Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

August 1, 2023

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

RE: **Notice of Exempt Modification for Verizon**
Crown #876405_Crown_VZW
186 Minortown Road, Woodbury, CT 06798
Latitude: 41.567997 / Longitude: -73.179680

Dear Ms. Bachman:

Verizon Wireless is requesting to file an exempt modification for an existing tower located at 186 Minortown Road, Woodbury, CT 06798. The property is owned by Raymond Hardisty and the tower is owned by Crown Castle. Verizon now intends to add one (1) interference mitigation filter to be installed at the 108-foot level of the tower of the 110-foot monopole. This modification may include B2, B5, B17, B14, B29, B30, B66 & n77 hardware that is 4G(LTE) and/or 5GNR capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:

Installed New:
(1) Kaelus BSF0020F3V1-1 Twin Bandstop 900MHZ Interference Mitigation Filter

The facility was approved by the Connecticut Siting Council in Docket No. 235 on June 19, 2003. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §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.SA. § 16-SOj-73, a copy of this letter is being sent to First Selectman Barbara Perkinson and Town Planner William Agresta for the Town of Woodbury. A copy is also being sent to Raymond Hardisty as the property owner and Crown Castle is the tower owner. The proposed modifications will not result in an increase in the height of the existing tower.

1. The proposed modifications will not require the extension of the site boundary.
2. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
3. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.

4. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
5. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, Verizon respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Domenica Tatasciore.

Sincerely,

Domenica Tatasciore
Site Acquisition Specialist
1800 W. Park Drive
Westborough, MA 01581
(508) 621-9161/ Domenica.Tatasciore@crowncastle.com

Attachments
cc:

Barbara Perkinson, First Selectman
Town of Woodbury
281 Main St. South
Woodbury, CT 06798
203-263-2141

William Agresta, Town Planner
Town of Woodbury
281 Main St. South
Woodbury, CT 06798
203-263-3467

Raymond Hardisty
200 Minortown Road
Woodbury, CT 06798
203-263-5770

Crown Castle, Tower Owner

From:	TrackingUpdates@fedex.com
To:	Tatasciore, Domenica
Subject:	FedEx Shipment 772864360830: Your package has been delivered
Date:	Wednesday, August 2, 2023 10:27:46 AM

FedEx

Hi. Your package was delivered Wed, 08/02/2023 at 10:20am.

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	772864360830
FROM	WESTBOROUGH, MA, US
TO	WOODBURY, CT, US
SHIP DATE	Mon 7/31/2023 05:28 PM
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US
DESTINATION	WOODBURY, CT, US
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

From: TrackingUpdates@fedex.com
To: Tatasciore, Domenica
Subject: FedEx Shipment 772864361251: Your package has been delivered
Date: Tuesday, August 1, 2023 10:04:52 AM

FedEx

Hi. Your package was delivered Tue, 08/01/2023 at 9:58am.

Delivered to 281 MAIN ST S, WOODBURY, CT 06798

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	772864361251
FROM	Crown Castle 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	Town of Woodbury William Agresta, Town Planner 281 Main St. South WOODBURY, CT, US, 06798
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Mon 7/31/2023 05:28 PM
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	WOODBURY, CT, US, 06798
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

From: TrackingUpdates@fedex.com
To: Tatasciore, Domenica
Subject: FedEx Shipment 772864372410: Your package has been delivered
Date: Tuesday, August 1, 2023 9:31:52 AM

FedEx

Hi. Your package was delivered Tue, 08/01/2023 at 9:25am.

Delivered to 200 MINORTOWN RD, WOODBURY, CT 06798

OBTAIN PROOF OF DELIVERY

Delivery picture not showing? View in browser.

How was your delivery ?

TRACKING NUMBER	772864372410
FROM	Crown Castle 1800 West Park Drive Suite 200 WESTBOROUGH, MA, US, 01581
TO	Raymond Hardisty 200 Minortown Road WOODBURY, CT, US, 06798
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Mon 7/31/2023 05:28 PM
DELIVERED TO	Residence
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	WOODBURY, CT, US, 06798

DOCKET NO. 235 - Sprint Spectrum L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at 186 Minortown Road or Main Street North, North Woodbury, Connecticut.	}	Connecticut Siting Council

June 19, 2003

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes **§** 16-50k, be issued to Sprint Spectrum L.P. d/b/a Sprint PCS for the construction, maintenance and operation of a wireless telecommunications facility at 186 Minortown Road, Woodbury, Connecticut. The Council denies certification of Site B located at Main Street North, Woodbury, Connecticut.

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

1. The tower shall be constructed no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint PCS, AT&T Wireless PCS, LLC and other entities, both public and private, but such tower shall not exceed a height of 100 feet above ground level.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:

   a. Visual simulations of the monopole and stealth options for a 100-foot tower at the site including a flagpole and tree tower;

   b. a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping; and

   c. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or

economic reasons precluding such tower sharing.

6. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

7. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.

8. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Waterbury Republican American, and Voices Sunday – The Weekly Star.

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

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
Sprint Spectrum L.P. d/b/a Sprint PCS	Thomas J. Regan, Esq. Brown Rudnick Berlack Israels LLP CityPlace I, 38th Floor 185 Asylum Street Hartford, CT 06103-6522 860-509-6522
Intervenor	**Its Representative**
AT&T Wireless PCS, LLC d/b/a AT&T Wireless	Daniel F. Leary, Esq. Cuddy & Feder LLP 90 Maple Avenue White Plains, New York 10601 (914) 761-1300
Party	
Anthony J. Vallillo	

Petition No. 678 - Project Summary

Cellco Partnership

North Woodbury, Connecticut

July 13, 2004

Introduction

Cellco Partnership d/b/a as Verizon Wireless (Cellco) seeks to extend the height of a Sprint Spectrum L.P. (Sprint) owned 100-foot monopole located in North Woodbury, Connecticut. The existing tower was approved by the Council on June 19, 2003 under Docket 235. The tower currently supports the antennas of Sprint (100-foor centerline) and AT&T Wireless PCS LLC (90-foot centerline). Cellco is seeking a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the tower extension. A copy of the Petition was provided to the Town. Additionally, Cellco contacted the First Selectman to discuss the proposal. The Town has no comment on the proposed tower extension. Abutting property owners were also notified of the proposed extension. No abutters commented on the proposal.

Proposed Modification

Cellco seeks to extend the height of the approved tower from 100 feet to 110 feet. Cellco would install three flush mounted PCS panel antennas a centerline height of 110 feet, bringing the total height of the facility to 112 feet above ground level. Cellco would expand the compound by 20 feet to the north to accommodate a 12-foot by 30-foot equipment shelter. The proposed compound expansion is within Sprint's 100-foot by 100-foot lease area and would require minimal grading. Additional site clearing would not be required.

Visibility Impact

Extending the tower from 100 feet agl to 110 feet agl would increase visibility from 27-acres to 34-acres within a two-mile radius of the site, mainly as a result of the expansion of existing areas with visibility. In addition, approximately 4 acres of seasonal visibility would occur from the open areas immediately southeast of the site. The extended tower would be seasonally visible from 0.2 miles of North Main Street, 0.1 miles of Minortown Road, and 0.2 miles of Middle Road Turnpike.

Power Density

The conservative worst-case approximation of electromagnetic radiofrequency emissions for telecommunications operations at the site would increase from 22.4% to 24.2% of the applicable standard for uncontrolled environments.

Content Last Modified on 8/31/2004 4:27:37 PM

Town of Woodbury, CT

Property Listing Report

Map Block Lot	Building #	Unique Identifier
025-036		346700

Property Information

Property Location	186 MINORTOWN RD
Mailing Address	200 MINORTOWN ROAD WOODBURY CT 067983009
Land Use	Residential
Zoning Code	OS60
Neighborhood	26

Owner	HARDISTY RAYMOND A
Co-Owner	
Book / Page	281/ 769
Land Class	Vacant Land
Census Tract	3621
Acreage	33.74

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Outbuildings	0	0
Land	383013	53140
Total	383013	0

Utility Information

Electric	No
Gas	No
Sewer	No
Public Water	No
Well	No

Primary Construction Details

Year Built	
Building Desc.	
Building Style	
Stories	
Exterior Walls	
Exterior Walls 2	
Interior Walls	
Interior Walls 2	
Interior Floors 1	
Interior Floors 2	

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

Building Use	
Building Condition	
Frame Type	
Fireplaces	
Bsmt Gar	
Fin Bsmt Area	
Fin Bsmt Quality	
Building Grade	
Roof Style	
Roof Cover	

Report Created On 7/26/2023

Town of Woodbury, CT

Property Listing Report | Map Block Lot: 025-036 | Building #: | Unique Identifier: 346700

Detached Outbuildings

Type	Description	Area (sq ft)	Condition	Year Built

Attached Extra Features

Type	Description	Area (sq ft)	Condition	Year Built

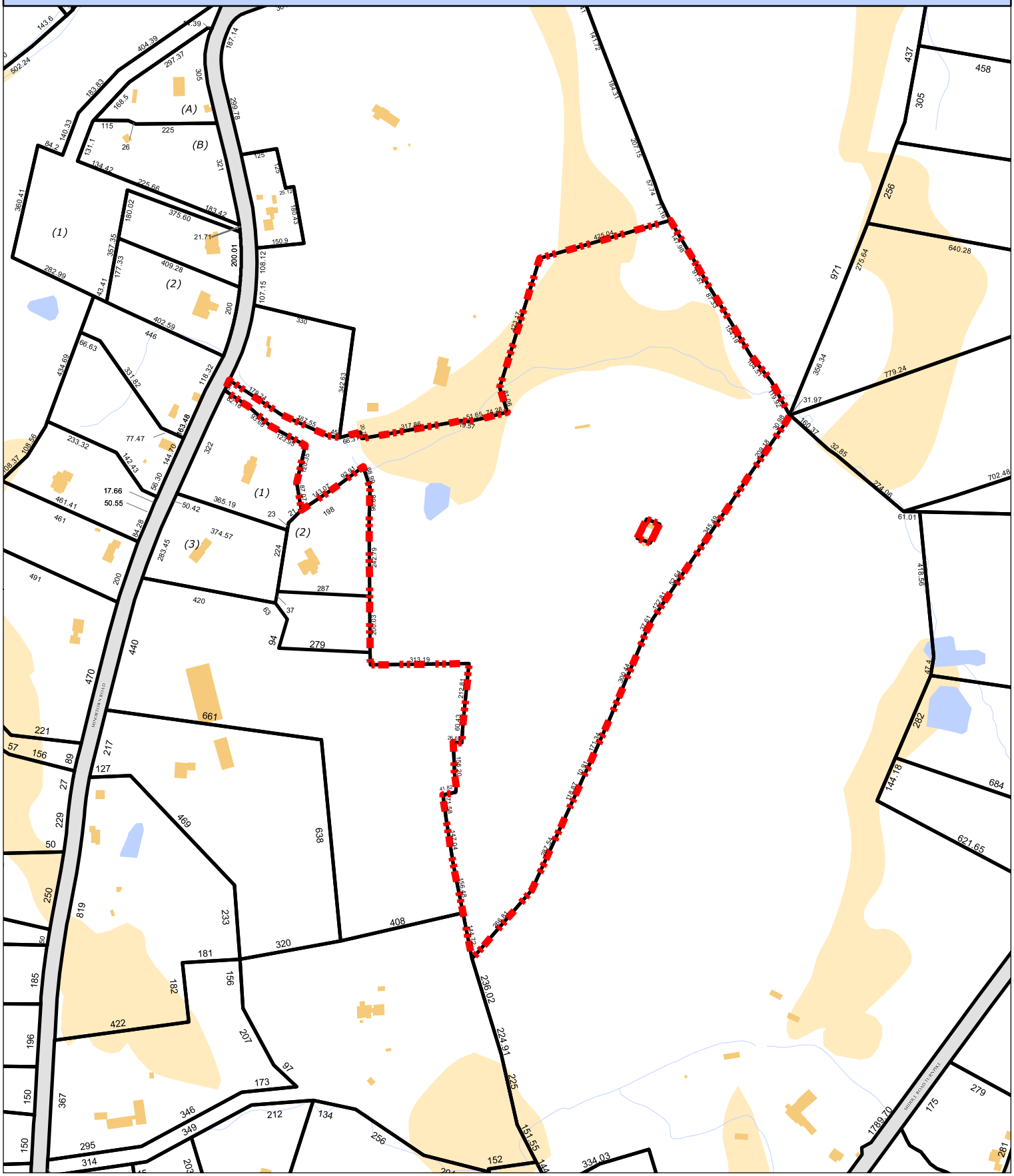
Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
HARDISTY RAYMOND A	281_ 769	10/22/2002	0

Report Created On 7/26/2023

Town of Woodbury, Connecticut - Assessment Parcel Map

Parcel: 025-036 Address: 186 MINORTOWN RD



Approximate Scale: 1 inch = 400 feet

0 200 400 600 800 Feet

Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The Town of Woodbury and its mapping contractors assume no legal responsibility for the information contained herein.

Map Produced: 6/16/2021

BSF0020F3V1-1

TWIN BANDSTOP 900MHZ INTERFERENCE MITIGATION FILTER

The BSF0020 is ideal for co-located 700, 850 and 900 networks. Utilising a 2.6MHz guardband the BSF0020 provides rejection of the 900 UL band while passing 700/850 UL and DL bands. Capable of being used in an outdoor environment the BSF0020 contains two identical bandstop filters, suitable for 2x2 MIMO configuration, offering excellent insertion loss, group delay and rejection.

FEATURES

- Passes full 700 and 850 bands
- Low insertion loss
- Rejection of 900MHz uplink
- DC/AISG pass
- Twin unit
- Dual twin mounting available

TECHNICAL SPECIFICATIONS

BAND NAME	700 PATH / 850 UPLINK PATH	850 DOWNLINK PATH
Passband	698 - 849MHz	869 - 891.5MHz
Insertion loss	0.1dB typical / 0.3dB maximum	0.5dB typical, 1.45dB maximum
Return loss	24dB typical, 18dB minimum	
Maximum input power (Per Port)	100W average	200W average and 66W per 5MHz
Rejection	53dB minimum @ 894.1 - 896.5MHz	

ELECTRICAL	
Impedance	50Ohms
Intermodulation products	-160dBc maximum in UL Band (assuming 20MHz Signal), with 2 x 43dBm carriers -153dBc maximum with 2 x 43dBm

DC / AISG	
Passband	0 - 13MHz
Insertion loss	0.3dB maximum
Return loss	15dB minimum
Input voltage range	± 33V
DC current rating	2A continuous, 4A peak
Compliance	3GPP TS 25.461

ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-20ºC to +60ºC | -4°F to +140°F
Ingress protection	IP67
Altitude	2600m | 8530ft
Lightning protection	RF port: ±5kA maximum (8/20us), IEC 61000-4-5 – Unit must be terminated with some lightning protection circuits.
MTBF	>1,000,000 hours
Compliance	ETSI EN 300 019 class 4.1H, RoHS, NEBS GR-487-CORE

MECHANICAL	
Dimensions H x D x W	269 x 277 x 80mm | 10.60 x 10.90 x 3.15in (Excluding brackets and connectors)
Weight	8.0 kg | 17.6 lbs (no bracket)
Finish	Powder coated, light grey (RAL7035)
Connectors	RF: 4.3-10 (F) x 4
Mounting	Optional pole/wall bracket supplied with two metal clamps 45-178mm diameter poles or custom bracket. See ordering information.

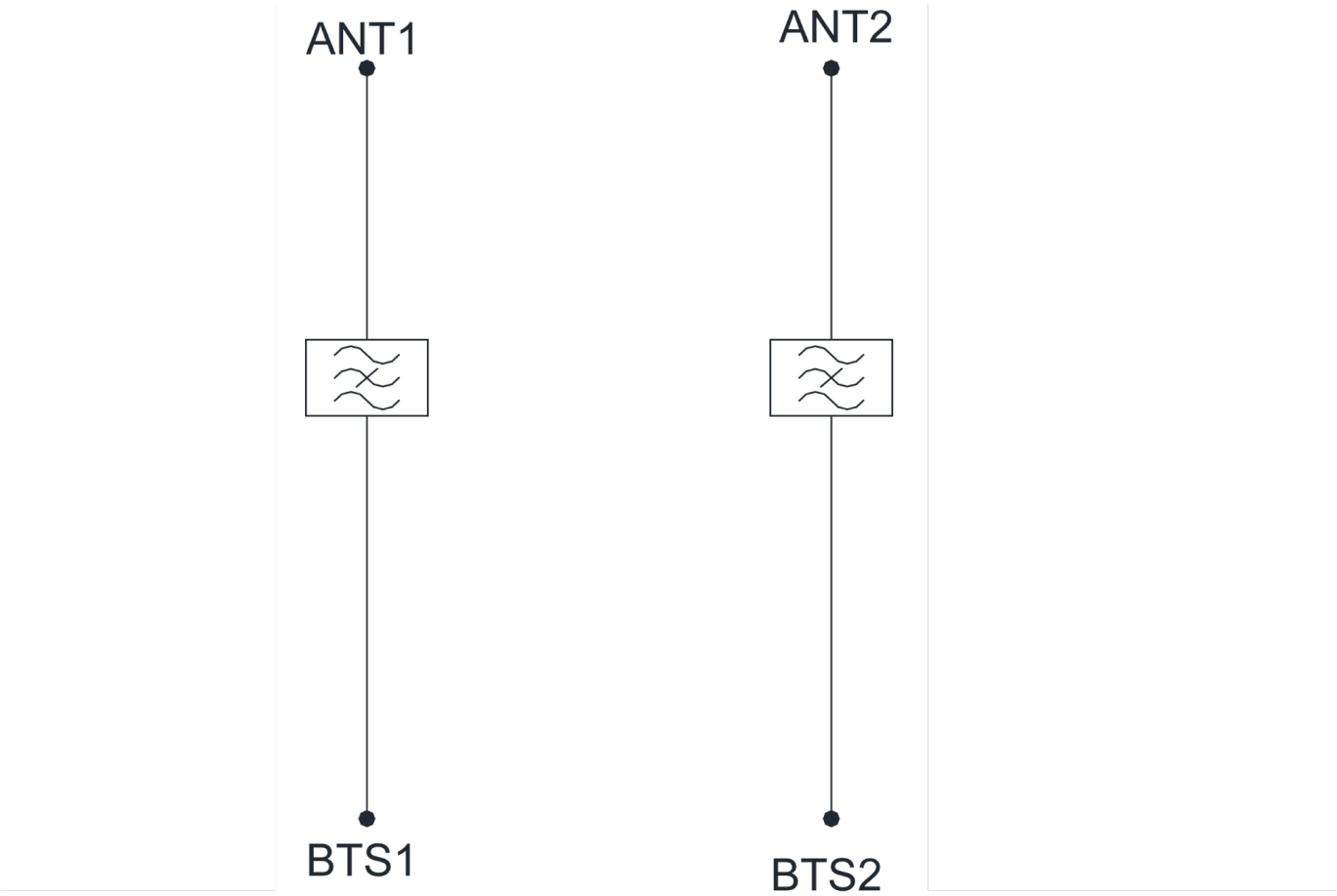
Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

ORDERING INFORMATION

PART NUMBER	CONFIGURATION	OPTIONAL FEATURES	CONNECTORS
BSF0020F3V1	TWIN, 2 in / 2 out	DC/AISG PASS NO BRACKET	4.3-10 (F)
BSF0020F3V1-1	TWIN, 2 in / 2 out	DC/AISG PASS	4.3-10 (F)
BSF0020F3V1-2	QUAD, 4 in / 4 out	DC/AISG PASS	4.3-10 (F)

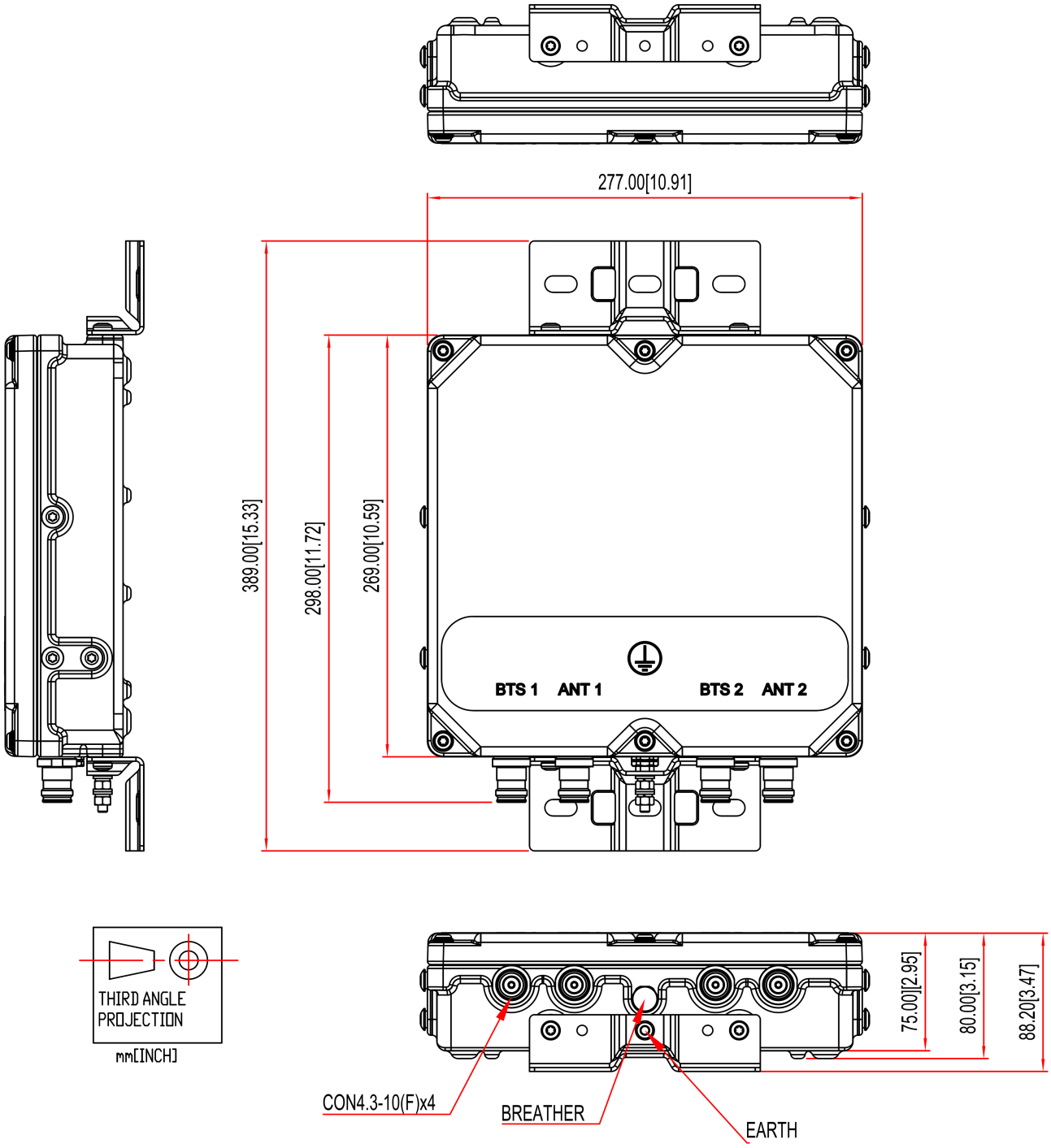
Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

ELECTRICAL BLOCK DIAGRAM



Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

MECHANICAL BLOCK DIAGRAM



Contact Us: +1 303 768 8080 | +61 (0) 7 3907 1200 | www.kaelus.com

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

Antenna Mount Analysis Report and PMI Requirements

Mount ReAnalysis

SMART Tool Project #: 10206438
Colliers Engineering & Design CT, P.C. Project #: 23777090

June 30, 2023

Site Information	*Site ID:*	*5000248228-VZW / WOODBURY CT*
	Site Name:	*WOODBURY CT*
	Carrier Name:	*Verizon Wireless*
	Address:	*186 Minortown Road* *Woodbury, Connecticut 06798* *Litchfield County*
	Latitude:	*41.567996°*
	Longitude:	*-73.179681°*
Structure Information	*Tower Type:*	*201-Ft Monopole*
	Mount Type:	*12.50-Ft T-Arm*

FUZE ID # 17123853

Analysis Results

T-Arm: **96.2% Pass***

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

******Contractor PMI Requirements*:**
Included at the end of this MA report
Available & Submitted via portal at https://pmi.vzwsmart.com

For additional questions and support, please reach out to:
pmisupport@colliersengineering.com

Report Prepared By: Gianna Argentina

Executive Summary:

The objective of this report is to 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: 16272068, dated February 10, 2021*
Mount Mapping Report	*Colliers, Project #: 468304, dated October 1, 2021*
PMI Report	*Paul J Ford, SMART Tool Project #: 10110853, dated January 30, 2023*
Photos	*Photos dated December 20, 2022*
Filter Add Guidance	*Guidance provided by Verizon*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H 2022 Connecticut State Building Code (CSBC), Effective October 1, 2022	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	116 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	C
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.983
Seismic Parameters:	S_S:	0.192 g
	S_1:	0.054 g
Maintenance Parameters:	Wind Speed (3-sec. Gust):	30 mph
	Maintenance Load, Lv:	250 lbs.
	Maintenance Load, Lm:	500 lbs.
Analysis Software:	RISA-3D (V17)	

Final Loading Configuration:

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
107.00	107.00	1	KAelus	BSF0020F3V1-1	Added
		6	Commscope	JAHH-65B-R3B	Retained
		1	Amphenol	BXA-80063/4CF 5	
		2	Amphenol Antel	BXA-80080/4CF FP	
		3	Samsung	64T64R	
		3	Commscope	CBC78T-DS-43	
		1	RFS	DB-C1-12C-24AB-0Z	
		3	Samsung	B2/B66A RRH-BR049	
		3	Samsung	B5/B13 RRH-BR04C	

Any proposed antennas not currently installed should be mounted such that the centerline of the antennas does not exceed 6 inches vertically from the center of the antenna mounts.

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

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

Standard Conditions:

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

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

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

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

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

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

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

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

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

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

Analysis Results:

Component	Utilization %	Pass/Fail
Mount Pipe	53.3 %	Pass
Face Horizontal	87.6 %	Pass
Standoff Horizontal	59.1 %	Pass
Mount Connection	96.2 %	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**96.2%**

The mount has been found structurally adequate for all steel and external connection capacities. Serviceability in accordance with TIA-222-H Section 4.9.11.3 has not been considered.

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

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	6.2	1.6	13.1	8.5
0.5	8.1	2.2	17.8	11.9
1	9.8	2.5	22.4	15.1

Notes:
- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 1 sector.
- Ka factors included in (EPA)a calculations

Requirements:

The existing mounts are **SUFFICIENT** for the final loading configuration shown in attachment 2 and do not require modifications. Additional requirements are noted below.

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

Attachments:

1. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Photos
4. Analysis Calculations

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

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MDG #: 5000248228 SMART Project #: 10206438 Fuze Project ID:

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.

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

Issue:

Response:

Special Instruction Confirmation:

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

☐ All hardware listed in the Special Instructions above (if applicable) has been properly installed, and the existing hardware was inspected.

☐ The material utilized was as specified in the SMART Tool engineering vendor Special Instructions above (if applicable) and included in the material certification folder is a packing list or invoice for these materials.

OR

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

Comments:

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

☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

☐ Yes ☐ No

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

☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Certifying Individual:

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

Structure: 5000248228-VZW - WOODBURY CT

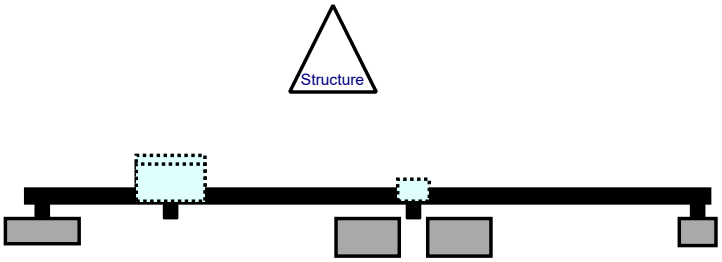
Sector: **A** 6/30/2023

Structure Type: Monopole 10206438

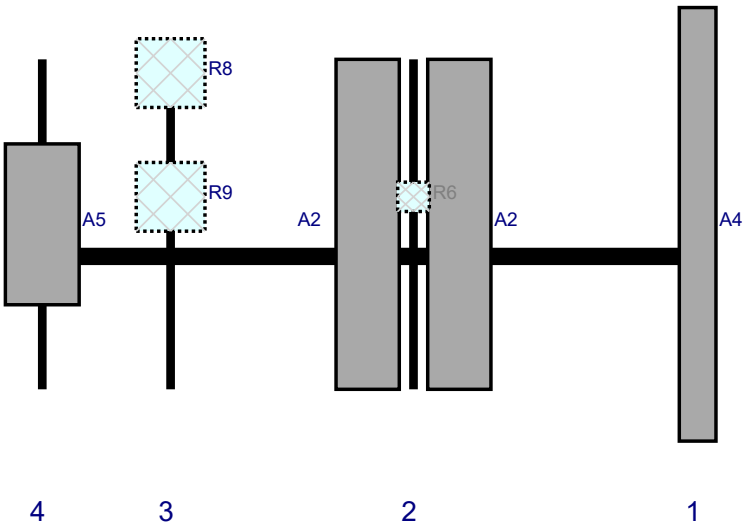
Mount Elev: 107.00 Page: 1

Colliers Engineering & Design

Plan View

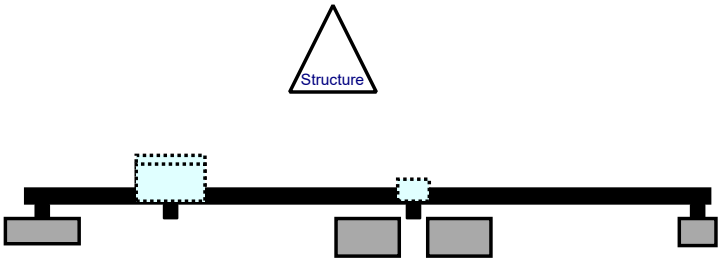


Front View - Looking at Structure

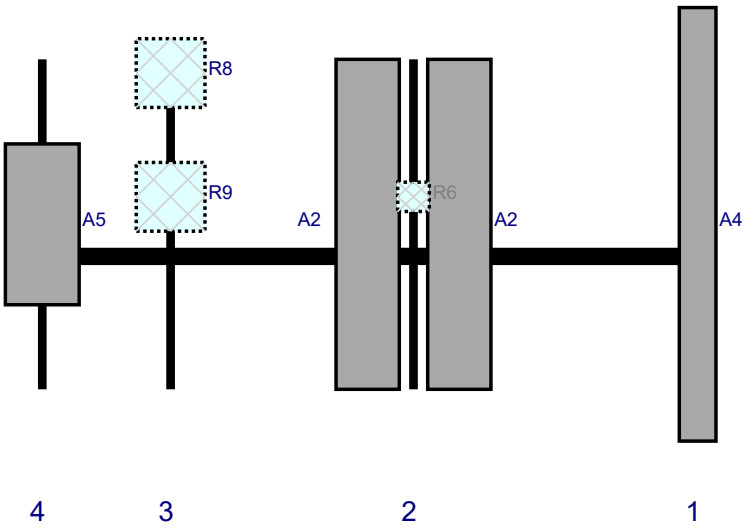


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A4	BXA-80080/4CF FP	94.6	8	147	1	a	Front	36	0	Retained	01/26/2023
A2	JAHH-65B-R3B	72	13.8	85	2	a	Front	36	10	Retained	01/26/2023
A2	JAHH-65B-R3B	72	13.8	85	2	b	Front	36	-10	Retained	01/26/2023
R6	CBC78T-DS-43	6.4	6.9	85	2	a	Behind	30	0	Retained	01/26/2023
R8	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	32	3	a	Behind	3	0	Retained	01/26/2023
R9	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	32	3	a	Behind	30	0	Retained	01/26/2023
A5	64T64R	35.1	16.1	4	4	a	Front	36	0	Retained	01/26/2023
SO6	DB-C1-12C-24AB-0Z	29.5	16.5		Member					Retained	01/26/2023

Plan View

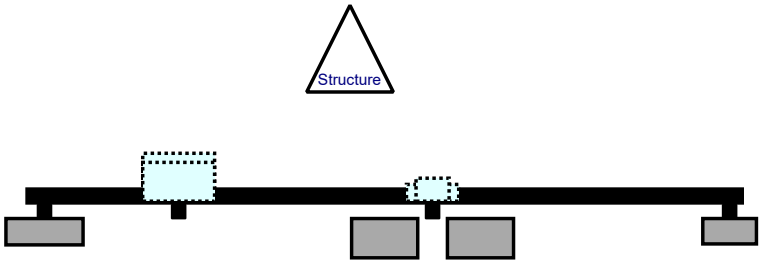


Front View - Looking at Structure

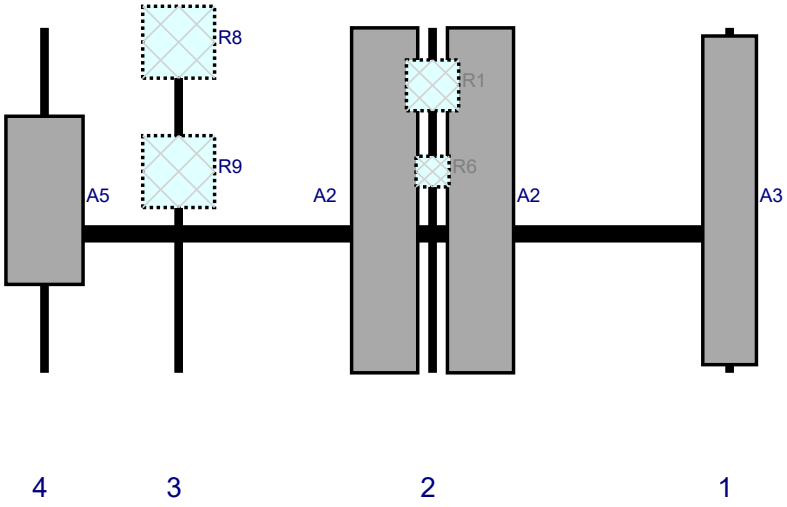


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A4	BXA-80080/4CF FP	94.6	8	147	1	a	Front	36	0	Retained	01/26/2023
A2	JAHH-65B-R3B	72	13.8	85	2	a	Front	36	10	Retained	01/26/2023
A2	JAHH-65B-R3B	72	13.8	85	2	b	Front	36	-10	Retained	01/26/2023
R6	CBC78T-DS-43	6.4	6.9	85	2	a	Behind	30	0	Retained	01/26/2023
R8	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	32	3	a	Behind	3	0	Retained	01/26/2023
R9	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	32	3	a	Behind	30	0	Retained	01/26/2023
A5	64T64R	35.1	16.1	4	4	a	Front	36	0	Retained	01/26/2023

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
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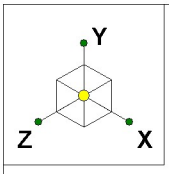
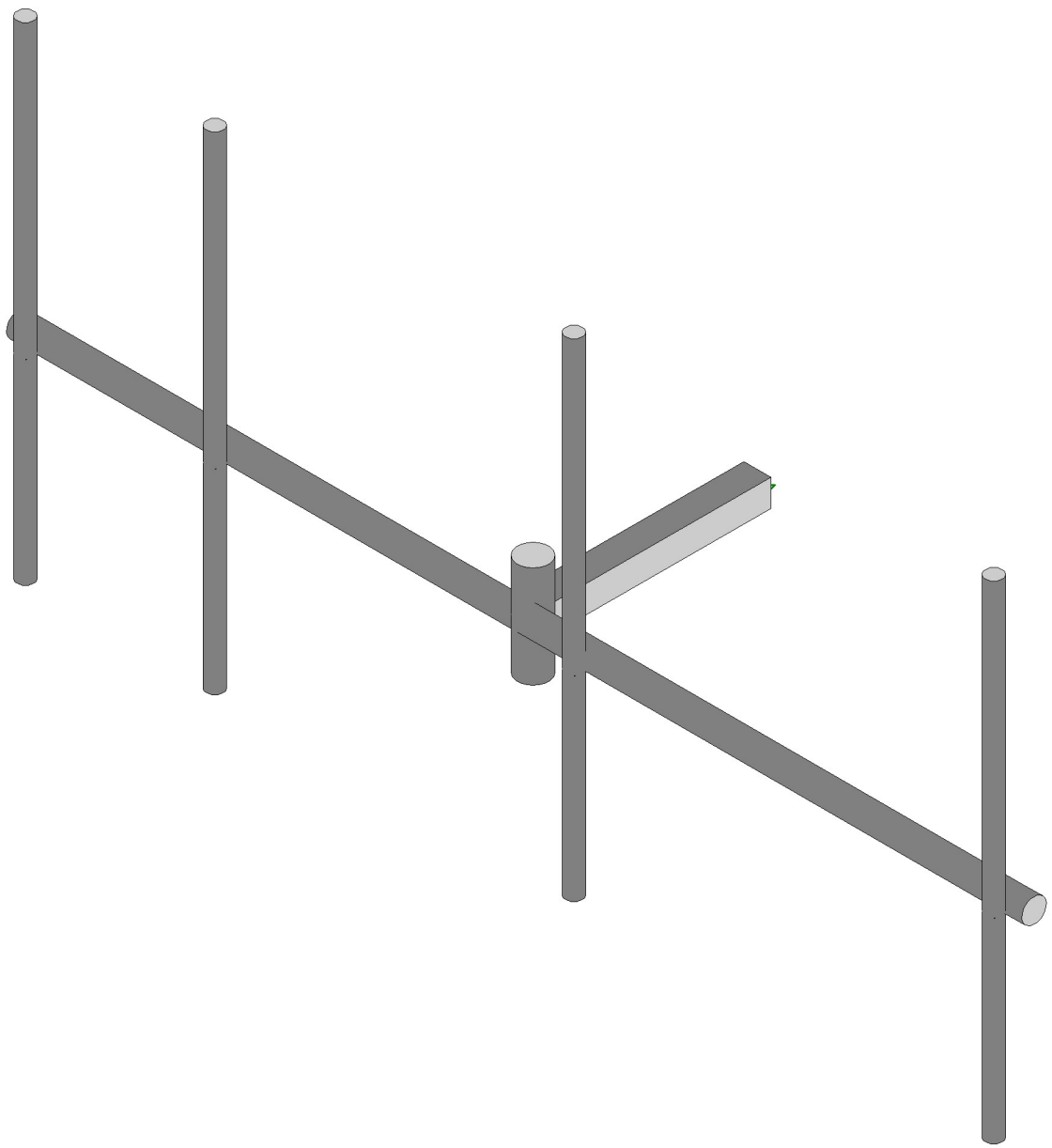
A2	JAHH-65B-R3B	72	13.8	85	2	a	Front	36	10	Retained	01/26/2023
A2	JAHH-65B-R3B	72	13.8	85	2	b	Front	36	-10	Retained	01/26/2023
R1	BSF0020F3V1-1	10.6	10.9	85	2	a	Behind	12	0	Added	
R6	CBC78T-DS-43	6.4	6.9	85	2	a	Behind	30	0	Retained	01/26/2023
R8	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	32	3	a	Behind	3	0	Retained	01/26/2023
R9	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	32	3	a	Behind	30	0	Retained	01/26/2023
A5	64T64R	35.1	16.1	4	4	a	Front	36	0	Retained	01/26/2023


