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

December 15, 2021

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

RE: **Notice of Exempt Modification for T-Mobile: CT11025B**
Crown Site ID#822765
10 Sylvia Street, Branford, CT 06405
Latitude: 41° 17′ 38.16″ / Longitude: -72° 47′ 8.54″

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 125-foot mount level on the existing 125-foot monopole tower, located at 10 Sylvia Street, Branford, CT. The property is owned by 322 East Main Street LLC. The tower is owned by Crown Castle. T-Mobile now intends to replace six (6) antennas and ancillary equipment at the 125-ft 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) CommScope – W-65A-R1 Antenna
(3) Ericsson – AIR6449 B41 Antenna
(3) Ericsson Radio 4460 B25+B85
(1) HYBRID 6x24 Hybrid Cable (1-5/8")

Remove:
(6) Ericsson-AIR21 B4A/B2P - Antennas
(3) Ericsson Twin Style 1B-AWS - TMA
(6) Coaxial Cables (1-5/8")
(1) Hybrid Cables (1-5/8")

Ground:

Install New:
(1) 6160 Equipment Cabinet
(1) B160 Battery Cabinet
(1.) BB 6648 FOR L2500, N2500
(1.) PSU 4813 Voltage Booster
(1.) DC DU & (4) Rectifiers
(1.) IXRe Router IN 6160

Remove:

(1) 6131 Equipment Cabinet

The facility was approved by the Town of Branford Planning and Zoning Commission in Application Number 98-9.3. This approval was given without conditions.

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 B. Cosgrove, First Selectman, Town of Branford, Harry Smith, Town Planner, Town of Branford, 322 East Main Street LLC, Property Owner. Crown Castle is the tower owner.

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

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

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

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

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

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

Sincerely,

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

Attachments
cc:

James B. Cosgrove, First Selectman
Town of Branford
1019 Main Street
Branford, CT 06405
203.488.8394

Harry Smith, Town Planner
Town of Branford
1019 Main Street
Branford, CT 06405
203.488.1255

322 East Main Street LLC, Property Owner
375 Fairfield Avenue
Stamford, CT 06902
203.967.8367

Crown Castle, Tower Owner.

CTI-025

VOL. 662 PAGE 502

6740

PLANNING AND ZONING COMMISSION
TOWN OF BRANFORD TOWN HALL DRIVE P.O. BOX 150
Branford, Connecticut 06405 488-1255

NOTICE OF DECISION

November 10, 1998

J. Brendan Sharkey, Esq. For Omnipoint Communications, Inc.
25 VanZant Street #18E
East Norwalk, Connecticut 06855

SUBJECT: Special Exception APPLICATION # 98-9.3

LOCATION: 10 Sylvia Street

OWNERS OF RECORD: TKJ SYLVIA ASSOCIATES, LLC

Dear Sir:

At a meeting of the Branford Planning & Zoning Commission held on Thursday, November 5, 1998, the Commission voted to:

X Approve your above subject application with the conditions noted below.

Very truly yours,

Shirley Rasmussen
Town Planner

NOTE: This Special Exception shall become effective only after it is filed on the Land Records in the office of the Town Clerk.

1. Omnipoint must construct tower so that it can easily be extended to provide spaces for two (2) other carriers for co-location purposes.

NOTE: Special Exception shall become null and void in the event the applicant fails to obtain a building permit within one (1) year of date of approval.
(Per Section 31.7 of the Branford Zoning Regulations)

