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N162	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N164	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N166	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N239						
6	N248						
7	N249						
8	N252						
9	N265						
10	N266						
11	N267						
12	N269						
13	N271						
14	N272						
15	N273						
16	N274						
17	N275						
18	N276						
19	N277						
20	N278						
21	N281						
22	N283						
23	N284						
24	N285						
25	N286						
26	N287						
27	N288						
28	N289						
29	N201						
30	N202						
31	N203						
32	N204						
33	N205						
34	N206						
35	N209						
36	N210						
37	N211						
38	N212						
39	N213						
40	N215						
41	N216						
42	N217						
43	N219						
44	N220						
45	N221						
46	N222						
47	N223						
48	N226						
49	N228						
50	N229						
51	N230						
52	N231						

Node Boundary Conditions (Continued)

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
53	N234	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
54	N237	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N2	max	977.184	10	615.748	49	5322.624	1	0.594	19	0.913	4	0.24	5
2		min	-985.505	4	-77.221	1	-2960.135	7	0.071	1	-0.911	10	-0.372	11
3	N162	max	39.399	10	1879.927	13	263.449	7	0	75	0	11	0	5
4		min	-39.422	4	-170.91	7	-2796.904	1	0	1	0	5	0	11
5	N164	max	58.155	3	2024.317	33	1520.347	33	0	1	0	7	0	7
6		min	-2633.422	33	-41.292	3	-33.598	3	0	7	0	1	0	1
7	N166	max	2775.678	17	2155.292	17	1602.149	17	0	3	0	3	0	3
8		min	-53.049	11	-37.399	11	-30.646	11	0	45	0	45	0	45
9	N234	max	4255.194	9	590.831	15	1530.943	2	0.024	12	1.394	12	0.067	31
10		min	-2090.018	3	-21.749	9	-2752.822	8	-0.598	18	-1.391	6	-0.454	1
11	N237	max	2630.015	11	592.277	23	1479.91	12	0.186	3	1.56	8	0.618	13
12		min	-5011.146	5	-60.252	5	-2842.782	6	-0.448	9	-1.618	2	-0.005	43
13	Totals:	max	5483.37	10	6882.347	13	5903.537	1						
14		min	-5483.373	4	2494.669	70	-5903.556	7						

Envelope Member Section Forces

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1	M1	1	max	2960.135	7	560.776	7	976.757	10	0.372	11	0.913	4	0.594	19
2			min	-5322.624	1	-77.471	1	-985.209	4	-0.24	5	-0.911	10	0.071	1
3		2	max	2960.135	7	542.45	7	957.445	10	0.372	11	0.7	12	0.178	1
4			min	-5322.624	1	-95.798	1	-965.898	4	-0.24	5	-0.708	6	-0.208	7
5		3	max	2984.19	7	33.104	7	41.667	9	0.24	10	0.099	12	0.763	1
6			min	-5292.507	1	-762.235	13	-46.213	3	-0.242	4	-0.102	6	-0.405	7
7		4	max	2679.494	7	1079.521	1	51.556	6	0.24	10	0.108	8	1.207	1
8			min	-2454.356	1	-199.521	7	-56.786	12	-0.242	4	-0.115	2	-0.375	7
9		5	max	2679.494	7	1057.319	1	54.48	5	0.24	10	0.124	8	-0.082	70
10			min	-2454.356	1	-221.724	7	-59.515	11	-0.242	4	-0.138	2	-0.238	23
11	M2	1	max	287.527	5	-169.999	70	1228.388	6	-0.084	6	0.1	10	0.012	5
12			min	-290.835	11	-489.74	13	-1150.263	12	-0.283	24	-0.096	4	-0.024	11
13		2	max	893.624	6	-189.481	69	112.868	5	-0.08	6	0.355	6	0.65	13
14			min	-842.72	12	-547.427	24	-140.075	11	-0.286	24	-0.346	12	0.229	70
15		3	max	901.228	6	284.819	4	123.733	6	0.127	3	0.494	6	1.384	13
16			min	-850.324	12	-593.813	24	-142.61	11	-0.286	24	-0.521	12	0.484	70
17		4	max	543.307	9	463.496	15	136.904	6	0.177	14	0.309	8	0.579	15
18			min	-496.751	3	167.346	71	-110.393	12	0.048	8	-0.313	2	0.209	72
19		5	max	177.576	10	404.197	14	877.246	2	0.169	13	0.103	7	0.028	19
20			min	-172.173	4	147.005	71	-929.877	8	0.044	7	-0.103	1	-0.009	1
21	M3	1	max	1228.161	6	489.642	13	289.896	11	0.012	5	0.096	4	0.283	24
22			min	-1150.487	12	170.023	70	-288.419	5	-0.024	11	-0.1	10	0.084	6
23		2	max	1227.846	6	488.593	13	288.949	11	0.012	5	0.081	4	0.256	24
24			min	-1150.171	12	169.663	70	-287.472	5	-0.024	11	-0.085	10	0.073	6
25		3	max	1227.53	6	487.545	13	288.002	11	0.012	5	0.066	4	0.229	24
26			min	-1149.855	12	169.302	70	-286.525	5	-0.024	11	-0.069	10	0.062	6
27		4	max	1227.214	6	486.496	13	287.055	11	0.012	5	0.051	4	0.203	24
28			min	-1149.539	12	168.942	70	-285.577	5	-0.024	11	-0.054	10	0.051	6
29		5	max	1226.898	6	485.447	13	286.108	11	0.012	5	0.036	4	0.176	24
30			min	-1149.224	12	168.581	70	-284.63	5	-0.024	11	-0.039	10	0.041	6
31	M4	1	max	963.493	6	485.537	13	746.51	12	0.07	13	0.036	4	0.163	24

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
32			min	-896.608	12	168.563	70	-783.515	6	0.024	70	-0.039	10	0.03	5
33		2	max	963.068	6	484.738	13	745.775	12	0.07	13	0.044	1	0.142	24
34			min	-896.184	12	168.288	70	-782.78	6	0.024	70	-0.05	7	0.021	5
35		3	max	962.644	6	483.939	13	745.04	12	0.07	13	0.068	12	0.122	24
36			min	-895.76	12	168.013	70	-782.045	6	0.024	70	-0.076	6	0.012	5
37		4	max	962.22	6	483.14	13	744.305	12	0.07	13	0.099	12	0.102	23
38			min	-895.335	12	167.739	70	-781.31	6	0.024	70	-0.108	6	0.004	5
39		5	max	961.795	6	482.341	13	743.57	12	0.07	13	0.13	12	0.082	23
40			min	-894.911	12	167.464	70	-780.575	6	0.024	70	-0.141	6	-0.005	5
41	M5	1	max	929.943	8	404.051	14	178.062	10	0.009	1	0.103	7	0.169	13
42			min	-877.165	2	147.022	71	-171.771	4	-0.028	19	-0.103	1	0.044	7
43		2	max	929.628	8	403.003	14	176.603	10	0.009	1	0.095	7	0.147	13
44			min	-876.85	2	146.661	71	-170.313	4	-0.028	19	-0.094	1	0.034	7
45		3	max	929.312	8	401.954	14	175.145	10	0.009	1	0.087	7	0.125	13
46			min	-876.534	2	146.301	71	-168.855	4	-0.028	19	-0.086	1	0.024	7
47		4	max	928.996	8	400.906	14	173.687	10	0.009	1	0.079	7	0.103	13
48			min	-876.218	2	145.94	71	-167.397	4	-0.028	19	-0.077	1	0.015	7
49		5	max	928.681	8	399.857	14	172.229	10	0.009	1	0.071	7	0.083	1
50			min	-875.903	2	145.579	71	-165.939	4	-0.028	19	-0.069	1	0.005	7
51	M6	1	max	840.983	7	399.99	14	447.545	9	-0.021	71	0.071	7	0.077	1
52			min	-804.889	1	145.56	71	-414.499	3	-0.058	14	-0.069	1	-0.009	7
53		2	max	840.738	7	399.191	14	446.413	9	-0.021	71	0.084	7	0.067	1
54			min	-804.644	1	145.285	71	-413.367	3	-0.058	14	-0.081	1	-0.016	7
55		3	max	840.493	7	398.392	14	445.282	9	-0.021	71	0.097	7	0.057	1
56			min	-804.399	1	145.011	71	-412.235	3	-0.058	14	-0.093	1	-0.023	7
57		4	max	840.248	7	397.593	14	444.15	9	-0.021	71	0.11	7	0.047	1
58			min	-804.154	1	144.736	71	-411.104	3	-0.058	14	-0.105	1	-0.03	7
59		5	max	840.003	7	396.794	14	443.019	9	-0.021	71	0.123	7	0.038	1
60			min	-803.909	1	144.461	71	-409.972	3	-0.058	14	-0.117	1	-0.038	7
61	M7	1	max	467.254	1	602.102	12	227.522	7	0.077	18	0.11	1	0.335	12
62			min	-357.771	7	-229	6	-201.604	1	0	12	-0.124	7	-0.088	6
63		2	max	467.254	1	601.082	12	225.3	7	0.077	18	0.093	1	0.285	12
64			min	-357.771	7	-230.021	6	-199.382	1	0	12	-0.105	7	-0.069	6
65		3	max	467.254	1	600.061	12	223.078	7	0.077	18	0.077	1	0.235	12
66			min	-357.771	7	-231.042	6	-197.16	1	0	12	-0.086	7	-0.05	6
67		4	max	467.254	1	599.04	12	220.856	7	0.077	18	0.06	1	0.185	12
68			min	-357.771	7	-232.063	6	-194.938	1	0	12	-0.068	7	-0.031	6
69		5	max	467.254	1	598.019	12	218.634	7	0.077	18	0.044	1	0.138	24
70			min	-357.771	7	-233.084	6	-192.716	1	0	12	-0.05	7	-0.011	6
71	M8	1	max	399.999	1	597.346	12	308.705	2	0.046	6	0.044	1	0.124	14
72			min	-368.693	7	-233.611	6	-202.806	8	-0.117	12	-0.05	7	0.044	70
73		2	max	399.826	1	597.003	12	308.705	2	0.046	6	0.053	1	0.113	15
74			min	-368.519	7	-233.954	6	-202.806	8	-0.117	12	-0.055	7	0.041	71
75		3	max	399.652	1	596.66	12	308.705	2	0.046	6	0.061	1	0.104	17
76			min	-368.346	7	-234.297	6	-202.806	8	-0.117	12	-0.061	7	0.034	12
77		4	max	399.479	1	596.317	12	308.705	2	0.046	6	0.07	1	0.096	17
78			min	-368.173	7	-234.64	6	-202.806	8	-0.117	12	-0.066	7	0.017	12
79		5	max	399.305	1	595.974	12	308.705	2	0.046	6	0.079	1	0.089	18
80			min	-367.999	7	-234.983	6	-202.806	8	-0.117	12	-0.072	7	0.001	12
81	M9	1	max	466.91	1	522.555	2	373.821	1	-0.004	4	0.214	7	0.295	2
82			min	-377.973	7	-131.118	8	-388.626	7	-0.063	21	-0.206	1	-0.047	8
83		2	max	466.91	1	521.534	2	371.599	1	-0.004	4	0.182	7	0.251	2
84			min	-377.973	7	-132.139	8	-386.404	7	-0.063	21	-0.175	1	-0.036	8
85		3	max	466.91	1	520.513	2	369.377	1	-0.004	4	0.149	7	0.208	2
86			min	-377.973	7	-133.16	8	-384.182	7	-0.063	21	-0.144	1	-0.025	8

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
87		4	max	466.91	1	519.492	2	367.155	1	-0.004	4	0.118	7	0.165	2
88			min	-377.973	7	-134.181	8	-381.96	7	-0.063	21	-0.114	1	-0.014	8
89		5	max	466.91	1	518.471	2	364.933	1	-0.004	4	0.086	7	0.123	14
90			min	-377.973	7	-135.201	8	-379.738	7	-0.063	21	-0.083	1	-0.002	8
91	M10	1	max	548.336	1	517.81	2	160.765	6	0.101	2	0.086	7	0.11	24
92			min	-518.816	7	-135.73	8	-244.019	12	-0.027	8	-0.083	1	0.027	6
93		2	max	548.162	1	517.467	2	160.765	6	0.101	2	0.09	7	0.1	24
94			min	-518.642	7	-136.073	8	-244.019	12	-0.027	8	-0.089	1	0.026	6
95		3	max	547.989	1	517.124	2	160.765	6	0.101	2	0.094	7	0.09	23
96			min	-518.469	7	-136.416	8	-244.019	12	-0.027	8	-0.095	1	0.021	5
97		4	max	547.815	1	516.781	2	160.765	6	0.101	2	0.098	7	0.081	22
98			min	-518.295	7	-136.759	8	-244.019	12	-0.027	8	-0.102	1	0.015	5
99		5	max	547.642	1	516.438	2	160.765	6	0.101	2	0.102	7	0.073	21
100			min	-518.122	7	-137.102	8	-244.019	12	-0.027	8	-0.108	1	0.005	4
101	M11	1	max	1214.146	12	18.884	21	38.542	11	0	11	0.021	5	0.013	5
102			min	-1331.27	6	-1.277	3	-29.882	5	0	5	-0.028	11	-0.024	11
103		2	max	1220.092	12	7.441	21	22.656	11	0	11	0.007	7	0	2
104			min	-1337.216	6	-5.337	3	-13.996	5	0	5	-0.004	1	-0.01	20
105		3	max	1226.039	12	-2.254	9	9.55	12	0	11	0.009	23	0.011	2
106			min	-1343.163	6	-16.125	15	-0.9	6	0	5	-0.005	5	-0.007	8
107		4	max	1231.985	12	-9.02	9	17.776	5	0	11	0.003	8	0.029	2
108			min	-1349.109	6	-34.611	15	-9.115	11	0	5	-0.009	2	-0.001	8
109		5	max	1237.932	12	-13.554	71	33.661	5	0	11	-0.002	5	0.067	16
110			min	-1355.056	6	-47.769	15	-25.001	11	0	5	-0.032	23	0.003	10
111	M12	1	max	1034.14	1	38.172	3	20.729	17	0	9	0.018	9	0.023	2
112			min	-1117.547	7	-30.618	9	-2.078	12	0	3	-0.028	3	-0.019	8
113		2	max	1037.61	1	22.286	3	9.284	17	0	9	0.007	7	0.006	18
114			min	-1121.017	7	-14.733	9	-6.139	12	0	3	-0.005	1	0	12
115		3	max	1041.08	1	11.772	1	1.017	6	0	9	0.009	3	0.009	6
116			min	-1124.487	7	-4.189	7	-15.03	23	0	3	-0.005	9	-0.014	12
117		4	max	1044.55	1	17.039	9	-5.752	6	0	9	0.004	5	0.009	6
118			min	-1127.957	7	-9.486	3	-33.523	23	0	3	-0.009	11	-0.035	12
119		5	max	1048.019	1	32.925	9	-10.471	6	0	9	0	9	0.005	6
120			min	-1131.427	7	-25.371	3	-46.681	23	0	3	-0.031	15	-0.068	24
121	M13	1	max	1041.852	1	210.01	6	1356.574	6	0.133	16	0.127	7	0.354	12
122			min	-983.327	7	-623.605	12	-1224.213	12	0.025	11	-0.089	1	-0.077	6
123		2	max	1041.852	1	209.984	6	1356.574	6	0.133	16	0.237	7	0.406	12
124			min	-983.327	7	-623.63	12	-1224.213	12	0.025	11	-0.187	1	-0.095	6
125		3	max	1041.852	1	544.724	2	1356.574	6	0.133	16	0.435	7	0.458	12
126			min	-983.327	7	-623.656	12	-1367.7	7	-0.121	23	-0.389	1	-0.112	6
127		4	max	1000.495	1	544.698	2	1274.679	1	-0.009	5	0.321	7	0.361	2
128			min	-946.727	7	-115.938	8	-1367.7	7	-0.121	23	-0.283	1	-0.049	8
129		5	max	1000.495	1	544.672	2	1274.679	1	-0.009	5	0.207	7	0.316	2
130			min	-946.727	7	-115.964	8	-1367.7	7	-0.121	23	-0.177	1	-0.04	8
131	M14	1	max	245.752	12	517.207	2	548.967	1	-0.005	4	0.102	7	0.101	2
132			min	-159.079	6	-136.637	8	-517.286	7	-0.073	21	-0.108	1	-0.027	8
133		2	max	245.752	12	517.207	2	548.967	1	-0.005	4	0.076	7	0.076	2
134			min	-159.079	6	-136.637	8	-517.286	7	-0.073	21	-0.081	1	-0.02	8
135		3	max	245.752	12	517.207	2	548.967	1	-0.005	4	0.051	7	0.051	2
136			min	-159.079	6	-136.637	8	-517.286	7	-0.073	21	-0.054	1	-0.013	8
137		4	max	245.752	12	517.207	2	548.967	1	-0.005	4	0.025	7	0.025	2
138			min	-159.079	6	-136.637	8	-517.286	7	-0.073	21	-0.027	1	-0.007	8
139		5	max	245.752	12	517.207	2	548.967	1	-0.005	4	0	2	0	22
140			min	-159.079	6	-136.637	8	-517.286	7	-0.073	21	0	8	0	1
141	M15	1	max	443.743	9	396.63	14	801.44	1	0.038	1	0.123	7	0.058	14

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
142			min	-409.34	3	144.498	71	-842.856	7	-0.038	7	-0.117	1	0.021	71
143		2	max	443.743	9	396.63	14	801.44	1	0.038	1	0.092	7	0.043	14
144			min	-409.34	3	144.498	71	-842.856	7	-0.038	7	-0.088	1	0.016	71
145		3	max	443.743	9	396.63	14	801.44	1	0.038	1	0.061	7	0.029	14
146			min	-409.34	3	144.498	71	-842.856	7	-0.038	7	-0.058	1	0.011	71
147		4	max	443.743	9	396.63	14	801.44	1	0.038	1	0.031	7	0.014	14
148			min	-409.34	3	144.498	71	-842.856	7	-0.038	7	-0.029	1	0.005	71
149		5	max	443.743	9	396.63	14	801.44	1	0.038	1	0	4	0	17
150			min	-409.34	3	144.498	71	-842.856	7	-0.038	7	0	11	0	53
151	M16	1	max	309.485	2	596.879	12	367.322	7	0.089	18	0.079	1	0.117	12
152			min	-201.964	8	-234.414	6	-400.246	1	0.001	12	-0.072	7	-0.046	6
153		2	max	309.485	2	596.879	12	367.322	7	0.089	18	0.059	1	0.088	12
154			min	-201.964	8	-234.414	6	-400.246	1	0.001	12	-0.054	7	-0.035	6
155		3	max	309.485	2	596.879	12	367.322	7	0.089	18	0.039	1	0.059	12
156			min	-201.964	8	-234.414	6	-400.246	1	0.001	12	-0.036	7	-0.023	6
157		4	max	309.485	2	596.879	12	367.322	7	0.089	18	0.02	1	0.029	12
158			min	-201.964	8	-234.414	6	-400.246	1	0.001	12	-0.018	7	-0.012	6
159		5	max	309.485	2	596.879	12	367.322	7	0.089	18	0	12	0	13
160			min	-201.964	8	-234.414	6	-400.246	1	0.001	12	0	4	0	1
161	M17	1	max	782.031	6	482.156	13	964.531	6	0.005	5	0.13	12	0.07	13
162			min	-742.526	12	167.495	70	-892.72	12	-0.082	23	-0.141	6	0.024	70
163		2	max	782.031	6	482.156	13	964.531	6	0.005	5	0.098	12	0.053	13
164			min	-742.526	12	167.495	70	-892.72	12	-0.082	23	-0.105	6	0.018	70
165		3	max	782.031	6	482.156	13	964.531	6	0.005	5	0.065	12	0.035	13
166			min	-742.526	12	167.495	70	-892.72	12	-0.082	23	-0.07	6	0.012	70
167		4	max	782.031	6	482.156	13	964.531	6	0.005	5	0.033	12	0.018	13
168			min	-742.526	12	167.495	70	-892.72	12	-0.082	23	-0.035	6	0.006	70
169		5	max	782.031	6	482.156	13	964.531	6	0.005	5	0	4	0	23
170			min	-742.526	12	167.495	70	-892.72	12	-0.082	23	0	6	0	51
171	M18	1	max	461.277	12	-194.312	66	1119.921	2	-0.101	2	0.169	6	0.011	2
172			min	-455.731	6	-554.287	21	-1051.861	8	-0.319	20	-0.171	12	-0.029	32
173		2	max	971.221	1	-213.147	65	112.416	1	-0.098	2	0.341	2	0.73	21
174			min	-919.258	7	-609.858	20	-137.344	7	-0.319	20	-0.337	8	0.26	66
175		3	max	975.612	1	-230.985	65	120.071	2	-0.098	2	0.487	2	1.544	21
176			min	-923.649	7	-656.244	20	-144.878	8	-0.319	20	-0.515	8	0.546	65
177		4	max	623.841	5	496.843	23	143.387	2	0.187	22	0.226	4	0.626	23
178			min	-591.216	11	178.097	68	-112.459	8	0.05	4	-0.232	10	0.225	68
179		5	max	237.853	6	437.7	22	842.01	10	0.179	22	0.093	1	0.031	15
180			min	-244.368	12	158.043	67	-886.428	4	0.05	4	-0.089	7	-0.005	9
181	M19	1	max	1119.712	2	554.129	21	453.262	6	0.011	2	0.171	12	0.319	20
182			min	-1052.049	8	194.336	66	-464.054	12	-0.029	32	-0.169	6	0.101	2
183		2	max	1119.396	2	553.081	21	451.804	6	0.011	2	0.146	12	0.288	20
184			min	-1051.734	8	193.976	66	-462.596	12	-0.029	32	-0.144	6	0.088	2
185		3	max	1119.081	2	552.032	21	450.346	6	0.011	2	0.121	12	0.258	20
186			min	-1051.418	8	193.615	66	-461.138	12	-0.029	32	-0.119	6	0.075	2
187		4	max	1118.765	2	550.983	21	448.887	6	0.011	2	0.096	12	0.228	20
188			min	-1051.102	8	193.255	66	-459.68	12	-0.029	32	-0.095	6	0.062	2
189		5	max	1118.449	2	549.935	21	447.429	6	0.011	2	0.071	12	0.198	20
190			min	-1050.787	8	192.894	66	-458.221	12	-0.029	32	-0.07	6	0.049	2
191	M20	1	max	883.22	2	550.041	21	811.412	7	0.08	21	0.071	12	0.183	20
192			min	-831.981	8	192.872	66	-857.636	1	0.028	66	-0.07	6	0.037	2
193		2	max	882.796	2	549.242	21	810.28	7	0.08	21	0.057	11	0.16	20
194			min	-831.557	8	192.597	66	-856.504	1	0.028	66	-0.059	5	0.027	2
195		3	max	882.371	2	548.443	21	809.149	7	0.08	21	0.066	8	0.137	20
196			min	-831.132	8	192.322	66	-855.373	1	0.028	66	-0.07	2	0.018	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
197		4	max	881.947	2	547.644	21	808.017	7	0.08	21	0.093	8	0.114	20
198			min	-830.708	8	192.047	66	-854.241	1	0.028	66	-0.1	2	0.008	2
199		5	max	881.523	2	546.845	21	806.886	7	0.08	21	0.121	8	0.091	20
200			min	-830.284	8	191.773	66	-853.11	1	0.028	66	-0.129	2	-0.002	2
201	M21	1	max	886.445	4	437.559	22	238.649	6	0.005	9	0.093	1	0.179	22
202			min	-841.991	10	158.06	67	-243.663	12	-0.031	15	-0.089	7	0.05	4
203		2	max	886.129	4	436.511	22	237.19	6	0.005	9	0.083	1	0.155	22
204			min	-841.675	10	157.7	67	-242.205	12	-0.031	15	-0.079	7	0.039	4
205		3	max	885.814	4	435.462	22	235.732	6	0.005	9	0.072	1	0.132	22
206			min	-841.36	10	157.339	67	-240.747	12	-0.031	15	-0.069	7	0.029	4
207		4	max	885.498	4	434.414	22	234.274	6	0.005	9	0.065	3	0.108	22
208			min	-841.044	10	156.978	67	-239.289	12	-0.031	15	-0.061	9	0.019	4
209		5	max	885.182	4	433.365	22	232.816	6	0.005	9	0.059	3	0.084	22
210			min	-840.728	10	156.618	67	-237.831	12	-0.031	15	-0.055	9	0.008	4
211	M22	1	max	793.787	4	433.515	22	492.167	5	-0.023	67	0.059	3	0.073	10
212			min	-755.913	10	156.598	67	-472.246	11	-0.063	22	-0.055	9	-0.006	4
213		2	max	793.362	4	432.716	22	491.035	5	-0.023	67	0.071	3	0.062	10
214			min	-755.489	10	156.324	67	-471.114	11	-0.063	22	-0.067	9	-0.014	4
215		3	max	792.938	4	431.917	22	489.903	5	-0.023	67	0.084	3	0.052	9
216			min	-755.064	10	156.049	67	-469.983	11	-0.063	22	-0.079	9	-0.022	3
217		4	max	792.514	4	431.118	22	488.772	5	-0.023	67	0.1	4	0.042	9
218			min	-754.64	10	155.774	67	-468.851	11	-0.063	22	-0.094	10	-0.03	3
219		5	max	792.089	4	430.319	22	487.64	5	-0.023	67	0.116	4	0.031	9
220			min	-754.216	10	155.499	67	-467.72	11	-0.063	22	-0.11	10	-0.038	3
221	M23	1	max	543.969	10	786.098	32	291.256	5	0.082	13	0.157	11	0.446	32
222			min	-404.185	4	-165.311	2	-280.64	11	0.011	7	-0.163	5	-0.058	2
223		2	max	543.136	10	785.077	32	290.979	5	0.082	13	0.134	11	0.38	32
224			min	-403.352	4	-166.332	2	-280.362	11	0.011	7	-0.138	5	-0.044	2
225		3	max	542.303	10	784.056	32	290.701	5	0.082	13	0.11	11	0.315	32
226			min	-402.519	4	-167.352	2	-280.084	11	0.011	7	-0.114	5	-0.03	2
227		4	max	541.469	10	783.035	32	290.423	5	0.082	13	0.087	11	0.25	32
228			min	-401.685	4	-168.373	2	-279.806	11	0.011	7	-0.09	5	-0.016	2
229		5	max	540.636	10	782.014	32	290.145	5	0.082	13	0.064	11	0.184	32
230			min	-400.852	4	-169.394	2	-279.529	11	0.011	7	-0.066	5	-0.002	2
231	M24	1	max	485.99	11	781.833	32	354.559	10	0.033	2	0.064	11	0.136	21
232			min	-425.522	5	-169.862	2	-229.569	4	-0.153	32	-0.066	5	0.047	66
233		2	max	485.817	11	781.49	32	354.559	10	0.033	2	0.072	11	0.124	23
234			min	-425.348	5	-170.205	2	-229.569	4	-0.153	32	-0.07	5	0.044	67
235		3	max	485.644	11	781.147	32	354.559	10	0.033	2	0.08	11	0.114	24
236			min	-425.175	5	-170.548	2	-229.569	4	-0.153	32	-0.074	5	0.04	68
237		4	max	485.47	11	780.804	32	354.559	10	0.033	2	0.088	11	0.104	13
238			min	-425.001	5	-170.891	2	-229.569	4	-0.153	32	-0.079	5	0.028	7
239		5	max	485.297	11	780.461	32	354.559	10	0.033	2	0.096	11	0.095	13
240			min	-424.828	5	-171.234	2	-229.569	4	-0.153	32	-0.083	5	0.013	7
241	M25	1	max	455.836	8	524.576	10	312.348	9	-0.005	11	0.183	3	0.299	10
242			min	-322.878	2	-117.674	4	-333.703	3	-0.102	29	-0.172	9	-0.04	4
243		2	max	455.002	8	523.555	10	310.126	9	-0.005	11	0.155	3	0.255	10
244			min	-322.045	2	-118.695	4	-331.481	3	-0.102	29	-0.146	9	-0.03	4
245		3	max	454.169	8	522.535	10	307.904	9	-0.005	11	0.128	3	0.212	10
246			min	-321.817	3	-119.716	4	-329.259	3	-0.102	29	-0.12	9	-0.02	4
247		4	max	453.957	9	521.514	10	305.682	9	-0.005	11	0.101	3	0.17	22
248			min	-321.817	3	-120.737	4	-327.037	3	-0.102	29	-0.095	9	-0.01	4
249		5	max	453.957	9	520.493	10	303.461	9	-0.005	11	0.073	3	0.133	22
250			min	-321.817	3	-121.757	4	-324.815	3	-0.102	29	-0.069	9	0	4
251	M26	1	max	489.005	9	519.87	10	134.462	2	0.102	10	0.073	3	0.15	33

