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

July 21, 2022

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

RE: **Notice of Exempt Modification for T-Mobile: CT11084B/806939**
800 Ogg Meadow Road, Orange, CT 06477
Latitude: 41° 18′ 28.36″ / Longitude: -73° 1′ 56.22″

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 129-foot mount on the existing 161-foot monopole tower located at 800 Ogg Meadow Road, Orange, CT. The property and tower are owned by Crown Castle. T-Mobile now intends to replace nine (9) antennas and ancillary equipment at the 129ft 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) Ericsson – AIR6419 B41 Antennas
(3) RFS-APXVAALL24P_43-C-A20 Antennas
(3) CommScope – W-65A-R1 Antennas
(3) Ericsson- Radio 4480 B71+B85
(6) Ericsson-Radio 4460 B25+B66

Remove:
(3) Ericsson – AIR21 KRC118023-1_B2A_B4P Antennas
(3) Ericsson – AIR21 KRC118023-1_B2P_B4A Antennas
(3) Andrew – LNX-6515DS-A1M Antennas
(3) Ericsson-RRUS-11 B12
(3) Generic Twin Style 1B-AWS TMAs
(12) 7/8" Coax Cables

Ground:

Install New:
(1) 6160 Cabinet
(1) B160 Battery Cabinet
(1) CSR IXRE V2 (Gen2) Router

(1) PSU 4813 Voltage Booster
(2) RP 6651 in (P) Cabinet
(1.) BB 6630 in (P) Cabinet
(1) DUG20 in (P) Cabinet

Remove:
(2) Equipment Cabinet

The facility was approved by the Connecticut Siting Council, Docket No. 177A on August 6, 1997.

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 James M. Zeoli, First Selectman, Town of Orange and Jack Demirjian, Zoning Administrator & Enforcement Officer. Crown Castle is both the property and 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, Suite 250
Westborough, MA 01581
(781) 970-0053
Jeff.Barbadora@crowncastle.com

Attachments
cc:

James M. Zeoli, First Selectman
Town of Orange
617 Orange Center Road
Orange, CT 06477
(203) 891-4737

Jack Demirjian, Zoning Administrator & Enforcement Officer
Town of Orange
617 Orange Center Road
Orange, CT 06477
(203) 891-4746

Crown Castle, Property/Tower Owner

Filing Guides
Meetings & Minutes
Public Participation
Audio Link to New Britain Hearing Rooms
Programs & Services
Telecommunications Database
Maps
Publications
Other Resources
Statutes & Regulations
Frequently Asked Questions

January 2011 Calendar
Receive Updates by E-mail Sign -Up for E-alerts
REGISTER Online to VOTE
Regulations of CT State Agencies
CT Alert WE CAN'T ALERT YOU... IF WE CAN'T REACH YOU

Melanie Bachman,
Executive Director

DOCKET NO. 177A - An amended application of Cellco Partnership d/b/a Bell Atlantic NYNEX Mobile for a Certificate of Environmental Compatibility and Public Need for a two cell-site configuration in the Town of Orange. The proposed Prime A site would be located approximately 875 feet east of Orange Center Road at the rear of the High Plains Community Center, 525 Orange Center Road, with the Prime B site located approximately 400 feet northwest from the end of Ogg Meadow Road. These sites would replace the previously proposed Camp Cedarcrest site. A proposed alternate site is located within a 5.5 acre parcel of property approximately 250 feet south and west of Robert Treat Drive Extension, Orange, Connecticut.

ConnecticutSitingCouncil

August 6, 1997

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a two-cell site configuration consisting of a prime A site at the High Plains Community Center property on Orange Center Road and a prime B site on South Central Regional Water Authority (SCRWA) property located off the end of Ogg Meadow Road in Orange, Connecticut, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Cellco Partnership d/b/a Bell Atlantic NYNEX Mobile (BANM) for the construction, operation, and maintenance of two cellular telecommunications towers and associated equipment. We deny the alternate site on Robert Treat Drive Extension.

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

1. The towers shall be constructed as proposed, no taller than necessary to provide the proposed communications service, sufficient to accommodate the antennas of BANM, Springwich Cellular Limited Partnership (Springwich), Smart SMR of New York, Inc. d/b/a Nextel Communications (Nextel), and Sprint Spectrum L.P. d/b/a Sprint PCS (Sprint). Neither tower, excluding antennas, shall exceed 160 feet above ground level.

2. The Certificate Holder shall prepare Development and Management (D&M) Plans for the prime A amd prime B sites in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plans shall be submitted to and approved by the Council prior to the commencement of facility construction. The prime A D&M plan shall include a tower and foundation plan, signed by a professionally licensed engineer, designed to be safe and adequate to protect the electric supply system, and provisions for landscaping, architectural treatment, and traffic management consistent with terms established with the Town. The prime B D&M plan shall include relocation of the prime B tower within the leased parcel to prevent the fall zone of the tower from crossing paved sections of the Route 15 right-of-way; a tower and foundation plan, signed by a professionally licensed engineer; plans for dewatering the site if necessary; installation of a propane tank to fuel the emergency generator; placement of a counter-sunk and sealed concrete floor for the equipment building; traffic management with schedule to construct during daytime hours; and best management practices for on-site use of construction equipment. In addition, we will require landscaping and the establishment of vegetation to stabilize the site consistent with watershed management plans. Both site plans shall provide specifications for the placement of all antennas to be attached to the towers, and plans for the equipment buildings, foundation pads for Sprint's equipment, security fencing and gate, access roads, utility lines, site clearing, tree trimming, and erosion and sedimentation control consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. Consistent with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council notification of:

a. commencement of construction;
b. completion of construction;
c. completion of site rehabilitation;
d. commencement of operation;
e. transfer of ownership of the prime A tower to the Town of Orange; and
f. final construction cost.

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

5. The Certificate Holder shall provide the Council a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels originally calculated and provided in the application.

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

7. If the facility does not initially provide, or permanently ceases to provide telecommunications services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapplication for any continued or new use shall be made to the Council before any such use is made.

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

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the New Haven Register.

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

The parties and intervenors to this proceeding are:

APPLICANT	**ITS REPRESENTATIVE**
Cellco Partnership d/b/a	Kenneth C. Baldwin, Esq. Brian C. S. Freeman, Esq. Bell Atlantic NYNEX Mobile Robinson & Cole One Commercial Plaza Hartford, CT 06103-3597 Mr. David S. Malko, P.E. Jennifer Young Gaudet, Mgr. - Regulatory Bell Atlantic NYNEX Mobile 20 Alexander Drive Wallingford, CT 06492
PARTY	
Residents of Robert Treat Extension, Elvera Spinaci Ross Court, and Mapledale Road 829 Robert Treat Extension Orange, CT 06477	-
INTERVENOR	
Eugene Burshuliak 864 Mapledale Road Orange, CT 06477	-
INTERVENOR	**ITS REPRESENTATIVE**
Springwich Cellular Limited Partnership	Peter J. Tyrrell, Esq. Springwich Cellular Limited Partnership 500 Enterprise Drive Rocky Hill, CT 06067-3900
PARTY	**ITS REPRESENTATIVE**
Town of Orange	Francis A. Teodosio, Esq. Orange Town Hall 617 Orange Center Road Orange, CT 06477
INTERVENOR	**ITS REPRESENTATIVE**
Smart SMR of New York, Inc.	Christopher B. Fisher, Esq. d/b/a Nextel Communications Cuddy, Feder & Worby 90 Maple Avenue White Plains, NY 10601-5196
PARTY	
John Rechi 805 Grassy Hill Road Orange, CT 06477	-
PARTY	-
Erwin H. Levine 875 Robert Treat Extension	

Orange, CT 06477

PARTY
Jeffery Friedrichs
248 Ross Court
Orange, CT 06477

-

PARTY
Orange Land Trust, Inc.

ITS REPRESENTATIVE
Edmund B. Tucker, President
Orange Land Trust, Inc.
433 Pudden Lane
Orange, CT 06477

INTERVENOR
Sprint Spectrum L.P.

ITS REPRESENTATIVE
Elias A. Alexiades, Esq.
d/b/a Sprint PCS Andrew C. Kruger, Esq.
Harris, Beach & Wilcox, LLP
147 North Broad Street
Milford, CT 06460

-

PARTY
Jay Nastri
820 Ogg Meadow Road
Orange, CT 06477

-

Content Last Modified on 8/9/2002 12:03:42 PM

800 OGG MEADOW RD

Location	800 OGG MEADOW RD	**Mblu**	97/ 4/ 2-1/ /
Acct#	85805	**Owner**	SOUTH CENTRAL REGIONAL WATER AUTHORITY
Assessment	$71,900	**Appraisal**	$102,500
PID	5565	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$24,800	$77,700	$102,500

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$17,500	$54,400	$71,900

Owner of Record

Owner	SOUTH CENTRAL REGIONAL WATER AUTHORITY	**Sale Price**	$0
Co-Owner	CROWN ATLANTIC COMPANY LLC	**Certificate**	
Address	4017 WASHINGTON RD PMB 353 MCMURRAY, PA 15317	**Book & Page**	0/0
		Sale Date	

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
SOUTH CENTRAL REGIONAL WATER AUTHORITY	$0		0/0	

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost
Less Depreciation: $0

Building Attributes	
Field	**Description**

Style	Vacant Land
Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Floor 1	
Interior Floor 2	
Heat Fuel	
Heat Type	
AC Type	
Bedrooms	
Full Baths	
Half Baths	
Extra Fixtures	
Total Rooms	
Bathrm Style	
Kitchen Style	
Stacks	
Fireplace(S)	
Gas Fireplace(s)	
Attic	
Frame	
Traffic	
Bsmt Gar(s)	
Fireplaces	
SF FBM	
SF Rec Rm	
Basement_2	
Bsmt Floor	
Fndtn Cndtn	
Basement	

Building Photo

(https://images.vgsi.com/photos/OrangeCTPhotos/\00\00\50\27.JPG)

Building Layout

(https://images.vgsi.com/photos/OrangeCTPhotos//Sketches/5565_5565.jp

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend

No Data for Extra Features

Land

Land Use

Use Code	520
Description	Comm Vacant
Zone	RES
Neighborhood	010
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.23
Frontage	
Depth	
Assessed Value	$54,400
Appraised Value	$77,700

Outbuildings

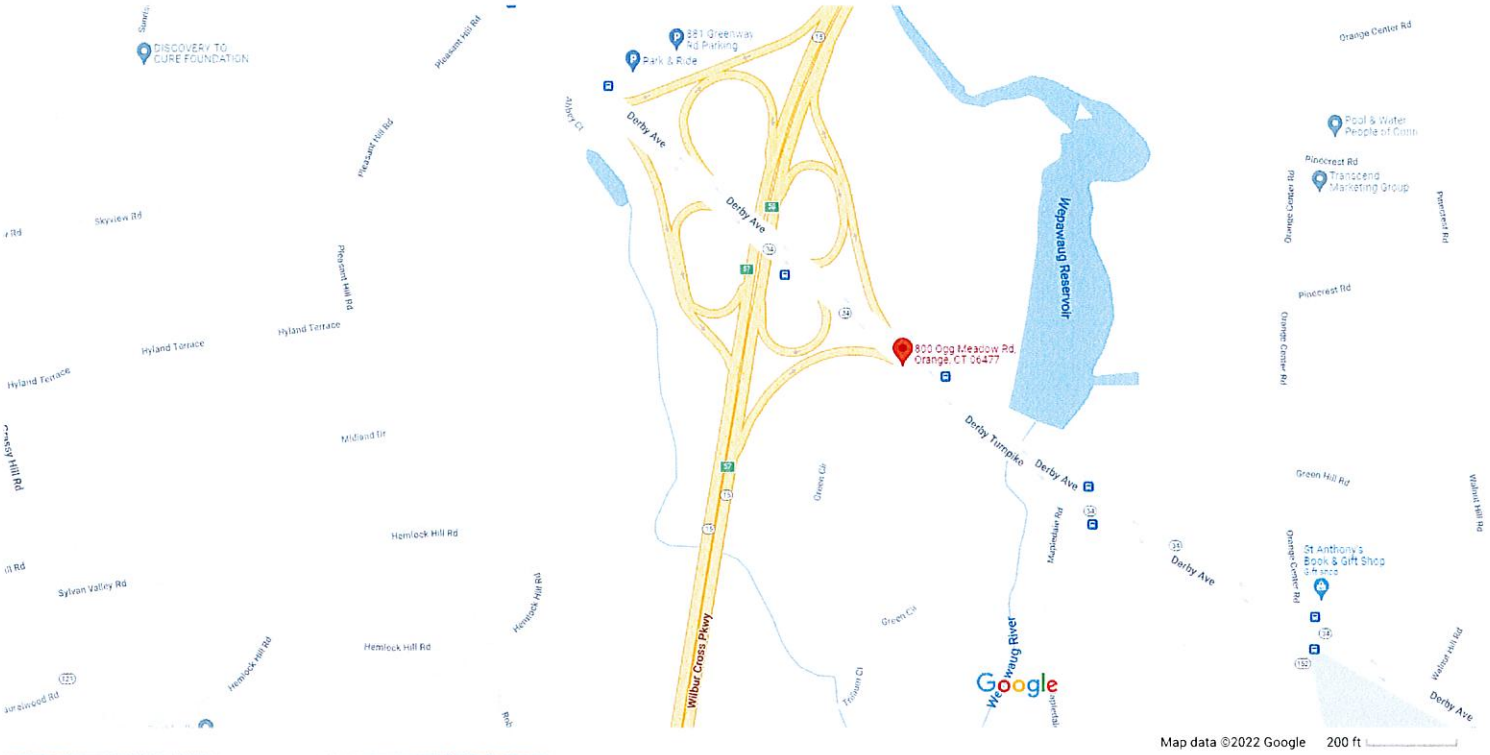
Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD1	Shed - Wood			400.00 UNITS	$5,500	1
SHD1	Shed - Wood			400.00 UNITS	$5,500	1
SHD9	Shed - Block			400.00 UNITS	$6,300	1
SHD7	Cell Shed			200.00 UNITS	$7,500	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$24,800	$77,700	$102,500
2020	$24,800	$77,700	$102,500
2019	$24,800	$77,700	$102,500

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$17,500	$54,400	$71,900
2020	$17,500	$54,400	$71,900
2019	$17,500	$54,400	$71,900

800 Ogg Meadow Rd



800 Ogg Meadow Rd

Orange, CT 06477

Directions Save Nearby Send to phone Share

8X39+W7 Orange, Connecticut

Photos

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, July 22, 2022 10:06 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777453364287: Your package has been delivered

Hi. Your package was delivered Fri, 07/22/2022 at 10:04am.

Delivered to 617 ORANGE CENTER RDSELEC, ORANGE, CT 06477
Received by A.DENNY

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 777453364287

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

TO	Town of Orange James M. Zeoli, First Selectman 617 Orange Center Road ORANGE, CT, US, 06477
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Thu 7/21/2022 05:26 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	ORANGE, CT, US, 06477
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Friday, July 22, 2022 10:06 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777453387255: Your package has been delivered

Hi. Your package was delivered Fri, 07/22/2022 at 10:04am.

Delivered to 617 ORANGE CENTER RDSELEC, ORANGE, CT 06477
Received by A.DENNY

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 777453387255

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

TO	Town of Orange Jack Demirjian, ZEO 617 Orange Center Road ORANGE, CT, US, 06477
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Thu 7/21/2022 05:26 PM
DELIVERED TO	Receptionist/Front Desk
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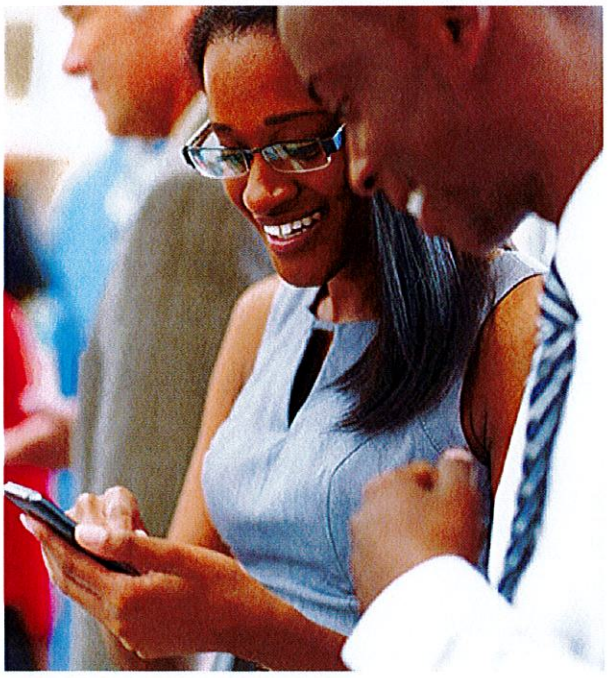
DESTINATION	ORANGE, CT, US, 06477
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Priority Overnight



Date: **April 27, 2022**

MORRISON HERSHFIELD

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379-8500

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Site Number:	CT11084B
	Site Name:	Orange/ MP X56-57
Crown Castle Designation:	**BU Number:**	806939
	Site Name:	NHV 2071 143137
	JDE Job Number:	709265
	Work Order Number:	2103838
	Order Number:	608637 Rev. 0
Engineering Firm Designation:	**Morrison Hershfield Project Number:** CN9-966R2 / 2200039	
Site Data:	**800 OGG Meadow Road, Orange, New Haven County, CT 06477** **Latitude *41° 18' 28.36"*, Longitude *-73° 1' 56.22"*** **160 Foot - Valmont Monopole Tower**	

Morrison Hershfield 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 – 67.8%**

This analysis utilizes an ultimate 3-second gust wind speed of 119 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 – Analysis Criteria.

Respectfully submitted by:

STATE OF CONNECTICUT
G. LANCE COOKE
No. 28133
LICENSED PROFESSIONAL ENGINEER

G. Lance Cooke, P.E. (CT License No. PEN.0028133)
Senior Engineer

Digitally signed by G. Lance Cooke
Date: 2022.05.02 07:31:55-07'00'

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 160 ft monopole tower designed by Valmont Industries, Inc.

The tower was modified multiple times in the past to accommodate additional loading. Modifications are incorporated in this analysis per the post modification inspection reports.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	119 mph
Exposure Category:	B
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)
127.0	129.0	3	commscope	VV-65A-R1_TMO	3	1-5/8
		3	ericsson	AIR 6419 B41_TMO		
		3	rfs/celwave	APXVAALL24_43-U-NA20_TMO		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
	127.0	3	-	4.5' Bracing Pipe [#P2.5 STD]		
		1	Site Pro 1	Ring Mount [#LWRM]		
		3	Site Pro 1	Telescopic Arm Kit [#SNP-ST8]		
		1	-	Platform Mount [LP 1201-1]		

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)
158.0	159.0	4	commscope	HBXX-6517DS-A2M w/ Mount Pipe	13 1	1-5/8 1/2
		2	amphenol	BXA-80063-6BF-EDIN-X w/ Mount Pipe		
		3	antel	BXA-70040/6CF w/ Mount Pipe		
		1	antel	BXA-80063/4CF w/ Mount Pipe		
		2	commscope	HBXX-6516DS-A2M w/ Mount Pipe		
		3	alcatel lucent	B4 RRH2X60-4R		
		1	gps	GPS_A		
		1	rfs/celwave	DB-T1-6Z-8AB-0Z		
	158.0	1	-	Platform Mount [LP 713-1]		
147.0	150.0	3	ericsson	AIR 6449 N77	6 6	1-1/4 13/16
	149.0	3	cci antennas	DMP65R-BU6D w/ Mount Pipe		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
147.0	149.0	3	quintel technology	QD6616-7 w/ Mount Pipe	3 2	3/8 7/8
		3	ericsson	RRUS 32 B66A		
		3	ericsson	RRUS 4415 B25		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14_CCIV2		
		3	ericsson	RRUS 32 B30		
		1	raycap	DC6-48-60-18-8C-EV		
		3	raycap	DC6-48-60-18-8F		
	148.0	3	ericsson	AIR 6419 B77G		
	147.0	3	-	Platform Mount [LP 713-1]		
139.0	139.0	3	alcatel lucent	1900MHz RRH (65MHz)	-	-
		3	alcatel lucent	800 External Notch Filter		
		3	alcatel lucent	RRH2X50-800		
		1	-	Pipe Mount [PM 601-3]		
137.0	138.0	3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe	3 1	1-5/8 5/8
		3	rfs/celwave	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe		
		3	rfs/celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
	137.0	1	andrew	VHLP2-11		
		1	dragonwave	HORIZON DUO		
		3	-	5.5' Corner Angle Mount [#L4X4X1/4]		
		6	-	8' Mount Pipe [#P 2.0 STD]		
		1	-	Platform Mount [LP 713-1]		
117.0	117.0	3	jma wireless	MX08FRO665-21 w/ Mount Pipe	1	1-1/2
		3	fujitsu	TA08025-B605		
		3	fujitsu	TA08025-B604		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		
107.0	110.0	3	argus technologies	LLPX310R w/ Mount Pipe	3 3 2	5/8 1/2 2C
		1	andrew	VHLP2-11		
		1	andrew	PX2F-52		
		2	dragonwave	HORIZON COMPACT		
		3	samsung telecommunications	WIMAX DAP HEAD		
	107.0	1	-	Side Arm Mount [SO 101-3]		
100.0	100.0	3	rfs celwave	APXV18-206517S-C w/ Mount Pipe	6	7/8

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
80.0	81.0	1	kathrein	OG-860/1920/GPS-A	1	7/8
	80.0	2	-	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1257473	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1060127	CCISITES
4-TOWER MANUFACTURER DRAWINGS	822032	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4025748	CCISITES
4-POST-MODIFICATION INSPECTION	4489413	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 included 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.

This analysis may be affected if any assumptions are not valid or have been made in error. Morrison Hershfield 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	160 - 155	Pole	TP22.7x21.65x0.25	Pole	3.5	Pass
L2	155 - 150	Pole	TP23.75x22.7x0.25	Pole	7.6	Pass
L3	150 - 145	Pole	TP24.8x23.75x0.25	Pole	14.4	Pass
L4	145 - 140	Pole	TP25.85x24.8x0.25	Pole	21.8	Pass
L5	140 - 135	Pole	TP26.9x25.85x0.25	Pole	30.5	Pass
L6	135 - 130	Pole	TP27.949x26.9x0.25	Pole	39.4	Pass
L7	130 - 126	Pole	TP29.77x27.949x0.25	Pole	47.1	Pass
L8	126 - 121	Pole	TP29.339x28.289x0.375	Pole	35.0	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L9	121 - 116	Pole	TP30.389x29.339x0.375	Pole	40.4	Pass
L10	116 - 111	Pole	TP31.439x30.389x0.375	Pole	45.7	Pass
L11	111 - 106	Pole	TP32.489x31.439x0.375	Pole	50.8	Pass
L12	106 - 102.75	Pole	TP33.172x32.489x0.375	Pole	54.0	Pass
L13	102.75 - 102.5	Pole	TP33.224x33.172x0.375	Pole	54.2	Pass
L14	102.5 - 97.5	Pole	TP34.274x33.224x0.375	Pole	58.8	Pass
L15	97.5 - 92.5	Pole	TP35.324x34.274x0.375	Pole	62.9	Pass
L16	92.5 - 87.5	Pole	TP36.374x35.324x0.375	Pole	66.8	Pass
L17	87.5 - 87	Pole	TP37.67x36.374x0.375	Pole	67.1	Pass
L18	87 - 80.33	Pole	TP37.13x35.729x0.5	Pole	53.0	Pass
L19	80.33 - 75.33	Pole	TP38.18x37.13x0.5	Pole	54.8	Pass
L20	75.33 - 70.33	Pole	TP39.23x38.18x0.5	Pole	56.3	Pass
L21	70.33 - 67.75	Pole	TP39.771x39.23x0.5	Pole	57.0	Pass
L22	67.75 - 67.5	Pole + Reinf.	TP39.824x39.771x0.725	Reinf. 4 Tension Rupture	60.8	Pass
L23	67.5 - 62.5	Pole + Reinf.	TP40.874x39.824x0.7125	Reinf. 4 Tension Rupture	62.6	Pass
L24	62.5 - 57.5	Pole + Reinf.	TP41.924x40.874x0.7	Reinf. 4 Tension Rupture	64.3	Pass
L25	57.5 - 52.5	Pole + Reinf.	TP42.973x41.924x0.7	Reinf. 4 Tension Rupture	65.8	Pass
L26	52.5 - 48	Pole + Reinf.	TP45.3x42.973x0.7	Reinf. 4 Tension Rupture	67.1	Pass
L27	48 - 40.42	Pole + Reinf.	TP44.51x42.918x0.7625	Reinf. 4 Tension Rupture	66.0	Pass
L28	40.42 - 35.42	Pole + Reinf.	TP45.561x44.51x0.75	Reinf. 4 Tension Rupture	66.9	Pass
L29	35.42 - 30.5	Pole + Reinf.	TP46.594x45.561x0.75	Reinf. 4 Tension Rupture	67.8	Pass
L30	30.5 - 30.25	Pole + Reinf.	TP46.646x46.594x0.7375	Reinf. 2 Compression	60.6	Pass
L31	30.25 - 26.75	Pole + Reinf.	TP47.382x46.646x0.7375	Reinf. 2 Compression	61.1	Pass
L32	26.75 - 26.5	Pole + Reinf.	TP47.434x47.382x0.6	Pole	58.7	Pass
L33	26.5 - 26.25	Pole + Reinf.	TP47.487x47.434x0.6	Pole	58.7	Pass
L34	26.25 - 26	Pole	TP47.539x47.487x0.5625	Pole	60.0	Pass
L35	26 - 21	Pole	TP48.589x47.539x0.5625	Pole	60.7	Pass
L36	21 - 16	Pole	TP49.639x48.589x0.5625	Pole	61.4	Pass
L37	16 - 11	Pole	TP50.69x49.639x0.5625	Pole	62.0	Pass
L38	11 - 6	Pole	TP51.74x50.69x0.5625	Pole	62.6	Pass
L39	6 - 1	Pole	TP52.79x51.74x0.5625	Pole	63.1	Pass
L40	1 - 0.5	Pole	TP52.895x52.79x0.5625	Pole	63.2	Pass
L41	0.5 - 0.25	Pole + Reinf.	TP52.947x52.895x0.8125	Reinf. 6 Compression	55.6	Pass
L42	0.25 - 0	Pole	TP53x52.947x0.5625	Pole	63.2	Pass
					Summary	
				Pole	67.1	Pass
				Reinforcement	67.8	Pass
				Overall	67.8	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	58.2	Pass
1	Base Plate		44.0	Pass
1	Base Foundation (Structure)	0	53.8	Pass
1	Base Foundation (Soil Interaction)		36.4	Pass

Structure Rating (max from all components) =	67.8%*

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.
2) *Rating per TIA-222-H, Section 15.5.

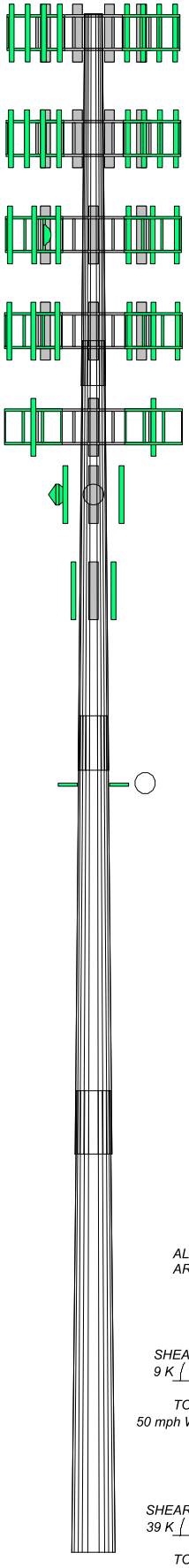
4.1) Recommendations

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
Length (ft)	38.67	44.67	45.58	48.00
Number of Sides	12	12	12	12
Thickness (in)	0.2500	0.3750	0.5000	0.5625
Socket Length (ft)	4.67	5.67	6.58	
Top Dia (in)	21.6500	28.2894	35.7293	42.9184
Bot Dia (in)	29.7700	37.6700	45.3000	53.0000
Grade	A572-65			
Weight (K)	2.7	6.0	10.0	14.0



MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 119 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 67.8%

ALL REACTIONS ARE FACTORED

AXIAL 100 K

SHEAR 9 K *MOMENT 1161 kip-ft*

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

AXIAL 71 K

SHEAR 39 K *MOMENT 4689 kip-ft*

TORQUE 1 kip-ft
REACTIONS - 119 mph WIND

Morrison Hershfield
Consulting Engineers
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
Phone: (770) 379-8500
FAX: (770) 379-8501

Job:	CN9-966R2 / 2200039		
Project:	806939 / NHV 2071 143137		
Client: Crown Castle USA	Drawn by: ANS	App'd:	
Code: TIA-222-H	Date: 04/27/22	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 New Haven County, Connecticut.
Tower base elevation above sea level: 191.00 ft.
Basic wind speed of 119 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
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	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	160.00-155.00	5.00	0.00	12	21.6500	22.6999	0.2500	1.0000	A572-65 (65 ksi)
L2	155.00-150.00	5.00	0.00	12	22.6999	23.7498	0.2500	1.0000	A572-65

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
L3	150.00-145.00	5.00	0.00	12	23.7498	24.7997	0.2500	1.0000	(65 ksi) A572-65 (65 ksi)
L4	145.00-140.00	5.00	0.00	12	24.7997	25.8496	0.2500	1.0000	A572-65 (65 ksi)
L5	140.00-135.00	5.00	0.00	12	25.8496	26.8995	0.2500	1.0000	A572-65 (65 ksi)
L6	135.00-130.00	5.00	0.00	12	26.8995	27.9495	0.2500	1.0000	A572-65 (65 ksi)
L7	130.00-121.33	8.67	4.67	12	27.9495	29.7700	0.2500	1.0000	A572-65 (65 ksi)
L8	121.33-121.00	5.00	0.00	12	28.2894	29.3394	0.3750	1.5000	A572-65 (65 ksi)
L9	121.00-116.00	5.00	0.00	12	29.3394	30.3894	0.3750	1.5000	A572-65 (65 ksi)
L10	116.00-111.00	5.00	0.00	12	30.3894	31.4394	0.3750	1.5000	A572-65 (65 ksi)
L11	111.00-106.00	5.00	0.00	12	31.4394	32.4893	0.3750	1.5000	A572-65 (65 ksi)
L12	106.00-102.75	3.25	0.00	12	32.4893	33.1718	0.3750	1.5000	A572-65 (65 ksi)
L13	102.75-102.50	0.25	0.00	12	33.1718	33.2243	0.3750	1.5000	A572-65 (65 ksi)
L14	102.50-97.50	5.00	0.00	12	33.2243	34.2743	0.3750	1.5000	A572-65 (65 ksi)
L15	97.50-92.50	5.00	0.00	12	34.2743	35.3243	0.3750	1.5000	A572-65 (65 ksi)
L16	92.50-87.50	5.00	0.00	12	35.3243	36.3743	0.3750	1.5000	A572-65 (65 ksi)
L17	87.50-81.33	6.17	5.67	12	36.3743	37.6700	0.3750	1.5000	A572-65 (65 ksi)
L18	81.33-80.33	6.67	0.00	12	35.7293	37.1298	0.5000	2.0000	A572-65 (65 ksi)
L19	80.33-75.33	5.00	0.00	12	37.1298	38.1797	0.5000	2.0000	A572-65 (65 ksi)
L20	75.33-70.33	5.00	0.00	12	38.1797	39.2296	0.5000	2.0000	A572-65 (65 ksi)
L21	70.33-67.75	2.58	0.00	12	39.2296	39.7713	0.5000	2.0000	A572-65 (65 ksi)
L22	67.75-67.50	0.25	0.00	12	39.7713	39.8238	0.7250	2.9000	A572-65 (65 ksi)
L23	67.50-62.50	5.00	0.00	12	39.8238	40.8737	0.7125	2.8500	A572-65 (65 ksi)
L24	62.50-57.50	5.00	0.00	12	40.8737	41.9236	0.7000	2.8000	A572-65 (65 ksi)
L25	57.50-52.50	5.00	0.00	12	41.9236	42.9735	0.7000	2.8000	A572-65 (65 ksi)
L26	52.50-41.42	11.08	6.58	12	42.9735	45.3000	0.7000	2.8000	A572-65 (65 ksi)
L27	41.42-40.42	7.58	0.00	12	42.9184	44.5104	0.7625	3.0500	A572-65 (65 ksi)
L28	40.42-35.42	5.00	0.00	12	44.5104	45.5606	0.7500	3.0000	A572-65 (65 ksi)
L29	35.42-30.50	4.92	0.00	12	45.5606	46.5940	0.7500	3.0000	A572-65 (65 ksi)
L30	30.50-30.25	0.25	0.00	12	46.5940	46.6465	0.7375	2.9500	A572-65 (65 ksi)
L31	30.25-26.75	3.50	0.00	12	46.6465	47.3816	0.7375	2.9500	A572-65 (65 ksi)
L32	26.75-26.50	0.25	0.00	12	47.3816	47.4341	0.6000	2.4000	A572-65 (65 ksi)
L33	26.50-26.25	0.25	0.00	12	47.4341	47.4866	0.6000	2.4000	A572-65 (65 ksi)
L34	26.25-26.00	0.25	0.00	12	47.4866	47.5391	0.5625	2.2500	A572-65 (65 ksi)
L35	26.00-21.00	5.00	0.00	12	47.5391	48.5893	0.5625	2.2500	A572-65 (65 ksi)
L36	21.00-16.00	5.00	0.00	12	48.5893	49.6395	0.5625	2.2500	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L37	16.00-11.00	5.00	0.00	12	49.6395	50.6896	0.5625	2.2500	A572-65 (65 ksi)
L38	11.00-6.00	5.00	0.00	12	50.6896	51.7398	0.5625	2.2500	A572-65 (65 ksi)
L39	6.00-1.00	5.00	0.00	12	51.7398	52.7900	0.5625	2.2500	A572-65 (65 ksi)
L40	1.00-0.50	0.50	0.00	12	52.7900	52.8950	0.5625	2.2500	A572-65 (65 ksi)
L41	0.50-0.25	0.25	0.00	12	52.8950	52.9475	0.8125	3.2500	A572-65 (65 ksi)
L42	0.25-0.00	0.25		12	52.9475	53.0000	0.5625	2.2500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	22.3255	17.2270	1006.9853	7.6612	11.2147	89.7916	2040.4253	8.4786	5.1322	20.529
	23.4125	18.0722	1162.5874	8.0371	11.7586	98.8716	2355.7173	8.8946	5.4136	21.654
L2	23.4125	18.0722	1162.5874	8.0371	11.7586	98.8716	2355.7173	8.8946	5.4136	21.654
	24.4994	18.9174	1333.4458	8.4129	12.3024	108.3890	2701.9228	9.3105	5.6950	22.78
L3	24.4994	18.9174	1333.4458	8.4129	12.3024	108.3890	2701.9228	9.3105	5.6950	22.78
	25.5864	19.7625	1520.2741	8.7888	12.8463	118.3437	3080.4876	9.7265	5.9763	23.905
L4	25.5864	19.7625	1520.2741	8.7888	12.8463	118.3437	3080.4876	9.7265	5.9763	23.905
	26.6733	20.6077	1723.7858	9.1647	13.3901	128.7357	3492.8574	10.1425	6.2577	25.031
L5	26.6733	20.6077	1723.7858	9.1647	13.3901	128.7357	3492.8574	10.1425	6.2577	25.031
	27.7603	21.4529	1944.6943	9.5405	13.9340	139.5650	3940.4779	10.5585	6.5391	26.156
L6	27.7603	21.4529	1944.6943	9.5405	13.9340	139.5650	3940.4779	10.5585	6.5391	26.156
	28.8472	22.2981	2183.7132	9.9164	14.4778	150.8316	4424.7949	10.9744	6.8205	27.282
L7	28.8472	22.2981	2183.7132	9.9164	14.4778	150.8316	4424.7949	10.9744	6.8205	27.282
	30.7320	23.7636	2643.2053	10.5682	15.4209	171.4045	5355.8505	11.6957	7.3084	29.233
L8	30.1703	33.7066	3352.4110	9.9933	14.6539	228.7726	6792.8936	16.5894	6.5766	17.537
	30.2421	34.9745	3745.1186	10.3692	15.1978	246.4251	7588.6257	17.2134	6.8580	18.288
L9	30.2421	34.9745	3745.1186	10.3692	15.1978	246.4251	7588.6257	17.2134	6.8580	18.288
	31.3291	36.2423	4167.3559	10.7451	15.7417	264.7337	8444.1929	17.8374	7.1393	19.038
L10	31.3291	36.2423	4167.3559	10.7451	15.7417	264.7337	8444.1929	17.8374	7.1393	19.038
	32.4161	37.5102	4620.1934	11.1210	16.2856	283.6983	9361.7645	18.4614	7.4207	19.789
L11	32.4161	37.5102	4620.1934	11.1210	16.2856	283.6983	9361.7645	18.4614	7.4207	19.789
	33.5032	38.7781	5104.7016	11.4969	16.8295	303.3190	10343.5095	19.0854	7.7021	20.539
L12	33.5032	38.7781	5104.7016	11.4969	16.8295	303.3190	10343.5095	19.0854	7.7021	20.539
	34.2097	39.6022	5437.1225	11.7413	17.1830	316.4243	11017.0842	19.4910	7.8851	21.027
L13	34.2097	39.6022	5437.1225	11.7413	17.1830	316.4243	11017.0842	19.4910	7.8851	21.027
	34.2641	39.6656	5463.2747	11.7601	17.2102	317.4438	11070.0757	19.5222	7.8991	21.064
L14	34.2641	39.6656	5463.2747	11.7601	17.2102	317.4438	11070.0757	19.5222	7.8991	21.064
	35.3511	40.9334	6004.0798	12.1360	17.7541	338.1798	12165.8935	20.1462	8.1805	21.815
L15	35.3511	40.9334	6004.0798	12.1360	17.7541	338.1798	12165.8935	20.1462	8.1805	21.815
	36.4381	42.2013	6579.4459	12.5119	18.2980	359.5719	13331.7412	20.7702	8.4619	22.565
L16	36.4381	42.2013	6579.4459	12.5119	18.2980	359.5719	13331.7412	20.7702	8.4619	22.565
	37.5252	43.4692	7190.4435	12.8878	18.8419	381.6200	14569.7880	21.3942	8.7433	23.316
L17	37.5252	43.4692	7190.4435	12.8878	18.8419	381.6200	14569.7880	21.3942	8.7433	23.316
	38.8666	45.0337	7995.1189	13.3516	19.5131	409.7317	16200.2784	22.1642	9.0906	24.241
L18	38.0459	56.7192	8985.1279	12.6121	18.5078	485.4783	18206.3052	27.9155	8.2355	16.471

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
	38.2633	58.9741	10099.9025	13.1135	19.2333	525.1269	20465.1407	29.0252	8.6108	17.222
L19	38.2633	58.9741	10099.9025	13.1135	19.2333	525.1269	20465.1407	29.0252	8.6108	17.222
	39.3502	60.6644	10993.4763	13.4893	19.7771	555.8690	22275.7636	29.8572	8.8922	17.784
L20	39.3502	60.6644	10993.4763	13.4893	19.7771	555.8690	22275.7636	29.8572	8.8922	17.784
	40.4371	62.3547	11938.2594	13.8652	20.3209	587.4857	24190.1502	30.6891	9.1735	18.347
L21	40.4371	62.3547	11938.2594	13.8652	20.3209	587.4857	24190.1502	30.6891	9.1735	18.347
	40.9979	63.2269	12446.2649	14.0591	20.6016	604.1420	25219.5071	31.1183	9.3187	18.637
L22	40.9186	91.1537	17738.6628	13.9786	20.6016	861.0351	35943.3400	44.8631	8.7157	12.022
	40.9729	91.2762	17810.3026	13.9974	20.6287	863.3730	36088.5017	44.9234	8.7298	12.041
L23	40.9773	89.7312	17520.0213	14.0019	20.6287	849.3013	35500.3130	44.1630	8.7633	12.299
	42.0642	92.1399	18969.1197	14.3777	21.1726	895.9284	38436.5793	45.3484	9.0447	12.694
L24	42.0686	90.5516	18653.7350	14.3822	21.1726	881.0325	37797.5244	44.5667	9.0782	12.969
	43.1556	92.9180	20154.7470	14.7580	21.7164	928.0879	40838.9816	45.7314	9.3595	13.371
L25	43.1556	92.9180	20154.7470	14.7580	21.7164	928.0879	40838.9816	45.7314	9.3595	13.371
	44.2425	95.2844	21734.1949	15.1339	22.2603	976.3676	44039.3712	46.8961	9.6409	13.773
L26	44.2425	95.2844	21734.1949	15.1339	22.2603	976.3676	44039.3712	46.8961	9.6409	13.773
	46.6511	100.5284	25523.7474	15.9668	23.4654	1087.7184	51718.0321	49.4770	10.2644	14.663
L27	45.5942	103.5032	23477.6996	15.0918	22.2317	1056.0456	47572.1845	50.9411	9.4586	12.405
	45.8116	107.4121	26239.3986	15.6618	23.0564	1138.0529	53168.1353	52.8650	9.8853	12.964
L28	45.8160	105.6814	25831.3741	15.6662	23.0564	1120.3560	52341.3671	52.0132	9.9188	13.225
	46.9032	108.2176	27736.0795	16.0422	23.6004	1175.2384	56200.8167	53.2614	10.2002	13.6
L29	46.9032	108.2176	27736.0795	16.0422	23.6004	1175.2384	56200.8167	53.2614	10.2002	13.6
	47.9730	110.7132	29699.5184	16.4121	24.1357	1230.5239	60179.2762	54.4896	10.4772	13.97
L30	47.9775	108.8976	29228.4220	16.4166	24.1357	1211.0052	59224.7072	53.5961	10.5107	14.252
	48.0318	109.0223	29328.9422	16.4354	24.1629	1213.8021	59428.3884	53.6575	10.5248	14.271
L31	48.0318	109.0223	29328.9422	16.4354	24.1629	1213.8021	59428.3884	53.6575	10.5248	14.271
	48.7929	110.7680	30760.5159	16.6986	24.5437	1253.2977	62329.1449	54.5167	10.7218	14.538
L32	48.8414	90.3820	25247.4722	16.7478	24.5437	1028.6759	51158.2236	44.4833	11.0903	18.484
	48.8957	90.4835	25332.5824	16.7666	24.5709	1031.0010	51330.6799	44.5332	11.1043	18.507
L33	48.8957	90.4835	25332.5824	16.7666	24.5709	1031.0010	51330.6799	44.5332	11.1043	18.507
	48.9501	90.5849	25417.8836	16.7854	24.5981	1033.3288	51503.5233	44.5831	11.1184	18.531
L34	48.9633	84.9913	23886.4877	16.7988	24.5981	971.0720	48400.5001	41.8301	11.2189	19.945
	49.0177	85.0864	23966.7651	16.8176	24.6253	973.2594	48563.1639	41.8769	11.2330	19.97
L35	49.0177	85.0864	23966.7651	16.8176	24.6253	973.2594	48563.1639	41.8769	11.2330	19.97
	50.1049	86.9885	25610.3097	17.1936	25.1692	1017.5238	51893.4308	42.8131	11.5144	20.47

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
L36	50.1049	86.9885	25610.3097	17.1936	25.1692	1017.5238	51893.4308	42.8131	11.5144	20.47
	51.1921	88.8906	27327.3258	17.5695	25.7132	1062.7727	55372.5708	43.7493	11.7959	20.97
L37	51.1921	88.8906	27327.3258	17.5695	25.7132	1062.7727	55372.5708	43.7493	11.7959	20.97
	52.2793	90.7928	29119.4199	17.9455	26.2572	1109.0060	59003.8394	44.6854	12.0773	21.471
L38	52.2793	90.7928	29119.4199	17.9455	26.2572	1109.0060	59003.8394	44.6854	12.0773	21.471
	53.3665	92.6949	30988.1987	18.3215	26.8012	1156.2237	62790.4918	45.6216	12.3588	21.971
L39	53.3665	92.6949	30988.1987	18.3215	26.8012	1156.2237	62790.4918	45.6216	12.3588	21.971
	54.4538	94.5970	32935.2686	18.6974	27.3452	1204.4259	66735.7834	46.5578	12.6402	22.471
L40	54.4538	94.5970	32935.2686	18.6974	27.3452	1204.4259	66735.7834	46.5578	12.6402	22.471
	54.5625	94.7872	33134.3435	18.7350	27.3996	1209.3002	67139.1630	46.6514	12.6684	22.522
L41	54.4743	136.2608	47178.0767	18.6455	27.3996	1721.8527	95595.5740	67.0634	11.9984	14.767
	54.5287	136.3982	47320.9126	18.6643	27.4268	1725.3530	95884.9983	67.1310	12.0124	14.785
L42	54.6168	94.8823	33234.1810	18.7538	27.4268	1211.7411	67341.4610	46.6982	12.6824	22.547
	54.6712	94.9774	33334.2189	18.7726	27.4540	1214.1844	67544.1649	46.7450	12.6965	22.572

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 160.00-155.00				1	1	1			
L2 155.00-150.00				1	1	1			
L3 150.00-145.00				1	1	1			
L4 145.00-140.00				1	1	1			
L5 140.00-135.00				1	1	1			
L6 135.00-130.00				1	1	1			
L7 130.00-121.33				1	1	1			
L8 121.33-121.00				1	1	1			
L9 121.00-116.00				1	1	1			
L10 116.00-111.00				1	1	1			
L11 111.00-106.00				1	1	1			
L12 106.00-102.75				1	1	1			
L13 102.75-102.50				1	1	1			
L14 102.50-97.50				1	1	1			
L15 97.50-92.50				1	1	1			
L16 92.50-87.50				1	1	1			
L17 87.50-81.33				1	1	1			

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
L18 81.33-80.33				1	1	1			
L19 80.33-75.33				1	1	1			
L20 75.33-70.33				1	1	1			
L21 70.33-67.75				1	1	1			
L22 67.75-67.50				1	1	0.961053			
L23 67.50-62.50				1	1	0.97039			
L24 62.50-57.50				1	1	0.980455			
L25 57.50-52.50				1	1	0.973845			
L26 52.50-41.42				1	1	0.96817			
L27 41.42-40.42				1	1	0.968333			
L28 40.42-35.42				1	1	0.978702			
L29 35.42-30.50				1	1	0.973547			
L30 30.50-30.25				1	1	0.960813			
L31 30.25-26.75				1	1	0.957691			
L32 26.75-26.50				1	1	1.14577			
L33 26.50-26.25				1	1	1.14553			
L34 26.25-26.00				1	1	1			
L35 26.00-21.00				1	1	1			
L36 21.00-16.00				1	1	1			
L37 16.00-11.00				1	1	1			
L38 11.00-6.00				1	1	1			
L39 6.00-1.00				1	1	1			
L40 1.00-0.50				1	1	1			
L41 0.50-0.25				1	1	1.01225			
L42 0.25-0.00				1	1	1			

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
Climbing Rungs	C	No	Surface Ar (CaAa)	160.00 - 0.00	1	1	-0.500 -0.400	0.7050		1.80
Safety Line 3/8	C	No	Surface Ar (CaAa)	160.00 - 0.00	1	1	-0.450 -0.450	0.3750		0.22
******										
CU12PSM9P6XXX(1-1/2)	B	No	Surface Ar (CaAa)	117.00 - 7.00	1	1	0.400 0.400	1.6000		2.35
EC4-50(1/2)	B	No	Surface Ar (CaAa)	107.00 - 7.00	3	3	-0.330 -0.260	0.6300		0.16
2" Conduit	B	No	Surface Ar (CaAa)	107.00 - 7.00	2	2	-0.250 -0.160	2.0000		2.80
******										

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
(Area) CCI-65FP-085125 (H)	A	No	Surface Af (CaAa)	30.50 - 0.00	1	1	0.000 0.000	8.5000	19.5000	0.00
(Area) CCI-65FP-085125 (H)	B	No	Surface Af (CaAa)	30.50 - 0.00	1	1	0.250 0.250	8.5000	19.5000	0.00
(Area) CCI-65FP-085125 (H)	C	No	Surface Af (CaAa)	30.50 - 0.00	1	1	0.250 0.250	8.5000	19.5000	0.00
(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	50.50 - 23.50	1	1	0.250 0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	B	No	Surface Af (CaAa)	50.50 - 30.50	1	1	0.250 0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	C	No	Surface Af (CaAa)	50.50 - 30.50	1	1	0.250 0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	75.50 - 50.50	1	1	0.250 0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	B	No	Surface Af (CaAa)	75.50 - 50.50	1	1	0.250 0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	C	No	Surface Af (CaAa)	75.50 - 50.50	1	1	0.250 0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-060100 (H)	A	No	Surface Af (CaAa)	104.75 - 84.75	1	1	0.500 0.500	6.0000	14.0000	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
******									
HJ7-50A(1-5/8)	A	No	No	Inside Pole	158.00 - 7.00	12	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.04 1.04 1.04
LDF4-50A(1/2)	A	No	No	Inside Pole	158.00 - 7.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.15 0.15 0.15
HB158-1-08U8-S8J18(1-5/8)	A	No	No	Inside Pole	158.00 - 7.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	1.30 1.30 1.30
******									
LDF6-50A(1-1/4)	C	No	No	Inside Pole	147.00 - 7.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.60 0.60 0.60
FB-L98B-034-XXX(3/8)	C	No	No	Inside Pole	147.00 - 7.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.06 0.06 0.06
***									
PWRT-606-S(7/8)	C	No	No	Inside Pole	147.00 - 7.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.89 0.89 0.89
PWRT-608-S(13/16)	C	No	No	Inside Pole	147.00 - 7.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.62 0.62 0.62
FB-L98B-034-XXX(3/8)	C	No	No	Inside Pole	147.00 - 7.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.06 0.06 0.06
******									
***									
HB158-21U6S24-xxM_TMO(1-5/8)	B	No	No	Inside Pole	137.00 - 7.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.50 2.50 2.50
******									
LDF4.5-50(5/8)	B	No	No	Inside Pole	137.00 - 7.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.15 0.15 0.15
******									