RECEIVED FOR RECORD Nov. 19, 1998
at 3h 49m P.M. AND RECORDED BY
GEORGETTE A. LASKE
BRANFORD TOWN CLERK

Town of Branford, CT

Property Listing Report

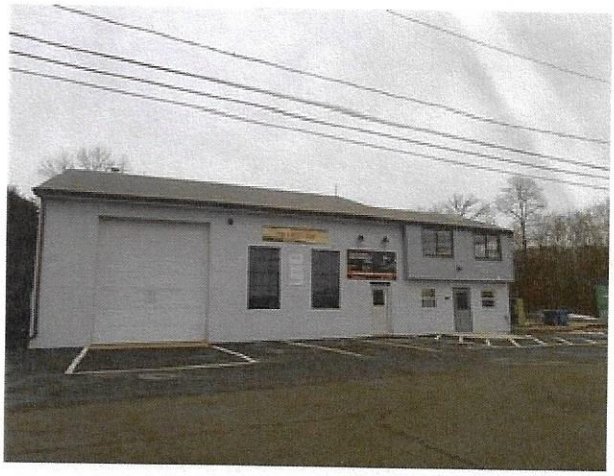
Map Block Lot G05/F05/004/ Bldg # 1 Sec # 1 PID 1103 Account 000614

Property Information

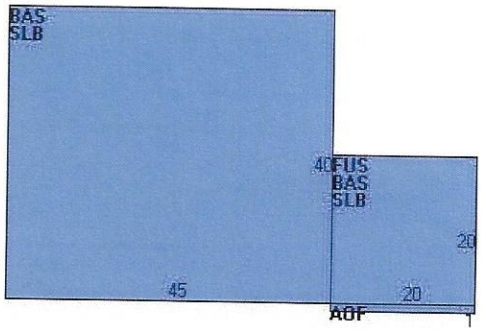
Property Location	10 SYLVIA ST
Owner	322 EAST MAIN STREET LLC
Co-Owner	na
Mailing Address	375 FAIRFIELD AVE STAMFORD CT 06902
Land Use	3160 COMM WHS MDL96
Land Class	C
Zoning Code	BL
Census Tract	

Neighborhood	400
Acreage	0.95
Utilities	Public Water,Septic
Lot Setting/Desc	Bus. District Level
Book / Page	1132/0054

Photo



Sketch



Primary Construction Details

Year Built	1960
Building Desc.	COMM WHS MDL96
Building Style	Health Club
Building Grade	C
Stories	1
Occupancy	1.00
Exterior Walls	Concr/Cinder
Exterior Walls 2	Wood on Sheath
Roof Style	Gable/Hip
Roof Cover	Asphalt
Interior Walls	Minim/Masonry
Interior Walls 2	Drywall
Interior Floors 1	Concr-Finished
Interior Floors 2	Ceram Clay Til

Heating Fuel	Gas
Heating Type	Hot Air-no Duc
AC Type	None
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	Ind/Comm
Building Condition	A
Sprinkler %	NA
Heat / AC	HEAT/AC SPLIT
Frame Type	MASONRY
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & MIN WL
Rooms / Prtns	AVERAGE
Wall Height	16.00
First Floor Use	NA
Foundation	NA

Report Created On 12/13/2021

Town of Branford, CT

Property Listing Report

Map Block Lot G05/F05/004/ Bldg # 1 Sec # 1 PID 1103 Account 000614

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	210600	147400
Extras	4100	2900
Improvements		
Outbuildings	16000	11200
Land	481500	337100
Total	712200	498600

Outbuilding and Extra Features

Type	Description
PAVING-ASPHALT	18000 S.F.
FENCE-6' CHAIN	200 L.F.
PAVING-CONC	72 S.F.
COMMUN UTLTY	36 S.F.
GEN 15-30KW PRMT BKP	1 UNITS
HGH PRE-SOD PL	3 UNITS
AIR CONDITION	800 S.F.

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Office	420	420
First Floor	2200	2200
Slab	2200	0
Total Area	4820	2620

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
322 EAST MAIN STREET LLC	1132/0054	2013-05-02	468000
T K J SYLVIA ASSOCIATES LLC	0571/0583	1994-06-07	0

Report Created On 12/13/2021

Map: G05

Legend

- Railroad Tracks
- ROW / Easement Boundary
- Water Feature: (Swamp, Pond, River, Lake)
- Mean High Water Level
- Property Lines
- Block Boundary
- Town Boundary
- (743.5) Measured Dimensions
- 681.82 Source Map Dimensions
- Budding Structure
- (5) Block Number
- 10 Lot Number
- 5.0 AC Acreage

NEGEO New England Geosystems www.negeosystems.com

ASSESSMENT MAP OF
THE TOWN OF BRANFORD, CONNECTICUT

DATES OF AERIAL PHOTOGRAPHY: 2016

MAP PRINTED July 2021

GRAND LIST October 1st 2020

SCALE 1 = 200'

200 100 0 200 400 Feet

Map: G05

F04	G04	H04
F05	G05	H05
F06	G06	H06

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, December 16, 2021 11:23 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775504611250: Your package has been delivered

Hi. Your package was delivered Thu, 12/16/2021 at 11:18am.