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
252			min	-442.794	3	-122.243	4	-257.925	8	-0.024	4	-0.069	9	0.035	3
253		2	max	488.832	9	519.527	10	134.462	2	0.102	10	0.077	3	0.141	32
254			min	-442.621	3	-122.586	4	-257.925	8	-0.024	4	-0.076	9	0.034	2
255		3	max	488.658	9	519.184	10	134.462	2	0.102	10	0.08	3	0.133	30
256			min	-442.448	3	-122.929	4	-257.925	8	-0.024	4	-0.083	9	0.03	12
257		4	max	488.485	9	518.841	10	134.462	2	0.102	10	0.083	3	0.125	30
258			min	-442.274	3	-123.272	4	-257.925	8	-0.024	4	-0.089	9	0.019	12
259		5	max	488.311	9	518.498	10	134.462	2	0.102	10	0.087	3	0.118	29
260			min	-442.101	3	-123.615	4	-257.925	8	-0.024	4	-0.096	9	0.006	11
261	M27	1	max	1097.709	8	17.378	17	38.679	7	0	31	0.021	1	0.01	26
262			min	-1199.538	2	-4.186	11	-28.785	1	0	1	-0.027	7	-0.026	8
263		2	max	1103.656	8	6.65	5	22.794	7	0	31	0.007	3	0.007	30
264			min	-1205.484	2	-8.246	11	-12.899	1	0	1	-0.003	9	-0.012	24
265		3	max	1109.602	8	-1.145	5	10.906	20	0	31	0.009	19	0.011	8
266			min	-1211.43	2	-18.55	23	-0.609	2	0	1	-0.004	1	-0.007	2
267		4	max	1115.549	8	-7.912	5	18.872	1	0	31	0.002	5	0.034	11
268			min	-1217.377	2	-37.036	23	-8.978	7	0	1	-0.008	11	-0.004	5
269		5	max	1121.495	8	-12.631	5	34.758	1	0	31	-0.001	1	0.075	24
270			min	-1223.323	2	-50.194	23	-24.864	7	0	1	-0.034	19	0	6
271	M28	1	max	1009.021	10	36.487	11	19.969	13	0	5	0.018	5	0.02	10
272			min	-1091.321	4	-28.61	5	-6.084	31	0	11	-0.027	11	-0.014	4
273		2	max	1014.968	10	20.601	11	8.524	13	0	5	0.006	3	0.006	18
274			min	-1097.268	4	-12.724	5	-10.145	31	0	11	-0.004	9	-0.004	36
275		3	max	1020.914	10	10.92	33	0.486	1	0	5	0.009	11	0.008	4
276			min	-1103.214	4	-2.081	3	-17.945	31	0	11	-0.005	5	-0.022	34
277		4	max	1026.861	10	19.047	5	-6.282	1	0	5	0.003	1	0.005	1
278			min	-1109.16	4	-11.171	11	-34.33	19	0	11	-0.011	31	-0.047	31
279		5	max	1032.807	10	34.933	5	-11.002	1	0	5	0	5	0.005	12
280			min	-1115.107	4	-27.056	11	-47.488	19	0	11	-0.033	23	-0.076	30
281	M29	1	max	1000.73	9	146.504	2	1234.979	2	0.145	24	0.157	5	0.46	32
282			min	-902.877	3	-801.642	32	-1128.513	8	0.025	6	-0.125	11	-0.047	2
283		2	max	1000.73	9	146.478	2	1234.979	2	0.145	24	0.215	3	0.527	32
284			min	-902.877	3	-801.668	32	-1128.513	8	0.025	6	-0.173	9	-0.059	2
285		3	max	1000.73	9	546.18	10	1234.979	2	0.145	24	0.393	4	0.593	32
286			min	-902.877	3	-801.694	32	-1276.784	4	-0.162	30	-0.342	10	-0.071	2
287		4	max	950.321	9	546.154	10	1179.162	10	-0.014	12	0.287	4	0.365	10
288			min	-852.867	3	-101.252	4	-1276.784	4	-0.162	30	-0.244	10	-0.04	4
289		5	max	950.321	9	546.128	10	1179.162	10	-0.014	12	0.182	3	0.319	10
290			min	-852.867	3	-101.278	4	-1276.784	4	-0.162	30	-0.147	9	-0.031	4
291	M30	1	max	259.361	8	519.302	10	489.417	9	-0.006	11	0.087	3	0.102	10
292			min	-133.076	2	-123.193	4	-441.543	3	-0.118	29	-0.096	9	-0.024	4
293		2	max	259.361	8	519.302	10	489.417	9	-0.006	11	0.065	3	0.076	10
294			min	-133.076	2	-123.193	4	-441.543	3	-0.118	29	-0.072	9	-0.018	4
295		3	max	259.361	8	519.302	10	489.417	9	-0.006	11	0.043	3	0.051	10
296			min	-133.076	2	-123.193	4	-441.543	3	-0.118	29	-0.048	9	-0.012	4
297		4	max	259.361	8	519.302	10	489.417	9	-0.006	11	0.022	3	0.025	10
298			min	-133.076	2	-123.193	4	-441.543	3	-0.118	29	-0.024	9	-0.006	4
299		5	max	259.361	8	519.302	10	489.417	9	-0.006	11	0	5	0	32
300			min	-133.076	2	-123.193	4	-441.543	3	-0.118	29	0	6	0	10
301	M31	1	max	487.731	5	430.068	22	751.921	10	0.031	9	0.116	4	0.063	22
302			min	-467.765	11	155.534	67	-794.672	4	-0.038	3	-0.11	10	0.023	67
303		2	max	487.731	5	430.068	22	751.921	10	0.031	9	0.087	4	0.047	22
304			min	-467.765	11	155.534	67	-794.672	4	-0.038	3	-0.082	10	0.017	67
305		3	max	487.731	5	430.068	22	751.921	10	0.031	9	0.058	4	0.031	22
306			min	-467.765	11	155.534	67	-794.672	4	-0.038	3	-0.055	10	0.011	67

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
307		4	max	487.731	5	430.068	22	751.921	10	0.031	9	0.029	4	0.016	22
308			min	-467.765	11	155.534	67	-794.672	4	-0.038	3	-0.027	10	0.006	67
309		5	max	487.731	5	430.068	22	751.921	10	0.031	9	0	9	0	19
310			min	-467.765	11	155.534	67	-794.672	4	-0.038	3	0	4	0	15
311	M32	1	max	356.114	10	780.787	32	424.038	5	0.095	13	0.096	11	0.153	32
312			min	-228.149	4	-170.684	2	-486.731	11	0.013	7	-0.083	5	-0.033	2
313		2	max	356.114	10	780.787	32	424.038	5	0.095	13	0.072	11	0.115	32
314			min	-228.149	4	-170.684	2	-486.731	11	0.013	7	-0.062	5	-0.025	2
315		3	max	356.114	10	780.787	32	424.038	5	0.095	13	0.048	11	0.077	32
316			min	-228.149	4	-170.684	2	-486.731	11	0.013	7	-0.042	5	-0.017	2
317		4	max	356.114	10	780.787	32	424.038	5	0.095	13	0.024	11	0.038	32
318			min	-228.149	4	-170.684	2	-486.731	11	0.013	7	-0.021	5	-0.008	2
319		5	max	356.114	10	780.787	32	424.038	5	0.095	13	0	2	0	34
320			min	-228.149	4	-170.684	2	-486.731	11	0.013	7	0	6	0	14
321	M33	1	max	851.034	1	546.675	21	884.049	2	0.002	2	0.121	8	0.08	21
322			min	-808.809	7	191.816	66	-828.036	8	-0.091	20	-0.129	2	0.028	66
323		2	max	851.034	1	546.675	21	884.049	2	0.002	2	0.091	8	0.06	21
324			min	-808.809	7	191.816	66	-828.036	8	-0.091	20	-0.097	2	0.021	66
325		3	max	851.034	1	546.675	21	884.049	2	0.002	2	0.06	8	0.04	21
326			min	-808.809	7	191.816	66	-828.036	8	-0.091	20	-0.064	2	0.014	66
327		4	max	851.034	1	546.675	21	884.049	2	0.002	2	0.03	8	0.02	21
328			min	-808.809	7	191.816	66	-828.036	8	-0.091	20	-0.032	2	0.007	66
329		5	max	851.034	1	546.675	21	884.049	2	0.002	2	0	2	0	15
330			min	-808.809	7	191.816	66	-828.036	8	-0.091	20	0	6	0	48
331	M34	1	max	419.028	8	-181.493	74	1106.344	10	-0.092	10	0.152	2	0.013	9
332			min	-416.044	2	-518.074	17	-1080.734	4	-0.292	16	-0.156	8	-0.023	3
333		2	max	948.279	9	-199.768	73	96.293	9	-0.086	9	0.285	10	0.687	17
334			min	-926.711	3	-571.728	17	-119.552	3	-0.291	16	-0.289	4	0.244	74
335		3	max	952.669	9	302.296	8	111.868	9	0.19	42	0.384	12	1.453	17
336			min	-931.101	3	-618.114	17	-122.086	3	-0.291	16	-0.439	6	0.512	74
337		4	max	648.507	1	504.66	19	114.41	10	0.2	18	0.338	12	0.629	18
338			min	-635.433	7	182.25	75	-70.993	3	0.053	12	-0.338	6	0.228	64
339		5	max	240.084	2	443.828	18	973.219	6	0.189	18	0.123	11	0.028	24
340			min	-285.041	8	161.514	75	-1033.592	12	0.05	12	-0.101	5	-0.014	42
341	M35	1	max	1106.223	10	517.877	17	413.8	2	0.013	9	0.156	8	0.292	16
342			min	-1080.841	4	181.511	74	-421.39	8	-0.023	3	-0.152	2	0.092	10
343		2	max	1105.907	10	516.829	17	412.342	2	0.013	9	0.133	8	0.263	16
344			min	-1080.526	4	181.15	74	-419.932	8	-0.023	3	-0.13	2	0.08	10
345		3	max	1105.591	10	515.78	17	410.883	2	0.013	9	0.11	8	0.235	16
346			min	-1080.21	4	180.79	74	-418.474	8	-0.023	3	-0.107	2	0.069	10
347		4	max	1105.275	10	514.732	17	409.425	2	0.013	9	0.087	8	0.207	16
348			min	-1079.894	4	180.429	74	-417.016	8	-0.023	3	-0.085	2	0.057	9
349		5	max	1104.96	10	513.683	17	407.967	2	0.013	9	0.064	8	0.179	16
350			min	-1079.578	4	180.069	74	-415.558	8	-0.023	3	-0.062	2	0.044	9
351	M36	1	max	864.277	10	513.813	17	809.253	3	0.074	17	0.064	8	0.164	15
352			min	-847.275	4	180.054	74	-831.898	9	0.026	74	-0.062	2	0.031	9
353		2	max	863.852	10	513.014	17	808.121	3	0.074	17	0.047	5	0.143	15
354			min	-846.851	4	179.779	74	-830.767	9	0.026	74	-0.048	11	0.022	9
355		3	max	863.428	10	512.215	17	806.99	3	0.074	17	0.069	5	0.122	15
356			min	-846.427	4	179.505	74	-829.635	9	0.026	74	-0.07	11	0.012	9
357		4	max	863.004	10	511.416	17	805.858	3	0.074	17	0.094	4	0.101	15
358			min	-846.002	4	179.23	74	-828.504	9	0.026	74	-0.096	10	0.002	9
359		5	max	862.579	10	510.617	17	804.726	3	0.074	17	0.123	4	0.079	15
360			min	-845.578	4	178.955	74	-827.372	9	0.026	74	-0.126	10	-0.007	9
361	M37	1	max	1033.662	12	443.725	18	241.059	2	0.014	42	0.123	11	0.189	18

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
362			min	-973.179	6	161.541	75	-284.082	8	-0.028	24	-0.101	5	0.05	12
363		2	max	1033.347	12	442.676	18	239.601	2	0.014	42	0.113	11	0.165	18
364			min	-972.864	6	161.18	75	-282.624	8	-0.028	24	-0.093	5	0.039	12
365		3	max	1033.031	12	441.628	18	238.143	2	0.014	42	0.102	11	0.142	42
366			min	-972.548	6	160.82	75	-281.166	8	-0.028	24	-0.085	5	0.029	12
367		4	max	1032.715	12	440.579	18	236.684	2	0.014	42	0.092	11	0.126	42
368			min	-972.232	6	160.459	75	-279.708	8	-0.028	24	-0.077	5	0.018	12
369		5	max	1032.4	12	439.531	18	235.226	2	0.014	42	0.082	11	0.11	42
370			min	-971.917	6	160.099	75	-278.25	8	-0.028	24	-0.068	5	0.008	12
371	M38	1	max	933.277	12	439.689	18	531.827	1	-0.023	75	0.082	11	0.102	42
372			min	-863.083	6	160.074	75	-536.634	7	-0.064	18	-0.068	5	-0.007	12
373		2	max	932.852	12	438.89	18	530.696	1	-0.023	75	0.093	11	0.09	42
374			min	-862.659	6	159.799	75	-535.502	7	-0.064	18	-0.081	5	-0.015	12
375		3	max	932.428	12	438.091	18	529.564	1	-0.023	75	0.105	11	0.078	42
376			min	-862.235	6	159.525	75	-534.371	7	-0.064	18	-0.094	5	-0.023	12
377		4	max	932.004	12	437.292	18	528.432	1	-0.023	75	0.118	12	0.066	42
378			min	-861.81	6	159.25	75	-533.239	7	-0.064	18	-0.106	6	-0.031	12
379		5	max	931.579	12	436.493	18	527.301	1	-0.023	75	0.136	12	0.054	42
380			min	-861.386	6	158.975	75	-532.108	7	-0.064	18	-0.125	6	-0.038	12
381	M39	1	max	476.73	6	556.113	4	242.231	1	0.117	45	0.134	7	0.318	4
382			min	-405.835	12	-189.249	10	-239.969	7	0.009	3	-0.135	1	-0.064	10
383		2	max	475.897	6	555.092	4	241.953	1	0.117	45	0.114	7	0.272	4
384			min	-405.002	12	-190.269	10	-239.692	7	0.009	3	-0.115	1	-0.048	10
385		3	max	475.063	6	554.071	4	241.675	1	0.117	45	0.094	7	0.226	4
386			min	-404.168	12	-191.29	10	-239.414	7	0.009	3	-0.095	1	-0.032	10
387		4	max	474.23	6	553.05	4	241.397	1	0.117	45	0.074	7	0.183	16
388			min	-403.335	12	-192.311	10	-239.136	7	0.009	3	-0.075	1	-0.016	10
389		5	max	473.397	6	552.029	4	241.12	1	0.117	45	0.054	7	0.146	16
390			min	-402.502	12	-193.332	10	-238.858	7	0.009	3	-0.055	1	0	10
391	M40	1	max	426.424	6	551.484	4	299.3	6	0.038	10	0.054	7	0.165	42
392			min	-395.006	12	-193.869	10	-237.789	12	-0.108	4	-0.055	1	0.052	74
393		2	max	426.424	6	551.141	4	299.3	6	0.038	10	0.061	7	0.157	44
394			min	-395.006	12	-194.212	10	-237.789	12	-0.108	4	-0.059	1	0.048	75
395		3	max	426.424	6	550.798	4	299.3	6	0.038	10	0.067	6	0.149	45
396			min	-395.006	12	-194.555	10	-237.789	12	-0.108	4	-0.064	12	0.042	3
397		4	max	426.424	6	550.455	4	299.3	6	0.038	10	0.075	6	0.142	45
398			min	-395.006	12	-194.898	10	-237.789	12	-0.108	4	-0.071	12	0.027	3
399		5	max	426.424	6	550.112	4	299.3	6	0.038	10	0.084	6	0.135	45
400			min	-395.006	12	-195.241	10	-237.789	12	-0.108	4	-0.077	12	0.012	3
401	M41	1	max	490.29	5	843.513	42	372.726	5	0.008	7	0.238	11	0.471	42
402			min	-365.175	11	-129.568	12	-432.041	11	-0.057	1	-0.206	5	-0.044	12
403		2	max	490.29	5	842.492	42	370.504	5	0.008	7	0.202	11	0.401	42
404			min	-365.175	11	-130.589	12	-429.819	11	-0.057	1	-0.175	5	-0.034	12
405		3	max	490.29	5	841.471	42	368.282	5	0.008	7	0.167	11	0.33	42
406			min	-365.175	11	-131.609	12	-427.597	11	-0.057	1	-0.144	5	-0.023	12
407		4	max	490.29	5	840.451	42	366.06	5	0.008	7	0.131	11	0.26	42
408			min	-365.175	11	-132.63	12	-425.375	11	-0.057	1	-0.113	5	-0.012	12
409		5	max	490.29	5	839.43	42	363.838	5	0.008	7	0.096	11	0.19	42
410			min	-365.175	11	-133.651	12	-423.153	11	-0.057	1	-0.083	5	-0.001	12
411	M42	1	max	558.902	5	839.268	42	125.35	10	0.164	42	0.096	11	0.114	16
412			min	-550.167	11	-134.23	12	-261.48	4	-0.027	12	-0.083	5	0.039	10
413		2	max	558.728	5	838.925	42	125.35	10	0.164	42	0.099	11	0.101	15
414			min	-549.994	11	-134.573	12	-261.48	4	-0.027	12	-0.09	5	0.031	9
415		3	max	558.555	5	838.582	42	125.35	10	0.164	42	0.102	11	0.088	14
416			min	-549.82	11	-134.916	12	-261.48	4	-0.027	12	-0.096	5	0.02	8

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
417		4	max	558.382	5	838.239	42	125.35	10	0.164	42	0.105	11	0.077	14
418			min	-549.647	11	-135.259	12	-261.48	4	-0.027	12	-0.103	5	0.006	8
419		5	max	558.208	5	837.896	42	125.35	10	0.164	42	0.108	11	0.066	13
420			min	-549.474	11	-135.602	12	-261.48	4	-0.027	12	-0.11	5	-0.008	7
421	M43	1	max	1186.621	4	15.554	13	38.215	3	0	3	0.021	9	0.007	9
422			min	-1236.634	10	-8.531	43	-26.974	9	0	9	-0.027	3	-0.023	3
423		2	max	1192.568	4	6.023	1	22.329	3	0	3	0.007	11	0.002	42
424			min	-1242.581	10	-12.591	43	-11.088	9	0	9	-0.004	5	-0.012	24
425		3	max	1198.514	4	-1.772	1	12.397	43	0	3	0.009	3	0.023	42
426			min	-1248.527	10	-20.473	19	1.231	1	0	9	-0.005	9	-0.007	12
427		4	max	1204.461	4	-8.539	1	20.683	9	0	3	0.003	12	0.051	43
428			min	-1254.474	10	-38.959	19	-9.443	3	0	9	-0.012	42	-0.002	1
429		5	max	1210.407	4	-13.258	1	36.569	9	0	3	-0.003	9	0.083	20
430			min	-1260.42	10	-52.117	19	-25.328	3	0	9	-0.035	15	0.001	2
431	M44	1	max	1076.136	6	36.749	7	22.521	21	0	1	0.019	1	0.021	6
432			min	-1192.168	12	-30.321	1	-2.463	3	0	43	-0.029	7	-0.02	12
433		2	max	1082.083	6	20.971	6	11.075	21	0	1	0.007	11	0.004	14
434			min	-1198.114	12	-14.551	12	-6.524	3	0	43	-0.005	5	-0.01	44
435		3	max	1088.029	6	11.526	5	2.617	9	0	1	0.009	7	0.008	10
436			min	-1204.061	12	-5.078	11	-14.324	3	0	43	-0.005	1	-0.013	4
437		4	max	1093.975	6	17.373	2	-4.152	9	0	1	0.003	9	0.009	10
438			min	-1210.007	12	-10.928	8	-32.332	15	0	43	-0.009	3	-0.033	4
439		5	max	1099.922	6	33.222	1	-8.871	9	0	1	-0.002	1	0.01	8
440			min	-1215.954	12	-26.793	7	-45.49	15	0	43	-0.031	19	-0.065	14
441	M45	1	max	1034.86	5	168.252	10	1258.751	11	0.182	44	0.134	1	0.339	4
442			min	-979.191	11	-578.748	4	-1204.843	5	0.027	2	-0.101	7	-0.049	10
443		2	max	1034.86	5	168.226	10	1258.751	11	0.182	44	0.236	11	0.388	4
444			min	-979.191	11	-578.773	4	-1204.843	5	0.027	2	-0.197	5	-0.063	10
445		3	max	1034.86	5	856.643	42	1257.298	5	0.182	44	0.466	11	0.625	42
446			min	-979.191	11	-578.799	4	-1419.525	11	-0.099	2	-0.387	5	-0.056	12
447		4	max	1014.387	5	856.617	42	1257.298	5	0.004	8	0.348	11	0.554	42
448			min	-939.612	11	-114.305	12	-1419.525	11	-0.112	14	-0.282	5	-0.047	12
449		5	max	1014.387	5	856.592	42	1257.298	5	0.004	8	0.23	11	0.483	42
450			min	-939.612	11	-114.33	12	-1419.525	11	-0.112	14	-0.177	5	-0.037	12
451	M46	1	max	263.68	4	838.236	42	559.726	5	0.008	7	0.108	11	0.164	42
452			min	-122.836	10	-135.114	12	-548.744	11	-0.066	13	-0.11	5	-0.027	12
453		2	max	263.68	4	838.236	42	559.726	5	0.008	7	0.081	11	0.123	42
454			min	-122.836	10	-135.114	12	-548.744	11	-0.066	13	-0.082	5	-0.02	12
455		3	max	263.68	4	838.236	42	559.726	5	0.008	7	0.054	11	0.082	42
456			min	-122.836	10	-135.114	12	-548.744	11	-0.066	13	-0.055	5	-0.013	12
457		4	max	263.68	4	838.236	42	559.726	5	0.008	7	0.027	11	0.041	42
458			min	-122.836	10	-135.114	12	-548.744	11	-0.066	13	-0.027	5	-0.007	12
459		5	max	263.68	4	838.236	42	559.726	5	0.008	7	0	11	0	44
460			min	-122.836	10	-135.114	12	-548.744	11	-0.066	13	0	6	0	47
461	M47	1	max	527.735	1	436.121	18	858.158	6	0.054	42	0.136	12	0.064	18
462			min	-532.358	7	159.004	75	-935.404	12	-0.038	12	-0.125	6	0.023	75
463		2	max	527.735	1	436.121	18	858.158	6	0.054	42	0.102	12	0.048	18
464			min	-532.358	7	159.004	75	-935.404	12	-0.038	12	-0.094	6	0.017	75
465		3	max	527.735	1	436.121	18	858.158	6	0.054	42	0.068	12	0.032	18
466			min	-532.358	7	159.004	75	-935.404	12	-0.038	12	-0.063	6	0.012	75
467		4	max	527.735	1	436.121	18	858.158	6	0.054	42	0.034	12	0.016	18
468			min	-532.358	7	159.004	75	-935.404	12	-0.038	12	-0.031	6	0.006	75
469		5	max	527.735	1	436.121	18	858.158	6	0.054	42	0	10	0	24
470			min	-532.358	7	159.004	75	-935.404	12	-0.038	12	0	6	0	14
471	M48	1	max	300.436	6	550.878	4	394.27	12	0.135	45	0.084	6	0.108	4

