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

November 11, 2021

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

RE: **Notice of Exempt Modification for T-Mobile: CTNH614A**
Crown Site ID: 876382
1684 Chamberlain Highway, Berlin, CT 06037
Latitude: 41° 35" 23.07" / Longitude: -72° 48' 19.20"

Dear Ms. Bachman:

T-Mobile currently maintains three (3) antennas at the 121-foot mount on the existing 133-foot monopole tower located at 1684 Chamberlain Highway, Berlin, CT. The property is owned by Ronald & Arlene Laviana and the tower is owned by Crown Castle. T-Mobile now intends to add three (3) new antennas and ancillary equipment at the 121ft level. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:
Tower:

Installed New:
(3) RFS – APXVAALL24_43-U-NA20 Antenna
(3) Ericsson- AIR6449 B41 Antenna
(3) Ericsson Radio 4460 B25 + B66 Remote Radios
(3) Ericsson – Radio 4480 B71+B85
(4) Hybrid Cables 6X24
(1) GPS
(1) GPS Line

Remove:
(3) RFS/Celwave – APXVSPP18-C-A20 Antennas
(6) Sprint RRU
(1) Sprint RRU Mount
(3) Hybrid Cable

Ground:

Install New:
(1) 6160 Cabinet
(1) B160 Battery Cabinet
(3.) RBS 6601 IN 6160 Cabinet
(1.) CSR IXRE V2 Transport System
(1) PSU4813 Voltage Booster

(1) DUG20
(3) BB6648

Remove:
(1) MMBS Cabinet
(1) BBU Cabinet

The facility was approved by the Berlin Planning and Zoning Commission on March 23, 2000 via grant of Special Permit. Notice of Decision dated April 11, 2000 is the only record able to be located despite diligent effort, therefore conditions of approval are unknown.

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.S.A. § 16-50j-73, a copy of this letter is being sent to Mr. Mark Kaczynski, Mayor, Town of Berlin, Ms. Maureen Giusti, Acting Town Planner, Town of Berlin and Ronald & Arlene Laviana, Property Owner. Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

3. 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.

4. 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.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, T-Mobile 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: Jeffrey Barbadora.

Sincerely,

Jeffrey Barbadora
Site Acquisition Specialist
1800 W. Park Drive
Westborough, MA 01581
(781) 970-0053
Jeff.Barbadora@crowncastle.com

Attachments
cc:

Mark Kaczynski, Mayor
Town of Berlin
240 Kensington Road
Berlin, CT 06037
860.828.7000

Maureen Giusti, Acting Town Planner
Town of Berlin
240 Kensington Road
Berlin, CT 06037
860.828.7008

Ronald & Arlene Laviana, Property Owner
1684 Chamberlain Highway
Kensington, CT 06037

Crown Castle, Tower Owner

VOL. 433 PAGE 0333

Town of Berlin

Department of Development Services

April 11, 2000

NOTICE OF DECISION

BERLIN PLANNING AND ZONING COMMISSION

Application: Special Permit - #00-02-SP

Applicant: SPRINT Spectrum L.P. dba SPRINT PCS

Location: Lot 17, Block 15, Chamberlain Highway

At its Regular Meeting of March 23, 2000, the Berlin Planning and Zoning voted five to two to grant the Special Permit Application of SPRINT Spectrum L.P., d/b/a SPRINT PCS for a telecommunications tower and related equipment at Lot 17, Block 15, Chamberlain Highway.

001240

Brian J. Miller, AICP
Director of Development Services

Lawrence J. & Nellie C. Laviana
Owner of Record

Certified Mail (Return Receipt Requested): 7099 3400 0001 5361 6271

Visit Our Web Site: http://www.edc.ci.berlin.ct.us

Town of Berlin, Connecticut • Planning and Zoning Commission
240 Kensington Road • Berlin, CT 06037 • (860) 828-7060 • Fax (860) 828-7180

RECEIVED May 3 20 00
AT 12 HR 58 MIN p.m.
AND RECORDED IN
BERLIN LAND RECORDS
VOL 433 PAGE 333
Cheryl Deftu
ASST TOWN CLERK

Town of Berlin, CT

Property Listing Report

Map Block Lot	19-4-15-17	Building #	1	PID	3445	Account	1036200

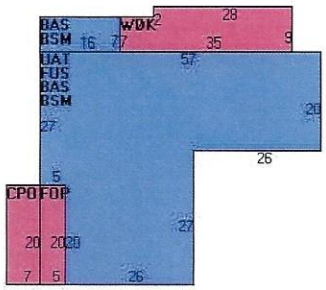
Property Information

Property Location	1684 CHAMBERLAIN HWY
Owner	LAVIANA RONALD L & ARLENE G
Co-Owner	
Mailing Address	1684 CHAMBERLAIN HWY KENSINGTON CT 06037
Land Use	1070 SFR w/Apt
Land Class	R
Zoning Code	MR-1
Census Tract	4002

District	0
Acreage	65.05
Utilities	Gas,Well,Septic
Book / Page	0456/0137

Photo

Sketch



Primary Construction Details

Year Built	1800
Building Desc.	SFR w/Apt
Building Style	Colonial
Stories	2
Occupancy	1.00
Exterior Walls	Vinyl Siding
Exterior Walls 2	
Roof Style	Gable
Roof Cover	Asph/F Gls/Cmp
Interior Walls	Drywall
Interior Walls 2	
Interior Floors 1	Carpet
Interior Floors 2	

Heating Fuel	Gas/Oil
Heating Type	Hot Water
AC Type	None
Bedrooms	6 Bedrooms
Full Bathrooms	3
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	12
Bath Style	Average
Kitchen Style	Average
Fin BSMT Area	
Fin BSMT Quality	
Fin BSMT Area 2	
Fin BSMT Qual 2	

BSMT Garages	0
Fireplaces	2
Whirlpool Tub	0
Building Use	Residential
Building Condition	A

Industrial / Commercial Details
(*Residential Not Applicable)

Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA

Report Created On 7/6/2020

Town of Berlin, CT

Property Listing Report

Map Block Lot	19-4-15-17	Building #	1	PID	3445	Account	1036200

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	210800	147600
Extras	7500	5300
Improvements		
Outbuildings	276700	193700
Land	1481400	122176
Total	1976400	468776

Outbuilding and Extra Features

Type	Description
Barn 1 Story	638 S.F.
Barn 1 Sty w/Bsm	2100 S.F.
Garage - Avg	504 S.F.
Shed Wd Res	420 S.F.
Cell Tower	150 L.F.
Generator	22 UNITS

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	1989	1989
Concrete Patio	140	0
Porch, Open, Finished	100	0
Upper Story, Finished	1877	1877
Deck, Wood	301	0
Basement	1989	0
Attic, Unfinished	1877	0
Total Area	8273	3866

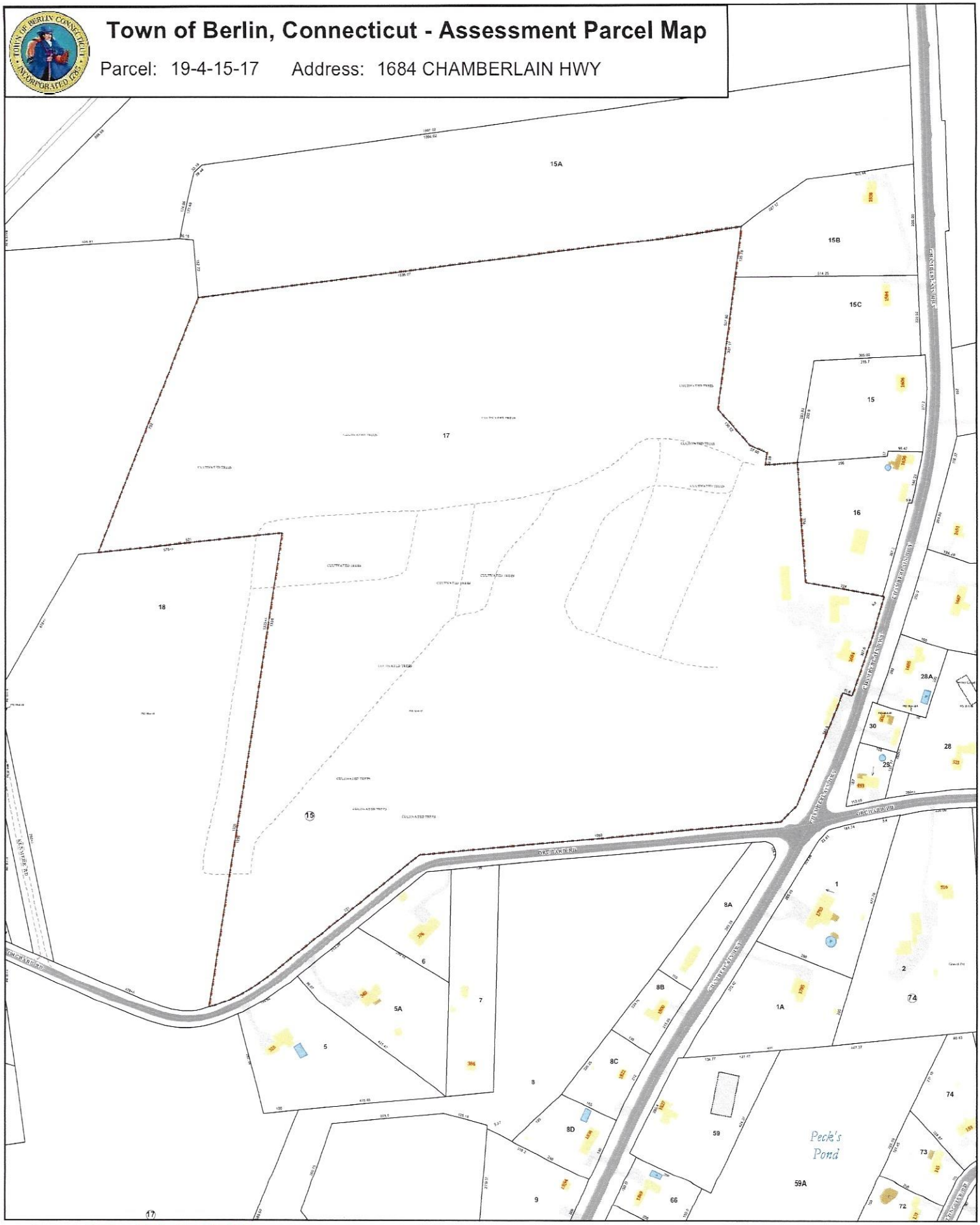
Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
LAVIANA RONALD L & ARLENE G	0456/0137	2001-09-19	0
LAVIANA,LAWRENCE,,	0088/0223	1944-04-23	0

Report Created On 7/6/2020

Town of Berlin, Connecticut - Assessment Parcel Map

Parcel: 19-4-15-17 Address: 1684 CHAMBERLAIN HWY



N W E S

NEGEO
New England Geosystems
www.negeosystems.com
282 Main Street Extension - C2
Middletown, CT 06457 • (203)-404 - 7129

Approximate Scale: 1 inch = 333 feet

0 160 320 480 640 Feet

Map Produced: March 2020

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

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, November 12, 2021 11:05 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775189173242: Your package has been delivered

Hi. Your package was delivered Fri, 11/12/2021 at 11:03am.

Delivered to 240 KENSINGTON RD, BERLIN, CT 06037
Received by M.SULLIVAN

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 775189173242

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Berlin Mark Kacynski - Mayor 240 Kensington Road BERLIN, CT, US, 06037
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Thu 11/11/2021 06:01 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	BERLIN, CT, US, 06037
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, November 12, 2021 11:05 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775189206947: Your package has been delivered

Hi. Your package was delivered Fri, 11/12/2021 at 11:03am.

Delivered to 240 KENSINGTON RD, BERLIN, CT 06037
Received by M.SULLIVAN

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 775189206947

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Berlin Maureen Giusti- Acting Town Planner 240 Kensington Road BERLIN, CT, US, 06037
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Thu 11/11/2021 06:01 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	BERLIN, CT, US, 06037
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, November 12, 2021 12:20 PM
To: Barbadora, Jeff
Subject: FedEx Shipment 775189257834: Your package has been delivered

Hi. Your package was delivered Fri, 11/12/2021 at 12:18pm.

Delivered to 1684 CHAMBERLAIN HWY, KENSINGTON, CT 06037

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 775189257834

FROM Jeff Barbadora
1800 W. Park Drive
WESTBOROUGH, MA, US, 01581

TO	Ronal & Arlene Laviana 1684 Chamberlain Highway KENSINGTON, CT, US, 06037
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Thu 11/11/2021 06:01 PM
DELIVERED TO	Residence
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	KENSINGTON, CT, US, 06037
SPECIAL HANDLING	Deliver Weekday Residential Delivery
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

PAUL J. FORD & COMPANY

Date: October 21, 2021

Paul J. Ford and Company
250 E. Broad St., Suite 600
Columbus, OH 43215
614-221-6679

Subject:	**Structural Analysis Report**	
Carrier Designation:		
	Site Number:	CTNH614A
	Site Name:	CTNH614A
Crown Castle Designation:	**BU Number:**	876382
	Site Name:	BERLIN / LAVIANA ORCHARD
	JDE Job Number:	650691
	Work Order Number:	2032919
	Order Number:	557904 Rev. 2
Engineering Firm Designation:	**Paul J. Ford and Company Project Number:**	37521-0794.005.7805
Site Data:	**1684 Chamberlain Highway, BERLIN, Hartford County, CT** **Latitude *41° 35' 23.07"*, Longitude *-72° 48' 19.2"*** **133 Foot - Monopole Tower**	

Paul J. Ford and Company 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 – 92.7%**

This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 118 per Section 1609.3 and Appendix N. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

Steven Pozz, E.I.
Structural Designer II
spozz@pauljford.com

RMF

STATE OF CONNECTICUT
JUSTIN T. KLINE
No. 30301
LICENSED
PROFESSIONAL ENGINEER

2021.10.22
16:49:34-04'00'

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 133 ft Monopole tower designed by SUMMIT in June of 2000.

The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	118 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1 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)
120.0	121.0	3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe	3	1-5/8
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
		3	rfs celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
	120.0	1	sitepro1	RMQP-496-HK		
50.0	51.0	1	lucent	KS24019-L112A	1	1/2
	50.0	1	tower mounts	Side Arm Mount [SO 702-1]		

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)
132.0	132.0	3	cci antennas	TPA65R-BU8D_CCIV2 w/ Mount Pipe	4 2 6 2	3/4 3/8 1-1/4 2” Cond.
		3	ericsson	RRUS 4415 B25		
		3	ericsson	RRUS 4449 B5/B12		
		3	kaelus	DBC0111F2V62-1		
		1	raycap	DC6-48-60-18-8C-EV		
		1	raycap	DC6-48-60-18-8F		
		1	tower mounts	Side Arm Mount [SO 901-3]		
111.0	111.0	3	fujitsu	TA08025-B604	1	1-1/2
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	mounts	Commscope_MC-Pk8-DSH_Platform		
		1	raycap	RDIDC-9181-PF-48		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
101.0	101.0	3	andrew	ETT19VS12UB	6	1-5/8
		3	ericsson	KRY 112 144/1		
		3	rfs celwave	APX16DWV-16DWVS-C		
		1	tower mounts	T-Arm Mount [TA 602-3]		
93.0	94.0	3	alcatel lucent	RRH2X40-AWS	13	1-5/8
		3	andrew	LNX-6514DS-A1M w/ Mount Pipe		
		3	antel	BXA-171063-12CF-EDIN-X w/ Mount Pipe		
		2	antel	BXA-171063-8BF-2 w/ Mount Pipe		
		1	antel	BXA-171085-8BF-EDIN-0 w/ Mount Pipe		
		3	antel	BXA-70063-4CF-EDIN-X w/ Mount Pipe		
		1	rfs celwave	DB-T1-6Z-8AB-0Z		
		6	rfs celwave	FD9R6004/2C-3L		
	93.0	1	tower mounts	Platform Mount [LP 1201-1]		
75.0	75.0	3	rfs celwave	APXV18-206517S-C	6	1-5/8
		1	tower mounts	Pipe Mount [PM 601-3]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1629353	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1629413	CCISITES
4-TOWER MANUFACTURER DRAWINGS	1629384	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2611098	CCISITES
4-POST-MODIFICATION INSPECTION	5287888	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2339268	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	8173364	CCISITES
4-POST-MODIFICATION INSPECTION	8482047	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) 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.
3) The structure was modified in conformance with the referenced modification drawings as shown in the referenced post modification inspection.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	133 - 128	Pole	TP14x14x0.349	Pole	5.9%	Pass
L2	128 - 123.5	Pole	TP14x14x0.349	Pole	12.5%	Pass
L3	123.5 - 123	Pole	TP22x14x0.349	Pole	5.4%	Pass
L4	123 - 118	Pole	TP22.75x22x0.1875	Pole	12.3%	Pass
L5	118 - 113	Pole	TP23.5x22.75x0.1875	Pole	19.4%	Pass
L6	113 - 108	Pole	TP24.251x23.5x0.1875	Pole	28.8%	Pass
L7	108 - 103	Pole	TP25.001x24.251x0.1875	Pole	38.4%	Pass
L8	103 - 98	Pole	TP25.751x25.001x0.1875	Pole	48.5%	Pass
L9	98 - 93	Pole	TP26.501x25.751x0.1875	Pole	58.2%	Pass
L10	93 - 88	Pole	TP27.251x26.501x0.1875	Pole	71.0%	Pass
L11	88 - 85.75	Pole	TP28.114x27.251x0.1875	Pole	76.1%	Pass
L12	85.75 - 80.75	Pole	TP27.964x27.214x0.25	Pole	60.9%	Pass
L13	80.75 - 75.75	Pole	TP28.714x27.964x0.25	Pole	67.8%	Pass
L14	75.75 - 70.75	Pole	TP29.465x28.714x0.25	Pole	74.4%	Pass
L15	70.75 - 65.75	Pole	TP30.215x29.465x0.25	Pole	80.6%	Pass
L16	65.75 - 60.75	Pole	TP30.965x30.215x0.25	Pole	86.3%	Pass
L17	60.75 - 57	Pole	TP31.528x30.965x0.25	Pole	90.4%	Pass
L18	57 - 56.75	Pole + Reinf.	TP31.565x31.528x0.4625	Reinf. 2 Tension Rupture	73.5%	Pass
L19	56.75 - 51.75	Pole + Reinf.	TP32.315x31.565x0.4563	Reinf. 2 Tension Rupture	77.9%	Pass
L20	51.75 - 46.75	Pole + Reinf.	TP33.066x32.315x0.45	Reinf. 2 Tension Rupture	82.1%	Pass
L21	46.75 - 45	Pole + Reinf.	TP33.966x33.066x0.45	Reinf. 2 Tension Rupture	83.5%	Pass
L22	45 - 40	Pole + Reinf.	TP33.578x32.828x0.4813	Reinf. 2 Tension Rupture	83.7%	Pass
L23	40 - 35	Pole + Reinf.	TP34.329x33.578x0.4688	Reinf. 2 Tension Rupture	87.2%	Pass
L24	35 - 30	Pole + Reinf.	TP35.079x34.329x0.4688	Reinf. 2 Tension Rupture	90.4%	Pass
L25	30 - 26.25	Pole + Reinf.	TP35.642x35.079x0.4688	Reinf. 2 Tension Rupture	92.7%	Pass
L26	26.25 - 26	Pole + Reinf.	TP35.679x35.642x0.5188	Reinf. 1 Tension Rupture	78.9%	Pass
L27	26 - 21	Pole + Reinf.	TP36.429x35.679x0.5063	Reinf. 1 Tension Rupture	81.5%	Pass
L28	21 - 16	Pole + Reinf.	TP37.179x36.429x0.5063	Reinf. 1 Tension Rupture	84.0%	Pass
L29	16 - 11	Pole + Reinf.	TP37.93x37.179x0.4938	Reinf. 1 Tension Rupture	86.3%	Pass
L30	11 - 6	Pole + Reinf.	TP38.68x37.93x0.4938	Reinf. 1 Tension Rupture	88.5%	Pass
L31	6 - 1	Pole + Reinf.	TP39.43x38.68x0.4876	Reinf. 1 Tension Rupture	90.5%	Pass
L32	1 - 0	Pole + Reinf.	TP39.58x39.43x0.4876	Reinf. 1 Tension Rupture	90.9%	Pass
					Summary	

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
				Pole	90.4%	Pass
				Reinforcement	92.7%	Pass
				Overall	92.7%	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Flange Bolts	123	16.4	Pass
1	Flange Plate		43.9	Pass
1	Anchor Rods	0	80.7	Pass
1	Base Plate	0	49.8	Pass
1	Base Foundation (Structure)	0	63.9	Pass
1	Base Foundation (Soil Interaction)	0	44.4	Pass

Structure Rating (max from all components) =	**92.7%**

Notes:

- All structural ratings are per TIA-222-H Section 15.5

1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

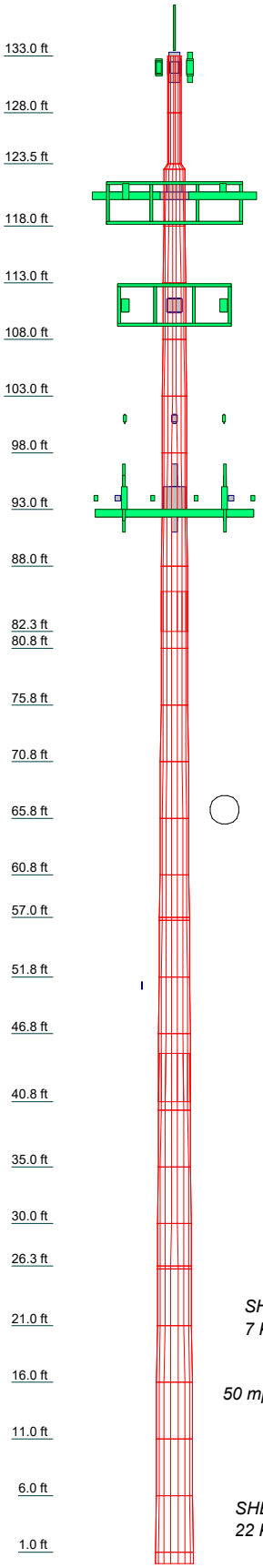
4.1) Recommendations

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

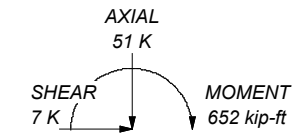
APPENDIX A

TNXTOWER OUTPUT

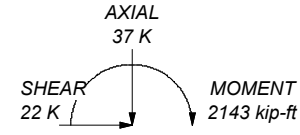
Section		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Length (ft)	1.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	1.0000
Number of Sides	18	0	0	0	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)	0.4875	0.3490	0.3490	0.3490	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.1875	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.4500	0.4500	0.4500	0.4688	0.4688	0.4688	0.4688	0.5000	0.5063	0.4938	0.4938	0.4875	0.4300	0.4875
Socket Length (ft)												3.5000										4.2500											
Top Dia (in)	39.4300	14.0000	14.0000	14.0000	22.0000	22.7502	23.5004	24.2506	25.0007	25.7509	26.5011	27.2513	27.9964	28.7143	29.4646	30.2148	30.9651	31.7153	32.3155	33.0657	33.9660	34.3287	35.0789	35.6791	36.4292	37.1794	37.9296	38.6798	39.4300	39.5800	39.5800	39.5800	39.5800
Bot Dia (in)	39.5800	14.0000	14.0000	14.0000	22.7502	23.5004	24.2506	25.0007	25.7509	26.5011	27.2513	28.1140	27.9964	28.7143	29.4646	30.2148	30.9651	31.7153	32.3155	33.0657	33.9660	34.3287	35.0789	35.6791	36.4292	37.1794	37.9296	38.6798	39.4300	39.5800	39.5800	39.5800	39.5800
Grade		A500 - GR B															A607-60																	
Weight (K)	15.4	0.3	0.2	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.0	0.7	0.7	0.9	0.8	0.8	0.8	0.6	0.0	0.9	1.0	1.0	1.0	0.2	



ALL REACTIONS ARE FACTORED



TORQUE 1 kip-ft
50 mph WIND - 1.0000 in ICE



TORQUE 2 kip-ft
REACTIONS - 118 mph WIND

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500 - GR B	42 ksi	58 ksi	A607-60	60 ksi	75 ksi

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 118 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 0.0000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 92.7%

PJFLogo

Paul J. Ford and Company
250 E. Broad St., Ste 600
Columbus, OH 43215
Phone: 614-221-6679
FAX:

Job:	***133' Monopole | Berlin / Laviana Orchard***		
Project:	***PJF# 37521-0794 | BU# 876382***		
Client: Crown Castle International		Drawn by: Steven Pozz	App'd:
Code: TIA-222-H		Date: 10/22/21	Scale: NTS
Path:			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 Hartford County, Connecticut.
- Tower base elevation above sea level: 345.0400 ft.
- Basic wind speed of 118 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.0000 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.00 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Deflections calculated using a wind speed of 60 mph.
- TIA-222-H Annex S.
- 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	133.0000-128.0000	5.0000	0.00	Round	14.0000	14.0000	0.3490		A500 Gr. B (42 ksi)
L2	128.0000-123.5000	4.5000	0.00	Round	14.0000	14.0000	0.3490		A500 Gr. B (42 ksi)
L3	123.5000-123.0000	0.5000	0.00	Round	14.0000	22.0000	0.3490		A500 Gr. B (42 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
L4	123.0000-118.0000	5.0000	0.00	18	22.0000	22.7502	0.1875	0.7500	A607-60 (60 ksi)
L5	118.0000-113.0000	5.0000	0.00	18	22.7502	23.5004	0.1875	0.7500	A607-60 (60 ksi)
L6	113.0000-108.0000	5.0000	0.00	18	23.5004	24.2506	0.1875	0.7500	A607-60 (60 ksi)
L7	108.0000-103.0000	5.0000	0.00	18	24.2506	25.0007	0.1875	0.7500	A607-60 (60 ksi)
L8	103.0000-98.0000	5.0000	0.00	18	25.0007	25.7509	0.1875	0.7500	A607-60 (60 ksi)
L9	98.0000-93.0000	5.0000	0.00	18	25.7509	26.5011	0.1875	0.7500	A607-60 (60 ksi)
L10	93.0000-88.0000	5.0000	0.00	18	26.5011	27.2513	0.1875	0.7500	A607-60 (60 ksi)
L11	88.0000-82.2500	5.7500	3.50	18	27.2513	28.1140	0.1875	0.7500	A607-60 (60 ksi)
L12	82.2500-80.7500	5.0000	0.00	18	27.2139	27.9641	0.2500	1.0000	A607-60 (60 ksi)
L13	80.7500-75.7500	5.0000	0.00	18	27.9641	28.7143	0.2500	1.0000	A607-60 (60 ksi)
L14	75.7500-70.7500	5.0000	0.00	18	28.7143	29.4646	0.2500	1.0000	A607-60 (60 ksi)
L15	70.7500-65.7500	5.0000	0.00	18	29.4646	30.2148	0.2500	1.0000	A607-60 (60 ksi)
L16	65.7500-60.7500	5.0000	0.00	18	30.2148	30.9651	0.2500	1.0000	A607-60 (60 ksi)
L17	60.7500-57.0000	3.7500	0.00	18	30.9651	31.5277	0.2500	1.0000	A607-60 (60 ksi)
L18	57.0000-56.7500	0.2500	0.00	18	31.5277	31.5652	0.4625	1.8500	A607-60 (60 ksi)
L19	56.7500-51.7500	5.0000	0.00	18	31.5652	32.3155	0.4562	1.8250	A607-60 (60 ksi)
L20	51.7500-46.7500	5.0000	0.00	18	32.3155	33.0657	0.4500	1.8000	A607-60 (60 ksi)
L21	46.7500-40.7500	6.0000	4.25	18	33.0657	33.9660	0.4500	1.8000	A607-60 (60 ksi)
L22	40.7500-40.0000	5.0000	0.00	18	32.8283	33.5785	0.4813	1.9252	A607-60 (60 ksi)
L23	40.0000-35.0000	5.0000	0.00	18	33.5785	34.3287	0.4688	1.8752	A607-60 (60 ksi)
L24	35.0000-30.0000	5.0000	0.00	18	34.3287	35.0789	0.4688	1.8752	A607-60 (60 ksi)
L25	30.0000-26.2500	3.7500	0.00	18	35.0789	35.6415	0.4688	1.8752	A607-60 (60 ksi)
L26	26.2500-26.0000	0.2500	0.00	18	35.6415	35.6790	0.5188	2.0752	A607-60 (60 ksi)
L27	26.0000-21.0000	5.0000	0.00	18	35.6790	36.4292	0.5063	2.0252	A607-60 (60 ksi)
L28	21.0000-16.0000	5.0000	0.00	18	36.4292	37.1794	0.5063	2.0252	A607-60 (60 ksi)
L29	16.0000-11.0000	5.0000	0.00	18	37.1794	37.9296	0.4938	1.9752	A607-60 (60 ksi)
L30	11.0000-6.0000	5.0000	0.00	18	37.9296	38.6798	0.4938	1.9752	A607-60 (60 ksi)
L31	6.0000-1.0000	5.0000	0.00	18	38.6798	39.4300	0.4875	1.9502	A607-60 (60 ksi)
L32	1.0000-0.0000	1.0000		18	39.4300	39.5800	0.4875	1.9502	A607-60 (60 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	14.0000	14.9672	348.8691	4.8279	7.0000	49.8384	697.7382	7.4791	0.0000	0
	14.0000	14.9672	348.8691	4.8279	7.0000	49.8384	697.7382	7.4791	0.0000	0
L2	14.0000	14.9672	348.8691	4.8279	7.0000	49.8384	697.7382	7.4791	0.0000	0
	14.0000	14.9672	348.8691	4.8279	7.0000	49.8384	697.7382	7.4791	0.0000	0

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
L3	14.0000	14.9672	348.8691	4.8279	7.0000	49.8384	697.7382	7.4791	0.0000	0
	22.0000	23.7385	1391.3360	7.6558	11.0000	126.4851	2782.6720	11.8622	0.0000	0
L4	22.3105	12.9812	780.3007	7.7434	11.1760	69.8193	1561.6281	6.4918	3.5420	18.891
	23.0722	13.4276	863.6105	8.0098	11.5571	74.7256	1728.3574	6.7151	3.6740	19.595
L5	23.0722	13.4276	863.6105	8.0098	11.5571	74.7256	1728.3574	6.7151	3.6740	19.595
	23.8340	13.8741	952.6487	8.2761	11.9382	79.7984	1906.5508	6.9384	3.8061	20.299
L6	23.8340	13.8741	952.6487	8.2761	11.9382	79.7984	1906.5508	6.9384	3.8061	20.299
	24.5957	14.3205	1047.6055	8.5424	12.3193	85.0379	2096.5895	7.1616	3.9381	21.003
L7	24.5957	14.3205	1047.6055	8.5424	12.3193	85.0379	2096.5895	7.1616	3.9381	21.003
	25.3575	14.7670	1148.6715	8.8087	12.7004	90.4439	2298.8545	7.3849	4.0701	21.707
L8	25.3575	14.7670	1148.6715	8.8087	12.7004	90.4439	2298.8545	7.3849	4.0701	21.707
	26.1192	15.2134	1256.0372	9.0750	13.0815	96.0165	2513.7272	7.6082	4.2022	22.412
L9	26.1192	15.2134	1256.0372	9.0750	13.0815	96.0165	2513.7272	7.6082	4.2022	22.412
	26.8810	15.6599	1369.8930	9.3413	13.4626	101.7558	2741.5886	7.8314	4.3342	23.116
L10	26.8810	15.6599	1369.8930	9.3413	13.4626	101.7558	2741.5886	7.8314	4.3342	23.116
	27.6428	16.1063	1490.4293	9.6076	13.8437	107.6616	2982.8198	8.0547	4.4662	23.82
L11	27.6428	16.1063	1490.4293	9.6076	13.8437	107.6616	2982.8198	8.0547	4.4662	23.82
	28.5188	16.6198	1637.5523	9.9139	14.2819	114.6592	3277.2593	8.3115	4.6181	24.63
L12	28.1284	21.3958	1965.3102	9.5722	13.8246	142.1599	3933.2064	10.6999	4.3496	17.399
	28.3569	21.9911	2133.9640	9.8385	14.2058	150.2182	4270.7360	10.9977	4.4817	17.927
L13	28.3569	21.9911	2133.9640	9.8385	14.2058	150.2182	4270.7360	10.9977	4.4817	17.927
	29.1187	22.5865	2312.0005	10.1048	14.5869	158.4986	4627.0431	11.2954	4.6137	18.455
L14	29.1187	22.5865	2312.0005	10.1048	14.5869	158.4986	4627.0431	11.2954	4.6137	18.455
	29.8806	23.1818	2499.6740	10.3712	14.9680	167.0011	5002.6371	11.5931	4.7458	18.983
L15	29.8806	23.1818	2499.6740	10.3712	14.9680	167.0011	5002.6371	11.5931	4.7458	18.983
	30.6424	23.7771	2697.2380	10.6375	15.3491	175.7258	5398.0251	11.8908	4.8778	19.511
L16	30.6424	23.7771	2697.2380	10.6375	15.3491	175.7258	5398.0251	11.8908	4.8778	19.511
	31.4042	24.3724	2904.9471	10.9038	15.7302	184.6727	5813.7166	12.1885	5.0098	20.039
L17	31.4042	24.3724	2904.9471	10.9038	15.7302	184.6727	5813.7166	12.1885	5.0098	20.039
	31.9755	24.8189	3067.5391	11.1036	16.0161	191.5286	6139.1145	12.4118	5.1089	20.436
L18	31.9427	45.6030	5560.0650	11.0282	16.0161	347.1550	11127.4462	22.8058	4.7349	10.238
	31.9808	45.6580	5580.2311	11.0415	16.0351	348.0001	11167.8048	22.8334	4.7415	10.252
L19	31.9818	45.0501	5508.1418	11.0437	16.0351	343.5044	11023.5313	22.5293	4.7525	10.416
	32.7436	46.1365	5916.3393	11.3100	16.4163	360.3950	11840.4636	23.0727	4.8845	10.706
L20	32.7446	45.5135	5838.7285	11.3122	16.4163	355.6673	11685.1397	22.7611	4.8955	10.879
	33.5064	46.5850	6260.9125	11.5786	16.7974	372.7314	12530.0633	23.2969	5.0276	11.172
L21	33.5064	46.5850	6260.9125	11.5786	16.7974	372.7314	12530.0633	23.2969	5.0276	11.172
	34.4206	47.8709	6793.8105	11.8982	17.2547	393.7362	13596.5606	23.9400	5.1860	11.524
L22	33.9080	49.4148	6532.2413	11.4832	16.6768	391.6969	13073.0779	24.7121	4.9307	10.245
	34.0222	50.5608	6997.3488	11.7495	17.0579	410.2123	14003.9050	25.2852	5.0627	10.519
L23	34.0242	49.2663	6823.3436	11.7539	17.0579	400.0114	13655.6655	24.6378	5.0847	10.846
	34.7859	50.3825	7297.7353	12.0203	17.4390	418.4729	14605.0731	25.1960	5.2168	11.128
L24	34.7859	50.3825	7297.7353	12.0203	17.4390	418.4729	14605.0731	25.1960	5.2168	11.128
	35.5477	51.4988	7793.6206	12.2866	17.8201	437.3509	15597.4962	25.7543	5.3488	11.41
L25	35.5477	51.4988	7793.6206	12.2866	17.8201	437.3509	15597.4962	25.7543	5.3488	11.41
	36.1190	52.3360	8179.9264	12.4863	18.1059	451.7827	16370.6161	26.1730	5.4478	11.621
L26	36.1113	57.8356	9013.8083	12.4686	18.1059	497.8386	18039.4773	28.9233	5.3598	10.331
	36.1494	57.8973	9042.7179	12.4819	18.1249	498.9102	18097.3343	28.9542	5.3664	10.344
L27	36.1513	56.5224	8834.2575	12.4863	18.1249	487.4089	17680.1393	28.2666	5.3884	10.643
	36.9131	57.7280	9411.6699	12.7526	18.5060	508.5730	18835.7239	28.8695	5.5205	10.904

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
L28	36.9131	57.7280	9411.6699	12.7526	18.5060	508.5730	18835.7239	28.8695	5.5205	10.904
	37.6748	58.9335	10013.7096	13.0189	18.8871	530.1869	20040.5954	29.4724	5.6525	11.164
L29	37.6768	57.4981	9776.4720	13.0234	18.8871	517.6261	19565.8081	28.7545	5.6745	11.491
	38.4385	58.6739	10388.5816	13.2897	19.2682	539.1560	20790.8328	29.3425	5.8065	11.759
L30	38.4385	58.6739	10388.5816	13.2897	19.2682	539.1560	20790.8328	29.3425	5.8065	11.759
	39.2003	59.8497	11025.7221	13.5560	19.6493	561.1247	22065.9521	29.9305	5.9386	12.026
L31	39.2013	59.1018	10891.5163	13.5582	19.6493	554.2947	21797.3639	29.5565	5.9496	12.203
	39.9630	60.2627	11546.0139	13.8246	20.0304	576.4239	23107.2203	30.1371	6.0816	12.474
L32	39.9630	60.2627	11546.0139	13.8246	20.0304	576.4239	23107.2203	30.1371	6.0816	12.474
	40.1154	60.4949	11679.9828	13.8778	20.1066	580.9018	23375.3343	30.2532	6.1080	12.528

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 133.0000-128.0000				1	1	1			
L2 128.0000-123.5000				1	1	1			
L3 123.5000-123.0000				1	1	1			
L4 123.0000-118.0000				1	1	1			
L5 118.0000-113.0000				1	1	1			
L6 113.0000-108.0000				1	1	1			
L7 108.0000-103.0000				1	1	1			
L8 103.0000-98.0000				1	1	1			
L9 98.0000-93.0000				1	1	1			
L10 93.0000-88.0000				1	1	1			
L11 88.0000-82.2500				1	1	1			
L12 82.2500-80.7500				1	1	1			
L13 80.7500-75.7500				1	1	1			
L14 75.7500-70.7500				1	1	1			
L15 70.7500-65.7500				1	1	1			
L16 65.7500-60.7500				1	1	1			
L17 60.7500-57.0000				1	1	1			
L18 57.0000-56.7500				1	1	0.944643			
L19 56.7500-51.7500				1	1	0.947749			
L20 51.7500-46.7500				1	1	0.951404			
L21 46.7500-40.7500				1	1	0.948243			

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
L22 40.7500-40.0000				1	1	0.949573			
L23 40.0000-35.0000				1	1	0.966228			
L24 35.0000-30.0000				1	1	0.95829			
L25 30.0000-26.2500				1	1	0.95256			
L26 26.2500-26.0000				1	1	0.942605			
L27 26.0000-21.0000				1	1	0.956973			
L28 21.0000-16.0000				1	1	0.948762			
L29 16.0000-11.0000				1	1	0.964376			
L30 11.0000-6.0000				1	1	0.956622			
L31 6.0000-1.0000				1	1	0.961179			
L32 1.0000-0.0000				1	1	0.959705			