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
***									
HB158-21U6S24-xxM_TMO(1-5/8)	C	No	No	Inside Pole	127.00 - 4.00	3	No Ice	0.00	2.50
							1/2" Ice	0.00	2.50
							1" Ice	0.00	2.50
******									
HJ4.5-50(5/8)	B	No	No	Inside Pole	107.00 - 7.00	3	No Ice	0.00	0.40
							1/2" Ice	0.00	0.40
							1" Ice	0.00	0.40
******									
LDF5-50A(7/8)	C	No	No	Inside Pole	100.00 - 7.00	6	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
******									
LDF5-50A(7/8)	C	No	No	Inside Pole	80.00 - 7.00	1	No Ice	0.00	0.33
							1/2" Ice	0.00	0.33
							1" Ice	0.00	0.33
******									

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	160.00-155.00	A	0.000	0.000	0.000	0.000	0.04
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.540	0.000	0.01
L2	155.00-150.00	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.540	0.000	0.01
L3	150.00-145.00	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.540	0.000	0.03
L4	145.00-140.00	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.540	0.000	0.06
L5	140.00-135.00	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.540	0.000	0.06
L6	135.00-130.00	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.04
		C	0.000	0.000	0.540	0.000	0.06
L7	130.00-121.33	A	0.000	0.000	0.000	0.000	0.12
		B	0.000	0.000	0.000	0.000	0.07
		C	0.000	0.000	0.936	0.000	0.14
L8	121.33-121.00	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	0.036	0.000	0.01
L9	121.00-116.00	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.160	0.000	0.04
		C	0.000	0.000	0.540	0.000	0.09
L10	116.00-111.00	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.800	0.000	0.05
		C	0.000	0.000	0.540	0.000	0.09
L11	111.00-106.00	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	1.389	0.000	0.06
		C	0.000	0.000	0.540	0.000	0.09
L12	106.00-102.75	A	0.000	0.000	2.000	0.000	0.05
		B	0.000	0.000	2.434	0.000	0.06
		C	0.000	0.000	0.351	0.000	0.06
L13	102.75-102.50	A	0.000	0.000	0.250	0.000	0.00
		B	0.000	0.000	0.187	0.000	0.00
		C	0.000	0.000	0.027	0.000	0.00
L14	102.50-97.50	A	0.000	0.000	5.000	0.000	0.07
		B	0.000	0.000	3.745	0.000	0.09
		C	0.000	0.000	0.540	0.000	0.10

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
L15	97.50-92.50	A	0.000	0.000	5.000	0.000	0.07
		B	0.000	0.000	3.745	0.000	0.09
		C	0.000	0.000	0.540	0.000	0.10
L16	92.50-87.50	A	0.000	0.000	5.000	0.000	0.07
		B	0.000	0.000	3.745	0.000	0.09
		C	0.000	0.000	0.540	0.000	0.10
L17	87.50-81.33	A	0.000	0.000	2.750	0.000	0.09
		B	0.000	0.000	4.621	0.000	0.11
		C	0.000	0.000	0.666	0.000	0.13
L18	81.33-80.33	A	0.000	0.000	0.000	0.000	0.01
		B	0.000	0.000	0.749	0.000	0.02
		C	0.000	0.000	0.108	0.000	0.02
L19	80.33-75.33	A	0.000	0.000	0.184	0.000	0.07
		B	0.000	0.000	3.929	0.000	0.09
		C	0.000	0.000	0.724	0.000	0.11
L20	75.33-70.33	A	0.000	0.000	5.417	0.000	0.07
		B	0.000	0.000	9.162	0.000	0.09
		C	0.000	0.000	5.957	0.000	0.11
L21	70.33-67.75	A	0.000	0.000	2.795	0.000	0.04
		B	0.000	0.000	4.727	0.000	0.04
		C	0.000	0.000	3.074	0.000	0.05
L22	67.75-67.50	A	0.000	0.000	0.271	0.000	0.00
		B	0.000	0.000	0.458	0.000	0.00
		C	0.000	0.000	0.298	0.000	0.01
L23	67.50-62.50	A	0.000	0.000	5.417	0.000	0.07
		B	0.000	0.000	9.162	0.000	0.09
		C	0.000	0.000	5.957	0.000	0.11
L24	62.50-57.50	A	0.000	0.000	5.417	0.000	0.07
		B	0.000	0.000	9.162	0.000	0.09
		C	0.000	0.000	5.957	0.000	0.11
L25	57.50-52.50	A	0.000	0.000	5.417	0.000	0.07
		B	0.000	0.000	9.162	0.000	0.09
		C	0.000	0.000	5.957	0.000	0.11
L26	52.50-41.42	A	0.000	0.000	12.003	0.000	0.15
		B	0.000	0.000	20.302	0.000	0.19
		C	0.000	0.000	13.200	0.000	0.23
L27	41.42-40.42	A	0.000	0.000	1.083	0.000	0.01
		B	0.000	0.000	1.832	0.000	0.02
		C	0.000	0.000	1.191	0.000	0.02
L28	40.42-35.42	A	0.000	0.000	5.417	0.000	0.07
		B	0.000	0.000	9.162	0.000	0.09
		C	0.000	0.000	5.957	0.000	0.11
L29	35.42-30.50	A	0.000	0.000	5.330	0.000	0.07
		B	0.000	0.000	9.015	0.000	0.09
		C	0.000	0.000	5.861	0.000	0.10
L30	30.50-30.25	A	0.000	0.000	0.625	0.000	0.00
		B	0.000	0.000	0.541	0.000	0.00
		C	0.000	0.000	0.381	0.000	0.01
L31	30.25-26.75	A	0.000	0.000	8.750	0.000	0.05
		B	0.000	0.000	7.580	0.000	0.06
		C	0.000	0.000	5.336	0.000	0.07
L32	26.75-26.50	A	0.000	0.000	0.625	0.000	0.00
		B	0.000	0.000	0.541	0.000	0.00
		C	0.000	0.000	0.381	0.000	0.01
L33	26.50-26.25	A	0.000	0.000	0.625	0.000	0.00
		B	0.000	0.000	0.541	0.000	0.00
		C	0.000	0.000	0.381	0.000	0.01
L34	26.25-26.00	A	0.000	0.000	0.625	0.000	0.00
		B	0.000	0.000	0.541	0.000	0.00
		C	0.000	0.000	0.381	0.000	0.01
L35	26.00-21.00	A	0.000	0.000	9.792	0.000	0.07
		B	0.000	0.000	10.828	0.000	0.09
		C	0.000	0.000	7.623	0.000	0.11
L36	21.00-16.00	A	0.000	0.000	7.083	0.000	0.07
		B	0.000	0.000	10.828	0.000	0.09
		C	0.000	0.000	7.623	0.000	0.11
L37	16.00-11.00	A	0.000	0.000	7.083	0.000	0.07
		B	0.000	0.000	10.828	0.000	0.09
		C	0.000	0.000	7.623	0.000	0.11

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
L38	11.00-6.00	A	0.000	0.000	7.083	0.000	0.06
		B	0.000	0.000	10.079	0.000	0.07
		C	0.000	0.000	7.623	0.000	0.09
L39	6.00-1.00	A	0.000	0.000	7.083	0.000	0.00
		B	0.000	0.000	7.083	0.000	0.00
		C	0.000	0.000	7.623	0.000	0.03
L40	1.00-0.50	A	0.000	0.000	0.708	0.000	0.00
		B	0.000	0.000	0.708	0.000	0.00
		C	0.000	0.000	0.762	0.000	0.00
L41	0.50-0.25	A	0.000	0.000	0.354	0.000	0.00
		B	0.000	0.000	0.354	0.000	0.00
		C	0.000	0.000	0.381	0.000	0.00
L42	0.25-0.00	A	0.000	0.000	0.354	0.000	0.00
		B	0.000	0.000	0.354	0.000	0.00
		C	0.000	0.000	0.381	0.000	0.00

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	160.00-155.00	A	0.994	0.000	0.000	0.000	0.000	0.04
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	2.528	0.000	0.03
L2	155.00-150.00	A	0.991	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	2.521	0.000	0.03
L3	150.00-145.00	A	0.987	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	2.515	0.000	0.05
L4	145.00-140.00	A	0.984	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	2.508	0.000	0.07
L5	140.00-135.00	A	0.980	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	0.000	0.000	0.02
		C		0.000	0.000	2.501	0.000	0.07
L6	135.00-130.00	A	0.977	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	0.000	0.000	0.04
		C		0.000	0.000	2.494	0.000	0.07
L7	130.00-121.33	A	0.972	0.000	0.000	0.000	0.000	0.12
		B		0.000	0.000	0.000	0.000	0.07
		C		0.000	0.000	4.306	0.000	0.17
L8	121.33-121.00	A	0.968	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	0.164	0.000	0.01
L9	121.00-116.00	A	0.966	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	0.353	0.000	0.04
		C		0.000	0.000	2.472	0.000	0.11
L10	116.00-111.00	A	0.962	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	1.762	0.000	0.07
		C		0.000	0.000	2.463	0.000	0.11
L11	111.00-106.00	A	0.957	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	2.972	0.000	0.08
		C		0.000	0.000	2.455	0.000	0.11
L12	106.00-102.75	A	0.954	0.000	0.000	2.381	0.000	0.06
		B		0.000	0.000	5.083	0.000	0.09
		C		0.000	0.000	1.591	0.000	0.07
L13	102.75-102.50	A	0.952	0.000	0.000	0.298	0.000	0.01
		B		0.000	0.000	0.391	0.000	0.01
		C		0.000	0.000	0.122	0.000	0.01
L14	102.50-97.50	A	0.950	0.000	0.000	5.950	0.000	0.10
		B		0.000	0.000	7.805	0.000	0.14
		C		0.000	0.000	2.439	0.000	0.12
L15	97.50-92.50	A	0.945	0.000	0.000	5.945	0.000	0.10
		B		0.000	0.000	7.788	0.000	0.14
		C		0.000	0.000	2.430	0.000	0.12

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
L16	92.50-87.50	A	0.940	0.000	0.000	5.940	0.000	0.10
		B		0.000	0.000	7.770	0.000	0.14
		C		0.000	0.000	2.419	0.000	0.12
L17	87.50-81.33	A	0.934	0.000	0.000	3.264	0.000	0.10
		B		0.000	0.000	9.562	0.000	0.17
		C		0.000	0.000	2.971	0.000	0.15
L18	81.33-80.33	A	0.930	0.000	0.000	0.000	0.000	0.01
		B		0.000	0.000	1.550	0.000	0.03
		C		0.000	0.000	0.481	0.000	0.02
L19	80.33-75.33	A	0.926	0.000	0.000	0.216	0.000	0.07
		B		0.000	0.000	7.938	0.000	0.14
		C		0.000	0.000	2.608	0.000	0.12
L20	75.33-70.33	A	0.920	0.000	0.000	6.337	0.000	0.10
		B		0.000	0.000	14.038	0.000	0.17
		C		0.000	0.000	8.717	0.000	0.16
L21	70.33-67.75	A	0.915	0.000	0.000	3.267	0.000	0.05
		B		0.000	0.000	7.232	0.000	0.09
		C		0.000	0.000	4.490	0.000	0.08
L22	67.75-67.50	A	0.913	0.000	0.000	0.316	0.000	0.01
		B		0.000	0.000	0.700	0.000	0.01
		C		0.000	0.000	0.435	0.000	0.01
L23	67.50-62.50	A	0.910	0.000	0.000	6.326	0.000	0.10
		B		0.000	0.000	13.991	0.000	0.17
		C		0.000	0.000	8.685	0.000	0.16
L24	62.50-57.50	A	0.902	0.000	0.000	6.319	0.000	0.10
		B		0.000	0.000	13.958	0.000	0.17
		C		0.000	0.000	8.664	0.000	0.15
L25	57.50-52.50	A	0.895	0.000	0.000	6.311	0.000	0.10
		B		0.000	0.000	13.923	0.000	0.17
		C		0.000	0.000	8.640	0.000	0.15
L26	52.50-41.42	A	0.880	0.000	0.000	13.954	0.000	0.23
		B		0.000	0.000	30.713	0.000	0.37
		C		0.000	0.000	19.053	0.000	0.34
L27	41.42-40.42	A	0.868	0.000	0.000	1.259	0.000	0.02
		B		0.000	0.000	2.772	0.000	0.03
		C		0.000	0.000	1.720	0.000	0.03
L28	40.42-35.42	A	0.862	0.000	0.000	6.279	0.000	0.10
		B		0.000	0.000	13.776	0.000	0.17
		C		0.000	0.000	8.542	0.000	0.15
L29	35.42-30.50	A	0.850	0.000	0.000	6.166	0.000	0.10
		B		0.000	0.000	13.503	0.000	0.16
		C		0.000	0.000	8.370	0.000	0.15
L30	30.50-30.25	A	0.843	0.000	0.000	0.709	0.000	0.01
		B		0.000	0.000	0.768	0.000	0.01
		C		0.000	0.000	0.508	0.000	0.01
L31	30.25-26.75	A	0.838	0.000	0.000	9.923	0.000	0.10
		B		0.000	0.000	10.734	0.000	0.12
		C		0.000	0.000	7.095	0.000	0.11
L32	26.75-26.50	A	0.832	0.000	0.000	0.708	0.000	0.01
		B		0.000	0.000	0.765	0.000	0.01
		C		0.000	0.000	0.506	0.000	0.01
L33	26.50-26.25	A	0.831	0.000	0.000	0.708	0.000	0.01
		B		0.000	0.000	0.765	0.000	0.01
		C		0.000	0.000	0.506	0.000	0.01
L34	26.25-26.00	A	0.830	0.000	0.000	0.708	0.000	0.01
		B		0.000	0.000	0.765	0.000	0.01
		C		0.000	0.000	0.506	0.000	0.01
L35	26.00-21.00	A	0.822	0.000	0.000	11.024	0.000	0.12
		B		0.000	0.000	15.262	0.000	0.17
		C		0.000	0.000	10.088	0.000	0.16
L36	21.00-16.00	A	0.802	0.000	0.000	7.885	0.000	0.10
		B		0.000	0.000	15.174	0.000	0.17
		C		0.000	0.000	10.030	0.000	0.15
L37	16.00-11.00	A	0.777	0.000	0.000	7.861	0.000	0.10
		B		0.000	0.000	15.062	0.000	0.16
		C		0.000	0.000	9.955	0.000	0.15
L38	11.00-6.00	A	0.742	0.000	0.000	7.825	0.000	0.09
		B		0.000	0.000	13.488	0.000	0.13
		C		0.000	0.000	9.850	0.000	0.14

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
L39	6.00-1.00	A	0.679	0.000	0.000	7.762	0.000	0.03
		B		0.000	0.000	7.762	0.000	0.03
		C		0.000	0.000	9.660	0.000	0.06
L40	1.00-0.50	A	0.582	0.000	0.000	0.767	0.000	0.00
		B		0.000	0.000	0.767	0.000	0.00
		C		0.000	0.000	0.937	0.000	0.00
L41	0.50-0.25	A	0.543	0.000	0.000	0.381	0.000	0.00
		B		0.000	0.000	0.381	0.000	0.00
		C		0.000	0.000	0.463	0.000	0.00
L42	0.25-0.00	A	0.487	0.000	0.000	0.379	0.000	0.00
		B		0.000	0.000	0.379	0.000	0.00
		C		0.000	0.000	0.454	0.000	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	160.00-155.00	0.5184	0.3766	1.5536	1.1287
L2	155.00-150.00	0.5190	0.3771	1.5654	1.1373
L3	150.00-145.00	0.5196	0.3775	1.5759	1.1450
L4	145.00-140.00	0.5201	0.3779	1.5854	1.1518
L5	140.00-135.00	0.5206	0.3783	1.5938	1.1580
L6	135.00-130.00	0.5211	0.3786	1.6012	1.1634
L7	130.00-121.33	0.5217	0.3790	1.6099	1.1697
L8	121.33-121.00	0.5226	0.3797	1.6163	1.1743
L9	121.00-116.00	0.7045	0.4362	1.8644	1.2425
L10	116.00-111.00	1.3794	0.6462	2.7739	1.4975
L11	111.00-106.00	1.6802	0.0583	2.9980	0.6367
L12	106.00-102.75	4.7134	-4.1157	4.9085	-3.2754
L13	102.75-102.50	5.7213	-5.2133	5.6254	-4.1122
L14	102.50-97.50	5.7578	-5.2449	5.6729	-4.1479
L15	97.50-92.50	5.8256	-5.3036	5.7612	-4.2143
L16	92.50-87.50	5.8908	-5.3602	5.8464	-4.2789
L17	87.50-81.33	4.3347	-3.6615	4.8019	-3.0261
L18	81.33-80.33	2.7297	-1.9210	3.7576	-1.8041
L19	80.33-75.33	2.6630	-1.8739	3.7044	-1.7829
L20	75.33-70.33	1.5205	-1.0698	2.4652	-1.1887
L21	70.33-67.75	1.5368	-1.0811	2.4909	-1.2029
L22	67.75-67.50	1.5441	-1.0863	2.5021	-1.2090
L23	67.50-62.50	1.5551	-1.0939	2.5191	-1.2186
L24	62.50-57.50	1.5757	-1.1083	2.5504	-1.2366
L25	57.50-52.50	1.5960	-1.1224	2.5803	-1.2543
L26	52.50-41.42	1.6276	-1.1444	2.6247	-1.2819
L27	41.42-40.42	1.6329	-1.1481	2.6348	-1.2868
L28	40.42-35.42	1.6442	-1.1560	2.6366	-1.2964
L29	35.42-30.50	1.6628	-1.1690	2.6581	-1.3125
L30	30.50-30.25	-1.5532	-1.7414	-0.1318	-1.8439
L31	30.25-26.75	-1.5611	-1.7500	-0.1383	-1.8531
L32	26.75-26.50	-1.5683	-1.7578	-0.1451	-1.8615
L33	26.50-26.25	-1.5693	-1.7589	-0.1460	-1.8627
L34	26.25-26.00	-1.5702	-1.7599	-0.1469	-1.8637
L35	26.00-21.00	-1.5612	-0.3153	-0.0733	-0.6588
L36	21.00-16.00	-1.5590	1.3140	-0.0055	0.6775
L37	16.00-11.00	-1.5777	1.3296	-0.0369	0.6904
L38	11.00-6.00	-1.8917	1.6277	-0.4622	1.0969
L39	6.00-1.00	-3.1992	2.8759	-2.3345	2.9572
L40	1.00-0.50	-3.2165	2.8914	-2.4130	2.9173
L41	0.50-0.25	-3.2215	2.8958	-2.4438	2.8991
L42	0.25-0.00	-3.2205	2.8949	-2.4826	2.8647

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
L1	1	Climbing Rungs	155.00 - 160.00	1.0000	1.0000
L1	2	Safety Line 3/8	155.00 - 160.00	1.0000	1.0000
L2	1	Climbing Rungs	150.00 - 155.00	1.0000	1.0000
L2	2	Safety Line 3/8	150.00 - 155.00	1.0000	1.0000
L3	1	Climbing Rungs	145.00 - 150.00	1.0000	1.0000
L3	2	Safety Line 3/8	145.00 - 150.00	1.0000	1.0000
L4	1	Climbing Rungs	140.00 - 145.00	1.0000	1.0000
L4	2	Safety Line 3/8	140.00 - 145.00	1.0000	1.0000
L5	1	Climbing Rungs	135.00 - 140.00	1.0000	1.0000
L5	2	Safety Line 3/8	135.00 - 140.00	1.0000	1.0000
L6	1	Climbing Rungs	130.00 - 135.00	1.0000	1.0000
L6	2	Safety Line 3/8	130.00 - 135.00	1.0000	1.0000
L7	1	Climbing Rungs	121.33 - 130.00	1.0000	1.0000
L7	2	Safety Line 3/8	121.33 - 130.00	1.0000	1.0000
L8	1	Climbing Rungs	121.00 - 121.33	1.0000	1.0000
L8	2	Safety Line 3/8	121.00 - 121.33	1.0000	1.0000
L9	1	Climbing Rungs	116.00 - 121.00	1.0000	1.0000
L9	2	Safety Line 3/8	116.00 - 121.00	1.0000	1.0000
L9	32	CU12PSM9P6XXX(1-1/2)	116.00 - 117.00	1.0000	1.0000
L10	1	Climbing Rungs	111.00 - 116.00	1.0000	1.0000
L10	2	Safety Line 3/8	111.00 - 116.00	1.0000	1.0000
L10	32	CU12PSM9P6XXX(1-1/2)	111.00 - 116.00	1.0000	1.0000
L11	1	Climbing Rungs	106.00 - 111.00	1.0000	1.0000
L11	2	Safety Line 3/8	106.00 - 111.00	1.0000	1.0000
L11	32	CU12PSM9P6XXX(1-1/2)	106.00 - 111.00	1.0000	1.0000
L11	35	EC4-50(1/2)	106.00 - 107.00	1.0000	1.0000
L11	36	2" Conduit	106.00 - 107.00	1.0000	1.0000
L12	1	Climbing Rungs	102.75 - 106.00	1.0000	1.0000
L12	2	Safety Line 3/8	102.75 - 106.00	1.0000	1.0000
L12	32	CU12PSM9P6XXX(1-1/2)	102.75 - 106.00	1.0000	1.0000
L12	35	EC4-50(1/2)	102.75 - 106.00	1.0000	1.0000
L12	36	2" Conduit	102.75 - 106.00	1.0000	1.0000
L12	51	(Area) CCI-65FP-060100 (H)	102.75 - 104.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L13	1	Climbing Rungs	102.50 - 102.75	1.0000	1.0000
L13	2	Safety Line 3/8	102.50 - 102.75	1.0000	1.0000
L13	32	CU12PSM9P6XXX(1-1/2)	102.50 - 102.75	1.0000	1.0000
L13	35	EC4-50(1/2)	102.50 - 102.75	1.0000	1.0000
L13	36	2" Conduit	102.50 - 102.75	1.0000	1.0000
L13	51	(Area) CCI-65FP-060100 (H)	102.50 - 102.75	1.0000	1.0000
L14	1	Climbing Rungs	97.50 - 102.50	1.0000	1.0000
L14	2	Safety Line 3/8	97.50 - 102.50	1.0000	1.0000
L14	32	CU12PSM9P6XXX(1-1/2)	97.50 - 102.50	1.0000	1.0000
L14	35	EC4-50(1/2)	97.50 - 102.50	1.0000	1.0000
L14	36	2" Conduit	97.50 - 102.50	1.0000	1.0000
L14	51	(Area) CCI-65FP-060100 (H)	97.50 - 102.50	1.0000	1.0000
L15	1	Climbing Rungs	92.50 - 97.50	1.0000	1.0000
L15	2	Safety Line 3/8	92.50 - 97.50	1.0000	1.0000
L15	32	CU12PSM9P6XXX(1-1/2)	92.50 - 97.50	1.0000	1.0000
L15	35	EC4-50(1/2)	92.50 - 97.50	1.0000	1.0000
L15	36	2" Conduit	92.50 - 97.50	1.0000	1.0000
L15	51	(Area) CCI-65FP-060100 (H)	92.50 - 97.50	1.0000	1.0000
L16	1	Climbing Rungs	87.50 - 92.50	1.0000	1.0000
L16	2	Safety Line 3/8	87.50 - 92.50	1.0000	1.0000
L16	32	CU12PSM9P6XXX(1-1/2)	87.50 - 92.50	1.0000	1.0000
L16	35	EC4-50(1/2)	87.50 - 92.50	1.0000	1.0000
L16	36	2" Conduit	87.50 - 92.50	1.0000	1.0000
L16	51	(Area) CCI-65FP-060100 (H)	87.50 - 92.50	1.0000	1.0000
L17	1	Climbing Rungs	81.33 - 87.50	1.0000	1.0000
L17	2	Safety Line 3/8	81.33 - 87.50	1.0000	1.0000
L17	32	CU12PSM9P6XXX(1-1/2)	81.33 - 87.50	1.0000	1.0000
L17	35	EC4-50(1/2)	81.33 - 87.50	1.0000	1.0000
L17	36	2" Conduit	81.33 - 87.50	1.0000	1.0000
L17	51	(Area) CCI-65FP-060100 (H)	84.75 - 87.50	1.0000	1.0000
L18	1	Climbing Rungs	80.33 - 81.33	1.0000	1.0000
L18	2	Safety Line 3/8	80.33 - 81.33	1.0000	1.0000
L18	32	CU12PSM9P6XXX(1-1/2)	80.33 - 81.33	1.0000	1.0000
L18	35	EC4-50(1/2)	80.33 - 81.33	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L18	36	2" Conduit	80.33 - 81.33	1.0000	1.0000
L19	1	Climbing Rungs	75.33 - 80.33	1.0000	1.0000
L19	2	Safety Line 3/8	75.33 - 80.33	1.0000	1.0000
L19	32	CU12PSM9P6XXX(1-1/2)	75.33 - 80.33	1.0000	1.0000
L19	35	EC4-50(1/2)	75.33 - 80.33	1.0000	1.0000
L19	36	2" Conduit	75.33 - 80.33	1.0000	1.0000
L19	48	(Area) CCI-65FP-065125 (H)	75.33 - 75.50	1.0000	1.0000
L19	49	(Area) CCI-65FP-065125 (H)	75.33 - 75.50	1.0000	1.0000
L19	50	(Area) CCI-65FP-065125 (H)	75.33 - 75.50	1.0000	1.0000
L20	1	Climbing Rungs	70.33 - 75.33	1.0000	1.0000
L20	2	Safety Line 3/8	70.33 - 75.33	1.0000	1.0000
L20	32	CU12PSM9P6XXX(1-1/2)	70.33 - 75.33	1.0000	1.0000
L20	35	EC4-50(1/2)	70.33 - 75.33	1.0000	1.0000
L20	36	2" Conduit	70.33 - 75.33	1.0000	1.0000
L20	48	(Area) CCI-65FP-065125 (H)	70.33 - 75.33	1.0000	1.0000
L20	49	(Area) CCI-65FP-065125 (H)	70.33 - 75.33	1.0000	1.0000
L20	50	(Area) CCI-65FP-065125 (H)	70.33 - 75.33	1.0000	1.0000
L21	1	Climbing Rungs	67.75 - 70.33	1.0000	1.0000
L21	2	Safety Line 3/8	67.75 - 70.33	1.0000	1.0000
L21	32	CU12PSM9P6XXX(1-1/2)	67.75 - 70.33	1.0000	1.0000
L21	35	EC4-50(1/2)	67.75 - 70.33	1.0000	1.0000
L21	36	2" Conduit	67.75 - 70.33	1.0000	1.0000
L21	48	(Area) CCI-65FP-065125 (H)	67.75 - 70.33	1.0000	1.0000
L21	49	(Area) CCI-65FP-065125 (H)	67.75 - 70.33	1.0000	1.0000
L21	50	(Area) CCI-65FP-065125 (H)	67.75 - 70.33	1.0000	1.0000
L22	1	Climbing Rungs	67.50 - 67.75	1.0000	1.0000
L22	2	Safety Line 3/8	67.50 - 67.75	1.0000	1.0000
L22	32	CU12PSM9P6XXX(1-1/2)	67.50 - 67.75	1.0000	1.0000
L22	35	EC4-50(1/2)	67.50 - 67.75	1.0000	1.0000
L22	36	2" Conduit	67.50 - 67.75	1.0000	1.0000
L22	48	(Area) CCI-65FP-065125 (H)	67.50 - 67.75	1.0000	1.0000
L22	49	(Area) CCI-65FP-065125 (H)	67.50 - 67.75	1.0000	1.0000
L22	50	(Area) CCI-65FP-065125 (H)	67.50 - 67.75	1.0000	1.0000
L23	1	Climbing Rungs	62.50 - 67.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L23	2	Safety Line 3/8	62.50 - 67.50	1.0000	1.0000
L23	32	CU12PSM9P6XXX(1-1/2)	62.50 - 67.50	1.0000	1.0000
L23	35	EC4-50(1/2)	62.50 - 67.50	1.0000	1.0000
L23	36	2" Conduit	62.50 - 67.50	1.0000	1.0000
L23	48	(Area) CCI-65FP-065125 (H)	62.50 - 67.50	1.0000	1.0000
L23	49	(Area) CCI-65FP-065125 (H)	62.50 - 67.50	1.0000	1.0000
L23	50	(Area) CCI-65FP-065125 (H)	62.50 - 67.50	1.0000	1.0000
L24	1	Climbing Rungs	57.50 - 62.50	1.0000	1.0000
L24	2	Safety Line 3/8	57.50 - 62.50	1.0000	1.0000
L24	32	CU12PSM9P6XXX(1-1/2)	57.50 - 62.50	1.0000	1.0000
L24	35	EC4-50(1/2)	57.50 - 62.50	1.0000	1.0000
L24	36	2" Conduit	57.50 - 62.50	1.0000	1.0000
L24	48	(Area) CCI-65FP-065125 (H)	57.50 - 62.50	1.0000	1.0000
L24	49	(Area) CCI-65FP-065125 (H)	57.50 - 62.50	1.0000	1.0000
L24	50	(Area) CCI-65FP-065125 (H)	57.50 - 62.50	1.0000	1.0000
L25	1	Climbing Rungs	52.50 - 57.50	1.0000	1.0000
L25	2	Safety Line 3/8	52.50 - 57.50	1.0000	1.0000
L25	32	CU12PSM9P6XXX(1-1/2)	52.50 - 57.50	1.0000	1.0000
L25	35	EC4-50(1/2)	52.50 - 57.50	1.0000	1.0000
L25	36	2" Conduit	52.50 - 57.50	1.0000	1.0000
L25	48	(Area) CCI-65FP-065125 (H)	52.50 - 57.50	1.0000	1.0000
L25	49	(Area) CCI-65FP-065125 (H)	52.50 - 57.50	1.0000	1.0000
L25	50	(Area) CCI-65FP-065125 (H)	52.50 - 57.50	1.0000	1.0000
L26	1	Climbing Rungs	41.42 - 52.50	1.0000	1.0000
L26	2	Safety Line 3/8	41.42 - 52.50	1.0000	1.0000
L26	32	CU12PSM9P6XXX(1-1/2)	41.42 - 52.50	1.0000	1.0000
L26	35	EC4-50(1/2)	41.42 - 52.50	1.0000	1.0000
L26	36	2" Conduit	41.42 - 52.50	1.0000	1.0000
L26	45	(Area) CCI-65FP-065125 (H)	41.42 - 50.50	1.0000	1.0000
L26	46	(Area) CCI-65FP-065125 (H)	41.42 - 50.50	1.0000	1.0000
L26	47	(Area) CCI-65FP-065125 (H)	41.42 - 50.50	1.0000	1.0000
L26	48	(Area) CCI-65FP-065125 (H)	50.50 - 52.50	1.0000	1.0000
L26	49	(Area) CCI-65FP-065125 (H)	50.50 - 52.50	1.0000	1.0000
L26	50	(Area) CCI-65FP-065125 (H)	50.50 - 52.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L27	1	Climbing Rungs	40.42 - 41.42	1.0000	1.0000
L27	2	Safety Line 3/8	40.42 - 41.42	1.0000	1.0000
L27	32	CU12PSM9P6XXX(1-1/2)	40.42 - 41.42	1.0000	1.0000
L27	35	EC4-50(1/2)	40.42 - 41.42	1.0000	1.0000
L27	36	2" Conduit	40.42 - 41.42	1.0000	1.0000
L27	45	(Area) CCI-65FP-065125 (H)	40.42 - 41.42	1.0000	1.0000
L27	46	(Area) CCI-65FP-065125 (H)	40.42 - 41.42	1.0000	1.0000
L27	47	(Area) CCI-65FP-065125 (H)	40.42 - 41.42	1.0000	1.0000
L28	1	Climbing Rungs	35.42 - 40.42	1.0000	1.0000
L28	2	Safety Line 3/8	35.42 - 40.42	1.0000	1.0000
L28	32	CU12PSM9P6XXX(1-1/2)	35.42 - 40.42	1.0000	1.0000
L28	35	EC4-50(1/2)	35.42 - 40.42	1.0000	1.0000
L28	36	2" Conduit	35.42 - 40.42	1.0000	1.0000
L28	45	(Area) CCI-65FP-065125 (H)	35.42 - 40.42	1.0000	1.0000
L28	46	(Area) CCI-65FP-065125 (H)	35.42 - 40.42	1.0000	1.0000
L28	47	(Area) CCI-65FP-065125 (H)	35.42 - 40.42	1.0000	1.0000
L29	1	Climbing Rungs	30.50 - 35.42	1.0000	1.0000
L29	2	Safety Line 3/8	30.50 - 35.42	1.0000	1.0000
L29	32	CU12PSM9P6XXX(1-1/2)	30.50 - 35.42	1.0000	1.0000
L29	35	EC4-50(1/2)	30.50 - 35.42	1.0000	1.0000
L29	36	2" Conduit	30.50 - 35.42	1.0000	1.0000
L29	45	(Area) CCI-65FP-065125 (H)	30.50 - 35.42	1.0000	1.0000
L29	46	(Area) CCI-65FP-065125 (H)	30.50 - 35.42	1.0000	1.0000
L29	47	(Area) CCI-65FP-065125 (H)	30.50 - 35.42	1.0000	1.0000
L30	1	Climbing Rungs	30.25 - 30.50	1.0000	1.0000
L30	2	Safety Line 3/8	30.25 - 30.50	1.0000	1.0000
L30	32	CU12PSM9P6XXX(1-1/2)	30.25 - 30.50	1.0000	1.0000
L30	35	EC4-50(1/2)	30.25 - 30.50	1.0000	1.0000
L30	36	2" Conduit	30.25 - 30.50	1.0000	1.0000
L30	42	(Area) CCI-65FP-085125 (H)	30.25 - 30.50	1.0000	1.0000
L30	43	(Area) CCI-65FP-085125 (H)	30.25 - 30.50	1.0000	1.0000
L30	44	(Area) CCI-65FP-085125 (H)	30.25 - 30.50	1.0000	1.0000
L30	45	(Area) CCI-65FP-065125 (H)	30.25 - 30.50	1.0000	1.0000
L31	1	Climbing Rungs	26.75 - 30.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L31	2	Safety Line 3/8	26.75 - 30.25	1.0000	1.0000
L31	32	CU12PSM9P6XXX(1-1/2)	26.75 - 30.25	1.0000	1.0000
L31	35	EC4-50(1/2)	26.75 - 30.25	1.0000	1.0000
L31	36	2" Conduit	26.75 - 30.25	1.0000	1.0000
L31	42	(Area) CCI-65FP-085125 (H)	26.75 - 30.25	1.0000	1.0000
L31	43	(Area) CCI-65FP-085125 (H)	26.75 - 30.25	1.0000	1.0000
L31	44	(Area) CCI-65FP-085125 (H)	26.75 - 30.25	1.0000	1.0000
L31	45	(Area) CCI-65FP-065125 (H)	26.75 - 30.25	1.0000	1.0000
L32	1	Climbing Rungs	26.50 - 26.75	1.0000	1.0000
L32	2	Safety Line 3/8	26.50 - 26.75	1.0000	1.0000
L32	32	CU12PSM9P6XXX(1-1/2)	26.50 - 26.75	1.0000	1.0000
L32	35	EC4-50(1/2)	26.50 - 26.75	1.0000	1.0000
L32	36	2" Conduit	26.50 - 26.75	1.0000	1.0000
L32	42	(Area) CCI-65FP-085125 (H)	26.50 - 26.75	1.0000	1.0000
L32	43	(Area) CCI-65FP-085125 (H)	26.50 - 26.75	1.0000	1.0000
L32	44	(Area) CCI-65FP-085125 (H)	26.50 - 26.75	1.0000	1.0000
L32	45	(Area) CCI-65FP-065125 (H)	26.50 - 26.75	1.0000	1.0000
L33	1	Climbing Rungs	26.25 - 26.50	1.0000	1.0000
L33	2	Safety Line 3/8	26.25 - 26.50	1.0000	1.0000
L33	32	CU12PSM9P6XXX(1-1/2)	26.25 - 26.50	1.0000	1.0000
L33	35	EC4-50(1/2)	26.25 - 26.50	1.0000	1.0000
L33	36	2" Conduit	26.25 - 26.50	1.0000	1.0000
L33	42	(Area) CCI-65FP-085125 (H)	26.25 - 26.50	1.0000	1.0000
L33	43	(Area) CCI-65FP-085125 (H)	26.25 - 26.50	1.0000	1.0000
L33	44	(Area) CCI-65FP-085125 (H)	26.25 - 26.50	1.0000	1.0000
L33	45	(Area) CCI-65FP-065125 (H)	26.25 - 26.50	1.0000	1.0000
L34	1	Climbing Rungs	26.00 - 26.25	1.0000	1.0000
L34	2	Safety Line 3/8	26.00 - 26.25	1.0000	1.0000
L34	32	CU12PSM9P6XXX(1-1/2)	26.00 - 26.25	1.0000	1.0000
L34	35	EC4-50(1/2)	26.00 - 26.25	1.0000	1.0000
L34	36	2" Conduit	26.00 - 26.25	1.0000	1.0000
L34	42	(Area) CCI-65FP-085125 (H)	26.00 - 26.25	1.0000	1.0000
L34	43	(Area) CCI-65FP-085125 (H)	26.00 - 26.25	1.0000	1.0000
L34	44	(Area) CCI-65FP-085125 (H)	26.00 - 26.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L34	45	(Area) CCI-65FP-065125 (H)	26.00 - 26.25	1.0000	1.0000
L35	1	Climbing Rungs	21.00 - 26.00	1.0000	1.0000
L35	2	Safety Line 3/8	21.00 - 26.00	1.0000	1.0000
L35	32	CU12PSM9P6XXX(1-1/2)	21.00 - 26.00	1.0000	1.0000
L35	35	EC4-50(1/2)	21.00 - 26.00	1.0000	1.0000
L35	36	2" Conduit	21.00 - 26.00	1.0000	1.0000
L35	42	(Area) CCI-65FP-085125 (H)	21.00 - 26.00	1.0000	1.0000
L35	43	(Area) CCI-65FP-085125 (H)	21.00 - 26.00	1.0000	1.0000
L35	44	(Area) CCI-65FP-085125 (H)	21.00 - 26.00	1.0000	1.0000
L35	45	(Area) CCI-65FP-065125 (H)	23.50 - 26.00	1.0000	1.0000
L36	1	Climbing Rungs	16.00 - 21.00	1.0000	1.0000
L36	2	Safety Line 3/8	16.00 - 21.00	1.0000	1.0000
L36	32	CU12PSM9P6XXX(1-1/2)	16.00 - 21.00	1.0000	1.0000
L36	35	EC4-50(1/2)	16.00 - 21.00	1.0000	1.0000
L36	36	2" Conduit	16.00 - 21.00	1.0000	1.0000
L36	42	(Area) CCI-65FP-085125 (H)	16.00 - 21.00	1.0000	1.0000
L36	43	(Area) CCI-65FP-085125 (H)	16.00 - 21.00	1.0000	1.0000
L36	44	(Area) CCI-65FP-085125 (H)	16.00 - 21.00	1.0000	1.0000
L37	1	Climbing Rungs	11.00 - 16.00	1.0000	1.0000
L37	2	Safety Line 3/8	11.00 - 16.00	1.0000	1.0000
L37	32	CU12PSM9P6XXX(1-1/2)	11.00 - 16.00	1.0000	1.0000
L37	35	EC4-50(1/2)	11.00 - 16.00	1.0000	1.0000
L37	36	2" Conduit	11.00 - 16.00	1.0000	1.0000
L37	42	(Area) CCI-65FP-085125 (H)	11.00 - 16.00	1.0000	1.0000
L37	43	(Area) CCI-65FP-085125 (H)	11.00 - 16.00	1.0000	1.0000
L37	44	(Area) CCI-65FP-085125 (H)	11.00 - 16.00	1.0000	1.0000
L38	1	Climbing Rungs	6.00 - 11.00	1.0000	1.0000
L38	2	Safety Line 3/8	6.00 - 11.00	1.0000	1.0000
L38	32	CU12PSM9P6XXX(1-1/2)	7.00 - 11.00	1.0000	1.0000
L38	35	EC4-50(1/2)	7.00 - 11.00	1.0000	1.0000
L38	36	2" Conduit	7.00 - 11.00	1.0000	1.0000
L38	42	(Area) CCI-65FP-085125 (H)	6.00 - 11.00	1.0000	1.0000
L38	43	(Area) CCI-65FP-085125 (H)	6.00 - 11.00	1.0000	1.0000
L38	44	(Area) CCI-65FP-085125 (H)	6.00 - 11.00	1.0000	1.0000
L39	1	Climbing Rungs	1.00 - 6.00	1.0000	1.0000
L39	2	Safety Line 3/8	1.00 - 6.00	1.0000	1.0000
L39	42	(Area) CCI-65FP-085125 (H)	1.00 - 6.00	1.0000	1.0000
L39	43	(Area) CCI-65FP-085125 (H)	1.00 - 6.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L39	44	(Area) CCI-65FP-085125 (H)	1.00 - 6.00	1.0000	1.0000
L40	1	Climbing Rungs	0.50 - 1.00	1.0000	1.0000
L40	2	Safety Line 3/8	0.50 - 1.00	1.0000	1.0000
L40	42	(Area) CCI-65FP-085125 (H)	0.50 - 1.00	1.0000	1.0000
L40	43	(Area) CCI-65FP-085125 (H)	0.50 - 1.00	1.0000	1.0000
L40	44	(Area) CCI-65FP-085125 (H)	0.50 - 1.00	1.0000	1.0000
L41	1	Climbing Rungs	0.25 - 0.50	1.0000	1.0000
L41	2	Safety Line 3/8	0.25 - 0.50	1.0000	1.0000
L41	42	(Area) CCI-65FP-085125 (H)	0.25 - 0.50	1.0000	1.0000
L41	43	(Area) CCI-65FP-085125 (H)	0.25 - 0.50	1.0000	1.0000
L41	44	(Area) CCI-65FP-085125 (H)	0.25 - 0.50	1.0000	1.0000
L42	1	Climbing Rungs	0.00 - 0.25	1.0000	1.0000
L42	2	Safety Line 3/8	0.00 - 0.25	1.0000	1.0000
L42	42	(Area) CCI-65FP-085125 (H)	0.00 - 0.25	1.0000	1.0000
L42	43	(Area) CCI-65FP-085125 (H)	0.00 - 0.25	1.0000	1.0000
L42	44	(Area) CCI-65FP-085125 (H)	0.00 - 0.25	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
L12	51	(Area) CCI-65FP-060100 (H)	102.75 - 104.75	Auto	0.0000
L13	51	(Area) CCI-65FP-060100 (H)	102.50 - 102.75	Auto	0.0000
L14	51	(Area) CCI-65FP-060100 (H)	97.50 - 102.50	Auto	0.0000
L15	51	(Area) CCI-65FP-060100 (H)	92.50 - 97.50	Auto	0.0000
L16	51	(Area) CCI-65FP-060100 (H)	87.50 - 92.50	Auto	0.0000
L17	51	(Area) CCI-65FP-060100 (H)	84.75 - 87.50	Auto	0.0000
L19	48	(Area) CCI-65FP-065125 (H)	75.33 - 75.50	Auto	0.0000
L19	49	(Area) CCI-65FP-065125 (H)	75.33 - 75.50	Auto	0.0000
L19	50	(Area) CCI-65FP-065125 (H)	75.33 - 75.50	Auto	0.0000
L20	48	(Area) CCI-65FP-065125 (H)	70.33 - 75.33	Auto	0.0000
L20	49	(Area) CCI-65FP-065125 (H)	70.33 - 75.33	Auto	0.0000
L20	50	(Area) CCI-65FP-065125 (H)	70.33 - 75.33	Auto	0.0000
L21	48	(Area) CCI-65FP-065125 (H)	67.75 - 70.33	Auto	0.0000
L21	49	(Area) CCI-65FP-065125 (H)	67.75 - 70.33	Auto	0.0000
L21	50	(Area) CCI-65FP-065125 (H)	67.75 - 70.33	Auto	0.0000
L22	48	(Area) CCI-65FP-065125 (H)	67.50 - 67.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L22	49	(Area) CCI-65FP-065125 (H)	67.50 - 67.75	Auto	0.0000
L22	50	(Area) CCI-65FP-065125 (H)	67.50 - 67.75	Auto	0.0000
L23	48	(Area) CCI-65FP-065125 (H)	62.50 - 67.50	Auto	0.0000
L23	49	(Area) CCI-65FP-065125 (H)	62.50 - 67.50	Auto	0.0000
L23	50	(Area) CCI-65FP-065125 (H)	62.50 - 67.50	Auto	0.0000
L24	48	(Area) CCI-65FP-065125 (H)	57.50 - 62.50	Auto	0.0000
L24	49	(Area) CCI-65FP-065125 (H)	57.50 - 62.50	Auto	0.0000
L24	50	(Area) CCI-65FP-065125 (H)	57.50 - 62.50	Auto	0.0000
L25	48	(Area) CCI-65FP-065125 (H)	52.50 - 57.50	Auto	0.0000
L25	49	(Area) CCI-65FP-065125 (H)	52.50 - 57.50	Auto	0.0000
L25	50	(Area) CCI-65FP-065125 (H)	52.50 - 57.50	Auto	0.0000
L26	45	(Area) CCI-65FP-065125 (H)	41.42 - 50.50	Auto	0.0000
L26	46	(Area) CCI-65FP-065125 (H)	41.42 - 50.50	Auto	0.0000
L26	47	(Area) CCI-65FP-065125 (H)	41.42 - 50.50	Auto	0.0000
L26	48	(Area) CCI-65FP-065125 (H)	50.50 - 52.50	Auto	0.0000
L26	49	(Area) CCI-65FP-065125 (H)	50.50 - 52.50	Auto	0.0000
L26	50	(Area) CCI-65FP-065125 (H)	50.50 - 52.50	Auto	0.0000
L27	45	(Area) CCI-65FP-065125 (H)	40.42 - 41.42	Auto	0.0000
L27	46	(Area) CCI-65FP-065125 (H)	40.42 - 41.42	Auto	0.0000
L27	47	(Area) CCI-65FP-065125 (H)	40.42 - 41.42	Auto	0.0000
L28	45	(Area) CCI-65FP-065125 (H)	35.42 - 40.42	Auto	0.0000
L28	46	(Area) CCI-65FP-065125 (H)	35.42 - 40.42	Auto	0.0000
L28	47	(Area) CCI-65FP-065125 (H)	35.42 - 40.42	Auto	0.0000
L29	45	(Area) CCI-65FP-065125 (H)	30.50 - 35.42	Auto	0.0000
L29	46	(Area) CCI-65FP-065125 (H)	30.50 - 35.42	Auto	0.0000
L29	47	(Area) CCI-65FP-065125 (H)	30.50 - 35.42	Auto	0.0000
L30	42	(Area) CCI-65FP-085125 (H)	30.25 - 30.50	Auto	0.0000
L30	43	(Area) CCI-65FP-085125 (H)	30.25 - 30.50	Auto	0.0000
L30	44	(Area) CCI-65FP-085125 (H)	30.25 - 30.50	Auto	0.0000
L30	45	(Area) CCI-65FP-065125 (H)	30.25 - 30.50	Auto	0.0000
L31	42	(Area) CCI-65FP-085125 (H)	26.75 - 30.25	Auto	0.0000
L31	43	(Area) CCI-65FP-085125 (H)	26.75 - 30.25	Auto	0.0000
L31	44	(Area) CCI-65FP-085125 (H)	26.75 - 30.25	Auto	0.0000
L31	45	(Area) CCI-65FP-065125 (H)	26.75 - 30.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L32	42	(Area) CCI-65FP-085125 (H)	26.50 - 26.75	Auto	0.0000
L32	43	(Area) CCI-65FP-085125 (H)	26.50 - 26.75	Auto	0.0000
L32	44	(Area) CCI-65FP-085125 (H)	26.50 - 26.75	Auto	0.0000
L32	45	(Area) CCI-65FP-065125 (H)	26.50 - 26.75	Auto	0.0000
L33	42	(Area) CCI-65FP-085125 (H)	26.25 - 26.50	Auto	0.0000
L33	43	(Area) CCI-65FP-085125 (H)	26.25 - 26.50	Auto	0.0000
L33	44	(Area) CCI-65FP-085125 (H)	26.25 - 26.50	Auto	0.0000
L33	45	(Area) CCI-65FP-065125 (H)	26.25 - 26.50	Auto	0.0000
L34	42	(Area) CCI-65FP-085125 (H)	26.00 - 26.25	Auto	0.0000
L34	43	(Area) CCI-65FP-085125 (H)	26.00 - 26.25	Auto	0.0000
L34	44	(Area) CCI-65FP-085125 (H)	26.00 - 26.25	Auto	0.0000
L34	45	(Area) CCI-65FP-065125 (H)	26.00 - 26.25	Auto	0.0000
L35	42	(Area) CCI-65FP-085125 (H)	21.00 - 26.00	Auto	0.0000
L35	43	(Area) CCI-65FP-085125 (H)	21.00 - 26.00	Auto	0.0000
L35	44	(Area) CCI-65FP-085125 (H)	21.00 - 26.00	Auto	0.0000
L35	45	(Area) CCI-65FP-065125 (H)	23.50 - 26.00	Auto	0.0000
L36	42	(Area) CCI-65FP-085125 (H)	16.00 - 21.00	Auto	0.0000
L36	43	(Area) CCI-65FP-085125 (H)	16.00 - 21.00	Auto	0.0000
L36	44	(Area) CCI-65FP-085125 (H)	16.00 - 21.00	Auto	0.0000
L37	42	(Area) CCI-65FP-085125 (H)	11.00 - 16.00	Auto	0.0000
L37	43	(Area) CCI-65FP-085125 (H)	11.00 - 16.00	Auto	0.0000
L37	44	(Area) CCI-65FP-085125 (H)	11.00 - 16.00	Auto	0.0000
L38	42	(Area) CCI-65FP-085125 (H)	6.00 - 11.00	Auto	0.0000
L38	43	(Area) CCI-65FP-085125 (H)	6.00 - 11.00	Auto	0.0000
L38	44	(Area) CCI-65FP-085125 (H)	6.00 - 11.00	Auto	0.0000
L39	42	(Area) CCI-65FP-085125 (H)	1.00 - 6.00	Auto	0.0000
L39	43	(Area) CCI-65FP-085125 (H)	1.00 - 6.00	Auto	0.0000
L39	44	(Area) CCI-65FP-085125 (H)	1.00 - 6.00	Auto	0.0000
L40	42	(Area) CCI-65FP-085125 (H)	0.50 - 1.00	Auto	0.0000
L40	43	(Area) CCI-65FP-085125 (H)	0.50 - 1.00	Auto	0.0000
L40	44	(Area) CCI-65FP-085125 (H)	0.50 - 1.00	Auto	0.0000
L41	42	(Area) CCI-65FP-085125 (H)	0.25 - 0.50	Auto	0.0000
L41	43	(Area) CCI-65FP-085125 (H)	0.25 - 0.50	Auto	0.0000
L41	44	(Area) CCI-65FP-085125 (H)	0.25 - 0.50	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L42	42	(Area) CCI-65FP-085125 (H)	0.00 - 0.25	Auto	0.0000
L42	43	(Area) CCI-65FP-085125 (H)	0.00 - 0.25	Auto	0.0000
L42	44	(Area) CCI-65FP-085125 (H)	0.00 - 0.25	Auto	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) HBXX-6516DS-A2M w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	5.18 5.70 6.24	3.97 4.47 4.98	0.05 0.09 0.15
BXA-70040/6CF w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	12.93 13.65 14.38	5.68 6.30 6.93	0.08 0.17 0.28
BXA-70040/6CF w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	12.93 13.65 14.38	5.68 6.30 6.93	0.08 0.17 0.28
BXA-70040/6CF w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	12.93 13.65 14.38	5.68 6.30 6.93	0.08 0.17 0.28
BXA-80063/4CF w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	4.83 5.35 5.88	3.65 4.14 4.64	0.03 0.06 0.11
GPS_A	B	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	0.26 0.32 0.39	0.26 0.32 0.39	0.00 0.00 0.01
(2) HBXX-6517DS-A2M w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	7.97 8.73 9.50	5.99 6.72 7.47	0.08 0.14 0.22
(2) HBXX-6517DS-A2M w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	7.97 8.73 9.50	5.99 6.72 7.47	0.08 0.14 0.22
BXA-80063-6BF-EDIN-X w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	7.50 8.03 8.53	5.63 6.72 7.56	0.04 0.10 0.17
BXA-80063-6BF-EDIN-X w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	7.50 8.03 8.53	5.63 6.72 7.56	0.04 0.10 0.17
B4 RRH2X60-4R	A	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	3.36 3.61 3.88	2.00 2.24 2.48	0.06 0.08 0.10
B4 RRH2X60-4R	B	From Leg	4.00 0.00 1.00	0.0000	158.00	No Ice 1/2" Ice 1" Ice	3.36 3.61 3.88	2.00 2.24 2.48	0.06 0.08 0.10
B4 RRH2X60-4R	C	From Leg	4.00	0.0000	158.00	No Ice	3.36	2.00	0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00				1/2" Ice	3.61	2.24	0.08
			1.00				1" Ice	3.88	2.48	0.10
DB-T1-6Z-8AB-0Z	B	From Leg	4.00	0.00	0.0000	158.00	No Ice	4.80	2.00	0.04
			0.00				1/2" Ice	5.07	2.19	0.08
			1.00				1" Ice	5.35	2.39	0.12
Platform Mount [LP 713-1]	C	None			0.0000	158.00	No Ice	32.89	32.89	1.51
							1/2" Ice	35.76	35.76	2.23
							1" Ice	38.76	38.76	3.03
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DMP65R-BU6D w/ Mount Pipe	A	From Leg	4.00	0.00	0.0000	147.00	No Ice	11.96	5.97	0.11
			0.00				1/2" Ice	12.70	6.63	0.20
			2.00				1" Ice	13.46	7.30	0.30
DMP65R-BU6D w/ Mount Pipe	B	From Leg	4.00	0.00	0.0000	147.00	No Ice	11.96	5.97	0.11
			0.00				1/2" Ice	12.70	6.63	0.20
			2.00				1" Ice	13.46	7.30	0.30
DMP65R-BU6D w/ Mount Pipe	C	From Leg	4.00	0.00	0.0000	147.00	No Ice	11.96	5.97	0.11
			0.00				1/2" Ice	12.70	6.63	0.20
			2.00				1" Ice	13.46	7.30	0.30
RRUS 32 B30	A	From Leg	4.00	0.00	0.0000	147.00	No Ice	2.69	1.57	0.06
			0.00				1/2" Ice	2.91	1.76	0.08
			2.00				1" Ice	3.14	1.95	0.10
RRUS 32 B30	B	From Leg	4.00	0.00	0.0000	147.00	No Ice	2.69	1.57	0.06
			0.00				1/2" Ice	2.91	1.76	0.08
			2.00				1" Ice	3.14	1.95	0.10
RRUS 32 B30	C	From Leg	4.00	0.00	0.0000	147.00	No Ice	2.69	1.57	0.06
			0.00				1/2" Ice	2.91	1.76	0.08
			2.00				1" Ice	3.14	1.95	0.10
DC6-48-60-18-8F	B	From Leg	4.00	0.00	0.0000	147.00	No Ice	0.92	0.92	0.02
			0.00				1/2" Ice	1.46	1.46	0.04
			2.00				1" Ice	1.64	1.64	0.06
DC6-48-60-18-8F	C	From Leg	4.00	0.00	0.0000	147.00	No Ice	0.92	0.92	0.02
			0.00				1/2" Ice	1.46	1.46	0.04
			2.00				1" Ice	1.64	1.64	0.06
RRUS 4478 B14_CCIV2	A	From Leg	4.00	0.00	0.0000	147.00	No Ice	2.02	1.25	0.06
			0.00				1/2" Ice	2.20	1.40	0.08
			2.00				1" Ice	2.39	1.55	0.10
RRUS 4478 B14_CCIV2	B	From Leg	4.00	0.00	0.0000	147.00	No Ice	2.02	1.25	0.06
			0.00				1/2" Ice	2.20	1.40	0.08
			2.00				1" Ice	2.39	1.55	0.10
RRUS 4478 B14_CCIV2	C	From Leg	4.00	0.00	0.0000	147.00	No Ice	2.02	1.25	0.06
			0.00				1/2" Ice	2.20	1.40	0.08
			2.00				1" Ice	2.39	1.55	0.10
RRUS 32 B66A	A	From Leg	4.00	0.00	0.0000	147.00	No Ice	2.86	1.78	0.06
			0.00				1/2" Ice	3.09	1.97	0.08
			2.00				1" Ice	3.32	2.17	0.10
RRUS 32 B66A	B	From Leg	4.00	0.00	0.0000	147.00	No Ice	2.86	1.78	0.06
			0.00				1/2" Ice	3.09	1.97	0.08
			2.00				1" Ice	3.32	2.17	0.10
RRUS 32 B66A	C	From Leg	4.00	0.00	0.0000	147.00	No Ice	2.86	1.78	0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00				1/2" Ice	3.09	1.97	0.08
			2.00				1" Ice	3.32	2.17	0.10
DC6-48-60-18-8C-EV	A	From Leg	4.00	0.0000	147.00	No Ice		2.74	2.74	0.03
			0.00				1/2" Ice	2.96	2.96	0.05
			2.00				1" Ice	3.20	3.20	0.08
RRUS 4449 B5/B12	A	From Leg	4.00	0.0000	147.00	No Ice		1.97	1.41	0.07
			0.00				1/2" Ice	2.14	1.56	0.09
			2.00				1" Ice	2.33	1.73	0.11
RRUS 4449 B5/B12	B	From Leg	4.00	0.0000	147.00	No Ice		1.97	1.41	0.07
			0.00				1/2" Ice	2.14	1.56	0.09
			2.00				1" Ice	2.33	1.73	0.11
RRUS 4449 B5/B12	C	From Leg	4.00	0.0000	147.00	No Ice		1.97	1.41	0.07
			0.00				1/2" Ice	2.14	1.56	0.09
			2.00				1" Ice	2.33	1.73	0.11
(5) 5' x 2" Pipe Mount	A	From Leg	4.00	0.0000	147.00	No Ice		1.19	1.19	0.02
			0.00				1/2" Ice	1.50	1.50	0.03
			0.00				1" Ice	1.81	1.81	0.04
(5) 5' x 2" Pipe Mount	B	From Leg	4.00	0.0000	147.00	No Ice		1.19	1.19	0.02
			0.00				1/2" Ice	1.50	1.50	0.03
			0.00				1" Ice	1.81	1.81	0.04
(5) 5' x 2" Pipe Mount	C	From Leg	4.00	0.0000	147.00	No Ice		1.19	1.19	0.02
			0.00				1/2" Ice	1.50	1.50	0.03
			0.00				1" Ice	1.81	1.81	0.04
2'6"x2" Pipe Mount	A	From Leg	4.00	0.0000	147.00	No Ice		0.41	0.41	0.03
			0.00				1/2" Ice	0.56	0.56	0.03
			0.00				1" Ice	0.73	0.73	0.04
2'6"x2" Pipe Mount	B	From Leg	4.00	0.0000	147.00	No Ice		0.41	0.41	0.03
			0.00				1/2" Ice	0.56	0.56	0.03
			0.00				1" Ice	0.73	0.73	0.04
2'6"x2" Pipe Mount	C	From Leg	4.00	0.0000	147.00	No Ice		0.41	0.41	0.03
			0.00				1/2" Ice	0.56	0.56	0.03
			0.00				1" Ice	0.73	0.73	0.04
4.5' x 2" horizontal mount pipe	A	From Leg	2.00	0.0000	147.00	No Ice		0.86	0.01	0.01
			0.00				1/2" Ice	1.18	0.04	0.02
			0.00				1" Ice	1.46	0.09	0.03
4.5' x 2" horizontal mount pipe	B	From Leg	2.00	0.0000	147.00	No Ice		0.86	0.01	0.01
			0.00				1/2" Ice	1.18	0.04	0.02
			0.00				1" Ice	1.46	0.09	0.03
4.5' x 2" horizontal mount pipe	C	From Leg	2.00	0.0000	147.00	No Ice		0.86	0.01	0.01
			0.00				1/2" Ice	1.18	0.04	0.02
			0.00				1" Ice	1.46	0.09	0.03
HSS4x4x1/4 x 3.5' (Standoff)	A	From Leg	2.00	0.0000	147.00	No Ice		0.13	1.40	0.04
			0.00				1/2" Ice	0.18	1.66	0.05
			0.00				1" Ice	0.24	1.93	0.06
HSS4x4x1/4 x 3.5' (Standoff)	B	From Leg	2.00	0.0000	147.00	No Ice		0.13	1.40	0.04
			0.00				1/2" Ice	0.18	1.66	0.05
			0.00				1" Ice	0.24	1.93	0.06
HSS4x4x1/4 x 3.5' (Standoff)	C	From Leg	2.00	0.0000	147.00	No Ice		0.13	1.40	0.04
			0.00					0.18	1.66	0.05