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
472			min	-236.712	12	-194.641	10	-427.347	6	0.012	3	-0.077	12	-0.038	10
473		2	max	300.436	6	550.878	4	394.27	12	0.135	45	0.063	6	0.081	4
474			min	-236.712	12	-194.641	10	-427.347	6	0.012	3	-0.058	12	-0.029	10
475		3	max	300.436	6	550.878	4	394.27	12	0.135	45	0.042	6	0.054	4
476			min	-236.712	12	-194.641	10	-427.347	6	0.012	3	-0.039	12	-0.019	10
477		4	max	300.436	6	550.878	4	394.27	12	0.135	45	0.021	6	0.027	4
478			min	-236.712	12	-194.641	10	-427.347	6	0.012	3	-0.019	12	-0.01	10
479		5	max	300.436	6	550.878	4	394.27	12	0.135	45	0	1	0	20
480			min	-236.712	12	-194.641	10	-427.347	6	0.012	3	0	5	0	42
481	M49	1	max	824.89	9	510.403	17	864.422	10	0.007	9	0.123	4	0.074	17
482			min	-807.082	3	178.981	74	-843.811	4	-0.079	15	-0.126	10	0.026	74
483		2	max	824.89	9	510.403	17	864.422	10	0.007	9	0.092	4	0.056	17
484			min	-807.082	3	178.981	74	-843.811	4	-0.079	15	-0.095	10	0.02	74
485		3	max	824.89	9	510.403	17	864.422	10	0.007	9	0.062	4	0.037	17
486			min	-807.082	3	178.981	74	-843.811	4	-0.079	15	-0.063	10	0.013	74
487		4	max	824.89	9	510.403	17	864.422	10	0.007	9	0.031	4	0.019	17
488			min	-807.082	3	178.981	74	-843.811	4	-0.079	15	-0.032	10	0.007	74
489		5	max	824.89	9	510.403	17	864.422	10	0.007	9	0	6	0	51
490			min	-807.082	3	178.981	74	-843.811	4	-0.079	15	0	2	0	24
491	M50	1	max	0	75	0.001	2	0.001	8	0	75	0	75	0	75
492			min	0	1	0	30	-0.001	6	0	1	0	1	0	1
493		2	max	177.681	11	282.986	10	251.906	10	0.275	1	0.522	11	-0.002	30
494			min	-170.898	5	-120.016	4	-198.898	4	-0.421	7	-0.476	5	-0.238	23
495		3	max	796.982	7	193.508	10	80.187	7	0.237	6	0.15	5	0.037	6
496			min	-842.126	1	-275.821	4	-101.021	1	-0.18	12	-0.173	11	-0.038	12
497		4	max	227.086	6	197.873	10	195.736	12	0.435	6	0.169	4	0.093	44
498			min	-174.616	12	-234.601	4	-204.058	6	-0.368	12	-0.194	10	-0.074	2
499		5	max	0	75	0	44	0	9	0	75	0	75	0	75
500			min	0	1	-0.001	6	-0.001	6	0	1	0	1	0	1
501	M51	1	max	0	75	0.001	2	0.003	8	0	75	0	75	0	75
502			min	0	1	0	1	-0.004	6	0	1	0	1	0	1
503		2	max	212.695	6	157.895	11	128.807	1	0.18	1	0.28	12	0.09	5
504			min	-247.996	12	-132.631	5	-217.359	7	-0.217	7	-0.351	6	-0.127	11
505		3	max	236.472	6	130.277	10	103.545	6	0.051	6	0.135	1	0.016	6
506			min	-270.958	12	-152.934	4	-72.048	12	-0.039	12	-0.17	7	-0.024	12
507		4	max	285.431	9	155.33	10	96.215	6	0.199	7	0.102	1	0.133	10
508			min	-347.386	3	-135.253	4	-81.354	12	-0.185	1	-0.106	7	-0.128	4
509		5	max	0	75	0	75	0.003	8	0	75	0	75	0	75
510			min	0	1	-0.001	12	-0.002	6	0	1	0	1	0	1
511	M52	1	max	188.074	2	582.511	7	399.212	4	0.445	4	0.356	12	0.368	12
512			min	-53.096	8	-172.962	1	-439.358	10	-0.52	10	-0.349	6	-0.435	6
513		2	max	188.074	2	582.511	7	399.212	4	0.445	4	0.337	12	0.374	12
514			min	-53.096	8	-172.962	1	-439.358	10	-0.52	10	-0.333	6	-0.475	6
515		3	max	188.074	2	582.511	7	399.212	4	0.445	4	0.318	12	0.383	1
516			min	-53.096	8	-172.962	1	-439.358	10	-0.52	10	-0.318	6	-0.518	7
517		4	max	188.074	2	582.511	7	399.212	4	0.445	4	0.299	12	0.397	1
518			min	-53.096	8	-172.962	1	-439.358	10	-0.52	10	-0.303	6	-0.566	7
519		5	max	188.074	2	582.511	7	399.212	4	0.445	4	0.298	1	0.411	1
520			min	-53.096	8	-172.962	1	-439.358	10	-0.52	10	-0.305	7	-0.613	7
521	M53	1	max	215.012	12	373.449	1	122.396	9	0.297	4	0.344	8	0.177	9
522			min	-346.924	6	-382.333	7	-83.51	3	-0.303	10	-0.345	2	-0.212	3
523		2	max	215.012	12	373.449	1	122.396	9	0.297	4	0.351	8	0.192	9
524			min	-346.924	6	-382.333	7	-83.51	3	-0.303	10	-0.349	2	-0.226	3
525		3	max	215.012	12	373.449	1	122.396	9	0.297	4	0.357	8	0.211	8
526			min	-346.924	6	-382.333	7	-83.51	3	-0.303	10	-0.354	2	-0.245	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
527		4	max	215.012	12	373.449	1	122.396	9	0.297	4	0.364	8	0.233	8
528			min	-346.924	6	-382.333	7	-83.51	3	-0.303	10	-0.358	2	-0.266	2
529		5	max	215.012	12	373.449	1	122.396	9	0.297	4	0.37	8	0.255	8
530			min	-346.924	6	-382.333	7	-83.51	3	-0.303	10	-0.362	2	-0.287	2
531	M54	1	max	68.359	8	-22.013	1	317.906	10	0.606	4	0.302	6	0.174	7
532			min	-51.453	2	-83.791	19	-345.546	4	-0.572	10	-0.251	12	-0.172	1
533		2	max	68.359	8	-22.013	1	317.906	10	0.606	4	0.29	6	0.177	7
534			min	-51.453	2	-83.791	19	-345.546	4	-0.572	10	-0.241	12	-0.171	1
535		3	max	68.359	8	-22.013	1	317.906	10	0.606	4	0.279	6	0.179	7
536			min	-51.453	2	-83.791	19	-345.546	4	-0.572	10	-0.232	12	-0.17	1
537		4	max	68.359	8	-22.013	1	317.906	10	0.606	4	0.268	6	0.182	7
538			min	-51.453	2	-83.791	19	-345.546	4	-0.572	10	-0.222	12	-0.168	1
539		5	max	68.359	8	-22.013	1	317.906	10	0.606	4	0.256	6	0.184	7
540			min	-51.453	2	-83.791	19	-345.546	4	-0.572	10	-0.212	12	-0.167	1
541	M55	1	max	225.539	1	310.095	20	498.928	4	0.822	4	0.275	12	0.288	7
542			min	-242.165	7	124.474	64	-471.301	10	-0.784	10	-0.329	6	-0.276	1
543		2	max	225.539	1	310.095	20	498.928	4	0.822	4	0.254	12	0.273	7
544			min	-242.165	7	124.474	64	-471.301	10	-0.784	10	-0.305	6	-0.289	1
545		3	max	225.539	1	310.095	20	498.928	4	0.822	4	0.232	12	0.258	7
546			min	-242.165	7	124.474	64	-471.301	10	-0.784	10	-0.281	6	-0.302	1
547		4	max	225.539	1	310.095	20	498.928	4	0.822	4	0.211	12	0.243	7
548			min	-242.165	7	124.474	64	-471.301	10	-0.784	10	-0.257	6	-0.315	1
549		5	max	225.539	1	310.095	20	498.928	4	0.822	4	0.208	1	0.228	7
550			min	-242.165	7	124.474	64	-471.301	10	-0.784	10	-0.253	7	-0.328	1
551	M56	1	max	841.253	1	782.15	18	919.028	4	0.739	4	0.911	10	0.556	7
552			min	-725.082	7	261.485	75	-920.077	10	-0.769	10	-0.858	4	-0.354	1
553		2	max	841.253	1	782.15	18	919.028	4	0.739	4	0.836	10	0.525	7
554			min	-725.082	7	261.485	75	-920.077	10	-0.769	10	-0.783	4	-0.382	1
555		3	max	841.253	1	782.15	18	919.028	4	0.739	4	0.76	10	0.494	7
556			min	-725.082	7	261.485	75	-920.077	10	-0.769	10	-0.708	3	-0.41	1
557		4	max	841.253	1	782.15	18	919.028	4	0.739	4	0.699	9	0.464	7
558			min	-725.082	7	261.485	75	-920.077	10	-0.769	10	-0.647	3	-0.437	1
559		5	max	841.253	1	782.15	18	919.028	4	0.739	4	0.639	9	0.433	7
560			min	-725.082	7	261.485	75	-920.077	10	-0.769	10	-0.587	3	-0.465	1
561	M57	1	max	165.222	1	33.885	24	33.605	5	0.529	4	0.172	11	0.243	7
562			min	-281.372	7	-28.493	30	-36.37	15	-0.549	10	-0.225	5	-0.193	1
563		2	max	165.222	1	33.885	24	33.605	5	0.529	4	0.17	11	0.243	7
564			min	-281.372	7	-28.493	30	-36.37	15	-0.549	10	-0.223	5	-0.195	1
565		3	max	165.222	1	33.885	24	33.605	5	0.529	4	0.168	11	0.244	7
566			min	-281.372	7	-28.493	30	-36.37	15	-0.549	10	-0.221	5	-0.196	1
567		4	max	165.222	1	33.885	24	33.605	5	0.529	4	0.166	11	0.244	7
568			min	-281.372	7	-28.493	30	-36.37	15	-0.549	10	-0.219	5	-0.198	1
569		5	max	165.222	1	33.885	24	33.605	5	0.529	4	0.164	11	0.245	7
570			min	-281.372	7	-28.493	30	-36.37	15	-0.549	10	-0.217	5	-0.2	1
571	M58	1	max	118.843	2	315.767	1	209.06	11	0.274	5	0.279	1	0.107	5
572			min	-195.595	8	-370.054	7	-155.335	5	-0.362	11	-0.324	7	-0.182	11
573		2	max	118.843	2	315.767	1	209.06	11	0.274	5	0.282	1	0.121	5
574			min	-195.595	8	-370.054	7	-155.335	5	-0.362	11	-0.324	7	-0.193	11
575		3	max	118.843	2	315.767	1	209.06	11	0.274	5	0.285	1	0.135	5
576			min	-195.595	8	-370.054	7	-155.335	5	-0.362	11	-0.324	7	-0.203	11
577		4	max	118.843	2	315.767	1	209.06	11	0.274	5	0.288	1	0.148	5
578			min	-195.595	8	-370.054	7	-155.335	5	-0.362	11	-0.324	7	-0.214	11
579		5	max	118.843	2	315.767	1	209.06	11	0.274	5	0.294	12	0.162	5
580			min	-195.595	8	-370.054	7	-155.335	5	-0.362	11	-0.327	6	-0.224	11
581	M59	1	max	107.072	8	422.536	7	247.15	4	0.406	5	0.324	7	0.275	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
582			min	-31.159	3	-263.656	1	-299.558	10	-0.501	11	-0.274	1	-0.421	7
583		2	max	107.072	8	422.536	7	247.15	4	0.406	5	0.324	7	0.297	1
584			min	-31.159	3	-263.656	1	-299.558	10	-0.501	11	-0.278	1	-0.456	7
585		3	max	107.072	8	422.536	7	247.15	4	0.406	5	0.324	7	0.319	1
586			min	-31.159	3	-263.656	1	-299.558	10	-0.501	11	-0.282	1	-0.49	7
587		4	max	107.072	8	422.536	7	247.15	4	0.406	5	0.324	7	0.34	1
588			min	-31.159	3	-263.656	1	-299.558	10	-0.501	11	-0.287	1	-0.525	7
589		5	max	107.072	8	422.536	7	247.15	4	0.406	5	0.327	6	0.362	1
590			min	-31.159	3	-263.656	1	-299.558	10	-0.501	11	-0.294	12	-0.56	7
591	M60	1	max	0	75	0.018	10	0.029	2	0	75	0	75	0	75
592			min	0	1	-0.017	4	-0.03	8	0	1	0	1	0	1
593		2	max	394.041	7	145.661	9	323.806	6	0.362	2	0.233	8	0.277	10
594			min	-361.102	1	-105.138	3	-193.704	12	-0.37	8	-0.265	2	-0.271	4
595		3	max	874.664	7	300.256	10	147.634	6	0.196	1	0.164	7	0.063	4
596			min	-518.542	1	-272.765	4	-46.517	12	-0.204	7	-0.132	1	-0.097	10
597		4	max	304.968	7	109.579	5	150.086	7	0.113	6	0.16	1	0.022	11
598			min	-333.648	1	-122.581	11	-178.708	1	-0.114	12	-0.193	7	-0.015	5
599		5	max	0	75	0.011	5	0.034	8	0	75	0	75	0	75
600			min	0	1	-0.009	11	-0.031	2	0	1	0	1	0	1
601	MP2A	1	max	0	75	0.016	10	0.071	1	0	75	0	75	0	75
602			min	0	1	-0.016	4	-0.076	7	0	1	0	1	0	1
603		2	max	108.238	19	343.801	10	74.445	2	0.212	12	0.161	8	0.547	10
604			min	33.731	64	-371.42	4	-91.729	8	-0.256	6	-0.143	2	-0.58	4
605		3	max	243.195	19	413.227	10	163.701	1	0.206	1	0.101	14	0.178	4
606			min	96.682	64	-440.846	4	-180.695	7	-0.251	7	0.016	8	-0.177	10
607		4	max	-9.436	71	25.558	4	25.645	7	0	75	0.026	1	0.026	4
608			min	-24.363	13	-25.559	10	-25.633	1	0	1	-0.026	7	-0.026	10
609		5	max	0	75	0.006	5	0.093	7	0	75	0	75	0	75
610			min	0	1	-0.006	11	-0.08	1	0	1	0	1	0	1
611	M62	1	max	0	75	0.012	10	0.075	1	0	75	0	75	0	75
612			min	0	1	-0.012	4	-0.084	7	0	1	0	1	0	1
613		2	max	41.524	30	43.791	9	255.539	7	0.217	5	0.223	6	0.524	10
614			min	-16.186	12	-42.934	3	-139.812	1	-0.164	11	-0.177	12	-0.504	4
615		3	max	752.263	1	538.931	10	365.428	1	0.273	8	0.068	1	0.171	4
616			min	-253.615	7	-540.937	4	-305.122	7	-0.239	2	-0.057	7	-0.172	10
617		4	max	417.789	1	353.414	4	398.784	7	0.359	4	0.105	7	0.087	5
618			min	-623.415	7	-356.454	10	-455.194	1	-0.379	10	-0.064	1	-0.054	11
619		5	max	0	75	0.002	3	0.065	7	0	75	0	75	0	75
620			min	0	1	-0.005	21	-0.054	1	0	1	0	1	0	1
621	MP4A	1	max	0	75	0.019	10	0.034	12	0	75	0	75	0	75
622			min	0	1	-0.02	4	-0.033	6	0	1	0	1	0	1
623		2	max	382.302	7	230.884	11	172.143	8	0.327	6	0.149	5	0.34	11
624			min	-303.167	1	-178.43	5	-97.596	2	-0.294	12	-0.211	11	-0.252	5
625		3	max	395.451	7	253.014	11	150.014	8	0.327	6	0.331	7	0.127	5
626			min	-290.019	1	-200.559	5	-75.466	2	-0.294	12	-0.245	1	-0.144	11
627		4	max	-9.436	75	25.567	4	25.627	7	0	75	0.026	1	0.026	4
628			min	-24.363	15	-25.565	10	-25.62	1	0	1	-0.026	7	-0.026	10
629		5	max	0	75	0.014	4	0.075	6	0	75	0	75	0	75
630			min	0	1	-0.012	10	-0.068	12	0	1	0	1	0	1
631	M64	1	max	0	75	0.001	10	0.001	10	0	75	0	75	0	75
632			min	0	1	0	3	-0.001	8	0	1	0	1	0	1
633		2	max	160.017	5	255.723	6	213.281	5	0.213	10	0.449	6	-0.008	40
634			min	-160.218	11	-114.207	12	-193.46	11	-0.299	4	-0.428	12	-0.204	21
635		3	max	781.647	2	208.767	6	91.913	12	0.159	12	0.118	1	0.063	1
636			min	-724.738	8	-258.102	12	-101.006	6	-0.138	6	-0.121	7	-0.048	7

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
637		4	max	240.531	2	213.922	6	166.475	7	0.31	2	0.306	12	0.102	5
638			min	-182.262	8	-248.041	12	-174.025	1	-0.264	8	-0.299	6	-0.099	11
639		5	max	0	75	0	16	0.001	5	0	75	0	75	0	75
640			min	0	1	-0.001	2	0	2	0	1	0	1	0	1
641	M65	1	max	0	75	0.001	10	0.003	10	0	75	0	75	0	75
642			min	0	1	0	3	-0.004	8	0	1	0	1	0	1
643		2	max	210.867	1	194.11	6	155.387	9	0.239	9	0.278	8	0.152	1
644			min	-294.849	7	-174.938	12	-202.819	3	-0.253	3	-0.295	2	-0.186	7
645		3	max	171.965	2	170.037	6	96.188	3	0.076	2	0.148	9	0.017	4
646			min	-328.669	8	-179.81	12	-91.18	9	-0.077	8	-0.176	3	-0.023	10
647		4	max	239.418	5	169.476	6	107.384	2	0.205	3	0.112	9	0.139	6
648			min	-359.052	11	-146.189	12	-69.825	8	-0.197	9	-0.12	3	-0.128	12
649		5	max	0	75	0	75	0.003	10	0	75	0	75	0	75
650			min	0	1	-0.001	8	-0.002	8	0	1	0	1	0	1
651	M66	1	max	44.205	4	-4.21	7	376.248	6	0.651	12	0.285	2	0.153	4
652			min	-75.737	10	-71.74	13	-339.124	12	-0.653	6	-0.257	8	-0.144	10
653		2	max	44.205	4	-4.21	7	376.248	6	0.651	12	0.276	2	0.155	4
654			min	-75.737	10	-71.74	13	-339.124	12	-0.653	6	-0.246	8	-0.142	10
655		3	max	44.205	4	-4.21	7	376.248	6	0.651	12	0.267	2	0.156	4
656			min	-75.737	10	-71.74	13	-339.124	12	-0.653	6	-0.235	8	-0.14	10
657		4	max	44.205	4	-4.21	7	376.248	6	0.651	12	0.265	3	0.158	4
658			min	-75.737	10	-71.74	13	-339.124	12	-0.653	6	-0.231	9	-0.138	10
659		5	max	44.205	4	-4.21	7	376.248	6	0.651	12	0.267	3	0.159	4
660			min	-75.737	10	-71.74	13	-339.124	12	-0.653	6	-0.23	9	-0.137	10
661	M67	1	max	225.893	9	298.217	13	520.536	12	0.877	12	0.267	8	0.301	3
662			min	-194.059	3	120.74	71	-557.718	6	-0.869	6	-0.291	2	-0.275	9
663		2	max	225.893	9	298.217	13	520.536	12	0.877	12	0.244	8	0.287	3
664			min	-194.059	3	120.74	71	-557.718	6	-0.869	6	-0.271	2	-0.288	9
665		3	max	225.893	9	298.217	13	520.536	12	0.877	12	0.222	8	0.272	3
666			min	-194.059	3	120.74	71	-557.718	6	-0.869	6	-0.252	2	-0.301	9
667		4	max	225.893	9	298.217	13	520.536	12	0.877	12	0.199	8	0.258	3
668			min	-194.059	3	120.74	71	-557.718	6	-0.869	6	-0.232	2	-0.313	9
669		5	max	225.893	9	298.217	13	520.536	12	0.877	12	0.188	9	0.243	3
670			min	-194.059	3	120.74	71	-557.718	6	-0.869	6	-0.224	3	-0.326	9
671	M68	1	max	115.37	10	333.449	9	204.331	6	0.325	12	0.291	9	0.123	12
672			min	-162.072	4	-390.331	3	-171.988	12	-0.387	6	-0.296	3	-0.15	6
673		2	max	115.37	10	333.449	9	204.331	6	0.325	12	0.294	9	0.134	1
674			min	-162.072	4	-390.331	3	-171.988	12	-0.387	6	-0.296	3	-0.159	7
675		3	max	115.37	10	333.449	9	204.331	6	0.325	12	0.296	9	0.148	1
676			min	-162.072	4	-390.331	3	-171.988	12	-0.387	6	-0.297	3	-0.169	7
677		4	max	115.37	10	333.449	9	204.331	6	0.325	12	0.299	9	0.162	1
678			min	-162.072	4	-390.331	3	-171.988	12	-0.387	6	-0.298	3	-0.18	7
679		5	max	115.37	10	333.449	9	204.331	6	0.325	12	0.302	9	0.175	1
680			min	-162.072	4	-390.331	3	-171.988	12	-0.387	6	-0.299	3	-0.19	7
681	M69	1	max	92.912	6	442.65	3	274.141	12	0.43	12	0.294	3	0.213	10
682			min	-48.862	12	-281.36	9	-306.679	6	-0.483	6	-0.286	9	-0.299	4
683		2	max	92.912	6	442.65	3	274.141	12	0.43	12	0.295	3	0.231	9
684			min	-48.862	12	-281.36	9	-306.679	6	-0.483	6	-0.29	9	-0.332	3
685		3	max	92.912	6	442.65	3	274.141	12	0.43	12	0.296	3	0.255	9
686			min	-48.862	12	-281.36	9	-306.679	6	-0.483	6	-0.294	9	-0.368	3
687		4	max	92.912	6	442.65	3	274.141	12	0.43	12	0.298	3	0.278	9
688			min	-48.862	12	-281.36	9	-306.679	6	-0.483	6	-0.298	9	-0.404	3
689		5	max	92.912	6	442.65	3	274.141	12	0.43	12	0.299	3	0.301	9
690			min	-48.862	12	-281.36	9	-306.679	6	-0.483	6	-0.302	9	-0.441	3
691	MP4C	1	max	0	75	0.031	9	0.024	1	0	75	0	75	0	75

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
692			min	0	1	-0.027	3	-0.025	7	0	1	0	1	0	1
693		2	max	402.771	3	124.711	2	195.635	12	0.299	3	0.396	7	0.052	11
694			min	-320.853	9	-102.662	8	-245.913	6	-0.302	9	-0.335	1	-0.07	41
695		3	max	415.92	3	111.934	2	217.765	12	0.299	3	0.116	11	0.179	8
696			min	-307.704	9	-89.885	8	-268.043	6	-0.302	9	-0.156	5	-0.241	2
697		4	max	-9.436	75	25.601	4	25.581	7	0	75	0.026	1	0.026	4
698			min	-24.363	24	-25.599	10	-25.583	1	0	1	-0.026	7	-0.026	10
699		5	max	0	75	0.058	3	0.033	8	0	75	0	75	0	75
700			min	0	1	-0.055	9	-0.035	2	0	1	0	1	0	1
701	M72	1	max	0	75	0.001	6	0.001	12	0	75	0	75	0	75
702			min	0	1	0	2	-0.001	10	0	1	0	1	0	1
703		2	max	134.855	1	237.791	2	212.471	2	0.232	6	0.442	2	-0.025	12
704			min	-144.024	7	-95.228	8	-174.892	8	-0.375	12	-0.43	8	-0.194	18
705		3	max	779.558	11	171.712	2	96.774	8	0.156	7	0.132	10	0.051	10
706			min	-806.896	5	-242.67	8	-104.19	2	-0.098	1	-0.15	4	-0.041	4
707		4	max	259.723	10	196.805	2	162.887	4	0.302	11	0.307	8	0.108	1
708			min	-201.616	4	-229.043	8	-191.46	10	-0.208	5	-0.282	2	-0.101	7
709		5	max	0	75	0	24	0.001	1	0	75	0	75	0	75
710			min	0	1	-0.001	10	0	2	0	1	0	1	0	1
711	M73	1	max	0	75	0.001	6	0.004	12	0	75	0	75	0	75
712			min	0	1	0	2	-0.004	10	0	1	0	1	0	1
713		2	max	234.079	9	178.395	2	179.464	5	0.228	5	0.313	5	0.141	8
714			min	-247.673	3	-159.585	8	-247.978	11	-0.27	11	-0.369	11	-0.171	2
715		3	max	177.376	10	151.557	2	76.12	11	0.072	10	0.124	6	0.02	12
716			min	-238.223	4	-171.14	8	-58.776	5	-0.055	4	-0.169	12	-0.024	6
717		4	max	251.642	12	154.11	2	96.249	9	0.215	11	0.105	6	0.125	1
718			min	-359.219	6	-133.646	8	-37.31	3	-0.189	5	-0.13	12	-0.122	7
719		5	max	0	75	0	75	0.003	12	0	75	0	75	0	75
720			min	0	1	-0.001	4	-0.002	10	0	1	0	1	0	1
721	M74	1	max	173.161	6	495.418	12	346.933	7	0.439	7	0.285	5	0.208	5
722			min	-71.217	12	-185.557	6	-355.784	1	-0.506	1	-0.29	11	-0.302	11
723		2	max	173.161	6	495.418	12	346.933	7	0.439	7	0.288	5	0.222	5
724			min	-71.217	12	-185.557	6	-355.784	1	-0.506	1	-0.294	11	-0.342	11
725		3	max	173.161	6	495.418	12	346.933	7	0.439	7	0.291	5	0.237	5
726			min	-71.217	12	-185.557	6	-355.784	1	-0.506	1	-0.298	11	-0.382	11
727		4	max	173.161	6	495.418	12	346.933	7	0.439	7	0.295	5	0.251	5
728			min	-71.217	12	-185.557	6	-355.784	1	-0.506	1	-0.302	11	-0.422	11
729		5	max	173.161	6	495.418	12	346.933	7	0.439	7	0.298	5	0.266	5
730			min	-71.217	12	-185.557	6	-355.784	1	-0.506	1	-0.306	11	-0.462	11
731	M75	1	max	147.702	5	331.524	6	133.639	2	0.311	7	0.296	12	0.122	1
732			min	-249.171	11	-349.084	12	-123.915	8	-0.311	1	-0.289	6	-0.181	7
733		2	max	147.702	5	331.524	6	133.639	2	0.311	7	0.302	12	0.135	1
734			min	-249.171	11	-349.084	12	-123.915	8	-0.311	1	-0.295	6	-0.193	7
735		3	max	147.702	5	331.524	6	133.639	2	0.311	7	0.308	12	0.148	1
736			min	-249.171	11	-349.084	12	-123.915	8	-0.311	1	-0.3	6	-0.205	7
737		4	max	147.702	5	331.524	6	133.639	2	0.311	7	0.313	12	0.161	1
738			min	-249.171	11	-349.084	12	-123.915	8	-0.311	1	-0.305	6	-0.217	7
739		5	max	147.702	5	331.524	6	133.639	2	0.311	7	0.319	12	0.174	1
740			min	-249.171	11	-349.084	12	-123.915	8	-0.311	1	-0.311	6	-0.229	7
741	M76	1	max	43.905	12	-12.606	4	299.885	2	0.612	8	0.235	10	0.169	12
742			min	-84.545	6	-80.204	22	-347.481	8	-0.581	2	-0.161	4	-0.158	6
743		2	max	43.905	12	-12.606	4	299.885	2	0.612	8	0.226	11	0.171	12
744			min	-84.545	6	-80.204	22	-347.481	8	-0.581	2	-0.155	5	-0.156	6
745		3	max	43.905	12	-12.606	4	299.885	2	0.612	8	0.226	11	0.172	12
746			min	-84.545	6	-80.204	22	-347.481	8	-0.581	2	-0.157	5	-0.154	6

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
747		4	max	43.905	12	-12.606	4	299.885	2	0.612	8	0.226	11	0.174	12
748			min	-84.545	6	-80.204	22	-347.481	8	-0.581	2	-0.16	5	-0.152	6
749		5	max	43.905	12	-12.606	4	299.885	2	0.612	8	0.226	11	0.176	12
750			min	-84.545	6	-80.204	22	-347.481	8	-0.581	2	-0.163	5	-0.15	6
751	M77	1	max	241.667	6	306.596	22	519.144	8	0.807	8	0.242	4	0.319	12
752			min	-201.075	12	123.237	67	-471.601	2	-0.782	2	-0.32	10	-0.282	6
753		2	max	241.667	6	306.596	22	519.144	8	0.807	8	0.224	4	0.305	12
754			min	-201.075	12	123.237	67	-471.601	2	-0.782	2	-0.299	10	-0.296	6
755		3	max	241.667	6	306.596	22	519.144	8	0.807	8	0.207	4	0.292	12
756			min	-201.075	12	123.237	67	-471.601	2	-0.782	2	-0.278	10	-0.31	6
757		4	max	241.667	6	306.596	22	519.144	8	0.807	8	0.2	5	0.278	12
758			min	-201.075	12	123.237	67	-471.601	2	-0.782	2	-0.267	11	-0.325	6
759		5	max	241.667	6	306.596	22	519.144	8	0.807	8	0.204	5	0.265	12
760			min	-201.075	12	123.237	67	-471.601	2	-0.782	2	-0.267	11	-0.339	6
761	M78	1	max	763.33	5	689.512	23	827.323	8	0.528	8	0.638	1	0.333	11
762			min	-680.493	11	225.67	67	-780.122	2	-0.573	2	-0.604	7	-0.132	5
763		2	max	763.33	5	689.512	23	827.323	8	0.528	8	0.576	1	0.305	11
764			min	-680.493	11	225.67	67	-780.122	2	-0.573	2	-0.538	7	-0.154	5
765		3	max	763.33	5	689.512	23	827.323	8	0.528	8	0.513	1	0.277	11
766			min	-680.493	11	225.67	67	-780.122	2	-0.573	2	-0.472	7	-0.177	5
767		4	max	763.33	5	689.512	23	827.323	8	0.528	8	0.451	1	0.25	11
768			min	-680.493	11	225.67	67	-780.122	2	-0.573	2	-0.405	7	-0.2	5
769		5	max	763.33	5	689.512	23	827.323	8	0.528	8	0.389	1	0.222	11
770			min	-680.493	11	225.67	67	-780.122	2	-0.573	2	-0.339	7	-0.223	5
771	M79	1	max	206.641	5	35.22	5	24.322	3	0.671	8	0.272	5	0.333	11
772			min	-289.518	11	-29.793	11	-80.576	21	-0.688	2	-0.311	11	-0.275	5
773		2	max	206.641	5	35.22	5	24.322	3	0.671	8	0.27	5	0.335	11
774			min	-289.518	11	-29.793	11	-80.576	21	-0.688	2	-0.312	11	-0.277	5
775		3	max	206.641	5	35.22	5	24.322	3	0.671	8	0.269	5	0.337	11
776			min	-289.518	11	-29.793	11	-80.576	21	-0.688	2	-0.313	11	-0.279	5
777		4	max	206.641	5	35.22	5	24.322	3	0.671	8	0.267	5	0.339	11
778			min	-289.518	11	-29.793	11	-80.576	21	-0.688	2	-0.315	11	-0.281	5
779		5	max	206.641	5	35.22	5	24.322	3	0.671	8	0.266	5	0.34	11
780			min	-289.518	11	-29.793	11	-80.576	21	-0.688	2	-0.316	11	-0.283	5
781	M80	1	max	122.465	6	322.184	5	189.797	2	0.296	8	0.292	5	0.098	9
782			min	-195.787	12	-384.481	11	-148.492	8	-0.367	2	-0.337	11	-0.16	3
783		2	max	122.465	6	322.184	5	189.797	2	0.296	8	0.295	5	0.109	9
784			min	-195.787	12	-384.481	11	-148.492	8	-0.367	2	-0.338	11	-0.167	3
785		3	max	122.465	6	322.184	5	189.797	2	0.296	8	0.297	5	0.119	9
786			min	-195.787	12	-384.481	11	-148.492	8	-0.367	2	-0.338	11	-0.174	3
787		4	max	122.465	6	322.184	5	189.797	2	0.296	8	0.3	5	0.13	9
788			min	-195.787	12	-384.481	11	-148.492	8	-0.367	2	-0.338	11	-0.182	3
789		5	max	122.465	6	322.184	5	189.797	2	0.296	8	0.303	5	0.141	9
790			min	-195.787	12	-384.481	11	-148.492	8	-0.367	2	-0.338	11	-0.189	3
791	M81	1	max	107.279	12	436.831	11	250.661	8	0.378	8	0.336	11	0.232	6
792			min	-33.956	6	-270.109	5	-292.115	2	-0.452	2	-0.287	5	-0.375	12
793		2	max	107.279	12	436.831	11	250.661	8	0.378	8	0.337	11	0.251	6
794			min	-33.956	6	-270.109	5	-292.115	2	-0.452	2	-0.291	5	-0.408	12
795		3	max	107.279	12	436.831	11	250.661	8	0.378	8	0.337	11	0.271	6
796			min	-33.956	6	-270.109	5	-292.115	2	-0.452	2	-0.295	5	-0.441	12
797		4	max	107.279	12	436.831	11	250.661	8	0.378	8	0.338	11	0.29	6
798			min	-33.956	6	-270.109	5	-292.115	2	-0.452	2	-0.299	5	-0.475	12
799		5	max	107.279	12	436.831	11	250.661	8	0.378	8	0.338	11	0.31	6
800			min	-33.956	6	-270.109	5	-292.115	2	-0.452	2	-0.303	5	-0.508	12
801	MP1B	1	max	0	75	0.025	11	0.024	1	0	75	0	75	0	75

