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Also admitted in Massachusetts
and New York

March 23, 2022

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

Re: **Notice of Exempt Modification – Facility Modification**
161 (a/k/a 219) Nells Rock Road, Shelton, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains an existing wireless telecommunications facility at the above-referenced property address (the "Property"). The facility consists of antennas and remote radio heads attached to a tower and associated equipment on the ground near the base of the tower. The tower was approved by the Siting Council in September of 1984 (Docket No. 45). Cellco's shared use of the tower was approved by the Siting Council ("Council") in July of 2009 (EM-VER-126-090612). A copy of the Docket No. 45 Decision and Order and the Council's EM-VER-126-090612 approval are included in Attachment 1.

Cellco now intends to modify its facility by removing six (6) existing antennas and installing three (3) new Samsung MT6407-77A antennas, six (6) new MX06FRO660-03 antennas, and three (3) new Samsung CBRS antennas on its existing antenna mounts. Cellco also intends to remove nine (9) remote radio heads ("RRHs") and install nine (9) new RRHs behind its antennas. A set of project plans showing Cellco's proposed facility modifications and the specifications for Cellco's new antennas and RRHs are included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Shelton's Chief Elected Official and Land Use Officer.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's new antennas will be installed on its existing antenna mounts.

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

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

4. The installation of Cellco's new antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density table for Cellco's modified facility is included in Attachment 3. The modified facility will be capable of providing Cellco's 5G wireless service.

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

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

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

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Mark A. Lauretti, Shelton Mayor
Alexander Rosetti, Planning and Zoning Administrator
New Cingular Wireless PCS LLC, Property Owner
Alex Tyurin, Verizon Wireless

ATTACHMENT 1

DOCKET NO. 45

AN APPLICATION SUBMITTED BY THE SOUTHERN NEW ENGLAND TELEPHONE COMPANY FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF FACILITIES TO PROVIDE CELLULAR SERVICE IN FAIRFIELD COUNTY.	:	CONNECTICUT SITING COUNCIL
	:	September 14, 1984

DECISION AND ORDER

Pursuant to the foregoing opinion, the Council hereby directs that a certificate of environmental compatibility and public need as required by section 16-50k of the General Statutes of Connecticut, revisions of 1958, revised to 1983, as amended, be issued to the Southern New England Telephone Company for the construction, operation, and maintenance of a telecommunications tower and associated equipment to provide cellular service at each of the following sites:

Kaechele Place, Bridgeport, Connecticut;
Connecticut Avenue, Norwalk, Connecticut;
Nells Rock Road, Shelton, Connecticut;
Newfield Avenue, Stamford, Connecticut; and
Bayberry Lane, (former Nike site), Westport, Connecticut.

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

1. The towers shall be no taller than necessary to provide the proposed service, and in no event shall exceed

   a) 167' at the Bridgeport site,
   b) 167' at the Norwalk site,
   c) 189.5' at the Shelton site,
   d) 167' at the Stamford site,
   e) 117' at the Westport site;

2. A fence not lower than eight feet shall surround each tower and its associated equipment;

3. The applicant or its successor shall notify the Council if and when directional antennas or any other equipment is added to any of these facilities;

4. The applicant or its successor shall permit, in accordance with representations made by it during the proceeding, public or private entities to share space on the facilities, for due consideration received, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing;
5. Unless necessary to comply with condition number six, below, no lights shall be installed on any of these towers;
6. The facilities shall be constructed in accordance with all applicable federal, state, and municipal laws and regulations;
7. The applicant shall submit a development and management plan (D&M) for the Bridgeport, Stamford, and Westport sites pursuant to sections 16-50j-85 through 16-50j-87 of the regulations of state agencies, except that irrelevant items in section 16-50j-86 need only be identified as such. The D&M plans shall include appropriate evergreen screening of the sites, erosion control measures, reseeding plans, and tree removal plans. The applicant shall consult with the Stamford Environmental Protection Board in the preparation of a drainage and erosion control plan for the Stamford tower. The applicant shall comply with the reporting requirements of section 16-50j-87 for all sites;
8. Construction activities shall take place during daylight working hours;
9. This decision and order shall be void and the towers and associated equipment approved herein shall be dismantled and

removed, or reapplication for any new use shall be made to the Connecticut Siting Council before any such new use is made, if the towers do not provide or permanently cease to provide cellular service following completion of construction;

10. This decision and order shall be void if all construction authorized is not completed within three years of the issuance of this decision.

Pursuant to section 16-50p of the General Statutes, we hereby direct that a copy of the opinion and decision and order be served on each person listed below. A notice of the issuance shall be published in the Bridgeport Post, the Norwalk Hour, the Stamford Advocate, and the Shelton Suburban News, and the Westport News.

The parties to this proceeding are

The Southern New England Telephone Company Room 314 227 Church Street New Haven, Connecticut 06506	(Applicant)
Attention: Mr. Peter J. Tyrrell Senior Attorney	(its attorney)
Rolnick Observatory 52 Sawyer Road Fairfield, Connecticut	represented by: Frederick H. Bump Director
Mr. Adam Norton 40 Highland Road Westport, Connecticut 06880	
Representative John Wayne Fox 13 Apple Tree Drive Stamford, Connecticut 06906	(service waived)
Mr. George C. Lenfest 4 Highland Road Westport, Connecticut	

Mr. William Seiden
First Selectman
Town of Westport
110 Myrtle Avenue
P.O. Box 549
Westport, Connecticut 06881

Mr. Arthur L. Schimel
174 Bayberry Lane
Westport, Connecticut

Mr. Seymour Bendremer
11 Apache Trail
Westport, Connecticut

Ms. Gladys Floch
32 Woody Lane
Westport, Connecticut

Ms. Helen S. Cohen (service waived)
15 Highland Road
Westport, Connecticut

Mr. Jack Braverman
226 Bayberry Lane
Westport, Connecticut

Mr. Kevin Gavin (service waived)
191 Bayberry Lane
Westport, Connecticut

Mr. A.B. Beiser
12 Highland Road
Westport, Connecticut

Mr. Edward V. Polusky (service waived)
4 Hooper Road
Westport, Connecticut

Ms. Lois Schine represented by:

Mary D. Mix, Esquire
830 Post Road - East
Suite 100
Westport, Connecticut 06880

Mr. Allen Witt
3 Apache Trail
Westport, Connecticut

Ms. Gayle Shiller (service waived)
5 Apache Trail
Westport, Connecticut

Mrs. Ronnie Hammer
3 Hooper Road
Westport, Connecticut

Mr. Paul Rosenblatt (service waived)
7 Apache Trail
Westport, Connecticut

Mr. Henry J. Wolfson (service waived)
179 Bayberry Lane
Westport, Connecticut

Mr. Melvin H. Barr (service waived)
Planning Director
Town of Westport
110 Myrtle Avenue
P.O. Box 549
Westport, Connecticut 06881

Mr. Mark Infeld (service waived)
6 Apache Trail
Westport, Connecticut

Ms. Barbara Saipe (service waived)
Representative Town
Meeting Member
District #8
Town Hall
P.O. Box 549
Westport, Connecticut 06881

Ms. Peggy Goldenberg (service waived)
201 Bayberry Lane
Westport, Connecticut

Ms. Martha Hauhuth (service waived)
Board of Selectman
Town Hall
P.O. Box 549
Westport, Connecticut 06881

Ms. Meg Coffee
32 Otter Trail
Westport, Connecticut (service waived)

CERTIFICATION

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut, this 14th day of September, 1984.

Council Members	Vote Cast
Gloria Dibble Pond Chairperson	Yes
Commissioner John Downey Designee: Commissioner Peter G. Boucher	Absent
Commissioner Stanley Pac	Absent
Owen L. Clark	Yes
Fred J. Doocy	Yes
Mortimer A. Gelston	Yes
James G. Horsfall	Yes
Janet Sitty	Yes
Colin C. Tait	Absent

STATE OF CONNECTICUT)
: ss. New Britain, September 14, 1984
COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the decision and order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

Christopher S. Wood

Christopher S. Wood, Executive Director
Connecticut Siting Council

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

Internet: ct.gov/csc

Daniel F. Caruso
Chairman

July 20, 2009

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

RE: **EM-VER-126-090612** – Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 219 Nell's Rock Road, Shelton, Connecticut.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- The 18 vertical runs of 2.25 inch dia. coaxial cable associated with Verizon Wireless' panel antennas shall be stacked in two rows with one row of nine cables directly in front of the second row of nine cables. The vertical cables must be installed on leg mounted brackets instead of on a cable ladder;
- The proposed Verizon Wireless antennas and transmission lines shall be installed in accordance with the structural analysis report dated June 6, 2009 and sealed by James Boltz, P.E.; and
- Not more than 45 days after completion of construction, the Council shall be notified in writing that the antennas and coax cables were installed as specified.

The proposed modifications are to be implemented as specified here and in your notice dated June 12, 2009, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such

notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S/ Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable Mark A. Lauretti, Mayor, City of Shelton
Richard Schultz, Planning Administrator, City of Shelton
Christopher B. Fisher, Esq., Cuddy & Feder LLP

ATTACHMENT 2

verizon

WIRELESS COMMUNICATIONS FACILITY

SHELTON NORTH 2 CT
219 NELLS ROCK ROAD
SHELTON, CT 06484

DRAWING INDEX

SITE DIRECTIONS

START: 20 ALEXANDER DRIVE
WALLINGFORD, CONNECTICUT 06492

END: 219 NELLS ROCK ROAD
SHELTON, CT 06484

1.	HEAD SOUTH TOWARD ALEXANDER DRIVE	279 FT
2.	SLIGHT RIGHT TOWARDS ALEXANDER DRIVE	289 FT
3.	TURN RIGHT TOWARD ALEXANDER DRIVE	167 FT
4.	TURN RIGHT ONTO ALEXANDER DRIVE	0.3 MI
5.	TURN RIGHT ONTO BARNES INDUSTRIAL ROAD PARK ROAD	0.1 MI
6.	TURN LEFT AT THE 1ST CROSS STREET ONTO CT-68W	0.2 MI
7.	TURN RIGHT	0.2 MI
8.	TURN RIGHT ONTO US-5 N/N COLONY RD	0.4 MI
9.	TURN LEFT TO MERGE ONTO CT-15 S TOWARD NEW HAVEN	0.3 MI
10.	MERGE ONTO CT-15 S	0.5 MI
11.	TAKE EXIT 58 TO MERGE CT-34 W/DERBY AVE/DERBY TURNPIKE TOWARD DERBY	0.2 MI
12.	MERGE ONTO CT-34/ W/DERBY TURNPIKE	0.8 MI
13.	USE THE LEFT 2 LANES TO TURN LEFT ONTO MAIN STREET	0.2 MI
14.	USE THE LEFT 2 LANES TO TURN LEFT TO MERGE ONTO CT-8 S TOWARD BRIDGEPORT	0.2 MI
15.	MERGE ONTO CT-8 S	1.1 MI
16.	TAKE EXIT 13 FOR BRIDGEPORT AVE	0.3 MI
17.	TURN LEFT ONTO BRIDGEPORT AVE	0.6 MI
18.	TURN RIGHT ONTO NELLS ROCK ROAD (DESTINATION ON THE RIGHT)	1.2 MI

LOCATION MAP
SCALE : 1" = 1000'-0"

SITE INFORMATION

VZ SITE NAME: SHELTON NORTH 2 CT
VZ PROJ FUZE I.D.: 16244648
VZ LOCATION CODE: 20212261320
VZ PROJECT CODE: 467793

LOCATION: 219 NELLS ROCK ROAD
SHELTON, CT 06484

PROJECT SCOPE: REFER TO NOTE SHEET C-1 FOR SCOPE OF WORK.

MAP/BLOCK/LOT: 90/2/

ZONING DISTRICT: R-1 (RESIDENCE R-1 DISTRICT)

LATITUDE: 41° 18' 15.1128" N (41.304198° N)

LONGITUDE: 73° 07' 05.9268" W (73.118313° W)

SITE COORDINATES AND GROUND ELEVATION OBTAINED FROM VERIZON RFDS & GOOGLE EARTH.

GROUND ELEVATION: 460'± AMSL

PROPERTY OWNER: NEW CINGULAR WIRELESS PCS LLC
1010 PINE
ST LOUIS MO. 63101

APPLICANT: CELLCO PARTNERSHIP
d/b/a VERIZON WIRELESS
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

LEGAL/REGULATORY COUNSEL: ROBINSON & COLE, LLP
KENNETH C. BALDWIN, ESQ.
280 TRUMBULL STREET
HARTFORD, CT 06103

ENGINEER CONTACT: ALL-POINTS TECHNOLOGY CORP., P.C.
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385
(860) 663-1697

VERIZON SMART TOOL PROJECT # 10071773

Cellco Partnership d/b/a
verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CONSTRUCTION DOCUMENTS

NO	DATE	REVISION
0	11/18/21	FOR REVIEW: JRM
1	03/02/22	FOR FILING: JRM
2		
3		
4		
5		
6		

STATE OF CONNECTICUT
MICHAEL TRODDEN
33313
LICENSED
PROFESSIONAL ENGINEER

DESIGN PROFESSIONALS OF RECORD

PROF: MICHAEL S. TRODDEN P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXT. SUITE 311 WATERFORD, CT 06385

OWNER: NEW CINGULAR WIRELESS PCS LLC
ADDRESS: 1010 PINE ST LOUIS MO. 63101

SHELTON NORTH 2 CT

SITE ADDRESS: 219 NELLS ROCK ROAD SHELTON, CT 06484

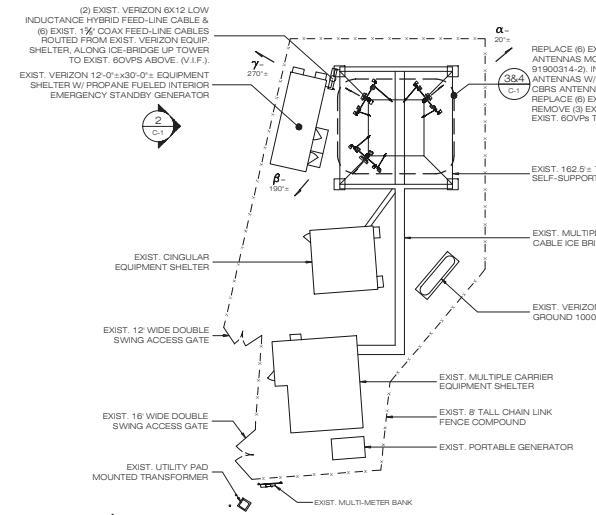
APT FILING NUMBER: CT141_13050

DRAWN BY: DRA
DATE: 11/18/21 CHECKED BY: JRM

VZ PROJECT CODE: 20212261320
VZ LOCATION CODE: 467793
VZ FUZE ID: 16244648

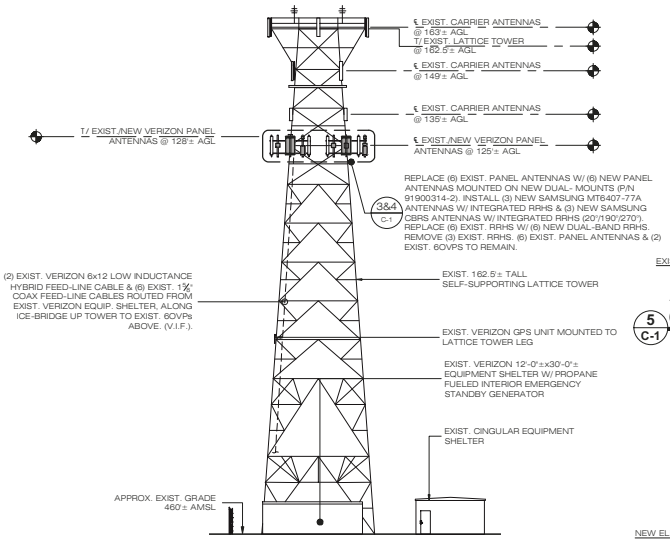
SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T-1



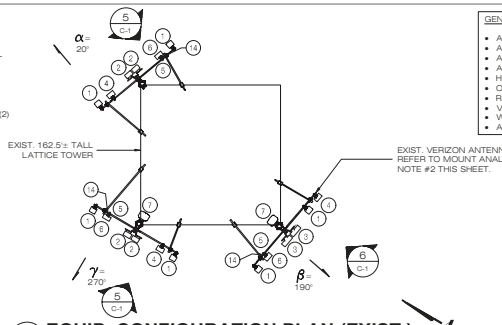
1 C-1 COMPOUND PLAN
SCALE : 1" = 15'-0"

(IN FEET) 1 inch = 15ft.

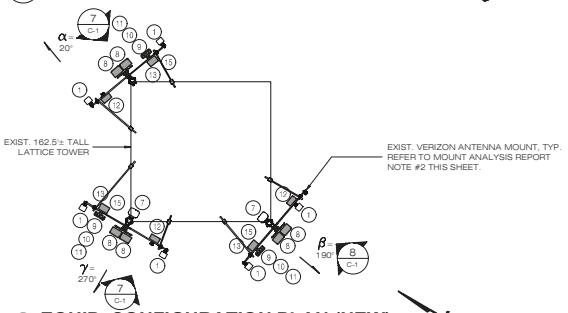


2 C-1 WEST TOWER ELEVATION
SCALE : 1" = 20'-0"

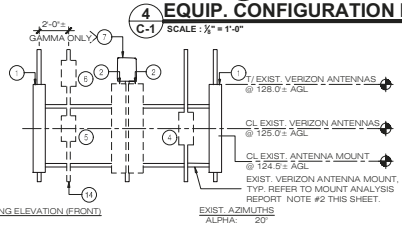
(IN FEET) 1 inch = 20ft.



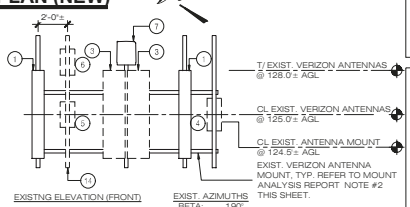
3 C-1 EQUIP. CONFIGURATION PLAN (EXIST.)
SCALE : ⅛" = 1'-0"



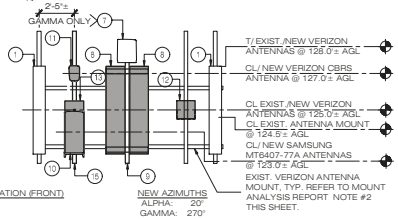
4 C-1 EQUIP. CONFIGURATION PLAN (NEW)
SCALE : ⅛" = 1'-0"



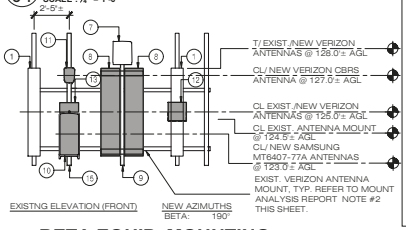
5 C-1 ALPHA/GAMMA EQUIP. MOUNTING CONFIG. (EXIST.)
SCALE : ½" = 1'-0"



6 C-1 BETA EQUIP. MOUNTING CONFIG. (EXIST.)
SCALE : ½" = 1'-0"



7 C-1 ALPHA/GAMMA EQUIP. MOUNTING CONFIG. (NEW)
SCALE : ¼" = 1'-0"



8 C-1 BETA EQUIP. MOUNTING CONFIG. (NEW)
SCALE : ½" = 1'-0"

GENERAL ABBREVIATION LIST:

- ABP ABOVE BASE PLATE
- AGL ABOVE GROUND LEVEL
- AMSL ABOVE MEAN SEA LEVEL
- AWS ADVANCED WIRELESS SERVICE
- HDG HOT DIP GALVANIZED
- OVP OVER VOLTAGE PROTECTION
- RRH REMOTE RADIO HEAD
- V.I.F. VERIFY IN FIELD
- W.P. WORK POINT
- A.F.R. ABOVE FINISH ROOF

NOTES:

1. REFER TO TOWER STRUCTURAL ANALYSIS REPORT BY GPD ENGINEERING AND ARCHITECTURE PROFESSIONAL CORPORATION. GPD#2022723.01.SNET025.13 DATED 02/25/22 AVAILABLE UNDER SEPARATE COVER.
2. REFER TO MOUNT ANALYSIS REPORT PREPARED BY MASER CONSULTING, CONNECTICUT, PROJECT #21781010A MARKED REV0, DATED 10/04/21 AVAILABLE UNDER SEPARATE COVER.
3. BASE MAPPING FROM FIELD MEASUREMENTS TAKEN BY ALL-POINTS TECH. CORP., P.C. ON 10/21/21.
4. PROJECT SCOPE INCLUDES THE FOLLOWING:
   - REPLACEMENT OF (6) EXIST. PANEL ANTENNAS w/ (6) NEW PANEL ANTENNAS MOUNTED ON NEW DUAL-MOUNTS (P/N 91900314-2).
   - INSTALLATION OF (3) NEW SAMSUNG MT6407-77A ANTENNAS w/ INTEGRATED RRHs & (3) NEW SAMSUNG CBRS ANTENNAS w/ INTEGRATED RRHs.
   - REPLACEMENT OF (6) EXIST. RRHs w/ (6) NEW DUAL-BAND RRHs.
   - REMOVAL OF (3) EXIST. RRHs
   - (6) EXIST. 1⅝"Ø COAX FEED-LINE CABLES TO REMAIN
5. ALL EXPOSED STEEL AND HARDWARE TO BE HOT DIP GALV. (HDG). PAINT TO MATCH EXIST. (WHERE APPLICABLE)
6. CAP & WEATHERPROOF ALL UN-USED CABLE ENTRY PORTS (WHERE APPLICABLE).
7. MOUNT & GROUND ALL NEW EQUIPMENT IN ACCORDANCE WITH NEC (NFPA-70), NESC AND MANUFACTURERS SPECIFICATION.
8. SECURE ALL NEW ANTENNA CABLES PER MANUFACTURER RECOMMENDATIONS.
9. BOND NEW ANTENNA MOUNTING PIPES TO ANTENNA SECTOR GROUND BAR w/ # 2 AWG, BCW, (WHERE APPLICABLE).
10. CONTRACTOR SHALL INSTALL NEW SIDE-BY-SIDE & DUAL-MOUNT BRACKETS PER ANTENNA MOUNT MANUFACTURER RECOMMENDATIONS, INCLUDING VERIFICATION OF MINIMUM PIPE MAST DIAMETER REQUIRED TO INSTALL NEW MOUNT BRACKETS. UNLESS NOTED OTHERWISE, CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD SHOULD EXIST. PIPE MASTS REQUIRE REPLACEMENT TO SUPPORT THE NEW MOUNT BRACKETS.
11. ANTENNA CONFIGURATIONS SHOWN HEREIN ARE FRONT ELEVATIONS (UNLESS NOTED OTHERWISE).
12. ANTENNA SPACING DIMENSIONS ARE TO THE CENTER OF THE EXIST. ANTENNA AND PROP. ANTENNA FACE.
13. REFER TO THE FINAL RFDS PROVIDED BY VERIZON FOR THE LATEST INFORMATION REGARDING EQUIPMENT MODELS, REQUIRED CABLING & DOWN-TILT INFORMATION.
14. PAINT ALL LSUB6 ANTENNAS TO MATCH EXISTING STRUCTURE (WHERE APPLICABLE). COORDINATE W/ LSUB6 MANUFACTURER INSTALLATION MANUAL REQUIREMENTS, VERIZON CONSTRUCTION MANAGER & OWNER.
14. PAINT ALL NEW NON SAMSUNG MT6407-77A ANTENNAS & APPURTENANCES TO MATCH EXIST. STRUCTURE (WHERE APPLICABLE) COORDINATE W/ VERIZON CONSTRUCTION MANAGER & BUILDING OWNER.

SCOPE OF WORK (ALL) SECTORS

1. EXIST. ANTENNA (TO REMAIN) MODEL: ANDREW DB846F65ZAAXY
2. EXIST. ANTENNA (TO BE REPLACED) MODEL: ANDREW SBNHH-1D65B
3. EXIST. ANTENNA (TO BE REPLACED) MODEL: ANDREW SBNHH-1D45B
4. EXIST. RRH (TO BE REPLACED) MODEL: NOKIA B66A RRH 4x45 AWS
5. EXIST. RRH (TO BE REPLACED) MODEL: NOKIA B13 RRH 4x30 700
6. EXIST. RRH (TO BE REMOVED) MODEL: NOKIA B25 RRH 4x30 PCS
7. EXIST. 6 OVP (TO REMAIN) (MOUNTED TO TOWER LEG) MODEL: RAYCAP RHSDC-3315-PF-48 (V.I.F.)
8. EXIST. ANTENNA MODEL: JMA MX06FRO660-03 MOUNTED ON NEW JMA DUAL MOUNT (P/N 91900314-2)
9. NEW P2.5 STD (O.D. = 2.875') x9' LG. ANTENNA PIPE MAST. (GALV).
10. NEW ANTENNA MODEL: SAMSUNG MT6407-77A w/ INTEGRATED RRH
11. NEW CBRS ANTENNA w/ INTEGRAL RRH MODEL: SAMSUNG XXDWMM-12.5-65-8T-CBRS MODEL: SAMSUNG RT4401-48A
12. NEW DUAL BAND RRH MODEL: SAMSUNG B13/B5 RRH (RF4440d-13A)
13. NEW DUAL BAND RRH MODEL: SAMSUNG B66/B2A RRH (RF4439d-25A)
14. EXIST. PIPE MAST TO BE RELOCATED TO ACCOMMODATE NEW LSUB ANTENNA CLEARANCES
15. RELOCATED EXIST. PIPE MAST

Cellco Partnership d/b/a verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CONSTRUCTION DOCUMENTS

NO	DATE	REVISION
0	11/18/21	FOR REVIEW: JRM
1	03/02/22	FOR FILING: JRM
2		
3		
4		
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: MICHAEL S. TRODDEN P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXT. SUITE 311 WATERFORD, CT 06385

OWNER: NEW CINGULAR WIRELESS PCS LLC
ADDRESS: 1010 PINE ST LOUIS MO. 63101

SHELTON NORTH 2 CT

SITE ADDRESS: 219 NELLS ROCK ROAD SHELTON, CT 06484

APT FILING NUMBER: CT141_13050

DRAWN BY: DRA
DATE: 11/18/21 CHECKED BY: JRM

VZ PROJECT CODE: 20212261320
VZ LOCATION CODE: 467793
VZ FUZE ID: 16244648

SHEET TITLE:
COMPOUND PLAN, WEST TOWER ELEVATION, EQUIP. PLANS, ELEVATIONS & NOTES

SHEET NUMBER:
C-1

EQUIPMENT DATA

EQUIPMENT SPECIFICATIONS

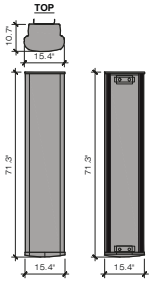
SECTOR	ANTENNA MAKE/MODEL	QTY	AZIMUTH	EQUIPMENT STATUS	HEIGHT (IN)	WIDTH (IN)	DEPTH (IN)	WEIGHT (LBS)
ALPHA	850: ANDREW DB846F65ZAXY	1	20°	ETR	72.0	8.5	10.0	20.9 (2)
	700/850/1900/2100: JMA MX06FRO660-03	1	20°	NEW	71.3	15.4	10.7	60.0 (2)
	700/850/1900/2100: JMA MX06FRO660-03	1	20°	NEW	71.3	15.4	10.7	60.0 (2)
	SAMSUNG MT6407-77A	1	20°	NEW	35.1 (5)	16.1 (5)	5.51 (5)	87.1 (2)(5)
	SAMSUNG XXDWMM-12.5-65-8T-CBRS	1	20°	NEW	12.3	8.7	1.4	4.4 (2)
	850: ANDREW DB846F65ZAXY	1	20°	ETR	72.0	8.5	10.0	20.9 (2)
BETA	850: ANDREW DB846F65ZAXY	1	190°	ETR	72.0	8.5	10.0	20.9 (2)
	700/850/1900/2100: JMA MX06FRO660-03	1	190°	NEW	71.3	15.4	10.7	60.0 (2)
	700/850/1900/2100: JMA MX06FRO660-03	1	190°	NEW	71.3	15.4	10.7	60.0 (2)
	SAMSUNG MT6407-77A	1	190°	NEW	35.1 (5)	16.1 (5)	5.51 (5)	87.1 (2)(5)
	SAMSUNG XXDWMM-12.5-65-8T-CBRS	1	190°	NEW	12.3	8.7	1.4	4.4 (2)
	850: ANDREW DB846F65ZAXY	1	190°	ETR	72.0	8.5	10.0	20.9 (2)
GAMMA	850: ANDREW DB846F65ZAXY	1	270°	ETR	72.0	8.5	10.0	20.9 (2)
	700/850/1900/2100: JMA MX06FRO660-03	1	270°	NEW	71.3	15.4	10.7	60.0 (2)
	700/850/1900/2100: JMA MX06FRO660-03	1	270°	NEW	71.3	15.4	10.7	60.0 (2)
	SAMSUNG MT6407-77A	1	270°	NEW	35.1 (5)	16.1 (5)	5.51 (5)	87.1 (2)(5)
	SAMSUNG XXDWMM-12.5-65-8T-CBRS	1	270°	NEW	12.3	8.7	1.4	4.4 (2)
	850: ANDREW DB846F65ZAXY	1	270°	ETR	72.0	8.5	10.0	20.9 (2)
	APPURTENANCE MAKE/MODEL							
	SAMSUNG B2/B66A RRH (RF4439d-25A)	3	-	NEW	15.0	15.0	10.1	97.5
	SAMSUNG B5/B13 RRH (RF4440d-13A)	3	-	NEW	15.0	15.0	9.1	82.0
	RAYCAP RRFDC-3315-PF-48 (V.I.F.)	2	-	ETR	29.5	16.5	12.6	32.0

(1) 'ETR' DENOTES EXIST. TO REMAIN, 'ERL' DENOTES EXIST. TO BE RELOCATED
(2) WEIGHT WITHOUT MOUNTING BRACKET.
(3) ANTENNA DATA BASED ON LATEST VERIZON RFDS.
(4) EQUIPMENT CONFIGURATION AS VIEWED FROM BEHIND.
(5) NOT TO EXCEED

BILL OF MATERIALS

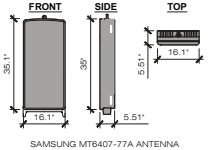
	EQUIPMENT DESCRIPTION	QUANTITY	LENGTH	COMMENTS
1	700/850/1900/2100	6		(JMA MX06FRO660-03) MOUNTED W/ NEW JMA DUAL MOUNT (P/N 91900314-2) & NEW PIPE MAST
2	LSUB6 ANTENNA w/ INTEGRATED RRH	3		SAMSUNG MT6407-77A
3	CBRS ANTENNA w/ INTEGRATED RRH	3		(SAMSUNG XXDWMM-12.5-65-8T-CBRS w/ RT4401-48A RRH) MOUNTED ON EXIST. PIPE MAST
4	1/2" JUMPER CABLE	36	15 FT	ROUTE FROM RRH TO ANTENNAS
5	CPRI CABLE	6	25 FT	ROUTE FROM UPPER OVP TO RRH
6	10 AWG x2 DC POWER CABLE	3	25 FT	PROPRIETARY POWER CABLE FROM UPPER OVP TO ANTENNA/RRH
7	ANTENNA LINK CABLES	6	15 M	ROUTE FROM UPPER OVP TO ANTENNAS
8	ANTENNA POWER CABLES	3	15 M	PROPRIETARY POWER CABLE FROM UPPER OVP TO ANTENNAS
9	AWS/PCS RRH	3		SAMSUNG B5/B13 RRH (RF4440d-13A) MOUNTED TO EXIST. PIPE MAST
10	700/850 RRH	3		SAMSUNG B2/B66 RRH (RF4439d-5A) MOUNTED TO EXIST. PIPE MAST
11	RRH CABLES	6	15M	PROPRIETARY POWER & FIBER CABLES

NOTES:
1. INFORMATION SHOWN HEREON IS FOR USE BY VERIZON EQUIPMENT OPERATIONS.
2. INFORMATION IS BASED ON LATEST VERIZON RFDS.
3. * DENOTES EQUIPMENT DESIGNATED "FOR LEASING ONLY" (WHERE APPLICABLE)
4. INSTALL ALARM BOARDS AT ALL OVPs WHERE REQUIRED. COORDINATE w/ VERIZON EQUIPMENT ENGINEERING.
5. INSTALL UP-CONVERTER(S) LOCATED AT BASE OVPs WHERE REQUIRED. COORDINATE w/ VERIZON EQUIPMENT ENGINEERING AS NECESSARY.
6. COORDINATE ANTENNA CABLING REQUIREMENTS WITH VERIZON ENGINEERING.
7. CONTRACTOR SHALL INSTALL NEW SIDE-BY-SIDE & DUAL-MOUNT BRACKETS PER ANTENNA MOUNT MANUFACTURER RECOMMENDATIONS, INCLUDING VERIFICATION OF MINIMUM PIPE MAST DIAMETER REQUIRED TO INSTALL NEW MOUNT BRACKETS. CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD SHOULD EXIST. PIPE MAST REQUIRE REPLACEMENT TO SUPPORT THE NEW MOUNT BRACKETS.



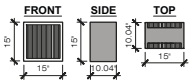
JMA MX06FRO660-03
X-POL ANTENNA
HxWxD=71.3"x15.4"x10.7" (60.0 Lbs)

2 NEW ANTENNA DETAIL
B-1 SCALE : ½" = 1'-0"

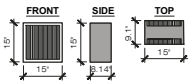


SAMSUNG MT6407-77A ANTENNA
HxWxD=35.1"x16.1"x5.51"
WT=87.1 Lbs
(NOT TO EXCEED)

3 NEW ANTENNA DETAIL
B-1 SCALE : ½" = 1'-0"



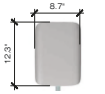
SAMSUNG DUAL HIGH BAND B2/B66A
(RF4439d-25A) RRH PCS/AWS
REMOTE RADIO HEAD (RRH)
WxDxH=15.0"x15.0"x10.1" (97.5 Lbs)



SAMSUNG DUAL LOW BAND B5/B13
(RF4440d-13A) RRH 850/700
REMOTE RADIO HEAD (RRH)
WxDxH=15.0"x15.0"x9.1" (82.0 Lbs)

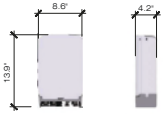
NOTE: WEIGHTS INCLUDE SOLAR SHEILD & MOUNTING BRACKET

4 RRH EQUIPMENT DETAILS
B-1 SCALE : ½" = 1'-0"



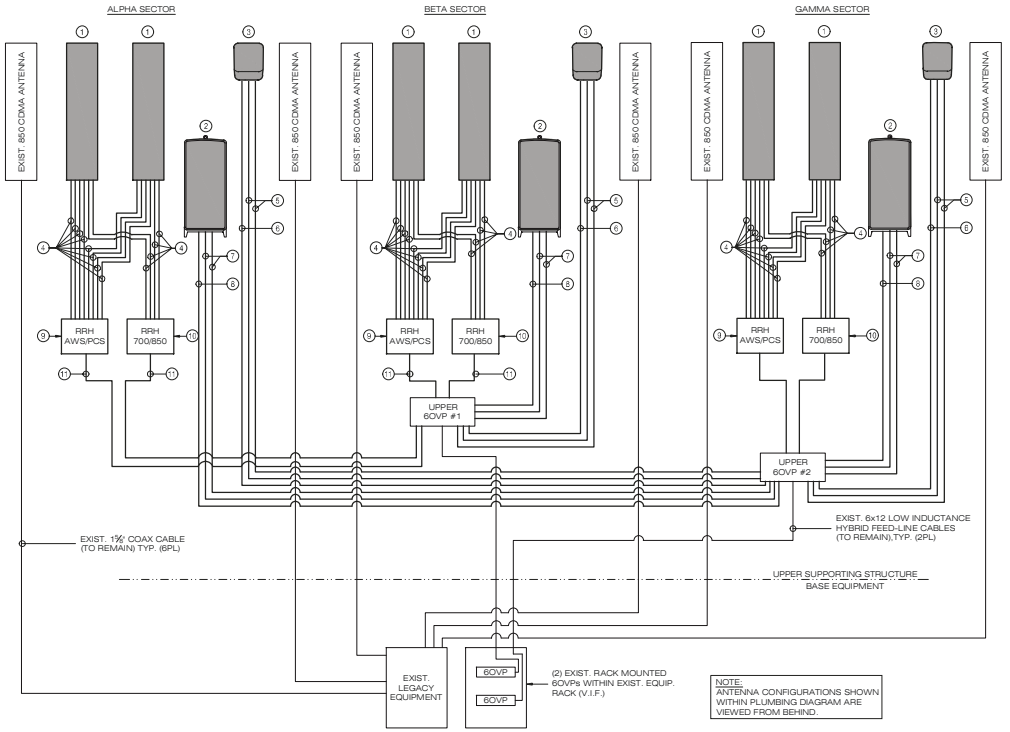
SAMSUNG XXDWMM-12.5-65-8T-CBRS
HxWxD=12.3"x8.7"x1.4" (4.5 Lbs)

5 CBRS ANTENNA
B-1 SCALE: 1" = 1'-0"



SAMSUNG CBRS RT4401-48A RRH
HxWxD=13.91"x8.55"x4.15" (18.64 lbs)

6 CBRS RRH
B-1 SCALE: 1" = 1'-0"



1 PLUMBING DIAGRAM
B-1 SCALE : ½" = 1'-0"

Cellco Partnership d/b/a
verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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VZ PROJECT CODE: 20212261320
VZ LOCATION CODE: 467793
VZ FUZE ID: 16244648

SHEET TITLE:
RF BILL OF MATERIALS, MECHANICAL SPECIFICATIONS & EQUIPMENT DETAILS

SHEET NUMBER:
B-1

DESIGN BASIS:

GOVERNING CODES/DESIGN STANDARDS:

2015 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED BY THE 2018 CONNECTICUT STATE BUILDING CODE
ASCE 7-10
TIA-222-G (TOWER)

01 GENERAL:

ABBREVIATIONS USED IN THESE SPECIFICATIONS INCLUDE THE FOLLOWING:

ACI	AMERICAN CONCRETE INSTITUTE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AWS	AMERICAN WELDING SOCIETY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN STANDARDS AND TESTING METHODS
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
ICC-ES	INTERNATIONAL CODE COUNCIL EVALUATION SERVICE
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
UL	UNDERWIRTERS LABORATORIES
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

EVERY INDIVIDUAL TRADE, DISCIPLINE, AND CONTRACTOR SHALL INCLUDE THESE GENERAL SPECIFICATIONS.

THE ENGINEER IS NOT RESPONSIBLE FOR NOR A GUARANTOR OF THE INSTALLING CONTRACTORS WORK, ADEQUACY OF ANY SITE COMPONENT, SUPERVISION OF ANY WORK, AND SAFETY IN, ON, OR ABOUT THE WORK SITE.

ANY REFERENCE HEREIN TO AN OR EQUAL ITEM, THAT EQUAL ITEM SHALL BE PRE-APPROVED BY THE CONSTRUCTION MANAGER BEFORE INSTALLATION

ALL TRADES SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES AND OTHER WORK AND CONDITIONS AS APNEWRIATE OR REQUIRED TO AVOID CONFLICTS. RESOLVE AND COORDINATE ALL CONFLICTS WITH ALL AFFECTED WORK AND SITE OPERATIONS. COORDINATION WITH THE SITE SHALL BE WITH THE OWNER, OR OWNER'S SPECIFIED REPRESENTATIVE, FOR EVERYTHING RELATED TO THE INSTALLATION OF THIS PROJECT.

ALL WORK SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE EDITIONS OF ALL APPLICABLE CODES AND SHALL BE ACCEPTABLE TO ALL AUTHORITIES HAVING JURISDICTION (AHJ). WHERE A CONFLICT EXISTS BETWEEN CODES, PLANS, SPECIFICATIONS, AND/OR AHJ, THE MORE STRINGENT AUTHORITY SHALL APPLY. WHERE CONFLICT EXISTS BETWEEN PLANS AND SPECIFICATIONS, PLAN SHALL APPLY. WHERE CONFLICT EXISTS BETWEEN PLAN SHEETS, CONSTRUCTION MANAGER SHALL BE CONSULTED PRIOR TO COMMENCING ANY WORK.

CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND NEWERLY OPERATIVE AND USABLE SYSTEM THROUGHOUT AND AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN AND/OR OTHERWISE REQUIRED.

CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, INSTALLATIONS, AND EQUIPMENT IN THE FIELD PRIOR TO BID, FABRICATION, AND INSTALLATION OF ANY WORK.

CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. THE ENGINEER SHALL BE NOTIFIED FOR INSPECTIONS PRIOR TO CLOSING PENETRATIONS AND OF ANY CONDITIONS WHICH PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

CONTRACTOR SHALL VISIT THE SITE TO MANAGE AND GAIN APPROVAL FOR ALL TENANT DISRUPTIONS, POWER OUTAGES, WORK SCHEDULES, DEFINITION OF WORK AREA AND WORK STORAGE, NEWER BUILDING/SITE ACCESS, NOISE AND CLEANLINESS REQUIREMENTS WITH THE BUILDING/SITE MANAGEMENT PRIOR TO ALL WORK. ANY DISRUPTIONS SHALL BE KEPT TO A MINIMUM AND SHALL BE IMPLEMENTED ONLY UPON WRITTEN APPROVAL OF THE OWNER.

THE CONTRACTOR SHALL SAFEGUARD AGAINST CREATING ANY HAZARD AFFECTING TENANT EGRESS OR COMPROMISING SITE SECURITY MEASURES.

PRIOR TO ALL BELOW-GRADE WORK AND ANY SURFACE WORK IN A NEW AREA FOR STRUCTURES OR VEHICLES, CONTRACTOR SHALL ENGAGE A MARKOUT SERVICE TO IDENTIFY ANY UNDERGROUND STRUCTURES, CONDUITS, AND PIPELINES IN THE AREA. ALL EXISTING SEWER, WATER, GAS, ELECTRIC, FIBER OPTIC, AND OTHER UNDERGROUND UTILITIES IDENTIFIED OR ENCOUNTERED, SHALL BE PROTECTED AT ALL TIMES. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN DIGGING OR EXCAVATING IN ANY MANNER AROUND OR NEAR SUCH UTILITIES. CONTRACTOR IS RESPONSIBLE FOR REPAIRS, REPLACEMENT, AND ALL DAMAGES DUE TO DAMAGE OF UTILITIES BY HIS OPERATIONS.

ALL EXISTING AND NEW EQUIPMENT AND MATERIAL LOCATIONS, ROUTING, ORIENTATION, MOUNTING, SPECIFICATIONS AND GENERAL INSTALLED CHARACTERISTICS SHALL BE CONSIDERED DIAGRAMMATIC ON THE PLANS. EXACT CONDITIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO ANY INSTALLATION. ANY DIFFERENCES THAT MAY CAUSE SCHEDULE, COST, OR QUALITY SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER OR ENGINEER PRIOR TO ANY WORK.

ALL REFERENCES HEREIN TO VERIFICATION OF ANY CONDITION OF SITE, FIELD, PLANS, OR SPECIFICATIONS PRIOR TO ANY WORK SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR. ANY AND ALL ADDITIONS, MODIFICATIONS, CHANGES, REPAIR, OR DEMOLITION AS A RESULT OF FAILURE TO BRING ANY EXISTING CONDITION NEWERLY TO THE ATTENTION OF THE OWNER OR ENGINEER SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR WITHOUT DELAY, COST, OR CHANGES IN QUALITY.

ALL NOTES THIS SHEET SHALL APPLY UNLESS SPECIFICALLY NOTED OTHERWISE ON THE INCLUDED DRAWINGS OR IN SEPARATE PROJECT SPECIFICATIONS AS APPLICABLE. ALL SPECIFICATIONS SHALL BE CONSIDERED REQUIRED UNLESS APPROVED EQUAL BY THE OWNER, CONSTRUCTION MANAGER, OR ENGINEER AS APPLICABLE.

THE WORDS "PROVIDE" OR "INSTALL" SHALL MEAN FURNISH AND INSTALL.

CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF HIS WORK. ANY PATCHING SHALL MATCH EXISTING SURROUNDING AREA IN ALL RESPECTS. ALL REMOVED MATERIAL SHALL BE REMOVED FROM THE PREMISES DAILY IN AN APPROVED SAFE MANNER.

ALL SURPLUS MATERIAL SHALL BE REMOVED FROM THE SITE PROMPTLY WHEN DEEMED TO BE SURPLUS.

EVERY CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF HIS WORK AND NEWLY INSTALLED OR EXISTING WORK, INCLUDING PROTECTION OF THE SITE, ALL STRUCTURES, AND ALL OCCUPANTS. FURNISH, INSTALL, MAINTAIN, AND REMOVE AS APNEWRIATE, ALL APNEWRIATE BARRIERS, SAFETY GUARDS, SIGNAGE, AND SECURITY AS REQUIRED.

EVERY CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR RESPECTIVE FEES, PERMITS, INSPECTIONS, TESTING, CERTIFICATES, AND ALL MANAGEMENT OF SAME REQUIRED FOR COMPLETION OF AND LEGAL OCCUPANCY OF THE FINISHED PROJECT.

ALL CONTRACTORS SHALL PROVIDE ALL NECESSARY TOOLS, FIXTURES, SERVICES, MATERIALS, JOB AIDS, AND PERSONNEL REQUIRED FOR THE EXECUTION OF THEIR WORK.

EACH CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP BY THEM TO BE FREE OF DEFECTS AND MAINTAINED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE INSTALLATION BY THE OWNER AND ENGINEER.

ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS IN THE TRADE HAVING JURISDICTION.

ANY DEVIATION, MODIFICATION, ADDITION, OR CHANGE IN DESIGN SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE OWNER OR ENGINEER.

ALL CONTRACTORS SHALL SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION, AND SHALL NOT PROCEED UNTIL ENGINEER APPROVAL IN WRITING IS RETURNED. EACH CONTRACTOR SHALL MAINTAIN ON JOB SITE A COMPLETE SET OF SHOP DRAWINGS WITH ANY DEVIATIONS FROM THE ORIGINAL DESIGN SHALL BE NOTED.

ALL MATERIALS AND EQUIPMENT SHALL BE NEW, WITHOUT BLEMISH OR DEFECT, AND SUITABLE AND LISTED FOR THE INSTALLATION AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS OR SPECIFICATIONS. ALL ITEMS OF EQUIPMENT OR MATERIAL THAT ARE OF ONE GENERIC TYPE SHALL BE ONE MANUFACTURER THROUGHOUT.

ALL MATERIALS, EQUIPMENT, TOOLS, AND ITEMS UNDER THE CONTRACTOR'S RESPONSIBILITY ON THE JOBSITE SHALL BE ADEQUATELY SECURED, MAINTAINED, AND PROTECTED, SO AS NOT TO BECOME DAMAGED OR CREATE ANY HAZARD TO PERSONNEL OR NEWERTY.

THE CONTRACTORS HOURS OF WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES AND BE APPROVED BY THE OWNER.

CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR ALL OF HIS CREW AND INSURE THAT EVERY CREW MEMBER FOLLOWS SAVE WORK PRACTICES. SAFETY TRAINING SHALL INCLUDE, BUT NOT BE LIMITED TO, FALL PROTECTION, CONFINED SPACE ENTRY, ELECTRICAL SAFETY, AND TRENCHING/EXCAVATION SAFETY WHERE SUCH WORK IS EXECUTED OR ENCOUNTERED.

ALL TEMPORARY WORK REQUIRED OR SPECIFIED AS A PART OF THIS WORK, SHALL MEET ALL OF THE SAME REQUIREMENTS AS PERMANENT INSTALLATIONS, SHALL MEET ALL APPLICABLE CODE REQUIREMENTS, AND SHALL BE COMPLETELY REMOVED AFTER ITS PURPOSES HAVE BEEN SERVED.

ANY EXISTING UTILITY, SERVICE, STRUCTURE, EQUIPMENT, OR FIXTURE OBSTRUCTING THE WORK SHALL BE REMOVED AND/OR RELOCATED AS DIRECTED BY THE CONSTRUCTION MANAGER.

IF ASBESTOS IS ENCOUNTERED DURING WORK EXECUTION, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER AND CEASE ALL ACTIVITIES IN AFFECTED AREAS UNTIL NOTIFIED BY THE CONSTRUCTION TO RESUME OPERATIONS.

EXIST. ELECTRICAL AND MECHANICAL FIXTURES, PIPING, WIRING AND EQUIPMENT OBSTRUCTING THE WORK SHALL BE REMOVED AND/OR RELOCATED AS DIRECTED BY THE CONSTRUCTION MANAGER. TEMPORARY SERVICE INTERRUPTIONS MUST BE COORDINATED WITH OWNER.

05 STEEL:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

MATERIALS:

WIDE FLANGE	ASTM A992, GR 50
TUBING	ASTM A500, GR B
PIPE	ASTM A53, GR B
BOLTS	ASTM A325
GRATING	TYPE GW-2 (1-1/4"x3/16" BARS)
EXISTING METALS	ASTM A36

PROVIDE CERTIFICATION THAT WELDERS TO BE USED IN WORK ARE LICENSED AND HAVE SATISFACTORILY PASSED AWS QUALIFICATION TEST UNDER THE PROVISIONS OF APPENDIX D, PARTS II AND III OF THE AWS CODE FOR WELDING IN BUILDING CONSTRUCTION.

ALL BUILDING CONNECTION POINTS TO BE CENTERED ON EXISTING STRUCTURAL BEARING POINTS AND THE LOCATIONS ARE TO BE VERIFIED IN FIELD PRIOR TO THE FABRICATION OF STEEL.

DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF AISC SPECIFICATION FOR *"THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS"*.

NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIAMETER GALVANIZED ASTM A 307 BOLTS UNLESS OTHERWISE NOTED.

ALL STEEL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIPPED GALVANIZED) COATINGS" ON IRON AND STEEL PRODUCTS WITH A COATING WEIGHT OF 2 OZ/SF.

ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE EXPOSED TO WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE."

DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY TOUCHING UP ALL DAMAGED GALVANIZED STEEL WITH COLD ZINC, "GALVANOX", "DRY GALV", OR "ZINC IT", IN ACCORDANCE WITH MANUFACTURERS GUIDELINES. TOUCH UP DAMAGED NON-GALVANIZED STEEL WITH SAME PAINT APPLIED IN SHOP OR FIELD.

THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW. FIELD CUTTING OF STRUCTURAL STEEL IS NOT PERMITTED EXCEPT WITH THE PRIOR APPROVAL OF THE ENGINEER.

CONTRACTOR TO REMOVE AND RE-INSTALL ALL FIRE PROOFING AS REQUIRED DURING CONSTRUCTION.

THE STEEL STRUCTURE SHALL BE DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER COMPLETION. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION.

ALL STEEL ELEMENTS SHALL BE INSTALLED PLUMB AND LEVEL.

TOWER MANUFACTURER'S DESIGNS SHALL PREVAIL FOR TOWER.

CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC *"MANUAL OF STEEL CONSTRUCTION"*. CONNECTIONS SHALL BE PROVIDED TO CONFORM TO THE REQUIREMENTS OF TYPE 2 CONSTRUCTION.

STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE MINIMUM 3/4" DIAMETER AND EACH CONNECTION SHALL HAVE MINIMUM TWO BOLTS. LOCK WASHERS ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES. IF TENSION CONTROL BOLTS ARE USED, CONNECTIONS SHALL BE DESIGNED FOR SLIP CRITICAL BOLT ALLOWABLE LOAD VALUES.

DESIGN CONNECTIONS AT BEAM ENDS FOR 10 KIPS (MIN).

ALL U-BOLTED CONNECTIONS SHALL BE COMPLETED WITH DOUBLE NUTS OR A LOCK WASHER.

CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS *"STANDARD QUALIFICATION PROCEDURES"*. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND SHALL CONFORM TO AISC AND D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE LARGER OF 1/4" FILLET OR MINIMUM SIZE PER TABLE J2.4 IN THE AISC *"MANUAL OF STEEL CONSTRUCTION"*. AT THE COMPLETION OF WELDING, ALL DAMAGE TO GALVANIZED COATING SHALL BE REPAIRED. SEE NOTE REGARDING DAMAGED GALVANIZED SURFACES.

ALL ARC AND GAS WELDING SHALL BE DONE BY A LICENSED AND CERTIFIED WELDER IN ACCORDANCE WITH AWS.

SEAL ALL PENETRATIONS AND SEAMS BETWEEN MASONRY AND STEEL WITH DOW CORNING 790 SILICONE BUILDING SEALANT OR EQUAL.

26 ELECTRICAL:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

ALL ELECTRICAL CONDUCTORS:

- INSULATION SHALL BE MINIMUM 600V TYPE THHN, THWN-2, OR XHHW.
- BRANCH CIRCUIT CONDUCTORS SHALL BE SOFT DRAWN 98% MINIMUM CONDUCTIVITY NEWERLY REFINED COPPER.
- FEEDER CIRCUIT CONDUCTORS SHALL BE EITHER COPPER OR ALUMINUM OF THE APNEWRIATE SIZE FOR THE APPLICATION, OR AS SPECIFICALLY NOTED.
- PERMANENTLY LABEL OR TAG ALL CONDUCTORS WITH THEIR CIRCUIT DESIGNATION AT ALL TERMINATION ENDS, SPLICES, AND VISIBLE AS PASS-THROUGH IN ALL ENCLOSURES.

ALL CONDUIT, RACEWAY, WIREWAYS, DUCTS, ETC. SHALL BE LISTED AND SUITABLE FOR THE APPLICATION. ONLY THE FOLLOWING CONDUITS AS APPROVED AND LISTED FOR THE APPLICATION SHALL BE ACCEPTABLE:

- ELECTRICAL METALLIC TUBING (EMT).
- COMPRESSION COUPLINGS AND CONNECTORS ONLY MADE UP WRENCH TIGHT.
- FLEXIBLE METAL CONDUIT (FMC) AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC).
- FINAL CONNECTIONS TO VIBRATING OR ADJUSTABLE EQUIPMENT INCLUDING, BUT NOT LIMITED TO, LIGHT FIXTURES, HVAC UNITS, TRANSFORMERS, MOTORS, ETC. OR WHERE EQUIPMENT IS PLACED UPON SLAB ON-GRADE.
- RIGID GALVANIZED STEEL (RGS).
- ALL FITTINGS, CONNECTORS, AND COUPLINGS SHALL BE THREADED MADE UP WRENCH TIGHT.
- RIGID POLYVINYL CHLORIDE (PVC) SCHEDULE 40 OR SCHEDULE 80.
- MAY BE USED FOR SERVICES, EXTERIOR, BELOW GRADE, AND WET LOCATIONS.
- SHALL NOT BE USED IN CONCRETE SLABS NOR EXPOSED WITHIN A BUILDING OR STRUCTURE.
- METAL-CLAD CABLE (MC)
- CONCEALED INSTALLATIONS ONLY.
- WITHIN A DUCT WITH SMOOTH OR CORRUGATED METAL JACKET AND NO OUTER COVERING OVER THE METAL JACKET.

IN FINISHED SPACES, ALL CONDUITS SHALL BE CONCEALED EXCEPT TO MAKE A FINAL CONNECTION TO EQUIPMENT NOT MOUNTED IN OR AGAINST FINISH MATERIAL.

ALL FEEDER AND BRANCH CIRCUITS SHALL HAVE A SEPARATE NEWERLY SIZED AND MARKED GROUNDING CONDUCTOR, PER APPLICABLE CODES, THAT BONDS ALL ENCLOSURES, BOXES, ETC. CONDUIT SHALL NOT BE USED AS A GROUNDING OR BONDING CONDUCTOR.

IF EXISTING ELECTRIC SERVICE IS TO REMAIN, CONTRACTOR SHALL BE VERIFY THAT IT MEETS PROJECT REQUIREMENTS WITHOUT MODIFICATION. IF IT IS TO BE ADDED OR REPLACED AS A PART OF THIS WORK, CONTRACTOR SHALL ORDER FROM, COORDINATE WITH, AND GAIN APPROVAL FROM THE ELECTRICAL UTILITY. ALL ELECTRICAL EQUIPMENT SHALL BE AS SPECIFIED AND AS APPROVED BY THE LOCAL UTILITY WHERE APPLICABLE.

ALL EQUIPMENT, ENCLOSURES, ETC. SHALL BE SUITABLE FOR THE INSTALLED ENVIRONMENT, MINIMUM NEMA 3R FOR ALL EXTERIOR INSTALLATIONS.

WIRING DEVICES SHALL BE SPECIFICATION GRADE AND WIRING DEVICE COVER PLATES SHALL BE PLASTIC WITH ENGRAVING AS SPECIFIED. COLOR SHALL BE IVORY. ALL DEVICES AND COVER PLATES SHALL BE OF THE SAME MANUFACTURER.

ALL FIRE-RATED PENETRATIONS SHALL BE SEALED USING A SUITABLE AND LISTED FIRE SEALING DEVICE OR GROUT THAT WILL MAINTAIN THE FIRE RATING OF THE STRUCTURE PENETRATED.

PROVIDE PERMANENTLY AFFIXED ENGRAVED NAMEPLATES FOR ALL CODE REQUIRED LABELING AND ON ALL PANELS, METERING, DISCONNECTS, AND ELECTRICAL EQUIPMENT THAT IDENTIFIES EQUIPMENT SERVED, ELECTRICAL SOURCE WITH CIRCUIT IDENTIFICATION, AND VOLTAGES WITHIN.

ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL FINAL TERMINATIONS TO ALL EQUIPMENT.

ALL ELECTRICAL APPURTENANCES THAT ARE DISCONNECTED SHALL BE COMPLETELY REMOVED WITH EXISTING STRUCTURES TO REMAIN, REPAIRED, FINISHED, FILLED, PAINTED, ETC. ALL PANEL SCHEDULES, EQUIPMENT LABELING, AND CODE-REQUIRED LABELING, SHALL BE VERIFIED AND NEWERLY COMPLETED TO MATCH THE INSTALLATION.

26 GROUNDING:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

GROUND ALL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH BEST INDUSTRY PRACTICE, THE REQUIREMENTS OF THE NFPA 70 NATIONAL ELECTRICAL CODE (NEC), AND ALL OTHER APPLICABLE CODES AND REGULATIONS.

ALL GROUNDING ELECTRODES PRESENT AT EACH SERVICE LOCATION SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM.

ALL EQUIPMENT ENCLOSURES, DEVICES, AND CONDUITS SHALL BE GROUNDED BY THE INSTALLATION OF A SEPARATE GROUNDING CONDUCTOR FOR ALL FEEDER AND BRANCH CIRCUITS THAT IS SIZED PER CODE OR IS OF THE SIZE INDICATED ON THE DRAWINGS, SHALL BE CONTINUOUS IN LENGTH, AND SHALL BE BONDED TO EACH ENCLOSURE PASSED THROUGH. CONDUIT SHALL NOT BE USED AS A GROUNDING OR BONDING WIRE OR CIRCUIT.

BOND ALL METALLIC CONDUITS TOGETHER THAT ARE CONNECTED TO NON-METALLIC ENCLOSURES, IN-GROUND BOXES, AND TO AN ENCLOSURE WHERE A GROUND BUS IS SPECIFIED OR SUPPLIED. ACCOMPLISH THIS BOND WITH GROUNDING CONDUCTORS MINIMUM SIZED TO THE LARGEST GROUNDING CONDUCTOR PRESENT IN THE ENCLOSURE CONNECTED TO A GROUNDING TYPE BUSHING EQUALLY SIZED OR MAXIMUM GROUND WIRE ACCOMMODATION AVAILABLE IN STANDARD MANUFACTURE FOR THE CONDUIT SIZE, WHICHEVER IS LESS.

EQUIPMENT GROUNDING AND LOAD SIDE BONDING CONDUCTORS SHALL BE SIZED PER THE CIRCUIT'S OVER-CURRENT PROTECTIVE DEVICE (OCPD) SIZE. WHERE THE UNGROUNDED CONDUCTORS ARE INCREASED IN SIZE ABOVE THE STANDARD FOR THE CIRCUIT'S OCPD, INCREASE THE GROUNDING CONDUCTOR NEWORTIONATELY TO THE CROSS-SECTIONAL AREA OF THE UNGROUNDED CONDUCTORS.

SERVICE MAIN BONDING JUMPERS AND GROUNDING ELECTRODE CONDUCTORS SHALL BE SIZED AND INSTALLED PER THE MINIMUM OF ALL APPLICABLE CODES AND REGULATIONS.

26 LIGHTNING PROTECTION:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS AND THE GROUNDING SPECIFICATIONS HEREIN.

THE LIGHTNING PROTECTION GROUNDING SYSTEM (LPGS) SHALL CONSIST OF BONDING ALL EQUIPMENT AND CONDUCTIVE STRUCTURES TO LOCALIZED SINGLE-POINT GROUNDING CONNECTIONS (TYPICALLY GROUND BARS) WHICH ARE BONDED TOGETHER AND TO AN IN-GROUND SYSTEM. IF THE LPGS IS ON A BUILDING, IT SHALL BE EFFECTIVELY BONDED TO THE ELECTRICAL SERVICE MAIN BONDING JUMPER AND TO ADDITIONAL IN-GROUND ELECTRODES AS MAY BE REQUIRED OR INDICATED. IF THE LPGS IS ON A DEDICATED COMMUNICATION SITE, ALL EQUIPMENT AREAS AND TOWERS SHALL EACH HAVE THEIR OWN IN-GROUND RING WITH EVERY RING BONDED TOGETHER, AND ALL CONDUCTIVE STRUCTURES IN CLOSE PROXIMITY (FENCES, ICE BRIDGES, ISOLATED EQUIPMENT, ETC.) ALSO BONDED TO PROVIDE A COMMON ELECTRICAL EQUIPOTENTIAL SYSTEM FOR ALL CONDUCTIVE ELEMENTS AND STRUCTURES.

CONDUCTORS:

- MIN #2 AWG SOLID BARE TINNED COPPER (SBTC) FOR ALL IN-GROUND CONDUCTORS.
- MIN #2 AWG COPPER GREEN STRANDED FOR BONDING STRUCTURES, AND FOR INTER-SYSTEM BONDING OF INDIVIDUAL ELEMENTS SUCH AS GROUND BAR TO GROUND BAR.
- MIN #6 AWG COPPER GREEN STRANDED OR ALL EQUIPMENT BONDING.
- INSTALL ALL IN-GROUND CONDUCTORS IN THE SAME HORIZONTAL PLANE OR IN A DOWNWARD DIRECTION AWAY FROM THE TOWER AND EQUIPMENT AREAS.
- AVOID LONG RUNS. MAKE DIRECT RUNS AS MUCH AS POSSIBLE.
- PLACE THROUGH NON-METALLIC SLEEVES WHEN PASSING THROUGH FLOORS, WALLS, CEILINGS, AND SIMILAR STRUCTURES.
- MAKE ALL CONNECTIONS IN CONTACT WITH EARTH WITH EXOTHERMIC WELDING. MAKE ALL OTHER CONNECTIONS WITH EXOTHERMIC WELDING, IRREVERSIBLE COMPRESSION CONNECTORS, OR LISTED COMPRESSION TWO-HOLE LUGS.
- INSTALL ALL CONDUCTORS WITH A MINIMUM 18 INCH BEND RADIUS AND NO BEND LONGER THAN A 90 DEGREE ARC. ALL BENDS SHALL BE HORIZONTAL, OR DOWNWARD TOWARDS EARTH.
- ALL CONDUCTORS PASSING FROM ABOVE-GROUND TO IN-GROUND CONNECTIONS, WHERE EXPOSED, SHALL BE COVERED AND PROTECTED WITH A NON-METALLIC CONDUIT SEALED AT BOTH ENDS.
- IF 2 OR MORE IN-GROUND CONDUCTOS ARE IN THE SAME PATH (2 RINGS OVERLAPPING, BONDING FOLLOWING ANOTHER RING OR RADIAL, OR SIMILAR), COMBINE WITH A SHARED SINGLE CONDUCTOR.

EQUIPMENT AND TOWER GROUND RINGS SHALL BE:

- BONDED TO ANY CONDUCTIVE OBJECT OR STRUCTURE WITHIN 5 FEET OF EQUIPMENT GROUND RINGS AND WITHIN 20 FEET OF TOWER GROUND RINGS.
- INSTALLED MINIMUM 18 INCHES FROM FOUNDATIONS, FOOTINGS, AND SIMILAR.

INSTALL ALL IN-GROUND RINGS, RADIALS, BONDS CONNECTING THEM, AND ALL SIMILAR GROUNDING:

- MIN 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE, WHICHEVER IS GREATER DEPTH.
- MIN 2 FEET FROM FOUNDATIONS, FOOTINGS, OTHER GROUNDING SYSTEMS, AND SIMILAR STRUCTURES, EXCEPT WHEN MAKING A BOND TO ANY OF THESE STRUCTURES. DO NOT BOND TO FOUNDATION INTERNAL REINFORCEMENT.

ALL EQUIPMENT GROUPED IN A COMMON AREA, COMPOUND, STRUCTURE, OR SIMILAR SHALL BE BONDED TO A SINGLE-POINT GROUND, PREFERABLY AN ISOLATED GROUND BAR. BOND THE GROUND BAR TO THE SYSTEM WITH MINIMUM SINGLE BONDING CONDUCTOR. IF BONDING TO AN IN-GROUND RING, INSTALL 2 BONDING CONDUCTORS MINIMUM WITH EACH CONDUCTOR INSTALLED DIRECTIONALLY AWAY FROM EACH OTHER AND PARALLEL TO THE IN-GROUND CONDUCTOR, WITH NO TEE CONNECTIONS.

TOWER GROUNDING:

- EACH TOWER LEG SHALL BE BONDED TO ITS RING. SINGLE-LEGGED TOWERS, OR MONOPOLES, SHALL HAVE 2 BONDS ON OPPOSITE SIDES.
- BOND TO TOWER BASE, NOT TO VERTICAL TOWER STRUCTURE, AWAY FROM TOWER MOUNTING HARDWARE.
- EACH BOND SHALL HAVE A CORRESPONDING GROUND ROD ON THE RING.
- EACH BOND SHALL CONSIST OF 2 CONDUCTORS FROM THE TOWER TO ITS RING WITH EACH CONDUCTOR DIRECTED IN OPPOSITE DIRECTIONS WITH A PARALLEL CONNECTION ON THE RING ON OPPOSITE SIDES OF THE GROUND ROD.

EQUIPMENT AREA GROUNDING:

- COMMUNICATION AREAS ON EARTH SHALL HAVE A GROUND RING.
- BOND ALL EQUIPMENT TO A SINGLE-POINT GROUND (GROUND BAR).
- BOND THE EQIPMENT SINGLE-POINT GROUND TO THE EQUIPMENT GROUND RING WITH MINIMUM 2 CONDUCTORS DIRECTED IN OPPOSITE DIRECTIONS WITH PARALLEL CONNECTIONS ON THE RING.
- IF EQUIPMENT IS ENCLOSED IN A SHELTER:
- IF THE SHELTER IS CONSIDERED TO BE EXPOSED TO A DIRECT LIGHTNING STRIKE, INSTALL A BUILDING LIGHTNING PROTECTION SYSTEM PER APPLICABLE VERSION OF NFPA 780.
- BOND ALL FIXED CONDUCTIVE BUILDING COMPONENTS TOGETHER AND TO THE BUILDING RING GROUND AT THE CORNERS. THIS IS TYPICALLY CALLED THE HALO GROUND. DO NOT BOND EQUIPMENT TO THE HALO GROUND.
- BOND ALL EQUIPMENT TOGETHER TO A SINGLE-POINT OR INTERIOR EQUIPMENT RING GROUND (IEGR). BOND THE SINGLE-POINT OR IEGR TO THE EXTERNAL EQUIPMENT RING GROUND.
- PLACE GROUND RODS AT THE EQUIPMENT GROUND RING CORNERS.

GROUND RODS:

- SEPARATION SPACE BETWEEN ANY 2 GROUND RODS SHALL BE NO CLOSER THAN THEIR DEPTH. THIS APPLIES TO ALL RODS IN THE COMPLETE SYSTEM.
- DRIVE VERTICALLY IN UNDISTURBED SOIL WITH THE TOP AT SAME DEPTH AS THE IN-GROUND CONDUCTOR. IF NOT POSSIBLE TO INSTALL VERTICALLY, PLACE AS CLOSE TO VERTICAL AS POSSIBLE AND IN A DIRECTION AWAY FROM THE NEAREST ABOVE-GROUND CONDUCTIVE ELEMENT (TOWER, EQUIPMENT, ETC.).

RADIALS (TYP. NEW DEDICATED COMMUNICATION SITES):

- WHERE FEASIBLE WITH ENOUGH SPACE AVAILABLE, INSTALL A MINIMUM OF 4, MAXIMUM 10 RING RADIALS.
- EACH RADIAL'S LENGTH SHALL BE MIN 20 FT, MAX 80 FT.
- EXTEND RADIALS PERPENDICULAR FROM RINGS IN AS STRAIGHT LINE AS POSSIBLE, AWAY FROM OTHER RING GROUNDS, RADIALS, BONDS, AND SIMILAR.
- A COMMON PRACTICE IS TO PLACE 4 RADIALS FROM THE TOWER RING TO THE 4 CORNERS OF THE AVAILABLE AREA.

AT A MINIMUM, BOND ALL COMPOUND CONDUCTIVE FENCE CORNER POSTS AND GATE POSTS TO THE LPGS. PREFERABLY, INSTALL A GROUND RING THAT FOLLOWS THE FENCE LINE, BONDING ALL POSTS TO THE RING.

27 ANTENNAS & CABLES:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TRANSMISSION CABLES, JUMPERS, CONNECTORS, GROUNDING STRAPS, ANTENNAS, MOUNT AND HARDWARE. ALL MATERIALS SHALL BE INSPECTED BY THE CONTRACTOR FOR DAMAGE UPON DELIVERY. JUMPERS SHALL BE SUPPLIED AT ANTENNAS AND EQUIPMENT INSIDE SHELTER. COORDINATE LENGTH OF JUMPER CABLES WITH OWNER. COORDINATE AND VERIFY ALL OF THE MATERIALS TO BE PROVIDED WITH OWNER PRIOR TO SUBMITTING BID AND ORDERING MATERIALS.

AFTER INSTALLATION, THE TRANSMISSION LINE SYSTEM SHALL BE PIM / SWEEP TESTED FOR NEWER INSTALLATION AND DAMAGE WITH ANTENNAS CONNECTED. CONTRACTOR SHALL OBTAIN AND USE LATEST TESTING PROCEDURES FROM OWNER OR MANUFACTURER PRIOR TO BIDDING.

ANTENNA CABLES SHALL BE UNIQUELY COLOR-CODED AT THE ANTENNAS, BOTH SIDES OF EQUIPMENT SHELTER WALL, AND JUMPER CABLES AT THE EQUIPMENT.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONNECTORS, ASSOCIATED CABLE MOUNTING AND GROUNDING HARDWARE, WALL MOUNTS, STANDOFFS, AND ALL ASSOCIATED HARDWARE TO INSTALL ALL CABLES AND ANTENNAS TO THE MANUFACTURER'S AND OWNER'S SPECIFICATIONS.

ANTENNA CABLES SHALL BE FOAM DIELECTRIC COAXIAL CABLES AS FOLLOWS:

- BASE STATION ANTENNAS:
  - 7/8" DIAMETER FOR CABLE LENGTHS UP TO 100 FT.
  - 1-5/8" DIAMETER FOR CABLE LENGTHS GREATER THAN 100 FT.
  - GPS ANTENNAS:
  - 7/8" DIAMETER FOR CABLE LENGTHS UP TO 200 FT.
  - 1-5/8" DIAMETER FOR CABLE LENGTHS GREATER THAN 200 FT.

MINIMUM BENDING RADIUS FOR COAXIAL CABLES SHALL BE:

- 15 FT FOR 7/8" COAXIAL CABLES.
- 25 FT FOR 1-5/8" COAXIAL CABLES.

CABLE SHALL BE INSTALLED WITH A MINIMUM NUMBER OF BENDS WHERE POSSIBLE. CABLE SHALL NOT BE LEFT UNTERMINATED AND SHALL BE SEALED IMMEDIATELY AFTER BEING INSTALLED.

ALL EXTERIOR CABLE CONNECTIONS SHALL BE COVERED WITH A WATERPROOF SPLICING KIT.

CONTRACTOR SHALL VERIFY EXACT LENGTH AND DIRECTION OF TRAVEL IN FIELD PRIOR TO CONSTRUCTION.

CABLE SHALL BE FURNISHED AND INSTALLED WITHOUT SPLICES AND WITH CONNECTORS AT EACH END.

27 CABLE TRAY:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

CABLE TRAY SHALL BE MADE OF EITHER CORROSION RESISTANT METAL OR WITH A CORROSION RESISTANT FINISH.

CABLE TRAY SHALL BE OF LADDER TRAY TYPE WITH FLAT COVER CLAMPED TO SIDE RAILS.

CABLE LADDER SHALL BE SIZED TO FIT ALL CABLES IN ACCORDANCE WITH NEC AND NEMA 11-15-84.

CABLE LADDER TRAYS SHALL BE NEMA CLASS 12A BY PW INDUSTRIES, INC. OR EQUAL.

CABLE LADDER TRAY SHALL BE SUPPORTED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

ALL WORKMANSHIP SHALL CONFORM TO THESE REQUIREMENTS AND ALL LOCAL CODES AND STANDARDS TO ENSURE SAFE AND ADEQUATE GROUNDING SYSTEM.

Cellco Partnership d/b/a

verizon

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

ALL-POINTS TECHNOLOGY CORPORATION

567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CONSTRUCTION DOCUMENTS

NO	DATE	REVISION
0	11/18/21	FOR REVIEW: JRM
1	03/02/22	FOR FILING: JRM
2		
3		
4		
5		
6		

DESIGN PROFESSIONALS OF RECORD

PROF: MICHAEL S. TRODDEN P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXT. SUITE 311 WATERFORD, CT 06385

OWNER: NEW CINGULAR WIRELESS PCS LLC
ADDRESS: 1010 PINE ST LOUIS MO. 63101

SHELTON NORTH 2 CT

SITE ADDRESS: 219 NELLS ROCK ROAD SHELTON, CT 06484

APT FILING NUMBER: CT141_13050

	DRAWN BY: DRA
DATE: 11/18/21	CHECKED BY: JRM

VZ PROJECT CODE: 20212261320
VZ LOCATION CODE: 467793
VZ FUZE ID: 16244648

SHEET TITLE:

NOTES & SPECIFICATIONS

SHEET NUMBER:

N-1

SAMSUNG

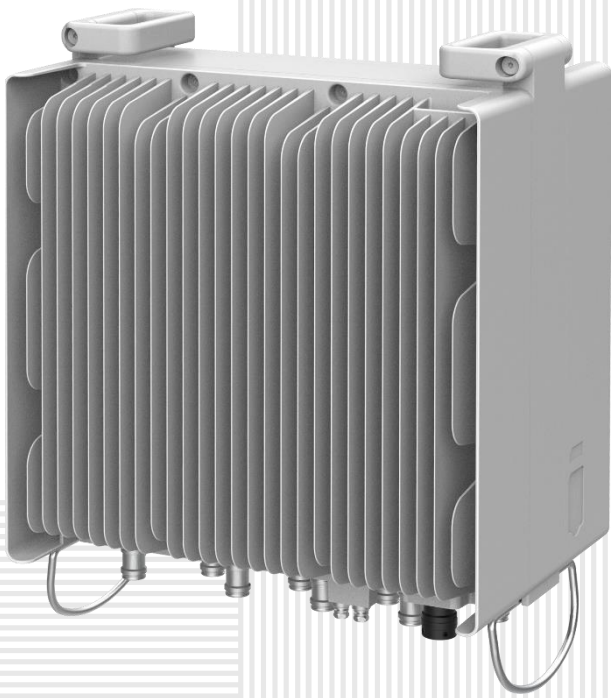
AWS/PCS MACRO RADIO

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.