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
			0.00			1/2" Ice	0.24	1.93	0.06
						1" Ice			
Platform Mount [LP 713-1]	C	None		0.0000	147.00	No Ice	32.89	32.89	1.51
						1/2" Ice	35.76	35.76	2.23
						1" Ice	38.76	38.76	3.03
***									
AIR 6449 N77	A	From Leg	4.00 0.00 3.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	3.70 4.06 4.44	2.14 2.45 2.78	0.10 0.13 0.17
AIR 6449 N77	B	From Leg	4.00 0.00 3.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	3.70 4.06 4.44	2.14 2.45 2.78	0.10 0.13 0.17
AIR 6449 N77	C	From Leg	4.00 0.00 3.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	3.70 4.06 4.44	2.14 2.45 2.78	0.10 0.13 0.17
AIR 6419 B77G	A	From Leg	4.00 0.00 1.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	4.64 5.11 5.59	1.87 2.23 2.62	0.07 0.09 0.12
AIR 6419 B77G	B	From Leg	4.00 0.00 1.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	4.64 5.11 5.59	1.87 2.23 2.62	0.07 0.09 0.12
AIR 6419 B77G	C	From Leg	4.00 0.00 1.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	4.64 5.11 5.59	1.87 2.23 2.62	0.07 0.09 0.12
QD6616-7 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	12.56 13.30 14.06	6.93 7.60 8.28	0.16 0.25 0.36
QD6616-7 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	12.56 13.30 14.06	6.93 7.60 8.28	0.16 0.25 0.36
QD6616-7 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	12.56 13.30 14.06	6.93 7.60 8.28	0.16 0.25 0.36
DC6-48-60-18-8F	A	From Leg	4.00 0.00 2.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	0.92 1.46 1.64	0.92 1.46 1.64	0.02 0.04 0.06
RRUS 4415 B25	A	From Leg	4.00 0.00 2.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	0.04 0.06 0.07
RRUS 4415 B25	B	From Leg	4.00 0.00 2.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	0.04 0.06 0.07
RRUS 4415 B25	C	From Leg	4.00 0.00 2.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	0.68 0.79 0.91	0.04 0.06 0.07
8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
8' x 2" Mount Pipe	B	From Leg	4.00	0.0000	147.00	No Ice	1.90	1.90	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00				1/2" Ice	2.73	2.73	0.04
			0.00				1" Ice	3.40	3.40	0.06
8' x 2" Mount Pipe	C	From Leg	4.00		0.0000	147.00	No Ice	1.90	1.90	0.03
			0.00				1/2" Ice	2.73	2.73	0.04
			0.00				1" Ice	3.40	3.40	0.06
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RRH2X50-800	A	From Leg	1.00		0.0000	139.00	No Ice	1.70	1.28	0.05
			0.00				1/2" Ice	1.86	1.43	0.07
			0.00				1" Ice	2.03	1.58	0.09
RRH2X50-800	B	From Leg	1.00		0.0000	139.00	No Ice	1.70	1.28	0.05
			0.00				1/2" Ice	1.86	1.43	0.07
			0.00				1" Ice	2.03	1.58	0.09
RRH2X50-800	C	From Leg	1.00		0.0000	139.00	No Ice	1.70	1.28	0.05
			0.00				1/2" Ice	1.86	1.43	0.07
			0.00				1" Ice	2.03	1.58	0.09
800 External Notch Filter	A	From Leg	1.00		0.0000	139.00	No Ice	0.66	0.32	0.01
			0.00				1/2" Ice	0.76	0.40	0.02
			0.00				1" Ice	0.87	0.48	0.02
800 External Notch Filter	B	From Leg	1.00		0.0000	139.00	No Ice	0.66	0.32	0.01
			0.00				1/2" Ice	0.76	0.40	0.02
			0.00				1" Ice	0.87	0.48	0.02
800 External Notch Filter	C	From Leg	1.00		0.0000	139.00	No Ice	0.66	0.32	0.01
			0.00				1/2" Ice	0.76	0.40	0.02
			0.00				1" Ice	0.87	0.48	0.02
1900MHz RRH (65MHz)	A	From Leg	1.00		0.0000	139.00	No Ice	2.32	2.24	0.06
			0.00				1/2" Ice	2.53	2.44	0.08
			0.00				1" Ice	2.74	2.65	0.11
1900MHz RRH (65MHz)	B	From Leg	1.00		0.0000	139.00	No Ice	2.32	2.24	0.06
			0.00				1/2" Ice	2.53	2.44	0.08
			0.00				1" Ice	2.74	2.65	0.11
1900MHz RRH (65MHz)	C	From Leg	1.00		0.0000	139.00	No Ice	2.32	2.24	0.06
			0.00				1/2" Ice	2.53	2.44	0.08
			0.00				1" Ice	2.74	2.65	0.11
Pipe Mount [PM 601-3]	C	None			0.0000	139.00	No Ice	3.17	3.17	0.20
							1/2" Ice	3.79	3.79	0.23
							1" Ice	4.42	4.42	0.28
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6' x 2" Mount Pipe	A	From Leg	4.00		0.0000	137.00	No Ice	1.43	1.43	0.02
			0.00				1/2" Ice	1.92	1.92	0.03
			0.00				1" Ice	2.29	2.29	0.05
6' x 2" Mount Pipe	B	From Leg	4.00		0.0000	137.00	No Ice	1.43	1.43	0.02
			0.00				1/2" Ice	1.92	1.92	0.03
			0.00				1" Ice	2.29	2.29	0.05
6' x 2" Mount Pipe	C	From Leg	4.00		0.0000	137.00	No Ice	1.43	1.43	0.02
			0.00				1/2" Ice	1.92	1.92	0.03
			0.00				1" Ice	2.29	2.29	0.05
Platform Mount [LP 713-1]	C	None			0.0000	137.00	No Ice	32.89	32.89	1.51
							1/2" Ice	35.76	35.76	2.23
							1" Ice	38.76	38.76	3.03

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
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APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.18 0.31 0.45
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.18 0.31 0.45
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	14.69 15.46 16.23	6.87 7.55 8.25	0.18 0.31 0.45
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	6.29 6.86 7.45	2.76 3.27 3.79	0.06 0.11 0.16
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	6.29 6.86 7.45	2.76 3.27 3.79	0.06 0.11 0.16
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	6.29 6.86 7.45	2.76 3.27 3.79	0.06 0.11 0.16
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	5.19 5.59 6.02	2.71 3.04 3.38	0.13 0.17 0.23
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	5.19 5.59 6.02	2.71 3.04 3.38	0.13 0.17 0.23
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	5.19 5.59 6.02	2.71 3.04 3.38	0.13 0.17 0.23
Radio 4480_TMOV2	A	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
Radio 4480_TMOV2	B	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
Radio 4480_TMOV2	C	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	2.88 3.09 3.31	1.40 1.56 1.73	0.08 0.10 0.13
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00 0.00 1.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
(2) 8' Mount Pipe [#P 2.0 STD]	A	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06

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
(2) 8' Mount Pipe [#P 2.0 STD]	B	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8' Mount Pipe [#P 2.0 STD]	C	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
5.5' Corner Angle Mount [#L4X4X1/4]	A	From Leg	2.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	1.70 1.91 2.14	0.02 0.08 0.15	0.02 0.03 0.05
5.5' Corner Angle Mount [#L4X4X1/4]	B	From Leg	2.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	1.70 1.91 2.14	0.02 0.08 0.15	0.02 0.03 0.05
5.5' Corner Angle Mount [#L4X4X1/4]	C	From Leg	2.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	1.70 1.91 2.14	0.02 0.08 0.15	0.02 0.03 0.05
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HORIZON DUO	C	From Leg	4.00 0.00 0.00	0.0000	137.00	No Ice 1/2" Ice 1" Ice	0.17 0.25 0.34	0.24 0.34 0.46	0.01 0.02 0.03
******									
(4) 14' x 2" Pipe Mount	A	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice	3.33 4.75 6.20	3.33 4.75 6.20	0.05 0.08 0.11
(4) 14' x 2" Pipe Mount	B	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice	3.33 4.75 6.20	3.33 4.75 6.20	0.05 0.08 0.11
(4) 14' x 2" Pipe Mount	C	From Leg	4.00 0.00 0.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice	3.33 4.75 6.20	3.33 4.75 6.20	0.05 0.08 0.11
(2) L2.5x2.5x1/4 x 14-ft	A	From Leg	4.00 0.00 -7.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice	5.83 7.42 9.02	0.58 2.15 3.72	0.06 0.08 0.11
(2) L2.5x2.5x1/4 x 14-ft	B	From Leg	4.00 0.00 -7.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice	5.83 7.42 9.02	0.58 2.15 3.72	0.06 0.08 0.11
(2) L2.5x2.5x1/4 x 14-ft	C	From Leg	4.00 0.00 -7.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice	5.83 7.42 9.02	0.58 2.15 3.72	0.06 0.08 0.11
Platform Mount [LP 1201-1]	C	None		0.0000	127.00	No Ice 1/2" Ice 1" Ice	18.38 22.11 25.87	18.38 22.11 25.87	2.10 2.65 3.26
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AIR 6419 B41_TMO	A	From Leg	4.00 0.00 2.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice	7.00 7.53 8.07	2.83 3.24 3.67	0.10 0.14 0.19
AIR 6419 B41_TMO	B	From Leg	4.00 0.00 2.00	0.0000	127.00	No Ice 1/2" Ice 1" Ice	7.00 7.53 8.07	2.83 3.24 3.67	0.10 0.14 0.19
AIR 6419 B41_TMO	C	From Leg	4.00	0.0000	127.00	No Ice	7.00	2.83	0.10

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
			0.00			1/2" Ice	7.53	3.24	0.14
			2.00			1" Ice	8.07	3.67	0.19
VV-65A-R1_TMO	A	From Leg	4.00	0.0000	127.00	No Ice	4.48	1.74	0.03
			0.00			1/2" Ice	4.94	2.15	0.07
			2.00			1" Ice	5.42	2.57	0.11
VV-65A-R1_TMO	B	From Leg	4.00	0.0000	127.00	No Ice	4.48	1.74	0.03
			0.00			1/2" Ice	4.94	2.15	0.07
			2.00			1" Ice	5.42	2.57	0.11
VV-65A-R1_TMO	C	From Leg	4.00	0.0000	127.00	No Ice	4.48	1.74	0.03
			0.00			1/2" Ice	4.94	2.15	0.07
			2.00			1" Ice	5.42	2.57	0.11
APXVAALL24_43-U-NA20_TMO	A	From Leg	4.00	0.0000	127.00	No Ice	14.67	5.32	0.15
			0.00			1/2" Ice	15.43	5.99	0.26
			2.00			1" Ice	16.21	6.68	0.38
APXVAALL24_43-U-NA20_TMO	B	From Leg	4.00	0.0000	127.00	No Ice	14.67	5.32	0.15
			0.00			1/2" Ice	15.43	5.99	0.26
			2.00			1" Ice	16.21	6.68	0.38
APXVAALL24_43-U-NA20_TMO	C	From Leg	4.00	0.0000	127.00	No Ice	14.67	5.32	0.15
			0.00			1/2" Ice	15.43	5.99	0.26
			2.00			1" Ice	16.21	6.68	0.38
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00	0.0000	127.00	No Ice	2.14	1.69	0.11
			0.00			1/2" Ice	2.32	1.85	0.13
			2.00			1" Ice	2.51	2.02	0.16
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00	0.0000	127.00	No Ice	2.14	1.69	0.11
			0.00			1/2" Ice	2.32	1.85	0.13
			2.00			1" Ice	2.51	2.02	0.16
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00	0.0000	127.00	No Ice	2.14	1.69	0.11
			0.00			1/2" Ice	2.32	1.85	0.13
			2.00			1" Ice	2.51	2.02	0.16
Radio 4480_TMOV2	A	From Leg	4.00	0.0000	127.00	No Ice	2.88	1.40	0.08
			0.00			1/2" Ice	3.09	1.56	0.10
			2.00			1" Ice	3.31	1.73	0.13
Radio 4480_TMOV2	B	From Leg	4.00	0.0000	127.00	No Ice	2.88	1.40	0.08
			0.00			1/2" Ice	3.09	1.56	0.10
			2.00			1" Ice	3.31	1.73	0.13
Radio 4480_TMOV2	C	From Leg	4.00	0.0000	127.00	No Ice	2.88	1.40	0.08
			0.00			1/2" Ice	3.09	1.56	0.10
			2.00			1" Ice	3.31	1.73	0.13
Ring Mount [#LWRM]	A	None		0.0000	127.00	No Ice	3.60	3.60	0.07
						1/2" Ice	4.18	4.18	0.11
						1" Ice	4.75	4.75	0.14
4.5' Bracing Pipe [#P2.0 STD]	A	From Leg	2.00	0.0000	127.00	No Ice	0.86	0.01	0.01
			0.00			1/2" Ice	1.18	0.04	0.02
			0.00			1" Ice	1.46	0.09	0.03
4.5' Bracing Pipe [#P2.0 STD]	B	From Leg	2.00	0.0000	127.00	No Ice	0.86	0.01	0.01
			0.00			1/2" Ice	1.18	0.04	0.02
			0.00			1" Ice	1.46	0.09	0.03
4.5' Bracing Pipe [#P2.0 STD]	C	From Leg	2.00	0.0000	127.00	No Ice	0.86	0.01	0.01
			0.00				1.18	0.04	0.02

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
			0.00			1/2" Ice	1.46	0.09	0.03
						1" Ice			
Telescopic Arm Kit [#SNP-ST8]	A	From Leg	2.00	0.0000	127.00	No Ice	0.13	1.40	0.04
			0.00			1/2" Ice	0.18	1.66	0.05
			0.00			1" Ice	0.24	1.93	0.06
Telescopic Arm Kit [#SNP-ST8]	B	From Leg	2.00	0.0000	127.00	No Ice	0.13	1.40	0.04
			0.00			1/2" Ice	0.18	1.66	0.05
			0.00			1" Ice	0.24	1.93	0.06
Telescopic Arm Kit [#SNP-ST8]	C	From Leg	2.00	0.0000	127.00	No Ice	0.13	1.40	0.04
			0.00			1/2" Ice	0.18	1.66	0.05
			0.00			1" Ice	0.24	1.93	0.06
******									
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00	0.0000	117.00	No Ice	8.01	4.23	0.11
			0.00			1/2" Ice	8.52	4.69	0.19
			0.00			1" Ice	9.04	5.16	0.29
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00	0.0000	117.00	No Ice	8.01	4.23	0.11
			0.00			1/2" Ice	8.52	4.69	0.19
			0.00			1" Ice	9.04	5.16	0.29
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00	0.0000	117.00	No Ice	8.01	4.23	0.11
			0.00			1/2" Ice	8.52	4.69	0.19
			0.00			1" Ice	9.04	5.16	0.29
(3) TA08025-B604	A	From Leg	4.00	0.0000	117.00	No Ice	1.96	0.98	0.06
			0.00			1/2" Ice	2.14	1.11	0.08
			0.00			1" Ice	2.32	1.25	0.10
(3) TA08025-B605	A	From Leg	4.00	0.0000	117.00	No Ice	1.96	1.13	0.08
			0.00			1/2" Ice	2.14	1.27	0.09
			0.00			1" Ice	2.32	1.41	0.11
RDIDC-9181-PF-48	A	From Leg	4.00	0.0000	117.00	No Ice	2.01	1.17	0.02
			0.00			1/2" Ice	2.19	1.31	0.04
			0.00			1" Ice	2.37	1.46	0.06
(2) 8' x 2" Mount Pipe	A	From Leg	4.00	0.0000	117.00	No Ice	1.90	1.90	0.03
			0.00			1/2" Ice	2.73	2.73	0.04
			0.00			1" Ice	3.40	3.40	0.06
(2) 8' x 2" Mount Pipe	B	From Leg	4.00	0.0000	117.00	No Ice	1.90	1.90	0.03
			0.00			1/2" Ice	2.73	2.73	0.04
			0.00			1" Ice	3.40	3.40	0.06
(2) 8' x 2" Mount Pipe	C	From Leg	4.00	0.0000	117.00	No Ice	1.90	1.90	0.03
			0.00			1/2" Ice	2.73	2.73	0.04
			0.00			1" Ice	3.40	3.40	0.06
Commscope MC-PK8-DSH	C	None		0.0000	117.00	No Ice	34.24	34.24	1.75
						1/2" Ice	62.95	62.95	2.10
						1" Ice	91.66	91.66	2.45
******									
LLPX310R w/ Mount Pipe	A	From Leg	2.00	0.0000	107.00	No Ice	3.88	2.36	0.06
			0.00			1/2" Ice	4.29	2.73	0.09
			3.00			1" Ice	4.72	3.12	0.13
LLPX310R w/ Mount Pipe	B	From Leg	2.00	0.0000	107.00	No Ice	3.88	2.36	0.06
			0.00			1/2" Ice	4.29	2.73	0.09
			3.00			1" Ice	4.72	3.12	0.13

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
LLPX310R w/ Mount Pipe	C	From Leg	2.00 0.00 3.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	3.88 4.29 4.72	2.36 2.73 3.12	0.06 0.09 0.13
HORIZON COMPACT	A	From Leg	2.00 0.00 3.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	0.72 0.83 0.94	0.37 0.45 0.54	0.01 0.02 0.03
HORIZON COMPACT	C	From Leg	2.00 0.00 3.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	0.72 0.83 0.94	0.37 0.45 0.54	0.01 0.02 0.03
WIMAX DAP HEAD	A	From Leg	2.00 0.00 3.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	1.55 1.70 1.87	0.68 0.80 0.92	0.03 0.04 0.06
WIMAX DAP HEAD	B	From Leg	2.00 0.00 3.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	1.55 1.70 1.87	0.68 0.80 0.92	0.03 0.04 0.06
WIMAX DAP HEAD	C	From Leg	2.00 0.00 3.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	1.55 1.70 1.87	0.68 0.80 0.92	0.03 0.04 0.06
6' x 2" Mount Pipe	A	From Leg	2.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
6' x 2" Mount Pipe	B	From Leg	2.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
6' x 2" Mount Pipe	C	From Leg	2.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
1.9" x 6' Stabilizer	A	From Leg	2.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	1.14 1.76 2.14	0.00 0.00 0.00	0.02 0.03 0.04
1.9" x 6' Stabilizer	B	From Leg	2.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	1.14 1.76 2.14	0.00 0.00 0.00	0.02 0.03 0.04
1.9" x 6' Stabilizer	C	From Leg	2.00 0.00 0.00	0.0000	107.00	No Ice 1/2" Ice 1" Ice	1.14 1.76 2.14	0.00 0.00 0.00	0.02 0.03 0.04
Side Arm Mount [SO 101-3]	C	None		0.0000	107.00	No Ice 1/2" Ice 1" Ice	5.81 6.95 8.28	5.81 6.95 8.28	0.25 0.34 0.46
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APXV18-206517S-C w/ Mount Pipe	A	From Leg	1.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.79 4.38 4.99	3.16 3.75 4.35	0.05 0.09 0.15
APXV18-206517S-C w/ Mount Pipe	B	From Leg	1.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.79 4.38 4.99	3.16 3.75 4.35	0.05 0.09 0.15
APXV18-206517S-C w/ Mount Pipe	C	From Leg	1.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.79 4.38 4.99	3.16 3.75 4.35	0.05 0.09 0.15

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
******									
OG-860/1920/GPS-A	C	From Leg	3.00 0.00 1.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	0.31 0.40 0.49	0.37 0.46 0.55	0.00 0.01 0.01
2' x 2" Pipe Mount	C	From Leg	3.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	0.02 0.05 0.09	0.02 0.05 0.09	0.01 0.01 0.01
2' x 2" Pipe Mount	B	From Leg	3.00 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	0.02 0.05 0.09	0.02 0.05 0.09	0.01 0.01 0.01
Side Arm Mount [SO 701-1]	B	From Leg	1.50 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
Side Arm Mount [SO 701-1]	C	From Leg	1.50 0.00 0.00	0.0000	80.00	No Ice 1/2" Ice 1" Ice	0.85 1.14 1.43	1.67 2.34 3.01	0.07 0.08 0.09
******* ******* *******									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
VHLP2-11	C	Paraboloid w/o Radome	From Leg	4.00 0.00 0.00	-77.0000		137.00	2.17	No Ice 1/2" Ice 1" Ice	3.72 4.01 4.30	0.03 0.05 0.07
******											
VHLP2-11	A	Paraboloid w/o Radome	From Leg	2.00 0.00 3.00	-17.0000		107.00	2.17	No Ice 1/2" Ice 1" Ice	3.72 4.01 4.30	0.03 0.05 0.07
PX2F-52	C	Paraboloid w/Radome	From Leg	2.00 0.00 3.00	0.0000		107.00	2.09	No Ice 1/2" Ice 1" Ice	3.44 3.72 4.00	0.02 0.04 0.06
******											

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

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	160 - 155	Pole	Max Tension	26	0.00	0.00	-0.00
			Max. Compression	26	-6.98	-0.59	-1.40
			Max. Mx	8	-2.85	-19.95	-0.59
			Max. My	14	-2.87	-0.35	-19.75
			Max. Vy	8	5.49	-19.95	-0.59
			Max. Vx	2	-5.36	0.01	18.68
			Max. Torque	6			-1.34
L2	155 - 150	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-7.62	-0.59	-1.43
			Max. Mx	8	-3.29	-48.45	-0.83
			Max. My	14	-3.31	-0.58	-47.61
			Max. Vy	8	5.91	-48.45	-0.83
			Max. Vx	2	-5.78	0.24	46.52
			Max. Torque	6			-1.34
L3	150 - 145	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17.89	-0.59	-1.03
			Max. Mx	8	-8.46	-98.01	-0.94
			Max. My	14	-8.48	-0.81	-96.33
			Max. Vy	8	12.43	-98.01	-0.94
			Max. Vx	2	-12.30	0.48	95.59
			Max. Torque	6			-1.34
L4	145 - 140	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-18.63	-0.59	-1.06
			Max. Mx	8	-9.01	-161.24	-1.20
			Max. My	14	-9.02	-1.05	-158.92
			Max. Vy	8	12.87	-161.24	-1.20
			Max. Vx	2	-12.74	0.72	158.16
			Max. Torque	6			-0.95
L5	140 - 135	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.25	-0.11	-1.36
			Max. Mx	20	-14.03	240.01	1.11
			Max. My	14	-14.05	-1.14	-237.41
			Max. Vy	20	-18.41	240.01	1.11
			Max. Vx	2	-18.38	1.22	236.57
			Max. Torque	20			1.83
L6	135 - 130	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.09	-0.11	-1.38
			Max. Mx	20	-14.70	333.14	2.10
			Max. My	14	-14.71	-1.41	-330.02
			Max. Vy	20	-18.85	333.14	2.10
			Max. Vx	2	-18.83	1.84	329.55
			Max. Torque	20			1.83
L7	130 - 121.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.16	-0.12	-1.39
			Max. Mx	20	-20.46	414.46	2.90
			Max. My	14	-20.47	-1.62	-410.91
			Max. Vy	20	-24.43	414.46	2.90
			Max. Vx	2	-24.40	2.33	410.76
			Max. Torque	20			1.83
L8	121.33 - 121	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.90	-0.13	-1.40
			Max. Mx	20	-21.85	537.87	3.92
			Max. My	2	-21.84	2.96	534.04
			Max. Vy	20	-24.95	537.87	3.92
			Max. Vx	2	-24.93	2.96	534.04
			Max. Torque	20			1.83
L9	121 - 116	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.96	-0.14	2.69
			Max. Mx	20	-25.89	666.34	7.61
			Max. My	2	-25.86	3.59	665.35
			Max. Vy	20	-28.03	666.34	7.61
			Max. Vx	2	-28.20	3.59	665.35
			Max. Torque	20			1.83
L10	116 - 111	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.20	-0.18	2.71
			Max. Mx	20	-26.97	807.52	8.65
			Max. My	2	-26.95	4.21	807.37
			Max. Vy	20	-28.47	807.52	8.65
			Max. Vx	2	-28.63	4.21	807.37
			Max. Torque	4			1.14
L11	111 - 106	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.06	0.01	2.92
			Max. Mx	20	-28.88	953.57	9.92
			Max. My	2	-28.85	4.84	954.54
			Max. Vy	8	29.92	-952.66	-2.30
			Max. Vx	2	-30.11	4.84	954.54
			Max. Torque	4			1.50
L12	106 - 102.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.96	-0.07	2.98
			Max. Mx	20	-29.66	1051.05	10.72
			Max. My	2	-29.63	5.16	1052.82
			Max. Vy	8	30.19	-1050.33	-3.03
			Max. Vx	2	-30.39	5.16	1052.82
			Max. Torque	4			1.50
L13	102.75 - 102.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.03	-0.08	2.99
			Max. Mx	20	-29.73	1058.58	10.78
			Max. My	2	-29.70	5.18	1060.42
			Max. Vy	8	30.21	-1057.88	-3.09
			Max. Vx	2	-30.41	5.18	1060.42

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	4			1.50
L14	102.5 - 97.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.92	-0.20	3.12
			Max. Mx	20	-31.13	1211.13	12.01
			Max. My	2	-31.10	5.67	1214.23
			Max. Vy	8	30.93	-1210.73	-4.20
			Max. Vx	2	-31.13	5.67	1214.23
			Max. Torque	4			1.50
L15	97.5 - 92.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.40	-0.32	3.22
			Max. Mx	20	-32.41	1366.51	13.24
			Max. My	2	-32.39	6.15	1370.85
			Max. Vy	8	31.34	-1366.41	-5.32
			Max. Vx	2	-31.54	6.15	1370.85
			Max. Torque	4			1.50
L16	92.5 - 87.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.91	-0.45	3.32
			Max. Mx	8	-33.73	-1524.10	-6.44
			Max. My	2	-33.71	6.63	1529.50
			Max. Vy	8	31.74	-1524.10	-6.44
			Max. Vx	2	-31.94	6.63	1529.50
			Max. Torque	4			1.50
L17	87.5 - 81.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.06	-0.46	3.33
			Max. Mx	8	-33.87	-1539.98	-6.55
			Max. My	2	-33.85	6.68	1545.47
			Max. Vy	8	31.77	-1539.98	-6.55
			Max. Vx	2	-31.97	6.68	1545.47
			Max. Torque	4			1.50
L18	81.33 - 80.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.73	-0.65	3.41
			Max. Mx	8	-36.95	-1754.41	-8.04
			Max. My	2	-36.94	7.31	1761.17
			Max. Vy	8	32.50	-1754.41	-8.04
			Max. Vx	2	-32.70	7.31	1761.17
			Max. Torque	4			1.50
L19	80.33 - 75.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.80	-0.75	3.06
			Max. Mx	8	-38.78	-1918.36	-9.44
			Max. My	2	-38.76	7.80	1925.92
			Max. Vy	8	33.01	-1918.36	-9.44
			Max. Vx	2	-33.24	7.80	1925.92
			Max. Torque	4			1.50
L20	75.33 - 70.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.77	-0.90	3.10
			Max. Mx	8	-40.46	-2084.41	-10.56
			Max. My	2	-40.45	8.27	2093.05
			Max. Vy	8	33.42	-2084.41	-10.56
			Max. Vx	2	-33.65	8.27	2093.05
			Max. Torque	4			1.44
L21	70.33 - 67.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.80	-0.98	3.12
			Max. Mx	8	-41.35	-2170.89	-11.14
			Max. My	2	-41.33	8.52	2180.09
			Max. Vy	8	33.63	-2170.89	-11.14
			Max. Vx	2	-33.86	8.52	2180.09
			Max. Torque	4			1.44
L22	67.75 - 67.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.93	-0.99	3.13
			Max. Mx	8	-41.47	-2179.30	-11.19
			Max. My	2	-41.45	8.54	2188.56
			Max. Vy	8	33.64	-2179.30	-11.19
			Max. Vx	2	-33.87	8.54	2188.56
			Max. Torque	4			1.44
L23	67.5 - 62.5	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-68.45	-1.14	3.17
			Max. Mx	8	-43.66	-2348.70	-12.31
			Max. My	2	-43.65	9.01	2359.05
			Max. Vy	8	34.11	-2348.70	-12.31
			Max. Vx	2	-34.34	9.01	2359.05
			Max. Torque	4			1.44
L24	62.5 - 57.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.01	-1.30	3.21
			Max. Mx	8	-45.90	-2520.42	-13.42
			Max. My	2	-45.88	9.47	2531.84
			Max. Vy	8	34.57	-2520.42	-13.42
			Max. Vx	2	-34.80	9.47	2531.84
			Max. Torque	4			1.44
L25	57.5 - 52.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.60	-1.46	3.26
			Max. Mx	8	-48.17	-2694.38	-14.53
			Max. My	2	-48.16	9.93	2706.88
			Max. Vy	8	35.01	-2694.38	-14.53
			Max. Vx	2	-35.24	9.93	2706.88
			Max. Torque	4			1.44
L26	52.5 - 41.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-75.96	-1.61	3.30
			Max. Mx	8	-50.25	-2852.81	-15.53
			Max. My	2	-50.23	10.33	2866.28
			Max. Vy	8	35.40	-2852.81	-15.53
			Max. Vx	2	-35.62	10.33	2866.28
			Max. Torque	4			1.44
L27	41.42 - 40.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.12	-1.87	3.36
			Max. Mx	8	-56.53	-3124.34	-17.21
			Max. My	2	-56.52	11.02	3139.43
			Max. Vy	8	36.22	-3124.34	-17.21
			Max. Vx	2	-36.44	11.02	3139.43
			Max. Torque	4			1.44
L28	40.42 - 35.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.98	-2.03	3.41
			Max. Mx	8	-59.07	-3306.38	-18.31
			Max. My	2	-59.06	11.47	3322.54
			Max. Vy	8	36.60	-3306.38	-18.31
			Max. Vx	2	-36.83	11.47	3322.54
			Max. Torque	4			1.44
L29	35.42 - 30.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.83	-2.20	3.45
			Max. Mx	8	-61.61	-3487.33	-19.40
			Max. My	2	-61.61	11.91	3504.54
			Max. Vy	8	36.96	-3487.33	-19.40
			Max. Vx	2	-37.19	11.91	3504.54
			Max. Torque	4			1.44
L30	30.5 - 30.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.97	-2.21	3.46
			Max. Mx	8	-61.75	-3496.57	-19.45
			Max. My	2	-61.74	11.94	3513.84
			Max. Vy	8	36.97	-3496.57	-19.45
			Max. Vx	2	-37.19	11.94	3513.84
			Max. Torque	4			1.44
L31	30.25 - 26.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.01	-2.29	3.51
			Max. Mx	8	-63.54	-3626.40	-20.22
			Max. My	2	-63.53	12.25	3644.41
			Max. Vy	8	37.22	-3626.40	-20.22
			Max. Vx	2	-37.44	12.25	3644.41
			Max. Torque	4			1.44
L32	26.75 - 26.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.16	-2.29	3.51
			Max. Mx	8	-63.67	-3635.71	-20.27
			Max. My	2	-63.66	12.27	3653.77

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	37.22	-3635.71	-20.27
			Max. Vx	2	-37.45	12.27	3653.77
			Max. Torque	4			1.44
L33	26.5 - 26.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.30	-2.30	3.52
			Max. Mx	8	-63.80	-3645.02	-20.33
			Max. My	2	-63.79	12.29	3663.14
			Max. Vy	8	37.24	-3645.02	-20.33
			Max. Vx	2	-37.46	12.29	3663.14
			Max. Torque	4			1.44
L34	26.25 - 26	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.43	-2.30	3.52
			Max. Mx	8	-63.91	-3654.33	-20.38
			Max. My	2	-63.90	12.31	3672.50
			Max. Vy	8	37.25	-3654.33	-20.38
			Max. Vx	2	-37.48	12.31	3672.50
			Max. Torque	4			1.44
L35	26 - 21	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-93.93	-2.44	3.56
			Max. Mx	8	-66.10	-3841.34	-21.48
			Max. My	2	-66.09	12.75	3860.57
			Max. Vy	8	37.55	-3841.34	-21.48
			Max. Vx	2	-37.77	12.75	3860.57
			Max. Torque	4			1.44
L36	21 - 16	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.45	-2.60	3.58
			Max. Mx	8	-68.34	-4029.75	-22.56
			Max. My	2	-68.34	13.18	4050.04
			Max. Vy	8	37.83	-4029.75	-22.56
			Max. Vx	2	-38.05	13.18	4050.04
			Max. Torque	4			1.44
L37	16 - 11	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-99.01	-2.75	3.60
			Max. Mx	8	-70.62	-4219.58	-23.64
			Max. My	2	-70.62	13.61	4240.90
			Max. Vy	8	38.11	-4219.58	-23.64
			Max. Vx	2	-38.33	13.61	4240.90
			Max. Torque	4			1.44
L38	11 - 6	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-101.52	-2.88	3.60
			Max. Mx	8	-72.89	-4410.78	-24.73
			Max. My	2	-72.89	14.05	4433.15
			Max. Vy	8	38.39	-4410.78	-24.73
			Max. Vx	2	-38.61	14.05	4433.15
			Max. Torque	4			1.44
L39	6 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-103.79	-2.86	3.52
			Max. Mx	8	-74.97	-4603.31	-25.85
			Max. My	2	-74.97	14.56	4626.75
			Max. Vy	8	38.67	-4603.31	-25.85
			Max. Vx	2	-38.89	14.56	4626.75
			Max. Torque	4			1.44
L40	1 - 0.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-104.01	-2.86	3.52
			Max. Mx	8	-75.18	-4622.64	-25.96
			Max. My	2	-75.18	14.61	4646.19
			Max. Vy	8	38.69	-4622.64	-25.96
			Max. Vx	2	-38.91	14.61	4646.19
			Max. Torque	4			1.44
L41	0.5 - 0.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-104.17	-2.86	3.51
			Max. Mx	8	-75.33	-4632.31	-26.02
			Max. My	2	-75.33	14.64	4655.91
			Max. Vy	8	38.70	-4632.31	-26.02
			Max. Vx	2	-38.91	14.64	4655.91
			Max. Torque	4			1.44
L42	0.25 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-104.27	-2.86	3.51
			Max. Mx	8	-75.44	-4641.98	-26.07

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	-75.44	14.66	4665.64
			Max. Vy	8	38.71	-4641.98	-26.07
			Max. Vx	2	-38.92	14.66	4665.64
			Max. Torque	4			1.44

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	104.27	-0.00	0.00
	Max. H_x	20	75.44	38.67	0.22
	Max. H_z	2	75.44	0.10	38.92
	Max. M_x	2	4665.64	0.10	38.92
	Max. M_z	8	4641.98	-38.71	-0.22
	Max. Torsion	4	1.44	-19.21	33.73
	Min. Vert	3	56.58	0.10	38.92
	Min. H_x	8	75.44	-38.71	-0.22
	Min. H_z	14	75.44	-0.12	-38.89
	Min. M_x	14	-4653.81	-0.12	-38.89
	Min. M_z	20	-4636.15	38.67	0.22
	Min. Torsion	18	-0.43	33.38	-19.47

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	62.87	0.00	0.00	-2.04	-1.26	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	75.44	-0.10	-38.92	-4665.64	14.66	-1.10
0.9 Dead+1.0 Wind 0 deg - No Ice	56.58	-0.10	-38.92	-4602.47	14.82	-1.09
1.2 Dead+1.0 Wind 30 deg - No Ice	75.44	19.21	-33.73	-4043.79	-2300.55	-1.44
0.9 Dead+1.0 Wind 30 deg - No Ice	56.58	19.21	-33.73	-3988.96	-2269.34	-1.41
1.2 Dead+1.0 Wind 60 deg - No Ice	75.44	33.40	-19.49	-2336.44	-4003.38	-0.88
0.9 Dead+1.0 Wind 60 deg - No Ice	56.58	33.40	-19.49	-2304.49	-3949.30	-0.84
1.2 Dead+1.0 Wind 90 deg - No Ice	75.44	38.71	0.22	26.07	-4641.98	-0.11
0.9 Dead+1.0 Wind 90 deg - No Ice	56.58	38.71	0.22	26.40	-4579.34	-0.06
1.2 Dead+1.0 Wind 120 deg - No Ice	75.44	33.52	19.58	2343.09	-4022.42	0.10
0.9 Dead+1.0 Wind 120 deg - No Ice	56.58	33.52	19.58	2312.40	-3968.07	0.14
1.2 Dead+1.0 Wind 150 deg - No Ice	75.44	19.40	33.73	4036.80	-2330.66	0.37
0.9 Dead+1.0 Wind 150 deg - No Ice	56.58	19.40	33.73	3983.41	-2298.99	0.40
1.2 Dead+1.0 Wind 180 deg - No Ice	75.44	0.12	38.89	4653.81	-17.37	0.29
0.9 Dead+1.0 Wind 180 deg - No Ice	56.58	0.12	38.89	4592.16	-16.75	0.29
1.2 Dead+1.0 Wind 210 deg - No Ice	75.44	-19.20	33.69	4029.94	2299.15	0.13
0.9 Dead+1.0 Wind 210 deg - No Ice	56.58	-19.20	33.69	3976.66	2268.68	0.10