Dec 20, 2022 at 12:38:29 PM
186 Minortown Rd
Woodbury CT 06798
United States

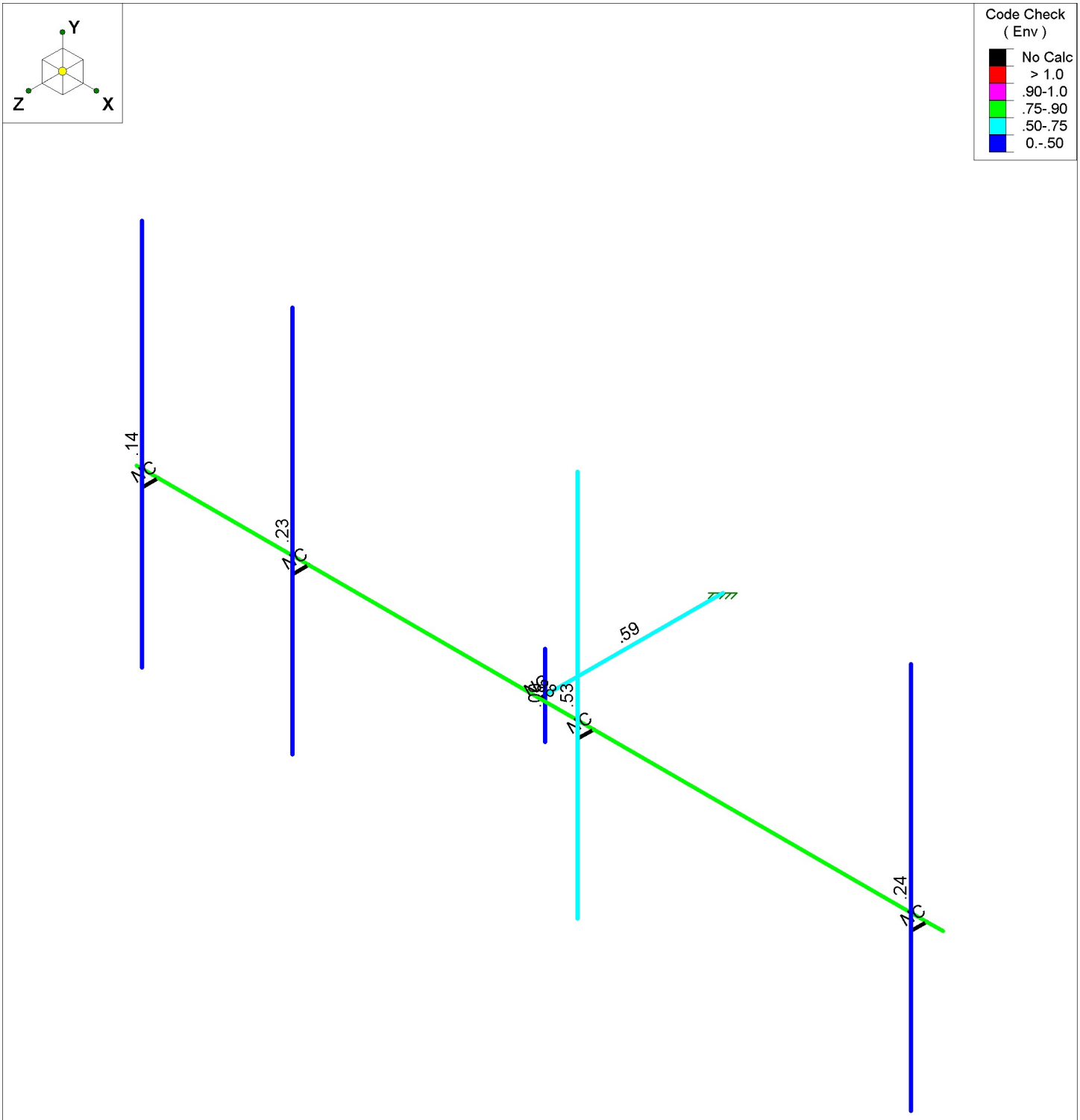

Dec 20, 2022 at 2:47:00 PM
186 Minortown Rd
Woodbury CT 06798
United States





Envelope Only Solution

Colliers Engineering & Des...	5000248228-VZW_MT_LOT_SectorA_H	SK - 1
JAD		June 30, 2023 at 2:00 PM
Project No. 10206438		5000248228-VZW_MT_LOT_A_H.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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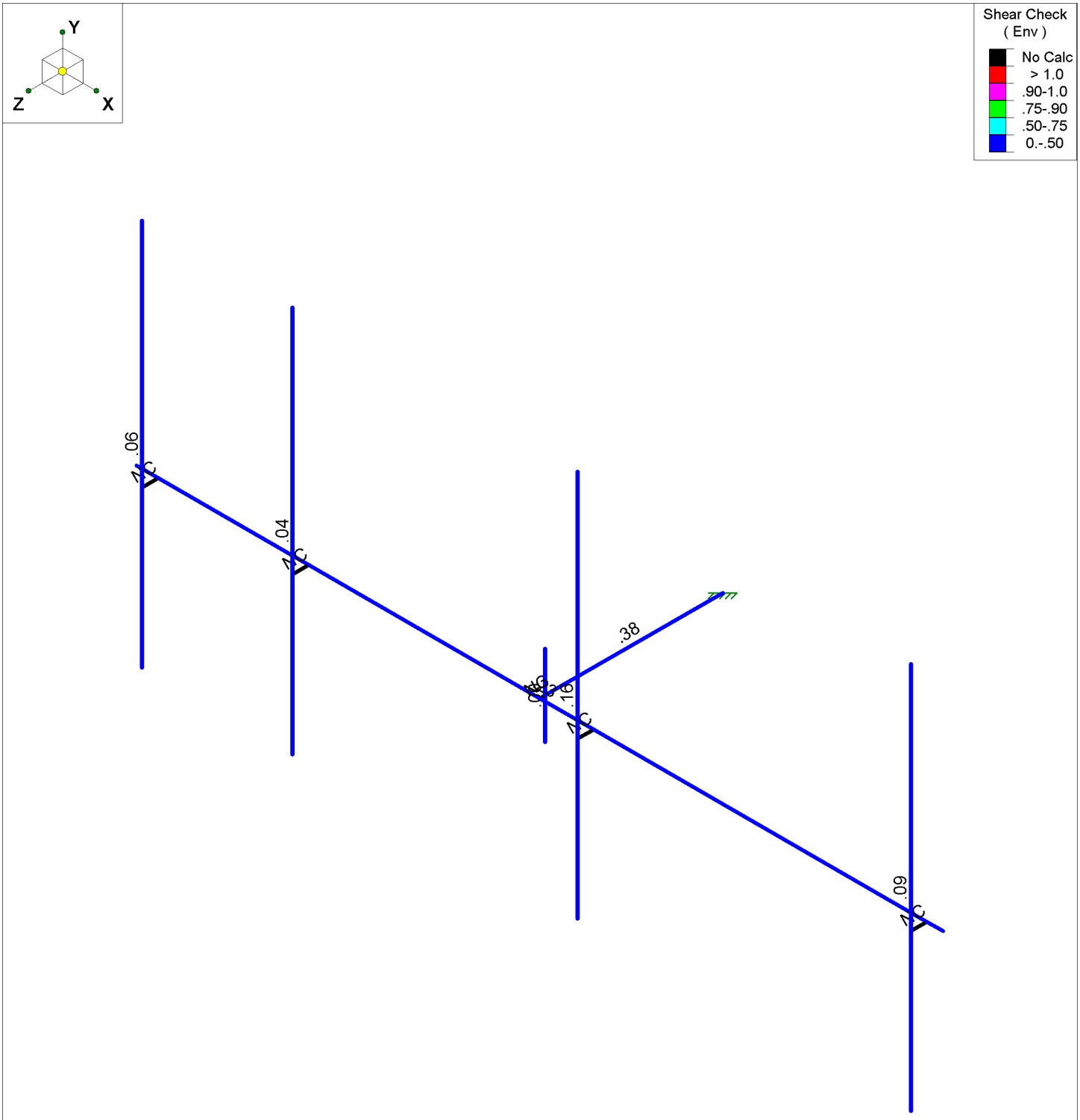
JAD		June 30, 2023 at 2:00 PM
Project No. 10206438		5000248228-VZW_MT_LOT_A_H.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

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JAD		June 30, 2023 at 2:01 PM
Project No. 10206438		5000248228-VZW_MT_LOT_A_H.r3d

Basic Load Cases

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

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
54	Structure Wi (30 Deg)	None						14		
55	Structure Wi (60 Deg)	None						14		
56	Structure Wi (90 Deg)	None						14		
57	Structure Wi (120 De...	None						14		
58	Structure Wi (150 De...	None						14		
59	Structure Wi (180 De...	None						14		
60	Structure Wi (210 De...	None						14		
61	Structure Wi (240 De...	None						14		
62	Structure Wi (270 De...	None						14		
63	Structure Wi (300 De...	None						14		
64	Structure Wi (330 De...	None						14		
65	Structure Wm (0 Deg)	None						14		
66	Structure Wm (30 De...	None						14		
67	Structure Wm (60 De...	None						14		
68	Structure Wm (90 De...	None						14		
69	Structure Wm (120 D...	None						14		
70	Structure Wm (150 D...	None						14		
71	Structure Wm (180 D...	None						14		
72	Structure Wm (210 D...	None						14		
73	Structure Wm (240 D...	None						14		
74	Structure Wm (270 D...	None						14		
75	Structure Wm (300 D...	None						14		
76	Structure Wm (330 D...	None						14		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					33			
82	Antenna Eh (0 Deg)	None					22			
83	Antenna Eh (90 Deg)	None					22			
84	Structure Ev	ELY		-.041						
85	Structure Eh (0 Deg)	ELZ			-.102					
86	Structure Eh (90 Deg)	ELX	.102							

Load Combinations

	Description	Sol...	P...	SR...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
1	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	3	1	41	1												
2	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	4	1	42	1												
3	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	5	1	43	1												
4	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	6	1	44	1												
5	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	7	1	45	1												
6	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	8	1	46	1												
7	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	9	1	47	1												
8	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	10	1	48	1												
9	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	11	1	49	1												
10	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	12	1	50	1												
11	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	13	1	51	1												
12	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	14	1	52	1												
13	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								

Load Combinations (Continued)

	Description	Sol...	P...	SR...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
20	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1.5...	Yes	Y		1	1.2	39	1.2	80	1.5														
51	1.4D	Yes	Y		1	1.4	39	1.4																
52	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX					
53	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	.5	ELZ	.866	ELX	.5				
54	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	.866	ELZ	.5	ELX	.866				
55	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1				
56	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	.866	ELZ	-.5	ELX	.866				
57	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
58	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX					
59	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
60	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
61	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1				
62	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
63	1.2D + 1.0...	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	-.5	ELZ	.866	ELX	-.5				
64	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX					
65	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	.5	ELZ	.866	ELX	.5				
66	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	.866	ELZ	.5	ELX	.866				
67	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1				
68	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	.866	ELZ	-.5	ELX	.866				
69	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
70	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX					
71	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
72	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
73	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1				
74	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
75	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	-.5	ELZ	.866	ELX	-.5				

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	6	-2.416667	3.916667	0	
2	N2	6	0	3.666667	0	
3	N3	6	3.583333	3.916667	0	
4	N4	-6.25	0	3.666667	0	
5	N5	6.25	0	3.666667	0	
6	N6	0	0	0.833333	0	
7	N7	-0.	0	3.583333	0	
8	N8	0	-.625	3.583333	0	
9	N9	0	.625	3.583333	0	
10	N10	6	0	3.916667	0	
11	N11	-3.583333	-2.416667	3.916667	0	
12	N12	-3.583333	0	3.666667	0	
13	N13	-3.583333	3.583333	3.916667	0	
14	N14	-3.583333	0	3.916667	0	
15	N15	-5.916667	-2.416667	3.916667	0	
16	N16	-5.916667	0	3.666667	0	
17	N17	-5.916667	3.583333	3.916667	0	
18	N18	-5.916667	0	3.916667	0	
19	N23	-0.	0	3.666667	0	
20	N24	0.833333	-2.416667	3.916667	0	
21	N25	0.833333	0	3.666667	0	
22	N26	0.833333	3.583333	3.916667	0	
23	N27	0.833333	0	3.916667	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Standoff Horizontal	HSS4X4X3	None	None	A500 Gr.46	Typical	2.58	6.21	6.21	10
2	Mount Pipe	PIPE_2.0	None	None	A36 Gr.36	Typical	1.02	.627	.627	1.25
3	Face Horizontal	PIPE_3.0	None	None	A36 Gr.36	Typical	2.07	2.85	2.85	5.69
4	Mast Pipe	PIPE_4.0	None	None	A36 Gr.36	Typical	2.96	6.82	6.82	13.6

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	A500 Gr.46	29000	11154	.3	.65	.49	46	1.4	58	1.3
3	A53 Gr. B (35 ksi)	29000	11154	.3	.65	.49	35	1.5	60	1.2

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	MP1A	N3	N1			Mount Pipe	None	None	A36 Gr.36	Typical
2	CBC1	N4	N5			Face Horizontal	None	None	A36 Gr.36	Typical
3	SO6	N6	N7			Standoff Horiz...	None	None	A500 Gr.46	Typical
4	M4	N8	N9			Mast Pipe	None	None	A36 Gr.36	Typical
5	M5	N10	N2			RIGID	None	None	RIGID	Typical
6	MP3A	N13	N11			Mount Pipe	None	None	A36 Gr.36	Typical
7	M7	N14	N12			RIGID	None	None	RIGID	Typical
8	MP4A	N17	N15			Mount Pipe	None	None	A36 Gr.36	Typical
9	M9	N18	N16			RIGID	None	None	RIGID	Typical
10	M12	N23	N7			RIGID	None	None	RIGID	Typical
11	MP2A	N26	N24			Mount Pipe	None	None	A36 Gr.36	Typical
12	M14	N27	N25			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	MP1A						Yes	** NA **			None
2	CBC1						Yes	** NA **			None
3	SO6						Yes	** NA **			None
4	M4						Yes	** NA **			None
5	M5						Yes	** NA **			None
6	MP3A						Yes	** NA **			None
7	M7						Yes	** NA **			None
8	MP4A						Yes	** NA **			None
9	M9						Yes	** NA **			None
10	M12						Yes	** NA **			None
11	MP2A						Yes	** NA **			None
12	M14						Yes	** NA **			None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	Y	-31.65	1
2	MP2A	My	-.032	1
3	MP2A	Mz	.026	1
4	MP2A	Y	-31.65	5
5	MP2A	My	-.032	5
6	MP2A	Mz	.026	5
7	MP2A	Y	-31.65	1
8	MP2A	My	-.032	1
9	MP2A	Mz	-.026	1
10	MP2A	Y	-31.65	5
11	MP2A	My	-.032	5
12	MP2A	Mz	-.026	5
13	MP1A	Y	-11.5	1
14	MP1A	My	-.011	1
15	MP1A	Mz	0	1
16	MP1A	Y	-11.5	5
17	MP1A	My	-.011	5
18	MP1A	Mz	0	5
19	MP4A	Y	-87.1	3
20	MP4A	My	-.087	3
21	MP4A	Mz	0	3
22	MP2A	Y	-10.4	2.5
23	MP2A	My	-.003	2.5
24	MP2A	Mz	.006	2.5
25	SO6	Y	-32	1.25
26	SO6	My	-.021	1.25
27	SO6	Mz	0	1.25
28	MP3A	Y	-84.4	.25
29	MP3A	My	.056	.25
30	MP3A	Mz	0	.25
31	MP3A	Y	-70.3	2.5
32	MP3A	My	.047	2.5
33	MP3A	Mz	0	2.5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	Y	-68.121	1
2	MP2A	My	-.068	1
3	MP2A	Mz	.057	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP2A	Y	-68.121	5
5	MP2A	My	-.068	5
6	MP2A	Mz	.057	5
7	MP2A	Y	-68.121	1
8	MP2A	My	-.068	1
9	MP2A	Mz	-.057	1
10	MP2A	Y	-68.121	5
11	MP2A	My	-.068	5
12	MP2A	Mz	-.057	5
13	MP1A	Y	-56.828	1
14	MP1A	My	-.057	1
15	MP1A	Mz	0	1
16	MP1A	Y	-56.828	5
17	MP1A	My	-.057	5
18	MP1A	Mz	0	5
19	MP4A	Y	-69.334	3
20	MP4A	My	-.069	3
21	MP4A	Mz	0	3
22	MP2A	Y	-10.417	2.5
23	MP2A	My	-.003	2.5
24	MP2A	Mz	.006	2.5
25	SO6	Y	-85.615	1.25
26	SO6	My	-.057	1.25
27	SO6	Mz	0	1.25
28	MP3A	Y	-43.69	.25
29	MP3A	My	.029	.25
30	MP3A	Mz	0	.25
31	MP3A	Y	-39.283	2.5
32	MP3A	My	.026	2.5
33	MP3A	Mz	0	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	1
2	MP2A	Z	-169.879	1
3	MP2A	Mx	-.142	1
4	MP2A	X	0	5
5	MP2A	Z	-169.879	5
6	MP2A	Mx	-.142	5
7	MP2A	X	0	1
8	MP2A	Z	-169.879	1
9	MP2A	Mx	.142	1
10	MP2A	X	0	5
11	MP2A	Z	-169.879	5
12	MP2A	Mx	.142	5
13	MP1A	X	0	1
14	MP1A	Z	-152.91	1
15	MP1A	Mx	0	1
16	MP1A	X	0	5
17	MP1A	Z	-152.91	5
18	MP1A	Mx	0	5
19	MP4A	X	0	3
20	MP4A	Z	-175.287	3
21	MP4A	Mx	0	3
22	MP2A	X	0	2.5
23	MP2A	Z	-10.61	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
24	MP2A	Mx	-.006	2.5
25	SO6	X	0	1.25
26	SO6	Z	-151.418	1.25
27	SO6	Mx	0	1.25
28	MP3A	X	0	.25
29	MP3A	Z	-57.807	.25
30	MP3A	Mx	0	.25
31	MP3A	X	0	2.5
32	MP3A	Z	-57.807	2.5
33	MP3A	Mx	0	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	77.652	1
2	MP2A	Z	-134.496	1
3	MP2A	Mx	-.19	1
4	MP2A	X	77.652	5
5	MP2A	Z	-134.496	5
6	MP2A	Mx	-.19	5
7	MP2A	X	77.652	1
8	MP2A	Z	-134.496	1
9	MP2A	Mx	.034	1
10	MP2A	X	77.652	5
11	MP2A	Z	-134.496	5
12	MP2A	Mx	.034	5
13	MP1A	X	72.71	1
14	MP1A	Z	-125.938	1
15	MP1A	Mx	-.073	1
16	MP1A	X	72.71	5
17	MP1A	Z	-125.938	5
18	MP1A	Mx	-.073	5
19	MP4A	X	74.311	3
20	MP4A	Z	-128.71	3
21	MP4A	Mx	-.074	3
22	MP2A	X	4.774	2.5
23	MP2A	Z	-8.268	2.5
24	MP2A	Mx	-.006	2.5
25	SO6	X	71.222	1.25
26	SO6	Z	-123.36	1.25
27	SO6	Mx	-.047	1.25
28	MP3A	X	26.526	.25
29	MP3A	Z	-45.945	.25
30	MP3A	Mx	.018	.25
31	MP3A	X	25.64	2.5
32	MP3A	Z	-44.41	2.5
33	MP3A	Mx	.017	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	109.25	1
2	MP2A	Z	-63.075	1
3	MP2A	Mx	-.162	1
4	MP2A	X	109.25	5
5	MP2A	Z	-63.075	5
6	MP2A	Mx	-.162	5
7	MP2A	X	109.25	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
8	MP2A	Z	-63.075	1
9	MP2A	Mx	-.057	1
10	MP2A	X	109.25	5
11	MP2A	Z	-63.075	5
12	MP2A	Mx	-.057	5
13	MP1A	X	112.966	1
14	MP1A	Z	-65.221	1
15	MP1A	Mx	-.113	1
16	MP1A	X	112.966	5
17	MP1A	Z	-65.221	5
18	MP1A	Mx	-.113	5
19	MP4A	X	82.524	3
20	MP4A	Z	-47.645	3
21	MP4A	Mx	-.083	3
22	MP2A	X	9.189	2.5
23	MP2A	Z	-5.305	2.5
24	MP2A	Mx	-.006	2.5
25	SO6	X	107.816	1.25
26	SO6	Z	-62.248	1.25
27	SO6	Mx	-.072	1.25
28	MP3A	X	37.709	.25
29	MP3A	Z	-21.771	.25
30	MP3A	Mx	.025	.25
31	MP3A	X	33.106	2.5
32	MP3A	Z	-19.114	2.5
33	MP3A	Mx	.022	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	111.575	1
2	MP2A	Z	0	1
3	MP2A	Mx	-.112	1
4	MP2A	X	111.575	5
5	MP2A	Z	0	5
6	MP2A	Mx	-.112	5
7	MP2A	X	111.575	1
8	MP2A	Z	0	1
9	MP2A	Mx	-.112	1
10	MP2A	X	111.575	5
11	MP2A	Z	0	5
12	MP2A	Mx	-.112	5
13	MP1A	X	122.953	1
14	MP1A	Z	0	1
15	MP1A	Mx	-.123	1
16	MP1A	X	122.953	5
17	MP1A	Z	0	5
18	MP1A	Mx	-.123	5
19	MP4A	X	68.625	3
20	MP4A	Z	0	3
21	MP4A	Mx	-.069	3
22	MP2A	X	12.736	2.5
23	MP2A	Z	0	2.5
24	MP2A	Mx	-.004	2.5
25	SO6	X	115.522	1.25
26	SO6	Z	0	1.25
27	SO6	Mx	-.077	1.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
28	MP3A	X	38.787	.25
29	MP3A	Z	0	.25
30	MP3A	Mx	.026	.25
31	MP3A	X	31.701	2.5
32	MP3A	Z	0	2.5
33	MP3A	Mx	.021	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	109.25	1
2	MP2A	Z	63.075	1
3	MP2A	Mx	-.057	1
4	MP2A	X	109.25	5
5	MP2A	Z	63.075	5
6	MP2A	Mx	-.057	5
7	MP2A	X	109.25	1
8	MP2A	Z	63.075	1
9	MP2A	Mx	-.162	1
10	MP2A	X	109.25	5
11	MP2A	Z	63.075	5
12	MP2A	Mx	-.162	5
13	MP1A	X	112.966	1
14	MP1A	Z	65.221	1
15	MP1A	Mx	-.113	1
16	MP1A	X	112.966	5
17	MP1A	Z	65.221	5
18	MP1A	Mx	-.113	5
19	MP4A	X	82.524	3
20	MP4A	Z	47.645	3
21	MP4A	Mx	-.083	3
22	MP2A	X	11.95	2.5
23	MP2A	Z	6.9	2.5
24	MP2A	Mx	0	2.5
25	SO6	X	107.816	1.25
26	SO6	Z	62.248	1.25
27	SO6	Mx	-.072	1.25
28	MP3A	X	37.709	.25
29	MP3A	Z	21.771	.25
30	MP3A	Mx	.025	.25
31	MP3A	X	33.106	2.5
32	MP3A	Z	19.114	2.5
33	MP3A	Mx	.022	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	77.652	1
2	MP2A	Z	134.496	1
3	MP2A	Mx	.034	1
4	MP2A	X	77.652	5
5	MP2A	Z	134.496	5
6	MP2A	Mx	.034	5
7	MP2A	X	77.652	1
8	MP2A	Z	134.496	1
9	MP2A	Mx	-.19	1
10	MP2A	X	77.652	5
11	MP2A	Z	134.496	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
12	MP2A	Mx	-.19	5
13	MP1A	X	72.71	1
14	MP1A	Z	125.938	1
15	MP1A	Mx	-.073	1
16	MP1A	X	72.71	5
17	MP1A	Z	125.938	5
18	MP1A	Mx	-.073	5
19	MP4A	X	74.311	3
20	MP4A	Z	128.71	3
21	MP4A	Mx	-.074	3
22	MP2A	X	6.368	2.5
23	MP2A	Z	11.03	2.5
24	MP2A	Mx	.004	2.5
25	SO6	X	71.222	1.25
26	SO6	Z	123.36	1.25
27	SO6	Mx	-.047	1.25
28	MP3A	X	26.526	.25
29	MP3A	Z	45.945	.25
30	MP3A	Mx	.018	.25
31	MP3A	X	25.64	2.5
32	MP3A	Z	44.41	2.5
33	MP3A	Mx	.017	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	1
2	MP2A	Z	169.879	1
3	MP2A	Mx	.142	1
4	MP2A	X	0	5
5	MP2A	Z	169.879	5
6	MP2A	Mx	.142	5
7	MP2A	X	0	1
8	MP2A	Z	169.879	1
9	MP2A	Mx	-.142	1
10	MP2A	X	0	5
11	MP2A	Z	169.879	5
12	MP2A	Mx	-.142	5
13	MP1A	X	0	1
14	MP1A	Z	152.91	1
15	MP1A	Mx	0	1
16	MP1A	X	0	5
17	MP1A	Z	152.91	5
18	MP1A	Mx	0	5
19	MP4A	X	0	3
20	MP4A	Z	175.287	3
21	MP4A	Mx	0	3
22	MP2A	X	0	2.5
23	MP2A	Z	10.61	2.5
24	MP2A	Mx	.006	2.5
25	SO6	X	0	1.25
26	SO6	Z	151.418	1.25
27	SO6	Mx	0	1.25
28	MP3A	X	0	.25
29	MP3A	Z	57.807	.25
30	MP3A	Mx	0	.25
31	MP3A	X	0	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
32	MP3A	Z	57.807	2.5
33	MP3A	Mx	0	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-77.652	1
2	MP2A	Z	134.496	1
3	MP2A	Mx	.19	1
4	MP2A	X	-77.652	5
5	MP2A	Z	134.496	5
6	MP2A	Mx	.19	5
7	MP2A	X	-77.652	1
8	MP2A	Z	134.496	1
9	MP2A	Mx	-.034	1
10	MP2A	X	-77.652	5
11	MP2A	Z	134.496	5
12	MP2A	Mx	-.034	5
13	MP1A	X	-72.71	1
14	MP1A	Z	125.938	1
15	MP1A	Mx	.073	1
16	MP1A	X	-72.71	5
17	MP1A	Z	125.938	5
18	MP1A	Mx	.073	5
19	MP4A	X	-74.311	3
20	MP4A	Z	128.71	3
21	MP4A	Mx	.074	3
22	MP2A	X	-4.774	2.5
23	MP2A	Z	8.268	2.5
24	MP2A	Mx	.006	2.5
25	SO6	X	-71.222	1.25
26	SO6	Z	123.36	1.25
27	SO6	Mx	.047	1.25
28	MP3A	X	-26.526	.25
29	MP3A	Z	45.945	.25
30	MP3A	Mx	-.018	.25
31	MP3A	X	-25.64	2.5
32	MP3A	Z	44.41	2.5
33	MP3A	Mx	-.017	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-109.25	1
2	MP2A	Z	63.075	1
3	MP2A	Mx	.162	1
4	MP2A	X	-109.25	5
5	MP2A	Z	63.075	5
6	MP2A	Mx	.162	5
7	MP2A	X	-109.25	1
8	MP2A	Z	63.075	1
9	MP2A	Mx	.057	1
10	MP2A	X	-109.25	5
11	MP2A	Z	63.075	5
12	MP2A	Mx	.057	5
13	MP1A	X	-112.966	1
14	MP1A	Z	65.221	1
15	MP1A	Mx	.113	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	MP1A	X	-112.966	5
17	MP1A	Z	65.221	5
18	MP1A	Mx	.113	5
19	MP4A	X	-82.524	3
20	MP4A	Z	47.645	3
21	MP4A	Mx	.083	3
22	MP2A	X	-9.189	2.5
23	MP2A	Z	5.305	2.5
24	MP2A	Mx	.006	2.5
25	SO6	X	-107.816	1.25
26	SO6	Z	62.248	1.25
27	SO6	Mx	.072	1.25
28	MP3A	X	-37.709	.25
29	MP3A	Z	21.771	.25
30	MP3A	Mx	-.025	.25
31	MP3A	X	-33.106	2.5
32	MP3A	Z	19.114	2.5
33	MP3A	Mx	-.022	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-111.575	1
2	MP2A	Z	0	1
3	MP2A	Mx	.112	1
4	MP2A	X	-111.575	5
5	MP2A	Z	0	5
6	MP2A	Mx	.112	5
7	MP2A	X	-111.575	1
8	MP2A	Z	0	1
9	MP2A	Mx	.112	1
10	MP2A	X	-111.575	5
11	MP2A	Z	0	5
12	MP2A	Mx	.112	5
13	MP1A	X	-122.953	1
14	MP1A	Z	0	1
15	MP1A	Mx	.123	1
16	MP1A	X	-122.953	5
17	MP1A	Z	0	5
18	MP1A	Mx	.123	5
19	MP4A	X	-68.625	3
20	MP4A	Z	0	3
21	MP4A	Mx	.069	3
22	MP2A	X	-12.736	2.5
23	MP2A	Z	0	2.5
24	MP2A	Mx	.004	2.5
25	SO6	X	-115.522	1.25
26	SO6	Z	0	1.25
27	SO6	Mx	.077	1.25
28	MP3A	X	-38.787	.25
29	MP3A	Z	0	.25
30	MP3A	Mx	-.026	.25
31	MP3A	X	-31.701	2.5
32	MP3A	Z	0	2.5
33	MP3A	Mx	-.021	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-109.25	1
2	MP2A	Z	-63.075	1
3	MP2A	Mx	.057	1
4	MP2A	X	-109.25	5
5	MP2A	Z	-63.075	5
6	MP2A	Mx	.057	5
7	MP2A	X	-109.25	1
8	MP2A	Z	-63.075	1
9	MP2A	Mx	.162	1
10	MP2A	X	-109.25	5
11	MP2A	Z	-63.075	5
12	MP2A	Mx	.162	5
13	MP1A	X	-112.966	1
14	MP1A	Z	-65.221	1
15	MP1A	Mx	.113	1
16	MP1A	X	-112.966	5
17	MP1A	Z	-65.221	5
18	MP1A	Mx	.113	5
19	MP4A	X	-82.524	3
20	MP4A	Z	-47.645	3
21	MP4A	Mx	.083	3
22	MP2A	X	-11.95	2.5
23	MP2A	Z	-6.9	2.5
24	MP2A	Mx	0	2.5
25	SO6	X	-107.816	1.25
26	SO6	Z	-62.248	1.25
27	SO6	Mx	.072	1.25
28	MP3A	X	-37.709	.25
29	MP3A	Z	-21.771	.25
30	MP3A	Mx	-.025	.25
31	MP3A	X	-33.106	2.5
32	MP3A	Z	-19.114	2.5
33	MP3A	Mx	-.022	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-77.652	1
2	MP2A	Z	-134.496	1
3	MP2A	Mx	-.034	1
4	MP2A	X	-77.652	5
5	MP2A	Z	-134.496	5
6	MP2A	Mx	-.034	5
7	MP2A	X	-77.652	1
8	MP2A	Z	-134.496	1
9	MP2A	Mx	.19	1
10	MP2A	X	-77.652	5
11	MP2A	Z	-134.496	5
12	MP2A	Mx	.19	5
13	MP1A	X	-72.71	1
14	MP1A	Z	-125.938	1
15	MP1A	Mx	.073	1
16	MP1A	X	-72.71	5
17	MP1A	Z	-125.938	5
18	MP1A	Mx	.073	5
19	MP4A	X	-74.311	3
20	MP4A	Z	-128.71	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP4A	Mx	.074	3
22	MP2A	X	-6.368	2.5
23	MP2A	Z	-11.03	2.5
24	MP2A	Mx	-.004	2.5
25	SO6	X	-71.222	1.25
26	SO6	Z	-123.36	1.25
27	SO6	Mx	.047	1.25
28	MP3A	X	-26.526	.25
29	MP3A	Z	-45.945	.25
30	MP3A	Mx	-.018	.25
31	MP3A	X	-25.64	2.5
32	MP3A	Z	-44.41	2.5
33	MP3A	Mx	-.017	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	1
2	MP2A	Z	-34.511	1
3	MP2A	Mx	-.029	1
4	MP2A	X	0	5
5	MP2A	Z	-34.511	5
6	MP2A	Mx	-.029	5
7	MP2A	X	0	1
8	MP2A	Z	-34.511	1
9	MP2A	Mx	.029	1
10	MP2A	X	0	5
11	MP2A	Z	-34.511	5
12	MP2A	Mx	.029	5
13	MP1A	X	0	1
14	MP1A	Z	-31.832	1
15	MP1A	Mx	0	1
16	MP1A	X	0	5
17	MP1A	Z	-31.832	5
18	MP1A	Mx	0	5
19	MP4A	X	0	3
20	MP4A	Z	-36.687	3
21	MP4A	Mx	0	3
22	MP2A	X	0	2.5
23	MP2A	Z	-3.029	2.5
24	MP2A	Mx	-.002	2.5
25	SO6	X	0	1.25
26	SO6	Z	-31.768	1.25
27	SO6	Mx	0	1.25
28	MP3A	X	0	.25
29	MP3A	Z	-15.439	.25
30	MP3A	Mx	0	.25
31	MP3A	X	0	2.5
32	MP3A	Z	-15.439	2.5
33	MP3A	Mx	0	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	15.882	1
2	MP2A	Z	-27.508	1
3	MP2A	Mx	-.039	1
4	MP2A	X	15.882	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
5	MP2A	Z	-27.508	5
6	MP2A	Mx	-.039	5
7	MP2A	X	15.882	1
8	MP2A	Z	-27.508	1
9	MP2A	Mx	.007	1
10	MP2A	X	15.882	5
11	MP2A	Z	-27.508	5
12	MP2A	Mx	.007	5
13	MP1A	X	15.192	1
14	MP1A	Z	-26.314	1
15	MP1A	Mx	-.015	1
16	MP1A	X	15.192	5
17	MP1A	Z	-26.314	5
18	MP1A	Mx	-.015	5
19	MP4A	X	15.707	3
20	MP4A	Z	-27.205	3
21	MP4A	Mx	-.016	3
22	MP2A	X	1.397	2.5
23	MP2A	Z	-2.42	2.5
24	MP2A	Mx	-.002	2.5
25	SO6	X	15.016	1.25
26	SO6	Z	-26.009	1.25
27	SO6	Mx	-.01	1.25
28	MP3A	X	7.131	.25
29	MP3A	Z	-12.351	.25
30	MP3A	Mx	.005	.25
31	MP3A	X	6.907	2.5
32	MP3A	Z	-11.964	2.5
33	MP3A	Mx	.005	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	22.749	1
2	MP2A	Z	-13.134	1
3	MP2A	Mx	-.034	1
4	MP2A	X	22.749	5
5	MP2A	Z	-13.134	5
6	MP2A	Mx	-.034	5
7	MP2A	X	22.749	1
8	MP2A	Z	-13.134	1
9	MP2A	Mx	-.012	1
10	MP2A	X	22.749	5
11	MP2A	Z	-13.134	5
12	MP2A	Mx	-.012	5
13	MP1A	X	23.807	1
14	MP1A	Z	-13.745	1
15	MP1A	Mx	-.024	1
16	MP1A	X	23.807	5
17	MP1A	Z	-13.745	5
18	MP1A	Mx	-.024	5
19	MP4A	X	18.072	3
20	MP4A	Z	-10.434	3
21	MP4A	Mx	-.018	3
22	MP2A	X	2.623	2.5
23	MP2A	Z	-1.514	2.5
24	MP2A	Mx	-.002	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	SO6	X	23.004	1.25
26	SO6	Z	-13.282	1.25
27	SO6	Mx	-.015	1.25
28	MP3A	X	10.312	.25
29	MP3A	Z	-5.953	.25
30	MP3A	Mx	.007	.25
31	MP3A	X	9.149	2.5
32	MP3A	Z	-5.282	2.5
33	MP3A	Mx	.006	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	23.521	1
2	MP2A	Z	0	1
3	MP2A	Mx	-.024	1
4	MP2A	X	23.521	5
5	MP2A	Z	0	5
6	MP2A	Mx	-.024	5
7	MP2A	X	23.521	1
8	MP2A	Z	0	1
9	MP2A	Mx	-.024	1
10	MP2A	X	23.521	5
11	MP2A	Z	0	5
12	MP2A	Mx	-.024	5
13	MP1A	X	26.043	1
14	MP1A	Z	0	1
15	MP1A	Mx	-.026	1
16	MP1A	X	26.043	5
17	MP1A	Z	0	5
18	MP1A	Mx	-.026	5
19	MP4A	X	15.595	3
20	MP4A	Z	0	3
21	MP4A	Mx	-.016	3
22	MP2A	X	3.496	2.5
23	MP2A	Z	0	2.5
24	MP2A	Mx	-.001	2.5
25	SO6	X	24.828	1.25
26	SO6	Z	0	1.25
27	SO6	Mx	-.017	1.25
28	MP3A	X	10.729	.25
29	MP3A	Z	0	.25
30	MP3A	Mx	.007	.25
31	MP3A	X	8.939	2.5
32	MP3A	Z	0	2.5
33	MP3A	Mx	.006	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	22.749	1
2	MP2A	Z	13.134	1
3	MP2A	Mx	-.012	1
4	MP2A	X	22.749	5
5	MP2A	Z	13.134	5
6	MP2A	Mx	-.012	5
7	MP2A	X	22.749	1
8	MP2A	Z	13.134	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP2A	Mx	-.034	1
10	MP2A	X	22.749	5
11	MP2A	Z	13.134	5
12	MP2A	Mx	-.034	5
13	MP1A	X	23.807	1
14	MP1A	Z	13.745	1
15	MP1A	Mx	-.024	1
16	MP1A	X	23.807	5
17	MP1A	Z	13.745	5
18	MP1A	Mx	-.024	5
19	MP4A	X	18.072	3
20	MP4A	Z	10.434	3
21	MP4A	Mx	-.018	3
22	MP2A	X	3.23	2.5
23	MP2A	Z	1.865	2.5
24	MP2A	Mx	0	2.5
25	SO6	X	23.004	1.25
26	SO6	Z	13.282	1.25
27	SO6	Mx	-.015	1.25
28	MP3A	X	10.312	.25
29	MP3A	Z	5.953	.25
30	MP3A	Mx	.007	.25
31	MP3A	X	9.149	2.5
32	MP3A	Z	5.282	2.5
33	MP3A	Mx	.006	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	15.882	1
2	MP2A	Z	27.508	1
3	MP2A	Mx	.007	1
4	MP2A	X	15.882	5
5	MP2A	Z	27.508	5
6	MP2A	Mx	.007	5
7	MP2A	X	15.882	1
8	MP2A	Z	27.508	1
9	MP2A	Mx	-.039	1
10	MP2A	X	15.882	5
11	MP2A	Z	27.508	5
12	MP2A	Mx	-.039	5
13	MP1A	X	15.192	1
14	MP1A	Z	26.314	1
15	MP1A	Mx	-.015	1
16	MP1A	X	15.192	5
17	MP1A	Z	26.314	5
18	MP1A	Mx	-.015	5
19	MP4A	X	15.707	3
20	MP4A	Z	27.205	3
21	MP4A	Mx	-.016	3
22	MP2A	X	1.748	2.5
23	MP2A	Z	3.028	2.5
24	MP2A	Mx	.001	2.5
25	SO6	X	15.016	1.25
26	SO6	Z	26.009	1.25
27	SO6	Mx	-.01	1.25
28	MP3A	X	7.131	.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP3A	Z	12.351	.25
30	MP3A	Mx	.005	.25
31	MP3A	X	6.907	2.5
32	MP3A	Z	11.964	2.5
33	MP3A	Mx	.005	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	1
2	MP2A	Z	34.511	1
3	MP2A	Mx	.029	1
4	MP2A	X	0	5
5	MP2A	Z	34.511	5
6	MP2A	Mx	.029	5
7	MP2A	X	0	1
8	MP2A	Z	34.511	1
9	MP2A	Mx	-.029	1
10	MP2A	X	0	5
11	MP2A	Z	34.511	5
12	MP2A	Mx	-.029	5
13	MP1A	X	0	1
14	MP1A	Z	31.832	1
15	MP1A	Mx	0	1
16	MP1A	X	0	5
17	MP1A	Z	31.832	5
18	MP1A	Mx	0	5
19	MP4A	X	0	3
20	MP4A	Z	36.687	3
21	MP4A	Mx	0	3
22	MP2A	X	0	2.5
23	MP2A	Z	3.029	2.5
24	MP2A	Mx	.002	2.5
25	SO6	X	0	1.25
26	SO6	Z	31.768	1.25
27	SO6	Mx	0	1.25
28	MP3A	X	0	.25
29	MP3A	Z	15.439	.25
30	MP3A	Mx	0	.25
31	MP3A	X	0	2.5
32	MP3A	Z	15.439	2.5
33	MP3A	Mx	0	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-15.882	1
2	MP2A	Z	27.508	1
3	MP2A	Mx	.039	1
4	MP2A	X	-15.882	5
5	MP2A	Z	27.508	5
6	MP2A	Mx	.039	5
7	MP2A	X	-15.882	1
8	MP2A	Z	27.508	1
9	MP2A	Mx	-.007	1
10	MP2A	X	-15.882	5
11	MP2A	Z	27.508	5
12	MP2A	Mx	-.007	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP1A	X	-15.192	1
14	MP1A	Z	26.314	1
15	MP1A	Mx	.015	1
16	MP1A	X	-15.192	5
17	MP1A	Z	26.314	5
18	MP1A	Mx	.015	5
19	MP4A	X	-15.707	3
20	MP4A	Z	27.205	3
21	MP4A	Mx	.016	3
22	MP2A	X	-1.397	2.5
23	MP2A	Z	2.42	2.5
24	MP2A	Mx	.002	2.5
25	SO6	X	-15.016	1.25
26	SO6	Z	26.009	1.25
27	SO6	Mx	.01	1.25
28	MP3A	X	-7.131	.25
29	MP3A	Z	12.351	.25
30	MP3A	Mx	-.005	.25
31	MP3A	X	-6.907	2.5
32	MP3A	Z	11.964	2.5
33	MP3A	Mx	-.005	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-22.749	1
2	MP2A	Z	13.134	1
3	MP2A	Mx	.034	1
4	MP2A	X	-22.749	5
5	MP2A	Z	13.134	5
6	MP2A	Mx	.034	5
7	MP2A	X	-22.749	1
8	MP2A	Z	13.134	1
9	MP2A	Mx	.012	1
10	MP2A	X	-22.749	5
11	MP2A	Z	13.134	5
12	MP2A	Mx	.012	5
13	MP1A	X	-23.807	1
14	MP1A	Z	13.745	1
15	MP1A	Mx	.024	1
16	MP1A	X	-23.807	5
17	MP1A	Z	13.745	5
18	MP1A	Mx	.024	5
19	MP4A	X	-18.072	3
20	MP4A	Z	10.434	3
21	MP4A	Mx	.018	3
22	MP2A	X	-2.623	2.5
23	MP2A	Z	1.514	2.5
24	MP2A	Mx	.002	2.5
25	SO6	X	-23.004	1.25
26	SO6	Z	13.282	1.25
27	SO6	Mx	.015	1.25
28	MP3A	X	-10.312	.25
29	MP3A	Z	5.953	.25
30	MP3A	Mx	-.007	.25
31	MP3A	X	-9.149	2.5
32	MP3A	Z	5.282	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
33	MP3A	Mx	-.006	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-23.521	1
2	MP2A	Z	0	1
3	MP2A	Mx	.024	1
4	MP2A	X	-23.521	5
5	MP2A	Z	0	5
6	MP2A	Mx	.024	5
7	MP2A	X	-23.521	1
8	MP2A	Z	0	1
9	MP2A	Mx	.024	1
10	MP2A	X	-23.521	5
11	MP2A	Z	0	5
12	MP2A	Mx	.024	5
13	MP1A	X	-26.043	1
14	MP1A	Z	0	1
15	MP1A	Mx	.026	1
16	MP1A	X	-26.043	5
17	MP1A	Z	0	5
18	MP1A	Mx	.026	5
19	MP4A	X	-15.595	3
20	MP4A	Z	0	3
21	MP4A	Mx	.016	3
22	MP2A	X	-3.496	2.5
23	MP2A	Z	0	2.5
24	MP2A	Mx	.001	2.5
25	SO6	X	-24.828	1.25
26	SO6	Z	0	1.25
27	SO6	Mx	.017	1.25
28	MP3A	X	-10.729	.25
29	MP3A	Z	0	.25
30	MP3A	Mx	-.007	.25
31	MP3A	X	-8.939	2.5
32	MP3A	Z	0	2.5
33	MP3A	Mx	-.006	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-22.749	1
2	MP2A	Z	-13.134	1
3	MP2A	Mx	.012	1
4	MP2A	X	-22.749	5
5	MP2A	Z	-13.134	5
6	MP2A	Mx	.012	5
7	MP2A	X	-22.749	1
8	MP2A	Z	-13.134	1
9	MP2A	Mx	.034	1
10	MP2A	X	-22.749	5
11	MP2A	Z	-13.134	5
12	MP2A	Mx	.034	5
13	MP1A	X	-23.807	1
14	MP1A	Z	-13.745	1
15	MP1A	Mx	.024	1
16	MP1A	X	-23.807	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
17	MP1A	Z	-13.745	5
18	MP1A	Mx	.024	5
19	MP4A	X	-18.072	3
20	MP4A	Z	-10.434	3
21	MP4A	Mx	.018	3
22	MP2A	X	-3.23	2.5
23	MP2A	Z	-1.865	2.5
24	MP2A	Mx	0	2.5
25	SO6	X	-23.004	1.25
26	SO6	Z	-13.282	1.25
27	SO6	Mx	.015	1.25
28	MP3A	X	-10.312	.25
29	MP3A	Z	-5.953	.25
30	MP3A	Mx	-.007	.25
31	MP3A	X	-9.149	2.5
32	MP3A	Z	-5.282	2.5
33	MP3A	Mx	-.006	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-15.882	1
2	MP2A	Z	-27.508	1
3	MP2A	Mx	-.007	1
4	MP2A	X	-15.882	5
5	MP2A	Z	-27.508	5
6	MP2A	Mx	-.007	5
7	MP2A	X	-15.882	1
8	MP2A	Z	-27.508	1
9	MP2A	Mx	.039	1
10	MP2A	X	-15.882	5
11	MP2A	Z	-27.508	5
12	MP2A	Mx	.039	5
13	MP1A	X	-15.192	1
14	MP1A	Z	-26.314	1
15	MP1A	Mx	.015	1
16	MP1A	X	-15.192	5
17	MP1A	Z	-26.314	5
18	MP1A	Mx	.015	5
19	MP4A	X	-15.707	3
20	MP4A	Z	-27.205	3
21	MP4A	Mx	.016	3
22	MP2A	X	-1.748	2.5
23	MP2A	Z	-3.028	2.5
24	MP2A	Mx	-.001	2.5
25	SO6	X	-15.016	1.25
26	SO6	Z	-26.009	1.25
27	SO6	Mx	.01	1.25
28	MP3A	X	-7.131	.25
29	MP3A	Z	-12.351	.25
30	MP3A	Mx	-.005	.25
31	MP3A	X	-6.907	2.5
32	MP3A	Z	-11.964	2.5
33	MP3A	Mx	-.005	2.5