57196

Model Code	RF4439d-25A



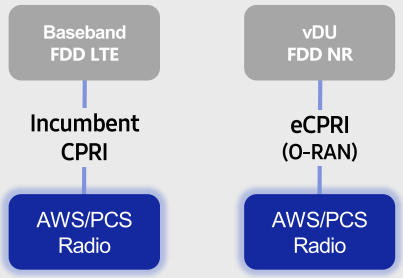
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

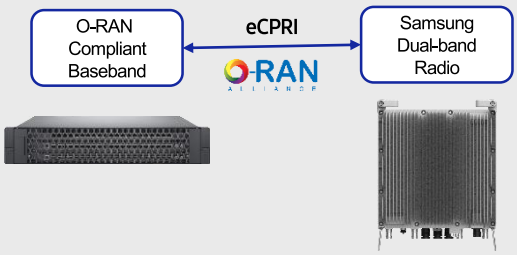
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



O-RAN Compliant

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

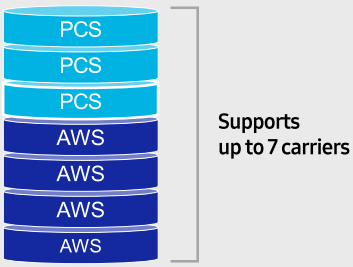
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Optimum Spectrum Utilization

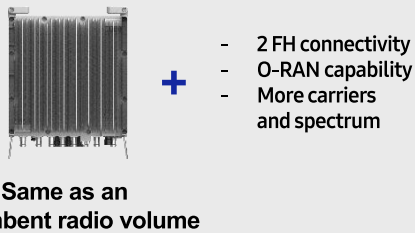
The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

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



Brand New Features in a Compact Size

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



Technical Specifications

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

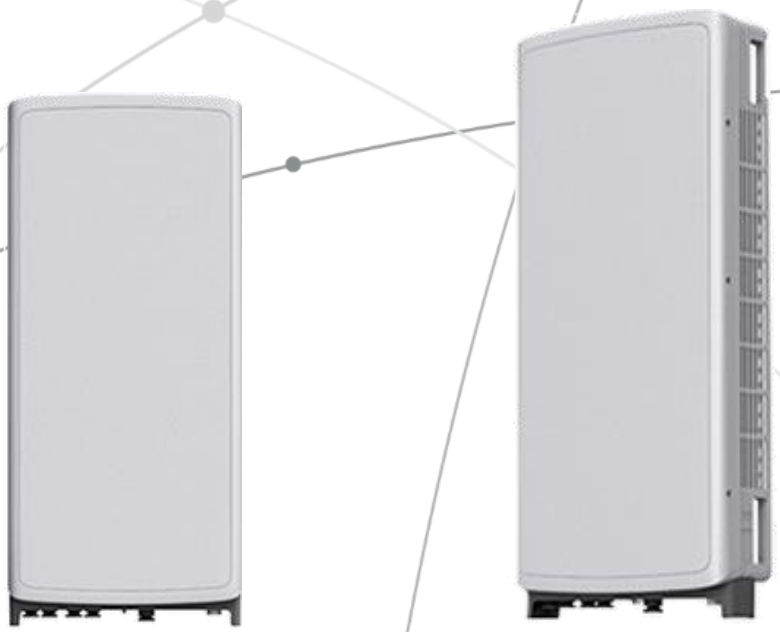
SAMSUNG

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

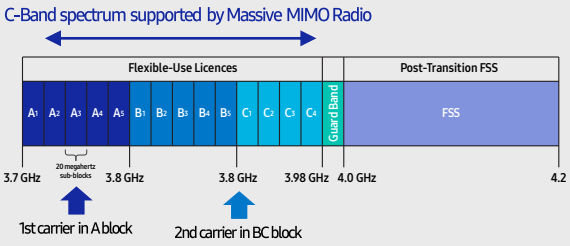


Points of Differentiation

Wide Bandwidth

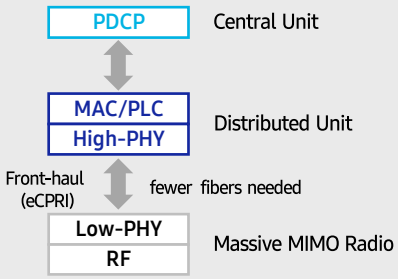
With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

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.

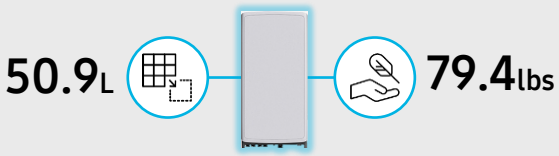
This helps operators reduce their CAPEX as they now need less products to cover the same area than before.

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

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

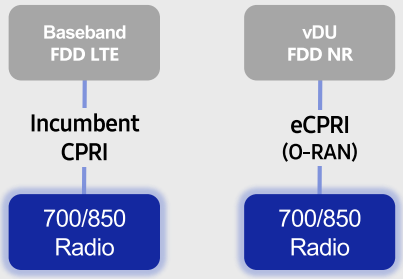
Homepage
samsungnetworks.com

Youtube
www.youtube.com/samsung5g

Points of Differentiation

Continuous Migration

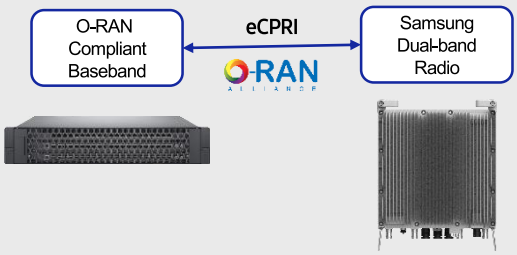
Samsung's 700/850MHz macro radio can support each incumbent CPRI interface as well as an advanced eCPRI interface. This feature provides installable options for both legacy LTE networks and added NR networks.



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.

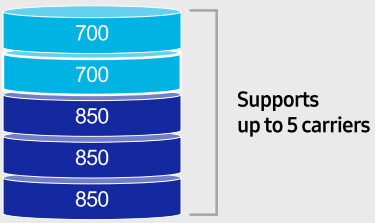
Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



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.

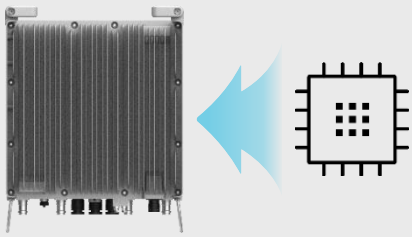
The new 700/850MHz dual-band radio can support up to 2 carriers in the B13 (700MHz) band and 3 carriers in the B5 (850MHz) band, respectively.



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

Specifications

The table below outlines the main specifications of the RRH.

Table 1. Specifications

Item	RT4401-48A
Air Technology	LTE
Band	Band 48 (3.5 GHz)
Operating Frequency (MHz)	3550 to 3700
RF Chain	4TX/4RX
Input Power	-48 V DC (-38 to -57 V DC, 1 SKU), with clip-on AC-DC converter (Option)
Dimension (W × D × H) (mm)	8.55 in. (217.4) × 4.15 in. (105.5) × 13.91 in. (353.5) * RRH only 11.39 in. (289.4) × 5.45 in. (138.5) × 16.16 in. (410.5) * with Clip-on antenna, AC-DC power unit
Cooling	Natural convection
Unwanted Emission	3GPP 36.104 Category A
	[B48]: FCC 47 CFR 96.41 e)
Spectrum Analyzer	TX/RX Support
Antenna Type	Integrated (Clip-on) antenna (Option), External antenna (Option)
Operating Humidity	5 to 100 [%] (RH), condensing, not to exceed 30 g/m^3 absolute humidity
Altitude	-60 to 1,800 m
Earthquake	Telcordia Earthquake Risk Zone4 (Telcordia GR-63-CORE)
Vibration in Use Transportation Vibration	Office Vibration Transportation Vibration
Noise	Fanless (natural convection cooling)
Wind Resistance	Telcordia GR-487-CORE, Section 3.34
EMC	FCC Title 47, CFR Part 96
Safety	UL 60950-1 2nd ED

Item	RT4401-48A
	UL 62368-1 UL 60950-22
RF	FCC Title 47, CFR Part 96

The table below outlines the AC/DC power unit specifications of the RRH system.

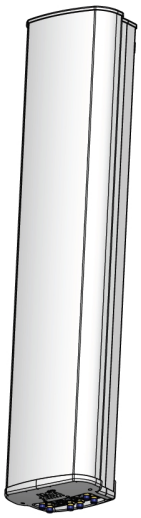
MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

X-Pol Hex-Port 6 ft 60° Fast Roll Off antenna with independent tilt on 700 & 850 MHz:

2 ports 698-798, 824-894 MHz and 4 ports 1695-2180 MHz

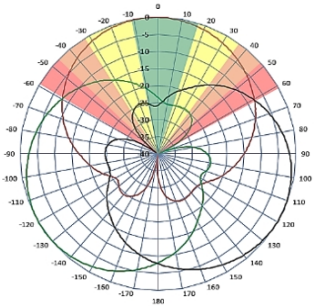
- Fast Roll Off (FRO™) azimuth beam pattern improves Intra- and Inter-cell SINR
- Compatible with dual band 700/850 MHz radios with independent low band EDT without external diplexers
- Fully integrated (iRETs) with independent RET control for low and high bands for ease of network optimization
- SON-Ready array spacing supports beamforming capabilities
- Suitable for LTE/CDMA/PCS/UMTS/GSM air interface technologies
- Integrated Smart Bias-Ts reduce leasing costs



Fast Roll-Off antennas increase data throughput without compromising coverage

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

Non-FRO antenna



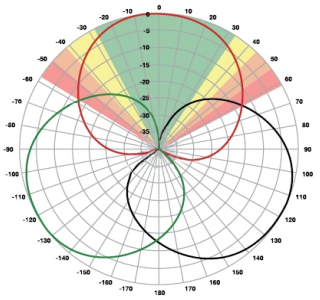
Large traditional antenna pattern overlap creates harmful interference.

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

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

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

JMA FRO antenna



Electrical specification (minimum/maximum)	Ports 1, 2		Ports 3, 4, 5, 6		
Frequency bands, MHz	698-798	824-894	1695-1880	1850-1990	1920-2180
Polarization	± 45°		± 45°		
Average gain over all tilts, dBi	14.4	14.0	17.6	18.0	18.2
Horizontal beamwidth (HBW), degrees	60.5	53.0	55.0	55.0	55.5
Front-to-back ratio, co-polar power @180°± 30°, dB	>24	>24.0	>25.0	>25.0	>25.0
X-Pol discrimination (CPR) at boresight, dB	>15.0	>14.2	>18	>18	>15
Sector power ratio, percent	<3.5	<3.0	<3.7	<3.8	<3.6
Vertical beamwidth (VBW), degrees[1]	13.1	11.8	6.0	5.5	5.5
Electrical downtilt (EDT) range, degrees	2-14	2-14	0-9		
First upper side lobe (USLS) suppression, dB[1]	≤-15.0	≤-16.5	≤-16.0	≤-16.0	≤-16.0
Cross-polar isolation, port-to-port, dB[1]	25	25	25	25	25
Max VSWR / return loss, dB	1.5:1 / -14.0		1.5:1 / -14.0		
Max passive intermodulation (PIM), 2x20W carrier, dBc	-153		-153		
Max input power per any port, watts	300		250		
Total composite power all ports, watts	1500				

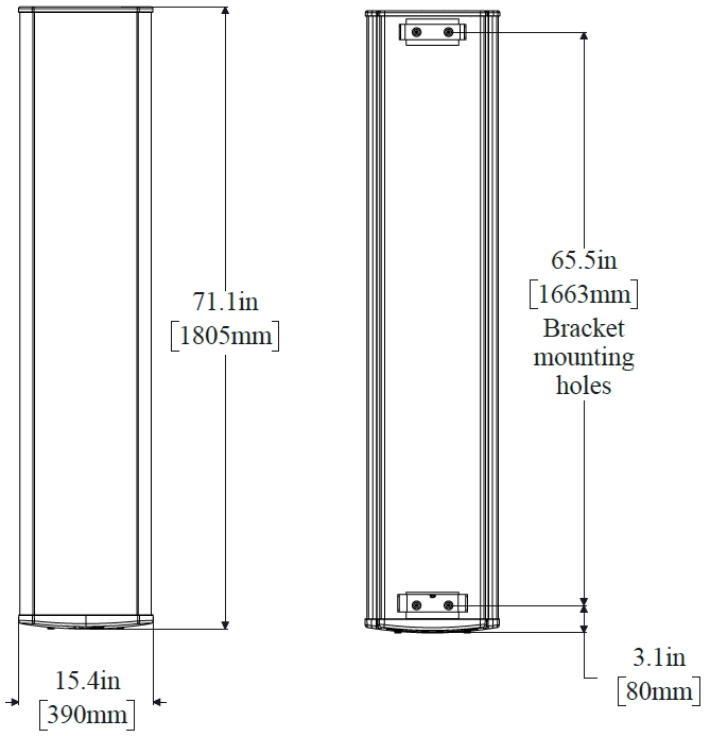
[1] Typical value over frequency and tilt

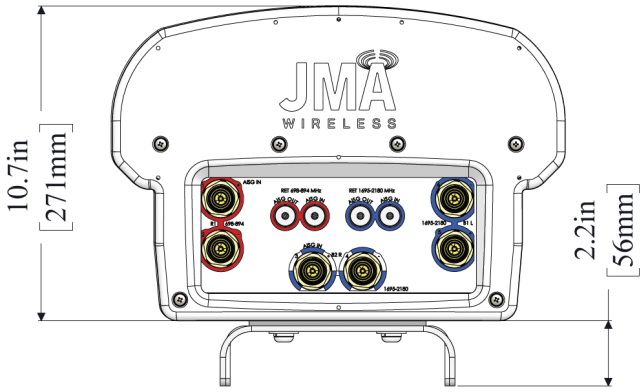
MX06FRO660-03

NWAV™ X-Pol Hex-Port Antenna

Mechanical specifications	
Dimensions height/width/depth, inches (mm)	71.3/ 15.4/ 10.7 (1811/ 392/ 273)
Shipping dimensions length/width/height, inches (mm)	82/ 20/ 15 (2083/ 508/ 381)
No. of RF input ports, connector type, and location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf·in (10.85 N·m or 8 lbf·ft)
Net antenna weight, lb (kg)	60 (27.0)
Shipping weight, lb (kg)	90 (41.0)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	18 (8.18)
Range of mechanical up/down tilt	-2° to 14°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral, and rear wind loading @ 150 km/h, lbf (N)	154 (685), 73 (325), 158 (703)
Equivalent flat plate @ 100 mph and Cd=2, sq ft	2.6

Front view | **Back view** | **Bottom view**





Ordering information	
Antenna model	**Description**
MX06FRO660-03	6F X-Pol HEX FRO 60° independent tilt 700/850 RET, 4.3-10 & SBT
Optional accessories	
AISG cables	M/F cables for AISG connections
PCU-1000 RET controller	Stand-alone controller for RET control and configurations

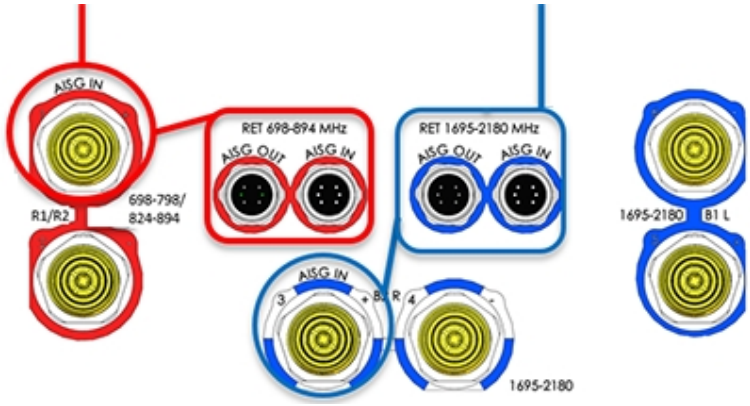
Remote electrical tilt (RET 1000) information	
RET location	Integrated into antenna
RET interface connector type	8-pin AISG connector per IEC 60130-9
RET connector torque	Min 0.5 N·m to max 1.0 N·m (hand pressure & finger tight)
RET interface connector quantity	2 pairs of AISG male/female connectors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

RET and RF connector topology

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

RET device	Band	RF port
R1	698-798	1-2
R2	824-894	1-2

RET device	Band	RF port
B1/B2	1695-2180	3-6

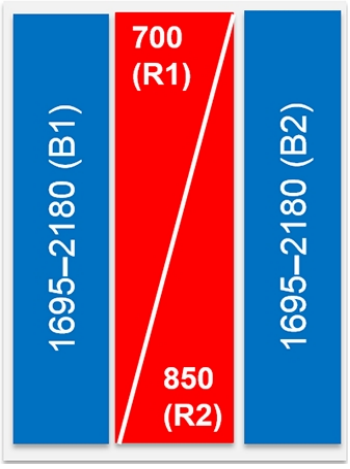


Array topology

3 sets of radiating arrays

R1/R2: 698-894 MHz
B1: 1695-2180 MHz
B2: 1695-2180 MHz

Band	RF port
1695-2180	3-4
698-894	1-2
1695-2180	5-6



[CBRS] Clip-on Antenna Specifications

VzW accepted IP45 in FLD, but IP55 is Samsung Spec.

Items	Clip-on Antenna, BASTA**
Antenna Gain	12.5 ± 0.5 dBi (Max 13 dBi)
Horizontal BW (-3dB)	65° ± 5°
Vertical BW (-3dB)	17° ±3°
Electrical Tilt	8° (fixed) ±2°
Front-to-Back Ratio	> 25 dB
Port-to-Port Tracking	< 3 dB
VSWR	< 1.5
Isolation	> 25 dB
Ingress Protection	**IP55**
Size	220(W)×313(H)×34.3(D) mm (*) (8.7 x 12.3 x 1.4 inch.)
Weight	< **2.0** kg [Typ. 1.3 kg]
It is required that the radio should be weatherproofed properly with JMA WPS Boot with external antenna or with Weatherproof Boot for clip-on antennas.	

Antenna includes integrated cable with connector
* Design is subject to minor change

** Ant. spec. follows NGMN recommendations on Base Station Antenna Standards (BASTA). For example, 'mean ± tolerance of 86.6%' is applied to double-sided specification of statistical RF parameters.

ATTACHMENT 3

	General	Power	Density					
Site Name: Shelton N 2								
Tower Height: Verizon @ 123.5, 125ft, 127.5								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**FREQ.**	**CALC. POWER DENS**	**MAX. PERMISS.EXP.**	**FRACTION MPE**	**Total**
*AT&T-LTE	2	470	163	700	0.013714266	0.466666667	0.29%	
*AT&T-PCS-LTE	4	1194	163	1900	0.069680144	1	0.70%	
*AT&T-LTE	4	736	163	850	0.042951914	0.566666667	0.76%	
*AT&T-AWS-LTE	4	1181	163	2300	0.068921482	1	0.69%	
*AT&T-LTE	2	546	163	850	0.015931892	0.566666667	0.28%	
*AT&T-WCS-LTE	4	917	163	1900	0.053514817	1	0.54%	
*AT&T-PCS-UMTS	2	414	163	1900	0.012080226	1	0.12%	
*Sprint	1	438	149	850	0.007702755	0.566666667	0.14%	
*Sprint	2	1094	149	850	0.0384786	0.566666667	0.68%	
*Sprint	5	623	149	1900	0.054781006	1	0.55%	
*Sprint	2	1556	149	1900	0.054728247	1	0.55%	
*Sprint	8	640	149	2500	0.090041332	1	0.90%	
*PageNet			181	931	0.017	0.620666667	0.27%	
*Arrow Bus			160		0.0038	1	0.04%	
*T-Mobile	2	2057	135	1900	0.088905554	1	0.89%	
*T-Mobile	2	2308	135	2100	0.099754019	1	1.00%	
*T-Mobile	2	592	135	600	0.02558682	0.4	0.64%	
*T-Mobile	1	1578	135	600	0.034101352	0.4	0.85%	
*T-Mobile	2	649	135	700	0.028050415	0.466666667	0.60%	
*T-Mobile	2	2204	135	1900	0.095259038	1	0.95%	
*T-Mobile	2	1295	135	2100	0.055971168	1	0.56%	
*T-Mobile	2	6413	135	2500	0.277176138	1	2.77%	
*T-Mobile	2	6413	135	2500	0.2772	1.0000	2.77%	
*Metricom			171.5		0.0002	1.0000	0.00%	
VZW 700	**4**	**582**	**125**	**751**	**0.0054**	**0.5007**	**1.07%**	
VZW CDMA	**2**	**499**	**125**	**876.03**	**0.0023**	**0.5840**	**0.39%**	
VZW Cellular	**4**	**582**	**125**	**874**	**0.0054**	**0.5827**	**0.92%**	
VZW PCS	**4**	**1399**	**125**	**1980**	**0.0129**	**1.0000**	**1.29%**	
VZW AWS	**4**	**1570**	**125**	**2120**	**0.0145**	**1.0000**	**1.45%**	
VZW CBRS	**4**	**53**	**127.5**	**3625**	**0.0005**	**1.0000**	**0.05%**	
VZW CBAND	**2**	**12190**	**123.5**	**3730.08**	**0.0575**	**1.0000**	**5.75%**	
								28.45%
* Source: Siting Council								

ATTACHMENT 4

AT&T Towers
2180 Lake Blvd, 5th Floor (5B13)
Brookhaven, GA 30319
(678) 917-1020

GPD Engineering and Architecture Professional Corporation
Brian Daugherty
520 South Main Street, Suite 2531
Akron, OH 44311
(216) 927-8687
bdaugherty@gpdgroup.com

GPD# 2022723.01.SNET025.13
February 25, 2022

STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**Site USID:**	**27016**
	Alternate USID:	**SNET025**
	Site FA:	**10034975**
	Site Name:	**SHELTON EAST CENTRAL**
VERIZON DESIGNATION:	**Site Number:**	**467793**
	Site Name:	**SHELTON NORTH 2 CT**
ANALYSIS CRITERIA:	**Codes:**	**TIA-222-H** **119 MPH 3-second gust with 0" ice** **50 MPH 3-second gust with 1" ice**
SITE DATA:		**219 Nells Rock Road, Shelton, CT 06484, Fairfield County** **Latitude 41° 18' 15.070" N, Longitude 73° 07' 5.898" W** **Market: NEW ENGLAND** **162.5' Modified Self Support Tower**

To whom it may concern,

GPD is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing, proposed, and future loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	67.9%	Pass
Foundation Ratio with Proposed Equipment:	44.4%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T Towers. If you have any questions or need further assistance on this or any other projects, please do not hesitate to call.

Respectfully submitted,

Christopher J. Scheks, P.E.
Connecticut #: 0030026

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing modified structure is capable of carrying the proposed/future loading configuration as specified by Verizon and commissioned by AT&T Towers.

The analysis has been performed in accordance with the TIA-222-H Standard based upon a 3-second gust wind speed of 119 mph. Applicable Standard references and design criteria are listed in Appendices A & B.

All modifications designed by GPD (Project #: 2013723.SNET025.01, dated 3/1/2013 & Project #: 2014701.02, dated 2/10/2014) were considered in the analysis.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Legs	35.2%	Pass
Leg Bolts	37.0%	Pass
Diagonals	67.9%	Pass
Horizontals	54.0%	Pass
Redundant Members	45.4%	Pass
Inner Bracing	39.5%	Pass
Member Bolts	48.7%	Pass
Anchor Rods	29.5%	Pass
Foundations	44.4%	Pass

ANALYSIS METHOD

RISA-3D (Version 17.0.1) and tnxTower (Version 8.1.1.0), commercially available software programs, were used to create a three-dimensional model of the tower and calculate primary member stresses for various load cases. Selected output from the analysis is included in the report appendices. The following table details the information provided to complete this structural analysis. The analysis is solely based on this information.

DOCUMENTS PROVIDED

Document	Remarks	Source
Site Lease Application	Verizon Site #: 467793, dated 11/8/2021	AT&T
RF Data Sheet	RFDS Name: CTL02113, dated 10/21/2021	AT&T
Mount Analysis	Maser Project #: 21781010A, dated 10/4/2021	AT&T
Tower Design	Not Provided	N/A
Foundation Design	Not Provided	N/A
Foundation Mapping	GPD Project #: 2016713.69, dated 9/28/2016	AT&T
Geotechnical Report	GPD Project #: 2016713.69, dated 9/28/2016	AT&T
Previous Structural Analysis	K-H Project #: KHCLE-4156, dated 11/5/2020	AT&T
Tower Mapping	GPD Project #: 2016713.69, dated 10/14/2016	AT&T
Modification Drawings	GPD Project #: 2013723.01.SNET025.01, dated 3/1/2013	AT&T
Modification Drawings	GPD Project #: 2014701.02, dated 2/10/2014	AT&T
Post Modification Inspection	GPD Project #: 2013723.01.SNET025.03, dated 9/26/2013	AT&T
Post Modification Inspection	GPD Project #: 2014723.01.SNET025.07, dated 6/4/2014	AT&T
Tower Sketch	AT&T Tower Sketch Issue 6, dated 6/6/2010	AT&T

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower member sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations.
6. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
7. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
8. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
9. All prior structural modifications are assumed to be as per data supplied/available and to have been properly installed.
10. Not all foundation steel was not able to be determined through testing. Therefore, it was assumed that the foundation steel in place is equal to or in excess of the code required minimums.
11. Loading interpreted from photos is accurate to ±5' AGL, antenna size accurate to ±3.3 sf, and coax equal to the number of existing antennas without reserve.
12. Face A is assumed to be at an azimuth of 57° based on the AT&T Tower Sketch Issue 6, dated 6/6/2010.
13. All existing loading was obtained from the previous analysis by Kimley Horn (Project #: KHCLE-4156, dated 11/5/2020), the provided Site Lease Application, RF Data Sheet, and site photos and is assumed to be accurate.
14. The proposed loading was obtained from the provided Site Lease Application and is assumed to be accurate.
15. The future loading was obtained from the provided RF Data Sheet and is assumed to be accurate.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD has not performed a recent site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

GPD does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the capability of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the code specified amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

GPD makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	SHELTON EAST CENTRAL
Site Number	SNET025 (27016)
FA Number	10034975
Date of Analysis	2/25/2022
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	SST	
Tower Height (top of steel AGL)	162.5'	
Tower Manufacturer	n/a	
Tower Model	n/a	
Tower Design	n/a	
Foundation Design	n/a	
Geotech Report	GPD Project #: 2016713.69	9/28/2016
Tower Mapping	GPD Project #: 2016713.69	10/14/2016
Previous Structural Analysis	K-H Project #: KHCLE-4156	11/5/2020
Modification Drawings	GPD Project #: 2013723.01.SNET025.01	3/1/2013
Modification Drawings	GPD Project #: 2014701.02	2/10/2014
Post Modification Inspection	GPD Project #: 2013723.01.SNET025.03	9/26/2013
Post Modification Inspection	GPD Project #: 2014723.01.SNET025.07	6/4/2014
Mount Analysis	Maser Project #: 21781010A	10/4/2021
Foundation Mapping	GPD Project #: 2016713.69	9/28/2016

Design Parameters

Design Code Used	TIA-222-H
Location of Tower (County, State)	Fairfield, CT
Nominal Wind Speed (mph)	119 (3-second gust)
Ice Thickness (in)	1
Risk Category (I, II, III)	II
Exposure Category (B, C, D)	B
Topographic Category (1 to 5)	1

Analysis Results (% Maximum Usage)

Existing/Reserved + Future + Proposed Condition	
Tower (%)	67.9%
Anchor Rods (%)	29.5%
Foundation (%)	44.4%
Tower Adequate?	Yes
Foundation Adequate?	Yes

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
Unknown	162.5	170	1	Dipole	Unknown	10' Dipole		1	Unknown	28' Sq. Platform w/ Rails	1	Unknown	1/2"	Face D
Unknown	162.5	156	1	Dipole	Unknown	15' Dipole				on the same mount	1	Conduit	1-1/2"	Face D
Misc.	162.5	175	1	Light	Unknown	Beacon		1	Unknown	13' W5 x 13' Post	2	Unknown	7/8"	Face D
Unknown	162.5	184	1	Dipole	Unknown	15' Dipole		2	Unknown	14' Post w/ (2) 2' Side Arms	1	Unknown	3/4"	Face D
Unknown	162.5	183	1	Omni	Unknown	10' Omni				on the same mounts	1	Unknown	7/8"	Face C
AT&T Mobility	163	165	3*	Panel	Quintel	QS66512-2	90/210/340	2	Unknown	W8 x 19' Beams	6	Unknown	1-5/8"	Face D
AT&T Mobility	163	165	3*	Panel	CCI	HPA-65R-BUU-H6	90/210/340			on the same mounts	6*	Unknown	1-5/8"	Face D
AT&T Mobility	163	165	3*	Panel	Powerwave	7770	25/143/265			on the same mounts				
AT&T Mobility	163	165	3	Panel	Kathrein	80010965	90/210/340			on the same mounts				
AT&T Mobility	163	165	6*	RET	Powerwave	7020				on the same mounts				
AT&T Mobility	163	165	12*	Triplexer	CCI	TPX-070821				on the same mounts				
AT&T Mobility	163	165	6*	TMA	Powerwave	LGP 21401				on the same mounts				
AT&T Mobility	163	165	6*	Diplexer	Powerwave	LGP 13519				on the same mounts				
AT&T Mobility	163	165	2*	Filter	Commscope	WCS-IMFQ-AMT				on the same mounts				
AT&T Mobility	163	165	3*	RRU	Ericsson	RRUS-11 B12		1	Unknown	RRU Mount	2	DC Power	7/8"	Face D
AT&T Mobility	163	165	3*	RRU	Ericsson	RRUS-12 B5				on the same mount	1	Fiber	1/2"	Face D
AT&T Mobility	163	165	3	RRU	Ericsson	RRUS 4478 B14				on the same mount				
AT&T Mobility	163	165	3	RRU	Ericsson	RRUS-32 B30				on the same mount				
AT&T Mobility	163	165	3	RRU	Ericsson	RRUS-32 B2				on the same mount				
AT&T Mobility	163	165	3	RRU	Ericsson	RRUS-32 B66A				on the same mount				
AT&T Mobility	163	165	6	Surge	Commscope	APTDC-BDFDM-DB				on the same mount				
AT&T Mobility	163	167	1	Surge	Raycap	DC6-48-60-18-8C-EV				on the same mount				
Sprint	153	152	3	RRH	Alcatel Lucent	RRH2X50-800		3	Unknown	Dual Standoff Mounts	3	Hybriflex	1-1/4"	Face B
Sprint	153	152	3	RRH	Alcatel Lucent	RRH1900-4X40				on the same mounts				
Sprint	153	152	3	RRH	Alcatel Lucent	TD-RRH8X20-25				on the same mounts				
Sprint	153	152	3	RRH	Alcatel Lucent	RRH-2x50-800				on the same mounts				
Sprint	148	149	3	Panel	RFS	APXVSPP18	50/270/250	3	Unknown	14' Sector Frames	3	Hybrid	1/2"	Face B
Sprint	148	149	3	Panel	Nokia	AAHC	50/270/250			on the same mounts	3	RET	3/8"	Face B
Misc.	144							1	Unknown	30' x 30' Cross Catwalk w/ Rails				
T-Mobile	135	135	3	Panel	Ericsson	AIR 32 KRD901146-1_B66A_B2A	60/180/300	3	Unknown	2' Standoffs	6	Unknown	1-5/8"	Face D
T-Mobile	135	135	3	Panel	RFS	APXVAARR24_43-U-NA20	60/180/300			on the same mounts	6	Hybrid	1-3/8"	Face D
T-Mobile	135	135	3	Panel	Ericsson	AIR6449 B41	60/180/300			on the same mounts				
T-Mobile	135	135	3	RRU	Ericsson	RRU4449 B71+B12				on the same mounts				
T-Mobile	135	135	3	RRU	Ericsson	Radio 4415				on the same mounts				
T-Mobile	135	135	3	RRU	Ericsson	SDX				on the same mounts				
T-Mobile	135	135	3	TMA	Ericsson	KRY 112 144				on the same mounts				
Verizon	124.5	125	6	Panel	Andrew	DB846F65ZAXY	20/190/270	3	Unknown	12' Sector Frames	17	Unknown	1-5/8"	Face C
Verizon	124.5	125	4*	Panel	Andrew	SBNHH-1D65B	20/270			on the same mounts	2	Hybrid	1-5/8"	Face C
Verizon	124.5	125	2*	Panel	Andrew	SBNHH-1D45B	190			on the same mounts				
Verizon	124.5	125	2*	Panel	Antel	BXA 185063/12CF	190/270			on the same mounts				
Verizon	124.5	125	1*	Panel	Antel	BXA 185085/12CF	20			on the same mounts				
Verizon	124.5	125	3*	RRU	Nokia	B66 RRH4X45AWS				on the same mounts				
Verizon	124.5	125	3*	RRU	Nokia	B13 RRH4X30/2X60-4R				on the same mounts				
Verizon	124.5	125	3*	RRU	Nokia	B25 RRH4X30				on the same mounts				
Verizon	124.5	125	2	ODU	RFS	DB-T1-6Z-8AB-OZ				on the same mounts				
Misc.	112.5							1	Unknown	4.25' x 7' Catwalk				
Misc.	87.5							2	Unknown	23' x 3' Catwalks				
Sprint	65	65	1	GPS	PCTEL	GPS-TMG-HR-26NCM				Leg Mounted	1	Unknown	1/2"	Face D
Misc.	62.5							1	Unknown	13' x 4.25' Catwalk				
Misc.	25							1	Unknown	13' x 4.25' Catwalk				

*Indicates equipment to be removed

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
Verizon	124.5	127	3	Panel	Samsung	RT4401-48A	20/190/270			on the existing mounts				
Verizon	124.5	125	6	Panel	JMA	MX06FRO660-03	20/190/270			on the existing mounts				
Verizon	124.5	125	3	RRU	Samsung	RF4439D-25A				on the existing mounts				
Verizon	124.5	125	3	RRU	Samsung	RF4440D-13A				on the existing mounts				
Verizon	124.5	123	3	Panel	Samsung	MT6407-77A	20/190/270			on the existing mounts				

Note: The proposed loading shall be installed in addition to the remaining existing loading at the same elevation.

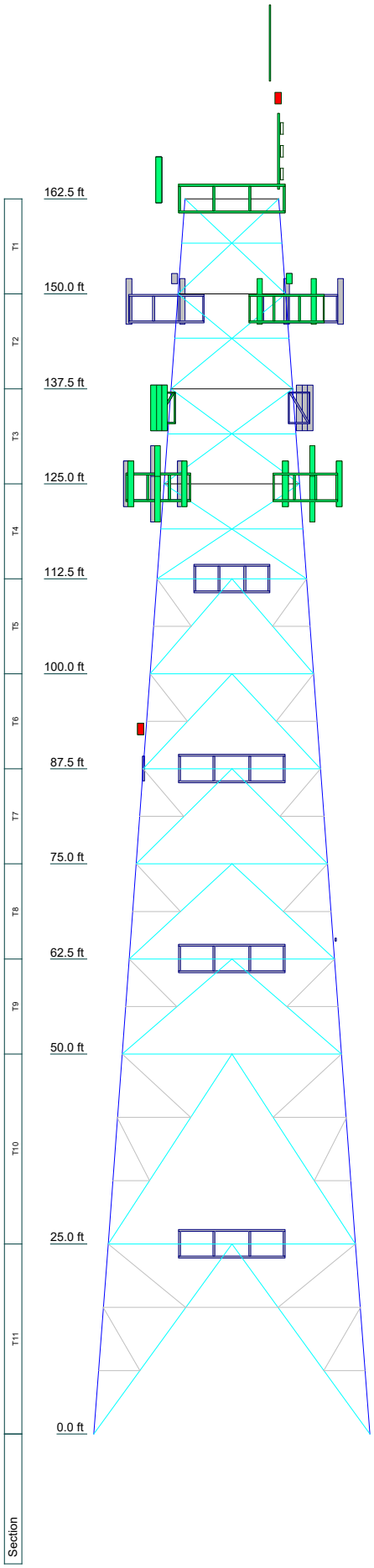
Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
AT&T Mobility	163	165	3	Panel	Quintel	QD8616-7	90/210/340			on the existing W8 x 19' Beams	2	DC Power	7/8"	Face D
AT&T Mobility	163	165	3	Panel	Ericsson	AIR6449 B77D+AIR6419 B77G	90/210/340			on the existing W8 x 19' Beams	1	Fiber Line	1/2"	Face D
AT&T Mobility	163	165	3	RRU	Ericsson	4449 B5/B12				on the existing RRU mount				
AT&T Mobility	163	165	3	RRU	Ericsson	RRUS-E2 B29				on the existing RRU mount				
AT&T Mobility	163	165	1	Surge	Raycap	DC6-48-60-18				on the existing RRU mount				

Note: The future loading shall be installed in addition to the remaining existing loading at the same elevation.
Note: The future coax shall be installed on Face D with AT&T Mobility's existing coax, as illustrated in Appendix B.

APPENDIX B

Software Output Files and Calculations



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
DC6-48-60-18-8C-EV	167	APXVSPP18 w/ Mount Pipe	148
(3) RRUS 4478 B14	165	30' x 30' Cross Catwalk w/ Handrails	144
(3) RRUS-32 B30	165	2' Standoff	135
(3) RRUS-32 B2	165	2' Standoff	135
(3) RRUS-32 B66A	165	2' Standoff	135
(3) 4449 B5/B12	165	AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	135
(3) RRUS-E2 B29	165	AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	135
DC6-48-60-18	165	AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	135
W8 x 19' Beams	163	APXVAARR24_43-U-NA20 w/ Mount Pipe	135
W8 x 19' Beams	163	APXVAARR24_43-U-NA20 w/ Mount Pipe	135
QD8616-7 w/ Mount Pipe	163	APXVAARR24_43-U-NA20 w/ Mount Pipe	135
QD8616-7 w/ Mount Pipe	163	AIR6449 B41 w/ Mount Pipe	135
QD8616-7 w/ Mount Pipe	163	AIR6449 B41 w/ Mount Pipe	135
AIR6449 B77D+AIR6419 B77G (Stacked) w/ Mount Pipe	163	AIR6449 B41 w/ Mount Pipe	135
AIR6449 B77D+AIR6419 B77G (Stacked) w/ Mount Pipe	163	RRU4449 B71+B12	135
AIR6449 B77D+AIR6419 B77G (Stacked) w/ Mount Pipe	163	RRU4449 B71+B12	135
80010965 w/ Mount Pipe	163	RRU4449 B71+B12	135
80010965 w/ Mount Pipe	163	Radio 4415	135
80010965 w/ Mount Pipe	163	Radio 4415	135
(2) APTDC-BDFDM-DB	163	Radio 4415	135
(2) APTDC-BDFDM-DB	163	SDX	135
(2) APTDC-BDFDM-DB	163	SDX	135
10' Omni	162.5	SDX	135
15' Dipole	162.5	KRY 112 144	135
Pipe Mount 14'x2.875"	162.5	KRY 112 144	135
2' Standoff	162.5	KRY 112 144	135
2' Standoff	162.5	12' Sector Frame	124.5
Flash Beacon Lighting	162.5	12' Sector Frame	124.5
W5 x 13' Mount	162.5	12' Sector Frame	124.5
15' Dipole	162.5	(2) DB846F65ZAXY w/Mount Pipe	124.5
10' Dipole	162.5	(2) DB846F65ZAXY w/Mount Pipe	124.5
Pipe Mount 14'x2.875"	162.5	(2) DB846F65ZAXY w/Mount Pipe	124.5
2' Standoff	162.5	RT4401-48A w/ Mount Pipe	124.5
2' Standoff	162.5	RT4401-48A w/ Mount Pipe	124.5
28' Square Platform w/ Rails	162.5	RT4401-48A w/ Mount Pipe	124.5
(2) 2.5" x 3.5' Mount Pipe	153	(2) MX06FRO660-03 w/ Mount Pipe	124.5
(2) 2.5" x 3.5' Mount Pipe	153	(2) MX06FRO660-03 w/ Mount Pipe	124.5
(2) 2.5" x 3.5' Mount Pipe	153	(2) MX06FRO660-03 w/ Mount Pipe	124.5
RRH2X50-800	153	MT6407-77A	124.5
RRH2X50-800	153	MT6407-77A	124.5
RRH2X50-800	153	MT6407-77A	124.5
1900MHz 4X40W RRH	153	RF4439D-25A	124.5
1900MHz 4X40W RRH	153	RF4439D-25A	124.5
1900MHz 4X40W RRH	153	RF4439D-25A	124.5
TD-RRH8x20-25	153	RF4440D-13A	124.5
TD-RRH8x20-25	153	RF4440D-13A	124.5
TD-RRH8x20-25	153	RF4440D-13A	124.5
RRH 2x50 800 MHz	153	DB-T1-6Z-8AB-0Z	124.5
RRH 2x50 800 MHz	153	DB-T1-6Z-8AB-0Z	124.5
RRH 2x50 800 MHz	153	4.25' x 7' Catwalk	112.5
14' Sector Frame	148	Side Light	92
14' Sector Frame	148	Side Light	92
14' Sector Frame	148	23' x 3' Catwalk	87.5
Pipe Mount 6'x2.375"	148	23' x 3' Catwalk	87.5
Pipe Mount 6'x2.375"	148	GPS-TMG-HR-26N	65
Pipe Mount 6'x2.375"	148	13' x 4.25' Catwalk	62.5
AAHC w/ Mount Pipe	148	13' x 4.25' Catwalk	25
AAHC w/ Mount Pipe	148		
AAHC w/ Mount Pipe	148		
APXVSPP18 w/ Mount Pipe	148		
APXVSPP18 w/ Mount Pipe	148		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

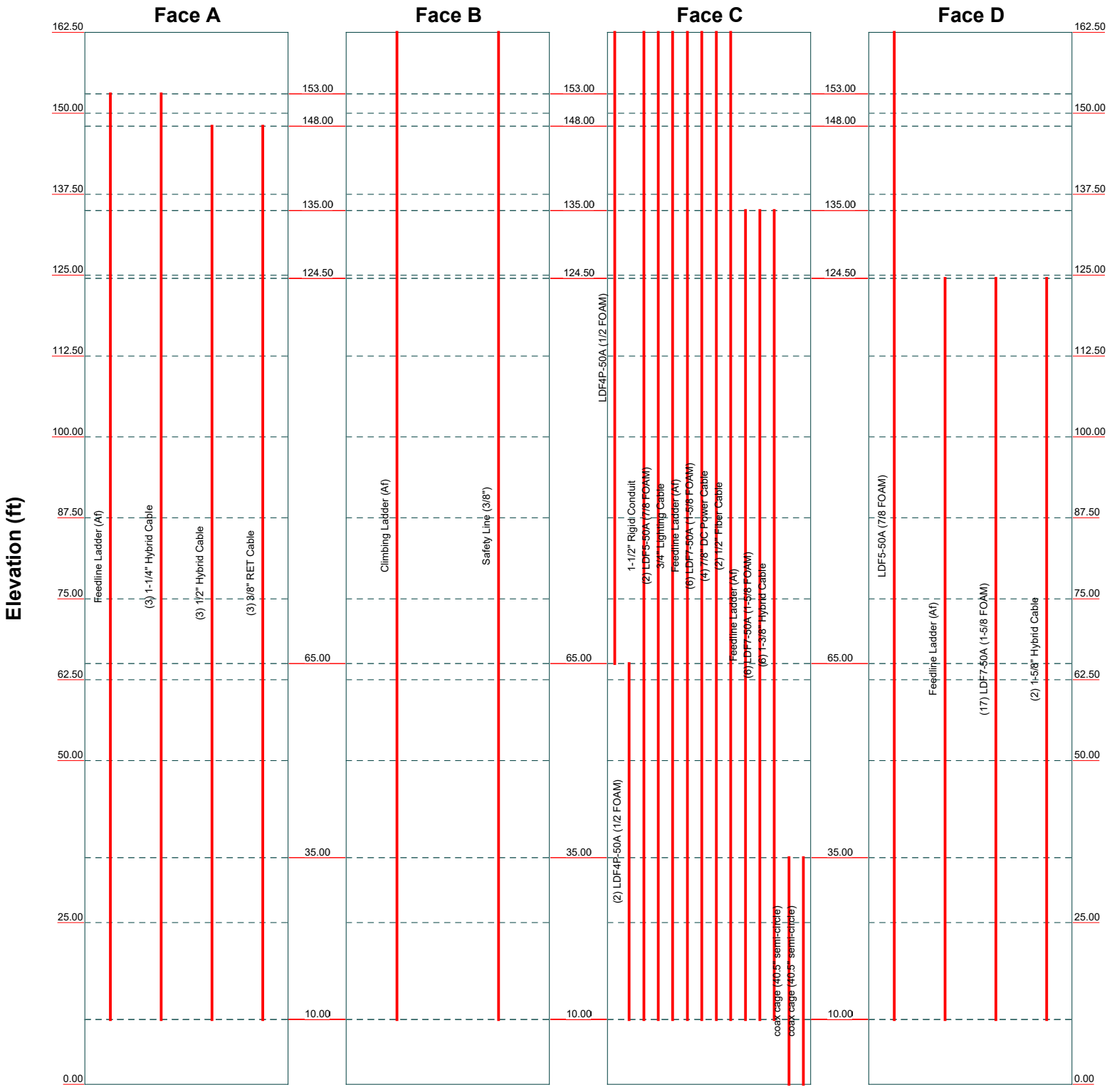
1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 119 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft

GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (330) 572-2100
FAX: (330) 572-2101

Job:	SNET025 (10034975) SHELTON EAST CENTRAL		
Project:	2022723.01.SNET025.13		
Client: AT&T Towers	Drawn by: mschooley		App'd:
Code: TIA-222-H	Date: 02/25/22		Scale: NTS
Path: T:\ATandT\SNET025\21.2022723.01.SNET025.13.AT&T.VZW.SA\5. Structural\00_Structure\00_Rev.0\03_Modeling\tnxtower\SNET025.eri			Dwg No. E-1

Feed Line Distribution Chart
0' - 162'6"

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



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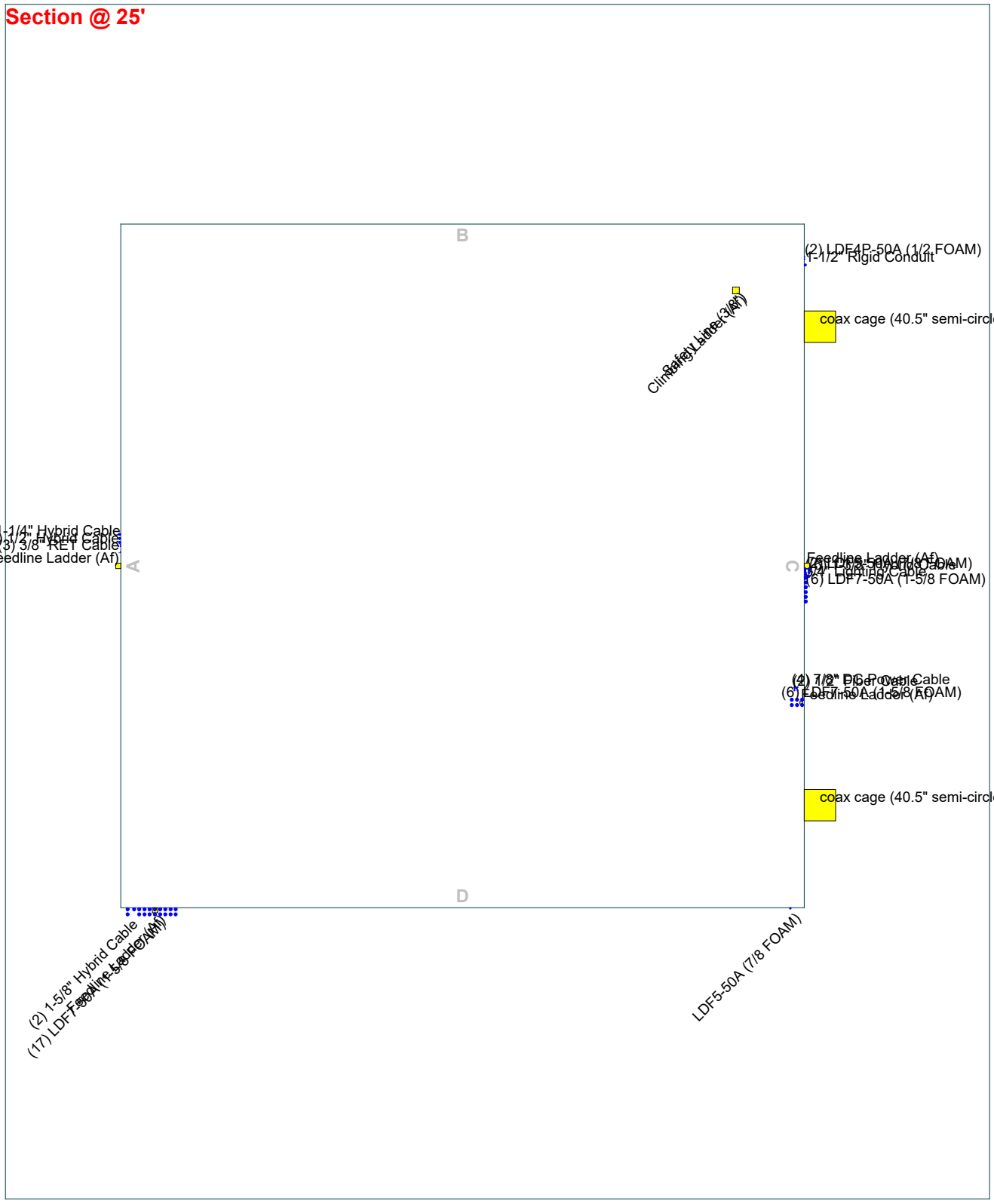
Job:	***SNET025 (10034975) SHELTON EAST CENTRAL***		
Project:	***2022723.01.SNET025.13***		
Client: AT&T Towers	Drawn by: mschooley	App'd:	
Code: TIA-222-H	Date: 02/25/22	Scale: NTS	
Path: T:\ATandT\SNET025\21.2022723.01.SNET025.13.AT&T.VZW.SA\5. Structural\00_Structure\00_Rev.0\03_Modeling\tnotower\SNET025.eri		Dwg No. E-7	

Feed Line Plan
25'

Round Flat App In Face App Out Face

Section @ 25'



GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (330) 572-2100
FAX: (330) 572-2101

Job:	SNET025 (10034975) SHELTON EAST CENTRAL		
Project:	2022723.01.SNET025.13		
Client: AT&T Towers	Drawn by: mschooley	App'd:	
Code: TIA-222-H	Date: 02/25/22	Scale: NTS	
Path: T:\ATandT\SNET025\21.2022723.01.SNET025.13.AT&T.VZW.SA\5. Structural\00_Structure\00_Rev.0\03_Modeling\tnotower\SNET025.eri		Dwg No. E-7	

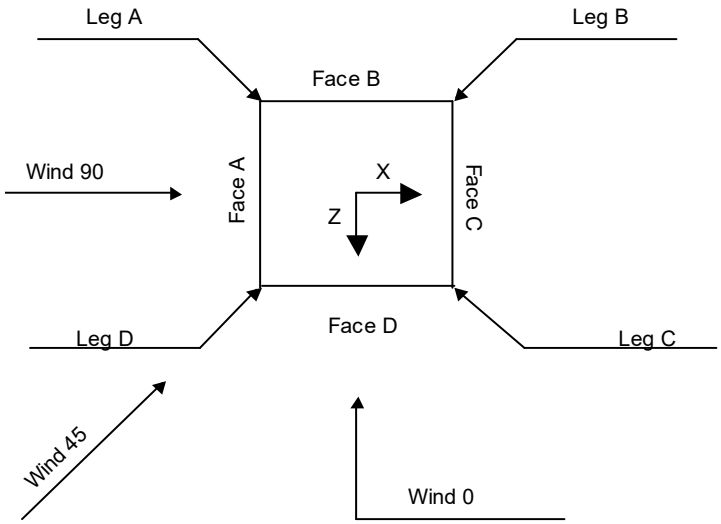
Tower Input Data

The main tower is a 4x free standing tower with an overall height of 162.50 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 12.25 ft at the top and 36.25 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Tower base elevation above sea level: 457.00 ft.
Basic wind speed of 119 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned	√	Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r	√	All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients	√	Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
√	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component		Include Shear-Torsion Interaction
√	Use Diamond Inner Bracing (4 Sided)	√	Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known



Square Tower

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Climbing Ladder (Af)	B	No	No	Af (CaAa)	162.50 - 10.00	-36.0000	0.4	1	1	3.8400	3.8400		4.81
Safety Line (3/8")	B	No	No	Ar (CaAa)	162.50 - 10.00	-36.0000	0.4	1	1	0.3750	0.3750		0.22
LDF4P-50A (1/2 FOAM)	C	No	No	Ar (CaAa)	162.50 - 65.00	0.0000	-0.45	1	1	0.6300	0.6300		0.15
LDF4P-50A (1/2 FOAM)	C	No	No	Ar (CaAa)	65.00 - 10.00	0.0000	-0.45	2	2	0.6300	0.6300		0.15
1-1/2" Rigid Conduit	C	No	No	Ar (CaAa)	162.50 - 10.00	0.0000	-0.44	1	1	1.5000	1.5000		1.00
LDF5-50A (7/8 FOAM)	C	No	No	Ar (CaAa)	162.50 - 10.00	0.0000	0.01	2	2	1.0000	1.0900		0.33
3/4" Lighting Cable	C	No	No	Ar (CaAa)	162.50 - 10.00	0.0000	0.02	1	1	0.7500	0.7500		0.35
LDF5-50A (7/8 FOAM)	D	No	No	Ar (CaAa)	162.50 - 10.00	0.0000	-0.48	1	1	1.0000	1.0900		0.33
Feedline Ladder (Af)	C	No	No	Af (CaAa)	162.50 - 10.00	-1.0000	0.2	1	1	1.5000	1.5000		4.20
LDF7-50A (1-5/8 FOAM)	C	No	No	Ar (CaAa)	162.50 - 10.00	-6.0000	0.2	6	2	1.0000	1.9800		0.82
7/8" DC Power Cable	C	No	No	Ar (CaAa)	162.50 - 10.00	-5.0000	0.18	4	2	0.8750	0.8750		0.60
1/2" Fiber Cable	C	No	No	Ar (CaAa)	162.50 - 10.00	-5.0000	0.18	2	1	0.6300	0.6300		0.15
Feedline Ladder (Af)	A	No	No	Af (CaAa)	153.00 - 10.00	0.0000	0	1	1	3.0000	3.0000		8.40
1-1/4" Hybrid Cable	A	No	No	Ar (CaAa)	153.00 - 10.00	0.0000	0.04	3	3	1.0000	1.2500		1.00
1/2" Hybrid Cable	A	No	No	Ar (CaAa)	148.00 - 10.00	0.0000	0.03	3	2	0.5000	0.5000		30.00
3/8" RET Cable	A	No	No	Ar (CaAa)	148.00 - 10.00	0.0000	0.02	3	2	0.3750	0.3750		0.10
Feedline Ladder (Af)	C	No	No	Af (CaAa)	135.00 - 10.00	0.0000	0	1	1	3.0000	3.0000		8.40
LDF7-50A (1-5/8 FOAM)	C	No	No	Ar (CaAa)	135.00 - 10.00	0.0000	0.035	6	6	0.7500	1.9800		0.82
1-3/8" Hybrid Cable	C	No	No	Ar (CaAa)	135.00 - 10.00	0.0000	0.01	6	3	0.7500	1.3750		0.65
Feedline Ladder (Af)	D	No	No	Af (CaAa)	124.50 - 10.00	0.0000	0.45	1	1	3.0000	3.0000		8.40
LDF7-50A (1-5/8 FOAM)	D	No	No	Ar (CaAa)	124.50 - 10.00	0.0000	0.45	17	9	1.0000	1.9800		0.82
1-5/8" Hybrid Cable	D	No	No	Ar (CaAa)	124.50 - 10.00	0.0000	0.49	2	1	1.0000	1.9800		0.82
coax cage (40.5" semi-circle)	C	No	No	Af (CaAa)	35.00 - 0.00	0.0000	0.35	1	1	18.0000	18.0000		20.00
coax cage (40.5" semi-circle)	C	No	No	Af (CaAa)	35.00 - 0.00	0.0000	-0.35	1	1	18.0000	18.0000		20.00

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
28' Square Platform w/ Rails	C	None		0.0000	162.50	No Ice	100.20	100.20	11.871
						1/2" Ice	111.30	111.30	15.623
						1" Ice	122.40	122.40	19.375
Flash Beacon Lighting	C	From Leg	0.00 0.00 12.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	2.70 3.10 3.50	2.70 3.10 3.50	0.050 0.070 0.090
W5 x 13' Mount	C	From Leg	0.00 0.00 6.25	0.0000	162.50	No Ice 1/2" Ice 1" Ice	5.42 7.00 8.58	5.42 7.00 8.58	0.210 0.280 0.350
15' Dipole	B	From Face	7.00 -3.00 -6.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	3.00 4.53 6.07	3.00 4.53 6.07	0.040 0.063 0.096
10' Dipole	D	From Face	7.00 5.00 7.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	2.00 3.02 4.07	2.00 3.02 4.07	0.020 0.036 0.057
Pipe Mount 14'x2.875"	B	From Face	7.00 -5.00 5.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	4.03 5.46 6.91	4.03 5.46 6.91	0.090 0.119 0.157
2' Standoff	B	From Face	6.50 -5.00 9.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	1.14 1.79 2.44	1.62 2.41 3.20	0.037 0.055 0.073
2' Standoff	B	From Face	7.50 -5.00 9.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	1.14 1.79 2.44	1.62 2.41 3.20	0.037 0.055 0.073
15' Dipole	B	From Face	7.00 5.00 21.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	3.00 4.53 6.07	3.00 4.53 6.07	0.040 0.063 0.096
Pipe Mount 14'x2.875"	D	From Face	7.00 -5.00 5.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	4.03 5.46 6.91	4.03 5.46 6.91	0.090 0.119 0.157
2' Standoff	D	From Face	6.50 -5.00 9.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	1.14 1.79 2.44	1.62 2.41 3.20	0.037 0.055 0.073
2' Standoff	D	From Face	7.50 -5.00 9.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	1.14 1.79 2.44	1.62 2.41 3.20	0.037 0.055 0.073
10' Omni	D	From Face	8.00 -5.00 20.50	0.0000	162.50	No Ice 1/2" Ice 1" Ice	2.00 3.02 4.07	2.00 3.02 4.07	0.025 0.041 0.062
***									
W8 x 19' Beams	A	From Leg	5.00 0.00 0.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	17.00 19.00 21.00	1.00 1.50 2.00	0.290 0.340 0.330
W8 x 19' Beams	D	From Leg	5.00 0.00 0.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	17.00 19.00 21.00	1.00 1.50 2.00	0.290 0.340 0.330
QD8616-7 w/ Mount Pipe	A	From Leg	5.00 0.00 2.00	70.0000	163.00	No Ice 1/2" Ice 1" Ice	18.81 19.45 20.10	11.50 12.93 14.22	0.029 0.160 0.301
QD8616-7 w/ Mount Pipe	D	From Leg	5.00 0.00 2.00	50.0000	163.00	No Ice 1/2" Ice 1" Ice	18.81 19.45 20.10	11.50 12.93 14.22	0.029 0.160 0.301
QD8616-7 w/ Mount Pipe	C	From Face	7.00 0.00	55.0000	163.00	No Ice 1/2" Ice	18.81 19.45	11.50 12.93	0.029 0.160

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			2.00			1" Ice	20.10	14.22	0.301
AIR6449 B77D+AIR6419 B77G (Stacked) w/ Mount Pipe	A	From Leg	5.00 0.00 2.00	70.0000	163.00	No Ice 1/2" Ice 1" Ice	8.81 9.30 9.78	6.13 7.02 7.79	0.148 0.217 0.295
AIR6449 B77D+AIR6419 B77G (Stacked) w/ Mount Pipe	D	From Leg	5.00 0.00 2.00	50.0000	163.00	No Ice 1/2" Ice 1" Ice	8.81 9.30 9.78	6.13 7.02 7.79	0.148 0.217 0.295
AIR6449 B77D+AIR6419 B77G (Stacked) w/ Mount Pipe	C	From Face	7.00 0.00 2.00	55.0000	163.00	No Ice 1/2" Ice 1" Ice	8.81 9.30 9.78	6.13 7.02 7.79	0.148 0.217 0.295
80010965 w/ Mount Pipe	A	From Leg	5.00 0.00 2.00	70.0000	163.00	No Ice 1/2" Ice 1" Ice	14.05 14.69 15.30	7.63 8.90 9.96	0.125 0.222 0.327
80010965 w/ Mount Pipe	D	From Leg	5.00 0.00 2.00	50.0000	163.00	No Ice 1/2" Ice 1" Ice	14.05 14.69 15.30	7.63 8.90 9.96	0.125 0.222 0.327
80010965 w/ Mount Pipe	C	From Face	7.00 0.00 2.00	55.0000	163.00	No Ice 1/2" Ice 1" Ice	14.05 14.69 15.30	7.63 8.90 9.96	0.125 0.222 0.327
(2) APTDC-BDFDM-DB	A	From Leg	5.00 0.00 2.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	0.05 0.08 0.12	0.10 0.14 0.19	0.001 0.002 0.004
(2) APTDC-BDFDM-DB	D	From Leg	5.00 0.00 2.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	0.05 0.08 0.12	0.10 0.14 0.19	0.001 0.002 0.004
(2) APTDC-BDFDM-DB	C	From Face	7.00 0.00 2.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	0.05 0.08 0.12	0.10 0.14 0.19	0.001 0.002 0.004
(3) RRUS 4478 B14	A	None		0.0000	165.00	No Ice 1/2" Ice 1" Ice	1.84 2.01 2.19	1.06 1.20 1.34	0.060 0.076 0.094
(3) RRUS-32 B30	A	None		0.0000	165.00	No Ice 1/2" Ice 1" Ice	3.31 3.56 3.81	2.42 2.64 2.86	0.077 0.105 0.136
(3) RRUS-32 B2	A	None		0.0000	165.00	No Ice 1/2" Ice 1" Ice	2.73 2.95 3.18	1.67 1.86 2.05	0.053 0.074 0.098
(3) RRUS-32 B66A	A	None		0.0000	165.00	No Ice 1/2" Ice 1" Ice	2.86 3.09 3.32	1.78 1.97 2.17	0.055 0.077 0.103
(3) 4449 B5/B12	A	None		0.0000	165.00	No Ice 1/2" Ice 1" Ice	1.97 2.14 2.33	1.41 1.56 1.73	0.071 0.090 0.111
(3) RRUS-E2 B29	A	None		0.0000	165.00	No Ice 1/2" Ice 1" Ice	3.15 3.36 3.59	1.29 1.44 1.60	0.060 0.083 0.110
DC6-48-60-18	A	None		0.0000	165.00	No Ice 1/2" Ice 1" Ice	3.81 4.06 4.32	1.37 1.55 1.74	0.048 0.072 0.100
DC6-48-60-18-8C-EV	A	None		0.0000	167.00	No Ice 1/2" Ice 1" Ice	1.14 1.79 2.00	1.14 1.79 2.00	0.026 0.047 0.070
***									
(2) 2.5" x 3.5' Mount Pipe	A	From Leg	0.50 0.00 0.00	0.0000	153.00	No Ice 1/2" Ice 1" Ice	0.74 0.96 1.18	0.74 0.96 1.18	0.020 0.027 0.036
(2) 2.5" x 3.5' Mount Pipe	B	From Leg	0.50	0.0000	153.00	No Ice	0.74	0.74	0.020

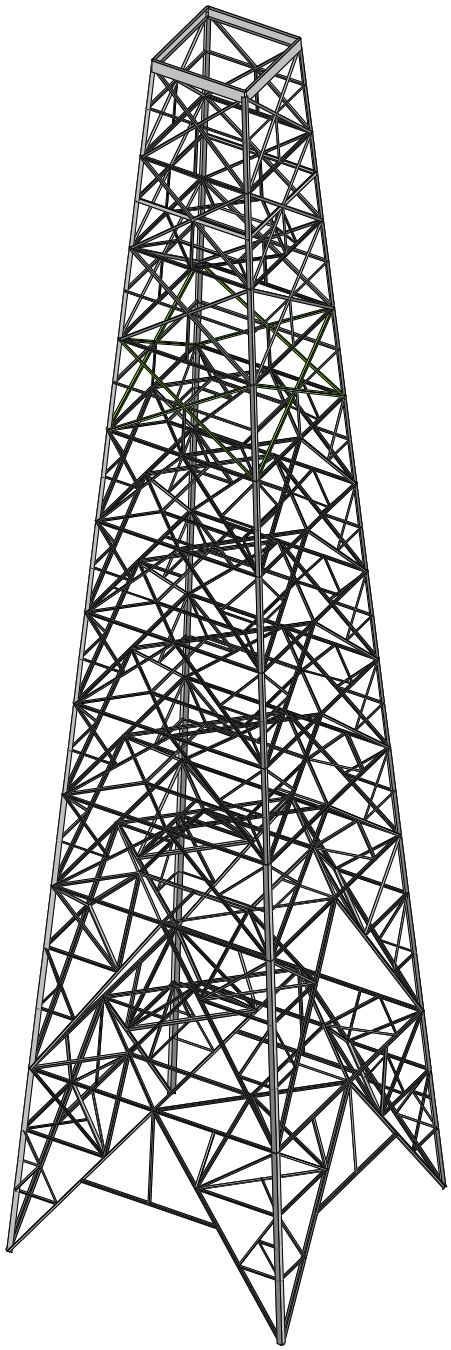
Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00				1/2" Ice	0.96	0.96	0.027
			0.00				1" Ice	1.18	1.18	0.036
(2) 2.5" x 3.5' Mount Pipe	C	From Leg	0.50		0.0000	153.00	No Ice	0.74	0.74	0.020
			0.00				1/2" Ice	0.96	0.96	0.027
			0.00				1" Ice	1.18	1.18	0.036
RRH2X50-800	A	From Leg	1.00		0.0000	153.00	No Ice	1.70	1.28	0.053
			0.00				1/2" Ice	1.86	1.43	0.070
			-1.00				1" Ice	2.03	1.58	0.090
RRH2X50-800	B	From Leg	1.00		0.0000	153.00	No Ice	1.70	1.28	0.053
			0.00				1/2" Ice	1.86	1.43	0.070
			-1.00				1" Ice	2.03	1.58	0.090
RRH2X50-800	C	From Leg	1.00		0.0000	153.00	No Ice	1.70	1.28	0.053
			0.00				1/2" Ice	1.86	1.43	0.070
			-1.00				1" Ice	2.03	1.58	0.090
1900MHz 4X40W RRH	A	From Leg	1.00		0.0000	153.00	No Ice	2.32	2.24	0.060
			0.00				1/2" Ice	2.53	2.44	0.083
			-1.00				1" Ice	2.74	2.65	0.109
1900MHz 4X40W RRH	B	From Leg	1.00		0.0000	153.00	No Ice	2.32	2.24	0.060
			0.00				1/2" Ice	2.53	2.44	0.083
			-1.00				1" Ice	2.74	2.65	0.109
1900MHz 4X40W RRH	C	From Leg	1.00		0.0000	153.00	No Ice	2.32	2.24	0.060
			0.00				1/2" Ice	2.53	2.44	0.083
			-1.00				1" Ice	2.74	2.65	0.109
TD-RRH8x20-25	A	From Leg	1.00		0.0000	153.00	No Ice	3.70	1.29	0.066
			0.00				1/2" Ice	3.95	1.46	0.090
			-1.00				1" Ice	4.20	1.64	0.117
TD-RRH8x20-25	B	From Leg	1.00		0.0000	153.00	No Ice	3.70	1.29	0.066
			0.00				1/2" Ice	3.95	1.46	0.090
			-1.00				1" Ice	4.20	1.64	0.117
TD-RRH8x20-25	C	From Leg	1.00		0.0000	153.00	No Ice	3.70	1.29	0.066
			0.00				1/2" Ice	3.95	1.46	0.090
			-1.00				1" Ice	4.20	1.64	0.117
RRH 2x50 800 MHz	A	From Leg	1.00		0.0000	153.00	No Ice	1.73	1.33	0.053
			0.00				1/2" Ice	1.90	1.48	0.070
			-1.00				1" Ice	2.07	1.64	0.091
RRH 2x50 800 MHz	B	From Leg	1.00		0.0000	153.00	No Ice	1.73	1.33	0.053
			0.00				1/2" Ice	1.90	1.48	0.070
			-1.00				1" Ice	2.07	1.64	0.091
RRH 2x50 800 MHz	C	From Leg	1.00		0.0000	153.00	No Ice	1.73	1.33	0.053
			0.00				1/2" Ice	1.90	1.48	0.070
			-1.00				1" Ice	2.07	1.64	0.091
***										
14' Sector Frame	A	From Leg	2.00		-2.0000	148.00	No Ice	23.00	13.66	0.380
			0.00				1/2" Ice	29.50	18.25	0.557
			0.00				1" Ice	36.00	22.84	0.733
14' Sector Frame	B	From Leg	1.90		18.0000	148.00	No Ice	23.00	13.66	0.380
			0.62				1/2" Ice	29.50	18.25	0.557
			0.00				1" Ice	36.00	22.84	0.733
14' Sector Frame	C	From Leg	1.41		45.0000	148.00	No Ice	23.00	13.66	0.380
			1.41				1/2" Ice	29.50	18.25	0.557
			0.00				1" Ice	36.00	22.84	0.733
Pipe Mount 6'x2.375"	A	From Leg	4.00		-2.0000	148.00	No Ice	1.43	1.43	0.026
			0.00				1/2" Ice	1.92	1.92	0.037
			1.00				1" Ice	2.29	2.29	0.052
Pipe Mount 6'x2.375"	B	From Leg	3.80		18.0000	148.00	No Ice	1.43	1.43	0.026
			1.24				1/2" Ice	1.92	1.92	0.037
			1.00				1" Ice	2.29	2.29	0.052

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Pipe Mount 6'x2.375"	C	From Leg	2.82	45.0000	148.00	No Ice	1.43	1.43	0.026
			2.82			1/2" Ice	1.92	1.92	0.037
			1.00			1" Ice	2.29	2.29	0.052
AAHC w/ Mount Pipe	A	From Leg	4.00	-2.0000	148.00	No Ice	4.89	3.26	0.122
			0.00			1/2" Ice	5.32	3.76	0.168
			1.00			1" Ice	5.77	4.28	0.218
AAHC w/ Mount Pipe	B	From Leg	3.80	18.0000	148.00	No Ice	4.89	3.26	0.122
			1.24			1/2" Ice	5.32	3.76	0.168
			1.00			1" Ice	5.77	4.28	0.218
AAHC w/ Mount Pipe	C	From Leg	2.82	58.0000	148.00	No Ice	4.89	3.26	0.122
			2.82			1/2" Ice	5.32	3.76	0.168
			1.00			1" Ice	5.77	4.28	0.218
APXVSPP18 w/ Mount Pipe	A	From Leg	4.00	-2.0000	148.00	No Ice	8.02	6.71	0.079
			0.00			1/2" Ice	8.48	7.66	0.144
			1.00			1" Ice	8.94	8.49	0.217
APXVSPP18 w/ Mount Pipe	B	From Leg	3.80	18.0000	148.00	No Ice	8.02	6.71	0.079
			1.24			1/2" Ice	8.48	7.66	0.144
			1.00			1" Ice	8.94	8.49	0.217
APXVSPP18 w/ Mount Pipe	C	From Leg	2.82	58.0000	148.00	No Ice	8.02	6.71	0.079
			2.82			1/2" Ice	8.48	7.66	0.144
			1.00			1" Ice	8.94	8.49	0.217
***									
30' x 30' Cross Catwalk w/ Handrails	C	None		0.0000	144.00	No Ice	78.00	78.00	5.664
						1/2" Ice	84.00	84.00	7.807
						1" Ice	90.00	90.00	9.950
***									
2' Standoff	A	From Leg	1.00	0.0000	135.00	No Ice	2.78	2.23	0.113
			0.00			1/2" Ice	3.39	2.43	0.143
			0.00			1" Ice	4.00	2.63	0.173
2' Standoff	B	From Leg	1.00	0.0000	135.00	No Ice	2.78	2.23	0.113
			0.00			1/2" Ice	3.39	2.43	0.143
			0.00			1" Ice	4.00	2.63	0.173
2' Standoff	D	From Leg	1.00	0.0000	135.00	No Ice	2.78	2.23	0.113
			0.00			1/2" Ice	3.39	2.43	0.143
			0.00			1" Ice	4.00	2.63	0.173
AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	A	From Leg	2.00	40.0000	135.00	No Ice	6.58	5.90	0.150
			1.00			1/2" Ice	6.97	6.56	0.210
			0.00			1" Ice	7.37	7.24	0.275
AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	B	From Leg	2.00	70.0000	135.00	No Ice	6.58	5.90	0.150
			1.00			1/2" Ice	6.97	6.56	0.210
			0.00			1" Ice	7.37	7.24	0.275
AIR 32 KRD901146-1 B66A/B2A w/ Mount Pipe	D	From Leg	2.00	10.0000	135.00	No Ice	6.58	5.90	0.150
			1.00			1/2" Ice	6.97	6.56	0.210
			0.00			1" Ice	7.37	7.24	0.275
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	2.00	-80.0000	135.00	No Ice	20.24	10.79	0.157
			-1.00			1/2" Ice	20.89	12.21	0.291
			0.00			1" Ice	21.55	13.49	0.435
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	2.00	-50.0000	135.00	No Ice	20.24	10.79	0.157
			-1.00			1/2" Ice	20.89	12.21	0.291
			0.00			1" Ice	21.55	13.49	0.435
APXVAARR24_43-U-NA20 w/ Mount Pipe	D	From Leg	2.00	-90.0000	135.00	No Ice	20.24	10.79	0.157
			-1.00			1/2" Ice	20.89	12.21	0.291
			0.00			1" Ice	21.55	13.49	0.435
AIR6449 B41 w/ Mount Pipe	A	From Leg	2.00	40.0000	135.00	No Ice	6.45	3.92	0.126
			0.00			1/2" Ice	7.02	4.64	0.181
			0.00			1" Ice	7.53	5.25	0.242
AIR6449 B41 w/ Mount Pipe	B	From Leg	2.00	70.0000	135.00	No Ice	6.45	3.92	0.126