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
802			min	0	1	-0.027	5	-0.024	7	0	1	0	1	0	1
803		2	max	361.357	12	126.438	5	139.961	2	0.311	6	0.358	7	0.035	35
804			min	-318.82	6	-215.748	11	-180.305	8	-0.319	12	-0.331	1	-0.069	5
805		3	max	422.145	12	51.626	6	203.916	2	0.302	6	0.127	5	0.351	12
806			min	-258.032	6	-141.009	12	-244.26	8	-0.31	12	-0.144	11	-0.251	6
807		4	max	-9.436	73	25.592	4	25.585	7	0	75	0.026	1	0.026	4
808			min	-24.363	14	-25.599	10	-25.587	1	0	1	-0.026	7	-0.026	10
809		5	max	0	75	0.058	5	0.039	6	0	75	0	75	0	75
810			min	0	1	-0.065	11	-0.041	12	0	1	0	1	0	1
811	MP2B	1	max	0	75	0.07	11	0.044	12	0	75	0	75	0	75
812			min	0	1	-0.065	5	-0.042	6	0	1	0	1	0	1
813		2	max	104.475	22	139.393	8	291.495	1	0.163	5	0.54	7	0.263	8
814			min	26.016	4	-151.795	2	-353.07	7	-0.226	11	-0.526	1	-0.226	2
815		3	max	239.433	22	197.37	9	387.428	1	0.198	5	0.149	2	0.093	4
816			min	95.44	67	-209.921	3	-449.003	7	-0.261	11	-0.137	8	-0.054	10
817		4	max	-9.436	75	25.601	4	25.58	7	0	75	0.026	1	0.026	4
818			min	-24.363	15	-25.613	10	-25.587	1	0	1	-0.026	7	-0.026	10
819		5	max	0	75	0.07	5	0.041	6	0	75	0	75	0	75
820			min	0	1	-0.081	11	-0.048	12	0	1	0	1	0	1
821	MP3B	1	max	0	75	0.584	11	0.393	12	0	75	0	75	0	75
822			min	0	1	-0.518	5	-0.348	6	0	1	0	1	0	1
823		2	max	239.972	17	359.245	11	373.281	1	0.259	12	0.455	8	0.264	9
824			min	64.87	64	-359.18	5	-373.236	7	-0.209	6	-0.408	2	-0.298	3
825		3	max	365.074	23	260.397	10	366.684	1	0.238	12	0.247	12	0.248	4
826			min	124.067	67	-307.807	4	-449.167	7	-0.188	6	-0.226	6	-0.212	10
827		4	max	-82.954	74	379.538	5	397.892	7	0.212	9	0.153	1	0.241	5
828			min	-281.172	13	-379.664	11	-397.99	1	-0.212	3	-0.271	7	-0.162	11
829		5	max	0	75	0.415	5	0.242	5	0	75	0	75	0	75
830			min	0	1	-0.611	23	-0.429	23	0	1	0	1	0	1
831	MP4B	1	max	0	75	0.029	10	0.025	12	0	75	0	75	0	75
832			min	0	1	-0.029	4	-0.025	6	0	1	0	1	0	1
833		2	max	396.767	11	134.34	7	147.06	3	0.338	11	0.186	8	0.236	9
834			min	-309.541	5	-215.911	1	-146.12	9	-0.303	5	-0.224	2	-0.314	3
835		3	max	409.916	11	134.34	7	160.457	2	0.338	11	0.129	4	0.255	12
836			min	-296.392	5	-215.911	1	-159.383	8	-0.303	5	-0.165	10	-0.169	6
837		4	max	-9.436	75	25.6	4	25.578	7	0	75	0.026	1	0.026	4
838			min	-24.363	16	-25.607	10	-25.581	1	0	1	-0.026	7	-0.026	10
839		5	max	0	75	0.05	5	0.036	6	0	75	0	75	0	75
840			min	0	1	-0.058	11	-0.04	12	0	1	0	1	0	1
841	M86	1	max	273.224	1	441.828	6	411.892	11	0.116	6	0.213	5	0.256	6
842			min	-437.622	7	-437.496	12	-321.857	5	-0.138	12	-0.301	11	-0.293	12
843		2	max	273.224	1	441.828	6	411.892	11	0.116	6	0.205	5	0.245	6
844			min	-437.622	7	-437.496	12	-321.857	5	-0.138	12	-0.29	11	-0.283	12
845		3	max	273.224	1	441.828	6	411.892	11	0.116	6	0.197	5	0.234	6
846			min	-437.622	7	-437.496	12	-321.857	5	-0.138	12	-0.28	11	-0.272	12
847		4	max	273.224	1	441.828	6	411.892	11	0.116	6	0.189	5	0.223	6
848			min	-437.622	7	-437.496	12	-321.857	5	-0.138	12	-0.27	11	-0.261	12
849		5	max	273.224	1	441.828	6	411.892	11	0.116	6	0.181	5	0.212	6
850			min	-437.622	7	-437.496	12	-321.857	5	-0.138	12	-0.26	11	-0.25	12
851	M87	1	max	318.268	12	465.065	8	400.701	9	0.173	2	0.44	3	0.337	8
852			min	-464.264	6	-461.845	2	-423.601	3	-0.161	8	-0.437	9	-0.356	2
853		2	max	318.268	12	465.065	8	400.701	9	0.173	2	0.429	3	0.325	8
854			min	-464.264	6	-461.845	2	-423.601	3	-0.161	8	-0.427	9	-0.345	2
855		3	max	318.268	12	465.065	8	400.701	9	0.173	2	0.419	3	0.314	8
856			min	-464.264	6	-461.845	2	-423.601	3	-0.161	8	-0.417	9	-0.334	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
857		4	max	318.268	12	465.065	8	400.701	9	0.173	2	0.409	3	0.302	8
858			min	-464.264	6	-461.845	2	-423.601	3	-0.161	8	-0.407	9	-0.322	2
859		5	max	318.268	12	465.065	8	400.701	9	0.173	2	0.398	3	0.291	8
860			min	-464.264	6	-461.845	2	-423.601	3	-0.161	8	-0.397	9	-0.311	2
861	M88	1	max	298.306	9	469.798	2	491.663	7	0.12	2	0.232	12	0.265	2
862			min	-391.855	3	-456.782	8	-373.355	1	-0.128	8	-0.315	7	-0.279	8
863		2	max	298.306	9	469.798	2	491.663	7	0.12	2	0.224	12	0.253	2
864			min	-391.855	3	-456.782	8	-373.355	1	-0.128	8	-0.304	6	-0.268	8
865		3	max	298.306	9	469.798	2	491.663	7	0.12	2	0.215	12	0.241	2
866			min	-391.855	3	-456.782	8	-373.355	1	-0.128	8	-0.293	6	-0.256	8
867		4	max	298.306	9	469.798	2	491.663	7	0.12	2	0.207	12	0.23	2
868			min	-391.855	3	-456.782	8	-373.355	1	-0.128	8	-0.282	6	-0.245	8
869		5	max	298.306	9	469.798	2	491.663	7	0.12	2	0.199	12	0.218	2
870			min	-391.855	3	-456.782	8	-373.355	1	-0.128	8	-0.27	6	-0.234	8
871	M89	1	max	274.704	8	395.199	4	389.268	5	0.141	11	0.467	11	0.256	4
872			min	-391.128	2	-398.134	10	-483.675	11	-0.121	5	-0.383	5	-0.291	11
873		2	max	274.704	8	395.199	4	389.268	5	0.141	11	0.455	11	0.247	5
874			min	-391.128	2	-398.134	10	-483.675	11	-0.121	5	-0.374	5	-0.282	11
875		3	max	274.704	8	395.199	4	389.268	5	0.141	11	0.443	11	0.238	5
876			min	-391.128	2	-398.134	10	-483.675	11	-0.121	5	-0.364	5	-0.272	11
877		4	max	274.704	8	395.199	4	389.268	5	0.141	11	0.431	11	0.228	5
878			min	-391.128	2	-398.134	10	-483.675	11	-0.121	5	-0.354	5	-0.263	11
879		5	max	274.704	8	395.199	4	389.268	5	0.141	11	0.419	11	0.219	5
880			min	-391.128	2	-398.134	10	-483.675	11	-0.121	5	-0.345	5	-0.254	11
881	M90	1	max	314.025	5	406.054	10	421.442	3	0.113	10	0.266	9	0.246	10
882			min	-454.439	11	-387.491	4	-365.08	9	-0.126	4	-0.318	3	-0.266	4
883		2	max	314.025	5	406.054	10	421.442	3	0.113	10	0.257	9	0.236	10
884			min	-454.439	11	-387.491	4	-365.08	9	-0.126	4	-0.308	3	-0.257	4
885		3	max	314.025	5	406.054	10	421.442	3	0.113	10	0.248	9	0.226	10
886			min	-454.439	11	-387.491	4	-365.08	9	-0.126	4	-0.297	3	-0.247	4
887		4	max	314.025	5	406.054	10	421.442	3	0.113	10	0.239	9	0.216	10
888			min	-454.439	11	-387.491	4	-365.08	9	-0.126	4	-0.287	3	-0.238	4
889		5	max	314.025	5	406.054	10	421.442	3	0.113	10	0.23	9	0.206	10
890			min	-454.439	11	-387.491	4	-365.08	9	-0.126	4	-0.276	3	-0.228	4
891	M91	1	max	199.267	5	445.716	12	371.573	1	0.159	6	0.452	7	0.296	12
892			min	-358.873	11	-433.488	6	-470.776	7	-0.139	12	-0.356	1	-0.328	6
893		2	max	199.267	5	445.716	12	371.573	1	0.159	6	0.44	7	0.285	12
894			min	-358.873	11	-433.488	6	-470.776	7	-0.139	12	-0.347	1	-0.317	6
895		3	max	199.267	5	445.716	12	371.573	1	0.159	6	0.428	7	0.274	12
896			min	-358.873	11	-433.488	6	-470.776	7	-0.139	12	-0.338	1	-0.307	6
897		4	max	199.267	5	445.716	12	371.573	1	0.159	6	0.417	7	0.263	12
898			min	-358.873	11	-433.488	6	-470.776	7	-0.139	12	-0.329	1	-0.296	6
899		5	max	199.267	5	445.716	12	371.573	1	0.159	6	0.405	7	0.252	12
900			min	-358.873	11	-433.488	6	-470.776	7	-0.139	12	-0.319	1	-0.285	6
901	M92	1	max	157.679	2	438.502	12	428.766	6	0.005	12	0.073	7	0.368	12
902			min	-342.568	8	-440.758	6	-423.651	12	-0.005	6	-0.065	25	-0.281	6
903		2	max	159.218	2	440.08	12	428.766	6	0.005	12	0.075	7	0.197	11
904			min	-344.108	8	-439.18	6	-423.651	12	-0.005	6	-0.049	1	-0.108	5
905		3	max	160.758	2	441.657	12	428.766	6	0.005	12	0.078	7	0.153	7
906			min	-345.647	8	-437.603	6	-423.651	12	-0.005	6	-0.05	1	-0.064	1
907		4	max	162.297	2	443.235	12	428.766	6	0.005	12	0.083	8	0.32	7
908			min	-347.186	8	-436.026	6	-423.651	12	-0.005	6	-0.053	2	-0.231	1
909		5	max	163.837	2	444.812	12	428.766	6	0.005	12	0.096	32	0.514	6
910			min	-348.726	8	-434.448	6	-423.651	12	-0.005	6	-0.059	2	-0.426	12
911	M93	1	max	222.346	6	388.252	4	388.929	10	0.005	5	0.094	11	0.355	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
912			min	-369.683	12	-405.175	10	-367.589	4	-0.005	11	-0.078	5	-0.303	9
913		2	max	223.885	6	389.83	4	388.929	10	0.005	5	0.094	12	0.206	3
914			min	-371.223	12	-403.598	10	-367.589	4	-0.005	11	-0.077	6	-0.146	9
915		3	max	225.425	6	391.407	4	388.929	10	0.005	5	0.097	12	0.155	11
916			min	-372.762	12	-402.021	10	-367.589	4	-0.005	11	-0.078	6	-0.087	5
917		4	max	226.964	6	392.984	4	388.929	10	0.005	5	0.102	12	0.328	11
918			min	-374.302	12	-400.443	10	-367.589	4	-0.005	11	-0.08	6	-0.254	5
919		5	max	228.504	6	394.562	4	388.929	10	0.005	5	0.107	12	0.502	11
920			min	-375.841	12	-398.866	10	-367.589	4	-0.005	11	-0.082	6	-0.421	5
921	M94	1	max	232.119	12	457.84	8	385.189	2	0.006	8	0.116	3	0.357	7
922			min	-368.322	6	-468.893	2	-440.859	8	-0.005	2	-0.077	11	-0.293	1
923		2	max	230.58	12	459.418	8	385.189	2	0.006	8	0.102	3	0.171	7
924			min	-366.783	6	-467.316	2	-440.859	8	-0.005	2	-0.078	9	-0.118	1
925		3	max	229.041	12	460.995	8	385.189	2	0.006	8	0.09	3	0.165	3
926			min	-365.243	6	-465.739	2	-440.859	8	-0.005	2	-0.079	9	-0.122	9
927		4	max	227.501	12	462.572	8	385.189	2	0.006	8	0.077	3	0.332	2
928			min	-363.704	6	-464.161	2	-440.859	8	-0.005	2	-0.081	9	-0.302	8
929		5	max	225.962	12	464.15	8	385.189	2	0.006	8	0.066	4	0.527	2
930			min	-362.164	6	-462.584	2	-440.859	8	-0.005	2	-0.091	45	-0.51	8
931	M95	1	max	3367.743	1	33.899	24	39.753	10	0	11	0	75	0	75
932			min	-314.021	7	1.792	8	-39.753	4	0	5	0	1	0	1
933		2	max	3371.755	1	16.95	24	19.876	10	0	11	0.034	10	-0.002	8
934			min	-327.22	7	0.896	8	-19.876	4	0	5	-0.034	4	-0.029	24
935		3	max	3375.767	1	0	75	0	75	0	11	0.045	10	-0.002	8
936			min	-340.419	7	0	1	0	1	0	5	-0.045	4	-0.038	24
937		4	max	3379.778	1	-0.896	6	19.876	4	0	11	0.034	10	-0.002	8
938			min	-353.618	7	-16.95	14	-19.876	10	0	5	-0.034	4	-0.029	24
939		5	max	3383.79	1	-1.792	6	39.753	4	0	11	0	75	0	75
940			min	-366.817	7	-33.899	14	-39.753	10	0	5	0	1	0	1
941	M96	1	max	3652.949	33	33.899	22	39.753	6	0	7	0	75	0	75
942			min	-78.8	3	1.792	2	-39.753	12	0	1	0	1	0	1
943		2	max	3648.851	33	16.95	22	19.876	6	0	7	0.034	6	-0.002	2
944			min	-91.999	3	0.896	2	-19.876	12	0	1	-0.034	12	-0.029	22
945		3	max	3644.753	33	0	75	0	75	0	7	0.045	6	-0.002	2
946			min	-105.198	3	0	1	0	1	0	1	-0.045	12	-0.038	22
947		4	max	3640.655	33	-0.896	2	19.876	12	0	7	0.034	6	-0.002	2
948			min	-118.397	3	-16.95	22	-19.876	6	0	1	-0.034	12	-0.029	22
949		5	max	3636.556	33	-1.792	2	39.753	12	0	7	0	75	0	75
950			min	-131.596	3	-33.899	22	-39.753	6	0	1	0	1	0	1
951	M97	1	max	3862.056	17	33.899	16	39.753	2	0	3	0	75	0	75
952			min	-71.733	11	1.792	12	-39.753	8	0	45	0	1	0	1
953		2	max	3853.61	17	16.95	16	19.876	2	0	3	0.034	2	-0.002	12
954			min	-84.932	11	0.896	12	-19.876	8	0	45	-0.034	8	-0.029	16
955		3	max	3845.165	17	0	75	0	75	0	3	0.045	2	-0.002	12
956			min	-98.131	11	0	1	0	1	0	45	-0.045	8	-0.038	16
957		4	max	3836.719	17	-0.896	12	19.876	8	0	3	0.034	2	-0.002	12
958			min	-111.33	11	-16.95	16	-19.876	2	0	45	-0.034	8	-0.029	16
959		5	max	3828.273	17	-1.792	12	39.753	8	0	3	0	75	0	75
960			min	-124.529	11	-33.899	16	-39.753	2	0	45	0	1	0	1
961	M98	1	max	182.748	8	308.379	10	161.874	6	0.332	12	0.268	3	0.143	5
962			min	-262.476	2	-307.708	4	-135.913	12	-0.336	6	-0.285	9	-0.186	11
963		2	max	182.748	8	308.379	10	161.874	6	0.332	12	0.271	3	0.157	5
964			min	-262.476	2	-307.708	4	-135.913	12	-0.336	6	-0.286	9	-0.199	11
965		3	max	182.748	8	308.379	10	161.874	6	0.332	12	0.276	4	0.17	5
966			min	-262.476	2	-307.708	4	-135.913	12	-0.336	6	-0.29	10	-0.213	11

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
967		4	max	182.748	8	308.379	10	161.874	6	0.332	12	0.282	4	0.183	5
968			min	-262.476	2	-307.708	4	-135.913	12	-0.336	6	-0.294	10	-0.226	11
969		5	max	182.748	8	308.379	10	161.874	6	0.332	12	0.288	4	0.197	5
970			min	-262.476	2	-307.708	4	-135.913	12	-0.336	6	-0.299	10	-0.239	11
971	M99	1	max	331.81	5	184.14	6	50.452	5	0.002	4	0.005	11	0.024	6
972			min	-413.751	11	-171.522	12	-41.316	11	-0.003	10	-0.006	5	-0.022	12
973		2	max	331.851	5	184.082	6	50.381	5	0.002	4	0.003	11	0.012	6
974			min	-413.792	11	-171.58	12	-41.245	11	-0.003	10	-0.003	5	-0.011	12
975		3	max	331.892	5	184.025	6	50.311	5	0.002	4	0	8	0.001	7
976			min	-413.833	11	-171.637	12	-41.174	11	-0.003	10	0	2	-0.001	1
977		4	max	331.933	5	183.967	6	50.24	5	0.002	4	0.003	5	0.01	12
978			min	-413.874	11	-171.695	12	-41.104	11	-0.003	10	-0.002	11	-0.011	6
979		5	max	331.973	5	183.909	6	50.169	5	0.002	4	0.006	5	0.021	12
980			min	-413.914	11	-171.752	12	-41.033	11	-0.003	10	-0.005	11	-0.022	6
981	M100	1	max	719.956	6	190.155	2	88.546	5	0.002	5	0.01	11	0.023	2
982			min	-464.223	12	-95.249	8	-80.369	11	-0.003	11	-0.011	5	-0.011	8
983		2	max	719.98	6	190.098	2	88.475	5	0.002	5	0.005	11	0.011	2
984			min	-464.247	12	-95.307	8	-80.299	11	-0.003	11	-0.006	5	-0.005	8
985		3	max	720.004	6	190.04	2	88.405	5	0.002	5	0	10	0.001	6
986			min	-464.27	12	-95.364	8	-80.228	11	-0.003	11	0	4	-0.001	12
987		4	max	720.027	6	189.982	2	88.334	5	0.002	5	0.005	5	0.007	8
988			min	-464.294	12	-95.422	8	-80.158	11	-0.003	11	-0.005	11	-0.012	2
989		5	max	720.051	6	189.925	2	88.264	5	0.002	5	0.011	5	0.013	8
990			min	-464.317	12	-95.48	8	-80.087	11	-0.003	11	-0.01	11	-0.024	2
991	M101	1	max	198.395	8	443.213	12	310.861	5	0.016	10	0.011	7	0.023	8
992			min	-121.555	2	-353.071	6	-374.911	11	-0.015	4	-0.007	1	-0.014	2
993		2	max	198.395	8	443.213	12	310.861	5	0.016	10	0.021	6	0.032	7
994			min	-121.555	2	-353.071	6	-374.911	11	-0.015	4	-0.02	12	-0.028	1
995		3	max	198.395	8	550.267	1	310.861	5	0.016	10	0.037	1	0.064	1
996			min	-141.571	10	-519.517	7	-374.911	11	-0.015	4	-0.038	7	-0.069	7
997		4	max	128.834	2	550.267	1	288.294	7	0.006	5	0.022	1	0.038	2
998			min	-190.796	8	-519.517	7	-321.228	1	-0.005	11	-0.025	7	-0.045	8
999		5	max	128.834	2	550.267	1	288.294	7	0.006	5	0.007	1	0.014	2
1000			min	-190.796	8	-519.517	7	-321.228	1	-0.005	11	-0.011	7	-0.023	8
1001	M102	1	max	264.137	12	548.321	12	575.432	6	0.022	11	0.014	12	0.029	11
1002			min	-112.579	5	-798.184	6	-438.036	12	-0.021	5	-0.006	6	-0.013	5
1003		2	max	264.137	12	548.321	12	575.432	6	0.022	11	0.021	6	0.034	19
1004			min	-112.579	5	-798.184	6	-438.036	12	-0.021	5	-0.006	12	-0.003	1
1005		3	max	264.137	12	548.321	12	575.432	6	0.022	11	0.048	6	0.065	7
1006			min	29.968	8	-798.184	6	-438.036	12	-0.021	5	-0.034	9	-0.051	9
1007		4	max	130.676	6	436.776	1	352.881	7	0.011	5	0.007	4	0.008	4
1008			min	-254.991	11	-632.674	7	-253.369	1	-0.01	11	-0.02	10	-0.033	10
1009		5	max	130.676	6	436.776	1	352.881	7	0.011	5	0.006	6	0.013	5
1010			min	-254.991	11	-632.674	7	-253.369	1	-0.01	11	-0.014	12	-0.029	11
1011	M103	1	max	126.378	10	454.643	4	334.924	12	0.459	12	0.277	8	0.264	8
1012			min	-44.577	4	-161.732	10	-360.63	6	-0.514	6	-0.257	2	-0.31	2
1013		2	max	126.378	10	454.643	4	334.924	12	0.459	12	0.262	8	0.271	9
1014			min	-44.577	4	-161.732	10	-360.63	6	-0.514	6	-0.244	2	-0.341	3
1015		3	max	126.378	10	454.643	4	334.924	12	0.459	12	0.253	9	0.283	9
1016			min	-44.577	4	-161.732	10	-360.63	6	-0.514	6	-0.238	3	-0.377	3
1017		4	max	126.378	10	454.643	4	334.924	12	0.459	12	0.255	9	0.295	9
1018			min	-44.577	4	-161.732	10	-360.63	6	-0.514	6	-0.241	3	-0.413	3
1019		5	max	126.378	10	454.643	4	334.924	12	0.459	12	0.256	9	0.308	9
1020			min	-44.577	4	-161.732	10	-360.63	6	-0.514	6	-0.245	3	-0.45	3
1021	M104	1	max	745.726	9	696.569	14	884.29	12	0.59	12	0.659	5	0.299	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1022			min	-696.447	3	228.94	71	-811.189	6	-0.669	6	-0.644	11	-0.192	9
1023		2	max	745.726	9	696.569	14	884.29	12	0.59	12	0.605	5	0.27	3
1024			min	-696.447	3	228.94	71	-811.189	6	-0.669	6	-0.583	11	-0.215	9
1025		3	max	745.726	9	696.569	14	884.29	12	0.59	12	0.551	5	0.242	3
1026			min	-696.447	3	228.94	71	-811.189	6	-0.669	6	-0.523	11	-0.238	9
1027		4	max	745.726	9	696.569	14	884.29	12	0.59	12	0.503	4	0.214	3
1028			min	-696.447	3	228.94	71	-811.189	6	-0.669	6	-0.469	10	-0.261	9
1029		5	max	745.726	9	696.569	14	884.29	12	0.59	12	0.472	4	0.186	3
1030			min	-696.447	3	228.94	71	-811.189	6	-0.669	6	-0.432	10	-0.284	9
1031	M105	1	max	215.518	9	33.834	8	40.243	6	0.715	12	0.132	8	0.314	3
1032			min	-264.781	3	-36.043	2	-113.258	12	-0.757	6	-0.156	2	-0.302	9
1033		2	max	215.518	9	33.834	8	40.243	6	0.715	12	0.13	8	0.316	3
1034			min	-264.781	3	-36.043	2	-113.258	12	-0.757	6	-0.157	2	-0.303	9
1035		3	max	215.518	9	33.834	8	40.243	6	0.715	12	0.127	8	0.318	3
1036			min	-264.781	3	-36.043	2	-113.258	12	-0.757	6	-0.159	2	-0.305	9
1037		4	max	215.518	9	33.834	8	40.243	6	0.715	12	0.124	8	0.32	3
1038			min	-264.781	3	-36.043	2	-113.258	12	-0.757	6	-0.16	2	-0.307	9
1039		5	max	215.518	9	33.834	8	40.243	6	0.715	12	0.121	8	0.322	3
1040			min	-264.781	3	-36.043	2	-113.258	12	-0.757	6	-0.161	2	-0.309	9
1041	MP1C	1	max	0	75	0.027	10	0.018	1	0	75	0	75	0	75
1042			min	0	1	-0.025	4	-0.02	7	0	1	0	1	0	1
1043		2	max	320.264	4	219.697	2	114.509	11	0.299	10	0.193	6	0.338	11
1044			min	-295.545	10	-165.414	8	-176.512	5	-0.288	4	-0.168	12	-0.303	5
1045		3	max	381.052	4	204.608	12	153.963	12	0.273	10	0.158	10	0.228	9
1046			min	-234.757	10	-149.723	6	-215.779	6	-0.262	4	-0.221	4	-0.272	3
1047		4	max	-9.436	67	25.609	4	25.572	7	0	75	0.026	1	0.026	4
1048			min	-24.363	17	-25.606	10	-25.576	1	0	1	-0.026	7	-0.026	10
1049		5	max	0	75	0.056	4	0.032	9	0	75	0	75	0	75
1050			min	0	1	-0.053	10	-0.036	3	0	1	0	1	0	1
1051	M108	1	max	259.796	5	242.066	6	541.29	5	0.136	7	0.032	5	0.014	11
1052			min	-254.463	11	-517.792	12	-471.979	11	-0.054	1	-0.032	11	-0.012	5
1053		2	max	259.796	5	242.066	6	541.29	5	0.136	7	0.099	5	0.077	11
1054			min	-254.463	11	-517.792	12	-471.979	11	-0.054	1	-0.09	11	-0.041	5
1055		3	max	257.339	11	383.781	2	486.946	3	0.075	12	0.144	10	0.098	2
1056			min	-256.897	5	-185.93	8	-478.039	9	-0.146	6	-0.147	4	-0.053	8
1057		4	max	257.339	11	383.781	2	486.946	3	0.075	12	0.088	10	0.051	2
1058			min	-256.897	5	-185.93	8	-478.039	9	-0.146	6	-0.089	4	-0.03	8
1059		5	max	257.339	11	383.781	2	486.946	3	0.075	12	0.032	11	0.012	5
1060			min	-256.897	5	-185.93	8	-478.039	9	-0.146	6	-0.032	5	-0.014	11
1061	M109	1	max	434.067	1	605.466	7	327.908	4	0.111	4	0.379	10	0.318	7
1062			min	-365.311	7	-435.683	1	-331.202	11	-0.145	10	-0.359	4	-0.304	1
1063		2	max	434.067	1	605.466	7	327.908	4	0.111	4	0.369	9	0.299	7
1064			min	-365.311	7	-435.683	1	-331.202	11	-0.145	10	-0.351	3	-0.291	1
1065		3	max	434.067	1	605.466	7	327.908	4	0.111	4	0.361	9	0.28	7
1066			min	-365.311	7	-435.683	1	-331.202	11	-0.145	10	-0.343	3	-0.277	1
1067		4	max	434.067	1	605.466	7	327.908	4	0.111	4	0.353	9	0.261	7
1068			min	-365.311	7	-435.683	1	-331.202	11	-0.145	10	-0.335	3	-0.263	1
1069		5	max	434.067	1	605.466	7	327.908	4	0.111	4	0.345	9	0.242	7
1070			min	-365.311	7	-435.683	1	-331.202	11	-0.145	10	-0.327	3	-0.25	1
1071	M110	1	max	690.868	12	257.633	12	168.876	5	0.002	5	0.022	11	0.032	11
1072			min	-980.432	6	-123.16	6	-176.198	11	-0.003	11	-0.021	5	-0.014	6
1073		2	max	690.845	12	257.575	12	168.805	5	0.002	5	0.011	11	0.016	11
1074			min	-980.409	6	-123.218	6	-176.127	11	-0.003	11	-0.011	5	-0.007	5
1075		3	max	690.821	12	257.518	12	168.735	5	0.002	5	0	10	0.001	6
1076			min	-980.385	6	-123.275	6	-176.057	11	-0.003	11	0	4	-0.001	12