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
AVA7-50(1-5/8) ***	A	No	Surface Ar (CaAa)	75.0000 - 0.0000	2	2	0.349 0.433	2.0100		0.70
LDF4-50A(1/2) ***	B	No	Surface Ar (CaAa)	50.0000 - 0.0000	1	1	0.396 0.396	0.6250		0.15
**********										
FP 6.125 x 1.25 Reinforcement	A	No	Surface Af (CaAa)	13.5330 - 0.0000	1	1	0.167 0.167	6.1250	14.7500	0.00
FP 6.125 x 1.25 Reinforcement	A	No	Surface Af (CaAa)	29.7500 - 13.5330	1	1	0.167 0.167	6.1250	14.7500	0.00
FP 6.125 x 1.25 Reinforcement	C	No	Surface Af (CaAa)	13.5330 - 0.0000	1	1	0.167 0.167	6.1250	14.7500	0.00
FP 6.125 x 1.25 Reinforcement	C	No	Surface Af (CaAa)	29.7500 - 13.5330	1	1	0.167 0.167	6.1250	14.7500	0.00
FP 6.125 x 1.25 Reinforcement	B	No	Surface Af (CaAa)	13.5330 - 0.0000	1	1	0.167 0.167	6.1250	14.7500	0.00
FP 6.125 x 1.25 Reinforcement	B	No	Surface Af (CaAa)	29.7500 - 13.5330	1	1	0.167 0.167	6.1250	14.7500	0.00
FP 4.875 x 1.25 Reinforcement	A	No	Surface Af (CaAa)	59.5000 - 29.7500	1	1	0.167 0.167	4.8750	12.2500	0.00
FP 4.875 x 1.25 Reinforcement	C	No	Surface Af (CaAa)	59.5000 - 29.7500	1	1	0.167 0.167	4.8750	12.2500	0.00
FP 4.875 x 1.25 Reinforcement	B	No	Surface Af (CaAa)	59.5000 - 29.7500	1	1	0.167 0.167	4.8750	12.2500	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
LDF6-50A(1-1/4)	C	No	No	Inside Pole	132.0000 - 0.0000	6	No Ice	0.0000	0.60
							1/2" Ice	0.0000	0.60
							1" Ice	0.0000	0.60
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	132.0000 - 0.0000	4	No Ice	0.0000	0.58
							1/2" Ice	0.0000	0.58
							1" Ice	0.0000	0.58
FB-L98B-034-XXX(3/8")	C	No	No	Inside Pole	132.0000 - 0.0000	2	No Ice	0.0000	0.06
							1/2" Ice	0.0000	0.06
							1" Ice	0.0000	0.06
***									
HB158-21U6S24-xxM_TMO(1-5/8)	B	No	No	Inside Pole	120.0000 - 0.0000	3	No Ice	0.0000	2.50
							1/2" Ice	0.0000	2.50
							1" Ice	0.0000	2.50
***									
CU12PSM9P6XXX (1-1/2)	C	No	No	Inside Pole	111.0000 - 0.0000	1	No Ice	0.0000	2.35
							1/2" Ice	0.0000	2.35
							1" Ice	0.0000	2.35
***									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	101.0000 - 0.0000	6	No Ice	0.0000	0.82
							1/2" Ice	0.0000	0.82
							1" Ice	0.0000	0.82
***									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	93.0000 - 0.0000	12	No Ice	0.0000	0.82
							1/2" Ice	0.0000	0.82
							1" Ice	0.0000	0.82
HB158-1-08U8-S8J18(1-5/8)	C	No	No	Inside Pole	93.0000 - 0.0000	1	No Ice	0.0000	1.30
							1/2" Ice	0.0000	1.30
							1" Ice	0.0000	1.30
***									
AVA7-50(1-5/8)	C	No	No	Inside Pole	75.0000 - 0.0000	4	No Ice	0.0000	0.70
							1/2" Ice	0.0000	0.70
							1" Ice	0.0000	0.70
***									
**********									
**********									

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	133.0000-128.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L2	128.0000-123.5000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.03
L3	123.5000-123.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L4	123.0000-118.0000	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	0.03
L5	118.0000-113.0000	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	0.03
L6	113.0000-108.0000	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	0.04
L7	108.0000-103.0000	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	0.04
L8	103.0000-98.0000	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	0.06
L9	98.0000-93.0000	A	0.000	0.000	0.000	0.000	0.00

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
		B	0.000	0.000	0.000	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.07
L10	93.0000-88.0000	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	0.12
L11	88.0000-82.2500	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	0.14
L12	82.2500-80.7500	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	0.04
L13	80.7500-75.7500	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	0.12
L14	75.7500-70.7500	A	0.000	0.000	1.708	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.13
L15	70.7500-65.7500	A	0.000	0.000	2.010	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.14
L16	65.7500-60.7500	A	0.000	0.000	2.010	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.14
L17	60.7500-57.0000	A	0.000	0.000	3.539	0.000	0.01
		B	0.000	0.000	2.031	0.000	0.03
		C	0.000	0.000	2.031	0.000	0.10
L18	57.0000-56.7500	A	0.000	0.000	0.304	0.000	0.00
		B	0.000	0.000	0.203	0.000	0.00
		C	0.000	0.000	0.203	0.000	0.01
L19	56.7500-51.7500	A	0.000	0.000	6.072	0.000	0.01
		B	0.000	0.000	4.063	0.000	0.04
		C	0.000	0.000	4.063	0.000	0.14
L20	51.7500-46.7500	A	0.000	0.000	6.072	0.000	0.01
		B	0.000	0.000	4.266	0.000	0.04
		C	0.000	0.000	4.063	0.000	0.14
L21	46.7500-40.7500	A	0.000	0.000	7.287	0.000	0.01
		B	0.000	0.000	5.250	0.000	0.05
		C	0.000	0.000	4.875	0.000	0.16
L22	40.7500-40.0000	A	0.000	0.000	0.911	0.000	0.00
		B	0.000	0.000	0.656	0.000	0.01
		C	0.000	0.000	0.609	0.000	0.02
L23	40.0000-35.0000	A	0.000	0.000	6.072	0.000	0.01
		B	0.000	0.000	4.375	0.000	0.04
		C	0.000	0.000	4.063	0.000	0.14
L24	35.0000-30.0000	A	0.000	0.000	6.072	0.000	0.01
		B	0.000	0.000	4.375	0.000	0.04
		C	0.000	0.000	4.063	0.000	0.14
L25	30.0000-26.2500	A	0.000	0.000	5.284	0.000	0.01
		B	0.000	0.000	4.010	0.000	0.03
		C	0.000	0.000	3.776	0.000	0.10
L26	26.2500-26.0000	A	0.000	0.000	0.356	0.000	0.00
		B	0.000	0.000	0.271	0.000	0.00
		C	0.000	0.000	0.255	0.000	0.01
L27	26.0000-21.0000	A	0.000	0.000	7.114	0.000	0.01
		B	0.000	0.000	5.417	0.000	0.04
		C	0.000	0.000	5.104	0.000	0.14
L28	21.0000-16.0000	A	0.000	0.000	7.114	0.000	0.01
		B	0.000	0.000	5.417	0.000	0.04
		C	0.000	0.000	5.104	0.000	0.14
L29	16.0000-11.0000	A	0.000	0.000	7.114	0.000	0.01
		B	0.000	0.000	5.417	0.000	0.04
		C	0.000	0.000	5.104	0.000	0.14
L30	11.0000-6.0000	A	0.000	0.000	7.114	0.000	0.01
		B	0.000	0.000	5.417	0.000	0.04
		C	0.000	0.000	5.104	0.000	0.14
L31	6.0000-1.0000	A	0.000	0.000	7.114	0.000	0.01
		B	0.000	0.000	5.417	0.000	0.04
		C	0.000	0.000	5.104	0.000	0.14
L32	1.0000-0.0000	A	0.000	0.000	1.423	0.000	0.00

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
		B	0.000	0.000	1.083	0.000	0.01
		C	0.000	0.000	1.021	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	133.0000-128.0000	A	0.975	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.02
L2	128.0000-123.5000	A	0.972	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.03
L3	123.5000-123.0000	A	0.970	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L4	123.0000-118.0000	A	0.968	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	0.03
L5	118.0000-113.0000	A	0.963	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	0.03
L6	113.0000-108.0000	A	0.959	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	0.04
L7	108.0000-103.0000	A	0.955	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	0.04
L8	103.0000-98.0000	A	0.950	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	0.06
L9	98.0000-93.0000	A	0.945	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	0.07
L10	93.0000-88.0000	A	0.940	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	0.12
L11	88.0000-82.2500	A	0.934	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	0.14
L12	82.2500-80.7500	A	0.930	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	0.04
L13	80.7500-75.7500	A	0.927	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	0.12
L14	75.7500-70.7500	A	0.921	0.000	0.000	3.114	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.04
		C		0.000	0.000	0.000	0.000	0.13
L15	70.7500-65.7500	A	0.914	0.000	0.000	3.655	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.04
		C		0.000	0.000	0.000	0.000	0.14
L16	65.7500-60.7500	A	0.907	0.000	0.000	3.646	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.04
		C		0.000	0.000	0.000	0.000	0.14
L17	60.7500-57.0000	A	0.901	0.000	0.000	5.210	0.000	0.04
		B		0.000	0.000	2.482	0.000	0.04
		C		0.000	0.000	2.482	0.000	0.12
L18	57.0000-56.7500	A	0.898	0.000	0.000	0.430	0.000	0.00
		B		0.000	0.000	0.248	0.000	0.00
		C		0.000	0.000	0.248	0.000	0.01
L19	56.7500-51.7500	A	0.893	0.000	0.000	8.585	0.000	0.06
		B		0.000	0.000	4.956	0.000	0.06
		C		0.000	0.000	4.956	0.000	0.16
L20	51.7500-46.7500	A	0.885	0.000	0.000	8.566	0.000	0.06
		B		0.000	0.000	5.725	0.000	0.07
		C		0.000	0.000	4.947	0.000	0.16

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
L21	46.7500-40.7500	A	0.874	0.000	0.000	10.251	0.000	0.07
		B		0.000	0.000	7.348	0.000	0.09
		C		0.000	0.000	5.924	0.000	0.20
L22	40.7500-40.0000	A	0.867	0.000	0.000	1.281	0.000	0.01
		B		0.000	0.000	0.919	0.000	0.01
		C		0.000	0.000	0.741	0.000	0.02
L23	40.0000-35.0000	A	0.861	0.000	0.000	8.512	0.000	0.06
		B		0.000	0.000	6.097	0.000	0.07
		C		0.000	0.000	4.923	0.000	0.16
L24	35.0000-30.0000	A	0.849	0.000	0.000	8.485	0.000	0.06
		B		0.000	0.000	6.072	0.000	0.07
		C		0.000	0.000	4.911	0.000	0.16
L25	30.0000-26.2500	A	0.837	0.000	0.000	7.070	0.000	0.04
		B		0.000	0.000	5.263	0.000	0.06
		C		0.000	0.000	4.401	0.000	0.12
L26	26.2500-26.0000	A	0.830	0.000	0.000	0.474	0.000	0.00
		B		0.000	0.000	0.354	0.000	0.00
		C		0.000	0.000	0.297	0.000	0.01
L27	26.0000-21.0000	A	0.822	0.000	0.000	9.463	0.000	0.06
		B		0.000	0.000	7.058	0.000	0.07
		C		0.000	0.000	5.924	0.000	0.16
L28	21.0000-16.0000	A	0.802	0.000	0.000	9.421	0.000	0.06
		B		0.000	0.000	7.021	0.000	0.07
		C		0.000	0.000	5.906	0.000	0.16
L29	16.0000-11.0000	A	0.777	0.000	0.000	9.225	0.000	0.05
		B		0.000	0.000	6.831	0.000	0.07
		C		0.000	0.000	5.741	0.000	0.16
L30	11.0000-6.0000	A	0.742	0.000	0.000	9.027	0.000	0.05
		B		0.000	0.000	6.641	0.000	0.07
		C		0.000	0.000	5.587	0.000	0.16
L31	6.0000-1.0000	A	0.679	0.000	0.000	8.915	0.000	0.05
		B		0.000	0.000	6.545	0.000	0.07
		C		0.000	0.000	5.554	0.000	0.16
L32	1.0000-0.0000	A	0.559	0.000	0.000	1.740	0.000	0.01
		B		0.000	0.000	1.272	0.000	0.01
		C		0.000	0.000	1.098	0.000	0.03

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	133.0000-128.0000	0.0000	0.0000	0.0000	0.0000
L2	128.0000-123.5000	0.0000	0.0000	0.0000	0.0000
L3	123.5000-123.0000	0.0000	0.0000	0.0000	0.0000
L4	123.0000-118.0000	0.0000	0.0000	0.0000	0.0000
L5	118.0000-113.0000	0.0000	0.0000	0.0000	0.0000
L6	113.0000-108.0000	0.0000	0.0000	0.0000	0.0000
L7	108.0000-103.0000	0.0000	0.0000	0.0000	0.0000
L8	103.0000-98.0000	0.0000	0.0000	0.0000	0.0000
L9	98.0000-93.0000	0.0000	0.0000	0.0000	0.0000
L10	93.0000-88.0000	0.0000	0.0000	0.0000	0.0000
L11	88.0000-82.2500	0.0000	0.0000	0.0000	0.0000
L12	82.2500-80.7500	0.0000	0.0000	0.0000	0.0000
L13	80.7500-75.7500	0.0000	0.0000	0.0000	0.0000
L14	75.7500-70.7500	-0.5619	-2.4275	-0.5251	-2.2686
L15	70.7500-65.7500	-0.6436	-2.7807	-0.5939	-2.5661
L16	65.7500-60.7500	-0.6454	-2.7886	-0.5969	-2.5787
L17	60.7500-57.0000	-0.3811	-1.6467	-0.4173	-1.8029
L18	57.0000-56.7500	-0.3179	-1.3736	-0.3640	-1.5729
L19	56.7500-51.7500	-0.3200	-1.3827	-0.3661	-1.5818

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L20	51.7500-46.7500	-0.1889	-1.3464	-0.0447	-1.4662
L21	46.7500-40.7500	-0.1193	-1.3358	0.1226	-1.4144
L22	40.7500-40.0000	-0.1193	-1.3360	0.1227	-1.4149
L23	40.0000-35.0000	-0.1200	-1.3449	0.1202	-1.4219
L24	35.0000-30.0000	-0.1212	-1.3603	0.1187	-1.4358
L25	30.0000-26.2500	-0.1097	-1.2321	0.1090	-1.3504
L26	26.2500-26.0000	-0.1093	-1.2290	0.1075	-1.3490
L27	26.0000-21.0000	-0.1099	-1.2366	0.1061	-1.3552
L28	21.0000-16.0000	-0.1110	-1.2508	0.1025	-1.3663
L29	16.0000-11.0000	-0.1122	-1.2648	0.0981	-1.3893
L30	11.0000-6.0000	-0.1133	-1.2786	0.0904	-1.4083
L31	6.0000-1.0000	-0.1143	-1.2922	0.0734	-1.4069
L32	1.0000-0.0000	-0.1150	-1.3002	0.0383	-1.3852

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
L14	17	AVA7-50(1-5/8)	70.75 - 75.00	1.0000	1.0000
L15	17	AVA7-50(1-5/8)	65.75 - 70.75	1.0000	1.0000
L16	17	AVA7-50(1-5/8)	60.75 - 65.75	1.0000	1.0000
L17	17	AVA7-50(1-5/8)	57.00 - 60.75	1.0000	1.0000
L17	28	FP 4.875 x 1.25 Reinforcement	57.00 - 59.50	1.0000	1.0000
L17	29	FP 4.875 x 1.25 Reinforcement	57.00 - 59.50	1.0000	1.0000
L17	30	FP 4.875 x 1.25 Reinforcement	57.00 - 59.50	1.0000	1.0000
L18	17	AVA7-50(1-5/8)	56.75 - 57.00	1.0000	1.0000
L18	28	FP 4.875 x 1.25 Reinforcement	56.75 - 57.00	1.0000	1.0000
L18	29	FP 4.875 x 1.25 Reinforcement	56.75 - 57.00	1.0000	1.0000
L18	30	FP 4.875 x 1.25 Reinforcement	56.75 - 57.00	1.0000	1.0000
L19	17	AVA7-50(1-5/8)	51.75 - 56.75	1.0000	1.0000
L19	28	FP 4.875 x 1.25 Reinforcement	51.75 - 56.75	1.0000	1.0000
L19	29	FP 4.875 x 1.25 Reinforcement	51.75 - 56.75	1.0000	1.0000
L19	30	FP 4.875 x 1.25 Reinforcement	51.75 - 56.75	1.0000	1.0000
L20	17	AVA7-50(1-5/8)	46.75 - 51.75	1.0000	1.0000
L20	19	LDF4-50A(1/2)	46.75 - 50.00	1.0000	1.0000
L20	28	FP 4.875 x 1.25 Reinforcement	46.75 - 51.75	1.0000	1.0000
L20	29	FP 4.875 x 1.25 Reinforcement	46.75 - 51.75	1.0000	1.0000
L20	30	FP 4.875 x 1.25 Reinforcement	46.75 - 51.75	1.0000	1.0000
L21	17	AVA7-50(1-5/8)	40.75 - 46.75	1.0000	1.0000
L21	19	LDF4-50A(1/2)	40.75 - 46.75	1.0000	1.0000
L21	28	FP 4.875 x 1.25 Reinforcement	40.75 - 46.75	1.0000	1.0000
L21	29	FP 4.875 x 1.25 Reinforcement	40.75 - 46.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L21	30	FP 4.875 x 1.25 Reinforcement	40.75 - 46.75	1.0000	1.0000
L22	17	AVA7-50(1-5/8)	40.00 - 40.75	1.0000	1.0000
L22	19	LDF4-50A(1/2)	40.00 - 40.75	1.0000	1.0000
L22	28	FP 4.875 x 1.25 Reinforcement	40.00 - 40.75	1.0000	1.0000
L22	29	FP 4.875 x 1.25 Reinforcement	40.00 - 40.75	1.0000	1.0000
L22	30	FP 4.875 x 1.25 Reinforcement	40.00 - 40.75	1.0000	1.0000
L23	17	AVA7-50(1-5/8)	35.00 - 40.00	1.0000	1.0000
L23	19	LDF4-50A(1/2)	35.00 - 40.00	1.0000	1.0000
L23	28	FP 4.875 x 1.25 Reinforcement	35.00 - 40.00	1.0000	1.0000
L23	29	FP 4.875 x 1.25 Reinforcement	35.00 - 40.00	1.0000	1.0000
L23	30	FP 4.875 x 1.25 Reinforcement	35.00 - 40.00	1.0000	1.0000
L24	17	AVA7-50(1-5/8)	30.00 - 35.00	1.0000	1.0000
L24	19	LDF4-50A(1/2)	30.00 - 35.00	1.0000	1.0000
L24	28	FP 4.875 x 1.25 Reinforcement	30.00 - 35.00	1.0000	1.0000
L24	29	FP 4.875 x 1.25 Reinforcement	30.00 - 35.00	1.0000	1.0000
L24	30	FP 4.875 x 1.25 Reinforcement	30.00 - 35.00	1.0000	1.0000
L25	17	AVA7-50(1-5/8)	26.25 - 30.00	1.0000	1.0000
L25	19	LDF4-50A(1/2)	26.25 - 30.00	1.0000	1.0000
L25	23	FP 6.125 x 1.25 Reinforcement	26.25 - 29.75	1.0000	1.0000
L25	25	FP 6.125 x 1.25 Reinforcement	26.25 - 29.75	1.0000	1.0000
L25	27	FP 6.125 x 1.25 Reinforcement	26.25 - 29.75	1.0000	1.0000
L25	28	FP 4.875 x 1.25 Reinforcement	29.75 - 30.00	1.0000	1.0000
L25	29	FP 4.875 x 1.25 Reinforcement	29.75 - 30.00	1.0000	1.0000
L25	30	FP 4.875 x 1.25 Reinforcement	29.75 - 30.00	1.0000	1.0000
L26	17	AVA7-50(1-5/8)	26.00 - 26.25	1.0000	1.0000
L26	19	LDF4-50A(1/2)	26.00 - 26.25	1.0000	1.0000
L26	23	FP 6.125 x 1.25 Reinforcement	26.00 - 26.25	1.0000	1.0000
L26	25	FP 6.125 x 1.25 Reinforcement	26.00 - 26.25	1.0000	1.0000
L26	27	FP 6.125 x 1.25 Reinforcement	26.00 - 26.25	1.0000	1.0000
L27	17	AVA7-50(1-5/8)	21.00 - 26.00	1.0000	1.0000
L27	19	LDF4-50A(1/2)	21.00 - 26.00	1.0000	1.0000
L27	23	FP 6.125 x 1.25 Reinforcement	21.00 - 26.00	1.0000	1.0000
L27	25	FP 6.125 x 1.25 Reinforcement	21.00 - 26.00	1.0000	1.0000
L27	27	FP 6.125 x 1.25 Reinforcement	21.00 - 26.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L28	17	AVA7-50(1-5/8)	16.00 - 21.00	1.0000	1.0000
L28	19	LDF4-50A(1/2)	16.00 - 21.00	1.0000	1.0000
L28	23	FP 6.125 x 1.25 Reinforcement	16.00 - 21.00	1.0000	1.0000
L28	25	FP 6.125 x 1.25 Reinforcement	16.00 - 21.00	1.0000	1.0000
L28	27	FP 6.125 x 1.25 Reinforcement	16.00 - 21.00	1.0000	1.0000
L29	17	AVA7-50(1-5/8)	11.00 - 16.00	1.0000	1.0000
L29	19	LDF4-50A(1/2)	11.00 - 16.00	1.0000	1.0000
L29	22	FP 6.125 x 1.25 Reinforcement	11.00 - 13.53	1.0000	1.0000
L29	23	FP 6.125 x 1.25 Reinforcement	13.53 - 16.00	1.0000	1.0000
L29	24	FP 6.125 x 1.25 Reinforcement	11.00 - 13.53	1.0000	1.0000
L29	25	FP 6.125 x 1.25 Reinforcement	13.53 - 16.00	1.0000	1.0000
L29	26	FP 6.125 x 1.25 Reinforcement	11.00 - 13.53	1.0000	1.0000
L29	27	FP 6.125 x 1.25 Reinforcement	13.53 - 16.00	1.0000	1.0000
L30	17	AVA7-50(1-5/8)	6.00 - 11.00	1.0000	1.0000
L30	19	LDF4-50A(1/2)	6.00 - 11.00	1.0000	1.0000
L30	22	FP 6.125 x 1.25 Reinforcement	6.00 - 11.00	1.0000	1.0000
L30	24	FP 6.125 x 1.25 Reinforcement	6.00 - 11.00	1.0000	1.0000
L30	26	FP 6.125 x 1.25 Reinforcement	6.00 - 11.00	1.0000	1.0000
L31	17	AVA7-50(1-5/8)	1.00 - 6.00	1.0000	1.0000
L31	19	LDF4-50A(1/2)	1.00 - 6.00	1.0000	1.0000
L31	22	FP 6.125 x 1.25 Reinforcement	1.00 - 6.00	1.0000	1.0000
L31	24	FP 6.125 x 1.25 Reinforcement	1.00 - 6.00	1.0000	1.0000
L31	26	FP 6.125 x 1.25 Reinforcement	1.00 - 6.00	1.0000	1.0000
L32	17	AVA7-50(1-5/8)	0.00 - 1.00	1.0000	1.0000
L32	19	LDF4-50A(1/2)	0.00 - 1.00	1.0000	1.0000
L32	22	FP 6.125 x 1.25 Reinforcement	0.00 - 1.00	1.0000	1.0000
L32	24	FP 6.125 x 1.25 Reinforcement	0.00 - 1.00	1.0000	1.0000
L32	26	FP 6.125 x 1.25 Reinforcement	0.00 - 1.00	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
L17	28	FP 4.875 x 1.25 Reinforcement	57.00 - 59.50	Auto	0.0000
L17	29	FP 4.875 x 1.25 Reinforcement	57.00 - 59.50	Auto	0.0000
L17	30	FP 4.875 x 1.25 Reinforcement	57.00 - 59.50	Auto	0.0000
L18	28	FP 4.875 x 1.25 Reinforcement	56.75 - 57.00	Auto	0.0281
L18	29	FP 4.875 x 1.25 Reinforcement	56.75 - 57.00	Auto	0.0281

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L18	30	FP 4.875 x 1.25 Reinforcement	56.75 - 57.00	Auto	0.0281
L19	28	FP 4.875 x 1.25 Reinforcement	51.75 - 56.75	Auto	0.0117
L19	29	FP 4.875 x 1.25 Reinforcement	51.75 - 56.75	Auto	0.0117
L19	30	FP 4.875 x 1.25 Reinforcement	51.75 - 56.75	Auto	0.0117
L20	28	FP 4.875 x 1.25 Reinforcement	46.75 - 51.75	Auto	0.0000
L20	29	FP 4.875 x 1.25 Reinforcement	46.75 - 51.75	Auto	0.0000
L20	30	FP 4.875 x 1.25 Reinforcement	46.75 - 51.75	Auto	0.0000
L21	28	FP 4.875 x 1.25 Reinforcement	40.75 - 46.75	Auto	0.0000
L21	29	FP 4.875 x 1.25 Reinforcement	40.75 - 46.75	Auto	0.0000
L21	30	FP 4.875 x 1.25 Reinforcement	40.75 - 46.75	Auto	0.0000
L22	28	FP 4.875 x 1.25 Reinforcement	40.00 - 40.75	Auto	0.0000
L22	29	FP 4.875 x 1.25 Reinforcement	40.00 - 40.75	Auto	0.0000
L22	30	FP 4.875 x 1.25 Reinforcement	40.00 - 40.75	Auto	0.0000
L23	28	FP 4.875 x 1.25 Reinforcement	35.00 - 40.00	Auto	0.0000
L23	29	FP 4.875 x 1.25 Reinforcement	35.00 - 40.00	Auto	0.0000
L23	30	FP 4.875 x 1.25 Reinforcement	35.00 - 40.00	Auto	0.0000
L24	28	FP 4.875 x 1.25 Reinforcement	30.00 - 35.00	Auto	0.0000
L24	29	FP 4.875 x 1.25 Reinforcement	30.00 - 35.00	Auto	0.0000
L24	30	FP 4.875 x 1.25 Reinforcement	30.00 - 35.00	Auto	0.0000
L25	23	FP 6.125 x 1.25 Reinforcement	26.25 - 29.75	Auto	0.1181
L25	25	FP 6.125 x 1.25 Reinforcement	26.25 - 29.75	Auto	0.1181
L25	27	FP 6.125 x 1.25 Reinforcement	26.25 - 29.75	Auto	0.1181
L25	28	FP 4.875 x 1.25 Reinforcement	29.75 - 30.00	Auto	0.0000
L25	29	FP 4.875 x 1.25 Reinforcement	29.75 - 30.00	Auto	0.0000
L25	30	FP 4.875 x 1.25 Reinforcement	29.75 - 30.00	Auto	0.0000
L26	23	FP 6.125 x 1.25 Reinforcement	26.00 - 26.25	Auto	0.1244
L26	25	FP 6.125 x 1.25 Reinforcement	26.00 - 26.25	Auto	0.1244
L26	27	FP 6.125 x 1.25 Reinforcement	26.00 - 26.25	Auto	0.1244
L27	23	FP 6.125 x 1.25 Reinforcement	21.00 - 26.00	Auto	0.1095
L27	25	FP 6.125 x 1.25 Reinforcement	21.00 - 26.00	Auto	0.1095
L27	27	FP 6.125 x 1.25 Reinforcement	21.00 - 26.00	Auto	0.1095
L28	23	FP 6.125 x 1.25 Reinforcement	16.00 - 21.00	Auto	0.0879
L28	25	FP 6.125 x 1.25 Reinforcement	16.00 - 21.00	Auto	0.0879
L28	27	FP 6.125 x 1.25 Reinforcement	16.00 - 21.00	Auto	0.0879

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L29	22	FP 6.125 x 1.25 Reinforcement	11.00 - 13.53	Auto	0.0575
L29	23	FP 6.125 x 1.25 Reinforcement	13.53 - 16.00	Auto	0.0682
L29	24	FP 6.125 x 1.25 Reinforcement	11.00 - 13.53	Auto	0.0575
L29	25	FP 6.125 x 1.25 Reinforcement	13.53 - 16.00	Auto	0.0682
L29	26	FP 6.125 x 1.25 Reinforcement	11.00 - 13.53	Auto	0.0575
L29	27	FP 6.125 x 1.25 Reinforcement	13.53 - 16.00	Auto	0.0682
L30	22	FP 6.125 x 1.25 Reinforcement	6.00 - 11.00	Auto	0.0412
L30	24	FP 6.125 x 1.25 Reinforcement	6.00 - 11.00	Auto	0.0412
L30	26	FP 6.125 x 1.25 Reinforcement	6.00 - 11.00	Auto	0.0412
L31	22	FP 6.125 x 1.25 Reinforcement	1.00 - 6.00	Auto	0.0179
L31	24	FP 6.125 x 1.25 Reinforcement	1.00 - 6.00	Auto	0.0179
L31	26	FP 6.125 x 1.25 Reinforcement	1.00 - 6.00	Auto	0.0179
L32	22	FP 6.125 x 1.25 Reinforcement	0.00 - 1.00	Auto	0.0049
L32	24	FP 6.125 x 1.25 Reinforcement	0.00 - 1.00	Auto	0.0049
L32	26	FP 6.125 x 1.25 Reinforcement	0.00 - 1.00	Auto	0.0049

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
5/8" X 5' Lightning Rod	C	None		0.00	135.5000	No Ice	0.3125	0.3125	0.01
						1/2" Ice	0.8260	0.8260	0.01
						1" Ice	1.3216	1.3216	0.02
*******									
TPA65R-BU8D_CCIV2 w/ Mount Pipe	A	From Leg	1.0000 0.00 0.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice	15.8900 16.8100 17.7600	7.8900 8.7400 9.6000	0.12 0.23 0.36
TPA65R-BU8D_CCIV2 w/ Mount Pipe	B	From Leg	1.0000 0.00 0.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice	15.8900 16.8100 17.7600	7.8900 8.7400 9.6000	0.12 0.23 0.36
TPA65R-BU8D_CCIV2 w/ Mount Pipe	C	From Leg	1.0000 0.00 0.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice	15.8900 16.8100 17.7600	7.8900 8.7400 9.6000	0.12 0.23 0.36
DC6-48-60-18-8F	A	From Leg	1.0000 0.00 0.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice	1.2117 1.8924 2.1051	1.2117 1.8924 2.1051	0.03 0.05 0.08
DC6-48-60-18-8C-EV	B	From Leg	1.0000 0.00 0.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice	1.1445 1.7918 2.0017	1.1445 1.7918 2.0017	0.03 0.05 0.07
RRUS 4449 B5/B12	A	From Leg	1.0000 0.00	0.00	132.0000	No Ice	1.9675 2.1439	1.4081 1.5637	0.07 0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	2.3278	1.7267	0.11
						1" Ice			
RRUS 4449 B5/B12	B	From Leg	1.0000	0.00	132.0000	No Ice	1.9675	1.4081	0.07
			0.00			1/2" Ice	2.1439	1.5637	0.09
			0.00			1" Ice	2.3278	1.7267	0.11
RRUS 4449 B5/B12	C	From Leg	1.0000	0.00	132.0000	No Ice	1.9675	1.4081	0.07
			0.00			1/2" Ice	2.1439	1.5637	0.09
			0.00			1" Ice	2.3278	1.7267	0.11
RRUS 4415 B25	A	From Leg	1.0000	0.00	132.0000	No Ice	1.6444	0.6788	0.04
			0.00			1/2" Ice	1.8044	0.7911	0.06
			0.00			1" Ice	1.9719	0.9129	0.07
RRUS 4415 B25	B	From Leg	1.0000	0.00	132.0000	No Ice	1.6444	0.6788	0.04
			0.00			1/2" Ice	1.8044	0.7911	0.06
			0.00			1" Ice	1.9719	0.9129	0.07
RRUS 4415 B25	C	From Leg	1.0000	0.00	132.0000	No Ice	1.6444	0.6788	0.04
			0.00			1/2" Ice	1.8044	0.7911	0.06
			0.00			1" Ice	1.9719	0.9129	0.07
DBC0111F2V62-1	A	From Leg	1.0000	0.00	132.0000	No Ice	1.0959	1.0603	0.05
			0.00			1/2" Ice	1.2275	1.1900	0.06
			0.00			1" Ice	1.3666	1.3272	0.08
DBC0111F2V62-1	B	From Leg	1.0000	0.00	132.0000	No Ice	1.0959	1.0603	0.05
			0.00			1/2" Ice	1.2275	1.1900	0.06
			0.00			1" Ice	1.3666	1.3272	0.08
DBC0111F2V62-1	C	From Leg	1.0000	0.00	132.0000	No Ice	1.0959	1.0603	0.05
			0.00			1/2" Ice	1.2275	1.1900	0.06
			0.00			1" Ice	1.3666	1.3272	0.08
Side Arm Mount [SO 901-3]	C	None		0.00	132.0000	No Ice	1.1400	1.1400	0.32
						1/2" Ice	1.4900	1.4900	0.34
						1" Ice	1.9100	1.9100	0.37
****									
***									
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.0000	0.00	120.0000	No Ice	5.1900	2.7100	0.13
			0.00			1/2" Ice	5.5900	3.0400	0.17
			1.00			1" Ice	6.0200	3.3800	0.23
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.0000	0.00	120.0000	No Ice	5.1900	2.7100	0.13
			0.00			1/2" Ice	5.5900	3.0400	0.17
			1.00			1" Ice	6.0200	3.3800	0.23
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.0000	0.00	120.0000	No Ice	5.1900	2.7100	0.13
			0.00			1/2" Ice	5.5900	3.0400	0.17
			1.00			1" Ice	6.0200	3.3800	0.23
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.0000	0.00	120.0000	No Ice	14.6900	6.8700	0.18
			0.00			1/2" Ice	15.4600	7.5500	0.31
			1.00			1" Ice	16.2300	8.2500	0.45
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.0000	0.00	120.0000	No Ice	14.6900	6.8700	0.18
			0.00			1/2" Ice	15.4600	7.5500	0.31
			1.00			1" Ice	16.2300	8.2500	0.45
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.0000	0.00	120.0000	No Ice	14.6900	6.8700	0.18
			0.00			1/2" Ice	15.4600	7.5500	0.31
			1.00			1" Ice	16.2300	8.2500	0.45

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert ft ft ft*	*Azimuth Adjustment °*	*Placement ft*		*C_AA_A Front ft^2*	*C_AA_A Side ft^2*	*Weight K*
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.0000 0.00 1.00	0.00	120.0000	No Ice 1/2" Ice 1" Ice	2.1392 2.3212 2.5106	1.6858 1.8501 2.0218	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.0000 0.00 1.00	0.00	120.0000	No Ice 1/2" Ice 1" Ice	2.1392 2.3212 2.5106	1.6858 1.8501 2.0218	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.0000 0.00 1.00	0.00	120.0000	No Ice 1/2" Ice 1" Ice	2.1392 2.3212 2.5106	1.6858 1.8501 2.0218	0.11 0.13 0.16
Radio 4480_TMOV2	A	From Leg	4.0000 0.00 1.00	0.00	120.0000	No Ice 1/2" Ice 1" Ice	2.8783 3.0915 3.3120	1.3971 1.5583 1.7266	0.08 0.10 0.13
Radio 4480_TMOV2	A	From Leg	4.0000 0.00 1.00	0.00	120.0000	No Ice 1/2" Ice 1" Ice	2.8783 3.0915 3.3120	1.3971 1.5583 1.7266	0.08 0.10 0.13
Radio 4480_TMOV2	A	From Leg	4.0000 0.00 1.00	0.00	120.0000	No Ice 1/2" Ice 1" Ice	2.8783 3.0915 3.3120	1.3971 1.5583 1.7266	0.08 0.10 0.13
SitePro1 RMQP-496-HK	C	None		0.00	120.0000	No Ice 1/2" Ice 1" Ice	23.1400 28.1700 33.2300	23.1400 28.1700 33.2300	1.95 2.34 2.85
***									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	8.0100 8.5200 9.0400	4.2300 4.6900 5.1600	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	8.0100 8.5200 9.0400	4.2300 4.6900 5.1600	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	8.0100 8.5200 9.0400	4.2300 4.6900 5.1600	0.11 0.19 0.29
TA08025-B604	A	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	1.9635 2.1378 2.3195	0.9811 1.1117 1.2496	0.06 0.08 0.10
TA08025-B604	B	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	1.9635 2.1378 2.3195	0.9811 1.1117 1.2496	0.06 0.08 0.10
TA08025-B604	C	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	1.9635 2.1378 2.3195	0.9811 1.1117 1.2496	0.06 0.08 0.10
TA08025-B605	A	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	1.9635 2.1378 2.3195	1.1295 1.2666 1.4112	0.08 0.09 0.11
TA08025-B605	B	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	1.9635 2.1378 2.3195	1.1295 1.2666 1.4112	0.08 0.09 0.11
TA08025-B605	C	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	1.9635 2.1378 2.3195	1.1295 1.2666 1.4112	0.08 0.09 0.11

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
RDIDC-9181-PF-48	A	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	2.0119 2.1886 2.3727	1.1682 1.3109 1.4611	0.02 0.04 0.06
Commscope_MC-Pk8-DSH_Platform	C	None		0.00	111.0000	No Ice 1/2" Ice 1" Ice	34.2400 62.9500 91.6600	34.2400 62.9500 91.6600	1.75 2.10 2.45
(2) 8' x 2" Sch 40 Pipe Mount	A	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	1.9000 2.7281 3.4009	1.9000 2.7281 3.4009	0.03 0.04 0.06
(2) 8' x 2" Sch 40 Pipe Mount	B	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	1.9000 2.7281 3.4009	1.9000 2.7281 3.4009	0.03 0.04 0.06
(2) 8' x 2" Sch 40 Pipe Mount	C	From Leg	4.0000 0.00 0.00	0.00	111.0000	No Ice 1/2" Ice 1" Ice	1.9000 2.7281 3.4009	1.9000 2.7281 3.4009	0.03 0.04 0.06
***									
APX16DWV-16DWVS-C	A	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	6.2600 6.8500 7.4600	1.5000 2.0000 2.5200	0.04 0.07 0.11
APX16DWV-16DWVS-C	B	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	6.2600 6.8500 7.4600	1.5000 2.0000 2.5200	0.04 0.07 0.11
APX16DWV-16DWVS-C	C	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	6.2600 6.8500 7.4600	1.5000 2.0000 2.5200	0.04 0.07 0.11
ETT19VS12UB	A	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	0.2761 0.3495 0.4323	0.5718 0.6683 0.7722	0.01 0.02 0.02
ETT19VS12UB	B	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	0.2761 0.3495 0.4323	0.5718 0.6683 0.7722	0.01 0.02 0.02
ETT19VS12UB	C	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	0.2761 0.3495 0.4323	0.5718 0.6683 0.7722	0.01 0.02 0.02
KRY 112 144/1	A	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	0.3500 0.4259 0.5093	0.1750 0.2343 0.3009	0.01 0.01 0.02
KRY 112 144/1	B	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	0.3500 0.4259 0.5093	0.1750 0.2343 0.3009	0.01 0.01 0.02
KRY 112 144/1	C	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	0.3500 0.4259 0.5093	0.1750 0.2343 0.3009	0.01 0.01 0.02
T-Arm Mount [TA 602-3]	C	None		0.00	101.0000	No Ice 1/2" Ice 1" Ice	13.4000 16.4400 19.7000	13.4000 16.4400 19.7000	0.77 1.00 1.29
2.375" OD x 6' Mount Pipe	A	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	1.4250 1.9250 2.2939	1.4250 1.9250 2.2939	0.03 0.04 0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
2.375" OD x 6' Mount Pipe	B	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	1.4250 1.9250 2.2939	1.4250 1.9250 2.2939	0.03 0.04 0.05
2.375" OD x 6' Mount Pipe	C	From Leg	4.0000 0.00 0.00	0.00	101.0000	No Ice 1/2" Ice 1" Ice	1.4250 1.9250 2.2939	1.4250 1.9250 2.2939	0.03 0.04 0.05
***									
BXA-70063-4CF-EDIN-X w/ Mount Pipe	A	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	4.8400 5.3500 5.8800	3.5400 4.0300 4.5300	0.04 0.08 0.12
BXA-70063-4CF-EDIN-X w/ Mount Pipe	B	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	4.8400 5.3500 5.8800	3.5400 4.0300 4.5300	0.04 0.08 0.12
BXA-70063-4CF-EDIN-X w/ Mount Pipe	C	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	4.8400 5.3500 5.8800	3.5400 4.0300 4.5300	0.04 0.08 0.12
LNX-6514DS-A1M w/ Mount Pipe	A	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	4.0900 4.4900 4.8900	3.3000 3.6800 4.0600	0.06 0.13 0.20
LNX-6514DS-A1M w/ Mount Pipe	B	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	4.0900 4.4900 4.8900	3.3000 3.6800 4.0600	0.06 0.13 0.20
LNX-6514DS-A1M w/ Mount Pipe	C	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	4.0900 4.4900 4.8900	3.3000 3.6800 4.0600	0.06 0.13 0.20
BXA-171063-8BF-2 w/ Mount Pipe	A	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	3.1789 3.5550 3.9298	3.3530 3.9709 4.5951	0.03 0.06 0.10
BXA-171063-8BF-2 w/ Mount Pipe	B	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	3.1789 3.5550 3.9298	3.3530 3.9709 4.5951	0.03 0.06 0.10
BXA-171063-12CF-EDIN-X w/ Mount Pipe	A	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	5.0290 5.5830 6.1033	5.2887 6.4594 7.3479	0.04 0.09 0.14
BXA-171063-12CF-EDIN-X w/ Mount Pipe	B	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	5.0290 5.5830 6.1033	5.2887 6.4594 7.3479	0.04 0.09 0.14
BXA-171063-12CF-EDIN-X w/ Mount Pipe	C	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	5.0290 5.5830 6.1033	5.2887 6.4594 7.3479	0.04 0.09 0.14
BXA-171085-8BF-EDIN-0 w/ Mount Pipe	C	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	3.1789 3.5550 3.9298	3.3530 3.9709 4.5951	0.03 0.06 0.10
RRH2X40-AWS	A	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	2.1614 2.3597 2.5655	1.4199 1.5903 1.7676	0.04 0.06 0.08
RRH2X40-AWS	B	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	2.1614 2.3597 2.5655	1.4199 1.5903 1.7676	0.04 0.06 0.08