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	7.02	4.64	0.181
			0.00			1" Ice	7.53	5.25	0.242
AIR6449 B41 w/ Mount Pipe	D	From Leg	2.00	10.0000	135.00	No Ice	6.45	3.92	0.126
			0.00			1/2" Ice	7.02	4.64	0.181
			0.00			1" Ice	7.53	5.25	0.242
RRU4449 B71+B12	A	From Leg	2.00	0.0000	135.00	No Ice	1.65	1.16	0.070
			0.00			1/2" Ice	1.81	1.30	0.086
			0.00			1" Ice	1.98	1.45	0.105
RRU4449 B71+B12	B	From Leg	2.00	0.0000	135.00	No Ice	1.65	1.16	0.070
			0.00			1/2" Ice	1.81	1.30	0.086
			0.00			1" Ice	1.98	1.45	0.105
RRU4449 B71+B12	D	From Leg	2.00	0.0000	135.00	No Ice	1.65	1.16	0.070
			0.00			1/2" Ice	1.81	1.30	0.086
			0.00			1" Ice	1.98	1.45	0.105
Radio 4415	A	From Leg	2.00	0.0000	135.00	No Ice	1.86	0.87	0.047
			0.00			1/2" Ice	2.03	1.00	0.062
			0.00			1" Ice	2.20	1.14	0.079
Radio 4415	B	From Leg	2.00	0.0000	135.00	No Ice	1.86	0.87	0.047
			0.00			1/2" Ice	2.03	1.00	0.062
			0.00			1" Ice	2.20	1.14	0.079
Radio 4415	D	From Leg	2.00	0.0000	135.00	No Ice	1.86	0.87	0.047
			0.00			1/2" Ice	2.03	1.00	0.062
			0.00			1" Ice	2.20	1.14	0.079
SDX	A	From Leg	2.00	0.0000	135.00	No Ice	0.24	0.10	0.006
			0.00			1/2" Ice	0.31	0.14	0.009
			0.00			1" Ice	0.38	0.19	0.012
SDX	B	From Leg	2.00	0.0000	135.00	No Ice	0.24	0.10	0.006
			0.00			1/2" Ice	0.31	0.14	0.009
			0.00			1" Ice	0.38	0.19	0.012
SDX	D	From Leg	2.00	0.0000	135.00	No Ice	0.24	0.10	0.006
			0.00			1/2" Ice	0.31	0.14	0.009
			0.00			1" Ice	0.38	0.19	0.012
KRY 112 144	A	From Leg	2.00	0.0000	135.00	No Ice	0.35	0.17	0.011
			0.00			1/2" Ice	0.43	0.23	0.014
			0.00			1" Ice	0.51	0.30	0.019
KRY 112 144	B	From Leg	2.00	0.0000	135.00	No Ice	0.35	0.17	0.011
			0.00			1/2" Ice	0.43	0.23	0.014
			0.00			1" Ice	0.51	0.30	0.019
KRY 112 144	D	From Leg	2.00	0.0000	135.00	No Ice	0.35	0.17	0.011
			0.00			1/2" Ice	0.43	0.23	0.014
			0.00			1" Ice	0.51	0.30	0.019
***									
12' Sector Frame	A	From Leg	1.00	0.0000	124.50	No Ice	18.81	10.62	0.513
			0.00			1/2" Ice	24.75	15.16	0.720
			0.00			1" Ice	30.69	19.70	0.926
12' Sector Frame	C	From Leg	1.00	0.0000	124.50	No Ice	18.81	10.62	0.513
			0.00			1/2" Ice	24.75	15.16	0.720
			0.00			1" Ice	30.69	19.70	0.926
12' Sector Frame	D	From Leg	1.00	0.0000	124.50	No Ice	18.81	10.62	0.513
			0.00			1/2" Ice	24.75	15.16	0.720
			0.00			1" Ice	30.69	19.70	0.926
(2) DB846F65ZAXY w/Mount Pipe	A	From Leg	2.00	0.0000	124.50	No Ice	7.27	7.82	0.047
			0.00			1/2" Ice	7.88	9.01	0.114
			0.50			1" Ice	8.48	9.91	0.189
(2) DB846F65ZAXY w/Mount Pipe	C	From Leg	1.97	-10.0000	124.50	No Ice	7.27	7.82	0.047
			-0.35			1/2" Ice	7.88	9.01	0.114
			0.50			1" Ice	8.48	9.91	0.189

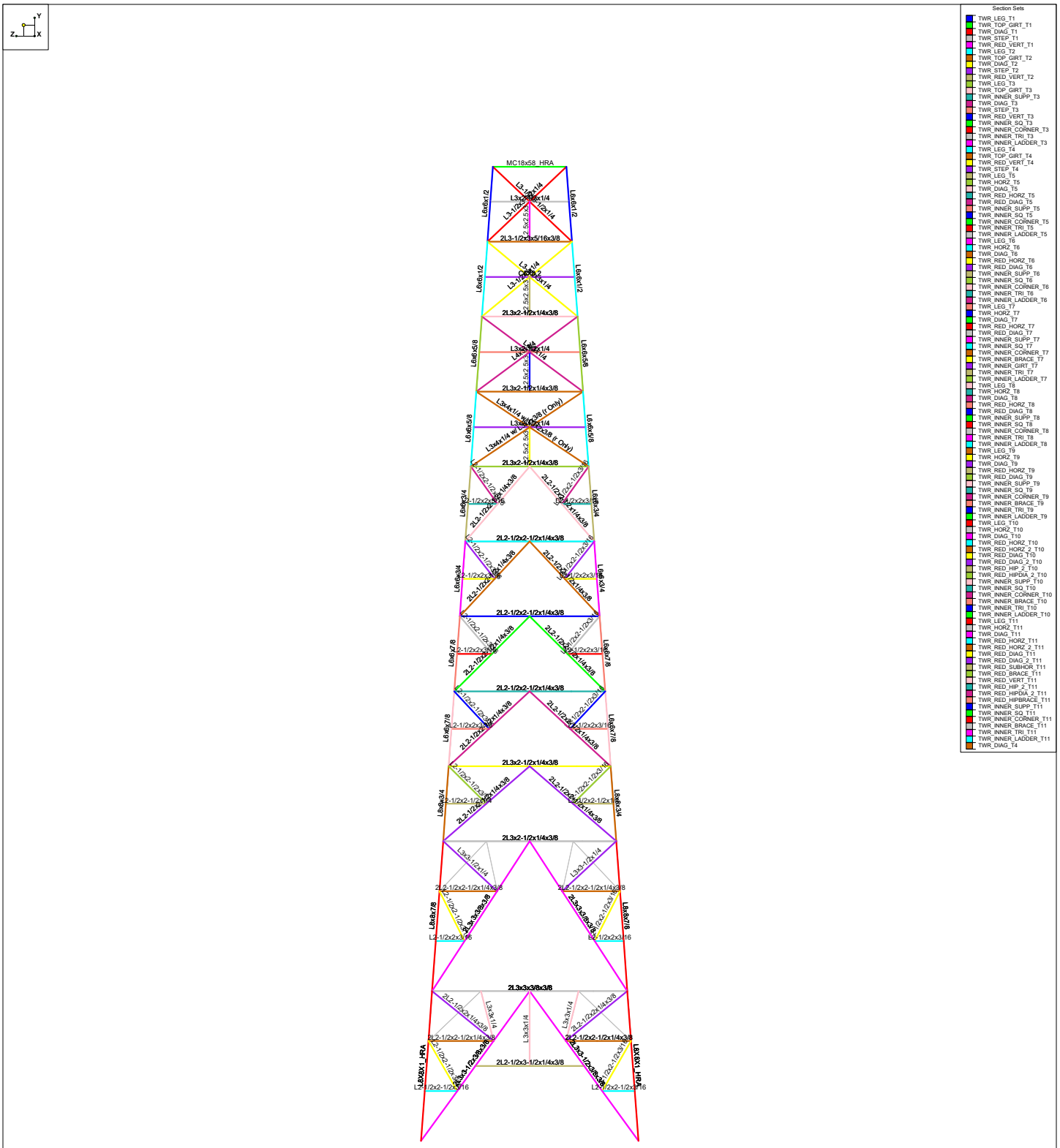
Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) DB846F65ZAXY w/Mount Pipe	D	From Leg	1.88 -0.68 0.50	-20.0000	124.50	No Ice 1/2" Ice 1" Ice	7.27 7.88 8.48	7.82 9.01 9.91	0.047 0.114 0.189
RT4401-48A w/ Mount Pipe	A	From Leg	2.00 0.00 2.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	2.64 3.18 3.63	2.17 2.79 3.29	0.045 0.073 0.105
RT4401-48A w/ Mount Pipe	C	From Leg	1.97 -0.35 2.50	-10.0000	124.50	No Ice 1/2" Ice 1" Ice	2.64 3.18 3.63	2.17 2.79 3.29	0.045 0.073 0.105
RT4401-48A w/ Mount Pipe	D	From Leg	1.88 -0.68 2.50	-20.0000	124.50	No Ice 1/2" Ice 1" Ice	2.64 3.18 3.63	2.17 2.79 3.29	0.045 0.073 0.105
(2) MX06FRO660-03 w/ Mount Pipe	A	From Leg	2.00 0.00 0.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	10.11 10.68 11.22	8.99 10.15 11.03	0.085 0.173 0.268
(2) MX06FRO660-03 w/ Mount Pipe	C	From Leg	1.97 -0.35 0.50	-10.0000	124.50	No Ice 1/2" Ice 1" Ice	10.11 10.68 11.22	8.99 10.15 11.03	0.085 0.173 0.268
(2) MX06FRO660-03 w/ Mount Pipe	D	From Leg	1.88 -0.68 0.50	-20.0000	124.50	No Ice 1/2" Ice 1" Ice	10.11 10.68 11.22	8.99 10.15 11.03	0.085 0.173 0.268
MT6407-77A	A	From Leg	2.00 0.00 -1.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	4.69 4.98 5.28	1.84 2.06 2.29	0.082 0.111 0.144
MT6407-77A	C	From Leg	1.97 -0.35 -1.50	-10.0000	124.50	No Ice 1/2" Ice 1" Ice	4.69 4.98 5.28	1.84 2.06 2.29	0.082 0.111 0.144
MT6407-77A	D	From Leg	1.88 -0.68 -1.50	-20.0000	124.50	No Ice 1/2" Ice 1" Ice	4.69 4.98 5.28	1.84 2.06 2.29	0.082 0.111 0.144
RF4439D-25A	A	From Leg	2.00 0.00 0.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.075 0.093 0.114
RF4439D-25A	C	From Leg	2.00 0.00 0.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.075 0.093 0.114
RF4439D-25A	D	From Leg	2.00 0.00 0.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.25 1.39 1.54	0.075 0.093 0.114
RF4440D-13A	A	From Leg	2.00 0.00 0.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.13 1.27 1.41	0.073 0.090 0.110
RF4440D-13A	C	From Leg	2.00 0.00 0.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.13 1.27 1.41	0.073 0.090 0.110
RF4440D-13A	D	From Leg	2.00 0.00 0.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	1.87 2.03 2.21	1.13 1.27 1.41	0.073 0.090 0.110
DB-T1-6Z-8AB-0Z	A	From Leg	2.00 0.00 0.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	4.80 5.07 5.35	2.00 2.19 2.39	0.044 0.080 0.120
DB-T1-6Z-8AB-0Z	C	From Leg	2.00 0.00 0.50	0.0000	124.50	No Ice 1/2" Ice 1" Ice	4.80 5.07 5.35	2.00 2.19 2.39	0.044 0.080 0.120
***									
4.25' x 7' Catwalk	B	From Face	0.00 0.00	0.0000	112.50	No Ice 1/2" Ice	11.50 13.40	8.90 10.50	0.750 1.000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	15.30	12.10	1.250
***									
Side Light	A	From Leg	1.00	0.0000	92.00	No Ice	0.33	0.33	0.007
			0.00			1/2" Ice	0.47	0.47	0.007
			0.00			1" Ice	0.60	0.60	0.007
Side Light	D	From Leg	1.00	0.0000	92.00	No Ice	0.33	0.33	0.007
			0.00			1/2" Ice	0.47	0.47	0.007
			0.00			1" Ice	0.60	0.60	0.007
***									
23' x 3' Catwalk	A	From Face	0.00	0.0000	87.50	No Ice	31.40	12.80	1.784
			0.00			1/2" Ice	36.80	15.70	2.514
			0.00			1" Ice	42.20	18.60	3.244
23' x 3' Catwalk	B	From Face	0.00	0.0000	87.50	No Ice	31.40	12.80	1.784
			0.00			1/2" Ice	36.80	15.70	2.514
			0.00			1" Ice	42.20	18.60	3.244
***									
GPS-TMG-HR-26N	B	From Leg	0.50	0.0000	65.00	No Ice	0.13	0.13	0.001
			0.00			1/2" Ice	0.18	0.18	0.002
			0.00			1" Ice	0.24	0.24	0.005
***									
13' x 4.25' Catwalk	B	From Face	0.00	0.0000	62.50	No Ice	18.85	7.00	1.250
			0.00			1/2" Ice	26.00	8.00	1.750
			0.00			1" Ice	33.15	9.00	2.250
***									
13' x 4.25' Catwalk	B	From Face	0.00	0.0000	25.00	No Ice	18.85	7.00	1.250
			0.00			1/2" Ice	26.00	8.00	1.750
			0.00			1" Ice	33.15	9.00	2.250
***									



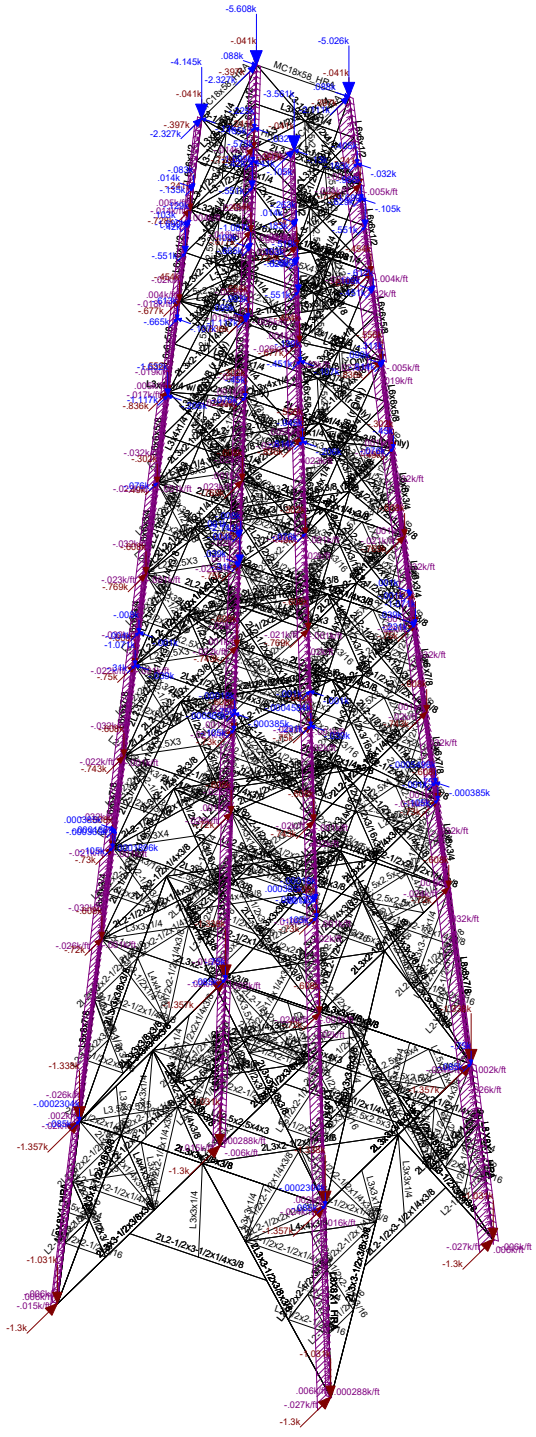
Envelope Only Solution

GPD		SK - 1
M. Schooley	SNET025 (10034975) SHELTON EAST CENTRAL	Feb 25, 2022 at 11:51 AM
2022723.01.SNET025.13	Rendered Tower	SNET025.r3d



Envelope Only Solution

GPD		SK - 2
M. Schooley	SNET025 (10034975) SHELTON EAST CENTRAL	Feb 25, 2022 at 11:55 AM
2022723.01.SNET025.13	Tower Members	SNET025.r3d



Loads: LC 2, 1.2 Dead+1.0 Wind 0 deg - No Ice
Envelope Only Solution

GPD		SK - 3
M. Schooley	SNET025 (10034975) SHELTON EAST CENTRAL	Feb 25, 2022 at 11:54 AM
2022723.01.SNET025.13	Example Loading	SNET025.r3d

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	No
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Standard Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	No
RISAConnection Code	None
Cold Formed Steel Code	None
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	None
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36	29000	11200	.295	.65	.49	36	1.5	58	1.2

General Material Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]
1	A36_Gen_Mod1	29000	11153.846	.3	.65	.994

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	TWR_LEG_T1	L6x6x1/2	Column	Single Angle	A36	Typical	5.75	19.908	19.908	.479
2	TWR_TOP_GIRT_T1	MC18x58_HRA	Beam	Channel	A36	Typical	17.1	17.8	676	2.81
3	TWR_DIAG_T1	L3-1/2x3-1/2x1/4	Column	Single Angle	A36	Typical	1.69	2.01	2.01	.039
4	TWR_STEP_T1	L3x2-1/2x1/4	Beam	Single Angle	A36	Typical	1.313	.743	1.173	.027
5	TWR_RED_VERT_T1	L2.5x2.5x3	Beam	Single Angle	A36	Typical	.901	.535	.535	.011
6	TWR_LEG_T2	L6x6x1/2	Column	Single Angle	A36	Typical	5.75	19.908	19.908	.479
7	TWR_TOP_GIRT_T2	2L3-1/2x3x5/16x3/8	Beam	None	A36	Typical	3.87	6.995	4.66	.126
8	TWR_DIAG_T2	L3-1/2x3x1/4	Column	Single Angle	A36	Typical	1.563	1.304	1.913	.033
9	TWR_STEP_T2	C6X8.2	Beam	Channel	A36	Typical	2.39	.687	13.1	.074
10	TWR_RED_VERT_T2	L2.5x2.5x3	Beam	Channel	A36	Typical	.901	.535	.535	.011
11	TWR_LEG_T3	L6x6x5/8	Column	Single Angle	A36	Typical	7.109	24.158	24.158	.926
12	TWR_TOP_GIRT_T3	2L3x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.63	3.373	2.35	.055
13	TWR_INNER_SUPP_T3	2L2-1/2x2x3/16x3/8	Beam	None	A36	Typical	1.617	1.379	1.017	.019
14	TWR_DIAG_T3	L4x3x1/4	Column	Single Angle	A36	Typical	1.688	1.355	2.769	.035
15	TWR_STEP_T3	L3x2-1/2x1/4	Beam	Single Angle	A36	Typical	1.313	.743	1.173	.027
16	TWR_RED_VERT_T3	L2.5x2.5x3	Beam	Single Angle	A36	Typical	.901	.535	.535	.011
17	TWR_INNER_SQ_T3	L3X2.5X4	Beam	Single Angle	A36	Typical	1.32	.734	1.16	.03
18	TWR_INNER_CORNER_T3	L2.5x2.5x3	Beam	Single Angle	A36	Typical	.901	.535	.535	.011
19	TWR_INNER_TRI_T3	L2X2.5X3	Beam	Single Angle	A36	Typical	.809	.509	.291	.009
20	TWR_INNER_LADDER_T3	L2X2.5X3	Beam	Single Angle	A36	Typical	.809	.509	.291	.009
21	TWR_LEG_T4	L6x6x5/8	Column	Single Angle	A36	Typical	7.109	24.158	24.158	.926
22	TWR_DIAG_T4mods	L4x3x1/4	Column	Single Angle	A36	Typical	1.688	1.355	2.769	.035
23	TWR_TOP_GIRT_T4	2L3x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.63	3.373	2.35	.055
24	TWR_RED_VERT_T4	L2.5x2.5x3	Beam	None	A36	Typical	.901	.535	.535	.011
25	TWR_STEP_T4	L3x2-1/2x1/4	Beam	Single Angle	A36	Typical	1.313	.743	1.173	.027
26	TWR_LEG_T5	L6x6x3/4	Column	Single Angle	A36	Typical	8.438	28.155	28.155	1.582
27	TWR_HORZ_T5	2L3x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.63	3.373	2.35	.055
28	TWR_DIAG_T5	2L2-1/2x2-1/2x1/4x3/8	Column	None	A36	Typical	2.38	3.347	1.41	.049
29	TWR_RED_HORZ_T5	L2-1/2x2x3/16	Beam	Single Angle	A36	Typical	.809	.291	.509	.009
30	TWR_RED_DIAG_T5	L2-1/2x2-1/2x3/16	Column	Single Angle	A36	Typical	.902	.547	.547	.011
31	TWR_INNER_SUPP_T5	2L2-1/2x2-1/2x3/16x3/8	Beam	None	A36	Typical	1.8	2.499	1.09	.021
32	TWR_INNER_SQ_T5	LL2.5x2x3x3	Beam	None	A36	Typical	1.64	1.38	1.02	.021
33	TWR_INNER_CORNER_T5	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
34	TWR_INNER_TRI_T5	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
35	TWR_INNER_LADDER_T5	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
36	TWR_LEG_T6	L6x6x3/4	Column	Single Angle	A36	Typical	8.438	28.155	28.155	1.582
37	TWR_HORZ_T6	2L2-1/2x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.38	3.347	1.41	.049
38	TWR_DIAG_T6	2L2-1/2x2-1/2x1/4x3/8	Column	None	A36	Typical	2.38	3.347	1.41	.049
39	TWR_RED_HORZ_T6	L2-1/2x2x3/16	Beam	Single Angle	A36	Typical	.809	.291	.509	.009
40	TWR_RED_DIAG_T6	L2-1/2x2-1/2x3/16	Column	Single Angle	A36	Typical	.902	.547	.547	.011
41	TWR_INNER_SUPP_T6	2L2-1/2x2-1/2x3/16x3/8	Beam	None	A36	Typical	1.8	2.499	1.09	.021
42	TWR_INNER_SQ_T6	LL2.5x2x3x3	Beam	None	A36	Typical	1.64	1.38	1.02	.021
43	TWR_INNER_CORNER_T6	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
44	TWR_INNER_TRI_T6	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
45	TWR_INNER_LADDER_T6	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
46	TWR_LEG_T7	L6x6x7/8	Column	Single Angle	A36	Typical	9.734	31.917	31.917	2.484
47	TWR_HORZ_T7	2L2-1/2x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.38	3.347	1.41	.049
48	TWR_DIAG_T7	2L2-1/2x2-1/2x1/4x3/8	Column	None	A36	Typical	2.38	3.347	1.41	.049
49	TWR_RED_HORZ_T7	L2-1/2x2x3/16	Beam	Single Angle	A36	Typical	.809	.291	.509	.009
50	TWR_RED_DIAG_T7	L2-1/2x2-1/2x3/16	Column	Single Angle	A36	Typical	.902	.547	.547	.011
51	TWR_INNER_SUPP_T7	2L2-1/2x2-1/2x3/16x3/8	Beam	None	A36	Typical	1.8	2.499	1.09	.021
52	TWR_INNER_SQ_T7	LL2.5x2x3x3	Beam	None	A36	Typical	1.64	1.38	1.02	.021
53	TWR_INNER_CORNER_T7	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
54	TWR_INNER_BRACE_T7	L2.5x2.5x4	Beam	None	A36	Typical	1.19	.692	.692	.026
55	TWR_INNER_GIRT_T7	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
56	TWR_INNER_TRI_T7	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
57	TWR_INNER_LADDER_T7	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
58	TWR_LEG_T8	L6x6x7/8	Column	Single Angle	A36	Typical	9.734	31.917	31.917	2.484
59	TWR_HORZ_T8	2L2-1/2x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.38	3.347	1.41	.049
60	TWR_DIAG_T8	2L2-1/2x2-1/2x1/4x3/8	Column	None	A36	Typical	2.38	3.347	1.41	.049
61	TWR_RED_HORZ_T8	L2-1/2x2x3/16	Beam	Single Angle	A36	Typical	.809	.291	.509	.009
62	TWR_RED_DIAG_T8	L2-1/2x2-1/2x3/16	Column	Single Angle	A36	Typical	.902	.547	.547	.011
63	TWR_INNER_SUPP_T8	2L2-1/2x2-1/2x3/16x3/8	Beam	None	A36	Typical	1.8	2.499	1.09	.021
64	TWR_INNER_SQ_T8	LL2.5x2x3x3	Beam	None	A36	Typical	1.64	1.38	1.02	.021
65	TWR_INNER_CORNER_T8	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
66	TWR_INNER_TRI_T8	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
67	TWR_INNER_LADDER_T8	L2X2.5X3	Beam	None	A36	Typical	.809	.509	.291	.009
68	TWR_LEG_T9	L8x8x3/4	Column	Single Angle	A36	Typical	11.438	69.738	69.738	2.145
69	TWR_HORZ_T9	2L3x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.63	3.373	2.35	.055
70	TWR_DIAG_T9	2L2-1/2x2-1/2x1/4x3/8	Column	None	A36	Typical	2.38	3.347	1.41	.049
71	TWR_RED_HORZ_T9	L2-1/2x2-1/2x1/4	Beam	Single Angle	A36	Typical	1.188	.703	.703	.025
72	TWR_RED_DIAG_T9	L2-1/2x2-1/2x3/16	Column	Single Angle	A36	Typical	.902	.547	.547	.011
73	TWR_INNER_SUPP_T9	2L2-1/2x2-1/2x3/16x3/8	Beam	None	A36	Typical	1.8	2.499	1.09	.021
74	TWR_INNER_SQ_T9	LL2.5x2x3x3	Beam	None	A36	Typical	1.64	1.38	1.02	.021
75	TWR_INNER_CORNER_T9	L3X3X4	Beam	None	A36	Typical	1.44	1.23	1.23	.031
76	TWR_INNER_BRACE_T9	L2.5x2.5x4	Beam	None	A36	Typical	1.19	.692	.692	.026
77	TWR_INNER_TRI_T9	L2.5x2.5x4	Beam	None	A36	Typical	1.19	.692	.692	.026
78	TWR_INNER_LADDER_T9	2L2-1/2x2-1/2x3/16x3/8	Beam	None	A36	Typical	1.8	2.499	1.09	.021
79	TWR_LEG_T10	L8x8x7/8	Column	Single Angle	A36	Typical	13.234	79.581	79.581	3.378
80	TWR_HORZ_T10	2L3x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.63	3.373	2.35	.055
81	TWR_DIAG_T10	2L3x3x3/8x3/8	Column	None	A36	Typical	4.22	8.394	3.52	.198
82	TWR_RED_HORZ_T10	L2-1/2x2x3/16	Beam	None	A36	Typical	.809	.291	.509	.009
83	TWR_RED_HORZ_2_T10	2L2-1/2x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.38	3.347	1.41	.049
84	TWR_RED_DIAG_T10	L2-1/2x2-1/2x3/16	Column	Single Angle	A36	Typical	.902	.547	.547	.011
85	TWR_RED_DIAG_2_T10	L3x3-1/2x1/4	Column	Single Angle	A36	Typical	1.563	1.913	1.304	.033
86	TWR_RED_HIP_2_T10	L4x4x3/8	Beam	Single Angle	A36	Typical	2.859	4.359	4.359	.134
87	TWR_RED_HIPDIA_2_T10	2L2-1/2x2-1/2x1/4x3/8	Column	None	A36	Typical	2.38	3.347	1.41	.049
88	TWR_INNER_SUPP_T10	L3x3x1/4	Beam	Single Angle	A36	Typical	1.438	1.244	1.244	.028
89	TWR_INNER_SQ_T10	2L3x2-1/2x1/4x3/8	Beam	Single Angle	A36	Typical	2.63	3.373	2.35	.055
90	TWR_INNER_CORNER_T10	L3x3x1/4	Beam	Single Angle	A36	Typical	1.438	1.244	1.244	.028

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
91	TWR_INNER_BRACE_T10	L2.5x2.5x3	Beam	Single Angle	A36	Typical	.901	.535	.535	.011
92	TWR_INNER_TRI_T10	L2.5x2.5x3	Beam	Single Angle	A36	Typical	.901	.535	.535	.011
93	TWR_INNER_LADDER_T10	L4X4X6	Beam	Single Angle	A36	Typical	2.86	4.32	4.32	.141
94	TWR_LEG_T11	L8X8X1_HRA	Column	Single Angle	A36	Typical	15	88.983	88.983	5
95	TWR_HORZ_T11	2L3x3x3/8x3/8	Beam	None	A36	Typical	4.22	8.394	3.52	.198
96	TWR_DIAG_T11	2L3x3-1/2x3/8x3/8	Column	None	A36	Typical	4.59	12.838	3.69	.215
97	TWR_RED_HORZ_T11	L2-1/2x2-1/2x3/16	Beam	None	A36	Typical	.902	.547	.547	.011
98	TWR_RED_HORZ_2_T11	2L2-1/2x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.38	3.347	1.41	.049
99	TWR_RED_DIAG_T11	L2-1/2x2-1/2x3/16	Column	None	A36	Typical	.902	.547	.547	.011
100	TWR_RED_DIAG_2_T11	2L2-1/2x2x1/4x3/8	Column	None	A36	Typical	2.13	1.858	1.31	.044
101	TWR_RED_SUBHOR_T11	2L2-1/2x3-1/2x1/4x3/8	Beam	None	A36	Typical	2.88	8.466	1.55	.06
102	TWR_RED_BRACE_T11	L2.5x2.5x4	Beam	None	A36	Typical	1.19	.692	.692	.026
103	TWR_RED_VERT_T11	L3x3x1/4	Beam	None	A36	Typical	1.438	1.244	1.244	.028
104	TWR_RED_HIP_2_T11	L4x4x3/8	Beam	Single Angle	A36	Typical	2.859	4.359	4.359	.134
105	TWR_RED_HIPDIA_2_T11	2L2-1/2x2-1/2x1/4x3/8	Column	None	A36	Typical	2.38	3.347	1.41	.049
106	TWR_RED_HIPBRACE_T11	L2x2x3	Column	None	A36	Typical	.722	.271	.271	.009
107	TWR_INNER_SUPP_T11	2L3x2-1/2x1/4x3/8	Beam	None	A36	Typical	2.63	3.373	2.35	.055
108	TWR_INNER_SQ_T11	LL2.5x2.5x4x3	Beam	None	A36	Typical	2.38	3.31	1.38	.052
109	TWR_INNER_CORNER_T11	L3.5X3.5X5	Beam	None	A36	Typical	2.1	2.44	2.44	.073
110	TWR_INNER_BRACE_T11	L2.5x2.5x3	Beam	None	A36	Typical	.901	.535	.535	.011
111	TWR_INNER_TRI_T11	L2.5x2.5x4	Beam	None	A36	Typical	1.19	.692	.692	.026
112	TWR_INNER_LADDER_T11	L2.5x2.5x4	Beam	None	A36	Typical	1.19	.692	.692	.026

General Section Sets

	Label	Shape	Type	Material	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	TWR_DIAG_T4	L3x4x1/4 w/ L3x2x3/8 (r Only)	Column	A36_Gen_Mod1	1.69	2.965	6.006	.114

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
1	M9	N2	N3		84.18	TWR_DIAG_T1	Colu...	Single An...	A36	Typical
2	M10	N4	N1		95.82	TWR_DIAG_T1	Colu...	Single An...	A36	Typical
3	M11	N4	N5		84.18	TWR_DIAG_T1	Colu...	Single An...	A36	Typical
4	M12	N6	N3		95.82	TWR_DIAG_T1	Colu...	Single An...	A36	Typical
5	M13	N6	N7		84.18	TWR_DIAG_T1	Colu...	Single An...	A36	Typical
6	M14	N8	N5		95.82	TWR_DIAG_T1	Colu...	Single An...	A36	Typical
7	M15	N8	N1		84.18	TWR_DIAG_T1	Colu...	Single An...	A36	Typical
8	M16	N2	N7		95.82	TWR_DIAG_T1	Colu...	Single An...	A36	Typical
9	M29	N17	N4		84.506	TWR_DIAG_T2	Colu...	Single An...	A36	Typical
10	M30	N18	N2		95.494	TWR_DIAG_T2	Colu...	Single An...	A36	Typical
11	M31	N18	N6		84.506	TWR_DIAG_T2	Colu...	Single An...	A36	Typical
12	M32	N19	N4		95.494	TWR_DIAG_T2	Colu...	Single An...	A36	Typical
13	M33	N19	N8		84.506	TWR_DIAG_T2	Colu...	Single An...	A36	Typical
14	M34	N20	N6		95.494	TWR_DIAG_T2	Colu...	Single An...	A36	Typical
15	M35	N20	N2		84.506	TWR_DIAG_T2	Colu...	Single An...	A36	Typical
16	M36	N17	N8		95.494	TWR_DIAG_T2	Colu...	Single An...	A36	Typical
17	M54	N29	N18		84.743	TWR_DIAG_T3	Colu...	Single An...	A36	Typical
18	M55	N30	N17		95.257	TWR_DIAG_T3	Colu...	Single An...	A36	Typical
19	M56	N30	N19		84.743	TWR_DIAG_T3	Colu...	Single An...	A36	Typical
20	M57	N31	N18		95.257	TWR_DIAG_T3	Colu...	Single An...	A36	Typical
21	M58	N31	N20		84.743	TWR_DIAG_T3	Colu...	Single An...	A36	Typical
22	M59	N32	N19		95.257	TWR_DIAG_T3	Colu...	Single An...	A36	Typical
23	M60	N32	N17		84.743	TWR_DIAG_T3	Colu...	Single An...	A36	Typical
24	M61	N29	N20		95.257	TWR_DIAG_T3	Colu...	Single An...	A36	Typical
25	M74	N45	N30		354.921	TWR_DIAG_T4	Colu...	None	A36_Gen_Mod1	DR1_1