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1077		4	max	690.798	12	257.46	12	168.664	5	0.002	5	0.01	5	0.009	6
1078			min	-980.362	6	-123.333	6	-175.986	11	-0.003	11	-0.011	11	-0.017	12
1079		5	max	690.774	12	257.403	12	168.593	5	0.002	5	0.021	5	0.016	6
1080			min	-980.338	6	-123.391	6	-175.916	11	-0.003	11	-0.022	11	-0.033	12
1081	M111	1	max	121.796	2	353.019	6	374.636	11	0.016	10	0.014	8	0.02	8
1082			min	-198.166	8	-443.158	12	-310.548	5	-0.014	4	-0.008	2	-0.012	2
1083		2	max	121.796	2	353.019	6	374.636	11	0.016	10	0.025	10	0.026	10
1084			min	-198.166	8	-443.158	12	-310.548	5	-0.014	4	-0.016	4	-0.014	4
1085		3	max	141.357	10	519.459	7	374.636	11	0.016	10	0.041	11	0.043	11
1086			min	-198.166	8	-550.291	1	-310.548	5	-0.014	4	-0.03	5	-0.041	1
1087		4	max	190.567	8	519.459	7	321.243	1	0.006	5	0.002	7	0.006	7
1088			min	-129.074	2	-550.291	1	-288.31	7	-0.005	11	-0.009	24	-0.015	1
1089		5	max	190.567	8	519.459	7	321.243	1	0.006	5	0.008	2	0.012	2
1090			min	-129.074	2	-550.291	1	-288.31	7	-0.005	11	-0.014	8	-0.02	8
1091	M112	1	max	112.793	5	798.12	6	438.136	12	0.022	11	0.018	11	0.028	12
1092			min	-263.901	12	-548.281	12	-575.259	6	-0.021	5	-0.01	5	-0.014	6
1093		2	max	112.793	5	798.12	6	438.136	12	0.022	11	0.038	12	0.053	12
1094			min	-263.901	12	-548.281	12	-575.259	6	-0.021	5	-0.036	6	-0.051	6
1095		3	max	-29.755	8	798.12	6	438.136	12	0.022	11	0.059	12	0.079	12
1096			min	-263.901	12	-548.281	12	-575.259	6	-0.021	5	-0.063	6	-0.089	6
1097		4	max	254.76	11	632.643	7	253.322	1	0.011	5	0.021	6	0.04	6
1098			min	-130.875	6	-436.709	1	-352.848	7	-0.01	11	-0.025	12	-0.045	12
1099		5	max	254.76	11	632.643	7	253.322	1	0.011	5	0.01	5	0.014	6
1100			min	-130.875	6	-436.709	1	-352.848	7	-0.01	11	-0.018	11	-0.028	12
1101	M113	1	max	191.956	6	737.736	1	378.083	7	0.016	10	0.012	5	0.02	6
1102			min	-164.154	12	-683.202	7	-425.854	1	-0.015	4	-0.012	12	-0.018	12
1103		2	max	191.956	6	737.736	1	378.083	7	0.016	10	0.028	6	0.046	7
1104			min	-164.154	12	-683.202	7	-425.854	1	-0.015	4	-0.03	12	-0.047	1
1105		3	max	191.956	6	737.736	1	378.083	7	0.016	10	0.044	6	0.078	7
1106			min	-113.613	4	-683.202	7	-425.854	1	-0.015	4	-0.048	12	-0.082	1
1107		4	max	175.499	12	380.279	11	122.405	5	0.006	5	0.02	11	0.034	11
1108			min	-180.45	6	-311.027	5	-170.452	11	-0.005	11	-0.018	5	-0.033	5
1109		5	max	175.499	12	380.279	11	122.405	5	0.006	5	0.012	12	0.018	12
1110			min	-180.45	6	-311.027	5	-170.452	11	-0.005	11	-0.012	5	-0.02	6
1111	M114	1	max	470.154	1	747.926	1	514.751	5	0.126	5	0.156	10	0.337	6
1112			min	-538.879	7	-295.487	7	-511.364	11	-0.149	11	-0.174	4	-0.298	12
1113		2	max	470.154	1	747.926	1	514.751	5	0.126	5	0.14	10	0.346	6
1114			min	-538.879	7	-295.487	7	-511.364	11	-0.149	11	-0.159	4	-0.321	12
1115		3	max	470.154	1	747.926	1	514.751	5	0.126	5	0.125	10	0.355	7
1116			min	-538.879	7	-295.487	7	-511.364	11	-0.149	11	-0.143	4	-0.344	1
1117		4	max	470.154	1	747.926	1	514.751	5	0.126	5	0.109	10	0.364	7
1118			min	-538.879	7	-295.487	7	-511.364	11	-0.149	11	-0.127	4	-0.367	1
1119		5	max	470.154	1	747.926	1	514.751	5	0.126	5	0.094	10	0.374	7
1120			min	-538.879	7	-295.487	7	-511.364	11	-0.149	11	-0.112	4	-0.391	1
1121	M115	1	max	163.445	11	388.686	8	617.546	10	0.083	12	0.02	4	0.01	4
1122			min	-165.03	4	-250.942	2	-551.349	4	-0.051	6	-0.021	11	-0.014	10
1123		2	max	163.445	11	388.686	8	617.546	10	0.083	12	0.055	10	0.036	2
1124			min	-165.03	4	-250.942	2	-551.349	4	-0.051	6	-0.047	4	-0.057	8
1125		3	max	161.213	5	340.219	12	759.267	8	0.053	7	0.175	2	0.091	12
1126			min	-166.803	10	-371.993	6	-752.889	2	-0.07	1	-0.177	8	-0.095	6
1127		4	max	161.213	5	340.219	12	759.267	8	0.053	7	0.083	1	0.051	11
1128			min	-166.803	10	-371.993	6	-752.889	2	-0.07	1	-0.084	7	-0.052	5
1129		5	max	161.213	5	340.219	12	759.267	8	0.053	7	0.021	11	0.014	10
1130			min	-166.803	10	-371.993	6	-752.889	2	-0.07	1	-0.02	4	-0.01	4
1131	M116	1	max	723.388	7	257.633	12	88.546	5	0.002	5	0.01	11	0.032	11

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1132			min	-507.226	1	-123.16	6	-80.369	11	-0.003	11	-0.011	5	-0.014	6
1133		2	max	723.388	7	257.575	12	88.475	5	0.002	5	0.005	11	0.016	11
1134			min	-507.226	1	-123.218	6	-80.299	11	-0.003	11	-0.006	5	-0.007	5
1135		3	max	723.388	7	257.518	12	88.405	5	0.002	5	0	10	0.001	6
1136			min	-507.226	1	-123.275	6	-80.228	11	-0.003	11	0	4	-0.001	12
1137		4	max	723.388	7	257.46	12	88.334	5	0.002	5	0.005	5	0.009	6
1138			min	-507.226	1	-123.333	6	-80.158	11	-0.003	11	-0.005	11	-0.017	12
1139		5	max	723.388	7	257.403	12	88.264	5	0.002	5	0.011	5	0.016	6
1140			min	-507.226	1	-123.391	6	-80.087	11	-0.003	11	-0.01	11	-0.033	12
1141	M117	1	max	742.315	1	190.155	2	168.876	5	0.002	5	0.022	11	0.023	2
1142			min	-992.872	7	-95.249	8	-176.198	11	-0.003	11	-0.021	5	-0.011	8
1143		2	max	742.315	1	190.098	2	168.805	5	0.002	5	0.011	11	0.011	2
1144			min	-992.872	7	-95.307	8	-176.127	11	-0.003	11	-0.011	5	-0.005	8
1145		3	max	742.315	1	190.04	2	168.735	5	0.002	5	0	10	0.001	6
1146			min	-992.872	7	-95.364	8	-176.057	11	-0.003	11	0	4	-0.001	12
1147		4	max	742.315	1	189.982	2	168.664	5	0.002	5	0.01	5	0.007	8
1148			min	-992.872	7	-95.422	8	-175.986	11	-0.003	11	-0.011	11	-0.012	2
1149		5	max	742.315	1	189.925	2	168.593	5	0.002	5	0.021	5	0.013	8
1150			min	-992.872	7	-95.48	8	-175.916	11	-0.003	11	-0.022	11	-0.024	2
1151	M118	1	max	470.184	1	749.061	1	515.957	5	0.126	5	0.344	10	0.25	18
1152			min	-539.001	7	-294.551	7	-512.561	11	-0.149	11	-0.363	4	-0.021	12
1153		2	max	470.184	1	749.061	1	515.957	5	0.126	5	0.328	10	0.24	6
1154			min	-539.001	7	-294.551	7	-512.561	11	-0.149	11	-0.347	4	-0.044	12
1155		3	max	470.184	1	749.061	1	515.957	5	0.126	5	0.312	10	0.249	6
1156			min	-539.001	7	-294.551	7	-512.561	11	-0.149	11	-0.332	4	-0.067	12
1157		4	max	470.184	1	749.061	1	515.957	5	0.126	5	0.297	10	0.258	6
1158			min	-539.001	7	-294.551	7	-512.561	11	-0.149	11	-0.316	4	-0.09	12
1159		5	max	470.184	1	749.061	1	515.957	5	0.126	5	0.281	10	0.267	6
1160			min	-539.001	7	-294.551	7	-512.561	11	-0.149	11	-0.3	4	-0.113	12
1161	M119	1	max	86.7	8	862.229	7	399.698	12	0.022	11	0.012	1	0.021	2
1162			min	-194.504	2	-642.928	1	-519.64	6	-0.021	5	-0.006	7	-0.012	8
1163		2	max	86.7	8	862.229	7	399.698	12	0.022	11	0.03	1	0.051	1
1164			min	-194.504	2	-642.928	1	-519.64	6	-0.021	5	-0.029	7	-0.051	7
1165		3	max	-5.226	11	862.229	7	399.698	12	0.022	11	0.047	1	0.081	1
1166			min	-194.504	2	-642.928	1	-519.64	6	-0.021	5	-0.052	7	-0.092	7
1167		4	max	189.049	2	652.722	6	187.615	12	0.011	5	0.019	7	0.035	7
1168			min	-99.38	8	-426.394	12	-310.307	6	-0.01	11	-0.02	1	-0.034	1
1169		5	max	189.049	2	652.722	6	187.615	12	0.011	5	0.006	7	0.012	8
1170			min	-99.38	8	-426.394	12	-310.307	6	-0.01	11	-0.012	1	-0.021	2
1171	M120	1	max	194.744	2	642.888	1	519.758	6	0.022	11	0.012	2	0.02	2
1172			min	-86.472	8	-862.255	7	-399.723	12	-0.021	5	-0.007	8	-0.009	8
1173		2	max	194.744	2	642.888	1	519.758	6	0.022	11	0.025	6	0.032	7
1174			min	-86.472	8	-862.255	7	-399.723	12	-0.021	5	-0.013	12	-0.011	1
1175		3	max	194.744	2	642.888	1	519.758	6	0.022	11	0.049	6	0.072	7
1176			min	5.461	11	-862.255	7	-399.723	12	-0.021	5	-0.032	12	-0.065	5
1177		4	max	99.167	8	426.317	12	310.193	6	0.011	5	0.008	11	0.015	11
1178			min	-189.289	2	-652.665	6	-187.583	12	-0.01	11	-0.019	5	-0.037	5
1179		5	max	99.167	8	426.317	12	310.193	6	0.011	5	0.007	8	0.009	8
1180			min	-189.289	2	-652.665	6	-187.583	12	-0.01	11	-0.012	2	-0.02	2
1181	M121	1	max	253.845	11	517.196	12	471.654	11	0.167	12	0.032	5	0.012	5
1182			min	-259.163	5	-242.508	6	-540.993	5	-0.182	6	-0.032	11	-0.014	11
1183		2	max	253.845	11	517.196	12	471.654	11	0.167	12	0.026	11	0.041	5
1184			min	-259.163	5	-242.508	6	-540.993	5	-0.182	6	-0.034	5	-0.077	11
1185		3	max	256.332	5	186.379	8	477.701	9	0.173	7	0.102	1	0.053	8
1186			min	-256.752	11	-383.263	2	-486.596	3	-0.148	1	-0.101	7	-0.098	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1187		4	max	256.332	5	186.379	8	477.701	9	0.173	7	0.051	1	0.03	8
1188			min	-256.752	11	-383.263	2	-486.596	3	-0.148	1	-0.051	7	-0.051	2
1189		5	max	256.332	5	186.379	8	477.701	9	0.173	7	0.032	11	0.014	11
1190			min	-256.752	11	-383.263	2	-486.596	3	-0.148	1	-0.032	5	-0.012	5
1191	M122	1	max	596.327	7	197.64	8	50.452	5	0.002	4	0.005	11	0.025	8
1192			min	-635.903	1	-123.184	2	-41.316	11	-0.003	10	-0.006	5	-0.016	2
1193		2	max	596.327	7	197.583	8	50.381	5	0.002	4	0.003	11	0.013	8
1194			min	-635.903	1	-123.241	2	-41.245	11	-0.003	10	-0.003	5	-0.008	2
1195		3	max	596.327	7	197.525	8	50.311	5	0.002	4	0	8	0.001	7
1196			min	-635.903	1	-123.299	2	-41.174	11	-0.003	10	0	2	-0.001	1
1197		4	max	596.327	7	197.468	8	50.24	5	0.002	4	0.003	5	0.007	2
1198			min	-635.903	1	-123.356	2	-41.104	11	-0.003	10	-0.002	11	-0.012	8
1199		5	max	596.327	7	197.41	8	50.169	5	0.002	4	0.006	5	0.015	2
1200			min	-635.903	1	-123.414	2	-41.033	11	-0.003	10	-0.005	11	-0.024	8
1201	M123	1	max	554.199	12	197.64	8	116.945	4	0.002	4	0.016	10	0.025	8
1202			min	-441.77	6	-123.184	2	-128.797	10	-0.003	10	-0.015	4	-0.016	2
1203		2	max	554.176	12	197.583	8	116.837	4	0.002	4	0.008	10	0.013	8
1204			min	-441.746	6	-123.241	2	-128.689	10	-0.003	10	-0.007	4	-0.008	2
1205		3	max	554.152	12	197.525	8	116.728	4	0.002	4	0	8	0.001	7
1206			min	-441.723	6	-123.299	2	-128.58	10	-0.003	10	0	2	-0.001	1
1207		4	max	554.129	12	197.468	8	116.619	4	0.002	4	0.007	4	0.007	2
1208			min	-441.699	6	-123.356	2	-128.471	10	-0.003	10	-0.008	10	-0.012	8
1209		5	max	554.105	12	197.41	8	116.511	4	0.002	4	0.014	4	0.015	2
1210			min	-441.675	6	-123.414	2	-128.363	10	-0.003	10	-0.016	10	-0.024	8
1211	M124	1	max	852.928	1	184.14	6	116.945	4	0.002	4	0.016	10	0.024	6
1212			min	-778.963	7	-171.522	12	-128.797	10	-0.003	10	-0.015	4	-0.022	12
1213		2	max	852.928	1	184.082	6	116.837	4	0.002	4	0.008	10	0.012	6
1214			min	-778.963	7	-171.58	12	-128.689	10	-0.003	10	-0.007	4	-0.011	12
1215		3	max	852.928	1	184.025	6	116.728	4	0.002	4	0	8	0.001	7
1216			min	-778.963	7	-171.637	12	-128.58	10	-0.003	10	0	2	-0.001	1
1217		4	max	852.928	1	183.967	6	116.619	4	0.002	4	0.007	4	0.01	12
1218			min	-778.963	7	-171.695	12	-128.471	10	-0.003	10	-0.008	10	-0.011	6
1219		5	max	852.928	1	183.909	6	116.511	4	0.002	4	0.014	4	0.021	12
1220			min	-778.963	7	-171.752	12	-128.363	10	-0.003	10	-0.016	10	-0.022	6
1221	M125	1	max	434.052	1	604.686	7	326.171	4	0.111	4	0.29	8	0.091	7
1222			min	-365.234	7	-436.822	1	-330.079	11	-0.145	10	-0.272	2	-0.141	1
1223		2	max	434.052	1	604.686	7	326.171	4	0.111	4	0.285	8	0.072	7
1224			min	-365.234	7	-436.822	1	-330.079	11	-0.145	10	-0.267	2	-0.127	1
1225		3	max	434.052	1	604.686	7	326.171	4	0.111	4	0.28	8	0.053	7
1226			min	-365.234	7	-436.822	1	-330.079	11	-0.145	10	-0.262	2	-0.113	1
1227		4	max	434.052	1	604.686	7	326.171	4	0.111	4	0.276	8	0.034	7
1228			min	-365.234	7	-436.822	1	-330.079	11	-0.145	10	-0.257	2	-0.1	1
1229		5	max	434.052	1	604.686	7	326.171	4	0.111	4	0.271	8	0.015	7
1230			min	-365.234	7	-436.822	1	-330.079	11	-0.145	10	-0.252	2	-0.087	13
1231	M126	1	max	164.413	12	683.23	7	425.832	1	0.016	10	0.011	6	0.02	6
1232			min	-191.727	6	-737.703	1	-378.058	7	-0.014	4	-0.009	12	-0.019	12
1233		2	max	164.413	12	683.23	7	425.832	1	0.016	10	0.014	2	0.032	3
1234			min	-191.727	6	-737.703	1	-378.058	7	-0.014	4	-0.01	7	-0.028	9
1235		3	max	113.38	4	683.23	7	425.832	1	0.016	10	0.033	1	0.063	2
1236			min	-191.727	6	-737.703	1	-378.058	7	-0.014	4	-0.028	7	-0.057	8
1237		4	max	180.237	6	311.068	5	170.922	11	0.006	5	0.002	1	0.004	1
1238			min	-175.743	12	-380.23	11	-122.628	5	-0.005	11	-0.006	7	-0.008	6
1239		5	max	180.237	6	311.068	5	170.922	11	0.006	5	0.009	12	0.019	12
1240			min	-175.743	12	-380.23	11	-122.628	5	-0.005	11	-0.011	6	-0.02	6
1241	M127	1	max	165.899	4	250.409	2	551.344	4	0.128	7	0.021	4	0.014	10

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1242			min	-164.013	11	-389.1	8	-617.556	10	-0.124	1	-0.021	10	-0.01	4
1243		2	max	165.899	4	250.409	2	551.344	4	0.128	7	0.088	4	0.057	8
1244			min	-164.013	11	-389.1	8	-617.556	10	-0.124	1	-0.097	10	-0.036	2
1245		3	max	167.673	10	372.377	6	753.087	2	0.136	12	0.196	8	0.095	6
1246			min	-161.93	4	-339.659	12	-759.459	8	-0.125	6	-0.195	2	-0.091	12
1247		4	max	167.673	10	372.377	6	753.087	2	0.136	12	0.103	8	0.052	5
1248			min	-161.93	4	-339.659	12	-759.459	8	-0.125	6	-0.102	2	-0.051	11
1249		5	max	167.673	10	372.377	6	753.087	2	0.136	12	0.021	10	0.01	4
1250			min	-161.93	4	-339.659	12	-759.459	8	-0.125	6	-0.021	4	-0.014	10
1251	MP3A	1	max	0	75	0.597	1	0.499	6	0	75	0	75	0	75
1252			min	0	1	-0.711	19	-0.484	12	0	1	0	1	0	1
1253		2	max	239.972	23	323.615	1	414.605	5	0.199	9	0.176	5	0.211	7
1254			min	64.87	71	-323.718	7	-414.59	11	-0.199	3	-0.265	11	-0.137	1
1255		3	max	429.615	7	90.207	8	95.062	11	0.105	8	0.258	5	0.149	10
1256			min	-611.932	1	-42.546	2	-126.355	5	-0.086	2	-0.279	11	-0.129	4
1257		4	max	493.986	7	69.33	23	31.236	11	0.081	7	0.153	5	0.043	9
1258			min	-547.56	1	0.086	5	-62.529	5	-0.063	1	-0.144	11	-0.136	3
1259		5	max	0	75	0.058	7	0.028	12	0	75	0	75	0	75
1260			min	0	1	-0.048	1	-0.031	6	0	1	0	1	0	1
1261	M129	1	max	844.369	7	92.38	6	47.926	4	0.001	8	0.007	10	0.012	6
1262			min	-599.626	1	-39.812	12	-53.055	10	-0.001	2	-0.006	4	-0.005	12
1263		2	max	844.369	7	92.322	6	47.817	4	0.001	8	0.003	10	0.007	6
1264			min	-599.626	1	-39.869	12	-52.946	10	-0.001	2	-0.003	4	-0.003	12
1265		3	max	844.369	7	92.265	6	47.708	4	0.001	8	0	8	0.001	7
1266			min	-599.626	1	-39.927	12	-52.837	10	-0.001	2	0	2	-0.001	1
1267		4	max	844.369	7	92.207	6	47.6	4	0.001	8	0.003	4	0.002	12
1268			min	-599.626	1	-39.985	12	-52.729	10	-0.001	2	-0.003	10	-0.005	6
1269		5	max	844.369	7	92.149	6	47.491	4	0.001	8	0.006	4	0.005	12
1270			min	-599.626	1	-40.042	12	-52.62	10	-0.001	2	-0.007	10	-0.011	6
1271	M130	1	max	78.476	11	183.837	6	288.1	8	0.083	1	0.011	5	0.006	8
1272			min	-84.885	5	-80.56	12	-294.872	2	-0.117	7	-0.01	11	-0.003	2
1273		2	max	78.476	11	183.837	6	288.1	8	0.083	1	0.031	8	0.011	12
1274			min	-84.885	5	-80.56	12	-294.872	2	-0.117	7	-0.031	2	-0.021	6
1275		3	max	84.747	5	112.808	1	371.142	7	0.1	7	0.086	1	0.029	1
1276			min	-78.659	11	-305.89	7	-353.82	1	-0.076	1	-0.091	7	-0.079	7
1277		4	max	84.747	5	112.808	1	371.142	7	0.1	7	0.042	1	0.015	2
1278			min	-78.659	11	-305.89	7	-353.82	1	-0.076	1	-0.045	7	-0.042	8
1279		5	max	84.747	5	112.808	1	371.142	7	0.1	7	0.01	11	0.003	2
1280			min	-78.659	11	-305.89	7	-353.82	1	-0.076	1	-0.011	5	-0.006	8
1281	M131	1	max	125.412	12	465.924	7	169.485	5	0.059	8	0.152	8	0.217	7
1282			min	-151.352	6	-172.216	1	-157.191	11	-0.03	2	-0.147	2	-0.16	1
1283		2	max	125.412	12	465.924	7	169.485	5	0.059	8	0.15	7	0.203	7
1284			min	-151.352	6	-172.216	1	-157.191	11	-0.03	2	-0.145	1	-0.154	1
1285		3	max	125.412	12	465.924	7	169.485	5	0.059	8	0.15	7	0.188	7
1286			min	-151.352	6	-172.216	1	-157.191	11	-0.03	2	-0.145	1	-0.149	1
1287		4	max	125.412	12	465.924	7	169.485	5	0.059	8	0.149	7	0.174	7
1288			min	-151.352	6	-172.216	1	-157.191	11	-0.03	2	-0.144	1	-0.144	1
1289		5	max	125.412	12	465.924	7	169.485	5	0.059	8	0.149	7	0.159	7
1290			min	-151.352	6	-172.216	1	-157.191	11	-0.03	2	-0.144	1	-0.138	1
1291	M132	1	max	80.727	1	125.036	12	6.378	45	0.001	5	0.001	3	0.016	12
1292			min	-201.967	7	-113.814	6	-4.739	3	-0.002	11	-0.001	45	-0.014	6
1293		2	max	80.727	1	124.979	12	6.382	45	0.001	5	0	3	0.008	12
1294			min	-201.967	7	-113.872	6	-4.81	3	-0.002	11	0	45	-0.007	6
1295		3	max	80.727	1	124.921	12	6.386	45	0.001	5	0	1	0	10
1296			min	-201.967	7	-113.929	6	-4.88	3	-0.002	11	0	7	0	16