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

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

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	1
2	MP2A	Z	-11.362	1
3	MP2A	Mx	-.009	1
4	MP2A	X	0	5
5	MP2A	Z	-11.362	5
6	MP2A	Mx	-.009	5
7	MP2A	X	0	1
8	MP2A	Z	-11.362	1
9	MP2A	Mx	.009	1
10	MP2A	X	0	5
11	MP2A	Z	-11.362	5
12	MP2A	Mx	.009	5
13	MP1A	X	0	1
14	MP1A	Z	-10.227	1
15	MP1A	Mx	0	1
16	MP1A	X	0	5
17	MP1A	Z	-10.227	5
18	MP1A	Mx	0	5
19	MP4A	X	0	3
20	MP4A	Z	-11.724	3
21	MP4A	Mx	0	3
22	MP2A	X	0	2.5
23	MP2A	Z	-.71	2.5
24	MP2A	Mx	-.00041	2.5
25	SO6	X	0	1.25
26	SO6	Z	-10.128	1.25
27	SO6	Mx	0	1.25
28	MP3A	X	0	.25
29	MP3A	Z	-3.866	.25
30	MP3A	Mx	0	.25
31	MP3A	X	0	2.5
32	MP3A	Z	-3.866	2.5
33	MP3A	Mx	0	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	5.194	1
2	MP2A	Z	-8.996	1
3	MP2A	Mx	-.013	1
4	MP2A	X	5.194	5
5	MP2A	Z	-8.996	5
6	MP2A	Mx	-.013	5
7	MP2A	X	5.194	1
8	MP2A	Z	-8.996	1
9	MP2A	Mx	.002	1
10	MP2A	X	5.194	5
11	MP2A	Z	-8.996	5
12	MP2A	Mx	.002	5
13	MP1A	X	4.863	1
14	MP1A	Z	-8.423	1
15	MP1A	Mx	-.005	1
16	MP1A	X	4.863	5
17	MP1A	Z	-8.423	5
18	MP1A	Mx	-.005	5
19	MP4A	X	4.97	3
20	MP4A	Z	-8.609	3

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP4A	Mx	-.005	3
22	MP2A	X	.319	2.5
23	MP2A	Z	-.553	2.5
24	MP2A	Mx	-.000426	2.5
25	SO6	X	4.764	1.25
26	SO6	Z	-8.251	1.25
27	SO6	Mx	-.003	1.25
28	MP3A	X	1.774	.25
29	MP3A	Z	-3.073	.25
30	MP3A	Mx	.001	.25
31	MP3A	X	1.715	2.5
32	MP3A	Z	-2.97	2.5
33	MP3A	Mx	.001	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	7.307	1
2	MP2A	Z	-4.219	1
3	MP2A	Mx	-.011	1
4	MP2A	X	7.307	5
5	MP2A	Z	-4.219	5
6	MP2A	Mx	-.011	5
7	MP2A	X	7.307	1
8	MP2A	Z	-4.219	1
9	MP2A	Mx	-.004	1
10	MP2A	X	7.307	5
11	MP2A	Z	-4.219	5
12	MP2A	Mx	-.004	5
13	MP1A	X	7.556	1
14	MP1A	Z	-4.362	1
15	MP1A	Mx	-.008	1
16	MP1A	X	7.556	5
17	MP1A	Z	-4.362	5
18	MP1A	Mx	-.008	5
19	MP4A	X	5.52	3
20	MP4A	Z	-3.187	3
21	MP4A	Mx	-.006	3
22	MP2A	X	.615	2.5
23	MP2A	Z	-.355	2.5
24	MP2A	Mx	-.00041	2.5
25	SO6	X	7.211	1.25
26	SO6	Z	-4.163	1.25
27	SO6	Mx	-.005	1.25
28	MP3A	X	2.522	.25
29	MP3A	Z	-1.456	.25
30	MP3A	Mx	.002	.25
31	MP3A	X	2.214	2.5
32	MP3A	Z	-1.278	2.5
33	MP3A	Mx	.001	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	7.463	1
2	MP2A	Z	0	1
3	MP2A	Mx	-.007	1
4	MP2A	X	7.463	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
5	MP2A	Z	0	5
6	MP2A	Mx	-.007	5
7	MP2A	X	7.463	1
8	MP2A	Z	0	1
9	MP2A	Mx	-.007	1
10	MP2A	X	7.463	5
11	MP2A	Z	0	5
12	MP2A	Mx	-.007	5
13	MP1A	X	8.224	1
14	MP1A	Z	0	1
15	MP1A	Mx	-.008	1
16	MP1A	X	8.224	5
17	MP1A	Z	0	5
18	MP1A	Mx	-.008	5
19	MP4A	X	4.59	3
20	MP4A	Z	0	3
21	MP4A	Mx	-.005	3
22	MP2A	X	.852	2.5
23	MP2A	Z	0	2.5
24	MP2A	Mx	-.000284	2.5
25	SO6	X	7.727	1.25
26	SO6	Z	0	1.25
27	SO6	Mx	-.005	1.25
28	MP3A	X	2.594	.25
29	MP3A	Z	0	.25
30	MP3A	Mx	.002	.25
31	MP3A	X	2.12	2.5
32	MP3A	Z	0	2.5
33	MP3A	Mx	.001	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	7.307	1
2	MP2A	Z	4.219	1
3	MP2A	Mx	-.004	1
4	MP2A	X	7.307	5
5	MP2A	Z	4.219	5
6	MP2A	Mx	-.004	5
7	MP2A	X	7.307	1
8	MP2A	Z	4.219	1
9	MP2A	Mx	-.011	1
10	MP2A	X	7.307	5
11	MP2A	Z	4.219	5
12	MP2A	Mx	-.011	5
13	MP1A	X	7.556	1
14	MP1A	Z	4.362	1
15	MP1A	Mx	-.008	1
16	MP1A	X	7.556	5
17	MP1A	Z	4.362	5
18	MP1A	Mx	-.008	5
19	MP4A	X	5.52	3
20	MP4A	Z	3.187	3
21	MP4A	Mx	-.006	3
22	MP2A	X	.799	2.5
23	MP2A	Z	.461	2.5
24	MP2A	Mx	0	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
25	SO6	X	7.211	1.25
26	SO6	Z	4.163	1.25
27	SO6	Mx	-.005	1.25
28	MP3A	X	2.522	.25
29	MP3A	Z	1.456	.25
30	MP3A	Mx	.002	.25
31	MP3A	X	2.214	2.5
32	MP3A	Z	1.278	2.5
33	MP3A	Mx	.001	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	5.194	1
2	MP2A	Z	8.996	1
3	MP2A	Mx	.002	1
4	MP2A	X	5.194	5
5	MP2A	Z	8.996	5
6	MP2A	Mx	.002	5
7	MP2A	X	5.194	1
8	MP2A	Z	8.996	1
9	MP2A	Mx	-.013	1
10	MP2A	X	5.194	5
11	MP2A	Z	8.996	5
12	MP2A	Mx	-.013	5
13	MP1A	X	4.863	1
14	MP1A	Z	8.423	1
15	MP1A	Mx	-.005	1
16	MP1A	X	4.863	5
17	MP1A	Z	8.423	5
18	MP1A	Mx	-.005	5
19	MP4A	X	4.97	3
20	MP4A	Z	8.609	3
21	MP4A	Mx	-.005	3
22	MP2A	X	.426	2.5
23	MP2A	Z	.738	2.5
24	MP2A	Mx	.000284	2.5
25	SO6	X	4.764	1.25
26	SO6	Z	8.251	1.25
27	SO6	Mx	-.003	1.25
28	MP3A	X	1.774	.25
29	MP3A	Z	3.073	.25
30	MP3A	Mx	.001	.25
31	MP3A	X	1.715	2.5
32	MP3A	Z	2.97	2.5
33	MP3A	Mx	.001	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	0	1
2	MP2A	Z	11.362	1
3	MP2A	Mx	.009	1
4	MP2A	X	0	5
5	MP2A	Z	11.362	5
6	MP2A	Mx	.009	5
7	MP2A	X	0	1
8	MP2A	Z	11.362	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
9	MP2A	Mx	-.009	1
10	MP2A	X	0	5
11	MP2A	Z	11.362	5
12	MP2A	Mx	-.009	5
13	MP1A	X	0	1
14	MP1A	Z	10.227	1
15	MP1A	Mx	0	1
16	MP1A	X	0	5
17	MP1A	Z	10.227	5
18	MP1A	Mx	0	5
19	MP4A	X	0	3
20	MP4A	Z	11.724	3
21	MP4A	Mx	0	3
22	MP2A	X	0	2.5
23	MP2A	Z	.71	2.5
24	MP2A	Mx	.00041	2.5
25	SO6	X	0	1.25
26	SO6	Z	10.128	1.25
27	SO6	Mx	0	1.25
28	MP3A	X	0	.25
29	MP3A	Z	3.866	.25
30	MP3A	Mx	0	.25
31	MP3A	X	0	2.5
32	MP3A	Z	3.866	2.5
33	MP3A	Mx	0	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-5.194	1
2	MP2A	Z	8.996	1
3	MP2A	Mx	.013	1
4	MP2A	X	-5.194	5
5	MP2A	Z	8.996	5
6	MP2A	Mx	.013	5
7	MP2A	X	-5.194	1
8	MP2A	Z	8.996	1
9	MP2A	Mx	-.002	1
10	MP2A	X	-5.194	5
11	MP2A	Z	8.996	5
12	MP2A	Mx	-.002	5
13	MP1A	X	-4.863	1
14	MP1A	Z	8.423	1
15	MP1A	Mx	.005	1
16	MP1A	X	-4.863	5
17	MP1A	Z	8.423	5
18	MP1A	Mx	.005	5
19	MP4A	X	-4.97	3
20	MP4A	Z	8.609	3
21	MP4A	Mx	.005	3
22	MP2A	X	-.319	2.5
23	MP2A	Z	.553	2.5
24	MP2A	Mx	.000426	2.5
25	SO6	X	-4.764	1.25
26	SO6	Z	8.251	1.25
27	SO6	Mx	.003	1.25
28	MP3A	X	-1.774	.25

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
29	MP3A	Z	3.073	.25
30	MP3A	Mx	-.001	.25
31	MP3A	X	-1.715	2.5
32	MP3A	Z	2.97	2.5
33	MP3A	Mx	-.001	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-7.307	1
2	MP2A	Z	4.219	1
3	MP2A	Mx	.011	1
4	MP2A	X	-7.307	5
5	MP2A	Z	4.219	5
6	MP2A	Mx	.011	5
7	MP2A	X	-7.307	1
8	MP2A	Z	4.219	1
9	MP2A	Mx	.004	1
10	MP2A	X	-7.307	5
11	MP2A	Z	4.219	5
12	MP2A	Mx	.004	5
13	MP1A	X	-7.556	1
14	MP1A	Z	4.362	1
15	MP1A	Mx	.008	1
16	MP1A	X	-7.556	5
17	MP1A	Z	4.362	5
18	MP1A	Mx	.008	5
19	MP4A	X	-5.52	3
20	MP4A	Z	3.187	3
21	MP4A	Mx	.006	3
22	MP2A	X	-.615	2.5
23	MP2A	Z	.355	2.5
24	MP2A	Mx	.00041	2.5
25	SO6	X	-7.211	1.25
26	SO6	Z	4.163	1.25
27	SO6	Mx	.005	1.25
28	MP3A	X	-2.522	.25
29	MP3A	Z	1.456	.25
30	MP3A	Mx	-.002	.25
31	MP3A	X	-2.214	2.5
32	MP3A	Z	1.278	2.5
33	MP3A	Mx	-.001	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-7.463	1
2	MP2A	Z	0	1
3	MP2A	Mx	.007	1
4	MP2A	X	-7.463	5
5	MP2A	Z	0	5
6	MP2A	Mx	.007	5
7	MP2A	X	-7.463	1
8	MP2A	Z	0	1
9	MP2A	Mx	.007	1
10	MP2A	X	-7.463	5
11	MP2A	Z	0	5
12	MP2A	Mx	.007	5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
13	MP1A	X	-8.224	1
14	MP1A	Z	0	1
15	MP1A	Mx	.008	1
16	MP1A	X	-8.224	5
17	MP1A	Z	0	5
18	MP1A	Mx	.008	5
19	MP4A	X	-4.59	3
20	MP4A	Z	0	3
21	MP4A	Mx	.005	3
22	MP2A	X	-.852	2.5
23	MP2A	Z	0	2.5
24	MP2A	Mx	.000284	2.5
25	SO6	X	-7.727	1.25
26	SO6	Z	0	1.25
27	SO6	Mx	.005	1.25
28	MP3A	X	-2.594	.25
29	MP3A	Z	0	.25
30	MP3A	Mx	-.002	.25
31	MP3A	X	-2.12	2.5
32	MP3A	Z	0	2.5
33	MP3A	Mx	-.001	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-7.307	1
2	MP2A	Z	-4.219	1
3	MP2A	Mx	.004	1
4	MP2A	X	-7.307	5
5	MP2A	Z	-4.219	5
6	MP2A	Mx	.004	5
7	MP2A	X	-7.307	1
8	MP2A	Z	-4.219	1
9	MP2A	Mx	.011	1
10	MP2A	X	-7.307	5
11	MP2A	Z	-4.219	5
12	MP2A	Mx	.011	5
13	MP1A	X	-7.556	1
14	MP1A	Z	-4.362	1
15	MP1A	Mx	.008	1
16	MP1A	X	-7.556	5
17	MP1A	Z	-4.362	5
18	MP1A	Mx	.008	5
19	MP4A	X	-5.52	3
20	MP4A	Z	-3.187	3
21	MP4A	Mx	.006	3
22	MP2A	X	-.799	2.5
23	MP2A	Z	-.461	2.5
24	MP2A	Mx	0	2.5
25	SO6	X	-7.211	1.25
26	SO6	Z	-4.163	1.25
27	SO6	Mx	.005	1.25
28	MP3A	X	-2.522	.25
29	MP3A	Z	-1.456	.25
30	MP3A	Mx	-.002	.25
31	MP3A	X	-2.214	2.5
32	MP3A	Z	-1.278	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
33	MP3A	Mx	-.001	2.5

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	-5.194	1
2	MP2A	Z	-8.996	1
3	MP2A	Mx	-.002	1
4	MP2A	X	-5.194	5
5	MP2A	Z	-8.996	5
6	MP2A	Mx	-.002	5
7	MP2A	X	-5.194	1
8	MP2A	Z	-8.996	1
9	MP2A	Mx	.013	1
10	MP2A	X	-5.194	5
11	MP2A	Z	-8.996	5
12	MP2A	Mx	.013	5
13	MP1A	X	-4.863	1
14	MP1A	Z	-8.423	1
15	MP1A	Mx	.005	1
16	MP1A	X	-4.863	5
17	MP1A	Z	-8.423	5
18	MP1A	Mx	.005	5
19	MP4A	X	-4.97	3
20	MP4A	Z	-8.609	3
21	MP4A	Mx	.005	3
22	MP2A	X	-.426	2.5
23	MP2A	Z	-.738	2.5
24	MP2A	Mx	-.000284	2.5
25	SO6	X	-4.764	1.25
26	SO6	Z	-8.251	1.25
27	SO6	Mx	.003	1.25
28	MP3A	X	-1.774	.25
29	MP3A	Z	-3.073	.25
30	MP3A	Mx	-.001	.25
31	MP3A	X	-1.715	2.5
32	MP3A	Z	-2.97	2.5
33	MP3A	Mx	-.001	2.5

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M5	Y	-500	%100

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M14	Y	-500	%100

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	CBC1	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	CBC1	Y	-250	0

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	Y	-1.296	1
2	MP2A	My	-.001	1
3	MP2A	Mz	.001	1
4	MP2A	Y	-1.296	5
5	MP2A	My	-.001	5
6	MP2A	Mz	.001	5
7	MP2A	Y	-1.296	1
8	MP2A	My	-.001	1
9	MP2A	Mz	-.001	1
10	MP2A	Y	-1.296	5
11	MP2A	My	-.001	5
12	MP2A	Mz	-.001	5
13	MP1A	Y	-.471	1
14	MP1A	My	-.000471	1
15	MP1A	Mz	0	1
16	MP1A	Y	-.471	5
17	MP1A	My	-.000471	5
18	MP1A	Mz	0	5
19	MP4A	Y	-3.568	3
20	MP4A	My	-.004	3
21	MP4A	Mz	0	3
22	MP2A	Y	-.426	2.5
23	MP2A	My	-.000142	2.5
24	MP2A	Mz	.000246	2.5
25	SO6	Y	-1.311	1.25
26	SO6	My	-.000874	1.25
27	SO6	Mz	0	1.25
28	MP3A	Y	-3.457	.25
29	MP3A	My	.002	.25
30	MP3A	Mz	0	.25
31	MP3A	Y	-2.879	2.5
32	MP3A	My	.002	2.5
33	MP3A	Mz	0	2.5

Member Point Loads (BLC 82 : Antenna Eh (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	Z	-3.241	1
2	MP2A	Mx	-.003	1
3	MP2A	Z	-3.241	5
4	MP2A	Mx	-.003	5
5	MP2A	Z	-3.241	1
6	MP2A	Mx	.003	1
7	MP2A	Z	-3.241	5
8	MP2A	Mx	.003	5
9	MP1A	Z	-1.178	1
10	MP1A	Mx	0	1
11	MP1A	Z	-1.178	5
12	MP1A	Mx	0	5
13	MP4A	Z	-8.919	3
14	MP4A	Mx	0	3
15	MP2A	Z	-1.065	2.5
16	MP2A	Mx	-.000615	2.5
17	SO6	Z	-3.277	1.25
18	SO6	Mx	0	1.25
19	MP3A	Z	-8.643	.25
20	MP3A	Mx	0	.25

Member Point Loads (BLC 82 : Antenna Eh (0 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
21	MP3A	Z	-7.199	2.5
22	MP3A	Mx	0	2.5

Member Point Loads (BLC 83 : Antenna Eh (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP2A	X	3.241	1
2	MP2A	Mx	-.003	1
3	MP2A	X	3.241	5
4	MP2A	Mx	-.003	5
5	MP2A	X	3.241	1
6	MP2A	Mx	-.003	1
7	MP2A	X	3.241	5
8	MP2A	Mx	-.003	5
9	MP1A	X	1.178	1
10	MP1A	Mx	-.001	1
11	MP1A	X	1.178	5
12	MP1A	Mx	-.001	5
13	MP4A	X	8.919	3
14	MP4A	Mx	-.009	3
15	MP2A	X	1.065	2.5
16	MP2A	Mx	-.000355	2.5
17	SO6	X	3.277	1.25
18	SO6	Mx	-.002	1.25
19	MP3A	X	8.643	.25
20	MP3A	Mx	.006	.25
21	MP3A	X	7.199	2.5
22	MP3A	Mx	.005	2.5