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
RRH2X40-AWS	C	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	2.1614 2.3597 2.5655	1.4199 1.5903 1.7676	0.04 0.06 0.08
(2) FD9R6004/2C-3L	A	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	0.3142 0.3862 0.4656	0.0762 0.1189 0.1685	0.00 0.01 0.01
(2) FD9R6004/2C-3L	B	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	0.3142 0.3862 0.4656	0.0762 0.1189 0.1685	0.00 0.01 0.01
(2) FD9R6004/2C-3L	C	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	0.3142 0.3862 0.4656	0.0762 0.1189 0.1685	0.00 0.01 0.01
DB-T1-6Z-8AB-0Z	A	From Leg	4.0000 0.00 1.00	0.00	93.0000	No Ice 1/2" Ice 1" Ice	4.8000 5.0704 5.3481	2.0000 2.1926 2.3926	0.04 0.08 0.12
Platform Mount [LP 1201-1]	C	None		0.00	93.0000	No Ice 1/2" Ice 1" Ice	18.3800 22.1100 25.8700	18.3800 22.1100 25.8700	2.10 2.65 3.26
****									
APXV18-206517S-C	A	From Face	1.0000 0.00 0.00	0.00	75.0000	No Ice 1/2" Ice 1" Ice	3.8300 4.4600 5.1100	1.8100 2.4100 3.0300	0.03 0.05 0.09
APXV18-206517S-C	B	From Face	1.0000 0.00 0.00	0.00	75.0000	No Ice 1/2" Ice 1" Ice	3.8300 4.4600 5.1100	1.8100 2.4100 3.0300	0.03 0.05 0.09
APXV18-206517S-C	C	From Face	1.0000 0.00 0.00	0.00	75.0000	No Ice 1/2" Ice 1" Ice	3.8300 4.4600 5.1100	1.8100 2.4100 3.0300	0.03 0.05 0.09
Pipe Mount [PM 601-3]	C	None		0.00	75.0000	No Ice 1/2" Ice 1" Ice	3.1700 3.7900 4.4200	3.1700 3.7900 4.4200	0.20 0.23 0.28
****									
KS24019-L112A	A	From Face	2.0000 0.00 1.00	0.00	50.0000	No Ice 1/2" Ice 1" Ice	0.1407 0.1979 0.2621	0.1407 0.1979 0.2621	0.01 0.01 0.01
Side Arm Mount [SO 702-1]	A	From Leg	1.0000 0.00 0.00	0.00	50.0000	No Ice 1/2" Ice 1" Ice	0.6200 0.7400 0.8900	1.4900 2.0700 2.5400	0.03 0.04 0.06
****									

Tower Pressures - No Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 133.0000-128.0000	130.5000	1.339	42.527	5.833	A B C	0.000 0.000 0.000	5.833 5.833 5.833	5.833	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.000 0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L2 128.0000-123.5000	125.7500	1.328	42.197	5.250	A	0.000	5.250	5.250	100.00	0.000	0.000
					B	0.000	5.250		100.00	0.000	0.000
					C	0.000	5.250		100.00	0.000	0.000
L3 123.5000-123.0000	123.2315	1.323	42.017	0.750	A	0.000	0.750	0.750	100.00	0.000	0.000
					B	0.000	0.750		100.00	0.000	0.000
					C	0.000	0.750		100.00	0.000	0.000
L4 123.0000-118.0000	120.4860	1.316	41.819	9.455	A	0.000	9.455	9.455	100.00	0.000	0.000
					B	0.000	9.455		100.00	0.000	0.000
					C	0.000	9.455		100.00	0.000	0.000
L5 118.0000-113.0000	115.4865	1.305	41.447	9.772	A	0.000	9.772	9.772	100.00	0.000	0.000
					B	0.000	9.772		100.00	0.000	0.000
					C	0.000	9.772		100.00	0.000	0.000
L6 113.0000-108.0000	110.4869	1.292	41.063	10.090	A	0.000	10.090	10.090	100.00	0.000	0.000
					B	0.000	10.090		100.00	0.000	0.000
					C	0.000	10.090		100.00	0.000	0.000
L7 108.0000-103.0000	105.4873	1.28	40.664	10.407	A	0.000	10.407	10.407	100.00	0.000	0.000
					B	0.000	10.407		100.00	0.000	0.000
					C	0.000	10.407		100.00	0.000	0.000
L8 103.0000-98.0000	100.4877	1.267	40.251	10.724	A	0.000	10.724	10.724	100.00	0.000	0.000
					B	0.000	10.724		100.00	0.000	0.000
					C	0.000	10.724		100.00	0.000	0.000
L9 98.0000-93.0000	95.4880	1.253	39.821	11.042	A	0.000	11.042	11.042	100.00	0.000	0.000
					B	0.000	11.042		100.00	0.000	0.000
					C	0.000	11.042		100.00	0.000	0.000
L10 93.0000-88.0000	90.4884	1.239	39.372	11.359	A	0.000	11.359	11.359	100.00	0.000	0.000
					B	0.000	11.359		100.00	0.000	0.000
					C	0.000	11.359		100.00	0.000	0.000
L11 88.0000-82.2500	85.1101	1.223	38.868	13.455	A	0.000	13.455	13.455	100.00	0.000	0.000
					B	0.000	13.455		100.00	0.000	0.000
					C	0.000	13.455		100.00	0.000	0.000
L12 82.2500-80.7500	81.4990	1.212	38.515	3.530	A	0.000	3.530	3.530	100.00	0.000	0.000
					B	0.000	3.530		100.00	0.000	0.000
					C	0.000	3.530		100.00	0.000	0.000
L13 80.7500-75.7500	78.2390	1.202	38.185	11.974	A	0.000	11.974	11.974	100.00	0.000	0.000
					B	0.000	11.974		100.00	0.000	0.000
					C	0.000	11.974		100.00	0.000	0.000
L14 75.7500-70.7500	73.2393	1.185	37.658	12.292	A	0.000	12.292	12.292	100.00	1.708	0.000
					B	0.000	12.292		100.00	0.000	0.000
					C	0.000	12.292		100.00	0.000	0.000
L15 70.7500-65.7500	68.2395	1.168	37.101	12.609	A	0.000	12.609	12.609	100.00	2.010	0.000
					B	0.000	12.609		100.00	0.000	0.000
					C	0.000	12.609		100.00	0.000	0.000
L16 65.7500-60.7500	63.2398	1.149	36.512	12.926	A	0.000	12.926	12.926	100.00	2.010	0.000
					B	0.000	12.926		100.00	0.000	0.000
					C	0.000	12.926		100.00	0.000	0.000
L17 60.7500-57.0000	58.8694	1.132	35.965	9.903	A	0.000	9.903	9.903	100.00	3.539	0.000
					B	0.000	9.903		100.00	2.031	0.000
					C	0.000	9.903		100.00	2.031	0.000
L18 57.0000-56.7500	56.8750	1.124	35.705	0.666	A	0.000	0.666	0.666	100.00	0.304	0.000
					B	0.000	0.666		100.00	0.203	0.000
					C	0.000	0.666		100.00	0.203	0.000
L19 56.7500-51.7500	54.2402	1.113	35.351	13.484	A	0.000	13.484	13.484	100.00	6.072	0.000
					B	0.000	13.484		100.00	4.063	0.000
					C	0.000	13.484		100.00	4.063	0.000
L20 51.7500-46.7500	49.2404	1.09	34.638	13.802	A	0.000	13.802	13.802	100.00	6.072	0.000
					B	0.000	13.802		100.00	4.266	0.000
					C	0.000	13.802		100.00	4.063	0.000
L21 46.7500-40.7500	43.7366	1.063	33.785	16.982	A	0.000	16.982	16.982	100.00	7.287	0.000
					B	0.000	16.982		100.00	5.250	0.000
					C	0.000	16.982		100.00	4.875	0.000
L22 40.7500-40.0000	40.3748	1.046	33.220	2.123	A	0.000	2.123	2.123	100.00	0.911	0.000
					B	0.000	2.123		100.00	0.656	0.000
					C	0.000	2.123		100.00	0.609	0.000
L23 40.0000-35.0000	37.4908	1.029	32.706	14.335	A	0.000	14.335	14.335	100.00	6.072	0.000
					B	0.000	14.335		100.00	4.375	0.000
					C	0.000	14.335		100.00	4.063	0.000
L24 35.0000-30.0000	32.4910	0.999	31.735	14.653	A	0.000	14.653	14.653	100.00	6.072	0.000
					B	0.000	14.653		100.00	4.375	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
					C	0.000	14.653		100.00	4.063	0.000
L25 30.0000-26.2500	28.1200	0.969	30.785	11.198	A	0.000	11.198	11.198	100.00	5.284	0.000
					B	0.000	11.198		100.00	4.010	0.000
					C	0.000	11.198		100.00	3.776	0.000
L26 26.2500-26.0000	26.1250	0.954	30.311	0.753	A	0.000	0.753	0.753	100.00	0.356	0.000
					B	0.000	0.753		100.00	0.271	0.000
					C	0.000	0.753		100.00	0.255	0.000
L27 26.0000-21.0000	23.4913	0.933	29.641	15.222	A	0.000	15.222	15.222	100.00	7.114	0.000
					B	0.000	15.222		100.00	5.417	0.000
					C	0.000	15.222		100.00	5.104	0.000
L28 21.0000-16.0000	18.4915	0.887	28.184	15.539	A	0.000	15.539	15.539	100.00	7.114	0.000
					B	0.000	15.539		100.00	5.417	0.000
					C	0.000	15.539		100.00	5.104	0.000
L29 16.0000-11.0000	13.4917	0.85	27.005	15.857	A	0.000	15.857	15.857	100.00	7.114	0.000
					B	0.000	15.857		100.00	5.417	0.000
					C	0.000	15.857		100.00	5.104	0.000
L30 11.0000-6.0000	8.4918	0.85	27.005	16.175	A	0.000	16.175	16.175	100.00	7.114	0.000
					B	0.000	16.175		100.00	5.417	0.000
					C	0.000	16.175		100.00	5.104	0.000
L31 6.0000-1.0000	3.4920	0.85	27.005	16.493	A	0.000	16.493	16.493	100.00	7.114	0.000
					B	0.000	16.493		100.00	5.417	0.000
					C	0.000	16.493		100.00	5.104	0.000
L32 1.0000-0.0000	0.4997	0.85	27.005	3.337	A	0.000	3.337	3.337	100.00	1.423	0.000
					B	0.000	3.337		100.00	1.083	0.000
					C	0.000	3.337		100.00	1.021	0.000

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 133.0000-128.0000	130.5000	1.339	7.636	0.9753	6.646	A	0.000	6.646	6.646	100.00	0.000	0.000
						B	0.000	6.646		100.00	0.000	0.000
						C	0.000	6.646		100.00	0.000	0.000
L2 128.0000-123.5000	125.7500	1.328	7.576	0.9717	5.979	A	0.000	5.979	5.979	100.00	0.000	0.000
						B	0.000	5.979		100.00	0.000	0.000
						C	0.000	5.979		100.00	0.000	0.000
L3 123.5000-123.0000	123.2315	1.323	7.544	0.9697	0.831	A	0.000	0.831	0.831	100.00	0.000	0.000
						B	0.000	0.831		100.00	0.000	0.000
						C	0.000	0.831		100.00	0.000	0.000
L4 123.0000-118.0000	120.4860	1.316	7.508	0.9675	10.261	A	0.000	10.261	10.261	100.00	0.000	0.000
						B	0.000	10.261		100.00	0.000	0.000
						C	0.000	10.261		100.00	0.000	0.000
L5 118.0000-113.0000	115.4865	1.305	7.442	0.9634	10.575	A	0.000	10.575	10.575	100.00	0.000	0.000
						B	0.000	10.575		100.00	0.000	0.000
						C	0.000	10.575		100.00	0.000	0.000
L6 113.0000-108.0000	110.4869	1.292	7.373	0.9592	10.889	A	0.000	10.889	10.889	100.00	0.000	0.000
						B	0.000	10.889		100.00	0.000	0.000
						C	0.000	10.889		100.00	0.000	0.000
L7 108.0000-103.0000	105.4873	1.28	7.301	0.9547	11.203	A	0.000	11.203	11.203	100.00	0.000	0.000
						B	0.000	11.203		100.00	0.000	0.000
						C	0.000	11.203		100.00	0.000	0.000
L8 103.0000-98.0000	100.4877	1.267	7.227	0.9501	11.516	A	0.000	11.516	11.516	100.00	0.000	0.000
						B	0.000	11.516		100.00	0.000	0.000
						C	0.000	11.516		100.00	0.000	0.000
L9 98.0000-93.0000	95.4880	1.253	7.150	0.9453	11.829	A	0.000	11.829	11.829	100.00	0.000	0.000
						B	0.000	11.829		100.00	0.000	0.000
						C	0.000	11.829		100.00	0.000	0.000
L10 93.0000-88.0000	90.4884	1.239	7.069	0.9402	12.143	A	0.000	12.143	12.143	100.00	0.000	0.000
						B	0.000	12.143		100.00	0.000	0.000
						C	0.000	12.143		100.00	0.000	0.000
L11 88.0000-82.2500	85.1101	1.223	6.979	0.9345	14.351	A	0.000	14.351	14.351	100.00	0.000	0.000
						B	0.000	14.351		100.00	0.000	0.000
						C	0.000	14.351		100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L12 82.2500-80.7500	81.4990	1.212	6.915	0.9304	3.764	A	0.000	3.764	3.764	100.00	0.000	0.000
						B	0.000	3.764		100.00	0.000	0.000
						C	0.000	3.764		100.00	0.000	0.000
L13 80.7500-75.7500	78.2390	1.202	6.856	0.9266	12.746	A	0.000	12.746	12.746	100.00	0.000	0.000
						B	0.000	12.746		100.00	0.000	0.000
						C	0.000	12.746		100.00	0.000	0.000
L14 75.7500-70.7500	73.2393	1.185	6.761	0.9205	13.059	A	0.000	13.059	13.059	100.00	3.114	0.000
						B	0.000	13.059		100.00	0.000	0.000
						C	0.000	13.059		100.00	0.000	0.000
L15 70.7500-65.7500	68.2395	1.168	6.661	0.9141	13.371	A	0.000	13.371	13.371	100.00	3.655	0.000
						B	0.000	13.371		100.00	0.000	0.000
						C	0.000	13.371		100.00	0.000	0.000
L16 65.7500-60.7500	63.2398	1.149	6.556	0.9071	13.682	A	0.000	13.682	13.682	100.00	3.646	0.000
						B	0.000	13.682		100.00	0.000	0.000
						C	0.000	13.682		100.00	0.000	0.000
L17 60.7500-57.0000	58.8694	1.132	6.457	0.9007	10.466	A	0.000	10.466	10.466	100.00	5.210	0.000
						B	0.000	10.466		100.00	2.482	0.000
						C	0.000	10.466		100.00	2.482	0.000
L18 57.0000-56.7500	56.8750	1.124	6.411	0.8976	0.703	A	0.000	0.703	0.703	100.00	0.430	0.000
						B	0.000	0.703		100.00	0.248	0.000
						C	0.000	0.703		100.00	0.248	0.000
L19 56.7500-51.7500	54.2402	1.113	6.347	0.8933	14.229	A	0.000	14.229	14.229	100.00	8.585	0.000
						B	0.000	14.229		100.00	4.956	0.000
						C	0.000	14.229		100.00	4.956	0.000
L20 51.7500-46.7500	49.2404	1.09	6.219	0.8847	14.540	A	0.000	14.540	14.540	100.00	8.566	0.000
						B	0.000	14.540		100.00	5.725	0.000
						C	0.000	14.540		100.00	4.947	0.000
L21 46.7500-40.7500	43.7366	1.063	6.066	0.8743	17.856	A	0.000	17.856	17.856	100.00	10.251	0.000
						B	0.000	17.856		100.00	7.348	0.000
						C	0.000	17.856		100.00	5.924	0.000
L22 40.7500-40.0000	40.3748	1.046	5.965	0.8673	2.232	A	0.000	2.232	2.232	100.00	1.281	0.000
						B	0.000	2.232		100.00	0.919	0.000
						C	0.000	2.232		100.00	0.741	0.000
L23 40.0000-35.0000	37.4908	1.029	5.872	0.8609	15.053	A	0.000	15.053	15.053	100.00	8.512	0.000
						B	0.000	15.053		100.00	6.097	0.000
						C	0.000	15.053		100.00	4.923	0.000
L24 35.0000-30.0000	32.4910	0.999	5.698	0.8487	15.360	A	0.000	15.360	15.360	100.00	8.485	0.000
						B	0.000	15.360		100.00	6.072	0.000
						C	0.000	15.360		100.00	4.911	0.000
L25 30.0000-26.2500	28.1200	0.969	5.527	0.8365	11.721	A	0.000	11.721	11.721	100.00	7.070	0.000
						B	0.000	11.721		100.00	5.263	0.000
						C	0.000	11.721		100.00	4.401	0.000
L26 26.2500-26.0000	26.1250	0.954	5.442	0.8304	0.787	A	0.000	0.787	0.787	100.00	0.474	0.000
						B	0.000	0.787		100.00	0.354	0.000
						C	0.000	0.787		100.00	0.297	0.000
L27 26.0000-21.0000	23.4913	0.933	5.322	0.8216	15.906	A	0.000	15.906	15.906	100.00	9.463	0.000
						B	0.000	15.906		100.00	7.058	0.000
						C	0.000	15.906		100.00	5.924	0.000
L28 21.0000-16.0000	18.4915	0.887	5.060	0.8022	16.208	A	0.000	16.208	16.208	100.00	9.421	0.000
						B	0.000	16.208		100.00	7.021	0.000
						C	0.000	16.208		100.00	5.906	0.000
L29 16.0000-11.0000	13.4917	0.85	4.849	0.7773	16.505	A	0.000	16.505	16.505	100.00	9.225	0.000
						B	0.000	16.505		100.00	6.831	0.000
						C	0.000	16.505		100.00	5.741	0.000
L30 11.0000-6.0000	8.4918	0.85	4.849	0.7421	16.793	A	0.000	16.793	16.793	100.00	9.027	0.000
						B	0.000	16.793		100.00	6.641	0.000
						C	0.000	16.793		100.00	5.587	0.000
L31 6.0000-1.0000	3.4920	0.85	4.849	0.6790	17.058	A	0.000	17.058	17.058	100.00	8.915	0.000
						B	0.000	17.058		100.00	6.545	0.000
						C	0.000	17.058		100.00	5.554	0.000
L32 1.0000-0.0000	0.4997	0.85	4.849	0.5590	3.430	A	0.000	3.430	3.430	100.00	1.740	0.000
						B	0.000	3.430		100.00	1.272	0.000
						C	0.000	3.430		100.00	1.098	0.000

Tower Pressure - Service

$G_H = 1.100$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 133.0000-128.0000	130.5000	1.339	10.356	5.833	A	0.000	5.833	5.833	100.00	0.000	0.000
					B	0.000	5.833		100.00	0.000	0.000
					C	0.000	5.833		100.00	0.000	0.000
L2 128.0000-123.5000	125.7500	1.328	10.275	5.250	A	0.000	5.250	5.250	100.00	0.000	0.000
					B	0.000	5.250		100.00	0.000	0.000
					C	0.000	5.250		100.00	0.000	0.000
L3 123.5000-123.0000	123.2315	1.323	10.231	0.750	A	0.000	0.750	0.750	100.00	0.000	0.000
					B	0.000	0.750		100.00	0.000	0.000
					C	0.000	0.750		100.00	0.000	0.000
L4 123.0000-118.0000	120.4860	1.316	10.183	9.455	A	0.000	9.455	9.455	100.00	0.000	0.000
					B	0.000	9.455		100.00	0.000	0.000
					C	0.000	9.455		100.00	0.000	0.000
L5 118.0000-113.0000	115.4865	1.305	10.093	9.772	A	0.000	9.772	9.772	100.00	0.000	0.000
					B	0.000	9.772		100.00	0.000	0.000
					C	0.000	9.772		100.00	0.000	0.000
L6 113.0000-108.0000	110.4869	1.292	9.999	10.090	A	0.000	10.090	10.090	100.00	0.000	0.000
					B	0.000	10.090		100.00	0.000	0.000
					C	0.000	10.090		100.00	0.000	0.000
L7 108.0000-103.0000	105.4873	1.28	9.902	10.407	A	0.000	10.407	10.407	100.00	0.000	0.000
					B	0.000	10.407		100.00	0.000	0.000
					C	0.000	10.407		100.00	0.000	0.000
L8 103.0000-98.0000	100.4877	1.267	9.801	10.724	A	0.000	10.724	10.724	100.00	0.000	0.000
					B	0.000	10.724		100.00	0.000	0.000
					C	0.000	10.724		100.00	0.000	0.000
L9 98.0000-93.0000	95.4880	1.253	9.697	11.042	A	0.000	11.042	11.042	100.00	0.000	0.000
					B	0.000	11.042		100.00	0.000	0.000
					C	0.000	11.042		100.00	0.000	0.000
L10 93.0000-88.0000	90.4884	1.239	9.587	11.359	A	0.000	11.359	11.359	100.00	0.000	0.000
					B	0.000	11.359		100.00	0.000	0.000
					C	0.000	11.359		100.00	0.000	0.000
L11 88.0000-82.2500	85.1101	1.223	9.465	13.455	A	0.000	13.455	13.455	100.00	0.000	0.000
					B	0.000	13.455		100.00	0.000	0.000
					C	0.000	13.455		100.00	0.000	0.000
L12 82.2500-80.7500	81.4990	1.212	9.379	3.530	A	0.000	3.530	3.530	100.00	0.000	0.000
					B	0.000	3.530		100.00	0.000	0.000
					C	0.000	3.530		100.00	0.000	0.000
L13 80.7500-75.7500	78.2390	1.202	9.298	11.974	A	0.000	11.974	11.974	100.00	0.000	0.000
					B	0.000	11.974		100.00	0.000	0.000
					C	0.000	11.974		100.00	0.000	0.000
L14 75.7500-70.7500	73.2393	1.185	9.170	12.292	A	0.000	12.292	12.292	100.00	1.708	0.000
					B	0.000	12.292		100.00	0.000	0.000
					C	0.000	12.292		100.00	0.000	0.000
L15 70.7500-65.7500	68.2395	1.168	9.034	12.609	A	0.000	12.609	12.609	100.00	2.010	0.000
					B	0.000	12.609		100.00	0.000	0.000
					C	0.000	12.609		100.00	0.000	0.000
L16 65.7500-60.7500	63.2398	1.149	8.891	12.926	A	0.000	12.926	12.926	100.00	2.010	0.000
					B	0.000	12.926		100.00	0.000	0.000
					C	0.000	12.926		100.00	0.000	0.000
L17 60.7500-57.0000	58.8694	1.132	8.758	9.903	A	0.000	9.903	9.903	100.00	3.539	0.000
					B	0.000	9.903		100.00	2.031	0.000
					C	0.000	9.903		100.00	2.031	0.000
L18 57.0000-56.7500	56.8750	1.124	8.694	0.666	A	0.000	0.666	0.666	100.00	0.304	0.000
					B	0.000	0.666		100.00	0.203	0.000
					C	0.000	0.666		100.00	0.203	0.000
L19 56.7500-51.7500	54.2402	1.113	8.608	13.484	A	0.000	13.484	13.484	100.00	6.072	0.000
					B	0.000	13.484		100.00	4.063	0.000
					C	0.000	13.484		100.00	4.063	0.000
L20 51.7500-46.7500	49.2404	1.09	8.435	13.802	A	0.000	13.802	13.802	100.00	6.072	0.000
					B	0.000	13.802		100.00	4.266	0.000
					C	0.000	13.802		100.00	4.063	0.000
L21 46.7500-40.7500	43.7366	1.063	8.227	16.982	A	0.000	16.982	16.982	100.00	7.287	0.000
					B	0.000	16.982		100.00	5.250	0.000
					C	0.000	16.982		100.00	4.875	0.000
L22 40.7500-40.0000	40.3748	1.046	8.089	2.123	A	0.000	2.123	2.123	100.00	0.911	0.000
					B	0.000	2.123		100.00	0.656	0.000
					C	0.000	2.123		100.00	0.609	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L23 40.0000-35.0000	37.4908	1.029	7.964	14.335	A	0.000	14.335	14.335	100.00	6.072	0.000
					B	0.000	14.335		100.00	4.375	0.000
					C	0.000	14.335		100.00	4.063	0.000
L24 35.0000-30.0000	32.4910	0.999	7.728	14.653	A	0.000	14.653	14.653	100.00	6.072	0.000
					B	0.000	14.653		100.00	4.375	0.000
					C	0.000	14.653		100.00	4.063	0.000
L25 30.0000-26.2500	28.1200	0.969	7.496	11.198	A	0.000	11.198	11.198	100.00	5.284	0.000
					B	0.000	11.198		100.00	4.010	0.000
					C	0.000	11.198		100.00	3.776	0.000
L26 26.2500-26.0000	26.1250	0.954	7.381	0.753	A	0.000	0.753	0.753	100.00	0.356	0.000
					B	0.000	0.753		100.00	0.271	0.000
					C	0.000	0.753		100.00	0.255	0.000
L27 26.0000-21.0000	23.4913	0.933	7.218	15.222	A	0.000	15.222	15.222	100.00	7.114	0.000
					B	0.000	15.222		100.00	5.417	0.000
					C	0.000	15.222		100.00	5.104	0.000
L28 21.0000-16.0000	18.4915	0.887	6.863	15.539	A	0.000	15.539	15.539	100.00	7.114	0.000
					B	0.000	15.539		100.00	5.417	0.000
					C	0.000	15.539		100.00	5.104	0.000
L29 16.0000-11.0000	13.4917	0.85	6.576	15.857	A	0.000	15.857	15.857	100.00	7.114	0.000
					B	0.000	15.857		100.00	5.417	0.000
					C	0.000	15.857		100.00	5.104	0.000
L30 11.0000-6.0000	8.4918	0.85	6.576	16.175	A	0.000	16.175	16.175	100.00	7.114	0.000
					B	0.000	16.175		100.00	5.417	0.000
					C	0.000	16.175		100.00	5.104	0.000
L31 6.0000-1.0000	3.4920	0.85	6.576	16.493	A	0.000	16.493	16.493	100.00	7.114	0.000
					B	0.000	16.493		100.00	5.417	0.000
					C	0.000	16.493		100.00	5.104	0.000
L32 1.0000-0.0000	0.4997	0.85	6.576	3.337	A	0.000	3.337	3.337	100.00	1.423	0.000
					B	0.000	3.337		100.00	1.083	0.000
					C	0.000	3.337		100.00	1.021	0.000

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
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice

Comb. No.	Description
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice
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	133 - 128	Pole	Max Tension	39	0.00	0.00	-0.00
			Max. Compression	26	-3.04	-0.10	0.08
			Max. Mx	8	-1.53	-9.90	0.03
			Max. My	2	-1.52	-0.04	9.89
			Max. Vy	8	2.52	-9.90	0.03
			Max. Vx	2	-2.53	-0.04	9.89
			Max. Torque	12			0.08
L2	128 - 123.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-3.42	-0.10	0.09
			Max. Mx	8	-1.82	-21.65	0.04
			Max. My	2	-1.81	-0.04	21.66
			Max. Vy	8	2.70	-21.65	0.04
			Max. Vx	2	-2.71	-0.04	21.66
			Max. Torque	12			0.08
L3	123.5 - 123	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-3.48	-0.10	0.10
			Max. Mx	8	-1.86	-23.01	0.04
			Max. My	2	-1.85	-0.04	23.02
			Max. Vy	8	2.73	-23.01	0.04
			Max. Vx	2	-2.73	-0.04	23.02
			Max. Torque	12			0.08
L4	123 - 118	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-10.28	-0.10	2.22
			Max. Mx	8	-5.92	-46.51	1.38
			Max. My	2	-5.88	-0.04	48.48
			Max. Vy	8	6.58	-46.51	1.38
			Max. Vx	2	-6.75	-0.04	48.48
			Max. Torque	20			-0.96
L5	118 - 113	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-10.79	-0.10	2.26
			Max. Mx	8	-6.25	-80.28	1.40
			Max. My	2	-6.22	-0.04	83.12
			Max. Vy	8	6.93	-80.28	1.40
			Max. Vx	2	-7.11	-0.04	83.12
			Max. Torque	20			-0.96
L6	113 - 108	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-16.18	-0.10	2.61
			Max. Mx	8	-9.50	-125.79	1.53
			Max. My	2	-9.45	-0.04	129.75
			Max. Vy	8	10.61	-125.79	1.53
			Max. Vx	2	-10.83	-0.04	129.75
			Max. Torque	20			-1.18
L7	108 - 103	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-16.73	-0.10	2.66
			Max. Mx	8	-9.89	-179.70	1.56

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	2	-9.84	-0.05	184.74
			Max. Vy	8	10.96	-179.70	1.56
			Max. Vx	2	-11.17	-0.05	184.74
			Max. Torque	20			-1.18
L8	103 - 98	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-19.37	-0.10	2.70
			Max. Mx	8	-11.44	-239.50	1.58
			Max. My	2	-11.39	-0.05	245.62
			Max. Vy	8	12.69	-239.50	1.58
			Max. Vx	2	-12.91	-0.05	245.62
			Max. Torque	20			-1.18
L9	98 - 93	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-19.97	-0.10	2.75
			Max. Mx	8	-11.91	-303.77	1.61
			Max. My	2	-11.86	-0.05	310.97
			Max. Vy	8	13.03	-303.77	1.61
			Max. Vx	2	-13.24	-0.05	310.97
			Max. Torque	20			-1.18
L10	93 - 88	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.41	-0.10	3.43
			Max. Mx	8	-15.55	-387.23	1.85
			Max. My	2	-15.50	-0.05	396.36
			Max. Vy	8	16.46	-387.23	1.85
			Max. Vx	2	-16.77	-0.05	396.36
			Max. Torque	20			-1.56
L11	88 - 82.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.72	-0.10	3.45
			Max. Mx	8	-15.82	-424.39	1.86
			Max. My	2	-15.77	-0.05	434.24
			Max. Vy	8	16.59	-424.39	1.86
			Max. Vx	2	-16.91	-0.05	434.24
			Max. Torque	20			-1.56
L12	82.25 - 80.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-27.87	-0.10	3.49
			Max. Mx	8	-16.72	-508.28	1.89
			Max. My	2	-16.67	-0.05	519.71
			Max. Vy	8	16.97	-508.28	1.89
			Max. Vx	2	-17.29	-0.05	519.71
			Max. Torque	20			-1.56
L13	80.75 - 75.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.69	-0.10	3.53
			Max. Mx	8	-17.45	-593.84	1.91
			Max. My	2	-17.40	-0.05	606.86
			Max. Vy	20	-17.28	593.74	1.91
			Max. Vx	2	-17.60	-0.05	606.86
			Max. Torque	20			-1.56
L14	75.75 - 70.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.13	-0.07	3.59
			Max. Mx	8	-18.51	-682.78	1.94
			Max. My	2	-18.47	-0.04	697.39
			Max. Vy	20	-18.02	682.70	1.94
			Max. Vx	2	-18.33	-0.04	697.39
			Max. Torque	20			-1.56
L15	70.75 - 65.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.03	-0.03	3.64
			Max. Mx	8	-19.31	-773.53	1.96
			Max. My	2	-19.27	-0.03	789.73
			Max. Vy	20	-18.31	773.46	1.96
			Max. Vx	2	-18.62	-0.03	789.73
			Max. Torque	20			-1.55
L16	65.75 - 60.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.94	0.01	3.69
			Max. Mx	8	-20.13	-865.68	1.98
			Max. My	2	-20.09	-0.02	883.46

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	20	-18.59	865.64	1.98
			Max. Vx	2	-18.90	-0.02	883.46
			Max. Torque	20			-1.55
L17	60.75 - 57	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.67	0.04	3.73
			Max. Mx	8	-20.75	-935.69	1.99
			Max. My	2	-20.72	-0.01	954.65
			Max. Vy	20	-18.79	935.66	1.99
			Max. Vx	2	-19.10	-0.01	954.65
			Max. Torque	20			-1.55
L18	57 - 56.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.74	0.04	3.73
			Max. Mx	8	-20.82	-940.38	1.99
			Max. My	2	-20.79	-0.01	959.42
			Max. Vy	20	-18.79	940.35	1.99
			Max. Vx	2	-19.10	-0.01	959.42
			Max. Torque	20			-1.55
L19	56.75 - 51.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-34.12	0.09	3.78
			Max. Mx	8	-21.98	-1035.16	2.01
			Max. My	2	-21.95	-0.00	1055.76
			Max. Vy	20	-19.14	1035.15	2.01
			Max. Vx	2	-19.45	-0.00	1055.76
			Max. Torque	20			-1.55
L20	51.75 - 46.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.60	0.15	3.99
			Max. Mx	20	-23.19	1131.87	2.11
			Max. My	2	-23.17	0.02	1153.98
			Max. Vy	20	-19.53	1131.87	2.11
			Max. Vx	2	-19.81	0.02	1153.98
			Max. Torque	20			-1.69
L21	46.75 - 40.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.10	0.16	4.01
			Max. Mx	20	-23.61	1166.13	2.11
			Max. My	2	-23.58	0.03	1188.72
			Max. Vy	20	-19.65	1166.13	2.11
			Max. Vx	2	-19.93	0.03	1188.72
			Max. Torque	20			-1.69
L22	40.75 - 40	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.52	0.19	4.04
			Max. Mx	20	-25.62	1265.34	2.13
			Max. My	2	-25.60	0.04	1289.30
			Max. Vy	20	-20.04	1265.34	2.13
			Max. Vx	2	-20.31	0.04	1289.30
			Max. Torque	20			-1.69
L23	40 - 35	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.02	0.22	4.07
			Max. Mx	20	-26.90	1366.23	2.14
			Max. My	2	-26.88	0.05	1391.56
			Max. Vy	20	-20.34	1366.23	2.14
			Max. Vx	2	-20.61	0.05	1391.56
			Max. Torque	20			-1.69
L24	35 - 30	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.52	0.25	4.10
			Max. Mx	20	-28.19	1468.56	2.16
			Max. My	2	-28.18	0.06	1495.25
			Max. Vy	20	-20.62	1468.56	2.16
			Max. Vx	2	-20.89	0.06	1495.25
			Max. Torque	20			-1.69
L25	30 - 26.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.67	0.28	4.12
			Max. Mx	20	-29.18	1546.20	2.17
			Max. My	2	-29.16	0.07	1573.91
			Max. Vy	20	-20.82	1546.20	2.17
			Max. Vx	2	-21.09	0.07	1573.91
			Max. Torque	20			-1.69

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L26	26.25 - 26	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.75	0.28	4.12
			Max. Mx	20	-29.26	1551.41	2.17
			Max. My	2	-29.24	0.07	1579.18
			Max. Vy	20	-20.82	1551.41	2.17
			Max. Vx	2	-21.09	0.07	1579.18
			Max. Torque	20			-1.69
L27	26 - 21	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.39	0.31	4.15
			Max. Mx	20	-30.67	1656.15	2.18
			Max. My	2	-30.66	0.08	1685.26
			Max. Vy	20	-21.09	1656.15	2.18
			Max. Vx	2	-21.36	0.08	1685.26
			Max. Torque	20			-1.69
L28	21 - 16	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.04	0.34	4.18
			Max. Mx	20	-32.10	1762.13	2.19
			Max. My	2	-32.09	0.09	1792.58
			Max. Vy	20	-21.33	1762.13	2.19
			Max. Vx	2	-21.59	0.09	1792.58
			Max. Torque	20			-1.69
L29	16 - 11	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.69	0.37	4.21
			Max. Mx	20	-33.56	1869.24	2.20
			Max. My	2	-33.55	0.10	1901.01
			Max. Vy	20	-21.54	1869.24	2.20
			Max. Vx	2	-21.81	0.10	1901.01
			Max. Torque	20			-1.69
L30	11 - 6	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.35	0.40	4.24
			Max. Mx	20	-35.03	1977.40	2.21
			Max. My	2	-35.02	0.11	2010.49
			Max. Vy	20	-21.75	1977.40	2.21
			Max. Vx	2	-22.01	0.11	2010.49
			Max. Torque	20			-1.69
L31	6 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.99	0.43	4.27
			Max. Mx	20	-36.51	2086.59	2.21
			Max. My	2	-36.51	0.12	2120.98
			Max. Vy	20	-21.95	2086.59	2.21
			Max. Vx	2	-22.21	0.12	2120.98
			Max. Torque	20			-1.69
L32	1 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.32	0.44	4.28
			Max. Mx	20	-36.81	2108.55	2.21
			Max. My	2	-36.81	0.12	2143.19
			Max. Vy	20	-21.99	2108.55	2.21
			Max. Vx	2	-22.25	0.12	2143.19
			Max. Torque	20			-1.69

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	51.32	0.00	6.56
	Max. H_x	21	27.62	21.97	0.00
	Max. H_z	2	36.82	0.00	22.23
	Max. M_x	2	2143.19	0.00	22.23
	Max. M_z	8	2108.31	-21.97	0.00
	Max. Torsion	8	1.69	-21.97	0.00
	Min. Vert	11	27.62	-19.03	-11.12
	Min. H_x	9	27.62	-21.97	0.00
	Min. H_z	14	36.82	0.00	-22.23
	Min. M_x	14	-2138.75	0.00	-22.23
	Min. M_z	20	-2108.55	21.97	0.00
	Min. Torsion	20	-1.69	21.97	0.00