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 240 deg - No Ice	75.44	-33.38	19.47	2327.25	3998.88	0.43
0.9 Dead+1.0 Wind 240 deg - No Ice	56.58	-33.38	19.47	2296.78	3945.62	0.39
1.2 Dead+1.0 Wind 270 deg - No Ice	75.44	-38.67	-0.22	-35.14	4636.15	-0.46
0.9 Dead+1.0 Wind 270 deg - No Ice	56.58	-38.67	-0.22	-33.97	4574.33	-0.51
1.2 Dead+1.0 Wind 300 deg - No Ice	75.44	-33.49	-19.59	-2354.40	4014.55	-0.63
0.9 Dead+1.0 Wind 300 deg - No Ice	56.58	-33.49	-19.59	-2322.15	3961.07	-0.67
1.2 Dead+1.0 Wind 330 deg - No Ice	75.44	-19.38	-33.75	-4047.50	2323.95	-0.71
0.9 Dead+1.0 Wind 330 deg - No Ice	56.58	-19.38	-33.75	-3992.59	2293.14	-0.73
1.2 Dead+1.0 Ice+1.0 Temp	104.27	0.00	-0.00	-3.51	-2.86	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	104.27	-0.02	-9.29	-1150.04	0.31	-0.23
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	104.27	4.59	-8.05	-997.12	-568.59	-0.29
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	104.27	7.97	-4.65	-577.47	-986.71	-0.17
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	104.27	9.23	0.04	2.16	-1142.94	-0.01
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	104.27	8.00	4.67	572.25	-990.63	0.04
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	104.27	4.63	8.05	989.11	-574.76	0.09
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	104.27	0.02	9.28	1141.11	-6.22	0.06
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	104.27	-4.59	8.04	987.75	562.96	0.02
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	104.27	-7.97	4.65	569.10	980.41	0.08
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	104.27	-9.23	-0.05	-10.51	1136.36	-0.11
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	104.27	-7.99	-4.67	-581.09	983.61	-0.14
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	104.27	-4.62	-8.05	-997.80	567.99	-0.16
Dead+Wind 0 deg - Service	62.87	-0.02	-9.32	-1110.65	2.56	-0.27
Dead+Wind 30 deg - Service	62.87	4.60	-8.08	-962.82	-547.80	-0.34
Dead+Wind 60 deg - Service	62.87	8.00	-4.67	-556.95	-952.57	-0.21
Dead+Wind 90 deg - Service	62.87	9.27	0.05	4.64	-1104.38	-0.02
Dead+Wind 120 deg - Service	62.87	8.03	4.69	555.43	-957.10	0.03
Dead+Wind 150 deg - Service	62.87	4.65	8.08	958.05	-554.95	0.10
Dead+Wind 180 deg - Service	62.87	0.03	9.31	1104.72	-5.05	0.07
Dead+Wind 210 deg - Service	62.87	-4.60	8.07	956.41	545.60	0.02
Dead+Wind 240 deg - Service	62.87	-7.99	4.66	551.66	949.64	0.10
Dead+Wind 270 deg - Service	62.87	-9.26	-0.05	-9.90	1101.13	-0.12
Dead+Wind 300 deg - Service	62.87	-8.02	-4.69	-561.22	953.38	-0.16
Dead+Wind 330 deg - Service	62.87	-4.64	-8.08	-963.70	551.51	-0.17

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-62.87	0.00	0.00	62.87	0.00	0.000%
2	-0.10	-75.44	-38.92	0.10	75.44	38.92	0.000%
3	-0.10	-56.58	-38.92	0.10	56.58	38.92	0.000%
4	19.21	-75.44	-33.73	-19.21	75.44	33.73	0.000%
5	19.21	-56.58	-33.73	-19.21	56.58	33.73	0.000%
6	33.40	-75.44	-19.49	-33.40	75.44	19.49	0.000%
7	33.40	-56.58	-19.49	-33.40	56.58	19.49	0.000%
8	38.71	-75.44	0.22	-38.71	75.44	-0.22	0.000%
9	38.71	-56.58	0.22	-38.71	56.58	-0.22	0.000%
10	33.52	-75.44	19.58	-33.52	75.44	-19.58	0.000%
11	33.52	-56.58	19.58	-33.52	56.58	-19.58	0.000%
12	19.40	-75.44	33.73	-19.40	75.44	-33.73	0.000%
13	19.40	-56.58	33.73	-19.40	56.58	-33.73	0.000%
14	0.12	-75.44	38.89	-0.12	75.44	-38.89	0.000%
15	0.12	-56.58	38.89	-0.12	56.58	-38.89	0.000%
16	-19.20	-75.44	33.69	19.20	75.44	-33.69	0.000%
17	-19.20	-56.58	33.69	19.20	56.58	-33.69	0.000%
18	-33.38	-75.44	19.47	33.38	75.44	-19.47	0.000%
19	-33.38	-56.58	19.47	33.38	56.58	-19.47	0.000%
20	-38.67	-75.44	-0.22	38.67	75.44	0.22	0.000%
21	-38.67	-56.58	-0.22	38.67	56.58	0.22	0.000%
22	-33.49	-75.44	-19.59	33.49	75.44	19.59	0.000%
23	-33.49	-56.58	-19.59	33.49	56.58	19.59	0.000%
24	-19.38	-75.44	-33.75	19.38	75.44	33.75	0.000%
25	-19.38	-56.58	-33.75	19.38	56.58	33.75	0.000%
26	0.00	-104.27	0.00	-0.00	104.27	0.00	0.000%
27	-0.02	-104.27	-9.29	0.02	104.27	9.29	0.000%
28	4.59	-104.27	-8.05	-4.59	104.27	8.05	0.000%
29	7.97	-104.27	-4.65	-7.97	104.27	4.65	0.000%
30	9.23	-104.27	0.04	-9.23	104.27	-0.04	0.000%
31	8.00	-104.27	4.67	-8.00	104.27	-4.67	0.000%
32	4.63	-104.27	8.05	-4.63	104.27	-8.05	0.000%
33	0.02	-104.27	9.28	-0.02	104.27	-9.28	0.000%
34	-4.59	-104.27	8.04	4.59	104.27	-8.04	0.000%
35	-7.97	-104.27	4.65	7.97	104.27	-4.65	0.000%
36	-9.23	-104.27	-0.05	9.23	104.27	0.05	0.000%
37	-7.99	-104.27	-4.67	7.99	104.27	4.67	0.000%
38	-4.62	-104.27	-8.05	4.62	104.27	8.05	0.000%
39	-0.02	-62.87	-9.32	0.02	62.87	9.32	0.000%
40	4.60	-62.87	-8.08	-4.60	62.87	8.08	0.000%
41	8.00	-62.87	-4.67	-8.00	62.87	4.67	0.000%
42	9.27	-62.87	0.05	-9.27	62.87	-0.05	0.000%
43	8.03	-62.87	4.69	-8.03	62.87	-4.69	0.000%
44	4.65	-62.87	8.08	-4.65	62.87	-8.08	0.000%
45	0.03	-62.87	9.31	-0.03	62.87	-9.31	0.000%
46	-4.60	-62.87	8.07	4.60	62.87	-8.07	0.000%
47	-7.99	-62.87	4.66	7.99	62.87	-4.66	0.000%
48	-9.26	-62.87	-0.05	9.26	62.87	0.05	0.000%
49	-8.02	-62.87	-4.69	8.02	62.87	4.69	0.000%
50	-4.64	-62.87	-8.08	4.64	62.87	8.08	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00061680
3	Yes	5	0.00000001	0.00028080
4	Yes	6	0.00000001	0.00098624
5	Yes	6	0.00000001	0.00033017
6	Yes	7	0.00000001	0.00006132
7	Yes	6	0.00000001	0.00034139
8	Yes	5	0.00000001	0.00038962
9	Yes	5	0.00000001	0.00016152
10	Yes	7	0.00000001	0.00006107
11	Yes	6	0.00000001	0.00034028
12	Yes	7	0.00000001	0.00006058
13	Yes	6	0.00000001	0.00033711
14	Yes	5	0.00000001	0.00034312
15	Yes	5	0.00000001	0.00012674
16	Yes	6	0.00000001	0.00099692
17	Yes	6	0.00000001	0.00033479
18	Yes	6	0.00000001	0.00099526
19	Yes	6	0.00000001	0.00033439
20	Yes	5	0.00000001	0.00038989
21	Yes	5	0.00000001	0.00014684
22	Yes	7	0.00000001	0.00006084
23	Yes	6	0.00000001	0.00033826
24	Yes	7	0.00000001	0.00006161
25	Yes	6	0.00000001	0.00034299
26	Yes	4	0.00000001	0.00015260
27	Yes	6	0.00000001	0.00058978
28	Yes	6	0.00000001	0.00066064
29	Yes	6	0.00000001	0.00066086
30	Yes	6	0.00000001	0.00058541
31	Yes	6	0.00000001	0.00065796
32	Yes	6	0.00000001	0.00065753
33	Yes	6	0.00000001	0.00058263
34	Yes	6	0.00000001	0.00065163
35	Yes	6	0.00000001	0.00065100
36	Yes	6	0.00000001	0.00058299
37	Yes	6	0.00000001	0.00066133
38	Yes	6	0.00000001	0.00066327
39	Yes	5	0.00000001	0.00006883
40	Yes	5	0.00000001	0.00025868
41	Yes	5	0.00000001	0.00027734
42	Yes	5	0.00000001	0.00006497
43	Yes	5	0.00000001	0.00027067
44	Yes	5	0.00000001	0.00026680
45	Yes	5	0.00000001	0.00006474
46	Yes	5	0.00000001	0.00026451
47	Yes	5	0.00000001	0.00026165
48	Yes	5	0.00000001	0.00006510
49	Yes	5	0.00000001	0.00026928
50	Yes	5	0.00000001	0.00027852

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 155	25.186	50	1.4120	0.0021
L2	155 - 150	23.708	50	1.4103	0.0018
L3	150 - 145	22.235	50	1.4018	0.0014
L4	145 - 140	20.775	50	1.3862	0.0010
L5	140 - 135	19.337	50	1.3599	0.0009
L6	135 - 130	17.931	50	1.3241	0.0008
L7	130 - 121.33	16.568	50	1.2777	0.0006
L8	126 - 121	15.515	50	1.2341	0.0004

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L9	121 - 116	14.236	50	1.2064	0.0004
L10	116 - 111	12.999	50	1.1552	0.0003
L11	111 - 106	11.819	50	1.0981	0.0003
L12	106 - 102.75	10.701	50	1.0365	0.0003
L13	102.75 - 102.5	10.010	50	0.9944	0.0002
L14	102.5 - 97.5	9.958	50	0.9911	0.0002
L15	97.5 - 92.5	8.956	50	0.9237	0.0002
L16	92.5 - 87.5	8.025	50	0.8540	0.0002
L17	87.5 - 81.33	7.168	39	0.7826	0.0001
L18	87 - 80.33	7.086	39	0.7754	0.0001
L19	80.33 - 75.33	6.034	39	0.7267	0.0001
L20	75.33 - 70.33	5.304	39	0.6675	0.0001
L21	70.33 - 67.75	4.636	39	0.6082	0.0001
L22	67.75 - 67.5	4.316	39	0.5776	0.0001
L23	67.5 - 62.5	4.285	39	0.5755	0.0001
L24	62.5 - 57.5	3.705	39	0.5333	0.0001
L25	57.5 - 52.5	3.169	39	0.4907	0.0001
L26	52.5 - 41.42	2.677	39	0.4484	0.0001
L27	48 - 40.42	2.272	39	0.4106	0.0001
L28	40.42 - 35.42	1.645	39	0.3754	0.0000
L29	35.42 - 30.5	1.274	39	0.3346	0.0000
L30	30.5 - 30.25	0.949	39	0.2950	0.0000
L31	30.25 - 26.75	0.934	39	0.2930	0.0000
L32	26.75 - 26.5	0.729	39	0.2648	0.0000
L33	26.5 - 26.25	0.716	39	0.2624	0.0000
L34	26.25 - 26	0.702	39	0.2599	0.0000
L35	26 - 21	0.688	39	0.2574	0.0000
L36	21 - 16	0.446	39	0.2059	0.0000
L37	16 - 11	0.257	39	0.1554	0.0000
L38	11 - 6	0.120	39	0.1056	0.0000
L39	6 - 1	0.035	39	0.0568	0.0000
L40	1 - 0.5	0.001	39	0.0088	0.0000
L41	0.5 - 0.25	0.000	39	0.0000	0.0000
L42	0.25 - 0	0.000	1	0.0000	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
158.00	(2) HBXX-6516DS-A2M w/ Mount Pipe	50	24.595	1.4118	0.0028	47092
147.00	DMP65R-BU6D w/ Mount Pipe	50	21.357	1.3936	0.0019	15966
139.00	RRH2X50-800	50	19.052	1.3534	0.0016	8524
137.00	VHLP2-11	50	18.489	1.3394	0.0015	7677
127.00	(4) 14' x 2" Pipe Mount	50	15.776	1.2434	0.0013	6658
117.00	MX08FRO665-21 w/ Mount Pipe	50	13.243	1.1669	0.0012	5539
110.00	VHLP2-11	50	11.591	1.0862	0.0010	4767
107.00	LLPX310R w/ Mount Pipe	50	10.920	1.0492	0.0009	4573
100.00	APXV18-206517S-C w/ Mount Pipe	50	9.448	0.9578	0.0008	4256
80.00	OG-860/1920/GPS-A	39	5.984	0.7238	0.0005	5600

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 155	105.765	24	5.9450	0.0090
L2	155 - 150	99.561	24	5.9367	0.0078
L3	150 - 145	93.381	24	5.8995	0.0059
L4	145 - 140	87.253	24	5.8327	0.0047

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L5	140 - 135	81.218	24	5.7210	0.0041
L6	135 - 130	75.319	24	5.5696	0.0036
L7	130 - 121.33	69.601	24	5.3735	0.0027
L8	126 - 121	65.186	24	5.1892	0.0021
L9	121 - 116	59.820	24	5.0724	0.0018
L10	116 - 111	54.631	24	4.8566	0.0014
L11	111 - 106	49.678	24	4.6173	0.0012
L12	106 - 102.75	44.985	24	4.3589	0.0011
L13	102.75 - 102.5	42.083	24	4.1823	0.0010
L14	102.5 - 97.5	41.865	24	4.1686	0.0010
L15	97.5 - 92.5	37.652	24	3.8857	0.0009
L16	92.5 - 87.5	33.741	24	3.5927	0.0007
L17	87.5 - 81.33	30.139	24	3.2924	0.0006
L18	87 - 80.33	29.796	24	3.2621	0.0006
L19	80.33 - 75.33	25.371	24	3.0576	0.0006
L20	75.33 - 70.33	22.302	24	2.8085	0.0005
L21	70.33 - 67.75	19.493	24	2.5588	0.0004
L22	67.75 - 67.5	18.146	24	2.4300	0.0004
L23	67.5 - 62.5	18.019	24	2.4212	0.0004
L24	62.5 - 57.5	15.578	24	2.2437	0.0003
L25	57.5 - 52.5	13.323	24	2.0642	0.0003
L26	52.5 - 41.42	11.256	24	1.8860	0.0003
L27	48 - 40.42	9.554	24	1.7272	0.0002
L28	40.42 - 35.42	6.917	24	1.5791	0.0002
L29	35.42 - 30.5	5.354	24	1.4073	0.0002
L30	30.5 - 30.25	3.990	24	1.2408	0.0002
L31	30.25 - 26.75	3.926	24	1.2322	0.0002
L32	26.75 - 26.5	3.066	24	1.1135	0.0001
L33	26.5 - 26.25	3.008	24	1.1033	0.0001
L34	26.25 - 26	2.950	24	1.0930	0.0001
L35	26 - 21	2.894	24	1.0821	0.0001
L36	21 - 16	1.874	24	0.8658	0.0001
L37	16 - 11	1.079	24	0.6531	0.0001
L38	11 - 6	0.505	24	0.4440	0.0001
L39	6 - 1	0.148	24	0.2386	0.0000
L40	1 - 0.5	0.004	24	0.0369	0.0000
L41	0.5 - 0.25	0.001	24	0.0169	0.0000
L42	0.25 - 0	0.000	24	0.0099	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
158.00	(2) HBXX-6516DS-A2M w/ Mount Pipe	24	103.283	5.9438	0.0118	12155
147.00	DMP65R-BU6D w/ Mount Pipe	24	89.696	5.8640	0.0081	3940
139.00	RRH2X50-800	24	80.026	5.6935	0.0065	2078
137.00	VHLP2-11	24	77.660	5.6342	0.0063	1868
127.00	(4) 14' x 2" Pipe Mount	24	66.278	5.2284	0.0055	1610
117.00	MX08FRO665-21 w/ Mount Pipe	24	55.652	4.9055	0.0050	1338
110.00	VHLP2-11	24	48.719	4.5676	0.0043	1153
107.00	LLPX310R w/ Mount Pipe	24	45.902	4.4122	0.0040	1105
100.00	APXV18-206517S-C w/ Mount Pipe	24	39.722	4.0287	0.0033	1025
80.00	OG-860/1920/GPS-A	24	25.161	3.0455	0.0019	1339

Compression Checks

Pole Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
L1	160 - 155 (1)	TP22.6999x21.65x0.25	5.00	0.00	0.0	18.0722	-2.85	1057.22	0.003
L2	155 - 150 (2)	TP23.7498x22.6999x0.25	5.00	0.00	0.0	18.9174	-3.29	1106.67	0.003
L3	150 - 145 (3)	TP24.7997x23.7498x0.25	5.00	0.00	0.0	19.7625	-8.46	1156.11	0.007
L4	145 - 140 (4)	TP25.8496x24.7997x0.25	5.00	0.00	0.0	20.6077	-9.00	1205.55	0.007
L5	140 - 135 (5)	TP26.8995x25.8496x0.25	5.00	0.00	0.0	21.4529	-14.03	1254.99	0.011
L6	135 - 130 (6)	TP27.9495x26.8995x0.25	5.00	0.00	0.0	22.2981	-14.68	1304.44	0.011
L7	130 - 121.33 (7)	TP29.77x27.9495x0.25	8.67	0.00	0.0	22.9742	-20.45	1343.99	0.015
L8	121.33 - 121 (8)	TP29.3394x28.2894x0.375	5.00	0.00	0.0	34.9745	-21.84	2046.01	0.011
L9	121 - 116 (9)	TP30.3894x29.3394x0.375	5.00	0.00	0.0	36.2423	-25.87	2120.18	0.012
L10	116 - 111 (10)	TP31.4394x30.3894x0.375	5.00	0.00	0.0	37.5102	-26.95	2194.35	0.012
L11	111 - 106 (11)	TP32.4893x31.4394x0.375	5.00	0.00	0.0	38.7781	-28.86	2268.52	0.013
L12	106 - 102.75 (12)	TP33.1718x32.4893x0.375	3.25	0.00	0.0	39.6022	-29.63	2316.73	0.013
L13	102.75 - 102.5 (13)	TP33.2243x33.1718x0.375	0.25	0.00	0.0	39.6656	-29.70	2320.44	0.013
L14	102.5 - 97.5 (14)	TP34.2743x33.2243x0.375	5.00	0.00	0.0	40.9334	-31.10	2394.61	0.013
L15	97.5 - 92.5 (15)	TP35.3243x34.2743x0.375	5.00	0.00	0.0	42.2013	-32.39	2468.78	0.013
L16	92.5 - 87.5 (16)	TP36.3743x35.3243x0.375	5.00	0.00	0.0	43.4692	-33.71	2542.95	0.013
L17	87.5 - 81.33 (17)	TP37.67x36.3743x0.375	6.17	0.00	0.0	43.5960	-33.85	2550.36	0.013
L18	81.33 - 80.33 (18)	TP37.1298x35.7293x0.5	6.67	0.00	0.0	58.9741	-36.93	3449.98	0.011
L19	80.33 - 75.33 (19)	TP38.1797x37.1298x0.5	5.00	0.00	0.0	60.6644	-38.76	3548.87	0.011
L20	75.33 - 70.33 (20)	TP39.2296x38.1797x0.5	5.00	0.00	0.0	62.3547	-40.45	3647.75	0.011
L21	70.33 - 67.75 (21)	TP39.7713x39.2296x0.5	2.58	0.00	0.0	63.2269	-41.33	3698.77	0.011
L22	67.75 - 67.5 (22)	TP39.8238x39.7713x0.7225	0.25	0.00	0.0	91.2762	-41.45	5339.66	0.008
L23	67.5 - 62.5 (23)	TP40.8737x39.8238x0.7125	5.00	0.00	0.0	92.1399	-43.64	5390.18	0.008
L24	62.5 - 57.5 (24)	TP41.9236x40.8737x0.7	5.00	0.00	0.0	92.9180	-45.88	5435.70	0.008
L25	57.5 - 52.5 (25)	TP42.9735x41.9236x0.7	5.00	0.00	0.0	95.2844	-48.16	5574.14	0.009
L26	52.5 - 41.42 (26)	TP45.3x42.9735x0.7	11.08	0.00	0.0	97.4142	-50.23	5698.73	0.009
L27	41.42 - 40.42 (27)	TP44.5104x42.9184x0.7625	7.58	0.00	0.0	107.4120	-56.52	6283.61	0.009
L28	40.42 - 35.42 (28)	TP45.5606x44.5104x0.75	5.00	0.00	0.0	108.2180	-59.06	6330.73	0.009
L29	35.42 - 30.5 (29)	TP46.594x45.5606x0.75	4.92	0.00	0.0	110.7130	-61.61	6476.72	0.010
L30	30.5 - 30.25 (30)	TP46.6465x46.594x0.7375	0.25	0.00	0.0	109.0220	-61.74	6377.81	0.010
L31	30.25 - 26.75 (31)	TP47.3816x46.6465x0.7375	3.50	0.00	0.0	110.7680	-63.53	6479.93	0.010

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L32	26.75 - 26.5 (32)	TP47.4341x47.3816x0.6	0.25	0.00	0.0	90.4835	-63.66	5293.28	0.012
L33	26.5 - 26.25 (33)	TP47.4866x47.4341x0.6	0.25	0.00	0.0	90.5849	-63.79	5299.22	0.012
L34	26.25 - 26 (34)	TP47.5391x47.4866x0.5625	0.25	0.00	0.0	85.0864	-63.90	4977.55	0.013
L35	26 - 21 (35)	TP48.5893x47.5391x0.5625	5.00	0.00	0.0	86.9885	-66.09	5088.83	0.013
L36	21 - 16 (36)	TP49.6395x48.5893x0.5625	5.00	0.00	0.0	88.8906	-68.34	5200.10	0.013
L37	16 - 11 (37)	TP50.6896x49.6395x0.5625	5.00	0.00	0.0	90.7928	-70.62	5311.38	0.013
L38	11 - 6 (38)	TP51.7398x50.6896x0.5625	5.00	0.00	0.0	92.6949	-72.89	5422.65	0.013
L39	6 - 1 (39)	TP52.79x51.7398x0.5625	5.00	0.00	0.0	94.5970	-74.97	5533.92	0.014
L40	1 - 0.5 (40)	TP52.895x52.79x0.5625	0.50	0.00	0.0	94.7872	-75.18	5545.05	0.014
L41	0.5 - 0.25 (41)	TP52.9475x52.895x0.8125	0.25	0.00	0.0	136.3980	-75.33	7979.29	0.009
L42	0.25 - 0 (42)	TP53x52.9475x0.5625	0.25	0.00	0.0	94.9774	-75.44	5556.18	0.014

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	160 - 155 (1)	TP22.6999x21.65x0.25	20.21	590.53	0.034	0.00	590.53	0.000
L2	155 - 150 (2)	TP23.7498x22.6999x0.25	48.75	637.40	0.076	0.00	637.40	0.000
L3	150 - 145 (3)	TP24.7997x23.7498x0.25	98.25	685.04	0.143	0.00	685.04	0.000
L4	145 - 140 (4)	TP25.8496x24.7997x0.25	161.53	733.34	0.220	0.00	733.34	0.000
L5	140 - 135 (5)	TP26.8995x25.8496x0.25	240.42	782.18	0.307	0.00	782.18	0.000
L6	135 - 130 (6)	TP27.9495x26.8995x0.25	333.55	831.44	0.401	0.00	831.44	0.000
L7	130 - 121.33 (7)	TP29.77x27.9495x0.25	415.16	871.07	0.477	0.00	871.07	0.000
L8	121.33 - 121 (8)	TP29.3394x28.2894x0.375	538.95	1513.67	0.356	0.00	1513.67	0.000
L9	121 - 116 (9)	TP30.3894x29.3394x0.375	669.25	1626.13	0.412	0.00	1626.13	0.000
L10	116 - 111 (10)	TP31.4394x30.3894x0.375	811.06	1737.74	0.467	0.00	1737.74	0.000
L11	111 - 106 (11)	TP32.4893x31.4394x0.375	957.77	1839.31	0.521	0.00	1839.31	0.000
L12	106 - 102.75 (12)	TP33.1718x32.4893x0.375	1055.90	1906.15	0.554	0.00	1906.15	0.000
L13	102.75 - 102.5 (13)	TP33.2243x33.1718x0.375	1063.50	1911.32	0.556	0.00	1911.32	0.000
L14	102.5 - 97.5 (14)	TP34.2743x33.2243x0.375	1217.27	2015.41	0.604	0.00	2015.41	0.000
L15	97.5 - 92.5 (15)	TP35.3243x34.2743x0.375	1373.85	2120.82	0.648	0.00	2120.82	0.000
L16	92.5 - 87.5 (16)	TP36.3743x35.3243x0.375	1532.45	2227.45	0.688	0.00	2227.45	0.000
L17	87.5 - 81.33 (17)	TP37.67x36.3743x0.375	1548.42	2238.17	0.692	0.00	2238.17	0.000
L18	81.33 - 80.33 (18)	TP37.1298x35.7293x0.5	1764.06	3225.59	0.547	0.00	3225.59	0.000
L19	80.33 - 75.33 (19)	TP38.1797x37.1298x0.5	1928.78	3414.43	0.565	0.00	3414.43	0.000
L20	75.33 - 70.33 (20)	TP39.2296x38.1797x0.5	2095.83	3608.63	0.581	0.00	3608.63	0.000
L21	70.33 - 67.75 (21)	TP39.7713x39.2296x0.5	2182.83	3710.94	0.588	0.00	3710.94	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L22	67.75 - 67.5 (22)	TP39.8238x39.7713x0.725	2191.29	5303.27	0.413	0.00	5303.27	0.000
L23	67.5 - 62.5 (23)	TP40.8737x39.8238x0.7125	2361.70	5503.24	0.429	0.00	5503.24	0.000
L24	62.5 - 57.5 (24)	TP41.9236x40.8737x0.7	2534.41	5700.78	0.445	0.00	5700.78	0.000
L25	57.5 - 52.5 (25)	TP42.9735x41.9236x0.7	2709.37	5997.34	0.452	0.00	5997.34	0.000
L26	52.5 - 41.42 (26)	TP45.3x42.9735x0.7	2868.68	6270.67	0.457	0.00	6270.67	0.000
L27	41.42 - 40.42 (27)	TP44.5104x42.9184x0.7625	3141.70	6990.49	0.449	0.00	6990.49	0.000
L28	40.42 - 35.42 (28)	TP45.5606x44.5104x0.75	3324.72	7218.90	0.461	0.00	7218.90	0.000
L29	35.42 - 30.5 (29)	TP46.594x45.5606x0.75	3506.63	7558.49	0.464	0.00	7558.49	0.000
L30	30.5 - 30.25 (30)	TP46.6465x46.594x0.7375	3515.93	7455.78	0.472	0.00	7455.78	0.000
L31	30.25 - 26.75 (31)	TP47.3816x46.6465x0.7375	3646.43	7698.38	0.474	0.00	7698.38	0.000
L32	26.75 - 26.5 (32)	TP47.4341x47.3816x0.6	3655.79	6332.92	0.577	0.00	6332.92	0.000
L33	26.5 - 26.25 (33)	TP47.4866x47.4341x0.6	3665.15	6347.22	0.577	0.00	6347.22	0.000
L34	26.25 - 26 (34)	TP47.5391x47.4866x0.5625	3674.51	5947.10	0.618	0.00	5947.10	0.000
L35	26 - 21 (35)	TP48.5893x47.5391x0.5625	3862.48	6175.93	0.625	0.00	6175.93	0.000
L36	21 - 16 (36)	TP49.6395x48.5893x0.5625	4051.86	6407.07	0.632	0.00	6407.07	0.000
L37	16 - 11 (37)	TP50.6896x49.6395x0.5625	4242.63	6640.41	0.639	0.00	6640.41	0.000
L38	11 - 6 (38)	TP51.7398x50.6896x0.5625	4434.79	6875.82	0.645	0.00	6875.82	0.000
L39	6 - 1 (39)	TP52.79x51.7398x0.5625	4628.34	7113.17	0.651	0.00	7113.17	0.000
L40	1 - 0.5 (40)	TP52.895x52.79x0.5625	4647.77	7137.01	0.651	0.00	7137.01	0.000
L41	0.5 - 0.25 (41)	TP52.9475x52.895x0.8125	4657.50	10598.00	0.439	0.00	10598.00	0.000
L42	0.25 - 0 (42)	TP53x52.9475x0.5625	4667.23	7160.86	0.652	0.00	7160.86	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	160 - 155 (1)	TP22.6999x21.65x0.25	5.50	317.17	0.017	0.96	626.33	0.002
L2	155 - 150 (2)	TP23.7498x22.6999x0.25	5.92	332.00	0.018	0.96	686.28	0.001
L3	150 - 145 (3)	TP24.7997x23.7498x0.25	12.44	346.83	0.036	0.57	748.97	0.001
L4	145 - 140 (4)	TP25.8496x24.7997x0.25	12.88	361.67	0.036	0.57	814.40	0.001
L5	140 - 135 (5)	TP26.8995x25.8496x0.25	18.41	376.50	0.049	1.12	882.58	0.001
L6	135 - 130 (6)	TP27.9495x26.8995x0.25	18.93	391.33	0.048	1.77	953.49	0.002
L7	130 - 121.33 (7)	TP29.77x27.9495x0.25	24.50	403.20	0.061	1.77	1012.19	0.002
L8	121.33 - 121 (8)	TP29.3394x28.2894x0.375	25.03	613.80	0.041	1.77	1563.84	0.001
L9	121 - 116 (9)	TP30.3894x29.3394x0.375	28.16	636.05	0.044	0.56	1679.28	0.000
L10	116 - 111 (10)	TP31.4394x30.3894x0.375	28.59	658.30	0.043	0.56	1798.83	0.000
L11	111 - 106 (11)	TP32.4893x31.4394x0.375	30.00	680.55	0.044	0.44	1922.48	0.000
L12	106 - 102.75 (12)	TP33.1718x32.4893x0.375	30.39	695.02	0.044	0.57	2005.07	0.000
L13	102.75 - 102.5 (13)	TP33.2243x33.1718x0.375	30.40	696.13	0.044	0.57	2011.49	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L14	102.5 - 97.5 (14)	TP34.2743x33.2243x0.375	31.13	718.38	0.043	0.57	2142.13	0.000
L15	97.5 - 92.5 (15)	TP35.3243x34.2743x0.375	31.54	740.63	0.043	0.57	2276.89	0.000
L16	92.5 - 87.5 (16)	TP36.3743x35.3243x0.375	31.94	762.88	0.042	0.57	2415.75	0.000
L17	87.5 - 81.33 (17)	TP37.67x36.3743x0.375	31.97	765.11	0.042	0.57	2429.87	0.000
L18	81.33 - 80.33 (18)	TP37.1298x35.7293x0.5	32.69	1034.99	0.032	0.57	3334.82	0.000
L19	80.33 - 75.33 (19)	TP38.1797x37.1298x0.5	33.23	1064.66	0.031	0.71	3528.72	0.000
L20	75.33 - 70.33 (20)	TP39.2296x38.1797x0.5	33.64	1094.32	0.031	0.71	3728.11	0.000
L21	70.33 - 67.75 (21)	TP39.7713x39.2296x0.5	33.85	1109.63	0.031	0.71	3833.13	0.000
L22	67.75 - 67.5 (22)	TP39.8238x39.7713x0.725	33.86	1601.90	0.021	0.71	5509.32	0.000
L23	67.5 - 62.5 (23)	TP40.8737x39.8238x0.7125	34.33	1617.05	0.021	0.71	5712.57	0.000
L24	62.5 - 57.5 (24)	TP41.9236x40.8737x0.7	34.79	1630.71	0.021	0.71	5913.20	0.000
L25	57.5 - 52.5 (25)	TP42.9735x41.9236x0.7	35.23	1672.24	0.021	0.71	6218.22	0.000
L26	52.5 - 41.42 (26)	TP45.3x42.9735x0.7	35.61	1709.62	0.021	0.71	6499.32	0.000
L27	41.42 - 40.42 (27)	TP44.5104x42.9184x0.7625	36.43	1885.08	0.019	0.71	7254.17	0.000
L28	40.42 - 35.42 (28)	TP45.5606x44.5104x0.75	36.82	1899.22	0.019	0.71	7486.10	0.000
L29	35.42 - 30.5 (29)	TP46.594x45.5606x0.75	37.18	1943.02	0.019	0.71	7835.35	0.000
L30	30.5 - 30.25 (30)	TP46.6465x46.594x0.7375	37.18	1913.34	0.019	0.71	7726.62	0.000
L31	30.25 - 26.75 (31)	TP47.3816x46.6465x0.7375	37.44	1943.98	0.019	0.71	7976.05	0.000
L32	26.75 - 26.5 (32)	TP47.4341x47.3816x0.6	37.43	1587.98	0.024	0.71	6541.97	0.000
L33	26.5 - 26.25 (33)	TP47.4866x47.4341x0.6	37.45	1589.77	0.024	0.71	6556.64	0.000
L34	26.25 - 26 (34)	TP47.5391x47.4866x0.5625	37.46	1493.27	0.025	0.71	6170.47	0.000
L35	26 - 21 (35)	TP48.5893x47.5391x0.5625	37.76	1526.65	0.025	0.71	6449.44	0.000
L36	21 - 16 (36)	TP49.6395x48.5893x0.5625	38.04	1560.03	0.024	0.71	6734.58	0.000
L37	16 - 11 (37)	TP50.6896x49.6395x0.5625	38.32	1593.41	0.024	0.71	7025.88	0.000
L38	11 - 6 (38)	TP51.7398x50.6896x0.5625	38.60	1626.80	0.024	0.71	7323.35	0.000
L39	6 - 1 (39)	TP52.79x51.7398x0.5625	38.88	1660.18	0.023	0.71	7626.99	0.000
L40	1 - 0.5 (40)	TP52.895x52.79x0.5625	38.90	1663.52	0.023	0.71	7657.69	0.000
L41	0.5 - 0.25 (41)	TP52.9475x52.895x0.8125	38.91	2393.79	0.016	0.71	10977.75	0.000
L42	0.25 - 0 (42)	TP53x52.9475x0.5625	38.91	1666.85	0.023	0.71	7688.46	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	160 - 155 (1)	0.003	0.034	0.000	0.017	0.002	0.037	1.050	4.8.2
L2	155 - 150 (2)	0.003	0.076	0.000	0.018	0.001	0.080	1.050	4.8.2
L3	150 - 145 (3)	0.007	0.143	0.000	0.036	0.001	0.152	1.050	4.8.2

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L4	145 - 140 (4)	0.007	0.220	0.000	0.036	0.001	0.229	1.050	4.8.2
L5	140 - 135 (5)	0.011	0.307	0.000	0.049	0.001	0.321	1.050	4.8.2
L6	135 - 130 (6)	0.011	0.401	0.000	0.048	0.002	0.415	1.050	4.8.2
L7	130 - 121.33 (7)	0.015	0.477	0.000	0.061	0.002	0.496	1.050	4.8.2
L8	121.33 - 121 (8)	0.011	0.356	0.000	0.041	0.001	0.368	1.050	4.8.2
L9	121 - 116 (9)	0.012	0.412	0.000	0.044	0.000	0.426	1.050	4.8.2
L10	116 - 111 (10)	0.012	0.467	0.000	0.043	0.000	0.481	1.050	4.8.2
L11	111 - 106 (11)	0.013	0.521	0.000	0.044	0.000	0.535	1.050	4.8.2
L12	106 - 102.75 (12)	0.013	0.554	0.000	0.044	0.000	0.569	1.050	4.8.2
L13	102.75 - 102.5 (13)	0.013	0.556	0.000	0.044	0.000	0.571	1.050	4.8.2
L14	102.5 - 97.5 (14)	0.013	0.604	0.000	0.043	0.000	0.619	1.050	4.8.2
L15	97.5 - 92.5 (15)	0.013	0.648	0.000	0.043	0.000	0.663	1.050	4.8.2
L16	92.5 - 87.5 (16)	0.013	0.688	0.000	0.042	0.000	0.703	1.050	4.8.2
L17	87.5 - 81.33 (17)	0.013	0.692	0.000	0.042	0.000	0.707	1.050	4.8.2
L18	81.33 - 80.33 (18)	0.011	0.547	0.000	0.032	0.000	0.559	1.050	4.8.2
L19	80.33 - 75.33 (19)	0.011	0.565	0.000	0.031	0.000	0.577	1.050	4.8.2
L20	75.33 - 70.33 (20)	0.011	0.581	0.000	0.031	0.000	0.593	1.050	4.8.2
L21	70.33 - 67.75 (21)	0.011	0.588	0.000	0.031	0.000	0.600	1.050	4.8.2
L22	67.75 - 67.5 (22)	0.008	0.413	0.000	0.021	0.000	0.421	1.050	4.8.2
L23	67.5 - 62.5 (23)	0.008	0.429	0.000	0.021	0.000	0.438	1.050	4.8.2
L24	62.5 - 57.5 (24)	0.008	0.445	0.000	0.021	0.000	0.453	1.050	4.8.2
L25	57.5 - 52.5 (25)	0.009	0.452	0.000	0.021	0.000	0.461	1.050	4.8.2
L26	52.5 - 41.42 (26)	0.009	0.457	0.000	0.021	0.000	0.467	1.050	4.8.2
L27	41.42 - 40.42 (27)	0.009	0.449	0.000	0.019	0.000	0.459	1.050	4.8.2
L28	40.42 - 35.42 (28)	0.009	0.461	0.000	0.019	0.000	0.470	1.050	4.8.2
L29	35.42 - 30.5 (29)	0.010	0.464	0.000	0.019	0.000	0.474	1.050	4.8.2
L30	30.5 - 30.25 (30)	0.010	0.472	0.000	0.019	0.000	0.482	1.050	4.8.2
L31	30.25 - 26.75 (31)	0.010	0.474	0.000	0.019	0.000	0.484	1.050	4.8.2
L32	26.75 - 26.5 (32)	0.012	0.577	0.000	0.024	0.000	0.590	1.050	4.8.2
L33	26.5 - 26.25 (33)	0.012	0.577	0.000	0.024	0.000	0.590	1.050	4.8.2
L34	26.25 - 26 (34)	0.013	0.618	0.000	0.025	0.000	0.631	1.050	4.8.2
L35	26 - 21 (35)	0.013	0.625	0.000	0.025	0.000	0.639	1.050	4.8.2
L36	21 - 16 (36)	0.013	0.632	0.000	0.024	0.000	0.646	1.050	4.8.2
L37	16 - 11 (37)	0.013	0.639	0.000	0.024	0.000	0.653	1.050	4.8.2
L38	11 - 6 (38)	0.013	0.645	0.000	0.024	0.000	0.659	1.050	4.8.2
L39	6 - 1 (39)	0.014	0.651	0.000	0.023	0.000	0.665	1.050	4.8.2
L40	1 - 0.5 (40)	0.014	0.651	0.000	0.023	0.000	0.665	1.050	4.8.2
L41	0.5 - 0.25 (41)	0.009	0.439	0.000	0.016	0.000	0.449	1.050	4.8.2
L42	0.25 - 0 (42)	0.014	0.652	0.000	0.023	0.000	0.666	1.050	4.8.2

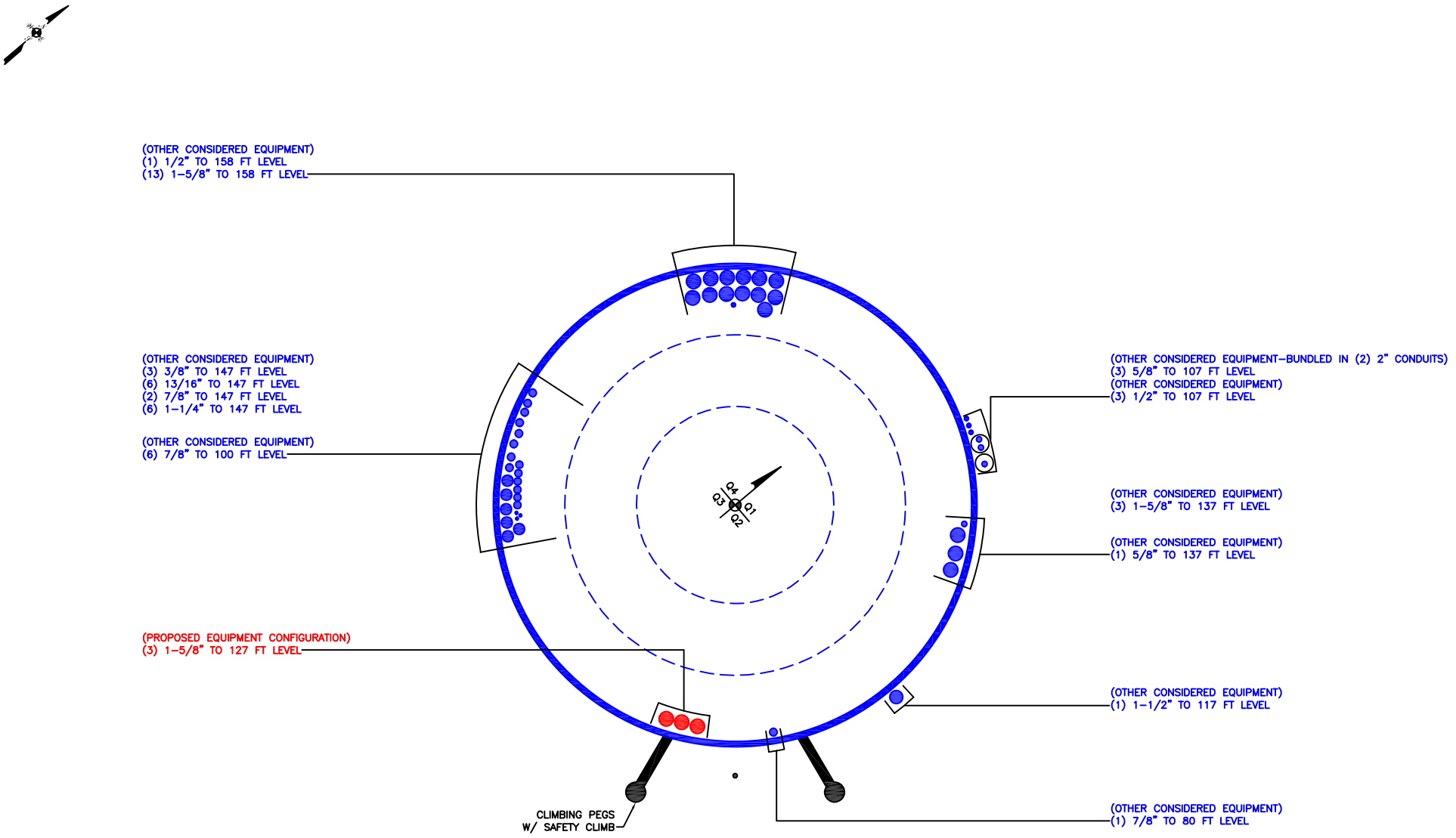
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	160 - 155	Pole	TP22.6999x21.65x0.25	1	-2.85	1110.08	3.6	Pass
L2	155 - 150	Pole	TP23.7498x22.6999x0.25	2	-3.29	1162.00	7.6	Pass
L3	150 - 145	Pole	TP24.7997x23.7498x0.25	3	-8.46	1213.92	14.5	Pass
L4	145 - 140	Pole	TP25.8496x24.7997x0.25	4	-9.00	1265.83	21.8	Pass
L5	140 - 135	Pole	TP26.8995x25.8496x0.25	5	-14.03	1317.74	30.6	Pass
L6	135 - 130	Pole	TP27.9495x26.8995x0.25	6	-14.68	1369.66	39.5	Pass
L7	130 - 121.33	Pole	TP29.77x27.9495x0.25	7	-20.45	1411.19	47.2	Pass
L8	121.33 - 121	Pole	TP29.3394x28.2894x0.375	8	-21.84	2148.31	35.1	Pass
L9	121 - 116	Pole	TP30.3894x29.3394x0.375	9	-25.87	2226.19	40.5	Pass
L10	116 - 111	Pole	TP31.4394x30.3894x0.375	10	-26.95	2304.07	45.8	Pass
L11	111 - 106	Pole	TP32.4893x31.4394x0.375	11	-28.86	2381.95	51.0	Pass
L12	106 - 102.75	Pole	TP33.1718x32.4893x0.375	12	-29.63	2432.57	54.2	Pass
L13	102.75 - 102.5	Pole	TP33.2243x33.1718x0.375	13	-29.70	2436.46	54.4	Pass
L14	102.5 - 97.5	Pole	TP34.2743x33.2243x0.375	14	-31.10	2514.34	58.9	Pass
L15	97.5 - 92.5	Pole	TP35.3243x34.2743x0.375	15	-32.39	2592.22	63.1	Pass
L16	92.5 - 87.5	Pole	TP36.3743x35.3243x0.375	16	-33.71	2670.10	67.0	Pass
L17	87.5 - 81.33	Pole	TP37.67x36.3743x0.375	17	-33.85	2677.88	67.3	Pass
L18	81.33 - 80.33	Pole	TP37.1298x35.7293x0.5	18	-36.93	3622.48	53.2	Pass
L19	80.33 - 75.33	Pole	TP38.1797x37.1298x0.5	19	-38.76	3726.31	54.9	Pass
L20	75.33 - 70.33	Pole	TP39.2296x38.1797x0.5	20	-40.45	3830.14	56.5	Pass
L21	70.33 - 67.75	Pole	TP39.7713x39.2296x0.5	21	-41.33	3883.71	57.2	Pass
L22	67.75 - 67.5	Pole	TP39.8238x39.7713x0.725	22	-41.45	5606.64	40.1	Pass
L23	67.5 - 62.5	Pole	TP40.8737x39.8238x0.7125	23	-43.64	5659.69	41.7	Pass
L24	62.5 - 57.5	Pole	TP41.9236x40.8737x0.7	24	-45.88	5707.48	43.2	Pass
L25	57.5 - 52.5	Pole	TP42.9735x41.9236x0.7	25	-48.16	5852.85	43.9	Pass
L26	52.5 - 41.42	Pole	TP45.3x42.9735x0.7	26	-50.23	5983.67	44.5	Pass
L27	41.42 - 40.42	Pole	TP44.5104x42.9184x0.7625	27	-56.52	6597.79	43.7	Pass
L28	40.42 - 35.42	Pole	TP45.5606x44.5104x0.75	28	-59.06	6647.27	44.8	Pass
L29	35.42 - 30.5	Pole	TP46.594x45.5606x0.75	29	-61.61	6800.56	45.1	Pass
L30	30.5 - 30.25	Pole	TP46.6465x46.594x0.7375	30	-61.74	6696.70	45.9	Pass
L31	30.25 - 26.75	Pole	TP47.3816x46.6465x0.7375	31	-63.53	6803.93	46.1	Pass
L32	26.75 - 26.5	Pole	TP47.4341x47.3816x0.6	32	-63.66	5557.94	56.2	Pass
L33	26.5 - 26.25	Pole	TP47.4866x47.4341x0.6	33	-63.79	5564.18	56.2	Pass
L34	26.25 - 26	Pole	TP47.5391x47.4866x0.5625	34	-63.90	5226.43	60.1	Pass
L35	26 - 21	Pole	TP48.5893x47.5391x0.5625	35	-66.09	5343.27	60.9	Pass
L36	21 - 16	Pole	TP49.6395x48.5893x0.5625	36	-68.34	5460.10	61.5	Pass
L37	16 - 11	Pole	TP50.6896x49.6395x0.5625	37	-70.62	5576.95	62.2	Pass
L38	11 - 6	Pole	TP51.7398x50.6896x0.5625	38	-72.89	5693.78	62.8	Pass
L39	6 - 1	Pole	TP52.79x51.7398x0.5625	39	-74.97	5810.62	63.3	Pass
L40	1 - 0.5	Pole	TP52.895x52.79x0.5625	40	-75.18	5822.30	63.4	Pass
L41	0.5 - 0.25	Pole	TP52.9475x52.895x0.8125	41	-75.33	8378.25	42.8	Pass
L42	0.25 - 0	Pole	TP53x52.9475x0.5625	42	-75.44	5833.99	63.4	Pass
							Summary	
						Pole (L17)	67.3	Pass
						RATING =	**67.3**	**Pass**

***NOTE: Above stress ratios for reinforced sections are approximate. More exact calculations are presented in Appendix C.**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 806939 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 806939

Work Order: 2103838

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	160	38.67	4.67	12	21.65	29.77	0.25	Auto	A572-65
2	126	44.67	5.67	12	28.29	37.67	0.375	Auto	A572-65
3	87	45.58	6.58	12	35.73	45.3	0.5	Auto	A572-65
4	48	48	0	12	42.92	53	0.5625	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12
1	0.5	26.75	plate	CCI-CFP-085125	1								X				
2	0.5	30.5	plate	CCI-CFP-085125	2			X								X	
3	26.25	67.75	plate	CCI-SFP-065125	1							X					
4	30.5	67.75	plate	CCI-SFP-065125	2			X								X	
5	86.75	102.75	plate	CCI-SFP-060100	3		X				X				X		
6	0	0.5	plate	TS 1.25X6.5	6		-5		5			-5		5	-5		5
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	8.5	1.25	10.625	0.625	PC 8.8 - M20 (100)	54	PC 8.8 - M20 (100)	54.000	17.000	9.063	1.1875	A572-65
2	8.5	1.25	10.625	0.625	PC 8.8 - M20 (100)	54	PC 8.8 - M20 (100)	54.000	17.000	9.063	1.1875	A572-65
3	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
4	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
5	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
6	1.25	5.75	7.1875	2.875	Welded	n/a	Welded	n/a	0.750	7.188	0.0000	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)
CCI-CFP-085125	Top	18	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	18	N	3	3	-	-	-	-	-	-	-	-	-
TS 1.25X6.5	Top	-	-	-	-	80	None	-	-	-	-	51	0.375	-
	Bottom	-	-	-	-	80	PJP Groove	11.5	0.5	45	0.625	-	-	-