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	MP1A	Y	-4.818	-4.818	0	%100
2	CBC1	Y	-6.367	-6.367	0	%100
3	SO6	Y	-9.335	-9.335	0	%100
4	M4	Y	-7.743	-7.743	0	%100
5	MP3A	Y	-4.818	-4.818	0	%100
6	MP4A	Y	-4.818	-4.818	0	%100
7	MP2A	Y	-4.818	-4.818	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	MP1A	X	0	0	0	%100
2	MP1A	Z	-8.858	-8.858	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	-13.053	-13.053	0	%100
5	SO6	X	0	0	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	-9.034	-9.034	0	%100
9	MP3A	X	0	0	0	%100
10	MP3A	Z	-8.858	-8.858	0	%100
11	MP4A	X	0	0	0	%100
12	MP4A	Z	-8.858	-8.858	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	-8.858	-8.858	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	MP1A	X	4.429	4.429	0	%100
2	MP1A	Z	-7.671	-7.671	0	%100
3	CBC1	X	4.895	4.895	0	%100
4	CBC1	Z	-8.478	-8.478	0	%100
5	SO6	X	1.562	1.562	0	%100
6	SO6	Z	-2.705	-2.705	0	%100
7	M4	X	4.517	4.517	0	%100
8	M4	Z	-7.824	-7.824	0	%100
9	MP3A	X	4.429	4.429	0	%100
10	MP3A	Z	-7.671	-7.671	0	%100
11	MP4A	X	4.429	4.429	0	%100
12	MP4A	Z	-7.671	-7.671	0	%100
13	MP2A	X	4.429	4.429	0	%100
14	MP2A	Z	-7.671	-7.671	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	MP1A	X	7.671	7.671	0	%100
2	MP1A	Z	-4.429	-4.429	0	%100
3	CBC1	X	2.826	2.826	0	%100
4	CBC1	Z	-1.632	-1.632	0	%100
5	SO6	X	8.116	8.116	0	%100
6	SO6	Z	-4.686	-4.686	0	%100
7	M4	X	7.824	7.824	0	%100
8	M4	Z	-4.517	-4.517	0	%100
9	MP3A	X	7.671	7.671	0	%100
10	MP3A	Z	-4.429	-4.429	0	%100
11	MP4A	X	7.671	7.671	0	%100
12	MP4A	Z	-4.429	-4.429	0	%100
13	MP2A	X	7.671	7.671	0	%100
14	MP2A	Z	-4.429	-4.429	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	MP1A	X	8.858	8.858	0	%100
2	MP1A	Z	0	0	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	0	0	0	%100
5	SO6	X	12.496	12.496	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	9.034	9.034	0	%100
8	M4	Z	0	0	0	%100
9	MP3A	X	8.858	8.858	0	%100
10	MP3A	Z	0	0	0	%100
11	MP4A	X	8.858	8.858	0	%100
12	MP4A	Z	0	0	0	%100
13	MP2A	X	8.858	8.858	0	%100
14	MP2A	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	MP1A	X	7.671	7.671	0	%100
2	MP1A	Z	4.429	4.429	0	%100
3	CBC1	X	2.826	2.826	0	%100
4	CBC1	Z	1.632	1.632	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,%]
5	SO6	X	8.116	8.116	0	%100
6	SO6	Z	4.686	4.686	0	%100
7	M4	X	7.824	7.824	0	%100
8	M4	Z	4.517	4.517	0	%100
9	MP3A	X	7.671	7.671	0	%100
10	MP3A	Z	4.429	4.429	0	%100
11	MP4A	X	7.671	7.671	0	%100
12	MP4A	Z	4.429	4.429	0	%100
13	MP2A	X	7.671	7.671	0	%100
14	MP2A	Z	4.429	4.429	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	MP1A	X	4.429	4.429	0	%100
2	MP1A	Z	7.671	7.671	0	%100
3	CBC1	X	4.895	4.895	0	%100
4	CBC1	Z	8.478	8.478	0	%100
5	SO6	X	1.562	1.562	0	%100
6	SO6	Z	2.705	2.705	0	%100
7	M4	X	4.517	4.517	0	%100
8	M4	Z	7.824	7.824	0	%100
9	MP3A	X	4.429	4.429	0	%100
10	MP3A	Z	7.671	7.671	0	%100
11	MP4A	X	4.429	4.429	0	%100
12	MP4A	Z	7.671	7.671	0	%100
13	MP2A	X	4.429	4.429	0	%100
14	MP2A	Z	7.671	7.671	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	MP1A	X	0	0	0	%100
2	MP1A	Z	8.858	8.858	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	13.053	13.053	0	%100
5	SO6	X	0	0	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	9.034	9.034	0	%100
9	MP3A	X	0	0	0	%100
10	MP3A	Z	8.858	8.858	0	%100
11	MP4A	X	0	0	0	%100
12	MP4A	Z	8.858	8.858	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	8.858	8.858	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	MP1A	X	-4.429	-4.429	0	%100
2	MP1A	Z	7.671	7.671	0	%100
3	CBC1	X	-4.895	-4.895	0	%100
4	CBC1	Z	8.478	8.478	0	%100
5	SO6	X	-1.562	-1.562	0	%100
6	SO6	Z	2.705	2.705	0	%100
7	M4	X	-4.517	-4.517	0	%100
8	M4	Z	7.824	7.824	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,%]
9	MP3A	X	-4.429	-4.429	0	%100
10	MP3A	Z	7.671	7.671	0	%100
11	MP4A	X	-4.429	-4.429	0	%100
12	MP4A	Z	7.671	7.671	0	%100
13	MP2A	X	-4.429	-4.429	0	%100
14	MP2A	Z	7.671	7.671	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	MP1A	X	-7.671	-7.671	0	%100
2	MP1A	Z	4.429	4.429	0	%100
3	CBC1	X	-2.826	-2.826	0	%100
4	CBC1	Z	1.632	1.632	0	%100
5	SO6	X	-8.116	-8.116	0	%100
6	SO6	Z	4.686	4.686	0	%100
7	M4	X	-7.824	-7.824	0	%100
8	M4	Z	4.517	4.517	0	%100
9	MP3A	X	-7.671	-7.671	0	%100
10	MP3A	Z	4.429	4.429	0	%100
11	MP4A	X	-7.671	-7.671	0	%100
12	MP4A	Z	4.429	4.429	0	%100
13	MP2A	X	-7.671	-7.671	0	%100
14	MP2A	Z	4.429	4.429	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	MP1A	X	-8.858	-8.858	0	%100
2	MP1A	Z	0	0	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	0	0	0	%100
5	SO6	X	-12.496	-12.496	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	-9.034	-9.034	0	%100
8	M4	Z	0	0	0	%100
9	MP3A	X	-8.858	-8.858	0	%100
10	MP3A	Z	0	0	0	%100
11	MP4A	X	-8.858	-8.858	0	%100
12	MP4A	Z	0	0	0	%100
13	MP2A	X	-8.858	-8.858	0	%100
14	MP2A	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	MP1A	X	-7.671	-7.671	0	%100
2	MP1A	Z	-4.429	-4.429	0	%100
3	CBC1	X	-2.826	-2.826	0	%100
4	CBC1	Z	-1.632	-1.632	0	%100
5	SO6	X	-8.116	-8.116	0	%100
6	SO6	Z	-4.686	-4.686	0	%100
7	M4	X	-7.824	-7.824	0	%100
8	M4	Z	-4.517	-4.517	0	%100
9	MP3A	X	-7.671	-7.671	0	%100
10	MP3A	Z	-4.429	-4.429	0	%100
11	MP4A	X	-7.671	-7.671	0	%100
12	MP4A	Z	-4.429	-4.429	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
13	MP2A	X	-7.671	-7.671	0	%100
14	MP2A	Z	-4.429	-4.429	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-4.429	-4.429	0	%100
2	MP1A	Z	-7.671	-7.671	0	%100
3	CBC1	X	-4.895	-4.895	0	%100
4	CBC1	Z	-8.478	-8.478	0	%100
5	SO6	X	-1.562	-1.562	0	%100
6	SO6	Z	-2.705	-2.705	0	%100
7	M4	X	-4.517	-4.517	0	%100
8	M4	Z	-7.824	-7.824	0	%100
9	MP3A	X	-4.429	-4.429	0	%100
10	MP3A	Z	-7.671	-7.671	0	%100
11	MP4A	X	-4.429	-4.429	0	%100
12	MP4A	Z	-7.671	-7.671	0	%100
13	MP2A	X	-4.429	-4.429	0	%100
14	MP2A	Z	-7.671	-7.671	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	MP1A	X	0	0	0	%100
2	MP1A	Z	-3.207	-3.207	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	-3.986	-3.986	0	%100
5	SO6	X	0	0	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	-2.898	-2.898	0	%100
9	MP3A	X	0	0	0	%100
10	MP3A	Z	-3.207	-3.207	0	%100
11	MP4A	X	0	0	0	%100
12	MP4A	Z	-3.207	-3.207	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	-3.207	-3.207	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	MP1A	X	1.603	1.603	0	%100
2	MP1A	Z	-2.777	-2.777	0	%100
3	CBC1	X	1.495	1.495	0	%100
4	CBC1	Z	-2.589	-2.589	0	%100
5	SO6	X	.448	.448	0	%100
6	SO6	Z	-.776	-.776	0	%100
7	M4	X	1.449	1.449	0	%100
8	M4	Z	-2.51	-2.51	0	%100
9	MP3A	X	1.603	1.603	0	%100
10	MP3A	Z	-2.777	-2.777	0	%100
11	MP4A	X	1.603	1.603	0	%100
12	MP4A	Z	-2.777	-2.777	0	%100
13	MP2A	X	1.603	1.603	0	%100
14	MP2A	Z	-2.777	-2.777	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	MP1A	X	2.777	2.777	0	%100
2	MP1A	Z	-1.603	-1.603	0	%100
3	CBC1	X	.863	.863	0	%100
4	CBC1	Z	-.498	-.498	0	%100
5	SO6	X	2.327	2.327	0	%100
6	SO6	Z	-1.344	-1.344	0	%100
7	M4	X	2.51	2.51	0	%100
8	M4	Z	-1.449	-1.449	0	%100
9	MP3A	X	2.777	2.777	0	%100
10	MP3A	Z	-1.603	-1.603	0	%100
11	MP4A	X	2.777	2.777	0	%100
12	MP4A	Z	-1.603	-1.603	0	%100
13	MP2A	X	2.777	2.777	0	%100
14	MP2A	Z	-1.603	-1.603	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	MP1A	X	3.207	3.207	0	%100
2	MP1A	Z	0	0	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	0	0	0	%100
5	SO6	X	3.583	3.583	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	2.898	2.898	0	%100
8	M4	Z	0	0	0	%100
9	MP3A	X	3.207	3.207	0	%100
10	MP3A	Z	0	0	0	%100
11	MP4A	X	3.207	3.207	0	%100
12	MP4A	Z	0	0	0	%100
13	MP2A	X	3.207	3.207	0	%100
14	MP2A	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	MP1A	X	2.777	2.777	0	%100
2	MP1A	Z	1.603	1.603	0	%100
3	CBC1	X	.863	.863	0	%100
4	CBC1	Z	.498	.498	0	%100
5	SO6	X	2.327	2.327	0	%100
6	SO6	Z	1.344	1.344	0	%100
7	M4	X	2.51	2.51	0	%100
8	M4	Z	1.449	1.449	0	%100
9	MP3A	X	2.777	2.777	0	%100
10	MP3A	Z	1.603	1.603	0	%100
11	MP4A	X	2.777	2.777	0	%100
12	MP4A	Z	1.603	1.603	0	%100
13	MP2A	X	2.777	2.777	0	%100
14	MP2A	Z	1.603	1.603	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	MP1A	X	1.603	1.603	0	%100
2	MP1A	Z	2.777	2.777	0	%100
3	CBC1	X	1.495	1.495	0	%100
4	CBC1	Z	2.589	2.589	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,%]
5	SO6	X	.448	.448	0	%100
6	SO6	Z	.776	.776	0	%100
7	M4	X	1.449	1.449	0	%100
8	M4	Z	2.51	2.51	0	%100
9	MP3A	X	1.603	1.603	0	%100
10	MP3A	Z	2.777	2.777	0	%100
11	MP4A	X	1.603	1.603	0	%100
12	MP4A	Z	2.777	2.777	0	%100
13	MP2A	X	1.603	1.603	0	%100
14	MP2A	Z	2.777	2.777	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	MP1A	X	0	0	0	%100
2	MP1A	Z	3.207	3.207	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	3.986	3.986	0	%100
5	SO6	X	0	0	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	2.898	2.898	0	%100
9	MP3A	X	0	0	0	%100
10	MP3A	Z	3.207	3.207	0	%100
11	MP4A	X	0	0	0	%100
12	MP4A	Z	3.207	3.207	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	3.207	3.207	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,%]
1	MP1A	X	-1.603	-1.603	0	%100
2	MP1A	Z	2.777	2.777	0	%100
3	CBC1	X	-1.495	-1.495	0	%100
4	CBC1	Z	2.589	2.589	0	%100
5	SO6	X	-.448	-.448	0	%100
6	SO6	Z	.776	.776	0	%100
7	M4	X	-1.449	-1.449	0	%100
8	M4	Z	2.51	2.51	0	%100
9	MP3A	X	-1.603	-1.603	0	%100
10	MP3A	Z	2.777	2.777	0	%100
11	MP4A	X	-1.603	-1.603	0	%100
12	MP4A	Z	2.777	2.777	0	%100
13	MP2A	X	-1.603	-1.603	0	%100
14	MP2A	Z	2.777	2.777	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	MP1A	X	-2.777	-2.777	0	%100
2	MP1A	Z	1.603	1.603	0	%100
3	CBC1	X	-.863	-.863	0	%100
4	CBC1	Z	.498	.498	0	%100
5	SO6	X	-2.327	-2.327	0	%100
6	SO6	Z	1.344	1.344	0	%100
7	M4	X	-2.51	-2.51	0	%100
8	M4	Z	1.449	1.449	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,%]
9	MP3A	X	-2.777	-2.777	0	%100
10	MP3A	Z	1.603	1.603	0	%100
11	MP4A	X	-2.777	-2.777	0	%100
12	MP4A	Z	1.603	1.603	0	%100
13	MP2A	X	-2.777	-2.777	0	%100
14	MP2A	Z	1.603	1.603	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	MP1A	X	-3.207	-3.207	0	%100
2	MP1A	Z	0	0	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	0	0	0	%100
5	SO6	X	-3.583	-3.583	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	-2.898	-2.898	0	%100
8	M4	Z	0	0	0	%100
9	MP3A	X	-3.207	-3.207	0	%100
10	MP3A	Z	0	0	0	%100
11	MP4A	X	-3.207	-3.207	0	%100
12	MP4A	Z	0	0	0	%100
13	MP2A	X	-3.207	-3.207	0	%100
14	MP2A	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	MP1A	X	-2.777	-2.777	0	%100
2	MP1A	Z	-1.603	-1.603	0	%100
3	CBC1	X	-.863	-.863	0	%100
4	CBC1	Z	-.498	-.498	0	%100
5	SO6	X	-2.327	-2.327	0	%100
6	SO6	Z	-1.344	-1.344	0	%100
7	M4	X	-2.51	-2.51	0	%100
8	M4	Z	-1.449	-1.449	0	%100
9	MP3A	X	-2.777	-2.777	0	%100
10	MP3A	Z	-1.603	-1.603	0	%100
11	MP4A	X	-2.777	-2.777	0	%100
12	MP4A	Z	-1.603	-1.603	0	%100
13	MP2A	X	-2.777	-2.777	0	%100
14	MP2A	Z	-1.603	-1.603	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	MP1A	X	-1.603	-1.603	0	%100
2	MP1A	Z	-2.777	-2.777	0	%100
3	CBC1	X	-1.495	-1.495	0	%100
4	CBC1	Z	-2.589	-2.589	0	%100
5	SO6	X	-.448	-.448	0	%100
6	SO6	Z	-.776	-.776	0	%100
7	M4	X	-1.449	-1.449	0	%100
8	M4	Z	-2.51	-2.51	0	%100
9	MP3A	X	-1.603	-1.603	0	%100
10	MP3A	Z	-2.777	-2.777	0	%100
11	MP4A	X	-1.603	-1.603	0	%100
12	MP4A	Z	-2.777	-2.777	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,%]
13	MP2A	X	-1.603	-1.603	0	%100
14	MP2A	Z	-2.777	-2.777	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	MP1A	X	0	0	0	%100
2	MP1A	Z	-.592	-.592	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	-.873	-.873	0	%100
5	SO6	X	0	0	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	-.604	-.604	0	%100
9	MP3A	X	0	0	0	%100
10	MP3A	Z	-.592	-.592	0	%100
11	MP4A	X	0	0	0	%100
12	MP4A	Z	-.592	-.592	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	-.592	-.592	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	MP1A	X	.296	.296	0	%100
2	MP1A	Z	-.513	-.513	0	%100
3	CBC1	X	.327	.327	0	%100
4	CBC1	Z	-.567	-.567	0	%100
5	SO6	X	.104	.104	0	%100
6	SO6	Z	-.181	-.181	0	%100
7	M4	X	.302	.302	0	%100
8	M4	Z	-.523	-.523	0	%100
9	MP3A	X	.296	.296	0	%100
10	MP3A	Z	-.513	-.513	0	%100
11	MP4A	X	.296	.296	0	%100
12	MP4A	Z	-.513	-.513	0	%100
13	MP2A	X	.296	.296	0	%100
14	MP2A	Z	-.513	-.513	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	MP1A	X	.513	.513	0	%100
2	MP1A	Z	-.296	-.296	0	%100
3	CBC1	X	.189	.189	0	%100
4	CBC1	Z	-.109	-.109	0	%100
5	SO6	X	.543	.543	0	%100
6	SO6	Z	-.313	-.313	0	%100
7	M4	X	.523	.523	0	%100
8	M4	Z	-.302	-.302	0	%100
9	MP3A	X	.513	.513	0	%100
10	MP3A	Z	-.296	-.296	0	%100
11	MP4A	X	.513	.513	0	%100
12	MP4A	Z	-.296	-.296	0	%100
13	MP2A	X	.513	.513	0	%100
14	MP2A	Z	-.296	-.296	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,%]
1	MP1A	X	.592	.592	0	%100
2	MP1A	Z	0	0	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	0	0	0	%100
5	SO6	X	.836	.836	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	.604	.604	0	%100
8	M4	Z	0	0	0	%100
9	MP3A	X	.592	.592	0	%100
10	MP3A	Z	0	0	0	%100
11	MP4A	X	.592	.592	0	%100
12	MP4A	Z	0	0	0	%100
13	MP2A	X	.592	.592	0	%100
14	MP2A	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	MP1A	X	.513	.513	0	%100
2	MP1A	Z	.296	.296	0	%100
3	CBC1	X	.189	.189	0	%100
4	CBC1	Z	.109	.109	0	%100
5	SO6	X	.543	.543	0	%100
6	SO6	Z	.313	.313	0	%100
7	M4	X	.523	.523	0	%100
8	M4	Z	.302	.302	0	%100
9	MP3A	X	.513	.513	0	%100
10	MP3A	Z	.296	.296	0	%100
11	MP4A	X	.513	.513	0	%100
12	MP4A	Z	.296	.296	0	%100
13	MP2A	X	.513	.513	0	%100
14	MP2A	Z	.296	.296	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	MP1A	X	.296	.296	0	%100
2	MP1A	Z	.513	.513	0	%100
3	CBC1	X	.327	.327	0	%100
4	CBC1	Z	.567	.567	0	%100
5	SO6	X	.104	.104	0	%100
6	SO6	Z	.181	.181	0	%100
7	M4	X	.302	.302	0	%100
8	M4	Z	.523	.523	0	%100
9	MP3A	X	.296	.296	0	%100
10	MP3A	Z	.513	.513	0	%100
11	MP4A	X	.296	.296	0	%100
12	MP4A	Z	.513	.513	0	%100
13	MP2A	X	.296	.296	0	%100
14	MP2A	Z	.513	.513	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	MP1A	X	0	0	0	%100
2	MP1A	Z	.592	.592	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	.873	.873	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,%]
5	SO6	X	0	0	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	0	0	0	%100
8	M4	Z	.604	.604	0	%100
9	MP3A	X	0	0	0	%100
10	MP3A	Z	.592	.592	0	%100
11	MP4A	X	0	0	0	%100
12	MP4A	Z	.592	.592	0	%100
13	MP2A	X	0	0	0	%100
14	MP2A	Z	.592	.592	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	MP1A	X	-.296	-.296	0	%100
2	MP1A	Z	.513	.513	0	%100
3	CBC1	X	-.327	-.327	0	%100
4	CBC1	Z	.567	.567	0	%100
5	SO6	X	-.104	-.104	0	%100
6	SO6	Z	.181	.181	0	%100
7	M4	X	-.302	-.302	0	%100
8	M4	Z	.523	.523	0	%100
9	MP3A	X	-.296	-.296	0	%100
10	MP3A	Z	.513	.513	0	%100
11	MP4A	X	-.296	-.296	0	%100
12	MP4A	Z	.513	.513	0	%100
13	MP2A	X	-.296	-.296	0	%100
14	MP2A	Z	.513	.513	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	MP1A	X	-.513	-.513	0	%100
2	MP1A	Z	.296	.296	0	%100
3	CBC1	X	-.189	-.189	0	%100
4	CBC1	Z	.109	.109	0	%100
5	SO6	X	-.543	-.543	0	%100
6	SO6	Z	.313	.313	0	%100
7	M4	X	-.523	-.523	0	%100
8	M4	Z	.302	.302	0	%100
9	MP3A	X	-.513	-.513	0	%100
10	MP3A	Z	.296	.296	0	%100
11	MP4A	X	-.513	-.513	0	%100
12	MP4A	Z	.296	.296	0	%100
13	MP2A	X	-.513	-.513	0	%100
14	MP2A	Z	.296	.296	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	MP1A	X	-.592	-.592	0	%100
2	MP1A	Z	0	0	0	%100
3	CBC1	X	0	0	0	%100
4	CBC1	Z	0	0	0	%100
5	SO6	X	-.836	-.836	0	%100
6	SO6	Z	0	0	0	%100
7	M4	X	-.604	-.604	0	%100
8	M4	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,%]
9	MP3A	X	-.592	-.592	0	%100
10	MP3A	Z	0	0	0	%100
11	MP4A	X	-.592	-.592	0	%100
12	MP4A	Z	0	0	0	%100
13	MP2A	X	-.592	-.592	0	%100
14	MP2A	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	MP1A	X	-.513	-.513	0	%100
2	MP1A	Z	-.296	-.296	0	%100
3	CBC1	X	-.189	-.189	0	%100
4	CBC1	Z	-.109	-.109	0	%100
5	SO6	X	-.543	-.543	0	%100
6	SO6	Z	-.313	-.313	0	%100
7	M4	X	-.523	-.523	0	%100
8	M4	Z	-.302	-.302	0	%100
9	MP3A	X	-.513	-.513	0	%100
10	MP3A	Z	-.296	-.296	0	%100
11	MP4A	X	-.513	-.513	0	%100
12	MP4A	Z	-.296	-.296	0	%100
13	MP2A	X	-.513	-.513	0	%100
14	MP2A	Z	-.296	-.296	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	MP1A	X	-.296	-.296	0	%100
2	MP1A	Z	-.513	-.513	0	%100
3	CBC1	X	-.327	-.327	0	%100
4	CBC1	Z	-.567	-.567	0	%100
5	SO6	X	-.104	-.104	0	%100
6	SO6	Z	-.181	-.181	0	%100
7	M4	X	-.302	-.302	0	%100
8	M4	Z	-.523	-.523	0	%100
9	MP3A	X	-.296	-.296	0	%100
10	MP3A	Z	-.513	-.513	0	%100
11	MP4A	X	-.296	-.296	0	%100
12	MP4A	Z	-.513	-.513	0	%100
13	MP2A	X	-.296	-.296	0	%100
14	MP2A	Z	-.513	-.513	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	N6	max	1217.824	10	1635.311	23	1825.351	1	-1.319	1	4.645	9	3.516	28
2		min	-1217.824	4	551.402	67	-1825.351	7	-5.498	19	-4.571	3	-3.404	50
3	Totals:	max	1217.824	10	1635.311	23	1825.351	1						
4		min	-1217.824	4	551.402	67	-1825.351	7						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	MP1A	PIPE_2.0	.241	3.563	7	.087	3.563		10	21199.8...	33048	1.925	1.925	1....	H1-1b
2	CBC1	PIPE_3.0	.876	6.25	28	.230	6.25		7	28371.5...	67068	5.913	5.913	1....	H1-1b
3	SO6	HSS4X4X3	.591	0	9	.384	0	y	28	103610....	106812	12.662	12.662	1....	H1-1b
4	M4	PIPE_4.0	.000	.625	8	.000	.625		8	95412.2...	95904	10.935	10.935	1....	H1-1b
5	MP3A	PIPE_2.0	.231	3.563	1	.039	3.563		9	21199.8...	33048	1.925	1.925	1....	H1-1b
6	MP4A	PIPE_2.0	.139	3.563	7	.062	3.563		8	21199.8...	33048	1.925	1.925	1....	H1-1b
7	MP2A	PIPE_2.0	.533	3.563	7	.161	3.563		9	21199.8...	33048	1.925	1.925	1....	H1-1b

VzW SMART Tool© Vendor

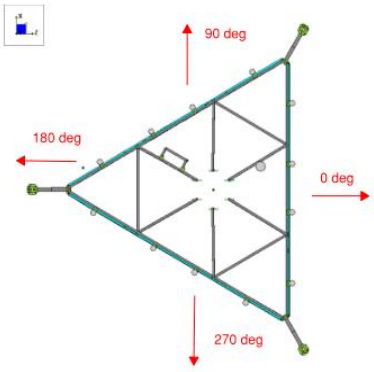
Client:	Verizon Wireless	Date:	6/30/2023
Site Name:	WOODBURY CT		
MDG #:	5000248228		
Fuze ID #:	17123853	Page:	1

Version 1.01

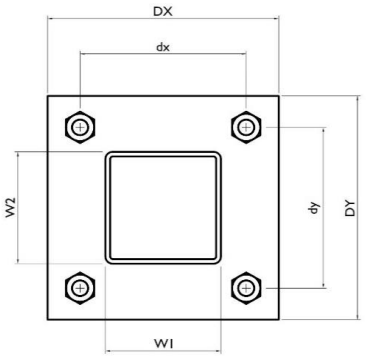
I. Mount-to-Tower Connection Check

Custom Orientation Required	Yes

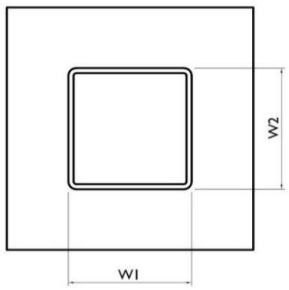
Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N6	0



Tower Connection Bolt Checks	Yes
Bolt Orientation	Parallel
Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)*:	7
d_y (in) *(Delta Y of typ. bolt config. sketch)*:	7
Bolt Type:	A325N
Bolt Diameter (in):	0.5
Required Tensile Strength / bolt (kips):	6.6
Required Shear Strength / bolt (kips):	1.5
Tensile Capacity / bolt (kips):	13.3
Shear Capacity / bolt (kips):	8.0
Bolt Overall Utilization:	**49.4%**



Tower Connection Baseplate Checks	Yes
Connecting Standoff Member Shape:	Rect Tube
Weld Stiffener Configuration:	No Stiffeners
Plate Width, D_x (in):	10
Plate Height, D_y (in):	10
W1(in):	4
W2 (in):	4
Member Thickness (in):	0.18
Stiffener location a_1 (in):	
Stiffener location b_1 (in):	
Stiffener location a_2 (in):	
Stiffener location b_2 (in):	
F_y (ksi, plate):	36
Plate Thickness (in):	0.5
Length of Yield Line, L_y (in):	7.70
Bolt Eccentricity, e (in):	2.29
M_u (kip-in):	15.00
Phi*M_n (kip-in):	15.58
Plate Bending Utilization:	**96.2%**

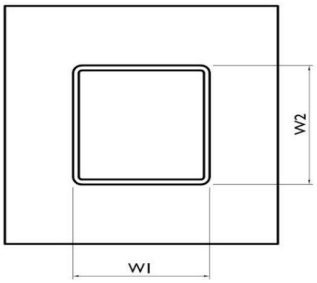


VzW SMART Tool© Vendor

Client:	Verizon Wireless	Date:	6/30/2023
Site Name:	WOODBURY CT		
MDG #:	5000248228		
Fuze ID #:	17123853	Page:	2

Version 1.01

Tower Connection Weld Checks	Yes
Weld Shape:	Rectangle
Weld Stiffener Configuration:	None
Stiffener Notch Length, n (in):	
Weld Size (1/16 in):	4
W1 (in):	4
W2 (in):	4
Weld Total Length (in):	16.00
Z_x (in^3/in):	21.33
Z_y (in^3/in):	21.33
J_p (in^4/in):	85.33
c_x (in)	2.18
c_y (in)	2.18
Required combined strength (kip/in):	2.92
Weld Capacity (kip/in):	5.57
Weld Utilization:	**52.4%**



Date: **July 21, 2023**

Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
(919) 661-6351

Subject: Structural Analysis Report

Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Site Number:	5000248228
	Site Name:	WOODBURY CT
Crown Castle Designation:	**BU Number:**	876405
	Site Name:	Woodbury North
	JDE Job Number:	751378
	Work Order Number:	2246415
	Order Number:	654617 Rev. 0
Engineering Firm Designation:	**TEP Project Number:**	25640.869487
Site Data:	**186 Minortown, Woodbury, Litchfield County, CT 06798** **Latitude *41° 34' 4.79"*, Longitude *-73° 10' 46.85"*** **110 Foot - Monopole Tower**	

Tower Engineering Professionals is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity - 87.2%**

This analysis utilizes an ultimate 3-second gust wind speed of 116 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Gautam Sopal, E.I. / DEN

Respectfully submitted by:

Aaron T. Rucker, P.E.

Electronic Copy

07/21/2023

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 100-ft monopole tower designed by Engineered Endeavors, Inc. The tower has been modified multiple times in the past to accommodate additional loading. The tower was previously extended 10-ft, bringing the overall tower height to 110-ft.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	116 mph
Exposure Category:	C
Topographic Factor:	1.0
Ice Thickness:	1.0 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
108.0	110.0	3	Samsung Telecom.	RFV01U-D1A	6 1	1-5/8 1-1/4
	109.0	1	Raycap	RVZDC-6627-PF-48_CCIV2		
	108.0	1	Kaelus	BSF0020F3V1		
		3	Commscope	CBC78T-DS-43-2X		
		3	Samsung Telecom.	RFV01U-D2A		
		1	Tower Mounts	T-Arm Mount [TA 602-3]		
	107.0	2	Antel	BXA-80080/4CF w/ Mount Pipe		
		1	Antel	BXA-80063/4CFX5 w/ Mount Pipe		
		6	Commscope	JAHH-65B-R3B w/ Mount Pipe		
		3	Samsung Telecom.	MT6407-77A w/ Mount Pipe		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
95.0	96.0	3	RFS Celwave	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	3	1-5/8
	95.0	3	RFS Celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
		3	Ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe		
		3	Ericsson	RADIO 4415 B66A_CCIV3		
		3	Ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	Ericsson	RADIO 4424 B25_TMO		
		1	Site Pro 1	RMQP-4096-HK		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
79.0	79.0	1	Tower Mounts	T-Arm Mount [TA 602-3]	12 2 2 2	1-5/8 7/8 7/16 3/8
	78.0	3	Powerwave Technologies	7770.00 w/ Mount Pipe		
		4	CCI Antennas	DMP65R-BU6D w/ Mount Pipe		
		2	CCI Antennas	DMP65R-BU4D w/ Mount Pipe		
		6	Powerwave Technologies	LGP21401		
		6	Ericsson	RRUS 4478 B14		
		1	Raycap	DC6-48-60-0-8C-EV		
		3	Ericsson	RRUS 8843 B2/B66A		
		1	Raycap	DC6-48-60-18-8F		
74.0	74.0	1	Tower Mounts	Side Arm Mount [SO 901-3]	-	-
68.0	68.0	3	JMA Wireless	MX08FRO665-21 w/ Mount Pipe	1	1-3/8
		3	Fujitsu	TA08025-B604		
		3	Fujitsu	TA08025-B605		
		1	Raycap	RDIDC-9181-PF-48		
		1	Commscope	MC-PK8-DSH		
48.0	50.0	1	Lucent	KS24019-L112A	1	1/2
	48.0	1	Tower Mounts	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Geotechnical Report	2158106	CCISites
Tower Foundation Drawings	1613643	CCISites
Tower Manufacturer Drawings	1614551	CCISites
Tower Reinforcement Drawings	2055775	CCISites
Post-Modification Inspection	1956156	CCISites
Tower Reinforcement Drawings	2177138	CCISites
Post-Modification Inspection	2309564	CCISites
Post-Modification Inspection	3373272	CCISites
Tower Reinforcement Drawings	3382709	CCISites
Post-Modification Inspection	3849745	CCISites

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 Standard.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are presented in Appendix C.

3.2) Assumptions

1) The tower and structures were maintained in accordance with the TIA-222 Standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2, and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Tower Engineering Professionals should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)[1,2]

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
110 - 105	Pole	TP13.693x12.7x0.1875	Pole	5.8%	Pass
105 - 100	Pole	TP14.686x13.693x0.1875	Pole	13.9%	Pass
100 - 98.5	Pole	TP14.984x14.686x0.1875	Pole	16.0%	Pass
98.5 - 93.5	Pole	TP16.012x14.984x0.1875	Pole	25.7%	Pass
93.5 - 88.5	Pole	TP17.039x16.012x0.1875	Pole	37.6%	Pass
88.5 - 83.5	Pole	TP18.066x17.039x0.1875	Pole	47.0%	Pass
83.5 - 78.67	Pole	TP19.058x18.066x0.1875	Pole	55.2%	Pass
78.67 - 78.42	Pole + Reinf.	TP19.11x19.058x0.5625	Reinf. 5 Bolt-Shaft Bearing	30.1%	Pass
78.42 - 73.42	Pole + Reinf.	TP20.137x19.11x0.5375	Reinf. 5 Tension Rupture	37.0%	Pass
73.42 - 68.42	Pole + Reinf.	TP21.164x20.137x0.5125	Reinf. 5 Tension Rupture	43.5%	Pass
68.42 - 63.42	Pole + Reinf.	TP22.191x21.164x0.4875	Reinf. 5 Tension Rupture	51.3%	Pass
63.42 - 58.67	Pole + Reinf.	TP23.167x22.191x0.475	Reinf. 5 Bolt-Shaft Bearing	58.3%	Pass
58.67 - 58.42	Pole + Reinf.	TP23.218x23.167x0.475	Reinf. 4 Bolt-Shaft Bearing	58.6%	Pass
58.42 - 53.42	Pole + Reinf.	TP24.246x23.218x0.4625	Reinf. 4 Tension Rupture	64.3%	Pass
53.42 - 50.87	Pole + Reinf.	TP25.54x24.246x0.45	Reinf. 4 Tension Rupture	67.2%	Pass
50.87 - 45.87	Pole + Reinf.	TP25.363x24.395x0.5125	Reinf. 4 Tension Rupture	65.0%	Pass
45.87 - 40.87	Pole + Reinf.	TP26.332x25.363x0.5	Reinf. 4 Tension Rupture	69.1%	Pass
40.87 - 35.87	Pole + Reinf.	TP27.301x26.332x0.4875	Reinf. 4 Tension Rupture	72.8%	Pass
35.87 - 30.87	Pole + Reinf.	TP28.269x27.301x0.475	Reinf. 4 Tension Rupture	76.1%	Pass
30.87 - 28.67	Pole + Reinf.	TP28.696x28.269x0.475	Reinf. 4 Tension Rupture	77.4%	Pass
28.67 - 28.42	Pole + Reinf.	TP28.744x28.696x0.475	Reinf. 7 Tension Rupture	77.6%	Pass
28.42 - 23.42	Pole + Reinf.	TP29.713x28.744x0.4625	Reinf. 7 Tension Rupture	80.4%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
23.42 - 18.42	Pole + Reinf.	TP30.681x29.713x0.4563	Reinf. 7 Tension Rupture	82.9%	Pass
18.42 - 14.17	Pole + Reinf.	TP31.505x30.681x0.45	Reinf. 7 Tension Rupture	84.7%	Pass
14.17 - 13.92	Pole + Reinf.	TP31.553x31.505x0.55	Reinf. 3 Tension Rupture	75.4%	Pass
13.92 - 13.67	Pole + Reinf.	TP31.602x31.553x0.55	Reinf. 3 Tension Rupture	75.5%	Pass
13.67 - 13.42	Pole + Reinf.	TP31.65x31.602x0.4688	Reinf. 6 Tension Rupture	84.1%	Pass
13.42 - 8.42	Pole + Reinf.	TP32.619x31.65x0.4625	Reinf. 6 Tension Rupture	86.2%	Pass
8.42 - 5.75	Pole + Reinf.	TP33.136x32.619x0.4625	Reinf. 6 Tension Rupture	87.2%	Pass
5.75 - 5.5	Pole + Reinf.	TP33.184x33.136x0.525	Reinf. 3 Tension Rupture	78.5%	Pass
5.5 - 3.57	Pole + Reinf.	TP33.558x33.184x0.5875	Reinf. 1 Compression	65.0%	Pass
3.57 - 3.32	Pole + Reinf.	TP33.607x33.558x0.5875	Reinf. 1 Compression	65.1%	Pass
3.32 - 3.17	Pole + Reinf.	TP33.636x33.607x0.5875	Reinf. 1 Compression	65.1%	Pass
3.17 - 2.92	Pole + Reinf.	TP33.684x33.636x0.5	Reinf. 1 Compression	74.8%	Pass
2.92 - 2.75	Pole + Reinf.	TP33.717x33.684x0.5	Reinf. 1 Compression	74.9%	Pass
2.75 - 2.5	Pole + Reinf.	TP33.766x33.717x0.4875	Reinf. 1 Compression	74.3%	Pass
2.5 - 0	Pole + Reinf.	TP34.25x33.766x0.4875	Reinf. 1 Compression	75.0%	Pass
				Summary	
			Pole	64.5%	Pass
			Reinforcement	87.2%	Pass
			Overall	**87.2%**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Flange Connection	98.5	44.6	Pass
1,2	Anchor Rods	-	57.4	Pass
1,2	Base Plate	-	84.0	Pass
1,2	Base Foundation Structural	-	50.5	Pass
1,2	Base Foundation Soil Interaction	-	79.5	Pass

Structure Rating (max from all components) =	**87.2%**

Notes:
1) See additional documentation in "Appendix C - Additional Calculations" for calculations supporting the % capacity listed.
2) Rating per TIA-222-H Section 15.5

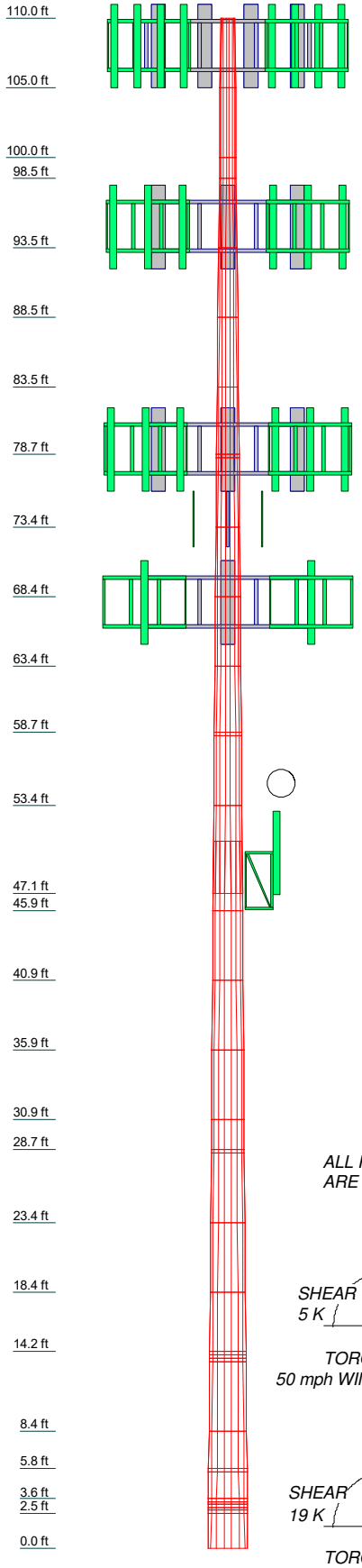
4.1) Recommendations

1) The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Length (ft)	5.00	5.00	1.50	5.00	5.00	5.00	4.83	0.25	5.00	5.00	5.00	4.75	0.25	5.00	5.00	5.00	5.00	5.00	5.00	0.25	5.00	5.00	5.00	4.25	0.25	5.00	5.00	5.00	2.67	0.25	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Number of Sides	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Thickness (in)	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.5625	0.5375	0.5125	0.4875	0.4750	0.4750	0.4625	0.4500	0.5125	0.5000	0.4875	0.4750	0.4750	0.4750	0.4625	0.4562	0.4500	0.4500	0.4500	0.4500	0.4625	0.4625	0.4625	0.4625	0.4625	0.4625	0.4625	0.4625	0.4625	0.4625
Socket Length (ft)																																					
Top Dia (in)	12.7000	13.6932	13.6932	14.9843	16.0115	17.0387	18.0660	19.1094	20.1368	21.1640	22.1913	23.2185	23.2185	24.2457	25.2730	26.3003	27.3275	28.3548	29.3820	30.4093	31.4365	32.4638	33.4910	34.5183	35.5455	36.5728	37.6000	38.6273	39.6545	40.6818	41.7090	42.7363	43.7635	44.7908	45.8180	46.8453	47.8725
Bot Dia (in)	13.6932	14.6863	14.9843	16.0115	17.0387	18.0660	19.0583	20.1368	21.1640	22.1913	23.2185	24.2457	24.2457	25.2730	26.3003	27.3275	28.3548	29.3820	30.4093	31.4365	32.4638	33.4910	34.5183	35.5455	36.5728	37.6000	38.6273	39.6545	40.6818	41.7090	42.7363	43.7635	44.7908	45.8180	46.8453	47.8725	48.8998
Grade	A572-65																																				
Weight (K)	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.0	0.5	0.5	0.5	0.5	0.0	0.5	0.7	0.6	0.6	0.6	0.7	0.3	0.0	0.7	0.7	0.6	0.0	0.0	0.8	0.8	0.4	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 116 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
8. TOWER RATING : 87.2%

ALL REACTIONS ARE FACTORED

AXIAL 44 K

SHEAR 5 K *MOMENT 411 kip-ft*

TORQUE 0 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL 31 K

SHEAR 19 K *MOMENT 1486 kip-ft*

TORQUE 2 kip-ft
REACTIONS - 116 mph WIND

Tower Engineering Professionals

Tower Engineering Professionals, Inc.
326 Tryon Road
Raleigh, NC 27603-5263
Phone: (919) 661-6351
FAX: (919) 661-6350

Job:	***Woodbury North (BU 876405)***		
Project:	***TEP No. 25640.869487***		
Client: Crown Castle	Drawn by: SMA	App'd:	
Code: TIA-222-H	Date: 07/21/23	Scale: NTS	
Path: C:\Users\smarsenault\Desktop\Woodbury North (876405) MP Review\Issued Docs\Pre-Seal\876405_2246415_LCT.eri		Dwg No. E-1	

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Litchfield County, Connecticut.
Tower base elevation above sea level: 460.00 ft.
Basic wind speed of 116 mph.
Risk Category II.
Exposure Category C.
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.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
Maximum demand-capacity ratio is: 1.05.
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

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	110.00-105.00	5.00	0.00	18	12.7000	13.6932	0.1875	0.7500	A572-65 (65 ksi)
L2	105.00-100.00	5.00	0.00	18	13.6932	14.6863	0.1875	0.7500	A572-65 (65 ksi)
L3	100.00-98.50	1.50	0.00	18	14.6863	14.9843	0.1875	0.7500	A572-65 (65 ksi)
L4	98.50-93.50	5.00	0.00	18	14.9843	16.0115	0.1875	0.7500	A572-65 (65 ksi)
L5	93.50-88.50	5.00	0.00	18	16.0115	17.0387	0.1875	0.7500	A572-65 (65 ksi)
L6	88.50-83.50	5.00	0.00	18	17.0387	18.0660	0.1875	0.7500	A572-65 (65 ksi)
L7	83.50-78.67	4.83	0.00	18	18.0660	19.0583	0.1875	0.7500	A572-65 (65 ksi)
L8	78.67-78.42	0.25	0.00	18	19.0583	19.1096	0.5625	2.2500	A572-65 (65 ksi)
L9	78.42-73.42	5.00	0.00	18	19.1096	20.1368	0.5375	2.1500	A572-65 (65 ksi)
L10	73.42-68.42	5.00	0.00	18	20.1368	21.1640	0.5125	2.0500	A572-65 (65 ksi)
L11	68.42-63.42	5.00	0.00	18	21.1640	22.1913	0.4875	1.9500	A572-65 (65 ksi)
L12	63.42-58.67	4.75	0.00	18	22.1913	23.1671	0.4750	1.9000	A572-65 (65 ksi)
L13	58.67-58.42	0.25	0.00	18	23.1671	23.2185	0.4750	1.9000	A572-65 (65 ksi)
L14	58.42-53.42	5.00	0.00	18	23.2185	24.2457	0.4625	1.8500	A572-65 (65 ksi)
L15	53.42-47.12	6.30	3.75	18	24.2457	25.5400	0.4500	1.8000	A572-65 (65 ksi)
L16	47.12-45.87	5.00	0.00	18	24.3946	25.3633	0.5125	2.0500	A572-65 (65 ksi)
L17	45.87-40.87	5.00	0.00	18	25.3633	26.3320	0.5000	2.0000	A572-65 (65 ksi)
L18	40.87-35.87	5.00	0.00	18	26.3320	27.3006	0.4875	1.9500	A572-65 (65 ksi)
L19	35.87-30.87	5.00	0.00	18	27.3006	28.2693	0.4750	1.9000	A572-65 (65 ksi)
L20	30.87-28.67	2.20	0.00	18	28.2693	28.6956	0.4750	1.9000	A572-65 (65 ksi)
L21	28.67-28.42	0.25	0.00	18	28.6956	28.7440	0.4750	1.9000	A572-65 (65 ksi)
L22	28.42-23.42	5.00	0.00	18	28.7440	29.7127	0.4625	1.8500	A572-65 (65 ksi)
L23	23.42-18.42	5.00	0.00	18	29.7127	30.6814	0.4562	1.8250	A572-65 (65 ksi)
L24	18.42-14.17	4.25	0.00	18	30.6814	31.5047	0.4500	1.8000	A572-65 (65 ksi)
L25	14.17-13.92	0.25	0.00	18	31.5047	31.5532	0.5500	2.2000	A572-65 (65 ksi)
L26	13.92-13.67	0.25	0.00	18	31.5532	31.6016	0.5500	2.2000	A572-65 (65 ksi)
L27	13.67-13.42	0.25	0.00	18	31.6016	31.6500	0.4688	1.8750	A572-65 (65 ksi)
L28	13.42-8.42	5.00	0.00	18	31.6500	32.6187	0.4625	1.8500	A572-65 (65 ksi)
L29	8.42-5.75	2.67	0.00	18	32.6187	33.1360	0.4625	1.8500	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L30	5.75-5.50	0.25	0.00	18	33.1360	33.1844	0.5250	2.1000	A572-65 (65 ksi)
L31	5.50-3.57	1.93	0.00	18	33.1844	33.5584	0.5875	2.3500	A572-65 (65 ksi)
L32	3.57-3.32	0.25	0.00	18	33.5584	33.6068	0.5875	2.3500	A572-65 (65 ksi)
L33	3.32-3.17	0.15	0.00	18	33.6068	33.6359	0.5875	2.3500	A572-65 (65 ksi)
L34	3.17-2.92	0.25	0.00	18	33.6359	33.6843	0.5000	2.0000	A572-65 (65 ksi)
L35	2.92-2.75	0.17	0.00	18	33.6843	33.7172	0.5000	2.0000	A572-65 (65 ksi)
L36	2.75-2.50	0.25	0.00	18	33.7172	33.7657	0.4875	1.9500	A572-65 (65 ksi)
L37	2.50-0.00	2.50		18	33.7657	34.2500	0.4875	1.9500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	12.8670	7.4465	147.2916	4.4419	6.4516	22.8302	294.7770	3.7240	1.9052	10.161
	13.8755	8.0376	185.2228	4.7945	6.9561	26.6273	370.6893	4.0195	2.0800	11.093
L2	13.8755	8.0376	185.2228	4.7945	6.9561	26.6273	370.6893	4.0195	2.0800	11.093
	14.8840	8.6286	229.1639	5.1471	7.4607	30.7163	458.6293	4.3151	2.2548	12.026
L3	14.8840	8.6286	229.1639	5.1471	7.4607	30.7163	458.6293	4.3151	2.2548	12.026
	15.1865	8.8059	243.5842	5.2529	7.6120	31.9999	487.4888	4.4038	2.3072	12.305
L4	15.1865	8.8059	243.5842	5.2529	7.6120	31.9999	487.4888	4.4038	2.3072	12.305
	16.2296	9.4173	297.9175	5.6175	8.1339	36.6269	596.2270	4.7095	2.4880	13.269
L5	16.2296	9.4173	297.9175	5.6175	8.1339	36.6269	596.2270	4.7095	2.4880	13.269
	17.2727	10.0286	359.7834	5.9822	8.6557	41.5662	720.0401	5.0152	2.6688	14.234
L6	17.2727	10.0286	359.7834	5.9822	8.6557	41.5662	720.0401	5.0152	2.6688	14.234
	18.3157	10.6399	429.6706	6.3469	9.1775	46.8178	859.9066	5.3210	2.8496	15.198
L7	18.3157	10.6399	429.6706	6.3469	9.1775	46.8178	859.9066	5.3210	2.8496	15.198
	19.3233	11.2305	505.2579	6.6991	9.6816	52.1875	1011.1807	5.6163	3.0243	16.129
L8	19.2655	33.0218	1427.1931	6.5660	9.6816	147.4131	2856.2641	16.5141	2.3643	4.203
	19.3176	33.1135	1439.1157	6.5842	9.7077	148.2450	2880.1250	16.5599	2.3733	4.219
L9	19.3215	31.6845	1380.7233	6.5931	9.7077	142.2300	2763.2634	15.8453	2.4173	4.497
	20.3646	33.4369	1622.7307	6.9578	10.2295	158.6323	3247.5966	16.7216	2.5981	4.834
L10	20.3684	31.9224	1553.1832	6.9666	10.2295	151.8336	3108.4102	15.9642	2.6421	5.155
	21.4115	33.5934	1810.0729	7.3313	10.7513	168.3579	3622.5276	16.7999	2.8229	5.508
L11	21.4153	31.9933	1728.0372	7.3402	10.7513	160.7277	3458.3483	15.9997	2.8669	5.881
	22.4584	33.5828	1998.5929	7.7048	11.2732	177.2877	3999.8157	16.7946	3.0477	6.252
L12	22.4603	32.7405	1950.7135	7.7093	11.2732	173.0405	3903.9939	16.3734	3.0697	6.462
	23.4512	34.2118	2225.6839	8.0557	11.7689	189.1157	4454.2964	17.1091	3.2414	6.824
L13	23.4512	34.2118	2225.6839	8.0557	11.7689	189.1157	4454.2964	17.1091	3.2414	6.824
	23.5034	34.2892	2240.8309	8.0739	11.7950	189.9816	4484.6103	17.1479	3.2505	6.843
L14	23.5053	33.4052	2185.4611	8.0784	11.7950	185.2872	4373.7979	16.7058	3.2725	7.076
	24.5484	34.9131	2494.9807	8.4430	12.3168	202.5670	4993.2444	17.4599	3.4532	7.466
L15	24.5503	33.9874	2431.3784	8.4475	12.3168	197.4031	4865.9561	16.9969	3.4752	7.723
	25.8646	35.8360	2850.0919	8.9070	12.9743	219.6718	5703.9341	17.9214	3.7030	8.229
L16	25.4296	38.8484	2799.3359	8.4781	12.3924	225.8904	5602.3553	19.4279	3.3914	6.617
	25.6755	40.4241	3153.9725	8.8220	12.8845	244.7873	6312.0950	20.2159	3.5619	6.95
L17	25.6774	39.4580	3081.6919	8.8265	12.8845	239.1774	6167.4388	19.7328	3.5839	7.168
	26.6610	40.9953	3456.1004	9.1703	13.3766	258.3685	6916.7485	20.5016	3.7544	7.509
L18	26.6630	39.9898	3374.5920	9.1748	13.3766	252.2751	6753.6245	19.9987	3.7764	7.747