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K

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	30.68	0.00	-0.00	-1.78	0.10	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	36.82	0.00	-22.23	-2143.19	0.12	0.06
0.9 Dead+1.0 Wind 0 deg - No Ice	27.62	0.00	-22.23	-2110.87	0.09	0.05
1.2 Dead+1.0 Wind 30 deg - No Ice	36.82	10.99	-19.25	-1856.39	-1054.04	-0.81
0.9 Dead+1.0 Wind 30 deg - No Ice	27.62	10.99	-19.25	-1828.31	-1038.48	-0.78
1.2 Dead+1.0 Wind 60 deg - No Ice	36.82	19.03	-11.12	-1072.76	-1825.80	-1.44
0.9 Dead+1.0 Wind 60 deg - No Ice	27.62	19.03	-11.12	-1056.29	-1798.81	-1.40
1.2 Dead+1.0 Wind 90 deg - No Ice	36.82	21.97	0.00	-2.21	-2108.31	-1.69
0.9 Dead+1.0 Wind 90 deg - No Ice	27.62	21.97	-0.00	-1.61	-2077.14	-1.64
1.2 Dead+1.0 Wind 120 deg - No Ice	36.82	19.03	11.12	1068.32	-1825.80	-1.48
0.9 Dead+1.0 Wind 120 deg - No Ice	27.62	19.03	11.12	1053.06	-1798.81	-1.44
1.2 Dead+1.0 Wind 150 deg - No Ice	36.82	10.99	19.25	1851.95	-1054.03	-0.88
0.9 Dead+1.0 Wind 150 deg - No Ice	27.62	10.99	19.25	1825.07	-1038.47	-0.86
1.2 Dead+1.0 Wind 180 deg - No Ice	36.82	0.00	22.23	2138.75	0.12	-0.06
0.9 Dead+1.0 Wind 180 deg - No Ice	27.62	0.00	22.23	2107.63	0.09	-0.05
1.2 Dead+1.0 Wind 210 deg - No Ice	36.82	-10.99	19.25	1851.95	1054.28	0.79
0.9 Dead+1.0 Wind 210 deg - No Ice	27.62	-10.99	19.25	1825.07	1038.65	0.76
1.2 Dead+1.0 Wind 240 deg - No Ice	36.82	-19.03	11.12	1068.32	1826.04	1.43
0.9 Dead+1.0 Wind 240 deg - No Ice	27.62	-19.03	11.12	1053.06	1798.99	1.38
1.2 Dead+1.0 Wind 270 deg - No Ice	36.82	-21.97	0.00	-2.21	2108.55	1.69
0.9 Dead+1.0 Wind 270 deg - No Ice	27.62	-21.97	-0.00	-1.61	2077.32	1.64
1.2 Dead+1.0 Wind 300 deg - No Ice	36.82	-19.03	-11.12	-1072.76	1826.05	1.50
0.9 Dead+1.0 Wind 300 deg - No Ice	27.62	-19.03	-11.12	-1056.29	1799.00	1.45
1.2 Dead+1.0 Wind 330 deg - No Ice	36.82	-10.99	-19.25	-1856.39	1054.29	0.90
0.9 Dead+1.0 Wind 330 deg - No Ice	27.62	-10.99	-19.25	-1828.31	1038.66	0.87
1.2 Dead+1.0 Ice	51.32	-0.00	-0.00	-4.28	0.44	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice	51.32	0.00	-6.56	-651.72	0.45	0.02
1.2 Dead+1.0 Wind 30 deg+1.0 Ice	51.32	3.25	-5.68	-565.00	-319.49	-0.23
1.2 Dead+1.0 Wind 60 deg+1.0 Ice	51.32	5.63	-3.28	-328.05	-553.71	-0.43
1.2 Dead+1.0 Wind 90 deg+1.0 Ice	51.32	6.50	-0.00	-4.37	-639.42	-0.50
1.2 Dead+1.0 Wind 120 deg+1.0 Ice	51.32	5.63	3.28	319.32	-553.70	-0.45

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
1.2 Dead+1.0 Wind 150 deg+1.0 Ice	51.32	3.25	5.68	556.27	-319.49	-0.27
1.2 Dead+1.0 Wind 180 deg+1.0 Ice	51.32	0.00	6.56	642.99	0.45	-0.02
1.2 Dead+1.0 Wind 210 deg+1.0 Ice	51.32	-3.25	5.68	556.27	320.38	0.23
1.2 Dead+1.0 Wind 240 deg+1.0 Ice	51.32	-5.63	3.28	319.32	554.60	0.43
1.2 Dead+1.0 Wind 270 deg+1.0 Ice	51.32	-6.50	-0.00	-4.37	640.32	0.50
1.2 Dead+1.0 Wind 300 deg+1.0 Ice	51.32	-5.63	-3.28	-328.05	554.60	0.45
1.2 Dead+1.0 Wind 330 deg+1.0 Ice	51.32	-3.25	-5.68	-565.00	320.39	0.27
Dead+Wind 0 deg - Service	30.68	0.00	-5.42	-519.32	0.10	0.02
Dead+Wind 30 deg - Service	30.68	2.68	-4.69	-450.00	-254.70	-0.19
Dead+Wind 60 deg - Service	30.68	4.64	-2.71	-260.58	-441.24	-0.35
Dead+Wind 90 deg - Service	30.68	5.35	0.00	-1.83	-509.51	-0.41
Dead+Wind 120 deg - Service	30.68	4.64	2.71	256.92	-441.24	-0.36
Dead+Wind 150 deg - Service	30.68	2.68	4.69	446.34	-254.70	-0.22
Dead+Wind 180 deg - Service	30.68	0.00	5.42	515.66	0.10	-0.02
Dead+Wind 210 deg - Service	30.68	-2.68	4.69	446.34	254.91	0.19
Dead+Wind 240 deg - Service	30.68	-4.64	2.71	256.92	441.44	0.35
Dead+Wind 270 deg - Service	30.68	-5.35	0.00	-1.83	509.71	0.41
Dead+Wind 300 deg - Service	30.68	-4.64	-2.71	-260.58	441.44	0.36
Dead+Wind 330 deg - Service	30.68	-2.68	-4.69	-450.00	254.91	0.22

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.00	-30.68	0.00	0.00	30.68	0.00	0.000%
2	0.00	-36.82	-22.23	0.00	36.82	22.23	0.000%
3	0.00	-27.62	-22.23	0.00	27.62	22.23	0.000%
4	10.99	-36.82	-19.25	-10.99	36.82	19.25	0.000%
5	10.99	-27.62	-19.25	-10.99	27.62	19.25	0.000%
6	19.03	-36.82	-11.12	-19.03	36.82	11.12	0.000%
7	19.03	-27.62	-11.12	-19.03	27.62	11.12	0.000%
8	21.97	-36.82	0.00	-21.97	36.82	0.00	0.000%
9	21.97	-27.62	0.00	-21.97	27.62	0.00	0.000%
10	19.03	-36.82	11.12	-19.03	36.82	-11.12	0.000%
11	19.03	-27.62	11.12	-19.03	27.62	-11.12	0.000%
12	10.99	-36.82	19.25	-10.99	36.82	-19.25	0.000%
13	10.99	-27.62	19.25	-10.99	27.62	-19.25	0.000%
14	0.00	-36.82	22.23	0.00	36.82	-22.23	0.000%
15	0.00	-27.62	22.23	0.00	27.62	-22.23	0.000%
16	-10.99	-36.82	19.25	10.99	36.82	-19.25	0.000%
17	-10.99	-27.62	19.25	10.99	27.62	-19.25	0.000%
18	-19.03	-36.82	11.12	19.03	36.82	-11.12	0.000%
19	-19.03	-27.62	11.12	19.03	27.62	-11.12	0.000%
20	-21.97	-36.82	0.00	21.97	36.82	0.00	0.000%
21	-21.97	-27.62	0.00	21.97	27.62	0.00	0.000%
22	-19.03	-36.82	-11.12	19.03	36.82	11.12	0.000%
23	-19.03	-27.62	-11.12	19.03	27.62	11.12	0.000%
24	-10.99	-36.82	-19.25	10.99	36.82	19.25	0.000%
25	-10.99	-27.62	-19.25	10.99	27.62	19.25	0.000%
26	0.00	-51.32	0.00	0.00	51.32	0.00	0.000%
27	0.00	-51.32	-6.56	0.00	51.32	6.56	0.000%
28	3.25	-51.32	-5.68	-3.25	51.32	5.68	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
29	5.63	-51.32	-3.28	-5.63	51.32	3.28	0.000%
30	6.50	-51.32	0.00	-6.50	51.32	0.00	0.000%
31	5.63	-51.32	3.28	-5.63	51.32	-3.28	0.000%
32	3.25	-51.32	5.68	-3.25	51.32	-5.68	0.000%
33	0.00	-51.32	6.56	0.00	51.32	-6.56	0.000%
34	-3.25	-51.32	5.68	3.25	51.32	-5.68	0.000%
35	-5.63	-51.32	3.28	5.63	51.32	-3.28	0.000%
36	-6.50	-51.32	0.00	6.50	51.32	0.00	0.000%
37	-5.63	-51.32	-3.28	5.63	51.32	3.28	0.000%
38	-3.25	-51.32	-5.68	3.25	51.32	5.68	0.000%
39	0.00	-30.68	-5.42	0.00	30.68	5.42	0.000%
40	2.68	-30.68	-4.69	-2.68	30.68	4.69	0.000%
41	4.64	-30.68	-2.71	-4.64	30.68	2.71	0.000%
42	5.35	-30.68	0.00	-5.35	30.68	0.00	0.000%
43	4.64	-30.68	2.71	-4.64	30.68	-2.71	0.000%
44	2.68	-30.68	4.69	-2.68	30.68	-4.69	0.000%
45	0.00	-30.68	5.42	0.00	30.68	-5.42	0.000%
46	-2.68	-30.68	4.69	2.68	30.68	-4.69	0.000%
47	-4.64	-30.68	2.71	4.64	30.68	-2.71	0.000%
48	-5.35	-30.68	0.00	5.35	30.68	0.00	0.000%
49	-4.64	-30.68	-2.71	4.64	30.68	2.71	0.000%
50	-2.68	-30.68	-4.69	2.68	30.68	4.69	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000542
2	Yes	5	0.00000001	0.00023715
3	Yes	5	0.00000001	0.00008714
4	Yes	7	0.00000001	0.00008759
5	Yes	6	0.00000001	0.00040459
6	Yes	7	0.00000001	0.00009272
7	Yes	6	0.00000001	0.00042935
8	Yes	6	0.00000001	0.00010460
9	Yes	5	0.00000001	0.00065867
10	Yes	7	0.00000001	0.00008513
11	Yes	6	0.00000001	0.00039426
12	Yes	7	0.00000001	0.00009106
13	Yes	6	0.00000001	0.00042197
14	Yes	5	0.00000001	0.00023627
15	Yes	5	0.00000001	0.00008692
16	Yes	7	0.00000001	0.00009071
17	Yes	6	0.00000001	0.00042030
18	Yes	7	0.00000001	0.00008528
19	Yes	6	0.00000001	0.00039500
20	Yes	6	0.00000001	0.00010460
21	Yes	5	0.00000001	0.00065865
22	Yes	7	0.00000001	0.00009292
23	Yes	6	0.00000001	0.00043029
24	Yes	7	0.00000001	0.00008728
25	Yes	6	0.00000001	0.00040310
26	Yes	4	0.00000001	0.00004181
27	Yes	5	0.00000001	0.00034946
28	Yes	6	0.00000001	0.00024204
29	Yes	6	0.00000001	0.00027062
30	Yes	5	0.00000001	0.00056031
31	Yes	6	0.00000001	0.00021972
32	Yes	6	0.00000001	0.00025074
33	Yes	5	0.00000001	0.00034004
34	Yes	6	0.00000001	0.00024851
35	Yes	6	0.00000001	0.00022059
36	Yes	5	0.00000001	0.00056048
37	Yes	6	0.00000001	0.00027218
38	Yes	6	0.00000001	0.00024036
39	Yes	4	0.00000001	0.00074601
40	Yes	5	0.00000001	0.00029459
41	Yes	5	0.00000001	0.00034197
42	Yes	5	0.00000001	0.00009501
43	Yes	5	0.00000001	0.00027315
44	Yes	5	0.00000001	0.00032175
45	Yes	4	0.00000001	0.00073445
46	Yes	5	0.00000001	0.00031779
47	Yes	5	0.00000001	0.00027406
48	Yes	5	0.00000001	0.00009500
49	Yes	5	0.00000001	0.00034429
50	Yes	5	0.00000001	0.00029192

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	133 - 128	24.93	39	1.62	0.01
L2	128 - 123.5	23.23	39	1.62	0.01
L3	123.5 - 123	21.71	39	1.61	0.01
L4	123 - 118	21.55	39	1.60	0.01
L5	118 - 113	19.87	39	1.59	0.01
L6	113 - 108	18.22	39	1.56	0.00
L7	108 - 103	16.60	39	1.53	0.00
L8	103 - 98	15.03	39	1.48	0.00
L9	98 - 93	13.51	39	1.41	0.00
L10	93 - 88	12.07	39	1.34	0.00
L11	88 - 82.25	10.71	39	1.26	0.00
L12	85.75 - 80.75	10.13	39	1.21	0.00

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L13	80.75 - 75.75	8.88	39	1.16	0.00
L14	75.75 - 70.75	7.71	39	1.07	0.00
L15	70.75 - 65.75	6.64	39	0.98	0.00
L16	65.75 - 60.75	5.67	39	0.88	0.00
L17	60.75 - 57	4.81	39	0.77	0.00
L18	57 - 56.75	4.23	39	0.69	0.00
L19	56.75 - 51.75	4.19	39	0.69	0.00
L20	51.75 - 46.75	3.50	39	0.63	0.00
L21	46.75 - 40.75	2.87	39	0.57	0.00
L22	45 - 40	2.67	39	0.55	0.00
L23	40 - 35	2.12	39	0.51	0.00
L24	35 - 30	1.62	39	0.44	0.00
L25	30 - 26.25	1.19	39	0.38	0.00
L26	26.25 - 26	0.91	39	0.33	0.00
L27	26 - 21	0.89	39	0.33	0.00
L28	21 - 16	0.58	39	0.26	0.00
L29	16 - 11	0.34	39	0.20	0.00
L30	11 - 6	0.16	39	0.14	0.00
L31	6 - 1	0.05	39	0.08	0.00
L32	1 - 0	0.00	39	0.01	0.00

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
135.5000	5/8" X 5' Lightning Rod	39	24.93	1.62	0.01	28809
132.0000	TPA65R-BU8D_CCIV2 w/ Mount Pipe	39	24.59	1.62	0.01	28809
120.0000	AIR6449 B41_T-MOBILE w/ Mount Pipe	39	20.54	1.60	0.01	17654
111.0000	MX08FRO665-21 w/ Mount Pipe	39	17.57	1.55	0.00	7946
101.0000	APX16DWV-16DWVS-C	39	14.41	1.45	0.00	4693
93.0000	BXA-70063-4CF-EDIN-X w/ Mount Pipe	39	12.07	1.34	0.00	3601
75.0000	APXV18-206517S-C	39	7.55	1.05	0.00	3123
50.0000	KS24019-L112A	39	3.27	0.61	0.00	4555

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	133 - 128	102.65	2	6.67	0.02
L2	128 - 123.5	95.68	2	6.66	0.02
L3	123.5 - 123	89.44	2	6.60	0.02
L4	123 - 118	88.76	2	6.60	0.02
L5	118 - 113	81.89	2	6.54	0.02
L6	113 - 108	75.10	2	6.44	0.02
L7	108 - 103	68.45	2	6.29	0.02
L8	103 - 98	61.97	2	6.09	0.02
L9	98 - 93	55.74	2	5.83	0.01
L10	93 - 88	49.79	2	5.53	0.01
L11	88 - 82.25	44.19	2	5.18	0.01
L12	85.75 - 80.75	41.79	2	5.01	0.01
L13	80.75 - 75.75	36.66	2	4.78	0.01
L14	75.75 - 70.75	31.85	2	4.41	0.01
L15	70.75 - 65.75	27.43	2	4.03	0.01
L16	65.75 - 60.75	23.42	2	3.62	0.01
L17	60.75 - 57	19.85	2	3.20	0.00
L18	57 - 56.75	17.47	2	2.87	0.00
L19	56.75 - 51.75	17.32	2	2.86	0.00
L20	51.75 - 46.75	14.46	2	2.61	0.00
L21	46.75 - 40.75	11.87	2	2.35	0.00
L22	45 - 40	11.02	2	2.25	0.00

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L23	40 - 35	8.73	2	2.10	0.00
L24	35 - 30	6.67	2	1.83	0.00
L25	30 - 26.25	4.90	2	1.56	0.00
L26	26.25 - 26	3.75	2	1.36	0.00
L27	26 - 21	3.68	2	1.34	0.00
L28	21 - 16	2.41	2	1.09	0.00
L29	16 - 11	1.40	2	0.83	0.00
L30	11 - 6	0.66	2	0.57	0.00
L31	6 - 1	0.20	2	0.31	0.00
L32	1 - 0	0.01	2	0.05	0.00

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
135.5000	5/8" X 5' Lightning Rod	2	102.65	6.67	0.02	7271
132.0000	TPA65R-BU8D_CCIV2 w/ Mount Pipe	2	101.26	6.67	0.02	7271
120.0000	AIR6449 B41_T-MOBILE w/ Mount Pipe	2	84.63	6.57	0.02	4591
111.0000	MX08FRO665-21 w/ Mount Pipe	2	72.42	6.39	0.02	2035
101.0000	APX16DWV-16DWVS-C	2	59.45	5.99	0.02	1176
93.0000	BXA-70063-4CF-EDIN-X w/ Mount Pipe	2	49.79	5.53	0.01	895
75.0000	APXV18-206517S-C	2	31.16	4.36	0.01	766
50.0000	KS24019-L112A	2	13.52	2.52	0.00	1107

Compression Checks
Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K
L1	133 - 128 (1)	TP14x14x0.349	5.0000	0.0000	0.0	14.9672	-1.52
L2	128 - 123.5 (2)	TP14x14x0.349	4.5000	0.0000	0.0	14.9672	-1.81
L3	123.5 - 123 (3)	TP22x14x0.349	0.5000	0.0000	0.0	14.9672	-1.81
L4	123 - 118 (4)	TP22.7502x22x0.1875	5.0000	0.0000	0.0	13.4276	-5.88
L5	118 - 113 (5)	TP23.5004x22.7502x0.1875	5.0000	0.0000	0.0	13.8741	-6.22
L6	113 - 108 (6)	TP24.2506x23.5004x0.1875	5.0000	0.0000	0.0	14.3205	-9.45
L7	108 - 103 (7)	TP25.0007x24.2506x0.1875	5.0000	0.0000	0.0	14.7670	-9.84
L8	103 - 98 (8)	TP25.7509x25.0007x0.1875	5.0000	0.0000	0.0	15.2134	-11.39
L9	98 - 93 (9)	TP26.5011x25.7509x0.1875	5.0000	0.0000	0.0	15.6599	-11.86
L10	93 - 88 (10)	TP27.2513x26.5011x0.1875	5.0000	0.0000	0.0	16.1063	-15.50
L11	88 - 82.25 (11)	TP28.114x27.2513x0.1875	5.7500	0.0000	0.0	16.3072	-15.77
L12	82.25 - 80.75 (12)	TP27.9641x27.2139x0.25	5.0000	0.0000	0.0	21.9911	-16.67
L13	80.75 - 75.75 (13)	TP28.7143x27.9641x0.25	5.0000	0.0000	0.0	22.5865	-17.40
L14	75.75 - 70.75 (14)	TP29.4646x28.7143x0.25	5.0000	0.0000	0.0	23.1818	-18.47
L15	70.75 - 65.75 (15)	TP30.2148x29.4646x0.25	5.0000	0.0000	0.0	23.7771	-19.27

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K
L16	65.75 - 60.75 (16)	TP30.9651x30.2148x0.25	5.0000	0.0000	0.0	24.372 4	-20.09
L17	60.75 - 57 (17)	TP31.5277x30.9651x0.25	3.7500	0.0000	0.0	24.818 9	-20.72
L18	57 - 56.75 (18)	TP31.5652x31.5277x0.46 25	0.2500	0.0000	0.0	45.658 1	-20.79
L19	56.75 - 51.75 (19)	TP32.3155x31.5652x0.45 63	5.0000	0.0000	0.0	46.136 5	-21.95
L20	51.75 - 46.75 (20)	TP33.0657x32.3155x0.45	5.0000	0.0000	0.0	46.585 0	-23.17
L21	46.75 - 40.75 (21)	TP33.966x33.0657x0.45	6.0000	0.0000	0.0	46.960 1	-23.58
L22	40.75 - 40 (22)	TP33.5785x32.8283x0.48 13	5.0000	0.0000	0.0	50.560 8	-25.60
L23	40 - 35 (23)	TP34.3287x33.5785x0.46 88	5.0000	0.0000	0.0	50.382 5	-26.88
L24	35 - 30 (24)	TP35.0789x34.3287x0.46 88	5.0000	0.0000	0.0	51.498 8	-28.18
L25	30 - 26.25 (25)	TP35.6415x35.0789x0.46 88	3.7500	0.0000	0.0	52.336 0	-29.16
L26	26.25 - 26 (26)	TP35.679x35.6415x0.518 8	0.2500	0.0000	0.0	57.897 3	-29.24
L27	26 - 21 (27)	TP36.4292x35.679x0.506 3	5.0000	0.0000	0.0	57.728 0	-30.66
L28	21 - 16 (28)	TP37.1794x36.4292x0.50 63	5.0000	0.0000	0.0	58.933 5	-32.09
L29	16 - 11 (29)	TP37.9296x37.1794x0.49 38	5.0000	0.0000	0.0	58.673 9	-33.55
L30	11 - 6 (30)	TP38.6798x37.9296x0.49 38	5.0000	0.0000	0.0	59.849 7	-35.02
L31	6 - 1 (31)	TP39.43x38.6798x0.4876	5.0000	0.0000	0.0	60.262 7	-36.51
L32	1 - 0 (32)	TP39.58x39.43x0.4876	1.0000	0.0000	0.0	60.494 9	-36.81

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	M_{uy} kip-ft
L1	133 - 128 (1)	TP14x14x0.349	9.91	0.00
L2	128 - 123.5 (2)	TP14x14x0.349	21.68	0.00
L3	123.5 - 123 (3)	TP22x14x0.349	21.68	0.00
L4	123 - 118 (4)	TP22.7502x22x0.1875	48.48	0.00
L5	118 - 113 (5)	TP23.5004x22.7502x0.1875	83.12	0.00
L6	113 - 108 (6)	TP24.2506x23.5004x0.1875	129.76	0.00
L7	108 - 103 (7)	TP25.0007x24.2506x0.1875	184.74	0.00
L8	103 - 98 (8)	TP25.7509x25.0007x0.1875	245.62	0.00
L9	98 - 93 (9)	TP26.5011x25.7509x0.1875	310.97	0.00
L10	93 - 88 (10)	TP27.2513x26.5011x0.1875	396.36	0.00
L11	88 - 82.25 (11)	TP28.114x27.2513x0.1875	434.24	0.00
L12	82.25 - 80.75 (12)	TP27.9641x27.2139x0.25	519.71	0.00
L13	80.75 - 75.75 (13)	TP28.7143x27.9641x0.25	606.86	0.00
L14	75.75 - 70.75 (14)	TP29.4646x28.7143x0.25	697.39	0.00
L15	70.75 - 65.75 (15)	TP30.2148x29.4646x0.25	789.73	0.00
L16	65.75 - 60.75 (16)	TP30.9651x30.2148x0.25	883.46	0.00
L17	60.75 - 57 (17)	TP31.5277x30.9651x0.25	954.64	0.00
L18	57 - 56.75 (18)	TP31.5652x31.5277x0.4625	959.42	0.00
L19	56.75 - 51.75 (19)	TP32.3155x31.5652x0.4563	1055.77	0.00
L20	51.75 - 46.75 (20)	TP33.0657x32.3155x0.45	1153.97	0.00
L21	46.75 - 40.75 (21)	TP33.966x33.0657x0.45	1188.72	0.00
L22	40.75 - 40 (22)	TP33.5785x32.8283x0.4813	1289.30	0.00
L23	40 - 35 (23)	TP34.3287x33.5785x0.4688	1391.56	0.00
L24	35 - 30 (24)	TP35.0789x34.3287x0.4688	1495.25	0.00
L25	30 - 26.25 (25)	TP35.6415x35.0789x0.4688	1573.91	0.00
L26	26.25 - 26 (26)	TP35.679x35.6415x0.5188	1579.18	0.00
L27	26 - 21 (27)	TP36.4292x35.679x0.5063	1685.27	0.00
L28	21 - 16 (28)	TP37.1794x36.4292x0.5063	1792.58	0.00
L29	16 - 11 (29)	TP37.9296x37.1794x0.4938	1901.02	0.00

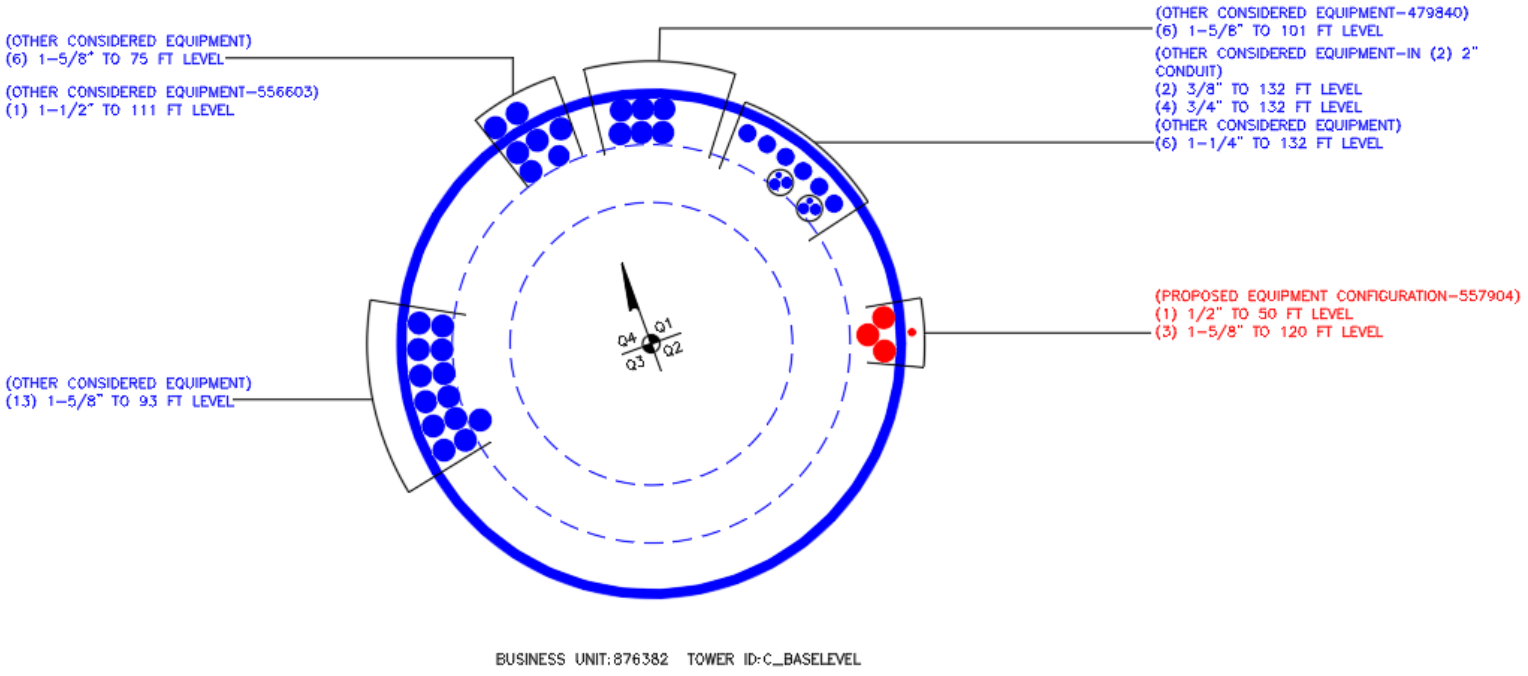
Section No.	Elevation ft	Size	M_{ux} kip-ft	M_{uy} kip-ft
L30	11 - 6 (30)	TP38.6798x37.9296x0.4938	2010.49	0.00
L31	6 - 1 (31)	TP39.43x38.6798x0.4876	2120.97	0.00
L32	1 - 0 (32)	TP39.58x39.43x0.4876	2143.19	0.00

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	Actual T_u kip-ft
L1	133 - 128 (1)	TP14x14x0.349	2.52	0.00
L2	128 - 123.5 (2)	TP14x14x0.349	2.71	0.04
L3	123.5 - 123 (3)	TP22x14x0.349	2.73	0.04
L4	123 - 118 (4)	TP22.7502x22x0.1875	6.75	0.07
L5	118 - 113 (5)	TP23.5004x22.7502x0.1875	7.11	0.07
L6	113 - 108 (6)	TP24.2506x23.5004x0.1875	10.83	0.07
L7	108 - 103 (7)	TP25.0007x24.2506x0.1875	11.17	0.07
L8	103 - 98 (8)	TP25.7509x25.0007x0.1875	12.91	0.07
L9	98 - 93 (9)	TP26.5011x25.7509x0.1875	13.24	0.07
L10	93 - 88 (10)	TP27.2513x26.5011x0.1875	16.77	0.07
L11	88 - 82.25 (11)	TP28.114x27.2513x0.1875	16.91	0.07
L12	82.25 - 80.75 (12)	TP27.9641x27.2139x0.25	17.29	0.07
L13	80.75 - 75.75 (13)	TP28.7143x27.9641x0.25	17.60	0.07
L14	75.75 - 70.75 (14)	TP29.4646x28.7143x0.25	18.33	0.07
L15	70.75 - 65.75 (15)	TP30.2148x29.4646x0.25	18.62	0.07
L16	65.75 - 60.75 (16)	TP30.9651x30.2148x0.25	18.90	0.07
L17	60.75 - 57 (17)	TP31.5277x30.9651x0.25	19.10	0.07
L18	57 - 56.75 (18)	TP31.5652x31.5277x0.4625	19.10	0.07
L19	56.75 - 51.75 (19)	TP32.3155x31.5652x0.4563	19.45	0.07
L20	51.75 - 46.75 (20)	TP33.0657x32.3155x0.45	19.81	0.06
L21	46.75 - 40.75 (21)	TP33.966x33.0657x0.45	19.93	0.06
L22	40.75 - 40 (22)	TP33.5785x32.8283x0.4813	20.31	0.06
L23	40 - 35 (23)	TP34.3287x33.5785x0.4688	20.61	0.06
L24	35 - 30 (24)	TP35.0789x34.3287x0.4688	20.89	0.06
L25	30 - 26.25 (25)	TP35.6415x35.0789x0.4688	21.09	0.06
L26	26.25 - 26 (26)	TP35.679x35.6415x0.5188	21.09	0.06
L27	26 - 21 (27)	TP36.4292x35.679x0.5063	21.36	0.06
L28	21 - 16 (28)	TP37.1794x36.4292x0.5063	21.59	0.06
L29	16 - 11 (29)	TP37.9296x37.1794x0.4938	21.81	0.06
L30	11 - 6 (30)	TP38.6798x37.9296x0.4938	22.01	0.06
L31	6 - 1 (31)	TP39.43x38.6798x0.4876	22.21	0.06
L32	1 - 0 (32)	TP39.58x39.43x0.4876	22.25	0.06

APPENDIX B

BASE LEVEL DRAWING


(OTHER CONSIDERED EQUIPMENT)
(6) 1-5/8" TO 75 FT LEVEL
(OTHER CONSIDERED EQUIPMENT-556603)
(1) 1-1/2" TO 111 FT LEVEL
(OTHER CONSIDERED EQUIPMENT-479840)
(6) 1-5/8" TO 101 FT LEVEL
(OTHER CONSIDERED EQUIPMENT-IN (2) 2" CONDUIT)
(2) 3/8" TO 132 FT LEVEL
(4) 3/4" TO 132 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(6) 1-1/4" TO 132 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION-557904)
(1) 1/2" TO 50 FT LEVEL
(3) 1-5/8" TO 120 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(13) 1-5/8" TO 93 FT LEVEL
Q1
Q2
Q3
Q4
BUSINESS UNIT:876382 TOWER ID:C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 876382

Work Order: 2032919

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	133	9.5	0	0	14	14	0.349		A500 Gr.B
2	123.5	0.5	0	0	14.00	22	0.349		A500 Gr.B
3	123	40.75	3.5	18	22.00	28.114	0.1875	Auto	A607-60
4	85.75	45	4.25	18	27.21	33.966	0.25	Auto	A607-60
5	45	45	0	18	32.83	39.58	0.2813	Auto	A607-60

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	26.25	plate	.125 x 1.25; (1) (1.187	3			o						o						o			
2	26.25	57	plate	.875 x 1.25; (1) (1.187	3			o						o						o			
3																							
4																							
5																							
6																							
7																							
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	6.125	1.25	7.65625	0.625	None	n/a	PC 8.8 - M20 (100)	30.000	15.000	6.094	1.1875	A572-65
2	4.875	1.25	6.09375	0.625	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	24.000	18.000	4.531	1.1875	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)
FP 6.125 x 1.25; (1) (1.1875)_1	Top	10	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	-	-	-	-				-	-		-	-	-
FP 4.875 x 1.25; (1) (1.1875)_1	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	10	N	3	3	-	-	-	-	-	-	-	-	-

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	133 - 128	5		0	14.000	14.000	0.349	A500 Gr.B	1.000
2	128 - 123.5	4.5	0	0	14.000	14.000	0.349	A500 Gr.B	1.000
3	123.5 - 123	0.5	0	0	14.000	22.000	0.349	A500 Gr.B	1.000
4	123 - 118	5		18	22.000	22.750	0.1875	A607-60	1.000
5	118 - 113	5		18	22.750	23.500	0.1875	A607-60	1.000
6	113 - 108	5		18	23.500	24.251	0.1875	A607-60	1.000
7	108 - 103	5		18	24.251	25.001	0.1875	A607-60	1.000
8	103 - 98	5		18	25.001	25.751	0.1875	A607-60	1.000
9	98 - 93	5		18	25.751	26.501	0.1875	A607-60	1.000
10	93 - 88	5		18	26.501	27.251	0.1875	A607-60	1.000
11	88 - 85.75	5.75	3.5	18	27.251	28.114	0.1875	A607-60	1.000
12	85.75 - 80.75	5		18	27.214	27.964	0.25	A607-60	1.000
13	80.75 - 75.75	5		18	27.964	28.714	0.25	A607-60	1.000
14	75.75 - 70.75	5		18	28.714	29.465	0.25	A607-60	1.000
15	70.75 - 65.75	5		18	29.465	30.215	0.25	A607-60	1.000
16	65.75 - 60.75	5		18	30.215	30.965	0.25	A607-60	1.000
17	60.75 - 57	3.75		18	30.965	31.528	0.25	A607-60	1.000
18	57 - 56.75	0.25		18	31.528	31.565	0.4625	A607-60	0.945
19	56.75 - 51.75	5		18	31.565	32.315	0.45625	A607-60	0.948
20	51.75 - 46.75	5		18	32.315	33.066	0.45	A607-60	0.951
21	46.75 - 45	6	4.25	18	33.066	33.966	0.45	A607-60	0.948
22	45 - 40	5		18	32.828	33.578	0.4813	A607-60	0.950
23	40 - 35	5		18	33.578	34.329	0.4688	A607-60	0.966
24	35 - 30	5		18	34.329	35.079	0.4688	A607-60	0.958
25	30 - 26.25	3.75		18	35.079	35.642	0.4688	A607-60	0.953
26	26.25 - 26	0.25		18	35.642	35.679	0.5188	A607-60	0.943
27	26 - 21	5		18	35.679	36.429	0.5063	A607-60	0.957
28	21 - 16	5		18	36.429	37.179	0.5063	A607-60	0.949
29	16 - 11	5		18	37.179	37.930	0.4938	A607-60	0.964
30	11 - 6	5		18	37.930	38.680	0.4938	A607-60	0.957
31	6 - 1	5		18	38.680	39.430	0.48755	A607-60	0.961
32	1 - 0	1		18	39.430	39.580	0.48755	A607-60	0.960

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	133 - 128	1.52	9.91	2.52
2	128 - 123.5	1.81	21.68	2.71
3	123.5 - 123	1.85	23.04	2.73
4	123 - 118	5.88	48.48	6.75
5	118 - 113	6.22	83.12	7.11
6	113 - 108	9.45	129.75	10.83
7	108 - 103	9.84	184.74	11.17
8	103 - 98	11.39	245.62	12.91
9	98 - 93	11.86	310.97	13.24
10	93 - 88	15.50	396.36	16.77
11	88 - 85.75	15.77	434.24	16.91
12	85.75 - 80.75	16.67	519.71	17.29
13	80.75 - 75.75	17.40	606.86	17.60
14	75.75 - 70.75	18.47	697.39	18.33
15	70.75 - 65.75	19.27	789.73	18.62
16	65.75 - 60.75	20.09	883.46	18.90
17	60.75 - 57	20.72	954.65	19.10
18	57 - 56.75	20.79	959.42	19.10
19	56.75 - 51.75	21.95	1055.76	19.45
20	51.75 - 46.75	23.17	1153.98	19.81
21	46.75 - 45	23.58	1188.72	19.93
22	45 - 40	25.60	1289.30	20.31
23	40 - 35	26.88	1391.56	20.61
24	35 - 30	28.18	1495.25	20.89
25	30 - 26.25	29.16	1573.91	21.09
26	26.25 - 26	29.24	1579.18	21.09
27	26 - 21	30.66	1685.26	21.36
28	21 - 16	32.09	1792.58	21.59
29	16 - 11	33.55	1901.01	21.81
30	11 - 6	35.02	2010.49	22.01
31	6 - 1	36.51	2120.98	22.21
32	1 - 0	36.81	2143.19	22.25

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
133 - 128	Pole	TP14x14x0.349	Pole	5.9%	Pass
128 - 123.5	Pole	TP14x14x0.349	Pole	12.5%	Pass
123.5 - 123	Pole	TP22x14x0.349	Pole	5.4%	Pass
123 - 118	Pole	TP22.75x22x0.1875	Pole	12.3%	Pass
118 - 113	Pole	TP23.5x22.75x0.1875	Pole	19.4%	Pass
113 - 108	Pole	TP24.251x23.5x0.1875	Pole	28.8%	Pass
108 - 103	Pole	TP25.001x24.251x0.1875	Pole	38.4%	Pass
103 - 98	Pole	TP25.751x25.001x0.1875	Pole	48.5%	Pass
98 - 93	Pole	TP26.501x25.751x0.1875	Pole	58.2%	Pass
93 - 88	Pole	TP27.251x26.501x0.1875	Pole	71.0%	Pass
88 - 85.75	Pole	TP28.114x27.251x0.1875	Pole	76.1%	Pass
85.75 - 80.75	Pole	TP27.964x27.214x0.25	Pole	60.9%	Pass
80.75 - 75.75	Pole	TP28.714x27.964x0.25	Pole	67.8%	Pass
75.75 - 70.75	Pole	TP29.465x28.714x0.25	Pole	74.4%	Pass
70.75 - 65.75	Pole	TP30.215x29.465x0.25	Pole	80.6%	Pass
65.75 - 60.75	Pole	TP30.965x30.215x0.25	Pole	86.3%	Pass
60.75 - 57	Pole	TP31.528x30.965x0.25	Pole	90.4%	Pass
57 - 56.75	Pole + Reinf.	TP31.565x31.528x0.4625	Reinf. 2 Tension Rupture	73.5%	Pass
56.75 - 51.75	Pole + Reinf.	TP32.315x31.565x0.4563	Reinf. 2 Tension Rupture	77.9%	Pass
51.75 - 46.75	Pole + Reinf.	TP33.066x32.315x0.45	Reinf. 2 Tension Rupture	82.1%	Pass
46.75 - 45	Pole + Reinf.	TP33.966x33.066x0.45	Reinf. 2 Tension Rupture	83.5%	Pass
45 - 40	Pole + Reinf.	TP33.578x32.828x0.4813	Reinf. 2 Tension Rupture	83.7%	Pass
40 - 35	Pole + Reinf.	TP34.329x33.578x0.4688	Reinf. 2 Tension Rupture	87.2%	Pass
35 - 30	Pole + Reinf.	TP35.079x34.329x0.4688	Reinf. 2 Tension Rupture	90.4%	Pass
30 - 26.25	Pole + Reinf.	TP35.642x35.079x0.4688	Reinf. 2 Tension Rupture	92.7%	Pass
26.25 - 26	Pole + Reinf.	TP35.679x35.642x0.5188	Reinf. 1 Tension Rupture	78.9%	Pass
26 - 21	Pole + Reinf.	TP36.429x35.679x0.5063	Reinf. 1 Tension Rupture	81.5%	Pass
21 - 16	Pole + Reinf.	TP37.179x36.429x0.5063	Reinf. 1 Tension Rupture	84.0%	Pass
16 - 11	Pole + Reinf.	TP37.93x37.179x0.4938	Reinf. 1 Tension Rupture	86.3%	Pass
11 - 6	Pole + Reinf.	TP38.68x37.93x0.4938	Reinf. 1 Tension Rupture	88.5%	Pass
6 - 1	Pole + Reinf.	TP39.43x38.68x0.4876	Reinf. 1 Tension Rupture	90.5%	Pass
1 - 0	Pole + Reinf.	TP39.58x39.43x0.4876	Reinf. 1 Tension Rupture	90.9%	Pass
				Summary	
			Pole	90.4%	Pass
			Reinforcement	92.7%	Pass
			Overall	92.7%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*		
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2
133 - 128	349	n/a	349	14.97	n/a	14.97	5.9%		
128 - 123.5	349	n/a	349	14.97	n/a	14.97	12.5%		
123.5 - 123	1391	n/a	1391	23.74	n/a	23.74	5.4%		
123 - 118	863	n/a	863	13.43	n/a	13.43	12.3%		
118 - 113	952	n/a	952	13.87	n/a	13.87	19.4%		
113 - 108	1047	n/a	1047	14.32	n/a	14.32	28.8%		
108 - 103	1148	n/a	1148	14.77	n/a	14.77	38.4%		
103 - 98	1256	n/a	1256	15.21	n/a	15.21	48.5%		
98 - 93	1369	n/a	1369	15.66	n/a	15.66	58.2%		
93 - 88	1490	n/a	1490	16.11	n/a	16.11	71.0%		
88 - 85.75	1546	n/a	1546	16.31	n/a	16.31	76.1%		
85.75 - 80.75	2133	n/a	2133	21.99	n/a	21.99	60.9%		
80.75 - 75.75	2311	n/a	2311	22.59	n/a	22.59	67.8%		
75.75 - 70.75	2499	n/a	2499	23.18	n/a	23.18	74.4%		
70.75 - 65.75	2696	n/a	2696	23.78	n/a	23.78	80.6%		
65.75 - 60.75	2904	n/a	2904	24.37	n/a	24.37	86.3%		
60.75 - 57	3066	n/a	3066	24.82	n/a	24.82	90.4%		
57 - 56.75	3077	2480	5558	24.85	18.28	43.13	49.4%		73.5%
56.75 - 51.75	3304	2594	5898	25.44	18.28	43.72	52.9%		77.9%
51.75 - 46.75	3541	2710	6252	26.04	18.28	44.32	56.2%		82.1%
46.75 - 45	3627	2752	6379	26.25	18.28	44.53	57.3%		83.5%
45 - 40	4163	2791	6954	29.73	18.28	48.01	55.5%		83.7%
40 - 35	4451	2912	7362	30.40	18.28	48.68	58.2%		87.2%
35 - 30	4751	3035	7786	31.07	18.28	49.35	60.8%		90.4%
30 - 26.25	4985	3129	8115	31.57	18.28	49.85	62.7%		92.7%
26.25 - 26	5001	3953	8954	31.60	22.97	54.57	57.1%	78.9%	
26 - 21	5326	4114	9440	32.27	22.97	55.24	59.4%	81.5%	
21 - 16	5665	4277	9942	32.94	22.97	55.91	61.7%	84.0%	
16 - 11	6017	4445	10462	33.61	22.97	56.58	63.9%	86.3%	
11 - 6	6384	4615	10999	34.28	22.97	57.25	66.0%	88.5%	
6 - 1	6766	4789	11554	34.95	22.97	57.92	68.0%	90.5%	
1 - 0	6844	4824	11667	35.09	22.97	58.06	68.4%	90.9%	

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 = 123 ft.