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1297		4	max	80.727	1	124.864	12	6.391	45	0.001	5	0	47	0.007	6
1298			min	-201.967	7	-113.987	6	-4.951	3	-0.002	11	0	4	-0.008	12
1299		5	max	80.727	1	124.806	12	6.395	45	0.001	5	0.001	46	0.014	6
1300			min	-201.967	7	-114.044	6	-5.022	3	-0.002	11	-0.001	4	-0.016	12
1301	M133	1	max	49.448	11	250.379	12	276.266	1	0.042	12	0.005	5	0.008	5
1302			min	-43.409	5	-227.062	6	-268.901	7	-0.015	6	-0.006	11	-0.009	11
1303		2	max	49.448	11	250.379	12	276.266	1	0.042	12	0.033	1	0.033	6
1304			min	-43.409	5	-227.062	6	-268.901	7	-0.015	6	-0.033	7	-0.037	12
1305		3	max	43.158	5	191.498	8	127.95	12	0.015	9	0.035	8	0.051	9
1306			min	-49.606	11	-168.391	2	-145.33	6	-0.036	3	-0.03	2	-0.045	3
1307		4	max	43.158	5	191.498	8	127.95	12	0.015	9	0.019	8	0.029	9
1308			min	-49.606	11	-168.391	2	-145.33	6	-0.036	3	-0.016	2	-0.025	3
1309		5	max	43.158	5	191.498	8	127.95	12	0.015	9	0.006	11	0.009	11
1310			min	-49.606	11	-168.391	2	-145.33	6	-0.036	3	-0.005	5	-0.008	5
1311	M134	1	max	125.793	12	466.724	7	170.73	5	0.059	8	0.177	8	0.392	7
1312			min	-151.794	6	-171.174	1	-158.438	11	-0.03	2	-0.178	2	-0.224	1
1313		2	max	125.793	12	466.724	7	170.73	5	0.059	8	0.175	8	0.378	7
1314			min	-151.794	6	-171.174	1	-158.438	11	-0.03	2	-0.175	2	-0.219	1
1315		3	max	125.793	12	466.724	7	170.73	5	0.059	8	0.173	8	0.363	7
1316			min	-151.794	6	-171.174	1	-158.438	11	-0.03	2	-0.173	2	-0.213	1
1317		4	max	125.793	12	466.724	7	170.73	5	0.059	8	0.171	8	0.348	7
1318			min	-151.794	6	-171.174	1	-158.438	11	-0.03	2	-0.17	2	-0.208	1
1319		5	max	125.793	12	466.724	7	170.73	5	0.059	8	0.169	8	0.334	7
1320			min	-151.794	6	-171.174	1	-158.438	11	-0.03	2	-0.168	2	-0.203	1
1321	M135	1	max	158.356	7	29.026	11	653.008	1	0.004	11	0.008	1	0.001	8
1322			min	-53.284	1	-41.285	5	-911.088	7	-0.005	5	-0.02	7	-0.001	2
1323		2	max	158.356	7	29.026	11	653.008	1	0.004	11	0.038	1	0.002	5
1324			min	-53.284	1	-41.285	5	-911.088	7	-0.005	5	-0.063	7	-0.001	11
1325		3	max	158.356	7	48.013	4	653.008	1	0.006	4	0.069	1	0.005	4
1326			min	-73.925	14	-50.423	11	-911.088	7	-0.007	10	-0.105	7	-0.006	10
1327		4	max	59.021	1	48.013	4	299.801	1	0.006	4	0.045	7	0.003	4
1328			min	-147.934	7	-53.452	10	-538.167	7	-0.007	10	-0.022	1	-0.003	10
1329		5	max	59.021	1	48.013	4	299.801	1	0.006	4	0.02	7	0.001	2
1330			min	-147.934	7	-53.452	10	-538.167	7	-0.007	10	-0.008	1	-0.001	8
1331	M136	1	max	8.885	8	84.765	2	6.378	45	0.001	5	0.001	3	0.01	2
1332			min	-125.513	2	-95.111	8	-4.739	3	-0.002	11	-0.001	45	-0.012	8
1333		2	max	8.908	8	84.708	2	6.382	45	0.001	5	0	3	0.005	2
1334			min	-125.536	2	-95.168	8	-4.81	3	-0.002	11	0	45	-0.006	8
1335		3	max	8.932	8	84.65	2	6.386	45	0.001	5	0	1	0	10
1336			min	-125.56	2	-95.226	8	-4.88	3	-0.002	11	0	7	0	16
1337		4	max	8.955	8	84.592	2	6.391	45	0.001	5	0	47	0.006	8
1338			min	-125.583	2	-95.284	8	-4.951	3	-0.002	11	0	4	-0.005	2
1339		5	max	8.979	8	84.535	2	6.395	45	0.001	5	0.001	46	0.012	8
1340			min	-125.607	2	-95.341	8	-5.022	3	-0.002	11	-0.001	4	-0.011	2
1341	M137	1	max	539.01	7	151.817	7	47.926	4	0.001	8	0.007	10	0.02	7
1342			min	-299.489	1	-57.228	1	-53.055	10	-0.001	2	-0.006	4	-0.008	1
1343		2	max	539.01	7	151.759	7	47.817	4	0.001	8	0.003	10	0.01	7
1344			min	-299.489	1	-57.285	1	-52.946	10	-0.001	2	-0.003	4	-0.004	1
1345		3	max	539.01	7	151.702	7	47.708	4	0.001	8	0	8	0.001	7
1346			min	-299.489	1	-57.343	1	-52.837	10	-0.001	2	0	2	-0.001	1
1347		4	max	539.01	7	151.644	7	47.6	4	0.001	8	0.003	4	0.003	1
1348			min	-299.489	1	-57.4	1	-52.729	10	-0.001	2	-0.003	10	-0.009	7
1349		5	max	539.01	7	151.586	7	47.491	4	0.001	8	0.006	4	0.007	1
1350			min	-299.489	1	-57.458	1	-52.62	10	-0.001	2	-0.007	10	-0.018	7
1351	M138	1	max	125.641	12	55.235	11	196.121	1	0.007	11	0.014	6	0.001	5

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1352			min	-113.586	6	-47.536	5	-66.361	7	-0.006	5	-0.016	12	-0.002	11
1353		2	max	125.641	12	55.235	11	196.121	1	0.007	11	0.013	5	0.004	5
1354			min	-113.586	6	-47.536	5	-66.361	7	-0.006	5	-0.008	11	-0.004	11
1355		3	max	125.641	12	55.235	11	201.405	7	0.007	11	0.023	12	0.006	5
1356			min	-113.586	6	-42.151	4	39.176	10	-0.006	5	-0.033	6	-0.007	11
1357		4	max	113.037	6	6.429	45	201.405	7	0.001	45	0.019	12	0.002	11
1358			min	-125.298	12	-4.746	3	-81.306	1	-0.001	3	-0.024	6	-0.002	5
1359		5	max	113.037	6	6.429	45	201.405	7	0.001	45	0.016	12	0.002	11
1360			min	-125.298	12	-4.746	3	-81.306	1	-0.001	3	-0.014	6	-0.001	5
1361	M139	1	max	95.078	6	28.772	11	353.023	1	0.004	11	0.005	12	0.001	8
1362			min	-38.567	12	-41.415	5	-605.321	7	-0.005	5	-0.012	6	-0.001	2
1363		2	max	95.078	6	28.772	11	353.023	1	0.004	11	0.021	1	0.002	5
1364			min	-38.567	12	-41.415	5	-605.321	7	-0.005	5	-0.04	7	-0.001	11
1365		3	max	95.078	6	38.766	3	599.806	1	0.006	4	0.09	7	0.005	4
1366			min	-48.29	15	-53.342	10	-843.921	7	-0.007	10	-0.06	1	-0.006	10
1367		4	max	41.412	12	48.054	4	599.806	1	0.006	4	0.051	7	0.003	4
1368			min	-89.249	6	-53.342	10	-843.921	7	-0.007	10	-0.032	1	-0.003	10
1369		5	max	41.412	12	48.054	4	599.806	1	0.006	4	0.012	6	0.001	2
1370			min	-89.249	6	-53.342	10	-843.921	7	-0.007	10	-0.005	12	-0.001	8
1371	M140	1	max	85.518	5	80.062	12	294.647	2	0.158	7	0.011	5	0.003	2
1372			min	-79.102	11	-184.224	6	-287.88	8	-0.098	1	-0.01	11	-0.006	8
1373		2	max	85.518	5	80.062	12	294.647	2	0.158	7	0.041	3	0.021	6
1374			min	-79.102	11	-184.224	6	-287.88	8	-0.098	1	-0.04	8	-0.011	12
1375		3	max	79.254	11	306.266	7	353.824	1	0.105	1	0.094	8	0.079	7
1376			min	-85.32	5	-112.304	1	-371.151	7	-0.176	7	-0.09	2	-0.029	1
1377		4	max	79.254	11	306.266	7	353.824	1	0.105	1	0.049	8	0.042	8
1378			min	-85.32	5	-112.304	1	-371.151	7	-0.176	7	-0.048	2	-0.015	2
1379		5	max	79.254	11	306.266	7	353.824	1	0.105	1	0.01	11	0.006	8
1380			min	-85.32	5	-112.304	1	-371.151	7	-0.176	7	-0.011	5	-0.003	2
1381	M141	1	max	151.009	1	319.565	1	87.665	5	0.081	5	0.114	12	0.058	1
1382			min	-126.778	7	-318.991	7	-100.216	11	-0.094	11	-0.113	6	-0.105	7
1383		2	max	151.009	1	319.565	1	87.665	5	0.081	5	0.112	12	0.048	1
1384			min	-126.778	7	-318.991	7	-100.216	11	-0.094	11	-0.111	6	-0.095	7
1385		3	max	151.009	1	319.565	1	87.665	5	0.081	5	0.109	12	0.038	1
1386			min	-126.778	7	-318.991	7	-100.216	11	-0.094	11	-0.109	6	-0.086	7
1387		4	max	151.009	1	319.565	1	87.665	5	0.081	5	0.107	12	0.028	1
1388			min	-126.778	7	-318.991	7	-100.216	11	-0.094	11	-0.108	6	-0.076	7
1389		5	max	151.009	1	319.565	1	87.665	5	0.081	5	0.105	12	0.018	1
1390			min	-126.778	7	-318.991	7	-100.216	11	-0.094	11	-0.106	6	-0.066	7
1391	M142	1	max	353.168	1	92.38	6	40.519	5	0.001	8	0.004	11	0.012	6
1392			min	-604.816	7	-39.812	12	-28.997	11	-0.001	2	-0.005	5	-0.005	12
1393		2	max	353.168	1	92.322	6	40.448	5	0.001	8	0.002	11	0.007	6
1394			min	-604.816	7	-39.869	12	-28.926	11	-0.001	2	-0.003	5	-0.003	12
1395		3	max	353.168	1	92.265	6	40.378	5	0.001	8	0	8	0.001	7
1396			min	-604.816	7	-39.927	12	-28.855	11	-0.001	2	0	2	-0.001	1
1397		4	max	353.168	1	92.207	6	40.307	5	0.001	8	0.003	5	0.002	12
1398			min	-604.816	7	-39.985	12	-28.785	11	-0.001	2	-0.002	11	-0.005	6
1399		5	max	353.168	1	92.149	6	40.236	5	0.001	8	0.005	5	0.005	12
1400			min	-604.816	7	-40.042	12	-28.714	11	-0.001	2	-0.004	11	-0.011	6
1401	M143	1	max	113.785	6	47.194	5	66.361	7	0.007	11	0.014	6	0.002	11
1402			min	-125.389	12	-55.027	11	-196.121	1	-0.006	5	-0.016	12	-0.001	5
1403		2	max	113.785	6	47.194	5	66.361	7	0.007	11	0.017	6	0.004	11
1404			min	-125.389	12	-55.027	11	-196.121	1	-0.006	5	-0.025	12	-0.004	5
1405		3	max	113.785	6	41.688	4	-39.177	10	0.007	11	0.02	6	0.007	11
1406			min	-125.389	12	-55.027	11	-201.416	7	-0.006	5	-0.033	12	-0.006	5

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1407		4	max	125.046	12	5.03	3	81.304	1	0.001	46	0.012	11	0.002	5
1408			min	-113.22	6	-6.438	45	-201.416	7	-0.001	4	-0.005	5	-0.002	11
1409		5	max	125.046	12	5.03	3	81.304	1	0.001	46	0.016	12	0.001	5
1410			min	-113.22	6	-6.438	45	-201.416	7	-0.001	4	-0.014	6	-0.002	11
1411	M144	1	max	38.811	12	41.119	5	605.336	7	0.004	11	0.005	12	0.001	2
1412			min	-94.864	6	-28.48	11	-353.023	1	-0.005	5	-0.011	6	-0.001	8
1413		2	max	38.811	12	41.119	5	605.336	7	0.004	11	0.019	7	0.001	11
1414			min	-94.864	6	-28.48	11	-353.023	1	-0.005	5	-0.014	1	-0.002	5
1415		3	max	47.443	15	52.899	10	843.926	7	0.006	4	0.053	2	0.006	10
1416			min	-94.864	6	-38.476	3	-599.813	1	-0.007	10	-0.07	8	-0.005	4
1417		4	max	89.05	6	52.899	10	843.926	7	0.006	4	0.027	2	0.003	10
1418			min	-41.656	12	-47.605	4	-599.813	1	-0.007	10	-0.032	8	-0.003	4
1419		5	max	89.05	6	52.899	10	843.926	7	0.006	4	0.011	6	0.001	8
1420			min	-41.656	12	-47.605	4	-599.813	1	-0.007	10	-0.005	12	-0.001	2
1421	M145	1	max	84.812	2	55.049	11	153.051	18	0.007	11	0.012	8	0.001	5
1422			min	-95.901	8	-47.673	5	-9.471	12	-0.006	5	-0.01	2	-0.002	11
1423		2	max	84.812	2	55.049	11	153.051	18	0.007	11	0.018	8	0.004	5
1424			min	-95.901	8	-47.673	5	-9.471	12	-0.006	5	-0.01	2	-0.004	11
1425		3	max	84.812	2	49.693	10	153.051	18	0.007	11	0.024	8	0.006	5
1426			min	-95.901	8	-47.673	5	32.732	10	-0.006	5	-0.014	11	-0.007	11
1427		4	max	95.184	8	6.386	45	125.342	14	0.001	45	0.005	4	0.002	11
1428			min	-84.072	2	-4.707	3	-9.555	8	-0.001	3	-0.012	10	-0.002	5
1429		5	max	95.184	8	6.386	45	125.342	14	0.001	45	0.01	2	0.002	11
1430			min	-84.072	2	-4.707	3	-9.555	8	-0.001	3	-0.012	8	-0.001	5
1431	M146	1	max	653.305	1	151.817	7	40.519	5	0.001	8	0.004	11	0.02	7
1432			min	-910.175	7	-57.228	1	-28.997	11	-0.001	2	-0.005	5	-0.008	1
1433		2	max	653.305	1	151.759	7	40.448	5	0.001	8	0.002	11	0.01	7
1434			min	-910.175	7	-57.285	1	-28.926	11	-0.001	2	-0.003	5	-0.004	1
1435		3	max	653.305	1	151.702	7	40.378	5	0.001	8	0	8	0.001	7
1436			min	-910.175	7	-57.343	1	-28.855	11	-0.001	2	0	2	-0.001	1
1437		4	max	653.305	1	151.644	7	40.307	5	0.001	8	0.003	5	0.003	1
1438			min	-910.175	7	-57.4	1	-28.785	11	-0.001	2	-0.002	11	-0.009	7
1439		5	max	653.305	1	151.586	7	40.236	5	0.001	8	0.005	5	0.007	1
1440			min	-910.175	7	-57.458	1	-28.714	11	-0.001	2	-0.004	11	-0.018	7
1441	M147	1	max	53.535	1	40.995	5	911.139	7	0.004	11	0.007	1	0.001	2
1442			min	-158.142	7	-28.74	11	-652.992	1	-0.005	5	-0.018	7	-0.001	8
1443		2	max	53.535	1	40.995	5	911.139	7	0.004	11	0.025	7	0.001	11
1444			min	-158.142	7	-28.74	11	-652.992	1	-0.005	5	-0.024	1	-0.002	6
1445		3	max	73.082	14	50.148	11	911.139	7	0.006	4	0.067	7	0.006	10
1446			min	-158.142	7	-47.578	4	-652.992	1	-0.007	10	-0.055	1	-0.005	4
1447		4	max	147.72	7	52.976	10	538.112	7	0.006	4	0.009	12	0.003	10
1448			min	-59.288	1	-47.578	4	-299.83	1	-0.007	10	-0.008	6	-0.003	4
1449		5	max	147.72	7	52.976	10	538.112	7	0.006	4	0.018	7	0.001	8
1450			min	-59.288	1	-47.578	4	-299.83	1	-0.007	10	-0.007	1	-0.001	2
1451	M148	1	max	195.54	1	125.036	12	47.752	5	0.001	5	0.007	11	0.016	12
1452			min	-66.929	7	-113.814	6	-55.132	11	-0.002	11	-0.006	5	-0.014	6
1453		2	max	195.54	1	124.979	12	47.681	5	0.001	5	0.003	11	0.008	12
1454			min	-66.929	7	-113.872	6	-55.061	11	-0.002	11	-0.003	5	-0.007	6
1455		3	max	195.54	1	124.921	12	47.611	5	0.001	5	0	1	0	10
1456			min	-66.929	7	-113.929	6	-54.99	11	-0.002	11	0	7	0	16
1457		4	max	195.54	1	124.864	12	47.54	5	0.001	5	0.003	5	0.007	6
1458			min	-66.929	7	-113.987	6	-54.92	11	-0.002	11	-0.003	11	-0.008	12
1459		5	max	195.54	1	124.806	12	47.469	5	0.001	5	0.006	5	0.014	6
1460			min	-66.929	7	-114.044	6	-54.849	11	-0.002	11	-0.007	11	-0.016	12
1461	M149	1	max	153.011	18	84.765	2	47.752	5	0.001	5	0.007	11	0.01	2

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1462			min	-9.537	12	-95.111	8	-55.132	11	-0.002	11	-0.006	5	-0.012	8
1463		2	max	153.028	18	84.708	2	47.681	5	0.001	5	0.003	11	0.005	2
1464			min	-9.56	12	-95.168	8	-55.061	11	-0.002	11	-0.003	5	-0.006	8
1465		3	max	153.044	18	84.65	2	47.611	5	0.001	5	0	1	0	10
1466			min	-9.584	12	-95.226	8	-54.99	11	-0.002	11	0	7	0	16
1467		4	max	153.061	18	84.592	2	47.54	5	0.001	5	0.003	5	0.006	8
1468			min	-9.607	12	-95.284	8	-54.92	11	-0.002	11	-0.003	11	-0.005	2
1469		5	max	153.077	18	84.535	2	47.469	5	0.001	5	0.006	5	0.012	8
1470			min	-9.631	12	-95.341	8	-54.849	11	-0.002	11	-0.007	11	-0.011	2
1471	M150	1	max	150.986	1	318.543	1	86.534	5	0.081	5	0.096	1	0.014	7
1472			min	-126.74	7	-319.731	7	-99.086	11	-0.094	11	-0.1	7	-0.062	1
1473		2	max	150.986	1	318.543	1	86.534	5	0.081	5	0.095	1	0.024	7
1474			min	-126.74	7	-319.731	7	-99.086	11	-0.094	11	-0.1	7	-0.072	1
1475		3	max	150.986	1	318.543	1	86.534	5	0.081	5	0.094	1	0.034	7
1476			min	-126.74	7	-319.731	7	-99.086	11	-0.094	11	-0.099	7	-0.082	1
1477		4	max	150.986	1	318.543	1	86.534	5	0.081	5	0.094	1	0.044	7
1478			min	-126.74	7	-319.731	7	-99.086	11	-0.094	11	-0.099	7	-0.092	1
1479		5	max	150.986	1	318.543	1	86.534	5	0.081	5	0.093	1	0.054	7
1480			min	-126.74	7	-319.731	7	-99.086	11	-0.094	11	-0.099	7	-0.102	1
1481	M151	1	max	96.115	8	47.409	5	9.567	12	0.007	11	0.012	8	0.002	11
1482			min	-84.572	2	-54.734	11	-153.116	18	-0.006	5	-0.011	2	-0.001	5
1483		2	max	96.115	8	47.409	5	9.567	12	0.007	11	0.009	10	0.004	11
1484			min	-84.572	2	-54.734	11	-153.116	18	-0.006	5	-0.014	4	-0.004	5
1485		3	max	96.115	8	47.409	5	-32.733	10	0.007	11	0.022	2	0.007	11
1486			min	-84.572	2	-49.208	10	-153.116	18	-0.006	5	-0.019	4	-0.006	5
1487		4	max	83.839	2	4.96	3	9.644	8	0.001	46	0.017	2	0.002	5
1488			min	-95.383	8	-6.405	45	-125.409	14	-0.001	4	-0.012	8	-0.002	11
1489		5	max	83.839	2	4.96	3	9.644	8	0.001	46	0.011	2	0.001	5
1490			min	-95.383	8	-6.405	45	-125.409	14	-0.001	4	-0.012	8	-0.002	11
1491	M152	1	max	43.975	5	226.672	6	268.898	7	0.021	12	0.006	5	0.009	11
1492			min	-50.014	11	-250.898	12	-276.263	1	-0.042	6	-0.006	11	-0.008	5
1493		2	max	43.975	5	226.672	6	268.898	7	0.021	12	0.035	6	0.037	12
1494			min	-50.014	11	-250.898	12	-276.263	1	-0.042	6	-0.037	12	-0.033	6
1495		3	max	50.175	11	168.88	2	145.141	6	0.035	8	0.036	12	0.045	3
1496			min	-43.726	5	-191.098	8	-127.761	12	-0.009	2	-0.039	6	-0.051	9
1497		4	max	50.175	11	168.88	2	145.141	6	0.035	8	0.02	12	0.025	3
1498			min	-43.726	5	-191.098	8	-127.761	12	-0.009	2	-0.021	6	-0.029	9
1499		5	max	50.175	11	168.88	2	145.141	6	0.035	8	0.006	11	0.008	5
1500			min	-43.726	5	-191.098	8	-127.761	12	-0.009	2	-0.006	5	-0.009	11
1501	MP1A	1	max	0	75	0.033	10	0.059	2	0	75	0	75	0	75
1502			min	0	1	-0.034	4	-0.064	8	0	1	0	1	0	1
1503		2	max	24.363	23	25.586	10	25.611	1	0	75	0.026	1	0.026	4
1504			min	9.436	66	-25.587	4	-25.615	7	0	1	-0.026	7	-0.026	10
1505		3	max	245.543	1	44.295	4	36.827	2	0.118	1	0.094	7	0.051	3
1506			min	-392.793	7	-31.139	10	-8.424	8	-0.124	7	-0.082	1	-0.063	9
1507		4	max	306.332	1	77.18	11	127.126	1	0.093	1	0.051	1	0.063	4
1508			min	-332.005	7	-63.897	5	-98.736	7	-0.099	7	-0.018	7	-0.069	10
1509		5	max	0	75	0.014	5	0.034	8	0	75	0	75	0	75
1510			min	0	1	-0.013	11	-0.031	2	0	1	0	1	0	1
1511	MP5	1	max	2499.023	3	590.462	15	1271.994	6	0.437	6	1.394	12	0.638	15
1512			min	-4986.2	9	-22.064	9	-1291.071	12	-0.215	12	-1.391	6	0.114	33
1513		2	max	2499.023	3	560.384	15	1252.682	6	0.437	6	0.721	8	0.159	9
1514			min	-4986.2	9	-40.391	9	-1271.76	12	-0.215	12	-0.745	2	-0.201	3
1515		3	max	2516.871	3	-22.486	3	50.989	4	0.281	30	0.106	8	0.74	33
1516			min	-4947.989	9	-814.487	21	-49.454	9	-0.254	12	-0.11	2	-0.348	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-ft]	LC	y-y Moment[k-ft]	LC	z-z Moment[k-ft]	LC
1517		4	max	2408.461	3	1163.506	33	62.868	1	0.282	30	0.061	4	1.228	33
1518			min	-2204.549	9	-125.11	3	-61.588	7	-0.254	12	-0.062	10	-0.283	3
1519		5	max	2408.461	3	1141.304	33	75.411	1	0.282	30	0.104	4	-0.087	66
1520			min	-2204.549	9	-147.313	3	-74.131	7	-0.254	12	-0.103	10	-0.255	21
1521	MP5A	1	max	2897.997	11	591.864	23	1402.277	2	0.361	2	1.56	8	0.653	23
1522			min	-5642.914	5	-60.575	5	-1394.946	8	-0.324	8	-1.618	2	0.096	5
1523		2	max	2897.997	11	561.786	23	1382.965	2	0.361	2	0.391	3	0.183	5
1524			min	-5642.914	5	-78.901	5	-1375.634	8	-0.324	8	-0.441	9	-0.202	11
1525		3	max	2936.101	11	4.141	11	174.659	1	0.269	2	0.109	12	0.776	5
1526			min	-5613.92	5	-807.211	41	-156.769	7	-0.341	8	-0.114	6	-0.38	11
1527		4	max	2678.263	11	1207.882	41	85.333	9	0.27	2	0.139	12	1.28	41
1528			min	-2462.151	5	-133.187	11	-67.901	3	-0.341	8	-0.122	6	-0.302	11
1529		5	max	2678.263	11	1185.68	41	97.877	9	0.27	2	0.15	12	-0.089	74
1530			min	-2462.151	5	-155.389	11	-80.444	3	-0.341	8	-0.112	6	-0.257	18
1531	MP3C	1	max	0	75	0.535	3	0.339	3	0	75	0	75	0	75
1532			min	0	1	-0.545	9	-0.323	9	0	1	0	1	0	1
1533		2	max	239.972	22	426.721	2	302.452	4	0.222	4	0.502	12	0.348	1
1534			min	64.87	67	-426.73	8	-368.831	12	-0.199	11	-0.455	6	-0.284	7
1535		3	max	372.121	14	328.605	1	361.732	6	0.266	4	0.216	5	0.296	8
1536			min	127.357	71	-334.87	7	-450.262	12	-0.226	10	-0.207	11	-0.244	2
1537		4	max	-82.954	74	450.591	8	322.061	10	0.21	11	0.114	5	0.204	8
1538			min	-281.172	16	-450.628	2	-322.129	4	-0.21	5	-0.231	11	-0.273	2
1539		5	max	0	75	0.438	9	0.244	9	0	75	0	75	0	75
1540			min	0	1	-0.475	3	-0.313	15	0	1	0	1	0	1
1541	MP2C	1	max	0	75	0.061	9	0.038	3	0	75	0	75	0	75
1542			min	0	1	-0.062	3	-0.038	9	0	1	0	1	0	1
1543		2	max	96.084	13	232.664	12	287.184	12	0.23	9	0.507	6	0.355	12
1544			min	17.345	7	-223.122	6	-335.476	6	-0.267	3	-0.517	12	-0.375	6
1545		3	max	231.042	13	294.761	11	368.143	12	0.194	9	0.141	12	0.073	6
1546			min	92.948	71	-285.941	5	-416.435	6	-0.23	3	-0.125	6	-0.134	12
1547		4	max	-9.436	75	25.621	4	25.572	7	0	75	0.026	1	0.026	4
1548			min	-24.363	24	-25.614	10	-25.575	1	0	1	-0.026	7	-0.026	10
1549		5	max	0	75	0.073	3	0.04	9	0	75	0	75	0	75
1550			min	0	1	-0.066	9	-0.043	3	0	1	0	1	0	1

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	M42	PL1/2X6	0.113	0.112	11	0.236	0	y	42	96760.848	97200	1.012	12.15	1.058	H1-1b
2	M24	PL1/2X6	0.102	0.112	11	0.22	0	y	32	96760.848	97200	1.012	12.15	1.109	H1-1b
3	M20	PL3/8X6	0.233	0.167	2	0.201	0	y	21	71583.564	72900	0.57	9.113	1.732	H1-1b
4	M73	PIPE 2.0	0.329	4.036	11	0.191	0.651		11	6295.422	32130	1.872	1.872	1	H1-1b
5	M36	PL3/8X6	0.229	0.167	4	0.188	0	y	17	71583.566	72900	0.57	9.113	1.211	H1-1b
6	M4	PL3/8X6	0.254	0.167	6	0.177	0	y	13	71583.558	72900	0.57	9.113	1.74	H1-1b
7	M65	PIPE 2.0	0.277	4.036	2	0.176	0.651		3	6295.422	32130	1.872	1.872	1	H1-1b
8	M8	PL1/2X6	0.081	0.112	1	0.168	0	y	12	96760.847	97200	1.012	12.15	1.488	H1-1b
9	M51	PIPE 2.0	0.305	4.036	6	0.161	11.979		2	6295.422	32130	1.872	1.872	1	H1-1b
10	M38	PL3/8X6	0.25	0.167	12	0.16	0	y	18	71583.564	72900	0.57	9.113	1.488	H1-1b
11	M39	PL1/2X6	0.147	0	1	0.159	0	y	45	93378.467	97200	1.012	12.15	1.267	H1-1b
12	M22	PL3/8X6	0.213	0.167	4	0.158	0	y	22	71583.558	72900	0.57	9.113	1.502	H1-1b
13	M62	PIPE 2.5	0.294	5.5	11	0.156	5.5		10	30038.461	50715	3.596	3.596	1	H1-1b
14	M40	PL1/2X6	0.089	0.112	6	0.155	0	y	4	96760.854	97200	1.012	12.15	1.211	H1-1b
15	M110	0.625 ALL THREAD	0.63	0.25	11	0.149	0		11	7229.757	7310.801	0.065	0.065	1	H1-1b
16	M26	PL1/2X6	0.1	0.112	9	0.146	0	y	10	96760.854	97200	1.012	12.15	1.361	H1-1b
17	M6	PL3/8X6	0.226	0.167	7	0.146	0	y	14	71583.566	72900	0.57	9.113	1.444	H1-1b
18	M10	PL1/2X6	0.111	0.112	1	0.146	0	y	2	96760.847	97200	1.012	12.15	1.387	H1-1b