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	27.6466	41.4886	3768.4457	9.5187	13.8687	271.7225	7541.8500	20.7483	3.9469	8.096
L19	27.6485	40.4437	3676.9566	9.5231	13.8687	265.1257	7358.7514	20.2257	3.9689	8.356
	28.6322	41.9041	4089.8432	9.8670	14.3608	284.7918	8185.0679	20.9560	4.1394	8.715
L20	28.6322	41.9041	4089.8432	9.8670	14.3608	284.7918	8185.0679	20.9560	4.1394	8.715
	29.0650	42.5467	4280.8947	10.0183	14.5773	293.6677	8567.4222	21.2774	4.2144	8.872
L21	29.0650	42.5467	4280.8947	10.0183	14.5773	293.6677	8567.4222	21.2774	4.2144	8.872
	29.1141	42.6197	4302.9740	10.0355	14.6019	294.6850	8611.6099	21.3139	4.2229	8.89
L22	29.1161	41.5165	4195.2982	10.0399	14.6019	287.3109	8396.1166	20.7622	4.2449	9.178
	30.0997	42.9385	4641.3196	10.3838	15.0940	307.4936	9288.7463	21.4733	4.4154	9.547
L23	30.1007	42.3673	4581.5346	10.3860	15.0940	303.5327	9169.0978	21.1877	4.4264	9.702
	31.0843	43.7701	5051.8555	10.7299	15.5861	324.1251	10110.3584	21.8892	4.5969	10.075
L24	31.0852	43.1795	4985.7436	10.7321	15.5861	319.8833	9978.0476	21.5938	4.6079	10.24
	31.9213	44.3555	5404.3156	11.0244	16.0044	337.6767	10815.7424	22.1820	4.7528	10.562
L25	31.9059	54.0377	6541.6706	10.9889	16.0044	408.7418	13091.9488	27.0240	4.5768	8.322
	31.9551	54.1222	6572.4253	11.0061	16.0290	410.0330	13153.4988	27.0663	4.5854	8.337
L26	31.9551	54.1222	6572.4253	11.0061	16.0290	410.0330	13153.4988	27.0663	4.5854	8.337
	32.0043	54.2068	6603.2770	11.0233	16.0536	411.3264	13215.2427	27.1086	4.5939	8.353
L27	32.0168	46.3199	5672.0858	11.0522	16.0536	353.3213	11351.6351	23.1643	4.7369	10.105
	32.0660	46.3919	5698.5995	11.0694	16.0782	354.4297	11404.6975	23.2004	4.7454	10.124
L28	32.0670	45.7825	5625.9999	11.0716	16.0782	349.9143	11259.4026	22.8956	4.7564	10.284
	33.0506	47.2045	6166.6822	11.4155	16.5703	372.1524	12341.4787	23.6068	4.9269	10.653
L29	33.0506	47.2045	6166.6822	11.4155	16.5703	372.1524	12341.4787	23.6068	4.9269	10.653
	33.5758	47.9639	6469.0949	11.5991	16.8331	384.3081	12946.7021	23.9865	5.0179	10.85
L30	33.5662	54.3414	7301.2373	11.5769	16.8331	433.7430	14612.0818	27.1758	4.9079	9.348
	33.6154	54.4221	7333.8171	11.5941	16.8577	435.0426	14677.2843	27.2162	4.9165	9.365
L31	33.6057	60.7843	8159.8644	11.5719	16.8577	484.0438	16330.4658	30.3979	4.8065	8.181
	33.9854	61.4816	8443.8982	11.7047	17.0476	495.3117	16898.9072	30.7466	4.8723	8.293
L32	33.9854	61.4816	8443.8982	11.7047	17.0476	495.3117	16898.9072	30.7466	4.8723	8.293
	34.0346	61.5719	8481.1650	11.7218	17.0723	496.7807	16973.4898	30.7918	4.8808	8.308
L33	34.0346	61.5719	8481.1650	11.7218	17.0723	496.7807	16973.4898	30.7918	4.8808	8.308
	34.0641	61.6261	8503.5781	11.7322	17.0870	497.6632	17018.3455	30.8189	4.8859	8.316
L34	34.0776	52.5866	7294.7236	11.7632	17.0870	426.9162	14599.0458	26.2983	5.0399	10.08
	34.1268	52.6635	7326.7580	11.7804	17.1116	428.1745	14663.1568	26.3367	5.0484	10.097
L35	34.1268	52.6635	7326.7580	11.7804	17.1116	428.1745	14663.1568	26.3367	5.0484	10.097
	34.1602	52.7157	7348.5955	11.7921	17.1283	429.0312	14706.8605	26.3629	5.0542	10.108
L36	34.1622	51.4172	7172.9723	11.7966	17.1283	418.7778	14355.3831	25.7135	5.0762	10.413
	34.2113	51.4921	7204.3830	11.8137	17.1530	420.0083	14418.2457	25.7510	5.0848	10.43
L37	34.2113	51.4921	7204.3830	11.8137	17.1530	420.0083	14418.2457	25.7510	5.0848	10.43
	34.7032	52.2416	7523.5495	11.9857	17.3990	432.4128	15056.9987	26.1257	5.1700	10.605

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 110.00-105.00				1	1	1			
L2 105.00-100.00				1	1	1			
L3 100.00-98.50				1	1	1			
L4 98.50-93.50				1	1	1			
L5 93.50-88.50				1	1	1			
L6 88.50-83.50				1	1	1			
L7 83.50-78.67				1	1	1			
L8 78.67-78.42				1	1	0.851966			
L9 78.42-73.42				1	1	0.862009			
L10 73.42-68.42				1	1	0.876193			
L11 68.42-63.42				1	1	0.894673			

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L12 63.42-58.67				1	1	0.895199			
L13 58.67-58.42				1	1	0.894069			
L14 58.42-53.42				1	1	0.895601			
L15 53.42-47.12				1	1	0.909153			
L16 47.12-45.87				1	1	0.912277			
L17 45.87-40.87				1	1	0.918316			
L18 40.87-35.87				1	1	0.925923			
L19 35.87-30.87				1	1	0.935086			
L20 30.87-28.67				1	1	0.928912			
L21 28.67-28.42				1	1	0.928222			
L22 28.42-23.42				1	1	0.939232			
L23 23.42-18.42				1	1	0.938949			
L24 18.42-14.17				1	1	0.941287			
L25 14.17-13.92				1	1	0.95543			
L26 13.92-13.67				1	1	0.954649			
L27 13.67-13.42				1	1	0.994499			
L28 13.42-8.42				1	1	0.993662			
L29 8.42-5.75				1	1	0.986488			
L30 5.75-5.50				1	1	0.973951			
L31 5.50-3.57				1	1	1.01862			
L32 3.57-3.32				1	1	1.01775			
L33 3.32-3.17				1	1	1.01723			
L34 3.17-2.92				1	1	1.00271			
L35 2.92-2.75				1	1	1.00221			
L36 2.75-2.50				1	1	0.917042			
L37 2.50-0.00				1	1	0.911243			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
48										
LDF4-50A(1/2)	B	No	Surface Ar (CaAa)	48.00 - 0.00	1	1	0.500 0.500	0.6250		0.15
*********										
Mods										
MP3-05 (1.25in)	A	No	Surface Af	8.25 - 0.00	1	1	0.000	5.3300	14.8400	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
			(CaAa)				0.000			
***										
MP3-05 (1.25in)	C	No	Surface Af (CaAa)	31.17 - 0.00	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-05 (1.25in)	B	No	Surface Af (CaAa)	31.17 - 0.00	1	1	0.000 0.000	5.3300	14.8400	0.00
***										
MP3-05 (1.25in)	C	No	Surface Af (CaAa)	61.17 - 31.17	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-05 (1.25in)	B	No	Surface Af (CaAa)	61.17 - 31.17	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-05 (1.25in)	A	No	Surface Af (CaAa)	61.17 - 31.17	1	1	0.000 0.000	5.3300	14.8400	0.00
***										
MP3-05 (1.25in)	C	No	Surface Af (CaAa)	81.17 - 61.17	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-05 (1.25in)	B	No	Surface Af (CaAa)	81.17 - 61.17	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-05 (1.25in)	A	No	Surface Af (CaAa)	81.17 - 61.17	1	1	0.000 0.000	5.3300	14.8400	0.00
***										
MP3-08.5 (1.25")	A	No	Surface Af (CaAa)	16.17 - 0.00	1	1	0.333 0.333	3.8400	13.2800	0.00
MP3-08.5 (1.25")	A	No	Surface Af (CaAa)	16.17 - 0.00	1	1	-0.333 -0.333	3.8400	13.2800	0.00
***										
MP3-05 (1.25in)	A	No	Surface Af (CaAa)	31.17 - 11.17	1	1	0.000 0.000	5.3300	14.8400	0.00
***										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
108									
LDF7-50A(1-5/8)	B	No	No	Inside Pole	108.00 - 0.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
HB114-13U3M12-XXXF(1-1/4)	B	No	No	Inside Pole	108.00 - 0.00	1	No Ice	0.00	0.99
							1/2" Ice	0.00	0.99
							1" Ice	0.00	0.99
95									
HB158-21U6S24-xxM_TMO(1-5/8)	B	No	No	Inside Pole	95.00 - 0.00	3	No Ice	0.00	2.50
							1/2" Ice	0.00	2.50
							1" Ice	0.00	2.50
79									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	79.00 - 0.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
WR-VG66ST-BRD(7/8)	C	No	No	Inside Pole	79.00 - 0.00	2	No Ice	0.00	0.91
							1/2" Ice	0.00	0.91
							1" Ice	0.00	0.91
FB-L98B-034-XXX(3/8)	C	No	No	Inside Pole	79.00 - 0.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
WR-VG122ST-BRDA(7/16)	C	No	No	Inside Pole	79.00 - 0.00	2	No Ice	0.00	0.14
							1/2" Ice	0.00	0.14
							1" Ice	0.00	0.14
FB-L98B-002-75000 (3/8)	C	No	No	Inside Pole	79.00 - 0.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
2" Flexible Conduit	C	No	No	Inside Pole	79.00 - 0.00	1	No Ice	0.00	0.34
							1/2" Ice	0.00	0.34
							1" Ice	0.00	0.34
68									
CU12PSM9P8XXX(1-3/8)	B	No	No	Inside Pole	68.00 - 0.00	1	No Ice	0.00	1.66
							1/2" Ice	0.00	1.66
							1" Ice	0.00	1.66
***									
3/8" Ground	C	No	No	Inside Pole	110.00 - 0.00	2	No Ice	0.00	0.22
							1/2" Ice	0.00	0.22
							1" Ice	0.00	0.22
1/2" Ground	C	No	No	Inside Pole	110.00 - 0.00	2	No Ice	0.00	0.52
							1/2" Ice	0.00	0.52
							1" Ice	0.00	0.52
********* ***									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	110.00-105.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.01
L2	105.00-100.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.03
		C	0.000	0.000	0.000	0.000	0.01
L3	100.00-98.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.00
L4	98.50-93.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.01
L5	93.50-88.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.07
		C	0.000	0.000	0.000	0.000	0.01
L6	88.50-83.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.07
		C	0.000	0.000	0.000	0.000	0.01
L7	83.50-78.67	A	0.000	0.000	2.221	0.000	0.00
		B	0.000	0.000	2.221	0.000	0.06
		C	0.000	0.000	2.221	0.000	0.01
L8	78.67-78.42	A	0.000	0.000	0.222	0.000	0.00
		B	0.000	0.000	0.222	0.000	0.00
		C	0.000	0.000	0.222	0.000	0.00
L9	78.42-73.42	A	0.000	0.000	4.442	0.000	0.00
		B	0.000	0.000	4.442	0.000	0.07

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	4.442	0.000	0.07
L10	73.42-68.42	A	0.000	0.000	4.442	0.000	0.00
		B	0.000	0.000	4.442	0.000	0.07
		C	0.000	0.000	4.442	0.000	0.07
L11	68.42-63.42	A	0.000	0.000	4.442	0.000	0.00
		B	0.000	0.000	4.442	0.000	0.07
		C	0.000	0.000	4.442	0.000	0.07
L12	63.42-58.67	A	0.000	0.000	4.220	0.000	0.00
		B	0.000	0.000	4.220	0.000	0.07
		C	0.000	0.000	4.220	0.000	0.07
L13	58.67-58.42	A	0.000	0.000	0.222	0.000	0.00
		B	0.000	0.000	0.222	0.000	0.00
		C	0.000	0.000	0.222	0.000	0.00
L14	58.42-53.42	A	0.000	0.000	4.442	0.000	0.00
		B	0.000	0.000	4.442	0.000	0.08
		C	0.000	0.000	4.442	0.000	0.07
L15	53.42-47.12	A	0.000	0.000	5.596	0.000	0.00
		B	0.000	0.000	5.652	0.000	0.10
		C	0.000	0.000	5.596	0.000	0.09
L16	47.12-45.87	A	0.000	0.000	1.110	0.000	0.00
		B	0.000	0.000	1.189	0.000	0.02
		C	0.000	0.000	1.110	0.000	0.02
L17	45.87-40.87	A	0.000	0.000	4.442	0.000	0.00
		B	0.000	0.000	4.754	0.000	0.08
		C	0.000	0.000	4.442	0.000	0.07
L18	40.87-35.87	A	0.000	0.000	4.442	0.000	0.00
		B	0.000	0.000	4.754	0.000	0.08
		C	0.000	0.000	4.442	0.000	0.07
L19	35.87-30.87	A	0.000	0.000	4.442	0.000	0.00
		B	0.000	0.000	4.754	0.000	0.08
		C	0.000	0.000	4.442	0.000	0.07
L20	30.87-28.67	A	0.000	0.000	1.954	0.000	0.00
		B	0.000	0.000	2.092	0.000	0.03
		C	0.000	0.000	1.954	0.000	0.03
L21	28.67-28.42	A	0.000	0.000	0.222	0.000	0.00
		B	0.000	0.000	0.238	0.000	0.00
		C	0.000	0.000	0.222	0.000	0.00
L22	28.42-23.42	A	0.000	0.000	4.442	0.000	0.00
		B	0.000	0.000	4.754	0.000	0.08
		C	0.000	0.000	4.442	0.000	0.07
L23	23.42-18.42	A	0.000	0.000	4.442	0.000	0.00
		B	0.000	0.000	4.754	0.000	0.08
		C	0.000	0.000	4.442	0.000	0.07
L24	18.42-14.17	A	0.000	0.000	6.335	0.000	0.00
		B	0.000	0.000	4.041	0.000	0.06
		C	0.000	0.000	3.775	0.000	0.06
L25	14.17-13.92	A	0.000	0.000	0.542	0.000	0.00
		B	0.000	0.000	0.238	0.000	0.00
		C	0.000	0.000	0.222	0.000	0.00
L26	13.92-13.67	A	0.000	0.000	0.542	0.000	0.00
		B	0.000	0.000	0.238	0.000	0.00
		C	0.000	0.000	0.222	0.000	0.00
L27	13.67-13.42	A	0.000	0.000	0.542	0.000	0.00
		B	0.000	0.000	0.238	0.000	0.00
		C	0.000	0.000	0.222	0.000	0.00
L28	13.42-8.42	A	0.000	0.000	8.399	0.000	0.00
		B	0.000	0.000	4.754	0.000	0.08
		C	0.000	0.000	4.442	0.000	0.07
L29	8.42-5.75	A	0.000	0.000	5.353	0.000	0.00
		B	0.000	0.000	2.539	0.000	0.04
		C	0.000	0.000	2.372	0.000	0.04

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L30	5.75-5.50	A	0.000	0.000	0.514	0.000	0.00
		B	0.000	0.000	0.238	0.000	0.00
		C	0.000	0.000	0.222	0.000	0.00
L31	5.50-3.57	A	0.000	0.000	3.965	0.000	0.00
		B	0.000	0.000	1.835	0.000	0.03
		C	0.000	0.000	1.714	0.000	0.03
L32	3.57-3.32	A	0.000	0.000	0.514	0.000	0.00
		B	0.000	0.000	0.238	0.000	0.00
		C	0.000	0.000	0.222	0.000	0.00
L33	3.32-3.17	A	0.000	0.000	0.308	0.000	0.00
		B	0.000	0.000	0.143	0.000	0.00
		C	0.000	0.000	0.133	0.000	0.00
L34	3.17-2.92	A	0.000	0.000	0.514	0.000	0.00
		B	0.000	0.000	0.238	0.000	0.00
		C	0.000	0.000	0.222	0.000	0.00
L35	2.92-2.75	A	0.000	0.000	0.349	0.000	0.00
		B	0.000	0.000	0.162	0.000	0.00
		C	0.000	0.000	0.151	0.000	0.00
L36	2.75-2.50	A	0.000	0.000	0.514	0.000	0.00
		B	0.000	0.000	0.238	0.000	0.00
		C	0.000	0.000	0.222	0.000	0.00
L37	2.50-0.00	A	0.000	0.000	5.136	0.000	0.00
		B	0.000	0.000	2.377	0.000	0.04
		C	0.000	0.000	2.221	0.000	0.03

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	110.00-105.00	A	0.957	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.01
L2	105.00-100.00	A	0.952	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.01
L3	100.00-98.50	A	0.949	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.01
		C		0.000	0.000	0.000	0.000	0.00
L4	98.50-93.50	A	0.946	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.04
		C		0.000	0.000	0.000	0.000	0.01
L5	93.50-88.50	A	0.941	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.07
		C		0.000	0.000	0.000	0.000	0.01
L6	88.50-83.50	A	0.935	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.07
		C		0.000	0.000	0.000	0.000	0.01
L7	83.50-78.67	A	0.930	0.000	0.000	2.686	0.000	0.02
		B		0.000	0.000	2.686	0.000	0.08
		C		0.000	0.000	2.686	0.000	0.03
L8	78.67-78.42	A	0.927	0.000	0.000	0.268	0.000	0.00
		B		0.000	0.000	0.268	0.000	0.01
		C		0.000	0.000	0.268	0.000	0.01
L9	78.42-73.42	A	0.924	0.000	0.000	5.365	0.000	0.03
		B		0.000	0.000	5.365	0.000	0.10
		C		0.000	0.000	5.365	0.000	0.10
L10	73.42-68.42	A	0.918	0.000	0.000	5.359	0.000	0.03

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	5.359	0.000	0.10
		C		0.000	0.000	5.359	0.000	0.10
L11	68.42-63.42	A	0.911	0.000	0.000	5.353	0.000	0.03
		B		0.000	0.000	5.353	0.000	0.11
		C		0.000	0.000	5.353	0.000	0.10
L12	63.42-58.67	A	0.904	0.000	0.000	5.078	0.000	0.03
		B		0.000	0.000	5.078	0.000	0.10
		C		0.000	0.000	5.078	0.000	0.10
L13	58.67-58.42	A	0.900	0.000	0.000	0.267	0.000	0.00
		B		0.000	0.000	0.267	0.000	0.01
		C		0.000	0.000	0.267	0.000	0.01
L14	58.42-53.42	A	0.896	0.000	0.000	5.338	0.000	0.03
		B		0.000	0.000	5.338	0.000	0.11
		C		0.000	0.000	5.338	0.000	0.10
L15	53.42-47.12	A	0.886	0.000	0.000	6.713	0.000	0.04
		B		0.000	0.000	6.925	0.000	0.14
		C		0.000	0.000	6.713	0.000	0.13
L16	47.12-45.87	A	0.880	0.000	0.000	1.332	0.000	0.01
		B		0.000	0.000	1.632	0.000	0.03
		C		0.000	0.000	1.332	0.000	0.03
L17	45.87-40.87	A	0.874	0.000	0.000	5.315	0.000	0.03
		B		0.000	0.000	6.501	0.000	0.11
		C		0.000	0.000	5.315	0.000	0.10
L18	40.87-35.87	A	0.863	0.000	0.000	5.305	0.000	0.03
		B		0.000	0.000	6.480	0.000	0.11
		C		0.000	0.000	5.305	0.000	0.10
L19	35.87-30.87	A	0.851	0.000	0.000	5.293	0.000	0.03
		B		0.000	0.000	6.456	0.000	0.11
		C		0.000	0.000	5.293	0.000	0.10
L20	30.87-28.67	A	0.841	0.000	0.000	2.324	0.000	0.01
		B		0.000	0.000	2.832	0.000	0.05
		C		0.000	0.000	2.324	0.000	0.04
L21	28.67-28.42	A	0.838	0.000	0.000	0.264	0.000	0.00
		B		0.000	0.000	0.321	0.000	0.01
		C		0.000	0.000	0.264	0.000	0.00
L22	28.42-23.42	A	0.830	0.000	0.000	5.271	0.000	0.03
		B		0.000	0.000	6.414	0.000	0.11
		C		0.000	0.000	5.271	0.000	0.10
L23	23.42-18.42	A	0.812	0.000	0.000	5.254	0.000	0.03
		B		0.000	0.000	6.378	0.000	0.11
		C		0.000	0.000	5.254	0.000	0.10
L24	18.42-14.17	A	0.792	0.000	0.000	7.642	0.000	0.04
		B		0.000	0.000	5.388	0.000	0.09
		C		0.000	0.000	4.449	0.000	0.08
L25	14.17-13.92	A	0.780	0.000	0.000	0.659	0.000	0.00
		B		0.000	0.000	0.316	0.000	0.01
		C		0.000	0.000	0.261	0.000	0.00
L26	13.92-13.67	A	0.779	0.000	0.000	0.659	0.000	0.00
		B		0.000	0.000	0.316	0.000	0.01
		C		0.000	0.000	0.261	0.000	0.00
L27	13.67-13.42	A	0.778	0.000	0.000	0.659	0.000	0.00
		B		0.000	0.000	0.315	0.000	0.01
		C		0.000	0.000	0.261	0.000	0.00
L28	13.42-8.42	A	0.761	0.000	0.000	10.263	0.000	0.06
		B		0.000	0.000	6.276	0.000	0.11
		C		0.000	0.000	5.203	0.000	0.10
L29	8.42-5.75	A	0.729	0.000	0.000	6.334	0.000	0.04
		B		0.000	0.000	3.317	0.000	0.06
		C		0.000	0.000	2.761	0.000	0.05
L30	5.75-5.50	A	0.712	0.000	0.000	0.605	0.000	0.00
		B		0.000	0.000	0.309	0.000	0.01

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		0.000	0.000	0.258	0.000	0.00
L31	5.50-3.57	A	0.697	0.000	0.000	4.652	0.000	0.03
		B		0.000	0.000	2.373	0.000	0.04
		C		0.000	0.000	1.984	0.000	0.04
L32	3.57-3.32	A	0.678	0.000	0.000	0.600	0.000	0.00
		B		0.000	0.000	0.306	0.000	0.01
		C		0.000	0.000	0.256	0.000	0.00
L33	3.32-3.17	A	0.674	0.000	0.000	0.360	0.000	0.00
		B		0.000	0.000	0.183	0.000	0.00
		C		0.000	0.000	0.153	0.000	0.00
L34	3.17-2.92	A	0.670	0.000	0.000	0.599	0.000	0.00
		B		0.000	0.000	0.305	0.000	0.01
		C		0.000	0.000	0.256	0.000	0.00
L35	2.92-2.75	A	0.665	0.000	0.000	0.407	0.000	0.00
		B		0.000	0.000	0.207	0.000	0.00
		C		0.000	0.000	0.174	0.000	0.00
L36	2.75-2.50	A	0.660	0.000	0.000	0.598	0.000	0.00
		B		0.000	0.000	0.304	0.000	0.01
		C		0.000	0.000	0.255	0.000	0.00
L37	2.50-0.00	A	0.613	0.000	0.000	5.919	0.000	0.03
		B		0.000	0.000	2.990	0.000	0.05
		C		0.000	0.000	2.527	0.000	0.04

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	110.00-105.00	0.0000	0.0000	0.0000	0.0000
L2	105.00-100.00	0.0000	0.0000	0.0000	0.0000
L3	100.00-98.50	0.0000	0.0000	0.0000	0.0000
L4	98.50-93.50	0.0000	0.0000	0.0000	0.0000
L5	93.50-88.50	0.0000	0.0000	0.0000	0.0000
L6	88.50-83.50	0.0000	0.0000	0.0000	0.0000
L7	83.50-78.67	0.0000	0.0000	0.0000	0.0000
L8	78.67-78.42	0.0000	0.0000	0.0000	0.0000
L9	78.42-73.42	0.0000	0.0000	0.0000	0.0000
L10	73.42-68.42	0.0000	0.0000	0.0000	0.0000
L11	68.42-63.42	0.0000	0.0000	0.0000	0.0000
L12	63.42-58.67	0.0000	0.0000	0.0000	0.0000
L13	58.67-58.42	0.0000	0.0000	0.0000	0.0000
L14	58.42-53.42	0.0000	0.0000	0.0000	0.0000
L15	53.42-47.12	0.0234	0.0135	0.0638	0.0368
L16	47.12-45.87	0.1635	0.0944	0.4355	0.2514
L17	45.87-40.87	0.1659	0.0958	0.4373	0.2525
L18	40.87-35.87	0.1696	0.0979	0.4430	0.2557
L19	35.87-30.87	0.1732	0.1000	0.4478	0.2585
L20	30.87-28.67	0.1757	0.1015	0.4507	0.2602
L21	28.67-28.42	0.1766	0.1020	0.4515	0.2607
L22	28.42-23.42	0.1784	0.1030	0.4530	0.2616
L23	23.42-18.42	0.1818	0.1050	0.4549	0.2626
L24	18.42-14.17	-0.4684	-0.2704	-0.1486	-0.0858
L25	14.17-13.92	-1.0449	-0.6033	-0.6960	-0.4018
L26	13.92-13.67	-1.0456	-0.6037	-0.6967	-0.4022
L27	13.67-13.42	-1.0463	-0.6041	-0.6972	-0.4025
L28	13.42-8.42	0.1769	0.1021	0.3440	0.1986
L29	8.42-5.75	-0.6751	-0.3898	-0.3031	-0.1750

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L30	5.75-5.50	-0.7977	-0.4606	-0.4071	-0.2350
L31	5.50-3.57	-0.8000	-0.4619	-0.4125	-0.2381
L32	3.57-3.32	-0.8022	-0.4631	-0.4190	-0.2419
L33	3.32-3.17	-0.8026	-0.4634	-0.4204	-0.2427
L34	3.17-2.92	-0.8028	-0.4635	-0.4218	-0.2435
L35	2.92-2.75	-0.8033	-0.4638	-0.4234	-0.2445
L36	2.75-2.50	-0.8037	-0.4640	-0.4251	-0.2455
L37	2.50-0.00	-0.8064	-0.4656	-0.4411	-0.2547