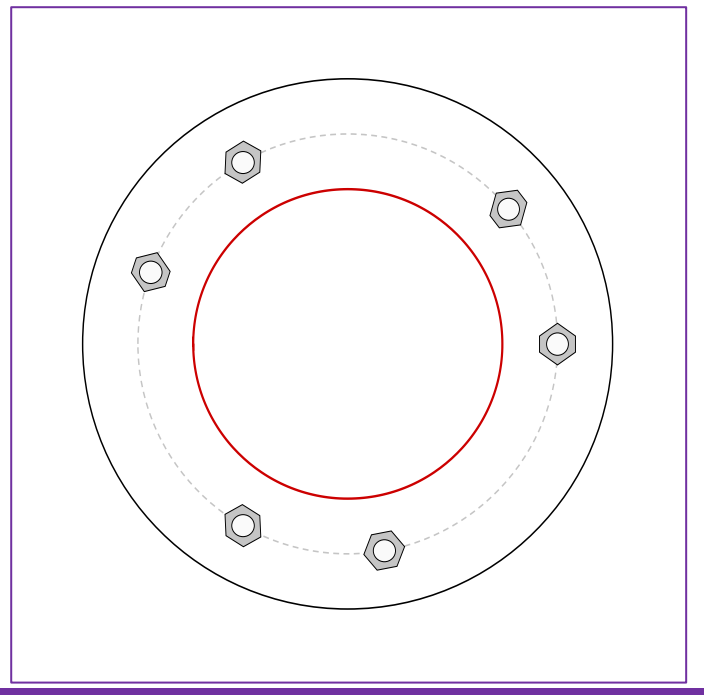
BU #	876382
Site Name	RLIN / LAVIANA ORCHA
Order #	557904 Rev. 2

TIA-222 Revision	H

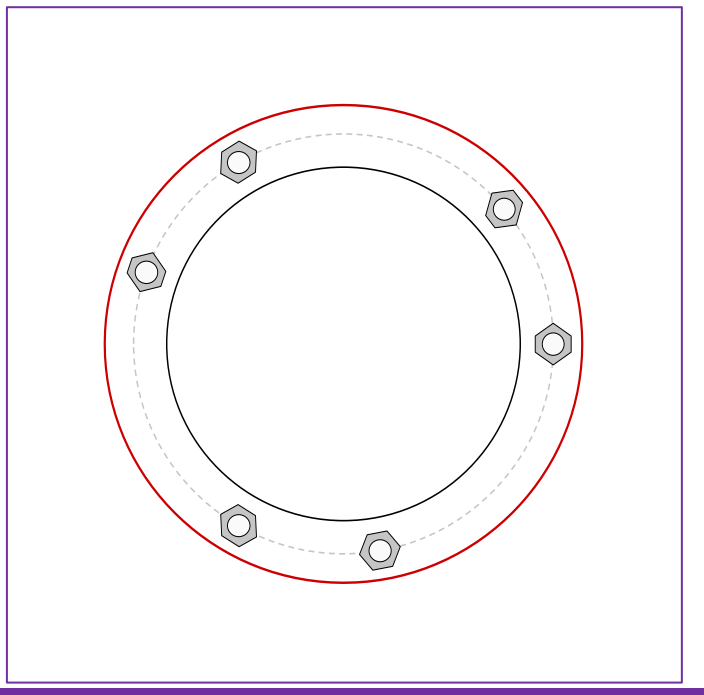
Applied Loads	
Moment (kip-ft)	23.04
Axial Force (kips)	1.85
Shear Force (kips)	2.73

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(6) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 19" BC

Top Plate Data

24" OD x 1.5" Plate (A572-65; Fy=65 ksi, Fu=80 ksi)

Bottom Plate Data

16" ID x 0.75" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

14" x 0.349" round pole (A500-B-42; Fy=42 ksi, Fu=60 ksi)

Bottom Pole Data

22" x 0.1875" 18-sided pole (A607-60; Fy=60 ksi, Fu=75 ks

Analysis Results

Bolt Capacity

Max Load (kips)	9.38	
Allowable (kips)	54.54	
Stress Rating:	**16.4%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	5.02	(Flexural)
Allowable Stress (ksi):	58.50	
Stress Rating:	**8.2%**	**Pass**
Tension Side Stress Rating:	**5.1%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	14.93	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**43.9%**	**Pass**
Tension Side Stress Rating:	**N/A**	

CCIplate

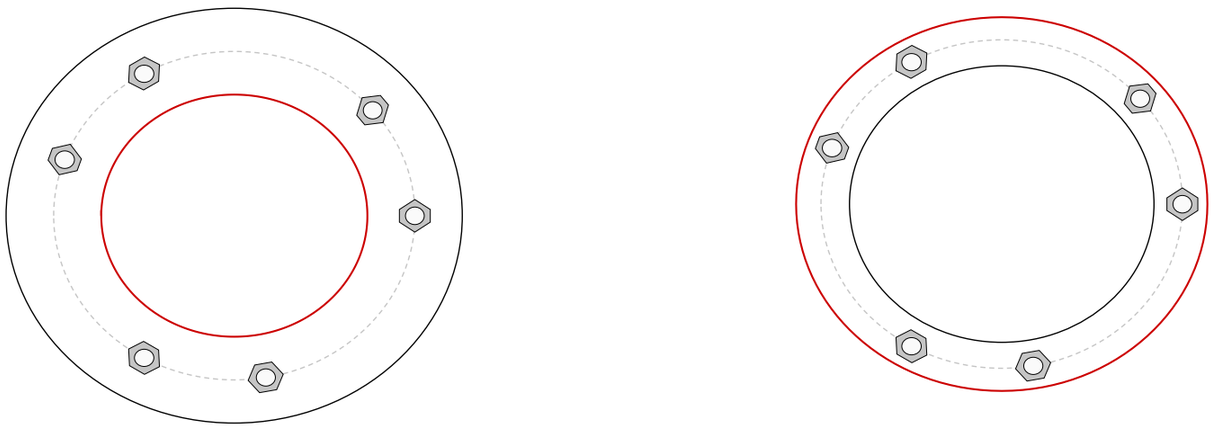
Elevation (ft)	123	*(Flange)*

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:	l_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	0	1	A325	19	0.5	0	N-Included		No
2	1	40	1	A325	19	0.5	0	N-Included		No
3	1	120	1	A325	19	0.5	0	N-Included		No
4	1	160	1	A325	19	0.5	0	N-Included		No
5	1	240	1	A325	19	0.5	0	N-Included		No
6	1	280	1	A325	19	0.5	0	N-Included		No
										No

Plot Graphic



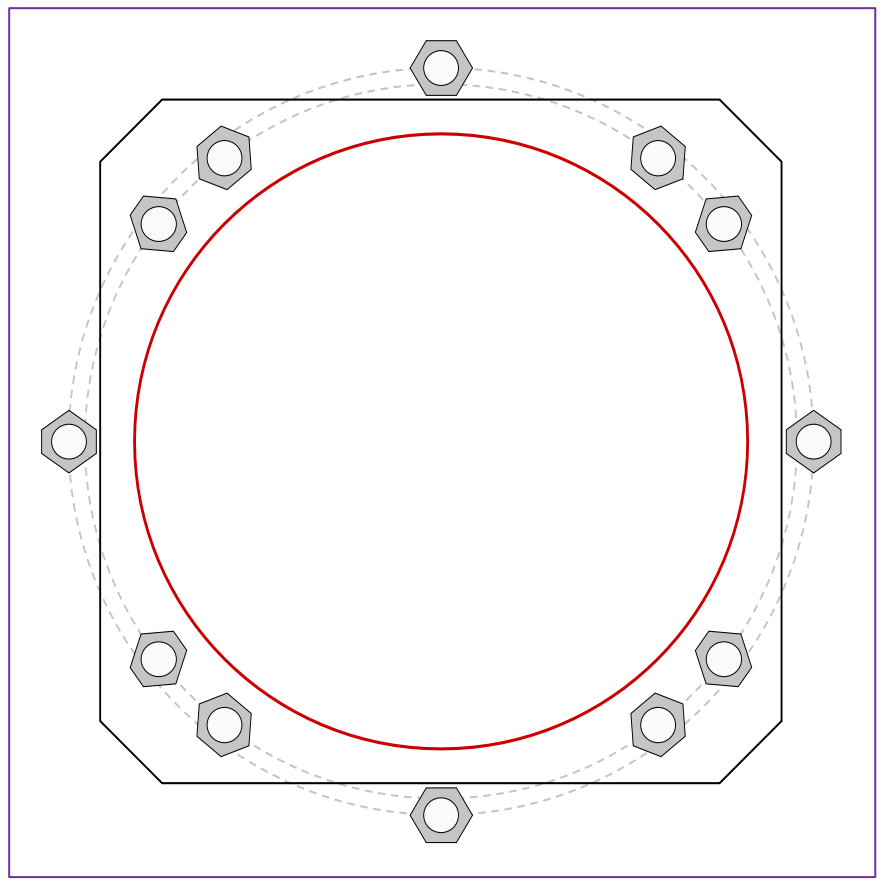
Monopole Base Plate Connection

Site Info	
BU #	876382
Site Name	RLIN / LAVIANA ORCHA
Order #	557904 Rev. 2

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

Applied Loads	
Moment (kip-ft)	2143.19
Axial Force (kips)	36.81
Shear Force (kips)	22.25

**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 46" BC

Anchor Spacing: 6 in

GROUP 2: (4) 2-1/4" ø bolts (OTHER N; Fy=62.239 ksi, Fu=91.3717 ksi) on 48.08" BC

Base Plate Data

44" W x 2.75" Plate (A572-55; Fy=55 ksi, Fu=70 ksi); Clip: 4 in

Stiffener Data

N/A

Pole Data

39.58" x 0.2813" 18-sided pole (A607-60; Fy=60 ksi, Fu=75 ksi)

Analysis Results

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

GROUP 1:

Pu_t = 175.85	ϕPn_t = 243.75	**Stress Rating**
Vu = 2.78	ϕVn = 149.1	**68.7%**
Mu = n/a	ϕMn = n/a	**Pass**

GROUP 2:

Pu_t = 188.79	ϕPn_t = 222.72	**Stress Rating**
Vu = 0	ϕVn = 136.24	**80.7%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	25.86	(Flexural)
Allowable Stress (ksi):	49.5	
Stress Rating:	**49.8%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

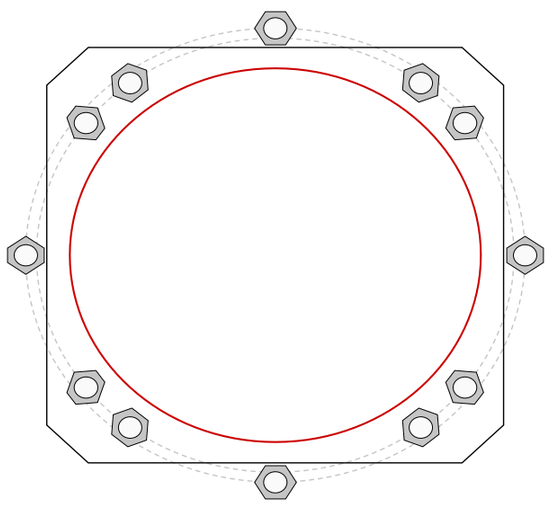
note: Bending interaction not considered when Grout Considered = "Yes"

Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending	Grout Considered	Apply at BARB Elevation	BARB CL Elevation (ft)
1	Yes	Yes	Yes	No	No	
2	No	No	No	No	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	37.505283	2.25	A615-75	46	0.5	1.75	N-Included		No
2	1	52.494717	2.25	A615-75	46	0.5	1.75	N-Included		No
3	1	127.50528	2.25	A615-75	46	0.5	1.75	N-Included		No
4	1	142.49472	2.25	A615-75	46	0.5	1.75	N-Included		No
5	1	217.50528	2.25	A615-75	46	0.5	1.75	N-Included		No
6	1	232.49472	2.25	A615-75	46	0.5	1.75	N-Included		No
7	1	307.50528	2.25	A615-75	46	0.5	1.75	N-Included		No
8	1	322.49472	2.25	A615-75	46	0.5	1.75	N-Included		No
9	2	0	2.25	OTHER	48.08	0.5	2.25	N-Included		No
10	2	90	2.25	OTHER	48.08	0.5	2.25	N-Included		No
11	2	180	2.25	OTHER	48.08	0.5	2.25	N-Included		No
12	2	270	2.25	OTHER	48.08	0.5	2.25	N-Included		No

Plot Graphic



Drilled Pier Foundation

BU # :	876382
Site Name:	BERLIN / LAVIANA ORCHA
Order Number:	557904 Rev. 2
TIA-222 Revison:	H
Tower Type:	Monopole

Applied Loads	Comp.	Uplift
Moment (kip-ft)	2143	
Axial Force (kips)	37	
Shear Force (kips)	22	

Material Properties		
Concrete Strength, f'c:	3	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	40	ksi

Pier Design Data		
Depth	20	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 20' below grade		
Pier Diameter	6	ft
Rebar Quantity	16	
Rebar Size	11	
Clear Cover to Ties	4	in
Tie Size	5	
Tie Spacing	18	in

Rebar & Pier Options
Embedded Pole Inputs
Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	5.35	-
Soil Safety Factor	2.86	-
Max Moment (kip-ft)	2246.65	-
Rating*	*44.4%*	-
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	143.49	-
End Bearing (kips)	848.23	-
Weight of Concrete (kips)	93.74	-
Total Capacity (kips)	991.72	-
Axial (kips)	130.74	-
Rating*	*12.6%*	-
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	5.18	-
Critical Moment (kip-ft)	2246.38	-
Critical Moment Capacity	3348.83	-
Rating*	*63.9%*	-
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	16.39	-
Critical Shear (kip)	239.95	-
Critical Shear Capacity	505.29	-
Rating*	*45.2%*	-

Shear-Friction Methodology is Applied

Structural Foundation Rating*	**63.9%**
Soil Interaction Rating*	**44.4%**

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	☑
Shear Design Options	
Check Shear along Depth of Pier:	☑
Utilize Shear-Friction Methodology:	☑
Override Critical Depth:	☐

Go to Soil Calculations

Soil Profile

Groundwater Depth	15	# of Layers	4

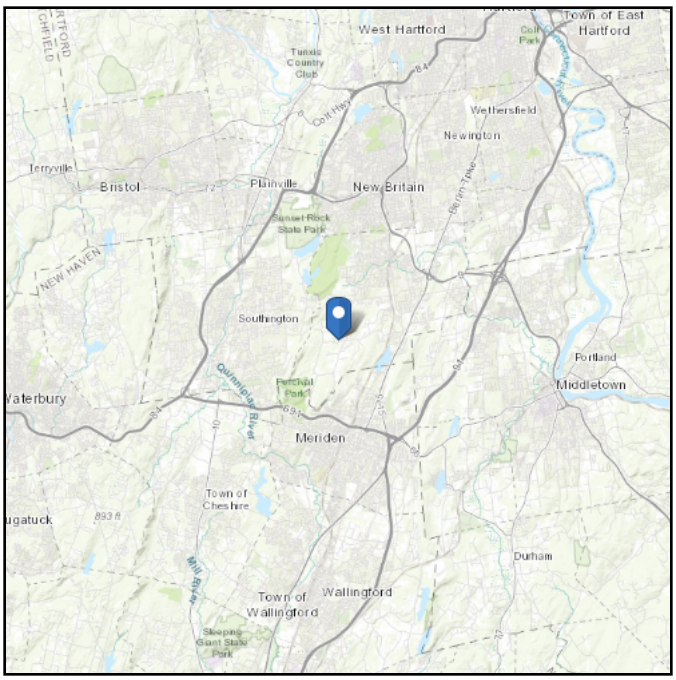
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.33	3.33	135	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.33	5	1.67	135	150		38	0.688	0.688		0.00		33	Cohesionless
3	5	15	10	135	150		38	0.000	0.000	0.60	0.00			Cohesionless
4	15	20	5	72.6	87.6		38	0.000	0.000	0.60	0.00	40		Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 345.04 ft (NAVD 88)
Latitude: 41.589742
Longitude: -72.805333



Wind

Results:

Wind Speed:	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	98 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 Sep 17 2021

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.

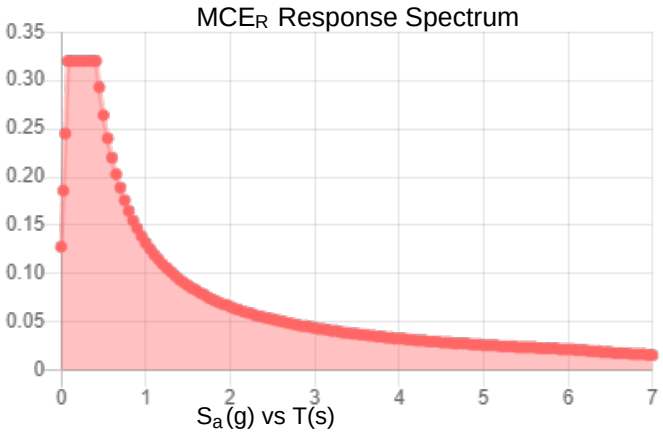
Seismic

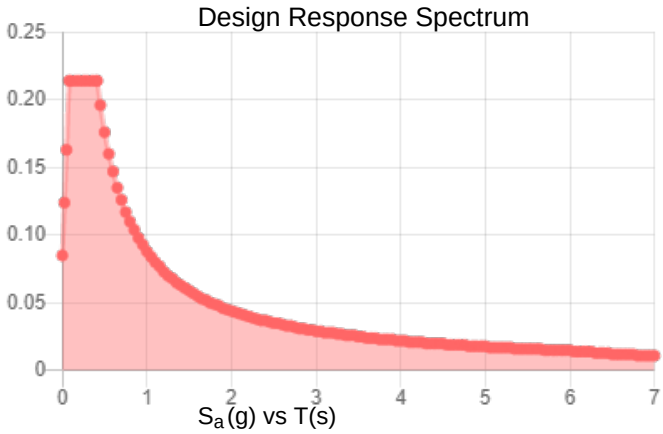
Site Soil Class: D - Default (see Section 11.4.3)

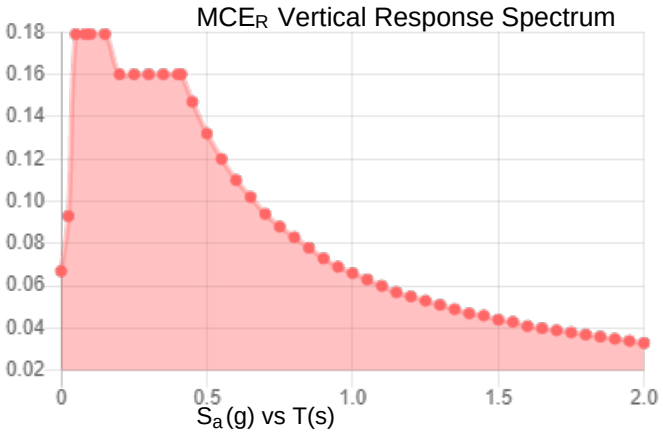
Results:

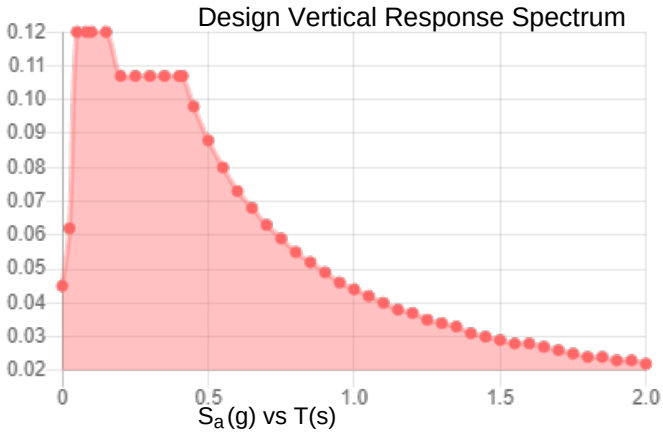
S_S :	0.2	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.11
F_v :	2.4	PGA_M :	0.174
S_{MS} :	0.32	F_{PGA} :	1.579
S_{M1} :	0.132	I_e :	1
S_{DS} :	0.214	C_v :	0.7

Seismic Design Category B









Data Accessed: Fri Sep 17 2021

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 Sep 17 2021

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.

Date: **August 31, 2021**

Darcy Tarr
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277
704-405-6589

Infinigy Engineering, PLLC
1033 Watervliet Shaker Road
Albany, NY 12205
518-690-0790
structural@infinigy.com

Subject:	**Mount Analysis Report**	
Carrier Designation:	**T-Mobile Retain**	
	Carrier Site Number:	CTNH614A
	Carrier Site Name:	CTNH614A
Crown Castle Designation:	**Crown Castle BU Number:**	876382
	Crown Castle Site Name:	BERLIN / LAVIANA ORCHARD
	Crown Castle JDE Job Number:	650691
	Crown Castle Order Number:	557904 Rev. 1
Engineering Firm Designation:	**Infinigy Engineering, PLLC Report Designation:** 1039-Z0001-B	
Site Data:	**1684 Chamberlain Highway, Berlin, Hartford County, CT, 6037** **Latitude 41°35'23.07" Longitude -72°48'19.20"**	
Structure Information:	**Tower Height & Type:**	**133.0 ft Monopole**
	Mount Elevation:	**120.0 ft**
	Mount Type:	**12.5 ft Platform**

Dear Darcy Tarr,

Infinigy Engineering, PLLC is pleased to submit this **"Mount Analysis Report"** to determine the structural integrity of T-Mobile's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

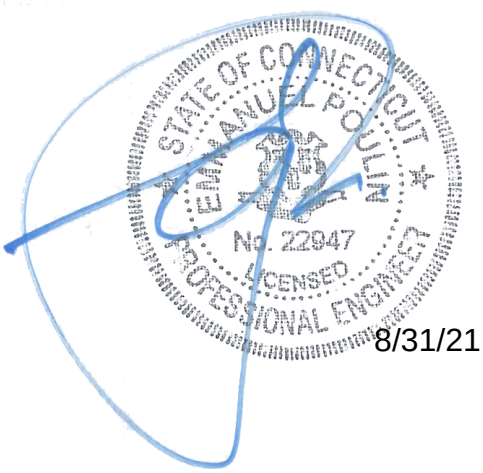
The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Platform **Sufficient**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2015 International Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Abram Tadrous

Respectfully Submitted by:
Emmanuel Poulin, P.E.
518-690-0790
Structural@infinigy.com
CT PE License No. 22947



8/31/21

TABLE OF CONTENTS

1) INTRODUCTION

This is an existing 3 sector 12.5 ft Platform, designed by Site Pro 1.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	125 mph
Exposure Category:	C
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.181
Seismic S_1:	0.064
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
120.0	121.0	3	ERICSSON	AIR6449 B41_T-MOBILE	12.5 ft Platform
		3	RFS/CELWAVE	APXVAALL24_43-U-NA20_TMO	
		3	ERICSSON	RADIO 4460 B2/B25 B66_TMO	
		3	ERICSSON	RADIO 4480_TMOV2	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	557904 Rev. 0	CCI Sites
Loading Document	T-Mobile	RFDS Version:1	TSA
Previous Mount Analysis	Infinigy Engineering, PLLC	60486748	CCI Sites

3.1) Analysis Method

RISA-3D (Version 17.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

Infinigy Load Calculator Tool V 2.1.6, a tool internally developed by Infinigy, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B “Software Input Calculations”.

This analysis was performed in accordance with Crown Castle’s ENG-SOW-10208 *Tower Mount Analysis* (Revision B).

3.2) Assumptions

1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
3) 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.
4) The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
5) Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
6) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	Q345 (GR-36)
HSS (Rectangular)	Q235-GB (GR 35)
Pipe	Q235-GB (GR 35)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Infinigy Engineering, PLLC should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Platform, All Sectors)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2	Mount Pipe(s)	MP10	120.0	53.1	Pass
	Horizontal(s)	M48		21.7	Pass
	Standoff(s)	M16		54.7	Pass
	Support Angle(s)	M39		36.6	Pass
	Support Rail(s)	M80		50.7	Pass
	Corner Angle(s)	M69		56.1	Pass
	Mount Connection(s)	--		33.5	Pass

Structure Rating (max from all components) =	56.1%

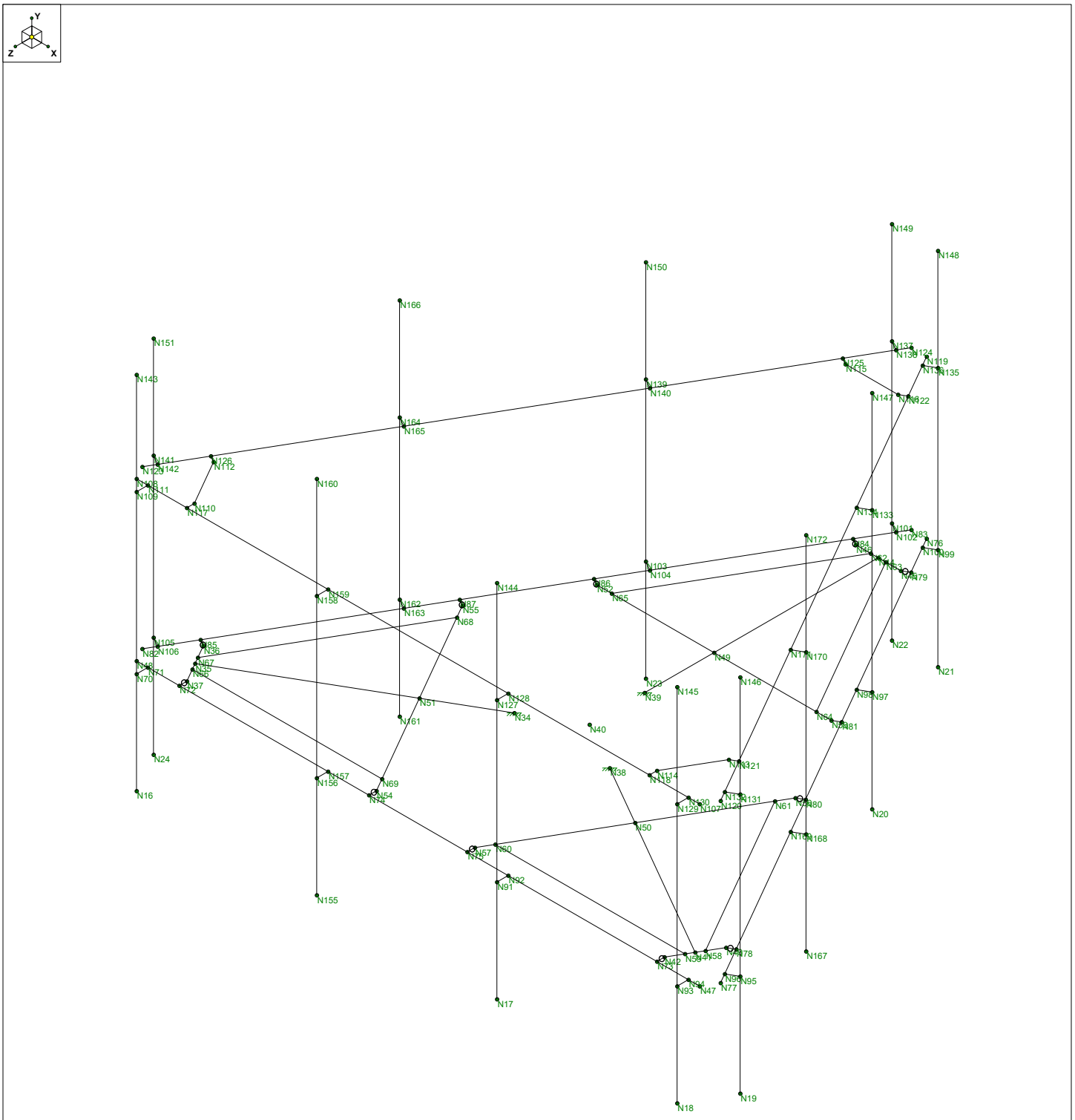
Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) See additional documentation in “Appendix D – Additional Calculations” for detailed mount connection calculations.

4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

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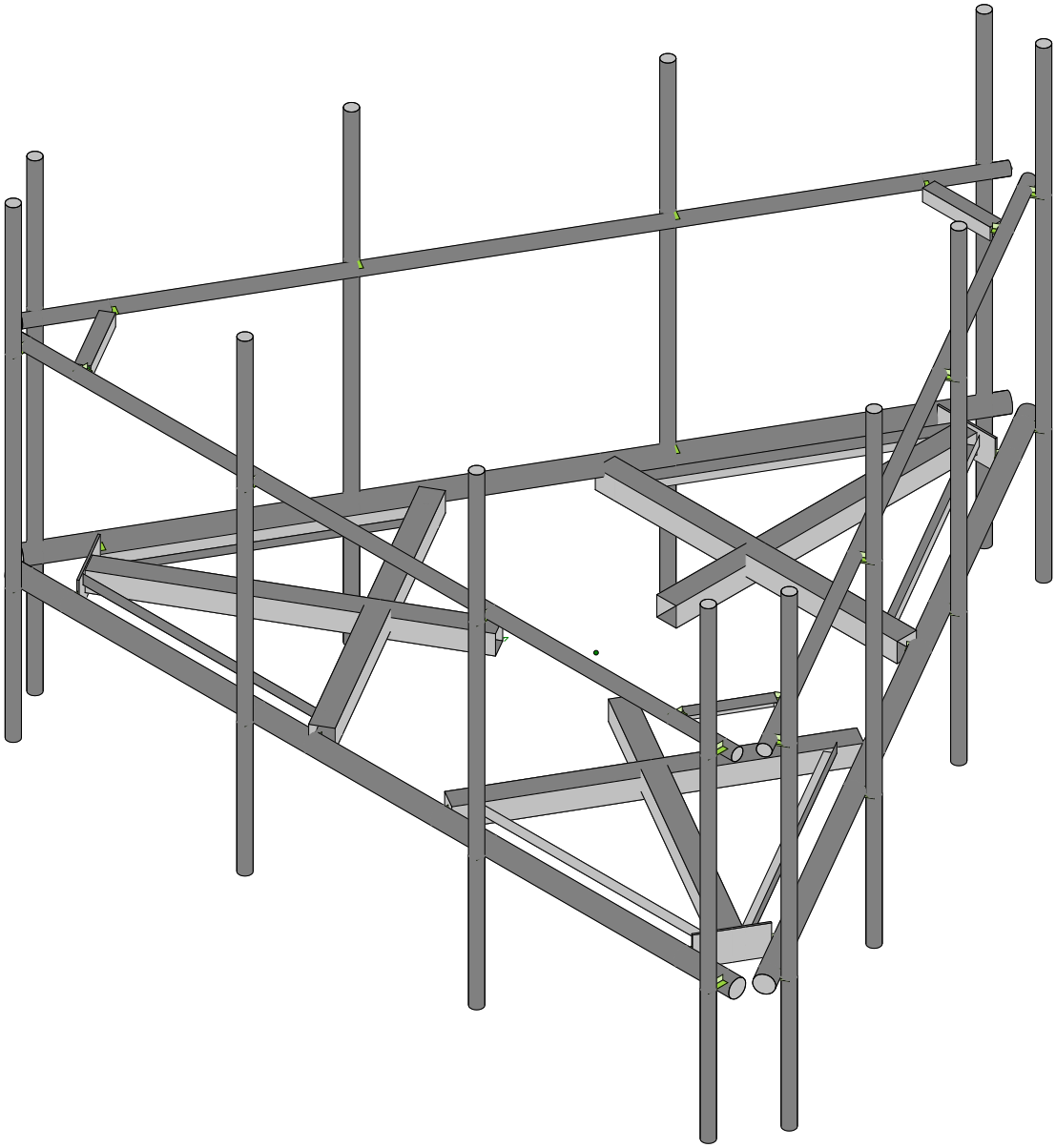

Envelope Only Solution

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APPENDIX B

SOFTWARE INPUT CALCULATIONS

Program Inputs

PROJECT INFORMATION	
Client:	Crown Castle
Carrier:	T-Mobile
Engineer:	Abram Tadrous

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	C	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	220.36	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	120.00	ft
Tower Height AGL:	133.00	ft

FACTORS		
Directionality Fact. (K_d):	0.950	
Ground Ele. Factor (K_e):	0.992	*Rev H Only
Rooftop Speed-Up (K_s):	1.000	*Rev H Only
Topographic Factor (K_{zt}):	1.000	
Gust Effect Factor (G_h):	1.000	

CODE STANDARDS		
Building Code:	2015 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-10	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	125	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1.5	in
Flat Pressure:	99.157	psf
Round Pressure:	59.494	psf
Ice Wind Pressure:	9.519	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.181	g
1-Second Accel. (S_1):	0.064	g
Short-Period Design (S_{DS}):	0.193	
1-Second Design (S_{D1}):	0.102	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	

INFINIGY

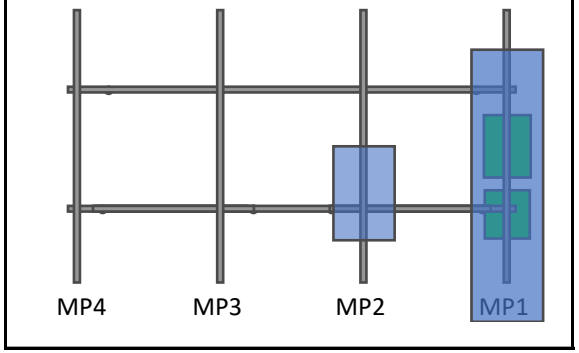
FROM ZERO TO INFINIGY

the solutions are endless

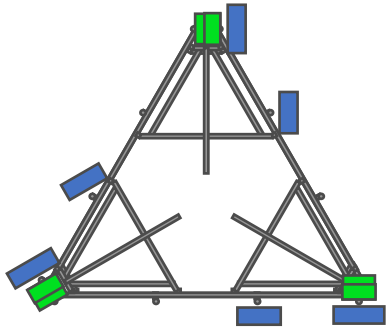
Infinigy Load Calculator V2.1.6

Program Inputs

ELEVATION VIEW



PLAN VIEW



INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.6

APPURTENANCE INFORMATION

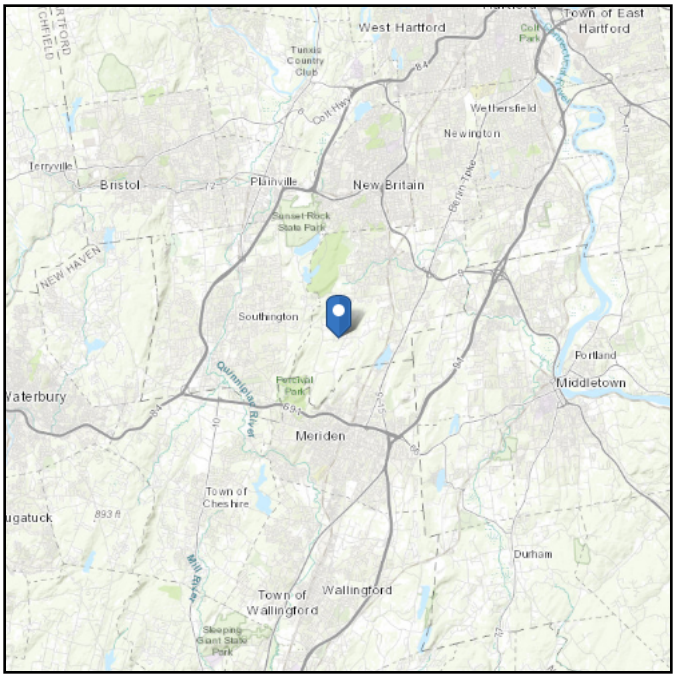
Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
ERICSSON AIR6449 B41_T-MOBILE	121.0	3	0.90	49.67	5.66	2.48	252.95	110.70	114.63	33.20	MP2
ERICSSON RADIO 4460 B2/B25 B66_TMC	121.0	3	0.90	49.67	2.14	1.69	95.62	75.35	109.00	31.57	MP1
/CELWAVE APXVAALL24_43-U-NA20_TI	121.0	3	0.90	49.67	14.67	5.32	655.73	237.80	149.90	43.41	MP1
ERICSSON RADIO 4480_TMOV2	121.0	3	0.90	49.67	2.88	1.40	128.66	62.45	81.00	23.46	MP1

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 345.04 ft (NAVD 88)
Latitude: 41.589742
Longitude: -72.805333



Wind

Results:

Wind Speed:	123 Vmph 125 Vmph Per Jurisdiction
10-year MRI	77 Vmph
25-year MRI	87 Vmph
50-year MRI	93 Vmph
100-year MRI	100 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Tue Aug 31 2021

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 7-10 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 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

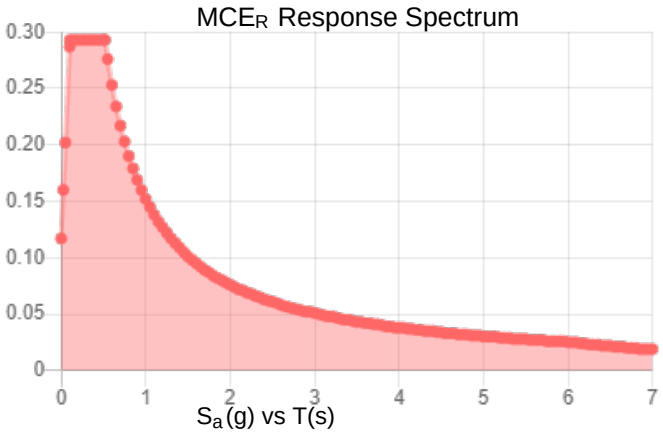
Seismic

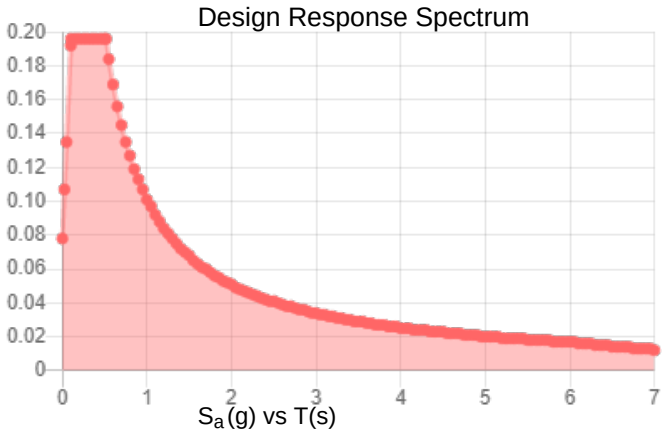
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.183	0.181	S_{DS} :	0.196
S_1 :	0.063	0.064	S_{D1} :	0.101
F_a :	1.6		T_L :	6
F_v :	2.4		PGA :	0.094
S_{MS} :	0.293		PGA_M :	0.15
S_{M1} :	0.152		F_{PGA} :	1.6
			I_e :	1

Seismic Design Category B





Data Accessed: Tue Aug 31 2021

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Tue Aug 31 2021

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 50-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.