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	160 - 155	5		12	21.650	22.700	0.25	A572-65	1.000
2	155 - 150	5		12	22.700	23.750	0.25	A572-65	1.000
3	150 - 145	5		12	23.750	24.800	0.25	A572-65	1.000
4	145 - 140	5		12	24.800	25.850	0.25	A572-65	1.000
5	140 - 135	5		12	25.850	26.900	0.25	A572-65	1.000
6	135 - 130	5		12	26.900	27.949	0.25	A572-65	1.000
7	130 - 126	8.67	4.67	12	27.949	29.770	0.25	A572-65	1.000
8	126 - 121	5		12	28.289	29.339	0.375	A572-65	1.000
9	121 - 116	5		12	29.339	30.389	0.375	A572-65	1.000
10	116 - 111	5		12	30.389	31.439	0.375	A572-65	1.000
11	111 - 106	5		12	31.439	32.489	0.375	A572-65	1.000
12	106 - 102.75	3.25		12	32.489	33.172	0.375	A572-65	1.000
13	102.75 - 102.5	0.25		12	33.172	33.224	0.375	A572-65	1.000
14	102.5 - 97.5	5		12	33.224	34.274	0.375	A572-65	1.000
15	97.5 - 92.5	5		12	34.274	35.324	0.375	A572-65	1.000
16	92.5 - 87.5	5		12	35.324	36.374	0.375	A572-65	1.000
17	87.5 - 87	6.17	5.67	12	36.374	37.670	0.375	A572-65	1.000
18	87 - 80.33	6.67		12	35.729	37.130	0.5	A572-65	1.000
19	80.33 - 75.33	5		12	37.130	38.180	0.5	A572-65	1.000
20	75.33 - 70.33	5		12	38.180	39.230	0.5	A572-65	1.000
21	70.33 - 67.75	2.58		12	39.230	39.771	0.5	A572-65	1.000
22	67.75 - 67.5	0.25		12	39.771	39.824	0.725	A572-65	0.961
23	67.5 - 62.5	5		12	39.824	40.874	0.7125	A572-65	0.970
24	62.5 - 57.5	5		12	40.874	41.924	0.7	A572-65	0.980
25	57.5 - 52.5	5		12	41.924	42.973	0.7	A572-65	0.974
26	52.5 - 48	11.08	6.58	12	42.973	45.300	0.7	A572-65	0.968
27	48 - 40.42	7.58		12	42.918	44.510	0.7625	A572-65	0.968
28	40.42 - 35.42	5		12	44.510	45.561	0.75	A572-65	0.979
29	35.42 - 30.5	4.92		12	45.561	46.594	0.75	A572-65	0.974
30	30.5 - 30.25	0.25		12	46.594	46.646	0.7375	A572-65	0.961
31	30.25 - 26.75	3.5		12	46.646	47.382	0.7375	A572-65	0.958
32	26.75 - 26.5	0.25		12	47.382	47.434	0.6	A572-65	1.146
33	26.5 - 26.25	0.25		12	47.434	47.487	0.6	A572-65	1.146
34	26.25 - 26	0.25		12	47.487	47.539	0.5625	A572-65	1.000
35	26 - 21	5		12	47.539	48.589	0.5625	A572-65	1.000
36	21 - 16	5		12	48.589	49.639	0.5625	A572-65	1.000
37	16 - 11	5		12	49.639	50.690	0.5625	A572-65	1.000
38	11 - 6	5		12	50.690	51.740	0.5625	A572-65	1.000
39	6 - 1	5		12	51.740	52.790	0.5625	A572-65	1.000
40	1 - 0.5	0.5		12	52.790	52.895	0.5625	A572-65	1.000
41	0.5 - 0.25	0.25		12	52.895	52.947	0.8125	A572-65	1.012
42	0.25 - 0	0.25		12	52.947	53.000	0.5625	A572-65	1.000

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	160 - 155	2.85	20.21	5.50
2	155 - 150	3.29	48.75	5.92
3	150 - 145	8.46	98.25	12.44
4	145 - 140	9.00	161.53	12.88
5	140 - 135	14.03	240.42	18.41
6	135 - 130	14.69	333.56	18.85
7	130 - 126	20.45	415.16	24.50
8	126 - 121	21.84	538.95	25.03
9	121 - 116	25.87	669.25	28.16
10	116 - 111	26.95	811.06	28.59
11	111 - 106	28.86	957.77	30.00
12	106 - 102.75	29.63	1055.90	30.39
13	102.75 - 102.5	29.70	1063.50	30.40
14	102.5 - 97.5	31.10	1217.26	31.13
15	97.5 - 92.5	32.39	1373.85	31.54
16	92.5 - 87.5	33.71	1532.45	31.94
17	87.5 - 87	33.85	1548.42	31.97
18	87 - 80.33	36.93	1764.05	32.69
19	80.33 - 75.33	38.76	1928.78	33.23
20	75.33 - 70.33	40.45	2095.83	33.64
21	70.33 - 67.75	41.33	2182.83	33.85
22	67.75 - 67.5	41.45	2191.29	33.86
23	67.5 - 62.5	43.64	2361.70	34.33
24	62.5 - 57.5	45.88	2534.41	34.79
25	57.5 - 52.5	48.16	2709.36	35.23
26	52.5 - 48	50.23	2868.68	35.61
27	48 - 40.42	56.52	3141.70	36.43
28	40.42 - 35.42	59.06	3324.73	36.82
29	35.42 - 30.5	61.61	3506.63	37.18
30	30.5 - 30.25	61.74	3515.92	37.18
31	30.25 - 26.75	63.53	3646.44	37.44
32	26.75 - 26.5	63.66	3655.79	37.43
33	26.5 - 26.25	63.79	3665.15	37.45
34	26.25 - 26	63.90	3674.51	37.46
35	26 - 21	66.09	3862.48	37.76
36	21 - 16	68.34	4051.86	38.04
37	16 - 11	70.62	4242.63	38.32
38	11 - 6	72.89	4434.79	38.60
39	6 - 1	74.97	4628.34	38.88
40	1 - 0.5	75.18	4647.78	38.90
41	0.5 - 0.25	75.33	4657.50	38.91
42	0.25 - 0	75.44	4667.22	38.91

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
160 - 155	Pole	TP22.7x21.65x0.25	Pole	3.5%	Pass
155 - 150	Pole	TP23.75x22.7x0.25	Pole	7.6%	Pass
150 - 145	Pole	TP24.8x23.75x0.25	Pole	14.4%	Pass
145 - 140	Pole	TP25.85x24.8x0.25	Pole	21.8%	Pass
140 - 135	Pole	TP26.9x25.85x0.25	Pole	30.5%	Pass
135 - 130	Pole	TP27.949x26.9x0.25	Pole	39.4%	Pass
130 - 126	Pole	TP29.77x27.949x0.25	Pole	47.1%	Pass
126 - 121	Pole	TP29.339x28.289x0.375	Pole	35.0%	Pass
121 - 116	Pole	TP30.389x29.339x0.375	Pole	40.4%	Pass
116 - 111	Pole	TP31.439x30.389x0.375	Pole	45.7%	Pass
111 - 106	Pole	TP32.489x31.439x0.375	Pole	50.8%	Pass
106 - 102.75	Pole	TP33.172x32.489x0.375	Pole	54.0%	Pass
102.75 - 102.5	Pole	TP33.224x33.172x0.375	Pole	54.2%	Pass
102.5 - 97.5	Pole	TP34.274x33.224x0.375	Pole	58.8%	Pass
97.5 - 92.5	Pole	TP35.324x34.274x0.375	Pole	62.9%	Pass
92.5 - 87.5	Pole	TP36.374x35.324x0.375	Pole	66.8%	Pass
87.5 - 87	Pole	TP37.67x36.374x0.375	Pole	67.1%	Pass
87 - 80.33	Pole	TP37.13x35.729x0.5	Pole	53.0%	Pass
80.33 - 75.33	Pole	TP38.18x37.13x0.5	Pole	54.8%	Pass
75.33 - 70.33	Pole	TP39.23x38.18x0.5	Pole	56.3%	Pass
70.33 - 67.75	Pole	TP39.771x39.23x0.5	Pole	57.0%	Pass
67.75 - 67.5	Pole + Reinf.	TP39.824x39.771x0.725	Reinf. 4 Tension Rupture	60.8%	Pass
67.5 - 62.5	Pole + Reinf.	TP40.874x39.824x0.7125	Reinf. 4 Tension Rupture	62.6%	Pass
62.5 - 57.5	Pole + Reinf.	TP41.924x40.874x0.7	Reinf. 4 Tension Rupture	64.3%	Pass
57.5 - 52.5	Pole + Reinf.	TP42.973x41.924x0.7	Reinf. 4 Tension Rupture	65.8%	Pass
52.5 - 48	Pole + Reinf.	TP45.3x42.973x0.7	Reinf. 4 Tension Rupture	67.1%	Pass
48 - 40.42	Pole + Reinf.	TP44.51x42.918x0.7625	Reinf. 4 Tension Rupture	66.0%	Pass
40.42 - 35.42	Pole + Reinf.	TP45.561x44.51x0.75	Reinf. 4 Tension Rupture	66.9%	Pass
35.42 - 30.5	Pole + Reinf.	TP46.594x45.561x0.75	Reinf. 4 Tension Rupture	67.8%	Pass
30.5 - 30.25	Pole + Reinf.	TP46.646x46.594x0.7375	Reinf. 2 Compression	60.6%	Pass
30.25 - 26.75	Pole + Reinf.	TP47.382x46.646x0.7375	Reinf. 2 Compression	61.1%	Pass
26.75 - 26.5	Pole + Reinf.	TP47.434x47.382x0.6	Pole	58.7%	Pass
26.5 - 26.25	Pole + Reinf.	TP47.487x47.434x0.6	Pole	58.7%	Pass
26.25 - 26	Pole	TP47.539x47.487x0.5625	Pole	60.0%	Pass
26 - 21	Pole	TP48.589x47.539x0.5625	Pole	60.7%	Pass
21 - 16	Pole	TP49.639x48.589x0.5625	Pole	61.4%	Pass
16 - 11	Pole	TP50.69x49.639x0.5625	Pole	62.0%	Pass
11 - 6	Pole	TP51.74x50.69x0.5625	Pole	62.6%	Pass
6 - 1	Pole	TP52.79x51.74x0.5625	Pole	63.1%	Pass
1 - 0.5	Pole	TP52.895x52.79x0.5625	Pole	63.2%	Pass
0.5 - 0.25	Pole + Reinf.	TP52.947x52.895x0.8125	Reinf. 6 Compression	55.6%	Pass
0.25 - 0	Pole	TP53x52.947x0.5625	Pole	63.2%	Pass
				Summary	
			Pole	67.1%	Pass
			Reinforcement	67.8%	Pass
			Overall	67.8%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*						
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6
160 - 155	1164	n/a	1164	18.05	n/a	18.05	3.5%						
155 - 150	1335	n/a	1335	18.89	n/a	18.89	7.6%						
150 - 145	1522	n/a	1522	19.73	n/a	19.73	14.4%						
145 - 140	1726	n/a	1726	20.58	n/a	20.58	21.8%						
140 - 135	1947	n/a	1947	21.42	n/a	21.42	30.5%						
135 - 130	2187	n/a	2187	22.27	n/a	22.27	39.4%						
130 - 126	2392	n/a	2392	22.94	n/a	22.94	47.1%						
126 - 121	3750	n/a	3750	34.92	n/a	34.92	35.0%						
121 - 116	4173	n/a	4173	36.19	n/a	36.19	40.4%						
116 - 111	4627	n/a	4627	37.46	n/a	37.46	45.7%						
111 - 106	5112	n/a	5112	38.72	n/a	38.72	50.8%						
106 - 102.75	5445	n/a	5445	39.55	n/a	39.55	54.0%						
102.75 - 102.5	5471	n/a	5471	39.61	n/a	39.61	54.2%						
102.5 - 97.5	6012	n/a	6012	40.87	n/a	40.87	58.8%						
97.5 - 92.5	6588	n/a	6588	42.14	n/a	42.14	62.9%						
92.5 - 87.5	7200	n/a	7200	43.41	n/a	43.41	66.8%						
87.5 - 87	7263	n/a	7263	43.53	n/a	43.53	67.1%						
87 - 80.33	10114	n/a	10114	58.89	n/a	58.89	53.0%						
80.33 - 75.33	11009	n/a	11009	60.58	n/a	60.58	54.8%						
75.33 - 70.33	11955	n/a	11955	62.27	n/a	62.27	56.3%						
70.33 - 67.75	12463	n/a	12463	63.14	n/a	63.14	57.0%						
67.75 - 67.5	12513	5185	17698	63.22	24.38	87.60	39.1%			60.8%	60.8%		
67.5 - 62.5	13543	5451	18994	64.91	24.38	89.28	40.3%			62.6%	62.6%		
62.5 - 57.5	14627	5724	20351	66.60	24.38	90.97	41.5%			64.3%	64.3%		
57.5 - 52.5	15767	6003	21771	68.28	24.38	92.66	42.8%			65.8%	65.8%		
52.5 - 48	16843	6261	23104	69.80	24.38	94.18	43.9%			67.1%	67.1%		
48 - 40.42	19651	6425	26075	79.49	24.38	103.86	42.5%			66.0%	66.0%		
40.42 - 35.42	21093	6721	27814	81.39	24.38	105.76	43.2%			66.9%	66.9%		
35.42 - 30.5	22580	7019	29599	83.26	24.38	107.63	43.8%			67.8%	67.8%		
30.5 - 30.25	22820	6824	29644	83.35	21.25	104.60	47.3%		60.6%				
30.25 - 26.75	23925	7038	30963	84.68	21.25	105.93	47.9%		61.1%				
26.75 - 26.5	24073	1738	25811	84.77	18.75	103.52	58.7%	53.7%		57.9%			
26.5 - 26.25	24154	1742	25896	84.87	18.75	103.62	58.7%	53.7%		58.0%			
26.25 - 26	24000	n/a	24000	84.96	n/a	84.96	60.0%						
26 - 21	25645	n/a	25645	86.86	n/a	86.86	60.7%						
21 - 16	27365	n/a	27365	88.76	n/a	88.76	61.4%						
16 - 11	29159	n/a	29159	90.66	n/a	90.66	62.0%						
11 - 6	31030	n/a	31030	92.56	n/a	92.56	62.6%						
6 - 1	32980	n/a	32980	94.46	n/a	94.46	63.1%						
1 - 0.5	33179	n/a	33179	94.65	n/a	94.65	63.2%						
0.5 - 0.25	33406	14096	47501	94.75	43.13	137.87	45.4%						55.6%
0.25 - 0	33379	n/a	33379	94.84	n/a	94.84	63.2%						

Note: Section capacity checked using 5 degree increments.
Rating per TIA-222-H Section 15.5.

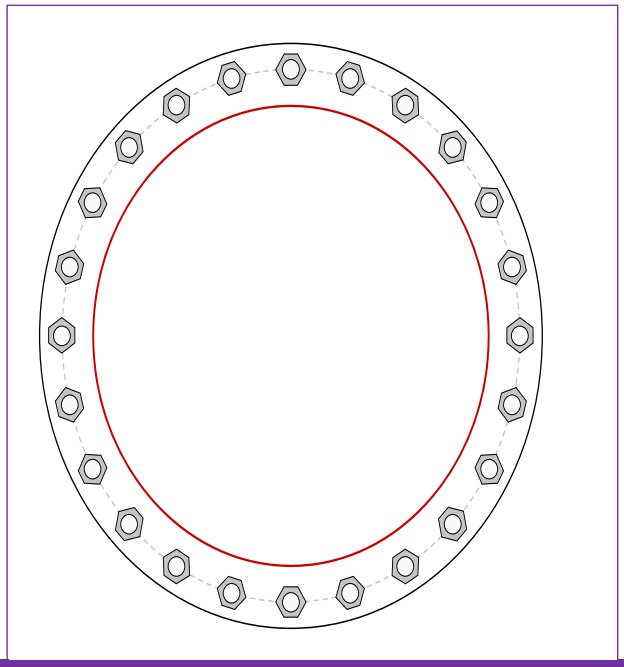
Monopole Base Plate Connection

Site Info	
BU #	806939
Site Name	NHV 2071 143137
Order #	608637 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.25

Applied Loads	
Moment (kip-ft)	4667.22
Axial Force (kips)	75.44
Shear Force (kips)	38.91

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(24) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 61.37" BC

Base Plate Data

67.37" OD x 3" Plate (S-128; Fy=60 ksi, Fu=80 ksi)

Stiffener Data

N/A

Pole Data

53" x 0.5625" 12-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary		*(units of kips, kip-in)*
Pu_t = 148.87	ϕPn_t = 243.75	**Stress Rating**
Vu = 1.62	ϕVn = 149.1	**58.2%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary		
Max Stress (ksi):	24.97	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**44.0%**	**Pass**

Pier and Pad Foundation

BU # :	806939
Site Name:	NHV 2071 143137
App. Number:	608637 Rev. 0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp}:	75.44	kips
Base Shear, Vu_comp:	38.92	kips
Moment, M_u:	4667.23	ft-kips
Tower Height, **H**:	160	ft
BP Dist. Above Fdn, bp_{dist}:	3.5	in

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, **dpier**:	7	ft
Ext. Above Grade, **E**:	0.5	ft
Pier Rebar Size, **Sc**:	11	
Pier Rebar Quantity, **mc**:	36	
Pier Tie/Spiral Size, **St**:	5	
Pier Tie/Spiral Quantity, **mt**:	6	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties		
Depth, **D**:	9.5	ft
Pad Width, W_1:	30	ft
Pad Thickness, **T**:	3.5	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	11	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	28	
Pad Clear Cover, cc_{pad}:	3	in

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

Soil Properties		
Total Soil Unit Weight, γ:	115	pcf
Ultimate Net Bearing, Qnet:	25.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	31	degrees
SPT Blow Count, N_{blows}:	16	
Base Friction, μ:	0.4	
Neglected Depth, **N**:	3.30	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	8	ft

<--Toggle between Gross and Net

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	530.44	38.92	**7.0%**	**Pass**
Bearing Pressure (ksf)	19.50	2.22	**10.9%**	**Pass**
*Overturning (kip*ft)*	13930.42	5067.78	**36.4%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	8708.24	4920.21	**53.8%**	**Pass**
Pier Compression (kip)	24494.62	120.47	**0.5%**	**Pass**
*Pad Flexure (kip*ft)*	7039.68	1858.42	**25.1%**	**Pass**
Pad Shear - 1-way (kips)	1259.72	229.61	**17.4%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.040	**19.8%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	8089.81	2952.13	**34.8%**	**Pass**

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

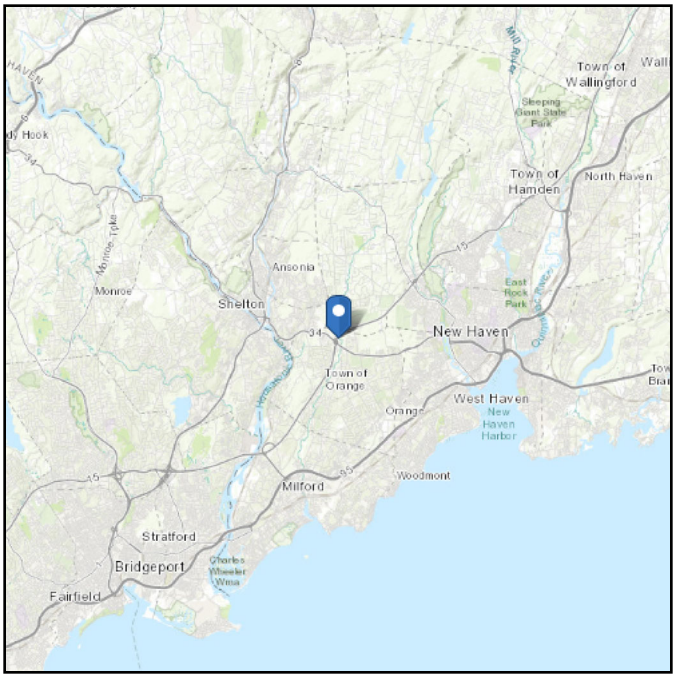
Structural Rating*:	**53.8%**
Soil Rating*:	**36.4%**

Version 4.1.1

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Elevation:**	191.26 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.307878
Soil Class:	D - Stiff Soil	**Longitude:**	-73.032283



Wind

Results:

Wind Speed:	119 Vmph
10-year MRI	75 Vmph
25-year MRI	85 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:	Wed Nov 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.

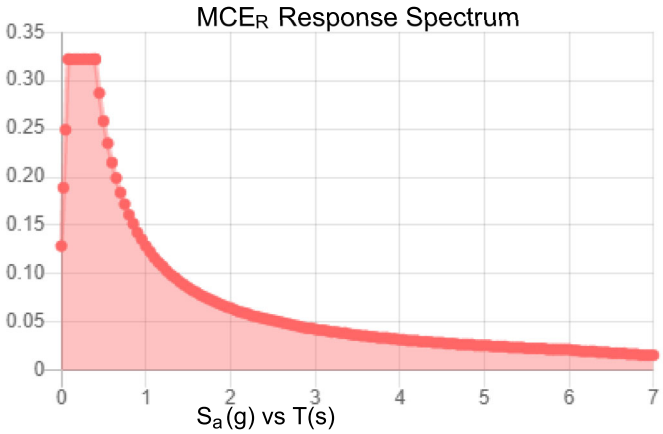
Seismic

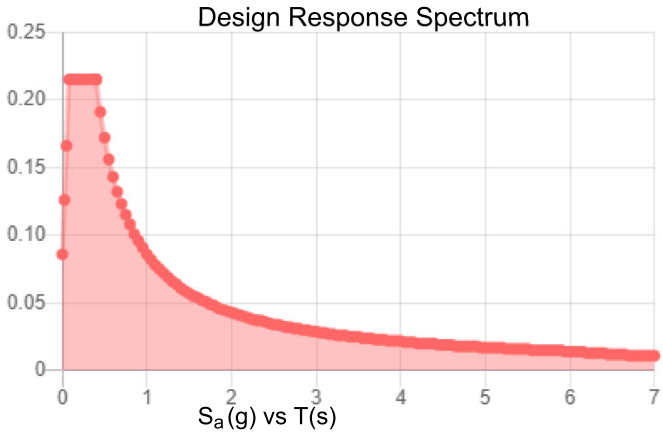
Site Soil Class: D - Stiff Soil

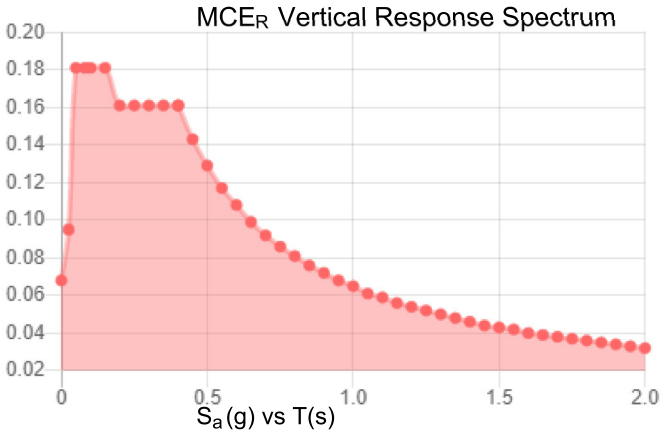
Results:

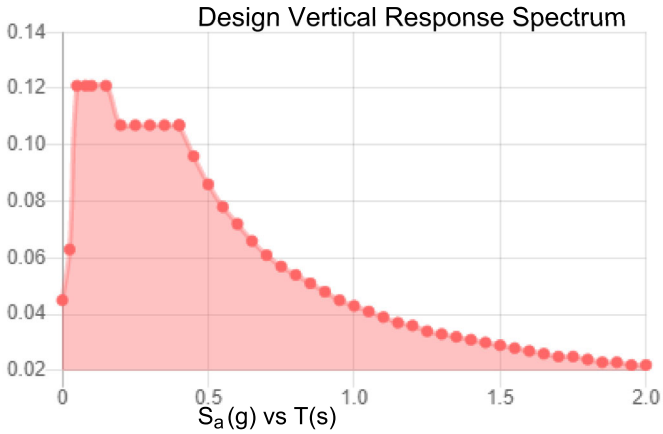
S_S :	0.201	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.113
F_v :	2.4	PGA_M :	0.178
S_{MS} :	0.322	F_{PGA} :	1.574
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.215	C_v :	0.703

Seismic Design Category B









Data Accessed: Wed Nov 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:	Wed Nov 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: May 12, 2022

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject:	**Mount Modification Report**	
Carrier Designation:	**T-Mobile Equipment Change-Out**	
	Carrier Site Number:	CT11084B
	Carrier Site Name:	Orange/ MP X56-57
Crown Castle Designation:	**BU Number:**	806939
	Site Name:	NHV 2071 143137
	JDE Job Number:	578224
	Order Number:	608637, Rev.0
Engineering Firm Designation:	**B+T Group Report Designation:**	136352.017.01
Site Data:	**800 OGG Meadow Road, Orange, CT, New Haven County, 06477** **Latitude 41° 18' 28.36" Longitude -73° 1' 56.22"**	
Structure Information:	**Tower Height & Type:**	**161 ft. Monopole**
	Mount Elevation:	**127 ft.**
	Mount Type:	**11.9 ft. Platform Mount**

B+T Group is pleased to submit this **"Mount Modification Report"** to determine the structural integrity of AT&T Mobility'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's stress level. Based on our analysis we have determined the stress level to be:

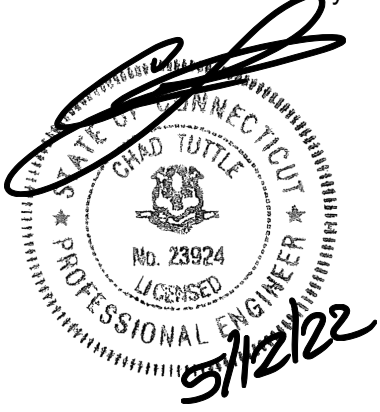
Platform Mount **Sufficient**

***See Section 4.1 of this report for the structural modifications required in order for the mount to support the loading listed in Table 1.**

This analysis utilizes an ultimate 3-second gust wind speed of 119 mph as required by the 2018 International Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Erik Perez

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/01/2023



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

This is an existing 3 - sector 11.9' Platform Mount, mapped by B+T Group.

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	119 mph
Exposure Category:	B
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1.0 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.201
Seismic S_1:	0.054
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	Manufacturer	Model / Type	Mount / Modification Details
127	129	3	Commscope	VV-65A-R1	11.9' Platform Mount
		3	Ericsson	AIR 6419 B41	
		3	RFS/Celwave	APXVAALL24_43-U-NA20	
		3	Ericsson	RADIO 4460 B2/B25 B66	
		3	Ericsson	RADIO 4480_TMOV2	

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 04/12/2022	Crown Castle
RFDS		Date: 3/22/2022	
Mount Mapping	B+T Group	Date: 06/26/2019	On File
Mount Analysis		Date: 07/02/2019	
Failing Mount Analysis		Date: 04/17/2020	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 20.0.1), 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.

A tool internally developed by B+T Group, 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.

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

3.2) Assumptions

1. The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
3. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected members unless otherwise specified in this report.
4. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
5. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
6. Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
7. 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.
8. The following material grades were assumed (Unless Noted Otherwise):
   (a) Connection Bolts : ASTM A325
   (b) Steel Pipe : ASTM A53 (GR. 35)
   (c) HSS (Round) : ASTM 500 (GR. B-42)
   (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
   (e) Channel : ASTM A36 (GR. 36)
   (f) Steel Solid Rod : ASTM A36 (GR. 36)
   (g) Steel Plate : ASTM A36 (GR. 36)
   (h) Steel Angle : ASTM A36 (GR. 36)
   (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group 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 Mount)

Notes	Component	Centerline (ft.)	Critical Member	% Capacity	Pass / Fail
1	Main Horizontal Channels	127	2	27.1	Pass
	Supporting Arms		80	18.6	Pass
	Supporting Angles		75	55.4	Pass
	Supporting Angle Rails		108	47.9	Pass
	Mount Pipes		10	26.0	Pass
	New Bracing Pipes		M115	62.2	Pass
	New Telescoping Arms		M111	47.9	Pass
2	Mount to Tower Connection		-	56.1	Pass

Structure Rating (max from all components) =	62.2%

Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) All sectors are typical
3) See additional documentation in "Appendix D - Additional Calculations" for calculations supporting the % capacity reported.

4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

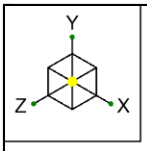
1. Add (3) New Telescoping Arm Kit, connected to new 2-1/2" Std. Bracing Pipes

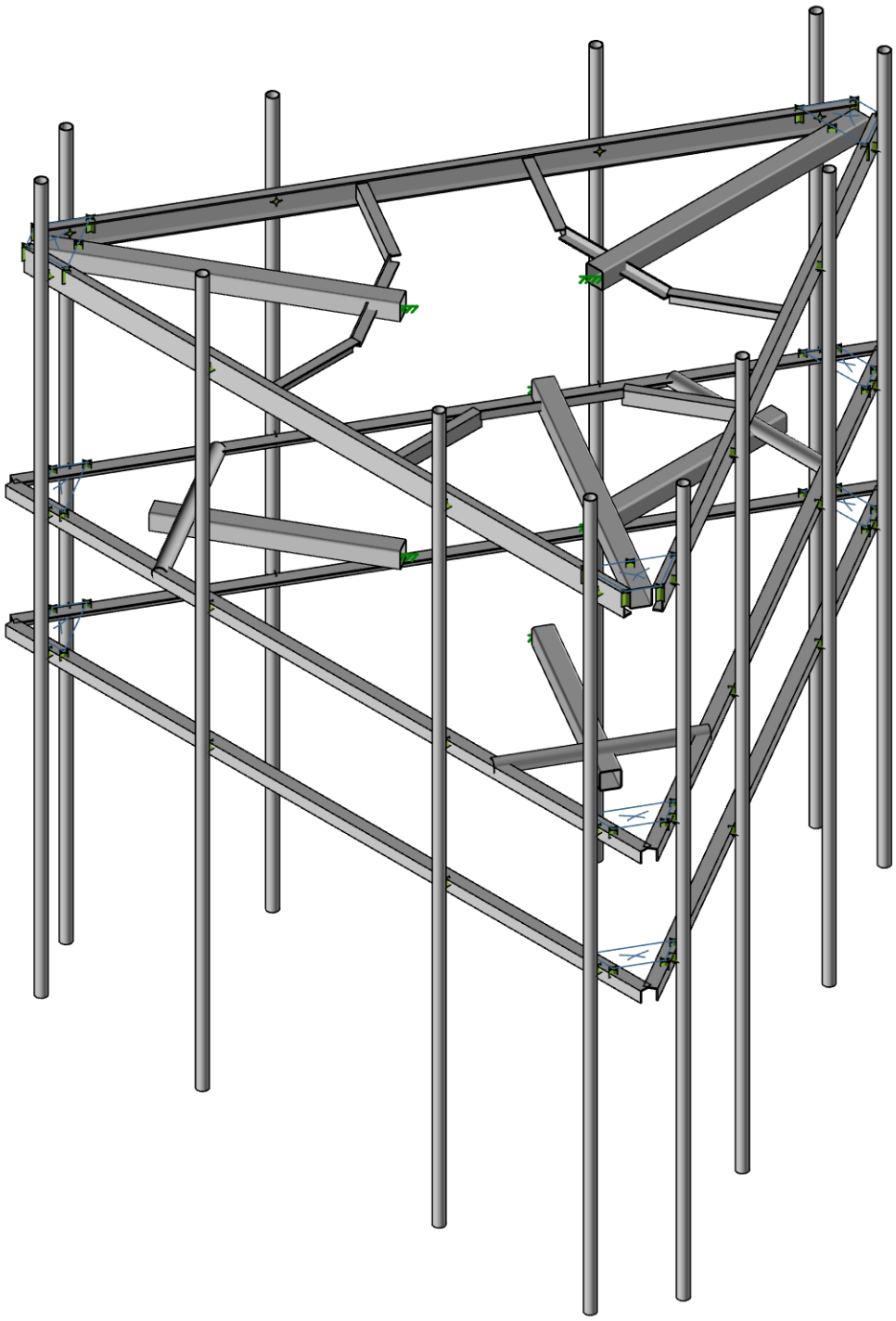
Engineering detail drawings have been provided in Appendix E – Mount Modification Design Drawings.

Connection from the mount to the tower and local stresses on the tower are sufficient.

APPENDIX A

WIRE FRAME AND RENDERED MODELS





Envelope Only Solution

B+T Group	806939 - NHV 2071 143137	SK-1
LHN		Apr 15, 2022
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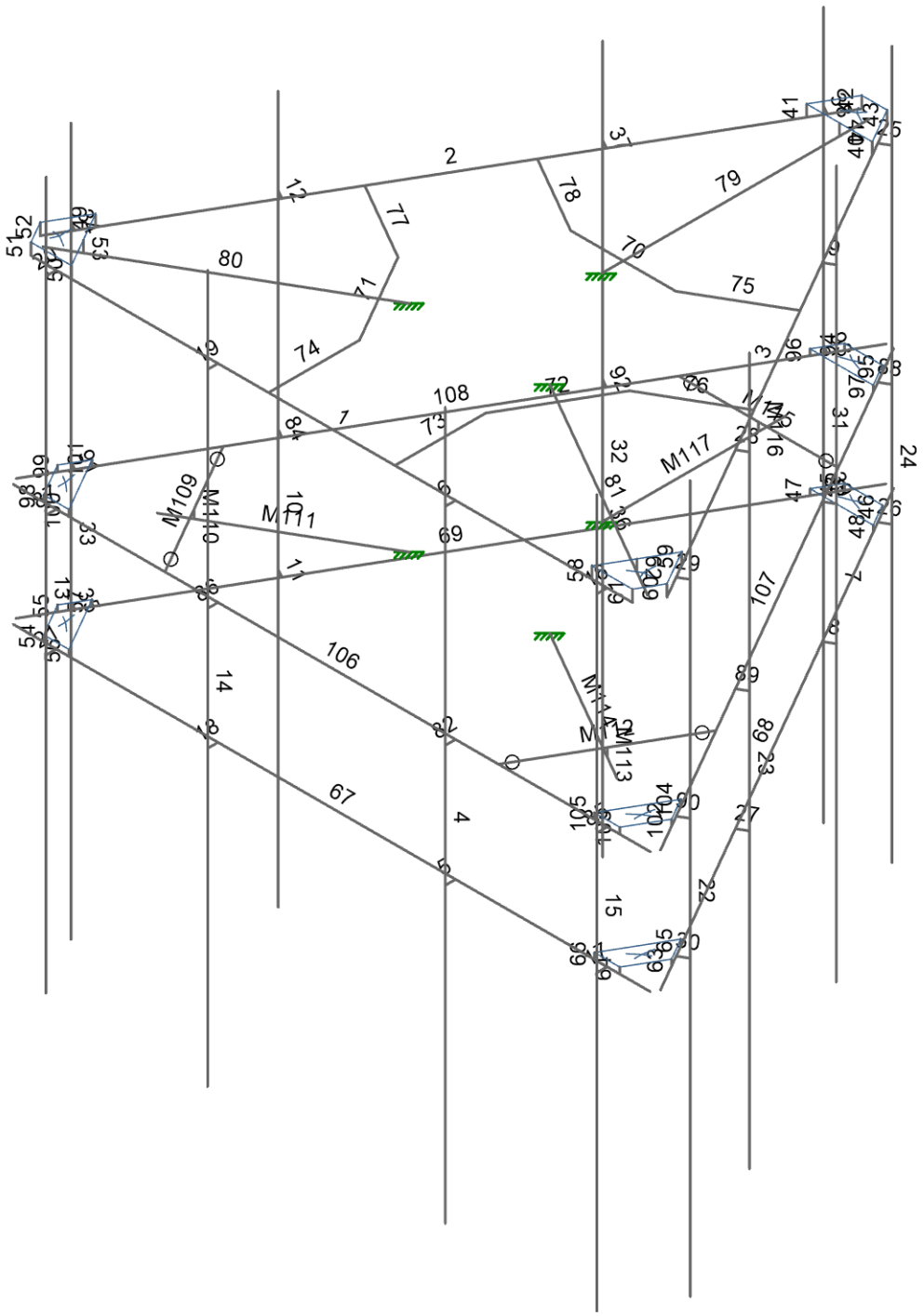

Envelope Only Solution

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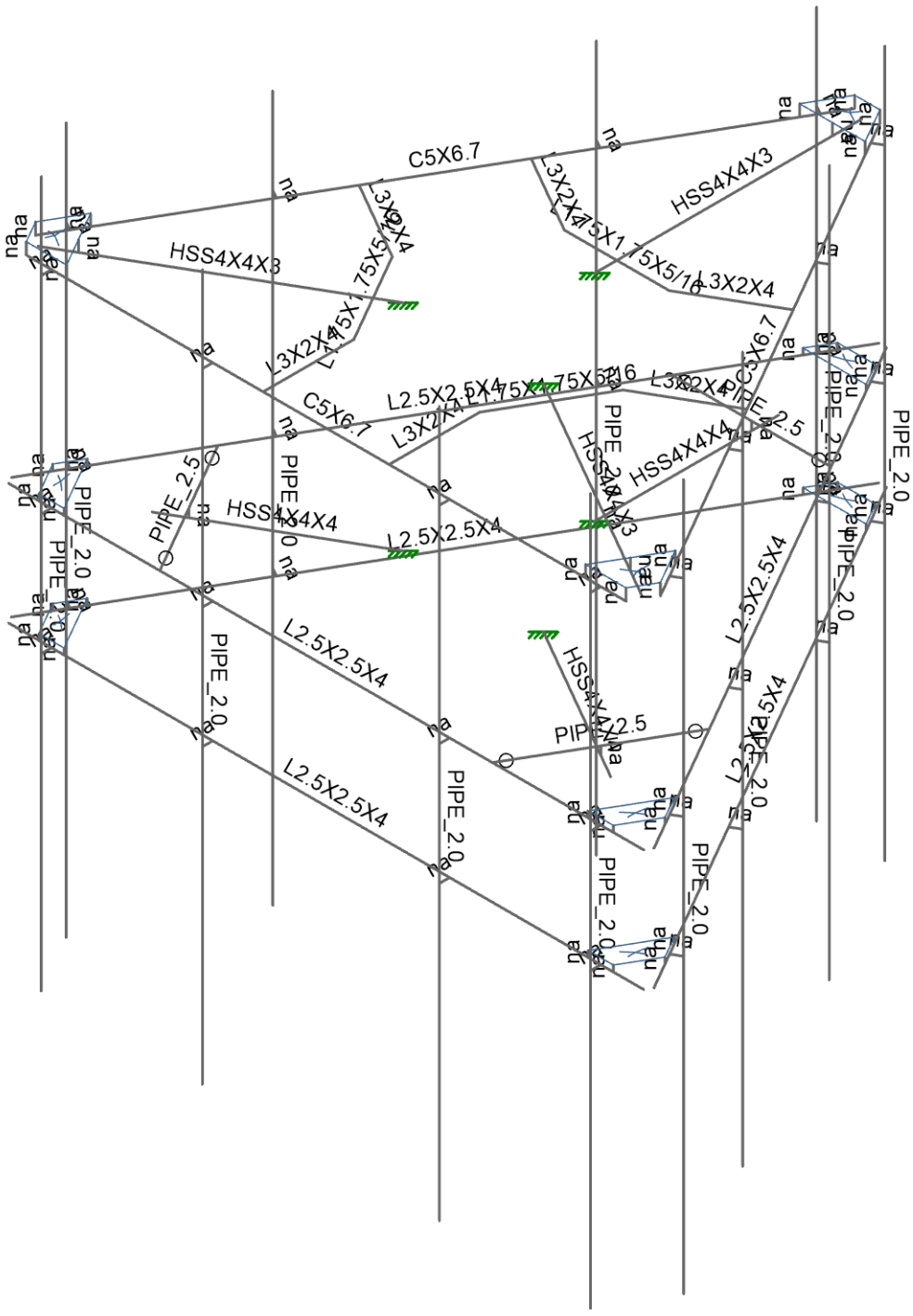

Envelope Only Solution

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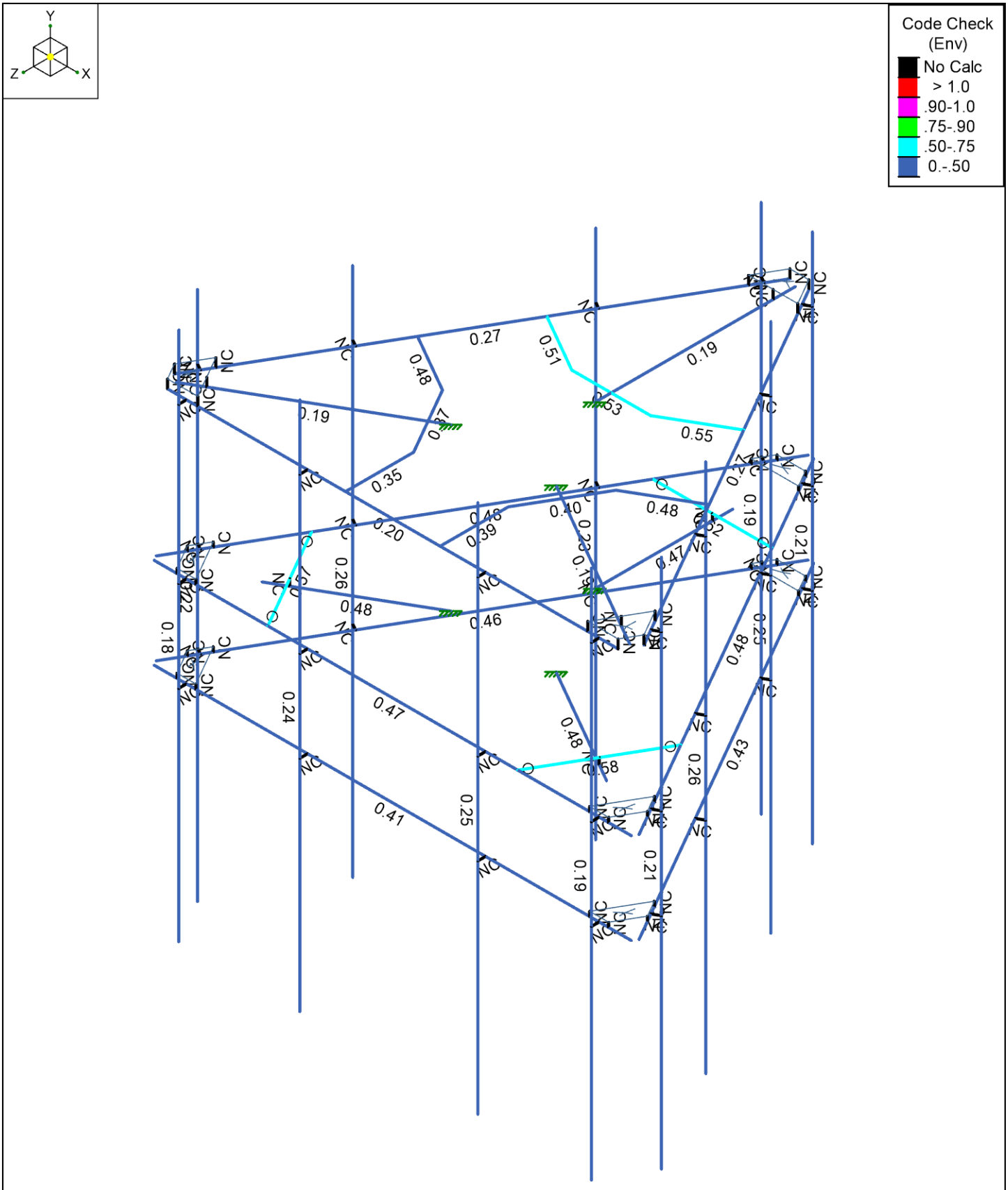

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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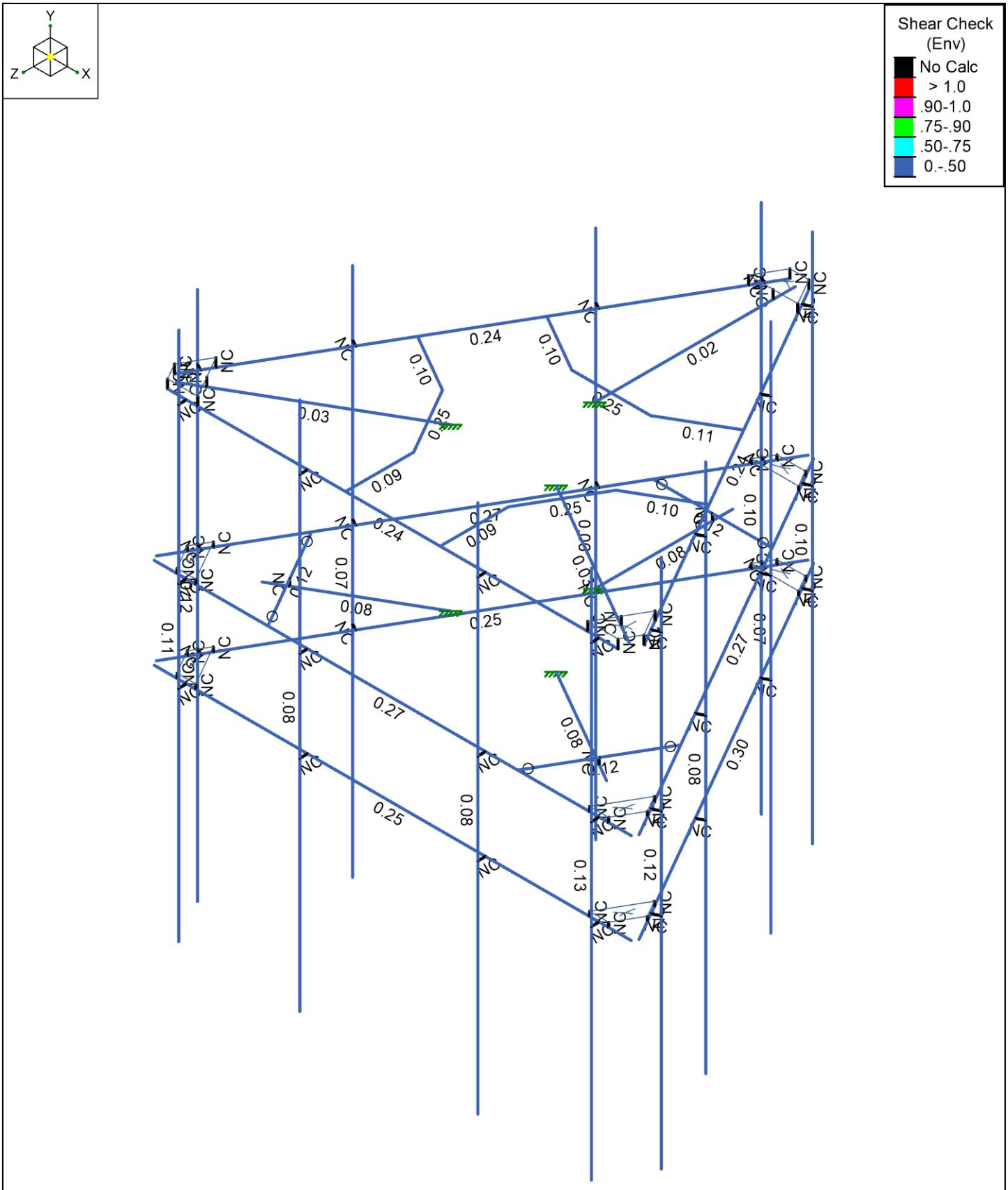
LHN		Apr 15, 2022
136352.017.01		136352_017_01_NHV 2071 1431…



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	806939 - NHV 2071 143137	SK-5
LHN		Apr 15, 2022
136352.017.01		136352_017_01_NHV 2071 1431…

APPENDIX B

SOFTWARE INPUT CALCULATIONS

PROJECT	**136352.017.01 - NHV 2071 1⁴**		**LHN**
SUBJECT	**Platform Mount Mount Analysis**		
DATE	**05/12/22**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Tower Type		:	Monopole		
Ground Elevation	z_s	:	191	ft	[ASCE7 Hazard Tool]
Tower Height		:	161.00	ft	
Mount Elevation		:	127.00	ft	
Antenna Elevation		:	129.00	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	B		[Sec. 2.6.5.1.2]
Topography Category		:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	:	119	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	:	1.00	in	[ASCE7 Hazard Tool]
Seismic Design Cat.		:	B		[ASCE7 Hazard Tool]
	S_S	:	0.20		
	S_1	:	0.05		
	S_{DS}	:	0.22		
	S_{D1}	:	0.09		

Gust Factor	G_h	:	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	:	1.06		[Sec. 2.6.5.2]
Topography Factor	K_{zt}	:	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	:	0.99		[Sec. 2.6.8]
Directionality Factor	K_d	:	0.95		[Sec. 16.6]
Shielding Factor	K_a	:	0.90		[Sec. 16.6]
Design Ice Thickness	t_{iz}	:	1.15	in	[Sec. 2.6.10]

Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.108		[Sec. 2.7.7.1]
Amplification	A_s	:	2.15528		[Sec. 16.7]

PROJECT	**136352.017.01 - NHV 2071 1⁴**		**LHN**
SUBJECT	**Platform Mount Mount Analysis**		
DATE	**05/12/22**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
COMMSCOPE	VV-65A-R1	0.5	4.56	1.29	2.28	0.87	2.83	1.36	0.10	0.04	0.02	0.01
COMMSCOPE	VV-65A-R1	0.5	4.56	1.29	2.28	0.87	2.83	1.36	0.10	0.04	0.02	0.01
ERICSSON	RADIO 4460 B2/B25 B66	1	1.13	1.20	1.78	1.40	2.33	1.90	0.07	0.06	0.01	0.01
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.99	2.83	8.96	3.68	0.33	0.12	0.06	0.02
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.99	2.83	8.96	3.68	0.33	0.12	0.06	0.02
ERICSSON	RADIO 4480_TMOV2	1	1.40	1.20	2.40	1.15	3.03	1.65	0.09	0.04	0.02	0.01
ERICSSON	AIR 6419 B41	0.5	1.73	1.20	2.63	1.14	3.10	1.51	0.10	0.04	0.02	0.01
ERICSSON	AIR 6419 B41	0.5	1.73	1.20	2.63	1.14	3.10	1.51	0.10	0.04	0.02	0.01
COMMSCOPE	VV-65A-R1	0.5	4.56	1.29	2.28	0.87	2.83	1.36	0.10	0.04	0.02	0.01
COMMSCOPE	VV-65A-R1	0.5	4.56	1.29	2.28	0.87	2.83	1.36	0.10	0.04	0.02	0.01
ERICSSON	RADIO 4460 B2/B25 B66	1	1.13	1.20	1.78	1.40	2.33	1.90	0.07	0.06	0.01	0.01
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.99	2.83	8.96	3.68	0.33	0.12	0.06	0.02
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.99	2.83	8.96	3.68	0.33	0.12	0.06	0.02
ERICSSON	RADIO 4480_TMOV2	1	1.40	1.20	2.40	1.15	3.03	1.65	0.09	0.04	0.02	0.01
ERICSSON	AIR 6419 B41	0.5	1.73	1.20	2.63	1.14	3.10	1.51	0.10	0.04	0.02	0.01
ERICSSON	AIR 6419 B41	0.5	1.73	1.20	2.63	1.14	3.10	1.51	0.10	0.04	0.02	0.01

PROJECT	**136352.017.01 - NHV 2071 1⁴**		**LHN**
SUBJECT	**Platform Mount Mount Analysis**		
DATE	**05/12/22**	PAGE 3	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

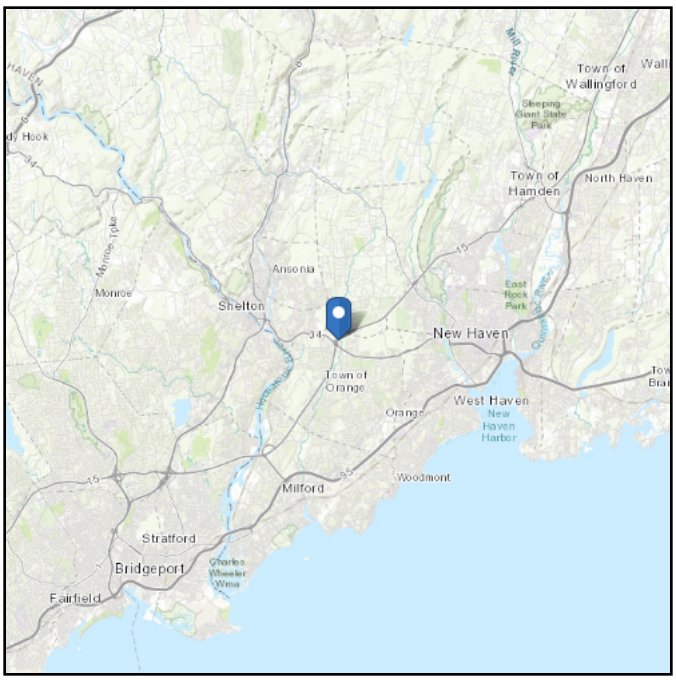
Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
COMMSCOPE	VV-65A-R1	0.5	4.56	1.29	2.28	0.87	2.83	1.36	0.10	0.04	0.02	0.01
COMMSCOPE	VV-65A-R1	0.5	4.56	1.29	2.28	0.87	2.83	1.36	0.10	0.04	0.02	0.01
ERICSSON	RADIO 4460 B2/B25 B66	1	1.13	1.20	1.78	1.40	2.33	1.90	0.07	0.06	0.01	0.01
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.99	2.83	8.96	3.68	0.33	0.12	0.06	0.02
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.99	2.83	8.96	3.68	0.33	0.12	0.06	0.02
ERICSSON	RADIO 4480_TMOV2	1	1.40	1.20	2.40	1.15	3.03	1.65	0.00	0.04	0.02	0.01
ERICSSON	AIR 6419 B41	0.5	1.73	1.20	2.63	1.14	3.10	1.51	0.10	0.04	0.02	0.01
ERICSSON	AIR 6419 B41	0.5	1.73	1.20	2.63	1.14	3.10	1.51	0.10	0.04	0.02	0.01

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: 191.26 ft (NAVD 88)
Latitude: 41.307878
Longitude: -73.032283



Wind

Results:

Wind Speed:	119 Vmph
10-year MRI	75 Vmph
25-year MRI	85 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 Nov 12 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.