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
26	M75	N46	N29		5.079	TWR_DIAG_T4	Colu...	None	A36_Gen_Mod1	DR1_1
27	M76	N46	N31		354.921	TWR_DIAG_T4	Colu...	None	A36_Gen_Mod1	DR1_1
28	M77	N47	N30		5.079	TWR_DIAG_T4	Colu...	None	A36_Gen_Mod1	DR1_1
29	M78	N47	N32		354.921	TWR_DIAG_T4	Colu...	None	A36_Gen_Mod1	DR1_1
30	M79	N48	N31		5.079	TWR_DIAG_T4	Colu...	None	A36_Gen_Mod1	DR1_1
31	M80	N48	N29		354.921	TWR_DIAG_T4	Colu...	None	A36_Gen_Mod1	DR1_1
32	M81	N45	N32		5.079	TWR_DIAG_T4	Colu...	None	A36_Gen_Mod1	DR1_1
33	M91	N57	N61		353.525	TWR_DIAG_T5	Colu...	None	A36	Typical
34	M94	N58	N61		6.475	TWR_DIAG_T5	Colu...	None	A36	Typical
35	M98	N58	N66		353.525	TWR_DIAG_T5	Colu...	None	A36	Typical
36	M101	N59	N66		6.475	TWR_DIAG_T5	Colu...	None	A36	Typical
37	M105	N59	N70		353.525	TWR_DIAG_T5	Colu...	None	A36	Typical
38	M108	N60	N70		6.475	TWR_DIAG_T5	Colu...	None	A36	Typical
39	M112	N60	N74		353.525	TWR_DIAG_T5	Colu...	None	A36	Typical
40	M115	N57	N74		6.475	TWR_DIAG_T5	Colu...	None	A36	Typical
41	M128	N77	N81		353.813	TWR_DIAG_T6	Colu...	None	A36	Typical
42	M131	N78	N81		6.187	TWR_DIAG_T6	Colu...	None	A36	Typical
43	M135	N78	N86		353.813	TWR_DIAG_T6	Colu...	None	A36	Typical
44	M138	N79	N86		6.187	TWR_DIAG_T6	Colu...	None	A36	Typical
45	M142	N79	N90		353.813	TWR_DIAG_T6	Colu...	None	A36	Typical
46	M145	N80	N90		6.187	TWR_DIAG_T6	Colu...	None	A36	Typical
47	M149	N80	N94		353.813	TWR_DIAG_T6	Colu...	None	A36	Typical
48	M152	N77	N94		6.187	TWR_DIAG_T6	Colu...	None	A36	Typical
49	M165	N97	N101		354.05	TWR_DIAG_T7	Colu...	None	A36	Typical
50	M168	N98	N101		5.95	TWR_DIAG_T7	Colu...	None	A36	Typical
51	M172	N98	N106		354.05	TWR_DIAG_T7	Colu...	None	A36	Typical
52	M175	N99	N106		5.95	TWR_DIAG_T7	Colu...	None	A36	Typical
53	M179	N99	N110		354.05	TWR_DIAG_T7	Colu...	None	A36	Typical
54	M182	N100	N110		5.95	TWR_DIAG_T7	Colu...	None	A36	Typical
55	M186	N100	N114		354.05	TWR_DIAG_T7	Colu...	None	A36	Typical
56	M189	N97	N114		5.95	TWR_DIAG_T7	Colu...	None	A36	Typical
57	M202	N117	N121		354.248	TWR_DIAG_T8	Colu...	None	A36	Typical
58	M205	N118	N121		5.752	TWR_DIAG_T8	Colu...	None	A36	Typical
59	M209	N118	N126		354.248	TWR_DIAG_T8	Colu...	None	A36	Typical
60	M212	N119	N126		5.752	TWR_DIAG_T8	Colu...	None	A36	Typical
61	M216	N119	N130		354.248	TWR_DIAG_T8	Colu...	None	A36	Typical
62	M219	N120	N130		5.752	TWR_DIAG_T8	Colu...	None	A36	Typical
63	M223	N120	N134		354.248	TWR_DIAG_T8	Colu...	None	A36	Typical
64	M226	N117	N134		5.752	TWR_DIAG_T8	Colu...	None	A36	Typical
65	M239	N137	N141		354.414	TWR_DIAG_T9	Colu...	None	A36	Typical
66	M242	N138	N141		5.586	TWR_DIAG_T9	Colu...	None	A36	Typical
67	M246	N138	N146		354.414	TWR_DIAG_T9	Colu...	None	A36	Typical
68	M249	N139	N146		5.586	TWR_DIAG_T9	Colu...	None	A36	Typical
69	M253	N139	N150		354.414	TWR_DIAG_T9	Colu...	None	A36	Typical
70	M256	N140	N150		5.586	TWR_DIAG_T9	Colu...	None	A36	Typical
71	M260	N140	N154		354.414	TWR_DIAG_T9	Colu...	None	A36	Typical
72	M263	N137	N154		5.586	TWR_DIAG_T9	Colu...	None	A36	Typical
73	M276	N157	N161		352.278	TWR_DIAG_T10	Colu...	None	A36	Typical
74	M281	N158	N161		7.722	TWR_DIAG_T10	Colu...	None	A36	Typical
75	M287	N158	N170		352.278	TWR_DIAG_T10	Colu...	None	A36	Typical
76	M292	N159	N170		7.722	TWR_DIAG_T10	Colu...	None	A36	Typical
77	M300	N159	N177		352.278	TWR_DIAG_T10	Colu...	None	A36	Typical
78	M305	N160	N177		7.722	TWR_DIAG_T10	Colu...	None	A36	Typical
79	M313	N160	N184		352.278	TWR_DIAG_T10	Colu...	None	A36	Typical
80	M318	N157	N184		7.722	TWR_DIAG_T10	Colu...	None	A36	Typical
81	M337	N189	N193		352.817	TWR_DIAG_T11	Colu...	None	A36	Typical
82	M342	N190	N193		7.183	TWR_DIAG_T11	Colu...	None	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
83	M349	N190	N202		352.817	TWR_DIAG_T11	Colu...	None	A36	Typical
84	M354	N191	N202		7.183	TWR_DIAG_T11	Colu...	None	A36	Typical
85	M363	N191	N209		352.817	TWR_DIAG_T11	Colu...	None	A36	Typical
86	M368	N192	N209		7.183	TWR_DIAG_T11	Colu...	None	A36	Typical
87	M377	N192	N216		352.817	TWR_DIAG_T11	Colu...	None	A36	Typical
88	M382	N189	N216		7.183	TWR_DIAG_T11	Colu...	None	A36	Typical
89	M90	N45	N46		355.777	TWR_HORZ_T5	Beam	None	A36	Typical
90	M97	N46	N47		355.777	TWR_HORZ_T5	Beam	None	A36	Typical
91	M104	N47	N48		355.777	TWR_HORZ_T5	Beam	None	A36	Typical
92	M111	N48	N45		355.777	TWR_HORZ_T5	Beam	None	A36	Typical
93	M127	N57	N58		355.777	TWR_HORZ_T6	Beam	None	A36	Typical
94	M134	N58	N59		355.777	TWR_HORZ_T6	Beam	None	A36	Typical
95	M141	N59	N60		355.777	TWR_HORZ_T6	Beam	None	A36	Typical
96	M148	N60	N57		355.777	TWR_HORZ_T6	Beam	None	A36	Typical
97	M164	N77	N78		355.777	TWR_HORZ_T7	Beam	None	A36	Typical
98	M171	N78	N79		355.777	TWR_HORZ_T7	Beam	None	A36	Typical
99	M178	N79	N80		355.777	TWR_HORZ_T7	Beam	None	A36	Typical
100	M185	N80	N77		355.777	TWR_HORZ_T7	Beam	None	A36	Typical
101	M201	N97	N98		355.777	TWR_HORZ_T8	Beam	None	A36	Typical
102	M208	N98	N99		355.777	TWR_HORZ_T8	Beam	None	A36	Typical
103	M215	N99	N100		355.777	TWR_HORZ_T8	Beam	None	A36	Typical
104	M222	N100	N97		355.777	TWR_HORZ_T8	Beam	None	A36	Typical
105	M238	N117	N118		355.777	TWR_HORZ_T9	Beam	None	A36	Typical
106	M245	N118	N119		355.777	TWR_HORZ_T9	Beam	None	A36	Typical
107	M252	N119	N120		355.777	TWR_HORZ_T9	Beam	None	A36	Typical
108	M259	N120	N117		355.777	TWR_HORZ_T9	Beam	None	A36	Typical
109	M275	N137	N138		355.777	TWR_HORZ_T10	Beam	None	A36	Typical
110	M286	N138	N139		355.777	TWR_HORZ_T10	Beam	None	A36	Typical
111	M299	N139	N140		355.777	TWR_HORZ_T10	Beam	None	A36	Typical
112	M312	N140	N137		355.777	TWR_HORZ_T10	Beam	None	A36	Typical
113	M336	N157	N158		355.777	TWR_HORZ_T11	Beam	None	A36	Typical
114	M348	N158	N159		355.777	TWR_HORZ_T11	Beam	None	A36	Typical
115	M362	N159	N160		355.777	TWR_HORZ_T11	Beam	None	A36	Typical
116	M376	N160	N157		355.777	TWR_HORZ_T11	Beam	None	A36	Typical
117	M490	N110	N295			TWR_INNER_BRACE_T7	Beam	None	A36	Typical
118	M491	N114	N296			TWR_INNER_BRACE_T7	Beam	None	A36	Typical
119	M466	N141	N279			TWR_INNER_BRACE_T9	Beam	None	A36	Typical
120	M467	N154	N280			TWR_INNER_BRACE_T9	Beam	None	A36	Typical
121	M468	N146	N281			TWR_INNER_BRACE_T9	Beam	None	A36	Typical
122	M469	N150	N282			TWR_INNER_BRACE_T9	Beam	None	A36	Typical
123	M452	N161	N269			TWR_INNER_BRACE_T10	Beam	Single An...	A36	Typical
124	M453	N170	N270			TWR_INNER_BRACE_T10	Beam	Single An...	A36	Typical
125	M454	N177	N271			TWR_INNER_BRACE_T10	Beam	Single An...	A36	Typical
126	M455	N184	N272			TWR_INNER_BRACE_T10	Beam	Single An...	A36	Typical
127	M420	N193	N245			TWR_INNER_BRACE_T11	Beam	None	A36	Typical
128	M421	N202	N246			TWR_INNER_BRACE_T11	Beam	None	A36	Typical
129	M422	N209	N247			TWR_INNER_BRACE_T11	Beam	None	A36	Typical
130	M423	N216	N248			TWR_INNER_BRACE_T11	Beam	None	A36	Typical
131	M530	N18	N318			TWR_INNER_CORNER_T3	Beam	Single An...	A36	Typical
132	M531	N17	N321			TWR_INNER_CORNER_T3	Beam	Single An...	A36	Typical
133	M532	N20	N320			TWR_INNER_CORNER_T3	Beam	Single An...	A36	Typical
134	M512	N308	N46			TWR_INNER_CORNER_T5	Beam	None	A36	Typical
135	M513	N45	N311			TWR_INNER_CORNER_T5	Beam	None	A36	Typical
136	M514	N310	N48			TWR_INNER_CORNER_T5	Beam	None	A36	Typical
137	M502	N58	N302			TWR_INNER_CORNER_T6	Beam	None	A36	Typical
138	M503	N57	N305			TWR_INNER_CORNER_T6	Beam	None	A36	Typical
139	M504	N60	N304			TWR_INNER_CORNER_T6	Beam	None	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
140	M487	N78	N294			TWR_INNER_CORNER_T7	Beam	None	A36	Typical
141	M488	N77	N293			TWR_INNER_CORNER_T7	Beam	None	A36	Typical
142	M489	N292	N80			TWR_INNER_CORNER_T7	Beam	None	A36	Typical
143	M477	N98	N285			TWR_INNER_CORNER_T8	Beam	None	A36	Typical
144	M478	N97	N288			TWR_INNER_CORNER_T8	Beam	None	A36	Typical
145	M479	N287	N100			TWR_INNER_CORNER_T8	Beam	None	A36	Typical
146	M463	N117	N278			TWR_INNER_CORNER_T9	Beam	None	A36	Typical
147	M464	N118	N275			TWR_INNER_CORNER_T9	Beam	None	A36	Typical
148	M465	N277	N120			TWR_INNER_CORNER_T9	Beam	None	A36	Typical
149	M449	N138	N265			TWR_INNER_CORNER_T10	Beam	Single An...	A36	Typical
150	M450	N137	N266			TWR_INNER_CORNER_T10	Beam	Single An...	A36	Typical
151	M451	N140	N267			TWR_INNER_CORNER_T10	Beam	Single An...	A36	Typical
152	M417	N158	N241			TWR_INNER_CORNER_T11	Beam	None	A36	Typical
153	M418	N157	N242			TWR_INNER_CORNER_T11	Beam	None	A36	Typical
154	M419	N160	N243			TWR_INNER_CORNER_T11	Beam	None	A36	Typical
155	M492	N293	N297			TWR_INNER_GIRT_T7	Beam	None	A36	Typical
156	M493	N298	N292			TWR_INNER_GIRT_T7	Beam	None	A36	Typical
157	M494	N292	N299			TWR_INNER_GIRT_T7	Beam	None	A36	Typical
158	M535	N322	N323			TWR_INNER_LADDER_T3	Beam	Single An...	A36	Typical
159	M517	N312	N313			TWR_INNER_LADDER_T5	Beam	None	A36	Typical
160	M507	N306	N307			TWR_INNER_LADDER_T6	Beam	None	A36	Typical
161	M497	N301	N300			TWR_INNER_LADDER_T7	Beam	None	A36	Typical
162	M482	N289	N290			TWR_INNER_LADDER_T8	Beam	None	A36	Typical
163	M472	N283	N284			TWR_INNER_LADDER_T9	Beam	None	A36	Typical
164	M458	N273	N274			TWR_INNER_LADDER_T10	Beam	Single An...	A36	Typical
165	M426	N249	N250			TWR_INNER_LADDER_T11	Beam	None	A36	Typical
166	M526	N318	N319			TWR_INNER_SQ_T3	Beam	Single An...	A36	Typical
167	M527	N319	N320			TWR_INNER_SQ_T3	Beam	Single An...	A36	Typical
168	M528	N320	N321			TWR_INNER_SQ_T3	Beam	Single An...	A36	Typical
169	M529	N321	N318			TWR_INNER_SQ_T3	Beam	Single An...	A36	Typical
170	M508	N308	N309		90	TWR_INNER_SQ_T5	Beam	None	A36	Typical
171	M509	N309	N310		90	TWR_INNER_SQ_T5	Beam	None	A36	Typical
172	M510	N310	N311		90	TWR_INNER_SQ_T5	Beam	None	A36	Typical
173	M511	N311	N308		90	TWR_INNER_SQ_T5	Beam	None	A36	Typical
174	M498	N302	N303		90	TWR_INNER_SQ_T6	Beam	None	A36	Typical
175	M499	N303	N304		90	TWR_INNER_SQ_T6	Beam	None	A36	Typical
176	M500	N304	N305		90	TWR_INNER_SQ_T6	Beam	None	A36	Typical
177	M501	N305	N302		90	TWR_INNER_SQ_T6	Beam	None	A36	Typical
178	M483	N291	N292		90	TWR_INNER_SQ_T7	Beam	None	A36	Typical
179	M484	N292	N293		90	TWR_INNER_SQ_T7	Beam	None	A36	Typical
180	M485	N293	N294		90	TWR_INNER_SQ_T7	Beam	None	A36	Typical
181	M486	N294	N291		90	TWR_INNER_SQ_T7	Beam	None	A36	Typical
182	M473	N285	N286		90	TWR_INNER_SQ_T8	Beam	None	A36	Typical
183	M474	N286	N287		90	TWR_INNER_SQ_T8	Beam	None	A36	Typical
184	M475	N287	N288		90	TWR_INNER_SQ_T8	Beam	None	A36	Typical
185	M476	N288	N285		90	TWR_INNER_SQ_T8	Beam	None	A36	Typical
186	M459	N275	N276		90	TWR_INNER_SQ_T9	Beam	None	A36	Typical
187	M460	N276	N277		90	TWR_INNER_SQ_T9	Beam	None	A36	Typical
188	M461	N277	N278		90	TWR_INNER_SQ_T9	Beam	None	A36	Typical
189	M462	N278	N275		90	TWR_INNER_SQ_T9	Beam	None	A36	Typical
190	M441	N265	N266		90	TWR_INNER_SQ_T10	Beam	Single An...	A36	Typical
191	M442	N266	N267		90	TWR_INNER_SQ_T10	Beam	Single An...	A36	Typical
192	M443	N267	N268		90	TWR_INNER_SQ_T10	Beam	Single An...	A36	Typical
193	M444	N268	N265		90	TWR_INNER_SQ_T10	Beam	Single An...	A36	Typical
194	M409	N241	N242		90	TWR_INNER_SQ_T11	Beam	None	A36	Typical
195	M410	N242	N243		90	TWR_INNER_SQ_T11	Beam	None	A36	Typical
196	M411	N243	N244		90	TWR_INNER_SQ_T11	Beam	None	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
197	M412	N244	N241		90	TWR_INNER_SQ_T11	Beam	None	A36	Typical
198	M49	N33	N34		90	TWR_INNER_SUPP_T3	Beam	None	A36	Typical
199	M50	N34	N35		90	TWR_INNER_SUPP_T3	Beam	None	A36	Typical
200	M51	N35	N36		90	TWR_INNER_SUPP_T3	Beam	None	A36	Typical
201	M52	N36	N33		90	TWR_INNER_SUPP_T3	Beam	None	A36	Typical
202	M118	N61	N66		90	TWR_INNER_SUPP_T5	Beam	None	A36	Typical
203	M119	N66	N70		90	TWR_INNER_SUPP_T5	Beam	None	A36	Typical
204	M120	N70	N74		90	TWR_INNER_SUPP_T5	Beam	None	A36	Typical
205	M121	N74	N61		90	TWR_INNER_SUPP_T5	Beam	None	A36	Typical
206	M155	N81	N86		90	TWR_INNER_SUPP_T6	Beam	None	A36	Typical
207	M156	N86	N90		90	TWR_INNER_SUPP_T6	Beam	None	A36	Typical
208	M157	N90	N94		90	TWR_INNER_SUPP_T6	Beam	None	A36	Typical
209	M158	N94	N81		90	TWR_INNER_SUPP_T6	Beam	None	A36	Typical
210	M192	N101	N106		90	TWR_INNER_SUPP_T7	Beam	None	A36	Typical
211	M193	N106	N110		90	TWR_INNER_SUPP_T7	Beam	None	A36	Typical
212	M194	N110	N114		90	TWR_INNER_SUPP_T7	Beam	None	A36	Typical
213	M195	N114	N101		90	TWR_INNER_SUPP_T7	Beam	None	A36	Typical
214	M229	N121	N126		90	TWR_INNER_SUPP_T8	Beam	None	A36	Typical
215	M230	N126	N130		90	TWR_INNER_SUPP_T8	Beam	None	A36	Typical
216	M231	N130	N134		90	TWR_INNER_SUPP_T8	Beam	None	A36	Typical
217	M232	N134	N121		90	TWR_INNER_SUPP_T8	Beam	None	A36	Typical
218	M266	N141	N146		90	TWR_INNER_SUPP_T9	Beam	None	A36	Typical
219	M267	N146	N150		90	TWR_INNER_SUPP_T9	Beam	None	A36	Typical
220	M268	N150	N154		90	TWR_INNER_SUPP_T9	Beam	None	A36	Typical
221	M269	N154	N141		90	TWR_INNER_SUPP_T9	Beam	None	A36	Typical
222	M327	N161	N170		90	TWR_INNER_SUPP_T10	Beam	Single An...	A36	Typical
223	M328	N170	N177		90	TWR_INNER_SUPP_T10	Beam	Single An...	A36	Typical
224	M329	N177	N184		90	TWR_INNER_SUPP_T10	Beam	Single An...	A36	Typical
225	M330	N184	N161		90	TWR_INNER_SUPP_T10	Beam	Single An...	A36	Typical
226	M392	N193	N202		90	TWR_INNER_SUPP_T11	Beam	None	A36	Typical
227	M393	N202	N209		90	TWR_INNER_SUPP_T11	Beam	None	A36	Typical
228	M394	N209	N216		90	TWR_INNER_SUPP_T11	Beam	None	A36	Typical
229	M395	N216	N193		90	TWR_INNER_SUPP_T11	Beam	None	A36	Typical
230	M533	N322	N319			TWR_INNER_TRI_T3	Beam	Single An...	A36	Typical
231	M534	N319	N323			TWR_INNER_TRI_T3	Beam	Single An...	A36	Typical
232	M515	N312	N309			TWR_INNER_TRI_T5	Beam	None	A36	Typical
233	M516	N309	N313			TWR_INNER_TRI_T5	Beam	None	A36	Typical
234	M505	N306	N303			TWR_INNER_TRI_T6	Beam	None	A36	Typical
235	M506	N303	N307			TWR_INNER_TRI_T6	Beam	None	A36	Typical
236	M495	N300	N291			TWR_INNER_TRI_T7	Beam	None	A36	Typical
237	M496	N291	N301			TWR_INNER_TRI_T7	Beam	None	A36	Typical
238	M480	N289	N286			TWR_INNER_TRI_T8	Beam	None	A36	Typical
239	M481	N286	N290			TWR_INNER_TRI_T8	Beam	None	A36	Typical
240	M470	N283	N276			TWR_INNER_TRI_T9	Beam	None	A36	Typical
241	M471	N276	N284			TWR_INNER_TRI_T9	Beam	None	A36	Typical
242	M456	N273	N268			TWR_INNER_TRI_T10	Beam	Single An...	A36	Typical
243	M457	N268	N274			TWR_INNER_TRI_T10	Beam	Single An...	A36	Typical
244	M424	N249	N244			TWR_INNER_TRI_T11	Beam	None	A36	Typical
245	M425	N244	N250			TWR_INNER_TRI_T11	Beam	None	A36	Typical
246	M1	N2	N1		135	TWR_LEG_T1	Colu...	Single An...	A36	Typical
247	M2	N4	N3		135	TWR_LEG_T1	Colu...	Single An...	A36	Typical
248	M3	N6	N5		135	TWR_LEG_T1	Colu...	Single An...	A36	Typical
249	M4	N8	N7		135	TWR_LEG_T1	Colu...	Single An...	A36	Typical
250	M21	N17	N2		135	TWR_LEG_T2	Colu...	Single An...	A36	Typical
251	M22	N18	N4		135	TWR_LEG_T2	Colu...	Single An...	A36	Typical
252	M23	N19	N6		135	TWR_LEG_T2	Colu...	Single An...	A36	Typical
253	M24	N20	N8		135	TWR_LEG_T2	Colu...	Single An...	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
254	M41	N29	N17		135	TWR_LEG_T3	Colu...	Single An...	A36	Typical
255	M42	N30	N18		135	TWR_LEG_T3	Colu...	Single An...	A36	Typical
256	M43	N31	N19		135	TWR_LEG_T3	Colu...	Single An...	A36	Typical
257	M44	N32	N20		135	TWR_LEG_T3	Colu...	Single An...	A36	Typical
258	M66	N45	N29		135	TWR_LEG_T4	Colu...	Single An...	A36	Typical
259	M67	N46	N30		135	TWR_LEG_T4	Colu...	Single An...	A36	Typical
260	M68	N47	N31		135	TWR_LEG_T4	Colu...	Single An...	A36	Typical
261	M69	N48	N32		135	TWR_LEG_T4	Colu...	Single An...	A36	Typical
262	M86	N57	N45		135	TWR_LEG_T5	Colu...	Single An...	A36	Typical
263	M87	N58	N46		135	TWR_LEG_T5	Colu...	Single An...	A36	Typical
264	M88	N59	N47		135	TWR_LEG_T5	Colu...	Single An...	A36	Typical
265	M89	N60	N48		135	TWR_LEG_T5	Colu...	Single An...	A36	Typical
266	M123	N77	N57		135	TWR_LEG_T6	Colu...	Single An...	A36	Typical
267	M124	N78	N58		135	TWR_LEG_T6	Colu...	Single An...	A36	Typical
268	M125	N79	N59		135	TWR_LEG_T6	Colu...	Single An...	A36	Typical
269	M126	N80	N60		135	TWR_LEG_T6	Colu...	Single An...	A36	Typical
270	M160	N97	N77		135	TWR_LEG_T7	Colu...	Single An...	A36	Typical
271	M161	N98	N78		135	TWR_LEG_T7	Colu...	Single An...	A36	Typical
272	M162	N99	N79		135	TWR_LEG_T7	Colu...	Single An...	A36	Typical
273	M163	N100	N80		135	TWR_LEG_T7	Colu...	Single An...	A36	Typical
274	M197	N117	N97		135	TWR_LEG_T8	Colu...	Single An...	A36	Typical
275	M198	N118	N98		135	TWR_LEG_T8	Colu...	Single An...	A36	Typical
276	M199	N119	N99		135	TWR_LEG_T8	Colu...	Single An...	A36	Typical
277	M200	N120	N100		135	TWR_LEG_T8	Colu...	Single An...	A36	Typical
278	M234	N137	N117		135	TWR_LEG_T9	Colu...	Single An...	A36	Typical
279	M235	N138	N118		135	TWR_LEG_T9	Colu...	Single An...	A36	Typical
280	M236	N139	N119		135	TWR_LEG_T9	Colu...	Single An...	A36	Typical
281	M237	N140	N120		135	TWR_LEG_T9	Colu...	Single An...	A36	Typical
282	M271	N157	N137		135	TWR_LEG_T10	Colu...	Single An...	A36	Typical
283	M272	N158	N138		135	TWR_LEG_T10	Colu...	Single An...	A36	Typical
284	M273	N159	N139		135	TWR_LEG_T10	Colu...	Single An...	A36	Typical
285	M274	N160	N140		135	TWR_LEG_T10	Colu...	Single An...	A36	Typical
286	M332	N189	N157		135	TWR_LEG_T11	Colu...	Single An...	A36	Typical
287	M333	N190	N158		135	TWR_LEG_T11	Colu...	Single An...	A36	Typical
288	M334	N191	N159		135	TWR_LEG_T11	Colu...	Single An...	A36	Typical
289	M335	N192	N160		135	TWR_LEG_T11	Colu...	Single An...	A36	Typical
290	M401	N199	N233			TWR_RED_BRACE_T11	Beam	None	A36	Typical
291	M402	N233	N234			TWR_RED_BRACE_T11	Beam	None	A36	Typical
292	M403	N194	N235			TWR_RED_BRACE_T11	Beam	None	A36	Typical
293	M404	N235	N236			TWR_RED_BRACE_T11	Beam	None	A36	Typical
294	M405	N206	N237			TWR_RED_BRACE_T11	Beam	None	A36	Typical
295	M406	N237	N238			TWR_RED_BRACE_T11	Beam	None	A36	Typical
296	M407	N213	N239			TWR_RED_BRACE_T11	Beam	None	A36	Typical
297	M408	N239	N240			TWR_RED_BRACE_T11	Beam	None	A36	Typical
298	M280	N165	N137		95.752	TWR_RED_DIAG_2_T10	Colu...	Single An...	A36	Typical
299	M285	N168	N138		84.248	TWR_RED_DIAG_2_T10	Colu...	Single An...	A36	Typical
300	M291	N172	N138		95.752	TWR_RED_DIAG_2_T10	Colu...	Single An...	A36	Typical
301	M296	N175	N139		84.248	TWR_RED_DIAG_2_T10	Colu...	Single An...	A36	Typical
302	M304	N179	N139		95.752	TWR_RED_DIAG_2_T10	Colu...	Single An...	A36	Typical
303	M309	N182	N140		84.248	TWR_RED_DIAG_2_T10	Colu...	Single An...	A36	Typical
304	M317	N186	N140		95.752	TWR_RED_DIAG_2_T10	Colu...	Single An...	A36	Typical
305	M322	N188	N137		84.248	TWR_RED_DIAG_2_T10	Colu...	Single An...	A36	Typical
306	M341	N197	N157		5.445	TWR_RED_DIAG_2_T11	Colu...	None	A36	Typical
307	M346	N200	N158		354.555	TWR_RED_DIAG_2_T11	Colu...	None	A36	Typical
308	M353	N204	N158		5.445	TWR_RED_DIAG_2_T11	Colu...	None	A36	Typical
309	M358	N207	N159		354.555	TWR_RED_DIAG_2_T11	Colu...	None	A36	Typical
310	M367	N211	N159		5.445	TWR_RED_DIAG_2_T11	Colu...	None	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
311	M372	N214	N160		354.555	TWR_RED_DIAG_2_T11	Colu...	None	A36	Typical
312	M381	N218	N160		5.445	TWR_RED_DIAG_2_T11	Colu...	None	A36	Typical
313	M386	N220	N157		354.555	TWR_RED_DIAG_2_T11	Colu...	None	A36	Typical
314	M93	N63	N45		97.272	TWR_RED_DIAG_T5	Colu...	Single An...	A36	Typical
315	M96	N64	N46		82.728	TWR_RED_DIAG_T5	Colu...	Single An...	A36	Typical
316	M100	N67	N46		97.272	TWR_RED_DIAG_T5	Colu...	Single An...	A36	Typical
317	M103	N68	N47		82.728	TWR_RED_DIAG_T5	Colu...	Single An...	A36	Typical
318	M107	N71	N47		97.272	TWR_RED_DIAG_T5	Colu...	Single An...	A36	Typical
319	M110	N72	N48		82.728	TWR_RED_DIAG_T5	Colu...	Single An...	A36	Typical
320	M114	N75	N48		97.272	TWR_RED_DIAG_T5	Colu...	Single An...	A36	Typical
321	M117	N76	N45		82.728	TWR_RED_DIAG_T5	Colu...	Single An...	A36	Typical
322	M130	N83	N57		96.829	TWR_RED_DIAG_T6	Colu...	Single An...	A36	Typical
323	M133	N84	N58		83.171	TWR_RED_DIAG_T6	Colu...	Single An...	A36	Typical
324	M137	N87	N58		96.829	TWR_RED_DIAG_T6	Colu...	Single An...	A36	Typical
325	M140	N88	N59		83.171	TWR_RED_DIAG_T6	Colu...	Single An...	A36	Typical
326	M144	N91	N59		96.829	TWR_RED_DIAG_T6	Colu...	Single An...	A36	Typical
327	M147	N92	N60		83.171	TWR_RED_DIAG_T6	Colu...	Single An...	A36	Typical
328	M151	N95	N60		96.829	TWR_RED_DIAG_T6	Colu...	Single An...	A36	Typical
329	M154	N96	N57		83.171	TWR_RED_DIAG_T6	Colu...	Single An...	A36	Typical
330	M167	N103	N77		96.475	TWR_RED_DIAG_T7	Colu...	Single An...	A36	Typical
331	M170	N104	N78		83.525	TWR_RED_DIAG_T7	Colu...	Single An...	A36	Typical
332	M174	N107	N78		96.475	TWR_RED_DIAG_T7	Colu...	Single An...	A36	Typical
333	M177	N108	N79		83.525	TWR_RED_DIAG_T7	Colu...	Single An...	A36	Typical
334	M181	N111	N79		96.475	TWR_RED_DIAG_T7	Colu...	Single An...	A36	Typical
335	M184	N112	N80		83.525	TWR_RED_DIAG_T7	Colu...	Single An...	A36	Typical
336	M188	N115	N80		96.475	TWR_RED_DIAG_T7	Colu...	Single An...	A36	Typical
337	M191	N116	N77		83.525	TWR_RED_DIAG_T7	Colu...	Single An...	A36	Typical
338	M204	N123	N97		96.187	TWR_RED_DIAG_T8	Colu...	Single An...	A36	Typical
339	M207	N124	N98		83.813	TWR_RED_DIAG_T8	Colu...	Single An...	A36	Typical
340	M211	N127	N98		96.187	TWR_RED_DIAG_T8	Colu...	Single An...	A36	Typical
341	M214	N128	N99		83.813	TWR_RED_DIAG_T8	Colu...	Single An...	A36	Typical
342	M218	N131	N99		96.187	TWR_RED_DIAG_T8	Colu...	Single An...	A36	Typical
343	M221	N132	N100		83.813	TWR_RED_DIAG_T8	Colu...	Single An...	A36	Typical
344	M225	N135	N100		96.187	TWR_RED_DIAG_T8	Colu...	Single An...	A36	Typical
345	M228	N136	N97		83.813	TWR_RED_DIAG_T8	Colu...	Single An...	A36	Typical
346	M241	N143	N117		95.95	TWR_RED_DIAG_T9	Colu...	Single An...	A36	Typical
347	M244	N144	N118		84.05	TWR_RED_DIAG_T9	Colu...	Single An...	A36	Typical
348	M248	N147	N118		95.95	TWR_RED_DIAG_T9	Colu...	Single An...	A36	Typical
349	M251	N148	N119		84.05	TWR_RED_DIAG_T9	Colu...	Single An...	A36	Typical
350	M255	N151	N119		95.95	TWR_RED_DIAG_T9	Colu...	Single An...	A36	Typical
351	M258	N152	N120		84.05	TWR_RED_DIAG_T9	Colu...	Single An...	A36	Typical
352	M262	N155	N120		95.95	TWR_RED_DIAG_T9	Colu...	Single An...	A36	Typical
353	M265	N156	N117		84.05	TWR_RED_DIAG_T9	Colu...	Single An...	A36	Typical
354	M279	N163	N164		99.346	TWR_RED_DIAG_T10	Colu...	Single An...	A36	Typical
355	M284	N166	N169		80.654	TWR_RED_DIAG_T10	Colu...	Single An...	A36	Typical
356	M290	N171	N169		99.346	TWR_RED_DIAG_T10	Colu...	Single An...	A36	Typical
357	M295	N173	N176		80.654	TWR_RED_DIAG_T10	Colu...	Single An...	A36	Typical
358	M303	N178	N176		99.346	TWR_RED_DIAG_T10	Colu...	Single An...	A36	Typical
359	M308	N180	N183		80.654	TWR_RED_DIAG_T10	Colu...	Single An...	A36	Typical
360	M316	N185	N183		99.346	TWR_RED_DIAG_T10	Colu...	Single An...	A36	Typical
361	M321	N187	N164		80.654	TWR_RED_DIAG_T10	Colu...	Single An...	A36	Typical
362	M340	N195	N196		8.419	TWR_RED_DIAG_T11	Colu...	None	A36	Typical
363	M345	N198	N201		351.581	TWR_RED_DIAG_T11	Colu...	None	A36	Typical
364	M352	N203	N201		8.419	TWR_RED_DIAG_T11	Colu...	None	A36	Typical
365	M357	N205	N208		351.581	TWR_RED_DIAG_T11	Colu...	None	A36	Typical
366	M366	N210	N208		8.419	TWR_RED_DIAG_T11	Colu...	None	A36	Typical
367	M371	N212	N215		351.581	TWR_RED_DIAG_T11	Colu...	None	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
368	M380	N217	N215		8.419	TWR_RED_DIAG_T11	Colu...	None	A36	Typical
369	M385	N219	N196		351.581	TWR_RED_DIAG_T11	Colu...	None	A36	Typical
370	M427	N201	N251			TWR_RED_HIPBRACE_T11	Colu...	None	A36	Typical
371	M428	N196	N252			TWR_RED_HIPBRACE_T11	Colu...	None	A36	Typical
372	M429	N215	N253			TWR_RED_HIPBRACE_T11	Colu...	None	A36	Typical
373	M430	N254	N255			TWR_RED_HIPBRACE_T11	Colu...	None	A36	Typical
374	M431	N255	N256			TWR_RED_HIPBRACE_T11	Colu...	None	A36	Typical
375	M432	N256	N254			TWR_RED_HIPBRACE_T11	Colu...	None	A36	Typical
376	M298	N172	N265			TWR_RED_HIPDIA_2_T10	Colu...	None	A36	Typical
377	M311	N179	N268			TWR_RED_HIPDIA_2_T10	Colu...	None	A36	Typical
378	M324	N186	N267			TWR_RED_HIPDIA_2_T10	Colu...	None	A36	Typical
379	M326	N165	N266			TWR_RED_HIPDIA_2_T10	Colu...	None	A36	Typical
380	M445	N182	N267		90	TWR_RED_HIPDIA_2_T10	Colu...	None	A36	Typical
381	M446	N175	N268		90	TWR_RED_HIPDIA_2_T10	Colu...	None	A36	Typical
382	M447	N188	N266		90	TWR_RED_HIPDIA_2_T10	Colu...	None	A36	Typical
383	M448	N168	N265		90	TWR_RED_HIPDIA_2_T10	Colu...	None	A36	Typical
384	M361	N204	N241			TWR_RED_HIPDIA_2_T11	Colu...	None	A36	Typical
385	M375	N211	N244			TWR_RED_HIPDIA_2_T11	Colu...	None	A36	Typical
386	M389	N218	N243			TWR_RED_HIPDIA_2_T11	Colu...	None	A36	Typical
387	M391	N197	N242			TWR_RED_HIPDIA_2_T11	Colu...	None	A36	Typical
388	M413	N244	N207			TWR_RED_HIPDIA_2_T11	Colu...	None	A36	Typical
389	M414	N214	N243			TWR_RED_HIPDIA_2_T11	Colu...	None	A36	Typical
390	M415	N220	N242			TWR_RED_HIPDIA_2_T11	Colu...	None	A36	Typical
391	M416	N200	N241			TWR_RED_HIPDIA_2_T11	Colu...	None	A36	Typical
392	M297	N168	N172		90	TWR_RED_HIP_2_T10	Beam	Single An...	A36	Typical
393	M310	N175	N179		90	TWR_RED_HIP_2_T10	Beam	Single An...	A36	Typical
394	M323	N182	N186		90	TWR_RED_HIP_2_T10	Beam	Single An...	A36	Typical
395	M325	N165	N188		90	TWR_RED_HIP_2_T10	Beam	Single An...	A36	Typical
396	M360	N200	N204		90	TWR_RED_HIP_2_T11	Beam	Single An...	A36	Typical
397	M374	N207	N211		90	TWR_RED_HIP_2_T11	Beam	Single An...	A36	Typical
398	M388	N214	N218		90	TWR_RED_HIP_2_T11	Beam	Single An...	A36	Typical
399	M390	N197	N220		90	TWR_RED_HIP_2_T11	Beam	Single An...	A36	Typical
400	M278	N164	N165		355.777	TWR_RED_HORZ_2_T10	Beam	None	A36	Typical
401	M283	N168	N169		355.777	TWR_RED_HORZ_2_T10	Beam	None	A36	Typical
402	M289	N169	N172		355.777	TWR_RED_HORZ_2_T10	Beam	None	A36	Typical
403	M294	N175	N176		355.777	TWR_RED_HORZ_2_T10	Beam	None	A36	Typical
404	M302	N176	N179		355.777	TWR_RED_HORZ_2_T10	Beam	None	A36	Typical
405	M307	N182	N183		355.777	TWR_RED_HORZ_2_T10	Beam	None	A36	Typical
406	M315	N183	N186		355.777	TWR_RED_HORZ_2_T10	Beam	None	A36	Typical
407	M320	N188	N164		355.777	TWR_RED_HORZ_2_T10	Beam	None	A36	Typical
408	M339	N196	N197		355.777	TWR_RED_HORZ_2_T11	Beam	None	A36	Typical
409	M344	N200	N201		355.777	TWR_RED_HORZ_2_T11	Beam	None	A36	Typical
410	M351	N201	N204		355.777	TWR_RED_HORZ_2_T11	Beam	None	A36	Typical
411	M356	N207	N208		355.777	TWR_RED_HORZ_2_T11	Beam	None	A36	Typical
412	M365	N208	N211		355.777	TWR_RED_HORZ_2_T11	Beam	None	A36	Typical
413	M370	N214	N215		355.777	TWR_RED_HORZ_2_T11	Beam	None	A36	Typical
414	M379	N215	N218		355.777	TWR_RED_HORZ_2_T11	Beam	None	A36	Typical
415	M384	N220	N196		355.777	TWR_RED_HORZ_2_T11	Beam	None	A36	Typical
416	M92	N62	N63		85.777	TWR_RED_HORZ_T5	Beam	Single An...	A36	Typical
417	M95	N64	N65		85.777	TWR_RED_HORZ_T5	Beam	Single An...	A36	Typical
418	M99	N65	N67		85.777	TWR_RED_HORZ_T5	Beam	Single An...	A36	Typical
419	M102	N68	N69		85.777	TWR_RED_HORZ_T5	Beam	Single An...	A36	Typical
420	M106	N69	N71		85.777	TWR_RED_HORZ_T5	Beam	Single An...	A36	Typical
421	M109	N72	N73		85.777	TWR_RED_HORZ_T5	Beam	Single An...	A36	Typical
422	M113	N73	N75		85.777	TWR_RED_HORZ_T5	Beam	Single An...	A36	Typical
423	M116	N76	N62		85.777	TWR_RED_HORZ_T5	Beam	Single An...	A36	Typical
424	M129	N82	N83		85.777	TWR_RED_HORZ_T6	Beam	Single An...	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
425	M132	N84	N85		85.777	TWR_RED_HORZ_T6	Beam	Single An...	A36	Typical
426	M136	N85	N87		85.777	TWR_RED_HORZ_T6	Beam	Single An...	A36	Typical
427	M139	N88	N89		85.777	TWR_RED_HORZ_T6	Beam	Single An...	A36	Typical
428	M143	N89	N91		85.777	TWR_RED_HORZ_T6	Beam	Single An...	A36	Typical
429	M146	N92	N93		85.777	TWR_RED_HORZ_T6	Beam	Single An...	A36	Typical
430	M150	N93	N95		85.777	TWR_RED_HORZ_T6	Beam	Single An...	A36	Typical
431	M153	N96	N82		85.777	TWR_RED_HORZ_T6	Beam	Single An...	A36	Typical
432	M166	N102	N103		85.777	TWR_RED_HORZ_T7	Beam	Single An...	A36	Typical
433	M169	N104	N105		85.777	TWR_RED_HORZ_T7	Beam	Single An...	A36	Typical
434	M173	N105	N107		85.777	TWR_RED_HORZ_T7	Beam	Single An...	A36	Typical
435	M176	N108	N109		85.777	TWR_RED_HORZ_T7	Beam	Single An...	A36	Typical
436	M180	N109	N111		85.777	TWR_RED_HORZ_T7	Beam	Single An...	A36	Typical
437	M183	N112	N113		85.777	TWR_RED_HORZ_T7	Beam	Single An...	A36	Typical
438	M187	N113	N115		85.777	TWR_RED_HORZ_T7	Beam	Single An...	A36	Typical
439	M190	N116	N102		85.777	TWR_RED_HORZ_T7	Beam	Single An...	A36	Typical
440	M203	N122	N123		85.777	TWR_RED_HORZ_T8	Beam	Single An...	A36	Typical
441	M206	N124	N125		85.777	TWR_RED_HORZ_T8	Beam	Single An...	A36	Typical
442	M210	N125	N127		85.777	TWR_RED_HORZ_T8	Beam	Single An...	A36	Typical
443	M213	N128	N129		85.777	TWR_RED_HORZ_T8	Beam	Single An...	A36	Typical
444	M217	N129	N131		85.777	TWR_RED_HORZ_T8	Beam	Single An...	A36	Typical
445	M220	N132	N133		85.777	TWR_RED_HORZ_T8	Beam	Single An...	A36	Typical
446	M224	N133	N135		85.777	TWR_RED_HORZ_T8	Beam	Single An...	A36	Typical
447	M227	N136	N122		85.777	TWR_RED_HORZ_T8	Beam	Single An...	A36	Typical
448	M240	N142	N143		85.777	TWR_RED_HORZ_T9	Beam	Single An...	A36	Typical
449	M243	N144	N145		85.777	TWR_RED_HORZ_T9	Beam	Single An...	A36	Typical
450	M247	N145	N147		85.777	TWR_RED_HORZ_T9	Beam	Single An...	A36	Typical
451	M250	N148	N149		85.777	TWR_RED_HORZ_T9	Beam	Single An...	A36	Typical
452	M254	N149	N151		85.777	TWR_RED_HORZ_T9	Beam	Single An...	A36	Typical
453	M257	N152	N153		85.777	TWR_RED_HORZ_T9	Beam	Single An...	A36	Typical
454	M261	N153	N155		85.777	TWR_RED_HORZ_T9	Beam	Single An...	A36	Typical
455	M264	N156	N142		85.777	TWR_RED_HORZ_T9	Beam	Single An...	A36	Typical
456	M277	N162	N163		355.777	TWR_RED_HORZ_T10	Beam	None	A36	Typical
457	M282	N166	N167		355.777	TWR_RED_HORZ_T10	Beam	None	A36	Typical
458	M288	N167	N171		355.777	TWR_RED_HORZ_T10	Beam	None	A36	Typical
459	M293	N173	N174		355.777	TWR_RED_HORZ_T10	Beam	None	A36	Typical
460	M301	N174	N178		355.777	TWR_RED_HORZ_T10	Beam	None	A36	Typical
461	M306	N180	N181		355.777	TWR_RED_HORZ_T10	Beam	None	A36	Typical
462	M314	N181	N185		355.777	TWR_RED_HORZ_T10	Beam	None	A36	Typical
463	M319	N187	N162		355.777	TWR_RED_HORZ_T10	Beam	None	A36	Typical
464	M338	N194	N195		355.777	TWR_RED_HORZ_T11	Beam	None	A36	Typical
465	M343	N198	N199		355.777	TWR_RED_HORZ_T11	Beam	None	A36	Typical
466	M350	N199	N203		355.777	TWR_RED_HORZ_T11	Beam	None	A36	Typical
467	M355	N205	N206		355.777	TWR_RED_HORZ_T11	Beam	None	A36	Typical
468	M364	N206	N210		355.777	TWR_RED_HORZ_T11	Beam	None	A36	Typical
469	M369	N212	N213		355.777	TWR_RED_HORZ_T11	Beam	None	A36	Typical
470	M378	N213	N217		355.777	TWR_RED_HORZ_T11	Beam	None	A36	Typical
471	M383	N219	N194		355.777	TWR_RED_HORZ_T11	Beam	None	A36	Typical
472	M347	N221	N222		355.777	TWR_RED_SUBHOR_T11	Beam	None	A36	Typical
473	M359	N223	N224		355.777	TWR_RED_SUBHOR_T11	Beam	None	A36	Typical
474	M373	N225	N226		355.777	TWR_RED_SUBHOR_T11	Beam	None	A36	Typical
475	M387	N227	N228		355.777	TWR_RED_SUBHOR_T11	Beam	None	A36	Typical
476	M540	N324	N9			TWR_RED_VERT_T1	Beam	Single An...	A36	Typical
477	M541	N325	N10			TWR_RED_VERT_T1	Beam	Single An...	A36	Typical
478	M542	N326	N11			TWR_RED_VERT_T1	Beam	Single An...	A36	Typical
479	M543	N327	N12			TWR_RED_VERT_T1	Beam	Single An...	A36	Typical
480	M536	N33	N21			TWR_RED_VERT_T2	Beam	Channel	A36	Typical
481	M537	N34	N22			TWR_RED_VERT_T2	Beam	Channel	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
482	M538	N35	N23			TWR_RED_VERT_T2	Beam	Channel	A36	Typical
483	M539	N36	N24			TWR_RED_VERT_T2	Beam	Channel	A36	Typical
484	M522	N314	N37			TWR_RED_VERT_T3	Beam	Single An...	A36	Typical
485	M523	N315	N38			TWR_RED_VERT_T3	Beam	Single An...	A36	Typical
486	M524	N316	N39			TWR_RED_VERT_T3	Beam	Single An...	A36	Typical
487	M525	N317	N40			TWR_RED_VERT_T3	Beam	Single An...	A36	Typical
488	M518	N61	N49			TWR_RED_VERT_T4	Beam	None	A36	Typical
489	M519	N66	N50			TWR_RED_VERT_T4	Beam	None	A36	Typical
490	M520	N70	N51			TWR_RED_VERT_T4	Beam	None	A36	Typical
491	M521	N74	N52			TWR_RED_VERT_T4	Beam	None	A36	Typical
492	M397	N229	N193			TWR_RED_VERT_T11	Beam	None	A36	Typical
493	M398	N230	N202			TWR_RED_VERT_T11	Beam	None	A36	Typical
494	M399	N231	N216			TWR_RED_VERT_T11	Beam	None	A36	Typical
495	M400	N232	N209			TWR_RED_VERT_T11	Beam	None	A36	Typical
496	M433	N200	N257			TWR_RED_VERT_T11	Beam	None	A36	Typical
497	M434	N204	N258			TWR_RED_VERT_T11	Beam	None	A36	Typical
498	M435	N197	N259			TWR_RED_VERT_T11	Beam	None	A36	Typical
499	M436	N220	N260			TWR_RED_VERT_T11	Beam	None	A36	Typical
500	M437	N218	N261			TWR_RED_VERT_T11	Beam	None	A36	Typical
501	M438	N214	N262			TWR_RED_VERT_T11	Beam	None	A36	Typical
502	M439	N211	N263			TWR_RED_VERT_T11	Beam	None	A36	Typical
503	M440	N207	N264			TWR_RED_VERT_T11	Beam	None	A36	Typical
504	M17	N13	N14		85.777	TWR_STEP_T1	Beam	Single An...	A36	Typical
505	M18	N14	N15		85.777	TWR_STEP_T1	Beam	Single An...	A36	Typical
506	M19	N15	N16		85.777	TWR_STEP_T1	Beam	Single An...	A36	Typical
507	M20	N16	N13		85.777	TWR_STEP_T1	Beam	Single An...	A36	Typical
508	M37	N25	N26		175.777	TWR_STEP_T2	Beam	Channel	A36	Typical
509	M38	N26	N27		175.777	TWR_STEP_T2	Beam	Channel	A36	Typical
510	M39	N27	N28		175.777	TWR_STEP_T2	Beam	Channel	A36	Typical
511	M40	N28	N25		175.777	TWR_STEP_T2	Beam	Channel	A36	Typical
512	M62	N41	N42		85.777	TWR_STEP_T3	Beam	Single An...	A36	Typical
513	M63	N42	N43		85.777	TWR_STEP_T3	Beam	Single An...	A36	Typical
514	M64	N43	N44		85.777	TWR_STEP_T3	Beam	Single An...	A36	Typical
515	M65	N44	N41		85.777	TWR_STEP_T3	Beam	Single An...	A36	Typical
516	M82	N53	N54		85.777	TWR_STEP_T4	Beam	Single An...	A36	Typical
517	M83	N54	N55		85.777	TWR_STEP_T4	Beam	Single An...	A36	Typical
518	M84	N55	N56		85.777	TWR_STEP_T4	Beam	Single An...	A36	Typical
519	M85	N56	N53		85.777	TWR_STEP_T4	Beam	Single An...	A36	Typical
520	M5	N1	N3		175.777	TWR_TOP_GIRT_T1	Beam	Channel	A36	Typical
521	M6	N3	N5		175.777	TWR_TOP_GIRT_T1	Beam	Channel	A36	Typical
522	M7	N5	N7		175.777	TWR_TOP_GIRT_T1	Beam	Channel	A36	Typical
523	M8	N7	N1		175.777	TWR_TOP_GIRT_T1	Beam	Channel	A36	Typical
524	M25	N2	N4		355.777	TWR_TOP_GIRT_T2	Beam	None	A36	Typical
525	M26	N4	N6		355.777	TWR_TOP_GIRT_T2	Beam	None	A36	Typical
526	M27	N6	N8		355.777	TWR_TOP_GIRT_T2	Beam	None	A36	Typical
527	M28	N8	N2		355.777	TWR_TOP_GIRT_T2	Beam	None	A36	Typical
528	M45	N17	N18		355.777	TWR_TOP_GIRT_T3	Beam	None	A36	Typical
529	M46	N18	N19		355.777	TWR_TOP_GIRT_T3	Beam	None	A36	Typical
530	M47	N19	N20		355.777	TWR_TOP_GIRT_T3	Beam	None	A36	Typical
531	M48	N20	N17		355.777	TWR_TOP_GIRT_T3	Beam	None	A36	Typical
532	M70	N29	N30		355.777	TWR_TOP_GIRT_T4	Beam	None	A36	Typical
533	M71	N30	N31		355.777	TWR_TOP_GIRT_T4	Beam	None	A36	Typical
534	M72	N31	N32		355.777	TWR_TOP_GIRT_T4	Beam	None	A36	Typical
535	M73	N32	N29		355.777	TWR_TOP_GIRT_T4	Beam	None	A36	Typical
536	M53	N33	N35		90	TWR_INNER_SUPP_T3	Beam	None	A36	Typical
537	M122	N61	N70		90	TWR_INNER_SUPP_T5	Beam	None	A36	Typical
538	M159	N81	N90			TWR_INNER_SUPP_T6	Beam	None	A36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
539	M196	N101	N110			TWR_INNER_SUPP_T7	Beam	None	A36	Typical
540	M233	N121	N130			TWR_INNER_SUPP_T8	Beam	None	A36	Typical
541	M270	N141	N150			TWR_INNER_SUPP_T9	Beam	None	A36	Typical
542	M331	N161	N177		90	TWR_INNER_SUPP_T10	Beam	Single An...	A36	Typical
543	M396	N193	N209			TWR_INNER_SUPP_T11	Beam	None	A36	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Funct...
1	M9	TWR_DIAG_T1	18.183	8.87	8.87	8.87	8.87	8.87	1	1		Lateral
2	M10	TWR_DIAG_T1	18.183	8.87	8.87	8.87	8.87	8.87	1	1		Lateral
3	M11	TWR_DIAG_T1	18.183	8.87	8.87	8.87	8.87	8.87	1	1		Lateral
4	M12	TWR_DIAG_T1	18.183	8.87	8.87	8.87	8.87	8.87	1	1		Lateral
5	M13	TWR_DIAG_T1	18.183	8.87	8.87	8.87	8.87	8.87	1	1		Lateral
6	M14	TWR_DIAG_T1	18.183	8.87	8.87	8.87	8.87	8.87	1	1		Lateral
7	M15	TWR_DIAG_T1	18.183	8.87	8.87	8.87	8.87	8.87	1	1		Lateral
8	M16	TWR_DIAG_T1	18.183	8.87	8.87	8.87	8.87	8.87	1	1		Lateral
9	M29	TWR_DIAG_T2	19.562	9.64	9.64	9.64	9.64	9.64	1	1		Lateral
10	M30	TWR_DIAG_T2	19.562	9.64	9.64	9.64	9.64	9.64	1	1		Lateral
11	M31	TWR_DIAG_T2	19.562	9.64	9.64	9.64	9.64	9.64	1	1		Lateral
12	M32	TWR_DIAG_T2	19.562	9.64	9.64	9.64	9.64	9.64	1	1		Lateral
13	M33	TWR_DIAG_T2	19.562	9.64	9.64	9.64	9.64	9.64	1	1		Lateral
14	M34	TWR_DIAG_T2	19.562	9.64	9.64	9.64	9.64	9.64	1	1		Lateral
15	M35	TWR_DIAG_T2	19.562	9.64	9.64	9.64	9.64	9.64	1	1		Lateral
16	M36	TWR_DIAG_T2	19.562	9.64	9.64	9.64	9.64	9.64	1	1		Lateral
17	M54	TWR_DIAG_T3	21.013	10.26	10.26	10.26	10.26	10.26	1	1		Lateral
18	M55	TWR_DIAG_T3	21.013	10.26	10.26	10.26	10.26	10.26	1	1		Lateral
19	M56	TWR_DIAG_T3	21.013	10.26	10.26	10.26	10.26	10.26	1	1		Lateral
20	M57	TWR_DIAG_T3	21.013	10.26	10.26	10.26	10.26	10.26	1	1		Lateral
21	M58	TWR_DIAG_T3	21.013	10.26	10.26	10.26	10.26	10.26	1	1		Lateral
22	M59	TWR_DIAG_T3	21.013	10.26	10.26	10.26	10.26	10.26	1	1		Lateral
23	M60	TWR_DIAG_T3	21.013	10.26	10.26	10.26	10.26	10.26	1	1		Lateral
24	M61	TWR_DIAG_T3	21.013	10.26	10.26	10.26	10.26	10.26	1	1		Lateral
25	M91	TWR_DIAG_T5	16.506	15.67	7.835	7.835	7.835	7.835	1.05	1.05		Lateral
26	M94	TWR_DIAG_T5	16.506	15.67	7.835	7.835	7.835	7.835	1.05	1.05		Lateral
27	M98	TWR_DIAG_T5	16.506	15.67	7.835	7.835	7.835	7.835	1.05	1.05		Lateral
28	M101	TWR_DIAG_T5	16.506	15.67	7.835	7.835	7.835	7.835	1.05	1.05		Lateral
29	M105	TWR_DIAG_T5	16.506	15.67	7.835	7.835	7.835	7.835	1.05	1.05		Lateral
30	M108	TWR_DIAG_T5	16.506	15.67	7.835	7.835	7.835	7.835	1.05	1.05		Lateral
31	M112	TWR_DIAG_T5	16.506	15.67	7.835	7.835	7.835	7.835	1.05	1.05		Lateral
32	M115	TWR_DIAG_T5	16.506	15.67	7.835	7.835	7.835	7.835	1.05	1.05		Lateral
33	M128	TWR_DIAG_T6	17.121	16.3	8.15	8.15	8.15	8.15	1.04	1.04		Lateral
34	M131	TWR_DIAG_T6	17.121	16.3	8.15	8.15	8.15	8.15	1.04	1.04		Lateral
35	M135	TWR_DIAG_T6	17.121	16.3	8.15	8.15	8.15	8.15	1.04	1.04		Lateral
36	M138	TWR_DIAG_T6	17.121	16.3	8.15	8.15	8.15	8.15	1.04	1.04		Lateral
37	M142	TWR_DIAG_T6	17.121	16.3	8.15	8.15	8.15	8.15	1.04	1.04		Lateral
38	M145	TWR_DIAG_T6	17.121	16.3	8.15	8.15	8.15	8.15	1.04	1.04		Lateral
39	M149	TWR_DIAG_T6	17.121	16.3	8.15	8.15	8.15	8.15	1.04	1.04		Lateral
40	M152	TWR_DIAG_T6	17.121	16.3	8.15	8.15	8.15	8.15	1.04	1.04		Lateral
41	M165	TWR_DIAG_T7	17.763	16.95	8.475	8.475	8.475	8.475	1.04	1.04		Lateral
42	M168	TWR_DIAG_T7	17.763	16.95	8.475	8.475	8.475	8.475	1.04	1.04		Lateral
43	M172	TWR_DIAG_T7	17.763	16.95	8.475	8.475	8.475	8.475	1.04	1.04		Lateral
44	M175	TWR_DIAG_T7	17.763	16.95	8.475	8.475	8.475	8.475	1.04	1.04		Lateral
45	M179	TWR_DIAG_T7	17.763	16.95	8.475	8.475	8.475	8.475	1.04	1.04		Lateral
46	M182	TWR_DIAG_T7	17.763	16.95	8.475	8.475	8.475	8.475	1.04	1.04		Lateral
47	M186	TWR_DIAG_T7	17.763	16.95	8.475	8.475	8.475	8.475	1.04	1.04		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Funct...
48	M189	TWR_DIAG_T7	17.763	16.95	8.475	8.475	8.475	8.475	1.04	1.04		Lateral
49	M202	TWR_DIAG_T8	18.429	17.63	8.815	8.815	8.815	8.815	1.04	1.04		Lateral
50	M205	TWR_DIAG_T8	18.429	17.63	8.815	8.815	8.815	8.815	1.04	1.04		Lateral
51	M209	TWR_DIAG_T8	18.429	17.63	8.815	8.815	8.815	8.815	1.04	1.04		Lateral
52	M212	TWR_DIAG_T8	18.429	17.63	8.815	8.815	8.815	8.815	1.04	1.04		Lateral
53	M216	TWR_DIAG_T8	18.429	17.63	8.815	8.815	8.815	8.815	1.04	1.04		Lateral
54	M219	TWR_DIAG_T8	18.429	17.63	8.815	8.815	8.815	8.815	1.04	1.04		Lateral
55	M223	TWR_DIAG_T8	18.429	17.63	8.815	8.815	8.815	8.815	1.04	1.04		Lateral
56	M226	TWR_DIAG_T8	18.429	17.63	8.815	8.815	8.815	8.815	1.04	1.04		Lateral
57	M239	TWR_DIAG_T9	19.116	18.03	9.015	9.015	9.015	9.015	1.04	1.04		Lateral
58	M242	TWR_DIAG_T9	19.116	18.03	9.015	9.015	9.015	9.015	1.04	1.04		Lateral
59	M246	TWR_DIAG_T9	19.116	18.03	9.015	9.015	9.015	9.015	1.04	1.04		Lateral
60	M249	TWR_DIAG_T9	19.116	18.03	9.015	9.015	9.015	9.015	1.04	1.04		Lateral
61	M253	TWR_DIAG_T9	19.116	18.03	9.015	9.015	9.015	9.015	1.04	1.04		Lateral
62	M256	TWR_DIAG_T9	19.116	18.03	9.015	9.015	9.015	9.015	1.04	1.04		Lateral
63	M260	TWR_DIAG_T9	19.116	18.03	9.015	9.015	9.015	9.015	1.04	1.04		Lateral
64	M263	TWR_DIAG_T9	19.116	18.03	9.015	9.015	9.015	9.015	1.04	1.04		Lateral
65	M276	TWR_DIAG_T10	29.89	19	9.963	9.963	9.963	9.963	1.03	1.03		Lateral
66	M281	TWR_DIAG_T10	29.89	19	9.963	9.963	9.963	9.963	1.03	1.03		Lateral
67	M287	TWR_DIAG_T10	29.89	19	9.963	9.963	9.963	9.963	1.03	1.03		Lateral
68	M292	TWR_DIAG_T10	29.89	19	9.963	9.963	9.963	9.963	1.03	1.03		Lateral
69	M300	TWR_DIAG_T10	29.89	19	9.963	9.963	9.963	9.963	1.03	1.03		Lateral
70	M305	TWR_DIAG_T10	29.89	19	9.963	9.963	9.963	9.963	1.03	1.03		Lateral
71	M313	TWR_DIAG_T10	29.89	19	9.963	9.963	9.963	9.963	1.03	1.03		Lateral
72	M318	TWR_DIAG_T10	29.89	19	9.963	9.963	9.963	9.963	1.03	1.03		Lateral
73	M337	TWR_DIAG_T11	30.934	19.555	10.311	10.311	10.311	10.311	1.02	1.02		Lateral
74	M342	TWR_DIAG_T11	30.934	19.555	10.311	10.311	10.311	10.311	1.02	1.02		Lateral
75	M349	TWR_DIAG_T11	30.934	19.555	10.311	10.311	10.311	10.311	1.02	1.02		Lateral
76	M354	TWR_DIAG_T11	30.934	19.555	10.311	10.311	10.311	10.311	1.02	1.02		Lateral
77	M363	TWR_DIAG_T11	30.934	19.555	10.311	10.311	10.311	10.311	1.02	1.02		Lateral
78	M368	TWR_DIAG_T11	30.934	19.555	10.311	10.311	10.311	10.311	1.02	1.02		Lateral
79	M377	TWR_DIAG_T11	30.934	19.555	10.311	10.311	10.311	10.311	1.02	1.02		Lateral
80	M382	TWR_DIAG_T11	30.934	19.555	10.311	10.311	10.311	10.311	1.02	1.02		Lateral
81	M90	TWR_HORZ_T5	19.635	9.34	9.34	9.34	9.34	9.34	1.16	1.16		Lateral
82	M97	TWR_HORZ_T5	19.635	9.34	9.34	9.34	9.34	9.34	1.16	1.16		Lateral
83	M104	TWR_HORZ_T5	19.635	9.34	9.34	9.34	9.34	9.34	1.16	1.16		Lateral
84	M111	TWR_HORZ_T5	19.635	9.34	9.34	9.34	9.34	9.34	1.16	1.16		Lateral
85	M127	TWR_HORZ_T6	21.481	10.26	10.26	10.26	10.26	10.26	1.11	1.11		Lateral
86	M134	TWR_HORZ_T6	21.481	10.26	10.26	10.26	10.26	10.26	1.11	1.11		Lateral
87	M141	TWR_HORZ_T6	21.481	10.26	10.26	10.26	10.26	10.26	1.11	1.11		Lateral
88	M148	TWR_HORZ_T6	21.481	10.26	10.26	10.26	10.26	10.26	1.11	1.11		Lateral
89	M164	TWR_HORZ_T7	23.327	11.18	11.18	11.18	11.18	11.18	1.09	1.09		Lateral
90	M171	TWR_HORZ_T7	23.327	11.18	11.18	11.18	11.18	11.18	1.09	1.09		Lateral
91	M178	TWR_HORZ_T7	23.327	11.18	11.18	11.18	11.18	11.18	1.09	1.09		Lateral
92	M185	TWR_HORZ_T7	23.327	11.18	11.18	11.18	11.18	11.18	1.09	1.09		Lateral
93	M201	TWR_HORZ_T8	25.173	12.11	12.11	12.11	12.11	12.11	1.08	1.08		Lateral
94	M208	TWR_HORZ_T8	25.173	12.11	12.11	12.11	12.11	12.11	1.08	1.08		Lateral
95	M215	TWR_HORZ_T8	25.173	12.11	12.11	12.11	12.11	12.11	1.08	1.08		Lateral
96	M222	TWR_HORZ_T8	25.173	12.11	12.11	12.11	12.11	12.11	1.08	1.08		Lateral
97	M238	TWR_HORZ_T9	27.019	13.03	13.03	13.03	13.03	13.03	1.09	1.09		Lateral
98	M245	TWR_HORZ_T9	27.019	13.03	13.03	13.03	13.03	13.03	1.09	1.09		Lateral
99	M252	TWR_HORZ_T9	27.019	13.03	13.03	13.03	13.03	13.03	1.09	1.09		Lateral
100	M259	TWR_HORZ_T9	27.019	13.03	13.03	13.03	13.03	13.03	1.09	1.09		Lateral
101	M275	TWR_HORZ_T10	28.865	13.78	13.78	13.78	13.78	13.78	1.08	1.08		Lateral
102	M286	TWR_HORZ_T10	28.865	13.78	13.78	13.78	13.78	13.78	1.08	1.08		Lateral
103	M299	TWR_HORZ_T10	28.865	13.78	13.78	13.78	13.78	13.78	1.08	1.08		Lateral
104	M312	TWR_HORZ_T10	28.865	13.78	13.78	13.78	13.78	13.78	1.08	1.08		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Funct...
105	M336	TWR_HORZ_T11	32.558	15.62	8.139	15.62	15.62	15.62	1.05	1.05		Lateral
106	M348	TWR_HORZ_T11	32.558	15.62	8.139	15.62	15.62	15.62	1.05	1.05		Lateral
107	M362	TWR_HORZ_T11	32.558	15.62	8.139	15.62	15.62	15.62	1.05	1.05		Lateral
108	M376	TWR_HORZ_T11	32.558	15.62	8.139	15.62	15.62	15.62	1.05	1.05		Lateral
109	M490	TWR_INNER_BRACE_T7	5.832	5.832	5.832	5.832	5.832	5.832	1	1		Lateral
110	M491	TWR_INNER_BRACE_T7	5.832	5.832	5.832	5.832	5.832	5.832	1	1		Lateral
111	M466	TWR_INNER_BRACE_T9	6.755	6.755	6.755	6.755	6.755	6.755	1	1		Lateral
112	M467	TWR_INNER_BRACE_T9	6.755	6.755	6.755	6.755	6.755	6.755	1	1		Lateral
113	M468	TWR_INNER_BRACE_T9	6.755	6.755	6.755	6.755	6.755	6.755	1	1		Lateral
114	M469	TWR_INNER_BRACE_T9	6.755	6.755	6.755	6.755	6.755	6.755	1	1		Lateral
115	M452	TWR_INNER_BRACE_T10	7.216	7.216	7.216	7.216	7.216	7.216	1	1		Lateral
116	M453	TWR_INNER_BRACE_T10	7.216	7.216	7.216	7.216	7.216	7.216	1	1		Lateral
117	M454	TWR_INNER_BRACE_T10	7.216	7.216	7.216	7.216	7.216	7.216	1	1		Lateral
118	M455	TWR_INNER_BRACE_T10	7.216	7.216	7.216	7.216	7.216	7.216	1	1		Lateral
119	M420	TWR_INNER_BRACE_T11	8.139	8.139	8.139	8.139	8.139	8.139	1	1		Lateral
120	M421	TWR_INNER_BRACE_T11	8.139	8.139	8.139	8.139	8.139	8.139	1	1		Lateral
121	M422	TWR_INNER_BRACE_T11	8.139	8.139	8.139	8.139	8.139	8.139	1	1		Lateral
122	M423	TWR_INNER_BRACE_T11	8.139	8.139	8.139	8.139	8.139	8.139	1	1		Lateral
123	M530	TWR_INNER_CORNER_...	5.636	5.636	5.636	5.636	5.636	5.636	1	1		Lateral
124	M531	TWR_INNER_CORNER_...	5.636	5.636	5.636	5.636	5.636	5.636	1	1		Lateral
125	M532	TWR_INNER_CORNER_...	5.636	5.636	5.636	5.636	5.636	5.636	1	1		Lateral
126	M512	TWR_INNER_CORNER_...	6.942	6.942	6.942	6.942	6.942	6.942	1	1		Lateral
127	M513	TWR_INNER_CORNER_...	6.942	6.942	6.942	6.942	6.942	6.942	1	1		Lateral
128	M514	TWR_INNER_CORNER_...	6.942	6.942	6.942	6.942	6.942	6.942	1	1		Lateral
129	M502	TWR_INNER_CORNER_...	7.595	7.595	7.595	7.595	7.595	7.595	1	1		Lateral
130	M503	TWR_INNER_CORNER_...	7.595	7.595	7.595	7.595	7.595	7.595	1	1		Lateral
131	M504	TWR_INNER_CORNER_...	7.595	7.595	7.595	7.595	7.595	7.595	1	1		Lateral
132	M487	TWR_INNER_CORNER_...	8.247	8.247	8.247	8.247	8.247	8.247	1	1		Lateral
133	M488	TWR_INNER_CORNER_...	8.247	8.247	8.247	8.247	8.247	8.247	1	1		Lateral
134	M489	TWR_INNER_CORNER_...	8.247	8.247	8.247	8.247	8.247	8.247	1	1		Lateral
135	M477	TWR_INNER_CORNER_...	8.9	8.9	8.9	8.9	8.9	8.9	1	1		Lateral
136	M478	TWR_INNER_CORNER_...	8.9	8.9	8.9	8.9	8.9	8.9	1	1		Lateral
137	M479	TWR_INNER_CORNER_...	8.9	8.9	8.9	8.9	8.9	8.9	1	1		Lateral
138	M463	TWR_INNER_CORNER_...	9.553	9.553	9.553	9.553	9.553	9.553	1	1		Lateral
139	M464	TWR_INNER_CORNER_...	9.553	9.553	9.553	9.553	9.553	9.553	1	1		Lateral
140	M465	TWR_INNER_CORNER_...	9.553	9.553	9.553	9.553	9.553	9.553	1	1		Lateral
141	M449	TWR_INNER_CORNER_...	10.205	10.205	10.205	10.205	10.205	10.205	1	1		Lateral
142	M450	TWR_INNER_CORNER_...	10.205	10.205	10.205	10.205	10.205	10.205	1	1		Lateral
143	M451	TWR_INNER_CORNER_...	10.205	10.205	10.205	10.205	10.205	10.205	1	1		Lateral
144	M417	TWR_INNER_CORNER_...	11.511	11.511	11.511	11.511	11.511	11.511	1	1		Lateral
145	M418	TWR_INNER_CORNER_...	11.511	11.511	11.511	11.511	11.511	11.511	1	1		Lateral
146	M419	TWR_INNER_CORNER_...	11.511	11.511	11.511	11.511	11.511	11.511	1	1		Lateral
147	M492	TWR_INNER_GIRT_T7	5.832	5.832	5.832	5.832	5.832	5.832	1	1		Lateral
148	M493	TWR_INNER_GIRT_T7	5.832	5.832	5.832	5.832	5.832	5.832	1	1		Lateral
149	M494	TWR_INNER_GIRT_T7	5.832	5.832	5.832	5.832	5.832	5.832	1	1		Lateral
150	M535	TWR_INNER_LADDER_...	8	8	8	8	8	8	1	1		Lateral
151	M517	TWR_INNER_LADDER_...	8	8	8	8	8	8	1	1		Lateral
152	M507	TWR_INNER_LADDER_...	8	8	8	8	8	8	1	1		Lateral
153	M497	TWR_INNER_LADDER_...	8	8	8	8	8	8	1	1		Lateral
154	M482	TWR_INNER_LADDER_...	8	8	8	8	8	8	1	1		Lateral
155	M472	TWR_INNER_LADDER_...	8	8	8	8	8	8	1.16	1.16		Lateral
156	M458	TWR_INNER_LADDER_...	8	8	8	8	8	8	1	1		Lateral
157	M426	TWR_INNER_LADDER_...	8	8	8	8	8	8	1	1		Lateral
158	M526	TWR_INNER_SQ_T3	7.971	7.971	7.971	7.971	7.971	7.971	1	1		Lateral
159	M527	TWR_INNER_SQ_T3	7.971	7.971	7.971	7.971	7.971	7.971	1	1		Lateral
160	M528	TWR_INNER_SQ_T3	7.971	7.971	7.971	7.971	7.971	7.971	1	1		Lateral
161	M529	TWR_INNER_SQ_T3	7.971	7.971	7.971	7.971	7.971	7.971	1	1		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Funct...
162	M508	TWR_INNER_SQ_T5	9.817	9.817	9.817	9.817	9.817	9.817	1.16	1.16		Lateral
163	M509	TWR_INNER_SQ_T5	9.817	9.817	9.817	9.817	9.817	9.817	1.16	1.16		Lateral
164	M510	TWR_INNER_SQ_T5	9.817	9.817	9.817	9.817	9.817	9.817	1.16	1.16		Lateral
165	M511	TWR_INNER_SQ_T5	9.817	9.817	9.817	9.817	9.817	9.817	1.16	1.16		Lateral
166	M498	TWR_INNER_SQ_T6	10.74	10.74	10.74	10.74	10.74	10.74	1.14	1.14		Lateral
167	M499	TWR_INNER_SQ_T6	10.74	10.74	10.74	10.74	10.74	10.74	1.14	1.14		Lateral
168	M500	TWR_INNER_SQ_T6	10.74	10.74	10.74	10.74	10.74	10.74	1.14	1.14		Lateral
169	M501	TWR_INNER_SQ_T6	10.74	10.74	10.74	10.74	10.74	10.74	1.14	1.14		Lateral
170	M483	TWR_INNER_SQ_T7	11.663	11.663	11.663	11.663	11.663	11.663	1.12	1.12		Lateral
171	M484	TWR_INNER_SQ_T7	11.663	11.663	11.663	11.663	11.663	11.663	1.12	1.12		Lateral
172	M485	TWR_INNER_SQ_T7	11.663	11.663	11.663	11.663	11.663	11.663	1.12	1.12		Lateral
173	M486	TWR_INNER_SQ_T7	11.663	11.663	11.663	11.663	11.663	11.663	1.12	1.12		Lateral
174	M473	TWR_INNER_SQ_T8	12.587	12.587	12.587	12.587	12.587	12.587	1.1	1.1		Lateral
175	M474	TWR_INNER_SQ_T8	12.587	12.587	12.587	12.587	12.587	12.587	1.1	1.1		Lateral
176	M475	TWR_INNER_SQ_T8	12.587	12.587	12.587	12.587	12.587	12.587	1.1	1.1		Lateral
177	M476	TWR_INNER_SQ_T8	12.587	12.587	12.587	12.587	12.587	12.587	1.1	1.1		Lateral
178	M459	TWR_INNER_SQ_T9	13.51	13.51	6.755	6.755	6.755	6.755	1.09	1.09		Lateral
179	M460	TWR_INNER_SQ_T9	13.51	13.51	6.755	6.755	6.755	6.755	1.09	1.09		Lateral
180	M461	TWR_INNER_SQ_T9	13.51	13.51	6.755	6.755	6.755	6.755	1.09	1.09		Lateral
181	M462	TWR_INNER_SQ_T9	13.51	13.51	6.755	6.755	6.755	6.755	1.09	1.09		Lateral
182	M441	TWR_INNER_SQ_T10	14.433	14.433	7.216	7.216	7.216	7.216	1.07	1.07		Lateral
183	M442	TWR_INNER_SQ_T10	14.433	14.433	7.216	7.216	7.216	7.216	1.07	1.07		Lateral
184	M443	TWR_INNER_SQ_T10	14.433	14.433	7.216	7.216	7.216	7.216	1.07	1.07		Lateral
185	M444	TWR_INNER_SQ_T10	14.433	14.433	7.216	7.216	7.216	7.216	1.07	1.07		Lateral
186	M409	TWR_INNER_SQ_T11	16.279	16.279	8.139	8.139	8.139	8.139	1.04	1.04		Lateral
187	M410	TWR_INNER_SQ_T11	16.279	16.279	8.139	8.139	8.139	8.139	1.04	1.04		Lateral
188	M411	TWR_INNER_SQ_T11	16.279	16.279	8.139	8.139	8.139	8.139	1.04	1.04		Lateral
189	M412	TWR_INNER_SQ_T11	16.279	16.279	8.139	8.139	8.139	8.139	1.04	1.04		Lateral
190	M49	TWR_INNER_SUPP_T3	11.273	11.273	5.636	5.636	5.636	5.636	1.12	1.12		Lateral
191	M50	TWR_INNER_SUPP_T3	11.273	11.273	5.636	5.636	5.636	5.636	1.12	1.12		Lateral
192	M51	TWR_INNER_SUPP_T3	11.273	11.273	5.636	5.636	5.636	5.636	1.12	1.12		Lateral
193	M52	TWR_INNER_SUPP_T3	11.273	11.273	5.636	5.636	5.636	5.636	1.12	1.12		Lateral
194	M118	TWR_INNER_SUPP_T5	13.884	13.884	6.942	6.942	6.942	6.942	1.06	1.06		Lateral
195	M119	TWR_INNER_SUPP_T5	13.884	13.884	6.942	6.942	6.942	6.942	1.06	1.06		Lateral
196	M120	TWR_INNER_SUPP_T5	13.884	13.884	6.942	6.942	6.942	6.942	1.06	1.06		Lateral
197	M121	TWR_INNER_SUPP_T5	13.884	13.884	6.942	6.942	6.942	6.942	1.06	1.06		Lateral
198	M155	TWR_INNER_SUPP_T6	15.189	15.189	7.595	7.595	7.595	7.595	1.05	1.05		Lateral
199	M156	TWR_INNER_SUPP_T6	15.189	15.189	7.595	7.595	7.595	7.595	1.05	1.05		Lateral
200	M157	TWR_INNER_SUPP_T6	15.189	15.189	7.595	7.595	7.595	7.595	1.05	1.05		Lateral
201	M158	TWR_INNER_SUPP_T6	15.189	15.189	7.595	7.595	7.595	7.595	1.05	1.05		Lateral
202	M192	TWR_INNER_SUPP_T7	16.495	16.495	8.248	8.248	8.248	8.248	1.04	1.04		Lateral
203	M193	TWR_INNER_SUPP_T7	16.495	16.495	8.248	8.248	8.248	8.248	1.04	1.04		Lateral
204	M194	TWR_INNER_SUPP_T7	16.495	16.495	8.248	8.248	8.248	8.248	1.04	1.04		Lateral
205	M195	TWR_INNER_SUPP_T7	16.495	16.495	8.248	8.248	8.248	8.248	1.04	1.04		Lateral
206	M229	TWR_INNER_SUPP_T8	17.8	17.8	8.9	8.9	8.9	8.9	1.04	1.04		Lateral
207	M230	TWR_INNER_SUPP_T8	17.8	17.8	8.9	8.9	8.9	8.9	1.04	1.04		Lateral
208	M231	TWR_INNER_SUPP_T8	17.8	17.8	8.9	8.9	8.9	8.9	1.04	1.04		Lateral
209	M232	TWR_INNER_SUPP_T8	17.8	17.8	8.9	8.9	8.9	8.9	1.04	1.04		Lateral
210	M266	TWR_INNER_SUPP_T9	19.105	19.105	9.553	9.553	9.553	9.553	1.03	1.03		Lateral
211	M267	TWR_INNER_SUPP_T9	19.105	19.105	9.553	9.553	9.553	9.553	1.03	1.03		Lateral
212	M268	TWR_INNER_SUPP_T9	19.105	19.105	9.553	9.553	9.553	9.553	1.03	1.03		Lateral
213	M269	TWR_INNER_SUPP_T9	19.105	19.105	9.553	9.553	9.553	9.553	1.03	1.03		Lateral
214	M327	TWR_INNER_SUPP_T10	20.411	10.206	10.206	10.206	10.206	10.206	1	1		Lateral
215	M328	TWR_INNER_SUPP_T10	20.411	10.206	10.206	10.206	10.206	10.206	1	1		Lateral
216	M329	TWR_INNER_SUPP_T10	20.411	10.206	10.206	10.206	10.206	10.206	1	1		Lateral
217	M330	TWR_INNER_SUPP_T10	20.411	10.206	10.206	10.206	10.206	10.206	1	1		Lateral
218	M392	TWR_INNER_SUPP_T11	23.022	11.511	11.511	11.511	11.511	11.511	1.11	1.11		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Funct...
219	M393	TWR_INNER_SUPP_T11	23.022	11.511	11.511	11.511	11.511	11.511	1.11	1.11		Lateral
220	M394	TWR_INNER_SUPP_T11	23.022	11.511	11.511	11.511	11.511	11.511	1.11	1.11		Lateral
221	M395	TWR_INNER_SUPP_T11	23.022	11.511	11.511	11.511	11.511	11.511	1.11	1.11		Lateral
222	M533	TWR_INNER_TRI_T3	4.322	4.322	4.322	4.322	4.322	4.322	1	1		Lateral
223	M534	TWR_INNER_TRI_T3	4.322	4.322	4.322	4.322	4.322	4.322	1	1		Lateral
224	M515	TWR_INNER_TRI_T5	4.965	4.965	4.965	4.965	4.965	4.965	1	1		Lateral
225	M516	TWR_INNER_TRI_T5	4.965	4.965	4.965	4.965	4.965	4.965	1	1		Lateral
226	M505	TWR_INNER_TRI_T6	5.378	5.378	5.378	5.378	5.378	5.378	1	1		Lateral
227	M506	TWR_INNER_TRI_T6	5.378	5.378	5.378	5.378	5.378	5.378	1	1		Lateral
228	M495	TWR_INNER_TRI_T7	5.834	5.834	5.834	5.834	5.834	5.834	1	1		Lateral
229	M496	TWR_INNER_TRI_T7	5.834	5.834	5.834	5.834	5.834	5.834	1	1		Lateral
230	M480	TWR_INNER_TRI_T8	6.325	6.325	6.325	6.325	6.325	6.325	1	1		Lateral
231	M481	TWR_INNER_TRI_T8	6.325	6.325	6.325	6.325	6.325	6.325	1	1		Lateral
232	M470	TWR_INNER_TRI_T9	6.843	6.843	6.843	6.843	6.843	6.843	1	1		Lateral
233	M471	TWR_INNER_TRI_T9	6.843	6.843	6.843	6.843	6.843	6.843	1	1		Lateral
234	M456	TWR_INNER_TRI_T10	7.383	7.383	7.383	7.383	7.383	7.383	1	1		Lateral
235	M457	TWR_INNER_TRI_T10	7.383	7.383	7.383	7.383	7.383	7.383	1	1		Lateral
236	M424	TWR_INNER_TRI_T11	8.51	8.51	8.51	8.51	8.51	8.51	1	1		Lateral
237	M425	TWR_INNER_TRI_T11	8.51	8.51	8.51	8.51	8.51	8.51	1	1		Lateral
238	M1	TWR_LEG_T1	12.568	6.724	6.724	6.724	6.724	6.724	1	1		Lateral
239	M2	TWR_LEG_T1	12.568	6.724	6.724	6.724	6.724	6.724	1	1		Lateral
240	M3	TWR_LEG_T1	12.568	6.724	6.724	6.724	6.724	6.724	1	1		Lateral
241	M4	TWR_LEG_T1	12.568	6.724	6.724	6.724	6.724	6.724	1	1		Lateral
242	M21	TWR_LEG_T2	12.568	6.67	6.67	6.67	6.67	6.67	1	1		Lateral
243	M22	TWR_LEG_T2	12.568	6.67	6.67	6.67	6.67	6.67	1	1		Lateral
244	M23	TWR_LEG_T2	12.568	6.67	6.67	6.67	6.67	6.67	1	1		Lateral
245	M24	TWR_LEG_T2	12.568	6.67	6.67	6.67	6.67	6.67	1	1		Lateral
246	M41	TWR_LEG_T3	12.568	6.628	6.628	6.628	6.628	6.628	1	1		Lateral
247	M42	TWR_LEG_T3	12.568	6.628	6.628	6.628	6.628	6.628	1	1		Lateral
248	M43	TWR_LEG_T3	12.568	6.628	6.628	6.628	6.628	6.628	1	1		Lateral
249	M44	TWR_LEG_T3	12.568	6.628	6.628	6.628	6.628	6.628	1	1		Lateral
250	M66	TWR_LEG_T4	12.568	6.594	6.594	6.594	6.594	6.594	1	1		Lateral
251	M67	TWR_LEG_T4	12.568	6.594	6.594	6.594	6.594	6.594	1	1		Lateral
252	M68	TWR_LEG_T4	12.568	6.594	6.594	6.594	6.594	6.594	1	1		Lateral
253	M69	TWR_LEG_T4	12.568	6.594	6.594	6.594	6.594	6.594	1	1		Lateral
254	M86	TWR_LEG_T5	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
255	M87	TWR_LEG_T5	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
256	M88	TWR_LEG_T5	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
257	M89	TWR_LEG_T5	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
258	M123	TWR_LEG_T6	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
259	M124	TWR_LEG_T6	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
260	M125	TWR_LEG_T6	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
261	M126	TWR_LEG_T6	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
262	M160	TWR_LEG_T7	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
263	M161	TWR_LEG_T7	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
264	M162	TWR_LEG_T7	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
265	M163	TWR_LEG_T7	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
266	M197	TWR_LEG_T8	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
267	M198	TWR_LEG_T8	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
268	M199	TWR_LEG_T8	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
269	M200	TWR_LEG_T8	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
270	M234	TWR_LEG_T9	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
271	M235	TWR_LEG_T9	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
272	M236	TWR_LEG_T9	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
273	M237	TWR_LEG_T9	12.568	6.284	6.284	6.284	6.284	6.284	1	1		Lateral
274	M271	TWR_LEG_T10	25.136	8.379	8.379	8.379	8.379	8.379	1	1		Lateral
275	M272	TWR_LEG_T10	25.136	8.379	8.379	8.379	8.379	8.379	1	1		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Funct...
276	M273	TWR_LEG_T10	25.136	8.379	8.379	8.379	8.379	8.379	1	1		Lateral
277	M274	TWR_LEG_T10	25.136	8.379	8.379	8.379	8.379	8.379	1	1		Lateral
278	M332	TWR_LEG_T11	25.136	8.379	8.379	8.379	8.379	8.379	1	1		Lateral
279	M333	TWR_LEG_T11	25.136	8.379	8.379	8.379	8.379	8.379	1	1		Lateral
280	M334	TWR_LEG_T11	25.136	8.379	8.379	8.379	8.379	8.379	1	1		Lateral
281	M335	TWR_LEG_T11	25.136	8.379	8.379	8.379	8.379	8.379	1	1		Lateral
282	M401	TWR_RED_BRACE_T11	5.156	5.156	5.156	5.156	5.156	5.156	1	1		Lateral
283	M402	TWR_RED_BRACE_T11	2.713	2.713	2.713	2.713	2.713	2.713	1	1		Lateral
284	M403	TWR_RED_BRACE_T11	5.156	5.156	5.156	5.156	5.156	5.156	1	1		Lateral
285	M404	TWR_RED_BRACE_T11	2.713	2.713	2.713	2.713	2.713	2.713	1	1		Lateral
286	M405	TWR_RED_BRACE_T11	5.156	5.156	5.156	5.156	5.156	5.156	1	1		Lateral
287	M406	TWR_RED_BRACE_T11	2.713	2.713	2.713	2.713	2.713	2.713	1	1		Lateral
288	M407	TWR_RED_BRACE_T11	5.156	5.156	5.156	5.156	5.156	5.156	1	1		Lateral
289	M408	TWR_RED_BRACE_T11	2.713	2.713	2.713	2.713	2.713	2.713	1	1		Lateral
290	M280	TWR_RED_DIAG_2_T10	12.286	11.83	11.83	11.83	11.83	11.83	1	1		Lateral
291	M285	TWR_RED_DIAG_2_T10	12.286	11.83	11.83	11.83	11.83	11.83	1	1		Lateral
292	M291	TWR_RED_DIAG_2_T10	12.286	11.83	11.83	11.83	11.83	11.83	1	1		Lateral
293	M296	TWR_RED_DIAG_2_T10	12.286	11.83	11.83	11.83	11.83	11.83	1	1		Lateral
294	M304	TWR_RED_DIAG_2_T10	12.286	11.83	11.83	11.83	11.83	11.83	1	1		Lateral
295	M309	TWR_RED_DIAG_2_T10	12.286	11.83	11.83	11.83	11.83	11.83	1	1		Lateral
296	M317	TWR_RED_DIAG_2_T10	12.286	11.83	11.83	11.83	11.83	11.83	1	1		Lateral
297	M322	TWR_RED_DIAG_2_T10	12.286	11.83	11.83	11.83	11.83	11.83	1	1		Lateral
298	M341	TWR_RED_DIAG_2_T11	13.214	12.78	12.78	12.78	12.78	12.78	1.1	1.1		Lateral
299	M346	TWR_RED_DIAG_2_T11	13.214	12.78	12.78	12.78	12.78	12.78	1.1	1.1		Lateral
300	M353	TWR_RED_DIAG_2_T11	13.214	12.78	12.78	12.78	12.78	12.78	1.1	1.1		Lateral
301	M358	TWR_RED_DIAG_2_T11	13.214	12.78	12.78	12.78	12.78	12.78	1.1	1.1		Lateral
302	M367	TWR_RED_DIAG_2_T11	13.214	12.78	12.78	12.78	12.78	12.78	1.1	1.1		Lateral
303	M372	TWR_RED_DIAG_2_T11	13.214	12.78	12.78	12.78	12.78	12.78	1.1	1.1		Lateral
304	M381	TWR_RED_DIAG_2_T11	13.214	12.78	12.78	12.78	12.78	12.78	1.1	1.1		Lateral
305	M386	TWR_RED_DIAG_2_T11	13.214	12.78	12.78	12.78	12.78	12.78	1.1	1.1		Lateral
306	M93	TWR_RED_DIAG_T5	7.685	7.25	7.25	7.25	7.25	7.25	1	1		Lateral
307	M96	TWR_RED_DIAG_T5	7.685	7.25	7.25	7.25	7.25	7.25	1	1		Lateral
308	M100	TWR_RED_DIAG_T5	7.685	7.25	7.25	7.25	7.25	7.25	1	1		Lateral
309	M103	TWR_RED_DIAG_T5	7.685	7.25	7.25	7.25	7.25	7.25	1	1		Lateral
310	M107	TWR_RED_DIAG_T5	7.685	7.25	7.25	7.25	7.25	7.25	1	1		Lateral
311	M110	TWR_RED_DIAG_T5	7.685	7.25	7.25	7.25	7.25	7.25	1	1		Lateral
312	M114	TWR_RED_DIAG_T5	7.685	7.25	7.25	7.25	7.25	7.25	1	1		Lateral
313	M117	TWR_RED_DIAG_T5	7.685	7.25	7.25	7.25	7.25	7.25	1	1		Lateral
314	M130	TWR_RED_DIAG_T6	7.961	7.56	7.56	7.56	7.56	7.56	1	1		Lateral
315	M133	TWR_RED_DIAG_T6	7.961	7.56	7.56	7.56	7.56	7.56	1	1		Lateral
316	M137	TWR_RED_DIAG_T6	7.961	7.56	7.56	7.56	7.56	7.56	1	1		Lateral
317	M140	TWR_RED_DIAG_T6	7.961	7.56	7.56	7.56	7.56	7.56	1	1		Lateral
318	M144	TWR_RED_DIAG_T6	7.961	7.56	7.56	7.56	7.56	7.56	1	1		Lateral
319	M147	TWR_RED_DIAG_T6	7.961	7.56	7.56	7.56	7.56	7.56	1	1		Lateral
320	M151	TWR_RED_DIAG_T6	7.961	7.56	7.56	7.56	7.56	7.56	1	1		Lateral
321	M154	TWR_RED_DIAG_T6	7.961	7.56	7.56	7.56	7.56	7.56	1	1		Lateral
322	M167	TWR_RED_DIAG_T7	8.253	7.87	7.87	7.87	7.87	7.87	1	1		Lateral
323	M170	TWR_RED_DIAG_T7	8.253	7.87	7.87	7.87	7.87	7.87	1	1		Lateral
324	M174	TWR_RED_DIAG_T7	8.253	7.87	7.87	7.87	7.87	7.87	1	1		Lateral
325	M177	TWR_RED_DIAG_T7	8.253	7.87	7.87	7.87	7.87	7.87	1	1		Lateral
326	M181	TWR_RED_DIAG_T7	8.253	7.87	7.87	7.87	7.87	7.87	1	1		Lateral
327	M184	TWR_RED_DIAG_T7	8.253	7.87	7.87	7.87	7.87	7.87	1	1		Lateral
328	M188	TWR_RED_DIAG_T7	8.253	7.87	7.87	7.87	7.87	7.87	1	1		Lateral
329	M191	TWR_RED_DIAG_T7	8.253	7.87	7.87	7.87	7.87	7.87	1	1		Lateral
330	M204	TWR_RED_DIAG_T8	8.561	8.19	8.19	8.19	8.19	8.19	1	1		Lateral
331	M207	TWR_RED_DIAG_T8	8.561	8.19	8.19	8.19	8.19	8.19	1	1		Lateral
332	M211	TWR_RED_DIAG_T8	8.561	8.19	8.19	8.19	8.19	8.19	1	1		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Funct...
333	M214	TWR_RED_DIAG_T8	8.561	8.19	8.19	8.19	8.19	8.19	1	1		Lateral
334	M218	TWR_RED_DIAG_T8	8.561	8.19	8.19	8.19	8.19	8.19	1	1		Lateral
335	M221	TWR_RED_DIAG_T8	8.561	8.19	8.19	8.19	8.19	8.19	1	1		Lateral
336	M225	TWR_RED_DIAG_T8	8.561	8.19	8.19	8.19	8.19	8.19	1	1		Lateral
337	M228	TWR_RED_DIAG_T8	8.561	8.19	8.19	8.19	8.19	8.19	1	1		Lateral
338	M241	TWR_RED_DIAG_T9	8.881	8.53	8.53	8.53	8.53	8.53	1	1		Lateral
339	M244	TWR_RED_DIAG_T9	8.881	8.53	8.53	8.53	8.53	8.53	1	1		Lateral
340	M248	TWR_RED_DIAG_T9	8.881	8.53	8.53	8.53	8.53	8.53	1	1		Lateral
341	M251	TWR_RED_DIAG_T9	8.881	8.53	8.53	8.53	8.53	8.53	1	1		Lateral
342	M255	TWR_RED_DIAG_T9	8.881	8.53	8.53	8.53	8.53	8.53	1	1		Lateral
343	M258	TWR_RED_DIAG_T9	8.881	8.53	8.53	8.53	8.53	8.53	1	1		Lateral
344	M262	TWR_RED_DIAG_T9	8.881	8.53	8.53	8.53	8.53	8.53	1	1		Lateral
345	M265	TWR_RED_DIAG_T9	8.881	8.53	8.53	8.53	8.53	8.53	1	1		Lateral
346	M279	TWR_RED_DIAG_T10	9.35	8.62	8.62	8.62	8.62	8.62	1	1		Lateral
347	M284	TWR_RED_DIAG_T10	9.35	8.62	8.62	8.62	8.62	8.62	1	1		Lateral
348	M290	TWR_RED_DIAG_T10	9.35	8.62	8.62	8.62	8.62	8.62	1	1		Lateral
349	M295	TWR_RED_DIAG_T10	9.35	8.62	8.62	8.62	8.62	8.62	1	1		Lateral
350	M303	TWR_RED_DIAG_T10	9.35	8.62	8.62	8.62	8.62	8.62	1	1		Lateral
351	M308	TWR_RED_DIAG_T10	9.35	8.62	8.62	8.62	8.62	8.62	1	1		Lateral
352	M316	TWR_RED_DIAG_T10	9.35	8.62	8.62	8.62	8.62	8.62	1	1		Lateral
353	M321	TWR_RED_DIAG_T10	9.35	8.62	8.62	8.62	8.62	8.62	1	1		Lateral
354	M340	TWR_RED_DIAG_T11	9.642	8.98	8.98	8.98	8.98	8.98	1	1		Lateral
355	M345	TWR_RED_DIAG_T11	9.642	8.98	8.98	8.98	8.98	8.98	1	1		Lateral
356	M352	TWR_RED_DIAG_T11	9.642	8.98	8.98	8.98	8.98	8.98	1	1		Lateral
357	M357	TWR_RED_DIAG_T11	9.642	8.98	8.98	8.98	8.98	8.98	1	1		Lateral
358	M366	TWR_RED_DIAG_T11	9.642	8.98	8.98	8.98	8.98	8.98	1	1		Lateral
359	M371	TWR_RED_DIAG_T11	9.642	8.98	8.98	8.98	8.98	8.98	1	1		Lateral
360	M380	TWR_RED_DIAG_T11	9.642	8.98	8.98	8.98	8.98	8.98	1	1		Lateral
361	M385	TWR_RED_DIAG_T11	9.642	8.98	8.98	8.98	8.98	8.98	1	1		Lateral
362	M427	TWR_RED_HIPBRACE_...	7.674	7.674	7.674	7.674	7.674	7.674	1	1		Lateral
363	M428	TWR_RED_HIPBRACE_...	7.674	7.674	7.674	7.674	7.674	7.674	1	1		Lateral
364	M429	TWR_RED_HIPBRACE_...	7.674	7.674	7.674	7.674	7.674	7.674	1	1		Lateral
365	M430	TWR_RED_HIPBRACE_...	5.431	5.431	5.431	5.431	5.431	5.431	1	1		Lateral
366	M431	TWR_RED_HIPBRACE_...	5.431	5.431	5.431	5.431	5.431	5.431	1	1		Lateral
367	M432	TWR_RED_HIPBRACE_...	8	8	8	8	8	8	1	1		Lateral
368	M298	TWR_RED_HIPDIA_2_T10	11.575	11.575	11.575	11.575	11.575	11.575	1.08	1.08		Lateral
369	M311	TWR_RED_HIPDIA_2_T10	11.575	11.575	11.575	11.575	11.575	11.575	1.08	1.08		Lateral
370	M324	TWR_RED_HIPDIA_2_T10	11.575	11.575	11.575	11.575	11.575	11.575	1.08	1.08		Lateral
371	M326	TWR_RED_HIPDIA_2_T10	11.575	11.575	11.575	11.575	11.575	11.575	1.08	1.08		Lateral
372	M445	TWR_RED_HIPDIA_2_T10	11.575	11.575	11.575	11.575	11.575	11.575	1.08	1.08		Lateral
373	M446	TWR_RED_HIPDIA_2_T10	11.575	11.575	11.575	11.575	11.575	11.575	1.08	1.08		Lateral
374	M447	TWR_RED_HIPDIA_2_T10	11.575	11.575	11.575	11.575	11.575	11.575	1.08	1.08		Lateral
375	M448	TWR_RED_HIPDIA_2_T10	11.575	11.575	11.575	11.575	11.575	11.575	1.08	1.08		Lateral
376	M361	TWR_RED_HIPDIA_2_T11	12.268	12.268	12.268	12.268	12.268	12.268	1.07	1.07		Lateral
377	M375	TWR_RED_HIPDIA_2_T11	12.268	12.268	12.268	12.268	12.268	12.268	1.07	1.07		Lateral
378	M389	TWR_RED_HIPDIA_2_T11	12.268	12.268	12.268	12.268	12.268	12.268	1.07	1.07		Lateral
379	M391	TWR_RED_HIPDIA_2_T11	12.268	12.268	12.268	12.268	12.268	12.268	1.07	1.07		Lateral
380	M413	TWR_RED_HIPDIA_2_T11	12.268	12.268	12.268	12.268	12.268	12.268	1.07	1.07		Lateral
381	M414	TWR_RED_HIPDIA_2_T11	12.268	12.268	12.268	12.268	12.268	12.268	1.07	1.07		Lateral
382	M415	TWR_RED_HIPDIA_2_T11	12.268	12.268	12.268	12.268	12.268	12.268	1.07	1.07		Lateral
383	M416	TWR_RED_HIPDIA_2_T11	12.268	12.268	12.268	12.268	12.268	12.268	1.07	1.07		Lateral
384	M297	TWR_RED_HIP_2_T10	13.607	13.607	13.607	13.607	13.607	13.607	1	1		Lateral
385	M310	TWR_RED_HIP_2_T10	13.607	13.607	13.607	13.607	13.607	13.607	1	1		Lateral
386	M323	TWR_RED_HIP_2_T10	13.607	13.607	13.607	13.607	13.607	13.607	1	1		Lateral
387	M325	TWR_RED_HIP_2_T10	13.607	13.607	13.607	13.607	13.607	13.607	1	1		Lateral
388	M360	TWR_RED_HIP_2_T11	15.348	15.348	15.348	15.348	15.348	15.348	1	1		Lateral
389	M374	TWR_RED_HIP_2_T11	15.348	15.348	15.348	15.348	15.348	15.348	1	1		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Funct...
390	M388	TWR_RED_HIP_2_T11	15.348	15.348	15.348	15.348	15.348	15.348	1	1		Lateral
391	M390	TWR_RED_HIP_2_T11	15.348	15.348	15.348	15.348	15.348	15.348	1	1		Lateral
392	M278	TWR_RED_HORZ_2_T10	9.622	9.29	9.29	9.29	9.29	9.29	1.13	1.13		Lateral
393	M283	TWR_RED_HORZ_2_T10	9.622	9.29	9.29	9.29	9.29	9.29	1.13	1.13		Lateral
394	M289	TWR_RED_HORZ_2_T10	9.622	9.29	9.29	9.29	9.29	9.29	1.13	1.13		Lateral
395	M294	TWR_RED_HORZ_2_T10	9.622	9.29	9.29	9.29	9.29	9.29	1.13	1.13		Lateral
396	M302	TWR_RED_HORZ_2_T10	9.622	9.29	9.29	9.29	9.29	9.29	1.13	1.13		Lateral
397	M307	TWR_RED_HORZ_2_T10	9.622	9.29	9.29	9.29	9.29	9.29	1.13	1.13		Lateral
398	M315	TWR_RED_HORZ_2_T10	9.622	9.29	9.29	9.29	9.29	9.29	1.13	1.13		Lateral
399	M320	TWR_RED_HORZ_2_T10	9.622	9.29	9.29	9.29	9.29	9.29	1.13	1.13		Lateral
400	M339	TWR_RED_HORZ_2_T11	10.853	10.52	10.52	10.52	10.52	10.52	1.1	1.1		Lateral
401	M344	TWR_RED_HORZ_2_T11	10.853	10.52	10.52	10.52	10.52	10.52	1.1	1.1		Lateral
402	M351	TWR_RED_HORZ_2_T11	10.853	10.52	10.52	10.52	10.52	10.52	1.1	1.1		Lateral
403	M356	TWR_RED_HORZ_2_T11	10.853	10.52	10.52	10.52	10.52	10.52	1.1	1.1		Lateral
404	M365	TWR_RED_HORZ_2_T11	10.853	10.52	10.52	10.52	10.52	10.52	1.1	1.1		Lateral
405	M370	TWR_RED_HORZ_2_T11	10.853	10.52	10.52	10.52	10.52	10.52	1.1	1.1		Lateral
406	M379	TWR_RED_HORZ_2_T11	10.853	10.52	10.52	10.52	10.52	10.52	1.1	1.1		Lateral
407	M384	TWR_RED_HORZ_2_T11	10.853	10.52	10.52	10.52	10.52	10.52	1.1	1.1		Lateral
408	M92	TWR_RED_HORZ_T5	4.909	4.66	4.66	4.66	4.66	4.66	1	1		Lateral
409	M95	TWR_RED_HORZ_T5	4.909	4.66	4.66	4.66	4.66	4.66	1	1		Lateral
410	M99	TWR_RED_HORZ_T5	4.909	4.66	4.66	4.66	4.66	4.66	1	1		Lateral
411	M102	TWR_RED_HORZ_T5	4.909	4.66	4.66	4.66	4.66	4.66	1	1		Lateral
412	M106	TWR_RED_HORZ_T5	4.909	4.66	4.66	4.66	4.66	4.66	1	1		Lateral
413	M109	TWR_RED_HORZ_T5	4.909	4.66	4.66	4.66	4.66	4.66	1	1		Lateral
414	M113	TWR_RED_HORZ_T5	4.909	4.66	4.66	4.66	4.66	4.66	1	1		Lateral
415	M116	TWR_RED_HORZ_T5	4.909	4.66	4.66	4.66	4.66	4.66	1	1		Lateral
416	M129	TWR_RED_HORZ_T6	5.37	5.12	5.12	5.12	5.12	5.12	1	1		Lateral
417	M132	TWR_RED_HORZ_T6	5.37	5.12	5.12	5.12	5.12	5.12	1	1		Lateral
418	M136	TWR_RED_HORZ_T6	5.37	5.12	5.12	5.12	5.12	5.12	1	1		Lateral
419	M139	TWR_RED_HORZ_T6	5.37	5.12	5.12	5.12	5.12	5.12	1	1		Lateral
420	M143	TWR_RED_HORZ_T6	5.37	5.12	5.12	5.12	5.12	5.12	1	1		Lateral
421	M146	TWR_RED_HORZ_T6	5.37	5.12	5.12	5.12	5.12	5.12	1	1		Lateral
422	M150	TWR_RED_HORZ_T6	5.37	5.12	5.12	5.12	5.12	5.12	1	1		Lateral
423	M153	TWR_RED_HORZ_T6	5.37	5.12	5.12	5.12	5.12	5.12	1	1		Lateral
424	M166	TWR_RED_HORZ_T7	5.832	5.58	5.58	5.58	5.58	5.58	1	1		Lateral
425	M169	TWR_RED_HORZ_T7	5.832	5.58	5.58	5.58	5.58	5.58	1	1		Lateral
426	M173	TWR_RED_HORZ_T7	5.832	5.58	5.58	5.58	5.58	5.58	1	1		Lateral
427	M176	TWR_RED_HORZ_T7	5.832	5.58	5.58	5.58	5.58	5.58	1	1		Lateral
428	M180	TWR_RED_HORZ_T7	5.832	5.58	5.58	5.58	5.58	5.58	1	1		Lateral
429	M183	TWR_RED_HORZ_T7	5.832	5.58	5.58	5.58	5.58	5.58	1	1		Lateral
430	M187	TWR_RED_HORZ_T7	5.832	5.58	5.58	5.58	5.58	5.58	1	1		Lateral
431	M190	TWR_RED_HORZ_T7	5.832	5.58	5.58	5.58	5.58	5.58	1	1		Lateral
432	M203	TWR_RED_HORZ_T8	6.293	6.04	6.04	6.04	6.04	6.04	1	1		Lateral
433	M206	TWR_RED_HORZ_T8	6.293	6.04	6.04	6.04	6.04	6.04	1	1		Lateral
434	M210	TWR_RED_HORZ_T8	6.293	6.04	6.04	6.04	6.04	6.04	1	1		Lateral
435	M213	TWR_RED_HORZ_T8	6.293	6.04	6.04	6.04	6.04	6.04	1	1		Lateral
436	M217	TWR_RED_HORZ_T8	6.293	6.04	6.04	6.04	6.04	6.04	1	1		Lateral
437	M220	TWR_RED_HORZ_T8	6.293	6.04	6.04	6.04	6.04	6.04	1	1		Lateral
438	M224	TWR_RED_HORZ_T8	6.293	6.04	6.04	6.04	6.04	6.04	1	1		Lateral
439	M227	TWR_RED_HORZ_T8	6.293	6.04	6.04	6.04	6.04	6.04	1	1		Lateral
440	M240	TWR_RED_HORZ_T9	6.755	6.42	6.42	6.42	6.42	6.42	1	1		Lateral
441	M243	TWR_RED_HORZ_T9	6.755	6.42	6.42	6.42	6.42	6.42	1	1		Lateral
442	M247	TWR_RED_HORZ_T9	6.755	6.42	6.42	6.42	6.42	6.42	1	1		Lateral
443	M250	TWR_RED_HORZ_T9	6.755	6.42	6.42	6.42	6.42	6.42	1	1		Lateral
444	M254	TWR_RED_HORZ_T9	6.755	6.42	6.42	6.42	6.42	6.42	1	1		Lateral
445	M257	TWR_RED_HORZ_T9	6.755	6.42	6.42	6.42	6.42	6.42	1	1		Lateral
446	M261	TWR_RED_HORZ_T9	6.755	6.42	6.42	6.42	6.42	6.42	1	1		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Funct...
447	M264	TWR_RED_HORZ_T9	6.755	6.42	6.42	6.42	6.42	6.42	1	1		Lateral
448	M277	TWR_RED_HORZ_T10	4.811	4.48	4.48	4.48	4.48	4.48	1	1		Lateral
449	M282	TWR_RED_HORZ_T10	4.811	4.48	4.48	4.48	4.48	4.48	1	1		Lateral
450	M288	TWR_RED_HORZ_T10	4.811	4.48	4.48	4.48	4.48	4.48	1	1		Lateral
451	M293	TWR_RED_HORZ_T10	4.811	4.48	4.48	4.48	4.48	4.48	1	1		Lateral
452	M301	TWR_RED_HORZ_T10	4.811	4.48	4.48	4.48	4.48	4.48	1	1		Lateral
453	M306	TWR_RED_HORZ_T10	4.811	4.48	4.48	4.48	4.48	4.48	1	1		Lateral
454	M314	TWR_RED_HORZ_T10	4.811	4.48	4.48	4.48	4.48	4.48	1	1		Lateral
455	M319	TWR_RED_HORZ_T10	4.811	4.48	4.48	4.48	4.48	4.48	1	1		Lateral
456	M338	TWR_RED_HORZ_T11	5.426	5.09	5.09	5.09	5.09	5.09	1	1		Lateral
457	M343	TWR_RED_HORZ_T11	5.426	5.09	5.09	5.09	5.09	5.09	1	1		Lateral
458	M350	TWR_RED_HORZ_T11	5.426	5.09	5.09	5.09	5.09	5.09	1	1		Lateral
459	M355	TWR_RED_HORZ_T11	5.426	5.09	5.09	5.09	5.09	5.09	1	1		Lateral
460	M364	TWR_RED_HORZ_T11	5.426	5.09	5.09	5.09	5.09	5.09	1	1		Lateral
461	M369	TWR_RED_HORZ_T11	5.426	5.09	5.09	5.09	5.09	5.09	1	1		Lateral
462	M378	TWR_RED_HORZ_T11	5.426	5.09	5.09	5.09	5.09	5.09	1	1		Lateral
463	M383	TWR_RED_HORZ_T11	5.426	5.09	5.09	5.09	5.09	5.09	1	1		Lateral
464	M347	TWR_RED_SUBHOR_T11	18.125	18.125	18.125	18.125	18.125	18.125	1.02	1.02		Lateral
465	M359	TWR_RED_SUBHOR_T11	18.125	18.125	18.125	18.125	18.125	18.125	1.02	1.02		Lateral
466	M373	TWR_RED_SUBHOR_T11	18.125	18.125	18.125	18.125	18.125	18.125	1.02	1.02		Lateral
467	M387	TWR_RED_SUBHOR_T11	18.125	18.125	18.125	18.125	18.125	18.125	1.02	1.02		Lateral
468	M540	TWR_RED_VERT_T1	6.706	6.706	6.706	6.706	6.706	6.706	1	1		Lateral
469	M541	TWR_RED_VERT_T1	6.706	6.706	6.706	6.706	6.706	6.706	1	1		Lateral
470	M542	TWR_RED_VERT_T1	6.706	6.706	6.706	6.706	6.706	6.706	1	1		Lateral
471	M543	TWR_RED_VERT_T1	6.706	6.706	6.706	6.706	6.706	6.706	1	1		Lateral
472	M536	TWR_RED_VERT_T2	6.652	6.652	6.652	6.652	6.652	6.652	1	1		Lateral
473	M537	TWR_RED_VERT_T2	6.652	6.652	6.652	6.652	6.652	6.652	1	1		Lateral
474	M538	TWR_RED_VERT_T2	6.652	6.652	6.652	6.652	6.652	6.652	1	1		Lateral
475	M539	TWR_RED_VERT_T2	6.652	6.652	6.652	6.652	6.652	6.652	1	1		Lateral
476	M522	TWR_RED_VERT_T3	6.61	6.61	6.61	6.61	6.61	6.61	1	1		Lateral
477	M523	TWR_RED_VERT_T3	6.61	6.61	6.61	6.61	6.61	6.61	1	1		Lateral
478	M524	TWR_RED_VERT_T3	6.61	6.61	6.61	6.61	6.61	6.61	1	1		Lateral
479	M525	TWR_RED_VERT_T3	6.61	6.61	6.61	6.61	6.61	6.61	1	1		Lateral
480	M518	TWR_RED_VERT_T4	6.576	6.576	6.576	6.576	6.576	6.576	1	1		Lateral
481	M519	TWR_RED_VERT_T4	6.576	6.576	6.576	6.576	6.576	6.576	1	1		Lateral
482	M520	TWR_RED_VERT_T4	6.576	6.576	6.576	6.576	6.576	6.576	1	1		Lateral
483	M521	TWR_RED_VERT_T4	6.576	6.576	6.576	6.576	6.576	6.576	1	1		Lateral
484	M397	TWR_RED_VERT_T11	12.534	12.534	12.534	12.534	12.534	12.534	1	1		Lateral
485	M398	TWR_RED_VERT_T11	12.534	12.534	12.534	12.534	12.534	12.534	1	1		Lateral
486	M399	TWR_RED_VERT_T11	12.534	12.534	12.534	12.534	12.534	12.534	1	1		Lateral
487	M400	TWR_RED_VERT_T11	12.534	12.534	12.534	12.534	12.534	12.534	1	1		Lateral
488	M433	TWR_RED_VERT_T11	8.615	8.615	8.615	8.615	8.615	8.615	1	1		Lateral
489	M434	TWR_RED_VERT_T11	8.615	8.615	8.615	8.615	8.615	8.615	1	1		Lateral
490	M435	TWR_RED_VERT_T11	8.615	8.615	8.615	8.615	8.615	8.615	1	1		Lateral
491	M436	TWR_RED_VERT_T11	8.615	8.615	8.615	8.615	8.615	8.615	1	1		Lateral
492	M437	TWR_RED_VERT_T11	8.615	8.615	8.615	8.615	8.615	8.615	1	1		Lateral
493	M438	TWR_RED_VERT_T11	8.615	8.615	8.615	8.615	8.615	8.615	1	1		Lateral
494	M439	TWR_RED_VERT_T11	8.615	8.615	8.615	8.615	8.615	8.615	1	1		Lateral
495	M440	TWR_RED_VERT_T11	8.615	8.615	8.615	8.615	8.615	8.615	1	1		Lateral
496	M17	TWR_STEP_T1	13.108	6.075	6.075	6.075	6.075	6.075	1	1		Lateral
497	M18	TWR_STEP_T1	13.108	6.075	6.075	6.075	6.075	6.075	1	1		Lateral
498	M19	TWR_STEP_T1	13.108	6.075	6.075	6.075	6.075	6.075	1	1		Lateral
499	M20	TWR_STEP_T1	13.108	6.075	6.075	6.075	6.075	6.075	1	1		Lateral
500	M37	TWR_STEP_T2	14.962	7.23	7.23	7.23	7.23	7.23	1	1		Lateral
501	M38	TWR_STEP_T2	14.962	7.23	7.23	7.23	7.23	7.23	1	1		Lateral
502	M39	TWR_STEP_T2	14.962	7.23	7.23	7.23	7.23	7.23	1	1		Lateral
503	M40	TWR_STEP_T2	14.962	7.23	7.23	7.23	7.23	7.23	1	1		Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Funct...
504	M62	TWR_STEP_T3	16.815	7.93	7.93	7.93	7.93	7.93	1	1		Lateral
505	M63	TWR_STEP_T3	16.815	7.93	7.93	7.93	7.93	7.93	1	1		Lateral
506	M64	TWR_STEP_T3	16.815	7.93	7.93	7.93	7.93	7.93	1	1		Lateral
507	M65	TWR_STEP_T3	16.815	7.93	7.93	7.93	7.93	7.93	1	1		Lateral
508	M82	TWR_STEP_T4	18.666	8.855	8.855	8.855	8.855	8.855	1	1		Lateral
509	M83	TWR_STEP_T4	18.666	8.855	8.855	8.855	8.855	8.855	1	1		Lateral
510	M84	TWR_STEP_T4	18.666	8.855	8.855	8.855	8.855	8.855	1	1		Lateral
511	M85	TWR_STEP_T4	18.666	8.855	8.855	8.855	8.855	8.855	1	1		Lateral
512	M5	TWR_TOP_GIRT_T1	12.25	11.75	11.75	11.75	11.75	11.75	1	1		Lateral
513	M6	TWR_TOP_GIRT_T1	12.25	11.75	11.75	11.75	11.75	11.75	1	1		Lateral
514	M7	TWR_TOP_GIRT_T1	12.25	11.75	11.75	11.75	11.75	11.75	1	1		Lateral
515	M8	TWR_TOP_GIRT_T1	12.25	11.75	11.75	11.75	11.75	11.75	1	1		Lateral
516	M25	TWR_TOP_GIRT_T2	14.096	13.14	6.57	6.57	6.57	6.57	1.08	1.08		Lateral
517	M26	TWR_TOP_GIRT_T2	14.096	13.14	6.57	6.57	6.57	6.57	1.08	1.08		Lateral
518	M27	TWR_TOP_GIRT_T2	14.096	13.14	6.57	6.57	6.57	6.57	1.08	1.08		Lateral
519	M28	TWR_TOP_GIRT_T2	14.096	13.14	6.57	6.57	6.57	6.57	1.08	1.08		Lateral
520	M45	TWR_TOP_GIRT_T3	15.942	7.49	7.49	7.49	7.49	7.49	1.24	1.24		Lateral
521	M46	TWR_TOP_GIRT_T3	15.942	7.49	7.49	7.49	7.49	7.49	1.24	1.24		Lateral
522	M47	TWR_TOP_GIRT_T3	15.942	7.49	7.49	7.49	7.49	7.49	1.24	1.24		Lateral
523	M48	TWR_TOP_GIRT_T3	15.942	7.49	7.49	7.49	7.49	7.49	1.24	1.24		Lateral
524	M70	TWR_TOP_GIRT_T4	17.788	16.83	8.415	8.415	8.415	8.415	1.05	1.05		Lateral
525	M71	TWR_TOP_GIRT_T4	17.788	16.83	8.415	8.415	8.415	8.415	1.05	1.05		Lateral
526	M72	TWR_TOP_GIRT_T4	17.788	16.83	8.415	8.415	8.415	8.415	1.05	1.05		Lateral
527	M73	TWR_TOP_GIRT_T4	17.788	16.83	8.415	8.415	8.415	8.415	1.05	1.05		Lateral
528	M53	TWR_INNER_SUPP_T3	15.942	15.942	15.942	15.942	15.942	15.942	1.06	1.06		Lateral
529	M122	TWR_INNER_SUPP_T5	19.635	19.635	19.635	19.635	19.635	19.635	1.03	1.03		Lateral
530	M159	TWR_INNER_SUPP_T6	21.481	21.481	21.481	21.481	21.481	21.481	1.02	1.02		Lateral
531	M196	TWR_INNER_SUPP_T7	23.327	23.327	23.327	23.327	23.327	23.327	1.02	1.02		Lateral
532	M233	TWR_INNER_SUPP_T8	25.173	25.173	25.173	25.173	25.173	25.173	1.02	1.02		Lateral
533	M270	TWR_INNER_SUPP_T9	27.019	27.019	27.019	27.019	27.019	27.019	1.02	1.02		Lateral
534	M331	TWR_INNER_SUPP_T10	28.865	28.865	28.865	28.865	28.865	28.865	1	1		Lateral
535	M396	TWR_INNER_SUPP_T11	32.558	32.558	32.558	32.558	32.558	32.558	1.01	1.01		Lateral