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M16	N34	N35			Stand Off HSS	None	None	Q235-GB	Typical
2	M17	N36	N37			Corner Plate	None	None	Q345	Typical
3	M18	N36	N85			RIGID	None	None	RIGID	Typical
4	M19	N37	N72			RIGID	None	None	RIGID	Typical
5	M20	N38	N41			Stand Off HSS	None	None	Q235-GB	Typical
6	M21	N39	N44			Stand Off HSS	None	None	Q235-GB	Typical
7	M22	N42	N43			Corner Plate	None	None	Q345	Typical
8	M23	N42	N73			RIGID	None	None	RIGID	Typical
9	M24	N43	N78			RIGID	None	None	RIGID	Typical
10	M25	N45	N46			Corner Plate	None	None	Q345	Typical
11	M26	N45	N79			RIGID	None	None	RIGID	Typical
12	M27	N46	N84			RIGID	None	None	RIGID	Typical
13	M28	N48	N47			Face Horizontal	None	None	Q235-GB	Typical
14	M29	N52	N53			Stand Off HSS	None	None	Q235-GB	Typical
15	M30	N52	N86			RIGID	None	None	RIGID	Typical
16	M31	N53	N81			RIGID	None	None	RIGID	Typical
17	M32	N54	N55			Stand Off HSS	None	None	Q235-GB	Typical
18	M33	N54	N74			RIGID	None	None	RIGID	Typical
19	M34	N55	N87			RIGID	None	None	RIGID	Typical
20	M35	N56	N57			Stand Off HSS	None	None	Q235-GB	Typical
21	M36	N56	N80			RIGID	None	None	RIGID	Typical
22	M37	N57	N75			RIGID	None	None	RIGID	Typical
23	M38	N58	N61		270	Grating Suppo...	None	None	Q345	Typical
24	M39	N59	N60			Grating Suppo...	None	None	Q345	Typical
25	M40	N62	N65		270	Grating Suppo...	None	None	Q345	Typical
26	M41	N63	N64			Grating Suppo...	None	None	Q345	Typical
27	M42	N66	N69		270	Grating Suppo...	None	None	Q345	Typical
28	M43	N67	N68			Grating Suppo...	None	None	Q345	Typical
29	M47	N71	N70			RIGID	None	None	RIGID	Typical
30	M48	N77	N76			Face Horizontal	None	None	Q235-GB	Typical
31	M53	N83	N82			Face Horizontal	None	None	Q235-GB	Typical
32	M61	N108	N107			Support Rail	None	None	Q235-GB	Typical
33	M62	N110	N112		180	Support Rail C...	None	None	Q345	Typical
34	M63	N110	N117			RIGID	None	None	RIGID	Typical
35	M67	N111	N109			RIGID	None	None	RIGID	Typical
36	M68	N112	N126			RIGID	None	None	RIGID	Typical
37	M69	N113	N114		180	Support Rail C...	None	None	Q345	Typical
38	M70	N113	N121			RIGID	None	None	RIGID	Typical
39	M71	N114	N118			RIGID	None	None	RIGID	Typical
40	M72	N115	N116		180	Support Rail C...	None	None	Q345	Typical
41	M73	N115	N125			RIGID	None	None	RIGID	Typical
42	M74	N116	N122			RIGID	None	None	RIGID	Typical
43	M75	N120	N119			Support Rail	None	None	Q235-GB	Typical
44	M80	N124	N123			Support Rail	None	None	Q235-GB	Typical
45	MP4	N143	N16			Mount Pipe	None	None	Q235-GB	Typical
46	M64	N92	N91			RIGID	None	None	RIGID	Typical
47	M65	N128	N127			RIGID	None	None	RIGID	Typical
48	MP2	N144	N17			Mount Pipe	None	None	Q235-GB	Typical
49	M67A	N94	N93			RIGID	None	None	RIGID	Typical
50	M68A	N130	N129			RIGID	None	None	RIGID	Typical
51	MP1	N145	N18			Mount Pipe	None	None	Q235-GB	Typical
52	M70A	N96	N95			RIGID	None	None	RIGID	Typical
53	M71A	N132	N131			RIGID	None	None	RIGID	Typical
54	MP12	N146	N19			Mount Pipe	None	None	Q235-GB	Typical
55	M73A	N98	N97			RIGID	None	None	RIGID	Typical
56	M74A	N134	N133			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
57	MP10	N147	N20			Mount Pipe	None	None	Q235-GB	Typical
58	M76	N100	N99			RIGID	None	None	RIGID	Typical
59	M77	N136	N135			RIGID	None	None	RIGID	Typical
60	MP9	N148	N21			Mount Pipe	None	None	Q235-GB	Typical
61	M79	N102	N101			RIGID	None	None	RIGID	Typical
62	M80A	N138	N137			RIGID	None	None	RIGID	Typical
63	MP8	N149	N22		30	Mount Pipe	None	None	Q235-GB	Typical
64	M82	N104	N103			RIGID	None	None	RIGID	Typical
65	M83	N140	N139			RIGID	None	None	RIGID	Typical
66	MP7	N150	N23		30	Mount Pipe	None	None	Q235-GB	Typical
67	M85	N106	N105			RIGID	None	None	RIGID	Typical
68	M86	N142	N141			RIGID	None	None	RIGID	Typical
69	MP5	N151	N24		30	Mount Pipe	None	None	Q235-GB	Typical
70	M88	N157	N156			RIGID	None	None	RIGID	Typical
71	M89	N159	N158			RIGID	None	None	RIGID	Typical
72	MP3	N160	N155			Mount Pipe	None	None	Q235-GB	Typical
73	M91	N163	N162			RIGID	None	None	RIGID	Typical
74	M92	N165	N164			RIGID	None	None	RIGID	Typical
75	MP6	N166	N161		30	Mount Pipe	None	None	Q235-GB	Typical
76	M94	N169	N168			RIGID	None	None	RIGID	Typical
77	M95	N171	N170			RIGID	None	None	RIGID	Typical
78	MP11	N172	N167			Mount Pipe	None	None	Q235-GB	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		42	108	0
3	Total General		42	108	0
4					
5	Hot Rolled Steel				
6	Q235-GB	HSS4X4X4	6	374.3	.358
7	Q235-GB	PIPE_3.0	3	450	.264
8	Q235-GB	PIPE_2.0	15	1602	.463
9	Q345	6"x0.37" Plate	3	36	.023
10	Q345	L2.5x2.5x3	3	42	.011
11	Q345	L2x2x2	6	303.1	.042
12	Total HR Steel		36	2807.4	1.161

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in...	Izz [in...	J [in4]
1	Stand Off HSS	HSS4X4X4	None	None	Q235-GB	Typical	3.37	7.8	7.8	12.8
2	Face Horizontal	PIPE_3.0	None	None	Q235-GB	Typical	2.07	2.85	2.85	5.69
3	Grating Support Angle	L2x2x2	None	None	Q345	Typical	.491	.189	.189	.003
4	Mount Pipe	PIPE_2.0	None	None	Q235-GB	Typical	1.02	.627	.627	1.25
5	Kicker Angle	L2.5x2.5x3	None	None	Q345	Typical	.901	.535	.535	.011
6	Support Rail Corner Angle	L2.5x2.5x3	None	None	Q345	Typical	.901	.535	.535	.011
7	Corner Plate	6"x0.37" Pl...	None	None	Q345	Typical	2.22	.025	6.66	.097
8	Support Rail	PIPE_2.0	None	None	Q235-GB	Typical	1.02	.627	.627	1.25

Joint Coordinates and Temperatures

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
1	N16	-72	-27	48.657819	0	
2	N17	24	-27	48.657819	0	
3	N18	72	-27	48.657819	0	
4	N19	78.138907	-27	38.02492	0	
5	N20	30.138907	-27	-45.113519	0	
6	N21	6.138907	-27	-86.682739	0	
7	N22	-6.138907	-27	-86.682739	0	
8	N23	-30.138907	-27	-45.113519	0	
9	N24	-78.138907	-27	38.02492	0	
10	N34	-12.707479	0	7.336667	0	
11	N35	-66.617561	0	38.461667	0	
12	N36	-69.617561	0	33.265514	0	
13	N37	-63.617561	0	43.657819	0	
14	N38	12.706625	0	7.335187	0	
15	N39	0.000854	0	-14.671854	0	
16	N40	0	0	0	0	
17	N41	66.617561	0	38.461666	0	
18	N42	63.617561	0	43.657819	0	
19	N43	69.617561	0	33.265514	0	
20	N44	0.000854	0	-76.923334	0	
21	N45	6	0	-76.923334	0	
22	N46	-6	0	-76.923334	0	
23	N47	75	0	45.657819	0	
24	N48	-75	0	45.657819	0	
25	N49	0.0006	0	-33.171854	0	
26	N50	28.727968	0	16.585407	0	
27	N51	-28.728949	0	16.586667	0	
28	N52	-31.259928	0	-33.171854	0	
29	N53	31.259928	0	-33.171854	0	
30	N54	-13.097704	0	43.657819	0	
31	N55	-44.357633	0	-10.485965	0	
32	N56	44.357633	0	-10.485965	0	
33	N57	13.097704	0	43.657819	0	
34	N58	67.617561	0	36.729616	0	
35	N59	65.617561	0	40.193717	0	
36	N60	15.097704	0	40.193717	0	
37	N61	42.357633	0	-7.021864	0	
38	N62	-2	0	-76.923334	0	
39	N63	2	0	-76.923334	0	
40	N64	27.259928	0	-33.171854	0	
41	N65	-27.259928	0	-33.171854	0	
42	N66	-65.617561	0	40.193717	0	
43	N67	-67.617561	0	36.729616	0	
44	N68	-42.357633	0	-7.021864	0	
45	N69	-15.097704	0	40.193717	0	
46	N70	-72	0	48.657819	0	
47	N71	-72	0	45.657819	0	
48	N72	-63.617561	0	45.657819	0	
49	N73	63.617561	0	45.657819	0	
50	N74	-13.097704	0	45.657819	0	
51	N75	13.097704	0	45.657819	0	
52	N76	2.040831	0	-87.780815	0	
53	N77	77.040831	0	42.122996	0	
54	N78	71.349612	0	32.265514	0	
55	N79	7.732051	0	-77.923333	0	
56	N80	46.089683	0	-11.485965	0	
57	N81	32.991979	0	-34.171854	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
58	N82	-77.040831	0	42.122996	0	
59	N83	-2.040831	0	-87.780815	0	
60	N84	-7.732051	0	-77.923333	0	
61	N85	-71.349612	0	32.265514	0	
62	N86	-32.991979	0	-34.171854	0	
63	N87	-46.089683	0	-11.485965	0	
64	N91	24	0	48.657819	0	
65	N92	24	0	45.657819	0	
66	N93	72	0	48.657819	0	
67	N94	72	0	45.657819	0	
68	N95	78.138907	0	38.02492	0	
69	N96	75.540831	0	39.52492	0	
70	N97	30.138907	0	-45.113519	0	
71	N98	27.540831	0	-43.613519	0	
72	N99	6.138907	0	-86.682739	0	
73	N100	3.540831	0	-85.182739	0	
74	N101	-6.138907	0	-86.682739	0	
75	N102	-3.540831	0	-85.182739	0	
76	N103	-30.138907	0	-45.113519	0	
77	N104	-27.540831	0	-43.613519	0	
78	N105	-78.138907	0	38.02492	0	
79	N106	-75.540831	0	39.52492	0	
80	N107	75	42	45.657819	0	
81	N108	-75	42	45.657819	0	
82	N109	-72	42	48.657819	0	
83	N110	-61.617561	42	43.657819	0	
84	N111	-72	42	45.657819	0	
85	N112	-68.617561	42	31.533464	0	
86	N113	68.617561	42	31.533464	0	
87	N114	61.617561	42	43.657819	0	
88	N115	-7.	42	-75.191282	0	
89	N116	7.	42	-75.191282	0	
90	N117	-61.617561	42	45.657819	0	
91	N118	61.617561	42	45.657819	0	
92	N119	2.040831	42	-87.780815	0	
93	N120	77.040831	42	42.122996	0	
94	N121	70.349612	42	30.533463	0	
95	N122	8.732051	42	-76.191282	0	
96	N123	-77.040831	42	42.122996	0	
97	N124	-2.040831	42	-87.780815	0	
98	N125	-8.732051	42	-76.191282	0	
99	N126	-70.349612	42	30.533463	0	
100	N127	24	42	48.657819	0	
101	N128	24	42	45.657819	0	
102	N129	72	42	48.657819	0	
103	N130	72	42	45.657819	0	
104	N131	78.138907	42	38.02492	0	
105	N132	75.540831	42	39.52492	0	
106	N133	30.138907	42	-45.113519	0	
107	N134	27.540831	42	-43.613519	0	
108	N135	6.138907	42	-86.682739	0	
109	N136	3.540831	42	-85.182739	0	
110	N137	-6.138907	42	-86.682739	0	
111	N138	-3.540831	42	-85.182739	0	
112	N139	-30.138907	42	-45.113519	0	
113	N140	-27.540831	42	-43.613519	0	
114	N141	-78.138907	42	38.02492	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
115	N142	-75.540831	42	39.52492	0	
116	N143	-72	69	48.657819	0	
117	N144	24	69	48.657819	0	
118	N145	72	69	48.657819	0	
119	N146	78.138907	69	38.02492	0	
120	N147	30.138907	69	-45.113519	0	
121	N148	6.138907	69	-86.682739	0	
122	N149	-6.138907	69	-86.682739	0	
123	N150	-30.138907	69	-45.113519	0	
124	N151	-78.138907	69	38.02492	0	
125	N155	-24	-27	48.657819	0	
126	N156	-24	0	48.657819	0	
127	N157	-24	0	45.657819	0	
128	N158	-24	42	48.657819	0	
129	N159	-24	42	45.657819	0	
130	N160	-24	69	48.657819	0	
131	N161	-54.138907	-27	-3.5443	0	
132	N162	-54.138907	0	-3.5443	0	
133	N163	-51.540831	0	-2.0443	0	
134	N164	-54.138907	42	-3.5443	0	
135	N165	-51.540831	42	-2.0443	0	
136	N166	-54.138907	69	-3.5443	0	
137	N167	54.138907	-27	-3.5443	0	
138	N168	54.138907	0	-3.5443	0	
139	N169	51.540831	0	-2.0443	0	
140	N170	54.138907	42	-3.5443	0	
141	N171	51.540831	42	-2.0443	0	
142	N172	54.138907	69	-3.5443	0	

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M16	Stand Off H...	62.25	31.75	31.75	31.75	31.75	31.75				Lateral
2	M17	Corner Plate	12									Lateral
3	M20	Stand Off H...	62.251	31.75	31.75	31.75	31.75	31.75				Lateral
4	M21	Stand Off H...	62.251	31.75	31.75	31.75	31.75	31.75				Lateral
5	M22	Corner Plate	12									Lateral
6	M25	Corner Plate	12									Lateral
7	M28	Face Horizo...	150	50.52	50.52	50.52	50.52	50.52				Lateral
8	M29	Stand Off H...	62.52	27.26	27.26	27.26	27.26	27.26				Lateral
9	M32	Stand Off H...	62.52	27.26	27.26	27.26	27.26	27.26				Lateral
10	M35	Stand Off H...	62.52	27.26	27.26	27.26	27.26	27.26				Lateral
11	M38	Grating Sup...	50.52			Lbyy			.65	.65		Lateral
12	M39	Grating Sup...	50.52			Lbyy			.65	.65		Lateral
13	M40	Grating Sup...	50.52			Lbyy			.65	.65		Lateral
14	M41	Grating Sup...	50.52			Lbyy			.65	.65		Lateral
15	M42	Grating Sup...	50.52			Lbyy			.65	.65		Lateral
16	M43	Grating Sup...	50.52			Lbyy			.65	.65		Lateral
17	M48	Face Horizo...	150	50.52	50.52	50.52	50.52	50.52				Lateral
18	M53	Face Horizo...	150	50.52	50.52	50.52	50.52	50.52				Lateral
19	M61	Support Rail	150			Lbyy						Lateral
20	M62	Support Rai...	14			Lbyy						Lateral
21	M69	Support Rai...	14			Lbyy						Lateral
22	M72	Support Rai...	14			Lbyy						Lateral
23	M75	Support Rail	150			Lbyy						Lateral
24	M80	Support Rail	150			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
25	MP4	Mount Pipe	96			Lbyy						Lateral
26	MP2	Mount Pipe	96			Lbyy						Lateral
27	MP1	Mount Pipe	96			Lbyy						Lateral
28	MP12	Mount Pipe	96			Lbyy						Lateral
29	MP10	Mount Pipe	96			Lbyy						Lateral
30	MP9	Mount Pipe	96			Lbyy						Lateral
31	MP8	Mount Pipe	96	42		Lbyy						Lateral
32	MP7	Mount Pipe	96	42		Lbyy						Lateral
33	MP5	Mount Pipe	96	42		Lbyy						Lateral
34	MP3	Mount Pipe	96			Lbyy						Lateral
35	MP6	Mount Pipe	96	42		Lbyy						Lateral
36	MP11	Mount Pipe	96			Lbyy						Lateral

Basic Load Cases

	BLC Description	Category	X Grav...	Y Grav...	Z Grav...	Joint	Point	Distrib...	Area(...	Surface(Plate/Wall)
1	Self Weight	DL		-1			18		3	
2	Wind Load AZI 0	WLZ					36			
3	Wind Load AZI ...	None					36			
4	Wind Load AZI ...	None					36			
5	Wind Load AZI ...	WLX					36			
6	Wind Load AZI ...	None					36			
7	Wind Load AZI ...	None					36			
8	Wind Load AZI ...	None					36			
9	Wind Load AZI ...	None					36			
10	Wind Load AZI ...	None					36			
11	Wind Load AZI ...	None					36			
12	Wind Load AZI ...	None					36			
13	Wind Load AZI ...	None					36			
14	Distr. Wind Loa...	WLZ						78		
15	Distr. Wind Loa...	WLX						78		
16	Ice Weight	OL1					18	78	3	
17	Ice Wind Load ...	OL2					36			
18	Ice Wind Load ...	None					36			
19	Ice Wind Load ...	None					36			
20	Ice Wind Load ...	OL3					36			
21	Ice Wind Load ...	None					36			
22	Ice Wind Load ...	None					36			
23	Ice Wind Load ...	None					36			
24	Ice Wind Load ...	None					36			
25	Ice Wind Load ...	None					36			
26	Ice Wind Load ...	None					36			
27	Ice Wind Load ...	None					36			
28	Ice Wind Load ...	None					36			
29	Distr. Ice Wind ...	OL2						78		
30	Distr. Ice Wind ...	OL3						78		
31	Seismic Load Z	ELZ			-.29		18			
32	Seismic Load X	ELX	-.29				18			
33	Service Live Lo...	LL				1				
34	Maintenance Lo...	LL				1				
35	Maintenance Lo...	LL				1				
36	Maintenance Lo...	LL				1				
37	Maintenance Lo...	LL				1				
38	Maintenance Lo...	LL				1				
39	Maintenance Lo...	LL				1				
40	Maintenance Lo...	LL				1				

Basic Load Cases (Continued)

	BLC Description	Category	X Grav...	Y Grav...	Z Grav...	Joint	Point	Distrib...	Area(...	Surface(Plate/Wall)
41	Maintenance Lo...	LL				1				
42	Maintenance Lo...	LL				1				
43	Maintenance Lo...	LL				1				
44	Maintenance Lo...	LL				1				
45	Maintenance Lo...	LL				1				
46	BLC 1 Transient...	None						60		
47	BLC 16 Transie...	None						60		

Joint Loads and Enforced Displacements (BLC 33 : Service Live Loads)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N47	L	Y	-250

Joint Loads and Enforced Displacements (BLC 34 : Maintenance Load 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N71	L	Y	-500

Joint Loads and Enforced Displacements (BLC 35 : Maintenance Load 2)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N92	L	Y	-500

Joint Loads and Enforced Displacements (BLC 36 : Maintenance Load 3)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N94	L	Y	-500

Joint Loads and Enforced Displacements (BLC 37 : Maintenance Load 4)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N96	L	Y	-500

Joint Loads and Enforced Displacements (BLC 38 : Maintenance Load 5)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N98	L	Y	-500

Joint Loads and Enforced Displacements (BLC 39 : Maintenance Load 6)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N100	L	Y	-500

Joint Loads and Enforced Displacements (BLC 40 : Maintenance Load 7)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N102	L	Y	-500

Joint Loads and Enforced Displacements (BLC 41 : Maintenance Load 8)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N104	L	Y	-500

Joint Loads and Enforced Displacements (BLC 42 : Maintenance Load 9)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N106	L	Y	-500

Joint Loads and Enforced Displacements (BLC 43 : Maintenance Load 10)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N157	L	Y	-500

Joint Loads and Enforced Displacements (BLC 44 : Maintenance Load 11)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N163	L	Y	-500

Joint Loads and Enforced Displacements (BLC 45 : Maintenance Load 12)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^2/in, lb*s^2*in)]
1	N169	L	Y	-500

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Y	-57.315	31.45
2	MP2	Y	-57.315	64.56
3	MP1	Y	-109	%25
4	MP1	Y	-74.95	0
5	MP1	Y	-74.95	96
6	MP1	Y	-81	%50
7	MP6	Y	-57.315	31.45
8	MP6	Y	-57.315	64.56
9	MP5	Y	-109	%25
10	MP5	Y	-74.95	0
11	MP5	Y	-74.95	96
12	MP5	Y	-81	%50
13	MP10	Y	-57.315	31.45
14	MP10	Y	-57.315	64.56
15	MP9	Y	-109	%25
16	MP9	Y	-74.95	0
17	MP9	Y	-74.95	96
18	MP9	Y	-81	%50

Member Point Loads (BLC 2 : Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	0	31.45
2	MP2	Z	-126.48	31.45
3	MP2	X	0	64.56
4	MP2	Z	-126.48	64.56
5	MP1	X	0	%25
6	MP1	Z	-95.62	%25
7	MP1	X	0	0
8	MP1	Z	-327.86	0
9	MP1	X	0	96
10	MP1	Z	-327.86	96
11	MP1	X	0	%50
12	MP1	Z	-128.66	%50
13	MP6	X	0	31.45
14	MP6	Z	-108.69	31.45
15	MP6	X	0	64.56
16	MP6	Z	-108.69	64.56
17	MP5	X	0	%25
18	MP5	Z	-90.55	%25
19	MP5	X	0	0
20	MP5	Z	-275.62	0
21	MP5	X	0	96
22	MP5	Z	-275.62	96
23	MP5	X	0	%50
24	MP5	Z	-112.1	%50
25	MP10	X	0	31.45

Member Point Loads (BLC 2 : Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
26	MP10	Z	-55.35	31.45
27	MP10	X	0	64.56
28	MP10	Z	-55.35	64.56
29	MP9	X	0	%25
30	MP9	Z	-75.35	%25
31	MP9	X	0	0
32	MP9	Z	-118.9	0
33	MP9	X	0	96
34	MP9	Z	-118.9	96
35	MP9	X	0	%50
36	MP9	Z	-62.45	%50

Member Point Loads (BLC 3 : Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-54.35	31.45
2	MP2	Z	-94.13	31.45
3	MP2	X	-54.35	64.56
4	MP2	Z	-94.13	64.56
5	MP1	X	-45.28	%25
6	MP1	Z	-78.42	%25
7	MP1	X	-137.81	0
8	MP1	Z	-238.7	0
9	MP1	X	-137.81	96
10	MP1	Z	-238.7	96
11	MP1	X	-56.05	%50
12	MP1	Z	-97.09	%50
13	MP6	X	-63.24	31.45
14	MP6	Z	-109.53	31.45
15	MP6	X	-63.24	64.56
16	MP6	Z	-109.53	64.56
17	MP5	X	-47.81	%25
18	MP5	Z	-82.81	%25
19	MP5	X	-163.93	0
20	MP5	Z	-283.94	0
21	MP5	X	-163.93	96
22	MP5	Z	-283.94	96
23	MP5	X	-64.33	%50
24	MP5	Z	-111.42	%50
25	MP10	X	-36.56	31.45
26	MP10	Z	-63.33	31.45
27	MP10	X	-36.56	64.56
28	MP10	Z	-63.33	64.56
29	MP9	X	-40.21	%25
30	MP9	Z	-69.65	%25
31	MP9	X	-85.57	0
32	MP9	Z	-148.21	0
33	MP9	X	-85.57	96
34	MP9	Z	-148.21	96
35	MP9	X	-39.5	%50
36	MP9	Z	-68.42	%50

Member Point Loads (BLC 4 : Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-63.33	31.45
2	MP2	Z	-36.56	31.45
3	MP2	X	-63.33	64.56

Member Point Loads (BLC 4 : Wind Load AZI 60) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP2	Z	-36.56	64.56
5	MP1	X	-69.65	%25
6	MP1	Z	-40.21	%25
7	MP1	X	-148.21	0
8	MP1	Z	-85.57	0
9	MP1	X	-148.21	96
10	MP1	Z	-85.57	96
11	MP1	X	-68.42	%50
12	MP1	Z	-39.5	%50
13	MP6	X	-94.13	31.45
14	MP6	Z	-54.35	31.45
15	MP6	X	-94.13	64.56
16	MP6	Z	-54.35	64.56
17	MP5	X	-78.42	%25
18	MP5	Z	-45.28	%25
19	MP5	X	-238.7	0
20	MP5	Z	-137.81	0
21	MP5	X	-238.7	96
22	MP5	Z	-137.81	96
23	MP5	X	-97.09	%50
24	MP5	Z	-56.05	%50
25	MP10	X	-94.13	31.45
26	MP10	Z	-54.35	31.45
27	MP10	X	-94.13	64.56
28	MP10	Z	-54.35	64.56
29	MP9	X	-78.42	%25
30	MP9	Z	-45.28	%25
31	MP9	X	-238.7	0
32	MP9	Z	-137.81	0
33	MP9	X	-238.7	96
34	MP9	Z	-137.81	96
35	MP9	X	-97.09	%50
36	MP9	Z	-56.05	%50

Member Point Loads (BLC 5 : Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-55.35	31.45
2	MP2	Z	0	31.45
3	MP2	X	-55.35	64.56
4	MP2	Z	0	64.56
5	MP1	X	-75.35	%25
6	MP1	Z	0	%25
7	MP1	X	-118.9	0
8	MP1	Z	0	0
9	MP1	X	-118.9	96
10	MP1	Z	0	96
11	MP1	X	-62.45	%50
12	MP1	Z	0	%50
13	MP6	X	-73.13	31.45
14	MP6	Z	0	31.45
15	MP6	X	-73.13	64.56
16	MP6	Z	0	64.56
17	MP5	X	-80.42	%25
18	MP5	Z	0	%25
19	MP5	X	-171.14	0
20	MP5	Z	0	0

Member Point Loads (BLC 5 : Wind Load AZI 90) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
21	MP5	X	-171.14	96
22	MP5	Z	0	96
23	MP5	X	-79	%50
24	MP5	Z	0	%50
25	MP10	X	-126.48	31.45
26	MP10	Z	0	31.45
27	MP10	X	-126.48	64.56
28	MP10	Z	0	64.56
29	MP9	X	-95.62	%25
30	MP9	Z	0	%25
31	MP9	X	-327.86	0
32	MP9	Z	0	0
33	MP9	X	-327.86	96
34	MP9	Z	0	96
35	MP9	X	-128.66	%50
36	MP9	Z	0	%50

Member Point Loads (BLC 6 : Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-63.33	31.45
2	MP2	Z	36.56	31.45
3	MP2	X	-63.33	64.56
4	MP2	Z	36.56	64.56
5	MP1	X	-69.65	%25
6	MP1	Z	40.21	%25
7	MP1	X	-148.21	0
8	MP1	Z	85.57	0
9	MP1	X	-148.21	96
10	MP1	Z	85.57	96
11	MP1	X	-68.42	%50
12	MP1	Z	39.5	%50
13	MP6	X	-47.93	31.45
14	MP6	Z	27.67	31.45
15	MP6	X	-47.93	64.56
16	MP6	Z	27.67	64.56
17	MP5	X	-65.26	%25
18	MP5	Z	37.68	%25
19	MP5	X	-102.97	0
20	MP5	Z	59.45	0
21	MP5	X	-102.97	96
22	MP5	Z	59.45	96
23	MP5	X	-54.08	%50
24	MP5	Z	31.22	%50
25	MP10	X	-94.13	31.45
26	MP10	Z	54.35	31.45
27	MP10	X	-94.13	64.56
28	MP10	Z	54.35	64.56
29	MP9	X	-78.42	%25
30	MP9	Z	45.28	%25
31	MP9	X	-238.7	0
32	MP9	Z	137.81	0
33	MP9	X	-238.7	96
34	MP9	Z	137.81	96
35	MP9	X	-97.09	%50
36	MP9	Z	56.05	%50

Member Point Loads (BLC 7 : Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-54.35	31.45
2	MP2	Z	94.13	31.45
3	MP2	X	-54.35	64.56
4	MP2	Z	94.13	64.56
5	MP1	X	-45.28	%25
6	MP1	Z	78.42	%25
7	MP1	X	-137.81	0
8	MP1	Z	238.7	0
9	MP1	X	-137.81	96
10	MP1	Z	238.7	96
11	MP1	X	-56.05	%50
12	MP1	Z	97.09	%50
13	MP6	X	-36.56	31.45
14	MP6	Z	63.33	31.45
15	MP6	X	-36.56	64.56
16	MP6	Z	63.33	64.56
17	MP5	X	-40.21	%25
18	MP5	Z	69.65	%25
19	MP5	X	-85.57	0
20	MP5	Z	148.21	0
21	MP5	X	-85.57	96
22	MP5	Z	148.21	96
23	MP5	X	-39.5	%50
24	MP5	Z	68.42	%50
25	MP10	X	-36.56	31.45
26	MP10	Z	63.33	31.45
27	MP10	X	-36.56	64.56
28	MP10	Z	63.33	64.56
29	MP9	X	-40.21	%25
30	MP9	Z	69.65	%25
31	MP9	X	-85.57	0
32	MP9	Z	148.21	0
33	MP9	X	-85.57	96
34	MP9	Z	148.21	96
35	MP9	X	-39.5	%50
36	MP9	Z	68.42	%50

Member Point Loads (BLC 8 : Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	0	31.45
2	MP2	Z	126.48	31.45
3	MP2	X	0	64.56
4	MP2	Z	126.48	64.56
5	MP1	X	0	%25
6	MP1	Z	95.62	%25
7	MP1	X	0	0
8	MP1	Z	327.86	0
9	MP1	X	0	96
10	MP1	Z	327.86	96
11	MP1	X	0	%50
12	MP1	Z	128.66	%50
13	MP6	X	0	31.45
14	MP6	Z	108.69	31.45
15	MP6	X	0	64.56
16	MP6	Z	108.69	64.56
17	MP5	X	0	%25

Member Point Loads (BLC 8 : Wind Load AZI 180) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
18	MP5	Z	90.55	%25
19	MP5	X	0	0
20	MP5	Z	275.62	0
21	MP5	X	0	96
22	MP5	Z	275.62	96
23	MP5	X	0	%50
24	MP5	Z	112.1	%50
25	MP10	X	0	31.45
26	MP10	Z	55.35	31.45
27	MP10	X	0	64.56
28	MP10	Z	55.35	64.56
29	MP9	X	0	%25
30	MP9	Z	75.35	%25
31	MP9	X	0	0
32	MP9	Z	118.9	0
33	MP9	X	0	96
34	MP9	Z	118.9	96
35	MP9	X	0	%50
36	MP9	Z	62.45	%50

Member Point Loads (BLC 9 : Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	54.35	31.45
2	MP2	Z	94.13	31.45
3	MP2	X	54.35	64.56
4	MP2	Z	94.13	64.56
5	MP1	X	45.28	%25
6	MP1	Z	78.42	%25
7	MP1	X	137.81	0
8	MP1	Z	238.7	0
9	MP1	X	137.81	96
10	MP1	Z	238.7	96
11	MP1	X	56.05	%50
12	MP1	Z	97.09	%50
13	MP6	X	63.24	31.45
14	MP6	Z	109.53	31.45
15	MP6	X	63.24	64.56
16	MP6	Z	109.53	64.56
17	MP5	X	47.81	%25
18	MP5	Z	82.81	%25
19	MP5	X	163.93	0
20	MP5	Z	283.94	0
21	MP5	X	163.93	96
22	MP5	Z	283.94	96
23	MP5	X	64.33	%50
24	MP5	Z	111.42	%50
25	MP10	X	36.56	31.45
26	MP10	Z	63.33	31.45
27	MP10	X	36.56	64.56
28	MP10	Z	63.33	64.56
29	MP9	X	40.21	%25
30	MP9	Z	69.65	%25
31	MP9	X	85.57	0
32	MP9	Z	148.21	0
33	MP9	X	85.57	96
34	MP9	Z	148.21	96

Member Point Loads (BLC 9 : Wind Load AZI 210) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
35	MP9	X	39.5	%50
36	MP9	Z	68.42	%50

Member Point Loads (BLC 10 : Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	63.33	31.45
2	MP2	Z	36.56	31.45
3	MP2	X	63.33	64.56
4	MP2	Z	36.56	64.56
5	MP1	X	69.65	%25
6	MP1	Z	40.21	%25
7	MP1	X	148.21	0
8	MP1	Z	85.57	0
9	MP1	X	148.21	96
10	MP1	Z	85.57	96
11	MP1	X	68.42	%50
12	MP1	Z	39.5	%50
13	MP6	X	94.13	31.45
14	MP6	Z	54.35	31.45
15	MP6	X	94.13	64.56
16	MP6	Z	54.35	64.56
17	MP5	X	78.42	%25
18	MP5	Z	45.28	%25
19	MP5	X	238.7	0
20	MP5	Z	137.81	0
21	MP5	X	238.7	96
22	MP5	Z	137.81	96
23	MP5	X	97.09	%50
24	MP5	Z	56.05	%50
25	MP10	X	94.13	31.45
26	MP10	Z	54.35	31.45
27	MP10	X	94.13	64.56
28	MP10	Z	54.35	64.56
29	MP9	X	78.42	%25
30	MP9	Z	45.28	%25
31	MP9	X	238.7	0
32	MP9	Z	137.81	0
33	MP9	X	238.7	96
34	MP9	Z	137.81	96
35	MP9	X	97.09	%50
36	MP9	Z	56.05	%50

Member Point Loads (BLC 11 : Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	55.35	31.45
2	MP2	Z	0	31.45
3	MP2	X	55.35	64.56
4	MP2	Z	0	64.56
5	MP1	X	75.35	%25
6	MP1	Z	0	%25
7	MP1	X	118.9	0
8	MP1	Z	0	0
9	MP1	X	118.9	96
10	MP1	Z	0	96
11	MP1	X	62.45	%50
12	MP1	Z	0	%50

Member Point Loads (BLC 11 : Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
13	MP6	X	73.13	31.45
14	MP6	Z	0	31.45
15	MP6	X	73.13	64.56
16	MP6	Z	0	64.56
17	MP5	X	80.42	%25
18	MP5	Z	0	%25
19	MP5	X	171.14	0
20	MP5	Z	0	0
21	MP5	X	171.14	96
22	MP5	Z	0	96
23	MP5	X	79	%50
24	MP5	Z	0	%50
25	MP10	X	126.48	31.45
26	MP10	Z	0	31.45
27	MP10	X	126.48	64.56
28	MP10	Z	0	64.56
29	MP9	X	95.62	%25
30	MP9	Z	0	%25
31	MP9	X	327.86	0
32	MP9	Z	0	0
33	MP9	X	327.86	96
34	MP9	Z	0	96
35	MP9	X	128.66	%50
36	MP9	Z	0	%50

Member Point Loads (BLC 12 : Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	63.33	31.45
2	MP2	Z	-36.56	31.45
3	MP2	X	63.33	64.56
4	MP2	Z	-36.56	64.56
5	MP1	X	69.65	%25
6	MP1	Z	-40.21	%25
7	MP1	X	148.21	0
8	MP1	Z	-85.57	0
9	MP1	X	148.21	96
10	MP1	Z	-85.57	96
11	MP1	X	68.42	%50
12	MP1	Z	-39.5	%50
13	MP6	X	47.93	31.45
14	MP6	Z	-27.67	31.45
15	MP6	X	47.93	64.56
16	MP6	Z	-27.67	64.56
17	MP5	X	65.26	%25
18	MP5	Z	-37.68	%25
19	MP5	X	102.97	0
20	MP5	Z	-59.45	0
21	MP5	X	102.97	96
22	MP5	Z	-59.45	96
23	MP5	X	54.08	%50
24	MP5	Z	-31.22	%50
25	MP10	X	94.13	31.45
26	MP10	Z	-54.35	31.45
27	MP10	X	94.13	64.56
28	MP10	Z	-54.35	64.56
29	MP9	X	78.42	%25

Member Point Loads (BLC 12 : Wind Load AZI 300) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
30	MP9	Z	-45.28	%25
31	MP9	X	238.7	0
32	MP9	Z	-137.81	0
33	MP9	X	238.7	96
34	MP9	Z	-137.81	96
35	MP9	X	97.09	%50
36	MP9	Z	-56.05	%50

Member Point Loads (BLC 13 : Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	54.35	31.45
2	MP2	Z	-94.13	31.45
3	MP2	X	54.35	64.56
4	MP2	Z	-94.13	64.56
5	MP1	X	45.28	%25
6	MP1	Z	-78.42	%25
7	MP1	X	137.81	0
8	MP1	Z	-238.7	0
9	MP1	X	137.81	96
10	MP1	Z	-238.7	96
11	MP1	X	56.05	%50
12	MP1	Z	-97.09	%50
13	MP6	X	36.56	31.45
14	MP6	Z	-63.33	31.45
15	MP6	X	36.56	64.56
16	MP6	Z	-63.33	64.56
17	MP5	X	40.21	%25
18	MP5	Z	-69.65	%25
19	MP5	X	85.57	0
20	MP5	Z	-148.21	0
21	MP5	X	85.57	96
22	MP5	Z	-148.21	96
23	MP5	X	39.5	%50
24	MP5	Z	-68.42	%50
25	MP10	X	36.56	31.45
26	MP10	Z	-63.33	31.45
27	MP10	X	36.56	64.56
28	MP10	Z	-63.33	64.56
29	MP9	X	40.21	%25
30	MP9	Z	-69.65	%25
31	MP9	X	85.57	0
32	MP9	Z	-148.21	0
33	MP9	X	85.57	96
34	MP9	Z	-148.21	96
35	MP9	X	39.5	%50
36	MP9	Z	-68.42	%50