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L7	31	MP3-05 (1.25in)	78.67 - 81.17	1.0000	1.0000
L7	32	MP3-05 (1.25in)	78.67 - 81.17	1.0000	1.0000
L7	33	MP3-05 (1.25in)	78.67 - 81.17	1.0000	1.0000
L8	31	MP3-05 (1.25in)	78.42 - 78.67	1.0000	1.0000
L8	32	MP3-05 (1.25in)	78.42 - 78.67	1.0000	1.0000
L8	33	MP3-05 (1.25in)	78.42 - 78.67	1.0000	1.0000
L9	31	MP3-05 (1.25in)	73.42 - 78.42	1.0000	1.0000
L9	32	MP3-05 (1.25in)	73.42 - 78.42	1.0000	1.0000
L9	33	MP3-05 (1.25in)	73.42 - 78.42	1.0000	1.0000
L10	31	MP3-05 (1.25in)	68.42 - 73.42	1.0000	1.0000
L10	32	MP3-05 (1.25in)	68.42 - 73.42	1.0000	1.0000
L10	33	MP3-05 (1.25in)	68.42 - 73.42	1.0000	1.0000
L11	31	MP3-05 (1.25in)	63.42 - 68.42	1.0000	1.0000
L11	32	MP3-05 (1.25in)	63.42 - 68.42	1.0000	1.0000
L11	33	MP3-05 (1.25in)	63.42 - 68.42	1.0000	1.0000
L12	27	MP3-05 (1.25in)	58.67 - 61.17	1.0000	1.0000
L12	28	MP3-05 (1.25in)	58.67 - 61.17	1.0000	1.0000
L12	29	MP3-05 (1.25in)	58.67 - 61.17	1.0000	1.0000
L12	31	MP3-05 (1.25in)	61.17 - 63.42	1.0000	1.0000
L12	32	MP3-05 (1.25in)	61.17 - 63.42	1.0000	1.0000
L12	33	MP3-05 (1.25in)	61.17 - 63.42	1.0000	1.0000
L13	27	MP3-05 (1.25in)	58.42 - 58.67	1.0000	1.0000
L13	28	MP3-05 (1.25in)	58.42 - 58.67	1.0000	1.0000
L13	29	MP3-05 (1.25in)	58.42 - 58.67	1.0000	1.0000
L14	27	MP3-05 (1.25in)	53.42 - 58.42	1.0000	1.0000
L14	28	MP3-05 (1.25in)	53.42 - 58.42	1.0000	1.0000
L14	29	MP3-05 (1.25in)	53.42 - 58.42	1.0000	1.0000
L15	16	LDF4-50A(1/2)	47.12 - 48.00	1.0000	1.0000
L15	27	MP3-05 (1.25in)	47.12 - 53.42	1.0000	1.0000
L15	28	MP3-05 (1.25in)	47.12 - 53.42	1.0000	1.0000
L15	29	MP3-05 (1.25in)	47.12 - 53.42	1.0000	1.0000
L16	16	LDF4-50A(1/2)	45.87 - 47.12	1.0000	1.0000
L16	27	MP3-05 (1.25in)	45.87 - 47.12	1.0000	1.0000
L16	28	MP3-05 (1.25in)	45.87 - 47.12	1.0000	1.0000
L16	29	MP3-05 (1.25in)	45.87 - 47.12	1.0000	1.0000
L17	16	LDF4-50A(1/2)	40.87 - 45.87	1.0000	1.0000
L17	27	MP3-05 (1.25in)	40.87 - 45.87	1.0000	1.0000
L17	28	MP3-05 (1.25in)	40.87 - 45.87	1.0000	1.0000
L17	29	MP3-05 (1.25in)	40.87 - 45.87	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L18	16	LDF4-50A(1/2)	35.87 - 40.87	1.0000	1.0000
L18	27	MP3-05 (1.25in)	35.87 - 40.87	1.0000	1.0000
L18	28	MP3-05 (1.25in)	35.87 - 40.87	1.0000	1.0000
L18	29	MP3-05 (1.25in)	35.87 - 40.87	1.0000	1.0000
L19	16	LDF4-50A(1/2)	30.87 - 35.87	1.0000	1.0000
L19	24	MP3-05 (1.25in)	30.87 - 31.17	1.0000	1.0000
L19	25	MP3-05 (1.25in)	30.87 - 31.17	1.0000	1.0000
L19	27	MP3-05 (1.25in)	31.17 - 35.87	1.0000	1.0000
L19	28	MP3-05 (1.25in)	31.17 - 35.87	1.0000	1.0000
L19	29	MP3-05 (1.25in)	31.17 - 35.87	1.0000	1.0000
L19	38	MP3-05 (1.25in)	30.87 - 31.17	1.0000	1.0000
L20	16	LDF4-50A(1/2)	28.67 - 30.87	1.0000	1.0000
L20	24	MP3-05 (1.25in)	28.67 - 30.87	1.0000	1.0000
L20	25	MP3-05 (1.25in)	28.67 - 30.87	1.0000	1.0000
L20	38	MP3-05 (1.25in)	28.67 - 30.87	1.0000	1.0000
L21	16	LDF4-50A(1/2)	28.42 - 28.67	1.0000	1.0000
L21	24	MP3-05 (1.25in)	28.42 - 28.67	1.0000	1.0000
L21	25	MP3-05 (1.25in)	28.42 - 28.67	1.0000	1.0000
L21	38	MP3-05 (1.25in)	28.42 - 28.67	1.0000	1.0000
L22	16	LDF4-50A(1/2)	23.42 - 28.42	1.0000	1.0000
L22	24	MP3-05 (1.25in)	23.42 - 28.42	1.0000	1.0000
L22	25	MP3-05 (1.25in)	23.42 - 28.42	1.0000	1.0000
L22	38	MP3-05 (1.25in)	23.42 - 28.42	1.0000	1.0000
L23	16	LDF4-50A(1/2)	18.42 - 23.42	1.0000	1.0000
L23	24	MP3-05 (1.25in)	18.42 - 23.42	1.0000	1.0000
L23	25	MP3-05 (1.25in)	18.42 - 23.42	1.0000	1.0000
L23	38	MP3-05 (1.25in)	18.42 - 23.42	1.0000	1.0000
L24	16	LDF4-50A(1/2)	14.17 - 18.42	1.0000	1.0000
L24	24	MP3-05 (1.25in)	14.17 - 18.42	1.0000	1.0000
L24	25	MP3-05 (1.25in)	14.17 - 18.42	1.0000	1.0000
L24	35	MP3-08.5 (1.25")	14.17 - 16.17	1.0000	1.0000
L24	36	MP3-08.5 (1.25")	14.17 - 16.17	1.0000	1.0000
L24	38	MP3-05 (1.25in)	14.17 - 18.42	1.0000	1.0000
L25	16	LDF4-50A(1/2)	13.92 - 14.17	1.0000	1.0000
L25	24	MP3-05 (1.25in)	13.92 - 14.17	1.0000	1.0000
L25	25	MP3-05 (1.25in)	13.92 - 14.17	1.0000	1.0000
L25	35	MP3-08.5 (1.25")	13.92 - 14.17	1.0000	1.0000
L25	36	MP3-08.5 (1.25")	13.92 - 14.17	1.0000	1.0000
L25	38	MP3-05 (1.25in)	13.92 - 14.17	1.0000	1.0000
L26	16	LDF4-50A(1/2)	13.67 - 13.92	1.0000	1.0000
L26	24	MP3-05 (1.25in)	13.67 - 13.92	1.0000	1.0000
L26	25	MP3-05 (1.25in)	13.67 - 13.92	1.0000	1.0000
L26	35	MP3-08.5 (1.25")	13.67 - 13.92	1.0000	1.0000
L26	36	MP3-08.5 (1.25")	13.67 - 13.92	1.0000	1.0000
L26	38	MP3-05 (1.25in)	13.67 - 13.92	1.0000	1.0000
L27	16	LDF4-50A(1/2)	13.42 - 13.67	1.0000	1.0000
L27	24	MP3-05 (1.25in)	13.42 - 13.67	1.0000	1.0000
L27	25	MP3-05 (1.25in)	13.42 - 13.67	1.0000	1.0000
L27	35	MP3-08.5 (1.25")	13.42 - 13.67	1.0000	1.0000
L27	36	MP3-08.5 (1.25")	13.42 - 13.67	1.0000	1.0000
L27	38	MP3-05 (1.25in)	13.42 - 13.67	1.0000	1.0000
L28	16	LDF4-50A(1/2)	8.42 - 13.42	1.0000	1.0000
L28	24	MP3-05 (1.25in)	8.42 - 13.42	1.0000	1.0000
L28	25	MP3-05 (1.25in)	8.42 - 13.42	1.0000	1.0000
L28	35	MP3-08.5 (1.25")	8.42 - 13.42	1.0000	1.0000
L28	36	MP3-08.5 (1.25")	8.42 - 13.42	1.0000	1.0000
L28	38	MP3-05 (1.25in)	11.17 - 13.42	1.0000	1.0000
L29	16	LDF4-50A(1/2)	5.75 - 8.42	1.0000	1.0000
L29	22	MP3-05 (1.25in)	5.75 - 8.25	1.0000	1.0000
L29	24	MP3-05 (1.25in)	5.75 - 8.42	1.0000	1.0000
L29	25	MP3-05 (1.25in)	5.75 - 8.42	1.0000	1.0000
L29	35	MP3-08.5 (1.25")	5.75 - 8.42	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L29	36	MP3-08.5 (1.25")	5.75 - 8.42	1.0000	1.0000
L30	16	LDF4-50A(1/2)	5.50 - 5.75	1.0000	1.0000
L30	22	MP3-05 (1.25in)	5.50 - 5.75	1.0000	1.0000
L30	24	MP3-05 (1.25in)	5.50 - 5.75	1.0000	1.0000
L30	25	MP3-05 (1.25in)	5.50 - 5.75	1.0000	1.0000
L30	35	MP3-08.5 (1.25")	5.50 - 5.75	1.0000	1.0000
L30	36	MP3-08.5 (1.25")	5.50 - 5.75	1.0000	1.0000
L31	16	LDF4-50A(1/2)	3.57 - 5.50	1.0000	1.0000
L31	22	MP3-05 (1.25in)	3.57 - 5.50	1.0000	1.0000
L31	24	MP3-05 (1.25in)	3.57 - 5.50	1.0000	1.0000
L31	25	MP3-05 (1.25in)	3.57 - 5.50	1.0000	1.0000
L31	35	MP3-08.5 (1.25")	3.57 - 5.50	1.0000	1.0000
L31	36	MP3-08.5 (1.25")	3.57 - 5.50	1.0000	1.0000
L32	16	LDF4-50A(1/2)	3.32 - 3.57	1.0000	1.0000
L32	22	MP3-05 (1.25in)	3.32 - 3.57	1.0000	1.0000
L32	24	MP3-05 (1.25in)	3.32 - 3.57	1.0000	1.0000
L32	25	MP3-05 (1.25in)	3.32 - 3.57	1.0000	1.0000
L32	35	MP3-08.5 (1.25")	3.32 - 3.57	1.0000	1.0000
L32	36	MP3-08.5 (1.25")	3.32 - 3.57	1.0000	1.0000
L33	16	LDF4-50A(1/2)	3.17 - 3.32	1.0000	1.0000
L33	22	MP3-05 (1.25in)	3.17 - 3.32	1.0000	1.0000
L33	24	MP3-05 (1.25in)	3.17 - 3.32	1.0000	1.0000
L33	25	MP3-05 (1.25in)	3.17 - 3.32	1.0000	1.0000
L33	35	MP3-08.5 (1.25")	3.17 - 3.32	1.0000	1.0000
L33	36	MP3-08.5 (1.25")	3.17 - 3.32	1.0000	1.0000
L34	16	LDF4-50A(1/2)	2.92 - 3.17	1.0000	1.0000
L34	22	MP3-05 (1.25in)	2.92 - 3.17	1.0000	1.0000
L34	24	MP3-05 (1.25in)	2.92 - 3.17	1.0000	1.0000
L34	25	MP3-05 (1.25in)	2.92 - 3.17	1.0000	1.0000
L34	35	MP3-08.5 (1.25")	2.92 - 3.17	1.0000	1.0000
L34	36	MP3-08.5 (1.25")	2.92 - 3.17	1.0000	1.0000
L35	16	LDF4-50A(1/2)	2.75 - 2.92	1.0000	1.0000
L35	22	MP3-05 (1.25in)	2.75 - 2.92	1.0000	1.0000
L35	24	MP3-05 (1.25in)	2.75 - 2.92	1.0000	1.0000
L35	25	MP3-05 (1.25in)	2.75 - 2.92	1.0000	1.0000
L35	35	MP3-08.5 (1.25")	2.75 - 2.92	1.0000	1.0000
L35	36	MP3-08.5 (1.25")	2.75 - 2.92	1.0000	1.0000
L36	16	LDF4-50A(1/2)	2.50 - 2.75	1.0000	1.0000
L36	22	MP3-05 (1.25in)	2.50 - 2.75	1.0000	1.0000
L36	24	MP3-05 (1.25in)	2.50 - 2.75	1.0000	1.0000
L36	25	MP3-05 (1.25in)	2.50 - 2.75	1.0000	1.0000
L36	35	MP3-08.5 (1.25")	2.50 - 2.75	1.0000	1.0000
L36	36	MP3-08.5 (1.25")	2.50 - 2.75	1.0000	1.0000
L37	16	LDF4-50A(1/2)	0.00 - 2.50	1.0000	1.0000
L37	22	MP3-05 (1.25in)	0.00 - 2.50	1.0000	1.0000
L37	24	MP3-05 (1.25in)	0.00 - 2.50	1.0000	1.0000
L37	25	MP3-05 (1.25in)	0.00 - 2.50	1.0000	1.0000
L37	35	MP3-08.5 (1.25")	0.00 - 2.50	1.0000	1.0000
L37	36	MP3-08.5 (1.25")	0.00 - 2.50	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L7	31	MP3-05 (1.25in)	78.67 - 81.17	Auto	0.4411
L7	32	MP3-05 (1.25in)	78.67 - 81.17	Auto	0.4411
L7	33	MP3-05 (1.25in)	78.67 - 81.17	Auto	0.4411
L8	31	MP3-05 (1.25in)	78.42 - 78.67	Auto	0.5556
L8	32	MP3-05 (1.25in)	78.42 - 78.67	Auto	0.5556
L8	33	MP3-05 (1.25in)	78.42 - 78.67	Auto	0.5556
L9	31	MP3-05 (1.25in)	73.42 - 78.42	Auto	0.5295
L9	32	MP3-05 (1.25in)	73.42 - 78.42	Auto	0.5295
L9	33	MP3-05 (1.25in)	73.42 - 78.42	Auto	0.5295
L10	31	MP3-05 (1.25in)	68.42 - 73.42	Auto	0.4873
L10	32	MP3-05 (1.25in)	68.42 - 73.42	Auto	0.4873
L10	33	MP3-05 (1.25in)	68.42 - 73.42	Auto	0.4873
L11	31	MP3-05 (1.25in)	63.42 - 68.42	Auto	0.4452
L11	32	MP3-05 (1.25in)	63.42 - 68.42	Auto	0.4452
L11	33	MP3-05 (1.25in)	63.42 - 68.42	Auto	0.4452
L12	27	MP3-05 (1.25in)	58.67 - 61.17	Auto	0.4003
L12	28	MP3-05 (1.25in)	58.67 - 61.17	Auto	0.4003
L12	29	MP3-05 (1.25in)	58.67 - 61.17	Auto	0.4003
L12	31	MP3-05 (1.25in)	61.17 - 63.42	Auto	0.4164
L12	32	MP3-05 (1.25in)	61.17 - 63.42	Auto	0.4164
L12	33	MP3-05 (1.25in)	61.17 - 63.42	Auto	0.4164
L13	27	MP3-05 (1.25in)	58.42 - 58.67	Auto	0.3910
L13	28	MP3-05 (1.25in)	58.42 - 58.67	Auto	0.3910
L13	29	MP3-05 (1.25in)	58.42 - 58.67	Auto	0.3910
L14	27	MP3-05 (1.25in)	53.42 - 58.42	Auto	0.3691
L14	28	MP3-05 (1.25in)	53.42 - 58.42	Auto	0.3691
L14	29	MP3-05 (1.25in)	53.42 - 58.42	Auto	0.3691
L15	27	MP3-05 (1.25in)	47.12 - 53.42	Auto	0.3266
L15	28	MP3-05 (1.25in)	47.12 - 53.42	Auto	0.3266
L15	29	MP3-05 (1.25in)	47.12 - 53.42	Auto	0.3266
L16	27	MP3-05 (1.25in)	45.87 - 47.12	Auto	0.3357
L16	28	MP3-05 (1.25in)	45.87 - 47.12	Auto	0.3357
L16	29	MP3-05 (1.25in)	45.87 - 47.12	Auto	0.3357
L17	27	MP3-05 (1.25in)	40.87 - 45.87	Auto	0.3116
L17	28	MP3-05 (1.25in)	40.87 - 45.87	Auto	0.3116
L17	29	MP3-05 (1.25in)	40.87 - 45.87	Auto	0.3116
L18	27	MP3-05 (1.25in)	35.87 - 40.87	Auto	0.2755
L18	28	MP3-05 (1.25in)	35.87 - 40.87	Auto	0.2755
L18	29	MP3-05 (1.25in)	35.87 - 40.87	Auto	0.2755
L19	24	MP3-05 (1.25in)	30.87 - 31.17	Auto	0.2243
L19	25	MP3-05 (1.25in)	30.87 - 31.17	Auto	0.2243
L19	27	MP3-05 (1.25in)	31.17 - 35.87	Auto	0.2403
L19	28	MP3-05 (1.25in)	31.17 - 35.87	Auto	0.2403
L19	29	MP3-05 (1.25in)	31.17 - 35.87	Auto	0.2403
L19	38	MP3-05 (1.25in)	30.87 - 31.17	Auto	0.2243
L20	24	MP3-05 (1.25in)	28.67 - 30.87	Auto	0.2163
L20	25	MP3-05 (1.25in)	28.67 - 30.87	Auto	0.2163
L20	38	MP3-05 (1.25in)	28.67 - 30.87	Auto	0.2163
L21	24	MP3-05 (1.25in)	28.42 - 28.67	Auto	0.2085
L21	25	MP3-05 (1.25in)	28.42 - 28.67	Auto	0.2085
L21	38	MP3-05 (1.25in)	28.42 - 28.67	Auto	0.2085
L22	24	MP3-05 (1.25in)	23.42 - 28.42	Auto	0.1876
L22	25	MP3-05 (1.25in)	23.42 - 28.42	Auto	0.1876
L22	38	MP3-05 (1.25in)	23.42 - 28.42	Auto	0.1876
L23	24	MP3-05 (1.25in)	18.42 - 23.42	Auto	0.1535
L23	25	MP3-05 (1.25in)	18.42 - 23.42	Auto	0.1535
L23	38	MP3-05 (1.25in)	18.42 - 23.42	Auto	0.1535
L24	24	MP3-05 (1.25in)	14.17 - 18.42	Auto	0.1219
L24	25	MP3-05 (1.25in)	14.17 - 18.42	Auto	0.1219
L24	35	MP3-08.5 (1.25")	14.17 - 16.17	Auto	0.0000
L24	36	MP3-08.5 (1.25")	14.17 - 16.17	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L24	38	MP3-05 (1.25in)	14.17 - 18.42	Auto	0.1219
L25	24	MP3-05 (1.25in)	13.92 - 14.17	Auto	0.1405
L25	25	MP3-05 (1.25in)	13.92 - 14.17	Auto	0.1405
L25	35	MP3-08.5 (1.25")	13.92 - 14.17	Auto	0.0000
L25	36	MP3-08.5 (1.25")	13.92 - 14.17	Auto	0.0000
L25	38	MP3-05 (1.25in)	13.92 - 14.17	Auto	0.1405
L26	24	MP3-05 (1.25in)	13.67 - 13.92	Auto	0.1389
L26	25	MP3-05 (1.25in)	13.67 - 13.92	Auto	0.1389
L26	35	MP3-08.5 (1.25")	13.67 - 13.92	Auto	0.0000
L26	36	MP3-08.5 (1.25")	13.67 - 13.92	Auto	0.0000
L26	38	MP3-05 (1.25in)	13.67 - 13.92	Auto	0.1389
L27	24	MP3-05 (1.25in)	13.42 - 13.67	Auto	0.1105
L27	25	MP3-05 (1.25in)	13.42 - 13.67	Auto	0.1105
L27	35	MP3-08.5 (1.25")	13.42 - 13.67	Auto	0.0000
L27	36	MP3-08.5 (1.25")	13.42 - 13.67	Auto	0.0000
L27	38	MP3-05 (1.25in)	13.42 - 13.67	Auto	0.1105
L28	24	MP3-05 (1.25in)	8.42 - 13.42	Auto	0.0916
L28	25	MP3-05 (1.25in)	8.42 - 13.42	Auto	0.0916
L28	35	MP3-08.5 (1.25")	8.42 - 13.42	Auto	0.0000
L28	36	MP3-08.5 (1.25")	8.42 - 13.42	Auto	0.0000
L28	38	MP3-05 (1.25in)	11.17 - 13.42	Auto	0.1004
L29	22	MP3-05 (1.25in)	5.75 - 8.25	Auto	0.0665
L29	24	MP3-05 (1.25in)	5.75 - 8.42	Auto	0.0671
L29	25	MP3-05 (1.25in)	5.75 - 8.42	Auto	0.0671
L29	35	MP3-08.5 (1.25")	5.75 - 8.42	Auto	0.0000
L29	36	MP3-08.5 (1.25")	5.75 - 8.42	Auto	0.0000
L30	22	MP3-05 (1.25in)	5.50 - 5.75	Auto	0.0784
L30	24	MP3-05 (1.25in)	5.50 - 5.75	Auto	0.0784
L30	25	MP3-05 (1.25in)	5.50 - 5.75	Auto	0.0784
L30	35	MP3-08.5 (1.25")	5.50 - 5.75	Auto	0.0000
L30	36	MP3-08.5 (1.25")	5.50 - 5.75	Auto	0.0000
L31	22	MP3-05 (1.25in)	3.57 - 5.50	Auto	0.0921
L31	24	MP3-05 (1.25in)	3.57 - 5.50	Auto	0.0921
L31	25	MP3-05 (1.25in)	3.57 - 5.50	Auto	0.0921
L31	35	MP3-08.5 (1.25")	3.57 - 5.50	Auto	0.0000
L31	36	MP3-08.5 (1.25")	3.57 - 5.50	Auto	0.0000
L32	22	MP3-05 (1.25in)	3.32 - 3.57	Auto	0.0851
L32	24	MP3-05 (1.25in)	3.32 - 3.57	Auto	0.0851
L32	25	MP3-05 (1.25in)	3.32 - 3.57	Auto	0.0851
L32	35	MP3-08.5 (1.25")	3.32 - 3.57	Auto	0.0000
L32	36	MP3-08.5 (1.25")	3.32 - 3.57	Auto	0.0000
L33	22	MP3-05 (1.25in)	3.17 - 3.32	Auto	0.0838
L33	24	MP3-05 (1.25in)	3.17 - 3.32	Auto	0.0838
L33	25	MP3-05 (1.25in)	3.17 - 3.32	Auto	0.0838
L33	35	MP3-08.5 (1.25")	3.17 - 3.32	Auto	0.0000
L33	36	MP3-08.5 (1.25")	3.17 - 3.32	Auto	0.0000
L34	22	MP3-05 (1.25in)	2.92 - 3.17	Auto	0.0536
L34	24	MP3-05 (1.25in)	2.92 - 3.17	Auto	0.0536
L34	25	MP3-05 (1.25in)	2.92 - 3.17	Auto	0.0536
L34	35	MP3-08.5 (1.25")	2.92 - 3.17	Auto	0.0000
L34	36	MP3-08.5 (1.25")	2.92 - 3.17	Auto	0.0000
L35	22	MP3-05 (1.25in)	2.75 - 2.92	Auto	0.0523
L35	24	MP3-05 (1.25in)	2.75 - 2.92	Auto	0.0523
L35	25	MP3-05 (1.25in)	2.75 - 2.92	Auto	0.0523
L35	35	MP3-08.5 (1.25")	2.75 - 2.92	Auto	0.0000
L35	36	MP3-08.5 (1.25")	2.75 - 2.92	Auto	0.0000
L36	22	MP3-05 (1.25in)	2.50 - 2.75	Auto	0.0468
L36	24	MP3-05 (1.25in)	2.50 - 2.75	Auto	0.0468
L36	25	MP3-05 (1.25in)	2.50 - 2.75	Auto	0.0468
L36	35	MP3-08.5 (1.25")	2.50 - 2.75	Auto	0.0000
L36	36	MP3-08.5 (1.25")	2.50 - 2.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L37	22	MP3-05 (1.25in)	0.00 - 2.50	Auto	0.0380
L37	24	MP3-05 (1.25in)	0.00 - 2.50	Auto	0.0380
L37	25	MP3-05 (1.25in)	0.00 - 2.50	Auto	0.0380
L37	35	MP3-08.5 (1.25")	0.00 - 2.50	Auto	0.0000
L37	36	MP3-08.5 (1.25")	0.00 - 2.50	Auto	0.0000

Discrete Tower Loads

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
108									
BXA-80080/4CF w/ Mount Pipe	A	From Leg	4.00 0.00 -1.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	4.93 5.46 6.00	3.64 4.14 4.66	0.05 0.09 0.14
BXA-80080/4CF w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	4.93 5.46 6.00	3.64 4.14 4.66	0.05 0.09 0.14
BXA-80063/4CFx5 w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	4.81 5.32 5.85	3.34 3.82 4.32	0.05 0.09 0.13
(2) JAHH-65B-R3B w/ Mount Pipe	A	From Leg	4.00 0.00 -1.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	5.50 5.97 6.45	4.38 4.84 5.30	0.10 0.17 0.25
(2) JAHH-65B-R3B w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	5.50 5.97 6.45	4.38 4.84 5.30	0.10 0.17 0.25
(2) JAHH-65B-R3B w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	5.50 5.97 6.45	4.38 4.84 5.30	0.10 0.17 0.25
MT6407-77A w/ Mount Pipe	A	From Leg	4.00 0.00 -1.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	0.10 0.13 0.18
MT6407-77A w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	0.10 0.13 0.18
MT6407-77A w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	0.10 0.13 0.18
BSF0020F3V1	A	From Leg	4.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	0.96 1.09 1.22	0.29 0.36 0.45	0.02 0.02 0.03
CBC78T-DS-43-2X	A	From Leg	4.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	0.02 0.03 0.04
CBC78T-DS-43-2X	B	From Leg	4.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice 1" Ice	0.37 0.45 0.53	0.51 0.60 0.70	0.02 0.03 0.04
CBC78T-DS-43-2X	C	From Leg	4.00 0.00	0.0000	108.00	No Ice 1/2" Ice	0.37 0.45	0.51 0.60	0.02 0.03

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	0.53	0.70	0.04
RVZDC-6627-PF-48_CCIV2	A	From Leg	4.00	0.0000	108.00	No Ice	4.06	3.10	0.03
			0.00			1/2" Ice	4.32	3.34	0.07
			1.00			1" Ice	4.58	3.58	0.11
RFV01U-D2A	A	From Leg	4.00	0.0000	108.00	No Ice	1.88	1.01	0.07
			0.00			1/2" Ice	2.05	1.14	0.09
			0.00			1" Ice	2.22	1.28	0.11
RFV01U-D2A	B	From Leg	4.00	0.0000	108.00	No Ice	1.88	1.01	0.07
			0.00			1/2" Ice	2.05	1.14	0.09
			0.00			1" Ice	2.22	1.28	0.11
RFV01U-D2A	C	From Leg	4.00	0.0000	108.00	No Ice	1.88	1.01	0.07
			0.00			1/2" Ice	2.05	1.14	0.09
			0.00			1" Ice	2.22	1.28	0.11
RFV01U-D1A	A	From Leg	4.00	0.0000	108.00	No Ice	1.88	1.25	0.08
			0.00			1/2" Ice	2.05	1.39	0.10
			2.00			1" Ice	2.22	1.54	0.12
RFV01U-D1A	B	From Leg	4.00	0.0000	108.00	No Ice	1.88	1.25	0.08
			0.00			1/2" Ice	2.05	1.39	0.10
			2.00			1" Ice	2.22	1.54	0.12
RFV01U-D1A	C	From Leg	4.00	0.0000	108.00	No Ice	1.88	1.25	0.08
			0.00			1/2" Ice	2.05	1.39	0.10
			2.00			1" Ice	2.22	1.54	0.12
2.4" Dia. x 6-ft	A	From Leg	4.00	0.0000	108.00	No Ice	1.43	1.43	0.02
			0.00			1/2" Ice	1.92	1.92	0.03
			0.00			1" Ice	2.29	2.29	0.05
2.4" Dia. x 6-ft	B	From Leg	4.00	0.0000	108.00	No Ice	1.43	1.43	0.02
			0.00			1/2" Ice	1.92	1.92	0.03
			0.00			1" Ice	2.29	2.29	0.05
2.4" Dia. x 6-ft	C	From Leg	4.00	0.0000	108.00	No Ice	1.43	1.43	0.02
			0.00			1/2" Ice	1.92	1.92	0.03
			0.00			1" Ice	2.29	2.29	0.05
T-Arm Mount [TA 602-3]	C	None		0.0000	108.00	No Ice	6.20	1.60	0.77
						1/2" Ice	8.10	2.20	1.00
						1" Ice	9.80	2.50	1.29
95									
APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe	A	From Centroid-Leg	4.00	0.0000	95.00	No Ice	6.29	2.76	0.06
			0.00			1/2" Ice	6.86	3.27	0.11
			1.00			1" Ice	7.45	3.79	0.16
APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe	B	From Centroid-Leg	4.00	0.0000	95.00	No Ice	6.29	2.76	0.06
			0.00			1/2" Ice	6.86	3.27	0.11
			1.00			1" Ice	7.45	3.79	0.16
APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe	C	From Centroid-Leg	4.00	0.0000	95.00	No Ice	6.29	2.76	0.06
			0.00			1/2" Ice	6.86	3.27	0.11
			1.00			1" Ice	7.45	3.79	0.16
APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe	A	From Centroid-Leg	4.00	0.0000	95.00	No Ice	14.69	6.87	0.18
			0.00			1/2" Ice	15.46	7.55	0.31
			0.00			1" Ice	16.23	8.25	0.45
APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe	B	From Centroid-Leg	4.00	0.0000	95.00	No Ice	14.69	6.87	0.18
			0.00			1/2" Ice	15.46	7.55	0.31
			0.00			1" Ice	16.23	8.25	0.45
APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe	C	From Centroid-Leg	4.00	0.0000	95.00	No Ice	14.69	6.87	0.18
			0.00			1/2" Ice	15.46	7.55	0.31
			0.00			1" Ice	16.23	8.25	0.45
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Centroid-Leg	4.00	0.0000	95.00	No Ice	5.19	2.71	0.13
			0.00			1/2" Ice	5.59	3.04	0.17
			0.00			1" Ice	6.02	3.38	0.23
AIR6449 B41_T-MOBILE	B	From	4.00	0.0000	95.00	No Ice	5.19	2.71	0.13

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
w/ Mount Pipe		Centroid-Le	0.00			1/2" Ice	5.59	3.04	0.17
		g	0.00			1" Ice	6.02	3.38	0.23
AIR6449 B41_T-MOBILE	C	From	4.00	0.0000	95.00	No Ice	5.19	2.71	0.13
w/ Mount Pipe		Centroid-Le	0.00			1/2" Ice	5.59	3.04	0.17
		g	0.00			1" Ice	6.02	3.38	0.23
RADIO 4415 B66A_CCIV3	A	From	4.00	0.0000	95.00	No Ice	1.64	0.68	0.05
		Centroid-Le	0.00			1/2" Ice	1.80	0.79	0.06
		g	0.00			1" Ice	1.97	0.91	0.07
RADIO 4415 B66A_CCIV3	B	From	4.00	0.0000	95.00	No Ice	1.64	0.68	0.05
		Centroid-Le	0.00			1/2" Ice	1.80	0.79	0.06
		g	0.00			1" Ice	1.97	0.91	0.07
RADIO 4415 B66A_CCIV3	C	From	4.00	0.0000	95.00	No Ice	1.64	0.68	0.05
		Centroid-Le	0.00			1/2" Ice	1.80	0.79	0.06
		g	0.00			1" Ice	1.97	0.91	0.07
RADIO 4449 B71	A	From	4.00	0.0000	95.00	No Ice	1.97	1.59	0.07
B85A_T-MOBILE		Centroid-Le	0.00			1/2" Ice	2.15	1.75	0.09
		g	0.00			1" Ice	2.33	1.92	0.12
RADIO 4449 B71	B	From	4.00	0.0000	95.00	No Ice	1.97	1.59	0.07
B85A_T-MOBILE		Centroid-Le	0.00			1/2" Ice	2.15	1.75	0.09
		g	0.00			1" Ice	2.33	1.92	0.12
RADIO 4449 B71	C	From	4.00	0.0000	95.00	No Ice	1.97	1.59	0.07
B85A_T-MOBILE		Centroid-Le	0.00			1/2" Ice	2.15	1.75	0.09
		g	0.00			1" Ice	2.33	1.92	0.12
RADIO 4424 B25_TMO	A	From	4.00	0.0000	95.00	No Ice	2.05	1.61	0.09
		Centroid-Le	0.00			1/2" Ice	2.23	1.77	0.11
		g	0.00			1" Ice	2.42	1.94	0.13
RADIO 4424 B25_TMO	B	From	4.00	0.0000	95.00	No Ice	2.05	1.61	0.09
		Centroid-Le	0.00			1/2" Ice	2.23	1.77	0.11
		g	0.00			1" Ice	2.42	1.94	0.13
RADIO 4424 B25_TMO	C	From	4.00	0.0000	95.00	No Ice	2.05	1.61	0.09
		Centroid-Le	0.00			1/2" Ice	2.23	1.77	0.11
		g	0.00			1" Ice	2.42	1.94	0.13
2.4" x 8' Pipe	A	From	4.00	0.0000	95.00	No Ice	1.90	1.90	0.03
		Centroid-Le	0.00			1/2" Ice	2.73	2.73	0.05
		g	0.00			1" Ice	3.42	3.42	0.07
2.4" x 8' Pipe	B	From	4.00	0.0000	95.00	No Ice	1.90	1.90	0.03
		Centroid-Le	0.00			1/2" Ice	2.73	2.73	0.05
		g	0.00			1" Ice	3.42	3.42	0.07
2.4" x 8' Pipe	C	From	4.00	0.0000	95.00	No Ice	1.90	1.90	0.03
		Centroid-Le	0.00			1/2" Ice	2.73	2.73	0.05
		g	0.00			1" Ice	3.42	3.42	0.07
SitePro1 RMQP-4096-HK	C	None		0.0000	95.00	No Ice	23.14	21.40	1.95
						1/2" Ice	28.17	26.44	2.34
						1" Ice	33.23	31.60	2.85
79									
7770.00 w/ Mount Pipe	A	From Leg	4.00	0.0000	79.00	No Ice	3.39	2.32	0.06
			0.00			1/2" Ice	3.75	2.66	0.10
			-1.00			1" Ice	4.12	3.02	0.15
7770.00 w/ Mount Pipe	B	From Leg	4.00	0.0000	79.00	No Ice	3.39	2.32	0.06
			0.00			1/2" Ice	3.75	2.66	0.10
			-1.00			1" Ice	4.12	3.02	0.15
7770.00 w/ Mount Pipe	C	From Leg	4.00	0.0000	79.00	No Ice	3.39	2.32	0.06
			0.00			1/2" Ice	3.75	2.66	0.10
			-1.00			1" Ice	4.12	3.02	0.15
(2) DMP65R-BU6D w/	A	From Leg	4.00	0.0000	79.00	No Ice	11.96	5.97	0.11
Mount Pipe			0.00			1/2" Ice	12.70	6.63	0.20
			-1.00			1" Ice	13.46	7.30	0.30

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) DMP65R-BU4D w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	7.53 8.04 8.57	3.79 4.23 4.68	0.09 0.16 0.22
(2) DMP65R-BU6D w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	11.96 12.70 13.46	5.97 6.63 7.30	0.11 0.20 0.30
(2) LGP21401	A	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.21 0.27 0.35	0.01 0.02 0.03
(2) LGP21401	B	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.21 0.27 0.35	0.01 0.02 0.03
(2) LGP21401	C	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.21 0.27 0.35	0.01 0.02 0.03
(2) RRUS 4478 B14	A	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	1.84 2.01 2.19	1.06 1.20 1.34	0.06 0.08 0.09
(2) RRUS 4478 B14	B	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	1.84 2.01 2.19	1.06 1.20 1.34	0.06 0.08 0.09
(2) RRUS 4478 B14	C	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	1.84 2.01 2.19	1.06 1.20 1.34	0.06 0.08 0.09
DC6-48-60-0-8C-EV	A	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.20	4.78 5.06 5.35	0.03 0.06 0.10
RRUS 8843 B2/B66A	A	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.35 1.50 1.65	0.07 0.09 0.11
RRUS 8843 B2/B66A	B	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.35 1.50 1.65	0.07 0.09 0.11
RRUS 8843 B2/B66A	C	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.35 1.50 1.65	0.07 0.09 0.11
DC6-48-60-18-8F	B	From Leg	4.00 0.00 -1.00	0.0000	79.00	No Ice 1/2" Ice 1" Ice	0.85 1.36 1.53	0.85 1.36 1.53	0.02 0.04 0.05
Pipe Mount [PM 601-3]	C	None		0.0000	79.00	No Ice 1/2" Ice 1" Ice	3.17 3.79 4.42	3.17 3.79 4.42	0.20 0.23 0.28
T-Arm Mount [TA 602-3]	C	None		0.0000	79.00	No Ice 1/2" Ice 1" Ice	13.40 16.44 19.70	13.40 16.44 19.70	0.77 1.00 1.29
74									
2.4" Dia. x 4-ft	A	From Leg	2.00 0.00 0.00	0.0000	74.00	No Ice 1/2" Ice 1" Ice	0.87 1.12 1.37	0.87 1.12 1.37	0.01 0.02 0.03
2.4" Dia. x 4-ft	B	From Leg	2.00 0.00 0.00	0.0000	74.00	No Ice 1/2" Ice 1" Ice	0.87 1.12 1.37	0.87 1.12 1.37	0.01 0.02 0.03
2.4" Dia. x 4-ft	C	From Leg	2.00 0.00 0.00	0.0000	74.00	No Ice 1/2" Ice 1" Ice	0.87 1.12 1.37	0.87 1.12 1.37	0.01 0.02 0.03
Side Arm Mount [SO 901-3]	C	None		0.0000	74.00	No Ice 1/2" Ice	1.14 1.49	1.14 1.49	0.32 0.34

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
						1" Ice	1.91	1.91	0.37
68									
MX08FRO665-21 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
TA08025-B604	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B605	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
RDIDC-9181-PF-48	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	2.01 2.19 2.37	1.17 1.31 1.46	0.02 0.04 0.06
(2) 2.4" Dia x 8-ft Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 2.4" Dia x 8-ft Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 2.4" Dia x 8-ft Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	68.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
Commscope MC-PK8-DSH	C	None		0.0000	68.00	No Ice 1/2" Ice 1" Ice	34.24 62.95 91.66	34.24 62.95 91.66	1.75 2.10 2.45
48									
KS24019-L112A	B	From Leg	3.00 0.00 2.00	0.0000	48.00	No Ice 1/2" Ice 1" Ice	0.08 0.13 0.19	0.08 0.13 0.19	0.01 0.01 0.01
Side Arm Mount [SO 701-1]	B	From Leg	1.50 0.00 0.00	0.0000	48.00	No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
*********									

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	110 - 105	Pole	Max Tension	45	0.00	-0.00	0.00
			Max. Compression	26	-5.47	-0.04	0.70
			Max. Mx	8	-2.75	-8.55	0.23
			Max. My	2	-2.74	-0.03	9.04
			Max. Vy	8	3.36	-8.55	0.23
			Max. Vx	14	3.42	-0.01	-8.47
			Max. Torque	8			0.65
L2	105 - 100	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-5.78	-0.04	0.72
			Max. Mx	8	-2.95	-25.84	0.26
			Max. My	2	-2.94	-0.04	26.63
			Max. Vy	8	3.56	-25.84	0.26
			Max. Vx	14	3.62	0.01	-26.08
			Max. Torque	8			0.65
L3	100 - 98.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-5.87	-0.04	0.72
			Max. Mx	8	-3.01	-31.23	0.27
			Max. My	2	-3.00	-0.05	32.11
			Max. Vy	8	3.62	-31.23	0.27
			Max. Vx	14	3.69	0.02	-31.56
			Max. Torque	8			0.65
L4	98.5 - 93.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-13.34	-0.04	0.74
			Max. Mx	8	-7.41	-56.37	0.31
			Max. My	2	-7.40	-0.07	57.56
			Max. Vy	8	7.86	-56.37	0.31
			Max. Vx	14	7.93	0.04	-57.02
			Max. Torque	8			0.65
L5	93.5 - 88.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-13.73	-0.04	0.76
			Max. Mx	8	-7.72	-96.16	0.35
			Max. My	2	-7.71	-0.09	97.66
			Max. Vy	8	8.06	-96.16	0.35
			Max. Vx	14	8.13	0.06	-97.16
			Max. Torque	8			0.64
L6	88.5 - 83.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-14.13	-0.03	0.78
			Max. Mx	8	-8.06	-136.91	0.39
			Max. My	2	-8.05	-0.12	138.73
			Max. Vy	8	8.25	-136.91	0.39
			Max. Vx	14	8.32	0.09	-138.27
			Max. Torque	8			0.64
L7	83.5 - 78.67	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-19.80	0.35	1.52
			Max. Mx	20	-11.11	175.86	0.36
			Max. My	2	-11.10	-0.03	178.16
			Max. Vy	20	-11.83	175.86	0.36
			Max. Vx	14	11.91	0.14	-177.28
			Max. Torque	8			1.65
L8	78.67 - 78.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-19.85	0.35	1.52
			Max. Mx	20	-11.16	178.82	0.35
			Max. My	2	-11.15	-0.05	181.14
			Max. Vy	20	-11.83	178.82	0.35
			Max. Vx	14	11.92	0.16	-180.26
			Max. Torque	8			1.65
L9	78.42 - 73.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-21.33	0.35	1.54
			Max. Mx	20	-12.32	238.72	0.02
			Max. My	2	-12.31	-0.39	241.39
			Max. Vy	8	12.26	-238.57	0.92

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	12.50	0.50	-241.00
			Max. Torque	8			1.65
L10	73.42 - 68.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.30	0.35	1.56
			Max. Mx	20	-13.10	300.62	-0.31
			Max. My	14	-13.05	0.85	-304.54
			Max. Vy	8	12.51	-300.47	1.28
			Max. Vx	14	12.92	0.85	-304.54
			Max. Torque	8			1.65
L11	68.42 - 63.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.08	0.35	1.82
			Max. Mx	20	-16.96	376.65	-0.56
			Max. My	14	-16.91	1.20	-382.67
			Max. Vy	8	15.57	-376.50	1.73
			Max. Vx	14	16.01	1.20	-382.67
			Max. Torque	8			1.79
L12	63.42 - 58.67	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.04	0.35	1.84
			Max. Mx	20	-17.76	451.08	-0.88
			Max. My	14	-17.71	1.54	-459.21
			Max. Vy	8	15.79	-450.94	2.08
			Max. Vx	14	16.23	1.54	-459.21
			Max. Torque	8			1.79
L13	58.67 - 58.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.09	0.35	1.84
			Max. Mx	20	-17.81	455.03	-0.90
			Max. My	14	-17.76	1.56	-463.26
			Max. Vy	8	15.79	-454.88	2.09
			Max. Vx	14	16.24	1.56	-463.26
			Max. Torque	8			1.79
L14	58.42 - 53.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.12	0.36	1.86
			Max. Mx	20	-18.67	534.55	-1.24
			Max. My	14	-18.63	1.91	-544.99
			Max. Vy	8	16.03	-534.41	2.46
			Max. Vx	14	16.47	1.91	-544.99
			Max. Torque	8			1.79
L15	53.42 - 47.12	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.66	0.36	1.86
			Max. Mx	20	-19.12	575.54	-1.41
			Max. My	14	-19.08	2.09	-587.10
			Max. Vy	8	16.14	-575.39	2.64
			Max. Vx	14	16.58	2.09	-587.10
			Max. Torque	8			1.79
L16	47.12 - 45.87	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.52	0.09	1.71
			Max. Mx	8	-20.64	-657.10	2.92
			Max. My	14	-20.60	2.28	-670.96
			Max. Vy	8	16.48	-657.10	2.92
			Max. Vx	14	16.93	2.28	-670.96
			Max. Torque	8			1.71
L17	45.87 - 40.87	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.69	0.09	1.72
			Max. Mx	8	-21.64	-739.95	3.34
			Max. My	14	-21.61	2.69	-756.09
			Max. Vy	8	16.69	-739.95	3.34
			Max. Vx	14	17.14	2.69	-756.09
			Max. Torque	8			1.71
L18	40.87 - 35.87	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-34.88	0.08	1.72
			Max. Mx	8	-22.67	-823.85	3.76

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-22.64	3.10	-842.26
			Max. Vy	8	16.90	-823.85	3.76
			Max. Vx	14	17.35	3.10	-842.26
			Max. Torque	8			1.70
L19	35.87 - 30.87	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.09	0.07	1.73
			Max. Mx	8	-23.71	-908.75	4.18
			Max. My	14	-23.68	3.51	-929.43
			Max. Vy	8	17.09	-908.75	4.18
			Max. Vx	14	17.54	3.51	-929.43
			Max. Torque	8			1.70
L20	30.87 - 28.67	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.63	0.06	1.73
			Max. Mx	8	-24.18	-946.41	4.36
			Max. My	14	-24.15	3.69	-968.08
			Max. Vy	8	17.17	-946.41	4.36
			Max. Vx	14	17.63	3.69	-968.08
			Max. Torque	8			1.70
L21	28.67 - 28.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.69	0.06	1.73
			Max. Mx	8	-24.24	-950.70	4.38
			Max. My	14	-24.21	3.71	-972.48
			Max. Vy	8	17.17	-950.70	4.38
			Max. Vx	14	17.62	3.71	-972.48
			Max. Torque	8			1.70
L22	28.42 - 23.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.92	0.05	1.74
			Max. Mx	8	-25.30	-1036.99	4.79
			Max. My	14	-25.28	4.12	-1061.01
			Max. Vy	8	17.36	-1036.99	4.79
			Max. Vx	14	17.81	4.12	-1061.01
			Max. Torque	8			1.70
L23	23.42 - 18.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.17	0.05	1.74
			Max. Mx	8	-26.40	-1124.13	5.20
			Max. My	14	-26.38	4.52	-1150.38
			Max. Vy	8	17.52	-1124.13	5.20
			Max. Vx	14	17.97	4.52	-1150.38
			Max. Torque	8			1.70
L24	18.42 - 14.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.26	0.06	1.76
			Max. Mx	8	-27.34	-1198.80	5.54
			Max. My	14	-27.32	4.87	-1226.93
			Max. Vy	8	17.65	-1198.80	5.54
			Max. Vx	14	18.09	4.87	-1226.93
			Max. Torque	8			1.70
L25	14.17 - 13.92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.34	0.07	1.76
			Max. Mx	8	-27.41	-1203.21	5.56
			Max. My	14	-27.40	4.89	-1231.45
			Max. Vy	8	17.64	-1203.21	5.56
			Max. Vx	14	18.09	4.89	-1231.45
			Max. Torque	8			1.70
L26	13.92 - 13.67	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.41	0.07	1.76
			Max. Mx	8	-27.48	-1207.62	5.58
			Max. My	14	-27.46	4.91	-1235.98
			Max. Vy	8	17.65	-1207.62	5.58
			Max. Vx	14	18.10	4.91	-1235.98
			Max. Torque	8			1.70
L27	13.67 - 13.42	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-40.49	0.07	1.77
			Max. Mx	8	-27.54	-1212.03	5.60
			Max. My	14	-27.52	4.93	-1240.50
			Max. Vy	8	17.66	-1212.03	5.60
			Max. Vx	14	18.10	4.93	-1240.50
			Max. Torque	8			1.70
L28	13.42 - 8.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.88	0.10	1.80
			Max. Mx	8	-28.74	-1300.72	6.00
			Max. My	14	-28.73	5.32	-1331.35
			Max. Vy	8	17.83	-1300.72	6.00
			Max. Vx	14	18.26	5.32	-1331.35
			Max. Torque	8			1.70
L29	8.42 - 5.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.63	0.13	1.82
			Max. Mx	8	-29.39	-1348.40	6.21
			Max. My	14	-29.38	5.54	-1380.15
			Max. Vy	8	17.92	-1348.40	6.21
			Max. Vx	14	18.34	5.54	-1380.15
			Max. Torque	8			1.70
L30	5.75 - 5.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.70	0.13	1.82
			Max. Mx	8	-29.46	-1352.88	6.23
			Max. My	14	-29.46	5.56	-1384.73
			Max. Vy	8	17.91	-1352.88	6.23
			Max. Vx	14	18.33	5.56	-1384.73
			Max. Torque	8			1.70
L31	5.5 - 3.57	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.37	0.15	1.83
			Max. Mx	8	-30.04	-1387.51	6.39
			Max. My	14	-30.03	5.71	-1420.17
			Max. Vy	8	18.01	-1387.51	6.39
			Max. Vx	14	18.42	5.71	-1420.17
			Max. Torque	8			1.70
L32	3.57 - 3.32	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.45	0.15	1.83
			Max. Mx	8	-30.13	-1392.01	6.41
			Max. My	14	-30.12	5.73	-1424.77
			Max. Vy	8	17.99	-1392.01	6.41
			Max. Vx	14	18.41	5.73	-1424.77
			Max. Torque	8			1.70
L33	3.32 - 3.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.50	0.16	1.83
			Max. Mx	8	-30.17	-1394.71	6.42
			Max. My	14	-30.17	5.74	-1427.53
			Max. Vy	8	18.00	-1394.71	6.42
			Max. Vx	14	18.41	5.74	-1427.53
			Max. Torque	8			1.70
L34	3.17 - 2.92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.58	0.16	1.84
			Max. Mx	8	-30.24	-1399.21	6.44
			Max. My	14	-30.24	5.76	-1432.13
			Max. Vy	8	18.01	-1399.21	6.44
			Max. Vx	14	18.42	5.76	-1432.13
			Max. Torque	8			1.70
L35	2.92 - 2.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.63	0.16	1.84
			Max. Mx	8	-30.29	-1402.27	6.45
			Max. My	14	-30.28	5.77	-1435.26
			Max. Vy	8	18.01	-1402.27	6.45
			Max. Vx	14	18.42	5.77	-1435.26