Delivered to 1019 MAIN ST, BRANFORD, CT 06405
Received by C.LERK

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 775504611250

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Branford James Cosgrove, First Selectman 1019 Main Street BRANFORD, CT, US, 06405
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 12/15/2021 06:23 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	BRANFORD, CT, US, 06405
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: Thursday, December 16, 2021 11:23 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775504637993: Your package has been delivered

Hi. Your package was delivered Thu, 12/16/2021 at 11:18am.

Delivered to 1019 MAIN ST, BRANFORD, CT 06405
Received by C.LERK

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 775504637993

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Branford Harry Smith, Town Planner 1019 Main Street BRANFORD, CT, US, 06405
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 12/15/2021 06:23 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	BRANFORD, CT, US, 06405
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, December 16, 2021 11:10 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775504695231: Your package has been delivered

Hi. Your package was delivered Thu, 12/16/2021 at 11:08am.

Delivered to 375 FAIRFIELD AVE, STAMFORD, CT 06902
Received by A.SANCHEZ

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER 775504695231

FROM	Jeff Barbadora 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	322 East Main Street, LLC Property Owner 375 Fairfield Ave STAMFORD, CT, US, 06902
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 12/15/2021 06:23 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	STAMFORD, CT, US, 06902
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Priority Overnight

Date: **October 28, 2021**

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

Subject: Structural Analysis Report

Carrier Designation:	***T-Mobile* Co-Locate**	
	Site Number:	CT11025B
	Site Name:	Branford/ I-95/ X55/ Dtn 1
Crown Castle Designation:	**BU Number:**	822765
	Site Name:	Branford/ I-95/ X55/ Dtn1
	JDE Job Number:	687336
	Work Order Number:	2034251
	Order Number:	587423 Rev. 0
Engineering Firm Designation:	**TEP Project Number:**	25582.617429
Site Data:	**10 Sylvia St., Branford, New Haven County, CT 06405** **Latitude *41° 17' 38.16"*, Longitude *-72° 47' 8.54"*** **125 Foot - Monopole Tower**	

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

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

LC7: Proposed Equipment Configuration **Sufficient Capacity - 83.3%**

This analysis utilizes an ultimate 3-second gust wind speed of 122 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

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

Respectfully submitted by:

Aaron T. Rucker, P.E.