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Y	-75.341	31.45
2	MP2	Y	-75.341	64.56
3	MP1	Y	-88.644	%25
4	MP1	Y	-208.75	0
5	MP1	Y	-208.75	96
6	MP1	Y	-87.931	%50
7	MP6	Y	-75.341	31.45

Member Point Loads (BLC 16 : Ice Weight) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
8	MP6	Y	-75.341	64.56
9	MP5	Y	-88.644	%25
10	MP5	Y	-208.75	0
11	MP5	Y	-208.75	96
12	MP5	Y	-87.931	%50
13	MP10	Y	-75.341	31.45
14	MP10	Y	-75.341	64.56
15	MP9	Y	-88.644	%25
16	MP9	Y	-208.75	0
17	MP9	Y	-208.75	96
18	MP9	Y	-87.931	%50

Member Point Loads (BLC 17 : Ice Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	0	31.45
2	MP2	Z	-10.85	31.45
3	MP2	X	0	64.56
4	MP2	Z	-10.85	64.56
5	MP1	X	0	%25
6	MP1	Z	-9.39	%25
7	MP1	X	0	0
8	MP1	Z	-35.49	0
9	MP1	X	0	96
10	MP1	Z	-35.49	96
11	MP1	X	0	%50
12	MP1	Z	-12.07	%50
13	MP6	X	0	31.45
14	MP6	Z	-9.75	31.45
15	MP6	X	0	64.56
16	MP6	Z	-9.75	64.56
17	MP5	X	0	%25
18	MP5	Z	-9.05	%25
19	MP5	X	0	0
20	MP5	Z	-31.73	0
21	MP5	X	0	96
22	MP5	Z	-31.73	96
23	MP5	X	0	%50
24	MP5	Z	-11.15	%50
25	MP10	X	0	31.45
26	MP10	Z	-6.46	31.45
27	MP10	X	0	64.56
28	MP10	Z	-6.46	64.56
29	MP9	X	0	%25
30	MP9	Z	-8.03	%25
31	MP9	X	0	0
32	MP9	Z	-20.43	0
33	MP9	X	0	96
34	MP9	Z	-20.43	96
35	MP9	X	0	%50
36	MP9	Z	-8.39	%50

Member Point Loads (BLC 18 : Ice Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-4.88	31.45
2	MP2	Z	-8.45	31.45
3	MP2	X	-4.88	64.56

Member Point Loads (BLC 18 : Ice Wind Load AZI 30) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP2	Z	-8.45	64.56
5	MP1	X	-4.52	%25
6	MP1	Z	-7.84	%25
7	MP1	X	-15.86	0
8	MP1	Z	-27.48	0
9	MP1	X	-15.86	96
10	MP1	Z	-27.48	96
11	MP1	X	-5.57	%50
12	MP1	Z	-9.65	%50
13	MP6	X	-5.43	31.45
14	MP6	Z	-9.4	31.45
15	MP6	X	-5.43	64.56
16	MP6	Z	-9.4	64.56
17	MP5	X	-4.69	%25
18	MP5	Z	-8.13	%25
19	MP5	X	-17.75	0
20	MP5	Z	-30.74	0
21	MP5	X	-17.75	96
22	MP5	Z	-30.74	96
23	MP5	X	-6.03	%50
24	MP5	Z	-10.45	%50
25	MP10	X	-3.78	31.45
26	MP10	Z	-6.54	31.45
27	MP10	X	-3.78	64.56
28	MP10	Z	-6.54	64.56
29	MP9	X	-4.18	%25
30	MP9	Z	-7.25	%25
31	MP9	X	-12.1	0
32	MP9	Z	-20.95	0
33	MP9	X	-12.1	96
34	MP9	Z	-20.95	96
35	MP9	X	-4.66	%50
36	MP9	Z	-8.06	%50

Member Point Loads (BLC 19 : Ice Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-6.54	31.45
2	MP2	Z	-3.78	31.45
3	MP2	X	-6.54	64.56
4	MP2	Z	-3.78	64.56
5	MP1	X	-7.25	%25
6	MP1	Z	-4.18	%25
7	MP1	X	-20.95	0
8	MP1	Z	-12.1	0
9	MP1	X	-20.95	96
10	MP1	Z	-12.1	96
11	MP1	X	-8.06	%50
12	MP1	Z	-4.66	%50
13	MP6	X	-8.45	31.45
14	MP6	Z	-4.88	31.45
15	MP6	X	-8.45	64.56
16	MP6	Z	-4.88	64.56
17	MP5	X	-7.84	%25
18	MP5	Z	-4.52	%25
19	MP5	X	-27.48	0
20	MP5	Z	-15.86	0

Member Point Loads (BLC 19 : Ice Wind Load AZI 60) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
21	MP5	X	-27.48	96
22	MP5	Z	-15.86	96
23	MP5	X	-9.65	%50
24	MP5	Z	-5.57	%50
25	MP10	X	-8.45	31.45
26	MP10	Z	-4.88	31.45
27	MP10	X	-8.45	64.56
28	MP10	Z	-4.88	64.56
29	MP9	X	-7.84	%25
30	MP9	Z	-4.52	%25
31	MP9	X	-27.48	0
32	MP9	Z	-15.86	0
33	MP9	X	-27.48	96
34	MP9	Z	-15.86	96
35	MP9	X	-9.65	%50
36	MP9	Z	-5.57	%50

Member Point Loads (BLC 20 : Ice Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-6.46	31.45
2	MP2	Z	0	31.45
3	MP2	X	-6.46	64.56
4	MP2	Z	0	64.56
5	MP1	X	-8.03	%25
6	MP1	Z	0	%25
7	MP1	X	-20.43	0
8	MP1	Z	0	0
9	MP1	X	-20.43	96
10	MP1	Z	0	96
11	MP1	X	-8.39	%50
12	MP1	Z	0	%50
13	MP6	X	-7.55	31.45
14	MP6	Z	0	31.45
15	MP6	X	-7.55	64.56
16	MP6	Z	0	64.56
17	MP5	X	-8.37	%25
18	MP5	Z	0	%25
19	MP5	X	-24.2	0
20	MP5	Z	0	0
21	MP5	X	-24.2	96
22	MP5	Z	0	96
23	MP5	X	-9.31	%50
24	MP5	Z	0	%50
25	MP10	X	-10.85	31.45
26	MP10	Z	0	31.45
27	MP10	X	-10.85	64.56
28	MP10	Z	0	64.56
29	MP9	X	-9.39	%25
30	MP9	Z	0	%25
31	MP9	X	-35.49	0
32	MP9	Z	0	0
33	MP9	X	-35.49	96
34	MP9	Z	0	96
35	MP9	X	-12.07	%50
36	MP9	Z	0	%50

Member Point Loads (BLC 21 : Ice Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-6.54	31.45
2	MP2	Z	3.78	31.45
3	MP2	X	-6.54	64.56
4	MP2	Z	3.78	64.56
5	MP1	X	-7.25	%25
6	MP1	Z	4.18	%25
7	MP1	X	-20.95	0
8	MP1	Z	12.1	0
9	MP1	X	-20.95	96
10	MP1	Z	12.1	96
11	MP1	X	-8.06	%50
12	MP1	Z	4.66	%50
13	MP6	X	-5.59	31.45
14	MP6	Z	3.23	31.45
15	MP6	X	-5.59	64.56
16	MP6	Z	3.23	64.56
17	MP5	X	-6.95	%25
18	MP5	Z	4.01	%25
19	MP5	X	-17.69	0
20	MP5	Z	10.21	0
21	MP5	X	-17.69	96
22	MP5	Z	10.21	96
23	MP5	X	-7.27	%50
24	MP5	Z	4.2	%50
25	MP10	X	-8.45	31.45
26	MP10	Z	4.88	31.45
27	MP10	X	-8.45	64.56
28	MP10	Z	4.88	64.56
29	MP9	X	-7.84	%25
30	MP9	Z	4.52	%25
31	MP9	X	-27.48	0
32	MP9	Z	15.86	0
33	MP9	X	-27.48	96
34	MP9	Z	15.86	96
35	MP9	X	-9.65	%50
36	MP9	Z	5.57	%50

Member Point Loads (BLC 22 : Ice Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-4.88	31.45
2	MP2	Z	8.45	31.45
3	MP2	X	-4.88	64.56
4	MP2	Z	8.45	64.56
5	MP1	X	-4.52	%25
6	MP1	Z	7.84	%25
7	MP1	X	-15.86	0
8	MP1	Z	27.48	0
9	MP1	X	-15.86	96
10	MP1	Z	27.48	96
11	MP1	X	-5.57	%50
12	MP1	Z	9.65	%50
13	MP6	X	-3.78	31.45
14	MP6	Z	6.54	31.45
15	MP6	X	-3.78	64.56
16	MP6	Z	6.54	64.56
17	MP5	X	-4.18	%25

Member Point Loads (BLC 22 : Ice Wind Load AZI 150) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
18	MP5	Z	7.25	%25
19	MP5	X	-12.1	0
20	MP5	Z	20.95	0
21	MP5	X	-12.1	96
22	MP5	Z	20.95	96
23	MP5	X	-4.66	%50
24	MP5	Z	8.06	%50
25	MP10	X	-3.78	31.45
26	MP10	Z	6.54	31.45
27	MP10	X	-3.78	64.56
28	MP10	Z	6.54	64.56
29	MP9	X	-4.18	%25
30	MP9	Z	7.25	%25
31	MP9	X	-12.1	0
32	MP9	Z	20.95	0
33	MP9	X	-12.1	96
34	MP9	Z	20.95	96
35	MP9	X	-4.66	%50
36	MP9	Z	8.06	%50

Member Point Loads (BLC 23 : Ice Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	0	31.45
2	MP2	Z	10.85	31.45
3	MP2	X	0	64.56
4	MP2	Z	10.85	64.56
5	MP1	X	0	%25
6	MP1	Z	9.39	%25
7	MP1	X	0	0
8	MP1	Z	35.49	0
9	MP1	X	0	96
10	MP1	Z	35.49	96
11	MP1	X	0	%50
12	MP1	Z	12.07	%50
13	MP6	X	0	31.45
14	MP6	Z	9.75	31.45
15	MP6	X	0	64.56
16	MP6	Z	9.75	64.56
17	MP5	X	0	%25
18	MP5	Z	9.05	%25
19	MP5	X	0	0
20	MP5	Z	31.73	0
21	MP5	X	0	96
22	MP5	Z	31.73	96
23	MP5	X	0	%50
24	MP5	Z	11.15	%50
25	MP10	X	0	31.45
26	MP10	Z	6.46	31.45
27	MP10	X	0	64.56
28	MP10	Z	6.46	64.56
29	MP9	X	0	%25
30	MP9	Z	8.03	%25
31	MP9	X	0	0
32	MP9	Z	20.43	0
33	MP9	X	0	96
34	MP9	Z	20.43	96

Member Point Loads (BLC 23 : Ice Wind Load AZI 180) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
35	MP9	X	0	%50
36	MP9	Z	8.39	%50

Member Point Loads (BLC 24 : Ice Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	4.88	31.45
2	MP2	Z	8.45	31.45
3	MP2	X	4.88	64.56
4	MP2	Z	8.45	64.56
5	MP1	X	4.52	%25
6	MP1	Z	7.84	%25
7	MP1	X	15.86	0
8	MP1	Z	27.48	0
9	MP1	X	15.86	96
10	MP1	Z	27.48	96
11	MP1	X	5.57	%50
12	MP1	Z	9.65	%50
13	MP6	X	5.43	31.45
14	MP6	Z	9.4	31.45
15	MP6	X	5.43	64.56
16	MP6	Z	9.4	64.56
17	MP5	X	4.69	%25
18	MP5	Z	8.13	%25
19	MP5	X	17.75	0
20	MP5	Z	30.74	0
21	MP5	X	17.75	96
22	MP5	Z	30.74	96
23	MP5	X	6.03	%50
24	MP5	Z	10.45	%50
25	MP10	X	3.78	31.45
26	MP10	Z	6.54	31.45
27	MP10	X	3.78	64.56
28	MP10	Z	6.54	64.56
29	MP9	X	4.18	%25
30	MP9	Z	7.25	%25
31	MP9	X	12.1	0
32	MP9	Z	20.95	0
33	MP9	X	12.1	96
34	MP9	Z	20.95	96
35	MP9	X	4.66	%50
36	MP9	Z	8.06	%50

Member Point Loads (BLC 25 : Ice Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	6.54	31.45
2	MP2	Z	3.78	31.45
3	MP2	X	6.54	64.56
4	MP2	Z	3.78	64.56
5	MP1	X	7.25	%25
6	MP1	Z	4.18	%25
7	MP1	X	20.95	0
8	MP1	Z	12.1	0
9	MP1	X	20.95	96
10	MP1	Z	12.1	96
11	MP1	X	8.06	%50
12	MP1	Z	4.66	%50

Member Point Loads (BLC 25 : Ice Wind Load AZI 240) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
13	MP6	X	8.45	31.45
14	MP6	Z	4.88	31.45
15	MP6	X	8.45	64.56
16	MP6	Z	4.88	64.56
17	MP5	X	7.84	%25
18	MP5	Z	4.52	%25
19	MP5	X	27.48	0
20	MP5	Z	15.86	0
21	MP5	X	27.48	96
22	MP5	Z	15.86	96
23	MP5	X	9.65	%50
24	MP5	Z	5.57	%50
25	MP10	X	8.45	31.45
26	MP10	Z	4.88	31.45
27	MP10	X	8.45	64.56
28	MP10	Z	4.88	64.56
29	MP9	X	7.84	%25
30	MP9	Z	4.52	%25
31	MP9	X	27.48	0
32	MP9	Z	15.86	0
33	MP9	X	27.48	96
34	MP9	Z	15.86	96
35	MP9	X	9.65	%50
36	MP9	Z	5.57	%50

Member Point Loads (BLC 26 : Ice Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	6.46	31.45
2	MP2	Z	0	31.45
3	MP2	X	6.46	64.56
4	MP2	Z	0	64.56
5	MP1	X	8.03	%25
6	MP1	Z	0	%25
7	MP1	X	20.43	0
8	MP1	Z	0	0
9	MP1	X	20.43	96
10	MP1	Z	0	96
11	MP1	X	8.39	%50
12	MP1	Z	0	%50
13	MP6	X	7.55	31.45
14	MP6	Z	0	31.45
15	MP6	X	7.55	64.56
16	MP6	Z	0	64.56
17	MP5	X	8.37	%25
18	MP5	Z	0	%25
19	MP5	X	24.2	0
20	MP5	Z	0	0
21	MP5	X	24.2	96
22	MP5	Z	0	96
23	MP5	X	9.31	%50
24	MP5	Z	0	%50
25	MP10	X	10.85	31.45
26	MP10	Z	0	31.45
27	MP10	X	10.85	64.56
28	MP10	Z	0	64.56
29	MP9	X	9.39	%25

Member Point Loads (BLC 26 : Ice Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
30	MP9	Z	0	%25
31	MP9	X	35.49	0
32	MP9	Z	0	0
33	MP9	X	35.49	96
34	MP9	Z	0	96
35	MP9	X	12.07	%50
36	MP9	Z	0	%50

Member Point Loads (BLC 27 : Ice Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	6.54	31.45
2	MP2	Z	-3.78	31.45
3	MP2	X	6.54	64.56
4	MP2	Z	-3.78	64.56
5	MP1	X	7.25	%25
6	MP1	Z	-4.18	%25
7	MP1	X	20.95	0
8	MP1	Z	-12.1	0
9	MP1	X	20.95	96
10	MP1	Z	-12.1	96
11	MP1	X	8.06	%50
12	MP1	Z	-4.66	%50
13	MP6	X	5.59	31.45
14	MP6	Z	-3.23	31.45
15	MP6	X	5.59	64.56
16	MP6	Z	-3.23	64.56
17	MP5	X	6.95	%25
18	MP5	Z	-4.01	%25
19	MP5	X	17.69	0
20	MP5	Z	-10.21	0
21	MP5	X	17.69	96
22	MP5	Z	-10.21	96
23	MP5	X	7.27	%50
24	MP5	Z	-4.2	%50
25	MP10	X	8.45	31.45
26	MP10	Z	-4.88	31.45
27	MP10	X	8.45	64.56
28	MP10	Z	-4.88	64.56
29	MP9	X	7.84	%25
30	MP9	Z	-4.52	%25
31	MP9	X	27.48	0
32	MP9	Z	-15.86	0
33	MP9	X	27.48	96
34	MP9	Z	-15.86	96
35	MP9	X	9.65	%50
36	MP9	Z	-5.57	%50

Member Point Loads (BLC 28 : Ice Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	4.88	31.45
2	MP2	Z	-8.45	31.45
3	MP2	X	4.88	64.56
4	MP2	Z	-8.45	64.56
5	MP1	X	4.52	%25
6	MP1	Z	-7.84	%25
7	MP1	X	15.86	0

Member Point Loads (BLC 28 : Ice Wind Load AZI 330) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
8	MP1	Z	-27.48	0
9	MP1	X	15.86	96
10	MP1	Z	-27.48	96
11	MP1	X	5.57	%50
12	MP1	Z	-9.65	%50
13	MP6	X	3.78	31.45
14	MP6	Z	-6.54	31.45
15	MP6	X	3.78	64.56
16	MP6	Z	-6.54	64.56
17	MP5	X	4.18	%25
18	MP5	Z	-7.25	%25
19	MP5	X	12.1	0
20	MP5	Z	-20.95	0
21	MP5	X	12.1	96
22	MP5	Z	-20.95	96
23	MP5	X	4.66	%50
24	MP5	Z	-8.06	%50
25	MP10	X	3.78	31.45
26	MP10	Z	-6.54	31.45
27	MP10	X	3.78	64.56
28	MP10	Z	-6.54	64.56
29	MP9	X	4.18	%25
30	MP9	Z	-7.25	%25
31	MP9	X	12.1	0
32	MP9	Z	-20.95	0
33	MP9	X	12.1	96
34	MP9	Z	-20.95	96
35	MP9	X	4.66	%50
36	MP9	Z	-8.06	%50

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-16.598	31.45
2	MP2	Z	-16.598	64.56
3	MP1	Z	-31.566	%25
4	MP1	Z	-21.706	0
5	MP1	Z	-21.706	96
6	MP1	Z	-23.458	%50
7	MP6	Z	-16.598	31.45
8	MP6	Z	-16.598	64.56
9	MP5	Z	-31.566	%25
10	MP5	Z	-21.706	0
11	MP5	Z	-21.706	96
12	MP5	Z	-23.458	%50
13	MP10	Z	-16.598	31.45
14	MP10	Z	-16.598	64.56
15	MP9	Z	-31.566	%25
16	MP9	Z	-21.706	0
17	MP9	Z	-21.706	96
18	MP9	Z	-23.458	%50

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-16.598	31.45
2	MP2	X	-16.598	64.56
3	MP1	X	-31.566	%25

Member Point Loads (BLC 32 : Seismic Load X) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP1	X	-21.706	0
5	MP1	X	-21.706	96
6	MP1	X	-23.458	%50
7	MP6	X	-16.598	31.45
8	MP6	X	-16.598	64.56
9	MP5	X	-31.566	%25
10	MP5	X	-21.706	0
11	MP5	X	-21.706	96
12	MP5	X	-23.458	%50
13	MP10	X	-16.598	31.45
14	MP10	X	-16.598	64.56
15	MP9	X	-31.566	%25
16	MP9	X	-21.706	0
17	MP9	X	-21.706	96
18	MP9	X	-23.458	%50

Member Distributed Loads (BLC 14 : Distr. Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M16	SZ	-99.157	-99.157	0	%100
2	M17	SZ	-99.157	-99.157	0	%100
3	M18	SZ	0	0	0	%100
4	M19	SZ	0	0	0	%100
5	M20	SZ	-99.157	-99.157	0	%100
6	M21	SZ	-99.157	-99.157	0	%100
7	M22	SZ	-99.157	-99.157	0	%100
8	M23	SZ	0	0	0	%100
9	M24	SZ	0	0	0	%100
10	M25	SZ	-99.157	-99.157	0	%100
11	M26	SZ	0	0	0	%100
12	M27	SZ	0	0	0	%100
13	M28	SZ	-59.494	-59.494	0	%100
14	M29	SZ	-99.157	-99.157	0	%100
15	M30	SZ	0	0	0	%100
16	M31	SZ	0	0	0	%100
17	M32	SZ	-99.157	-99.157	0	%100
18	M33	SZ	0	0	0	%100
19	M34	SZ	0	0	0	%100
20	M35	SZ	-99.157	-99.157	0	%100
21	M36	SZ	0	0	0	%100
22	M37	SZ	0	0	0	%100
23	M38	SZ	-99.157	-99.157	0	%100
24	M39	SZ	-99.157	-99.157	0	%100
25	M40	SZ	-99.157	-99.157	0	%100
26	M41	SZ	-99.157	-99.157	0	%100
27	M42	SZ	-99.157	-99.157	0	%100
28	M43	SZ	-99.157	-99.157	0	%100
29	M47	SZ	0	0	0	%100
30	M48	SZ	-59.494	-59.494	0	%100
31	M53	SZ	-59.494	-59.494	0	%100
32	M61	SZ	-59.494	-59.494	0	%100
33	M62	SZ	-99.157	-99.157	0	%100
34	M63	SZ	0	0	0	%100
35	M67	SZ	0	0	0	%100
36	M68	SZ	0	0	0	%100
37	M69	SZ	-99.157	-99.157	0	%100

Member Distributed Loads (BLC 14 : Distr. Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
38	M70	SZ	0	0	0	%100
39	M71	SZ	0	0	0	%100
40	M72	SZ	-99.157	-99.157	0	%100
41	M73	SZ	0	0	0	%100
42	M74	SZ	0	0	0	%100
43	M75	SZ	-59.494	-59.494	0	%100
44	M80	SZ	-59.494	-59.494	0	%100
45	MP4	SZ	-59.494	-59.494	0	%100
46	M64	SZ	0	0	0	%100
47	M65	SZ	0	0	0	%100
48	MP2	SZ	-59.494	-59.494	0	%100
49	M67A	SZ	0	0	0	%100
50	M68A	SZ	0	0	0	%100
51	MP1	SZ	-59.494	-59.494	0	%100
52	M70A	SZ	0	0	0	%100
53	M71A	SZ	0	0	0	%100
54	MP12	SZ	-59.494	-59.494	0	%100
55	M73A	SZ	0	0	0	%100
56	M74A	SZ	0	0	0	%100
57	MP10	SZ	-59.494	-59.494	0	%100
58	M76	SZ	0	0	0	%100
59	M77	SZ	0	0	0	%100
60	MP9	SZ	-59.494	-59.494	0	%100
61	M79	SZ	0	0	0	%100
62	M80A	SZ	0	0	0	%100
63	MP8	SZ	-59.494	-59.494	0	%100
64	M82	SZ	0	0	0	%100
65	M83	SZ	0	0	0	%100
66	MP7	SZ	-59.494	-59.494	0	%100
67	M85	SZ	0	0	0	%100
68	M86	SZ	0	0	0	%100
69	MP5	SZ	-59.494	-59.494	0	%100
70	M88	SZ	0	0	0	%100
71	M89	SZ	0	0	0	%100
72	MP3	SZ	-59.494	-59.494	0	%100
73	M91	SZ	0	0	0	%100
74	M92	SZ	0	0	0	%100
75	MP6	SZ	-59.494	-59.494	0	%100
76	M94	SZ	0	0	0	%100
77	M95	SZ	0	0	0	%100
78	MP11	SZ	-59.494	-59.494	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M16	SX	-99.157	-99.157	0	%100
2	M17	SX	-99.157	-99.157	0	%100
3	M18	SX	0	0	0	%100
4	M19	SX	0	0	0	%100
5	M20	SX	-99.157	-99.157	0	%100
6	M21	SX	-99.157	-99.157	0	%100
7	M22	SX	-99.157	-99.157	0	%100
8	M23	SX	0	0	0	%100
9	M24	SX	0	0	0	%100
10	M25	SX	-99.157	-99.157	0	%100
11	M26	SX	0	0	0	%100
12	M27	SX	0	0	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
13	M28	SX	-59.494	-59.494	0	%100
14	M29	SX	-99.157	-99.157	0	%100
15	M30	SX	0	0	0	%100
16	M31	SX	0	0	0	%100
17	M32	SX	-99.157	-99.157	0	%100
18	M33	SX	0	0	0	%100
19	M34	SX	0	0	0	%100
20	M35	SX	-99.157	-99.157	0	%100
21	M36	SX	0	0	0	%100
22	M37	SX	0	0	0	%100
23	M38	SX	-99.157	-99.157	0	%100
24	M39	SX	-99.157	-99.157	0	%100
25	M40	SX	-99.157	-99.157	0	%100
26	M41	SX	-99.157	-99.157	0	%100
27	M42	SX	-99.157	-99.157	0	%100
28	M43	SX	-99.157	-99.157	0	%100
29	M47	SX	0	0	0	%100
30	M48	SX	-59.494	-59.494	0	%100
31	M53	SX	-59.494	-59.494	0	%100
32	M61	SX	-59.494	-59.494	0	%100
33	M62	SX	-99.157	-99.157	0	%100
34	M63	SX	0	0	0	%100
35	M67	SX	0	0	0	%100
36	M68	SX	0	0	0	%100
37	M69	SX	-99.157	-99.157	0	%100
38	M70	SX	0	0	0	%100
39	M71	SX	0	0	0	%100
40	M72	SX	-99.157	-99.157	0	%100
41	M73	SX	0	0	0	%100
42	M74	SX	0	0	0	%100
43	M75	SX	-59.494	-59.494	0	%100
44	M80	SX	-59.494	-59.494	0	%100
45	MP4	SX	-59.494	-59.494	0	%100
46	M64	SX	0	0	0	%100
47	M65	SX	0	0	0	%100
48	MP2	SX	-59.494	-59.494	0	%100
49	M67A	SX	0	0	0	%100
50	M68A	SX	0	0	0	%100
51	MP1	SX	-59.494	-59.494	0	%100
52	M70A	SX	0	0	0	%100
53	M71A	SX	0	0	0	%100
54	MP12	SX	-59.494	-59.494	0	%100
55	M73A	SX	0	0	0	%100
56	M74A	SX	0	0	0	%100
57	MP10	SX	-59.494	-59.494	0	%100
58	M76	SX	0	0	0	%100
59	M77	SX	0	0	0	%100
60	MP9	SX	-59.494	-59.494	0	%100
61	M79	SX	0	0	0	%100
62	M80A	SX	0	0	0	%100
63	MP8	SX	-59.494	-59.494	0	%100
64	M82	SX	0	0	0	%100
65	M83	SX	0	0	0	%100
66	MP7	SX	-59.494	-59.494	0	%100
67	M85	SX	0	0	0	%100
68	M86	SX	0	0	0	%100
69	MP5	SX	-59.494	-59.494	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
70	M88	SX	0	0	0	%100
71	M89	SX	0	0	0	%100
72	MP3	SX	-59.494	-59.494	0	%100
73	M91	SX	0	0	0	%100
74	M92	SX	0	0	0	%100
75	MP6	SX	-59.494	-59.494	0	%100
76	M94	SX	0	0	0	%100
77	M95	SX	0	0	0	%100
78	MP11	SX	-59.494	-59.494	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M16	Y	-15.354	-15.354	0	%100
2	M17	Y	-16.093	-16.093	0	%100
3	M18	Y	-3.559	-3.559	0	%100
4	M19	Y	-3.559	-3.559	0	%100
5	M20	Y	-15.354	-15.354	0	%100
6	M21	Y	-15.354	-15.354	0	%100
7	M22	Y	-16.093	-16.093	0	%100
8	M23	Y	-3.559	-3.559	0	%100
9	M24	Y	-3.559	-3.559	0	%100
10	M25	Y	-16.093	-16.093	0	%100
11	M26	Y	-3.559	-3.559	0	%100
12	M27	Y	-3.559	-3.559	0	%100
13	M28	Y	-10.857	-10.857	0	%100
14	M29	Y	-15.354	-15.354	0	%100
15	M30	Y	-3.559	-3.559	0	%100
16	M31	Y	-3.559	-3.559	0	%100
17	M32	Y	-15.354	-15.354	0	%100
18	M33	Y	-3.559	-3.559	0	%100
19	M34	Y	-3.559	-3.559	0	%100
20	M35	Y	-15.354	-15.354	0	%100
21	M36	Y	-3.559	-3.559	0	%100
22	M37	Y	-3.559	-3.559	0	%100
23	M38	Y	-9.456	-9.456	0	%100
24	M39	Y	-9.456	-9.456	0	%100
25	M40	Y	-9.456	-9.456	0	%100
26	M41	Y	-9.456	-9.456	0	%100
27	M42	Y	-9.456	-9.456	0	%100
28	M43	Y	-9.456	-9.456	0	%100
29	M47	Y	-3.559	-3.559	0	%100
30	M48	Y	-10.857	-10.857	0	%100
31	M53	Y	-10.857	-10.857	0	%100
32	M61	Y	-8.511	-8.511	0	%100
33	M62	Y	-10.931	-10.931	0	%100
34	M63	Y	-3.559	-3.559	0	%100
35	M67	Y	-3.559	-3.559	0	%100
36	M68	Y	-3.559	-3.559	0	%100
37	M69	Y	-10.931	-10.931	0	%100
38	M70	Y	-3.559	-3.559	0	%100
39	M71	Y	-3.559	-3.559	0	%100
40	M72	Y	-10.931	-10.931	0	%100
41	M73	Y	-3.559	-3.559	0	%100
42	M74	Y	-3.559	-3.559	0	%100
43	M75	Y	-8.511	-8.511	0	%100
44	M80	Y	-8.511	-8.511	0	%100

Member Distributed Loads (BLC 16 : Ice Weight) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
45	MP4	Y	-8.511	-8.511	0	%100
46	M64	Y	-3.559	-3.559	0	%100
47	M65	Y	-3.559	-3.559	0	%100
48	MP2	Y	-8.511	-8.511	0	%100
49	M67A	Y	-3.559	-3.559	0	%100
50	M68A	Y	-3.559	-3.559	0	%100
51	MP1	Y	-8.511	-8.511	0	%100
52	M70A	Y	-3.559	-3.559	0	%100
53	M71A	Y	-3.559	-3.559	0	%100
54	MP12	Y	-8.511	-8.511	0	%100
55	M73A	Y	-3.559	-3.559	0	%100
56	M74A	Y	-3.559	-3.559	0	%100
57	MP10	Y	-8.511	-8.511	0	%100
58	M76	Y	-3.559	-3.559	0	%100
59	M77	Y	-3.559	-3.559	0	%100
60	MP9	Y	-8.511	-8.511	0	%100
61	M79	Y	-3.559	-3.559	0	%100
62	M80A	Y	-3.559	-3.559	0	%100
63	MP8	Y	-8.511	-8.511	0	%100
64	M82	Y	-3.559	-3.559	0	%100
65	M83	Y	-3.559	-3.559	0	%100
66	MP7	Y	-8.511	-8.511	0	%100
67	M85	Y	-3.559	-3.559	0	%100
68	M86	Y	-3.559	-3.559	0	%100
69	MP5	Y	-8.511	-8.511	0	%100
70	M88	Y	-3.559	-3.559	0	%100
71	M89	Y	-3.559	-3.559	0	%100
72	MP3	Y	-8.511	-8.511	0	%100
73	M91	Y	-3.559	-3.559	0	%100
74	M92	Y	-3.559	-3.559	0	%100
75	MP6	Y	-8.511	-8.511	0	%100
76	M94	Y	-3.559	-3.559	0	%100
77	M95	Y	-3.559	-3.559	0	%100
78	MP11	Y	-8.511	-8.511	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M16	SZ	-15.263	-15.263	0	%100
2	M17	SZ	-14.924	-14.924	0	%100
3	M18	SZ	0	0	0	%100
4	M19	SZ	0	0	0	%100
5	M20	SZ	-15.263	-15.263	0	%100
6	M21	SZ	-15.263	-15.263	0	%100
7	M22	SZ	-14.924	-14.924	0	%100
8	M23	SZ	0	0	0	%100
9	M24	SZ	0	0	0	%100
10	M25	SZ	-14.924	-14.924	0	%100
11	M26	SZ	0	0	0	%100
12	M27	SZ	0	0	0	%100
13	M28	SZ	-18.803	-18.803	0	%100
14	M29	SZ	-15.263	-15.263	0	%100
15	M30	SZ	0	0	0	%100
16	M31	SZ	0	0	0	%100
17	M32	SZ	-15.263	-15.263	0	%100
18	M33	SZ	0	0	0	%100
19	M34	SZ	0	0	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
20	M35	SZ	-15.263	-15.263	0	%100
21	M36	SZ	0	0	0	%100
22	M37	SZ	0	0	0	%100
23	M38	SZ	-21.007	-21.007	0	%100
24	M39	SZ	-21.007	-21.007	0	%100
25	M40	SZ	-21.007	-21.007	0	%100
26	M41	SZ	-21.007	-21.007	0	%100
27	M42	SZ	-21.007	-21.007	0	%100
28	M43	SZ	-21.007	-21.007	0	%100
29	M47	SZ	0	0	0	%100
30	M48	SZ	-18.803	-18.803	0	%100
31	M53	SZ	-18.803	-18.803	0	%100
32	M61	SZ	-23.2	-23.2	0	%100
33	M62	SZ	-18.709	-18.709	0	%100
34	M63	SZ	0	0	0	%100
35	M67	SZ	0	0	0	%100
36	M68	SZ	0	0	0	%100
37	M69	SZ	-18.709	-18.709	0	%100
38	M70	SZ	0	0	0	%100
39	M71	SZ	0	0	0	%100
40	M72	SZ	-18.709	-18.709	0	%100
41	M73	SZ	0	0	0	%100
42	M74	SZ	0	0	0	%100
43	M75	SZ	-23.2	-23.2	0	%100
44	M80	SZ	-23.2	-23.2	0	%100
45	MP4	SZ	-23.2	-23.2	0	%100
46	M64	SZ	0	0	0	%100
47	M65	SZ	0	0	0	%100
48	MP2	SZ	-23.2	-23.2	0	%100
49	M67A	SZ	0	0	0	%100
50	M68A	SZ	0	0	0	%100
51	MP1	SZ	-23.2	-23.2	0	%100
52	M70A	SZ	0	0	0	%100
53	M71A	SZ	0	0	0	%100
54	MP12	SZ	-23.2	-23.2	0	%100
55	M73A	SZ	0	0	0	%100
56	M74A	SZ	0	0	0	%100
57	MP10	SZ	-23.2	-23.2	0	%100
58	M76	SZ	0	0	0	%100
59	M77	SZ	0	0	0	%100
60	MP9	SZ	-23.2	-23.2	0	%100
61	M79	SZ	0	0	0	%100
62	M80A	SZ	0	0	0	%100
63	MP8	SZ	-23.2	-23.2	0	%100
64	M82	SZ	0	0	0	%100
65	M83	SZ	0	0	0	%100
66	MP7	SZ	-23.2	-23.2	0	%100
67	M85	SZ	0	0	0	%100
68	M86	SZ	0	0	0	%100
69	MP5	SZ	-23.2	-23.2	0	%100
70	M88	SZ	0	0	0	%100
71	M89	SZ	0	0	0	%100
72	MP3	SZ	-23.2	-23.2	0	%100
73	M91	SZ	0	0	0	%100
74	M92	SZ	0	0	0	%100
75	MP6	SZ	-23.2	-23.2	0	%100
76	M94	SZ	0	0	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
77	M95	SZ	0	0	0	%100
78	MP11	SZ	-23.2	-23.2	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M16	SX	-15.263	-15.263	0	%100
2	M17	SX	-14.924	-14.924	0	%100
3	M18	SX	0	0	0	%100
4	M19	SX	0	0	0	%100
5	M20	SX	-15.263	-15.263	0	%100
6	M21	SX	-15.263	-15.263	0	%100
7	M22	SX	-14.924	-14.924	0	%100
8	M23	SX	0	0	0	%100
9	M24	SX	0	0	0	%100
10	M25	SX	-14.924	-14.924	0	%100
11	M26	SX	0	0	0	%100
12	M27	SX	0	0	0	%100
13	M28	SX	-18.803	-18.803	0	%100
14	M29	SX	-15.263	-15.263	0	%100
15	M30	SX	0	0	0	%100
16	M31	SX	0	0	0	%100
17	M32	SX	-15.263	-15.263	0	%100
18	M33	SX	0	0	0	%100
19	M34	SX	0	0	0	%100
20	M35	SX	-15.263	-15.263	0	%100
21	M36	SX	0	0	0	%100
22	M37	SX	0	0	0	%100
23	M38	SX	-21.007	-21.007	0	%100
24	M39	SX	-21.007	-21.007	0	%100
25	M40	SX	-21.007	-21.007	0	%100
26	M41	SX	-21.007	-21.007	0	%100
27	M42	SX	-21.007	-21.007	0	%100
28	M43	SX	-21.007	-21.007	0	%100
29	M47	SX	0	0	0	%100
30	M48	SX	-18.803	-18.803	0	%100
31	M53	SX	-18.803	-18.803	0	%100
32	M61	SX	-23.2	-23.2	0	%100
33	M62	SX	-18.709	-18.709	0	%100
34	M63	SX	0	0	0	%100
35	M67	SX	0	0	0	%100
36	M68	SX	0	0	0	%100
37	M69	SX	-18.709	-18.709	0	%100
38	M70	SX	0	0	0	%100
39	M71	SX	0	0	0	%100
40	M72	SX	-18.709	-18.709	0	%100
41	M73	SX	0	0	0	%100
42	M74	SX	0	0	0	%100
43	M75	SX	-23.2	-23.2	0	%100
44	M80	SX	-23.2	-23.2	0	%100
45	MP4	SX	-23.2	-23.2	0	%100
46	M64	SX	0	0	0	%100
47	M65	SX	0	0	0	%100
48	MP2	SX	-23.2	-23.2	0	%100
49	M67A	SX	0	0	0	%100
50	M68A	SX	0	0	0	%100
51	MP1	SX	-23.2	-23.2	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
52	M70A	SX	0	0	0	%100
53	M71A	SX	0	0	0	%100
54	MP12	SX	-23.2	-23.2	0	%100
55	M73A	SX	0	0	0	%100
56	M74A	SX	0	0	0	%100
57	MP10	SX	-23.2	-23.2	0	%100
58	M76	SX	0	0	0	%100
59	M77	SX	0	0	0	%100
60	MP9	SX	-23.2	-23.2	0	%100
61	M79	SX	0	0	0	%100
62	M80A	SX	0	0	0	%100
63	MP8	SX	-23.2	-23.2	0	%100
64	M82	SX	0	0	0	%100
65	M83	SX	0	0	0	%100
66	MP7	SX	-23.2	-23.2	0	%100
67	M85	SX	0	0	0	%100
68	M86	SX	0	0	0	%100
69	MP5	SX	-23.2	-23.2	0	%100
70	M88	SX	0	0	0	%100
71	M89	SX	0	0	0	%100
72	MP3	SX	-23.2	-23.2	0	%100
73	M91	SX	0	0	0	%100
74	M92	SX	0	0	0	%100
75	MP6	SX	-23.2	-23.2	0	%100
76	M94	SX	0	0	0	%100
77	M95	SX	0	0	0	%100
78	MP11	SX	-23.2	-23.2	0	%100

Member Distributed Loads (BLC 46 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M16	Y	-.048	-1.066	18.675	27.39
2	M16	Y	-1.066	-2.243	27.39	36.105
3	M16	Y	-2.243	-1.953	36.105	44.82
4	M16	Y	-1.953	-1.023	44.82	53.535
5	M16	Y	-1.023	-.064	53.535	62.25
6	M17	Y	-.145	-.161	3.734	4.867
7	M17	Y	-.161	-.169	4.867	6
8	M17	Y	-.169	-.161	6	7.133
9	M17	Y	-.161	-.145	7.133	8.266
10	M32	Y	-1.241	-1.241	6.589	55.932
11	M42	Y	-.28	-.441	0	9.094
12	M42	Y	-.441	-.841	9.094	18.187
13	M42	Y	-.841	-1.484	18.187	27.281
14	M42	Y	-1.484	-.908	27.281	36.374
15	M42	Y	-.908	-.008	36.374	45.468
16	M43	Y	-.28	-.441	0	9.094
17	M43	Y	-.441	-.841	9.094	18.187
18	M43	Y	-.841	-1.486	18.187	27.281
19	M43	Y	-1.486	-.909	27.281	36.374
20	M43	Y	-.909	-.008	36.374	45.468
21	M21	Y	-.048	-1.066	18.675	27.391
22	M21	Y	-1.066	-2.243	27.391	36.106
23	M21	Y	-2.243	-1.952	36.106	44.821
24	M21	Y	-1.952	-1.023	44.821	53.536
25	M21	Y	-1.023	-.064	53.536	62.251
26	M25	Y	-.145	-.161	3.734	4.867