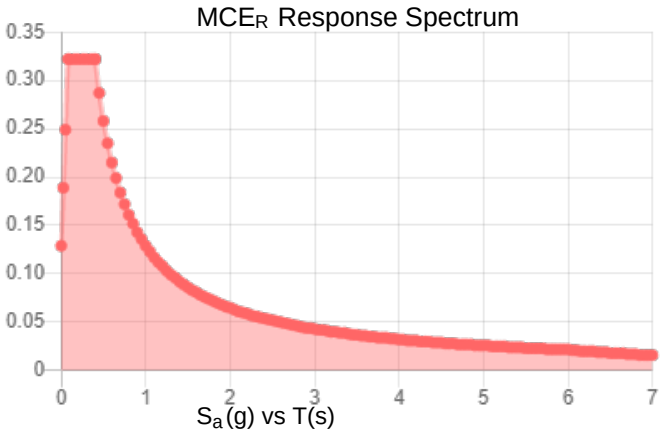
Seismic

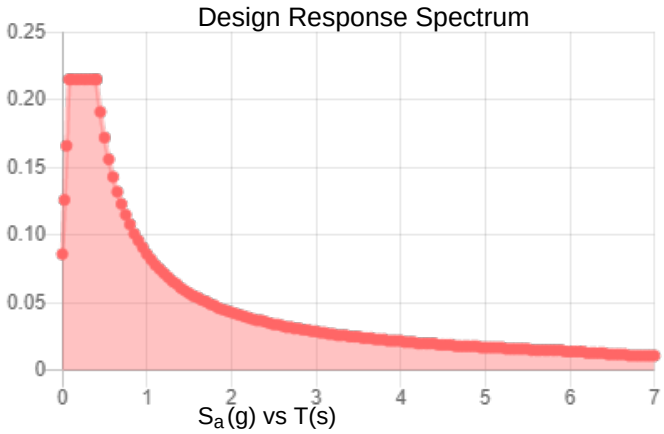
Site Soil Class: D - Default (see Section 11.4.3)

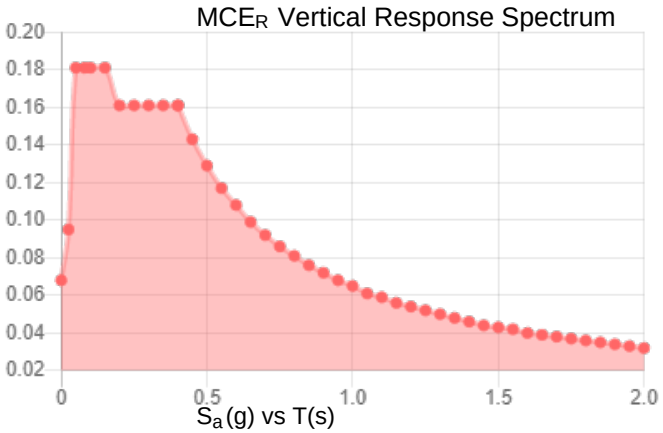
Results:

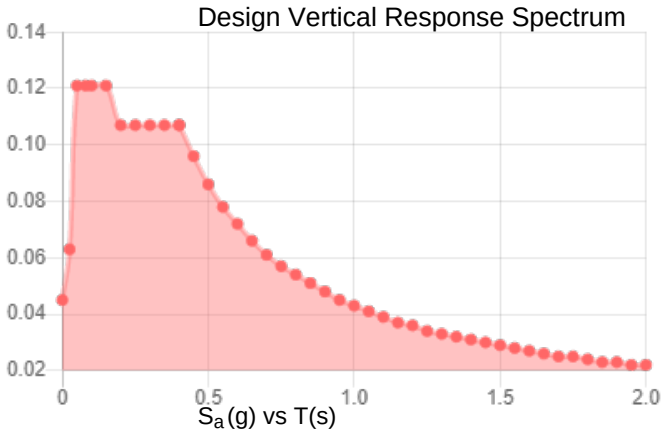
S_S :	0.201	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.113
F_v :	2.4	PGA_M :	0.178
S_{MS} :	0.322	F_{PGA} :	1.574
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.215	C_v :	0.703

Seismic Design Category B









Data Accessed: Fri Nov 12 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 Nov 12 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.

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0	0	0	
2	2	-1.25	0	2.223909	
3	3	1.25	0	2.223909	
4	4	2.550962	0	-0.029423	
5	5	1.300962	0	-2.194486	
6	6	-1.300962	0	-2.194486	
7	7	-2.550962	0	-0.029423	
8	8	2.45	1.7	3.927243	
9	9	2.45	-12.3	3.927243	
10	10	2.45	-6.5	3.723909	
11	11	2.45	-6.5	3.927243	
12	12	2.45	0	3.723909	
13	13	2.45	0	3.927243	
14	14	2.176092	1.7	-4.085384	
15	15	2.176092	-12.3	-4.085384	
16	16	2.	-6.5	-3.983717	
17	17	2.176092	-6.5	-4.085384	
18	18	2.	0	-3.983717	
19	19	2.176092	0	-4.085384	
20	20	-4.626092	1.7	0.158141	
21	21	-4.626092	-12.3	0.158141	
22	22	-4.45	-6.5	0.259808	
23	23	-4.626092	-6.5	0.158141	
24	24	-4.45	0	0.259808	
25	25	-4.626092	0	0.158141	
26	26	-5.45	1.7	3.927243	
27	27	-5.45	-12.3	3.927243	
28	28	-2.25	1.7	3.927243	
29	29	-2.25	-12.3	3.927243	
30	30	5.45	1.7	3.927243	
31	31	5.45	-12.3	3.927243	
32	32	5.45	0	3.723909	
33	33	5.45	0	3.927243	
34	34	5.45	-6.5	3.723909	
35	35	5.45	-6.5	3.927243	
36	36	-2.25	-6.5	3.723909	
37	37	-2.25	-6.5	3.927243	
38	38	-2.25	0	3.723909	
39	39	-2.25	0	3.927243	
40	40	-5.45	0	3.723909	
41	41	-5.45	0	3.927243	
42	42	-5.45	-6.5	3.723909	
43	43	-5.45	-6.5	3.927243	
44	44	6.126092	1.7	2.756217	
45	45	6.126092	-12.3	2.756217	
46	46	4.526092	1.7	-0.015064	
47	47	4.526092	-12.3	-0.015064	
48	48	0.676092	1.7	-6.68346	
49	49	0.676092	-12.3	-6.68346	
50	50	0.5	0	-6.581793	
51	51	0.676092	0	-6.68346	
52	52	0.5	-6.5	-6.581793	
53	53	0.676092	-6.5	-6.68346	
54	54	4.35	-6.5	0.086603	
55	55	4.526092	-6.5	-0.015064	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	4.35	0	0.086603	
57	57	4.526092	0	-0.015064	
58	58	5.95	0	2.857884	
59	59	6.126092	0	2.756217	
60	60	5.95	-6.5	2.857884	
61	61	6.126092	-6.5	2.756217	
62	62	-0.676092	1.7	-6.68346	
63	63	-0.676092	-12.3	-6.68346	
64	64	-2.276092	1.7	-3.912178	
65	65	-2.276092	-12.3	-3.912178	
66	66	-6.126092	1.7	2.756217	
67	67	-6.126092	-12.3	2.756217	
68	68	-5.95	0	2.857884	
69	69	-6.126092	0	2.756217	
70	70	-5.95	-6.5	2.857884	
71	71	-6.126092	-6.5	2.756217	
72	72	-2.1	-6.5	-3.810512	
73	73	-2.276092	-6.5	-3.912178	
74	74	-2.1	0	-3.810512	
75	75	-2.276092	0	-3.912178	
76	76	-0.5	0	-6.581793	
77	77	-0.676092	0	-6.68346	
78	78	-0.5	-6.5	-6.581793	
79	79	-0.676092	-6.5	-6.68346	
80	80	0.65	0	-6.321985	
81	81	-0.65	0	-6.321985	
82	82	-0.25	0	-7.014806	
83	83	0.25	0	-7.014806	
84	84	-0.65	0.229167	-6.321985	
85	85	-0.25	0.229167	-7.014806	
86	86	0.25	0.229167	-7.014806	
87	87	0.65	0.229167	-6.321985	
88	88	0	0.229167	-6.321985	
89	89	0	0	-6.321985	
90	90	-0.375	-6.5	-6.798299	
91	91	-0.375	-6.38	-6.798299	
92	92	0.375	-6.5	-6.798299	
93	93	0.375	-6.38	-6.798299	
94	94	-0.625	-6.5	-6.365287	
95	95	-0.625	-6.38	-6.365287	
96	96	0.625	-6.5	-6.365287	
97	97	0.625	-6.38	-6.365287	
98	98	-5.8	0	2.598076	
99	99	-5.15	0	3.723909	
100	100	-5.95	0	3.723909	
101	101	-6.2	0	3.290897	
102	102	-5.15	0.229167	3.723909	
103	103	-5.95	0.229167	3.723909	
104	104	-6.2	0.229167	3.290897	
105	105	-5.8	0.229167	2.598076	
106	106	-5.475	0.229167	3.160993	
107	107	-5.475	0	3.160993	
108	108	-5.7	-6.5	3.723909	
109	109	-5.7	-6.38	3.723909	
110	110	-6.075	-6.5	3.07439	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	111	-6.075	-6.38	3.07439	
112	112	-5.2	-6.5	3.723909	
113	113	-5.2	-6.38	3.723909	
114	114	-5.825	-6.5	2.641377	
115	115	-5.825	-6.38	2.641377	
116	116	5.15	0	3.723909	
117	117	5.8	0	2.598076	
118	118	6.2	0	3.290897	
119	119	5.95	0	3.723909	
120	120	5.8	0.229167	2.598076	
121	121	6.2	0.229167	3.290897	
122	122	5.95	0.229167	3.723909	
123	123	5.15	0.229167	3.723909	
124	124	5.475	0.229167	3.160993	
125	125	5.475	0	3.160993	
126	126	6.075	-6.5	3.07439	
127	127	6.075	-6.38	3.07439	
128	128	5.7	-6.5	3.723909	
129	129	5.7	-6.38	3.723909	
130	130	5.825	-6.5	2.641377	
131	131	5.825	-6.38	2.641377	
132	132	5.2	-6.5	3.723909	
133	133	5.2	-6.38	3.723909	
134	134	-6.3	-6.5	3.723909	
135	135	6.3	-6.5	3.723909	
136	136	6.375	-6.5	3.594005	
137	137	0.075	-6.5	-7.317915	
138	138	-0.075	-6.5	-7.317915	
139	139	-6.375	-6.5	3.594005	
140	140	1.25	0	3.723909	
141	141	1.25	0	1.923909	
142	142	-1.25	0	3.723909	
143	143	-1.25	0	1.923909	
144	144	2.6	0	-2.944486	
145	145	1.041154	0	-2.044486	
146	146	3.85	0	-0.779423	
147	147	2.291154	0	0.120577	
148	148	-3.85	0	-0.779423	
149	149	-2.291154	0	0.120577	
150	150	-2.6	0	-2.944486	
151	151	-1.041154	0	-2.044486	
152	152	0	0	-6.907267	
153	153	0	0	-1.607267	
154	154	-5.981868	0	3.453633	
155	155	-1.391934	0	0.803633	
156	156	5.981868	0	3.453633	
157	157	1.391934	0	0.803633	
158	158	0	0	-2.044486	
159	159	-1.770577	0	1.022243	
160	160	1.770577	0	1.022243	
161	162	2.45	-4.1	3.723909	
162	163	2.45	-4.1	3.927243	
163	164	2.	-4.1	-3.983717	
164	165	2.176092	-4.1	-4.085384	
165	166	-4.45	-4.1	0.259808	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
166	167	-4.626092	-4.1	0.158141	
167	168	5.45	-4.1	3.723909	
168	169	5.45	-4.1	3.927243	
169	170	-2.25	-4.1	3.723909	
170	171	-2.25	-4.1	3.927243	
171	172	-5.45	-4.1	3.723909	
172	173	-5.45	-4.1	3.927243	
173	174	0.5	-4.1	-6.581793	
174	175	0.676092	-4.1	-6.68346	
175	176	4.35	-4.1	0.086603	
176	177	4.526092	-4.1	-0.015064	
177	178	5.95	-4.1	2.857884	
178	179	6.126092	-4.1	2.756217	
179	180	-5.95	-4.1	2.857884	
180	181	-6.126092	-4.1	2.756217	
181	182	-2.1	-4.1	-3.810512	
182	183	-2.276092	-4.1	-3.912178	
183	184	-0.5	-4.1	-6.581793	
184	185	-0.676092	-4.1	-6.68346	
185	186	-0.375	-4.1	-6.798299	
186	187	-0.375	-3.98	-6.798299	
187	188	0.375	-4.1	-6.798299	
188	189	0.375	-3.98	-6.798299	
189	190	-0.625	-4.1	-6.365287	
190	191	-0.625	-3.98	-6.365287	
191	192	0.625	-4.1	-6.365287	
192	193	0.625	-3.98	-6.365287	
193	194	-5.7	-4.1	3.723909	
194	195	-5.7	-3.98	3.723909	
195	196	-6.075	-4.1	3.07439	
196	197	-6.075	-3.98	3.07439	
197	198	-5.2	-4.1	3.723909	
198	199	-5.2	-3.98	3.723909	
199	200	-5.825	-4.1	2.641377	
200	201	-5.825	-3.98	2.641377	
201	202	6.075	-4.1	3.07439	
202	203	6.075	-3.98	3.07439	
203	204	5.7	-4.1	3.723909	
204	205	5.7	-3.98	3.723909	
205	206	5.825	-4.1	2.641377	
206	207	5.825	-3.98	2.641377	
207	208	5.2	-4.1	3.723909	
208	209	5.2	-3.98	3.723909	
209	210	-6.3	-4.1	3.723909	
210	211	6.3	-4.1	3.723909	
211	212	6.375	-4.1	3.594005	
212	213	0.075	-4.1	-7.317915	
213	214	-0.075	-4.1	-7.317915	
214	215	-6.375	-4.1	3.594005	
215	N216	-1.391934	-4.266667	0.803633	
216	N217	0	-4.266667	-1.607267	
217	N218	1.391934	-4.266667	0.803633	
218	N220	-3.3	-4.1	3.723909	
219	N221	3.3	-4.1	3.723909	
220	N222	4.875	-4.1	0.995929	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
221	N223	1.575	-4.1	-4.719838	
222	N224	-1.575	-4.1	-4.719838	
223	N225	-4.875	-4.1	0.995929	
224	N226	-4.0875	-4.1	2.359919	
225	N227	-4.0875	-4.266667	2.359919	
226	N228	-4.549308	-4.266667	2.626544	
227	N229	4.0875	-4.1	2.359919	
228	N230	4.0875	-4.266667	2.359919	
229	N231	4.549308	-4.266667	2.626544	
230	N232	0	-4.1	-4.719838	
231	N233	0	-4.266667	-4.719838	
232	N234	0	-4.266667	-5.253088	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	155	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	153	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	157	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N216	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N217	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N218	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Fu [ksi]
1	A653 SS Gr33	29500	11346	0.3	0.65	0.49	33	45
2	A653 SS Gr50/1	29500	11346	0.3	0.65	0.49	50	65

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	MF-H1	C5X6.7	Beam	Channel	A36 Gr.36	Typical	1.97	0.47	7.48	0.055
2	F1-S1	HSS4X4X3	Beam	Tube	A500 Gr.B Rect	Typical	2.58	6.21	6.21	10
3	F1-SA1	L3X2X4	Beam	Single Angle	A36 Gr.36	Typical	1.2	0.39	1.09	0.027
4	F1-SA2	L1.75X1.75X5/16	Beam	Single Angle	A36 Gr.36	Typical	0.996	0.271	0.271	0.028
5	MF-H2	L2.5X2.5X4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
6	MF-P1	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
7	Bracing Pipes	PIPE 2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
8	Telescopic Arms	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	CF1	8CU1.25X057	Beam	None	A653 SS Gr33	Typical	0.581	0.057	4.41	0.00063

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	100	119	180	MF-H1	Beam	Channel	A36 Gr.36	Typical
2	2	101	82		MF-H1	Beam	Channel	A36 Gr.36	Typical
3	3	118	83	180	MF-H1	Beam	Channel	A36 Gr.36	Typical
4	4	8	9		MF-P1	Column	Pipe	A53 Gr.B	Typical
5	5	10	11		RIGID	None	None	RIGID	Typical
6	6	12	13		RIGID	None	None	RIGID	Typical
7	7	14	15		MF-P1	Column	Pipe	A53 Gr.B	Typical
8	8	16	17		RIGID	None	None	RIGID	Typical
9	9	18	19		RIGID	None	None	RIGID	Typical
10	10	20	21		MF-P1	Column	Pipe	A53 Gr.B	Typical
11	11	22	23		RIGID	None	None	RIGID	Typical
12	12	24	25		RIGID	None	None	RIGID	Typical
13	13	26	27		MF-P1	Column	Pipe	A53 Gr.B	Typical
14	14	28	29		MF-P1	Column	Pipe	A53 Gr.B	Typical
15	15	30	31		MF-P1	Column	Pipe	A53 Gr.B	Typical
16	16	32	33		RIGID	None	None	RIGID	Typical
17	17	34	35		RIGID	None	None	RIGID	Typical
18	18	36	37		RIGID	None	None	RIGID	Typical
19	19	38	39		RIGID	None	None	RIGID	Typical
20	20	40	41		RIGID	None	None	RIGID	Typical
21	21	42	43		RIGID	None	None	RIGID	Typical
22	22	44	45		MF-P1	Column	Pipe	A53 Gr.B	Typical
23	23	46	47		MF-P1	Column	Pipe	A53 Gr.B	Typical
24	24	48	49		MF-P1	Column	Pipe	A53 Gr.B	Typical
25	25	50	51		RIGID	None	None	RIGID	Typical
26	26	52	53		RIGID	None	None	RIGID	Typical
27	27	54	55		RIGID	None	None	RIGID	Typical
28	28	56	57		RIGID	None	None	RIGID	Typical
29	29	58	59		RIGID	None	None	RIGID	Typical
30	30	60	61		RIGID	None	None	RIGID	Typical
31	31	62	63		MF-P1	Column	Pipe	A53 Gr.B	Typical
32	32	64	65		MF-P1	Column	Pipe	A53 Gr.B	Typical
33	33	66	67		MF-P1	Column	Pipe	A53 Gr.B	Typical
34	34	68	69		RIGID	None	None	RIGID	Typical
35	35	70	71		RIGID	None	None	RIGID	Typical
36	36	72	73		RIGID	None	None	RIGID	Typical
37	37	74	75		RIGID	None	None	RIGID	Typical
38	38	76	77		RIGID	None	None	RIGID	Typical
39	39	78	79		RIGID	None	None	RIGID	Typical
40	40	80	87		RIGID	None	None	RIGID	Typical
41	41	81	84		RIGID	None	None	RIGID	Typical
42	42	82	85		RIGID	None	None	RIGID	Typical
43	43	83	86		RIGID	None	None	RIGID	Typical
44	44	88	89		RIGID	None	None	RIGID	Typical
45	45	90	91		RIGID	None	None	RIGID	Typical
46	46	92	93		RIGID	None	None	RIGID	Typical
47	47	94	95		RIGID	None	None	RIGID	Typical
48	48	96	97		RIGID	None	None	RIGID	Typical
49	49	98	105		RIGID	None	None	RIGID	Typical
50	50	99	102		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
51	51	100	103		RIGID	None	None	RIGID	Typical
52	52	101	104		RIGID	None	None	RIGID	Typical
53	53	106	107		RIGID	None	None	RIGID	Typical
54	54	108	109		RIGID	None	None	RIGID	Typical
55	55	110	111		RIGID	None	None	RIGID	Typical
56	56	112	113		RIGID	None	None	RIGID	Typical
57	57	114	115		RIGID	None	None	RIGID	Typical
58	58	116	123		RIGID	None	None	RIGID	Typical
59	59	117	120		RIGID	None	None	RIGID	Typical
60	60	118	121		RIGID	None	None	RIGID	Typical
61	61	119	122		RIGID	None	None	RIGID	Typical
62	62	124	125		RIGID	None	None	RIGID	Typical
63	63	126	127		RIGID	None	None	RIGID	Typical
64	64	128	129		RIGID	None	None	RIGID	Typical
65	65	130	131		RIGID	None	None	RIGID	Typical
66	66	132	133		RIGID	None	None	RIGID	Typical
67	67	134	135	180	MF-H2	Beam	Single Angle	A36 Gr.36	Typical
68	68	136	137	180	MF-H2	Beam	Single Angle	A36 Gr.36	Typical
69	69	138	139	180	MF-H2	Beam	Single Angle	A36 Gr.36	Typical
70	70	151	145		F1-SA2	Beam	Single Angle	A36 Gr.36	Typical
71	71	143	149		F1-SA2	Beam	Single Angle	A36 Gr.36	Typical
72	72	147	141		F1-SA2	Beam	Single Angle	A36 Gr.36	Typical
73	73	140	141	180	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
74	74	143	142	180	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
75	75	144	145	180	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
76	76	147	146	180	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
77	77	148	149	180	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
78	78	151	150	180	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
79	79	152	153		F1-S1	Beam	Tube	A500 Gr.B Rect	Typical
80	80	154	155		F1-S1	Beam	Tube	A500 Gr.B Rect	Typical
81	81	156	157		F1-S1	Beam	Tube	A500 Gr.B Rect	Typical
82	82	162	163		RIGID	None	None	RIGID	Typical
83	83	164	165		RIGID	None	None	RIGID	Typical
84	84	166	167		RIGID	None	None	RIGID	Typical
85	85	168	169		RIGID	None	None	RIGID	Typical
86	86	170	171		RIGID	None	None	RIGID	Typical
87	87	172	173		RIGID	None	None	RIGID	Typical
88	88	174	175		RIGID	None	None	RIGID	Typical
89	89	176	177		RIGID	None	None	RIGID	Typical
90	90	178	179		RIGID	None	None	RIGID	Typical
91	91	180	181		RIGID	None	None	RIGID	Typical
92	92	182	183		RIGID	None	None	RIGID	Typical
93	93	184	185		RIGID	None	None	RIGID	Typical
94	94	186	187		RIGID	None	None	RIGID	Typical
95	95	188	189		RIGID	None	None	RIGID	Typical
96	96	190	191		RIGID	None	None	RIGID	Typical
97	97	192	193		RIGID	None	None	RIGID	Typical
98	98	194	195		RIGID	None	None	RIGID	Typical
99	99	196	197		RIGID	None	None	RIGID	Typical
100	100	198	199		RIGID	None	None	RIGID	Typical
101	101	200	201		RIGID	None	None	RIGID	Typical
102	102	202	203		RIGID	None	None	RIGID	Typical
103	103	204	205		RIGID	None	None	RIGID	Typical
104	104	206	207		RIGID	None	None	RIGID	Typical
105	105	208	209		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
106	106	210	211	180	MF-H2	Beam	Single Angle	A36 Gr.36	Typical
107	107	212	213	180	MF-H2	Beam	Single Angle	A36 Gr.36	Typical
108	108	214	215	180	MF-H2	Beam	Single Angle	A36 Gr.36	Typical
109	M109	N225	N220		Bracing Pipes	Beam	Pipe	A53 Gr.B	Typical
110	M110	N226	N227		RIGID	None	None	RIGID	Typical
111	M111	N228	N216		Telescopic Arms	Beam	Tube	A500 Gr.B Rect	Typical
112	M112	N221	N222		Bracing Pipes	Beam	Pipe	A53 Gr.B	Typical
113	M113	N229	N230		RIGID	None	None	RIGID	Typical
114	M114	N231	N218		Telescopic Arms	Beam	Tube	A500 Gr.B Rect	Typical
115	M115	N223	N224		Bracing Pipes	Beam	Pipe	A53 Gr.B	Typical
116	M116	N232	N233		RIGID	None	None	RIGID	Typical
117	M117	N234	N217		Telescopic Arms	Beam	Tube	A500 Gr.B Rect	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
1	1			Yes	Default	None
2	2			Yes	N/A	None
3	3			Yes	N/A	None
4	4			Yes	** NA **	None
5	5			Yes	** NA **	None
6	6			Yes	** NA **	None
7	7			Yes	** NA **	None
8	8			Yes	** NA **	None
9	9			Yes	** NA **	None
10	10			Yes	** NA **	None
11	11			Yes	** NA **	None
12	12			Yes	** NA **	None
13	13			Yes	** NA **	None
14	14			Yes	** NA **	None
15	15			Yes	** NA **	None
16	16			Yes	** NA **	None
17	17			Yes	** NA **	None
18	18			Yes	** NA **	None
19	19			Yes	** NA **	None
20	20			Yes	** NA **	None
21	21			Yes	** NA **	None
22	22			Yes	** NA **	None
23	23			Yes	** NA **	None
24	24			Yes	** NA **	None
25	25			Yes	** NA **	None
26	26			Yes	** NA **	None
27	27			Yes	** NA **	None
28	28			Yes	** NA **	None
29	29			Yes	** NA **	None
30	30			Yes	** NA **	None
31	31			Yes	** NA **	None
32	32			Yes	** NA **	None
33	33			Yes	** NA **	None
34	34			Yes	** NA **	None
35	35			Yes	** NA **	None
36	36			Yes	** NA **	None
37	37			Yes	** NA **	None
38	38			Yes	** NA **	None
39	39			Yes	** NA **	None
40	40			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
41	41			Yes	** NA **	None
42	42			Yes	** NA **	None
43	43			Yes	** NA **	None
44	44			Yes	** NA **	None
45	45			Yes	** NA **	None
46	46			Yes	** NA **	None
47	47			Yes	** NA **	None
48	48			Yes	** NA **	None
49	49			Yes	** NA **	None
50	50			Yes	** NA **	None
51	51			Yes	** NA **	None
52	52			Yes	** NA **	None
53	53			Yes	** NA **	None
54	54			Yes	** NA **	None
55	55			Yes	** NA **	None
56	56			Yes	** NA **	None
57	57			Yes	** NA **	None
58	58			Yes	** NA **	None
59	59			Yes	** NA **	None
60	60			Yes	** NA **	None
61	61			Yes	** NA **	None
62	62			Yes	** NA **	None
63	63			Yes	** NA **	None
64	64			Yes	** NA **	None
65	65			Yes	** NA **	None
66	66			Yes	** NA **	None
67	67			Yes	N/A	None
68	68			Yes	N/A	None
69	69			Yes	N/A	None
70	70			Yes	Default	None
71	71			Yes	Default	None
72	72			Yes	Default	None
73	73			Yes	N/A	None
74	74			Yes	N/A	None
75	75			Yes	N/A	None
76	76			Yes	N/A	None
77	77			Yes	N/A	None
78	78			Yes	N/A	None
79	79			Yes	Default	None
80	80			Yes	N/A	None
81	81			Yes	N/A	None
82	82			Yes	** NA **	None
83	83			Yes	** NA **	None
84	84			Yes	** NA **	None
85	85			Yes	** NA **	None
86	86			Yes	** NA **	None
87	87			Yes	** NA **	None
88	88			Yes	** NA **	None
89	89			Yes	** NA **	None
90	90			Yes	** NA **	None
91	91			Yes	** NA **	None
92	92			Yes	** NA **	None
93	93			Yes	** NA **	None
94	94			Yes	** NA **	None
95	95			Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
96	96			Yes	** NA **	None
97	97			Yes	** NA **	None
98	98			Yes	** NA **	None
99	99			Yes	** NA **	None
100	100			Yes	** NA **	None
101	101			Yes	** NA **	None
102	102			Yes	** NA **	None
103	103			Yes	** NA **	None
104	104			Yes	** NA **	None
105	105			Yes	** NA **	None
106	106			Yes	N/A	None
107	107			Yes	N/A	None
108	108			Yes	N/A	None
109	M109	BenPIN	BenPIN	Yes	Default	None
110	M110			Yes	** NA **	None
111	M111			Yes	Default	None
112	M112	BenPIN	BenPIN	Yes	Default	None
113	M113			Yes	** NA **	None
114	M114			Yes	Default	None
115	M115	BenPIN	BenPIN	Yes	Default	None
116	M116			Yes	** NA **	None
117	M117			Yes	Default	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Channel Conn.	a [ft]	Function
1	1	MF-H1	11.9	Lbyy	N/A	N/A	Lateral
2	2	MF-H1	11.9	Lbyy	N/A	N/A	Lateral
3	3	MF-H1	11.9	Lbyy	N/A	N/A	Lateral
4	4	MF-P1	14	Lbyy	N/A	N/A	Lateral
5	7	MF-P1	14	Lbyy	N/A	N/A	Lateral
6	10	MF-P1	14	Lbyy	N/A	N/A	Lateral
7	13	MF-P1	14	Lbyy	N/A	N/A	Lateral
8	14	MF-P1	14	Lbyy	N/A	N/A	Lateral
9	15	MF-P1	14	Lbyy	N/A	N/A	Lateral
10	22	MF-P1	14	Lbyy	N/A	N/A	Lateral
11	23	MF-P1	14	Lbyy	N/A	N/A	Lateral
12	24	MF-P1	14	Lbyy	N/A	N/A	Lateral
13	31	MF-P1	14	Lbyy	N/A	N/A	Lateral
14	32	MF-P1	14	Lbyy	N/A	N/A	Lateral
15	33	MF-P1	14	Lbyy	N/A	N/A	Lateral
16	67	MF-H2	12.6	Lbyy	N/A	N/A	Lateral
17	68	MF-H2	12.6	Lbyy	N/A	N/A	Lateral
18	69	MF-H2	12.6	Lbyy	N/A	N/A	Lateral
19	70	F1-SA2	2.082	Lbyy	N/A	N/A	Lateral
20	71	F1-SA2	2.082	Lbyy	N/A	N/A	Lateral
21	72	F1-SA2	2.082	Lbyy	N/A	N/A	Lateral
22	73	F1-SA1	1.8	Lbyy	N/A	N/A	Lateral
23	74	F1-SA1	1.8	Lbyy	N/A	N/A	Lateral
24	75	F1-SA1	1.8	Lbyy	N/A	N/A	Lateral
25	76	F1-SA1	1.8	Lbyy	N/A	N/A	Lateral
26	77	F1-SA1	1.8	Lbyy	N/A	N/A	Lateral
27	78	F1-SA1	1.8	Lbyy	N/A	N/A	Lateral
28	79	F1-S1	5.3	Lbyy	N/A	N/A	Lateral
29	80	F1-S1	5.3	Lbyy	N/A	N/A	Lateral
30	81	F1-S1	5.3	Lbyy	N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Channel Conn.	a [ft]	Function
31	106	MF-H2	12.6	Lbyy	N/A	N/A	Lateral
32	107	MF-H2	12.6	Lbyy	N/A	N/A	Lateral
33	108	MF-H2	12.6	Lbyy	N/A	N/A	Lateral
34	M109	Bracing Pipes	3.15	Lbyy	N/A	N/A	Lateral
35	M111	Telescopic Arms	3.646	Lbyy	N/A	N/A	Lateral
36	M112	Bracing Pipes	3.15	Lbyy	N/A	N/A	Lateral
37	M114	Telescopic Arms	3.646	Lbyy	N/A	N/A	Lateral
38	M115	Bracing Pipes	3.15	Lbyy	N/A	N/A	Lateral
39	M117	Telescopic Arms	3.646	Lbyy	N/A	N/A	Lateral

Cold Formed Steel Design Parameters

No Data to Print...

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	Y	-0.017	%5
2	15	Y	-0.017	%50
3	15	Y	-0.109	%25
4	15	Y	0	0
5	15	Y	0	0
6	4	Y	-0.075	%5
7	4	Y	-0.075	%50
8	4	Y	-0.081	%60
9	4	Y	0	0
10	4	Y	0	0
11	14	Y	-0.048	%5
12	14	Y	-0.048	%30
13	14	Y	0	0
14	14	Y	0	0
15	14	Y	0	0
16	33	Y	-0.017	%5
17	33	Y	-0.017	%50
18	33	Y	-0.109	%25
19	33	Y	0	0
20	33	Y	0	0
21	10	Y	-0.075	%5
22	10	Y	-0.075	%50
23	10	Y	-0.081	%60
24	10	Y	0	0
25	10	Y	0	0
26	32	Y	-0.048	%5
27	32	Y	-0.048	%30
28	32	Y	0	0
29	32	Y	0	0
30	32	Y	0	0
31	24	Y	-0.017	%5
32	24	Y	-0.017	%50
33	24	Y	-0.109	%25
34	24	Y	0	0
35	24	Y	0	0
36	7	Y	-0.075	%5
37	7	Y	-0.075	%50
38	7	Y	-0.081	%60
39	7	Y	0	0

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
40	7	Y	0	0
41	23	Y	-0.048	%5
42	23	Y	-0.048	%30
43	23	Y	0	0
44	23	Y	0	0
45	23	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	Z	-0.096	%5
2	15	Z	-0.096	%50
3	15	Z	-0.07	%25
4	15	Z	0	0
5	15	Z	0	0
6	4	Z	-0.267	%5
7	4	Z	-0.267	%50
8	4	Z	-0.094	%60
9	4	Z	0	0
10	4	Z	0	0
11	14	Z	-0.103	%5
12	14	Z	-0.103	%30
13	14	Z	0	0
14	14	Z	0	0
15	14	Z	0	0
16	33	Z	-0.096	%5
17	33	Z	-0.096	%50
18	33	Z	-0.07	%25
19	33	Z	0	0
20	33	Z	0	0
21	10	Z	-0.267	%5
22	10	Z	-0.267	%50
23	10	Z	-0.094	%60
24	10	Z	0	0
25	10	Z	0	0
26	32	Z	-0.103	%5
27	32	Z	-0.103	%30
28	32	Z	0	0
29	32	Z	0	0
30	32	Z	0	0
31	24	Z	-0.096	%5
32	24	Z	-0.096	%50
33	24	Z	-0.07	%25
34	24	Z	0	0
35	24	Z	0	0
36	7	Z	-0.267	%5
37	7	Z	-0.267	%50
38	7	Z	-0.094	%60
39	7	Z	0	0
40	7	Z	0	0
41	23	Z	-0.103	%5
42	23	Z	-0.103	%30
43	23	Z	0	0
44	23	Z	0	0
45	23	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	X	-0.037	%5
2	15	X	-0.037	%50
3	15	X	-0.055	%25
4	15	X	0	0
5	15	X	0	0
6	4	X	-0.097	%5
7	4	X	-0.097	%50
8	4	X	-0.045	%60
9	4	X	0	0
10	4	X	0	0
11	14	X	-0.045	%5
12	14	X	-0.045	%30
13	14	X	0	0
14	14	X	0	0
15	14	X	0	0
16	33	X	-0.037	%5
17	33	X	-0.037	%50
18	33	X	-0.055	%25
19	33	X	0	0
20	33	X	0	0
21	10	X	-0.097	%5
22	10	X	-0.097	%50
23	10	X	-0.045	%60
24	10	X	0	0
25	10	X	0	0
26	32	X	-0.045	%5
27	32	X	-0.045	%30
28	32	X	0	0
29	32	X	0	0
30	32	X	0	0
31	24	X	-0.037	%5
32	24	X	-0.037	%50
33	24	X	-0.055	%25
34	24	X	0	0
35	24	X	0	0
36	7	X	-0.097	%5
37	7	X	-0.097	%50
38	7	X	-0.045	%60
39	7	X	0	0
40	7	X	0	0
41	23	X	-0.045	%5
42	23	X	-0.045	%30
43	23	X	0	0
44	23	X	0	0
45	23	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	Z	-0.017	%5
2	15	Z	-0.017	%50
3	15	Z	-0.012	%25
4	15	Z	0	0
5	15	Z	0	0
6	4	Z	-0.052	%5

Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
7	4	Z	-0.052	%50
8	4	Z	-0.017	%60
9	4	Z	0	0
10	4	Z	0	0
11	14	Z	-0.018	%5
12	14	Z	-0.018	%30
13	14	Z	0	0
14	14	Z	0	0
15	14	Z	0	0
16	33	Z	-0.017	%5
17	33	Z	-0.017	%50
18	33	Z	-0.012	%25
19	33	Z	0	0
20	33	Z	0	0
21	10	Z	-0.052	%5
22	10	Z	-0.052	%50
23	10	Z	-0.017	%60
24	10	Z	0	0
25	10	Z	0	0
26	32	Z	-0.018	%5
27	32	Z	-0.018	%30
28	32	Z	0	0
29	32	Z	0	0
30	32	Z	0	0
31	24	Z	-0.017	%5
32	24	Z	-0.017	%50
33	24	Z	-0.012	%25
34	24	Z	0	0
35	24	Z	0	0
36	7	Z	-0.052	%5
37	7	Z	-0.052	%50
38	7	Z	-0.017	%60
39	7	Z	0	0
40	7	Z	0	0
41	23	Z	-0.018	%5
42	23	Z	-0.018	%30
43	23	Z	0	0
44	23	Z	0	0
45	23	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	X	-0.007	%5
2	15	X	-0.007	%50
3	15	X	-0.01	%25
4	15	X	0	0
5	15	X	0	0
6	4	X	-0.021	%5
7	4	X	-0.021	%50
8	4	X	-0.008	%60
9	4	X	0	0
10	4	X	0	0
11	14	X	-0.008	%5
12	14	X	-0.008	%30
13	14	X	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
14	14	X	0	0
15	14	X	0	0
16	33	X	-0.007	%5
17	33	X	-0.007	%50
18	33	X	-0.01	%25
19	33	X	0	0
20	33	X	0	0
21	10	X	-0.021	%5
22	10	X	-0.021	%50
23	10	X	-0.008	%60
24	10	X	0	0
25	10	X	0	0
26	32	X	-0.008	%5
27	32	X	-0.008	%30
28	32	X	0	0
29	32	X	0	0
30	32	X	0	0
31	24	X	-0.007	%5
32	24	X	-0.007	%50
33	24	X	-0.01	%25
34	24	X	0	0
35	24	X	0	0
36	7	X	-0.021	%5
37	7	X	-0.021	%50
38	7	X	-0.008	%60
39	7	X	0	0
40	7	X	0	0
41	23	X	-0.008	%5
42	23	X	-0.008	%30
43	23	X	0	0
44	23	X	0	0
45	23	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	Z	-0.006	%5
2	15	Z	-0.006	%50
3	15	Z	-0.004	%25
4	15	Z	0	0
5	15	Z	0	0
6	4	Z	-0.017	%5
7	4	Z	-0.017	%50
8	4	Z	-0.006	%60
9	4	Z	0	0
10	4	Z	0	0
11	14	Z	-0.007	%5
12	14	Z	-0.007	%30
13	14	Z	0	0
14	14	Z	0	0
15	14	Z	0	0
16	33	Z	-0.006	%5
17	33	Z	-0.006	%50
18	33	Z	-0.004	%25
19	33	Z	0	0
20	33	Z	0	0

Member Point Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
21	10	Z	-0.017	%5
22	10	Z	-0.017	%50
23	10	Z	-0.006	%60
24	10	Z	0	0
25	10	Z	0	0
26	32	Z	-0.007	%5
27	32	Z	-0.007	%30
28	32	Z	0	0
29	32	Z	0	0
30	32	Z	0	0
31	24	Z	-0.006	%5
32	24	Z	-0.006	%50
33	24	Z	-0.004	%25
34	24	Z	0	0
35	24	Z	0	0
36	7	Z	-0.017	%5
37	7	Z	-0.017	%50
38	7	Z	-0.006	%60
39	7	Z	0	0
40	7	Z	0	0
41	23	Z	-0.007	%5
42	23	Z	-0.007	%30
43	23	Z	0	0
44	23	Z	0	0
45	23	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	X	-0.002	%5
2	15	X	-0.002	%50
3	15	X	-0.004	%25
4	15	X	0	0
5	15	X	0	0
6	4	X	-0.006	%5
7	4	X	-0.006	%50
8	4	X	-0.003	%60
9	4	X	0	0
10	4	X	0	0
11	14	X	-0.003	%5
12	14	X	-0.003	%30
13	14	X	0	0
14	14	X	0	0
15	14	X	0	0
16	33	X	-0.002	%5
17	33	X	-0.002	%50
18	33	X	-0.004	%25
19	33	X	0	0
20	33	X	0	0
21	10	X	-0.006	%5
22	10	X	-0.006	%50
23	10	X	-0.003	%60
24	10	X	0	0
25	10	X	0	0
26	32	X	-0.003	%5
27	32	X	-0.003	%30

Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
28	32	X	0	0
29	32	X	0	0
30	32	X	0	0
31	24	X	-0.002	%5
32	24	X	-0.002	%50
33	24	X	-0.004	%25
34	24	X	0	0
35	24	X	0	0
36	7	X	-0.006	%5
37	7	X	-0.006	%50
38	7	X	-0.003	%60
39	7	X	0	0
40	7	X	0	0
41	23	X	-0.003	%5
42	23	X	-0.003	%30
43	23	X	0	0
44	23	X	0	0
45	23	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	Y	-0.045	%5
2	15	Y	-0.045	%50
3	15	Y	-0.04	%25
4	15	Y	0	0
5	15	Y	0	0
6	4	Y	-0.194	%5
7	4	Y	-0.194	%50
8	4	Y	-0.048	%60
9	4	Y	0	0
10	4	Y	0	0
11	14	Y	-0.051	%5
12	14	Y	-0.051	%30
13	14	Y	0	0
14	14	Y	0	0
15	14	Y	0	0
16	33	Y	-0.045	%5
17	33	Y	-0.045	%50
18	33	Y	-0.04	%25
19	33	Y	0	0
20	33	Y	0	0
21	10	Y	-0.194	%5
22	10	Y	-0.194	%50
23	10	Y	-0.048	%60
24	10	Y	0	0
25	10	Y	0	0
26	32	Y	-0.051	%5
27	32	Y	-0.051	%30
28	32	Y	0	0
29	32	Y	0	0
30	32	Y	0	0
31	24	Y	-0.045	%5
32	24	Y	-0.045	%50
33	24	Y	-0.04	%25
34	24	Y	0	0

Member Point Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
35	24	Y	0	0
36	7	Y	-0.194	%5
37	7	Y	-0.194	%50
38	7	Y	-0.048	%60
39	7	Y	0	0
40	7	Y	0	0
41	23	Y	-0.051	%5
42	23	Y	-0.051	%30
43	23	Y	0	0
44	23	Y	0	0
45	23	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	Z	-0.008	%5
2	15	Z	-0.008	%50
3	15	Z	-0.025	%25
4	15	Z	0	0
5	15	Z	0	0
6	4	Z	-0.035	%5
7	4	Z	-0.035	%50
8	4	Z	-0.019	%60
9	4	Z	0	0
10	4	Z	0	0
11	14	Z	-0.022	%5
12	14	Z	-0.022	%30
13	14	Z	0	0
14	14	Z	0	0
15	14	Z	0	0
16	33	Z	-0.008	%5
17	33	Z	-0.008	%50
18	33	Z	-0.025	%25
19	33	Z	0	0
20	33	Z	0	0
21	10	Z	-0.035	%5
22	10	Z	-0.035	%50
23	10	Z	-0.019	%60
24	10	Z	0	0
25	10	Z	0	0
26	32	Z	-0.022	%5
27	32	Z	-0.022	%30
28	32	Z	0	0
29	32	Z	0	0
30	32	Z	0	0
31	24	Z	-0.008	%5
32	24	Z	-0.008	%50
33	24	Z	-0.025	%25
34	24	Z	0	0
35	24	Z	0	0
36	7	Z	-0.035	%5
37	7	Z	-0.035	%50
38	7	Z	-0.019	%60
39	7	Z	0	0
40	7	Z	0	0
41	23	Z	-0.022	%5

Member Point Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
42	23	Z	-0.022	%30
43	23	Z	0	0
44	23	Z	0	0
45	23	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	X	-0.008	%5
2	15	X	-0.008	%50
3	15	X	-0.025	%25
4	15	X	0	0
5	15	X	0	0
6	4	X	-0.035	%5
7	4	X	-0.035	%50
8	4	X	-0.019	%60
9	4	X	0	0
10	4	X	0	0
11	14	X	-0.022	%5
12	14	X	-0.022	%30
13	14	X	0	0
14	14	X	0	0
15	14	X	0	0
16	33	X	-0.008	%5
17	33	X	-0.008	%50
18	33	X	-0.025	%25
19	33	X	0	0
20	33	X	0	0
21	10	X	-0.035	%5
22	10	X	-0.035	%50
23	10	X	-0.019	%60
24	10	X	0	0
25	10	X	0	0
26	32	X	-0.022	%5
27	32	X	-0.022	%30
28	32	X	0	0
29	32	X	0	0
30	32	X	0	0
31	24	X	-0.008	%5
32	24	X	-0.008	%50
33	24	X	-0.025	%25
34	24	X	0	0
35	24	X	0	0
36	7	X	-0.035	%5
37	7	X	-0.035	%50
38	7	X	-0.019	%60
39	7	X	0	0
40	7	X	0	0
41	23	X	-0.022	%5
42	23	X	-0.022	%30
43	23	X	0	0
44	23	X	0	0
45	23	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	1	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	106	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	67	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	1	Y	-0.25	%95

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	106	Y	-0.25	%95

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	67	Y	-0.25	%95

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	2	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	108	Y	-0.25	%5

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%5

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	2	Y	-0.25	%5

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	108	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	3	Y	-0.25	%5

Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	107	Y	-0.25	%5

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	68	Y	-0.25	%5

Member Point Loads (BLC 30 : Maint LL 16)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	3	Y	-0.25	%95

Member Point Loads (BLC 31 : Maint LL 17)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	107	Y	-0.25	%95

Member Point Loads (BLC 32 : Maint LL 18)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	68	Y	-0.25	%95

Member Point Loads (BLC 33 : Maint LL 19)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%5

Member Point Loads (BLC 34 : Maint LL 20)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	79	Y	-0.25	%5

Member Point Loads (BLC 35 : Maint LL 21)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	81	Y	-0.25	%5