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
1	M9	BenPIN	BenPIN				Yes	** NA **			None
2	M10	BenPIN	BenPIN				Yes	** NA **			None
3	M11	BenPIN	BenPIN				Yes	** NA **			None
4	M12	BenPIN	BenPIN				Yes	** NA **			None
5	M13	BenPIN	BenPIN				Yes	** NA **			None
6	M14	BenPIN	BenPIN				Yes	** NA **			None
7	M15	BenPIN	BenPIN				Yes	** NA **			None
8	M16	BenPIN	BenPIN				Yes	** NA **			None
9	M29	BenPIN	BenPIN				Yes	** NA **			None
10	M30	BenPIN	BenPIN				Yes	** NA **			None
11	M31	BenPIN	BenPIN				Yes	** NA **			None
12	M32	BenPIN	BenPIN				Yes	** NA **			None
13	M33	BenPIN	BenPIN				Yes	** NA **			None
14	M34	BenPIN	BenPIN				Yes	** NA **			None
15	M35	BenPIN	BenPIN				Yes	** NA **			None
16	M36	BenPIN	BenPIN				Yes	** NA **			None
17	M54	BenPIN	BenPIN				Yes	** NA **			None
18	M55	BenPIN	BenPIN				Yes	** NA **			None
19	M56	BenPIN	BenPIN				Yes	** NA **			None
20	M57	BenPIN	BenPIN				Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
21	M58	BenPIN	BenPIN				Yes	** NA **			None
22	M59	BenPIN	BenPIN				Yes	** NA **			None
23	M60	BenPIN	BenPIN				Yes	** NA **			None
24	M61	BenPIN	BenPIN				Yes	** NA **			None
25	M74	BenPIN	BenPIN				Yes	** NA **			None
26	M75	BenPIN	BenPIN				Yes	** NA **			None
27	M76	BenPIN	BenPIN				Yes	** NA **			None
28	M77	BenPIN	BenPIN				Yes	** NA **			None
29	M78	BenPIN	BenPIN				Yes	** NA **			None
30	M79	BenPIN	BenPIN				Yes	** NA **			None
31	M80	BenPIN	BenPIN				Yes	** NA **			None
32	M81	BenPIN	BenPIN				Yes	** NA **			None
33	M91	BenPIN	BenPIN				Yes	** NA **			None
34	M94	BenPIN	BenPIN				Yes	** NA **			None
35	M98	BenPIN	BenPIN				Yes	** NA **			None
36	M101	BenPIN	BenPIN				Yes	** NA **			None
37	M105	BenPIN	BenPIN				Yes	** NA **			None
38	M108	BenPIN	BenPIN				Yes	** NA **			None
39	M112	BenPIN	BenPIN				Yes	** NA **			None
40	M115	BenPIN	BenPIN				Yes	** NA **			None
41	M128	BenPIN	BenPIN				Yes	** NA **			None
42	M131	BenPIN	BenPIN				Yes	** NA **			None
43	M135	BenPIN	BenPIN				Yes	** NA **			None
44	M138	BenPIN	BenPIN				Yes	** NA **			None
45	M142	BenPIN	BenPIN				Yes	** NA **			None
46	M145	BenPIN	BenPIN				Yes	** NA **			None
47	M149	BenPIN	BenPIN				Yes	** NA **			None
48	M152	BenPIN	BenPIN				Yes	** NA **			None
49	M165	BenPIN	BenPIN				Yes	** NA **			None
50	M168	BenPIN	BenPIN				Yes	** NA **			None
51	M172	BenPIN	BenPIN				Yes	** NA **			None
52	M175	BenPIN	BenPIN				Yes	** NA **			None
53	M179	BenPIN	BenPIN				Yes	** NA **			None
54	M182	BenPIN	BenPIN				Yes	** NA **			None
55	M186	BenPIN	BenPIN				Yes	** NA **			None
56	M189	BenPIN	BenPIN				Yes	** NA **			None
57	M202	BenPIN	BenPIN				Yes	** NA **			None
58	M205	BenPIN	BenPIN				Yes	** NA **			None
59	M209	BenPIN	BenPIN				Yes	** NA **			None
60	M212	BenPIN	BenPIN				Yes	** NA **			None
61	M216	BenPIN	BenPIN				Yes	** NA **			None
62	M219	BenPIN	BenPIN				Yes	** NA **			None
63	M223	BenPIN	BenPIN				Yes	** NA **			None
64	M226	BenPIN	BenPIN				Yes	** NA **			None
65	M239	BenPIN	BenPIN				Yes	** NA **			None
66	M242	BenPIN	BenPIN				Yes	** NA **			None
67	M246	BenPIN	BenPIN				Yes	** NA **			None
68	M249	BenPIN	BenPIN				Yes	** NA **			None
69	M253	BenPIN	BenPIN				Yes	** NA **			None
70	M256	BenPIN	BenPIN				Yes	** NA **			None
71	M260	BenPIN	BenPIN				Yes	** NA **			None
72	M263	BenPIN	BenPIN				Yes	** NA **			None
73	M276	BenPIN	BenPIN				Yes	** NA **			None
74	M281	BenPIN	BenPIN				Yes	** NA **			None
75	M287	BenPIN	BenPIN				Yes	** NA **			None
76	M292	BenPIN	BenPIN				Yes	** NA **			None
77	M300	BenPIN	BenPIN				Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
78	M305	BenPIN	BenPIN				Yes	** NA **			None
79	M313	BenPIN	BenPIN				Yes	** NA **			None
80	M318	BenPIN	BenPIN				Yes	** NA **			None
81	M337						Yes	** NA **			None
82	M342						Yes	** NA **			None
83	M349						Yes	** NA **			None
84	M354						Yes	** NA **			None
85	M363						Yes	** NA **			None
86	M368						Yes	** NA **			None
87	M377						Yes	** NA **			None
88	M382						Yes	** NA **			None
89	M90	BenPIN	BenPIN				Yes				None
90	M97	BenPIN	BenPIN				Yes				None
91	M104	BenPIN	BenPIN				Yes				None
92	M111	BenPIN	BenPIN				Yes				None
93	M127	BenPIN	BenPIN				Yes				None
94	M134	BenPIN	BenPIN				Yes				None
95	M141	BenPIN	BenPIN				Yes				None
96	M148	BenPIN	BenPIN				Yes				None
97	M164	BenPIN	BenPIN				Yes				None
98	M171	BenPIN	BenPIN				Yes				None
99	M178	BenPIN	BenPIN				Yes				None
100	M185	BenPIN	BenPIN				Yes				None
101	M201	BenPIN	BenPIN				Yes				None
102	M208	BenPIN	BenPIN				Yes				None
103	M215	BenPIN	BenPIN				Yes				None
104	M222	BenPIN	BenPIN				Yes				None
105	M238	BenPIN	BenPIN				Yes				None
106	M245	BenPIN	BenPIN				Yes				None
107	M252	BenPIN	BenPIN				Yes				None
108	M259	BenPIN	BenPIN				Yes				None
109	M275	BenPIN	BenPIN				Yes				None
110	M286	BenPIN	BenPIN				Yes				None
111	M299	BenPIN	BenPIN				Yes				None
112	M312	BenPIN	BenPIN				Yes				None
113	M336						Yes				None
114	M348						Yes				None
115	M362						Yes				None
116	M376						Yes				None
117	M490	BenPIN	BenPIN				Yes				None
118	M491	BenPIN	BenPIN				Yes				None
119	M466	BenPIN	BenPIN				Yes				None
120	M467	BenPIN	BenPIN				Yes				None
121	M468	BenPIN	BenPIN				Yes				None
122	M469	BenPIN	BenPIN				Yes				None
123	M452	BenPIN	BenPIN				Yes				None
124	M453	BenPIN	BenPIN				Yes				None
125	M454	BenPIN	BenPIN				Yes				None
126	M455	BenPIN	BenPIN				Yes				None
127	M420	BenPIN	BenPIN				Yes				None
128	M421	BenPIN	BenPIN				Yes				None
129	M422	BenPIN	BenPIN				Yes				None
130	M423	BenPIN	BenPIN				Yes				None
131	M530	BenPIN	BenPIN			Tension ...	Yes				None
132	M531	BenPIN	BenPIN			Tension ...	Yes				None
133	M532	BenPIN	BenPIN			Tension ...	Yes				None
134	M512	BenPIN	BenPIN			Tension ...	Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
135	M513	BenPIN	BenPIN			Tension ...	Yes				None
136	M514	BenPIN	BenPIN			Tension ...	Yes				None
137	M502	BenPIN	BenPIN			Tension ...	Yes				None
138	M503	BenPIN	BenPIN			Tension ...	Yes				None
139	M504	BenPIN	BenPIN			Tension ...	Yes				None
140	M487	BenPIN	BenPIN			Tension ...	Yes				None
141	M488	BenPIN	BenPIN			Tension ...	Yes				None
142	M489	BenPIN	BenPIN			Tension ...	Yes				None
143	M477	BenPIN	BenPIN			Tension ...	Yes				None
144	M478	BenPIN	BenPIN			Tension ...	Yes				None
145	M479	BenPIN	BenPIN			Tension ...	Yes				None
146	M463	BenPIN	BenPIN			Tension ...	Yes				None
147	M464	BenPIN	BenPIN			Tension ...	Yes				None
148	M465	BenPIN	BenPIN			Tension ...	Yes				None
149	M449	BenPIN	BenPIN			Tension ...	Yes				None
150	M450	BenPIN	BenPIN			Tension ...	Yes				None
151	M451	BenPIN	BenPIN			Tension ...	Yes				None
152	M417	BenPIN	BenPIN			Tension ...	Yes				None
153	M418	BenPIN	BenPIN			Tension ...	Yes				None
154	M419	BenPIN	BenPIN			Tension ...	Yes				None
155	M492	BenPIN	BenPIN				Yes				None
156	M493	BenPIN	BenPIN				Yes				None
157	M494	BenPIN	BenPIN				Yes				None
158	M535	BenPIN	BenPIN				Yes				None
159	M517	BenPIN	BenPIN				Yes				None
160	M507	BenPIN	BenPIN				Yes				None
161	M497	BenPIN	BenPIN				Yes				None
162	M482	BenPIN	BenPIN				Yes				None
163	M472	BenPIN	BenPIN				Yes				None
164	M458	BenPIN	BenPIN				Yes				None
165	M426	BenPIN	BenPIN				Yes				None
166	M526	BenPIN	BenPIN				Yes				None
167	M527	BenPIN	BenPIN				Yes				None
168	M528	BenPIN	BenPIN				Yes				None
169	M529	BenPIN	BenPIN				Yes				None
170	M508	BenPIN	BenPIN				Yes				None
171	M509	BenPIN	BenPIN				Yes				None
172	M510	BenPIN	BenPIN				Yes				None
173	M511	BenPIN	BenPIN				Yes				None
174	M498	BenPIN	BenPIN				Yes				None
175	M499	BenPIN	BenPIN				Yes				None
176	M500	BenPIN	BenPIN				Yes				None
177	M501	BenPIN	BenPIN				Yes				None
178	M483	BenPIN	BenPIN				Yes				None
179	M484	BenPIN	BenPIN				Yes				None
180	M485	BenPIN	BenPIN				Yes				None
181	M486	BenPIN	BenPIN				Yes				None
182	M473	BenPIN	BenPIN				Yes				None
183	M474	BenPIN	BenPIN				Yes				None
184	M475	BenPIN	BenPIN				Yes				None
185	M476	BenPIN	BenPIN				Yes				None
186	M459	BenPIN	BenPIN				Yes				None
187	M460	BenPIN	BenPIN				Yes				None
188	M461	BenPIN	BenPIN				Yes				None
189	M462	BenPIN	BenPIN				Yes				None
190	M441	BenPIN	BenPIN				Yes				None
191	M442	BenPIN	BenPIN				Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
192	M443	BenPIN	BenPIN				Yes				None
193	M444	BenPIN	BenPIN				Yes				None
194	M409	BenPIN	BenPIN				Yes				None
195	M410	BenPIN	BenPIN				Yes				None
196	M411	BenPIN	BenPIN				Yes				None
197	M412	BenPIN	BenPIN				Yes				None
198	M49	BenPIN	BenPIN				Yes				None
199	M50	BenPIN	BenPIN				Yes				None
200	M51	BenPIN	BenPIN				Yes				None
201	M52	BenPIN	BenPIN				Yes				None
202	M118	BenPIN	BenPIN				Yes				None
203	M119	BenPIN	BenPIN				Yes				None
204	M120	BenPIN	BenPIN				Yes				None
205	M121	BenPIN	BenPIN				Yes				None
206	M155	BenPIN	BenPIN				Yes				None
207	M156	BenPIN	BenPIN				Yes				None
208	M157	BenPIN	BenPIN				Yes				None
209	M158	BenPIN	BenPIN				Yes				None
210	M192	BenPIN	BenPIN				Yes				None
211	M193	BenPIN	BenPIN				Yes				None
212	M194	BenPIN	BenPIN				Yes				None
213	M195	BenPIN	BenPIN				Yes				None
214	M229	BenPIN	BenPIN				Yes				None
215	M230	BenPIN	BenPIN				Yes				None
216	M231	BenPIN	BenPIN				Yes				None
217	M232	BenPIN	BenPIN				Yes				None
218	M266	BenPIN	BenPIN				Yes				None
219	M267	BenPIN	BenPIN				Yes				None
220	M268	BenPIN	BenPIN				Yes				None
221	M269	BenPIN	BenPIN				Yes				None
222	M327	BenPIN	BenPIN				Yes				None
223	M328	BenPIN	BenPIN				Yes				None
224	M329	BenPIN	BenPIN				Yes				None
225	M330	BenPIN	BenPIN				Yes				None
226	M392	BenPIN	BenPIN				Yes				None
227	M393	BenPIN	BenPIN				Yes				None
228	M394	BenPIN	BenPIN				Yes				None
229	M395	BenPIN	BenPIN				Yes				None
230	M533	BenPIN	BenPIN				Yes				None
231	M534	BenPIN	BenPIN				Yes				None
232	M515	BenPIN	BenPIN				Yes				None
233	M516	BenPIN	BenPIN				Yes				None
234	M505	BenPIN	BenPIN				Yes				None
235	M506	BenPIN	BenPIN				Yes				None
236	M495	BenPIN	BenPIN				Yes				None
237	M496	BenPIN	BenPIN				Yes				None
238	M480	BenPIN	BenPIN				Yes				None
239	M481	BenPIN	BenPIN				Yes				None
240	M470	BenPIN	BenPIN				Yes				None
241	M471	BenPIN	BenPIN				Yes				None
242	M456	BenPIN	BenPIN				Yes				None
243	M457	BenPIN	BenPIN				Yes				None
244	M424	BenPIN	BenPIN				Yes				None
245	M425	BenPIN	BenPIN				Yes				None
246	M1						Yes	** NA **			None
247	M2						Yes	** NA **			None
248	M3						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
249	M4						Yes	** NA **			None
250	M21						Yes	** NA **			None
251	M22						Yes	** NA **			None
252	M23						Yes	** NA **			None
253	M24						Yes	** NA **			None
254	M41						Yes	** NA **			None
255	M42						Yes	** NA **			None
256	M43						Yes	** NA **			None
257	M44						Yes	** NA **			None
258	M66						Yes	** NA **			None
259	M67						Yes	** NA **			None
260	M68						Yes	** NA **			None
261	M69						Yes	** NA **			None
262	M86						Yes	** NA **			None
263	M87						Yes	** NA **			None
264	M88						Yes	** NA **			None
265	M89						Yes	** NA **			None
266	M123						Yes	** NA **			None
267	M124						Yes	** NA **			None
268	M125						Yes	** NA **			None
269	M126						Yes	** NA **			None
270	M160						Yes	** NA **			None
271	M161						Yes	** NA **			None
272	M162						Yes	** NA **			None
273	M163						Yes	** NA **			None
274	M197						Yes	** NA **			None
275	M198						Yes	** NA **			None
276	M199						Yes	** NA **			None
277	M200						Yes	** NA **			None
278	M234						Yes	** NA **			None
279	M235						Yes	** NA **			None
280	M236						Yes	** NA **			None
281	M237						Yes	** NA **			None
282	M271						Yes	** NA **			None
283	M272						Yes	** NA **			None
284	M273						Yes	** NA **			None
285	M274						Yes	** NA **			None
286	M332						Yes	** NA **			None
287	M333						Yes	** NA **			None
288	M334						Yes	** NA **			None
289	M335						Yes	** NA **			None
290	M401	BenPIN	BenPIN				Yes				None
291	M402	BenPIN	BenPIN				Yes				None
292	M403	BenPIN	BenPIN				Yes				None
293	M404	BenPIN	BenPIN				Yes				None
294	M405	BenPIN	BenPIN				Yes				None
295	M406	BenPIN	BenPIN				Yes				None
296	M407	BenPIN	BenPIN				Yes				None
297	M408	BenPIN	BenPIN				Yes				None
298	M280	BenPIN	BenPIN				Yes	** NA **			None
299	M285	BenPIN	BenPIN				Yes	** NA **			None
300	M291	BenPIN	BenPIN				Yes	** NA **			None
301	M296	BenPIN	BenPIN				Yes	** NA **			None
302	M304	BenPIN	BenPIN				Yes	** NA **			None
303	M309	BenPIN	BenPIN				Yes	** NA **			None
304	M317	BenPIN	BenPIN				Yes	** NA **			None
305	M322	BenPIN	BenPIN				Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
306	M341	BenPIN	BenPIN				Yes	** NA **			None
307	M346	BenPIN	BenPIN				Yes	** NA **			None
308	M353	BenPIN	BenPIN				Yes	** NA **			None
309	M358	BenPIN	BenPIN				Yes	** NA **			None
310	M367	BenPIN	BenPIN				Yes	** NA **			None
311	M372	BenPIN	BenPIN				Yes	** NA **			None
312	M381	BenPIN	BenPIN				Yes	** NA **			None
313	M386	BenPIN	BenPIN				Yes	** NA **			None
314	M93	BenPIN	BenPIN				Yes	** NA **			None
315	M96	BenPIN	BenPIN				Yes	** NA **			None
316	M100	BenPIN	BenPIN				Yes	** NA **			None
317	M103	BenPIN	BenPIN				Yes	** NA **			None
318	M107	BenPIN	BenPIN				Yes	** NA **			None
319	M110	BenPIN	BenPIN				Yes	** NA **			None
320	M114	BenPIN	BenPIN				Yes	** NA **			None
321	M117	BenPIN	BenPIN				Yes	** NA **			None
322	M130	BenPIN	BenPIN				Yes	** NA **			None
323	M133	BenPIN	BenPIN				Yes	** NA **			None
324	M137	BenPIN	BenPIN				Yes	** NA **			None
325	M140	BenPIN	BenPIN				Yes	** NA **			None
326	M144	BenPIN	BenPIN				Yes	** NA **			None
327	M147	BenPIN	BenPIN				Yes	** NA **			None
328	M151	BenPIN	BenPIN				Yes	** NA **			None
329	M154	BenPIN	BenPIN				Yes	** NA **			None
330	M167	BenPIN	BenPIN				Yes	** NA **			None
331	M170	BenPIN	BenPIN				Yes	** NA **			None
332	M174	BenPIN	BenPIN				Yes	** NA **			None
333	M177	BenPIN	BenPIN				Yes	** NA **			None
334	M181	BenPIN	BenPIN				Yes	** NA **			None
335	M184	BenPIN	BenPIN				Yes	** NA **			None
336	M188	BenPIN	BenPIN				Yes	** NA **			None
337	M191	BenPIN	BenPIN				Yes	** NA **			None
338	M204	BenPIN	BenPIN				Yes	** NA **			None
339	M207	BenPIN	BenPIN				Yes	** NA **			None
340	M211	BenPIN	BenPIN				Yes	** NA **			None
341	M214	BenPIN	BenPIN				Yes	** NA **			None
342	M218	BenPIN	BenPIN				Yes	** NA **			None
343	M221	BenPIN	BenPIN				Yes	** NA **			None
344	M225	BenPIN	BenPIN				Yes	** NA **			None
345	M228	BenPIN	BenPIN				Yes	** NA **			None
346	M241	BenPIN	BenPIN				Yes	** NA **			None
347	M244	BenPIN	BenPIN				Yes	** NA **			None
348	M248	BenPIN	BenPIN				Yes	** NA **			None
349	M251	BenPIN	BenPIN				Yes	** NA **			None
350	M255	BenPIN	BenPIN				Yes	** NA **			None
351	M258	BenPIN	BenPIN				Yes	** NA **			None
352	M262	BenPIN	BenPIN				Yes	** NA **			None
353	M265	BenPIN	BenPIN				Yes	** NA **			None
354	M279	BenPIN	BenPIN				Yes	** NA **			None
355	M284	BenPIN	BenPIN				Yes	** NA **			None
356	M290	BenPIN	BenPIN				Yes	** NA **			None
357	M295	BenPIN	BenPIN				Yes	** NA **			None
358	M303	BenPIN	BenPIN				Yes	** NA **			None
359	M308	BenPIN	BenPIN				Yes	** NA **			None
360	M316	BenPIN	BenPIN				Yes	** NA **			None
361	M321	BenPIN	BenPIN				Yes	** NA **			None
362	M340	BenPIN	BenPIN				Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
363	M345	BenPIN	BenPIN				Yes	** NA **			None
364	M352	BenPIN	BenPIN				Yes	** NA **			None
365	M357	BenPIN	BenPIN				Yes	** NA **			None
366	M366	BenPIN	BenPIN				Yes	** NA **			None
367	M371	BenPIN	BenPIN				Yes	** NA **			None
368	M380	BenPIN	BenPIN				Yes	** NA **			None
369	M385	BenPIN	BenPIN				Yes	** NA **			None
370	M427	BenPIN	BenPIN				Yes	** NA **			None
371	M428	BenPIN	BenPIN				Yes	** NA **			None
372	M429	BenPIN	BenPIN				Yes	** NA **			None
373	M430	BenPIN	BenPIN				Yes	** NA **			None
374	M431	BenPIN	BenPIN				Yes	** NA **			None
375	M432	BenPIN	BenPIN				Yes	** NA **			None
376	M298	BenPIN	BenPIN				Yes	** NA **			None
377	M311	BenPIN	BenPIN				Yes	** NA **			None
378	M324	BenPIN	BenPIN				Yes	** NA **			None
379	M326	BenPIN	BenPIN				Yes	** NA **			None
380	M445	BenPIN	BenPIN				Yes	** NA **			None
381	M446	BenPIN	BenPIN				Yes	** NA **			None
382	M447	BenPIN	BenPIN				Yes	** NA **			None
383	M448	BenPIN	BenPIN				Yes	** NA **			None
384	M361	BenPIN	BenPIN				Yes	** NA **			None
385	M375	BenPIN	BenPIN				Yes	** NA **			None
386	M389	BenPIN	BenPIN				Yes	** NA **			None
387	M391	BenPIN	BenPIN				Yes	** NA **			None
388	M413	BenPIN	BenPIN				Yes	** NA **			None
389	M414	BenPIN	BenPIN				Yes	** NA **			None
390	M415	BenPIN	BenPIN				Yes	** NA **			None
391	M416	BenPIN	BenPIN				Yes	** NA **			None
392	M297	BenPIN	BenPIN				Yes				None
393	M310	BenPIN	BenPIN				Yes				None
394	M323	BenPIN	BenPIN				Yes				None
395	M325	BenPIN	BenPIN				Yes				None
396	M360	BenPIN	BenPIN				Yes				None
397	M374	BenPIN	BenPIN				Yes				None
398	M388	BenPIN	BenPIN				Yes				None
399	M390	BenPIN	BenPIN				Yes				None
400	M278	BenPIN	BenPIN				Yes				None
401	M283	BenPIN	BenPIN				Yes				None
402	M289	BenPIN	BenPIN				Yes				None
403	M294	BenPIN	BenPIN				Yes				None
404	M302	BenPIN	BenPIN				Yes				None
405	M307	BenPIN	BenPIN				Yes				None
406	M315	BenPIN	BenPIN				Yes				None
407	M320	BenPIN	BenPIN				Yes				None
408	M339	BenPIN	BenPIN				Yes				None
409	M344	BenPIN	BenPIN				Yes				None
410	M351	BenPIN	BenPIN				Yes				None
411	M356	BenPIN	BenPIN				Yes				None
412	M365	BenPIN	BenPIN				Yes				None
413	M370	BenPIN	BenPIN				Yes				None
414	M379	BenPIN	BenPIN				Yes				None
415	M384	BenPIN	BenPIN				Yes				None
416	M92	BenPIN	BenPIN				Yes				None
417	M95	BenPIN	BenPIN				Yes				None
418	M99	BenPIN	BenPIN				Yes				None
419	M102	BenPIN	BenPIN				Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
420	M106	BenPIN	BenPIN				Yes				None
421	M109	BenPIN	BenPIN				Yes				None
422	M113	BenPIN	BenPIN				Yes				None
423	M116	BenPIN	BenPIN				Yes				None
424	M129	BenPIN	BenPIN				Yes				None
425	M132	BenPIN	BenPIN				Yes				None
426	M136	BenPIN	BenPIN				Yes				None
427	M139	BenPIN	BenPIN				Yes				None
428	M143	BenPIN	BenPIN				Yes				None
429	M146	BenPIN	BenPIN				Yes				None
430	M150	BenPIN	BenPIN				Yes				None
431	M153	BenPIN	BenPIN				Yes				None
432	M166	BenPIN	BenPIN				Yes				None
433	M169	BenPIN	BenPIN				Yes				None
434	M173	BenPIN	BenPIN				Yes				None
435	M176	BenPIN	BenPIN				Yes				None
436	M180	BenPIN	BenPIN				Yes				None
437	M183	BenPIN	BenPIN				Yes				None
438	M187	BenPIN	BenPIN				Yes				None
439	M190	BenPIN	BenPIN				Yes				None
440	M203	BenPIN	BenPIN				Yes				None
441	M206	BenPIN	BenPIN				Yes				None
442	M210	BenPIN	BenPIN				Yes				None
443	M213	BenPIN	BenPIN				Yes				None
444	M217	BenPIN	BenPIN				Yes				None
445	M220	BenPIN	BenPIN				Yes				None
446	M224	BenPIN	BenPIN				Yes				None
447	M227	BenPIN	BenPIN				Yes				None
448	M240	BenPIN	BenPIN				Yes				None
449	M243	BenPIN	BenPIN				Yes				None
450	M247	BenPIN	BenPIN				Yes				None
451	M250	BenPIN	BenPIN				Yes				None
452	M254	BenPIN	BenPIN				Yes				None
453	M257	BenPIN	BenPIN				Yes				None
454	M261	BenPIN	BenPIN				Yes				None
455	M264	BenPIN	BenPIN				Yes				None
456	M277	BenPIN	BenPIN				Yes				None
457	M282	BenPIN	BenPIN				Yes				None
458	M288	BenPIN	BenPIN				Yes				None
459	M293	BenPIN	BenPIN				Yes				None
460	M301	BenPIN	BenPIN				Yes				None
461	M306	BenPIN	BenPIN				Yes				None
462	M314	BenPIN	BenPIN				Yes				None
463	M319	BenPIN	BenPIN				Yes				None
464	M338	BenPIN	BenPIN				Yes				None
465	M343	BenPIN	BenPIN				Yes				None
466	M350	BenPIN	BenPIN				Yes				None
467	M355	BenPIN	BenPIN				Yes				None
468	M364	BenPIN	BenPIN				Yes				None
469	M369	BenPIN	BenPIN				Yes				None
470	M378	BenPIN	BenPIN				Yes				None
471	M383	BenPIN	BenPIN				Yes				None
472	M347	BenPIN	BenPIN				Yes				None
473	M359	BenPIN	BenPIN				Yes				None
474	M373	BenPIN	BenPIN				Yes				None
475	M387	BenPIN	BenPIN				Yes				None
476	M540	BenPIN	BenPIN				Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
477	M541	BenPIN	BenPIN				Yes				None
478	M542	BenPIN	BenPIN				Yes				None
479	M543	BenPIN	BenPIN				Yes				None
480	M536	BenPIN	BenPIN				Yes				None
481	M537	BenPIN	BenPIN				Yes				None
482	M538	BenPIN	BenPIN				Yes				None
483	M539	BenPIN	BenPIN				Yes				None
484	M522	BenPIN	BenPIN				Yes				None
485	M523	BenPIN	BenPIN				Yes				None
486	M524	BenPIN	BenPIN				Yes				None
487	M525	BenPIN	BenPIN				Yes				None
488	M518	BenPIN	BenPIN				Yes				None
489	M519	BenPIN	BenPIN				Yes				None
490	M520	BenPIN	BenPIN				Yes				None
491	M521	BenPIN	BenPIN				Yes				None
492	M397	BenPIN	BenPIN				Yes				None
493	M398	BenPIN	BenPIN				Yes				None
494	M399	BenPIN	BenPIN				Yes				None
495	M400	BenPIN	BenPIN				Yes				None
496	M433	BenPIN	BenPIN				Yes				None
497	M434	BenPIN	BenPIN				Yes				None
498	M435	BenPIN	BenPIN				Yes				None
499	M436	BenPIN	BenPIN				Yes				None
500	M437	BenPIN	BenPIN				Yes				None
501	M438	BenPIN	BenPIN				Yes				None
502	M439	BenPIN	BenPIN				Yes				None
503	M440	BenPIN	BenPIN				Yes				None
504	M17	BenPIN	BenPIN				Yes				None
505	M18	BenPIN	BenPIN				Yes				None
506	M19	BenPIN	BenPIN				Yes				None
507	M20	BenPIN	BenPIN				Yes				None
508	M37	BenPIN	BenPIN				Yes				None
509	M38	BenPIN	BenPIN				Yes				None
510	M39	BenPIN	BenPIN				Yes				None
511	M40	BenPIN	BenPIN				Yes				None
512	M62	BenPIN	BenPIN				Yes				None
513	M63	BenPIN	BenPIN				Yes				None
514	M64	BenPIN	BenPIN				Yes				None
515	M65	BenPIN	BenPIN				Yes				None
516	M82	BenPIN	BenPIN				Yes				None
517	M83	BenPIN	BenPIN				Yes				None
518	M84	BenPIN	BenPIN				Yes				None
519	M85	BenPIN	BenPIN				Yes				None
520	M5	BenPIN	BenPIN				Yes				None
521	M6	BenPIN	BenPIN				Yes				None
522	M7	BenPIN	BenPIN				Yes				None
523	M8	BenPIN	BenPIN				Yes	Default			None
524	M25	BenPIN	BenPIN				Yes				None
525	M26	BenPIN	BenPIN				Yes				None
526	M27	BenPIN	BenPIN				Yes				None
527	M28	BenPIN	BenPIN				Yes				None
528	M45	BenPIN	BenPIN				Yes				None
529	M46	BenPIN	BenPIN				Yes				None
530	M47	BenPIN	BenPIN				Yes				None
531	M48	BenPIN	BenPIN				Yes				None
532	M70	BenPIN	BenPIN				Yes				None
533	M71	BenPIN	BenPIN				Yes				None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ratio Opt...	Analysis ...	Inactive	Seismic Des...
534	M72	BenPIN	BenPIN				Yes				None
535	M73	BenPIN	BenPIN				Yes				None
536	M53	BenPIN	BenPIN				Yes			Inactive	None
537	M122	BenPIN	BenPIN				Yes			Inactive	None
538	M159	BenPIN	BenPIN				Yes			Inactive	None
539	M196	BenPIN	BenPIN				Yes			Inactive	None
540	M233	BenPIN	BenPIN				Yes			Inactive	None
541	M270	BenPIN	BenPIN				Yes			Inactive	None
542	M331	BenPIN	BenPIN				Yes			Inactive	None
543	M396	BenPIN	BenPIN				Yes			Inactive	None

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Dead	None		-1		60	470	44		
2	No Ice Wind 0 deg	None				60	1172	132		
3	No Ice Wind 45 deg	None				120	1126	176		
4	No Ice Wind 90 deg	None				60	1178	132		
5	No Ice Wind 135 deg	None				120	1126	176		
6	No Ice Wind 180 deg	None				60	1172	132		
7	No Ice Wind 225 deg	None				120	1126	176		
8	No Ice Wind 270 deg	None				60	1178	132		
9	No Ice Wind 315 deg	None				120	1126	176		
10	Ice	None				60	460	440		
11	Temperature Drop	None						535		
12	Ice Wind 0 deg	None				60	1154	68		
13	Ice Wind 45 deg	None				120	1092	176		
14	Ice Wind 90 deg	None				60	1160	108		
15	Ice Wind 135 deg	None				120	1096	168		
16	Ice Wind 180 deg	None				60	1154	68		
17	Ice Wind 225 deg	None				120	1092	176		
18	Ice Wind 270 deg	None				60	1160	108		
19	Ice Wind 315 deg	None				120	1096	168		
20	Service Wind 0 deg	None				60	1142	132		
21	Service Wind 45 deg	None				120	1102	176		
22	Service Wind 90 deg	None				60	1142	108		
23	Service Wind 135 deg	None				120	1098	168		
24	Service Wind 180 deg	None				60	1142	132		
25	Service Wind 225 deg	None				120	1102	176		
26	Service Wind 270 deg	None				60	1142	108		
27	Service Wind 315 deg	None				120	1098	168		

Load Combinations

	Description	Sol...	PDelta	S...	BLCFa...		BLCFa...		BLCFa...		BLCFa...		BLCFa...		BLCFa...		BLCFa...		BLCFa...		BLCFa...		BLCFa...	
1	Dead Only	Yes			1	1																		
2	1.2 Dead+1.0 Wind...	Yes			1	1.2	2	1																
3	0.9 Dead+1.0 Wind...	Yes			1	.9	2	1																
4	1.2 Dead+1.0 Wind...	Yes			1	1.2	3	1																
5	0.9 Dead+1.0 Wind...	Yes			1	.9	3	1																
6	1.2 Dead+1.0 Wind...	Yes			1	1.2	4	1																
7	0.9 Dead+1.0 Wind...	Yes			1	.9	4	1																
8	1.2 Dead+1.0 Wind...	Yes			1	1.2	5	1																
9	0.9 Dead+1.0 Wind...	Yes			1	.9	5	1																
10	1.2 Dead+1.0 Wind...	Yes			1	1.2	6	1																
11	0.9 Dead+1.0 Wind...	Yes			1	.9	6	1																

Load Combinations (Continued)

	Description	Sol...	PDelta	S...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
12	1.2 Dead+1.0 Wind...	Yes			1	1.2	7	1																
13	0.9 Dead+1.0 Wind...	Yes			1	.9	7	1																
14	1.2 Dead+1.0 Wind...	Yes			1	1.2	8	1																
15	0.9 Dead+1.0 Wind...	Yes			1	.9	8	1																
16	1.2 Dead+1.0 Wind...	Yes			1	1.2	9	1																
17	0.9 Dead+1.0 Wind...	Yes			1	.9	9	1																
18	1.2 Dead+1.0 Ice+1...	Yes			1	1.2	10	1	11	1														
19	1.2 Dead+1.0 Wind...	Yes			1	1.2	12	1	10	1	11	1												
20	1.2 Dead+1.0 Wind...	Yes			1	1.2	13	1	10	1	11	1												
21	1.2 Dead+1.0 Wind...	Yes			1	1.2	14	1	10	1	11	1												
22	1.2 Dead+1.0 Wind...	Yes			1	1.2	15	1	10	1	11	1												
23	1.2 Dead+1.0 Wind...	Yes			1	1.2	16	1	10	1	11	1												
24	1.2 Dead+1.0 Wind...	Yes			1	1.2	17	1	10	1	11	1												
25	1.2 Dead+1.0 Wind...	Yes			1	1.2	18	1	10	1	11	1												
26	1.2 Dead+1.0 Wind...	Yes			1	1.2	19	1	10	1	11	1												
27	Dead+Wind 0 deg -...	Yes			1	1	20	1																
28	Dead+Wind 45 deg...	Yes			1	1	21	1																
29	Dead+Wind 90 deg...	Yes			1	1	22	1																
30	Dead+Wind 135 de...	Yes			1	1	23	1																
31	Dead+Wind 180 de...	Yes			1	1	24	1																
32	Dead+Wind 225 de...	Yes			1	1	25	1																
33	Dead+Wind 270 de...	Yes			1	1	26	1																
34	Dead+Wind 315 de...	Yes			1	1	27	1																

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

	Member	Shape	Code Check	Lo...	LC	Shear C...	Loc[ft]	Dir	...	phi*P...	phi*P...	phi*...	phi*...	...	Eqn
1	M38	C6X8.2	.048	7.4...	10	.005	7.481	y	...	20.619	77.436	2.108	10.347	1	H1-...
2	M39	C6X8.2	.046	7.4...	6	.005	7.481	y	...	20.619	77.436	2.108	10.347	1	H1-...
3	M37	C6X8.2	.044	0	6	.005	7.481	y	...	20.619	77.436	2.108	10.347	1	H1-...
4	M40	C6X8.2	.042	0	10	.005	7.481	y	...	20.619	77.436	2.108	10.347	1	H1-...
5	M8	MC18x58_H...	.016	6.1...	21	.003	0	y	...	202....	554.04	23.037	198....	1	H1-...
6	M5	MC18x58_H...	.016	6.1...	19	.003	0	y	...	202....	554.04	23.037	198....	1	H1-...
7	M7	MC18x58_H...	.016	6.1...	23	.003	12.25	y	...	202....	554.04	23.037	198....	1	H1-...
8	M6	MC18x58_H...	.016	6.1...	25	.003	12.25	y	...	202....	554.04	23.037	198....	1	H1-...

Joint Boundary Conditions

	Joint 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	N189	Reaction	Reaction	Reaction		Reaction	
2	N190	Reaction	Reaction	Reaction		Reaction	
3	N191	Reaction	Reaction	Reaction		Reaction	
4	N192	Reaction	Reaction	Reaction		Reaction	

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N189	max	23.103	12	187.686	12	16.102	5	0	34	.06	17	0	34
2		min	-17.081	5	-116.385	5	-22.564	12	0	1	-.061	8	0	1
3	N190	max	16.819	17	184.317	8	17.02	17	0	34	.07	13	0	34
4		min	-22.847	8	-122.004	17	-22.808	8	0	1	-.079	4	0	1
5	N191	max	16.099	13	183.769	4	23.045	4	0	34	.067	8	0	34
6		min	-22.323	4	-119.086	13	-17.264	13	0	1	-.062	17	0	1
7	N192	max	22.968	16	190.861	16	23.191	16	0	34	.05	5	0	34
8		min	-16.737	9	-117.093	9	-16.723	9	0	1	-.046	12	0	1

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
9	Totals:	max	71.36	15	267.016	26	74.08	3						
10		min	-71.36	6	116.502	3	-74.08	10						

BUILT-UP MEMBER ANALYSIS
SNET025 (10034975) SHELTON EAST CENTRAL
2022723.01.SNET025.13

Steel Specification	AISC 15th (Teal Book)
Analysis Method	LRFD
ASIF	1
Max Capacity	105%
Number of Sections	1

X-X Axis

Location		Existing Member								Modification Member							Built-Up Member														Member Analysis				Modified Member	
Member Type	Elevation	Member	Area (in^2)	I_x (in^4)	I_{min} (in^4)	F_y (ksi)	r_x (in)	r_{min} (in)	a/r_{min}	Member	Area (in^2)	I_x (in^4)	I_{min} (in^4)	F_y (ksi)	r_x (in)	r_{min} (in)	a/r_{min}	Connectors	K	K_c	$L_{x(c)}$ (in)	a (in)	h (in)	Area (in^2)	I_x (in^4)	r_x (in)	$(KL/r)_{x(c)}$	r_y (in)	r_o (in)	α	$(KL/r)_{y(c)}$	K_y	$r_{y(c)}$ (in)	$0.75(KL/r)_{max}$	$(a/r)_{max}$	KL/r_{allc}	Design met?	$(KL/r)_y$	K Multiplier	F_y (ksi)
TWR_DIAG_T4	112.5' - 125'	L3x4x1/2	1.69	1.33	0.69	36	0.887	0.640	37.51	L3x2x3/8	1.75	1.54	0.32	36	0.938	0.427	56.21	Bolts	1	0.5	128.4636	24	0.30	3.44	2.97	0.928	138.37	0.427	0.887	0.17	144.81	1.05	1.325	103.78	37.51	95.99	Yes	101.50	1.0465	36

Y-Y Axis

Location		Existing Member								Modification Member							Built-Up Member														Member Analysis				Modified Member	
Member Type	Elevation	Member	Area (in^2)	I_y (in^4)	I_{min} (in^4)	F_y (ksi)	r_y (in)	r_{min} (in)	a/r_{min}	Member	Area (in^2)	I_y (in^4)	I_{min} (in^4)	F_y (ksi)	r_y (in)	r_{min} (in)	a/r_{min}	Connectors	K	K_c	$L_{y(c)}$ (in)	a (in)	h (in)	Area (in^2)	I_y (in^4)	r_y (in)	$(KL/r)_{y(c)}$	r_x (in)	r_o (in)	α	$(KL/r)_{x(c)}$	K_x	$r_{x(c)}$ (in)	$0.75(KL/r)_{max}$	$(a/r)_{max}$	KL/r_{allc}	Design met?	$(KL/r)_x$	K Multiplier	F_y (ksi)
TWR_DIAG_T4	112.5' - 125'	L3x4x1/2	1.69	2.75	0.69	36	1.276	0.640	37.51	L3x2x3/8	1.75	0.54	0.32	36	0.555	0.427	56.21	Bolts	1	0.5	128.4636	24	1.78	3.44	6.01	1.321	97.22	0.427	0.555	1.60	112.30	0.81	1.885	72.91	37.51	68.14	Yes	55.30	0.8116	36

Summary

Member Type	Elevation	Modified Member	Stiffness Only	K	F_y (ksi)
TWR_DIAG_T4	112.5' - 125'	L3x4x1/2 w/ L3x2x3/8 (r)	Yes	1.0465	36

Arbitrary Shape - TNX Input

Height (in)	Width (in)	Projection (in)	Perimeter (in)	A (in^2)	I_x (in^4)	I_y (in^4)	$S_{x,bottom}$ (in^3)	$S_{x,top}$ (in^3)	$S_{y,bottom}$ (in^3)	Density (pcf)
				2.9650	6.0064					997.3964

Modification Termination

Design Force (k)	Length (in)	Unmodified Span (in)
N/A		

Capacity Summary

Compression (k)	Tension (k)	ϕPn (k) - Buckling	ϕPn (k) - Crushing	ϕPn (k) - Tension	Controlling	Rating
15.266	8.115	32.83	N/A	N/A	Buckling	48.0%
Apply TIA-222-H Section 15.5?				No		

Version 1.2

TIA-222-H Code Angle Bracing Member Checks
SNET025 (10034975) SHELTON EAST CENTRAL
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Section Set	Member	Comp. (K)	$\Phi P_{n,Comp}$ (K)	Ten (K)	$\Phi P_{n,Ten}$ (K)	Capacity	Pass/Fail
TWR_DIAG_T1	M9	4.336	20.21	3.05	48.00	21.5%	Pass
TWR_DIAG_T1	M10	4.378	20.21	3.03	48.00	21.7%	Pass
TWR_DIAG_T1	M11	4.244	20.21	2.98	48.00	21.0%	Pass
TWR_DIAG_T1	M12	4.245	20.21	2.97	48.00	21.0%	Pass
TWR_DIAG_T1	M13	4.36	20.21	3.02	48.00	21.6%	Pass
TWR_DIAG_T1	M14	4.324	20.21	3.06	48.00	21.4%	Pass
TWR_DIAG_T1	M15	4.446	20.21	3.10	48.00	22.0%	Pass
TWR_DIAG_T1	M16	4.431	20.21	3.10	48.00	21.9%	Pass
TWR_DIAG_T2	M29	6.363	13.18	4.90	43.86	48.3%	Pass
TWR_DIAG_T2	M30	6.387	13.18	4.90	43.86	48.4%	Pass
TWR_DIAG_T2	M31	6.747	13.18	5.22	43.86	51.2%	Pass
TWR_DIAG_T2	M32	6.682	13.18	5.23	43.86	50.7%	Pass
TWR_DIAG_T2	M33	6.642	13.18	5.10	43.86	50.4%	Pass
TWR_DIAG_T2	M34	6.651	13.18	5.14	43.86	50.4%	Pass
TWR_DIAG_T2	M35	6.356	13.18	4.88	43.86	48.2%	Pass
TWR_DIAG_T2	M36	6.389	13.18	4.84	43.86	48.5%	Pass
TWR_DIAG_T3	M54	7.011	13.01	5.97	47.93	53.9%	Pass
TWR_DIAG_T3	M55	7.125	13.01	5.90	47.93	54.7%	Pass
TWR_DIAG_T3	M56	7.47	13.01	6.29	47.93	57.4%	Pass
TWR_DIAG_T3	M57	7.369	13.01	6.34	47.93	56.6%	Pass
TWR_DIAG_T3	M58	7.611	13.01	6.33	47.93	58.5%	Pass
TWR_DIAG_T3	M59	7.519	13.01	6.43	47.93	57.8%	Pass
TWR_DIAG_T3	M60	7.274	13.01	6.15	47.93	55.9%	Pass
TWR_DIAG_T3	M61	7.355	13.01	6.07	47.93	56.5%	Pass
TWR_DIAG_T5	M91	12.078	24.57	10.17	63.37	49.1%	Pass
TWR_DIAG_T5	M94	12.423	24.57	9.95	63.37	50.6%	Pass
TWR_DIAG_T5	M98	12.199	24.57	10.11	63.37	49.6%	Pass
TWR_DIAG_T5	M101	12.11	24.57	10.12	63.37	49.3%	Pass
TWR_DIAG_T5	M105	12.321	24.57	9.87	63.37	50.1%	Pass
TWR_DIAG_T5	M108	12.064	24.57	10.13	63.37	49.1%	Pass
TWR_DIAG_T5	M112	12.584	24.57	10.27	63.37	51.2%	Pass
TWR_DIAG_T5	M115	12.596	24.57	10.23	63.37	51.3%	Pass
TWR_DIAG_T6	M128	11.306	23.15	11.07	63.37	48.8%	Pass
TWR_DIAG_T6	M131	11.645	23.15	10.82	63.37	50.3%	Pass
TWR_DIAG_T6	M135	11.509	23.15	10.93	63.37	49.7%	Pass
TWR_DIAG_T6	M138	11.465	23.15	10.97	63.37	49.5%	Pass
TWR_DIAG_T6	M142	11.477	23.15	10.65	63.37	49.6%	Pass
TWR_DIAG_T6	M145	11.14	23.15	10.90	63.37	48.1%	Pass
TWR_DIAG_T6	M149	11.757	23.15	11.23	63.37	50.8%	Pass
TWR_DIAG_T6	M152	11.743	23.15	11.24	63.37	50.7%	Pass
TWR_DIAG_T7	M165	11.906	21.41	11.53	63.37	55.6%	Pass
TWR_DIAG_T7	M168	12.304	21.41	11.17	63.37	57.5%	Pass
TWR_DIAG_T7	M172	12.205	21.41	11.31	63.37	57.0%	Pass
TWR_DIAG_T7	M175	12.014	21.41	11.42	63.37	56.1%	Pass
TWR_DIAG_T7	M179	12.231	21.41	10.99	63.37	57.1%	Pass
TWR_DIAG_T7	M182	11.699	21.41	11.36	63.37	54.6%	Pass
TWR_DIAG_T7	M186	12.55	21.41	11.78	63.37	58.6%	Pass
TWR_DIAG_T7	M189	12.545	21.41	11.72	63.37	58.6%	Pass
TWR_DIAG_T8	M202	12.029	19.79	11.63	63.37	60.8%	Pass
TWR_DIAG_T8	M205	12.465	19.79	11.23	63.37	63.0%	Pass
TWR_DIAG_T8	M209	12.351	19.79	11.42	63.37	62.4%	Pass
TWR_DIAG_T8	M212	12.197	19.79	11.49	63.37	61.6%	Pass
TWR_DIAG_T8	M216	12.279	19.79	11.02	63.37	62.1%	Pass
TWR_DIAG_T8	M219	11.756	19.79	11.37	63.37	59.4%	Pass
TWR_DIAG_T8	M223	12.683	19.79	11.90	63.37	64.1%	Pass
TWR_DIAG_T8	M226	12.675	19.79	11.83	63.37	64.1%	Pass

TIA-222-H Code Angle Bracing Member Checks
SNET025 (10034975) SHELTON EAST CENTRAL
2022723.01.SNET025.13

Section Set	Member	Comp. (K)	$\Phi P_{n,Comp}$ (K)	Ten (K)	$\Phi P_{n,Ten}$ (K)	Capacity	Pass/Fail
TWR_DIAG_T9	M239	11.917	18.92	11.66	63.37	63.0%	Pass
TWR_DIAG_T9	M242	12.475	18.92	11.23	63.37	65.9%	Pass
TWR_DIAG_T9	M246	12.454	18.92	11.54	63.37	65.8%	Pass
TWR_DIAG_T9	M249	12.315	18.92	11.65	63.37	65.1%	Pass
TWR_DIAG_T9	M253	12.235	18.92	11.03	63.37	64.7%	Pass
TWR_DIAG_T9	M256	11.763	18.92	11.38	63.37	62.2%	Pass
TWR_DIAG_T9	M260	12.68	18.92	12.07	63.37	67.0%	Pass
TWR_DIAG_T9	M263	12.838	18.92	11.95	63.37	67.9%	Pass
TWR_DIAG_T10	M276	18.044	43.56	17.75	116.27	41.4%	Pass
TWR_DIAG_T10	M281	18.837	43.56	17.10	116.27	43.2%	Pass
TWR_DIAG_T10	M287	18.889	43.56	17.62	116.27	43.4%	Pass
TWR_DIAG_T10	M292	18.723	43.56	17.75	116.27	43.0%	Pass
TWR_DIAG_T10	M300	18.402	43.56	16.69	116.27	42.2%	Pass
TWR_DIAG_T10	M305	17.659	43.56	17.31	116.27	40.5%	Pass
TWR_DIAG_T10	M313	19.075	43.56	18.20	116.27	43.8%	Pass
TWR_DIAG_T10	M318	19.194	43.56	18.09	116.27	44.1%	Pass
TWR_DIAG_T11	M337	18.899	64.14	17.73	128.34	29.5%	Pass
TWR_DIAG_T11	M342	19.614	64.14	17.18	128.34	30.6%	Pass
TWR_DIAG_T11	M349	20.317	64.14	18.00	128.34	31.7%	Pass
TWR_DIAG_T11	M354	20.112	64.14	18.17	128.34	31.4%	Pass
TWR_DIAG_T11	M363	19.195	64.14	16.78	128.34	29.9%	Pass
TWR_DIAG_T11	M368	18.501	64.14	17.30	128.34	28.8%	Pass
TWR_DIAG_T11	M377	19.965	64.14	18.17	128.34	31.1%	Pass
TWR_DIAG_T11	M382	20.145	64.14	18.01	128.34	31.4%	Pass
TWR_HORZ_T5	M90	7.163	39.79	9.29	71.53	18.0%	Pass
TWR_HORZ_T5	M97	7.075	39.79	10.85	71.53	17.8%	Pass
TWR_HORZ_T5	M104	7.175	39.79	10.91	71.53	18.0%	Pass
TWR_HORZ_T5	M111	7.262	39.79	9.16	71.53	18.2%	Pass
TWR_HORZ_T6	M127	7.195	21.61	7.63	63.37	33.3%	Pass
TWR_HORZ_T6	M134	7.145	21.61	8.15	63.37	33.1%	Pass
TWR_HORZ_T6	M141	7.098	21.61	8.20	63.37	32.8%	Pass
TWR_HORZ_T6	M148	7.29	21.61	7.74	63.37	33.7%	Pass
TWR_HORZ_T7	M164	8.333	18.87	7.73	63.37	44.2%	Pass
TWR_HORZ_T7	M171	8.209	18.87	8.20	63.37	43.5%	Pass
TWR_HORZ_T7	M178	8.305	18.87	8.20	63.37	44.0%	Pass
TWR_HORZ_T7	M185	8.589	18.87	7.77	63.37	45.5%	Pass
TWR_HORZ_T8	M201	8.684	16.38	8.07	63.37	53.0%	Pass
TWR_HORZ_T8	M208	8.518	16.38	8.63	63.37	52.0%	Pass
TWR_HORZ_T8	M215	8.453	16.38	8.66	63.37	51.6%	Pass
TWR_HORZ_T8	M222	8.853	16.38	8.18	63.37	54.0%	Pass
TWR_HORZ_T9	M238	8.982	23.16	8.22	71.53	38.8%	Pass
TWR_HORZ_T9	M245	8.946	23.16	9.04	71.53	38.6%	Pass
TWR_HORZ_T9	M252	8.814	23.16	8.94	71.53	38.1%	Pass
TWR_HORZ_T9	M259	9.302	23.16	8.34	71.53	40.2%	Pass
TWR_HORZ_T10	M275	9.799	21.09	8.63	71.53	46.5%	Pass
TWR_HORZ_T10	M286	9.75	21.09	9.69	71.53	46.2%	Pass
TWR_HORZ_T10	M299	9.538	21.09	9.51	71.53	45.2%	Pass
TWR_HORZ_T10	M312	10.046	21.09	8.77	71.53	47.6%	Pass
TWR_HORZ_T11	M336	10.829	62.02	9.44	116.27	17.5%	Pass
TWR_HORZ_T11	M348	11.043	62.02	10.49	116.27	17.8%	Pass
TWR_HORZ_T11	M362	10.607	62.02	10.06	116.27	17.1%	Pass
TWR_HORZ_T11	M376	11.082	62.02	9.56	116.27	17.9%	Pass
TWR_INNER_BRACE_T7	M490	0	16.16	0.00	31.69	0.0%	Pass
TWR_INNER_BRACE_T7	M491	0.001	16.16	0.00	31.69	0.0%	Pass
TWR_INNER_BRACE_T9	M466	0.001	12.04	0.00	31.69	0.0%	Pass
TWR_INNER_BRACE_T9	M467	0	12.04	0.00	31.69	0.0%	Pass
TWR_INNER_BRACE_T9	M468	0	12.04	0.00	31.69	0.0%	Pass
TWR_INNER_BRACE_T9	M469	0	12.04	0.00	31.69	0.0%	Pass

TIA-222-H Code Angle Bracing Member Checks
SNET025 (10034975) SHELTON EAST CENTRAL
2022723.01.SNET025.13

Section Set	Member	Comp. (K)	$\Phi P_{n,Comp}$ (K)	Ten (K)	$\Phi P_{n,Ten}$ (K)	Capacity	Pass/Fail
TWR_INNER_BRACE_T10	M452	0.001	7.99	0.00	24.04	0.0%	Pass
TWR_INNER_BRACE_T10	M453	0.001	7.99	0.00	24.04	0.0%	Pass
TWR_INNER_BRACE_T10	M454	0.001	7.99	0.00	24.04	0.0%	Pass
TWR_INNER_BRACE_T10	M455	0.001	7.99	0.00	24.04	0.0%	Pass
TWR_INNER_BRACE_T11	M420	0	6.28	0.00	24.04	0.0%	Pass
TWR_INNER_BRACE_T11	M421	0	6.28	0.00	24.04	0.0%	Pass
TWR_INNER_BRACE_T11	M422	0	6.28	0.00	24.04	0.0%	Pass
TWR_INNER_BRACE_T11	M423	0	6.28	0.00	24.04	0.0%	Pass
TWR_INNER_CORNER_T3	M530	0	13.10	0.34	24.04	1.4%	Pass
TWR_INNER_CORNER_T3	M531	0	13.10	0.45	24.04	1.9%	Pass
TWR_INNER_CORNER_T3	M532	0	13.10	0.35	24.04	1.5%	Pass
TWR_INNER_CORNER_T5	M512	0	6.06	2.78	21.04	13.2%	Pass
TWR_INNER_CORNER_T5	M513	0	6.06	3.75	21.04	17.8%	Pass
TWR_INNER_CORNER_T5	M514	0	6.06	2.75	21.04	13.1%	Pass
TWR_INNER_CORNER_T6	M502	0	5.06	1.59	21.04	7.5%	Pass
TWR_INNER_CORNER_T6	M503	0	5.06	1.75	21.04	8.3%	Pass
TWR_INNER_CORNER_T6	M504	0	5.06	1.56	21.04	7.4%	Pass
TWR_INNER_CORNER_T7	M487	0	4.29	1.35	21.04	6.4%	Pass
TWR_INNER_CORNER_T7	M488	0	4.29	1.45	21.04	6.9%	Pass
TWR_INNER_CORNER_T7	M489	0	4.29	1.29	21.04	6.1%	Pass
TWR_INNER_CORNER_T8	M477	0	3.68	1.45	21.04	6.9%	Pass
TWR_INNER_CORNER_T8	M478	0	3.68	1.56	21.04	7.4%	Pass
TWR_INNER_CORNER_T8	M479	0	3.68	1.40	21.04	6.7%	Pass
TWR_INNER_CORNER_T9	M463	0	10.73	1.89	39.84	4.7%	Pass
TWR_INNER_CORNER_T9	M464	0	10.73	1.83	39.84	4.6%	Pass
TWR_INNER_CORNER_T9	M465	0	10.73	1.76	39.84	4.4%	Pass
TWR_INNER_CORNER_T10	M449	0	9.39	2.12	39.78	5.3%	Pass
TWR_INNER_CORNER_T10	M450	0	9.39	2.15	39.78	5.4%	Pass
TWR_INNER_CORNER_T10	M451	0	9.39	2.04	39.78	5.1%	Pass
TWR_INNER_CORNER_T11	M417	0	14.78	1.89	59.59	3.2%	Pass
TWR_INNER_CORNER_T11	M418	0	14.78	2.00	59.59	3.4%	Pass
TWR_INNER_CORNER_T11	M419	0	14.78	1.83	59.59	3.1%	Pass
TWR_INNER_GIRT_T7	M492	0.011	8.58	0.02	21.04	0.1%	Pass
TWR_INNER_GIRT_T7	M493	0.015	8.58	0.02	21.04	0.2%	Pass
TWR_INNER_GIRT_T7	M494	0.015	8.58	0.02	21.04	0.2%	Pass
TWR_INNER_LADDER_T3	M535	0.133	4.56	0.00	21.04	2.9%	Pass
TWR_INNER_LADDER_T5	M517	1.802	4.56	0.50	21.04	39.5%	Pass
TWR_INNER_LADDER_T6	M507	1.002	4.56	0.67	21.04	22.0%	Pass
TWR_INNER_LADDER_T7	M497	0.859	4.56	0.81	21.04	18.8%	Pass
TWR_INNER_LADDER_T8	M482	0.913	4.56	0.87	21.04	20.0%	Pass
TWR_INNER_LADDER_T9	M472	1.138	25.16	1.06	48.02	4.5%	Pass
TWR_INNER_LADDER_T10	M458	1.289	53.79	1.22	82.60	2.4%	Pass
TWR_INNER_LADDER_T11	M426	1.052	8.59	1.01	31.69	12.3%	Pass
TWR_INNER_SQ_T3	M526	0.075	11.17	0.16	35.93	0.7%	Pass
TWR_INNER_SQ_T3	M527	0.072	11.17	0.16	35.93	0.6%	Pass
TWR_INNER_SQ_T3	M528	0	11.17	0.37	35.93	1.0%	Pass
TWR_INNER_SQ_T3	M529	0	11.17	0.36	35.93	1.0%	Pass
TWR_INNER_SQ_T5	M508	0.404	15.63	1.24	42.80	2.9%	Pass
TWR_INNER_SQ_T5	M509	0.411	15.63	1.22	42.80	2.9%	Pass
TWR_INNER_SQ_T5	M510	0.199	15.63	2.72	42.80	6.4%	Pass
TWR_INNER_SQ_T5	M511	0.196	15.63	2.74	42.80	6.4%	Pass
TWR_INNER_SQ_T6	M498	0.581	13.52	1.03	42.80	4.3%	Pass
TWR_INNER_SQ_T6	M499	0.594	13.52	1.03	42.80	4.4%	Pass
TWR_INNER_SQ_T6	M500	0.34	13.52	1.58	42.80	3.7%	Pass
TWR_INNER_SQ_T6	M501	0.341	13.52	1.62	42.80	3.8%	Pass
TWR_INNER_SQ_T7	M483	0.61	11.88	0.94	42.80	5.1%	Pass
TWR_INNER_SQ_T7	M484	0.326	11.88	1.31	42.80	3.1%	Pass
TWR_INNER_SQ_T7	M485	0.31	11.88	1.37	42.80	3.2%	Pass
TWR_INNER_SQ_T7	M486	0.565	11.88	0.96	42.80	4.8%	Pass

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Section Set	Member	Comp. (K)	$\Phi P_{n,Comp}$ (K)	Ten (K)	$\Phi P_{n,Ten}$ (K)	Capacity	Pass/Fail
TWR_INNER_SQ_T8	M473	0.655	10.58	1.09	42.80	6.2%	Pass
TWR_INNER_SQ_T8	M474	0.697	10.58	1.08	42.80	6.6%	Pass
TWR_INNER_SQ_T8	M475	0.361	10.58	1.38	42.80	3.4%	Pass
TWR_INNER_SQ_T8	M476	0.36	10.58	1.46	42.80	3.4%	Pass
TWR_INNER_SQ_T9	M459	0.837	12.65	1.41	42.80	6.6%	Pass
TWR_INNER_SQ_T9	M460	0.906	12.65	1.41	42.80	7.2%	Pass
TWR_INNER_SQ_T9	M461	0.47	12.65	1.67	42.80	3.9%	Pass
TWR_INNER_SQ_T9	M462	0.47	12.65	1.78	42.80	4.2%	Pass
TWR_INNER_SQ_T10	M441	0.694	28.11	1.92	71.53	2.7%	Pass
TWR_INNER_SQ_T10	M442	0.692	28.11	1.79	71.53	2.5%	Pass
TWR_INNER_SQ_T10	M443	1.209	28.11	1.56	71.53	4.3%	Pass
TWR_INNER_SQ_T10	M444	1.134	28.11	1.54	71.53	4.0%	Pass
TWR_INNER_SQ_T11	M409	0.682	22.95	1.75	63.37	3.0%	Pass
TWR_INNER_SQ_T11	M410	0.676	22.95	1.62	63.37	2.9%	Pass
TWR_INNER_SQ_T11	M411	1.19	22.95	1.32	63.37	5.2%	Pass
TWR_INNER_SQ_T11	M412	1.114	22.95	1.29	63.37	4.9%	Pass
TWR_INNER_SUPP_T3	M49	0.161	17.19	0.13	42.05	0.9%	Pass
TWR_INNER_SUPP_T3	M50	0.16	17.19	0.02	42.05	0.9%	Pass
TWR_INNER_SUPP_T3	M51	0.16	17.19	0.14	42.05	0.9%	Pass
TWR_INNER_SUPP_T3	M52	0.037	17.19	0.14	42.05	0.3%	Pass
TWR_INNER_SUPP_T5	M118	0.717	22.93	0.63	48.02	3.1%	Pass
TWR_INNER_SUPP_T5	M119	0.733	22.93	0.25	48.02	3.2%	Pass
TWR_INNER_SUPP_T5	M120	0.73	22.93	0.61	48.02	3.2%	Pass
TWR_INNER_SUPP_T5	M121	0.322	22.93	0.64	48.02	1.4%	Pass
TWR_INNER_SUPP_T6	M155	0.795	19.53	0.76	48.02	4.1%	Pass
TWR_INNER_SUPP_T6	M156	0.821	19.53	0.45	48.02	4.2%	Pass
TWR_INNER_SUPP_T6	M157	0.813	19.53	0.74	48.02	4.2%	Pass
TWR_INNER_SUPP_T6	M158	0.513	19.53	0.76	48.02	2.6%	Pass
TWR_INNER_SUPP_T7	M192	0.68	16.88	0.66	48.02	4.0%	Pass
TWR_INNER_SUPP_T7	M193	0.725	16.88	0.42	48.02	4.3%	Pass
TWR_INNER_SUPP_T7	M194	0.721	16.88	0.63	48.02	4.3%	Pass
TWR_INNER_SUPP_T7	M195	0.49	16.88	0.67	48.02	2.9%	Pass
TWR_INNER_SUPP_T8	M229	0.729	14.49	0.70	48.02	5.0%	Pass
TWR_INNER_SUPP_T8	M230	0.768	14.49	0.48	48.02	5.3%	Pass
TWR_INNER_SUPP_T8	M231	0.761	14.49	0.67	48.02	5.3%	Pass
TWR_INNER_SUPP_T8	M232	0.549	14.49	0.71	48.02	3.8%	Pass
TWR_INNER_SUPP_T9	M266	0.877	12.83	0.86	48.02	6.8%	Pass
TWR_INNER_SUPP_T9	M267	0.932	12.83	0.63	48.02	7.3%	Pass
TWR_INNER_SUPP_T9	M268	0.928	12.83	0.81	48.02	7.2%	Pass
TWR_INNER_SUPP_T9	M269	0.705	12.83	0.86	48.02	5.5%	Pass
TWR_INNER_SUPP_T10	M327	0.967	9.39	0.99	39.78	10.3%	Pass
TWR_INNER_SUPP_T10	M328	1.035	9.39	0.78	39.78	11.0%	Pass
TWR_INNER_SUPP_T10	M329	1.029	9.39	0.94	39.78	11.0%	Pass
TWR_INNER_SUPP_T10	M330	0.79	9.39	0.99	39.78	8.4%	Pass
TWR_INNER_SUPP_T11	M392	0.916	28.61	0.93	71.53	3.2%	Pass
TWR_INNER_SUPP_T11	M393	0.983	28.61	0.68	71.53	3.4%	Pass
TWR_INNER_SUPP_T11	M394	0.98	28.61	0.87	71.53	3.4%	Pass
TWR_INNER_SUPP_T11	M395	0.704	28.61	0.93	71.53	2.5%	Pass
TWR_INNER_TRI_T3	M533	0	15.55	0.11	21.04	0.5%	Pass
TWR_INNER_TRI_T3	M534	0	15.55	0.11	21.04	0.5%	Pass
TWR_INNER_TRI_T5	M515	0.361	11.84	1.30	21.04	6.2%	Pass
TWR_INNER_TRI_T5	M516	0.361	11.84	1.30	21.04	6.2%	Pass
TWR_INNER_TRI_T6	M505	0.477	10.09	0.72	21.04	4.7%	Pass
TWR_INNER_TRI_T6	M506	0.477	10.09	0.73	21.04	4.7%	Pass
TWR_INNER_TRI_T7	M495	0.57	8.57	0.62	21.04	6.6%	Pass
TWR_INNER_TRI_T7	M496	0.568	8.57	0.62	21.04	6.6%	Pass
TWR_INNER_TRI_T8	M480	0.617	7.29	0.67	21.04	8.5%	Pass
TWR_INNER_TRI_T8	M481	0.618	7.29	0.66	21.04	8.5%	Pass
TWR_INNER_TRI_T9	M470	0.76	11.74	0.82	31.69	6.5%	Pass
TWR_INNER_TRI_T9	M471	0.76	11.74	0.82	31.69	6.5%	Pass

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TWR_INNER_TRI_T10	M456	0.878	7.63	0.94	24.04	11.5%	Pass
TWR_INNER_TRI_T10	M457	0.879	7.63	0.94	24.04	11.5%	Pass
TWR_INNER_TRI_T11	M424	0.769	7.59	0.78	31.69	10.1%	Pass
TWR_INNER_TRI_T11	M425	0.769	7.59	0.80	31.69	10.1%	Pass
TWR_LEG_T1	M1	10.251	176.57	0.28	173.32	5.8%	Pass
TWR_LEG_T1	M2	10.232	176.57	0.72	173.32	5.8%	Pass
TWR_LEG_T1	M3	10.342	176.57	0.72	173.32	5.9%	Pass
TWR_LEG_T1	M4	10.365	176.57	0.42	173.32	5.9%	Pass
TWR_LEG_T2	M21	20.801	177.05	7.01	173.32	11.7%	Pass
TWR_LEG_T2	M22	20.634	177.05	7.34	173.32	11.7%	Pass
TWR_LEG_T2	M23	20.913	177.05	7.14	173.32	11.8%	Pass
TWR_LEG_T2	M24	21.436	177.05	7.17	173.32	12.1%	Pass
TWR_LEG_T3	M41	34.367	218.74	15.21	214.09	15.7%	Pass
TWR_LEG_T3	M42	33.389	218.74	15.73	214.09	15.3%	Pass
TWR_LEG_T3	M43	34.003	218.74	15.14	214.09	15.5%	Pass
TWR_LEG_T3	M44	35.584	218.74	15.23	214.09	16.3%	Pass
TWR_LEG_T4	M66	48.016	219.12	25.02	214.09	21.9%	Pass
TWR_LEG_T4	M67	46.117	219.12	26.28	214.09	21.0%	Pass
TWR_LEG_T4	M68	45.771	219.12	25.17	214.09	20.9%	Pass
TWR_LEG_T4	M69	48.494	219.12	24.87	214.09	22.1%	Pass
TWR_LEG_T5	M86	56.267	264.09	29.18	253.88	21.3%	Pass
TWR_LEG_T5	M87	53.94	264.09	31.52	253.88	20.4%	Pass
TWR_LEG_T5	M88	53.696	264.09	30.59	253.88	20.3%	Pass
TWR_LEG_T5	M89	57.163	264.09	29.49	253.88	21.6%	Pass
TWR_LEG_T6	M123	74.415	264.09	40.86	253.88	28.2%	Pass
TWR_LEG_T6	M124	71.786	264.09	43.85	253.88	27.2%	Pass
TWR_LEG_T6	M125	71.075	264.09	42.81	253.88	26.9%	Pass
TWR_LEG_T6	M126	75.401	264.09	41.53	253.88	28.6%	Pass
TWR_LEG_T7	M160	89.829	304.65	50.61	292.59	29.5%	Pass
TWR_LEG_T7	M161	85.928	304.65	54.88	292.59	28.2%	Pass
TWR_LEG_T7	M162	85.923	304.65	52.95	292.59	28.2%	Pass
TWR_LEG_T7	M163	91.925	304.65	50.78	292.59	30.2%	Pass
TWR_LEG_T8	M197	104.455	304.65	61.18	292.59	34.3%	Pass
TWR_LEG_T8	M198	100.379	304.65	65.83	292.59	32.9%	Pass
TWR_LEG_T8	M199	99.985	304.65	63.89	292.59	32.8%	Pass
TWR_LEG_T8	M200	106.507	304.65	61.63	292.59	35.0%	Pass
TWR_LEG_T9	M234	119.028	381.90	71.41	351.75	31.2%	Pass
TWR_LEG_T9	M235	114.773	381.90	76.43	351.75	30.1%	Pass
TWR_LEG_T9	M236	114.765	381.90	73.91	351.75	30.1%	Pass
TWR_LEG_T9	M237	121.765	381.90	71.56	351.75	31.9%	Pass
TWR_LEG_T10	M271	134.189	414.98	80.76	406.78	32.3%	Pass
TWR_LEG_T10	M272	129.304	414.98	86.14	406.78	31.2%	Pass
TWR_LEG_T10	M273	128.964	414.98	83.65	406.78	31.1%	Pass
TWR_LEG_T10	M274	136.656	414.98	81.18	406.78	32.9%	Pass
TWR_LEG_T11	M332	162.222	469.46	98.62	460.83	34.6%	Pass
TWR_LEG_T11	M333	158.108	469.46	104.42	460.83	33.7%	Pass
TWR_LEG_T11	M334	157.878	469.46	101.44	460.83	33.6%	Pass
TWR_LEG_T11	M335	165.372	469.46	98.93	460.83	35.2%	Pass
TWR_RED_BRACE_T11	M401	1.636	20.67	1.10	31.69	7.9%	Pass
TWR_RED_BRACE_T11	M402	1.162	36.69	1.68	31.69	5.3%	Pass
TWR_RED_BRACE_T11	M403	1.657	20.67	1.08	31.69	8.0%	Pass
TWR_RED_BRACE_T11	M404	1.142	36.69	1.70	31.69	5.4%	Pass
TWR_RED_BRACE_T11	M405	1.609	20.67	1.06	31.69	7.8%	Pass
TWR_RED_BRACE_T11	M406	1.118	36.69	1.65	31.69	5.2%	Pass
TWR_RED_BRACE_T11	M407	1.673	20.67	1.07	31.69	8.1%	Pass
TWR_RED_BRACE_T11	M408	1.127	36.69	1.71	31.69	5.4%	Pass