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	8			1.70
L36	2.75 - 2.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.70	0.16	1.84
			Max. Mx	8	-30.35	-1406.78	6.47
			Max. My	14	-30.34	5.79	-1439.87
			Max. Vy	8	18.02	-1406.78	6.47
			Max. Vx	14	18.43	5.79	-1439.87
			Max. Torque	8			1.70
L37	2.5 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.39	0.18	1.86
			Max. Mx	8	-30.95	-1451.92	6.67
			Max. My	14	-30.95	5.99	-1486.03
			Max. Vy	8	18.12	-1451.92	6.67
			Max. Vx	14	18.52	5.99	-1486.03
			Max. Torque	8			1.70

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	44.39	-0.02	5.12
	Max. H_x	21	23.22	18.10	-0.08
	Max. H_z	2	30.96	-0.08	18.17
	Max. M_x	2	1461.62	-0.08	18.17
	Max. M_z	8	1451.92	-18.10	0.08
	Max. Torsion	8	1.70	-18.10	0.08
	Min. Vert	11	23.22	-15.61	-9.02
	Min. H_x	9	23.22	-18.10	0.08
	Min. H_z	14	30.96	0.08	-18.50
	Min. M_x	14	-1486.03	0.08	-18.50
	Min. M_z	20	-1451.66	18.10	-0.08
	Min. Torsion	20	-1.70	18.10	-0.08

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	25.80	0.00	0.00	-0.43	-0.11	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	30.96	0.08	-18.17	-1461.62	-6.26	-0.28
0.9 Dead+1.0 Wind 0 deg - No Ice	23.22	0.08	-18.17	-1440.75	-6.15	-0.28
1.2 Dead+1.0 Wind 30 deg - No Ice	30.96	9.11	-15.78	-1269.39	-731.31	-1.09
0.9 Dead+1.0 Wind 30 deg - No Ice	23.22	9.11	-15.78	-1251.26	-720.92	-1.09
1.2 Dead+1.0 Wind 60 deg - No Ice	30.96	15.97	-9.32	-749.15	-1282.09	-1.61
0.9 Dead+1.0 Wind 60 deg - No Ice	23.22	15.97	-9.32	-738.42	-1263.94	-1.61
1.2 Dead+1.0 Wind 90 deg - No	30.96	18.10	-0.08	-6.67	-1451.92	-1.70

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Ice						
0.9 Dead+1.0 Wind 90 deg - No Ice	23.22	18.10	-0.08	-6.44	-1431.32	-1.70
1.2 Dead+1.0 Wind 120 deg - No Ice	30.96	15.61	9.02	724.69	-1253.86	-1.33
0.9 Dead+1.0 Wind 120 deg - No Ice	23.22	15.61	9.02	714.55	-1236.06	-1.33
1.2 Dead+1.0 Wind 150 deg - No Ice	30.96	8.98	15.73	1262.21	-720.71	-0.61
0.9 Dead+1.0 Wind 150 deg - No Ice	23.22	8.98	15.73	1244.45	-710.46	-0.60
1.2 Dead+1.0 Wind 180 deg - No Ice	30.96	-0.08	18.50	1486.03	5.99	0.28
0.9 Dead+1.0 Wind 180 deg - No Ice	23.22	-0.08	18.50	1465.15	5.95	0.28
1.2 Dead+1.0 Wind 210 deg - No Ice	30.96	-9.11	15.78	1268.29	731.02	1.09
0.9 Dead+1.0 Wind 210 deg - No Ice	23.22	-9.11	15.78	1250.46	720.71	1.09
1.2 Dead+1.0 Wind 240 deg - No Ice	30.96	-15.68	9.15	735.30	1259.70	1.61
0.9 Dead+1.0 Wind 240 deg - No Ice	23.22	-15.68	9.15	725.02	1241.89	1.60
1.2 Dead+1.0 Wind 270 deg - No Ice	30.96	-18.10	0.08	5.59	1451.66	1.70
0.9 Dead+1.0 Wind 270 deg - No Ice	23.22	-18.10	0.08	5.65	1431.12	1.69
1.2 Dead+1.0 Wind 300 deg - No Ice	30.96	-15.89	-9.18	-738.56	1275.72	1.33
0.9 Dead+1.0 Wind 300 deg - No Ice	23.22	-15.89	-9.18	-727.96	1257.71	1.33
1.2 Dead+1.0 Wind 330 deg - No Ice	30.96	-8.98	-15.73	-1263.32	720.46	0.61
0.9 Dead+1.0 Wind 330 deg - No Ice	23.22	-8.98	-15.73	-1245.27	710.27	0.61
1.2 Dead+1.0 Ice+1.0 Temp	44.39	-0.00	-0.00	-1.86	0.18	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	44.39	0.02	-5.12	-410.63	-1.09	-0.03
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	44.39	2.56	-4.44	-356.52	-204.22	-0.21
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	44.39	4.42	-2.57	-207.45	-352.66	-0.33
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	44.39	5.09	-0.02	-3.22	-406.40	-0.36
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	44.39	4.40	2.54	201.30	-351.28	-0.30
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	44.39	2.53	4.42	351.35	-201.99	-0.15
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	44.39	-0.02	5.12	406.85	1.47	0.03
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	44.39	-2.56	4.44	352.64	204.59	0.21
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	44.39	-4.42	2.57	203.51	352.94	0.33
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	44.39	-5.09	0.02	-0.66	406.77	0.36
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	44.39	-4.40	-2.54	-205.23	351.75	0.30
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	44.39	-2.53	-4.42	-355.23	202.37	0.15
Dead+Wind 0 deg - Service	25.80	0.02	-4.58	-365.81	-1.64	-0.07

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 30 deg - Service	25.80	2.30	-3.98	-317.75	-182.95	-0.27
Dead+Wind 60 deg - Service	25.80	4.03	-2.35	-187.66	-320.69	-0.41
Dead+Wind 90 deg - Service	25.80	4.56	-0.02	-1.99	-363.14	-0.43
Dead+Wind 120 deg - Service	25.80	3.93	2.27	180.89	-313.61	-0.34
Dead+Wind 150 deg - Service	25.80	2.26	3.96	315.30	-180.30	-0.16
Dead+Wind 180 deg - Service	25.80	-0.02	4.66	371.29	1.42	0.07
Dead+Wind 210 deg - Service	25.80	-2.30	3.98	316.83	182.73	0.27
Dead+Wind 240 deg - Service	25.80	-3.95	2.31	183.54	314.92	0.40
Dead+Wind 270 deg - Service	25.80	-4.56	0.02	1.07	362.92	0.43
Dead+Wind 300 deg - Service	25.80	-4.01	-2.32	-185.01	318.94	0.34
Dead+Wind 330 deg - Service	25.80	-2.26	-3.96	-316.22	180.08	0.16

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-25.80	0.00	0.00	25.80	0.00	0.000%
2	0.08	-30.96	-18.17	-0.08	30.96	18.17	0.000%
3	0.08	-23.22	-18.17	-0.08	23.22	18.17	0.000%
4	9.11	-30.96	-15.78	-9.11	30.96	15.78	0.000%
5	9.11	-23.22	-15.78	-9.11	23.22	15.78	0.000%
6	15.97	-30.96	-9.32	-15.97	30.96	9.32	0.000%
7	15.97	-23.22	-9.32	-15.97	23.22	9.32	0.000%
8	18.10	-30.96	-0.08	-18.10	30.96	0.08	0.000%
9	18.10	-23.22	-0.08	-18.10	23.22	0.08	0.000%
10	15.61	-30.96	9.02	-15.61	30.96	-9.02	0.000%
11	15.61	-23.22	9.02	-15.61	23.22	-9.02	0.000%
12	8.98	-30.96	15.73	-8.98	30.96	-15.73	0.000%
13	8.98	-23.22	15.73	-8.98	23.22	-15.73	0.000%
14	-0.08	-30.96	18.50	0.08	30.96	-18.50	0.000%
15	-0.08	-23.22	18.50	0.08	23.22	-18.50	0.000%
16	-9.11	-30.96	15.78	9.11	30.96	-15.78	0.000%
17	-9.11	-23.22	15.78	9.11	23.22	-15.78	0.000%
18	-15.68	-30.96	9.15	15.68	30.96	-9.15	0.000%
19	-15.68	-23.22	9.15	15.68	23.22	-9.15	0.000%
20	-18.10	-30.96	0.08	18.10	30.96	-0.08	0.000%
21	-18.10	-23.22	0.08	18.10	23.22	-0.08	0.000%
22	-15.89	-30.96	-9.18	15.89	30.96	9.18	0.000%
23	-15.89	-23.22	-9.18	15.89	23.22	9.18	0.000%
24	-8.98	-30.96	-15.73	8.98	30.96	15.73	0.000%
25	-8.98	-23.22	-15.73	8.98	23.22	15.73	0.000%
26	0.00	-44.39	0.00	0.00	44.39	0.00	0.000%
27	0.02	-44.39	-5.12	-0.02	44.39	5.12	0.000%
28	2.56	-44.39	-4.44	-2.56	44.39	4.44	0.000%
29	4.42	-44.39	-2.57	-4.42	44.39	2.57	0.000%
30	5.09	-44.39	-0.02	-5.09	44.39	0.02	0.000%
31	4.40	-44.39	2.54	-4.40	44.39	-2.54	0.000%
32	2.53	-44.39	4.42	-2.53	44.39	-4.42	0.000%
33	-0.02	-44.39	5.12	0.02	44.39	-5.12	0.000%
34	-2.56	-44.39	4.44	2.56	44.39	-4.44	0.000%
35	-4.42	-44.39	2.57	4.42	44.39	-2.57	0.000%
36	-5.09	-44.39	0.02	5.09	44.39	-0.02	0.000%
37	-4.40	-44.39	-2.54	4.40	44.39	2.54	0.000%
38	-2.53	-44.39	-4.42	2.53	44.39	4.42	0.000%
39	0.02	-25.80	-4.58	-0.02	25.80	4.58	0.000%
40	2.30	-25.80	-3.98	-2.30	25.80	3.98	0.000%
41	4.03	-25.80	-2.35	-4.03	25.80	2.35	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
42	4.56	-25.80	-0.02	-4.56	25.80	0.02	0.000%
43	3.93	-25.80	2.27	-3.93	25.80	-2.27	0.000%
44	2.26	-25.80	3.96	-2.26	25.80	-3.96	0.000%
45	-0.02	-25.80	4.66	0.02	25.80	-4.66	0.000%
46	-2.30	-25.80	3.98	2.30	25.80	-3.98	0.000%
47	-3.95	-25.80	2.31	3.95	25.80	-2.31	0.000%
48	-4.56	-25.80	0.02	4.56	25.80	-0.02	0.000%
49	-4.01	-25.80	-2.32	4.01	25.80	2.32	0.000%
50	-2.26	-25.80	-3.96	2.26	25.80	3.96	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00027406
3	Yes	5	0.00000001	0.00012264
4	Yes	7	0.00000001	0.00006617
5	Yes	6	0.00000001	0.00033531
6	Yes	7	0.00000001	0.00007558
7	Yes	6	0.00000001	0.00038406
8	Yes	6	0.00000001	0.00013120
9	Yes	5	0.00000001	0.00093568
10	Yes	6	0.00000001	0.00097306
11	Yes	6	0.00000001	0.00032730
12	Yes	7	0.00000001	0.00006930
13	Yes	6	0.00000001	0.00035275
14	Yes	5	0.00000001	0.00053988
15	Yes	5	0.00000001	0.00025541
16	Yes	7	0.00000001	0.00007210
17	Yes	6	0.00000001	0.00036710
18	Yes	6	0.00000001	0.00098055
19	Yes	6	0.00000001	0.00032871
20	Yes	6	0.00000001	0.00011069
21	Yes	5	0.00000001	0.00079281
22	Yes	7	0.00000001	0.00007346
23	Yes	6	0.00000001	0.00037346
24	Yes	7	0.00000001	0.00006647
25	Yes	6	0.00000001	0.00033751
26	Yes	4	0.00000001	0.00029446
27	Yes	6	0.00000001	0.00041863
28	Yes	6	0.00000001	0.00051443
29	Yes	6	0.00000001	0.00052255
30	Yes	6	0.00000001	0.00041418
31	Yes	6	0.00000001	0.00049902
32	Yes	6	0.00000001	0.00050520
33	Yes	6	0.00000001	0.00041046
34	Yes	6	0.00000001	0.00051172
35	Yes	6	0.00000001	0.00050333
36	Yes	6	0.00000001	0.00041459
37	Yes	6	0.00000001	0.00051841
38	Yes	6	0.00000001	0.00051252
39	Yes	4	0.00000001	0.00070575
40	Yes	5	0.00000001	0.00024540
41	Yes	5	0.00000001	0.00033825
42	Yes	5	0.00000001	0.00011440

43	Yes	5	0.00000001	0.00023429
44	Yes	5	0.00000001	0.00027858
45	Yes	4	0.00000001	0.00074640
46	Yes	5	0.00000001	0.00030500
47	Yes	5	0.00000001	0.00023759
48	Yes	5	0.00000001	0.00011013
49	Yes	5	0.00000001	0.00031873
50	Yes	5	0.00000001	0.00024929

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	110 - 105	18.918	41	1.5321	0.0102
L2	105 - 100	17.315	41	1.5271	0.0092
L3	100 - 98.5	15.730	41	1.4971	0.0078
L4	98.5 - 93.5	15.262	41	1.4843	0.0074
L5	93.5 - 88.5	13.735	41	1.4291	0.0064
L6	88.5 - 83.5	12.280	41	1.3463	0.0055
L7	83.5 - 78.67	10.924	41	1.2409	0.0047
L8	78.67 - 78.42	9.726	41	1.1252	0.0041
L9	78.42 - 73.42	9.667	41	1.1230	0.0040
L10	73.42 - 68.42	8.517	41	1.0734	0.0035
L11	68.42 - 63.42	7.422	41	1.0160	0.0031
L12	63.42 - 58.67	6.392	41	0.9507	0.0026
L13	58.67 - 58.42	5.480	41	0.8828	0.0023
L14	58.42 - 53.42	5.434	41	0.8792	0.0023
L15	53.42 - 47.12	4.553	41	0.8028	0.0019
L16	50.87 - 45.87	4.135	41	0.7620	0.0017
L17	45.87 - 40.87	3.358	41	0.7141	0.0016
L18	40.87 - 35.87	2.651	41	0.6366	0.0013
L19	35.87 - 30.87	2.026	41	0.5572	0.0011
L20	30.87 - 28.67	1.485	41	0.4762	0.0009
L21	28.67 - 28.42	1.274	41	0.4408	0.0008
L22	28.42 - 23.42	1.251	41	0.4368	0.0008
L23	23.42 - 18.42	0.836	41	0.3551	0.0006
L24	18.42 - 14.17	0.507	41	0.2735	0.0005
L25	14.17 - 13.92	0.295	41	0.2044	0.0003
L26	13.92 - 13.67	0.284	41	0.2011	0.0003
L27	13.67 - 13.42	0.274	41	0.1978	0.0003
L28	13.42 - 8.42	0.263	41	0.1939	0.0003
L29	8.42 - 5.75	0.101	41	0.1164	0.0002
L30	5.75 - 5.5	0.047	41	0.0756	0.0001
L31	5.5 - 3.57	0.043	41	0.0723	0.0001
L32	3.57 - 3.32	0.019	41	0.0495	0.0001
L33	3.32 - 3.17	0.016	41	0.0465	0.0001
L34	3.17 - 2.92	0.015	41	0.0447	0.0001
L35	2.92 - 2.75	0.013	41	0.0412	0.0001
L36	2.75 - 2.5	0.011	41	0.0389	0.0001
L37	2.5 - 0	0.009	41	0.0353	0.0001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
108.00	BXA-80080/4CF w/ Mount Pipe	41	18.276	1.5320	0.0099	15855
95.00	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	41	14.187	1.4485	0.0067	4624
79.00	7770.00 w/ Mount Pipe	41	9.804	1.1290	0.0041	3187
74.00	2.4" Dia. x 4-ft	41	8.647	1.0797	0.0036	5373
68.00	MX08FRO665-21 w/ Mount Pipe	41	7.333	1.0108	0.0031	4627
48.00	KS24019-L112A	41	3.682	0.7338	0.0016	4866

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	110 - 105	75.748	14	6.1354	0.0400
L2	105 - 100	69.338	14	6.1191	0.0361
L3	100 - 98.5	62.995	14	6.0024	0.0305
L4	98.5 - 93.5	61.120	14	5.9519	0.0291
L5	93.5 - 88.5	55.006	14	5.7320	0.0249
L6	88.5 - 83.5	49.177	14	5.4000	0.0214
L7	83.5 - 78.67	43.745	14	4.9764	0.0185
L8	78.67 - 78.42	38.948	14	4.5107	0.0160
L9	78.42 - 73.42	38.712	14	4.5019	0.0159
L10	73.42 - 68.42	34.104	14	4.3026	0.0139
L11	68.42 - 63.42	29.722	14	4.0720	0.0122
L12	63.42 - 58.67	25.596	14	3.8102	0.0104
L13	58.67 - 58.42	21.942	14	3.5377	0.0090
L14	58.42 - 53.42	21.757	14	3.5231	0.0089
L15	53.42 - 47.12	18.230	14	3.2165	0.0075
L16	50.87 - 45.87	16.556	14	3.0531	0.0069
L17	45.87 - 40.87	13.446	14	2.8608	0.0062
L18	40.87 - 35.87	10.614	14	2.5502	0.0052
L19	35.87 - 30.87	8.111	14	2.2317	0.0044
L20	30.87 - 28.67	5.944	14	1.9070	0.0036
L21	28.67 - 28.42	5.098	14	1.7651	0.0032
L22	28.42 - 23.42	5.006	14	1.7491	0.0032
L23	23.42 - 18.42	3.347	14	1.4215	0.0025
L24	18.42 - 14.17	2.030	14	1.0948	0.0018
L25	14.17 - 13.92	1.179	14	0.8180	0.0013
L26	13.92 - 13.67	1.136	14	0.8047	0.0013
L27	13.67 - 13.42	1.095	14	0.7914	0.0013
L28	13.42 - 8.42	1.054	14	0.7760	0.0013
L29	8.42 - 5.75	0.404	14	0.4655	0.0007
L30	5.75 - 5.5	0.189	14	0.3025	0.0005
L31	5.5 - 3.57	0.174	14	0.2891	0.0004
L32	3.57 - 3.32	0.075	14	0.1979	0.0003
L33	3.32 - 3.17	0.065	14	0.1860	0.0003
L34	3.17 - 2.92	0.059	14	0.1788	0.0003
L35	2.92 - 2.75	0.050	14	0.1649	0.0002
L36	2.75 - 2.5	0.045	14	0.1555	0.0002
L37	2.5 - 0	0.037	14	0.1413	0.0002

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
108.00	BXA-80080/4CF w/ Mount Pipe	14	73.181	6.1364	0.0396	4309
95.00	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	14	56.815	5.8095	0.0269	1191
79.00	7770.00 w/ Mount Pipe	14	39.261	4.5258	0.0164	807
74.00	2.4" Dia. x 4-ft	14	34.628	4.3279	0.0143	1359
68.00	MX08FRO665-21 w/ Mount Pipe	14	29.365	4.0513	0.0122	1165
48.00	KS24019-L112A	14	14.742	2.9399	0.0065	1219

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	110 - 105 (1)	TP13.6932x12.7x0.1875	5.00	0.00	0.0	8.0376	-2.74	470.20	0.006
L2	105 - 100 (2)	TP14.6863x13.6932x0.1875	5.00	0.00	0.0	8.6286	-2.94	504.77	0.006
L3	100 - 98.5 (3)	TP14.9843x14.6863x0.1875	1.50	0.00	0.0	8.8060	-3.00	515.15	0.006
L4	98.5 - 93.5 (4)	TP16.0115x14.9843x0.1875	5.00	0.00	0.0	9.4173	-7.40	550.91	0.013
L5	93.5 - 88.5 (5)	TP17.0387x16.0115x0.1875	5.00	0.00	0.0	10.0286	-7.71	586.67	0.013
L6	88.5 - 83.5 (6)	TP18.066x17.0387x0.1875	5.00	0.00	0.0	10.6399	-8.05	622.43	0.013
L7	83.5 - 78.67 (7)	TP19.0583x18.066x0.1875	4.83	0.00	0.0	11.2305	-11.10	656.98	0.017
L8	78.67 - 78.42 (8)	TP19.1096x19.0583x0.5625	0.25	0.00	0.0	33.1135	-11.15	1937.14	0.006
L9	78.42 - 73.42 (9)	TP20.1368x19.1096x0.5375	5.00	0.00	0.0	33.4369	-12.31	1956.06	0.006
L10	73.42 - 68.42 (10)	TP21.164x20.1368x0.5125	5.00	0.00	0.0	33.5934	-13.05	1965.21	0.007
L11	68.42 - 63.42 (11)	TP22.1913x21.164x0.4875	5.00	0.00	0.0	33.5828	-16.91	1964.59	0.009
L12	63.42 - 58.67 (12)	TP23.1671x22.1913x0.475	4.75	0.00	0.0	34.2118	-17.71	2001.39	0.009
L13	58.67 - 58.42 (13)	TP23.2185x23.1671x0.475	0.25	0.00	0.0	34.2892	-17.76	2005.92	0.009
L14	58.42 - 53.42 (14)	TP24.2457x23.2185x0.4625	5.00	0.00	0.0	34.9132	-18.63	2042.42	0.009
L15	53.42 - 47.12 (15)	TP25.54x24.2457x0.45	6.30	0.00	0.0	34.7357	-19.08	2032.04	0.009
L16	47.12 - 45.87 (16)	TP25.3633x24.3946x0.5125	5.00	0.00	0.0	40.4241	-20.60	2364.81	0.009
L17	45.87 - 40.87 (17)	TP26.332x25.3633x0.5	5.00	0.00	0.0	40.9953	-21.61	2398.23	0.009
L18	40.87 - 35.87 (18)	TP27.3006x26.332x0.4875	5.00	0.00	0.0	41.4887	-22.64	2427.09	0.009
L19	35.87 - 30.87 (19)	TP28.2693x27.3006x0.475	5.00	0.00	0.0	41.9041	-23.68	2451.39	0.010
L20	30.87 - 28.67 (20)	TP28.6956x28.2693x0.475	2.20	0.00	0.0	42.5467	-24.15	2488.98	0.010
L21	28.67 - 28.42 (21)	TP28.744x28.6956x0.475	0.25	0.00	0.0	42.6197	-24.21	2493.25	0.010
L22	28.42 - 23.42 (22)	TP29.7127x28.744x0.4625	5.00	0.00	0.0	42.9385	-25.28	2511.90	0.010
L23	23.42 - 18.42 (23)	TP30.6814x29.7127x0.4563	5.00	0.00	0.0	43.7701	-26.38	2560.55	0.010

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L24	18.42 - 14.17 (24)	TP31.5047x30.6814x0.45	4.25	0.00	0.0	44.3555	-27.32	2594.80	0.011
L25	14.17 - 13.92 (25)	TP31.5532x31.5047x0.55	0.25	0.00	0.0	54.1222	-27.40	3166.15	0.009
L26	13.92 - 13.67 (26)	TP31.6016x31.5532x0.55	0.25	0.00	0.0	54.2068	-27.46	3171.10	0.009
L27	13.67 - 13.42 (27)	TP31.65x31.6016x0.4688	0.25	0.00	0.0	46.3919	-27.52	2713.93	0.010
L28	13.42 - 8.42 (28)	TP32.6187x31.65x0.4625	5.00	0.00	0.0	47.2045	-28.73	2761.47	0.010
L29	8.42 - 5.75 (29)	TP33.136x32.6187x0.4625	2.67	0.00	0.0	47.9639	-29.38	2805.89	0.010
L30	5.75 - 5.5 (30)	TP33.1844x33.136x0.525	0.25	0.00	0.0	54.4221	-29.46	3183.69	0.009
L31	5.5 - 3.57 (31)	TP33.5584x33.1844x0.5875	1.93	0.00	0.0	61.4816	-30.03	3596.67	0.008
L32	3.57 - 3.32 (32)	TP33.6068x33.5584x0.5875	0.25	0.00	0.0	61.5719	-30.12	3601.96	0.008
L33	3.32 - 3.17 (33)	TP33.6359x33.6068x0.5875	0.15	0.00	0.0	61.6261	-30.17	3605.13	0.008
L34	3.17 - 2.92 (34)	TP33.6843x33.6359x0.5	0.25	0.00	0.0	52.6635	-30.24	3080.81	0.010
L35	2.92 - 2.75 (35)	TP33.7172x33.6843x0.5	0.17	0.00	0.0	52.7157	-30.28	3083.87	0.010
L36	2.75 - 2.5 (36)	TP33.7657x33.7172x0.4875	0.25	0.00	0.0	51.4921	-30.34	3012.29	0.010
L37	2.5 - 0 (37)	TP34.25x33.7657x0.4875	2.50	0.00	0.0	52.2416	-30.95	3056.13	0.010

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	110 - 105 (1)	TP13.6932x12.7x0.1875	9.04	164.86	0.055	0.00	164.86	0.000
L2	105 - 100 (2)	TP14.6863x13.6932x0.1875	26.63	190.17	0.140	0.00	190.17	0.000
L3	100 - 98.5 (3)	TP14.9843x14.6863x0.1875	32.11	198.12	0.162	0.00	198.12	0.000
L4	98.5 - 93.5 (4)	TP16.0115x14.9843x0.1875	57.56	226.77	0.254	0.00	226.77	0.000
L5	93.5 - 88.5 (5)	TP17.0387x16.0115x0.1875	97.66	257.35	0.380	0.00	257.35	0.000
L6	88.5 - 83.5 (6)	TP18.066x17.0387x0.1875	138.73	289.65	0.479	0.00	289.65	0.000
L7	83.5 - 78.67 (7)	TP19.0583x18.066x0.1875	178.16	318.58	0.559	0.00	318.58	0.000
L8	78.67 - 78.42 (8)	TP19.1096x19.0583x0.5625	181.14	917.83	0.197	0.00	917.83	0.000
L9	78.42 - 73.42 (9)	TP20.1368x19.1096x0.5375	241.39	982.13	0.246	0.00	982.13	0.000
L10	73.42 - 68.42 (10)	TP21.164x20.1368x0.5125	304.54	1042.35	0.292	0.00	1042.35	0.000
L11	68.42 - 63.42 (11)	TP22.1913x21.164x0.4875	382.67	1097.63	0.349	0.00	1097.63	0.000
L12	63.42 - 58.67 (12)	TP23.1671x22.1913x0.475	459.21	1170.87	0.392	0.00	1170.87	0.000
L13	58.67 - 58.42 (13)	TP23.2185x23.1671x0.475	463.27	1176.22	0.394	0.00	1176.22	0.000
L14	58.42 - 53.42 (14)	TP24.2457x23.2185x0.4625	545.00	1254.14	0.435	0.00	1254.14	0.000
L15	53.42 - 47.12 (15)	TP25.54x24.2457x0.45	587.11	1277.09	0.460	0.00	1277.09	0.000
L16	47.12 - 45.87 (16)	TP25.3633x24.3946x0.5125	670.97	1515.54	0.443	0.00	1515.54	0.000
L17	45.87 - 40.87 (17)	TP26.332x25.3633x0.5	756.10	1599.63	0.473	0.00	1599.63	0.000
L18	40.87 - 35.87 (18)	TP27.3006x26.332x0.4875	842.27	1682.30	0.501	0.00	1682.30	0.000
L19	35.87 - 30.87 (19)	TP28.2693x27.3006x0.475	929.43	1763.22	0.527	0.00	1763.22	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L20	30.87 - 28.67 (20)	TP28.6956x28.2693x0.475	968.08	1818.17	0.532	0.00	1818.17	0.000
L21	28.67 - 28.42 (21)	TP28.744x28.6956x0.475	972.49	1824.47	0.533	0.00	1824.47	0.000
L22	28.42 - 23.42 (22)	TP29.7127x28.744x0.4625	1061.02	1903.77	0.557	0.00	1903.77	0.000
L23	23.42 - 18.42 (23)	TP30.6814x29.7127x0.4563	1150.38	2006.74	0.573	0.00	2006.74	0.000
L24	18.42 - 14.17 (24)	TP31.5047x30.6814x0.45	1226.94	2090.64	0.587	0.00	2090.64	0.000
L25	14.17 - 13.92 (25)	TP31.5532x31.5047x0.55	1231.47	2538.62	0.485	0.00	2538.62	0.000
L26	13.92 - 13.67 (26)	TP31.6016x31.5532x0.55	1235.98	2546.63	0.485	0.00	2546.63	0.000
L27	13.67 - 13.42 (27)	TP31.65x31.6016x0.4688	1240.51	2194.37	0.565	0.00	2194.37	0.000
L28	13.42 - 8.42 (28)	TP32.6187x31.65x0.4625	1331.36	2304.09	0.578	0.00	2304.09	0.000
L29	8.42 - 5.75 (29)	TP33.136x32.6187x0.4625	1380.17	2379.35	0.580	0.00	2379.35	0.000
L30	5.75 - 5.5 (30)	TP33.1844x33.136x0.525	1384.74	2693.46	0.514	0.00	2693.46	0.000
L31	5.5 - 3.57 (31)	TP33.5584x33.1844x0.5875	1420.18	3066.60	0.463	0.00	3066.60	0.000
L32	3.57 - 3.32 (32)	TP33.6068x33.5584x0.5875	1424.78	3075.69	0.463	0.00	3075.69	0.000
L33	3.32 - 3.17 (33)	TP33.6359x33.6068x0.5875	1427.54	3081.16	0.463	0.00	3081.16	0.000
L34	3.17 - 2.92 (34)	TP33.6843x33.6359x0.5	1432.14	2650.93	0.540	0.00	2650.93	0.000
L35	2.92 - 2.75 (35)	TP33.7172x33.6843x0.5	1435.28	2656.24	0.540	0.00	2656.24	0.000
L36	2.75 - 2.5 (36)	TP33.7657x33.7172x0.4875	1439.88	2600.38	0.554	0.00	2600.38	0.000
L37	2.5 - 0 (37)	TP34.25x33.7657x0.4875	1486.04	2677.18	0.555	0.00	2677.18	0.000

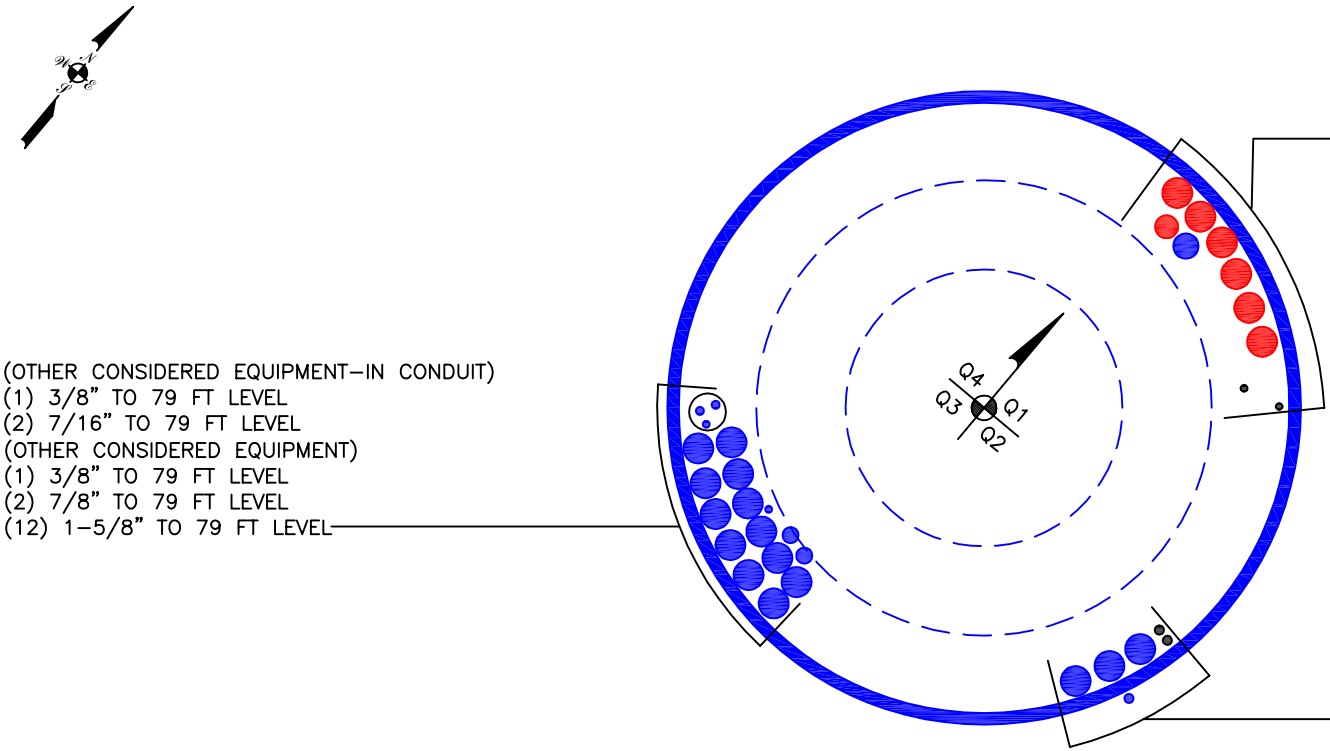
Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	110 - 105 (1)	TP13.6932x12.7x0.1875	3.42	141.06	0.024	0.04	166.84	0.000
L2	105 - 100 (2)	TP14.6863x13.6932x0.1875	3.62	151.43	0.024	0.04	192.28	0.000
L3	100 - 98.5 (3)	TP14.9843x14.6863x0.1875	3.68	154.54	0.024	0.04	200.26	0.000
L4	98.5 - 93.5 (4)	TP16.0115x14.9843x0.1875	7.93	165.27	0.048	0.04	229.03	0.000
L5	93.5 - 88.5 (5)	TP17.0387x16.0115x0.1875	8.12	176.00	0.046	0.04	259.73	0.000
L6	88.5 - 83.5 (6)	TP18.066x17.0387x0.1875	8.32	186.73	0.045	0.04	292.37	0.000
L7	83.5 - 78.67 (7)	TP19.0583x18.066x0.1875	11.90	197.09	0.060	0.42	325.72	0.001
L8	78.67 - 78.42 (8)	TP19.1096x19.0583x0.5625	11.91	581.14	0.020	0.42	943.92	0.000
L9	78.42 - 73.42 (9)	TP20.1368x19.1096x0.5375	12.32	586.82	0.021	0.42	1007.23	0.000
L10	73.42 - 68.42 (10)	TP21.164x20.1368x0.5125	12.92	589.56	0.022	0.43	1066.26	0.000
L11	68.42 - 63.42 (11)	TP22.1913x21.164x0.4875	16.01	589.38	0.027	0.43	1120.23	0.000
L12	63.42 - 58.67 (12)	TP23.1671x22.1913x0.475	16.23	600.42	0.027	0.42	1193.18	0.000
L13	58.67 - 58.42 (13)	TP23.2185x23.1671x0.475	16.24	601.78	0.027	0.42	1198.59	0.000
L14	58.42 - 53.42 (14)	TP24.2457x23.2185x0.4625	16.47	612.73	0.027	0.42	1276.19	0.000
L15	53.42 - 47.12 (15)	TP25.54x24.2457x0.45	16.58	609.61	0.027	0.42	1298.34	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L16	47.12 - 45.87 (16)	TP25.3633x24.3946x0.5125	16.93	709.44	0.024	0.28	1543.97	0.000
L17	45.87 - 40.87 (17)	TP26.332x25.3633x0.5	17.14	719.47	0.024	0.28	1627.60	0.000
L18	40.87 - 35.87 (18)	TP27.3006x26.332x0.4875	17.35	728.13	0.024	0.28	1709.76	0.000
L19	35.87 - 30.87 (19)	TP28.2693x27.3006x0.475	17.54	735.42	0.024	0.28	1790.07	0.000
L20	30.87 - 28.67 (20)	TP28.6956x28.2693x0.475	17.63	746.70	0.024	0.28	1845.39	0.000
L21	28.67 - 28.42 (21)	TP28.744x28.6956x0.475	17.62	747.98	0.024	0.28	1851.73	0.000
L22	28.42 - 23.42 (22)	TP29.7127x28.744x0.4625	17.81	753.57	0.024	0.28	1930.33	0.000
L23	23.42 - 18.42 (23)	TP30.6814x29.7127x0.4563	17.97	768.17	0.023	0.28	2033.31	0.000
L24	18.42 - 14.17 (24)	TP31.5047x30.6814x0.45	18.09	778.44	0.023	0.28	2117.06	0.000
L25	14.17 - 13.92 (25)	TP31.5532x31.5047x0.55	18.09	949.85	0.019	0.28	2578.93	0.000
L26	13.92 - 13.67 (26)	TP31.6016x31.5532x0.55	18.10	951.33	0.019	0.28	2586.99	0.000
L27	13.67 - 13.42 (27)	TP31.65x31.6016x0.4688	18.10	814.18	0.022	0.28	2223.28	0.000
L28	13.42 - 8.42 (28)	TP32.6187x31.65x0.4625	18.26	828.44	0.022	0.28	2332.95	0.000
L29	8.42 - 5.75 (29)	TP33.136x32.6187x0.4625	18.34	841.77	0.022	0.28	2408.62	0.000
L30	5.75 - 5.5 (30)	TP33.1844x33.136x0.525	18.33	955.11	0.019	0.28	2731.75	0.000
L31	5.5 - 3.57 (31)	TP33.5584x33.1844x0.5875	18.42	1079.00	0.017	0.28	3115.53	0.000
L32	3.57 - 3.32 (32)	TP33.6068x33.5584x0.5875	18.41	1080.59	0.017	0.28	3124.69	0.000
L33	3.32 - 3.17 (33)	TP33.6359x33.6068x0.5875	18.41	1081.54	0.017	0.28	3130.20	0.000
L34	3.17 - 2.92 (34)	TP33.6843x33.6359x0.5	18.42	924.24	0.020	0.28	2685.96	0.000
L35	2.92 - 2.75 (35)	TP33.7172x33.6843x0.5	18.42	925.16	0.020	0.28	2691.29	0.000
L36	2.75 - 2.5 (36)	TP33.7657x33.7172x0.4875	18.43	903.69	0.020	0.28	2633.64	0.000
L37	2.5 - 0 (37)	TP34.25x33.7657x0.4875	18.52	916.84	0.020	0.28	2710.87	0.000