10/28/2021

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 125-ft monopole tower designed by Pirod Manufactures, Inc. The tower has been modified per reinforcement drawings prepared by B&T Group in October of 2015.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	122 mph
Exposure Category:	B
Topographic Factor:	1.0
Ice Thickness:	1.0 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
122.0	122.0	3	Ericsson	AIR6449 B41_T-Mobile w/ Mount Pipe	4	1-5/8
		3	RFS Celwave	APXVAALL24_43-U-NA20 w/ Mount Pipe		
		3	Commscope	VV-65A-R1_TMO w/ Mount Pipe		
		3	Ericsson	Radio 4460 B2/B25 B66_TMO		
		3	Ericsson	Radio 4449 B71/B85A		
		1	Tower Mounts	Platform Mount [LP 405-1_HR-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)
112.0	113.0	3	Samsung Telecom.	MT6407-77A w/ Mount Pipe	2	1-5/8
		6	JMA Wireless	MX06FRO660-03 w/ Mount Pipe		
		3	Andrew	HBXX-6517DS-A2M w/ Mount Pipe		
		3	Samsung Telecom.	RFV01U-D1A		
		2	Raycap	RXXDC-3315-PF-48		
		3	Samsung Telecom.	RFV01U-D2A		
	112.0	1	Tower Mounts	Platform Mount [LP 303-1]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
100.0	100.0	2	Powerwave Technologies	7770.00 w/ Mount Pipe	12 6 2	1-1/4 3/4 3/8
		1	CCI Antennas	HPA-65R-BUU-H6 w/ Mount Pipe		
		2	Kathrein	80010965 w/ Mount Pipe		
		4	Kathrein	80010964 w/ Mount Pipe		
		3	Andrew	SBNHH-1D65A w/ Mount Pipe		
		6	Powerwave Technologies	LGP21401		
		3	Ericsson	RRUS 32		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 8843 B2/B66A		
		3	Raycap	DC6-48-60-18-8F		
		1	Tower Mounts	T-Arm Mount [TA 602-3]		
90.0	90.0	3	Commscope	NNVV-65B-R4 w/ Mount Pipe	4 3	1-1/4 1/2
		3	RFS Celwave	APXVTM14-ALU-I20 w/ Mount Pipe		
		3	Alcatel Lucent	PCS 1900MHZ 4X45W-65MHZ		
		6	Alcatel Lucent	RRH2X50-800		
		3	Nokia	FZHN		
		3	Dragonwave	AIRPAIR ODU		
		1	Tower Mounts	Platform Mount [LP 303-1_KCKR-HR-1]		
	88.0	2	Dragonwave	A-ANT-18G-2-C		
81.0	81.0	3	JMA Wireless	MX08FRO665-21 w/ Mount Pipe	1	1-3/8
		3	Fujitsu	TA08025-B604		
		3	Fujitsu	TA08025-B605		
		1	Raycap	RDIDC-9181-PF-48		
		1	Tower Mounts	Commscope MC-PK8-DSH		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Geotechnical Report	3552247	CCISites
Tower Foundation Drawings	3910040	CCISites
Tower Manufacturer Drawings	3552248	CCISites
Tower Reinforcement Drawings	5952282	CCISites
Post-Modification Inspection	6215120	CCISites
Post-Modification Inspection	5937826	CCISites