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.027	-0.027	0	%100
2	2	Z	-0.027	-0.027	0	%100
3	3	Z	-0.027	-0.027	0	%100
4	4	Z	-0.008	-0.008	0	%100
5	7	Z	-0.008	-0.008	0	%100
6	10	Z	-0.008	-0.008	0	%100
7	13	Z	-0.008	-0.008	0	%100
8	14	Z	-0.008	-0.008	0	%100
9	15	Z	-0.008	-0.008	0	%100
10	22	Z	-0.008	-0.008	0	%100
11	23	Z	-0.008	-0.008	0	%100
12	24	Z	-0.008	-0.008	0	%100
13	31	Z	-0.008	-0.008	0	%100
14	32	Z	-0.008	-0.008	0	%100
15	33	Z	-0.008	-0.008	0	%100
16	67	Z	-0.014	-0.014	0	%100
17	68	Z	-0.014	-0.014	0	%100
18	69	Z	-0.014	-0.014	0	%100
19	70	Z	-0.008	-0.008	0	%100
20	71	Z	-0.008	-0.008	0	%100
21	72	Z	-0.008	-0.008	0	%100
22	73	Z	-0.011	-0.011	0	%100
23	74	Z	-0.011	-0.011	0	%100
24	75	Z	-0.011	-0.011	0	%100
25	76	Z	-0.011	-0.011	0	%100
26	77	Z	-0.011	-0.011	0	%100
27	78	Z	-0.011	-0.011	0	%100
28	79	Z	-0.018	-0.018	0	%100
29	80	Z	-0.018	-0.018	0	%100
30	81	Z	-0.018	-0.018	0	%100
31	106	Z	-0.014	-0.014	0	%100
32	107	Z	-0.014	-0.014	0	%100
33	108	Z	-0.014	-0.014	0	%100
34	M109	Z	-0.007	-0.007	0	%100
35	M111	Z	-0.016	-0.016	0	%100
36	M112	Z	-0.007	-0.007	0	%100
37	M114	Z	-0.016	-0.016	0	%100
38	M115	Z	-0.007	-0.007	0	%100
39	M117	Z	-0.016	-0.016	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.027	-0.027	0	%100
2	2	X	-0.027	-0.027	0	%100
3	3	X	-0.027	-0.027	0	%100
4	4	X	-0.008	-0.008	0	%100
5	7	X	-0.008	-0.008	0	%100
6	10	X	-0.008	-0.008	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
7	13	X	-0.008	-0.008	0	%100
8	14	X	-0.008	-0.008	0	%100
9	15	X	-0.008	-0.008	0	%100
10	22	X	-0.008	-0.008	0	%100
11	23	X	-0.008	-0.008	0	%100
12	24	X	-0.008	-0.008	0	%100
13	31	X	-0.008	-0.008	0	%100
14	32	X	-0.008	-0.008	0	%100
15	33	X	-0.008	-0.008	0	%100
16	67	X	-0.014	-0.014	0	%100
17	68	X	-0.014	-0.014	0	%100
18	69	X	-0.014	-0.014	0	%100
19	70	X	-0.008	-0.008	0	%100
20	71	X	-0.008	-0.008	0	%100
21	72	X	-0.008	-0.008	0	%100
22	73	X	-0.011	-0.011	0	%100
23	74	X	-0.011	-0.011	0	%100
24	75	X	-0.011	-0.011	0	%100
25	76	X	-0.011	-0.011	0	%100
26	77	X	-0.011	-0.011	0	%100
27	78	X	-0.011	-0.011	0	%100
28	79	X	-0.018	-0.018	0	%100
29	80	X	-0.018	-0.018	0	%100
30	81	X	-0.018	-0.018	0	%100
31	106	X	-0.014	-0.014	0	%100
32	107	X	-0.014	-0.014	0	%100
33	108	X	-0.014	-0.014	0	%100
34	M109	X	-0.007	-0.007	0	%100
35	M111	X	-0.016	-0.016	0	%100
36	M112	X	-0.007	-0.007	0	%100
37	M114	X	-0.016	-0.016	0	%100
38	M115	X	-0.007	-0.007	0	%100
39	M117	X	-0.016	-0.016	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.007	-0.007	0	%100
2	2	Z	-0.007	-0.007	0	%100
3	3	Z	-0.007	-0.007	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	7	Z	-0.001	-0.001	0	%100
6	10	Z	-0.001	-0.001	0	%100
7	13	Z	-0.001	-0.001	0	%100
8	14	Z	-0.001	-0.001	0	%100
9	15	Z	-0.001	-0.001	0	%100
10	22	Z	-0.001	-0.001	0	%100
11	23	Z	-0.001	-0.001	0	%100
12	24	Z	-0.001	-0.001	0	%100
13	31	Z	-0.001	-0.001	0	%100
14	32	Z	-0.001	-0.001	0	%100
15	33	Z	-0.001	-0.001	0	%100
16	67	Z	-0.005	-0.005	0	%100
17	68	Z	-0.005	-0.005	0	%100
18	69	Z	-0.005	-0.005	0	%100
19	70	Z	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
20	71	Z	-0.003	-0.003	0	%100
21	72	Z	-0.003	-0.003	0	%100
22	73	Z	-0.004	-0.004	0	%100
23	74	Z	-0.004	-0.004	0	%100
24	75	Z	-0.004	-0.004	0	%100
25	76	Z	-0.004	-0.004	0	%100
26	77	Z	-0.004	-0.004	0	%100
27	78	Z	-0.004	-0.004	0	%100
28	79	Z	-0.005	-0.005	0	%100
29	80	Z	-0.005	-0.005	0	%100
30	81	Z	-0.005	-0.005	0	%100
31	106	Z	-0.005	-0.005	0	%100
32	107	Z	-0.005	-0.005	0	%100
33	108	Z	-0.005	-0.005	0	%100
34	M109	Z	-0.001	-0.001	0	%100
35	M111	Z	-0.005	-0.005	0	%100
36	M112	Z	-0.001	-0.001	0	%100
37	M114	Z	-0.005	-0.005	0	%100
38	M115	Z	-0.001	-0.001	0	%100
39	M117	Z	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.007	-0.007	0	%100
2	2	X	-0.007	-0.007	0	%100
3	3	X	-0.007	-0.007	0	%100
4	4	X	-0.001	-0.001	0	%100
5	7	X	-0.001	-0.001	0	%100
6	10	X	-0.001	-0.001	0	%100
7	13	X	-0.001	-0.001	0	%100
8	14	X	-0.001	-0.001	0	%100
9	15	X	-0.001	-0.001	0	%100
10	22	X	-0.001	-0.001	0	%100
11	23	X	-0.001	-0.001	0	%100
12	24	X	-0.001	-0.001	0	%100
13	31	X	-0.001	-0.001	0	%100
14	32	X	-0.001	-0.001	0	%100
15	33	X	-0.001	-0.001	0	%100
16	67	X	-0.005	-0.005	0	%100
17	68	X	-0.005	-0.005	0	%100
18	69	X	-0.005	-0.005	0	%100
19	70	X	-0.003	-0.003	0	%100
20	71	X	-0.003	-0.003	0	%100
21	72	X	-0.003	-0.003	0	%100
22	73	X	-0.004	-0.004	0	%100
23	74	X	-0.004	-0.004	0	%100
24	75	X	-0.004	-0.004	0	%100
25	76	X	-0.004	-0.004	0	%100
26	77	X	-0.004	-0.004	0	%100
27	78	X	-0.004	-0.004	0	%100
28	79	X	-0.005	-0.005	0	%100
29	80	X	-0.005	-0.005	0	%100
30	81	X	-0.005	-0.005	0	%100
31	106	X	-0.005	-0.005	0	%100
32	107	X	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
33	108	X	-0.005	-0.005	0	%100
34	M109	X	-0.001	-0.001	0	%100
35	M111	X	-0.005	-0.005	0	%100
36	M112	X	-0.001	-0.001	0	%100
37	M114	X	-0.005	-0.005	0	%100
38	M115	X	-0.001	-0.001	0	%100
39	M117	X	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.002	-0.002	0	%100
2	2	Z	-0.002	-0.002	0	%100
3	3	Z	-0.002	-0.002	0	%100
4	4	Z	-0.0002	-0.0002	0	%100
5	7	Z	-0.0002	-0.0002	0	%100
6	10	Z	-0.0002	-0.0002	0	%100
7	13	Z	-0.0002	-0.0002	0	%100
8	14	Z	-0.0002	-0.0002	0	%100
9	15	Z	-0.0002	-0.0002	0	%100
10	22	Z	-0.0002	-0.0002	0	%100
11	23	Z	-0.0002	-0.0002	0	%100
12	24	Z	-0.0002	-0.0002	0	%100
13	31	Z	-0.0002	-0.0002	0	%100
14	32	Z	-0.0002	-0.0002	0	%100
15	33	Z	-0.0002	-0.0002	0	%100
16	67	Z	-0.0009	-0.0009	0	%100
17	68	Z	-0.0009	-0.0009	0	%100
18	69	Z	-0.0009	-0.0009	0	%100
19	70	Z	-0.0005	-0.0005	0	%100
20	71	Z	-0.0005	-0.0005	0	%100
21	72	Z	-0.0005	-0.0005	0	%100
22	73	Z	-0.0007	-0.0007	0	%100
23	74	Z	-0.0007	-0.0007	0	%100
24	75	Z	-0.0007	-0.0007	0	%100
25	76	Z	-0.0007	-0.0007	0	%100
26	77	Z	-0.0007	-0.0007	0	%100
27	78	Z	-0.0007	-0.0007	0	%100
28	79	Z	-0.001	-0.001	0	%100
29	80	Z	-0.001	-0.001	0	%100
30	81	Z	-0.001	-0.001	0	%100
31	106	Z	-0.0009	-0.0009	0	%100
32	107	Z	-0.0009	-0.0009	0	%100
33	108	Z	-0.0009	-0.0009	0	%100
34	M109	Z	-0.0002	-0.0002	0	%100
35	M111	Z	-0.001	-0.001	0	%100
36	M112	Z	-0.0002	-0.0002	0	%100
37	M114	Z	-0.001	-0.001	0	%100
38	M115	Z	-0.0002	-0.0002	0	%100
39	M117	Z	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.002	-0.002	0	%100
2	2	X	-0.002	-0.002	0	%100
3	3	X	-0.002	-0.002	0	%100
4	4	X	-0.0002	-0.0002	0	%100
5	7	X	-0.0002	-0.0002	0	%100
6	10	X	-0.0002	-0.0002	0	%100
7	13	X	-0.0002	-0.0002	0	%100
8	14	X	-0.0002	-0.0002	0	%100
9	15	X	-0.0002	-0.0002	0	%100
10	22	X	-0.0002	-0.0002	0	%100
11	23	X	-0.0002	-0.0002	0	%100
12	24	X	-0.0002	-0.0002	0	%100
13	31	X	-0.0002	-0.0002	0	%100
14	32	X	-0.0002	-0.0002	0	%100
15	33	X	-0.0002	-0.0002	0	%100
16	67	X	-0.0009	-0.0009	0	%100
17	68	X	-0.0009	-0.0009	0	%100
18	69	X	-0.0009	-0.0009	0	%100
19	70	X	-0.0005	-0.0005	0	%100
20	71	X	-0.0005	-0.0005	0	%100
21	72	X	-0.0005	-0.0005	0	%100
22	73	X	-0.0007	-0.0007	0	%100
23	74	X	-0.0007	-0.0007	0	%100
24	75	X	-0.0007	-0.0007	0	%100
25	76	X	-0.0007	-0.0007	0	%100
26	77	X	-0.0007	-0.0007	0	%100
27	78	X	-0.0007	-0.0007	0	%100
28	79	X	-0.001	-0.001	0	%100
29	80	X	-0.001	-0.001	0	%100
30	81	X	-0.001	-0.001	0	%100
31	106	X	-0.0009	-0.0009	0	%100
32	107	X	-0.0009	-0.0009	0	%100
33	108	X	-0.0009	-0.0009	0	%100
34	M109	X	-0.0002	-0.0002	0	%100
35	M111	X	-0.001	-0.001	0	%100
36	M112	X	-0.0002	-0.0002	0	%100
37	M114	X	-0.001	-0.001	0	%100
38	M115	X	-0.0002	-0.0002	0	%100
39	M117	X	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.009	-0.009	0	%100
2	2	Y	-0.009	-0.009	0	%100
3	3	Y	-0.009	-0.009	0	%100
4	4	Y	-0.005	-0.005	0	%100
5	7	Y	-0.005	-0.005	0	%100
6	10	Y	-0.005	-0.005	0	%100
7	13	Y	-0.005	-0.005	0	%100
8	14	Y	-0.005	-0.005	0	%100
9	15	Y	-0.005	-0.005	0	%100
10	22	Y	-0.005	-0.005	0	%100
11	23	Y	-0.005	-0.005	0	%100
12	24	Y	-0.005	-0.005	0	%100

Member Distributed Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
13	31	Y	-0.005	-0.005	0	%100
14	32	Y	-0.005	-0.005	0	%100
15	33	Y	-0.005	-0.005	0	%100
16	67	Y	-0.007	-0.007	0	%100
17	68	Y	-0.007	-0.007	0	%100
18	69	Y	-0.007	-0.007	0	%100
19	70	Y	-0.005	-0.005	0	%100
20	71	Y	-0.005	-0.005	0	%100
21	72	Y	-0.005	-0.005	0	%100
22	73	Y	-0.007	-0.007	0	%100
23	74	Y	-0.007	-0.007	0	%100
24	75	Y	-0.007	-0.007	0	%100
25	76	Y	-0.007	-0.007	0	%100
26	77	Y	-0.007	-0.007	0	%100
27	78	Y	-0.007	-0.007	0	%100
28	79	Y	-0.01	-0.01	0	%100
29	80	Y	-0.01	-0.01	0	%100
30	81	Y	-0.01	-0.01	0	%100
31	106	Y	-0.007	-0.007	0	%100
32	107	Y	-0.007	-0.007	0	%100
33	108	Y	-0.007	-0.007	0	%100
34	M109	Y	-0.005	-0.005	0	%100
35	M111	Y	-0.01	-0.01	0	%100
36	M112	Y	-0.005	-0.005	0	%100
37	M114	Y	-0.01	-0.01	0	%100
38	M115	Y	-0.005	-0.005	0	%100
39	M117	Y	-0.01	-0.01	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.002	-0.002	0	%100
2	2	Z	-0.002	-0.002	0	%100
3	3	Z	-0.002	-0.002	0	%100
4	4	Z	-0.0008	-0.0008	0	%100
5	7	Z	-0.0008	-0.0008	0	%100
6	10	Z	-0.0008	-0.0008	0	%100
7	13	Z	-0.0008	-0.0008	0	%100
8	14	Z	-0.0008	-0.0008	0	%100
9	15	Z	-0.0008	-0.0008	0	%100
10	22	Z	-0.0008	-0.0008	0	%100
11	23	Z	-0.0008	-0.0008	0	%100
12	24	Z	-0.0008	-0.0008	0	%100
13	31	Z	-0.0008	-0.0008	0	%100
14	32	Z	-0.0008	-0.0008	0	%100
15	33	Z	-0.0008	-0.0008	0	%100
16	67	Z	-0.0009	-0.0009	0	%100
17	68	Z	-0.0009	-0.0009	0	%100
18	69	Z	-0.0009	-0.0009	0	%100
19	70	Z	-0.0008	-0.0008	0	%100
20	71	Z	-0.0008	-0.0008	0	%100
21	72	Z	-0.0008	-0.0008	0	%100
22	73	Z	-0.0009	-0.0009	0	%100
23	74	Z	-0.0009	-0.0009	0	%100
24	75	Z	-0.0009	-0.0009	0	%100
25	76	Z	-0.0009	-0.0009	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
26	77	Z	-0.0009	-0.0009	0	%100
27	78	Z	-0.0009	-0.0009	0	%100
28	79	Z	-0.002	-0.002	0	%100
29	80	Z	-0.002	-0.002	0	%100
30	81	Z	-0.002	-0.002	0	%100
31	106	Z	-0.0009	-0.0009	0	%100
32	107	Z	-0.0009	-0.0009	0	%100
33	108	Z	-0.0009	-0.0009	0	%100
34	M109	Z	-0.0008	-0.0008	0	%100
35	M111	Z	-0.003	-0.003	0	%100
36	M112	Z	-0.0008	-0.0008	0	%100
37	M114	Z	-0.003	-0.003	0	%100
38	M115	Z	-0.0008	-0.0008	0	%100
39	M117	Z	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.002	-0.002	0	%100
2	2	X	-0.002	-0.002	0	%100
3	3	X	-0.002	-0.002	0	%100
4	4	X	-0.0008	-0.0008	0	%100
5	7	X	-0.0008	-0.0008	0	%100
6	10	X	-0.0008	-0.0008	0	%100
7	13	X	-0.0008	-0.0008	0	%100
8	14	X	-0.0008	-0.0008	0	%100
9	15	X	-0.0008	-0.0008	0	%100
10	22	X	-0.0008	-0.0008	0	%100
11	23	X	-0.0008	-0.0008	0	%100
12	24	X	-0.0008	-0.0008	0	%100
13	31	X	-0.0008	-0.0008	0	%100
14	32	X	-0.0008	-0.0008	0	%100
15	33	X	-0.0008	-0.0008	0	%100
16	67	X	-0.0009	-0.0009	0	%100
17	68	X	-0.0009	-0.0009	0	%100
18	69	X	-0.0009	-0.0009	0	%100
19	70	X	-0.0008	-0.0008	0	%100
20	71	X	-0.0008	-0.0008	0	%100
21	72	X	-0.0008	-0.0008	0	%100
22	73	X	-0.0009	-0.0009	0	%100
23	74	X	-0.0009	-0.0009	0	%100
24	75	X	-0.0009	-0.0009	0	%100
25	76	X	-0.0009	-0.0009	0	%100
26	77	X	-0.0009	-0.0009	0	%100
27	78	X	-0.0009	-0.0009	0	%100
28	79	X	-0.002	-0.002	0	%100
29	80	X	-0.002	-0.002	0	%100
30	81	X	-0.002	-0.002	0	%100
31	106	X	-0.0009	-0.0009	0	%100
32	107	X	-0.0009	-0.0009	0	%100
33	108	X	-0.0009	-0.0009	0	%100
34	M109	X	-0.0008	-0.0008	0	%100
35	M111	X	-0.003	-0.003	0	%100
36	M112	X	-0.0008	-0.0008	0	%100
37	M114	X	-0.003	-0.003	0	%100
38	M115	X	-0.0008	-0.0008	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
39	M117	X	-0.003	-0.003	0	%100

Member Distributed Loads (BLC 39 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.008	-0.008	4.7	7.2
2	73	Y	-0.009	-0.009	0.625	1.625
3	74	Y	-0.009	-0.009	0.175	1.175
4	3	Y	-0.007	-0.007	4.7	7.2
5	75	Y	-0.009	-0.009	0.625	1.625
6	76	Y	-0.009	-0.009	0.175	1.175
7	2	Y	-0.008	-0.008	4.7	7.2
8	77	Y	-0.009	-0.009	0.625	1.625
9	78	Y	-0.009	-0.009	0.175	1.175
10	1	Y	-0.0006102	-0.006	0	1.587
11	1	Y	-0.006	-0.008	1.587	3.173
12	1	Y	-0.008	-0.005	3.173	4.76
13	2	Y	-0.0006102	-0.006	0	1.587
14	2	Y	-0.006	-0.008	1.587	3.173
15	2	Y	-0.008	-0.005	3.173	4.76
16	80	Y	-0.001	-0.014	0	1.413
17	80	Y	-0.014	-0.018	1.413	2.827
18	80	Y	-0.018	-0.011	2.827	4.24
19	71	Y	-0.005	-0.005	0	1.041
20	71	Y	-0.005	-0.005	1.041	2.082
21	74	Y	-0.008	-0.005	0	0.9
22	74	Y	-0.005	-0.001	0.9	1.8
23	77	Y	-0.001	-0.005	0	0.9
24	77	Y	-0.005	-0.008	0.9	1.8
25	80	Y	-0.006	-0.006	3.691	4.691
26	2	Y	-0.005	-0.008	7.14	8.727
27	2	Y	-0.008	-0.006	8.727	10.313
28	2	Y	-0.006	-0.0006102	10.313	11.9
29	3	Y	-0.005	-0.008	7.14	8.727
30	3	Y	-0.008	-0.006	8.727	10.313
31	3	Y	-0.006	-0.0006102	10.313	11.9
32	79	Y	-0.001	-0.014	0	1.413
33	79	Y	-0.014	-0.018	1.413	2.827
34	79	Y	-0.018	-0.011	2.827	4.24
35	70	Y	-0.005	-0.005	0	1.041
36	70	Y	-0.005	-0.005	1.041	2.082
37	75	Y	-0.001	-0.005	0	0.9
38	75	Y	-0.005	-0.008	0.9	1.8
39	78	Y	-0.008	-0.005	0	0.9
40	78	Y	-0.005	-0.001	0.9	1.8
41	79	Y	-0.006	-0.006	3.691	4.691
42	1	Y	-0.005	-0.008	7.14	8.727
43	1	Y	-0.008	-0.006	8.727	10.313
44	1	Y	-0.006	-0.0006102	10.313	11.9
45	3	Y	-0.0006102	-0.006	0	1.587
46	3	Y	-0.006	-0.008	1.587	3.173
47	3	Y	-0.008	-0.005	3.173	4.76
48	81	Y	-0.001	-0.014	0	1.413
49	81	Y	-0.014	-0.018	1.413	2.827
50	81	Y	-0.018	-0.011	2.827	4.24
51	72	Y	-0.005	-0.005	0	1.041

Member Distributed Loads (BLC 39 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
52	72	Y	-0.005	-0.005	1.041	2.082
53	73	Y	-0.001	-0.005	0	0.9
54	73	Y	-0.005	-0.008	0.9	1.8
55	76	Y	-0.008	-0.005	0	0.9
56	76	Y	-0.005	-0.001	0.9	1.8
57	81	Y	-0.006	-0.006	3.691	4.691

Member Distributed Loads (BLC 40 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.006	-0.006	4.7	7.2
2	73	Y	-0.008	-0.008	0.625	1.625
3	74	Y	-0.008	-0.008	0.175	1.175
4	3	Y	-0.006	-0.006	4.7	7.2
5	75	Y	-0.008	-0.008	0.625	1.625
6	76	Y	-0.008	-0.008	0.175	1.175
7	2	Y	-0.006	-0.006	4.7	7.2
8	77	Y	-0.008	-0.008	0.625	1.625
9	78	Y	-0.008	-0.008	0.175	1.175
10	1	Y	-0.0004882	-0.005	0	1.587
11	1	Y	-0.005	-0.007	1.587	3.173
12	1	Y	-0.007	-0.004	3.173	4.76
13	2	Y	-0.0004882	-0.005	0	1.587
14	2	Y	-0.005	-0.007	1.587	3.173
15	2	Y	-0.007	-0.004	3.173	4.76
16	80	Y	-0.001	-0.011	0	1.413
17	80	Y	-0.011	-0.015	1.413	2.827
18	80	Y	-0.015	-0.009	2.827	4.24
19	71	Y	-0.004	-0.004	0	1.041
20	71	Y	-0.004	-0.004	1.041	2.082
21	74	Y	-0.007	-0.004	0	0.9
22	74	Y	-0.004	-0.001	0.9	1.8
23	77	Y	-0.001	-0.004	0	0.9
24	77	Y	-0.004	-0.007	0.9	1.8
25	80	Y	-0.005	-0.005	3.691	4.691
26	2	Y	-0.004	-0.007	7.14	8.727
27	2	Y	-0.007	-0.005	8.727	10.313
28	2	Y	-0.005	-0.0004882	10.313	11.9
29	3	Y	-0.004	-0.007	7.14	8.727
30	3	Y	-0.007	-0.005	8.727	10.313
31	3	Y	-0.005	-0.0004882	10.313	11.9
32	79	Y	-0.001	-0.011	0	1.413
33	79	Y	-0.011	-0.015	1.413	2.827
34	79	Y	-0.015	-0.009	2.827	4.24
35	70	Y	-0.004	-0.004	0	1.041
36	70	Y	-0.004	-0.004	1.041	2.082
37	75	Y	-0.001	-0.004	0	0.9
38	75	Y	-0.004	-0.007	0.9	1.8
39	78	Y	-0.007	-0.004	0	0.9
40	78	Y	-0.004	-0.001	0.9	1.8
41	79	Y	-0.005	-0.005	3.691	4.691
42	1	Y	-0.004	-0.007	7.14	8.727
43	1	Y	-0.007	-0.005	8.727	10.313
44	1	Y	-0.005	-0.0004882	10.313	11.9
45	3	Y	-0.0004882	-0.005	0	1.587
46	3	Y	-0.005	-0.007	1.587	3.173

Member Distributed Loads (BLC 40 : BLC 8 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
47	3	Y	-0.007	-0.004	3.173	4.76
48	81	Y	-0.001	-0.011	0	1.413
49	81	Y	-0.011	-0.015	1.413	2.827
50	81	Y	-0.015	-0.009	2.827	4.24
51	72	Y	-0.004	-0.004	0	1.041
52	72	Y	-0.004	-0.004	1.041	2.082
53	73	Y	-0.001	-0.004	0	0.9
54	73	Y	-0.004	-0.007	0.9	1.8
55	76	Y	-0.007	-0.004	0	0.9
56	76	Y	-0.004	-0.001	0.9	1.8
57	81	Y	-0.005	-0.005	3.691	4.691

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		45		9
2	0 Wind - No Ice	WLZ			45	39	
3	90 Wind - No Ice	WLX			45	39	
4	0 Wind - Ice	WLZ			45	39	
5	90 Wind - Ice	WLX			45	39	
6	0 Wind - Service	WLZ			45	39	
7	90 Wind - Service	WLX			45	39	
8	Ice	OL1			45	39	9
9	0 Seismic	ELZ			45	39	
10	90 Seismic	ELX			45	39	
11	Live Load a	LL		3			
12	Live Load b	LL		3			
13	Live Load c	LL		3			
14	Live Load d	LL		3			
15	Maint LL 1	LL			1		
16	Maint LL 2	LL			1		
17	Maint LL 3	LL			1		
18	Maint LL 4	LL			1		
19	Maint LL 5	LL			1		
20	Maint LL 6	LL			1		
21	Maint LL 7	LL			1		
22	Maint LL 8	LL			1		
23	Maint LL 9	LL			1		
24	Maint LL 10	LL			1		
25	Maint LL 11	LL			1		
26	Maint LL 12	LL			1		
27	Maint LL 13	LL			1		
28	Maint LL 14	LL			1		
29	Maint LL 15	LL			1		
30	Maint LL 16	LL			1		
31	Maint LL 17	LL			1		
32	Maint LL 18	LL			1		
33	Maint LL 19	LL			1		
34	Maint LL 20	LL			1		
35	Maint LL 21	LL			1		
36	Maint LL 22	LL					
37	Maint LL 23	LL					
38	Maint LL 24	LL					
39	BLC 1 Transient Area Loads	None				57	
40	BLC 8 Transient Area Loads	None				57	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					15	1.5
87	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					16	1.5
88	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					17	1.5
89	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					18	1.5
90	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					19	1.5
91	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					20	1.5
92	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					21	1.5
93	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					22	1.5
94	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					23	1.5
95	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					24	1.5
96	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					25	1.5
97	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					26	1.5
98	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					27	1.5
99	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					28	1.5
100	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					29	1.5
101	1.2 D + 1.5 LL Maint (16)	Yes	Y	1	1.2					30	1.5
102	1.2 D + 1.5 LL Maint (17)	Yes	Y	1	1.2					31	1.5
103	1.2 D + 1.5 LL Maint (18)	Yes	Y	1	1.2					32	1.5
104	1.2 D + 1.5 LL Maint (19)	Yes	Y	1	1.2					33	1.5
105	1.2 D + 1.5 LL Maint (20)	Yes	Y	1	1.2					34	1.5
106	1.2 D + 1.5 LL Maint (21)	Yes	Y	1	1.2					35	1.5
107	1.2 D + 1.5 LL Maint (22)	Yes	Y	1	1.2					36	1.5
108	1.2 D + 1.5 LL Maint (23)	Yes	Y	1	1.2					37	1.5
109	1.2 D + 1.5 LL Maint (24)	Yes	Y	1	1.2					38	1.5

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	155	max	0.523	4	0.644	104	0.871	2	-0.211	93	0.671	3	-0.356	6
2		min	-0.546	10	0.236	6	-0.787	8	-1.167	104	-0.639	9	-2.024	104
3	153	max	0.646	5	0.644	105	0.504	2	2.336	105	0.557	11	0.021	99
4		min	-0.707	11	0.223	2	-0.566	8	0.403	2	-0.525	5	-0.019	96
5	157	max	0.506	6	0.644	106	0.951	2	-0.203	9	0.667	7	2.022	106
6		min	-0.422	12	0.231	9	-0.971	8	-1.169	106	-0.635	13	0.359	10
7	N216	max	1.4	6	2.436	24	1.391	13	-1.439	3	2.011	3	-2.874	98
8		min	-1.804	12	1.059	5	-1.197	7	-3.482	21	-2.08	9	-6.266	24
9	N217	max	0.783	5	2.425	20	2.098	2	7.176	14	1.642	11	0.202	71
10		min	-0.748	11	1.122	2	-2.547	8	3.13	8	-1.713	5	-0.051	53
11	N218	max	1.78	4	2.437	17	1.567	3	-1.514	13	2.07	7	6.119	18
12		min	-1.41	10	1.056	11	-1.313	9	-3.745	19	-2.142	13	2.815	95
13	Totals:	max	5.384	5	8.801	15	7.304	2						
14		min	-5.384	11	4.259	9	-7.304	8						

Envelope NONE Member Cold Formed Steel Code Checks

No Data to Print...

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	M115	PIPE_2.5	0.622	1.575	8	0.118	1.575		20	46.76	50.715	3.596	3.596	1	H1-1b
2	M112	PIPE_2.5	0.58	1.575	3	0.117	1.575		16	46.76	50.715	3.596	3.596	1	H1-1b
3	M109	PIPE_2.5	0.572	1.575	24	0.118	1.575		24	46.76	50.715	3.596	3.596	1	H1-1b
4	75	L3X2X4	0.554	0	8	0.108	1.8	z	8	34.065	38.88	0.826	2.483	1.466	H2-1
5	70	L1.75X1.75X5/16	0.532	1.041	2	0.252	1.041	y	20	24.309	32.273	0.601	1.393	1.265	H2-1
6	78	L3X2X4	0.506	1.8	8	0.101	0	z	8	34.065	38.88	0.826	2.489	1.5	H2-1
7	77	L3X2X4	0.484	0	13	0.099	1.8	z	13	34.065	38.88	0.826	2.489	1.5	H2-1
8	M111	HSS4X4X4	0.479	3.646	21	0.077	3.646	y	14	131.969	139.518	16.181	16.181	1.954	H1-1b
9	108	L2.5X2.5X4	0.479	3.019	3	0.266	9.581	y	16	2.732	38.556	1.114	1.868	1.5	H2-1
10	M114	HSS4X4X4	0.477	3.646	25	0.077	3.646	y	19	131.969	139.518	16.181	16.181	1.958	H1-1b
11	76	L3X2X4	0.476	1.8	3	0.097	0	z	3	34.065	38.88	0.826	2.489	1.5	H2-1
12	107	L2.5X2.5X4	0.476	3.019	17	0.267	9.581	y	24	2.732	38.556	1.114	1.868	1.5	H2-1
13	106	L2.5X2.5X4	0.474	3.019	25	0.271	9.581	y	20	2.732	38.556	1.114	1.868	1.5	H2-1
14	M117	HSS4X4X4	0.474	3.646	17	0.076	3.646	y	23	131.969	139.518	16.181	16.181	1.956	H1-1b
15	69	L2.5X2.5X4	0.457	1.05	8	0.249	0.919	y	6	2.732	38.556	1.114	1.868	1.5	H2-1
16	68	L2.5X2.5X4	0.428	11.55	8	0.298	0.919	z	2	2.732	38.556	1.114	1.868	1.5	H2-1
17	67	L2.5X2.5X4	0.412	11.55	3	0.254	0.787	y	3	2.732	38.556	1.114	1.868	1.5	H2-1
18	72	L1.75X1.75X5/16	0.403	1.041	9	0.248	1.041	y	16	24.309	32.273	0.601	1.393	1.276	H2-1
19	73	L3X2X4	0.389	0	4	0.091	1.8	z	16	34.065	38.88	0.826	2.444	1.317	H2-1
20	71	L1.75X1.75X5/16	0.37	1.041	6	0.248	1.041	y	24	24.309	32.273	0.601	1.393	1.275	H2-1
21	74	L3X2X4	0.347	1.8	11	0.088	0	y	24	34.065	38.88	0.826	2.489	1.5	H2-1
22	2	C5X6.7	0.271	4.71	2	0.242	7.438	y	23	5.207	63.828	1.604	9.585	2.204	H1-1b
23	3	C5X6.7	0.271	4.71	8	0.244	4.462	y	19	5.207	63.828	1.604	9.585	2.882	H1-1b
24	10	PIPE_2.0	0.26	5.833	2	0.069	5.688		9	5.019	32.13	1.872	1.872	1	H1-1b
25	23	PIPE_2.0	0.256	5.833	2	0.076	5.688		7	5.019	32.13	1.872	1.872	1	H1-1b
26	7	PIPE_2.0	0.252	5.833	8	0.068	5.833		13	5.019	32.13	1.872	1.872	1	H1-1b
27	4	PIPE_2.0	0.25	5.833	8	0.081	5.688		2	5.019	32.13	1.872	1.872	1	H1-1b
28	14	PIPE_2.0	0.24	5.688	3	0.081	5.688		2	5.019	32.13	1.872	1.872	1	H1-1b
29	32	PIPE_2.0	0.233	5.833	7	0.061	5.688		10	5.019	32.13	1.872	1.872	1	H1-1b
30	33	PIPE_2.0	0.217	5.833	8	0.124	5.833		9	5.019	32.13	1.872	1.872	1	H1-1b
31	24	PIPE_2.0	0.212	5.833	2	0.104	5.833		5	5.019	32.13	1.872	1.872	1	H1-1b
32	22	PIPE_2.0	0.206	5.833	8	0.118	5.833		7	5.019	32.13	1.872	1.872	1	H1-1b
33	1	C5X6.7	0.204	7.19	6	0.243	4.463	y	14	5.207	63.828	1.604	9.585	1.971	H1-1b

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
34	15	PIPE_2.0	0.189	5.833	8	0.131	5.833		13	5.019	32.13	1.872	1.872	1	H1-1b
35	31	PIPE_2.0	0.186	5.833	13	0.097	5.833		11	5.019	32.13	1.872	1.872	1	H1-1b
36	80	HSS4X4X3	0.186	5.3	104	0.032	5.3	z	3	95.395	106.812	12.662	12.662	1.858	H1-1b
37	79	HSS4X4X3	0.186	5.3	105	0.024	5.3	z	11	95.395	106.812	12.662	12.662	1.858	H1-1b
38	81	HSS4X4X3	0.186	5.3	106	0.033	5.3	z	7	95.395	106.812	12.662	12.662	1.858	H1-1b
39	13	PIPE_2.0	0.178	5.833	4	0.111	5.833		3	5.019	32.13	1.872	1.872	1	H1-1b

APPENDIX D

ADDITIONAL CALCUATIONS

PROJECT	**136352.017.01 - NHV 2071**				**LHN**
SUBJECT	**Platform Mount Analysis**				
DATE	**04/15/22**	PAGE	1	OF	1

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	2.336	k
Vertical Shear	:	3.104	k
Horizontal Shear	:	0.861	k
Torsion	:	0.21	k.ft
Moment from Horizontal Forces	:	1.813	k.ft
Moment from Vertical Forces	:	9.15	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in^2
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1.5	in
Bolt edge distance, plate width	:	1.5	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	3.22	k
Force from Horz. Moment	:	3.28	k
Force from Vert. Moment	:	16.57	k
Shear Load / Bolt	:	0.81	k
Tension Load / Bolt	:	0.58	k
Resultant from Moments / Bolt	:	8.45	k

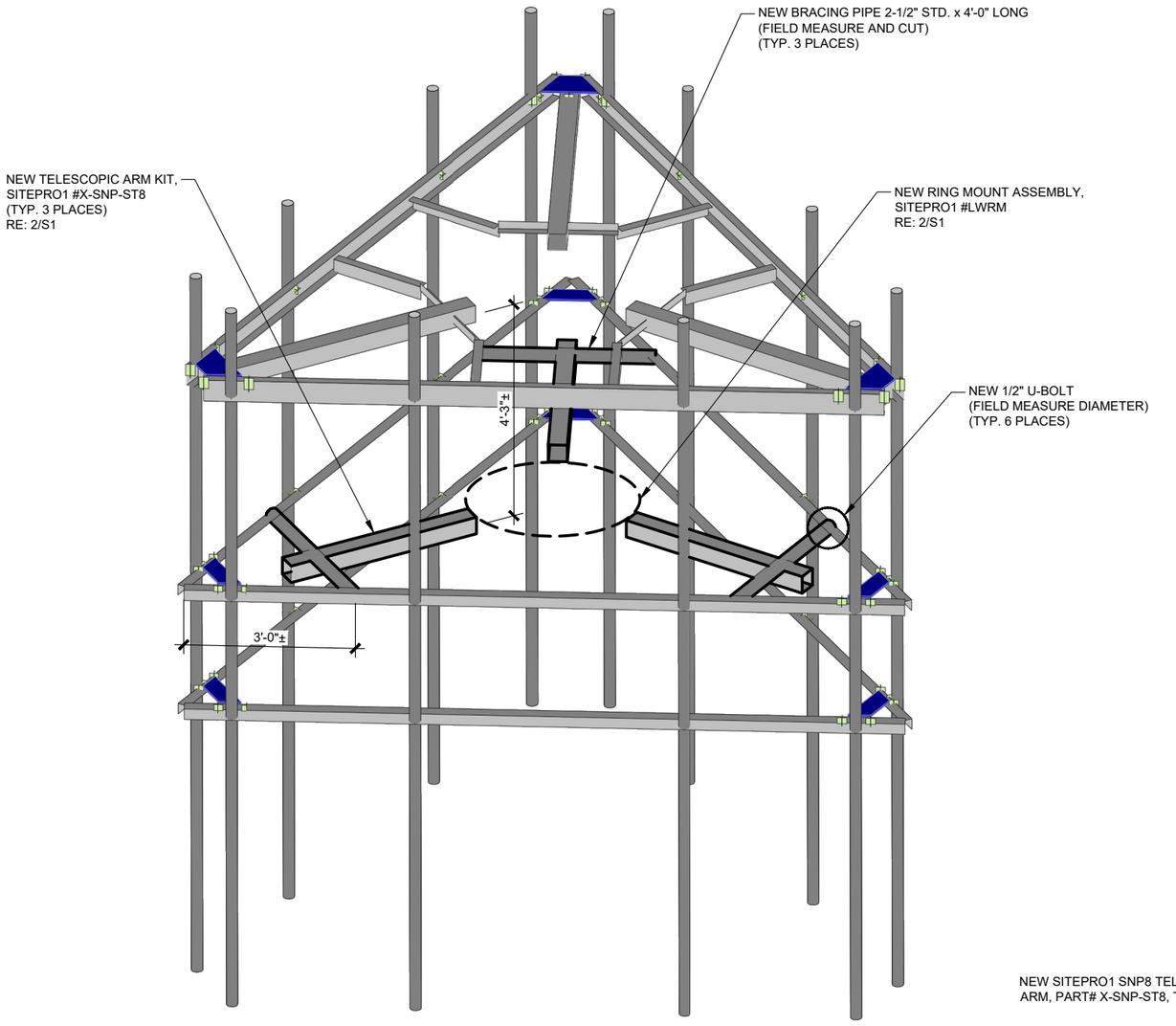
Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	**43.58%**		**OKAY**
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	**12.57%**		**OKAY**
Unity Check, Combined	:	**56.16%**		**OKAY**
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	**2.32%**		**OKAY**

APPENDIX E

MOUNT MODIFICATION DESIGN DRAWINGS (MDD)

MODIFICATIONS BASED ON THE FAILING STRUCTURAL ANALYSIS FROM B+T GROUP DATED 04/17/20 AND ACCOMPANIED BY ANALYSIS FROM B+T GROUP DATED 04/15/22



1 MODIFIED PLATFORM
SCALE: N.T.S.

GENERAL NOTES

1.1 CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO THE MOBILIZING ON THE SITE FOR INSTALLATION OF THE MOUNT MODIFICATION AND SHALL NOTIFY THE ENGINEER OF RECORD IF THE FIELD CONDITIONS VARY FROM WHAT IS SHOWN ON THE DRAWINGS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD PRIOR TO MOBILIZING AT THE SITE IF THE MOUNT REINFORCEMENT SHOWN WILL NEED TO BE REVISED TO SATISFY FIELD CONDITIONS

1.2 CONTRACTOR SHALL RELOCATE NON-ANTENNA EQUIPMENT ALONG THE EXISTING PIPE MOUNT THAT IT IS MOUNTED TO, TO ALLOW FOR INSTALLATION OF MOUNT REINFORCEMENT. ENGINEER OF RECORD WILL BE NOTIFIED IF NON-ANTENNA EQUIPMENT NEEDS TO BE RELOCATED TO ANY OTHER EXISTING MEMBERS TO ALLOW FOR INSTALLATION OF MOUNT MODIFICATION.

1.3 MODIFICATION SHALL BE COMPLETED PRIOR TO ADDING THE PROPOSED APPURTENANCES.

1.4 ALL WORK SHALL COMPLY WITH THE TIA-222-H STANDARD, ANSI/TIA-322 AND ANSI/ASSE A10.48, AS WELL AS ANY OTHER GOVERNING BUILDING CODES.

1.5 FIELD WORK WILL BE DONE AROUND EXISTING COAXIAL CABLE AND EQUIPMENT. ALL WORK SHALL BE DONE IN A MANNER SUCH THAT NO DAMAGE OCCURS TO THE EXISTING EQUIPMENT OR THE STRUCTURE.

1.6 A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND (OR APPROVED EQUIVALENT) SHALL BE APPLIED TO ANY FIELD CUTS OR FIELD DRILLED HOLES.

1.7 THE USE OF A GAS TORCH OR WELDER WILL NOT BE PERMITTED ON THE TOWER WITHOUT THE CONSENT OF THE OWNER.

1.8 ALL FIELD CONNECTIONS SHALL BE MADE WITH A325N BOLTS, U.N.O.

1.9 IN LIEU OF TEMPORARY BRACING, CONTRACTOR MAY HAVE A STABILITY ANALYSIS PERFORMED BY AN ENGINEER LICENSED IN THE STATE THE TOWER IS LOCATED. THE ANALYSIS SHALL USE A MINIMUM WIND SPEED OF 45 mph (3-SEC) PER ANSI/TIA-322 and ANSI/ASSE A10.48

1.10 ALL CUTTING AND WELDING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH CCUSA POLICY "CUTTING AND WELDING PLAN" (DOC #ENG-PLN-10015) ON AN ONGOING BASIS THROUGHOUT THE ENTIRE LIFE OF THE PROJECT.

1.11 DIMENSIONS WITH "±" MUST BE WITHIN 3" OF THE INDICATED DIMENSION.

FABRICATION

2.1 ALL WORK SHALL BE DONE IN ACCORDANCE WITH A.I.S.C. "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."

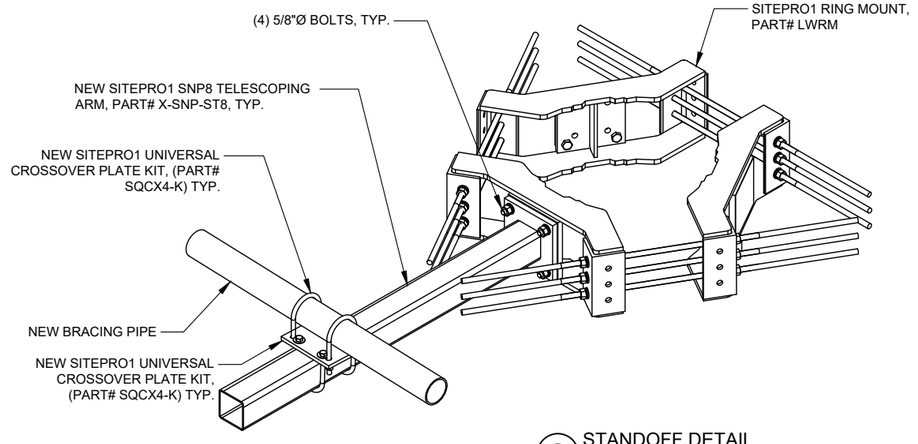
2.2 STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:

	YIELD	ASTM SPECS
STEEL PIPE, U.N.O.	35ksi	A53 GR.B

2.3 ALL NEW MATERIAL INCLUDING STRUCTURAL STEEL AND FASTENERS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 AND A153.

2.4 WELDING SHALL MEET ANSI/AWS D1.1 STRUCTURAL WELDING CODE (LATEST REVISION). ELECTRODES SHALL BE E80 SERIES.

2.5 CONTRACTOR SHALL PROVIDE SHOP FABRICATION DRAWINGS TO B+T GROUP 5 DAYS PRIOR TO FABRICATION.



2 STANDOFF DETAIL
SCALE: N.T.S.

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

T-Mobile

CROWN CASTLE

NHV 2071 143137

800 OGG MEADOW ROAD
ORANGE, CT 06477
NEW HAVEN

EXISTING PLATFORM
AT 127'-00"

PROJECT NO:	136352.017.01
CHECKED BY:	EP

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	04/15/22	PMS	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 02/01/23

STATE OF CONNECTICUT
CHAD TUTTLE
No. 23924
LICENSED
PROFESSIONAL ENGINEER
4/15/22

4-15-22

SHEET NUMBER:	REVISION:
S1	0

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: CT11078B

Fairfield/ MP X43/ Burr S
281 Wood House Road
Fairfield, Connecticut 06824

May 15, 2022

EBI Project Number: 6222003229

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**31.85%**

May 15, 2022

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

Emissions Analysis for Site: CT11078B - Fairfield/ MP X43/ Burr S

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **281 Wood House Road** in **Fairfield, 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 281 Wood House Road in Fairfield, 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 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 Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector A, the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector B, the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Ericsson AIR 6419 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 140 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:	Commscope VV-65A-R1	Make / Model:	Commscope VV-65A-R1	Make / Model:	Commscope VV-65A-R1
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd
Height (AGL):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360.00 Watts	Total TX Power (W):	360.00 Watts	Total TX Power (W):	360.00 Watts
ERP (W):	13,446.73	ERP (W):	13,446.73	ERP (W):	13,446.73
Antenna A1 MPE %:	**2.69%**	Antenna B1 MPE %:	**2.69%**	Antenna C1 MPE %:	**2.69%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
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	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd
Height (AGL):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts
ERP (W):	4,151.83	ERP (W):	4,151.83	ERP (W):	4,151.83
Antenna A2 MPE %:	**1.98%**	Antenna B2 MPE %:	**1.98%**	Antenna C2 MPE %:	**1.98%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
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:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd
Height (AGL):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts
ERP (W):	31,011.95	ERP (W):	31,011.95	ERP (W):	31,011.95
Antenna A3 MPE %:	**6.21%**	Antenna B3 MPE %:	**6.21%**	Antenna C3 MPE %:	**6.21%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	10.88%
AT&T	2.77%
T-Mobile Existing	14.48%
PageNet	0.19%
Verizon	1.5%
XM Radio	2.03%
Metricom	0%
Site Total MPE % :	31.85%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	10.88%
T-Mobile Sector B Total:	10.88%
T-Mobile Sector C Total:	10.88%
Site Total MPE % :	31.85%

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 1900 MHz GSM	4	1076.77	140.0	8.62	1900 MHz GSM	1000	0.86%
T-Mobile 1900 MHz LTE	2	2153.53	140.0	8.62	1900 MHz LTE	1000	0.86%
T-Mobile 2100 MHz LTE	2	2416.30	140.0	9.68	2100 MHz LTE	1000	0.97%
T-Mobile 600 MHz LTE	2	591.73	140.0	2.37	600 MHz LTE	400	0.59%
T-Mobile 600 MHz NR	1	1577.94	140.0	3.16	600 MHz NR	400	0.79%
T-Mobile 700 MHz LTE	2	695.22	140.0	2.78	700 MHz LTE	467	0.60%
T-Mobile 2500 MHz LTE 1C & 2C Traffic	1	9619.47	140.0	19.26	2500 MHz LTE 1C & 2C Traffic	1000	1.93%
T-Mobile 2500 MHz LTE 1C & 2C Broadcast	1	717.84	140.0	1.44	2500 MHz LTE 1C & 2C Broadcast	1000	0.14%
T-Mobile 2500 MHz NR Traffic	1	19238.94	140.0	38.52	2500 MHz NR Traffic	1000	3.85%
T-Mobile 2500 MHz NR Broadcast	1	1435.69	140.0	2.87	2500 MHz NR Broadcast	1000	0.29%
						Total:	**10.88%**

• 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:	10.88%
Sector B:	10.88%
Sector C:	10.88%
T-Mobile Maximum MPE % (Sector A):	10.88%
Site Total:	31.85%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **31.85%** 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.