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TWR_RED_DIAG_2_T10	M280	0.253	8.75	0.82	43.86	2.9%	Pass
TWR_RED_DIAG_2_T10	M285	0.202	8.75	0.74	43.86	2.3%	Pass
TWR_RED_DIAG_2_T10	M291	0.211	8.75	0.75	43.86	2.4%	Pass
TWR_RED_DIAG_2_T10	M296	0.252	8.75	0.77	43.86	2.9%	Pass
TWR_RED_DIAG_2_T10	M304	0.216	8.75	0.74	43.86	2.5%	Pass
TWR_RED_DIAG_2_T10	M309	0.257	8.75	0.80	43.86	2.9%	Pass
TWR_RED_DIAG_2_T10	M317	0.246	8.75	0.80	43.86	2.8%	Pass
TWR_RED_DIAG_2_T10	M322	0.205	8.75	0.77	43.86	2.3%	Pass
TWR_RED_DIAG_2_T11	M341	0.339	13.18	1.07	55.22	2.6%	Pass
TWR_RED_DIAG_2_T11	M346	0.195	13.18	1.04	55.22	1.9%	Pass
TWR_RED_DIAG_2_T11	M353	0.32	13.18	1.04	55.22	2.4%	Pass
TWR_RED_DIAG_2_T11	M358	0.309	13.18	1.06	55.22	2.3%	Pass
TWR_RED_DIAG_2_T11	M367	0.18	13.18	1.08	55.22	2.0%	Pass
TWR_RED_DIAG_2_T11	M372	0.341	13.18	1.06	55.22	2.6%	Pass
TWR_RED_DIAG_2_T11	M381	0.351	13.18	1.00	55.22	2.7%	Pass
TWR_RED_DIAG_2_T11	M386	0.343	13.18	1.01	55.22	2.6%	Pass
TWR_RED_DIAG_T5	M93	0.239	7.92	0.32	24.08	3.0%	Pass
TWR_RED_DIAG_T5	M96	0.235	7.92	0.31	24.08	3.0%	Pass
TWR_RED_DIAG_T5	M100	0.228	7.92	0.30	24.08	2.9%	Pass
TWR_RED_DIAG_T5	M103	0.257	7.92	0.32	24.08	3.2%	Pass
TWR_RED_DIAG_T5	M107	0.258	7.92	0.32	24.08	3.3%	Pass
TWR_RED_DIAG_T5	M110	0.254	7.92	0.33	24.08	3.2%	Pass
TWR_RED_DIAG_T5	M114	0.255	7.92	0.33	24.08	3.2%	Pass
TWR_RED_DIAG_T5	M117	0.228	7.92	0.32	24.08	2.9%	Pass
TWR_RED_DIAG_T6	M130	0.357	7.29	0.38	24.08	4.9%	Pass
TWR_RED_DIAG_T6	M133	0.295	7.29	0.35	24.08	4.0%	Pass
TWR_RED_DIAG_T6	M137	0.34	7.29	0.36	24.08	4.7%	Pass
TWR_RED_DIAG_T6	M140	0.309	7.29	0.35	24.08	4.2%	Pass
TWR_RED_DIAG_T6	M144	0.359	7.29	0.37	24.08	4.9%	Pass
TWR_RED_DIAG_T6	M147	0.303	7.29	0.35	24.08	4.2%	Pass
TWR_RED_DIAG_T6	M151	0.363	7.29	0.38	24.08	5.0%	Pass
TWR_RED_DIAG_T6	M154	0.288	7.29	0.35	24.08	4.0%	Pass
TWR_RED_DIAG_T7	M167	0.562	6.72	0.40	24.08	8.4%	Pass
TWR_RED_DIAG_T7	M170	0.186	6.72	0.25	24.08	2.8%	Pass
TWR_RED_DIAG_T7	M174	0.511	6.72	0.41	24.08	7.6%	Pass
TWR_RED_DIAG_T7	M177	0.201	6.72	0.26	24.08	3.0%	Pass
TWR_RED_DIAG_T7	M181	0.531	6.72	0.41	24.08	7.9%	Pass
TWR_RED_DIAG_T7	M184	0.191	6.72	0.24	24.08	2.8%	Pass
TWR_RED_DIAG_T7	M188	0.569	6.72	0.39	24.08	8.5%	Pass
TWR_RED_DIAG_T7	M191	0.175	6.72	0.24	24.08	2.6%	Pass
TWR_RED_DIAG_T8	M204	0.631	6.21	0.44	24.08	10.2%	Pass
TWR_RED_DIAG_T8	M207	0.196	6.21	0.27	24.08	3.2%	Pass
TWR_RED_DIAG_T8	M211	0.577	6.21	0.46	24.08	9.3%	Pass
TWR_RED_DIAG_T8	M214	0.206	6.21	0.26	24.08	3.3%	Pass
TWR_RED_DIAG_T8	M218	0.59	6.21	0.45	24.08	9.5%	Pass
TWR_RED_DIAG_T8	M221	0.206	6.21	0.26	24.08	3.3%	Pass
TWR_RED_DIAG_T8	M225	0.63	6.21	0.42	24.08	10.1%	Pass
TWR_RED_DIAG_T8	M228	0.192	6.21	0.26	24.08	3.1%	Pass
TWR_RED_DIAG_T9	M241	0.758	5.72	0.71	24.08	13.2%	Pass
TWR_RED_DIAG_T9	M244	0.617	5.72	0.67	24.08	10.8%	Pass
TWR_RED_DIAG_T9	M248	0.727	5.72	0.72	24.08	12.7%	Pass
TWR_RED_DIAG_T9	M251	0.629	5.72	0.65	24.08	11.0%	Pass
TWR_RED_DIAG_T9	M255	0.728	5.72	0.71	24.08	12.7%	Pass
TWR_RED_DIAG_T9	M258	0.632	5.72	0.63	24.08	11.0%	Pass
TWR_RED_DIAG_T9	M262	0.741	5.72	0.68	24.08	12.9%	Pass
TWR_RED_DIAG_T9	M265	0.634	5.72	0.66	24.08	11.1%	Pass

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Section Set	Member	Comp. (K)	$\Phi P_{n,Comp}$ (K)	Ten (K)	$\Phi P_{n,Ten}$ (K)	Capacity	Pass/Fail
TWR_RED_DIAG_T10	M279	0.615	5.61	0.67	24.08	11.0%	Pass
TWR_RED_DIAG_T10	M284	0.571	5.61	0.65	24.08	10.2%	Pass
TWR_RED_DIAG_T10	M290	0.582	5.61	0.65	24.08	10.4%	Pass
TWR_RED_DIAG_T10	M295	0.601	5.61	0.65	24.08	10.7%	Pass
TWR_RED_DIAG_T10	M303	0.577	5.61	0.64	24.08	10.3%	Pass
TWR_RED_DIAG_T10	M308	0.623	5.61	0.66	24.08	11.1%	Pass
TWR_RED_DIAG_T10	M316	0.603	5.61	0.64	24.08	10.8%	Pass
TWR_RED_DIAG_T10	M321	0.583	5.61	0.64	24.08	10.4%	Pass
TWR_RED_DIAG_T11	M340	1.768	5.17	1.45	24.08	34.2%	Pass
TWR_RED_DIAG_T11	M345	1.673	5.17	1.40	24.08	32.4%	Pass
TWR_RED_DIAG_T11	M352	0.433	5.17	0.57	24.08	8.4%	Pass
TWR_RED_DIAG_T11	M357	0.447	5.17	0.57	24.08	8.7%	Pass
TWR_RED_DIAG_T11	M366	1.638	5.17	1.35	24.08	31.7%	Pass
TWR_RED_DIAG_T11	M371	1.779	5.17	1.42	24.08	34.4%	Pass
TWR_RED_DIAG_T11	M380	0.393	5.17	0.49	24.08	7.6%	Pass
TWR_RED_DIAG_T11	M385	0.366	5.17	0.48	24.08	7.1%	Pass
TWR_RED_HIPBRACE_T11	M427	0.113	3.69	0.00	18.20	3.1%	Pass
TWR_RED_HIPBRACE_T11	M428	0	3.69	0.11	18.20	0.6%	Pass
TWR_RED_HIPBRACE_T11	M429	0.113	3.69	0.00	18.20	3.1%	Pass
TWR_RED_HIPBRACE_T11	M430	0.085	7.36	0.00	18.20	1.2%	Pass
TWR_RED_HIPBRACE_T11	M431	0.085	7.36	0.00	18.20	1.2%	Pass
TWR_RED_HIPBRACE_T11	M432	0	3.39	0.14	18.20	0.8%	Pass
TWR_RED_HIPDIA_2_T10	M298	0.44	17.93	0.00	63.37	2.5%	Pass
TWR_RED_HIPDIA_2_T10	M311	0.437	17.93	0.00	63.37	2.4%	Pass
TWR_RED_HIPDIA_2_T10	M324	0.439	17.93	0.00	63.37	2.4%	Pass
TWR_RED_HIPDIA_2_T10	M326	0.439	17.93	0.00	63.37	2.4%	Pass
TWR_RED_HIPDIA_2_T10	M445	0.401	17.93	0.00	63.37	2.2%	Pass
TWR_RED_HIPDIA_2_T10	M446	0.399	17.93	0.00	63.37	2.2%	Pass
TWR_RED_HIPDIA_2_T10	M447	0.401	17.93	0.00	63.37	2.2%	Pass
TWR_RED_HIPDIA_2_T10	M448	0.401	17.93	0.00	63.37	2.2%	Pass
TWR_RED_HIPDIA_2_T11	M361	0.544	16.26	0.00	63.37	3.3%	Pass
TWR_RED_HIPDIA_2_T11	M375	0.541	16.26	0.00	63.37	3.3%	Pass
TWR_RED_HIPDIA_2_T11	M389	0.544	16.26	0.00	63.37	3.3%	Pass
TWR_RED_HIPDIA_2_T11	M391	0.545	16.26	0.00	63.37	3.4%	Pass
TWR_RED_HIPDIA_2_T11	M413	0.504	16.26	0.00	63.37	3.1%	Pass
TWR_RED_HIPDIA_2_T11	M414	0.512	16.26	0.00	63.37	3.1%	Pass
TWR_RED_HIPDIA_2_T11	M415	0.51	16.26	0.00	63.37	3.1%	Pass
TWR_RED_HIPDIA_2_T11	M416	0.512	16.26	0.00	63.37	3.1%	Pass
TWR_RED_HIP_2_T10	M297	0	18.63	0.23	82.57	0.3%	Pass
TWR_RED_HIP_2_T10	M310	0	18.63	0.23	82.57	0.3%	Pass
TWR_RED_HIP_2_T10	M323	0	18.63	0.23	82.57	0.3%	Pass
TWR_RED_HIP_2_T10	M325	0	18.63	0.23	82.57	0.3%	Pass
TWR_RED_HIP_2_T11	M360	0	14.64	0.27	82.57	0.3%	Pass
TWR_RED_HIP_2_T11	M374	0	14.64	0.26	82.57	0.3%	Pass
TWR_RED_HIP_2_T11	M388	0	14.64	0.27	82.57	0.3%	Pass
TWR_RED_HIP_2_T11	M390	0	14.64	0.39	82.57	0.5%	Pass
TWR_RED_HORZ_2_T10	M278	0.627	25.43	0.51	63.37	2.5%	Pass
TWR_RED_HORZ_2_T10	M283	0.535	25.43	0.45	63.37	2.1%	Pass
TWR_RED_HORZ_2_T10	M289	0.539	25.43	0.46	63.37	2.1%	Pass
TWR_RED_HORZ_2_T10	M294	0.563	25.43	0.51	63.37	2.2%	Pass
TWR_RED_HORZ_2_T10	M302	0.527	25.43	0.47	63.37	2.1%	Pass
TWR_RED_HORZ_2_T10	M307	0.606	25.43	0.51	63.37	2.4%	Pass
TWR_RED_HORZ_2_T10	M315	0.592	25.43	0.50	63.37	2.3%	Pass
TWR_RED_HORZ_2_T10	M320	0.565	25.43	0.45	63.37	2.2%	Pass

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Section Set	Member	Comp. (K)	$\Phi P_{n,Comp}$ (K)	Ten (K)	$\Phi P_{n,Ten}$ (K)	Capacity	Pass/Fail
TWR_RED_HORZ_2_T11	M339	0.656	20.93	0.48	63.37	3.1%	Pass
TWR_RED_HORZ_2_T11	M344	0.405	20.93	0.38	63.37	1.9%	Pass
TWR_RED_HORZ_2_T11	M351	0.508	20.93	0.54	63.37	2.4%	Pass
TWR_RED_HORZ_2_T11	M356	0.557	20.93	0.57	63.37	2.7%	Pass
TWR_RED_HORZ_2_T11	M365	0.456	20.93	0.40	63.37	2.2%	Pass
TWR_RED_HORZ_2_T11	M370	0.544	20.93	0.56	63.37	2.6%	Pass
TWR_RED_HORZ_2_T11	M379	0.498	20.93	0.58	63.37	2.4%	Pass
TWR_RED_HORZ_2_T11	M384	0.591	20.93	0.48	63.37	2.8%	Pass
TWR_RED_HORZ_T5	M92	0.303	13.44	0.38	21.04	2.3%	Pass
TWR_RED_HORZ_T5	M95	0.291	13.44	0.38	21.04	2.2%	Pass
TWR_RED_HORZ_T5	M99	0.276	13.44	0.37	21.04	2.1%	Pass
TWR_RED_HORZ_T5	M102	0.3	13.44	0.41	21.04	2.2%	Pass
TWR_RED_HORZ_T5	M106	0.306	13.44	0.41	21.04	2.3%	Pass
TWR_RED_HORZ_T5	M109	0.31	13.44	0.40	21.04	2.3%	Pass
TWR_RED_HORZ_T5	M113	0.315	13.44	0.40	21.04	2.3%	Pass
TWR_RED_HORZ_T5	M116	0.293	13.44	0.36	21.04	2.2%	Pass
TWR_RED_HORZ_T6	M129	0.399	11.13	0.58	21.04	3.6%	Pass
TWR_RED_HORZ_T6	M132	0.353	11.13	0.49	21.04	3.2%	Pass
TWR_RED_HORZ_T6	M136	0.378	11.13	0.56	21.04	3.4%	Pass
TWR_RED_HORZ_T6	M139	0.358	11.13	0.51	21.04	3.2%	Pass
TWR_RED_HORZ_T6	M143	0.394	11.13	0.58	21.04	3.5%	Pass
TWR_RED_HORZ_T6	M146	0.355	11.13	0.50	21.04	3.2%	Pass
TWR_RED_HORZ_T6	M150	0.396	11.13	0.58	21.04	3.6%	Pass
TWR_RED_HORZ_T6	M153	0.347	11.13	0.48	21.04	3.1%	Pass
TWR_RED_HORZ_T7	M166	0.446	9.37	0.90	21.04	4.8%	Pass
TWR_RED_HORZ_T7	M169	0.227	9.37	0.36	21.04	2.4%	Pass
TWR_RED_HORZ_T7	M173	0.458	9.37	0.83	21.04	4.9%	Pass
TWR_RED_HORZ_T7	M176	0.23	9.37	0.39	21.04	2.5%	Pass
TWR_RED_HORZ_T7	M180	0.462	9.37	0.86	21.04	4.9%	Pass
TWR_RED_HORZ_T7	M183	0.214	9.37	0.37	21.04	2.3%	Pass
TWR_RED_HORZ_T7	M187	0.435	9.37	0.91	21.04	4.6%	Pass
TWR_RED_HORZ_T7	M190	0.207	9.37	0.35	21.04	2.2%	Pass
TWR_RED_HORZ_T8	M203	0.517	8.00	1.05	21.04	6.5%	Pass
TWR_RED_HORZ_T8	M206	0.249	8.00	0.40	21.04	3.1%	Pass
TWR_RED_HORZ_T8	M210	0.543	8.00	0.97	21.04	6.8%	Pass
TWR_RED_HORZ_T8	M213	0.244	8.00	0.42	21.04	3.1%	Pass
TWR_RED_HORZ_T8	M217	0.537	8.00	0.99	21.04	6.7%	Pass
TWR_RED_HORZ_T8	M220	0.234	8.00	0.42	21.04	2.9%	Pass
TWR_RED_HORZ_T8	M224	0.495	8.00	1.05	21.04	6.2%	Pass
TWR_RED_HORZ_T8	M227	0.233	8.00	0.40	21.04	2.9%	Pass
TWR_RED_HORZ_T9	M240	0.929	13.31	1.30	31.62	7.0%	Pass
TWR_RED_HORZ_T9	M243	0.853	13.31	1.08	31.62	6.4%	Pass
TWR_RED_HORZ_T9	M247	0.944	13.31	1.25	31.62	7.1%	Pass
TWR_RED_HORZ_T9	M250	0.833	13.31	1.10	31.62	6.3%	Pass
TWR_RED_HORZ_T9	M254	0.935	13.31	1.25	31.62	7.0%	Pass
TWR_RED_HORZ_T9	M257	0.805	13.31	1.11	31.62	6.0%	Pass
TWR_RED_HORZ_T9	M261	0.895	13.31	1.27	31.62	6.7%	Pass
TWR_RED_HORZ_T9	M264	0.849	13.31	1.11	31.62	6.4%	Pass
TWR_RED_HORZ_T10	M277	0.552	14.54	0.73	21.04	3.8%	Pass
TWR_RED_HORZ_T10	M282	0.531	14.54	0.69	21.04	3.7%	Pass
TWR_RED_HORZ_T10	M288	0.525	14.54	0.70	21.04	3.6%	Pass
TWR_RED_HORZ_T10	M293	0.529	14.54	0.72	21.04	3.6%	Pass
TWR_RED_HORZ_T10	M301	0.524	14.54	0.69	21.04	3.6%	Pass
TWR_RED_HORZ_T10	M306	0.544	14.54	0.74	21.04	3.7%	Pass
TWR_RED_HORZ_T10	M314	0.527	14.54	0.72	21.04	3.6%	Pass
TWR_RED_HORZ_T10	M319	0.526	14.54	0.70	21.04	3.6%	Pass

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Section Set	Member	Comp. (K)	$\Phi P_{n,Comp}$ (K)	Ten (K)	$\Phi P_{n,Ten}$ (K)	Capacity	Pass/Fail
TWR_RED_HORZ_T11	M338	0.265	16.08	0.18	24.08	1.6%	Pass
TWR_RED_HORZ_T11	M343	0.193	16.08	0.10	24.08	1.2%	Pass
TWR_RED_HORZ_T11	M350	0.385	16.08	0.34	24.08	2.4%	Pass
TWR_RED_HORZ_T11	M355	0.391	16.08	0.36	24.08	2.4%	Pass
TWR_RED_HORZ_T11	M364	0.176	16.08	0.09	24.08	1.1%	Pass
TWR_RED_HORZ_T11	M369	0.245	16.08	0.17	24.08	1.5%	Pass
TWR_RED_HORZ_T11	M378	0.313	16.08	0.28	24.08	1.9%	Pass
TWR_RED_HORZ_T11	M383	0.304	16.08	0.25	24.08	1.9%	Pass
TWR_RED_SUBHOR_T11	M347	0.537	9.01	0.18	79.69	6.0%	Pass
TWR_RED_SUBHOR_T11	M359	0.52	9.01	0.18	79.69	5.8%	Pass
TWR_RED_SUBHOR_T11	M373	0.54	9.01	0.18	79.69	6.0%	Pass
TWR_RED_SUBHOR_T11	M387	0.546	9.01	0.17	79.69	6.1%	Pass
TWR_RED_VERT_T1	M540	0	9.25	0.26	24.04	1.1%	Pass
TWR_RED_VERT_T1	M541	0	9.25	0.26	24.04	1.1%	Pass
TWR_RED_VERT_T1	M542	0	9.25	0.26	24.04	1.1%	Pass
TWR_RED_VERT_T1	M543	0	9.25	0.26	24.04	1.1%	Pass
TWR_RED_VERT_T2	M536	0	9.40	0.47	24.04	1.9%	Pass
TWR_RED_VERT_T2	M537	0	9.40	0.49	24.04	2.0%	Pass
TWR_RED_VERT_T2	M538	0	9.40	0.49	24.04	2.0%	Pass
TWR_RED_VERT_T2	M539	0	9.40	0.47	24.04	1.9%	Pass
TWR_RED_VERT_T3	M522	0	9.52	0.25	24.04	1.0%	Pass
TWR_RED_VERT_T3	M523	0	9.52	0.25	24.04	1.0%	Pass
TWR_RED_VERT_T3	M524	0	9.52	0.25	24.04	1.0%	Pass
TWR_RED_VERT_T3	M525	0	9.52	0.25	24.04	1.0%	Pass
TWR_RED_VERT_T4	M518	4.244	9.62	1.63	24.04	44.1%	Pass
TWR_RED_VERT_T4	M519	4.064	9.62	1.73	24.04	42.2%	Pass
TWR_RED_VERT_T4	M520	4.217	9.62	1.63	24.04	43.8%	Pass
TWR_RED_VERT_T4	M521	4.372	9.62	1.52	24.04	45.4%	Pass
TWR_RED_VERT_T11	M397	0	6.23	0.29	39.78	0.7%	Pass
TWR_RED_VERT_T11	M398	0	6.23	0.29	39.78	0.7%	Pass
TWR_RED_VERT_T11	M399	0	6.23	0.29	39.78	0.7%	Pass
TWR_RED_VERT_T11	M400	0	6.23	0.29	39.78	0.7%	Pass
TWR_RED_VERT_T11	M433	0.278	13.18	0.00	39.78	2.1%	Pass
TWR_RED_VERT_T11	M434	0.278	13.18	0.00	39.78	2.1%	Pass
TWR_RED_VERT_T11	M435	0.279	13.18	0.00	39.78	2.1%	Pass
TWR_RED_VERT_T11	M436	0.279	13.18	0.00	39.78	2.1%	Pass
TWR_RED_VERT_T11	M437	0.279	13.18	0.00	39.78	2.1%	Pass
TWR_RED_VERT_T11	M438	0.28	13.18	0.00	39.78	2.1%	Pass
TWR_RED_VERT_T11	M439	0.31	13.18	0.00	39.78	2.4%	Pass
TWR_RED_VERT_T11	M440	0.31	13.18	0.00	39.78	2.4%	Pass
TWR_STEP_T1	M17	0.185	19.12	0.16	35.70	1.0%	Pass
TWR_STEP_T1	M18	0.223	19.12	0.18	35.70	1.2%	Pass
TWR_STEP_T1	M19	0.192	19.12	0.16	35.70	1.0%	Pass
TWR_STEP_T1	M20	0.141	19.12	0.12	35.70	0.7%	Pass
TWR_STEP_T3	M62	0.325	11.22	0.31	35.70	2.9%	Pass
TWR_STEP_T3	M63	0.364	11.22	0.36	35.70	3.2%	Pass
TWR_STEP_T3	M64	0.439	11.22	0.39	35.70	3.9%	Pass
TWR_STEP_T3	M65	0.422	11.22	0.36	35.70	3.8%	Pass
TWR_STEP_T4	M82	0.254	9.00	0.25	35.70	2.8%	Pass
TWR_STEP_T4	M83	0.225	9.00	0.26	35.70	2.5%	Pass
TWR_STEP_T4	M84	0.186	9.00	0.22	35.70	2.1%	Pass
TWR_STEP_T4	M85	0.253	9.00	0.24	35.70	2.8%	Pass
TWR_TOP_GIRT_T2	M25	0.159	69.04	1.60	108.42	1.5%	Pass
TWR_TOP_GIRT_T2	M26	0.196	69.04	1.55	108.42	1.4%	Pass
TWR_TOP_GIRT_T2	M27	0.173	69.04	1.57	108.42	1.4%	Pass
TWR_TOP_GIRT_T2	M28	0.141	69.04	1.63	108.42	1.5%	Pass
TWR_TOP_GIRT_T3	M45	0.471	53.29	1.51	71.53	2.1%	Pass
TWR_TOP_GIRT_T3	M46	0.406	53.29	1.74	71.53	2.4%	Pass
TWR_TOP_GIRT_T3	M47	0.391	53.29	1.76	71.53	2.5%	Pass
TWR_TOP_GIRT_T3	M48	0.46	53.29	1.53	71.53	2.1%	Pass

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Section Set	Member	Comp. (K)	$\Phi P_{n,Comp}$ (K)	Ten (K)	$\Phi P_{n,Ten}$ (K)	Capacity	Pass/Fail
TWR_TOP_GIRT_T4	M70	1.571	21.47	11.42	71.53	16.0%	Pass
TWR_TOP_GIRT_T4	M71	1.603	21.47	11.32	71.53	15.8%	Pass
TWR_TOP_GIRT_T4	M72	1.513	21.47	11.45	71.53	16.0%	Pass
TWR_TOP_GIRT_T4	M73	1.465	21.47	11.56	71.53	16.2%	Pass
TWR_INNER_SUPP_T3	M53	0	7.08	0.00	42.05	0.0%	Pass
TWR_INNER_SUPP_T5	M122	0	5.30	0.00	48.02	0.0%	Pass
TWR_INNER_SUPP_T6	M159	0	4.51	0.00	48.02	0.0%	Pass
TWR_INNER_SUPP_T7	M196	0	3.83	0.00	48.02	0.0%	Pass
TWR_INNER_SUPP_T8	M233	0	3.29	0.00	48.02	0.0%	Pass
TWR_INNER_SUPP_T9	M270	0	2.85	0.00	48.02	0.0%	Pass
TWR_INNER_SUPP_T10	M331	0	1.17	0.00	39.78	0.0%	Pass
TWR_INNER_SUPP_T11	M396	0	4.32	0.00	71.53	0.0%	Pass

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Section #	Elevation (Ft.)	Section Set	Member	Bolt Grade	Bolt Size (in)	# of Bolts	Comp. (K)	Ten. (K)	Maximum Load (K)	Allowable Load (K)	% Capacity
T1	162.5	TWR_TOP_GIRT_T1	MC18x58	A307	0.75	3	0.222	0.163	0.222	37.275	0.6%
T1	162.5	TWR_DIAG_T1	L3-1/2x3-1/2x1/4	A307	0.75	5	4.446	3.101	4.446	62.125	7.2%
T1	162.5	TWR_STEP_T1	L3x2-1/2x1/4	A307	0.75	2	0.223	0.182	0.223	24.850	0.9%
T1	162.5	TWR_RED_VERT_T1	L2.5x2.5x3	A307	0.75	1	0	0.261	0.261	8.972	2.9%
T2	150	TWR_LEG_T2	L6x6x1/2	A307	0.75	16	21.436	7.344	21.436	198.808	10.8%
T2	150	TWR_TOP_GIRT_T2	2L3-1/2x3x5/16x3/8	A307	0.75	3	0.196	1.627	1.627	74.551	2.2%
T2	150	TWR_DIAG_T2	L3-1/2x3x1/4	A307	0.75	4	6.747	5.231	6.747	49.700	13.6%
T2	150	TWR_STEP_T2	C6X8.2	A307	0.75	2	0.995	0.759	0.995	24.850	4.0%
T2	150	TWR_RED_VERT_T2	L2.5x2.5x3	A307	0.75	1	0	0.488	0.488	8.972	5.4%
T3	137.5	TWR_TOP_GIRT_T3	2L3x2-1/2x1/4x3/8	A307	0.75	2	0.471	1.762	1.762	44.588	4.0%
T3	137.5	TWR_INNER_SUPP_T3	2L2-1/2x2x3/16x3/8	A307	0.75	2	0.161	0.138	0.161	31.402	0.5%
T3	137.5	TWR_DIAG_T3	L4x3x1/4	A307	0.75	4	7.611	6.432	7.611	49.700	15.3%
T3	137.5	TWR_STEP_T3	L3x2-1/2x1/4	A307	0.75	2	0.439	0.388	0.439	22.294	2.0%
T3	137.5	TWR_RED_VERT_T3	L2.5x2.5x3	A307	0.75	1	0	0.248	0.248	8.972	2.8%
T3	137.5	TWR_INNER_SQ_T3	L3X2.5X4	A307	0.75	2	0.075	0.366	0.366	22.294	1.6%
T3	137.5	TWR_INNER_CORNER_T3	L2.5x2.5x3	A307	0.75	2	0	0.452	0.452	15.701	2.9%
T3	137.5	TWR_INNER_TRI_T3	L2X2.5X3	A307	0.75	2	0	0.106	0.106	13.662	0.8%
T3	137.5	TWR_INNER_LADDER_T3	L2X2.5X3	A307	0.75	2	0.133	0	0.133	13.662	1.0%
T4	125	TWR_LEG_T4	L6x6x5/8	A307	0.75	16	48.494	26.278	48.494	198.808	24.4%
T4	125	TWR_TOP_GIRT_T4	2L3x2-1/2x1/4x3/8	A307	0.75	2	1.603	11.555	11.555	44.588	25.9%
T4	125	TWR_RED_VERT_T4	L2.5x2.5x3	A307	0.75	1	4.372	1.726	4.372	8.972	48.7%
T4	125	TWR_STEP_T4	L3x2-1/2x1/4	A307	0.75	2	0.254	0.255	0.255	22.294	1.1%
T5	112.5	TWR_HORZ_T5	2L3x2-1/2x1/4x3/8	A307	0.75	2	7.262	10.907	10.907	44.588	24.5%
T5	112.5	TWR_DIAG_T5	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	12.596	10.272	12.596	41.868	30.1%
T5	112.5	TWR_RED_HORZ_T5	L2-1/2x2x3/16	A307	0.75	2	0.315	0.405	0.405	15.700	2.6%
T5	112.5	TWR_RED_DIAG_T5	L2-1/2x2-1/2x3/16	A307	0.75	2	0.258	0.333	0.333	15.700	2.1%
T5	112.5	TWR_INNER_SUPP_T5	2L2-1/2x2-1/2x3/16x3/8	A307	0.75	2	0.733	0.639	0.733	31.402	2.3%
T5	112.5	TWR_INNER_SQ_T5	LL2.5x2x3x3	A307	0.75	2	0.411	2.737	2.737	31.402	8.7%
T5	112.5	TWR_INNER_CORNER_T5	L2X2.5X3	A307	0.75	2	0	3.746	3.746	13.662	27.4%
T5	112.5	TWR_INNER_TRI_T5	L2X2.5X3	A307	0.75	2	0.361	1.301	1.301	13.662	9.5%
T5	112.5	TWR_INNER_LADDER_T5	L2X2.5X3	A307	0.75	2	1.802	0.502	1.802	13.662	13.2%
T6	100	TWR_LEG_T6	L6x6x3/4	A307	0.75	20	75.401	43.853	75.401	248.510	30.3%
T6	100	TWR_HORZ_T6	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	7.29	8.195	8.195	41.868	19.6%
T6	100	TWR_DIAG_T6	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	11.757	11.236	11.757	41.868	28.1%
T6	100	TWR_RED_HORZ_T6	L2-1/2x2x3/16	A307	0.75	2	0.399	0.584	0.584	15.700	3.7%
T6	100	TWR_RED_DIAG_T6	L2-1/2x2-1/2x3/16	A307	0.75	2	0.363	0.377	0.377	15.700	2.4%
T6	100	TWR_INNER_SUPP_T6	2L2-1/2x2-1/2x3/16x3/8	A307	0.75	2	0.821	0.759	0.821	31.402	2.6%
T6	100	TWR_INNER_SQ_T6	LL2.5x2x3x3	A307	0.75	2	0.594	1.619	1.619	31.402	5.2%
T6	100	TWR_INNER_CORNER_T6	L2X2.5X3	A307	0.75	2	0	1.751	1.751	13.662	12.8%
T6	100	TWR_INNER_TRI_T6	L2X2.5X3	A307	0.75	2	0.477	0.726	0.726	13.662	5.3%
T6	100	TWR_INNER_LADDER_T6	L2X2.5X3	A307	0.75	2	1.002	0.674	1.002	13.662	7.3%
T7	87.5	TWR_HORZ_T7	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	8.589	8.204	8.589	41.868	20.5%
T7	87.5	TWR_DIAG_T7	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	12.55	11.775	12.550	41.868	30.0%
T7	87.5	TWR_RED_HORZ_T7	L2-1/2x2x3/16	A307	0.75	2	0.462	0.914	0.914	15.700	5.8%
T7	87.5	TWR_RED_DIAG_T7	L2-1/2x2-1/2x3/16	A307	0.75	2	0.569	0.408	0.569	15.700	3.6%
T7	87.5	TWR_INNER_SUPP_T7	2L2-1/2x2-1/2x3/16x3/8	A307	0.75	2	0.725	0.665	0.725	31.402	2.3%
T7	87.5	TWR_INNER_SQ_T7	LL2.5x2x3x3	A307	0.75	2	0.61	1.374	1.374	31.402	4.4%
T7	87.5	TWR_INNER_CORNER_T7	L2X2.5X3	A307	0.75	2	0	1.453	1.453	13.662	10.6%
T7	87.5	TWR_INNER_BRACE_T7	L2.5x2.5x4	A307	0.75	2	0.001	0	0.001	20.934	0.0%
T7	87.5	TWR_INNER_GIRT_T7	L2X2.5X3	A307	0.75	2	0.015	0.022	0.022	13.662	0.2%
T7	87.5	TWR_INNER_TRI_T7	L2X2.5X3	A307	0.75	2	0.57	0.624	0.624	13.662	4.6%
T7	87.5	TWR_INNER_LADDER_T7	L2X2.5X3	A307	0.75	2	0.859	0.806	0.859	13.662	6.3%
T8	75	TWR_LEG_T8	L6x6x7/8	A307	0.75	28	106.507	65.834	106.507	347.914	30.6%
T8	75	TWR_HORZ_T8	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	8.853	8.659	8.853	41.868	21.1%
T8	75	TWR_DIAG_T8	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	12.683	11.897	12.683	41.868	30.3%
T8	75	TWR_RED_HORZ_T8	L2-1/2x2x3/16	A307	0.75	2	0.543	1.051	1.051	15.700	6.7%
T8	75	TWR_RED_DIAG_T8	L2-1/2x2-1/2x3/16	A307	0.75	2	0.631	0.456	0.631	15.700	4.0%
T8	75	TWR_INNER_SUPP_T8	2L2-1/2x2-1/2x3/16x3/8	A307	0.75	2	0.768	0.705	0.768	31.402	2.4%
T8	75	TWR_INNER_SQ_T8	LL2.5x2x3x3	A307	0.75	2	0.697	1.457	1.457	31.402	4.6%
T8	75	TWR_INNER_CORNER_T8	L2X2.5X3	A307	0.75	2	0	1.562	1.562	13.662	11.4%
T8	75	TWR_INNER_TRI_T8	L2X2.5X3	A307	0.75	2	0.618	0.665	0.665	13.662	4.9%
T8	75	TWR_INNER_LADDER_T8	L2X2.5X3	A307	0.75	2	0.913	0.871	0.913	13.662	6.7%
T9	62.5	TWR_LEG_T9	L8x8x3/4	A307	0.75	28	121.765	76.426	121.765	347.914	35.0%
T9	62.5	TWR_HORZ_T9	2L3x2-1/2x1/4x3/8	A307	0.75	2	9.302	9.035	9.302	44.588	20.9%
T9	62.5	TWR_DIAG_T9	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	3	12.838	12.065	12.838	59.814	21.5%
T9	62.5	TWR_RED_HORZ_T9	L2-1/2x2-1/2x1/4	A307	0.75	2	0.944	1.298	1.298	20.934	6.2%
T9	62.5	TWR_RED_DIAG_T9	L2-1/2x2-1/2x3/16	A307	0.75	2	0.758	0.718	0.758	15.700	4.8%
T9	62.5	TWR_INNER_SUPP_T9	2L2-1/2x2-1/2x3/16x3/8	A307	0.75	2	0.932	0.862	0.932	31.402	3.0%
T9	62.5	TWR_INNER_SQ_T9	LL2.5x2x3x3	A307	0.75	2	0.906	1.782	1.782	31.402	5.7%
T9	62.5	TWR_INNER_CORNER_T9	L3X3X4	A307	0.75	2	0	1.885	1.885	22.294	8.5%
T9	62.5	TWR_INNER_BRACE_T9	L2.5x2.5x4	A307	0.75	2	0.001	0	0.001	20.934	0.0%
T9	62.5	TWR_INNER_TRI_T9	L2.5x2.5x4	A307	0.75	2	0.76	0.824	0.824	20.934	3.9%
T9	62.5	TWR_INNER_LADDER_T9	2L2-1/2x2-1/2x3/16x3/8	A307	0.75	2	1.138	1.062	1.138	31.402	3.6%
T10	50	TWR_LEG_T10	L8x8x7/8	A307	0.75	32	136.656	86.142	136.656	397.616	34.4%
T10	50	TWR_HORZ_T10	2L3x2-1/2x1/4x3/8	A307	0.75	2	10.046	9.685	10.046	44.588	22.5%
T10	50	TWR_DIAG_T10	2L3x3x3/8x3/8	A325N	0.75	3	19.194	18.199	19.194	81.564	23.5%
T10	50	TWR_RED_HORZ_T10	L2-1/2x2x3/16	A307	0.75	2	0.552	0.744	0.744	31.402	2.4%
T10	50	TWR_RED_HORZ_2_T10	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	0.627	0.513	0.627	41.868	1.5%

Section #	Elevation (Ft.)	Section Set	Member	Bolt Grade	Bolt Size (in)	# of Bolts	Comp. (K)	Ten. (K)	Maximum Load (K)	Allowable Load (K)	% Capacity
T10	50	TWR_RED_DIAG_T10	L2-1/2x2-1/2x3/16	A307	0.75	2	0.623	0.667	0.667	15.700	4.2%
T10	50	TWR_RED_DIAG_2_T10	L3x3-1/2x1/4	A307	0.75	2	0.257	0.821	0.821	22.294	3.7%
T10	50	TWR_RED_HIP_2_T10	L4x4x3/8	A307	0.75	2	0	0.231	0.231	24.850	0.9%
T10	50	TWR_RED_HIPDIA_2_T10	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	0.44	0	0.440	41.869	1.1%
T10	50	TWR_INNER_SUPP_T10	L3x3x1/4	A307	0.75	2	1.035	0.994	1.035	22.294	4.6%
T10	50	TWR_INNER_SQ_T10	2L3x2-1/2x1/4x3/8	A307	0.75	2	1.209	1.915	1.915	44.588	4.3%
T10	50	TWR_INNER_CORNER_T10	L3x3x1/4	A307	0.75	2	0	2.145	2.145	22.294	9.6%
T10	50	TWR_INNER_BRACE_T10	L2.5x2.5x3	A307	0.75	2	0.001	0	0.001	15.701	0.0%
T10	50	TWR_INNER_TRI_T10	L2.5x2.5x3	A307	0.75	2	0.879	0.941	0.941	15.701	6.0%
T10	50	TWR_INNER_LADDER_T10	L4X4X6	A307	0.75	2	1.289	1.217	1.289	24.850	5.2%
T11	25	TWR_LEG_T11	L8X8X1	A307	0.75	36	165.372	104.422	165.372	447.318	37.0%
T11	25	TWR_HORZ_T11	2L3x3x3/8x3/8	A307	0.75	3	11.082	10.492	11.082	74.553	14.9%
T11	25	TWR_DIAG_T11	2L3x3-1/2x3/8x3/8	A307	0.75	5	20.317	18.173	20.317	124.255	16.4%
T11	25	TWR_RED_HORZ_T11	L2-1/2x2-1/2x3/16	A307	0.75	3	0.391	0.357	0.391	47.103	0.8%
T11	25	TWR_RED_HORZ_2_T11	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	0.656	0.578	0.656	41.868	1.6%
T11	25	TWR_RED_DIAG_T11	L2-1/2x2-1/2x3/16	A307	0.75	2	1.779	1.45	1.779	31.402	5.7%
T11	25	TWR_RED_DIAG_2_T11	2L2-1/2x2x1/4x3/8	A307	0.75	2	0.351	1.083	1.083	49.702	2.2%
T11	25	TWR_RED_SUBHOR_T11	2L2-1/2x3-1/2x1/4x3/8	A307	0.75	2	0.546	0.184	0.546	49.702	1.1%
T11	25	TWR_RED_BRACE_T11	L2.5x2.5x4	A307	0.75	2	1.673	1.714	1.714	20.934	8.2%
T11	25	TWR_RED_VERT_T11	L3x3x1/4	A307	0.75	2	0.31	0.285	0.310	22.294	1.4%
T11	25	TWR_RED_HIP_2_T11	L4x4x3/8	A307	0.75	2	0	0.385	0.385	24.850	1.5%
T11	25	TWR_RED_HIPDIA_2_T11	2L2-1/2x2-1/2x1/4x3/8	A307	0.75	2	0.545	0	0.545	41.869	1.3%
T11	25	TWR_RED_HIPBRACE_T11	L2x2x3	A307	0.75	2	0.113	0.138	0.138	13.662	1.0%
T11	25	TWR_INNER_SUPP_T11	2L3x2-1/2x1/4x3/8	A307	0.75	2	0.983	0.928	0.983	44.588	2.2%
T11	25	TWR_INNER_SQ_T11	LL2.5x2.5x4x3	A307	0.75	2	1.19	1.749	1.749	41.869	4.2%
T11	25	TWR_INNER_CORNER_T11	L3.5X3.5X5	A307	0.75	2	0	2.003	2.003	24.850	8.1%
T11	25	TWR_INNER_BRACE_T11	L2.5x2.5x3	A307	0.75	2	0	0	0.000	15.701	0.0%
T11	25	TWR_INNER_TRI_T11	L2.5x2.5x4	A307	0.75	2	0.769	0.798	0.798	20.934	3.8%
T11	25	TWR_INNER_LADDER_T11	L2.5x2.5x4	A307	0.75	2	1.052	1.01	1.052	20.934	5.0%
T4	125	TWR_DIAG_T4	L3x4x1/4 w/ L3x2x3/8 (r Only)	A307	0.75	4	15.266	8.115	15.266	49.700	30.7%

APPENDIX C

Additional Calculations

Self-Support Anchor Rod Analysis - TIA-222-H-1
SNET025 (10034975) SHELTON EAST CENTRAL
2022723.01.SNET025.13

General Info	
Apply TIA-222-H Section 15.5	No
Modified Anchor Rods	No
Leg Eccentricity	No
Overstrength	No
Max Capacity	105%

Tower Reactions		
Compression, P_u =	190.86	kips
Compression Shear, V_u =	32.64	kips
Uplift, P_u =	122.00	kips
Uplift Shear, V_u =	23.93	kips
Number of Tower Legs =	4	
Tower Axial Force =	267.02	kips

Anchor Rods		
Number of Anchor Rods, n =	4	
Anchor Rod Grade =	C-1015	
Anchor Rod Diameter, d =	2.25	in
Bolt Circle Diameter, BC =	N/A	in
Rod Clear Span, l_{ar} =	0	in
Is grout present?	No	
Yield Strength, F_y =	47	ksi
Tensile Strength, F_u =	56	ksi
Rod Compression, P_{uc} =	47.72	kips
Rod Shear, V_u =	8.16	kips
Rod Moment, M_u =	0.00	k-in
Rod Tension, P_{ut} =	30.50	kips
Rod Shear, V_u =	5.98	kips
Rod Moment, M_u =	0.00	k-in

Anchor Rod Results		
$\phi_t R_{nt}$ =	136.50	kips
$\phi_c R_{nc}$ =	168.19	kips
$\phi_c R_{nb}$ =	168.19	kips
$\phi_v R_{nv}$ =	83.50	kips
$\phi_c R_{nvc}$ =	75.68	kips
$\phi_f M_n$ =	80.30	k-in
Tension Interaction	5.5%	OK
Compression Interaction	29.5%	OK

Mat Foundation Analysis
SNET025 (10034975) SHELTON EAST CENTRAL
2022723.01.SNET025.13

General Info	
Foundation Criteria	GPD
TIA Code	TIA-222-H
Apply TIA-222-H Section 15.5?	No
Soil Code	AASHTO 2012
Concrete Code	ACI 318-14
Seismic Design Category	B
Tower Height	162.5 ft
Bearing On	Soil
Foundation Type	SS Individual Pad
Pier Type	Square
Reinforcing Known	No
Max Bearing Capacity	105%
Max Overturning Capacity	105%

Tower Reactions	
Moment, M	
Axial, P	190.861 k
Shear, V	32.64 k

Pad & Pier Geometry	
Pier Width, ø	5.62 ft
Pad Length, L [y]	15 ft
Pad Width, W [x]	15 ft
Pad Thickness, t	2 ft
Depth, D	8 ft
Height Above Grade, HG	1 ft
Tower Centroid, X	7.5 ft
Tower Centroid, Y	7.5 ft
Tower Eccentricity	0.0000 ft

Pad & Pier Reinforcing	
Rebar Fy	60 ksi
Concrete F'c	3 ksi
Pier Reinforcing Clear Cover	3 in
Shear Rebar Type	Tie
Shear Rebar Size	# 4
Pad Reinforcing Clear Cover	3 in
Reinforced Top & Bottom?	Yes
Top and Bot. Reinf. Different?	No
Pad Reinforcing Size	# 8
Pad Quantity Per Layer	15
Pier Rebar Size	# 9
Pier Quantity of Rebar	16

Soil Properties	
Soil Type	Granular
Soil Unit Weight	125 pcf
Angle of Friction, ø	38
Base Friction Coeff. Provided in Geo?	Yes
Base Friction Coefficient, µ	0.5
Bearing Type	Net
Ultimate Bearing	18 ksf
Water Table Depth	99 ft
Neglected Depth	3.5 ft

GPD Mat Foundation Analysis - V4.4

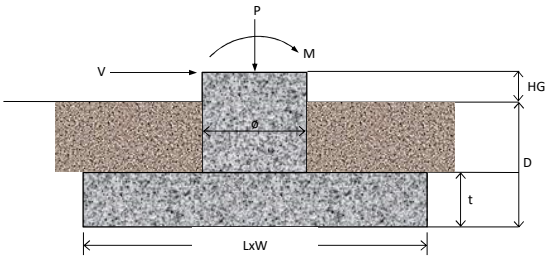
Bearing Summary					
Case	*Demand/Limits*	*Capacity/Availability*	*Check*	*Eccentricity*	*Load Case*
Qxmax	2.40 ksf	14.25 ksf	OK, <= 105%	L/35.5	1.2D+1.0W
Qymax	2.40 ksf	14.25 ksf	OK, <= 105%	W/35.5	1.2D+1.0W
Qmax @ 45°	2.16 ksf	14.25 ksf	OK, <= 105%	W/30000.0	1.2D+1.0W
Controlling Capacity		**16.9%**	**Pass**		

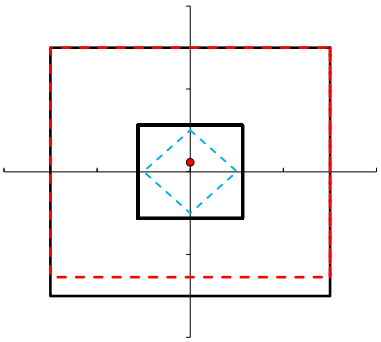
Overturning Summary					
Case	*Demand/Limits*	*Capacity/Availability*	*Check*		*Load Case*
Ovtx	205.1 k-ft	3643.0 k-ft	7.5%	OK	0.9D+1.0W
Ovty	205.1 k-ft	3643.0 k-ft	7.5%	OK	0.9D+1.0W
Ovtxy	0.3 k-ft	3643.0 k-ft	0.0%	OK	0.9D+1.0W
Controlling Capacity		**7.5%**	**Pass**		

Sliding Summary					
Case	*Demand/Limits*	*Capacity/Availability*	*Check*		*Load Case*
Slidingx	32.6 k	245.7 k	13.3%	OK	0.9D+1.0W
Slidingy	32.6 k	245.7 k	13.3%	OK	0.9D+1.0W
Controlling Capacity		**13.3%**	**Pass**		

Reinforcement Summary					
Component	*Demand/Limits*	*Capacity/Availability*	*Check*		*Load Case*
Pad Flexural Bending	195.9 k-ft	998.5 k-ft	19.6%	OK	1.2D+1.0W
One-Way Shear in Pad	54.7 k	288.4 k	19.0%	OK	1.2D+1.0W
Two-Way Shear in Pad	201.9 k	1114.3 k	18.1%	OK	0.9D+1.0W
Compression on Pier	230.7 k	13917.4 k	1.7%	OK	1.2D+1.0W
Moment on Pier	198.5 k-ft	700.0 k-ft	28.4%	OK	1.2D+1.0W
Pad Flexural 2-Way	137.1 k-ft	1504.1 k-ft	9.1%	OK	1.2D+1.0W
As Min Pad Met?	1.58 sq. in.	0.20 sq. in.	Yes		
As Min Pier Met?	16.00 sq. in.	22.74 sq. in.	No		
Controlling Capacity		**28.4%**	**Pass**		

<-- Minimum reinforcement assumed





Individual Pad & Pier Foundation Uplift Analysis
SNET025 (10034975) SHELTON EAST CENTRAL
2022723.01.SNET025.13

Tower Reactions		
Uplift	122.004	k
Shear	23.928	k

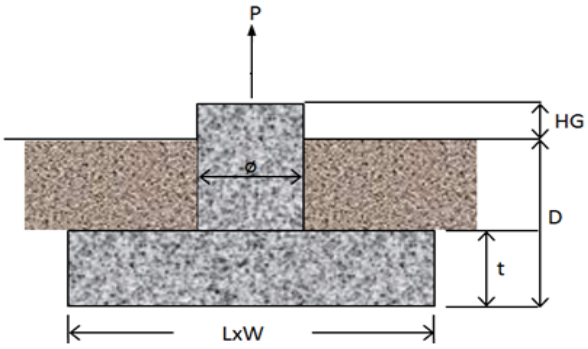
General Info	
Code	TIA-222-H
Foundation Criteria	GPD
Seismic Design Category	B
Soil Interaction Max Capacity	1.05
Reinforcement Max Capacity	1.05
Apply TIA-222-H Section 15.5?	No

Pad & Pier Geometry		
Pier Type	Square	
Pier Width, w	5.62	ft
Pad Length, L	15	ft
Pad Width, W	15	ft
Pad Thickness, t	2	ft
Depth Below Grade	8	ft
Height Above Grade	1	ft
Pier Length	7	ft
Pier Cross Sectional Area	31.6	ft^2
Anchor Rod Embedment	72	in
Anchor Rod Circle	10	in

Reinforcement Properties		
As,min Assumed?	Yes	
Pier Rebar Size	9	
Pier Quantity of Rebar	16	
Pier Tie Size	4	
Pier Tie Spacing, s	12	in o/c
Pad Reinforcement Size	8	
Min. Concrete Cover	3	in
f_c'	3000	psi
F_y	60	ksi

Capacity Summary		
Vert. Soil Interaction	44.4%	**OK**
Horz. Soil Interaction	28.9%	**OK**
Pier Bending + Ten.	9.3%	**OK**
Pier Tension	14.1%	**OK**
Pier Shear	6.1%	**OK**
ACI Steel Reqmts Met	No	**NG**
Controlling Capacity	44.4%	**OK**

As,min has been assumed for analysis purposes.



Soil Capacity Calculations		
W_s	186.24	k
W_c	100.66	k
Uplift Resistance	275.04	k
Horizonal Resistance	82.81	k

Soil Properties

Layer	C, psf	φ, degrees	γ_{soil}, pcf	$\gamma_{concrete}$, pcf	Thickness, ft	$P_{p,top}$, psf	$P_{p,bot}$, psf	f_s,psf	N, blows	μ
1		0	125	150	3.5					
2		38	125	150	4.5					0.5
3										
4										
5										
6										
7										
8										
9										
10										

Ignored Depth	3.5	ft	Consider soil for uplift	User Input Angle		deg
Water Table	99	ft	Granular	Angle for Uplift	15.83333	deg

Maser Consulting Connecticut
2000 Midlantic Drive, Suite 100
Mt. Laurel, NJ 08054
856.797.0412
Peter.Albano@CollidersEngineering.com

Antenna Mount Analysis Report and PMI Requirements

Mount Analysis

SMART Tool Project #: 10071773
Maser Consulting Connecticut Project #: 21781010A

October 4, 2021

Site Information	*Site ID:*	*467793-VZW / SHELTON NORTH 2 CT*
	Site Name:	*SHELTON NORTH 2 CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*219 Nells Rock Road* *Shelton, Connecticut 06484* *Fairfield County*
	Latitude:	*41.304198°*
	Longitude:	*-73.118313°*
Structure Information	*Tower Type:*	*162.5-Ft Self Support*
	Mount Type:	*12.50-Ft T-Frame*

FUZE ID # 16244648

Analysis Results

T-Frame: **44.1% Pass**

******Contractor PMI Requirements*:**
Included at the end of this MA report
Available & Submitted via portal at https://pmi.vzwsmart.com
Contractor - Please Review Specific Site PMI Requirements Upon Award
Requirements may also be Noted on A & E drawings
For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

Report Prepared By: Frank Centone

Digitally signed by Justin Linette
Date: 2021.10.05 12:28:26-04'00'

Executive Summary:

The objective of this report is to determine the capacity of the antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

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

Sources of Information:

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	*Verizon RFDS, Site ID: 608162, dated September 24, 2021*
Mount Mapping Report	*Hudson Design Group, LLC., Site #: 467793, dated June 1, 2021*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	119 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	B
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.984
Seismic Parameters:	S_S:	0.204 g
	S_1:	0.054 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Live Load, Lv:	250 lbs.
	Maintenance Live Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
124.50	127.50	3	Samsung	XXDWMM-12.5-65-8T-CBRS	Added
	125.00	6	JMA Wireless	MX06FRO660-03	
		3	Samsung	RF4439d-25A	
		3	Samsung	RF4440d-13A	
		6	Andrew	DB846F65ZAXY	Retained
		2	Raycap	RRFDC-3315-PF-48*	
	123.50	3	Samsung	MT6407-77A	Added

* Equipment to be flush mounted directly to the Self Support. They are not mounted on the T-Frame mounts and are not included in this mount analysis.

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

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

Standard Conditions:

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

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

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

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

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

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

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

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

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
   - Channel, Solid Round, Angle, Plate — ASTM A36 (Gr. 36)
   - HSS (Rectangular) — ASTM 500 (Gr. B-46)
   - Pipe — ASTM A53 (Gr. B-35)
   - Threaded Rod — F1554 (Gr. 36)
   - Bolts — ASTM A32

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Maser Consulting Connecticut.

Analysis Results:

Component	Utilization %	Pass/Fail
Tieback	9.0%	Pass
Mount Pipe	22.5%	Pass
Standoff Horizontal	14.1%	Pass
Mast Pipe	6.6%	Pass
Face Bracing	23.0%	Pass
Face Horizontal	44.1%	Pass
Mount Connection	16.3%	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**44.1%**

Recommendation:

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

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

Attachments:

1. Mount Photos
2. Mount Mapping Report (for reference only)
3. Analysis Calculations
4. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
5. Antenna Placement Diagrams
6. TIA Adoption and Wind Speed Usage Letter

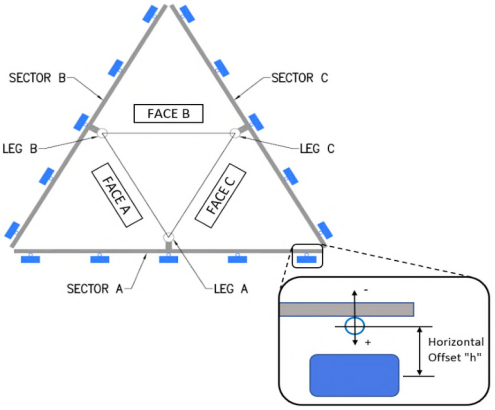
V4.0 Updated on 3-31-2021

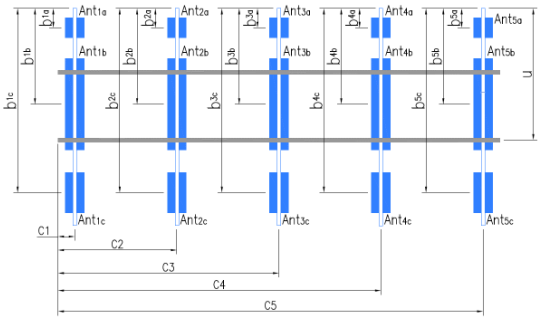
Antenna Mount Mapping Form (PATENT PENDING)

FCC #
1046316

Tower Owner:	ATT	**Mapping Date:**	6/1/2021
Site Name:	SHELTON NORTH 2 CT	**Tower Type:**	Self Support
Site Number or ID:	467793	**Tower Height (Ft.):**	
Mapping Contractor:	HUDSON DESIGN GROUP,LLC.	**Mount Elevation (Ft.):**	122.5

Please insert the sketches of the antenna mount from the "Sketches" tab with dimensions and members here.





Antenna Layout (Looking Out From Tower)

Mount Pipe Configuration and Geometries [Unit = Inches]

Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "u"	Horizontal Offset "C1, C2, C3, etc."
A1	2-1/2" STD. PIPE X 108" LONG	89.00	3.00	C1	2-1/2" STD. PIPE X 108" LONG	89.00	3.00
A2	2-1/2" STD. PIPE X 108" LONG	89.00	27.00	C2	2-1/2" STD. PIPE X 108" LONG	89.00	27.00
A3	2-1/2" STD. PIPE X 84" LONG	53.00	75.00	C3	2-1/2" STD. PIPE X 84" LONG	53.00	75.00
A4	2-1/2" STD. PIPE X 108" LONG	89.00	123.00	C4	2-1/2" STD. PIPE X 108" LONG	89.00	123.00
A5	2-1/2" STD. PIPE X 108" LONG	89.00	147.00	C5	2-1/2" STD. PIPE X 108" LONG	89.00	147.00
A6				C6			
B1	2-1/2" STD. PIPE X 108" LONG	89.00	3.00	D1			
B2	2-1/2" STD. PIPE X 108" LONG	89.00	27.00	D2			
B3	2-1/2" STD. PIPE X 84" LONG	53.00	75.00	D3			
B4	2-1/2" STD. PIPE X 108" LONG	89.00	123.00	D4			
B5	2-1/2" STD. PIPE X 108" LONG	89.00	147.00	D5			
B6				D6			

Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :	24.00
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	3.5
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	

Please enter additional infomation or comments below.

TOWER LEG ANGLE SIZE: 6" X 6" X 5/8" TH.

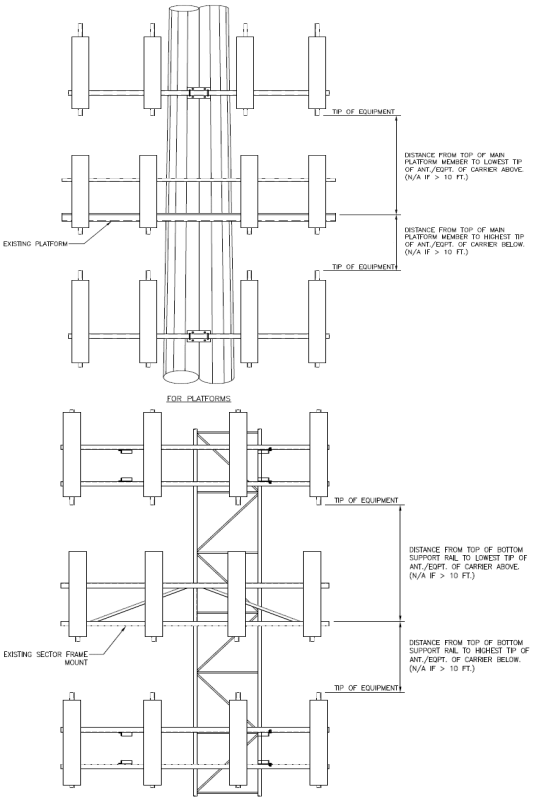
Tower Face Width at Mount Elev. (ft.):	17.33	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	
For T-Arms/Platforms on monopoles, report the weld size from the main standoff to the plate bolting into the collar mount.			

	Enter antenna model. If not labeled, enter "Unknown".						Mounting Locations [Units are inches and degrees]			Photos of antennas
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances"b_{1a}, b_{2a}, b_{3a}, b_{1b}...." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
Sector A										
Ant_{1a}	B66A RRH 4X45	12.00	7.00	26.00		122.5	65.00	12.00		20,171
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}	DB846F652AXY	10.00	8.00	72.00		123.583	52.00	13.00	20.00	20,171
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	(2) SBNHH-1D45B	18.00	7.50	72.00		121.917	36.00	12.50	20.00	21,172
Ant_{3c}										
Ant_{4a}	B25 RRH 4X30	12.00	7.00	21.00		125.833	25.00	6.50		22,170
Ant_{4b}										
Ant_{4c}	B13 RRH 4X30	12.00	8.00	21.00		122.25	68.00	6.50		22,170
Ant_{5a}										
Ant_{5b}	DB846F652AXY	10.00	8.00	72.00		123.583	52.00	13.00	20.00	22,170
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

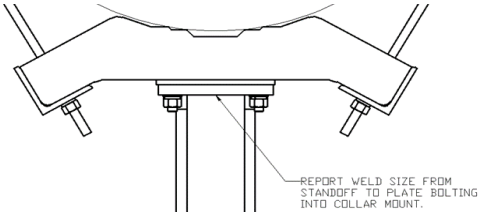
Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector	
Sector A:	20.00	Deg	Leg A:	20.00	Deg
Sector B:	200.00	Deg	Leg B:	110.00	Deg
Sector C:	265.00	Deg	Leg C:	200.00	Deg
Sector D:		Deg	Leg D:		Deg

Climbing Facility Information			
Location:	290.00	Deg	
Climbing Facility	Corrosion Type:		Good condition.
	Access:		Climbing path was unobstructed.
	Condition:		Good condition.

Please insert a photo of the mount centerline measurement here.



For T-Arms/Platforms on monopoles, record the weld size from the main standoff member to the plate bolting into the collar. See below for reference.



Sector B										
Ant_{1a}										
Ant_{1b}	DB846F652AXY	10.00	8.00	72.00		123.583	52.00	13.00	200.00	28,156
Ant_{1c}										
Ant_{2a}	B66A RRH 4X45	12.00	7.00	26.00		122.5	65.00	12.00		28,177
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	(2) SBNHH-1D45B	18.00	7.50	72.00		121.917	36.00	12.50	200.00	29,177
Ant_{3c}										
Ant_{4a}	B25 RRH 4X30	12.00	7.00	21.00		125.833	25.00	6.50		30,182
Ant_{4b}										
Ant_{4c}	B13 RRH 4X30	12.00	8.00	21.00		122.25	68.00	6.50		30,182
Ant_{5a}										
Ant_{5b}	DB846F652AXY	10.00	8.00	72.00		123.583	52.00	13.00	200.00	30,182
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector C										
Ant_{1a}										
Ant_{1b}	DB846F652AXY	10.00	8.00	72.00		123.583	52.00	13.00	285.00	36,181
Ant_{1c}										
Ant_{2a}	B66A RRH 4X45	12.00	7.00	26.00		122.5	65.00	12.00		36,181
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}	(2) SBNHH-1D45B	18.00	7.50	72.00		121.917	36.00	12.50	285.00	35,186
Ant_{3c}										
Ant_{4a}	B25 RRH 4X30	12.00	7.00	21.00		125.833	25.00	6.50		35,186
Ant_{4b}										
Ant_{4c}	B13 RRH 4X30	12.00	8.00	21.00		122.25	68.00	6.50		35,186
Ant_{5a}										
Ant_{5b}	DB846F652AXY	10.00	8.00	72.00		123.583	52.00	13.00	285.00	35,186
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										
Sector D										
Ant_{1a}										
Ant_{1b}										
Ant_{1c}										
Ant_{2a}										
Ant_{2b}										
Ant_{2c}										
Ant_{3a}										
Ant_{3b}										
Ant_{3c}										
Ant_{4a}										
Ant_{4b}										
Ant_{4c}										
Ant_{5a}										
Ant_{5b}										
Ant_{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										

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

Observed Obstructions to Tower Lighting System					
If the tower lighting system is being obstructed by the carrier's equipment (for example: a light nested by the antennas), please provide photos and fill in the information below.					Photo #
Description of Obstruction:					
Type of Light:		Photo #		Additional Comments:	
Lighting Technology:		Photo #			
Elevation (AGL) at base of light (Ft.):		Photo #			
Is a service loop available?		Photo #			
Is beacon installed on an extension?		Photo #			

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

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

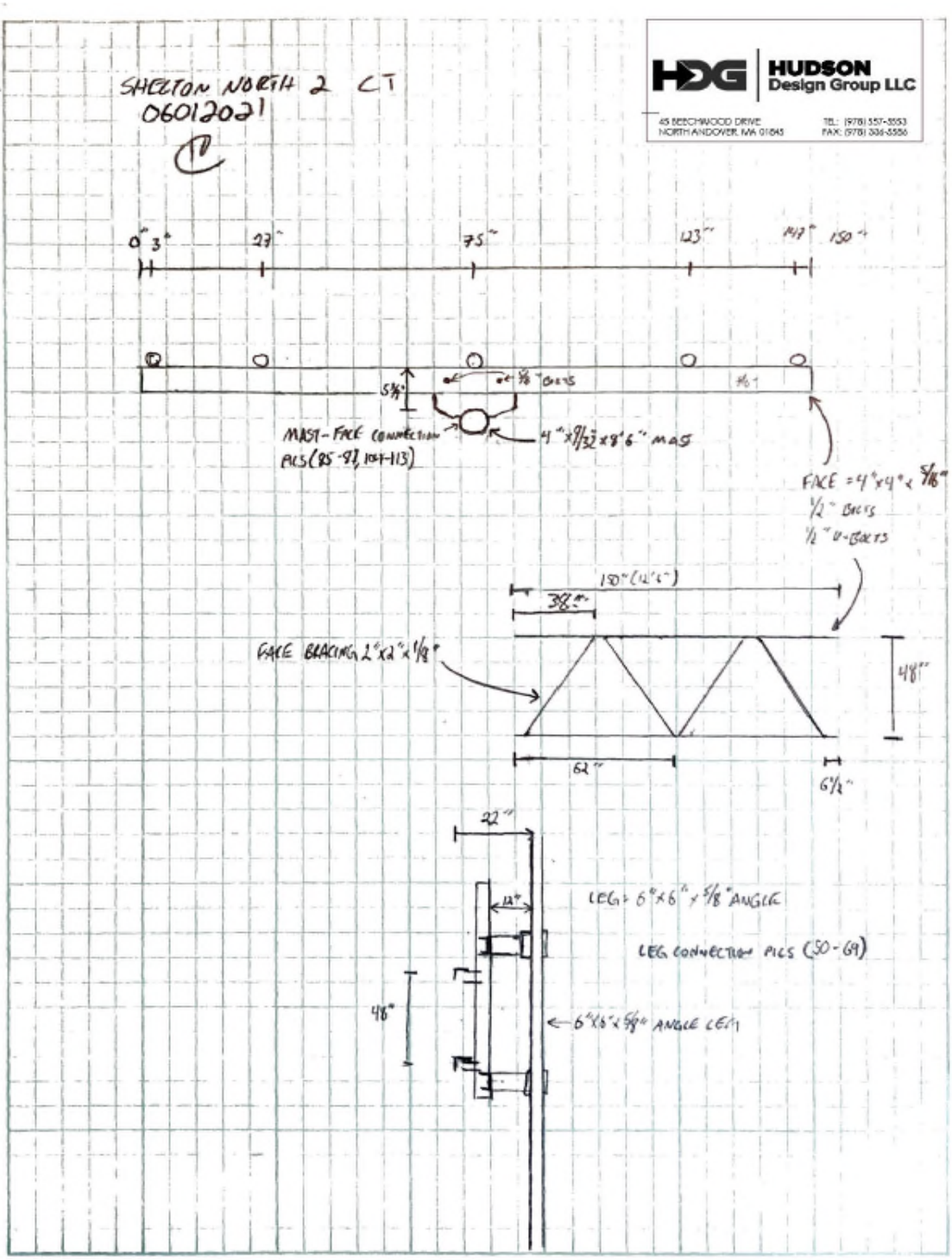
V4.0 Updated on 3-31-2021

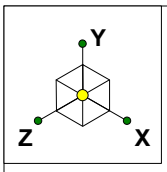
Antenna Mount Mapping Form (PATENT PENDING)

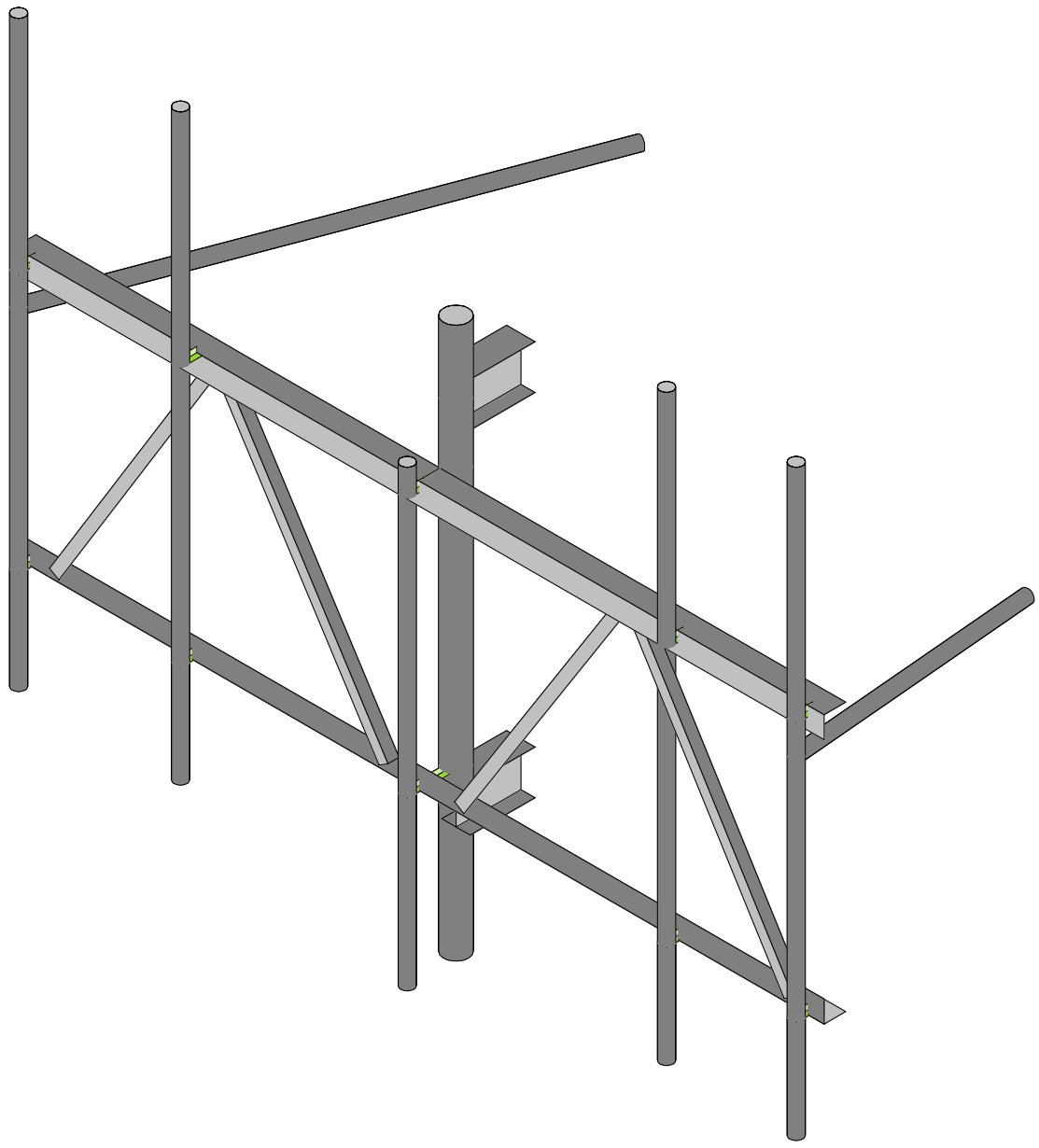
FCC # 1046316

Tower Owner:	ATT	**Mapping Date:**	6/1/2021
Site Name:	SHELTON NORTH 2 CT	**Tower Type:**	Self Support
Site Number or ID:	467793	**Tower Height (Ft.):**	
Mapping Contractor:	HUDSON DESIGN GROUP,LLC.	**Mount Elevation (Ft.):**	122.5

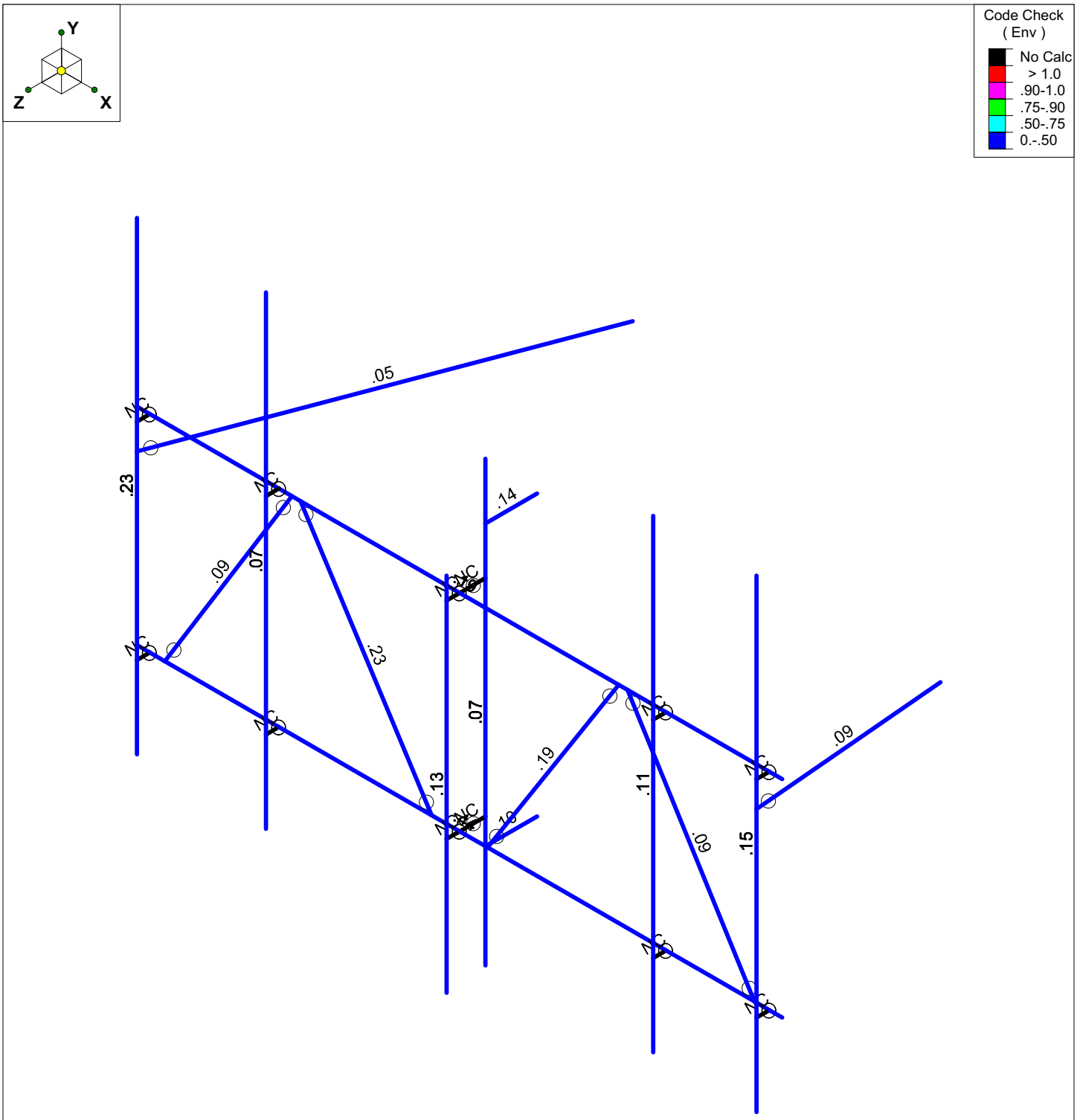
Please Insert Sketches of the Antenna Mount





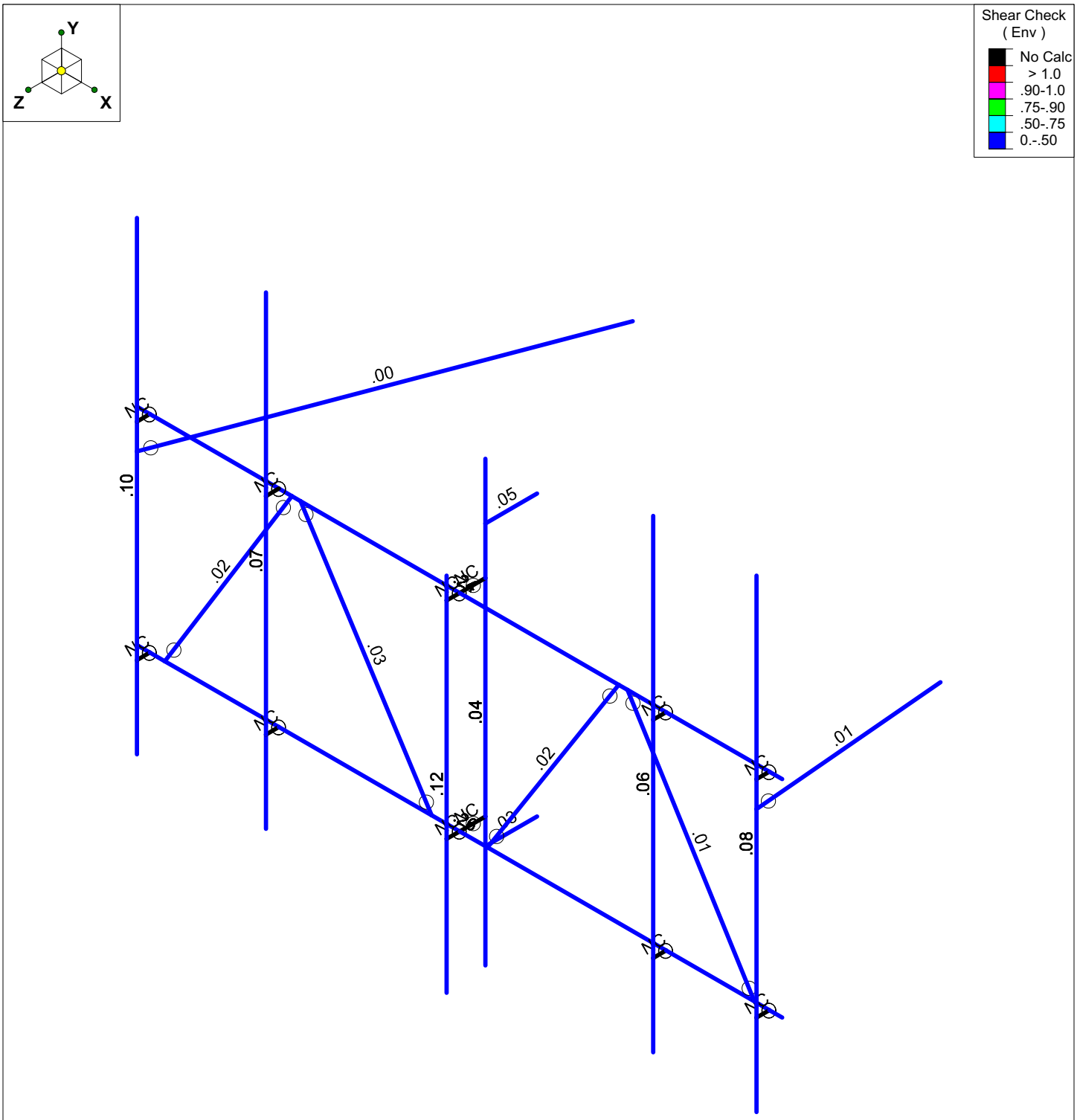


Maser Consulting	Mount Analysis	SK - 1
		Oct 4, 2021 at 5:01 PM
		LOADED_467793-VZW_MT_LOT_...