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
19	M25	PL1/2X6	0.195	0	9	0.14	0	y	30	93378.467	97200	1.012	12.15	1.295	H1-1b
20	M116	0.625_ALL_THREAD	0.539	0.25	12	0.136	0		11	7229.757	7310.801	0.065	0.065	1	H1-1b
21	M60	PIPE_2.5	0.162	5.5	10	0.132	2		7	30038.461	50715	3.596	3.596	1	H1-1b
22	MP4B	PIPE_2.5	0.159	5.5	1	0.117	2		11	30038.461	50715	3.596	3.596	1	H1-1b
23	M23	PL1/2X6	0.173	0	5	0.116	0	y	13	93378.456	97200	1.012	12.15	1.268	H1-1b
24	MP1B	PIPE_2.5	0.167	5.5	1	0.114	2		12	30038.461	50715	3.596	3.596	1	H1-1b
25	M117	0.625_ALL_THREAD	0.448	0	4	0.114	0		4	7229.757	7310.801	0.065	0.065	1	H1-1b
26	MP4A	PIPE_2.5	0.158	5.5	9	0.113	2		6	30038.461	50715	3.596	3.596	1	H1-1b
27	M123	0.625_ALL_THREAD	0.419	0	9	0.113	0		9	7229.757	7310.801	0.065	0.065	1	H1-1b
28	M50	PIPE_3.0	0.148	4.036	10	0.113	11.849		7	28250.554	65205	5.749	5.749	1	H1-1b
29	MP3C	PIPE_2.5	0.283	5.5	12	0.111	5.5		4	30038.461	50715	3.596	3.596	1	H1-1b
30	MP3B	PIPE_2.5	0.261	5.5	7	0.11	2		12	30038.461	50715	3.596	3.596	1	H1-1b
31	M124	0.625_ALL_THREAD	0.417	0	6	0.109	0.25		11	7229.757	7310.801	0.065	0.065	1	H1-1b
32	M7	PL1/2X6	0.136	0	1	0.107	0	y	18	93378.465	97200	1.012	12.15	1.306	H1-1b
33	MP4C	PIPE_2.5	0.154	5.5	6	0.105	5.5		8	30038.461	50715	3.596	3.596	1	H1-1b
34	M122	0.625_ALL_THREAD	0.423	0	8	0.105	0		9	7229.757	7310.801	0.065	0.065	1	H1-1b
35	MP1C	PIPE_2.5	0.158	5.5	6	0.103	2		3	30038.461	50715	3.596	3.596	1	H1-1b
36	M100	0.625_ALL_THREAD	0.386	0.25	2	0.099	0		4	7229.757	7310.801	0.065	0.065	1	H1-1b
37	M99	0.625_ALL_THREAD	0.385	0	6	0.098	0.25		11	7229.757	7310.801	0.065	0.065	1	H1-1b
38	MP2A	PIPE_2.5	0.245	5.5	4	0.096	3.917		6	30038.461	50715	3.596	3.596	1	H1-1b
39	MP2B	PIPE_2.5	0.24	5.5	8	0.095	5.5		11	30038.461	50715	3.596	3.596	1	H1-1b
40	M72	PIPE_3.0	0.122	4.036	2	0.095	0.651		12	28250.552	65205	5.749	5.749	1	H1-1b
41	MP2C	PIPE_2.5	0.26	5.5	12	0.091	3.917		2	30038.461	50715	3.596	3.596	1	H1-1b
42	M9	PL1/2X6	0.229	0	1	0.09	0	y	22	93378.465	97200	1.012	12.15	1.298	H1-1b
43	M21	PL3/8X6	0.175	0	12	0.086	0	y	15	70647.065	72900	0.57	9.113	1.245	H1-1b
44	M41	PL1/2X6	0.238	0	11	0.084	0	y	14	93378.456	97200	1.012	12.15	2.234	H1-1b
45	MP3A	PIPE_2.5	0.2	3	11	0.084	3		8	30038.461	50715	3.596	3.596	1	H1-1b
46	M64	PIPE_3.0	0.125	4.036	6	0.083	11.849		3	28250.552	65205	5.749	5.749	1	H1-1b
47	M37	PL3/8X6	0.229	0	11	0.079	0	y	24	70647.065	72900	0.57	9.113	1.439	H1-1b
48	M19	PL3/8X6	0.32	0	12	0.078	0	y	32	70647.065	72900	0.57	9.113	1.222	H1-1b
49	M5	PL3/8X6	0.201	0	1	0.077	0	y	19	70647.064	72900	0.57	9.113	1.18	H1-1b
50	M148	0.625_ALL_THREAD	0.264	0.25	12	0.073	0		11	7229.757	7310.801	0.065	0.065	1	H1-1b
51	M132	0.625_ALL_THREAD	0.246	0.25	12	0.069	0		11	7229.757	7310.801	0.065	0.065	1	H1-1b
52	M94	L2.5X2.5X4	0.266	1.298	9	0.067	1.298	y	8	36492.099	38556	1.114	2.537	1.5	H2-1
53	M137	0.625_ALL_THREAD	0.344	0	7	0.066	0		8	7229.757	7310.801	0.065	0.065	1	H1-1b
54	MP5	HSS4X4X4	0.11	0	12	0.065	0	z	6	125903.879	139518	16.181	16.181	2.001	H1-1b
55	M146	0.625_ALL_THREAD	0.368	0	7	0.065	0		8	7229.757	7310.801	0.065	0.065	1	H1-1b
56	M3	PL3/8X6	0.196	0	10	0.064	0	y	23	70647.064	72900	0.57	9.113	1.155	H1-1b
57	M92	L2.5X2.5X4	0.277	1.298	7	0.064	1.298	y	12	36492.099	38556	1.114	2.537	1.5	H2-1
58	MP5A	HSS4X4X4	0.123	0	2	0.063	0	z	2	125903.879	139518	16.181	16.181	2.004	H1-1b
59	M35	PL3/8X6	0.29	0	2	0.061	0	y	3	70647.065	72900	0.57	9.113	1.153	H1-1b
60	M149	0.625_ALL_THREAD	0.196	0	8	0.061	0		10	7229.757	7310.801	0.065	0.065	1	H1-1b
61	M93	L2.5X2.5X4	0.288	1.298	11	0.058	0	y	10	36492.099	38556	1.114	2.537	1.5	H2-1
62	M136	0.625_ALL_THREAD	0.184	0	8	0.056	0.25		10	7229.757	7310.801	0.065	0.065	1	H1-1b
63	M1	HSS4X4X4	0.111	3.405	1	0.052	0	z	10	125903.881	139518	16.181	16.181	1.701	H1-1b
64	M2	HSS4X4X4	0.094	2.573	24	0.043	0.214	z	12	124882.574	139518	16.181	16.181	1.365	H1-1b
65	M18	HSS4X4X4	0.104	2.573	20	0.042	0.214	z	8	124882.573	139518	16.181	16.181	1.37	H1-1b
66	MP1A	PIPE_2.5	0.04	6.5	12	0.042	3		7	30038.461	50715	3.596	3.596	1	H1-1b
67	M34	HSS4X4X4	0.1	2.573	18	0.042	0.214	z	4	124882.573	139518	16.181	16.181	1.355	H1-1b
68	M129	0.625_ALL_THREAD	0.237	0	6	0.041	0		7	7229.757	7310.801	0.065	0.065	1	H1-1b
69	M142	0.625_ALL_THREAD	0.236	0	6	0.041	0		7	7229.757	7310.801	0.065	0.065	1	H1-1b
70	M43	L2X2X3	0.206	4.29	5	0.01	4.29	y	20	9305.238	23392.8	0.558	1.133	1.5	H2-1
71	M27	L2X2X3	0.193	4.29	8	0.009	4.29	y	24	9305.237	23392.8	0.558	1.133	1.5	H2-1
72	M11	L2X2X3	0.2	4.29	12	0.008	4.29	y	17	9305.238	23392.8	0.558	1.133	1.5	H2-1
73	M28	L2X2X3	0.181	4.29	9	0.008	4.29	z	18	9305.238	23392.8	0.558	1.133	1.5	H2-1

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
74	M12	L2X2X3	0.193	4.29	1	0.008	4.29	z	22	9305.238	23392.8	0.558	1.133	1.5	H2-1
75	M44	L2X2X3	0.186	4.29	5	0.008	4.29	z	14	9305.237	23392.8	0.558	1.133	1.5	H2-1
76	M95	LL2.5X2.5X3X3	0.076	4.537	1	0.003	4.537	z	10	44372.008	58320	3.954	2.55	1	H1-1b*
77	M97	LL2.5X2.5X3X3	0.087	0	17	0.003	4.537	z	8	44372.008	58320	3.954	2.55	1	H1-1b*
78	M96	LL2.5X2.5X3X3	0.082	0	33	0.003	4.537	z	6	44372.008	58320	3.954	2.55	1	H1-1b*

Envelope AISI S100-16: LRFD Member Cold Formed Steel Code Checks

No Data to Print...

Envelope AA ADM1-15: LRFD - BUILDING Member Aluminum Code Checks

No Data to Print...

TES
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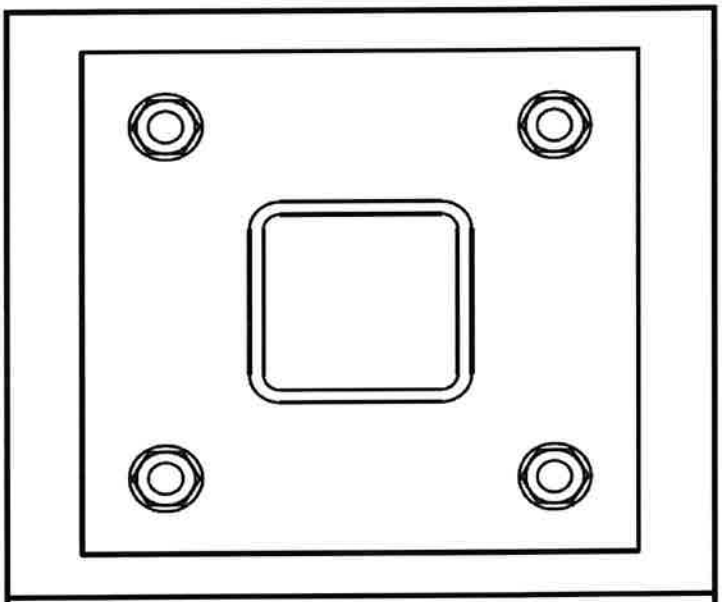
Standoff Arm Flange Connection Check

Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T-Mobile	Mount Elev. [ft]:	
Site Name:		Engineer Name:	S. Bhujel
Site Number:		Project #:	

Date: 4/7/2023

NOTE: The calculations shown below are for a single representative load combination for example purposes. The results for all load combinations are presented in the Results Summary Table.

RISA Member Label =	MP5A	
I or J End?	I	
Load Combination # =	2	
Plate Width, Wp =	7	[In]
Plate Height, Hp =	7	[In]
Plate Thickness, tp =	0.75	[In]
Plate Fy =	36	[KSI]
Bolt Diameter, db =	0.625	[In]
Bolt Fu =	120	[KSI]
Bolt Horizontal Spacing, Sbh =	6	[In]
Bolt Vertical Spacing, Sbv =	6	[In]
Standoff Member Shape =	Rect Tube	
Member Width, Wm =	4	[In]
Member Depth, Dm =	4	[In]
Member Thickness, tm =	0.25	[In]
Standoff Weld Size =	0.1875	[In]
# Standoff Welds =	2	



Typical Connection Detail

NOTES

Capacity Checks:

Max Bolt Shear =	0.582	[Kips]
Bolt Shear Capacity =	13.81	[Kips]
Max Bolt Shear Usage =	4.2%	PASS
Max Bolt Tension =	2.29	[Kips]
Bolt Tension Capacity =	20.34	[Kips]
Max Bolt Tension Usage =	11.2%	PASS
Max Bolt Interaction =	11.9%	PASS
Max Plate Bending Moment =	4.01	[Kip-In]
Length of Yield Line =	4.71	[In]
Plate Moment Capacity =	21.45	[Kip-In]
Max Plate Usage =	17.6%	PASS
Max Weld Usage =	11.9%	PASS

TES
A CONGRUEX COMPANY

Standoff Arm Flange Connection Check			Date
			4/7/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T-Mobile	Mount Elev. [ft]:	
Site Name:		Engineer Name:	S. Bhujel
Site Number:		Project #:	

Results Summary Table

Member Label	Member End	Load Combo #	Max Bolt Shear [K]	Max Bolt Tension [K]	Bolt Shear Check	Bolt Tension Check	Bolt Interaction Check	Plate Bending Check	Weld Check
M1	I	1	0.1623	1.6269	1.2%	8.0%	8.1%	12.5%	9.1%
M1	I	2	0.0477	1.4865	0.3%	7.3%	7.3%	11.4%	7.6%
M1	I	3	0.2684	1.4527	1.9%	7.1%	7.4%	11.2%	9.4%
M1	I	4	0.4065	1.4379	2.9%	7.1%	7.6%	11.0%	9.9%
M1	I	5	0.4012	0.4871	2.9%	2.4%	3.4%	3.7%	7.3%
M1	I	6	0.3016	0.0000	2.2%	0.0%	2.2%	0.0%	7.0%
M1	I	7	0.1617	0.0000	1.2%	0.0%	1.2%	0.0%	9.2%
M1	I	8	0.2277	0.1136	1.6%	0.6%	1.7%	0.9%	7.9%
M1	I	9	0.3889	0.6875	2.8%	3.4%	4.1%	5.3%	3.2%
M1	I	10	0.4878	1.5150	3.5%	7.4%	8.1%	11.6%	7.2%
M1	I	11	0.4454	1.4293	3.2%	7.0%	7.7%	11.0%	7.3%
M1	I	12	0.3191	1.3750	2.3%	6.8%	7.1%	10.6%	8.6%
M1	I	13	0.2398	1.3453	1.7%	6.6%	6.7%	10.3%	8.0%
M1	I	14	0.2213	1.3322	1.6%	6.5%	6.6%	10.2%	7.7%
M1	I	15	0.2224	1.3129	1.6%	6.5%	6.6%	10.1%	8.5%
M1	I	16	0.2273	1.3247	1.6%	6.5%	6.7%	10.2%	8.6%
M1	I	17	0.2303	1.1100	1.7%	5.5%	5.6%	8.5%	7.3%
M1	I	18	0.2402	0.9505	1.7%	4.7%	4.9%	7.3%	6.2%
M1	I	19	0.2567	0.9809	1.9%	4.8%	5.1%	7.5%	6.6%
M1	I	20	0.2713	1.0259	2.0%	5.0%	5.4%	7.9%	6.9%
M1	I	21	0.2990	1.1240	2.2%	5.5%	5.6%	8.6%	6.2%
M1	I	22	0.3137	1.3317	2.3%	6.5%	6.7%	10.2%	6.1%
M1	I	23	0.3009	1.3140	2.2%	6.5%	6.6%	10.1%	7.3%
M1	I	24	0.2708	1.3020	2.0%	6.4%	6.7%	10.0%	8.4%
M1	I	25	0.0862	0.6190	0.6%	3.0%	3.1%	4.8%	3.4%
M1	I	26	0.0808	0.6111	0.6%	3.0%	3.0%	4.7%	3.4%
M1	I	27	0.0799	0.5548	0.6%	2.7%	2.8%	4.3%	3.6%
M1	I	28	0.0809	0.5533	0.6%	2.7%	2.8%	4.2%	3.6%
M1	I	29	0.0816	0.5081	0.6%	2.5%	2.5%	3.9%	3.2%
M1	I	30	0.0849	0.5158	0.6%	2.5%	2.6%	4.0%	3.0%
M1	I	31	0.0891	0.4968	0.6%	2.4%	2.5%	3.8%	3.1%
M1	I	32	0.0941	0.5047	0.7%	2.5%	2.5%	3.9%	3.1%
M1	I	33	0.1003	0.5650	0.7%	2.8%	2.8%	4.3%	2.9%
M1	I	34	0.1029	0.6133	0.7%	3.0%	3.0%	4.7%	2.9%
M1	I	35	0.1008	0.6077	0.7%	3.0%	3.0%	4.7%	3.3%
M1	I	36	0.0941	0.6000	0.7%	3.0%	3.0%	4.6%	3.5%
M1	I	37	0.1093	0.5964	0.8%	2.9%	3.0%	4.6%	3.8%
M1	I	38	0.1060	0.5875	0.8%	2.9%	3.0%	4.5%	3.8%
M1	I	39	0.1057	0.6120	0.8%	3.0%	3.1%	4.7%	4.0%
M1	I	40	0.1062	0.6115	0.8%	3.0%	3.1%	4.7%	4.0%
M1	I	41	0.1072	0.5563	0.8%	2.7%	2.8%	4.3%	3.6%
M1	I	42	0.1094	0.5151	0.8%	2.5%	2.6%	4.0%	3.4%

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Standoff Arm Flange Connection Check			Date
			4/7/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T-Mobile	Mount Elev. [ft]:	
Site Name:		Engineer Name:	S. Bhujel
Site Number:		Project #:	

Results Summary Table (Continued)

Member Label	Member End	Load Combo #	Max Bolt Shear [K]	Max Bolt Tension [K]	Bolt Shear Check	Bolt Tension Check	Bolt Interaction Check	Plate Bending Check	Weld Check
M1	I	43	0.1141	0.5260	0.8%	2.6%	2.7%	4.0%	3.5%
M1	I	44	0.1168	0.5349	0.8%	2.6%	2.8%	4.1%	3.5%
M1	I	45	0.1230	0.5104	0.9%	2.5%	2.7%	3.9%	3.4%
M1	I	46	0.1266	0.5548	0.9%	2.7%	2.8%	4.3%	3.3%
M1	I	47	0.1238	0.5661	0.9%	2.8%	2.9%	4.3%	3.7%
M1	I	48	0.1168	0.6073	0.8%	3.0%	3.1%	4.7%	3.9%
M1	I	49	0.0991	0.5682	0.7%	2.8%	2.9%	4.4%	3.7%
M1	I	50	0.1342	0.8249	1.0%	4.1%	4.2%	6.3%	5.3%
M1	I	51	0.1157	0.6622	0.8%	3.3%	3.4%	5.1%	4.3%
M1	I	52	0.1002	0.6285	0.7%	3.1%	3.1%	4.8%	4.0%
M1	I	53	0.0997	0.6367	0.7%	3.1%	3.2%	4.9%	4.1%
M1	I	54	0.0995	0.6398	0.7%	3.1%	3.2%	4.9%	4.1%
M1	I	55	0.1005	0.6287	0.7%	3.1%	3.2%	4.8%	4.1%
M1	I	56	0.1022	0.6059	0.7%	3.0%	3.1%	4.7%	3.9%
M1	I	57	0.1035	0.5768	0.7%	2.8%	2.9%	4.4%	3.8%
M1	I	58	0.1049	0.5509	0.8%	2.7%	2.8%	4.2%	3.6%
M1	I	59	0.1082	0.5647	0.8%	2.8%	2.8%	4.3%	3.5%
M1	I	60	0.1123	0.5975	0.8%	2.9%	3.0%	4.6%	3.4%
M1	I	61	0.1131	0.6265	0.8%	3.1%	3.1%	4.8%	3.5%
M1	I	62	0.1106	0.6423	0.8%	3.2%	3.2%	4.9%	3.6%
M1	I	63	0.1059	0.6445	0.8%	3.2%	3.2%	4.9%	3.8%
M1	I	64	0.0690	0.4509	0.5%	2.2%	2.2%	3.5%	2.8%
M1	I	65	0.0684	0.4591	0.5%	2.3%	2.3%	3.5%	2.9%
M1	I	66	0.0683	0.4622	0.5%	2.3%	2.3%	3.5%	3.0%
M1	I	67	0.0693	0.4491	0.5%	2.2%	2.3%	3.4%	2.9%
M1	I	68	0.0709	0.4264	0.5%	2.1%	2.1%	3.3%	2.8%
M1	I	69	0.0722	0.3982	0.5%	2.0%	2.0%	3.1%	2.6%
M1	I	70	0.0736	0.3723	0.5%	1.8%	1.9%	2.9%	2.4%
M1	I	71	0.0771	0.3872	0.6%	1.9%	1.9%	3.0%	2.3%
M1	I	72	0.0814	0.4199	0.6%	2.1%	2.1%	3.2%	2.3%
M1	I	73	0.0824	0.4489	0.6%	2.2%	2.2%	3.4%	2.4%
M1	I	74	0.0798	0.4657	0.6%	2.3%	2.3%	3.6%	2.5%
M1	I	75	0.0750	0.4659	0.5%	2.3%	2.3%	3.6%	2.7%
MP5	I	1	0.3848	0.6539	2.8%	3.2%	4.0%	5.0%	8.7%
MP5	I	2	0.2219	0.1061	1.6%	0.5%	1.7%	0.8%	5.4%
MP5	I	3	0.1842	0.0285	1.3%	0.1%	1.3%	0.2%	6.0%
MP5	I	4	0.2853	0.2498	2.1%	1.2%	2.1%	1.9%	4.5%
MP5	I	5	0.4956	1.3148	3.6%	6.5%	7.1%	10.1%	6.9%
MP5	I	6	0.6036	2.0507	4.4%	10.1%	10.9%	15.7%	10.5%
MP5	I	7	0.4847	1.6510	3.5%	8.1%	8.8%	12.7%	8.5%
MP5	I	8	0.2867	1.5457	2.1%	7.6%	7.9%	11.9%	9.7%
MP5	I	9	0.1424	1.5388	1.0%	7.6%	7.6%	11.8%	9.5%

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Standoff Arm Flange Connection Check			Date
			4/7/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T-Mobile	Mount Elev. [ft]:	
Site Name:		Engineer Name:	S. Bhujel
Site Number:		Project #:	

Results Summary Table (Continued)

Member Label	Member End	Load Combo #	Max Bolt Shear [K]	Max Bolt Tension [K]	Bolt Shear Check	Bolt Tension Check	Bolt Interaction Check	Plate Bending Check	Weld Check
MP5	I	10	0.0805	1.6251	0.6%	8.0%	8.0%	12.5%	10.1%
MP5	I	11	0.3181	2.1675	2.3%	10.7%	10.9%	16.6%	14.1%
MP5	I	12	0.4671	1.9536	3.4%	9.6%	10.1%	15.0%	13.3%
MP5	I	13	0.2973	1.2339	2.2%	6.1%	6.3%	9.5%	8.2%
MP5	I	14	0.3033	1.1094	2.2%	5.5%	5.5%	8.5%	6.7%
MP5	I	15	0.3168	1.0942	2.3%	5.4%	5.5%	8.4%	6.7%
MP5	I	16	0.3351	1.1300	2.4%	5.6%	5.7%	8.7%	6.7%
MP5	I	17	0.3707	1.3693	2.7%	6.7%	6.9%	10.5%	6.0%
MP5	I	18	0.3861	1.5471	2.8%	7.6%	7.8%	11.9%	6.2%
MP5	I	19	0.3607	1.4558	2.6%	7.2%	7.3%	11.2%	7.9%
MP5	I	20	0.3219	1.4456	2.3%	7.1%	7.5%	11.1%	9.4%
MP5	I	21	0.2945	1.4519	2.1%	7.1%	7.4%	11.1%	9.4%
MP5	I	22	0.2858	1.4550	2.1%	7.2%	7.4%	11.2%	9.4%
MP5	I	23	0.2893	1.5708	2.1%	7.7%	7.9%	12.1%	10.2%
MP5	I	24	0.2960	1.5326	2.1%	7.5%	7.7%	11.8%	10.1%
MP5	I	25	0.2322	0.8596	1.7%	4.2%	4.5%	6.6%	5.5%
MP5	I	26	0.2319	0.8041	1.7%	4.0%	4.3%	6.2%	5.2%
MP5	I	27	0.2348	0.8034	1.7%	3.9%	4.3%	6.2%	5.2%
MP5	I	28	0.2359	0.8009	1.7%	3.9%	4.3%	6.1%	5.1%
MP5	I	29	0.2451	0.8620	1.8%	4.2%	4.6%	6.6%	4.9%
MP5	I	30	0.2505	0.9043	1.8%	4.4%	4.8%	6.9%	5.0%
MP5	I	31	0.2457	0.8809	1.8%	4.3%	4.7%	6.8%	5.5%
MP5	I	32	0.2371	0.9105	1.7%	4.5%	4.8%	7.0%	5.8%
MP5	I	33	0.2336	0.9102	1.7%	4.5%	4.8%	7.0%	5.8%
MP5	I	34	0.2317	0.9157	1.7%	4.5%	4.8%	7.0%	5.8%
MP5	I	35	0.2321	0.9464	1.7%	4.7%	4.9%	7.3%	6.0%
MP5	I	36	0.2331	0.9339	1.7%	4.6%	4.8%	7.2%	6.0%
MP5	I	37	0.1701	0.6269	1.2%	3.1%	3.3%	4.8%	4.2%
MP5	I	38	0.1724	0.5904	1.2%	2.9%	3.0%	4.5%	3.8%
MP5	I	39	0.1755	0.5857	1.3%	2.9%	3.1%	4.5%	3.8%
MP5	I	40	0.1792	0.5981	1.3%	2.9%	3.1%	4.6%	3.8%
MP5	I	41	0.1885	0.6602	1.4%	3.2%	3.3%	5.1%	3.6%
MP5	I	42	0.1924	0.7025	1.4%	3.5%	3.5%	5.4%	3.7%
MP5	I	43	0.1865	0.6791	1.4%	3.3%	3.4%	5.2%	4.1%
MP5	I	44	0.1769	0.6778	1.3%	3.3%	3.6%	5.2%	4.5%
MP5	I	45	0.1702	0.6765	1.2%	3.3%	3.5%	5.2%	4.4%
MP5	I	46	0.1681	0.6820	1.2%	3.4%	3.6%	5.2%	4.5%
MP5	I	47	0.1682	0.7137	1.2%	3.5%	3.7%	5.5%	4.7%
MP5	I	48	0.1693	0.7013	1.2%	3.4%	3.6%	5.4%	4.6%
MP5	I	49	0.1365	0.6142	1.0%	3.0%	3.2%	4.7%	4.0%
MP5	I	50	0.1337	0.6167	1.0%	3.0%	3.2%	4.7%	4.0%
MP5	I	51	0.1589	0.7159	1.2%	3.5%	3.7%	5.5%	4.7%

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Standoff Arm Flange Connection Check			Date
			4/7/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T-Mobile	Mount Elev. [ft]:	
Site Name:		Engineer Name:	S. Bhujel
Site Number:		Project #:	

Results Summary Table (Continued)