3.1) Analysis Method

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

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

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

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

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
125 - 120	Pole	TP24x24x0.375	Pole	1.6%	Pass
120 - 115	Pole	TP24x24x0.375	Pole	4.5%	Pass
115 - 110	Pole	TP24x24x0.375	Pole	9.3%	Pass
110 - 105	Pole	TP24x24x0.375	Pole	15.1%	Pass
105 - 100	Pole	TP24x24x0.375	Pole	21.1%	Pass
100 - 95	Pole	TP30x30x0.375	Pole	20.2%	Pass
95 - 90	Pole	TP30x30x0.375	Pole	26.3%	Pass
90 - 85	Pole	TP30x30x0.375	Pole	34.3%	Pass
85 - 84.75	Pole + Reinf.	TP30x30x0.5438	Reinf. 12 Tension Rupture	25.6%	Pass
84.75 - 80.5	Pole + Reinf.	TP30x30x0.5438	Reinf. 12 Tension Rupture	30.9%	Pass
80.5 - 80.25	Pole + Reinf.	TP30x30x0.6125	Reinf. 11 Tension Rupture	33.0%	Pass
80.25 - 80	Pole + Reinf.	TP30x30x0.6125	Reinf. 11 Tension Rupture	33.4%	Pass
80 - 79.75	Pole + Reinf.	TP36x36x0.5125	Reinf. 10 Tension Rupture	23.4%	Pass
79.75 - 79	Pole + Reinf.	TP36x36x0.5125	Reinf. 10 Tension Rupture	24.1%	Pass
79 - 78.75	Pole	TP36x36x0.375	Pole	32.2%	Pass
78.75 - 73.75	Pole	TP36x36x0.375	Pole	38.8%	Pass
73.75 - 73.5	Pole	TP36x36x0.375	Pole	39.1%	Pass
73.5 - 73.25	Pole + Reinf.	TP36x36x0.5625	Reinf. 9 Compression	31.0%	Pass
73.25 - 68.25	Pole + Reinf.	TP36x36x0.5625	Reinf. 9 Compression	36.3%	Pass
68.25 - 63.25	Pole + Reinf.	TP36x36x0.5625	Reinf. 9 Compression	41.8%	Pass
63.25 - 60.5	Pole + Reinf.	TP36x36x0.5625	Reinf. 9 Compression	45.0%	Pass
60.5 - 60.25	Pole + Reinf.	TP36x36x0.625	Reinf. 8 Tension Rupture	38.4%	Pass
60.25 - 60	Pole + Reinf.	TP36x36x0.625	Reinf. 8 Tension Rupture	38.6%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
60 - 59.75	Pole + Reinf.	TP42x42x0.525	Pole	31.2%	Pass
59.75 - 54.75	Pole + Reinf.	TP42x42x0.525	Pole	35.1%	Pass
54.75 - 49.75	Pole + Reinf.	TP42x42x0.525	Pole	39.0%	Pass
49.75 - 44.75	Pole + Reinf.	TP42x42x0.525	Pole	43.1%	Pass
44.75 - 40.5	Pole + Reinf.	TP42x42x0.525	Pole	46.5%	Pass
40.5 - 40.25	Pole + Reinf.	TP42x42x0.65	Reinf. 6 Tension Rupture	39.6%	Pass
40.25 - 40	Pole + Reinf.	TP42x42x0.65	Reinf. 6 Tension Rupture	39.7%	Pass
40 - 39.75	Pole + Reinf.	TP48x48x0.5563	Pole	34.8%	Pass
39.75 - 34.75	Pole + Reinf.	TP48x48x0.5563	Pole	37.8%	Pass
34.75 - 29.75	Pole + Reinf.	TP48x48x0.5563	Pole	40.9%	Pass
29.75 - 24.75	Pole + Reinf.	TP48x48x0.5563	Pole	44.1%	Pass
24.75 - 20.5	Pole + Reinf.	TP48x48x0.5563	Pole	46.8%	Pass
20.5 - 20.25	Pole + Reinf.	TP48x48x0.675	Reinf. 4 Compression	42.2%	Pass
20.25 - 20	Pole + Reinf.	TP48x48x0.675	Reinf. 4 Compression	42.3%	Pass
20 - 19.75	Pole + Reinf.	TP54x54x0.5875	Pole	36.1%	Pass
19.75 - 14.75	Pole + Reinf.	TP54x54x0.5875	Pole	38.5%	Pass
14.75 - 9.75	Pole + Reinf.	TP54x54x0.5875	Pole	41.0%	Pass
9.75 - 4.75	Pole + Reinf.	TP54x54x0.5875	Pole	43.5%	Pass
4.75 - 4.25	Pole + Reinf.	TP54x54x0.5875	Pole	43.8%	Pass
4.25 - 4	Pole + Reinf.	TP54x54x0.5125	Pole	49.7%	Pass
4 - 0	Pole + Reinf.	TP54x54x0.5125	Pole	52.1%	Pass
				Summary	
			Pole	52.1%	Pass
			Reinforcement	45.0%	Pass
			Overall	**52.1%**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2,3	Flange Connection	100.0	21.1	Pass
1,2	Flange Connection	80.0	46.1	Pass
1,2	Flange Connection	60.0	59.7	Pass
1,2	Flange Connection	40.0	56.6	Pass
1,2	Flange Connection	20.0	55.2	Pass
1,2	Anchor Rods	-	43.6	Pass
1,2	Base Plate	-	83.3	Pass
1,2	Base Foundation Structural	-	61.9	Pass
1,2	Base Foundation Soil Interaction	-	48.2	Pass

Structure Rating (max from all components) =	**83.3%**

Notes:
1) See additional documentation in "Appendix C - Additional Calculations" for calculations supporting the % capacity listed.
2) Rating per TIA-222-H Section 15.5
3) Flange plates are assumed to have the same capacity as their respective splice bolts or shaft.