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

Maser Consulting	Mount Analysis	SK - 2
		Oct 4, 2021 at 5:01 PM
		LOADED_467793-VZW_MT_LOT_...



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

Maser Consulting	Mount Analysis	SK - 3
		Oct 4, 2021 at 5:01 PM
		LOADED_467793-VZW_MT_LOT_...

Basic Load Cases

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

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
57	Structure Wi (120 De...	None						32		
58	Structure Wi (150 De...	None						32		
59	Structure Wi (180 De...	None						32		
60	Structure Wi (210 De...	None						32		
61	Structure Wi (240 De...	None						32		
62	Structure Wi (270 De...	None						32		
63	Structure Wi (300 De...	None						32		
64	Structure Wi (330 De...	None						32		
65	Structure Wm (0 Deg)	None						32		
66	Structure Wm (30 De...	None						32		
67	Structure Wm (60 De...	None						32		
68	Structure Wm (90 De...	None						32		
69	Structure Wm (120 D...	None						32		
70	Structure Wm (150 D...	None						32		
71	Structure Wm (180 D...	None						32		
72	Structure Wm (210 D...	None						32		
73	Structure Wm (240 D...	None						32		
74	Structure Wm (270 D...	None						32		
75	Structure Wm (300 D...	None						32		
76	Structure Wm (330 D...	None						32		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			

Load Combinations

	Description	So...	P...	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	1.2D+1.0Wo (0 ...	Yes	Y		1	1.2	39	1.2	3	1	41	1												
2	1.2D+1.0Wo (30...	Yes	Y		1	1.2	39	1.2	4	1	42	1												
3	1.2D+1.0Wo (60...	Yes	Y		1	1.2	39	1.2	5	1	43	1												
4	1.2D+1.0Wo (90...	Yes	Y		1	1.2	39	1.2	6	1	44	1												
5	1.2D+1.0Wo (12...	Yes	Y		1	1.2	39	1.2	7	1	45	1												
6	1.2D+1.0Wo (15...	Yes	Y		1	1.2	39	1.2	8	1	46	1												
7	1.2D+1.0Wo (18...	Yes	Y		1	1.2	39	1.2	9	1	47	1												
8	1.2D+1.0Wo (21...	Yes	Y		1	1.2	39	1.2	10	1	48	1												
9	1.2D+1.0Wo (24...	Yes	Y		1	1.2	39	1.2	11	1	49	1												
10	1.2D+1.0Wo (27...	Yes	Y		1	1.2	39	1.2	12	1	50	1												
11	1.2D+1.0Wo (30...	Yes	Y		1	1.2	39	1.2	13	1	51	1												
12	1.2D+1.0Wo (33...	Yes	Y		1	1.2	39	1.2	14	1	52	1												
13	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										

Load Combinations (Continued)

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

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	-6.25	0	0	0	
3	N3	6.25	0	0	0	
4	N4	0	4	0	0	
5	N5	-6.25	4	0	0	
6	N6	6.25	4	0	0	
7	N7	-5.708333	0	0	0	
8	N8	5.708333	0	0	0	
9	N9	-0.541667	0	0	0	
10	N10	0.541667	0	0	0	
11	N11	-3.25	4	0	0	
12	N12	-3.083333	4	0	0	
13	N13	3.25	4	0	0	
14	N14	3.083333	4	0	0	
15	N15	0	0	-.5	0	
16	N16	0	4	-.5	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
17	N17	0	6	-.5	0	
18	N18	0	-2.5	-.5	0	
19	N19	0	4.916667	-.5	0	
20	N20	0	-.5	-.5	0	
21	N21	0	4.916667	-1.5	0	
22	N22	0	-.5	-1.5	0	
23	N23	6	0	0	0	
24	N24	6	4	0	0	
25	N25	4	0	0	0	
26	N26	4	4	0	0	
27	N29	-3.5	0	0	0	
28	N30	-3.5	4	0	0	
29	N29A	-6	0	0	0	
30	N30A	-6	4	0	0	
31	N31	0	0	.25	0	
32	N32	0	4	.25	0	
33	N33	6	0	.25	0	
34	N34	6	4	.25	0	
35	N35	4	0	.25	0	
36	N36	-3.5	0	.25	0	
37	N37	-3.5	4	.25	0	
38	N38	-6	0	.25	0	
39	N39	-6	4	.25	0	
40	N40	4	4	.25	0	
41	N41	6	7.416667	.25	0	
42	N42	-3.5	7.416667	.25	0	
43	N43	-6	7.416667	.25	0	
44	N44	4	7.416667	.25	0	
45	N45	6	-1.583333	.25	0	
46	N46	-3.5	-1.583333	.25	0	
47	N47	-6	-1.583333	.25	0	
48	N48	4	-1.583333	.25	0	
49	N49	0	4.416667	.25	0	
50	N50	0	-2.583333	.25	0	
51	N51	-6	3.5	.25	0	
52	N52	6	3.5	.25	0	
53	N55	-3.382273	3.5	-6.735299	0	
54	N56	5.656854	3.5	-3.656854	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Mount Pipe	PIPE_2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
2	Tieback	PIPE_2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
3	Face Horizontal	L4X4X4	Beam	Single Angle	A36 Gr.36	Typical	1.93	3	3	.044
4	Face Bracing	L2x2x2	Beam	Single Angle	A36 Gr.36	Typical	.491	.189	.189	.003
5	Mast Pipe	PIPE_4.0	Column	Pipe	A53 Gr. B	Typical	2.96	6.82	6.82	13.6
6	Standoff Horizontal	W8X18	Beam	Wide Flange	A36 Gr.36	Typical	5.26	7.97	61.9	.172

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A53 Gr. B	29000	11154	.3	.65	.49	35	1.5	60	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1

Hot Rolled Steel Properties (Continued)

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...Density[k/ft...		Yield[ksi]	Ry	Fu[ksi]	Rt
5	A500 Gr. B 42	29000	11154	.3	.65	.49	42	1.4	58	1.3
6	A500 Gr. B 46	29000	11154	.3	.65	.49	46	1.4	58	1.3
7	A500 Gr C Round	29000	11154	.3	.65	.49	46	1.5	62	1.2
8	A529 gr50	29000	11154	.3	.65	.49	50	1.5	65	1.2

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N3		270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
2	M2	N5	N6		180	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
3	M3	N7	N11		180	Face Bracing	Beam	Single Angle	A36 Gr.36	Typical
4	M4	N12	N9		180	Face Bracing	Beam	Single Angle	A36 Gr.36	Typical
5	M5	N10	N14		180	Face Bracing	Beam	Single Angle	A36 Gr.36	Typical
6	M6	N13	N8		180	Face Bracing	Beam	Single Angle	A36 Gr.36	Typical
7	M7	N4	N16			RIGID	None	None	RIGID	Typical
8	M8	N1	N15			RIGID	None	None	RIGID	Typical
9	RRU	N17	N18			Mast Pipe	Column	Pipe	A53 Gr. B	Typical
10	M10	N19	N21			Standoff Horiz...	Beam	Wide Flange	A36 Gr.36	Typical
11	M11	N20	N22			Standoff Horiz...	Beam	Wide Flange	A36 Gr.36	Typical
12	M12	N30A	N39			RIGID	None	None	RIGID	Typical
13	M13	N29A	N38			RIGID	None	None	RIGID	Typical
14	M14	N30	N37			RIGID	None	None	RIGID	Typical
15	LIVE1	N29	N36			RIGID	None	None	RIGID	Typical
16	M16	N4	N32			RIGID	None	None	RIGID	Typical
17	LIVE2	N1	N31			RIGID	None	None	RIGID	Typical
18	M18	N24	N34			RIGID	None	None	RIGID	Typical
19	M19	N23	N33			RIGID	None	None	RIGID	Typical
20	M20	N25	N35			RIGID	None	None	RIGID	Typical
21	M21	N26	N40			RIGID	None	None	RIGID	Typical
22	MP5A	N43	N47			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
23	MP4A	N42	N46			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
24	MP2A	N44	N48			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
25	MP1A	N41	N45			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
26	MP3A	N49	N50			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
27	M27	N51	N55			Tieback	Beam	Pipe	A53 Gr. B	Typical
28	M28	N52	N56			Tieback	Beam	Pipe	A53 Gr. B	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Face Horizo...	12.5			Lbyy						Lateral
2	M2	Face Horizo...	12.5			Lbyy						Lateral
3	M3	Face Bracing	4.695			Lbyy						Lateral
4	M4	Face Bracing	4.739			Lbyy						Lateral
5	M5	Face Bracing	4.739			Lbyy						Lateral
6	M6	Face Bracing	4.695			Lbyy						Lateral
7	RRU	Mast Pipe	8.5									Lateral
8	M10	Standoff Ho...	1			Lbyy						Lateral
9	M11	Standoff Ho...	1			Lbyy						Lateral
10	MP5A	Mount Pipe	9									Lateral
11	MP4A	Mount Pipe	9									Lateral
12	MP2A	Mount Pipe	9									Lateral
13	MP1A	Mount Pipe	9									Lateral
14	MP3A	Mount Pipe	7									Lateral
15	M27	Tieback	7.46			Lbyy						Lateral
16	M28	Tieback	3.922			Lbyy						Lateral

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	Y	-23	.5
2	MP3A	My	-.011	.5
3	MP3A	Mz	.015	.5
4	MP3A	Y	-23	5
5	MP3A	My	-.011	5
6	MP3A	Mz	.015	5
7	MP3A	Y	-23	.5
8	MP3A	My	-.011	.5
9	MP3A	Mz	-.015	.5
10	MP3A	Y	-23	5
11	MP3A	My	-.011	5
12	MP3A	Mz	-.015	5
13	MP4A	Y	-23.2	2
14	MP4A	My	-.012	2
15	MP4A	Mz	0	2
16	MP4A	Y	-43.55	5.5
17	MP4A	My	-.022	5.5
18	MP4A	Mz	0	5.5
19	MP4A	Y	-43.55	7.5
20	MP4A	My	-.022	7.5
21	MP4A	Mz	0	7.5
22	MP2A	Y	-74.7	5
23	MP2A	My	.037	5
24	MP2A	Mz	0	5
25	RRU	Y	-70.3	4.25
26	RRU	My	.035	4.25
27	RRU	Mz	0	4.25
28	MP2A	Y	-10.5	2
29	MP2A	My	-.005	2
30	MP2A	Mz	0	2
31	MP2A	Y	-10.5	6
32	MP2A	My	-.005	6
33	MP2A	Mz	0	6
34	MP5A	Y	-10.5	2
35	MP5A	My	-.005	2
36	MP5A	Mz	0	2
37	MP5A	Y	-10.5	6
38	MP5A	My	-.005	6
39	MP5A	Mz	0	6

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	Y	-81.537	.5
2	MP3A	My	-.041	.5
3	MP3A	Mz	.054	.5
4	MP3A	Y	-81.537	5
5	MP3A	My	-.041	5
6	MP3A	Mz	.054	5
7	MP3A	Y	-81.537	.5
8	MP3A	My	-.041	.5
9	MP3A	Mz	-.054	.5
10	MP3A	Y	-81.537	5
11	MP3A	My	-.041	5
12	MP3A	Mz	-.054	5
13	MP4A	Y	-29.503	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
14	MP4A	My	-.015	2
15	MP4A	Mz	0	2
16	MP4A	Y	-35.201	5.5
17	MP4A	My	-.018	5.5
18	MP4A	Mz	0	5.5
19	MP4A	Y	-35.201	7.5
20	MP4A	My	-.018	7.5
21	MP4A	Mz	0	7.5
22	MP2A	Y	-44.373	5
23	MP2A	My	.022	5
24	MP2A	Mz	0	5
25	RRU	Y	-42.255	4.25
26	RRU	My	.021	4.25
27	RRU	Mz	0	4.25
28	MP2A	Y	-58.551	2
29	MP2A	My	-.029	2
30	MP2A	Mz	0	2
31	MP2A	Y	-58.551	6
32	MP2A	My	-.029	6
33	MP2A	Mz	0	6
34	MP5A	Y	-58.551	2
35	MP5A	My	-.029	2
36	MP5A	Mz	0	2
37	MP5A	Y	-58.551	6
38	MP5A	My	-.029	6
39	MP5A	Mz	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	.5
2	MP3A	Z	-158.292	.5
3	MP3A	Mx	-.106	.5
4	MP3A	X	0	5
5	MP3A	Z	-158.292	5
6	MP3A	Mx	-.106	5
7	MP3A	X	0	.5
8	MP3A	Z	-158.292	.5
9	MP3A	Mx	.106	.5
10	MP3A	X	0	5
11	MP3A	Z	-158.292	5
12	MP3A	Mx	.106	5
13	MP4A	X	0	2
14	MP4A	Z	-49.075	2
15	MP4A	Mx	0	2
16	MP4A	X	0	5.5
17	MP4A	Z	-75.377	5.5
18	MP4A	Mx	0	5.5
19	MP4A	X	0	7.5
20	MP4A	Z	-75.377	7.5
21	MP4A	Mx	0	7.5
22	MP2A	X	0	5
23	MP2A	Z	-59.981	5
24	MP2A	Mx	0	5
25	RRU	X	0	4.25
26	RRU	Z	-59.981	4.25
27	RRU	Mx	0	4.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP2A	X	0	2
29	MP2A	Z	-113.066	2
30	MP2A	Mx	0	2
31	MP2A	X	0	6
32	MP2A	Z	-113.066	6
33	MP2A	Mx	0	6
34	MP5A	X	0	2
35	MP5A	Z	-113.066	2
36	MP5A	Mx	0	2
37	MP5A	X	0	6
38	MP5A	Z	-113.066	6
39	MP5A	Mx	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	74.07	.5
2	MP3A	Z	-128.293	.5
3	MP3A	Mx	-.123	.5
4	MP3A	X	74.07	5
5	MP3A	Z	-128.293	5
6	MP3A	Mx	-.123	5
7	MP3A	X	74.07	.5
8	MP3A	Z	-128.293	.5
9	MP3A	Mx	.048	.5
10	MP3A	X	74.07	5
11	MP3A	Z	-128.293	5
12	MP3A	Mx	.048	5
13	MP4A	X	21.429	2
14	MP4A	Z	-37.117	2
15	MP4A	Mx	-.011	2
16	MP4A	X	31.955	5.5
17	MP4A	Z	-55.348	5.5
18	MP4A	Mx	-.016	5.5
19	MP4A	X	31.955	7.5
20	MP4A	Z	-55.348	7.5
21	MP4A	Mx	-.016	7.5
22	MP2A	X	27.505	5
23	MP2A	Z	-47.639	5
24	MP2A	Mx	.014	5
25	RRU	X	27.054	4.25
26	RRU	Z	-46.858	4.25
27	RRU	Mx	.014	4.25
28	MP2A	X	54.745	2
29	MP2A	Z	-94.822	2
30	MP2A	Mx	-.027	2
31	MP2A	X	54.745	6
32	MP2A	Z	-94.822	6
33	MP2A	Mx	-.027	6
34	MP5A	X	54.745	2
35	MP5A	Z	-94.822	2
36	MP5A	Mx	-.027	2
37	MP5A	X	54.745	6
38	MP5A	Z	-94.822	6
39	MP5A	Mx	-.027	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	110.709	.5
2	MP3A	Z	-63.918	.5
3	MP3A	Mx	-.098	.5
4	MP3A	X	110.709	5
5	MP3A	Z	-63.918	5
6	MP3A	Mx	-.098	5
7	MP3A	X	110.709	.5
8	MP3A	Z	-63.918	.5
9	MP3A	Mx	-.013	.5
10	MP3A	X	110.709	5
11	MP3A	Z	-63.918	5
12	MP3A	Mx	-.013	5
13	MP4A	X	26.349	2
14	MP4A	Z	-15.213	2
15	MP4A	Mx	-.013	2
16	MP4A	X	35.487	5.5
17	MP4A	Z	-20.488	5.5
18	MP4A	Mx	-.018	5.5
19	MP4A	X	35.487	7.5
20	MP4A	Z	-20.488	7.5
21	MP4A	Mx	-.018	7.5
22	MP2A	X	39.028	5
23	MP2A	Z	-22.533	5
24	MP2A	Mx	.02	5
25	RRU	X	36.684	4.25
26	RRU	Z	-21.18	4.25
27	RRU	Mx	.018	4.25
28	MP2A	X	88.629	2
29	MP2A	Z	-51.17	2
30	MP2A	Mx	-.044	2
31	MP2A	X	88.629	6
32	MP2A	Z	-51.17	6
33	MP2A	Mx	-.044	6
34	MP5A	X	88.629	2
35	MP5A	Z	-51.17	2
36	MP5A	Mx	-.044	2
37	MP5A	X	88.629	6
38	MP5A	Z	-51.17	6
39	MP5A	Mx	-.044	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	117.684	.5
2	MP3A	Z	0	.5
3	MP3A	Mx	-.059	.5
4	MP3A	X	117.684	5
5	MP3A	Z	0	5
6	MP3A	Mx	-.059	5
7	MP3A	X	117.684	.5
8	MP3A	Z	0	.5
9	MP3A	Mx	-.059	.5
10	MP3A	X	117.684	5
11	MP3A	Z	0	5
12	MP3A	Mx	-.059	5
13	MP4A	X	24.209	2
14	MP4A	Z	0	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP4A	Mx	-.012	2
16	MP4A	X	29.51	5.5
17	MP4A	Z	0	5.5
18	MP4A	Mx	-.015	5.5
19	MP4A	X	29.51	7.5
20	MP4A	Z	0	7.5
21	MP4A	Mx	-.015	7.5
22	MP2A	X	40.094	5
23	MP2A	Z	0	5
24	MP2A	Mx	.02	5
25	RRU	X	36.486	4.25
26	RRU	Z	0	4.25
27	RRU	Mx	.018	4.25
28	MP2A	X	98.765	2
29	MP2A	Z	0	2
30	MP2A	Mx	-.049	2
31	MP2A	X	98.765	6
32	MP2A	Z	0	6
33	MP2A	Mx	-.049	6
34	MP5A	X	98.765	2
35	MP5A	Z	0	2
36	MP5A	Mx	-.049	2
37	MP5A	X	98.765	6
38	MP5A	Z	0	6
39	MP5A	Mx	-.049	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	110.709	.5
2	MP3A	Z	63.918	.5
3	MP3A	Mx	-.013	.5
4	MP3A	X	110.709	5
5	MP3A	Z	63.918	5
6	MP3A	Mx	-.013	5
7	MP3A	X	110.709	.5
8	MP3A	Z	63.918	.5
9	MP3A	Mx	-.098	.5
10	MP3A	X	110.709	5
11	MP3A	Z	63.918	5
12	MP3A	Mx	-.098	5
13	MP4A	X	26.349	2
14	MP4A	Z	15.213	2
15	MP4A	Mx	-.013	2
16	MP4A	X	35.487	5.5
17	MP4A	Z	20.488	5.5
18	MP4A	Mx	-.018	5.5
19	MP4A	X	35.487	7.5
20	MP4A	Z	20.488	7.5
21	MP4A	Mx	-.018	7.5
22	MP2A	X	39.028	5
23	MP2A	Z	22.533	5
24	MP2A	Mx	.02	5
25	RRU	X	36.684	4.25
26	RRU	Z	21.18	4.25
27	RRU	Mx	.018	4.25
28	MP2A	X	88.629	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2A	Z	51.17	2
30	MP2A	Mx	-.044	2
31	MP2A	X	88.629	6
32	MP2A	Z	51.17	6
33	MP2A	Mx	-.044	6
34	MP5A	X	88.629	2
35	MP5A	Z	51.17	2
36	MP5A	Mx	-.044	2
37	MP5A	X	88.629	6
38	MP5A	Z	51.17	6
39	MP5A	Mx	-.044	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	74.07	.5
2	MP3A	Z	128.293	.5
3	MP3A	Mx	.048	.5
4	MP3A	X	74.07	5
5	MP3A	Z	128.293	5
6	MP3A	Mx	.048	5
7	MP3A	X	74.07	.5
8	MP3A	Z	128.293	.5
9	MP3A	Mx	-.123	.5
10	MP3A	X	74.07	5
11	MP3A	Z	128.293	5
12	MP3A	Mx	-.123	5
13	MP4A	X	21.429	2
14	MP4A	Z	37.117	2
15	MP4A	Mx	-.011	2
16	MP4A	X	31.955	5.5
17	MP4A	Z	55.348	5.5
18	MP4A	Mx	-.016	5.5
19	MP4A	X	31.955	7.5
20	MP4A	Z	55.348	7.5
21	MP4A	Mx	-.016	7.5
22	MP2A	X	27.505	5
23	MP2A	Z	47.639	5
24	MP2A	Mx	.014	5
25	RRU	X	27.054	4.25
26	RRU	Z	46.858	4.25
27	RRU	Mx	.014	4.25
28	MP2A	X	54.745	2
29	MP2A	Z	94.822	2
30	MP2A	Mx	-.027	2
31	MP2A	X	54.745	6
32	MP2A	Z	94.822	6
33	MP2A	Mx	-.027	6
34	MP5A	X	54.745	2
35	MP5A	Z	94.822	2
36	MP5A	Mx	-.027	2
37	MP5A	X	54.745	6
38	MP5A	Z	94.822	6
39	MP5A	Mx	-.027	6

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	.5
2	MP3A	Z	158.292	.5
3	MP3A	Mx	.106	.5
4	MP3A	X	0	5
5	MP3A	Z	158.292	5
6	MP3A	Mx	.106	5
7	MP3A	X	0	.5
8	MP3A	Z	158.292	.5
9	MP3A	Mx	-.106	.5
10	MP3A	X	0	5
11	MP3A	Z	158.292	5
12	MP3A	Mx	-.106	5
13	MP4A	X	0	2
14	MP4A	Z	49.075	2
15	MP4A	Mx	0	2
16	MP4A	X	0	5.5
17	MP4A	Z	75.377	5.5
18	MP4A	Mx	0	5.5
19	MP4A	X	0	7.5
20	MP4A	Z	75.377	7.5
21	MP4A	Mx	0	7.5
22	MP2A	X	0	5
23	MP2A	Z	59.981	5
24	MP2A	Mx	0	5
25	RRU	X	0	4.25
26	RRU	Z	59.981	4.25
27	RRU	Mx	0	4.25
28	MP2A	X	0	2
29	MP2A	Z	113.066	2
30	MP2A	Mx	0	2
31	MP2A	X	0	6
32	MP2A	Z	113.066	6
33	MP2A	Mx	0	6
34	MP5A	X	0	2
35	MP5A	Z	113.066	2
36	MP5A	Mx	0	2
37	MP5A	X	0	6
38	MP5A	Z	113.066	6
39	MP5A	Mx	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-74.07	.5
2	MP3A	Z	128.293	.5
3	MP3A	Mx	.123	.5
4	MP3A	X	-74.07	5
5	MP3A	Z	128.293	5
6	MP3A	Mx	.123	5
7	MP3A	X	-74.07	.5
8	MP3A	Z	128.293	.5
9	MP3A	Mx	-.048	.5
10	MP3A	X	-74.07	5
11	MP3A	Z	128.293	5
12	MP3A	Mx	-.048	5
13	MP4A	X	-21.429	2
14	MP4A	Z	37.117	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP4A	Mx	.011	2
16	MP4A	X	-31.955	5.5
17	MP4A	Z	55.348	5.5
18	MP4A	Mx	.016	5.5
19	MP4A	X	-31.955	7.5
20	MP4A	Z	55.348	7.5
21	MP4A	Mx	.016	7.5
22	MP2A	X	-27.505	5
23	MP2A	Z	47.639	5
24	MP2A	Mx	-.014	5
25	RRU	X	-27.054	4.25
26	RRU	Z	46.858	4.25
27	RRU	Mx	-.014	4.25
28	MP2A	X	-54.745	2
29	MP2A	Z	94.822	2
30	MP2A	Mx	.027	2
31	MP2A	X	-54.745	6
32	MP2A	Z	94.822	6
33	MP2A	Mx	.027	6
34	MP5A	X	-54.745	2
35	MP5A	Z	94.822	2
36	MP5A	Mx	.027	2
37	MP5A	X	-54.745	6
38	MP5A	Z	94.822	6
39	MP5A	Mx	.027	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-110.709	.5
2	MP3A	Z	63.918	.5
3	MP3A	Mx	.098	.5
4	MP3A	X	-110.709	5
5	MP3A	Z	63.918	5
6	MP3A	Mx	.098	5
7	MP3A	X	-110.709	.5
8	MP3A	Z	63.918	.5
9	MP3A	Mx	.013	.5
10	MP3A	X	-110.709	5
11	MP3A	Z	63.918	5
12	MP3A	Mx	.013	5
13	MP4A	X	-26.349	2
14	MP4A	Z	15.213	2
15	MP4A	Mx	.013	2
16	MP4A	X	-35.487	5.5
17	MP4A	Z	20.488	5.5
18	MP4A	Mx	.018	5.5
19	MP4A	X	-35.487	7.5
20	MP4A	Z	20.488	7.5
21	MP4A	Mx	.018	7.5
22	MP2A	X	-39.028	5
23	MP2A	Z	22.533	5
24	MP2A	Mx	-.02	5
25	RRU	X	-36.684	4.25
26	RRU	Z	21.18	4.25
27	RRU	Mx	-.018	4.25
28	MP2A	X	-88.629	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2A	Z	51.17	2
30	MP2A	Mx	.044	2
31	MP2A	X	-88.629	6
32	MP2A	Z	51.17	6
33	MP2A	Mx	.044	6
34	MP5A	X	-88.629	2
35	MP5A	Z	51.17	2
36	MP5A	Mx	.044	2
37	MP5A	X	-88.629	6
38	MP5A	Z	51.17	6
39	MP5A	Mx	.044	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-117.684	.5
2	MP3A	Z	0	.5
3	MP3A	Mx	.059	.5
4	MP3A	X	-117.684	5
5	MP3A	Z	0	5
6	MP3A	Mx	.059	5
7	MP3A	X	-117.684	.5
8	MP3A	Z	0	.5
9	MP3A	Mx	.059	.5
10	MP3A	X	-117.684	5
11	MP3A	Z	0	5
12	MP3A	Mx	.059	5
13	MP4A	X	-24.209	2
14	MP4A	Z	0	2
15	MP4A	Mx	.012	2
16	MP4A	X	-29.51	5.5
17	MP4A	Z	0	5.5
18	MP4A	Mx	.015	5.5
19	MP4A	X	-29.51	7.5
20	MP4A	Z	0	7.5
21	MP4A	Mx	.015	7.5
22	MP2A	X	-40.094	5
23	MP2A	Z	0	5
24	MP2A	Mx	-.02	5
25	RRU	X	-36.486	4.25
26	RRU	Z	0	4.25
27	RRU	Mx	-.018	4.25
28	MP2A	X	-98.765	2
29	MP2A	Z	0	2
30	MP2A	Mx	.049	2
31	MP2A	X	-98.765	6
32	MP2A	Z	0	6
33	MP2A	Mx	.049	6
34	MP5A	X	-98.765	2
35	MP5A	Z	0	2
36	MP5A	Mx	.049	2
37	MP5A	X	-98.765	6
38	MP5A	Z	0	6
39	MP5A	Mx	.049	6

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-110.709	.5
2	MP3A	Z	-63.918	.5
3	MP3A	Mx	.013	.5
4	MP3A	X	-110.709	5
5	MP3A	Z	-63.918	5
6	MP3A	Mx	.013	5
7	MP3A	X	-110.709	.5
8	MP3A	Z	-63.918	.5
9	MP3A	Mx	.098	.5
10	MP3A	X	-110.709	5
11	MP3A	Z	-63.918	5
12	MP3A	Mx	.098	5
13	MP4A	X	-26.349	2
14	MP4A	Z	-15.213	2
15	MP4A	Mx	.013	2
16	MP4A	X	-35.487	5.5
17	MP4A	Z	-20.488	5.5
18	MP4A	Mx	.018	5.5
19	MP4A	X	-35.487	7.5
20	MP4A	Z	-20.488	7.5
21	MP4A	Mx	.018	7.5
22	MP2A	X	-39.028	5
23	MP2A	Z	-22.533	5
24	MP2A	Mx	-.02	5
25	RRU	X	-36.684	4.25
26	RRU	Z	-21.18	4.25
27	RRU	Mx	-.018	4.25
28	MP2A	X	-88.629	2
29	MP2A	Z	-51.17	2
30	MP2A	Mx	.044	2
31	MP2A	X	-88.629	6
32	MP2A	Z	-51.17	6
33	MP2A	Mx	.044	6
34	MP5A	X	-88.629	2
35	MP5A	Z	-51.17	2
36	MP5A	Mx	.044	2
37	MP5A	X	-88.629	6
38	MP5A	Z	-51.17	6
39	MP5A	Mx	.044	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-74.07	.5
2	MP3A	Z	-128.293	.5
3	MP3A	Mx	-.048	.5
4	MP3A	X	-74.07	5
5	MP3A	Z	-128.293	5
6	MP3A	Mx	-.048	5
7	MP3A	X	-74.07	.5
8	MP3A	Z	-128.293	.5
9	MP3A	Mx	.123	.5
10	MP3A	X	-74.07	5
11	MP3A	Z	-128.293	5
12	MP3A	Mx	.123	5
13	MP4A	X	-21.429	2
14	MP4A	Z	-37.117	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP4A	Mx	.011	2
16	MP4A	X	-31.955	5.5
17	MP4A	Z	-55.348	5.5
18	MP4A	Mx	.016	5.5
19	MP4A	X	-31.955	7.5
20	MP4A	Z	-55.348	7.5
21	MP4A	Mx	.016	7.5
22	MP2A	X	-27.505	5
23	MP2A	Z	-47.639	5
24	MP2A	Mx	-.014	5
25	RRU	X	-27.054	4.25
26	RRU	Z	-46.858	4.25
27	RRU	Mx	-.014	4.25
28	MP2A	X	-54.745	2
29	MP2A	Z	-94.822	2
30	MP2A	Mx	.027	2
31	MP2A	X	-54.745	6
32	MP2A	Z	-94.822	6
33	MP2A	Mx	.027	6
34	MP5A	X	-54.745	2
35	MP5A	Z	-94.822	2
36	MP5A	Mx	.027	2
37	MP5A	X	-54.745	6
38	MP5A	Z	-94.822	6
39	MP5A	Mx	.027	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	.5
2	MP3A	Z	-30.446	.5
3	MP3A	Mx	-.02	.5
4	MP3A	X	0	5
5	MP3A	Z	-30.446	5
6	MP3A	Mx	-.02	5
7	MP3A	X	0	.5
8	MP3A	Z	-30.446	.5
9	MP3A	Mx	.02	.5
10	MP3A	X	0	5
11	MP3A	Z	-30.446	5
12	MP3A	Mx	.02	5
13	MP4A	X	0	2
14	MP4A	Z	-10.594	2
15	MP4A	Mx	0	2
16	MP4A	X	0	5.5
17	MP4A	Z	-15.015	5.5
18	MP4A	Mx	0	5.5
19	MP4A	X	0	7.5
20	MP4A	Z	-15.015	7.5
21	MP4A	Mx	0	7.5
22	MP2A	X	0	5
23	MP2A	Z	-12.647	5
24	MP2A	Mx	0	5
25	RRU	X	0	4.25
26	RRU	Z	-12.647	4.25
27	RRU	Mx	0	4.25
28	MP2A	X	0	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2A	Z	-22.168	2
30	MP2A	Mx	0	2
31	MP2A	X	0	6
32	MP2A	Z	-22.168	6
33	MP2A	Mx	0	6
34	MP5A	X	0	2
35	MP5A	Z	-22.168	2
36	MP5A	Mx	0	2
37	MP5A	X	0	6
38	MP5A	Z	-22.168	6
39	MP5A	Mx	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	14.296	.5
2	MP3A	Z	-24.761	.5
3	MP3A	Mx	-.024	.5
4	MP3A	X	14.296	5
5	MP3A	Z	-24.761	5
6	MP3A	Mx	-.024	5
7	MP3A	X	14.296	.5
8	MP3A	Z	-24.761	.5
9	MP3A	Mx	.009	.5
10	MP3A	X	14.296	5
11	MP3A	Z	-24.761	5
12	MP3A	Mx	.009	5
13	MP4A	X	4.687	2
14	MP4A	Z	-8.118	2
15	MP4A	Mx	-.002	2
16	MP4A	X	6.429	5.5
17	MP4A	Z	-11.136	5.5
18	MP4A	Mx	-.003	5.5
19	MP4A	X	6.429	7.5
20	MP4A	Z	-11.136	7.5
21	MP4A	Mx	-.003	7.5
22	MP2A	X	5.842	5
23	MP2A	Z	-10.118	5
24	MP2A	Mx	.003	5
25	RRU	X	5.755	4.25
26	RRU	Z	-9.968	4.25
27	RRU	Mx	.003	4.25
28	MP2A	X	10.782	2
29	MP2A	Z	-18.675	2
30	MP2A	Mx	-.005	2
31	MP2A	X	10.782	6
32	MP2A	Z	-18.675	6
33	MP2A	Mx	-.005	6
34	MP5A	X	10.782	2
35	MP5A	Z	-18.675	2
36	MP5A	Mx	-.005	2
37	MP5A	X	10.782	6
38	MP5A	Z	-18.675	6
39	MP5A	Mx	-.005	6

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	21.549	.5
2	MP3A	Z	-12.441	.5
3	MP3A	Mx	-.019	.5
4	MP3A	X	21.549	5
5	MP3A	Z	-12.441	5
6	MP3A	Mx	-.019	5
7	MP3A	X	21.549	.5
8	MP3A	Z	-12.441	.5
9	MP3A	Mx	-.002	.5
10	MP3A	X	21.549	5
11	MP3A	Z	-12.441	5
12	MP3A	Mx	-.002	5
13	MP4A	X	6.004	2
14	MP4A	Z	-3.466	2
15	MP4A	Mx	-.003	2
16	MP4A	X	7.401	5.5
17	MP4A	Z	-4.273	5.5
18	MP4A	Mx	-.004	5.5
19	MP4A	X	7.401	7.5
20	MP4A	Z	-4.273	7.5
21	MP4A	Mx	-.004	7.5
22	MP2A	X	8.45	5
23	MP2A	Z	-4.879	5
24	MP2A	Mx	.004	5
25	RRU	X	7.999	4.25
26	RRU	Z	-4.618	4.25
27	RRU	Mx	.004	4.25
28	MP2A	X	17.628	2
29	MP2A	Z	-10.178	2
30	MP2A	Mx	-.009	2
31	MP2A	X	17.628	6
32	MP2A	Z	-10.178	6
33	MP2A	Mx	-.009	6
34	MP5A	X	17.628	2
35	MP5A	Z	-10.178	2
36	MP5A	Mx	-.009	2
37	MP5A	X	17.628	6
38	MP5A	Z	-10.178	6
39	MP5A	Mx	-.009	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	23.028	.5
2	MP3A	Z	0	.5
3	MP3A	Mx	-.012	.5
4	MP3A	X	23.028	5
5	MP3A	Z	0	5
6	MP3A	Mx	-.012	5
7	MP3A	X	23.028	.5
8	MP3A	Z	0	.5
9	MP3A	Mx	-.012	.5
10	MP3A	X	23.028	5
11	MP3A	Z	0	5
12	MP3A	Mx	-.012	5
13	MP4A	X	5.712	2
14	MP4A	Z	0	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP4A	Mx	-.003	2
16	MP4A	X	6.39	5.5
17	MP4A	Z	0	5.5
18	MP4A	Mx	-.003	5.5
19	MP4A	X	6.39	7.5
20	MP4A	Z	0	7.5
21	MP4A	Mx	-.003	7.5
22	MP2A	X	8.794	5
23	MP2A	Z	0	5
24	MP2A	Mx	.004	5
25	RRU	X	8.1	4.25
26	RRU	Z	0	4.25
27	RRU	Mx	.004	4.25
28	MP2A	X	19.751	2
29	MP2A	Z	0	2
30	MP2A	Mx	-.01	2
31	MP2A	X	19.751	6
32	MP2A	Z	0	6
33	MP2A	Mx	-.01	6
34	MP5A	X	19.751	2
35	MP5A	Z	0	2
36	MP5A	Mx	-.01	2
37	MP5A	X	19.751	6
38	MP5A	Z	0	6
39	MP5A	Mx	-.01	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	21.549	.5
2	MP3A	Z	12.441	.5
3	MP3A	Mx	-.002	.5
4	MP3A	X	21.549	5
5	MP3A	Z	12.441	5
6	MP3A	Mx	-.002	5
7	MP3A	X	21.549	.5
8	MP3A	Z	12.441	.5
9	MP3A	Mx	-.019	.5
10	MP3A	X	21.549	5
11	MP3A	Z	12.441	5
12	MP3A	Mx	-.019	5
13	MP4A	X	6.004	2
14	MP4A	Z	3.466	2
15	MP4A	Mx	-.003	2
16	MP4A	X	7.401	5.5
17	MP4A	Z	4.273	5.5
18	MP4A	Mx	-.004	5.5
19	MP4A	X	7.401	7.5
20	MP4A	Z	4.273	7.5
21	MP4A	Mx	-.004	7.5
22	MP2A	X	8.45	5
23	MP2A	Z	4.879	5
24	MP2A	Mx	.004	5
25	RRU	X	7.999	4.25
26	RRU	Z	4.618	4.25
27	RRU	Mx	.004	4.25
28	MP2A	X	17.628	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2A	Z	10.178	2
30	MP2A	Mx	-.009	2
31	MP2A	X	17.628	6
32	MP2A	Z	10.178	6
33	MP2A	Mx	-.009	6
34	MP5A	X	17.628	2
35	MP5A	Z	10.178	2
36	MP5A	Mx	-.009	2
37	MP5A	X	17.628	6
38	MP5A	Z	10.178	6
39	MP5A	Mx	-.009	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	14.296	.5
2	MP3A	Z	24.761	.5
3	MP3A	Mx	.009	.5
4	MP3A	X	14.296	5
5	MP3A	Z	24.761	5
6	MP3A	Mx	.009	5
7	MP3A	X	14.296	.5
8	MP3A	Z	24.761	.5
9	MP3A	Mx	-.024	.5
10	MP3A	X	14.296	5
11	MP3A	Z	24.761	5
12	MP3A	Mx	-.024	5
13	MP4A	X	4.687	2
14	MP4A	Z	8.118	2
15	MP4A	Mx	-.002	2
16	MP4A	X	6.429	5.5
17	MP4A	Z	11.136	5.5
18	MP4A	Mx	-.003	5.5
19	MP4A	X	6.429	7.5
20	MP4A	Z	11.136	7.5
21	MP4A	Mx	-.003	7.5
22	MP2A	X	5.842	5
23	MP2A	Z	10.118	5
24	MP2A	Mx	.003	5
25	RRU	X	5.755	4.25
26	RRU	Z	9.968	4.25
27	RRU	Mx	.003	4.25
28	MP2A	X	10.782	2
29	MP2A	Z	18.675	2
30	MP2A	Mx	-.005	2
31	MP2A	X	10.782	6
32	MP2A	Z	18.675	6
33	MP2A	Mx	-.005	6
34	MP5A	X	10.782	2
35	MP5A	Z	18.675	2
36	MP5A	Mx	-.005	2
37	MP5A	X	10.782	6
38	MP5A	Z	18.675	6
39	MP5A	Mx	-.005	6

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	.5
2	MP3A	Z	30.446	.5
3	MP3A	Mx	.02	.5
4	MP3A	X	0	5
5	MP3A	Z	30.446	5
6	MP3A	Mx	.02	5
7	MP3A	X	0	.5
8	MP3A	Z	30.446	.5
9	MP3A	Mx	-.02	.5
10	MP3A	X	0	5
11	MP3A	Z	30.446	5
12	MP3A	Mx	-.02	5
13	MP4A	X	0	2
14	MP4A	Z	10.594	2
15	MP4A	Mx	0	2
16	MP4A	X	0	5.5
17	MP4A	Z	15.015	5.5
18	MP4A	Mx	0	5.5
19	MP4A	X	0	7.5
20	MP4A	Z	15.015	7.5
21	MP4A	Mx	0	7.5
22	MP2A	X	0	5
23	MP2A	Z	12.647	5
24	MP2A	Mx	0	5
25	RRU	X	0	4.25
26	RRU	Z	12.647	4.25
27	RRU	Mx	0	4.25
28	MP2A	X	0	2
29	MP2A	Z	22.168	2
30	MP2A	Mx	0	2
31	MP2A	X	0	6
32	MP2A	Z	22.168	6
33	MP2A	Mx	0	6
34	MP5A	X	0	2
35	MP5A	Z	22.168	2
36	MP5A	Mx	0	2
37	MP5A	X	0	6
38	MP5A	Z	22.168	6
39	MP5A	Mx	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-14.296	.5
2	MP3A	Z	24.761	.5
3	MP3A	Mx	.024	.5
4	MP3A	X	-14.296	5
5	MP3A	Z	24.761	5
6	MP3A	Mx	.024	5
7	MP3A	X	-14.296	.5
8	MP3A	Z	24.761	.5
9	MP3A	Mx	-.009	.5
10	MP3A	X	-14.296	5
11	MP3A	Z	24.761	5
12	MP3A	Mx	-.009	5
13	MP4A	X	-4.687	2
14	MP4A	Z	8.118	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP4A	Mx	.002	2
16	MP4A	X	-6.429	5.5
17	MP4A	Z	11.136	5.5
18	MP4A	Mx	.003	5.5
19	MP4A	X	-6.429	7.5
20	MP4A	Z	11.136	7.5
21	MP4A	Mx	.003	7.5
22	MP2A	X	-5.842	5
23	MP2A	Z	10.118	5
24	MP2A	Mx	-.003	5
25	RRU	X	-5.755	4.25
26	RRU	Z	9.968	4.25
27	RRU	Mx	-.003	4.25
28	MP2A	X	-10.782	2
29	MP2A	Z	18.675	2
30	MP2A	Mx	.005	2
31	MP2A	X	-10.782	6
32	MP2A	Z	18.675	6
33	MP2A	Mx	.005	6
34	MP5A	X	-10.782	2
35	MP5A	Z	18.675	2
36	MP5A	Mx	.005	2
37	MP5A	X	-10.782	6
38	MP5A	Z	18.675	6
39	MP5A	Mx	.005	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-21.549	.5
2	MP3A	Z	12.441	.5
3	MP3A	Mx	.019	.5
4	MP3A	X	-21.549	5
5	MP3A	Z	12.441	5
6	MP3A	Mx	.019	5
7	MP3A	X	-21.549	.5
8	MP3A	Z	12.441	.5
9	MP3A	Mx	.002	.5
10	MP3A	X	-21.549	5
11	MP3A	Z	12.441	5
12	MP3A	Mx	.002	5
13	MP4A	X	-6.004	2
14	MP4A	Z	3.466	2
15	MP4A	Mx	.003	2
16	MP4A	X	-7.401	5.5
17	MP4A	Z	4.273	5.5
18	MP4A	Mx	.004	5.5
19	MP4A	X	-7.401	7.5
20	MP4A	Z	4.273	7.5
21	MP4A	Mx	.004	7.5
22	MP2A	X	-8.45	5
23	MP2A	Z	4.879	5
24	MP2A	Mx	-.004	5
25	RRU	X	-7.999	4.25
26	RRU	Z	4.618	4.25
27	RRU	Mx	-.004	4.25
28	MP2A	X	-17.628	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2A	Z	10.178	2
30	MP2A	Mx	.009	2
31	MP2A	X	-17.628	6
32	MP2A	Z	10.178	6
33	MP2A	Mx	.009	6
34	MP5A	X	-17.628	2
35	MP5A	Z	10.178	2
36	MP5A	Mx	.009	2
37	MP5A	X	-17.628	6
38	MP5A	Z	10.178	6
39	MP5A	Mx	.009	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-23.028	.5
2	MP3A	Z	0	.5
3	MP3A	Mx	.012	.5
4	MP3A	X	-23.028	5
5	MP3A	Z	0	5
6	MP3A	Mx	.012	5
7	MP3A	X	-23.028	.5
8	MP3A	Z	0	.5
9	MP3A	Mx	.012	.5
10	MP3A	X	-23.028	5
11	MP3A	Z	0	5
12	MP3A	Mx	.012	5
13	MP4A	X	-5.712	2
14	MP4A	Z	0	2
15	MP4A	Mx	.003	2
16	MP4A	X	-6.39	5.5
17	MP4A	Z	0	5.5
18	MP4A	Mx	.003	5.5
19	MP4A	X	-6.39	7.5
20	MP4A	Z	0	7.5
21	MP4A	Mx	.003	7.5
22	MP2A	X	-8.794	5
23	MP2A	Z	0	5
24	MP2A	Mx	-.004	5
25	RRU	X	-8.1	4.25
26	RRU	Z	0	4.25
27	RRU	Mx	-.004	4.25
28	MP2A	X	-19.751	2
29	MP2A	Z	0	2
30	MP2A	Mx	.01	2
31	MP2A	X	-19.751	6
32	MP2A	Z	0	6
33	MP2A	Mx	.01	6
34	MP5A	X	-19.751	2
35	MP5A	Z	0	2
36	MP5A	Mx	.01	2
37	MP5A	X	-19.751	6
38	MP5A	Z	0	6
39	MP5A	Mx	.01	6

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-21.549	.5
2	MP3A	Z	-12.441	.5
3	MP3A	Mx	.002	.5
4	MP3A	X	-21.549	5
5	MP3A	Z	-12.441	5
6	MP3A	Mx	.002	5
7	MP3A	X	-21.549	.5
8	MP3A	Z	-12.441	.5
9	MP3A	Mx	.019	.5
10	MP3A	X	-21.549	5
11	MP3A	Z	-12.441	5
12	MP3A	Mx	.019	5
13	MP4A	X	-6.004	2
14	MP4A	Z	-3.466	2
15	MP4A	Mx	.003	2
16	MP4A	X	-7.401	5.5
17	MP4A	Z	-4.273	5.5
18	MP4A	Mx	.004	5.5
19	MP4A	X	-7.401	7.5
20	MP4A	Z	-4.273	7.5
21	MP4A	Mx	.004	7.5
22	MP2A	X	-8.45	5
23	MP2A	Z	-4.879	5
24	MP2A	Mx	-.004	5
25	RRU	X	-7.999	4.25
26	RRU	Z	-4.618	4.25
27	RRU	Mx	-.004	4.25
28	MP2A	X	-17.628	2
29	MP2A	Z	-10.178	2
30	MP2A	Mx	.009	2
31	MP2A	X	-17.628	6
32	MP2A	Z	-10.178	6
33	MP2A	Mx	.009	6
34	MP5A	X	-17.628	2
35	MP5A	Z	-10.178	2
36	MP5A	Mx	.009	2
37	MP5A	X	-17.628	6
38	MP5A	Z	-10.178	6
39	MP5A	Mx	.009	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-14.296	.5
2	MP3A	Z	-24.761	.5
3	MP3A	Mx	-.009	.5
4	MP3A	X	-14.296	5
5	MP3A	Z	-24.761	5
6	MP3A	Mx	-.009	5
7	MP3A	X	-14.296	.5
8	MP3A	Z	-24.761	.5
9	MP3A	Mx	.024	.5
10	MP3A	X	-14.296	5
11	MP3A	Z	-24.761	5
12	MP3A	Mx	.024	5
13	MP4A	X	-4.687	2
14	MP4A	Z	-8.118	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP4A	Mx	.002	2
16	MP4A	X	-6.429	5.5
17	MP4A	Z	-11.136	5.5
18	MP4A	Mx	.003	5.5
19	MP4A	X	-6.429	7.5
20	MP4A	Z	-11.136	7.5
21	MP4A	Mx	.003	7.5
22	MP2A	X	-5.842	5
23	MP2A	Z	-10.118	5
24	MP2A	Mx	-.003	5
25	RRU	X	-5.755	4.25
26	RRU	Z	-9.968	4.25
27	RRU	Mx	-.003	4.25
28	MP2A	X	-10.782	2
29	MP2A	Z	-18.675	2
30	MP2A	Mx	.005	2
31	MP2A	X	-10.782	6
32	MP2A	Z	-18.675	6
33	MP2A	Mx	.005	6
34	MP5A	X	-10.782	2
35	MP5A	Z	-18.675	2
36	MP5A	Mx	.005	2
37	MP5A	X	-10.782	6
38	MP5A	Z	-18.675	6
39	MP5A	Mx	.005	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	.5
2	MP3A	Z	-10.06	.5
3	MP3A	Mx	-.007	.5
4	MP3A	X	0	5
5	MP3A	Z	-10.06	5
6	MP3A	Mx	-.007	5
7	MP3A	X	0	.5
8	MP3A	Z	-10.06	.5
9	MP3A	Mx	.007	.5
10	MP3A	X	0	5
11	MP3A	Z	-10.06	5
12	MP3A	Mx	.007	5
13	MP4A	X	0	2
14	MP4A	Z	-3.119	2
15	MP4A	Mx	0	2
16	MP4A	X	0	5.5
17	MP4A	Z	-4.791	5.5
18	MP4A	Mx	0	5.5
19	MP4A	X	0	7.5
20	MP4A	Z	-4.791	7.5
21	MP4A	Mx	0	7.5
22	MP2A	X	0	5
23	MP2A	Z	-3.812	5
24	MP2A	Mx	0	5
25	RRU	X	0	4.25
26	RRU	Z	-3.812	4.25
27	RRU	Mx	0	4.25
28	MP2A	X	0	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2A	Z	-7.186	2
30	MP2A	Mx	0	2
31	MP2A	X	0	6
32	MP2A	Z	-7.186	6
33	MP2A	Mx	0	6
34	MP5A	X	0	2
35	MP5A	Z	-7.186	2
36	MP5A	Mx	0	2
37	MP5A	X	0	6
38	MP5A	Z	-7.186	6
39	MP5A	Mx	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	4.708	.5
2	MP3A	Z	-8.154	.5
3	MP3A	Mx	-.008	.5
4	MP3A	X	4.708	5
5	MP3A	Z	-8.154	5
6	MP3A	Mx	-.008	5
7	MP3A	X	4.708	.5
8	MP3A	Z	-8.154	.5
9	MP3A	Mx	.003	.5
10	MP3A	X	4.708	5
11	MP3A	Z	-8.154	5
12	MP3A	Mx	.003	5
13	MP4A	X	1.362	2
14	MP4A	Z	-2.359	2
15	MP4A	Mx	-.000681	2
16	MP4A	X	2.031	5.5
17	MP4A	Z	-3.518	5.5
18	MP4A	Mx	-.001	5.5
19	MP4A	X	2.031	7.5
20	MP4A	Z	-3.518	7.5
21	MP4A	Mx	-.001	7.5
22	MP2A	X	1.748	5
23	MP2A	Z	-3.028	5
24	MP2A	Mx	.000874	5
25	RRU	X	1.719	4.25
26	RRU	Z	-2.978	4.25
27	RRU	Mx	.00086	4.25
28	MP2A	X	3.479	2
29	MP2A	Z	-6.026	2
30	MP2A	Mx	-.002	2
31	MP2A	X	3.479	6
32	MP2A	Z	-6.026	6
33	MP2A	Mx	-.002	6
34	MP5A	X	3.479	2
35	MP5A	Z	-6.026	2
36	MP5A	Mx	-.002	2
37	MP5A	X	3.479	6
38	MP5A	Z	-6.026	6
39	MP5A	Mx	-.002	6

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	7.036	.5
2	MP3A	Z	-4.062	.5
3	MP3A	Mx	-.006	.5
4	MP3A	X	7.036	5
5	MP3A	Z	-4.062	5
6	MP3A	Mx	-.006	5
7	MP3A	X	7.036	.5
8	MP3A	Z	-4.062	.5
9	MP3A	Mx	-.00081	.5
10	MP3A	X	7.036	5
11	MP3A	Z	-4.062	5
12	MP3A	Mx	-.00081	5
13	MP4A	X	1.675	2
14	MP4A	Z	-.967	2
15	MP4A	Mx	-.000838	2
16	MP4A	X	2.255	5.5
17	MP4A	Z	-1.302	5.5
18	MP4A	Mx	-.001	5.5
19	MP4A	X	2.255	7.5
20	MP4A	Z	-1.302	7.5
21	MP4A	Mx	-.001	7.5
22	MP2A	X	2.48	5
23	MP2A	Z	-1.432	5
24	MP2A	Mx	.001	5
25	RRU	X	2.331	4.25
26	RRU	Z	-1.346	4.25
27	RRU	Mx	.001	4.25
28	MP2A	X	5.633	2
29	MP2A	Z	-3.252	2
30	MP2A	Mx	-.003	2
31	MP2A	X	5.633	6
32	MP2A	Z	-3.252	6
33	MP2A	Mx	-.003	6
34	MP5A	X	5.633	2
35	MP5A	Z	-3.252	2
36	MP5A	Mx	-.003	2
37	MP5A	X	5.633	6
38	MP5A	Z	-3.252	6
39	MP5A	Mx	-.003	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	7.479	.5
2	MP3A	Z	0	.5
3	MP3A	Mx	-.004	.5
4	MP3A	X	7.479	5
5	MP3A	Z	0	5
6	MP3A	Mx	-.004	5
7	MP3A	X	7.479	.5
8	MP3A	Z	0	.5
9	MP3A	Mx	-.004	.5
10	MP3A	X	7.479	5
11	MP3A	Z	0	5
12	MP3A	Mx	-.004	5
13	MP4A	X	1.539	2
14	MP4A	Z	0	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP4A	Mx	-.00077	2
16	MP4A	X	1.876	5.5
17	MP4A	Z	0	5.5
18	MP4A	Mx	-.000938	5.5
19	MP4A	X	1.876	7.5
20	MP4A	Z	0	7.5
21	MP4A	Mx	-.000938	7.5
22	MP2A	X	2.548	5
23	MP2A	Z	0	5
24	MP2A	Mx	.001	5
25	RRU	X	2.319	4.25
26	RRU	Z	0	4.25
27	RRU	Mx	.001	4.25
28	MP2A	X	6.277	2
29	MP2A	Z	0	2
30	MP2A	Mx	-.003	2
31	MP2A	X	6.277	6
32	MP2A	Z	0	6
33	MP2A	Mx	-.003	6
34	MP5A	X	6.277	2
35	MP5A	Z	0	2
36	MP5A	Mx	-.003	2
37	MP5A	X	6.277	6
38	MP5A	Z	0	6
39	MP5A	Mx	-.003	6

Member Point Loads (BLC 31 : Antenna Wm (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	7.036	.5
2	MP3A	Z	4.062	.5
3	MP3A	Mx	-.00081	.5
4	MP3A	X	7.036	5
5	MP3A	Z	4.062	5
6	MP3A	Mx	-.00081	5
7	MP3A	X	7.036	.5
8	MP3A	Z	4.062	.5
9	MP3A	Mx	-.006	.5
10	MP3A	X	7.036	5
11	MP3A	Z	4.062	5
12	MP3A	Mx	-.006	5
13	MP4A	X	1.675	2
14	MP4A	Z	.967	2
15	MP4A	Mx	-.000838	2
16	MP4A	X	2.255	5.5
17	MP4A	Z	1.302	5.5
18	MP4A	Mx	-.001	5.5
19	MP4A	X	2.255	7.5
20	MP4A	Z	1.302	7.5
21	MP4A	Mx	-.001	7.5
22	MP2A	X	2.48	5
23	MP2A	Z	1.432	5
24	MP2A	Mx	.001	5
25	RRU	X	2.331	4.25
26	RRU	Z	1.346	4.25
27	RRU	Mx	.001	4.25
28	MP2A	X	5.633	2

Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2A	Z	3.252	2
30	MP2A	Mx	-.003	2
31	MP2A	X	5.633	6
32	MP2A	Z	3.252	6
33	MP2A	Mx	-.003	6
34	MP5A	X	5.633	2
35	MP5A	Z	3.252	2
36	MP5A	Mx	-.003	2
37	MP5A	X	5.633	6
38	MP5A	Z	3.252	6
39	MP5A	Mx	-.003	6

Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	4.708	.5
2	MP3A	Z	8.154	.5
3	MP3A	Mx	.003	.5
4	MP3A	X	4.708	5
5	MP3A	Z	8.154	5
6	MP3A	Mx	.003	5
7	MP3A	X	4.708	.5
8	MP3A	Z	8.154	.5
9	MP3A	Mx	-.008	.5
10	MP3A	X	4.708	5
11	MP3A	Z	8.154	5
12	MP3A	Mx	-.008	5
13	MP4A	X	1.362	2
14	MP4A	Z	2.359	2
15	MP4A	Mx	-.000681	2
16	MP4A	X	2.031	5.5
17	MP4A	Z	3.518	5.5
18	MP4A	Mx	-.001	5.5
19	MP4A	X	2.031	7.5
20	MP4A	Z	3.518	7.5
21	MP4A	Mx	-.001	7.5
22	MP2A	X	1.748	5
23	MP2A	Z	3.028	5
24	MP2A	Mx	.000874	5
25	RRU	X	1.719	4.25
26	RRU	Z	2.978	4.25
27	RRU	Mx	.00086	4.25
28	MP2A	X	3.479	2
29	MP2A	Z	6.026	2
30	MP2A	Mx	-.002	2
31	MP2A	X	3.479	6
32	MP2A	Z	6.026	6
33	MP2A	Mx	-.002	6
34	MP5A	X	3.479	2
35	MP5A	Z	6.026	2
36	MP5A	Mx	-.002	2
37	MP5A	X	3.479	6
38	MP5A	Z	6.026	6
39	MP5A	Mx	-.002	6

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	0	.5
2	MP3A	Z	10.06	.5
3	MP3A	Mx	.007	.5
4	MP3A	X	0	5
5	MP3A	Z	10.06	5
6	MP3A	Mx	.007	5
7	MP3A	X	0	.5
8	MP3A	Z	10.06	.5
9	MP3A	Mx	-.007	.5
10	MP3A	X	0	5
11	MP3A	Z	10.06	5
12	MP3A	Mx	-.007	5
13	MP4A	X	0	2
14	MP4A	Z	3.119	2
15	MP4A	Mx	0	2
16	MP4A	X	0	5.5
17	MP4A	Z	4.791	5.5
18	MP4A	Mx	0	5.5
19	MP4A	X	0	7.5
20	MP4A	Z	4.791	7.5
21	MP4A	Mx	0	7.5
22	MP2A	X	0	5
23	MP2A	Z	3.812	5
24	MP2A	Mx	0	5
25	RRU	X	0	4.25
26	RRU	Z	3.812	4.25
27	RRU	Mx	0	4.25
28	MP2A	X	0	2
29	MP2A	Z	7.186	2
30	MP2A	Mx	0	2
31	MP2A	X	0	6
32	MP2A	Z	7.186	6
33	MP2A	Mx	0	6
34	MP5A	X	0	2
35	MP5A	Z	7.186	2
36	MP5A	Mx	0	2
37	MP5A	X	0	6
38	MP5A	Z	7.186	6
39	MP5A	Mx	0	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-4.708	.5
2	MP3A	Z	8.154	.5
3	MP3A	Mx	.008	.5
4	MP3A	X	-4.708	5
5	MP3A	Z	8.154	5
6	MP3A	Mx	.008	5
7	MP3A	X	-4.708	.5
8	MP3A	Z	8.154	.5
9	MP3A	Mx	-.003	.5
10	MP3A	X	-4.708	5
11	MP3A	Z	8.154	5
12	MP3A	Mx	-.003	5
13	MP4A	X	-1.362	2
14	MP4A	Z	2.359	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP4A	Mx	.000681	2
16	MP4A	X	-2.031	5.5
17	MP4A	Z	3.518	5.5
18	MP4A	Mx	.001	5.5
19	MP4A	X	-2.031	7.5
20	MP4A	Z	3.518	7.5
21	MP4A	Mx	.001	7.5
22	MP2A	X	-1.748	5
23	MP2A	Z	3.028	5
24	MP2A	Mx	-.000874	5
25	RRU	X	-1.719	4.25
26	RRU	Z	2.978	4.25
27	RRU	Mx	-.00086	4.25
28	MP2A	X	-3.479	2
29	MP2A	Z	6.026	2
30	MP2A	Mx	.002	2
31	MP2A	X	-3.479	6
32	MP2A	Z	6.026	6
33	MP2A	Mx	.002	6
34	MP5A	X	-3.479	2
35	MP5A	Z	6.026	2
36	MP5A	Mx	.002	2
37	MP5A	X	-3.479	6
38	MP5A	Z	6.026	6
39	MP5A	Mx	.002	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-7.036	.5
2	MP3A	Z	4.062	.5
3	MP3A	Mx	.006	.5
4	MP3A	X	-7.036	5
5	MP3A	Z	4.062	5
6	MP3A	Mx	.006	5
7	MP3A	X	-7.036	.5
8	MP3A	Z	4.062	.5
9	MP3A	Mx	.00081	.5
10	MP3A	X	-7.036	5
11	MP3A	Z	4.062	5
12	MP3A	Mx	.00081	5
13	MP4A	X	-1.675	2
14	MP4A	Z	.967	2
15	MP4A	Mx	.000838	2
16	MP4A	X	-2.255	5.5
17	MP4A	Z	1.302	5.5
18	MP4A	Mx	.001	5.5
19	MP4A	X	-2.255	7.5
20	MP4A	Z	1.302	7.5
21	MP4A	Mx	.001	7.5
22	MP2A	X	-2.48	5
23	MP2A	Z	1.432	5
24	MP2A	Mx	-.001	5
25	RRU	X	-2.331	4.25
26	RRU	Z	1.346	4.25
27	RRU	Mx	-.001	4.25
28	MP2A	X	-5.633	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP2A	Z	3.252	2
30	MP2A	Mx	.003	2
31	MP2A	X	-5.633	6
32	MP2A	Z	3.252	6
33	MP2A	Mx	.003	6
34	MP5A	X	-5.633	2
35	MP5A	Z	3.252	2
36	MP5A	Mx	.003	2
37	MP5A	X	-5.633	6
38	MP5A	Z	3.252	6
39	MP5A	Mx	.003	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-7.479	.5
2	MP3A	Z	0	.5
3	MP3A	Mx	.004	.5
4	MP3A	X	-7.479	5
5	MP3A	Z	0	5
6	MP3A	Mx	.004	5
7	MP3A	X	-7.479	.5
8	MP3A	Z	0	.5
9	MP3A	Mx	.004	.5
10	MP3A	X	-7.479	5
11	MP3A	Z	0	5
12	MP3A	Mx	.004	5
13	MP4A	X	-1.539	2
14	MP4A	Z	0	2
15	MP4A	Mx	.00077	2
16	MP4A	X	-1.876	5.5
17	MP4A	Z	0	5.5
18	MP4A	Mx	.000938	5.5
19	MP4A	X	-1.876	7.5
20	MP4A	Z	0	7.5
21	MP4A	Mx	.000938	7.5
22	MP2A	X	-2.548	5
23	MP2A	Z	0	5
24	MP2A	Mx	-.001	5
25	RRU	X	-2.319	4.25
26	RRU	Z	0	4.25
27	RRU	Mx	-.001	4.25
28	MP2A	X	-6.277	2
29	MP2A	Z	0	2
30	MP2A	Mx	.003	2
31	MP2A	X	-6.277	6
32	MP2A	Z	0	6
33	MP2A	Mx	.003	6
34	MP5A	X	-6.277	2
35	MP5A	Z	0	2
36	MP5A	Mx	.003	2
37	MP5A	X	-6.277	6
38	MP5A	Z	0	6
39	MP5A	Mx	.003	6

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-7.036	.5
2	MP3A	Z	-4.062	.5
3	MP3A	Mx	.00081	.5
4	MP3A	X	-7.036	5
5	MP3A	Z	-4.062	5
6	MP3A	Mx	.00081	5
7	MP3A	X	-7.036	.5
8	MP3A	Z	-4.062	.5
9	MP3A	Mx	.006	.5
10	MP3A	X	-7.036	5
11	MP3A	Z	-4.062	5
12	MP3A	Mx	.006	5
13	MP4A	X	-1.675	2
14	MP4A	Z	-.967	2
15	MP4A	Mx	.000838	2
16	MP4A	X	-2.255	5.5
17	MP4A	Z	-1.302	5.5
18	MP4A	Mx	.001	5.5
19	MP4A	X	-2.255	7.5
20	MP4A	Z	-1.302	7.5
21	MP4A	Mx	.001	7.5
22	MP2A	X	-2.48	5
23	MP2A	Z	-1.432	5
24	MP2A	Mx	-.001	5
25	RRU	X	-2.331	4.25
26	RRU	Z	-1.346	4.25
27	RRU	Mx	-.001	4.25
28	MP2A	X	-5.633	2
29	MP2A	Z	-3.252	2
30	MP2A	Mx	.003	2
31	MP2A	X	-5.633	6
32	MP2A	Z	-3.252	6
33	MP2A	Mx	.003	6
34	MP5A	X	-5.633	2
35	MP5A	Z	-3.252	2
36	MP5A	Mx	.003	2
37	MP5A	X	-5.633	6
38	MP5A	Z	-3.252	6
39	MP5A	Mx	.003	6

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP3A	X	-4.708	.5
2	MP3A	Z	-8.154	.5
3	MP3A	Mx	-.003	.5
4	MP3A	X	-4.708	5
5	MP3A	Z	-8.154	5
6	MP3A	Mx	-.003	5
7	MP3A	X	-4.708	.5
8	MP3A	Z	-8.154	.5
9	MP3A	Mx	.008	.5
10	MP3A	X	-4.708	5
11	MP3A	Z	-8.154	5
12	MP3A	Mx	.008	5
13	MP4A	X	-1.362	2
14	MP4A	Z	-2.359	2

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
15	MP4A	Mx	.000681	2
16	MP4A	X	-2.031	5.5
17	MP4A	Z	-3.518	5.5
18	MP4A	Mx	.001	5.5
19	MP4A	X	-2.031	7.5
20	MP4A	Z	-3.518	7.5
21	MP4A	Mx	.001	7.5
22	MP2A	X	-1.748	5
23	MP2A	Z	-3.028	5
24	MP2A	Mx	-.000874	5
25	RRU	X	-1.719	4.25
26	RRU	Z	-2.978	4.25
27	RRU	Mx	-.00086	4.25
28	MP2A	X	-3.479	2
29	MP2A	Z	-6.026	2
30	MP2A	Mx	.002	2
31	MP2A	X	-3.479	6
32	MP2A	Z	-6.026	6
33	MP2A	Mx	.002	6
34	MP5A	X	-3.479	2
35	MP5A	Z	-6.026	2
36	MP5A	Mx	.002	2
37	MP5A	X	-3.479	6
38	MP5A	Z	-6.026	6
39	MP5A	Mx	.002	6

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	LIVE1	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	LIVE2	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M1	Y	-250	0

Member Point Loads (BLC 80 : Lv2)

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

Member Distributed Loads (BLC 40 : Structure Di)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-9.486	-9.486	0	%100
2	M2	Y	-9.486	-9.486	0	%100
3	M3	Y	-5.54	-5.54	0	%100
4	M4	Y	-5.54	-5.54	0	%100
5	M5	Y	-5.54	-5.54	0	%100
6	M6	Y	-5.54	-5.54	0	%100
7	RRU	Y	-7.872	-7.872	0	%100
8	M10	Y	-15.108	-15.108	0	%100
9	M11	Y	-15.108	-15.108	0	%100

Member Distributed Loads (BLC 40 : Structure Di) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
10	MP5A	Y	-4.907	-4.907	0	%100
11	MP4A	Y	-4.907	-4.907	0	%100
12	MP2A	Y	-4.907	-4.907	0	%100
13	MP1A	Y	-4.907	-4.907	0	%100
14	MP3A	Y	-4.907	-4.907	0	%100
15	M27	Y	-4.907	-4.907	0	%100
16	M28	Y	-4.907	-4.907	0	%100

Member Distributed Loads (BLC 41 : Structure Wo (0 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	-21.384	-21.384	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	-21.384	-21.384	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	-10.692	-10.692	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	-10.692	-10.692	0	%100
9	M5	X	0	0	0	%100
10	M5	Z	-10.692	-10.692	0	%100
11	M6	X	0	0	0	%100
12	M6	Z	-10.692	-10.692	0	%100
13	RRU	X	0	0	0	%100
14	RRU	Z	-11.964	-11.964	0	%100
15	M10	X	0	0	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	0	0	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	0	0	0	%100
20	MP5A	Z	-7.618	-7.618	0	%100
21	MP4A	X	0	0	0	%100
22	MP4A	Z	-7.618	-7.618	0	%100
23	MP2A	X	0	0	0	%100
24	MP2A	Z	-7.618	-7.618	0	%100
25	MP1A	X	0	0	0	%100
26	MP1A	Z	-7.618	-7.618	0	%100
27	MP3A	X	0	0	0	%100
28	MP3A	Z	-7.618	-7.618	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	-.016	-.016	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	-.016	-.016	0	%100

Member Distributed Loads (BLC 42 : Structure Wo (30 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	8.019	8.019	0	%100
2	M1	Z	-13.889	-13.889	0	%100
3	M2	X	8.019	8.019	0	%100
4	M2	Z	-13.889	-13.889	0	%100
5	M3	X	4.979	4.979	0	%100
6	M3	Z	-8.625	-8.625	0	%100
7	M4	X	4.961	4.961	0	%100
8	M4	Z	-8.594	-8.594	0	%100
9	M5	X	4.961	4.961	0	%100
10	M5	Z	-8.594	-8.594	0	%100
11	M6	X	4.979	4.979	0	%100