Member Label	Member End	Load Combo #	Max Bolt Shear [K]	Max Bolt Tension [K]	Bolt Shear Check	Bolt Tension Check	Bolt Interaction Check	Plate Bending Check	Weld Check
MP5	I	52	0.1410	0.6476	1.0%	3.2%	3.3%	5.0%	4.2%
MP5	I	53	0.1421	0.6151	1.0%	3.0%	3.2%	4.7%	4.0%
MP5	I	54	0.1432	0.5932	1.0%	2.9%	3.1%	4.6%	3.9%
MP5	I	55	0.1455	0.6203	1.1%	3.0%	3.1%	4.8%	3.8%
MP5	I	56	0.1492	0.6496	1.1%	3.2%	3.2%	5.0%	3.8%
MP5	I	57	0.1507	0.6742	1.1%	3.3%	3.4%	5.2%	3.9%
MP5	I	58	0.1481	0.6866	1.1%	3.4%	3.4%	5.3%	4.0%
MP5	I	59	0.1431	0.6832	1.0%	3.4%	3.4%	5.2%	4.2%
MP5	I	60	0.1386	0.6812	1.0%	3.3%	3.5%	5.2%	4.4%
MP5	I	61	0.1378	0.6970	1.0%	3.4%	3.6%	5.4%	4.5%
MP5	I	62	0.1385	0.6946	1.0%	3.4%	3.5%	5.3%	4.5%
MP5	I	63	0.1395	0.6769	1.0%	3.3%	3.5%	5.2%	4.4%
MP5	I	64	0.0976	0.4550	0.7%	2.2%	2.3%	3.5%	3.0%
MP5	I	65	0.0993	0.4225	0.7%	2.1%	2.2%	3.2%	2.8%
MP5	I	66	0.1003	0.4016	0.7%	2.0%	2.1%	3.1%	2.6%
MP5	I	67	0.1034	0.4287	0.7%	2.1%	2.1%	3.3%	2.5%
MP5	I	68	0.1072	0.4580	0.8%	2.3%	2.3%	3.5%	2.5%
MP5	I	69	0.1082	0.4816	0.8%	2.4%	2.4%	3.7%	2.6%
MP5	I	70	0.1062	0.4950	0.8%	2.4%	2.5%	3.8%	2.8%
MP5	I	71	0.1012	0.4916	0.7%	2.4%	2.4%	3.8%	3.0%
MP5	I	72	0.0958	0.4876	0.7%	2.4%	2.5%	3.7%	3.1%
MP5	I	73	0.0951	0.5024	0.7%	2.5%	2.6%	3.9%	3.2%
MP5	I	74	0.0958	0.5010	0.7%	2.5%	2.5%	3.8%	3.3%
MP5	I	75	0.0969	0.4833	0.7%	2.4%	2.5%	3.7%	3.2%
MP5A	I	1	0.4660	1.2639	3.4%	6.2%	6.9%	9.7%	6.6%
MP5A	I	2	0.5816	2.2876	4.2%	11.2%	11.9%	17.6%	11.9%
MP5A	I	3	0.4880	2.1326	3.5%	10.5%	11.0%	16.4%	11.4%
MP5A	I	4	0.2973	1.8244	2.2%	9.0%	9.2%	14.0%	9.8%
MP5A	I	5	0.1143	1.9493	0.8%	9.6%	9.6%	15.0%	10.8%
MP5A	I	6	0.1295	1.4904	0.9%	7.3%	7.4%	11.4%	8.2%
MP5A	I	7	0.4072	2.1149	2.9%	10.4%	10.8%	16.2%	13.8%
MP5A	I	8	0.5596	2.1532	4.1%	10.6%	11.2%	16.5%	14.7%
MP5A	I	9	0.4975	1.1080	3.6%	5.4%	6.3%	8.5%	10.9%
MP5A	I	10	0.3387	0.2468	2.5%	1.2%	2.5%	1.9%	9.3%
MP5A	I	11	0.1816	0.1501	1.3%	0.7%	1.3%	1.2%	10.3%
MP5A	I	12	0.2422	0.0000	1.8%	0.0%	1.8%	0.0%	7.0%
MP5A	I	13	0.2489	1.4923	1.8%	7.3%	7.4%	11.5%	5.7%
MP5A	I	14	0.2651	1.7425	1.9%	8.6%	8.7%	13.4%	5.4%
MP5A	I	15	0.2440	1.7124	1.8%	8.4%	8.5%	13.1%	6.9%
MP5A	I	16	0.2059	1.6211	1.5%	8.0%	8.0%	12.4%	8.2%
MP5A	I	17	0.1713	1.6395	1.2%	8.1%	8.1%	12.6%	8.3%
MP5A	I	18	0.1498	1.5457	1.1%	7.6%	7.6%	11.9%	8.7%

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Standoff Arm Flange Connection Check			Date
			4/7/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T-Mobile	Mount Elev. [ft]:	
Site Name:		Engineer Name:	S. Bhujel
Site Number:		Project #:	

Results Summary Table (Continued)

Member Label	Member End	Load Combo #	Max Bolt Shear [K]	Max Bolt Tension [K]	Bolt Shear Check	Bolt Tension Check	Bolt Interaction Check	Plate Bending Check	Weld Check
MP5A	I	19	0.1497	1.5572	1.1%	7.7%	7.7%	12.0%	9.9%
MP5A	I	20	0.1577	1.5863	1.1%	7.8%	7.9%	12.2%	10.2%
MP5A	I	21	0.1630	1.3481	1.2%	6.6%	6.7%	10.4%	8.7%
MP5A	I	22	0.1741	1.1302	1.3%	5.6%	5.7%	8.7%	7.4%
MP5A	I	23	0.1910	1.1017	1.4%	5.4%	5.6%	8.5%	7.2%
MP5A	I	24	0.2156	1.1696	1.6%	5.8%	5.8%	9.0%	6.9%
MP5A	I	25	0.0814	0.7079	0.6%	3.5%	3.5%	5.4%	3.4%
MP5A	I	26	0.0776	0.7668	0.6%	3.8%	3.8%	5.9%	3.3%
MP5A	I	27	0.0759	0.7583	0.5%	3.7%	3.8%	5.8%	3.7%
MP5A	I	28	0.0764	0.7403	0.6%	3.6%	3.7%	5.7%	4.0%
MP5A	I	29	0.0798	0.7477	0.6%	3.7%	3.7%	5.7%	4.1%
MP5A	I	30	0.0865	0.7212	0.6%	3.5%	3.6%	5.5%	4.2%
MP5A	I	31	0.0970	0.7033	0.7%	3.5%	3.5%	5.4%	4.5%
MP5A	I	32	0.1038	0.7053	0.8%	3.5%	3.5%	5.4%	4.6%
MP5A	I	33	0.1029	0.6450	0.7%	3.2%	3.2%	5.0%	4.2%
MP5A	I	34	0.0982	0.6071	0.7%	3.0%	3.1%	4.7%	3.9%
MP5A	I	35	0.0928	0.5997	0.7%	2.9%	3.0%	4.6%	3.8%
MP5A	I	36	0.0865	0.6252	0.6%	3.1%	3.1%	4.8%	3.7%
MP5A	I	37	0.1375	0.9433	1.0%	4.6%	4.7%	7.2%	4.5%
MP5A	I	38	0.1404	1.0031	1.0%	4.9%	5.0%	7.7%	4.7%
MP5A	I	39	0.1395	0.9936	1.0%	4.9%	4.9%	7.6%	4.8%
MP5A	I	40	0.1394	0.9756	1.0%	4.8%	4.9%	7.5%	5.1%
MP5A	I	41	0.1421	0.9830	1.0%	4.8%	4.9%	7.5%	5.2%
MP5A	I	42	0.1445	0.9565	1.0%	4.7%	4.8%	7.3%	5.3%
MP5A	I	43	0.1569	0.9067	1.1%	4.5%	4.6%	7.0%	5.6%
MP5A	I	44	0.1623	0.9087	1.2%	4.5%	4.6%	7.0%	5.7%
MP5A	I	45	0.1570	0.8484	1.1%	4.2%	4.3%	6.5%	5.3%
MP5A	I	46	0.1485	0.8424	1.1%	4.1%	4.3%	6.5%	5.0%
MP5A	I	47	0.1393	0.8351	1.0%	4.1%	4.2%	6.4%	4.9%
MP5A	I	48	0.1371	0.8615	1.0%	4.2%	4.3%	6.6%	4.8%
MP5A	I	49	0.0733	0.6645	0.5%	3.3%	3.3%	5.1%	3.9%
MP5A	I	50	0.0761	0.6661	0.6%	3.3%	3.3%	5.1%	3.9%
MP5A	I	51	0.0855	0.7746	0.6%	3.8%	3.8%	5.9%	4.5%
MP5A	I	52	0.0853	0.7114	0.6%	3.5%	3.5%	5.5%	3.6%
MP5A	I	53	0.0857	0.7413	0.6%	3.6%	3.7%	5.7%	3.6%
MP5A	I	54	0.0831	0.7551	0.6%	3.7%	3.7%	5.8%	3.8%
MP5A	I	55	0.0781	0.7500	0.6%	3.7%	3.7%	5.8%	4.0%
MP5A	I	56	0.0729	0.7293	0.5%	3.6%	3.6%	5.6%	4.2%
MP5A	I	57	0.0707	0.6953	0.5%	3.4%	3.4%	5.3%	4.4%
MP5A	I	58	0.0706	0.6947	0.5%	3.4%	3.5%	5.3%	4.4%
MP5A	I	59	0.0713	0.6797	0.5%	3.3%	3.4%	5.2%	4.3%
MP5A	I	60	0.0731	0.6520	0.5%	3.2%	3.2%	5.0%	4.2%

TES
A CONGRUEX COMPANY

Standoff Arm Flange Connection Check			Date
			4/7/2023
Customer:	SBA	TIA Standard:	ANSI/TIA-222-H
Carrier:	T-Mobile	Mount Elev. [ft]:	
Site Name:		Engineer Name:	S. Bhujel
Site Number:		Project #:	

Results Summary Table (Continued)

Member Label	Member End	Load Combo #	Max Bolt Shear [K]	Max Bolt Tension [K]	Bolt Shear Check	Bolt Tension Check	Bolt Interaction Check	Plate Bending Check	Weld Check
MP5A	I	61	0.0756	0.6212	0.5%	3.1%	3.1%	4.8%	4.0%
MP5A	I	62	0.0779	0.6419	0.6%	3.2%	3.2%	4.9%	3.7%
MP5A	I	63	0.0821	0.6759	0.6%	3.3%	3.4%	5.2%	3.6%
MP5A	I	64	0.0628	0.5026	0.5%	2.5%	2.5%	3.9%	2.3%
MP5A	I	65	0.0634	0.5325	0.5%	2.6%	2.6%	4.1%	2.4%
MP5A	I	66	0.0606	0.5463	0.4%	2.7%	2.7%	4.2%	2.6%
MP5A	I	67	0.0553	0.5412	0.4%	2.7%	2.7%	4.2%	2.8%
MP5A	I	68	0.0498	0.5205	0.4%	2.6%	2.6%	4.0%	3.0%
MP5A	I	69	0.0477	0.4984	0.3%	2.5%	2.5%	3.8%	3.2%
MP5A	I	70	0.0477	0.5039	0.3%	2.5%	2.5%	3.9%	3.2%
MP5A	I	71	0.0485	0.4889	0.4%	2.4%	2.4%	3.8%	3.1%
MP5A	I	72	0.0502	0.4612	0.4%	2.3%	2.3%	3.5%	3.0%
MP5A	I	73	0.0526	0.4274	0.4%	2.1%	2.1%	3.3%	2.7%
MP5A	I	74	0.0548	0.4331	0.4%	2.1%	2.2%	3.3%	2.5%
MP5A	I	75	0.0591	0.4671	0.4%	2.3%	2.3%	3.6%	2.4%

ATTACHMENT 6

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

Calculated Radio Frequency Emissions Report

verizon

Pomfret South

62 Babbitt Hill Road, Pomfret, CT 06259

May 4, 2023

Table of Contents

List of Figures

List of Tables

1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed installation of Verizon's antenna arrays to be mounted at 125' AGL on an existing monopole located at 62 Babbitt Hill Road in Pomfret, CT. The coordinates of the monopole tower are 41° 52' 13.08" N, 71° 59' 17.52" W.

Verizon is proposing the following:

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

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

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

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

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

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

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

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

[1] As referenced to Verizon's Radio Frequency Design Sheet updated 4/26/2023.

[2] As referenced to Connecticut Siting Council Notice of Exempt Modification – 62 Babbitt Hill Road, Pomfret, Connecticut, dated 10/14/2020.

[3] As referenced to Connecticut Siting Council Notice of Exempt Modification – 62 Babbitt Hill Road, Pomfret, Connecticut, dated 10/14/2020.

[4] As referenced to Radio Frequency Emissions Analysis Report by Transcom Engineering, Inc, dated 9/6/2023.

3. RF Exposure Prediction Methods

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

$$\text{PowerDensity} = \left(\frac{EIRP}{\pi \times R^2}\right) \times \text{Off BeamLoss}$$

Where:

EIRP = Effective Isotropic Radiated Power

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

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor of 1.6

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

4. Antenna Inventory

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

Operator	Sector / Call Sign	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model	Beam Width	Mech. Tilt	Length (ft)	Antenna Centerline Height (ft)
Verizon	Alpha / 150°	700	160	14.5	4509	JAHH-65B-R3B	67	0	5.99	125
		850	160	15.8	6083		65			
		1900	160	18.4	11069		63			
		2100	240	18.5	16991		65			
		3700	200	25.5	70963	MT6407-77A	-	0	2.9	125
	Beta / 230°	700	160	14.5	4509	JAHH-65B-R3B	67	0	5.99	125
		850	160	15.8	6083		65			
		1900	160	18.4	11069		63			
		2100	240	18.5	16991		65			
		3700	200	25.5	70963	MT6407-77A	-	0	2.9	125
	Gamma / 330°	700	160	14.5	4509	JAHH-65B-R3B	67	0	5.99	125
		850	160	15.8	6083		65			
		1900	160	18.4	11069		63			
		2100	240	18.5	16991		65			
		3700	200	25.5	70963	MT6407-77A	-	0	2.9	125

Table 1: Proposed Antenna Inventory[5] [6]

[5] Antenna heights are in reference to Verizon's Radio Frequency Design Sheet updated 4/26/2023.

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

5. Calculation Results

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

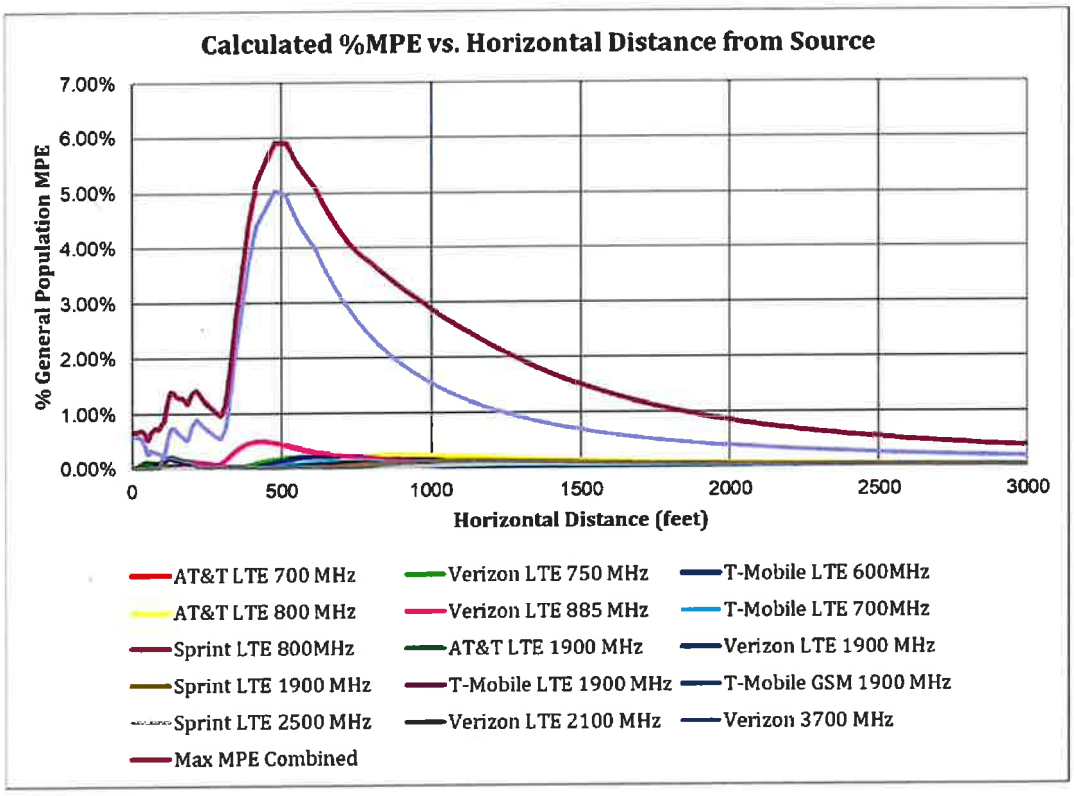


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (5.92% of the General Population limit) is calculated to occur at a horizontal distance of 478 feet from antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical pattern of the antennas used. Therefore, RF power density levels may increase as the distance from the site increases. At distances of approximately 1500 feet and beyond, one would now be in the main beam of the antenna pattern and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.

Table 2 below lists percent of MPE values as well as the associated parameters that were included in the calculations. The highest percent of MPE value was calculated to occur at a horizontal distance of 478 feet from the site (reference Figure 1).

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

Carrier	Number of Transmitters	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm^2)	Limit (mW/cm^2)	% MPE
AT&T LTE 1900 MHz	1	120.0	147.0	478	0.000077	1.000	0.01%
AT&T LTE 700 MHz	1	80.0	147.0	478	0.000035	0.467	0.01%
AT&T LTE 800 MHz	1	120.0	147.0	478	0.000083	0.533	0.02%
Sprint LTE 1900 MHz	1	180.0	157.0	478	0.000078	1.000	0.01%
Sprint LTE 2500 MHz	1	160.0	157.0	478	0.000183	1.000	0.02%
Sprint LTE 800MHz	1	100.0	157.0	478	0.000064	0.533	0.01%
T-Mobile GSM 1900 MHz	1	15.0	137.0	478	0.000011	1.000	0.00%
T-Mobile LTE 1900 MHz	1	160.0	137.0	478	0.000114	1.000	0.01%
T-Mobile LTE 600MHz	1	80.0	137.0	478	0.000408	0.400	0.10%
T-Mobile LTE 700MHz	1	40.0	137.0	478	0.000159	0.467	0.03%
Verizon 3700 MHz	1	200.0	125.0	478	0.050372	1.000	5.04%
Verizon LTE 1900 MHz	1	160.0	125.0	478	0.000196	1.000	0.02%
Verizon LTE 2100 MHz	1	240.0	125.0	478	0.000181	1.000	0.02%
Verizon LTE 750 MHz	1	160.0	125.0	478	0.000818	0.500	0.16%
Verizon LTE 885 MHz	1	160.0	125.0	478	0.002621	0.567	0.46%
						Total	**5.92%**

Table 2: Maximum Percent of General Population Exposure Values

6. Conclusion

The above analysis verifies that RF exposure levels from the site with Verizon's proposed antenna configuration will be well below the maximum permissible levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods and parameters detailed above, the maximum cumulative percent of MPE in consideration of all transmitters is calculated to be **5.92% of the FCC limit (General Population/Uncontrolled)**. This maximum cumulative percent of MPE value is calculated to occur 478 feet away from the site.

7. Statement of Certification

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

Report Prepared By: Ram Acharya
RF Engineer 1
C Squared Systems, LLC

May 3, 2023
Date

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

May 4, 2023
Date

Attachment A: References

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

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

Verizon's Radio Frequency Design Sheet updated 10/21/2022

AT&T's filing, Connecticut Siting Council Notice of Exempt Modification – Antenna Add - 62 Babbitt Hill Road (aka 1 Service Road) Pomfret, CT, dated 9/23/2022

As referenced to Dish Wireless LLC's filing, Connecticut Siting Council Tower Share Application – 62 Babbitt Hill Road, Pomfret, CT, dated 11/19/2021

T-Mobile's filing, Connecticut Siting Council Notice of Exempt Modification – 62 Babbitt Hill Road, Pomfret, CT, dated 10/1/2020

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

(A) Limits for Occupational/Controlled Exposure[7]

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

(B) Limits for General Population/Uncontrolled Exposure[8]

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

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

Table 3: FCC Limits for Maximum Permissible Exposure

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

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

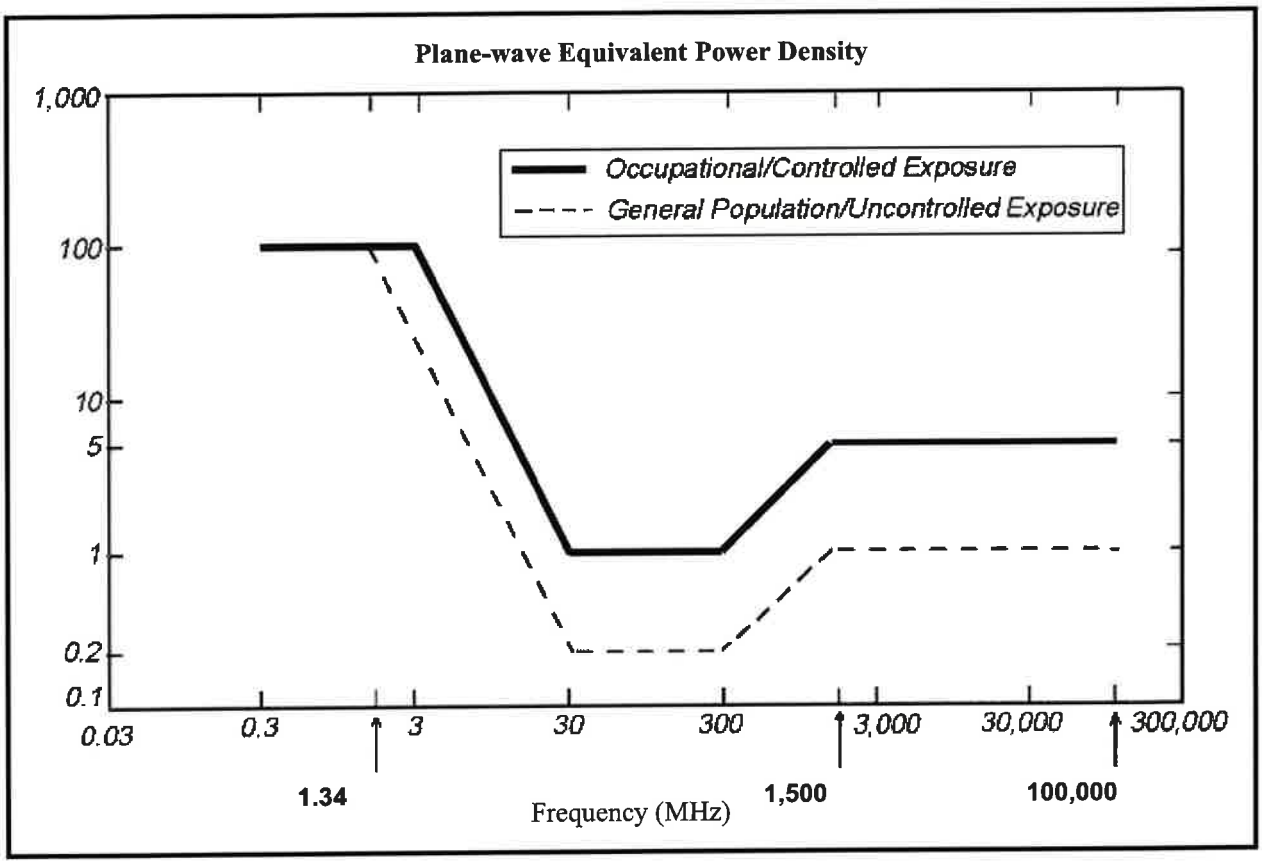
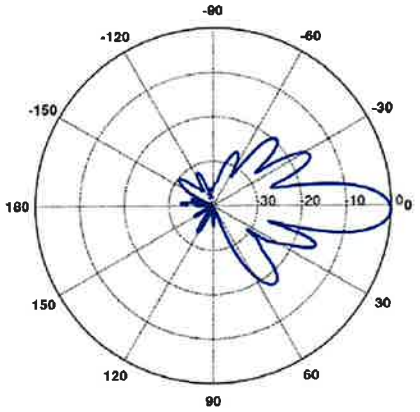


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

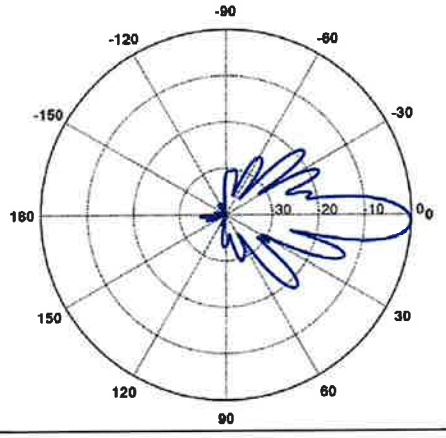
750 MHz

Manufacturer:	COMMSCOPE
Model #:	JAHH-65B-R3B
Frequency Band:	698-787 MHz
Gain:	14.5 dBi
Vertical Beamwidth:	12.4°
Horizontal Beamwidth:	67°
Polarization:	±45°
Dimensions (L x W x D):	71.9" x 13.78" x 8.18"



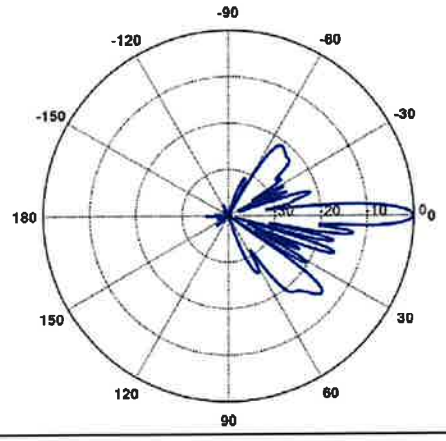
885 MHz

Manufacturer:	COMMSCOPE
Model #:	JAHH-65B-R3B
Frequency Band:	824-894 MHz
Gain:	15.8 dBi
Vertical Beamwidth:	10.5°
Horizontal Beamwidth:	65°
Polarization:	±45°
Dimensions (L x W x D):	71.9" x 13.78" x 8.18"



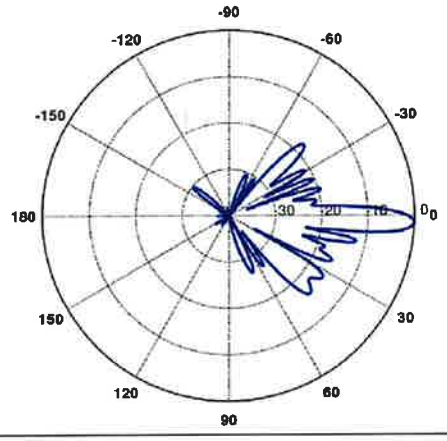
1900 MHz

Manufacturer:	COMMSCOPE
Model #:	JAHH-65B-R3B
Frequency Band:	1850-1990 MHz
Gain:	18.4 dBi
Vertical Beamwidth:	5.2°
Horizontal Beamwidth:	63°
Polarization:	±45°
Dimensions (L x W x D):	71.9" x 13.78" x 8.18"



2100 MHz

Manufacturer:	COMMSCOPE
Model #:	JAHH-65B-R3B
Frequency Band:	1920-2200 MHz
Gain:	18.5 dBi
Vertical Beamwidth:	4.9°
Horizontal Beamwidth:	65°
Polarization:	±45°
Dimensions (L x W x D):	71.9" x 13.78" x 8.18"



ATTACHMENT 7

Pomfret South

UNITED STATES POSTAL SERVICE®

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	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Maureen Nicolson, First Selectman Town of Pomfret 5 Haven Road Pomfret Center, CT 06259				
2.	James Rabbitt, Town Planner Town of Pomfret 5 Haven Road Pomfret Center, CT 06259		ANN STREET STATION MAY - 8 2023 06103 USPS		
3.	The Stoddard Family Trust C/O John Stoddard, Trustee 62 Babbitt Hill Road Pomfret, CT 06529				
4.	SBA Communications Corp. 8501 Congress Avenue Boca Raton, FL 33487				
5.					
6.					

See Reverse for Instructions