T-Mobile

T-MOBILE SITE NUMBER: CT11084B
T-MOBILE SITE NAME: ORANGE/ MP X56-57
SITE TYPE: MONOPOLE
TOWER HEIGHT: 161'-0"

BUSINESS UNIT #: 806939
SITE ADDRESS: 800 OGG MEADOW ROAD ORANGE, CT 06477
COUNTY: NEW HAVEN
JURISDICTION: NEW HAVEN COUNTY

T-MOBILE ANCHOR SITE CONFIGURATION: 67E5998E_1XAIR+1OP+1QP

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	NHV 2071 143137
SITE ADDRESS:	800 OGG MEADOW ROAD ORANGE, CT 06477
COUNTY:	NEW HAVEN
MAP/PARCEL #:	97-4-2
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.30791390° (41° 18' 28.36"")
LONGITUDE:	-73.03226940° (-73° 1' 56.22")
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	±183.72 FT
CURRENT ZONING:	RES
JURISDICTION:	NEW HAVEN COUNTY
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	S CENTRAL REGIONAL WATER AUTH 90 SARGENT DR NEW HAVEN, CT 6511
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 12920 SE 38TH STREET BELLEVUE, WA 98006
ELECTRIC PROVIDER:	TBD
TELCO PROVIDER:	TBD

PROJECT TEAM

A&E FIRM:	INFINIGY 500 WEST OFFICE CENTER DRIVE / SUITE 150 FORT WASHINGTON, PA 19034
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065
	PATRICIA PELON - PROJECT MANAGER TRICIA.PELON@CROWNCASTLE.COM
	JASON D'AMICO - CONSTRUCTION MANAGER JASON.DAMICO@CROWNCASTLE.COM

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1	SITE PLAN & ENLARGED SITE PLAN
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUMBING DIAGRAM
C-5	EQUIPMENT SPECS
C-6	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT DESCRIPTION

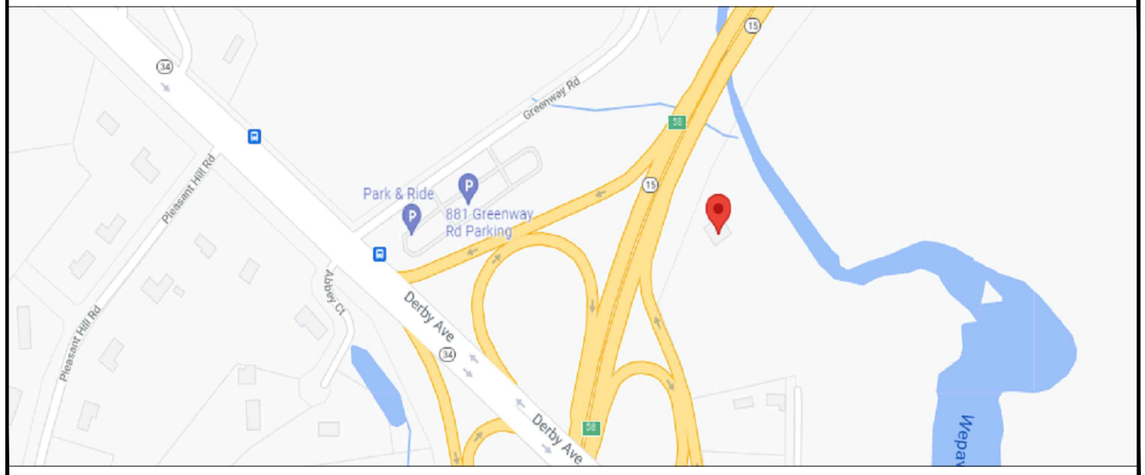
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (9) ANTENNAS
- REMOVE (3) TMAS
- REMOVE (3) RRHS
- REMOVE (11) COAX CABLES
- INSTALL (9) ANTENNAS
- INSTALL (6) RRHS
- INSTALL (3) HYBRID CABLES

GROUND SCOPE OF WORK:
- REMOVE (2) EQUIPMENT CABINETS & CIRCUIT BREAKERS
- INSTALL (1) 6160 & (1) B160 BATTERY CABINET
- INSTALL (2) PSU4813 VOLTAGE BOOSTER IN (P) CABINET
- INSTALL (1) CSR IXRE ROUTER IN (P) CABINET
- INSTALL (2) RP 6651 IN (P) CABINET
- INSTALL (1) BB 6630 IN (P) CABINET
- INSTALL (1) DUG20 IN (P) CABINET
- UPGRADE PANEL BREAKER

NOTE:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

LOCATION MAP



NO SCALE

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2018 IBC
MECHANICAL	2015 IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	MORRISON HERSHFIELD
DATED:	04/27/2022
MOUNT ANALYSIS:	B+T GROUP
DATED:	05/12/2022
RFDS REVISION:	4
DATED:	03/22/2022
ORDER ID:	608637
REVISION:	0

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APPROVALS

APPROVAL	SIGNATURE	DATE
PROPERTY OWNER OR REP.		
LAND USE PLANNER		
T-MOBILE		
OPERATIONS		
RF		
NETWORK		
BACKHAUL		
CONSTRUCTION MANAGER		

THE PARTIES ABOVE HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL CONSTRUCTION DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY CHANGES AND MODIFICATIONS THEY MAY IMPOSE.

T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

INFINIGY
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500 West Office Center Dr.
Suite 150 | Fort Washington, PA 19034
www.infinigy.com

T-MOBILE SITE NUMBER:
CT11084B

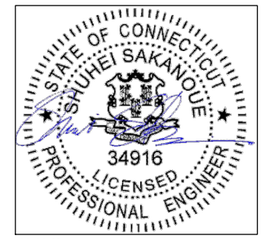
BU #: **806939**
NHV 2071 143137

800 OGG MEADOW ROAD
ORANGE, CT 06477

EXISTING 161'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/04/22	RCD	PRELIMINARY	SS
0	06/06/22	CB	100% FINALS	SS



06/06/22

SHEET NUMBER: T-1
REVISION: 0

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED– NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800–788–7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" – CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
   THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED–STD–10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH QAS–STD–10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED–STD–10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
   CARRIER: T–MOBILE
   TOWER OWNER: CROWN CASTLE USA INC.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE–THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER–TO–CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
   #4 BARS AND SMALLER......40 ksi
   #5 BARS AND LARGER......60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH......3"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 BARS AND LARGER......2"
   #5 BARS AND SMALLER......1–1/2"
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
   SLAB AND WALLS......3/4"
   BEAMS AND COLUMNS......1–1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

GREENFIELD GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON–METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON–METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD–WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
   4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
   4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER–ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "T–MOBILE".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE

SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
277/480V, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (–)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

APWA UNIFORM COLOR CODE:

WHITE	PROPOSED EXCAVATION
PINK	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW	GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
BLUE	POTABLE WATER
PURPLE	RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN	SEWERS AND DRAIN LINES

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
SIAD	SMART INTEGRATED DEVICE
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT

T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

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T-MOBILE SITE NUMBER:
CT11084B

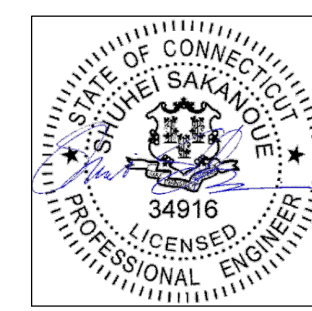
BU #: **806939**
NHV 2071 143137

800 OGG MEADOW ROAD
ORANGE, CT 06477

EXISTING 161'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/04/22	RCD	PRELIMINARY	SS
0	06/06/22	CB	100% FINALS	SS

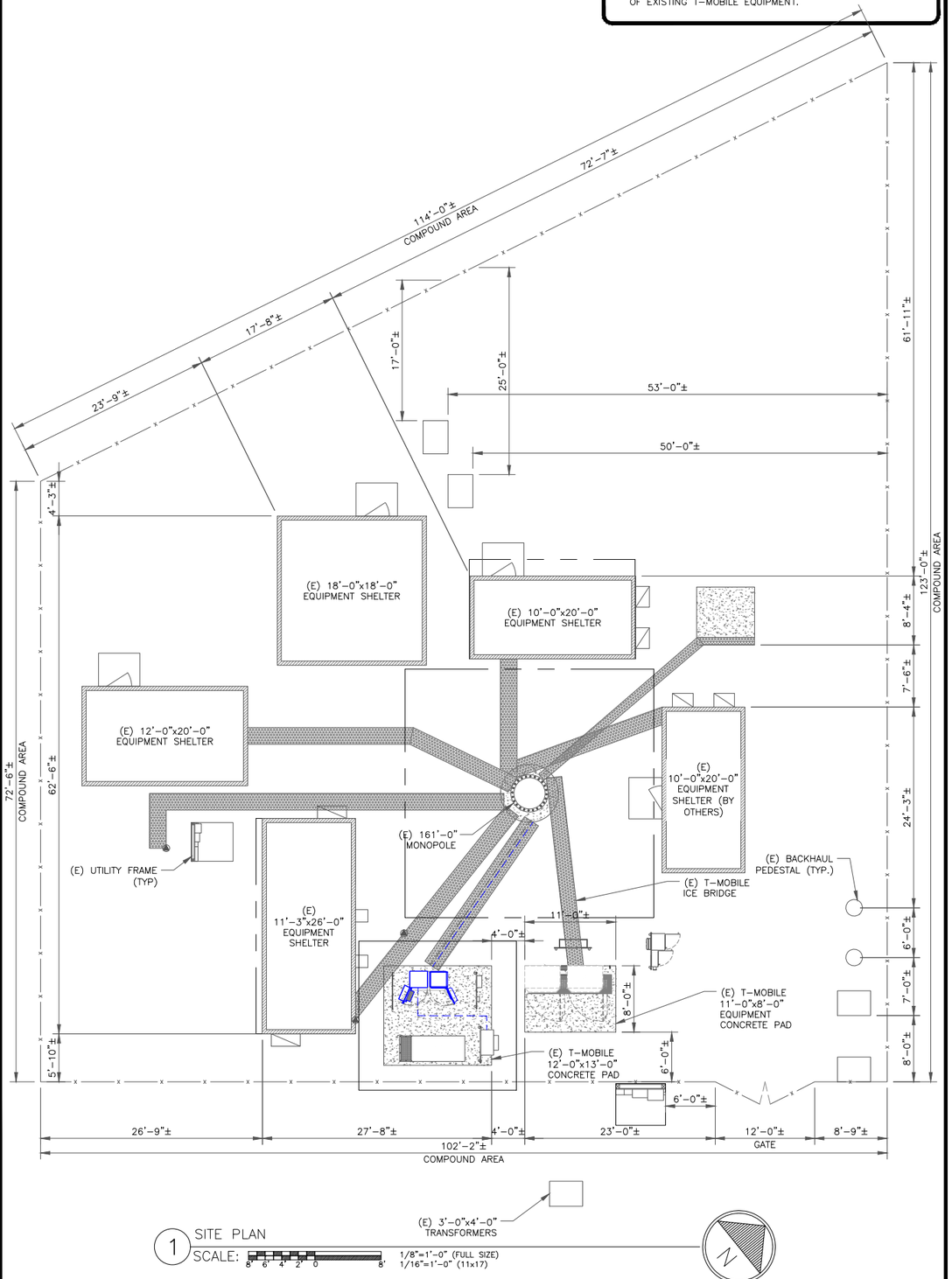


06/06/22

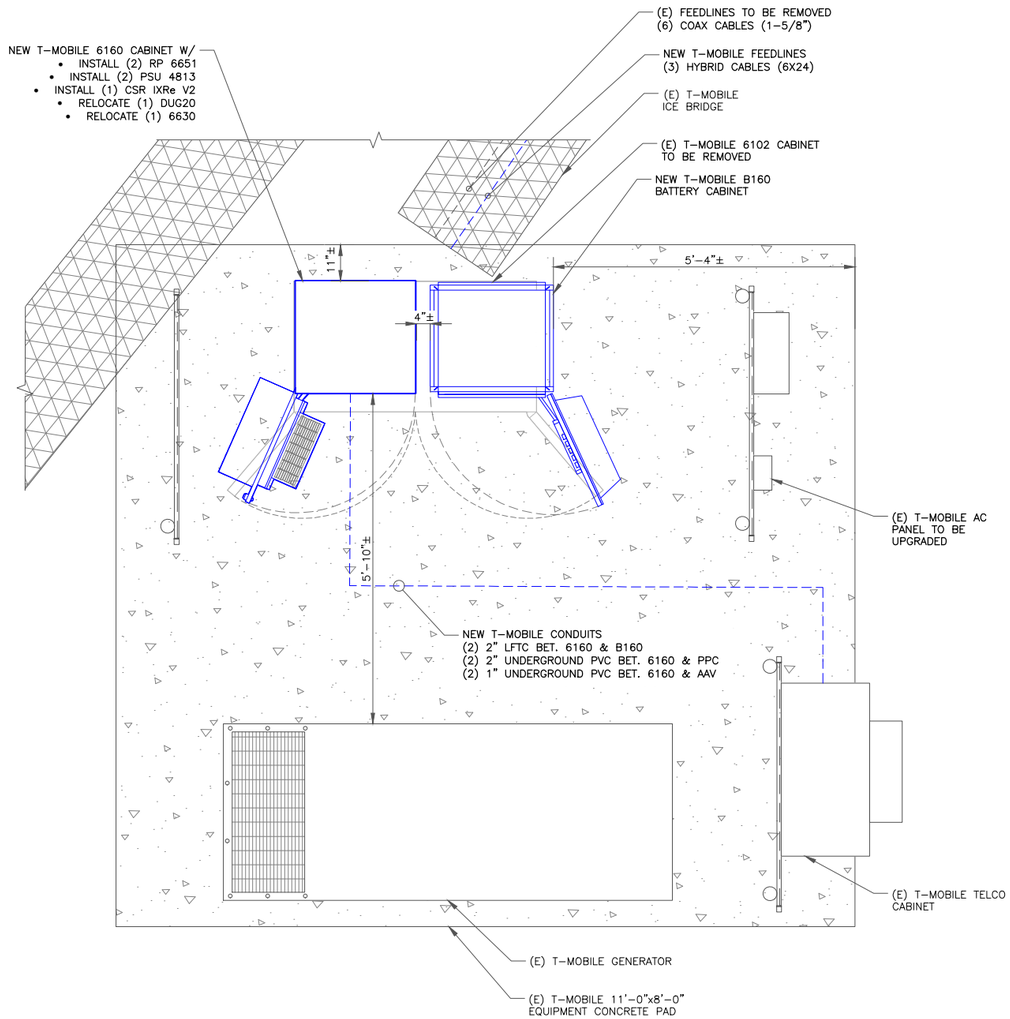
SHEET NUMBER: **T-2**
REVISION: **0**

NOTE:

1. PLANS BASED ON SITE PLAN PROVIDED BY TOWER OWNER AND SITE VISIT PERFORMED BY INFINIGY. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING T-MOBILE EQUIPMENT.



1 SITE PLAN
SCALE: 8" 6" 4" 2" 0 8' 1/8"=1'-0" (FULL SIZE) 1/16"=1'-0" (11x17)



2 ENLARGED SITE PLAN
SCALE: 0 6" 1' 1-1/2"=1'-0" (FULL SIZE) 3/4"=1'-0" (11x17)

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T-MOBILE SITE NUMBER:
CT11084B

BU #: **806939**
NHV 2071 143137

800 OGG MEADOW ROAD
ORANGE, CT 06477

EXISTING 161'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/04/22	RCD	PRELIMINARY	SS
0	06/06/22	CB	100% FINALS	SS

STATE OF CONNECTICUT
SHUHEI SAKANOUE
34916
LICENSED PROFESSIONAL ENGINEER

06/06/22

SHEET NUMBER: C-1

REVISION: 0

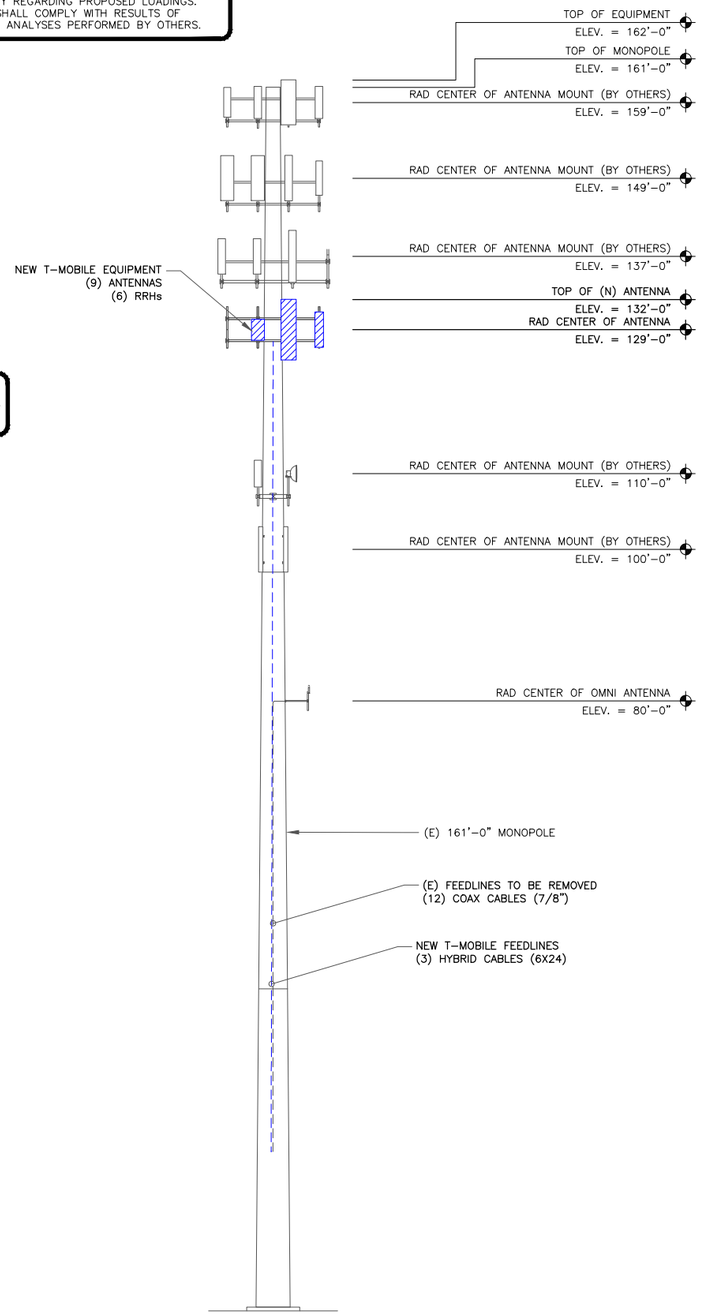
NOTES:

1. ELEVATION BASED ON DRAWING PROVIDED BY TOWER OWNER. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATION/ORIENTATION OF EXISTING EQUIPMENT.
2. INFINIGY HAS NOT EVALUATED THE TOWER OR MOUNT STRUCTURE AND ASSUMES NO RESPONSIBILITY FOR THEIR STRUCTURAL INTEGRITY REGARDING PROPOSED LOADINGS. FINAL INSTALLATION SHALL COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSES PERFORMED BY OTHERS.

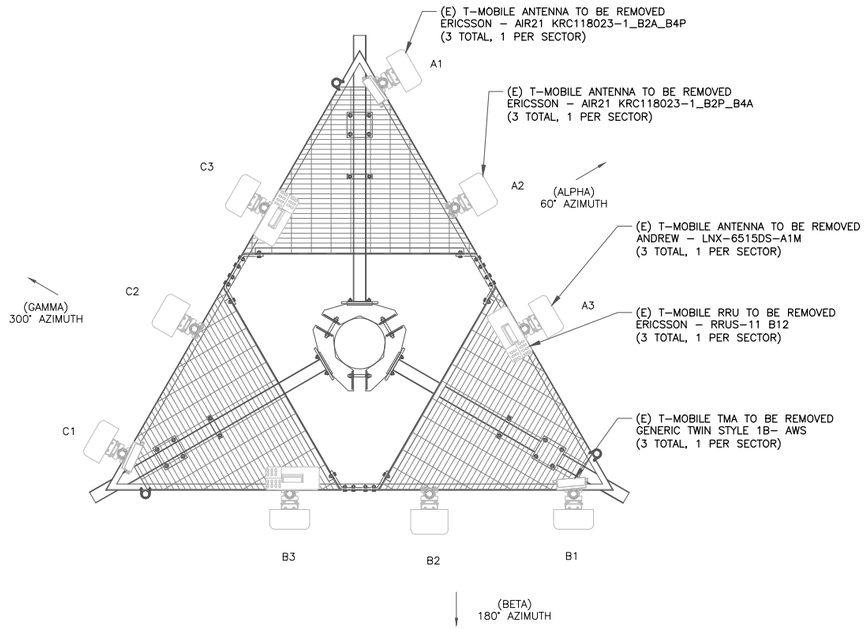
T-MOBILE EQUIPMENT

ANTENNA CL: 129'-0"
MOUNT CL: 127'-0"

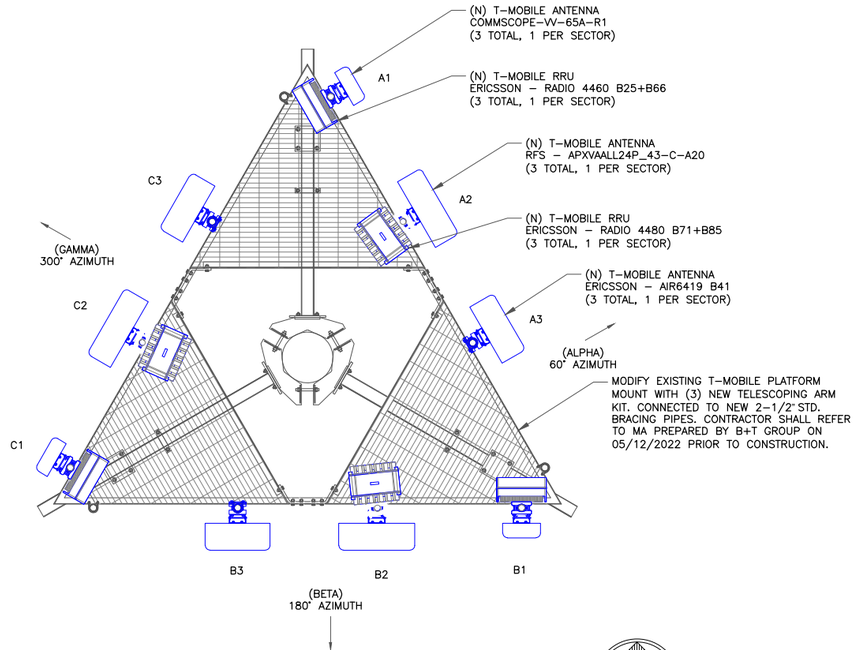
ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB



1 FINAL ELEVATION
SCALE: 10' 5' 0 10' 1"=10'-0" (FULL SIZE) 1"=20'-0" (11x17)



2 EXISTING ANTENNA LAYOUT
SCALE: 1' 6" 0 1' 3/4"=1'-0" (FULL SIZE) 3/8"=1'-0" (11x17)



3 FINAL ANTENNA LAYOUT
SCALE: 1' 6" 0 1' 3/4"=1'-0" (FULL SIZE) 3/8"=1'-0" (11x17)

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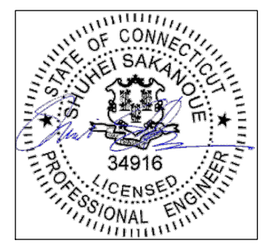


06/06/22

SHEET NUMBER: C-2

REVISION: 0

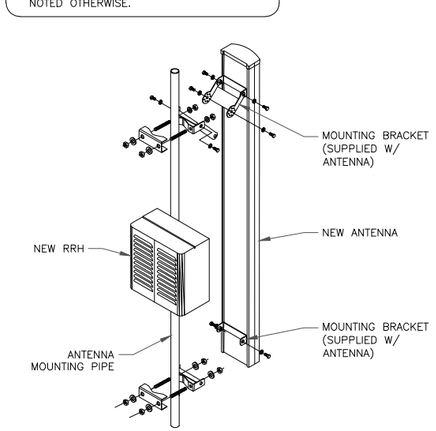
ANTENNA SCHEDULE

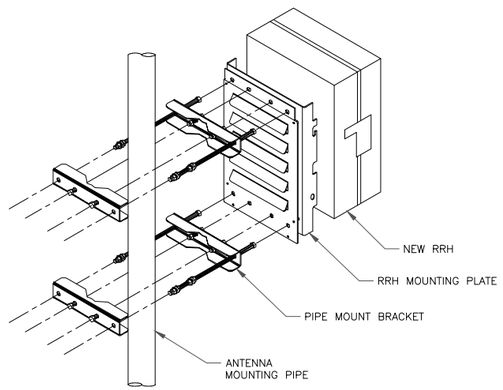
SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	L2100, L1900, G1900	129'-0"	60°	COMMSCOPE	VV-65A-R1	0	2°/2°	(1) ERICSSON - RRUS 4460 B25+B66	(3) 6X24 HYBRID 60M IN LENGTH
ALPHA	A2	L700, L600, N600	129'-0"	60°	RFS	APXVAALL24_43-U-NA20	0	2°/2°	-	-
ALPHA	A3	L2500. N2500	129'-0"	60°	ERICSSON	ERICSSON - AIR6419 B41	0	2°/2°	(1) ERICSSON - RRUS 4480 B71+B85	-
BETA	B1	L2100, L1900, G1900	129'-0"	180°	COMMSCOPE	VV-65A-R1	0	2°/2°	(1) ERICSSON - RRUS 4460 B25+B66	-
BETA	B2	L700, L600, N600	129'-0"	180°	RFS	APXVAALL24_43-U-NA20	0	2°/2°	-	-
BETA	B3	L2500. N2500	129'-0"	180°	ERICSSON	ERICSSON - AIR6419 B41	0	2°/2°	(1) ERICSSON - RRUS 4480 B71+B85	-
GAMMA	C1	L2100, L1900, G1900	129'-0"	300°	COMMSCOPE	VV-65A-R1	0	2°/2°	(1) ERICSSON - RRUS 4460 B25+B66	-
GAMMA	C2	L700, L600, N600	129'-0"	300°	RFS	APXVAALL24_43-U-NA20	0	2°/2°	-	-
GAMMA	C3	L2500. N2500	129'-0"	300°	ERICSSON	ERICSSON - AIR6419 B41	0	2°/2°	(1) ERICSSON - RRUS 4480 B71+B85	-

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.





NOTE:

1. CONTRACTOR SHALL INSTALL 3RD DUAL RRH MOUNT TO ACCOMMODATE ALL RRH BRACKETS HOLES IF NECESSARY.

2 ANTENNA WITH RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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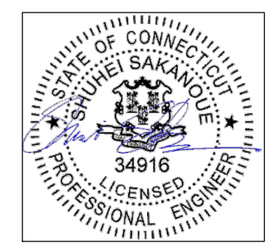

06/06/22

SHEET NUMBER: C-3

REVISION: 0

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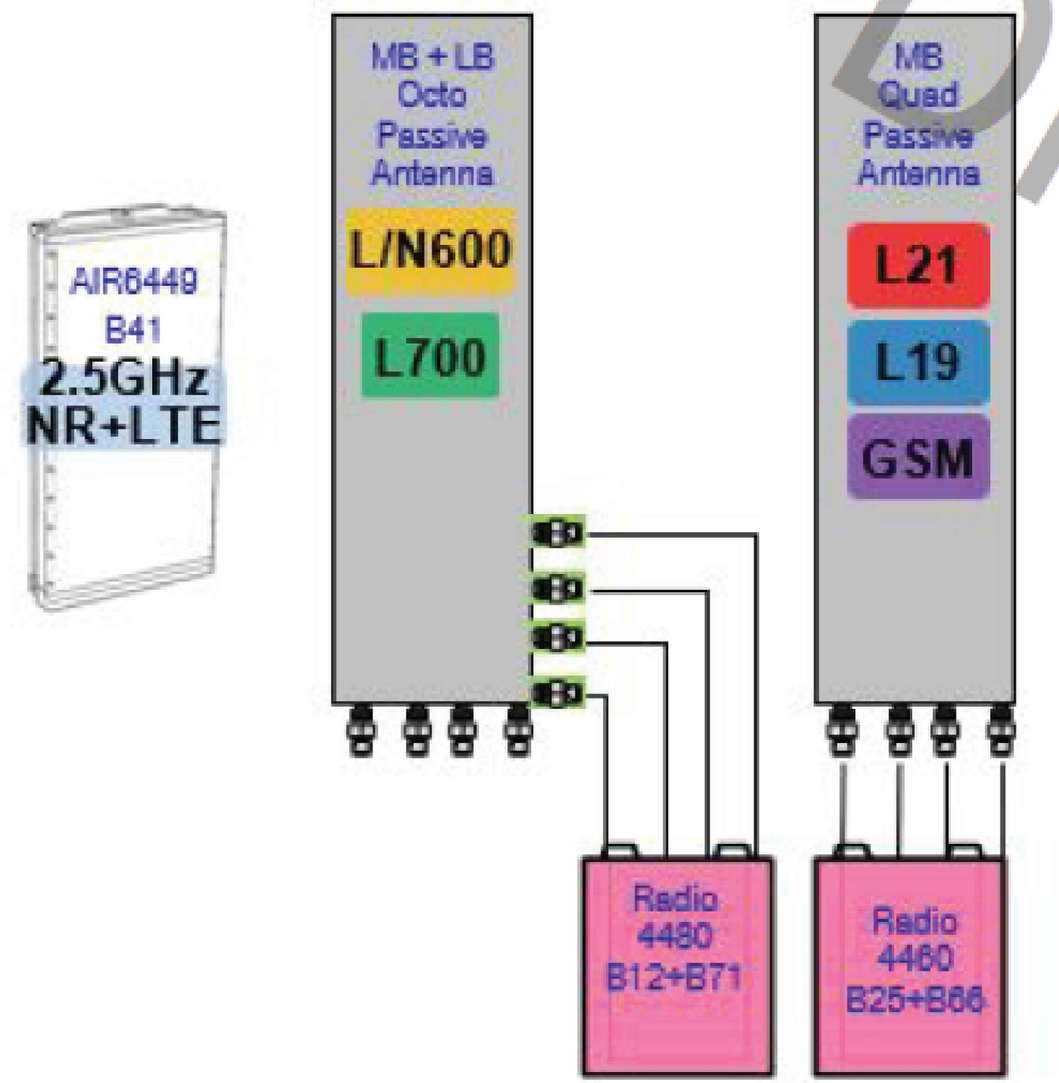

1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

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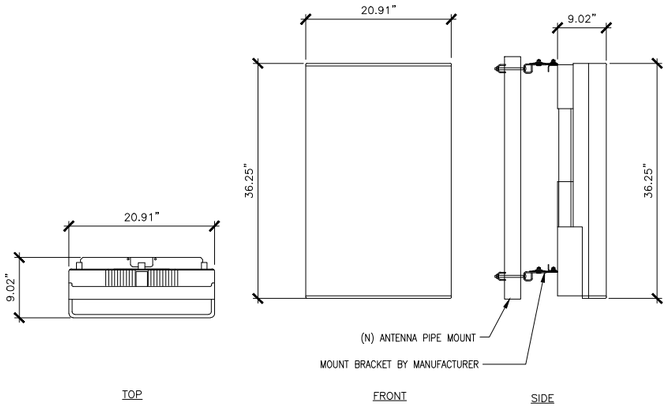
06/06/22

SHEET NUMBER: C-4

REVISION: 0

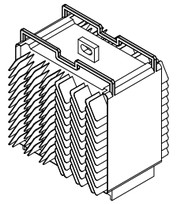
MANUFACTURER: ERICSSON
MODEL: AIR6419 B41
WEIGHT: 96.5 LBS (W/ MOUNT BRACKET 113)
DIMENSIONS: 36.25"H. X 20.91"W. X 9.02"D.
FREQUENCY: REFER TO RF DATA SHEET

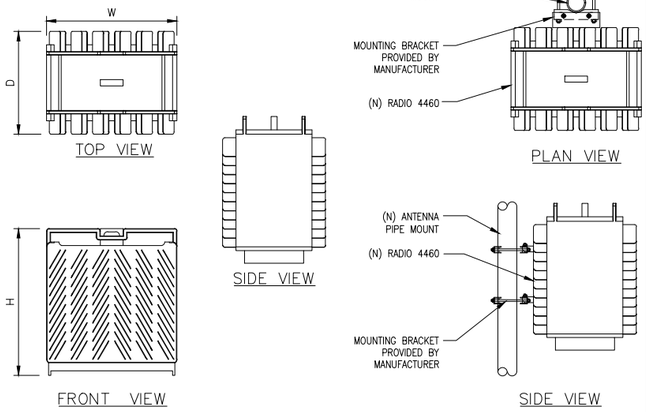


1 (N) AIR6419 B41 ANTENNA SPEC
SCALE: NOT TO SCALE

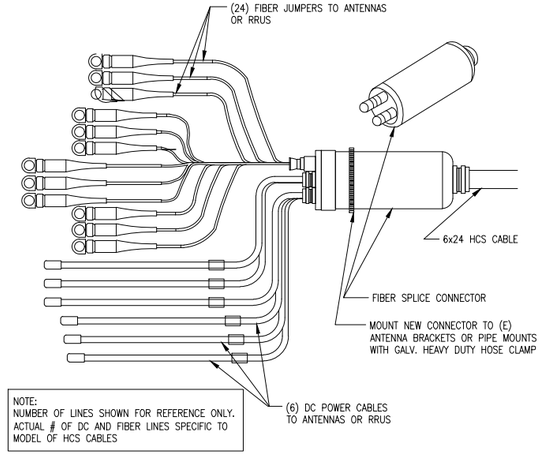
ERICSSON RADIO-4460 B25 B66

DIMENSIONS, WxDxH:	17.0"x15.1"x11.9"
MAX OUTPUT POWER:	4x80W (2x(2x80W))
TOTAL WEIGHT:	109 lbs
TEMPERATURE:	-40° TO 55° C



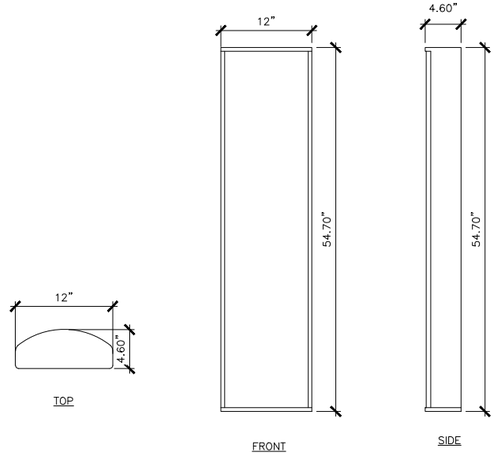


2 (N) RADIO 4460 SPEC
SCALE: NOT TO SCALE



3 (N) 6X24 HCS CABLE DETAIL
SCALE: NOT TO SCALE

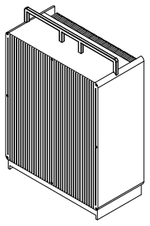
MANUFACTURER: COMMSCOPE
MODEL: VV-65A-R1
WEIGHT: 33.3 LBS
DIMENSIONS: 54.70"H. X 12"W. X 4.60"D.
FREQUENCY: REFER TO RF DATA SHEET

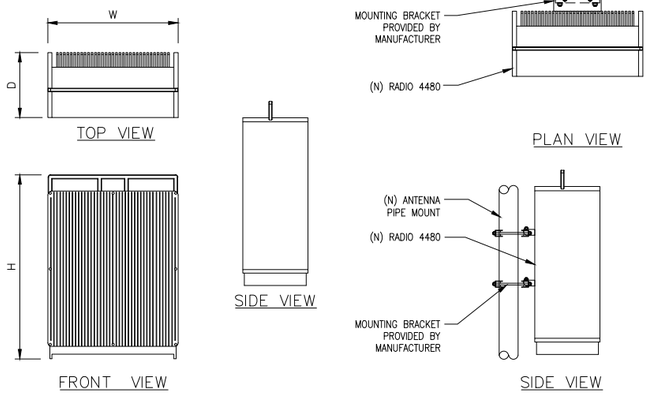


4 (N) VV-65A-R1 ANTENNA SPEC
SCALE: NOT TO SCALE

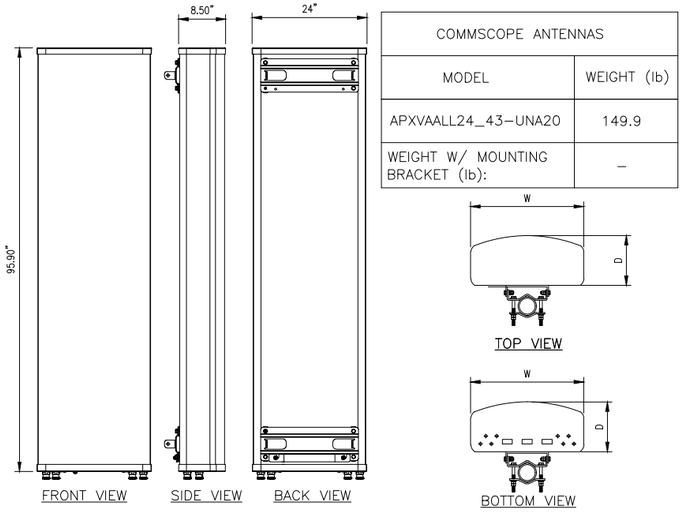
ERICSSON RADIO-4480 B71 B85

DIMENSIONS, WxDxH:	21.8"x15.7"x7.5"
MAX OUTPUT POWER:	4x80W (2x(2x80W))
TOTAL WEIGHT:	93 lbs
TEMPERATURE:	-40° TO 55° C





5 (N) RADIO 4480 SPEC
SCALE: NOT TO SCALE



COMMSCOPE ANTENNAS	
MODEL	WEIGHT (lb)
APXVAALL24_43-UNA20	149.9
WEIGHT W/ MOUNTING BRACKET (lb):	-

6 (N) APXVAALL24_43-UNA20 ANTENNA SPEC
SCALE: NOT TO SCALE

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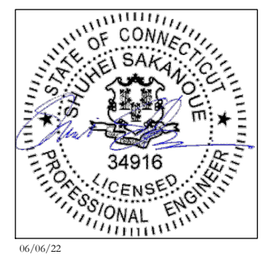
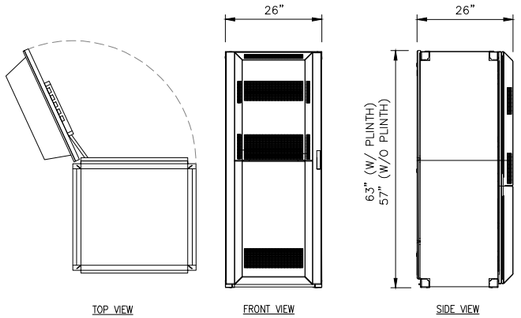


06/06/22

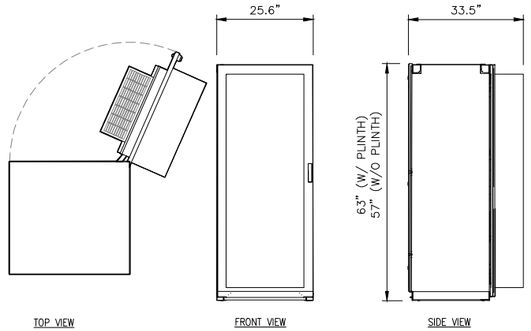
SHEET NUMBER: C-5

REVISION: 0



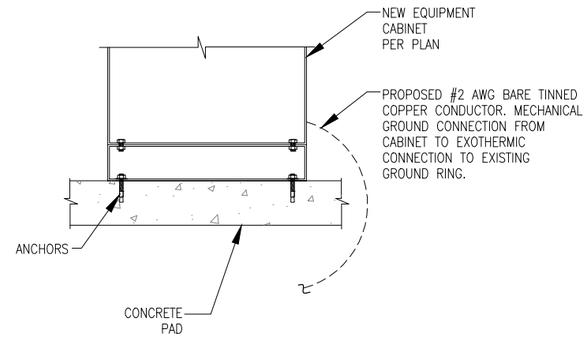
ERICSSON MODEL NO.:	B160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x26"x26" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	485 LBS
MAXIMUM WEIGHT:	2100± LBS

1 (N) B160 CABINET DETAIL
SCALE: NOT TO SCALE

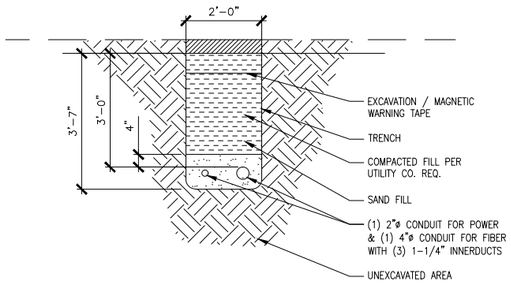


ERICSSON MODEL NO.:	6160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x25.6"x25.6" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	410 LBS
MAXIMUM WEIGHT:	770± LBS

2 (N) 6160 CABINET DETAIL
SCALE: NOT TO SCALE



3 (N) EQUIPMENT CABINET MOUNTING DETAIL
SCALE: NOT TO SCALE



4 (N) CONDUIT TRENCH DETAIL
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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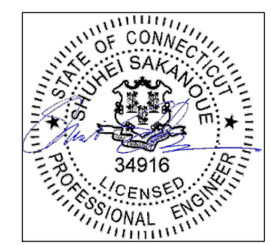


06/06/22

SHEET NUMBER: C-6

REVISION: 0

T-MOBILE PANEL SCHEDULE

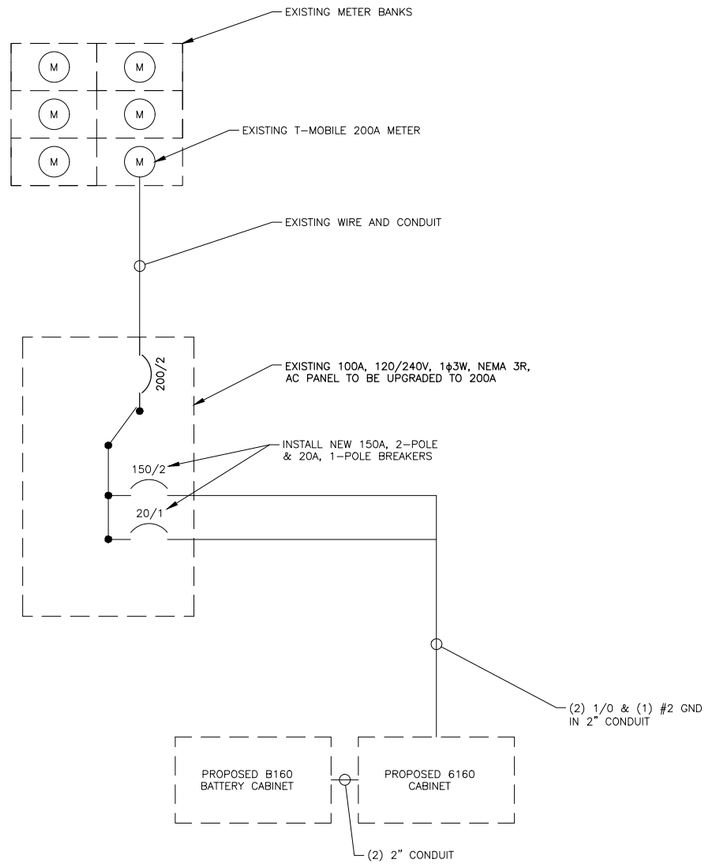
MAIN: 200A MAIN BREAKER			**VOTAGE/PHASE:** 120/240V, 1-PHASE, 3-WIRE						**SHORT CIRCUIT CURRENT RATING:** --		
MOUNTING: AC PANEL			**ENCLOSURE:** NEMA 3R						**SURGE PROTECTION DEVICE:** YES		
DESCRIPTION	LOAD (VA)	C or NC	C/B	CIR No.	SE LOADS (VA) A	SE LOADS (VA) B	CIR No.	C/B	C or NC	LOAD (VA)	DESCRIPTION
200A MAIN BREAKER	**5000**	**C**	**200**	**1**	5200		7	20	NC	200	LIGHT
	5000	**C**		**2**		5001	8	20	NC	1	UNKNOWN
6160	**3500**	**C**	**150**	3	3680		9	**20**	**C**	**180**	**6160 GFI**
	3500	**C**		4		3500	10				SPACE
BASE LOAD (VA) =					8880	8501	C = CONTINUOUS LOAD; NC = NON-CONTINUOUS LOAD				
25% OF CONTINUOUS LOAD (VA) =					3500	3500					
TOTAL LOAD (VA) =					12380	12001					
TOTAL LOAD (A) =					103	100					

NEW BREAKER TO BE SAME TYPE AND HAVE SAME AIC RATING AS EXISTING. CUSTOMER HAS NOT PROVIDED LOADS FOR EQUIPMENT CABINETS THEREFORE THE CABINET LOADS SHOWN ARE ESTIMATED VALUES.

1 AC PANEL SCHEDULE
SCALE: NOT TO SCALE

NOTES:

1. ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, OR XHHW-2 UNLESS NOTED OTHERWISE.
2. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. ALL GROUNDING AND BONDING PER THE NEC.



2 ONE LINE DIAGRAM
SCALE: NOT TO SCALE

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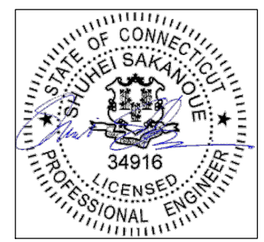
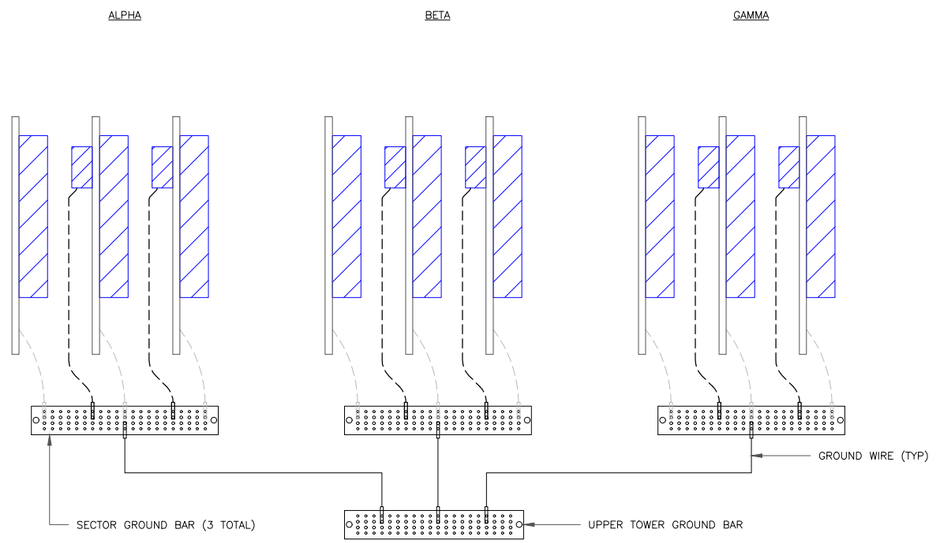


06/06/22

SHEET NUMBER: E-1

REVISION: 0



NOTE:

ALL NEW GROUNDS TO BE #6 STRANDED COPPER WITH GREEN INSULATION UNLESS NOTED OTHERWISE.

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

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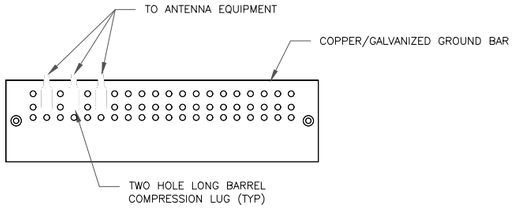
LICENSED
PROFESSIONAL ENGINEER

06/06/22

SHEET NUMBER: G-1

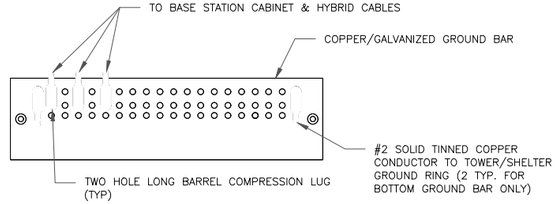
REVISION: 0



NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

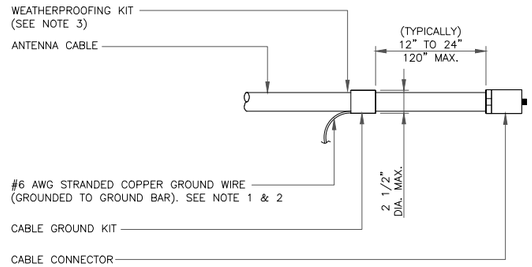
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

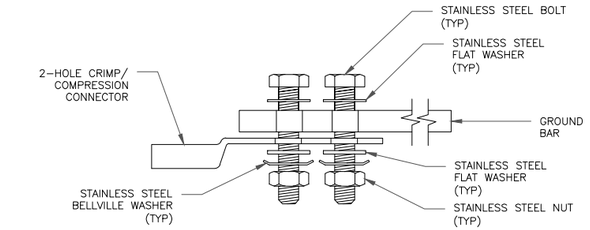
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



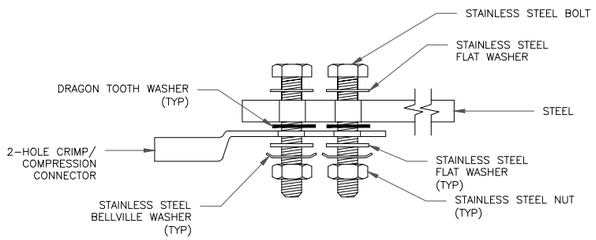
NOTES:

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

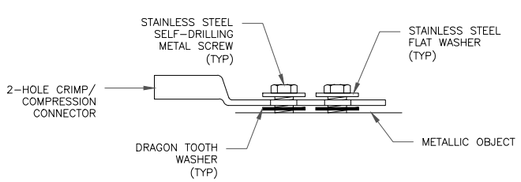
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS



SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

4 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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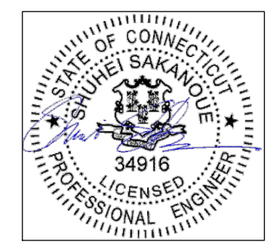
EXISTING 161'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/04/22	RCD	PRELIMINARY	SS
0	06/06/22	CB	100% FINALS	SS



06/06/22

SHEET NUMBER: G-2

REVISION: 0