APPENDIX B

BASE LEVEL DRAWING



(OTHER CONSIDERED EQUIPMENT)
(2) 3/8" TO GROUND
(1) 1-3/8" TO 68 FT LEVEL
(PRPOSED EQUIPMENT CONFIGURATION)
(1) 1-1/4" TO 108 FT LEVEL
(6) 1-5/8" TO 108 FT LEVEL

(OTHER CONSIDERED EQUIPMENT-IN CONDUIT)
(1) 3/8" TO 79 FT LEVEL
(2) 7/16" TO 79 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 79 FT LEVEL
(2) 7/8" TO 79 FT LEVEL
(12) 1-5/8" TO 79 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(2) 1/2" TO GROUND
(1) 1/2" TO 48 FT LEVEL
(3) 1-5/8" TO 95 FT LEVEL

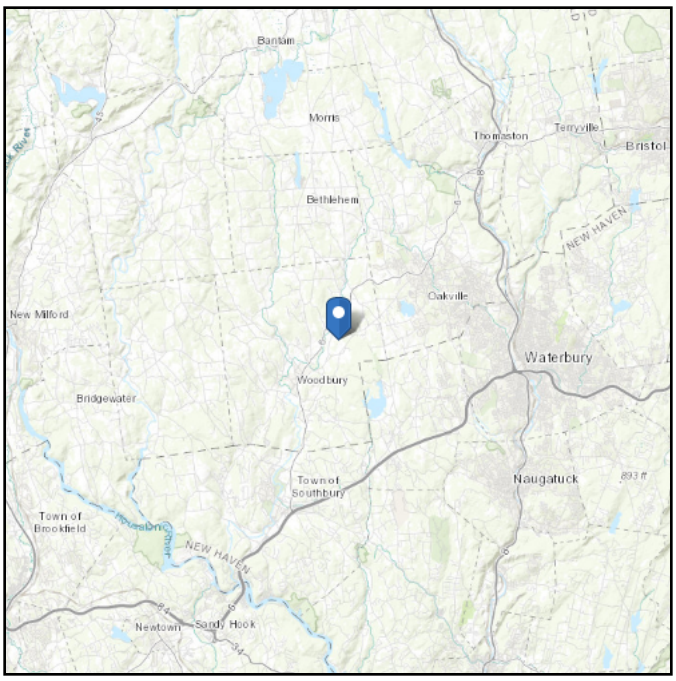
APPENDIX C

ADDITIONAL CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.567997
Risk Category:	II	**Longitude:**	-73.179681
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	459.9551851188279 ft (NAVD 88)



Wind

Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	89 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Fri Jul 21 2023

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Seismic

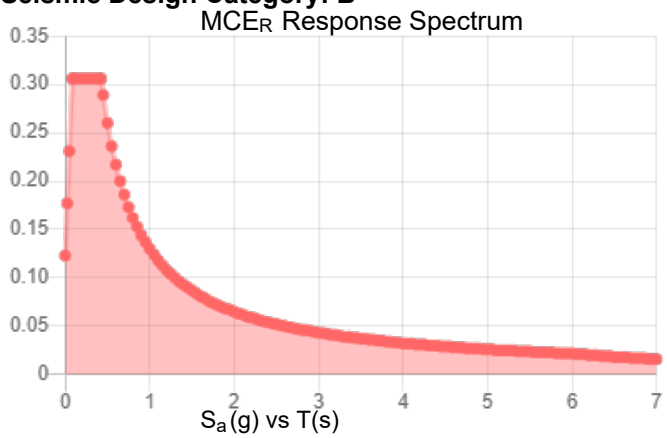
D - Default (see Section 11.4.3)

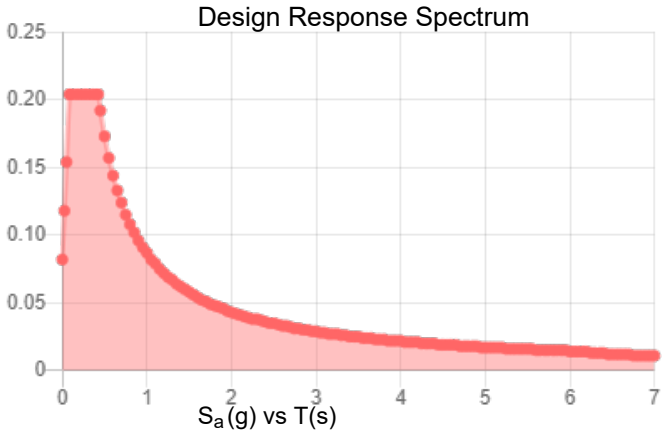
Site Soil Class:

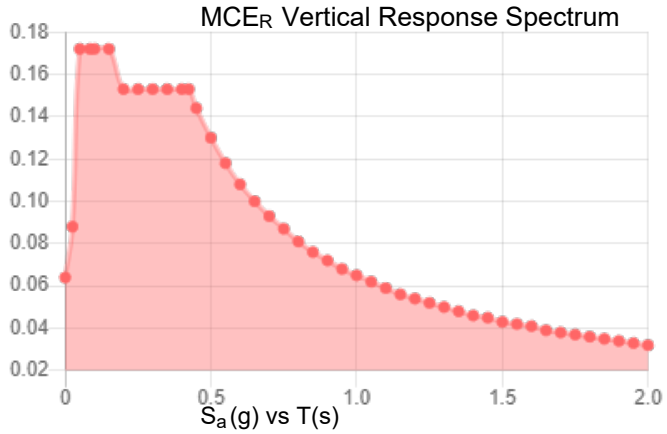
Results:

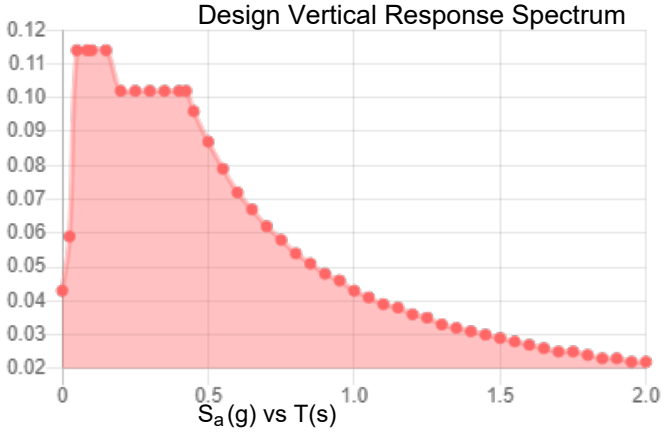
S_S :	0.192	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.105
F_v :	2.4	PGA_M :	0.168
S_{MS} :	0.306	F_{PGA} :	1.589
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.204	C_v :	0.7

Seismic Design Category: B









Data Accessed: **Fri Jul 21 2023**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Fri Jul 21 2023

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

CCIpole

per TIA-222- H

Site BU: 876405

Work Order: 2246415

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	110	11.5	0	18	12.7	14.9843	0.1875	Auto	A572-65
2	98.5	51.38	3.75	18	14.98	25.54	0.1875	Auto	A572-65
3	50.87	50.87	0	18	24.39	34.25	0.25	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	3.58	plate	1.25x6.00 (65 ksi) (M	6		-2.5				2.5		x				1		-1				-1
2	2.75	5.75	channel	MP3-05 (1.25in)	1													x					
3	3.67	28.67	channel	MP3-05 (1.25in)	2	x						x											
4	28.67	58.67	channel	MP3-05 (1.25in)	3	x						x						x					
5	58.67	78.67	channel	MP3-05 (1.25in)	3	x						x						x					
6	3.17	14.17	channel	MP3-08.5 (1.25")	2											x				x			
7	13.67	28.67	channel	MP3-05 (1.25in)	1													x					
8																							
9																							
10																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in2)	Bolt Hole Size (in)	Reinforcement Material
1	1.25	2.75	3.4375	2.125	Welded	n/a	Welded	n/a	0.750	3.438	0.0000	A572-65
2	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	4.994	1.2500	A572-65
3	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	4.994	1.2500	A572-65
4	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	4.994	1.2500	A572-65
5	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	4.994	1.2500	A572-65
6	3.84	2.8	4.96	0.48	Capacity Input	n/a	PC 8.8 - M20 (100)	23.000	18.000	3.986	1.2190	A572-65
7	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	4.994	1.2500	A572-65

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
MP3-08.5 (1.25")	Top	8	N	3	2	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-	0	0	0	0	0	0	-	-	1000
(TS) 1.25x6.00 (65 ksi) (MOD)	Top	-	-	-	-	70	None	-	-	-	-	36	0.250	-
	Bottom	-	-	-	-	70	PJP Groove	11.5	0.5	45	0.5	-	-	-

TNX Geometry Input

Increment (ft): 5 Export to TNX

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	110 - 105	5		18	12.700	13.693	0.1875	A572-65	1.000
2	105 - 100	5		18	13.693	14.686	0.1875	A572-65	1.000
3	100 - 98.5	1.5	0	18	14.686	14.984	0.1875	A572-65	1.000
4	98.5 - 93.5	5		18	14.984	16.012	0.1875	A572-65	1.000
5	93.5 - 88.5	5		18	16.012	17.039	0.1875	A572-65	1.000
6	88.5 - 83.5	5		18	17.039	18.066	0.1875	A572-65	1.000
7	83.5 - 78.67	4.83		18	18.066	19.058	0.1875	A572-65	1.000
8	78.67 - 78.42	0.25		18	19.058	19.110	0.5625	A572-65	0.852
9	78.42 - 73.42	5		18	19.110	20.137	0.5375	A572-65	0.862
10	73.42 - 68.42	5		18	20.137	21.164	0.5125	A572-65	0.876
11	68.42 - 63.42	5		18	21.164	22.191	0.4875	A572-65	0.895
12	63.42 - 58.67	4.75		18	22.191	23.167	0.475	A572-65	0.895
13	58.67 - 58.42	0.25		18	23.167	23.218	0.475	A572-65	0.894
14	58.42 - 53.42	5		18	23.218	24.246	0.4625	A572-65	0.896
15	53.42 - 50.87	6.3	3.75	18	24.246	25.540	0.45	A572-65	0.909
16	50.87 - 45.87	5		18	24.395	25.363	0.5125	A572-65	0.912
17	45.87 - 40.87	5		18	25.363	26.332	0.5	A572-65	0.918
18	40.87 - 35.87	5		18	26.332	27.301	0.4875	A572-65	0.926
19	35.87 - 30.87	5		18	27.301	28.269	0.475	A572-65	0.935
20	30.87 - 28.67	2.2		18	28.269	28.696	0.475	A572-65	0.929
21	28.67 - 28.42	0.25		18	28.696	28.744	0.475	A572-65	0.928
22	28.42 - 23.42	5		18	28.744	29.713	0.4625	A572-65	0.939
23	23.42 - 18.42	5		18	29.713	30.681	0.45625	A572-65	0.939
24	18.42 - 14.17	4.25		18	30.681	31.505	0.45	A572-65	0.941
25	14.17 - 13.92	0.25		18	31.505	31.553	0.55	A572-65	0.955
26	13.92 - 13.67	0.25		18	31.553	31.602	0.55	A572-65	0.955
27	13.67 - 13.42	0.25		18	31.602	31.650	0.46875	A572-65	0.994
28	13.42 - 8.42	5		18	31.650	32.619	0.4625	A572-65	0.994
29	8.42 - 5.75	2.67		18	32.619	33.136	0.4625	A572-65	0.986
30	5.75 - 5.5	0.25		18	33.136	33.184	0.525	A572-65	0.974
31	5.5 - 3.57	1.93		18	33.184	33.558	0.5875	A572-65	1.019
32	3.57 - 3.32	0.25		18	33.558	33.607	0.5875	A572-65	1.018
33	3.32 - 3.17	0.15		18	33.607	33.636	0.5875	A572-65	1.017
34	3.17 - 2.92	0.25		18	33.636	33.684	0.5	A572-65	1.003
35	2.92 - 2.75	0.17		18	33.684	33.717	0.5	A572-65	1.002
36	2.75 - 2.5	0.25		18	33.717	33.766	0.4875	A572-65	0.917
37	2.5 - 0	2.5		18	33.766	34.250	0.4875	A572-65	0.911

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	110 - 105	2.74	9.04	3.42
2	105 - 100	2.94	26.63	3.62
3	100 - 98.5	3.00	32.11	3.68
4	98.5 - 93.5	7.40	57.56	7.93
5	93.5 - 88.5	7.71	97.66	8.12
6	88.5 - 83.5	8.05	138.73	8.32
7	83.5 - 78.67	11.10	178.16	11.90
8	78.67 - 78.42	11.15	181.14	11.91
9	78.42 - 73.42	12.31	241.39	12.32
10	73.42 - 68.42	13.05	304.54	12.92
11	68.42 - 63.42	16.91	382.67	16.01
12	63.42 - 58.67	17.71	459.21	16.23
13	58.67 - 58.42	17.76	463.27	16.24
14	58.42 - 53.42	18.63	545.00	16.47
15	53.42 - 50.87	19.08	587.11	16.58
16	50.87 - 45.87	20.60	670.97	16.93
17	45.87 - 40.87	21.61	756.10	17.14
18	40.87 - 35.87	22.64	842.27	17.35
19	35.87 - 30.87	23.68	929.43	17.54
20	30.87 - 28.67	24.15	968.08	17.63
21	28.67 - 28.42	24.21	972.49	17.62
22	28.42 - 23.42	25.28	1061.02	17.81
23	23.42 - 18.42	26.38	1150.39	17.97
24	18.42 - 14.17	27.32	1226.94	18.09
25	14.17 - 13.92	27.40	1231.46	18.09
26	13.92 - 13.67	27.46	1235.99	18.10
27	13.67 - 13.42	27.52	1240.51	18.10
28	13.42 - 8.42	28.73	1331.36	18.26
29	8.42 - 5.75	29.38	1380.16	18.34
30	5.75 - 5.5	29.46	1384.74	18.33
31	5.5 - 3.57	30.03	1420.18	18.42
32	3.57 - 3.32	30.12	1424.78	18.41
33	3.32 - 3.17	30.17	1427.54	18.41
34	3.17 - 2.92	30.24	1432.14	18.42
35	2.92 - 2.75	30.28	1435.27	18.42
36	2.75 - 2.5	30.34	1439.88	18.43
37	2.5 - 0	30.95	1486.04	18.52

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
110 - 105	Pole	TP13.693x12.7x0.1875	Pole	5.8%	Pass
105 - 100	Pole	TP14.686x13.693x0.1875	Pole	13.9%	Pass
100 - 98.5	Pole	TP14.984x14.686x0.1875	Pole	16.0%	Pass
98.5 - 93.5	Pole	TP16.012x14.984x0.1875	Pole	25.7%	Pass
93.5 - 88.5	Pole	TP17.039x16.012x0.1875	Pole	37.6%	Pass
88.5 - 83.5	Pole	TP18.066x17.039x0.1875	Pole	47.0%	Pass
83.5 - 78.67	Pole	TP19.058x18.066x0.1875	Pole	55.2%	Pass
78.67 - 78.42	Pole + Reinf.	TP19.11x19.058x0.5625	Reinf. 5 Bolt-Shaft Bearing	30.1%	Pass
78.42 - 73.42	Pole + Reinf.	TP20.137x19.11x0.5375	Reinf. 5 Tension Rupture	37.0%	Pass
73.42 - 68.42	Pole + Reinf.	TP21.164x20.137x0.5125	Reinf. 5 Tension Rupture	43.5%	Pass
68.42 - 63.42	Pole + Reinf.	TP22.191x21.164x0.4875	Reinf. 5 Tension Rupture	51.3%	Pass
63.42 - 58.67	Pole + Reinf.	TP23.167x22.191x0.475	Reinf. 5 Bolt-Shaft Bearing	58.3%	Pass
58.67 - 58.42	Pole + Reinf.	TP23.218x23.167x0.475	Reinf. 4 Bolt-Shaft Bearing	58.6%	Pass
58.42 - 53.42	Pole + Reinf.	TP24.246x23.218x0.4625	Reinf. 4 Tension Rupture	64.3%	Pass
53.42 - 50.87	Pole + Reinf.	TP25.54x24.246x0.45	Reinf. 4 Tension Rupture	67.2%	Pass
50.87 - 45.87	Pole + Reinf.	TP25.363x24.395x0.5125	Reinf. 4 Tension Rupture	65.0%	Pass
45.87 - 40.87	Pole + Reinf.	TP26.332x25.363x0.5	Reinf. 4 Tension Rupture	69.1%	Pass
40.87 - 35.87	Pole + Reinf.	TP27.301x26.332x0.4875	Reinf. 4 Tension Rupture	72.8%	Pass
35.87 - 30.87	Pole + Reinf.	TP28.269x27.301x0.475	Reinf. 4 Tension Rupture	76.1%	Pass
30.87 - 28.67	Pole + Reinf.	TP28.696x28.269x0.475	Reinf. 4 Tension Rupture	77.4%	Pass
28.67 - 28.42	Pole + Reinf.	TP28.744x28.696x0.475	Reinf. 7 Tension Rupture	77.6%	Pass
28.42 - 23.42	Pole + Reinf.	TP29.713x28.744x0.4625	Reinf. 7 Tension Rupture	80.4%	Pass
23.42 - 18.42	Pole + Reinf.	TP30.681x29.713x0.4563	Reinf. 7 Tension Rupture	82.9%	Pass
18.42 - 14.17	Pole + Reinf.	TP31.505x30.681x0.45	Reinf. 7 Tension Rupture	84.7%	Pass
14.17 - 13.92	Pole + Reinf.	TP31.553x31.505x0.55	Reinf. 3 Tension Rupture	75.4%	Pass
13.92 - 13.67	Pole + Reinf.	TP31.602x31.553x0.55	Reinf. 3 Tension Rupture	75.5%	Pass
13.67 - 13.42	Pole + Reinf.	TP31.65x31.602x0.4688	Reinf. 6 Tension Rupture	84.1%	Pass
13.42 - 8.42	Pole + Reinf.	TP32.619x31.65x0.4625	Reinf. 6 Tension Rupture	86.2%	Pass
8.42 - 5.75	Pole + Reinf.	TP33.136x32.619x0.4625	Reinf. 6 Tension Rupture	87.2%	Pass
5.75 - 5.5	Pole + Reinf.	TP33.184x33.136x0.525	Reinf. 3 Tension Rupture	78.5%	Pass
5.5 - 3.57	Pole + Reinf.	TP33.558x33.184x0.5875	Reinf. 1 Compression	65.0%	Pass
3.57 - 3.32	Pole + Reinf.	TP33.607x33.558x0.5875	Reinf. 1 Compression	65.1%	Pass
3.32 - 3.17	Pole + Reinf.	TP33.636x33.607x0.5875	Reinf. 1 Compression	65.1%	Pass
3.17 - 2.92	Pole + Reinf.	TP33.684x33.636x0.5	Reinf. 1 Compression	74.8%	Pass
2.92 - 2.75	Pole + Reinf.	TP33.717x33.684x0.5	Reinf. 1 Compression	74.9%	Pass
2.75 - 2.5	Pole + Reinf.	TP33.766x33.717x0.4875	Reinf. 1 Compression	74.3%	Pass
2.5 - 0	Pole + Reinf.	TP34.25x33.766x0.4875	Reinf. 1 Compression	75.0%	Pass
				Summary	
			Pole	64.5%	Pass
			Reinforcement	87.2%	Pass
			Overall	87.2%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity* (100% Max. Allowable)							
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7
110 - 105	185	n/a	185	8.04	n/a	8.04	5.8%							
105 - 100	229	n/a	229	8.63	n/a	8.63	13.9%							
100 - 98.5	244	n/a	244	8.81	n/a	8.81	16.0%							
98.5 - 93.5	298	n/a	298	9.42	n/a	9.42	25.7%							
93.5 - 88.5	360	n/a	360	10.03	n/a	10.03	37.6%							
88.5 - 83.5	430	n/a	430	10.64	n/a	10.64	47.0%							
83.5 - 78.67	505	n/a	505	11.23	n/a	11.23	55.2%							
78.67 - 78.42	509	918	1427	11.26	16.95	28.21	19.6%					30.1%		
78.42 - 73.42	597	1010	1607	11.87	16.95	28.82	24.7%					37.0%		
73.42 - 68.42	694	1107	1801	12.48	16.95	29.43	29.5%					43.5%		
68.42 - 63.42	801	1208	2009	13.09	16.95	30.04	35.5%					51.3%		
63.42 - 58.67	912	1308	2220	13.68	16.95	30.63	40.6%					58.3%		
58.67 - 58.42	918	1314	2232	13.71	16.95	30.66	40.9%				58.6%			
58.42 - 53.42	1047	1424	2471	14.32	16.95	31.27	46.0%				64.3%			
53.42 - 50.87	1116	1482	2598	14.63	16.95	31.58	48.4%				67.2%			
50.87 - 45.87	1587	1549	3136	19.93	16.95	36.88	43.3%				65.0%			
45.87 - 40.87	1778	1661	3440	20.70	16.95	37.65	46.6%				69.1%			
40.87 - 35.87	1984	1778	3762	21.46	16.95	38.41	49.7%				72.8%			
35.87 - 30.87	2204	1899	4103	22.23	16.95	39.18	52.5%				76.1%			
30.87 - 28.67	2307	1953	4259	22.57	16.95	39.52	53.7%				77.4%			
28.67 - 28.42	2318	1959	4277	22.61	16.95	39.56	53.9%			77.6%				77.6%
28.42 - 23.42	2563	2086	4649	23.38	16.95	40.33	56.4%			80.4%				80.4%
23.42 - 18.42	2824	2216	5040	24.15	16.95	41.10	58.9%			82.9%				82.9%
18.42 - 14.17	3060	2330	5390	24.80	16.95	41.75	60.8%			84.7%				84.7%
14.17 - 13.92	3121	3438	6559	24.84	26.87	51.71	55.1%			75.4%			67.9%	59.1%
13.92 - 13.67	3135	3448	6583	24.88	26.87	51.75	55.2%			75.5%			68.0%	59.2%
13.67 - 13.42	3110	2599	5710	24.92	21.22	46.14	61.2%			76.9%			84.1%	
13.42 - 8.42	3407	2754	6161	25.68	21.22	46.90	63.4%			78.8%			86.2%	
8.42 - 5.75	3573	2838	6411	26.09	21.22	47.31	64.5%			79.8%			87.2%	
5.75 - 5.5	3631	3787	7419	26.13	26.87	53.00	58.5%		61.8%	78.5%			71.1%	
5.5 - 3.57	3723	4793	8516	26.43	36.20	62.62	51.5%	65.0%	43.6%				58.2%	
3.57 - 3.32	3740	4805	8545	26.47	36.20	62.66	51.6%	65.1%	43.6%				58.3%	
3.32 - 3.17	3749	4813	8562	26.49	36.20	62.69	51.6%	65.1%	43.7%				58.4%	
3.17 - 2.92	3747	3538	7285	26.53	26.28	52.80	58.3%	74.8%	55.5%					
2.92 - 2.75	3758	3544	7302	26.56	26.28	52.83	58.3%	74.9%	55.5%					
2.75 - 2.5	3773	3499	7272	26.59	20.63	47.22	58.4%	74.3%						
2.5 - 0	3939	3591	7530	26.98	20.63	47.60	59.3%	75.0%						

Note: Section capacity checked assuming all reinforcements are effective and using 5 degree increments.

**Rating per TIA-222-H Section 15.5.*

Monopole Flange Plate Connection

Elevation = 98.5 ft.

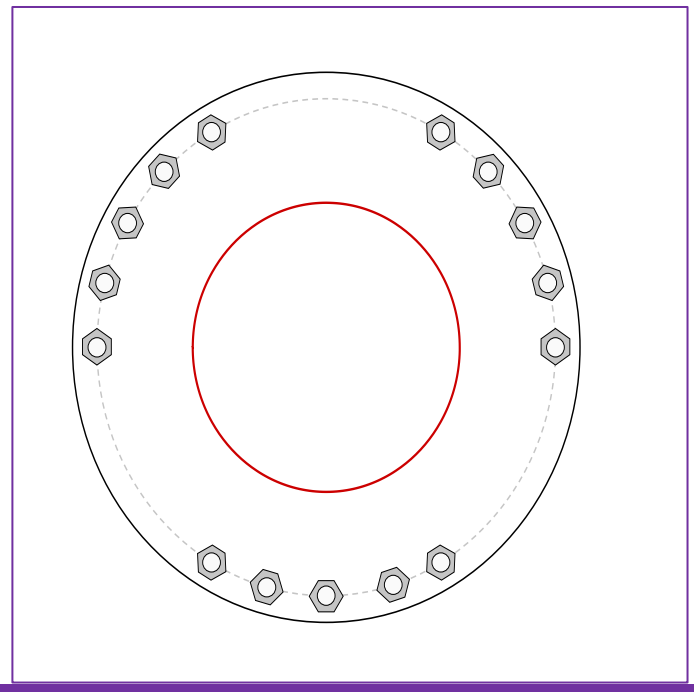
BU #	876405
Site Name	Woodbury North
Order #	654617 Rev.0

TIA-222 Revision	H

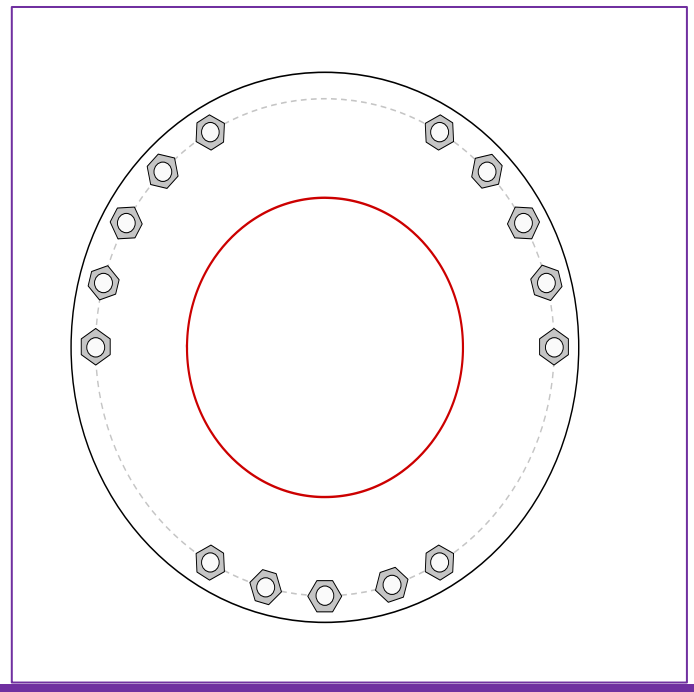
Applied Loads	
Moment (kip-ft)	32.11
Axial Force (kips)	3.00
Shear Force (kips)	3.68

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(15) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 25.75" BC

Top Plate Data

28.5" OD x 1" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Bottom Plate Data

28.5" OD x 1" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

14.9843" x 0.1875" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Bottom Pole Data

15.5" x 0.1875" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	3.81	
Allowable (kips)	54.54	
Stress Rating:	**6.7%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	17.06	(Flexural)
Allowable Stress (ksi):	54.00	
Stress Rating:	**30.1%**	**Pass**
Tension Side Stress Rating:	**44.6%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	16.39	(Flexural)
Allowable Stress (ksi):	54.00	
Stress Rating:	**28.9%**	**Pass**
Tension Side Stress Rating:	**40.2%**	**Pass**

CCIplate

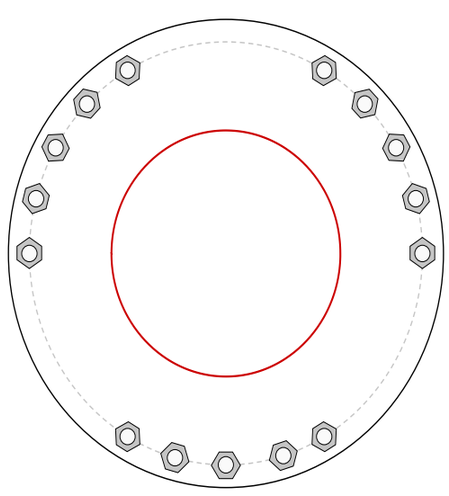
Elevation (ft)	98.5	*(Flange)*

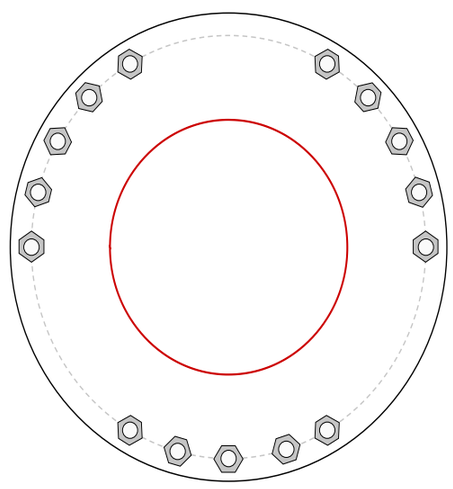
Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending
1	Yes	Yes	Yes

Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	I_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	0	1	A325	25.75	0.5	0	N-Included		No
2	1	15	1	A325	25.75	0.5	0	N-Included		No
3	1	30	1	A325	25.75	0.5	0	N-Included		No
4	1	45	1	A325	25.75	0.5	0	N-Included		No
5	1	60	1	A325	25.75	0.5	0	N-Included		No
6	1	120	1	A325	25.75	0.5	0	N-Included		No
7	1	135	1	A325	25.75	0.5	0	N-Included		No
8	1	150	1	A325	25.75	0.5	0	N-Included		No
9	1	165	1	A325	25.75	0.5	0	N-Included		No
10	1	180	1	A325	25.75	0.5	0	N-Included		No
11	1	240	1	A325	25.75	0.5	0	N-Included		No
12	1	255	1	A325	25.75	0.5	0	N-Included		No
13	1	270	1	A325	25.75	0.5	0	N-Included		No
14	1	287	1	A325	25.75	0.5	0	N-Included		No
15	1	300	1	A325	25.75	0.5	0	N-Included		No

Plot Graphic





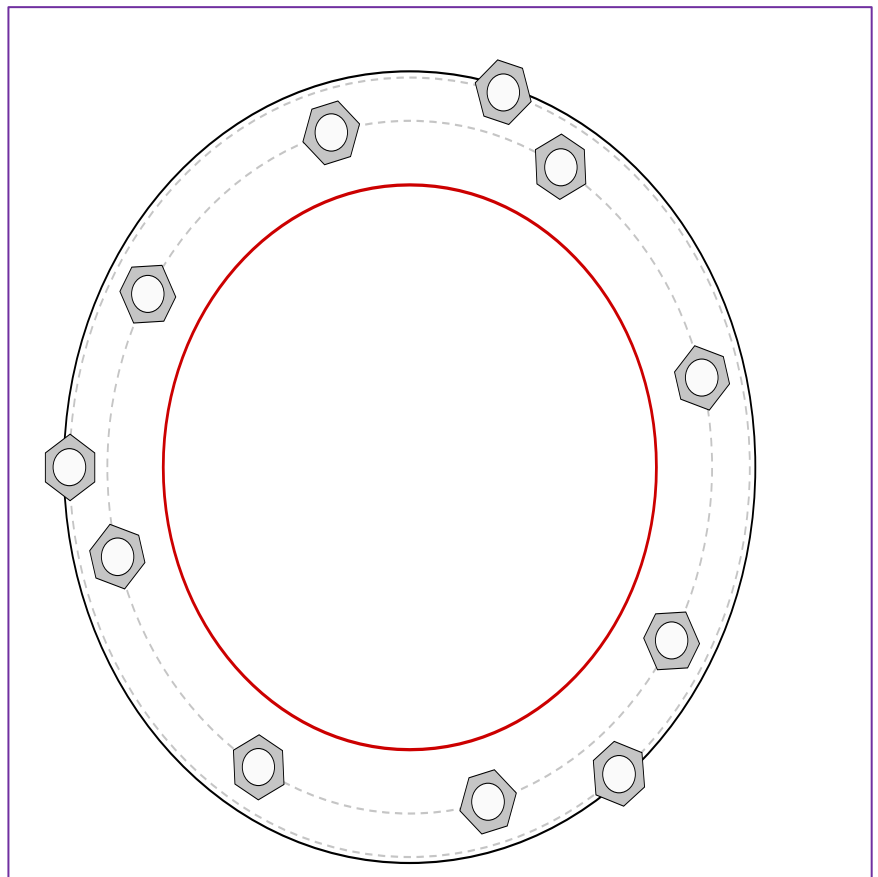
Monopole Base Plate Connection

Site Info	
BU #	876405
Site Name	Woodbury North
Order #	654617 Rev.0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	See Custom Sheet
l_{ar} (in)	See Custom Sheet

Applied Loads	
Moment (kip-ft)	1486.04
Axial Force (kips)	30.95
Shear Force (kips)	18.52

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (8) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 42" BC

GROUP 2: (3) 2-1/4" ø bolts (A193 Gr. B7 Derated N; Fy=99.19 ksi, Fu=125 ksi) on 47.2

pos. (deg): 74, 180, 308

Base Plate Data

48" OD x 1.5" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

N/A

Pole Data

34.25" x 0.25" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

GROUP 1:			
	Pu_t = 146.8	ϕPn_t = 243.75	**Stress Rating**
	Vu = 2.32	ϕVn = 149.1	**57.4%**
	Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:			
	Pu_t = 163.34	ϕPn_t = 304.69	**Stress Rating**
	Vu = 0	ϕVn = 186.38	**51.1%**
	Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	47.61	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**84.0%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

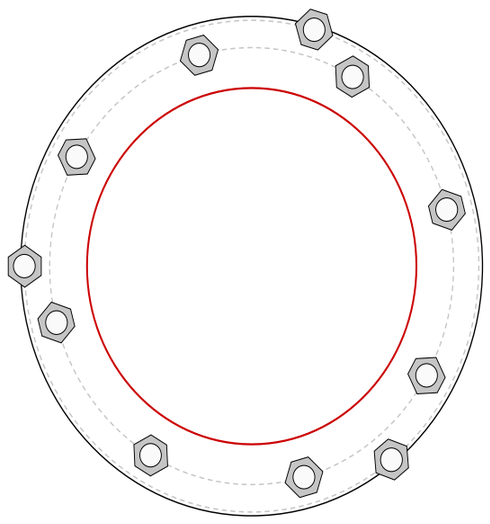
note: Bending interaction not considered when Grout Considered = "Yes"

Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending	Grout Considered	Apply at BARB Elevation	BARB CL Elevation (ft)
1	Yes	Yes	Yes	Yes	No	
2	No	No	No	Yes	No	

Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	l_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	15	2.25	A615-75	42	0.5	0.75	N-Included		No
2	1	60	2.25	A615-75	42	0.5	0.75	N-Included		No
3	1	105	2.25	A615-75	42	0.5	0.75	N-Included		No
4	1	150	2.25	A615-75	42	0.5	0.75	N-Included		No
5	1	195	2.25	A615-75	42	0.5	0.75	N-Included		No
6	1	240	2.25	A615-75	42	0.5	0.75	N-Included		No
7	1	285	2.25	A615-75	42	0.5	0.75	N-Included		No
8	1	330	2.25	A615-75	42	0.5	0.75	N-Included		No
9	2	74	2.25	193 Gr. B7 Derate	47.25	0.5	1	N-Included		No
10	2	180	2.25	193 Gr. B7 Derate	47.25	0.5	1	N-Included		No
11	2	308	2.25	193 Gr. B7 Derate	47.25	0.5	1	N-Included		No

Plot Graphic



Pier and Pad Foundation

BU # :	876405
Site Name:	Woodbury North
App. Number:	654617 Rev.0

TIA-222 Revision:	H
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☐
Rectangular Pad?:	☐

Superstructure Analysis Reactions

Compression, P_{comp}:	31	kips
Base Shear, Vu_comp:	19	kips
Moment, M_u:	1486	ft-kips
Tower Height, **H**:	110	ft
BP Dist. Above Fdn, bp_{dist}:	3	in

Pier Properties

Pier Shape:	Square	
Pier Diameter, **dpier**:	5.5	ft
Ext. Above Grade, **E**:	1	ft
Pier Rebar Size, **Sc**:	8	
Pier Rebar Quantity, **mc**:	30	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	5	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	6.5	ft
Pad Width, W_1:	16.5	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	17	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	4	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties

Total Soil Unit Weight, γ:	125	pcf
Ultimate Gross Bearing, Qult:	12.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	34	degrees
SPT Blow Count, N_{blows}:	60	
Base Friction, μ:		
Neglected Depth, **N**:	3.50	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	159.49	19.00	**11.3%**	**Pass**
Bearing Pressure (ksf)	9.00	3.85	**42.8%**	**Pass**
*Overturning (kip*ft)*	2054.66	1633.25	**79.5%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	2965.05	1571.50	**50.5%**	**Pass**
Pier Compression (kip)	19253.52	55.50	**0.3%**	**Pass**
*Pad Flexure (kip*ft)*	1867.53	754.18	**38.5%**	**Pass**
Pad Shear - 1-way (kips)	591.69	166.41	**26.8%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.000	**0.0%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	3203.98	942.90	**28.0%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Structural Rating*:	**50.5%**
Soil Rating*:	**79.5%**