Member Distributed Loads (BLC 42 : Structure Wo (30 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
12	M6	Z	-8.625	-8.625	0	%100
13	RRU	X	5.982	5.982	0	%100
14	RRU	Z	-10.361	-10.361	0	%100
15	M10	X	3.264	3.264	0	%100
16	M10	Z	-5.653	-5.653	0	%100
17	M11	X	3.264	3.264	0	%100
18	M11	Z	-5.653	-5.653	0	%100
19	MP5A	X	3.809	3.809	0	%100
20	MP5A	Z	-6.597	-6.597	0	%100
21	MP4A	X	3.809	3.809	0	%100
22	MP4A	Z	-6.597	-6.597	0	%100
23	MP2A	X	3.809	3.809	0	%100
24	MP2A	Z	-6.597	-6.597	0	%100
25	MP1A	X	3.809	3.809	0	%100
26	MP1A	Z	-6.597	-6.597	0	%100
27	MP3A	X	3.809	3.809	0	%100
28	MP3A	Z	-6.597	-6.597	0	%100
29	M27	X	.804	.804	0	%100
30	M27	Z	-1.392	-1.392	0	%100
31	M28	X	1.109	1.109	0	%100
32	M28	Z	-1.921	-1.921	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	4.63	4.63	0	%100
2	M1	Z	-2.673	-2.673	0	%100
3	M2	X	4.63	4.63	0	%100
4	M2	Z	-2.673	-2.673	0	%100
5	M3	X	7.355	7.355	0	%100
6	M3	Z	-4.247	-4.247	0	%100
7	M4	X	7.262	7.262	0	%100
8	M4	Z	-4.193	-4.193	0	%100
9	M5	X	7.262	7.262	0	%100
10	M5	Z	-4.193	-4.193	0	%100
11	M6	X	7.355	7.355	0	%100
12	M6	Z	-4.247	-4.247	0	%100
13	RRU	X	10.361	10.361	0	%100
14	RRU	Z	-5.982	-5.982	0	%100
15	M10	X	16.959	16.959	0	%100
16	M10	Z	-9.791	-9.791	0	%100
17	M11	X	16.959	16.959	0	%100
18	M11	Z	-9.791	-9.791	0	%100
19	MP5A	X	6.597	6.597	0	%100
20	MP5A	Z	-3.809	-3.809	0	%100
21	MP4A	X	6.597	6.597	0	%100
22	MP4A	Z	-3.809	-3.809	0	%100
23	MP2A	X	6.597	6.597	0	%100
24	MP2A	Z	-3.809	-3.809	0	%100
25	MP1A	X	6.597	6.597	0	%100
26	MP1A	Z	-3.809	-3.809	0	%100
27	MP3A	X	6.597	6.597	0	%100
28	MP3A	Z	-3.809	-3.809	0	%100
29	M27	X	4.677	4.677	0	%100
30	M27	Z	-2.7	-2.7	0	%100
31	M28	X	5.205	5.205	0	%100
32	M28	Z	-3.005	-3.005	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	M3	X	7.761	7.761	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	7.617	7.617	0	%100
8	M4	Z	0	0	0	%100
9	M5	X	7.617	7.617	0	%100
10	M5	Z	0	0	0	%100
11	M6	X	7.761	7.761	0	%100
12	M6	Z	0	0	0	%100
13	RRU	X	11.964	11.964	0	%100
14	RRU	Z	0	0	0	%100
15	M10	X	26.109	26.109	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	26.109	26.109	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	7.618	7.618	0	%100
20	MP5A	Z	0	0	0	%100
21	MP4A	X	7.618	7.618	0	%100
22	MP4A	Z	0	0	0	%100
23	MP2A	X	7.618	7.618	0	%100
24	MP2A	Z	0	0	0	%100
25	MP1A	X	7.618	7.618	0	%100
26	MP1A	Z	0	0	0	%100
27	MP3A	X	7.618	7.618	0	%100
28	MP3A	Z	0	0	0	%100
29	M27	X	7.602	7.602	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	7.602	7.602	0	%100
32	M28	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	4.63	4.63	0	%100
2	M1	Z	2.673	2.673	0	%100
3	M2	X	4.63	4.63	0	%100
4	M2	Z	2.673	2.673	0	%100
5	M3	X	7.355	7.355	0	%100
6	M3	Z	4.247	4.247	0	%100
7	M4	X	7.262	7.262	0	%100
8	M4	Z	4.193	4.193	0	%100
9	M5	X	7.262	7.262	0	%100
10	M5	Z	4.193	4.193	0	%100
11	M6	X	7.355	7.355	0	%100
12	M6	Z	4.247	4.247	0	%100
13	RRU	X	10.361	10.361	0	%100
14	RRU	Z	5.982	5.982	0	%100
15	M10	X	16.959	16.959	0	%100
16	M10	Z	9.791	9.791	0	%100
17	M11	X	16.959	16.959	0	%100
18	M11	Z	9.791	9.791	0	%100
19	MP5A	X	6.597	6.597	0	%100
20	MP5A	Z	3.809	3.809	0	%100
21	MP4A	X	6.597	6.597	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
22	MP4A	Z	3.809	3.809	0	%100
23	MP2A	X	6.597	6.597	0	%100
24	MP2A	Z	3.809	3.809	0	%100
25	MP1A	X	6.597	6.597	0	%100
26	MP1A	Z	3.809	3.809	0	%100
27	MP3A	X	6.597	6.597	0	%100
28	MP3A	Z	3.809	3.809	0	%100
29	M27	X	5.205	5.205	0	%100
30	M27	Z	3.005	3.005	0	%100
31	M28	X	4.677	4.677	0	%100
32	M28	Z	2.7	2.7	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	8.019	8.019	0	%100
2	M1	Z	13.889	13.889	0	%100
3	M2	X	8.019	8.019	0	%100
4	M2	Z	13.889	13.889	0	%100
5	M3	X	4.979	4.979	0	%100
6	M3	Z	8.625	8.625	0	%100
7	M4	X	4.961	4.961	0	%100
8	M4	Z	8.594	8.594	0	%100
9	M5	X	4.961	4.961	0	%100
10	M5	Z	8.594	8.594	0	%100
11	M6	X	4.979	4.979	0	%100
12	M6	Z	8.625	8.625	0	%100
13	RRU	X	5.982	5.982	0	%100
14	RRU	Z	10.361	10.361	0	%100
15	M10	X	3.264	3.264	0	%100
16	M10	Z	5.653	5.653	0	%100
17	M11	X	3.264	3.264	0	%100
18	M11	Z	5.653	5.653	0	%100
19	MP5A	X	3.809	3.809	0	%100
20	MP5A	Z	6.597	6.597	0	%100
21	MP4A	X	3.809	3.809	0	%100
22	MP4A	Z	6.597	6.597	0	%100
23	MP2A	X	3.809	3.809	0	%100
24	MP2A	Z	6.597	6.597	0	%100
25	MP1A	X	3.809	3.809	0	%100
26	MP1A	Z	6.597	6.597	0	%100
27	MP3A	X	3.809	3.809	0	%100
28	MP3A	Z	6.597	6.597	0	%100
29	M27	X	1.109	1.109	0	%100
30	M27	Z	1.921	1.921	0	%100
31	M28	X	.804	.804	0	%100
32	M28	Z	1.392	1.392	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	21.384	21.384	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	21.384	21.384	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	10.692	10.692	0	%100
7	M4	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
8	M4	Z	10.692	10.692	0	%100
9	M5	X	0	0	0	%100
10	M5	Z	10.692	10.692	0	%100
11	M6	X	0	0	0	%100
12	M6	Z	10.692	10.692	0	%100
13	RRU	X	0	0	0	%100
14	RRU	Z	11.964	11.964	0	%100
15	M10	X	0	0	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	0	0	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	0	0	0	%100
20	MP5A	Z	7.618	7.618	0	%100
21	MP4A	X	0	0	0	%100
22	MP4A	Z	7.618	7.618	0	%100
23	MP2A	X	0	0	0	%100
24	MP2A	Z	7.618	7.618	0	%100
25	MP1A	X	0	0	0	%100
26	MP1A	Z	7.618	7.618	0	%100
27	MP3A	X	0	0	0	%100
28	MP3A	Z	7.618	7.618	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	.016	.016	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	.016	.016	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-8.019	-8.019	0	%100
2	M1	Z	13.889	13.889	0	%100
3	M2	X	-8.019	-8.019	0	%100
4	M2	Z	13.889	13.889	0	%100
5	M3	X	-4.979	-4.979	0	%100
6	M3	Z	8.625	8.625	0	%100
7	M4	X	-4.961	-4.961	0	%100
8	M4	Z	8.594	8.594	0	%100
9	M5	X	-4.961	-4.961	0	%100
10	M5	Z	8.594	8.594	0	%100
11	M6	X	-4.979	-4.979	0	%100
12	M6	Z	8.625	8.625	0	%100
13	RRU	X	-5.982	-5.982	0	%100
14	RRU	Z	10.361	10.361	0	%100
15	M10	X	-3.264	-3.264	0	%100
16	M10	Z	5.653	5.653	0	%100
17	M11	X	-3.264	-3.264	0	%100
18	M11	Z	5.653	5.653	0	%100
19	MP5A	X	-3.809	-3.809	0	%100
20	MP5A	Z	6.597	6.597	0	%100
21	MP4A	X	-3.809	-3.809	0	%100
22	MP4A	Z	6.597	6.597	0	%100
23	MP2A	X	-3.809	-3.809	0	%100
24	MP2A	Z	6.597	6.597	0	%100
25	MP1A	X	-3.809	-3.809	0	%100
26	MP1A	Z	6.597	6.597	0	%100
27	MP3A	X	-3.809	-3.809	0	%100
28	MP3A	Z	6.597	6.597	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
29	M27	X	-.804	-.804	0	%100
30	M27	Z	1.392	1.392	0	%100
31	M28	X	-1.109	-1.109	0	%100
32	M28	Z	1.921	1.921	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-4.63	-4.63	0	%100
2	M1	Z	2.673	2.673	0	%100
3	M2	X	-4.63	-4.63	0	%100
4	M2	Z	2.673	2.673	0	%100
5	M3	X	-7.355	-7.355	0	%100
6	M3	Z	4.247	4.247	0	%100
7	M4	X	-7.262	-7.262	0	%100
8	M4	Z	4.193	4.193	0	%100
9	M5	X	-7.262	-7.262	0	%100
10	M5	Z	4.193	4.193	0	%100
11	M6	X	-7.355	-7.355	0	%100
12	M6	Z	4.247	4.247	0	%100
13	RRU	X	-10.361	-10.361	0	%100
14	RRU	Z	5.982	5.982	0	%100
15	M10	X	-16.959	-16.959	0	%100
16	M10	Z	9.791	9.791	0	%100
17	M11	X	-16.959	-16.959	0	%100
18	M11	Z	9.791	9.791	0	%100
19	MP5A	X	-6.597	-6.597	0	%100
20	MP5A	Z	3.809	3.809	0	%100
21	MP4A	X	-6.597	-6.597	0	%100
22	MP4A	Z	3.809	3.809	0	%100
23	MP2A	X	-6.597	-6.597	0	%100
24	MP2A	Z	3.809	3.809	0	%100
25	MP1A	X	-6.597	-6.597	0	%100
26	MP1A	Z	3.809	3.809	0	%100
27	MP3A	X	-6.597	-6.597	0	%100
28	MP3A	Z	3.809	3.809	0	%100
29	M27	X	-4.677	-4.677	0	%100
30	M27	Z	2.7	2.7	0	%100
31	M28	X	-5.205	-5.205	0	%100
32	M28	Z	3.005	3.005	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	M3	X	-7.761	-7.761	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	-7.617	-7.617	0	%100
8	M4	Z	0	0	0	%100
9	M5	X	-7.617	-7.617	0	%100
10	M5	Z	0	0	0	%100
11	M6	X	-7.761	-7.761	0	%100
12	M6	Z	0	0	0	%100
13	RRU	X	-11.964	-11.964	0	%100
14	RRU	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
15	M10	X	-26.109	-26.109	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	-26.109	-26.109	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	-7.618	-7.618	0	%100
20	MP5A	Z	0	0	0	%100
21	MP4A	X	-7.618	-7.618	0	%100
22	MP4A	Z	0	0	0	%100
23	MP2A	X	-7.618	-7.618	0	%100
24	MP2A	Z	0	0	0	%100
25	MP1A	X	-7.618	-7.618	0	%100
26	MP1A	Z	0	0	0	%100
27	MP3A	X	-7.618	-7.618	0	%100
28	MP3A	Z	0	0	0	%100
29	M27	X	-7.602	-7.602	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	-7.602	-7.602	0	%100
32	M28	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-4.63	-4.63	0	%100
2	M1	Z	-2.673	-2.673	0	%100
3	M2	X	-4.63	-4.63	0	%100
4	M2	Z	-2.673	-2.673	0	%100
5	M3	X	-7.355	-7.355	0	%100
6	M3	Z	-4.247	-4.247	0	%100
7	M4	X	-7.262	-7.262	0	%100
8	M4	Z	-4.193	-4.193	0	%100
9	M5	X	-7.262	-7.262	0	%100
10	M5	Z	-4.193	-4.193	0	%100
11	M6	X	-7.355	-7.355	0	%100
12	M6	Z	-4.247	-4.247	0	%100
13	RRU	X	-10.361	-10.361	0	%100
14	RRU	Z	-5.982	-5.982	0	%100
15	M10	X	-16.959	-16.959	0	%100
16	M10	Z	-9.791	-9.791	0	%100
17	M11	X	-16.959	-16.959	0	%100
18	M11	Z	-9.791	-9.791	0	%100
19	MP5A	X	-6.597	-6.597	0	%100
20	MP5A	Z	-3.809	-3.809	0	%100
21	MP4A	X	-6.597	-6.597	0	%100
22	MP4A	Z	-3.809	-3.809	0	%100
23	MP2A	X	-6.597	-6.597	0	%100
24	MP2A	Z	-3.809	-3.809	0	%100
25	MP1A	X	-6.597	-6.597	0	%100
26	MP1A	Z	-3.809	-3.809	0	%100
27	MP3A	X	-6.597	-6.597	0	%100
28	MP3A	Z	-3.809	-3.809	0	%100
29	M27	X	-5.205	-5.205	0	%100
30	M27	Z	-3.005	-3.005	0	%100
31	M28	X	-4.677	-4.677	0	%100
32	M28	Z	-2.7	-2.7	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-8.019	-8.019	0	%100
2	M1	Z	-13.889	-13.889	0	%100
3	M2	X	-8.019	-8.019	0	%100
4	M2	Z	-13.889	-13.889	0	%100
5	M3	X	-4.979	-4.979	0	%100
6	M3	Z	-8.625	-8.625	0	%100
7	M4	X	-4.961	-4.961	0	%100
8	M4	Z	-8.594	-8.594	0	%100
9	M5	X	-4.961	-4.961	0	%100
10	M5	Z	-8.594	-8.594	0	%100
11	M6	X	-4.979	-4.979	0	%100
12	M6	Z	-8.625	-8.625	0	%100
13	RRU	X	-5.982	-5.982	0	%100
14	RRU	Z	-10.361	-10.361	0	%100
15	M10	X	-3.264	-3.264	0	%100
16	M10	Z	-5.653	-5.653	0	%100
17	M11	X	-3.264	-3.264	0	%100
18	M11	Z	-5.653	-5.653	0	%100
19	MP5A	X	-3.809	-3.809	0	%100
20	MP5A	Z	-6.597	-6.597	0	%100
21	MP4A	X	-3.809	-3.809	0	%100
22	MP4A	Z	-6.597	-6.597	0	%100
23	MP2A	X	-3.809	-3.809	0	%100
24	MP2A	Z	-6.597	-6.597	0	%100
25	MP1A	X	-3.809	-3.809	0	%100
26	MP1A	Z	-6.597	-6.597	0	%100
27	MP3A	X	-3.809	-3.809	0	%100
28	MP3A	Z	-6.597	-6.597	0	%100
29	M27	X	-1.109	-1.109	0	%100
30	M27	Z	-1.921	-1.921	0	%100
31	M28	X	-.804	-.804	0	%100
32	M28	Z	-1.392	-1.392	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	-5.068	-5.068	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	-5.068	-5.068	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	-3.173	-3.173	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	-3.178	-3.178	0	%100
9	M5	X	0	0	0	%100
10	M5	Z	-3.178	-3.178	0	%100
11	M6	X	0	0	0	%100
12	M6	Z	-3.173	-3.173	0	%100
13	RRU	X	0	0	0	%100
14	RRU	Z	-3.731	-3.731	0	%100
15	M10	X	0	0	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	0	0	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	0	0	0	%100
20	MP5A	Z	-2.638	-2.638	0	%100
21	MP4A	X	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
22	MP4A	Z	-2.638	-2.638	0	%100
23	MP2A	X	0	0	0	%100
24	MP2A	Z	-2.638	-2.638	0	%100
25	MP1A	X	0	0	0	%100
26	MP1A	Z	-2.638	-2.638	0	%100
27	MP3A	X	0	0	0	%100
28	MP3A	Z	-2.638	-2.638	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	-.006	-.006	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	-.006	-.006	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	1.901	1.901	0	%100
2	M1	Z	-3.292	-3.292	0	%100
3	M2	X	1.901	1.901	0	%100
4	M2	Z	-3.292	-3.292	0	%100
5	M3	X	1.478	1.478	0	%100
6	M3	Z	-2.559	-2.559	0	%100
7	M4	X	1.475	1.475	0	%100
8	M4	Z	-2.555	-2.555	0	%100
9	M5	X	1.475	1.475	0	%100
10	M5	Z	-2.555	-2.555	0	%100
11	M6	X	1.478	1.478	0	%100
12	M6	Z	-2.559	-2.559	0	%100
13	RRU	X	1.866	1.866	0	%100
14	RRU	Z	-3.232	-3.232	0	%100
15	M10	X	.679	.679	0	%100
16	M10	Z	-1.176	-1.176	0	%100
17	M11	X	.679	.679	0	%100
18	M11	Z	-1.176	-1.176	0	%100
19	MP5A	X	1.319	1.319	0	%100
20	MP5A	Z	-2.285	-2.285	0	%100
21	MP4A	X	1.319	1.319	0	%100
22	MP4A	Z	-2.285	-2.285	0	%100
23	MP2A	X	1.319	1.319	0	%100
24	MP2A	Z	-2.285	-2.285	0	%100
25	MP1A	X	1.319	1.319	0	%100
26	MP1A	Z	-2.285	-2.285	0	%100
27	MP3A	X	1.319	1.319	0	%100
28	MP3A	Z	-2.285	-2.285	0	%100
29	M27	X	.278	.278	0	%100
30	M27	Z	-.482	-.482	0	%100
31	M28	X	.384	.384	0	%100
32	M28	Z	-.665	-.665	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	1.097	1.097	0	%100
2	M1	Z	-.634	-.634	0	%100
3	M2	X	1.097	1.097	0	%100
4	M2	Z	-.634	-.634	0	%100
5	M3	X	2.183	2.183	0	%100
6	M3	Z	-1.26	-1.26	0	%100
7	M4	X	2.159	2.159	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
8	M4	Z	-1.246	-1.246	0	%100
9	M5	X	2.159	2.159	0	%100
10	M5	Z	-1.246	-1.246	0	%100
11	M6	X	2.183	2.183	0	%100
12	M6	Z	-1.26	-1.26	0	%100
13	RRU	X	3.232	3.232	0	%100
14	RRU	Z	-1.866	-1.866	0	%100
15	M10	X	3.527	3.527	0	%100
16	M10	Z	-2.036	-2.036	0	%100
17	M11	X	3.527	3.527	0	%100
18	M11	Z	-2.036	-2.036	0	%100
19	MP5A	X	2.285	2.285	0	%100
20	MP5A	Z	-1.319	-1.319	0	%100
21	MP4A	X	2.285	2.285	0	%100
22	MP4A	Z	-1.319	-1.319	0	%100
23	MP2A	X	2.285	2.285	0	%100
24	MP2A	Z	-1.319	-1.319	0	%100
25	MP1A	X	2.285	2.285	0	%100
26	MP1A	Z	-1.319	-1.319	0	%100
27	MP3A	X	2.285	2.285	0	%100
28	MP3A	Z	-1.319	-1.319	0	%100
29	M27	X	1.62	1.62	0	%100
30	M27	Z	-.935	-.935	0	%100
31	M28	X	1.803	1.803	0	%100
32	M28	Z	-1.041	-1.041	0	%100

Member Distributed Loads (BLC 56 : Structure Wi (90 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	M3	X	2.303	2.303	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	2.264	2.264	0	%100
8	M4	Z	0	0	0	%100
9	M5	X	2.264	2.264	0	%100
10	M5	Z	0	0	0	%100
11	M6	X	2.303	2.303	0	%100
12	M6	Z	0	0	0	%100
13	RRU	X	3.731	3.731	0	%100
14	RRU	Z	0	0	0	%100
15	M10	X	5.43	5.43	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	5.43	5.43	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	2.638	2.638	0	%100
20	MP5A	Z	0	0	0	%100
21	MP4A	X	2.638	2.638	0	%100
22	MP4A	Z	0	0	0	%100
23	MP2A	X	2.638	2.638	0	%100
24	MP2A	Z	0	0	0	%100
25	MP1A	X	2.638	2.638	0	%100
26	MP1A	Z	0	0	0	%100
27	MP3A	X	2.638	2.638	0	%100
28	MP3A	Z	0	0	0	%100

Member Distributed Loads (BLC 56 : Structure Wi (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
29	M27	X	2.633	2.633	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	2.633	2.633	0	%100
32	M28	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	1.097	1.097	0	%100
2	M1	Z	.634	.634	0	%100
3	M2	X	1.097	1.097	0	%100
4	M2	Z	.634	.634	0	%100
5	M3	X	2.183	2.183	0	%100
6	M3	Z	1.26	1.26	0	%100
7	M4	X	2.159	2.159	0	%100
8	M4	Z	1.246	1.246	0	%100
9	M5	X	2.159	2.159	0	%100
10	M5	Z	1.246	1.246	0	%100
11	M6	X	2.183	2.183	0	%100
12	M6	Z	1.26	1.26	0	%100
13	RRU	X	3.232	3.232	0	%100
14	RRU	Z	1.866	1.866	0	%100
15	M10	X	3.527	3.527	0	%100
16	M10	Z	2.036	2.036	0	%100
17	M11	X	3.527	3.527	0	%100
18	M11	Z	2.036	2.036	0	%100
19	MP5A	X	2.285	2.285	0	%100
20	MP5A	Z	1.319	1.319	0	%100
21	MP4A	X	2.285	2.285	0	%100
22	MP4A	Z	1.319	1.319	0	%100
23	MP2A	X	2.285	2.285	0	%100
24	MP2A	Z	1.319	1.319	0	%100
25	MP1A	X	2.285	2.285	0	%100
26	MP1A	Z	1.319	1.319	0	%100
27	MP3A	X	2.285	2.285	0	%100
28	MP3A	Z	1.319	1.319	0	%100
29	M27	X	1.803	1.803	0	%100
30	M27	Z	1.041	1.041	0	%100
31	M28	X	1.62	1.62	0	%100
32	M28	Z	.935	.935	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	1.901	1.901	0	%100
2	M1	Z	3.292	3.292	0	%100
3	M2	X	1.901	1.901	0	%100
4	M2	Z	3.292	3.292	0	%100
5	M3	X	1.478	1.478	0	%100
6	M3	Z	2.559	2.559	0	%100
7	M4	X	1.475	1.475	0	%100
8	M4	Z	2.555	2.555	0	%100
9	M5	X	1.475	1.475	0	%100
10	M5	Z	2.555	2.555	0	%100
11	M6	X	1.478	1.478	0	%100
12	M6	Z	2.559	2.559	0	%100
13	RRU	X	1.866	1.866	0	%100
14	RRU	Z	3.232	3.232	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
15	M10	X	.679	.679	0	%100
16	M10	Z	1.176	1.176	0	%100
17	M11	X	.679	.679	0	%100
18	M11	Z	1.176	1.176	0	%100
19	MP5A	X	1.319	1.319	0	%100
20	MP5A	Z	2.285	2.285	0	%100
21	MP4A	X	1.319	1.319	0	%100
22	MP4A	Z	2.285	2.285	0	%100
23	MP2A	X	1.319	1.319	0	%100
24	MP2A	Z	2.285	2.285	0	%100
25	MP1A	X	1.319	1.319	0	%100
26	MP1A	Z	2.285	2.285	0	%100
27	MP3A	X	1.319	1.319	0	%100
28	MP3A	Z	2.285	2.285	0	%100
29	M27	X	.384	.384	0	%100
30	M27	Z	.665	.665	0	%100
31	M28	X	.278	.278	0	%100
32	M28	Z	.482	.482	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	5.068	5.068	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	5.068	5.068	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	3.173	3.173	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	3.178	3.178	0	%100
9	M5	X	0	0	0	%100
10	M5	Z	3.178	3.178	0	%100
11	M6	X	0	0	0	%100
12	M6	Z	3.173	3.173	0	%100
13	RRU	X	0	0	0	%100
14	RRU	Z	3.731	3.731	0	%100
15	M10	X	0	0	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	0	0	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	0	0	0	%100
20	MP5A	Z	2.638	2.638	0	%100
21	MP4A	X	0	0	0	%100
22	MP4A	Z	2.638	2.638	0	%100
23	MP2A	X	0	0	0	%100
24	MP2A	Z	2.638	2.638	0	%100
25	MP1A	X	0	0	0	%100
26	MP1A	Z	2.638	2.638	0	%100
27	MP3A	X	0	0	0	%100
28	MP3A	Z	2.638	2.638	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	.006	.006	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	.006	.006	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-1.901	-1.901	0	%100
2	M1	Z	3.292	3.292	0	%100
3	M2	X	-1.901	-1.901	0	%100
4	M2	Z	3.292	3.292	0	%100
5	M3	X	-1.478	-1.478	0	%100
6	M3	Z	2.559	2.559	0	%100
7	M4	X	-1.475	-1.475	0	%100
8	M4	Z	2.555	2.555	0	%100
9	M5	X	-1.475	-1.475	0	%100
10	M5	Z	2.555	2.555	0	%100
11	M6	X	-1.478	-1.478	0	%100
12	M6	Z	2.559	2.559	0	%100
13	RRU	X	-1.866	-1.866	0	%100
14	RRU	Z	3.232	3.232	0	%100
15	M10	X	-.679	-.679	0	%100
16	M10	Z	1.176	1.176	0	%100
17	M11	X	-.679	-.679	0	%100
18	M11	Z	1.176	1.176	0	%100
19	MP5A	X	-1.319	-1.319	0	%100
20	MP5A	Z	2.285	2.285	0	%100
21	MP4A	X	-1.319	-1.319	0	%100
22	MP4A	Z	2.285	2.285	0	%100
23	MP2A	X	-1.319	-1.319	0	%100
24	MP2A	Z	2.285	2.285	0	%100
25	MP1A	X	-1.319	-1.319	0	%100
26	MP1A	Z	2.285	2.285	0	%100
27	MP3A	X	-1.319	-1.319	0	%100
28	MP3A	Z	2.285	2.285	0	%100
29	M27	X	-.278	-.278	0	%100
30	M27	Z	.482	.482	0	%100
31	M28	X	-.384	-.384	0	%100
32	M28	Z	.665	.665	0	%100

Member Distributed Loads (BLC 61 : Structure Wi (240 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-1.097	-1.097	0	%100
2	M1	Z	.634	.634	0	%100
3	M2	X	-1.097	-1.097	0	%100
4	M2	Z	.634	.634	0	%100
5	M3	X	-2.183	-2.183	0	%100
6	M3	Z	1.26	1.26	0	%100
7	M4	X	-2.159	-2.159	0	%100
8	M4	Z	1.246	1.246	0	%100
9	M5	X	-2.159	-2.159	0	%100
10	M5	Z	1.246	1.246	0	%100
11	M6	X	-2.183	-2.183	0	%100
12	M6	Z	1.26	1.26	0	%100
13	RRU	X	-3.232	-3.232	0	%100
14	RRU	Z	1.866	1.866	0	%100
15	M10	X	-3.527	-3.527	0	%100
16	M10	Z	2.036	2.036	0	%100
17	M11	X	-3.527	-3.527	0	%100
18	M11	Z	2.036	2.036	0	%100
19	MP5A	X	-2.285	-2.285	0	%100
20	MP5A	Z	1.319	1.319	0	%100
21	MP4A	X	-2.285	-2.285	0	%100

Member Distributed Loads (BLC 61 : Structure Wi (240 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
22	MP4A	Z	1.319	1.319	0	%100
23	MP2A	X	-2.285	-2.285	0	%100
24	MP2A	Z	1.319	1.319	0	%100
25	MP1A	X	-2.285	-2.285	0	%100
26	MP1A	Z	1.319	1.319	0	%100
27	MP3A	X	-2.285	-2.285	0	%100
28	MP3A	Z	1.319	1.319	0	%100
29	M27	X	-1.62	-1.62	0	%100
30	M27	Z	.935	.935	0	%100
31	M28	X	-1.803	-1.803	0	%100
32	M28	Z	1.041	1.041	0	%100

Member Distributed Loads (BLC 62 : Structure Wi (270 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	M3	X	-2.303	-2.303	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	-2.264	-2.264	0	%100
8	M4	Z	0	0	0	%100
9	M5	X	-2.264	-2.264	0	%100
10	M5	Z	0	0	0	%100
11	M6	X	-2.303	-2.303	0	%100
12	M6	Z	0	0	0	%100
13	RRU	X	-3.731	-3.731	0	%100
14	RRU	Z	0	0	0	%100
15	M10	X	-5.43	-5.43	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	-5.43	-5.43	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	-2.638	-2.638	0	%100
20	MP5A	Z	0	0	0	%100
21	MP4A	X	-2.638	-2.638	0	%100
22	MP4A	Z	0	0	0	%100
23	MP2A	X	-2.638	-2.638	0	%100
24	MP2A	Z	0	0	0	%100
25	MP1A	X	-2.638	-2.638	0	%100
26	MP1A	Z	0	0	0	%100
27	MP3A	X	-2.638	-2.638	0	%100
28	MP3A	Z	0	0	0	%100
29	M27	X	-2.633	-2.633	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	-2.633	-2.633	0	%100
32	M28	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-1.097	-1.097	0	%100
2	M1	Z	-.634	-.634	0	%100
3	M2	X	-1.097	-1.097	0	%100
4	M2	Z	-.634	-.634	0	%100
5	M3	X	-2.183	-2.183	0	%100
6	M3	Z	-1.26	-1.26	0	%100
7	M4	X	-2.159	-2.159	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
8	M4	Z	-1.246	-1.246	0	%100
9	M5	X	-2.159	-2.159	0	%100
10	M5	Z	-1.246	-1.246	0	%100
11	M6	X	-2.183	-2.183	0	%100
12	M6	Z	-1.26	-1.26	0	%100
13	RRU	X	-3.232	-3.232	0	%100
14	RRU	Z	-1.866	-1.866	0	%100
15	M10	X	-3.527	-3.527	0	%100
16	M10	Z	-2.036	-2.036	0	%100
17	M11	X	-3.527	-3.527	0	%100
18	M11	Z	-2.036	-2.036	0	%100
19	MP5A	X	-2.285	-2.285	0	%100
20	MP5A	Z	-1.319	-1.319	0	%100
21	MP4A	X	-2.285	-2.285	0	%100
22	MP4A	Z	-1.319	-1.319	0	%100
23	MP2A	X	-2.285	-2.285	0	%100
24	MP2A	Z	-1.319	-1.319	0	%100
25	MP1A	X	-2.285	-2.285	0	%100
26	MP1A	Z	-1.319	-1.319	0	%100
27	MP3A	X	-2.285	-2.285	0	%100
28	MP3A	Z	-1.319	-1.319	0	%100
29	M27	X	-1.803	-1.803	0	%100
30	M27	Z	-1.041	-1.041	0	%100
31	M28	X	-1.62	-1.62	0	%100
32	M28	Z	-.935	-.935	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-1.901	-1.901	0	%100
2	M1	Z	-3.292	-3.292	0	%100
3	M2	X	-1.901	-1.901	0	%100
4	M2	Z	-3.292	-3.292	0	%100
5	M3	X	-1.478	-1.478	0	%100
6	M3	Z	-2.559	-2.559	0	%100
7	M4	X	-1.475	-1.475	0	%100
8	M4	Z	-2.555	-2.555	0	%100
9	M5	X	-1.475	-1.475	0	%100
10	M5	Z	-2.555	-2.555	0	%100
11	M6	X	-1.478	-1.478	0	%100
12	M6	Z	-2.559	-2.559	0	%100
13	RRU	X	-1.866	-1.866	0	%100
14	RRU	Z	-3.232	-3.232	0	%100
15	M10	X	-.679	-.679	0	%100
16	M10	Z	-1.176	-1.176	0	%100
17	M11	X	-.679	-.679	0	%100
18	M11	Z	-1.176	-1.176	0	%100
19	MP5A	X	-1.319	-1.319	0	%100
20	MP5A	Z	-2.285	-2.285	0	%100
21	MP4A	X	-1.319	-1.319	0	%100
22	MP4A	Z	-2.285	-2.285	0	%100
23	MP2A	X	-1.319	-1.319	0	%100
24	MP2A	Z	-2.285	-2.285	0	%100
25	MP1A	X	-1.319	-1.319	0	%100
26	MP1A	Z	-2.285	-2.285	0	%100
27	MP3A	X	-1.319	-1.319	0	%100
28	MP3A	Z	-2.285	-2.285	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
29	M27	X	-.384	-.384	0	%100
30	M27	Z	-.665	-.665	0	%100
31	M28	X	-.278	-.278	0	%100
32	M28	Z	-.482	-.482	0	%100

Member Distributed Loads (BLC 65 : Structure Wm (0 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	-1.359	-1.359	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	-1.359	-1.359	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	-.68	-.68	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	-.68	-.68	0	%100
9	M5	X	0	0	0	%100
10	M5	Z	-.68	-.68	0	%100
11	M6	X	0	0	0	%100
12	M6	Z	-.68	-.68	0	%100
13	RRU	X	0	0	0	%100
14	RRU	Z	-.76	-.76	0	%100
15	M10	X	0	0	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	0	0	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	0	0	0	%100
20	MP5A	Z	-.484	-.484	0	%100
21	MP4A	X	0	0	0	%100
22	MP4A	Z	-.484	-.484	0	%100
23	MP2A	X	0	0	0	%100
24	MP2A	Z	-.484	-.484	0	%100
25	MP1A	X	0	0	0	%100
26	MP1A	Z	-.484	-.484	0	%100
27	MP3A	X	0	0	0	%100
28	MP3A	Z	-.484	-.484	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	-.001	-.001	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	-.001	-.001	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.51	.51	0	%100
2	M1	Z	-.883	-.883	0	%100
3	M2	X	.51	.51	0	%100
4	M2	Z	-.883	-.883	0	%100
5	M3	X	.316	.316	0	%100
6	M3	Z	-.548	-.548	0	%100
7	M4	X	.315	.315	0	%100
8	M4	Z	-.546	-.546	0	%100
9	M5	X	.315	.315	0	%100
10	M5	Z	-.546	-.546	0	%100
11	M6	X	.316	.316	0	%100
12	M6	Z	-.548	-.548	0	%100
13	RRU	X	.38	.38	0	%100
14	RRU	Z	-.659	-.659	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
15	M10	X	.207	.207	0	%100
16	M10	Z	-.359	-.359	0	%100
17	M11	X	.207	.207	0	%100
18	M11	Z	-.359	-.359	0	%100
19	MP5A	X	.242	.242	0	%100
20	MP5A	Z	-.419	-.419	0	%100
21	MP4A	X	.242	.242	0	%100
22	MP4A	Z	-.419	-.419	0	%100
23	MP2A	X	.242	.242	0	%100
24	MP2A	Z	-.419	-.419	0	%100
25	MP1A	X	.242	.242	0	%100
26	MP1A	Z	-.419	-.419	0	%100
27	MP3A	X	.242	.242	0	%100
28	MP3A	Z	-.419	-.419	0	%100
29	M27	X	.051	.051	0	%100
30	M27	Z	-.088	-.088	0	%100
31	M28	X	.07	.07	0	%100
32	M28	Z	-.122	-.122	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.294	.294	0	%100
2	M1	Z	-.17	-.17	0	%100
3	M2	X	.294	.294	0	%100
4	M2	Z	-.17	-.17	0	%100
5	M3	X	.467	.467	0	%100
6	M3	Z	-.27	-.27	0	%100
7	M4	X	.462	.462	0	%100
8	M4	Z	-.266	-.266	0	%100
9	M5	X	.462	.462	0	%100
10	M5	Z	-.266	-.266	0	%100
11	M6	X	.467	.467	0	%100
12	M6	Z	-.27	-.27	0	%100
13	RRU	X	.659	.659	0	%100
14	RRU	Z	-.38	-.38	0	%100
15	M10	X	1.078	1.078	0	%100
16	M10	Z	-.622	-.622	0	%100
17	M11	X	1.078	1.078	0	%100
18	M11	Z	-.622	-.622	0	%100
19	MP5A	X	.419	.419	0	%100
20	MP5A	Z	-.242	-.242	0	%100
21	MP4A	X	.419	.419	0	%100
22	MP4A	Z	-.242	-.242	0	%100
23	MP2A	X	.419	.419	0	%100
24	MP2A	Z	-.242	-.242	0	%100
25	MP1A	X	.419	.419	0	%100
26	MP1A	Z	-.242	-.242	0	%100
27	MP3A	X	.419	.419	0	%100
28	MP3A	Z	-.242	-.242	0	%100
29	M27	X	.297	.297	0	%100
30	M27	Z	-.172	-.172	0	%100
31	M28	X	.331	.331	0	%100
32	M28	Z	-.191	-.191	0	%100

Member Distributed Loads (BLC 68 : Structure Wm (90 Deg))

Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]

Member Distributed Loads (BLC 68 : Structure Wm (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	M3	X	.493	.493	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	.484	.484	0	%100
8	M4	Z	0	0	0	%100
9	M5	X	.484	.484	0	%100
10	M5	Z	0	0	0	%100
11	M6	X	.493	.493	0	%100
12	M6	Z	0	0	0	%100
13	RRU	X	.76	.76	0	%100
14	RRU	Z	0	0	0	%100
15	M10	X	1.659	1.659	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	1.659	1.659	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	.484	.484	0	%100
20	MP5A	Z	0	0	0	%100
21	MP4A	X	.484	.484	0	%100
22	MP4A	Z	0	0	0	%100
23	MP2A	X	.484	.484	0	%100
24	MP2A	Z	0	0	0	%100
25	MP1A	X	.484	.484	0	%100
26	MP1A	Z	0	0	0	%100
27	MP3A	X	.484	.484	0	%100
28	MP3A	Z	0	0	0	%100
29	M27	X	.483	.483	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	.483	.483	0	%100
32	M28	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.294	.294	0	%100
2	M1	Z	.17	.17	0	%100
3	M2	X	.294	.294	0	%100
4	M2	Z	.17	.17	0	%100
5	M3	X	.467	.467	0	%100
6	M3	Z	.27	.27	0	%100
7	M4	X	.462	.462	0	%100
8	M4	Z	.266	.266	0	%100
9	M5	X	.462	.462	0	%100
10	M5	Z	.266	.266	0	%100
11	M6	X	.467	.467	0	%100
12	M6	Z	.27	.27	0	%100
13	RRU	X	.659	.659	0	%100
14	RRU	Z	.38	.38	0	%100
15	M10	X	1.078	1.078	0	%100
16	M10	Z	.622	.622	0	%100
17	M11	X	1.078	1.078	0	%100
18	M11	Z	.622	.622	0	%100
19	MP5A	X	.419	.419	0	%100
20	MP5A	Z	.242	.242	0	%100
21	MP4A	X	.419	.419	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
22	MP4A	Z	.242	.242	0	%100
23	MP2A	X	.419	.419	0	%100
24	MP2A	Z	.242	.242	0	%100
25	MP1A	X	.419	.419	0	%100
26	MP1A	Z	.242	.242	0	%100
27	MP3A	X	.419	.419	0	%100
28	MP3A	Z	.242	.242	0	%100
29	M27	X	.331	.331	0	%100
30	M27	Z	.191	.191	0	%100
31	M28	X	.297	.297	0	%100
32	M28	Z	.172	.172	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.51	.51	0	%100
2	M1	Z	.883	.883	0	%100
3	M2	X	.51	.51	0	%100
4	M2	Z	.883	.883	0	%100
5	M3	X	.316	.316	0	%100
6	M3	Z	.548	.548	0	%100
7	M4	X	.315	.315	0	%100
8	M4	Z	.546	.546	0	%100
9	M5	X	.315	.315	0	%100
10	M5	Z	.546	.546	0	%100
11	M6	X	.316	.316	0	%100
12	M6	Z	.548	.548	0	%100
13	RRU	X	.38	.38	0	%100
14	RRU	Z	.659	.659	0	%100
15	M10	X	.207	.207	0	%100
16	M10	Z	.359	.359	0	%100
17	M11	X	.207	.207	0	%100
18	M11	Z	.359	.359	0	%100
19	MP5A	X	.242	.242	0	%100
20	MP5A	Z	.419	.419	0	%100
21	MP4A	X	.242	.242	0	%100
22	MP4A	Z	.419	.419	0	%100
23	MP2A	X	.242	.242	0	%100
24	MP2A	Z	.419	.419	0	%100
25	MP1A	X	.242	.242	0	%100
26	MP1A	Z	.419	.419	0	%100
27	MP3A	X	.242	.242	0	%100
28	MP3A	Z	.419	.419	0	%100
29	M27	X	.07	.07	0	%100
30	M27	Z	.122	.122	0	%100
31	M28	X	.051	.051	0	%100
32	M28	Z	.088	.088	0	%100

Member Distributed Loads (BLC 71 : Structure Wm (180 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	1.359	1.359	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	1.359	1.359	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	.68	.68	0	%100
7	M4	X	0	0	0	%100

Member Distributed Loads (BLC 71 : Structure Wm (180 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
8	M4	Z	.68	.68	0	%100
9	M5	X	0	0	0	%100
10	M5	Z	.68	.68	0	%100
11	M6	X	0	0	0	%100
12	M6	Z	.68	.68	0	%100
13	RRU	X	0	0	0	%100
14	RRU	Z	.76	.76	0	%100
15	M10	X	0	0	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	0	0	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	0	0	0	%100
20	MP5A	Z	.484	.484	0	%100
21	MP4A	X	0	0	0	%100
22	MP4A	Z	.484	.484	0	%100
23	MP2A	X	0	0	0	%100
24	MP2A	Z	.484	.484	0	%100
25	MP1A	X	0	0	0	%100
26	MP1A	Z	.484	.484	0	%100
27	MP3A	X	0	0	0	%100
28	MP3A	Z	.484	.484	0	%100
29	M27	X	0	0	0	%100
30	M27	Z	.001	.001	0	%100
31	M28	X	0	0	0	%100
32	M28	Z	.001	.001	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.51	-.51	0	%100
2	M1	Z	.883	.883	0	%100
3	M2	X	-.51	-.51	0	%100
4	M2	Z	.883	.883	0	%100
5	M3	X	-.316	-.316	0	%100
6	M3	Z	.548	.548	0	%100
7	M4	X	-.315	-.315	0	%100
8	M4	Z	.546	.546	0	%100
9	M5	X	-.315	-.315	0	%100
10	M5	Z	.546	.546	0	%100
11	M6	X	-.316	-.316	0	%100
12	M6	Z	.548	.548	0	%100
13	RRU	X	-.38	-.38	0	%100
14	RRU	Z	.659	.659	0	%100
15	M10	X	-.207	-.207	0	%100
16	M10	Z	.359	.359	0	%100
17	M11	X	-.207	-.207	0	%100
18	M11	Z	.359	.359	0	%100
19	MP5A	X	-.242	-.242	0	%100
20	MP5A	Z	.419	.419	0	%100
21	MP4A	X	-.242	-.242	0	%100
22	MP4A	Z	.419	.419	0	%100
23	MP2A	X	-.242	-.242	0	%100
24	MP2A	Z	.419	.419	0	%100
25	MP1A	X	-.242	-.242	0	%100
26	MP1A	Z	.419	.419	0	%100
27	MP3A	X	-.242	-.242	0	%100
28	MP3A	Z	.419	.419	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
29	M27	X	-.051	-.051	0	%100
30	M27	Z	.088	.088	0	%100
31	M28	X	-.07	-.07	0	%100
32	M28	Z	.122	.122	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.294	-.294	0	%100
2	M1	Z	.17	.17	0	%100
3	M2	X	-.294	-.294	0	%100
4	M2	Z	.17	.17	0	%100
5	M3	X	-.467	-.467	0	%100
6	M3	Z	.27	.27	0	%100
7	M4	X	-.462	-.462	0	%100
8	M4	Z	.266	.266	0	%100
9	M5	X	-.462	-.462	0	%100
10	M5	Z	.266	.266	0	%100
11	M6	X	-.467	-.467	0	%100
12	M6	Z	.27	.27	0	%100
13	RRU	X	-.659	-.659	0	%100
14	RRU	Z	.38	.38	0	%100
15	M10	X	-1.078	-1.078	0	%100
16	M10	Z	.622	.622	0	%100
17	M11	X	-1.078	-1.078	0	%100
18	M11	Z	.622	.622	0	%100
19	MP5A	X	-.419	-.419	0	%100
20	MP5A	Z	.242	.242	0	%100
21	MP4A	X	-.419	-.419	0	%100
22	MP4A	Z	.242	.242	0	%100
23	MP2A	X	-.419	-.419	0	%100
24	MP2A	Z	.242	.242	0	%100
25	MP1A	X	-.419	-.419	0	%100
26	MP1A	Z	.242	.242	0	%100
27	MP3A	X	-.419	-.419	0	%100
28	MP3A	Z	.242	.242	0	%100
29	M27	X	-.297	-.297	0	%100
30	M27	Z	.172	.172	0	%100
31	M28	X	-.331	-.331	0	%100
32	M28	Z	.191	.191	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	M3	X	-.493	-.493	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	-.484	-.484	0	%100
8	M4	Z	0	0	0	%100
9	M5	X	-.484	-.484	0	%100
10	M5	Z	0	0	0	%100
11	M6	X	-.493	-.493	0	%100
12	M6	Z	0	0	0	%100
13	RRU	X	-.76	-.76	0	%100
14	RRU	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
15	M10	X	-1.659	-1.659	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	-1.659	-1.659	0	%100
18	M11	Z	0	0	0	%100
19	MP5A	X	-.484	-.484	0	%100
20	MP5A	Z	0	0	0	%100
21	MP4A	X	-.484	-.484	0	%100
22	MP4A	Z	0	0	0	%100
23	MP2A	X	-.484	-.484	0	%100
24	MP2A	Z	0	0	0	%100
25	MP1A	X	-.484	-.484	0	%100
26	MP1A	Z	0	0	0	%100
27	MP3A	X	-.484	-.484	0	%100
28	MP3A	Z	0	0	0	%100
29	M27	X	-.483	-.483	0	%100
30	M27	Z	0	0	0	%100
31	M28	X	-.483	-.483	0	%100
32	M28	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.294	-.294	0	%100
2	M1	Z	-.17	-.17	0	%100
3	M2	X	-.294	-.294	0	%100
4	M2	Z	-.17	-.17	0	%100
5	M3	X	-.467	-.467	0	%100
6	M3	Z	-.27	-.27	0	%100
7	M4	X	-.462	-.462	0	%100
8	M4	Z	-.266	-.266	0	%100
9	M5	X	-.462	-.462	0	%100
10	M5	Z	-.266	-.266	0	%100
11	M6	X	-.467	-.467	0	%100
12	M6	Z	-.27	-.27	0	%100
13	RRU	X	-.659	-.659	0	%100
14	RRU	Z	-.38	-.38	0	%100
15	M10	X	-1.078	-1.078	0	%100
16	M10	Z	-.622	-.622	0	%100
17	M11	X	-1.078	-1.078	0	%100
18	M11	Z	-.622	-.622	0	%100
19	MP5A	X	-.419	-.419	0	%100
20	MP5A	Z	-.242	-.242	0	%100
21	MP4A	X	-.419	-.419	0	%100
22	MP4A	Z	-.242	-.242	0	%100
23	MP2A	X	-.419	-.419	0	%100
24	MP2A	Z	-.242	-.242	0	%100
25	MP1A	X	-.419	-.419	0	%100
26	MP1A	Z	-.242	-.242	0	%100
27	MP3A	X	-.419	-.419	0	%100
28	MP3A	Z	-.242	-.242	0	%100
29	M27	X	-.331	-.331	0	%100
30	M27	Z	-.191	-.191	0	%100
31	M28	X	-.297	-.297	0	%100
32	M28	Z	-.172	-.172	0	%100

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

Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.51	-.51	0	%100
2	M1	Z	-.883	-.883	0	%100
3	M2	X	-.51	-.51	0	%100
4	M2	Z	-.883	-.883	0	%100
5	M3	X	-.316	-.316	0	%100
6	M3	Z	-.548	-.548	0	%100
7	M4	X	-.315	-.315	0	%100
8	M4	Z	-.546	-.546	0	%100
9	M5	X	-.315	-.315	0	%100
10	M5	Z	-.546	-.546	0	%100
11	M6	X	-.316	-.316	0	%100
12	M6	Z	-.548	-.548	0	%100
13	RRU	X	-.38	-.38	0	%100
14	RRU	Z	-.659	-.659	0	%100
15	M10	X	-.207	-.207	0	%100
16	M10	Z	-.359	-.359	0	%100
17	M11	X	-.207	-.207	0	%100
18	M11	Z	-.359	-.359	0	%100
19	MP5A	X	-.242	-.242	0	%100
20	MP5A	Z	-.419	-.419	0	%100
21	MP4A	X	-.242	-.242	0	%100
22	MP4A	Z	-.419	-.419	0	%100
23	MP2A	X	-.242	-.242	0	%100
24	MP2A	Z	-.419	-.419	0	%100
25	MP1A	X	-.242	-.242	0	%100
26	MP1A	Z	-.419	-.419	0	%100
27	MP3A	X	-.242	-.242	0	%100
28	MP3A	Z	-.419	-.419	0	%100
29	M27	X	-.07	-.07	0	%100
30	M27	Z	-.122	-.122	0	%100
31	M28	X	-.051	-.051	0	%100
32	M28	Z	-.088	-.088	0	%100

Member Area Loads

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

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N21	max	1090.023	11	1188.886	19	616.6	1	-.341	7	1.05	11	.382	11
2		min	-983.13	5	262.211	1	-836.805	7	-1.134	13	-.956	5	-.342	5
3	N22	max	689.998	11	1344.477	13	1149.633	1	-.601	1	.694	11	.105	5
4		min	-795.693	5	328.999	7	-937.568	7	-1.545	19	-.788	5	-.331	35
5	N55	max	180.173	7	41.962	18	492.168	12	0	51	0	51	0	51
6		min	-181.86	1	7.001	12	-488.401	6	0	1	0	1	0	1
7	N56	max	28.083	2	60.344	23	347.802	2	0	51	0	51	0	51
8		min	-27.741	7	2.509	5	-343.976	8	0	1	0	1	0	1
9	Totals:	max	1738.673	10	2526.751	18	2571.019	1						
10		min	-1738.673	4	1074.209	12	-2571.014	7						

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

	Member	Shape	Code Che...	Loc[ft]	LC	Shear...	Loc[ft]	Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn
1	M1	L4X4X4	.441	6.25	27	.259	6.25	z	14	11880....	62532	3.138	5.12	1...	H2-1
2	M2	L4X4X4	.195	6.25	6	.243	3.125	y	20	11880....	62532	3.138	5.459	1...	H2-1
3	M3	L2x2x2	.095	2.348	7	.022	0	y	17	5342.3...	15908.4	.403	.638	1...	H2-1
4	M4	L2x2x2	.230	2.419	23	.032	0	y	20	5243.2...	15908.4	.403	.635	1...	H2-1
5	M5	L2x2x2	.191	2.32	15	.024	4.739	y	15	5243.2...	15908.4	.403	.635	1...	H2-1
6	M6	L2x2x2	.095	2.348	7	.014	0	y	21	5342.3...	15908.4	.403	.638	1...	H2-1
7	RRU	PIPE_4.0	.066	6.021	27	.042	6.464		1	73999....	93240	10.631	10.631	2...	H1-1b
8	M10	W8X18	.141	1	11	.046	.51	z	11	169573...	170424	12.582	45.9	1...	H1-1b
9	M11	W8X18	.102	1	27	.033	.896	y	13	169573...	170424	12.582	45.9	1...	H1-1b
10	MP5A	PIPE_2.0	.225	3.938	7	.101	3.844		12	12143....	32130	1.872	1.872	1...	H1-1b
11	MP4A	PIPE_2.0	.068	3.375	7	.071	3.469		12	12143....	32130	1.872	1.872	1...	H1-1b
12	MP2A	PIPE_2.0	.111	3.375	7	.055	5.063		3	12143....	32130	1.872	1.872	1	H1-1b
13	MP1A	PIPE_2.0	.149	3.938	8	.076	3.844		2	12143....	32130	1.872	1.872	2...	H1-1b
14	MP3A	PIPE_2.0	.127	4.375	1	.117	.438		5	17855....	32130	1.872	1.872	1...	H1-1b
15	M27	PIPE_2.0	.055	1.088	6	.004	7.46		16	16487....	32130	1.872	1.872	1...	H1-1b
16	M28	PIPE_2.0	.090	0	11	.006	3.922		23	26718....	32130	1.872	1.872	1...	H1-1b

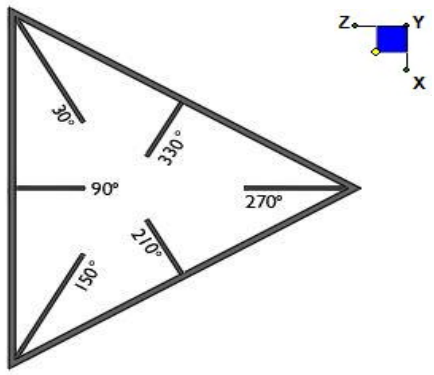
Client:	Verizon Wireless	Date:	10/4/2021
Site Name:	SHELTON NORTH 2 CT		
Project No.	21781010A		
Title:	Mount Analysis	Page:	1

Version 3.1

I. Mount-to-Tower Connection Check

RISA Model Data

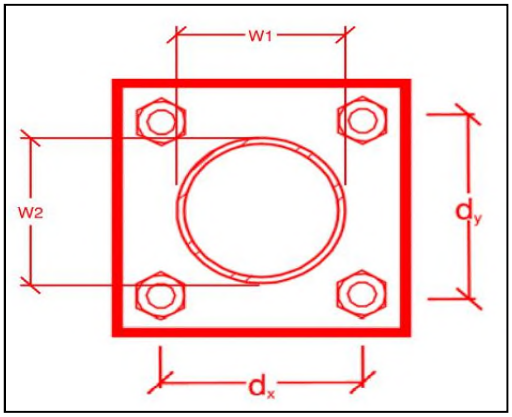
Nodes *(labeled per RISA)*	Orientation *(per graphic of typical platform)*
N22	90
N21	90



TYPICAL PLATFORM

Tower Connection Bolt Checks

Any moment resistance?:	yes
Bolt Quantity per Reaction:	6
d_x (in) *(Delta X of typ. bolt config. sketch)*:	6
d_y (in) *(Delta Y of typ. bolt config. sketch)*:	4
Bolt Type:	A307
Bolt Diameter (in):	0.625
Required Tensile Strength (kips):	9.8
Required Shear Strength (kips):	2.7
Tensile Strength / bolt (kips):	10.0
Shear Strength / bolt (kips):	6.0
Tensile Capacity Overall:	**16.3%***
Shear Capacity Overall:	**7.5%**



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

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Passing Mount Analysis

Passing Mount Analysis requires a PMI due to a modification in loading.
Electronic pdf version of this can be downloaded at https://pmi.vzwsmart.com.
For additional questions and support, please reach out to pmisupport@colliersengineering.com

---

Purpose – to provide SMART Tool structural vendor 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 installation was completed in accordance with this Passing Mount Analysis.
- Contractor shall relay any data that can impact the performance of the mount, this includes safety issues.

Base Requirements:

- If installation will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide "as built mount drawings" showing contractor's name, contact information, preparer's signature, and date. Any deviations from the drawings (Proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo should be time and date stamped
- Photos should be high resolution.
- 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. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: ***https://pmi.vzwsmart.com***

Photo Requirements:

- *Photos taken at ground level*
  - Photo of Gate Signs showing the tower owner, site name, and number.
  - Overall tower structure after installation.
  - Photos of the mount after installation; if the mounts are at different rad elevations, pictures must be provided for all elevations that equipment was installed.
- *Photos taken at Mount Elevation*
  - Photos showing the safety climb wire rope above and below the mount prior to installation.
  - Photos showing the climbing facility and safety climb if present.

- Photos showing each individual sector after installation. Each entire sector shall be in one photo to show the interconnection of members.
  - These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.

Antenna & equipment placement and Geometry Confirmation:

- The contractor shall certify that the antenna & equipment placement and geometry is in accordance with the sketch and table as included in the mount analysis and noted below.

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

Issue:

Contractor to relocate mount pipe in position 4 (when viewing mounts from behind counting left to right) by 6" away from position 5 mount pipe. Contractor to connect mount pipe to horizontals with (1) 1/2" Dia. U-bolts at each connection point. Contractor to drill holes as necessary. Contractor shall install all proposed radio units not shown in the attached placement diagrams onto the center mount mast pipe on all sectors.

Response:

Contractor certifies that the climbing facility / safety climb was not damaged during installation:

☐ Yes ☐ No

Comments:

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

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

Or:

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

Antenna & equipment placement and Geometry Confirmation:

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

OR

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

Special Instruction Confirmation:

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

Certifying Individual:

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

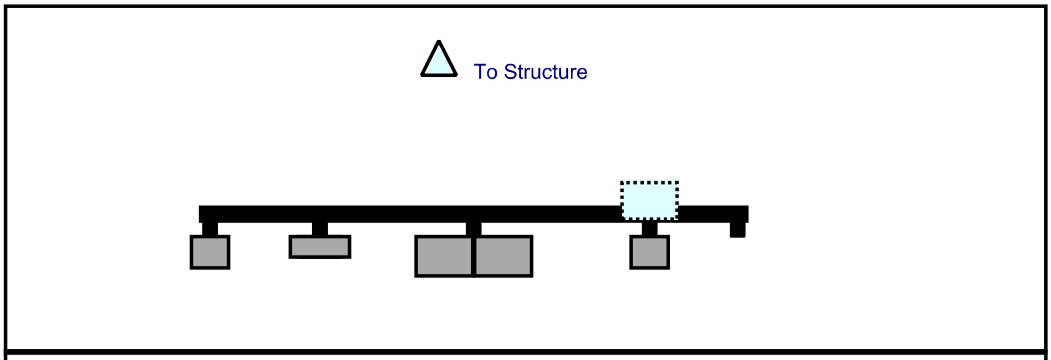
Structure: 467793-VZW - SHELTON NORTH 2 CT

Sector: **A** 10/4/2021

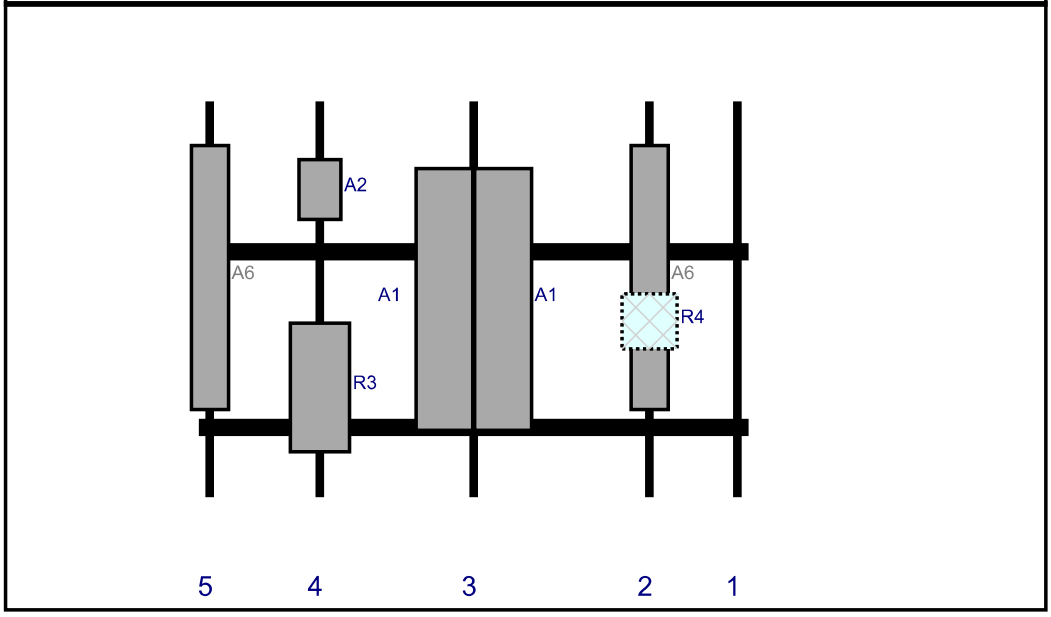
Structure Type: Self Support 10071773

Mount Elev: 124.50 Page: 1

Plan View



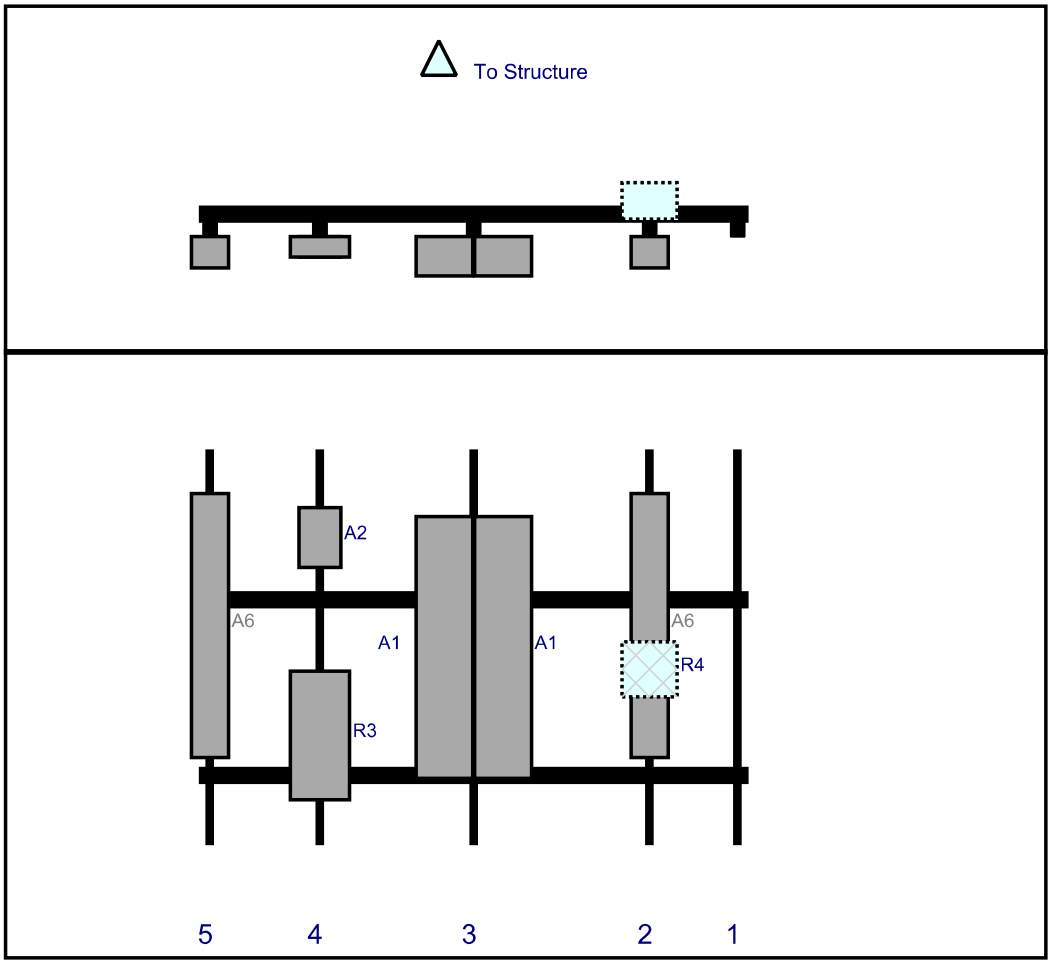
Front View
Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A6	DB846F65ZAXY	72	10	123	2	a	Front	48	0	Retained	06/01/2021
R4	RF4439d-25A	15	15	123	2	a	Behind	60	0	Added	
A1	MX06FRO660-03	71.3	15.4	75	3	a	Front	54	8	Added	
A1	MX06FRO660-03	71.3	15.4	75	3	b	Front	54	-8	Added	
A2	XXDWMM-12.5-65-8T-CBRS	16.2	11.4	33	4	a	Front	24	0	Added	
R3	MT6407-77A	35.1	16.1	33	4	a	Front	78	0	Added	
A6	DB846F65ZAXY	72	10	3	5	a	Front	48	0	Retained	06/01/2021

Plan View

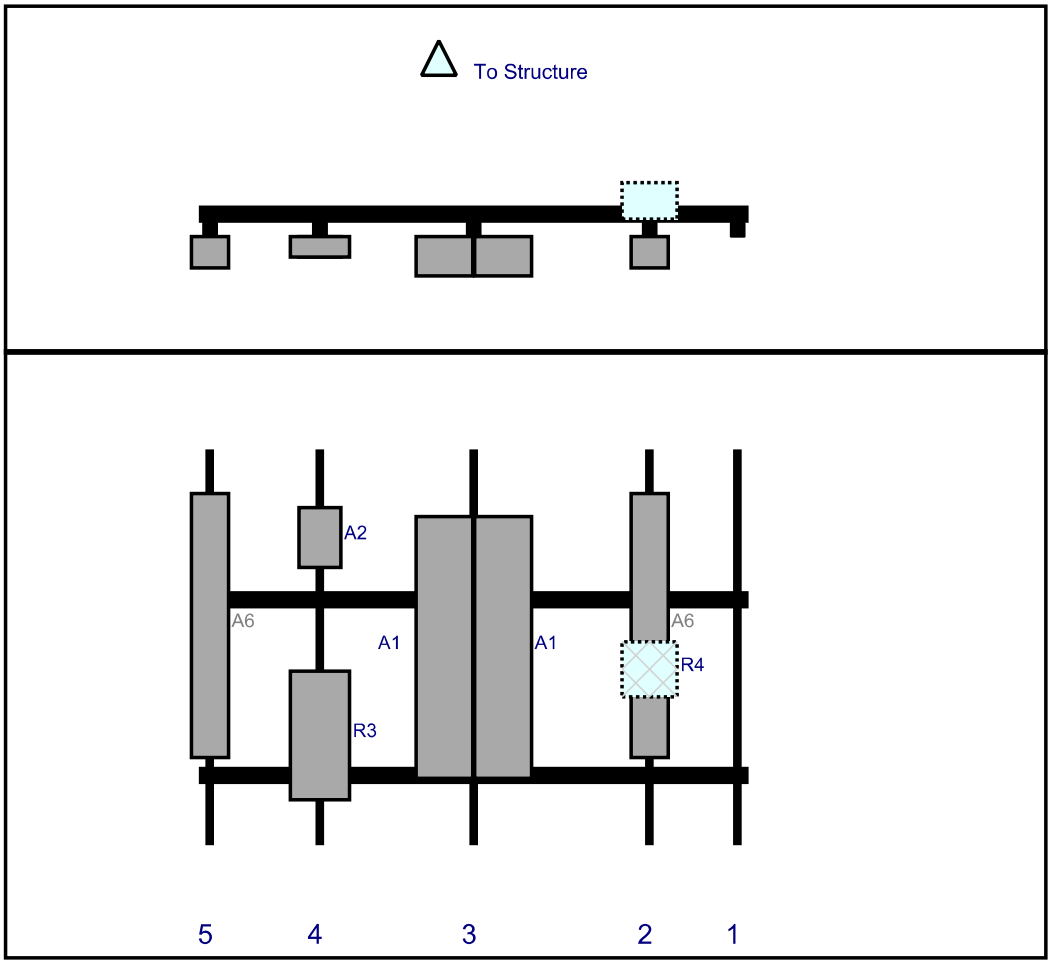
Front View
Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A6	DB846F65ZAXY	72	10	123	2	a	Front	48	0	Retained	06/01/2021
R4	RF4439d-25A	15	15	123	2	a	Behind	60	0	Added	
A1	MX06FRO660-03	71.3	15.4	75	3	a	Front	54	8	Added	
A1	MX06FRO660-03	71.3	15.4	75	3	b	Front	54	-8	Added	
A2	XXDWMM-12.5-65-8T-CBRS	16.2	11.4	33	4	a	Front	24	0	Added	
R3	MT6407-77A	35.1	16.1	33	4	a	Front	78	0	Added	
A6	DB846F65ZAXY	72	10	3	5	a	Front	48	0	Retained	06/01/2021

Plan View

Front View
Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A6	DB846F65ZAXY	72	10	123	2	a	Front	48	0	Retained	06/01/2021
R4	RF4439d-25A	15	15	123	2	a	Behind	60	0	Added	
A1	MX06FRO660-03	71.3	15.4	75	3	a	Front	54	8	Added	
A1	MX06FRO660-03	71.3	15.4	75	3	b	Front	54	-8	Added	
A2	XXDWMM-12.5-65-8T-CBRS	16.2	11.4	33	4	a	Front	24	0	Added	
R3	MT6407-77A	35.1	16.1	33	4	a	Front	78	0	Added	
A6	DB846F65ZAXY	72	10	3	5	a	Front	48	0	Retained	06/01/2021

Maser Consulting Connecticut

Subject	TIA-222-H Usage	
Site Information	*Site ID:*	*467793-VZW / SHELTON NORTH 2 CT*
	Site Name:	*SHELTON NORTH 2 CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*219 Nells Rock Road* *Shelton, Connecticut 06484* *Fairfield County*
	Latitude:	*41.304198°*
	Longitude:	*-73.118313°*
Structure Information	*Tower Type:*	*162.5-Ft Self Support*
	Mount Type:	*12.50-Ft T-Frame*

To Whom It May Concern,

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

The 2015 International Building Code states that, in Section 3108, telecommunication towers shall be designed and constructed in accordance with the provisions of TIA-222. TIA-222-H is the latest revision of the TIA-222 Standard, effective as of January 01, 2018.

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

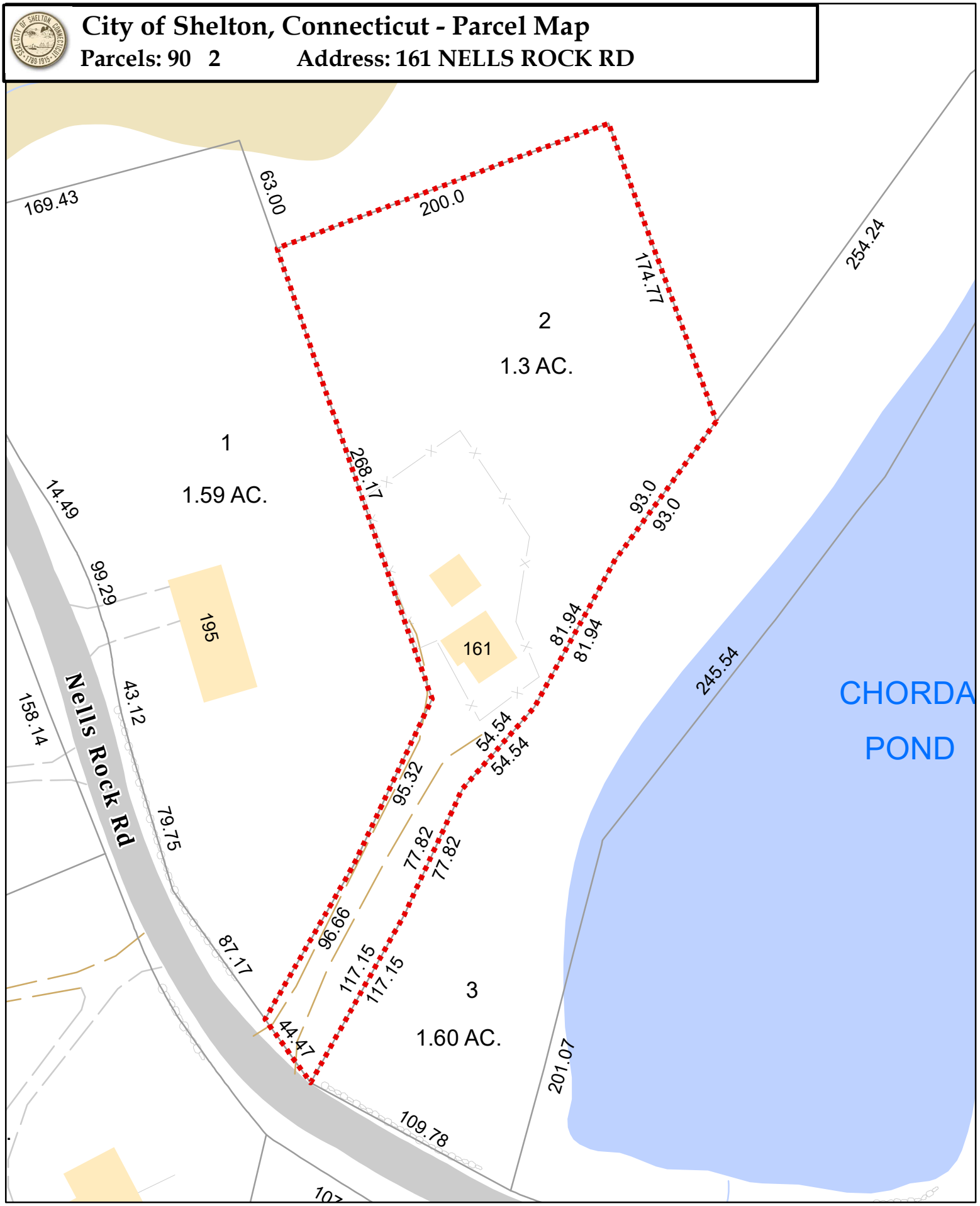
The TIA-222-H standard clarifies these specific requirements for the antenna mount analysis such as modeling methods, seismic analysis, 30-degree increment wind directions and maintenance loading. Therefore, it is our opinion that TIA-222-H is the most appropriate standard for antenna mount structural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

Sincerely,

Digitally signed by Justin Linette
Date: 2021.10.05 12:28:52-04'00'

Justin Linette, PE
Technical Manager

ATTACHMENT 5


City of Shelton, Connecticut - Parcel Map
Parcels: 90 2 Address: 161 NELLS ROCK RD
169.43
63.00
200.0
174.77
254.24
2
1.3 AC.
1
1.59 AC.
268.17
14.49
99.29
93.0
93.0
81.94
81.94
195
161
245.54
CHORDA
POND
158.14
43.12
Nells Rock Rd
54.54
54.54
95.32
79.75
77.82
77.82
96.66
87.17
117.15
117.15
3
1.60 AC.
44.47
201.07
109.78
N
Approximate Scale: 1:800
50 0 50 Feet
Map Produced
October 2021
Disclaimer: This map is for informational purposes only.
All information is subject to verification by any user.
The City of Shelton and its mapping contractors assume
no legal responsibility for the information contained herein.

Town of Shelton, CT

Property Listing Report

Map Block Lot	90 2	Building #	1	Unique Identifier	90 2

Property Information

Property Location	161 NELLS ROCK RD
Mailing Address	1010 PINE ST LOUIS, MO 63101
Land Use	Radio/TV Trans
Zoning Code	R-1
Neighborhood	23000

Owner	NEW CINGULAR WIRELESS PCS LLC
Co-Owner	
Book / Page	3564/0303
Land Class	Public Utility
Census Tract	
Acreage	1.3

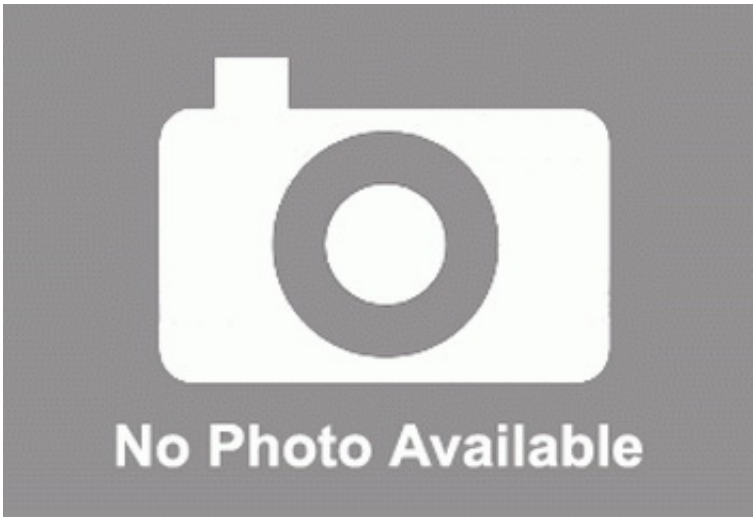
Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	71400	49980
Outbuildings	17600	12320
Land	130000	91000
Total	219000	153300

Utility Information

Electric	NA
Gas	NA
Sewer	NA
Public Water	NA
Well	NA



Primary Construction Details

Year Built	1955
Building Desc.	Commercial
Building Style	
Stories	1
Exterior Walls	Concrete Block
Exterior Walls 2	
Interior Walls	
Interior Walls 2	
Interior Floors 1	
Interior Floors 2	

Heating Fuel	
Heating Type	
AC Type	
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	
Occupancy	0

Building Use	Radio/TV Trans
Building Condition	Average
Frame Type	3
Fireplaces	0
Bsmt Gar	0
Fin Bsmt Area	0
Fin Bsmt Quality	
Building Grade	0
Roof Style	Flat
Roof Cover	Composite Built Up

Report Created On 3/22/2022

Town of Shelton, CT

Property Listing Report | Map Block Lot 90 2 | Building # 1 | Unique Identifier 90 2

Detached Outbuildings

Type	Description	Area (sq ft)	Condition	Year Built
Fence	8 Ft Chain	3200	Average	1965

Attached Extra Features

Type	Description	Area (sq ft)	Condition	Year Built

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
NEW CINGULAR WIRELESS PCS LLC	3564_0303	6/23/2015	0
AT & T CAPITAL SERVICES INC	3514_0208	10/28/2014	0
SOUTHERN NEW ENGLAND	0162_0385	6/30/1959	0

Report Created On 3/22/2022

ATTACHMENT 6

UNITED STATES POSTAL SERVICE®

SHELTON NORTH 2

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here ***Postmark with Date of Receipt.***
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	neopost 03/23/2022 US POSTAGE $002.99 ZIP 06103 041L12203937
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Mark A. Lauretti, Mayor City of Shelton 54 Hill Street Shelton, CT 06484				
2.	Alexander Rosetti, Planning and Zoning Administrator City of Shelton 54 Hill Street Shelton, CT 06484				
3.	New Cingular Wireless PCS LLC 1010 Pine Street St. Louis, MO 63101				
4.					
5.					
6.					

MAR 23 2022