Member Distributed Loads (BLC 46 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
27	M25	Y	-.161	-.169	4.867	6
28	M25	Y	-.169	-.161	6	7.133
29	M25	Y	-.161	-.145	7.133	8.265
30	M29	Y	-1.241	-1.241	6.589	55.932
31	M40	Y	-.28	-.441	0	9.094
32	M40	Y	-.441	-.841	9.094	18.187
33	M40	Y	-.841	-1.484	18.187	27.281
34	M40	Y	-1.484	-.908	27.281	36.374
35	M40	Y	-.908	-.008	36.374	45.468
36	M41	Y	-.28	-.441	0	9.094
37	M41	Y	-.441	-.841	9.094	18.187
38	M41	Y	-.841	-1.486	18.187	27.281
39	M41	Y	-1.486	-.909	27.281	36.374
40	M41	Y	-.909	-.008	36.374	45.468
41	M20	Y	-.048	-1.066	18.675	27.391
42	M20	Y	-1.066	-2.243	27.391	36.106
43	M20	Y	-2.243	-1.952	36.106	44.821
44	M20	Y	-1.952	-1.023	44.821	53.536
45	M20	Y	-1.023	-.064	53.536	62.251
46	M22	Y	-.145	-.161	3.734	4.867
47	M22	Y	-.161	-.169	4.867	6
48	M22	Y	-.169	-.161	6	7.133
49	M22	Y	-.161	-.145	7.133	8.266
50	M35	Y	-1.241	-1.241	6.588	55.931
51	M38	Y	-.28	-.441	0	9.094
52	M38	Y	-.441	-.841	9.094	18.187
53	M38	Y	-.841	-1.486	18.187	27.281
54	M38	Y	-1.486	-.909	27.281	36.374
55	M38	Y	-.909	-.008	36.374	45.468
56	M39	Y	-.28	-.441	0	9.094
57	M39	Y	-.441	-.841	9.094	18.187
58	M39	Y	-.841	-1.484	18.187	27.281
59	M39	Y	-1.484	-.908	27.281	36.374
60	M39	Y	-.908	-.008	36.374	45.468

Member Distributed Loads (BLC 47 : BLC 16 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
1	M16	Y	-.436	-9.686	18.675	27.39
2	M16	Y	-9.686	-20.38	27.39	36.105
3	M16	Y	-20.38	-17.74	36.105	44.82
4	M16	Y	-17.74	-9.297	44.82	53.535
5	M16	Y	-9.297	-.578	53.535	62.25
6	M17	Y	-1.316	-1.463	3.734	4.867
7	M17	Y	-1.463	-1.537	4.867	6
8	M17	Y	-1.537	-1.463	6	7.133
9	M17	Y	-1.463	-1.316	7.133	8.266
10	M32	Y	-11.278	-11.278	6.589	55.932
11	M42	Y	-2.545	-4.003	0	9.094
12	M42	Y	-4.003	-7.637	9.094	18.187
13	M42	Y	-7.637	-13.487	18.187	27.281
14	M42	Y	-13.487	-8.253	27.281	36.374
15	M42	Y	-8.253	-.073	36.374	45.468
16	M43	Y	-2.544	-4.004	0	9.094
17	M43	Y	-4.004	-7.641	9.094	18.187
18	M43	Y	-7.641	-13.499	18.187	27.281
19	M43	Y	-13.499	-8.261	27.281	36.374

Member Distributed Loads (BLC 47 : BLC 16 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,...	Start Location[in,%]	End Location[in,%]
20	M43	Y	-8.261	-.073	36.374	45.468
21	M21	Y	-.436	-9.686	18.675	27.391
22	M21	Y	-9.686	-20.38	27.391	36.106
23	M21	Y	-20.38	-17.74	36.106	44.821
24	M21	Y	-17.74	-9.296	44.821	53.536
25	M21	Y	-9.296	-.577	53.536	62.251
26	M25	Y	-1.316	-1.462	3.734	4.867
27	M25	Y	-1.462	-1.536	4.867	6
28	M25	Y	-1.536	-1.464	6	7.133
29	M25	Y	-1.464	-1.317	7.133	8.265
30	M29	Y	-11.278	-11.278	6.589	55.932
31	M40	Y	-2.545	-4.004	0	9.094
32	M40	Y	-4.004	-7.638	9.094	18.187
33	M40	Y	-7.638	-13.487	18.187	27.281
34	M40	Y	-13.487	-8.253	27.281	36.374
35	M40	Y	-8.253	-.073	36.374	45.468
36	M41	Y	-2.543	-4.003	0	9.094
37	M41	Y	-4.003	-7.64	9.094	18.187
38	M41	Y	-7.64	-13.498	18.187	27.281
39	M41	Y	-13.498	-8.261	27.281	36.374
40	M41	Y	-8.261	-.073	36.374	45.468
41	M20	Y	-.436	-9.686	18.675	27.391
42	M20	Y	-9.686	-20.379	27.391	36.106
43	M20	Y	-20.379	-17.74	36.106	44.821
44	M20	Y	-17.74	-9.297	44.821	53.536
45	M20	Y	-9.297	-.578	53.536	62.251
46	M22	Y	-1.316	-1.463	3.734	4.867
47	M22	Y	-1.463	-1.537	4.867	6
48	M22	Y	-1.537	-1.463	6	7.133
49	M22	Y	-1.463	-1.316	7.133	8.266
50	M35	Y	-11.278	-11.278	6.588	55.931
51	M38	Y	-2.544	-4.004	0	9.094
52	M38	Y	-4.004	-7.641	9.094	18.187
53	M38	Y	-7.641	-13.499	18.187	27.281
54	M38	Y	-13.499	-8.261	27.281	36.374
55	M38	Y	-8.261	-.073	36.374	45.468
56	M39	Y	-2.545	-4.003	0	9.094
57	M39	Y	-4.003	-7.637	9.094	18.187
58	M39	Y	-7.637	-13.488	18.187	27.281
59	M39	Y	-13.488	-8.253	27.281	36.374
60	M39	Y	-8.253	-.073	36.374	45.468

Load Combinations

	Descripti...	So...	PDelta	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Factor	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	1.4DL	Yes	Y		1	1.4																		
2	1.2DL + ...	Yes	Y		1	1.2	2	1	14	1	15													
3	1.2DL + ...	Yes	Y		1	1.2	3	1	14	.866	15	.5												
4	1.2DL + ...	Yes	Y		1	1.2	4	1	14	.5	15	.866												
5	1.2DL + ...	Yes	Y		1	1.2	5	1	14		15	1												
6	1.2DL + ...	Yes	Y		1	1.2	6	1	14	-.5	15	.866												
7	1.2DL + ...	Yes	Y		1	1.2	7	1	14	-.866	15	.5												
8	1.2DL + ...	Yes	Y		1	1.2	8	1	14	-1	15													
9	1.2DL + ...	Yes	Y		1	1.2	9	1	14	-.866	15	-.5												
10	1.2DL + ...	Yes	Y		1	1.2	10	1	14	-.5	15	-.866												
11	1.2DL + ...	Yes	Y		1	1.2	11	1	14		15	-1												

Load Combinations (Continued)

	Descripti...	So...	PDelta	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Factor	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
12	1.2DL + ...	Yes	Y		1	1.2	12	1	14	.5	15	-.866												
13	1.2DL + ...	Yes	Y		1	1.2	13	1	14	.866	15	-.5												
14	0.9DL + ...	Yes	Y		1	.9	2	1	14	1	15													
15	0.9DL + ...	Yes	Y		1	.9	3	1	14	.866	15	.5												
16	0.9DL + ...	Yes	Y		1	.9	4	1	14	.5	15	.866												
17	0.9DL + ...	Yes	Y		1	.9	5	1	14		15	1												
18	0.9DL + ...	Yes	Y		1	.9	6	1	14	-.5	15	.866												
19	0.9DL + ...	Yes	Y		1	.9	7	1	14	-.866	15	.5												
20	0.9DL + ...	Yes	Y		1	.9	8	1	14	-1	15													
21	0.9DL + ...	Yes	Y		1	.9	9	1	14	-.866	15	-.5												
22	0.9DL + ...	Yes	Y		1	.9	10	1	14	-.5	15	-.866												
23	0.9DL + ...	Yes	Y		1	.9	11	1	14		15	-1												
24	0.9DL + ...	Yes	Y		1	.9	12	1	14	.5	15	-.866												
25	0.9DL + ...	Yes	Y		1	.9	13	1	14	.866	15	-.5												
26	1.2D + 1...	Yes	Y		1	1.2	16	1																
27	1.2D + 1...	Yes	Y		1	1.2	16	1	17	1	29	1	30											
28	1.2D + 1...	Yes	Y		1	1.2	16	1	18	1	29	.866	30	.5										
29	1.2D + 1...	Yes	Y		1	1.2	16	1	19	1	29	.5	30	.866										
30	1.2D + 1...	Yes	Y		1	1.2	16	1	20	1	29		30	1										
31	1.2D + 1...	Yes	Y		1	1.2	16	1	21	1	29	-.5	30	.866										
32	1.2D + 1...	Yes	Y		1	1.2	16	1	22	1	29	-.866	30	.5										
33	1.2D + 1...	Yes	Y		1	1.2	16	1	23	1	29	-1	30											
34	1.2D + 1...	Yes	Y		1	1.2	16	1	24	1	29	-.866	30	-.5										
35	1.2D + 1...	Yes	Y		1	1.2	16	1	25	1	29	-.5	30	-.866										
36	1.2D + 1...	Yes	Y		1	1.2	16	1	26	1	29		30	-1										
37	1.2D + 1...	Yes	Y		1	1.2	16	1	27	1	29	.5	30	-.866										
38	1.2D + 1...	Yes	Y		1	1.2	16	1	28	1	29	.866	30	-.5										
39	(1.2 + 0.2...	Yes	Y		1	1.2...	31	1	32															
40	(1.2 + 0.2...	Yes	Y		1	1.2...	31	.866	32	.5														
41	(1.2 + 0.2...	Yes	Y		1	1.2...	31	.5	32	.866														
42	(1.2 + 0.2...	Yes	Y		1	1.2...	31		32	1														
43	(1.2 + 0.2...	Yes	Y		1	1.2...	31	-.5	32	.866														
44	(1.2 + 0.2...	Yes	Y		1	1.2...	31	-.866	32	.5														
45	(1.2 + 0.2...	Yes	Y		1	1.2...	31	-1	32															
46	(1.2 + 0.2...	Yes	Y		1	1.2...	31	-.866	32	-.5														
47	(1.2 + 0.2...	Yes	Y		1	1.2...	31	-.5	32	-.866														
48	(1.2 + 0.2...	Yes	Y		1	1.2...	31		32	-1														
49	(1.2 + 0.2...	Yes	Y		1	1.2...	31	.5	32	-.866														
50	(1.2 + 0.2...	Yes	Y		1	1.2...	31	.866	32	-.5														
51	(0.9 - 0.2...	Yes	Y		1	.861	31	1	32															
52	(0.9 - 0.2...	Yes	Y		1	.861	31	.866	32	.5														
53	(0.9 - 0.2...	Yes	Y		1	.861	31	.5	32	.866														
54	(0.9 - 0.2...	Yes	Y		1	.861	31		32	1														
55	(0.9 - 0.2...	Yes	Y		1	.861	31	-.5	32	.866														
56	(0.9 - 0.2...	Yes	Y		1	.861	31	-.866	32	.5														
57	(0.9 - 0.2...	Yes	Y		1	.861	31	-1	32															
58	(0.9 - 0.2...	Yes	Y		1	.861	31	-.866	32	-.5														
59	(0.9 - 0.2...	Yes	Y		1	.861	31	-.5	32	-.866														
60	(0.9 - 0.2...	Yes	Y		1	.861	31		32	-1														
61	(0.9 - 0.2...	Yes	Y		1	.861	31	.5	32	-.866														
62	(0.9 - 0.2...	Yes	Y		1	.861	31	.866	32	-.5														
63	1.0DL + ...	Yes	Y		1	1	2	.23	14	.23	15		33	1.5										
64	1.0DL + ...	Yes	Y		1	1	3	.23	14	.2	15	.115	33	1.5										
65	1.0DL + ...	Yes	Y		1	1	4	.23	14	.115	15	.2	33	1.5										
66	1.0DL + ...	Yes	Y		1	1	5	.23	14		15	.23	33	1.5										
67	1.0DL + ...	Yes	Y		1	1	6	.23	14	-.115	15	.2	33	1.5										
68	1.0DL + ...	Yes	Y		1	1	7	.23	14	-.2	15	.115	33	1.5										

Load Combinations (Continued)

	Descripti...	So...	PDelta	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Factor	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
69	1.0DL + ...	Yes	Y		1	1	8	.23	14	-.23	15		33	1.5										
70	1.0DL + ...	Yes	Y		1	1	9	.23	14	-.2	15	-.115	33	1.5										
71	1.0DL + ...	Yes	Y		1	1	10	.23	14	-.115	15	-.2	33	1.5										
72	1.0DL + ...	Yes	Y		1	1	11	.23	14		15	-.23	33	1.5										
73	1.0DL + ...	Yes	Y		1	1	12	.23	14	.115	15	-.2	33	1.5										
74	1.0DL + ...	Yes	Y		1	1	13	.23	14	.2	15	-.115	33	1.5										
75	1.2DL + ...	Yes	Y		1	1.2	33	1.5																
76	1.2DL + ...	Yes	Y		1	1.2	34	1.5	2	.058	14	.058	15											
77	1.2DL + ...	Yes	Y		1	1.2	34	1.5	3	.058	14	.05	15	.029										
78	1.2DL + ...	Yes	Y		1	1.2	34	1.5	4	.058	14	.029	15	.05										
79	1.2DL + ...	Yes	Y		1	1.2	34	1.5	5	.058	14		15	.058										
80	1.2DL + ...	Yes	Y		1	1.2	34	1.5	6	.058	14	-.029	15	.05										
81	1.2DL + ...	Yes	Y		1	1.2	34	1.5	7	.058	14	-.05	15	.029										
82	1.2DL + ...	Yes	Y		1	1.2	34	1.5	8	.058	14	-.058	15											
83	1.2DL + ...	Yes	Y		1	1.2	34	1.5	9	.058	14	-.05	15	-.029										
84	1.2DL + ...	Yes	Y		1	1.2	34	1.5	10	.058	14	-.029	15	-.05										
85	1.2DL + ...	Yes	Y		1	1.2	34	1.5	11	.058	14		15	-.058										
86	1.2DL + ...	Yes	Y		1	1.2	34	1.5	12	.058	14	.029	15	-.05										
87	1.2DL + ...	Yes	Y		1	1.2	34	1.5	13	.058	14	.05	15	-.029										
88	1.2DL + ...	Yes	Y		1	1.2	35	1.5	2	.058	14	.058	15											
89	1.2DL + ...	Yes	Y		1	1.2	35	1.5	3	.058	14	.05	15	.029										
90	1.2DL + ...	Yes	Y		1	1.2	35	1.5	4	.058	14	.029	15	.05										
91	1.2DL + ...	Yes	Y		1	1.2	35	1.5	5	.058	14		15	.058										
92	1.2DL + ...	Yes	Y		1	1.2	35	1.5	6	.058	14	-.029	15	.05										
93	1.2DL + ...	Yes	Y		1	1.2	35	1.5	7	.058	14	-.05	15	.029										
94	1.2DL + ...	Yes	Y		1	1.2	35	1.5	8	.058	14	-.058	15											
95	1.2DL + ...	Yes	Y		1	1.2	35	1.5	9	.058	14	-.05	15	-.029										
96	1.2DL + ...	Yes	Y		1	1.2	35	1.5	10	.058	14	-.029	15	-.05										
97	1.2DL + ...	Yes	Y		1	1.2	35	1.5	11	.058	14		15	-.058										
98	1.2DL + ...	Yes	Y		1	1.2	35	1.5	12	.058	14	.029	15	-.05										
99	1.2DL + ...	Yes	Y		1	1.2	35	1.5	13	.058	14	.05	15	-.029										
100	1.2DL + ...	Yes	Y		1	1.2	36	1.5	2	.058	14	.058	15											
101	1.2DL + ...	Yes	Y		1	1.2	36	1.5	3	.058	14	.05	15	.029										
102	1.2DL + ...	Yes	Y		1	1.2	36	1.5	4	.058	14	.029	15	.05										
103	1.2DL + ...	Yes	Y		1	1.2	36	1.5	5	.058	14		15	.058										
104	1.2DL + ...	Yes	Y		1	1.2	36	1.5	6	.058	14	-.029	15	.05										
105	1.2DL + ...	Yes	Y		1	1.2	36	1.5	7	.058	14	-.05	15	.029										
106	1.2DL + ...	Yes	Y		1	1.2	36	1.5	8	.058	14	-.058	15											
107	1.2DL + ...	Yes	Y		1	1.2	36	1.5	9	.058	14	-.05	15	-.029										
108	1.2DL + ...	Yes	Y		1	1.2	36	1.5	10	.058	14	-.029	15	-.05										
109	1.2DL + ...	Yes	Y		1	1.2	36	1.5	11	.058	14		15	-.058										
110	1.2DL + ...	Yes	Y		1	1.2	36	1.5	12	.058	14	.029	15	-.05										
111	1.2DL + ...	Yes	Y		1	1.2	36	1.5	13	.058	14	.05	15	-.029										
112	1.2DL + ...	Yes	Y		1	1.2	37	1.5	2	.058	14	.058	15											
113	1.2DL + ...	Yes	Y		1	1.2	37	1.5	3	.058	14	.05	15	.029										
114	1.2DL + ...	Yes	Y		1	1.2	37	1.5	4	.058	14	.029	15	.05										
115	1.2DL + ...	Yes	Y		1	1.2	37	1.5	5	.058	14		15	.058										
116	1.2DL + ...	Yes	Y		1	1.2	37	1.5	6	.058	14	-.029	15	.05										
117	1.2DL + ...	Yes	Y		1	1.2	37	1.5	7	.058	14	-.05	15	.029										
118	1.2DL + ...	Yes	Y		1	1.2	37	1.5	8	.058	14	-.058	15											
119	1.2DL + ...	Yes	Y		1	1.2	37	1.5	9	.058	14	-.05	15	-.029										
120	1.2DL + ...	Yes	Y		1	1.2	37	1.5	10	.058	14	-.029	15	-.05										
121	1.2DL + ...	Yes	Y		1	1.2	37	1.5	11	.058	14		15	-.058										
122	1.2DL + ...	Yes	Y		1	1.2	37	1.5	12	.058	14	.029	15	-.05										
123	1.2DL + ...	Yes	Y		1	1.2	37	1.5	13	.058	14	.05	15	-.029										
124	1.2DL + ...	Yes	Y		1	1.2	38	1.5	2	.058	14	.058	15											
125	1.2DL + ...	Yes	Y		1	1.2	38	1.5	3	.058	14	.05	15	.029										

Load Combinations (Continued)

	Descripti...	So...	PDelta	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Factor	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
126	1.2DL + ...	Yes	Y		1	1.2	38	1.5	4	.058	14	.029	15	.05										
127	1.2DL + ...	Yes	Y		1	1.2	38	1.5	5	.058	14		15	.058										
128	1.2DL + ...	Yes	Y		1	1.2	38	1.5	6	.058	14	-.029	15	.05										
129	1.2DL + ...	Yes	Y		1	1.2	38	1.5	7	.058	14	-.05	15	.029										
130	1.2DL + ...	Yes	Y		1	1.2	38	1.5	8	.058	14	-.058	15											
131	1.2DL + ...	Yes	Y		1	1.2	38	1.5	9	.058	14	-.05	15	-.029										
132	1.2DL + ...	Yes	Y		1	1.2	38	1.5	10	.058	14	-.029	15	-.05										
133	1.2DL + ...	Yes	Y		1	1.2	38	1.5	11	.058	14		15	-.058										
134	1.2DL + ...	Yes	Y		1	1.2	38	1.5	12	.058	14	.029	15	-.05										
135	1.2DL + ...	Yes	Y		1	1.2	38	1.5	13	.058	14	.05	15	-.029										
136	1.2DL + ...	Yes	Y		1	1.2	39	1.5	2	.058	14	.058	15											
137	1.2DL + ...	Yes	Y		1	1.2	39	1.5	3	.058	14	.05	15	.029										
138	1.2DL + ...	Yes	Y		1	1.2	39	1.5	4	.058	14	.029	15	.05										
139	1.2DL + ...	Yes	Y		1	1.2	39	1.5	5	.058	14		15	.058										
140	1.2DL + ...	Yes	Y		1	1.2	39	1.5	6	.058	14	-.029	15	.05										
141	1.2DL + ...	Yes	Y		1	1.2	39	1.5	7	.058	14	-.05	15	.029										
142	1.2DL + ...	Yes	Y		1	1.2	39	1.5	8	.058	14	-.058	15											
143	1.2DL + ...	Yes	Y		1	1.2	39	1.5	9	.058	14	-.05	15	-.029										
144	1.2DL + ...	Yes	Y		1	1.2	39	1.5	10	.058	14	-.029	15	-.05										
145	1.2DL + ...	Yes	Y		1	1.2	39	1.5	11	.058	14		15	-.058										
146	1.2DL + ...	Yes	Y		1	1.2	39	1.5	12	.058	14	.029	15	-.05										
147	1.2DL + ...	Yes	Y		1	1.2	39	1.5	13	.058	14	.05	15	-.029										
148	1.2DL + ...	Yes	Y		1	1.2	40	1.5	2	.058	14	.058	15											
149	1.2DL + ...	Yes	Y		1	1.2	40	1.5	3	.058	14	.05	15	.029										
150	1.2DL + ...	Yes	Y		1	1.2	40	1.5	4	.058	14	.029	15	.05										
151	1.2DL + ...	Yes	Y		1	1.2	40	1.5	5	.058	14		15	.058										
152	1.2DL + ...	Yes	Y		1	1.2	40	1.5	6	.058	14	-.029	15	.05										
153	1.2DL + ...	Yes	Y		1	1.2	40	1.5	7	.058	14	-.05	15	.029										
154	1.2DL + ...	Yes	Y		1	1.2	40	1.5	8	.058	14	-.058	15											
155	1.2DL + ...	Yes	Y		1	1.2	40	1.5	9	.058	14	-.05	15	-.029										
156	1.2DL + ...	Yes	Y		1	1.2	40	1.5	10	.058	14	-.029	15	-.05										
157	1.2DL + ...	Yes	Y		1	1.2	40	1.5	11	.058	14		15	-.058										
158	1.2DL + ...	Yes	Y		1	1.2	40	1.5	12	.058	14	.029	15	-.05										
159	1.2DL + ...	Yes	Y		1	1.2	40	1.5	13	.058	14	.05	15	-.029										
160	1.2DL + ...	Yes	Y		1	1.2	41	1.5	2	.058	14	.058	15											
161	1.2DL + ...	Yes	Y		1	1.2	41	1.5	3	.058	14	.05	15	.029										
162	1.2DL + ...	Yes	Y		1	1.2	41	1.5	4	.058	14	.029	15	.05										
163	1.2DL + ...	Yes	Y		1	1.2	41	1.5	5	.058	14		15	.058										
164	1.2DL + ...	Yes	Y		1	1.2	41	1.5	6	.058	14	-.029	15	.05										
165	1.2DL + ...	Yes	Y		1	1.2	41	1.5	7	.058	14	-.05	15	.029										
166	1.2DL + ...	Yes	Y		1	1.2	41	1.5	8	.058	14	-.058	15											
167	1.2DL + ...	Yes	Y		1	1.2	41	1.5	9	.058	14	-.05	15	-.029										
168	1.2DL + ...	Yes	Y		1	1.2	41	1.5	10	.058	14	-.029	15	-.05										
169	1.2DL + ...	Yes	Y		1	1.2	41	1.5	11	.058	14		15	-.058										
170	1.2DL + ...	Yes	Y		1	1.2	41	1.5	12	.058	14	.029	15	-.05										
171	1.2DL + ...	Yes	Y		1	1.2	41	1.5	13	.058	14	.05	15	-.029										
172	1.2DL + ...	Yes	Y		1	1.2	42	1.5	2	.058	14	.058	15											
173	1.2DL + ...	Yes	Y		1	1.2	42	1.5	3	.058	14	.05	15	.029										
174	1.2DL + ...	Yes	Y		1	1.2	42	1.5	4	.058	14	.029	15	.05										
175	1.2DL + ...	Yes	Y		1	1.2	42	1.5	5	.058	14		15	.058										
176	1.2DL + ...	Yes	Y		1	1.2	42	1.5	6	.058	14	-.029	15	.05										
177	1.2DL + ...	Yes	Y		1	1.2	42	1.5	7	.058	14	-.05	15	.029										
178	1.2DL + ...	Yes	Y		1	1.2	42	1.5	8	.058	14	-.058	15											
179	1.2DL + ...	Yes	Y		1	1.2	42	1.5	9	.058	14	-.05	15	-.029										
180	1.2DL + ...	Yes	Y		1	1.2	42	1.5	10	.058	14	-.029	15	-.05										
181	1.2DL + ...	Yes	Y		1	1.2	42	1.5	11	.058	14		15	-.058										
182	1.2DL + ...	Yes	Y		1	1.2	42	1.5	12	.058	14	.029	15	-.05										

Load Combinations (Continued)

	Descripti...	So...	PDelta	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Factor	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..
183	1.2DL + ...	Yes	Y		1	1.2	42	1.5	13	.058	14	.05	15	-.029										
184	1.2DL + ...	Yes	Y		1	1.2	43	1.5	2	.058	14	.058	15											
185	1.2DL + ...	Yes	Y		1	1.2	43	1.5	3	.058	14	.05	15	.029										
186	1.2DL + ...	Yes	Y		1	1.2	43	1.5	4	.058	14	.029	15	.05										
187	1.2DL + ...	Yes	Y		1	1.2	43	1.5	5	.058	14		15	.058										
188	1.2DL + ...	Yes	Y		1	1.2	43	1.5	6	.058	14	-.029	15	.05										
189	1.2DL + ...	Yes	Y		1	1.2	43	1.5	7	.058	14	-.05	15	.029										
190	1.2DL + ...	Yes	Y		1	1.2	43	1.5	8	.058	14	-.058	15											
191	1.2DL + ...	Yes	Y		1	1.2	43	1.5	9	.058	14	-.05	15	-.029										
192	1.2DL + ...	Yes	Y		1	1.2	43	1.5	10	.058	14	-.029	15	-.05										
193	1.2DL + ...	Yes	Y		1	1.2	43	1.5	11	.058	14		15	-.058										
194	1.2DL + ...	Yes	Y		1	1.2	43	1.5	12	.058	14	.029	15	-.05										
195	1.2DL + ...	Yes	Y		1	1.2	43	1.5	13	.058	14	.05	15	-.029										
196	1.2DL + ...	Yes	Y		1	1.2	44	1.5	2	.058	14	.058	15											
197	1.2DL + ...	Yes	Y		1	1.2	44	1.5	3	.058	14	.05	15	.029										
198	1.2DL + ...	Yes	Y		1	1.2	44	1.5	4	.058	14	.029	15	.05										
199	1.2DL + ...	Yes	Y		1	1.2	44	1.5	5	.058	14		15	.058										
200	1.2DL + ...	Yes	Y		1	1.2	44	1.5	6	.058	14	-.029	15	.05										
201	1.2DL + ...	Yes	Y		1	1.2	44	1.5	7	.058	14	-.05	15	.029										
202	1.2DL + ...	Yes	Y		1	1.2	44	1.5	8	.058	14	-.058	15											
203	1.2DL + ...	Yes	Y		1	1.2	44	1.5	9	.058	14	-.05	15	-.029										
204	1.2DL + ...	Yes	Y		1	1.2	44	1.5	10	.058	14	-.029	15	-.05										
205	1.2DL + ...	Yes	Y		1	1.2	44	1.5	11	.058	14		15	-.058										
206	1.2DL + ...	Yes	Y		1	1.2	44	1.5	12	.058	14	.029	15	-.05										
207	1.2DL + ...	Yes	Y		1	1.2	44	1.5	13	.058	14	.05	15	-.029										
208	1.2DL + ...	Yes	Y		1	1.2	45	1.5	2	.058	14	.058	15											
209	1.2DL + ...	Yes	Y		1	1.2	45	1.5	3	.058	14	.05	15	.029										
210	1.2DL + ...	Yes	Y		1	1.2	45	1.5	4	.058	14	.029	15	.05										
211	1.2DL + ...	Yes	Y		1	1.2	45	1.5	5	.058	14		15	.058										
212	1.2DL + ...	Yes	Y		1	1.2	45	1.5	6	.058	14	-.029	15	.05										
213	1.2DL + ...	Yes	Y		1	1.2	45	1.5	7	.058	14	-.05	15	.029										
214	1.2DL + ...	Yes	Y		1	1.2	45	1.5	8	.058	14	-.058	15											
215	1.2DL + ...	Yes	Y		1	1.2	45	1.5	9	.058	14	-.05	15	-.029										
216	1.2DL + ...	Yes	Y		1	1.2	45	1.5	10	.058	14	-.029	15	-.05										
217	1.2DL + ...	Yes	Y		1	1.2	45	1.5	11	.058	14		15	-.058										
218	1.2DL + ...	Yes	Y		1	1.2	45	1.5	12	.058	14	.029	15	-.05										

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N39	max	1666.626	17	2975.317	27	2664.842	14	6608.465	27	2177.484	11	957.599	11
2		min	-1672.325	11	-428.192	20	-2723.29	8	-1590.541	20	-2172.78	17	-832.144	17
3	N38	max	2047.731	4	2961.088	35	1540.446	3	1064.331	15	1268.497	19	5617.447	35
4		min	-1988.742	22	-409.695	16	-1509.461	21	-3503.821	34	-1269.583	13	-1304.682	16
5	N34	max	1879.299	18	2955.118	31	1498.262	2	809.91	25	1757.153	15	1036.452	24
6		min	-1933.618	12	-287.793	24	-1471.079	20	-3191.614	32	-1760.457	9	-5778.663	31
7	Totals:	max	5176.007	5	8123.289	33	5654.042	14						
8		min	-5176.004	23	2214.667	51	-5654.043	8						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear ..	Loc[in]	Dir	LC	phi*Pnc...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	M69	L2.5x2.5x3	.561	14	2	.074	0	y	2	27494.8...	29192.4	872.574	1971.83	1...	H2-1
2	M16	HSS4X4X4	.547	0	31	.149	0	z	3	103814....	106155	12311.25	12311.25	1	H1-1b
3	M21	HSS4X4X4	.545	0	38	.149	0	z	11	103814....	106155	12311.25	12311.25	1	H1-1b
4	M20	HSS4X4X4	.544	0	35	.145	0	y	8	103814....	106155	12311.25	12311.25	1	H1-1b

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear ..	Loc[in]	Dir	LC	phi*Pnc...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
5	MP10	PIPE_2.0	.531	69	10	.076	69		9	14916.0...	32130	1871.625	1871.625	4...	H1-1b
6	MP6	PIPE_2.0	.530	69	2	.075	69		2	14916.0...	32130	1871.625	1871.625	1	H1-1b
7	MP5	PIPE_2.0	.526	69	3	.053	27		10	14916.0...	32130	1871.625	1871.625	1	H1-1b
8	M62	L2.5x2.5x3	.524	14	9	.079	0	y	9	27494.8...	29192.4	872.574	1971.83	1...	H2-1
9	M72	L2.5x2.5x3	.511	14	6	.076	0	y	5	27494.8...	29192.4	872.574	1971.83	1...	H2-1
10	M80	PIPE_2.0	.507	137.5	3	.365	137.5		9	6295.422	32130	1871.625	1871.625	3...	H3-6
11	M75	PIPE_2.0	.493	137.5	11	.360	137.5		5	6295.422	32130	1871.625	1871.625	3...	H3-6
12	MP9	PIPE_2.0	.484	69	11	.051	27		6	14916.0...	32130	1871.625	1871.625	1...	H1-1b
13	MP1	PIPE_2.0	.483	69	8	.056	27		3	14916.0...	32130	1871.625	1871.625	3...	H1-1b
14	MP11	PIPE_2.0	.476	69	2	.070	69		3	14916.0...	32130	1871.625	1871.625	4...	H1-1b
15	MP2	PIPE_2.0	.468	69	4	.064	69		5	14916.0...	32130	1871.625	1871.625	4...	H1-1b
16	MP3	PIPE_2.0	.462	69	10	.072	69		10	14916.0...	32130	1871.625	1871.625	4...	H1-1b
17	MP7	PIPE_2.0	.460	69	6	.070	69		7	14916.0...	32130	1871.625	1871.625	1	H1-1b
18	M61	PIPE_2.0	.413	137.5	8	.394	137.5		2	6295.422	32130	1871.625	1871.625	2...	H3-6
19	M22	6"x0.37" Plate	.409	6	9	.174	8	y	7	33656.2...	71928	554.445	8991	1.5	H1-1b
20	M17	6"x0.37" Plate	.376	6	5	.199	8	y	3	33656.2...	71928	554.445	8991	1...	H1-1b
21	M39	L2x2x2	.366	50.52	21	.018	50.52	z	2	10337.4...	15908.4	402.563	746.085	1...	H2-1
22	M25	6"x0.37" Plate	.338	6	15	.190	8	y	10	33656.2...	71928	554.445	8991	1...	H1-1b
23	M43	L2x2x2	.331	50.52	17	.016	50.52	z	10	10337.4...	15908.4	402.563	754.417	1...	H2-1
24	M42	L2x2x2	.321	50.52	20	.018	50.52	y	2	10337.4...	15908.4	402.563	757.68	1...	H2-1
25	MP12	PIPE_2.0	.320	69	2	.064	69		2	14916.0...	32130	1871.625	1871.625	3...	H1-1b
26	M40	L2x2x2	.314	50.52	3	.016	50.52	y	10	10337.4...	15908.4	402.563	774.096	1...	H2-1
27	MP8	PIPE_2.0	.312	69	32	.063	69		6	14916.0...	32130	1871.625	1871.625	3...	H1-1b
28	MP4	PIPE_2.0	.309	69	10	.065	69		10	14916.0...	32130	1871.625	1871.625	3...	H1-1b
29	M38	L2x2x2	.293	50.52	23	.015	50.52	y	6	10337.4...	15908.4	402.563	761.776	1...	H2-1
30	M41	L2x2x2	.288	50.52	24	.014	50.52	z	6	10337.4...	15908.4	402.563	737.34	1...	H2-1
31	M29	HSS4X4X4	.237	31.26	28	.064	3.907	z	10	104424...	106155	12311.25	12311.25	1	H1-1b
32	M32	HSS4X4X4	.235	31.26	32	.067	58.6...	z	10	104424...	106155	12311.25	12311.25	1	H1-1b
33	M35	HSS4X4X4	.228	30.609	36	.065	58.6...	z	2	104424...	106155	12311.25	12311.25	1	H1-1b
34	M48	PIPE_3.0	.217	62.5	35	.136	60.9...		7	59302.8...	65205	5748.75	5748.75	1	H1-1b
35	M53	PIPE_3.0	.216	62.5	27	.154	60.9...		11	59302.8...	65205	5748.75	5748.75	1	H1-1b
36	M28	PIPE_3.0	.214	62.5	31	.157	60.9...		3	59302.8...	65205	5748.75	5748.75	1	H1-1b

APPENDIX D

ADDITIONAL CALCUATIONS

INFINIGY

FROM ZERO TO INFINIGY

the solutions are endless

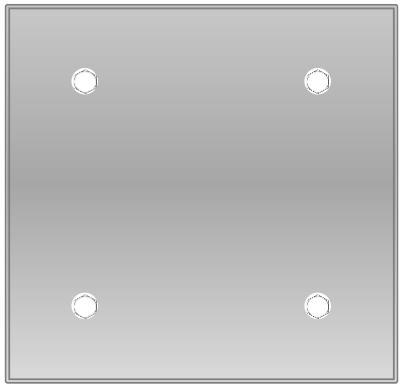
Bolt Calculation Tool, V1.4

PROJECT DATA	
Site Name:	CTNH614A
Site Number:	876382
Job Code:	1039-Z0001-B
Connection Description:	Platform to Mount

APPLIED LOADS		
Bolt Tension:	6816.96	lbs
Bolt Shear:	829.03	lbs

BOLT PROPERTIES		
Bolt Type:	Bolt	-
Bolt Diameter:	0.625	in
Bolt Grade:	A325	-
# of Bolts:	4	-
Threads Excluded?	No	-

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Tensile Usage	33.5%	
Shear Usage	6.0%	
Interaction Check	0.12	***≤1.05***
Result	Pass	



EBI Consulting

environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CTNH614A

876382
1684 Chamberlain Highway
Berlin, Connecticut 06037

November 10, 2021

EBI Project Number: 6221006619

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**34.91%**

21 B Street, Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

November 10, 2021

T-Mobile
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CTNH614A - 876382

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1684 Chamberlain Highway** in **Berlin, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 1684 Chamberlain Highway in Berlin, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.

8) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.

9) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

10) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.

11) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

12) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

13) The antennas used in this modeling are the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector A, the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector B, the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied

specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

14) The antenna mounting height centerline of the proposed antennas is 121 feet above ground level (AGL).

15) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

16) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd
Height (AGL):	121 feet	Height (AGL):	121 feet	Height (AGL):	121 feet
Channel Count:	13	Channel Count:	13	Channel Count:	13
Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts
ERP (W):	17,868.72	ERP (W):	17,868.72	ERP (W):	17,868.72
Antenna A1 MPE %:	**6.41%**	Antenna B1 MPE %:	**6.41%**	Antenna C1 MPE %:	**6.41%**
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd
Height (AGL):	121 feet	Height (AGL):	121 feet	Height (AGL):	121 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	36,356.09	ERP (W):	36,356.09	ERP (W):	36,356.09
Antenna A2 MPE %:	**9.88%**	Antenna B2 MPE %:	**9.88%**	Antenna C2 MPE %:	**9.88%**

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	16.30%
Town	0.01%
Metro PCS	1.43%
T-Mobile (Existing)	4.08%
Verizon	7.2%
AT&T	5.89%
Site Total MPE % :	34.91%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	16.30%
T-Mobile Sector B Total:	16.30%
T-Mobile Sector C Total:	16.30%
Site Total MPE % :	34.91%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 600 MHz LTE	2	591.73	121.0	3.22	600 MHz LTE	400	0.80%
T-Mobile 600 MHz NR	1	1577.94	121.0	4.29	600 MHz NR	400	1.07%
T-Mobile 700 MHz LTE	2	695.22	121.0	3.78	700 MHz LTE	467	0.81%
T-Mobile 1900 MHz GSM	4	1052.26	121.0	11.44	1900 MHz GSM	1000	1.14%
T-Mobile 1900 MHz LTE	2	2104.51	121.0	11.44	1900 MHz LTE	1000	1.14%
T-Mobile 2100 MHz LTE	2	2649.42	121.0	14.40	2100 MHz LTE	1000	1.44%
T-Mobile 2500 MHz LTE 1C & 2C Traffic	1	11044.63	121.0	30.02	2500 MHz LTE 1C & 2C Traffic	1000	3.00%
T-Mobile 2500 MHz LTE 1C & 2C Broadcast	1	1074.06	121.0	2.92	2500 MHz LTE 1C & 2C Broadcast	1000	0.29%
T-Mobile 2500 MHz NR Traffic	1	22089.26	121.0	60.05	2500 MHz NR Traffic	1000	6.00%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	121.0	5.84	2500 MHz NR Broadcast	1000	0.58%
						Total:	**16.30%**

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector A:	16.30%
Sector B:	16.30%
Sector C:	16.30%
T-Mobile Maximum MPE % (Sector A):	16.30%
Site Total:	34.91%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **34.91%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.