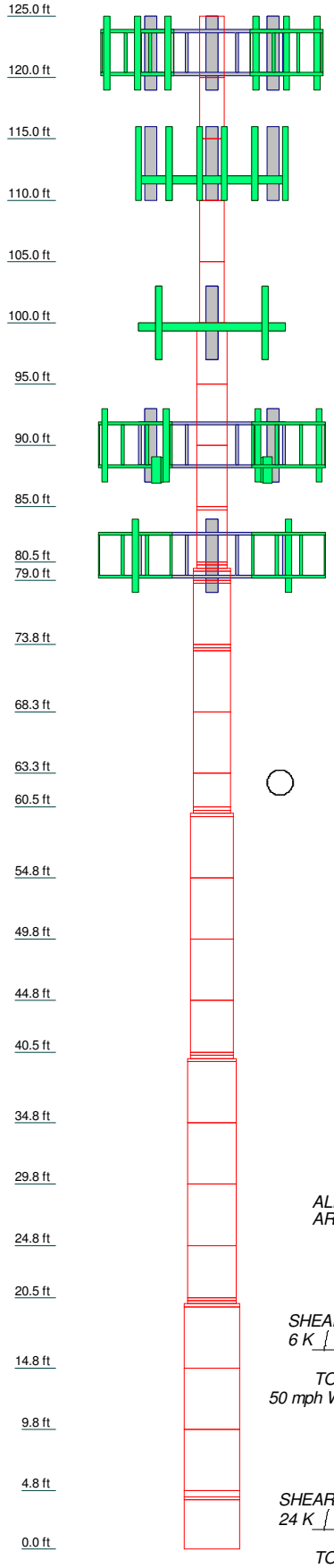
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section	Size	Length (ft)	Grade	Weight (K)
1	P24x0.375	5.00	A53-B-42	0.5
2	P24x0.375	5.00		0.5
3	P24x0.375	5.00		0.5
4	P24x0.375	5.00		0.5
5	P24x0.375	5.00		0.5
6	P30x0.375	5.00		0.6
7	P30x0.375	5.00		0.6
8	P30x0.375	5.00		0.6
9	P30x0.375	0.25		0.0
10	P30x0.375	4.25		0.7
11	P30x0.375	0.25		0.0
12	P30x0.375	0.25		0.0
13	P30x0.375	0.25		0.0
14	P30x0.375	0.25		0.0
15	P30x0.375	0.25		0.0
16	P30x0.375	5.00		0.7
17	P30x0.375	0.25		0.0
18	P36x0.375	0.25		0.0
19	P36x0.375	5.00		1.0
20	P36x0.562	5.00		1.0
21	P36x0.562	0.25		0.0
22	P36x0.562	0.25		0.0
23	P36x0.562	0.25		0.0
24	P36x0.562	0.25		0.0
25	P42x0.562	5.00		1.1
26	P42x0.525	5.00		1.1
27	P42x0.525	5.00		1.1
28	P42x0.525	4.25		1.0
29	P42x0.525	0.25		0.0
30	P42x0.525	0.25		0.0
31	P42x0.525	0.25		0.0
32	P48x0.556	5.00		1.4
33	P48x0.556	5.00		1.4
34	P48x0.556	5.00		1.4
35	P48x0.556	4.25		1.2
36	P48x0.556	0.25		0.1
37	P48x0.556	0.25		0.1
38	P48x0.556	0.25		0.1
39	P54x0.587	5.00		1.6
40	P54x0.587	5.00		1.6
41	P54x0.587	5.00		1.6
42	P54x0.587	0.25		0.1
43	P54x0.587	0.25		0.1
44	P54x0.587	4.00		1.3
				25.2



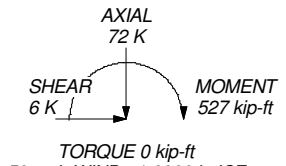
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-42	42 ksi	63 ksi			

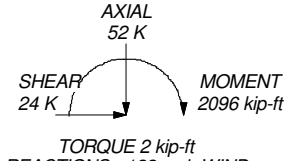
TOWER DESIGN NOTES

1. Tower designed for Exposure B to the TIA-222-H Standard.
2. Tower designed for a 122 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 52.1%

ALL REACTIONS ARE FACTORED



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



TORQUE 2 kip-ft
REACTIONS - 122 mph WIND

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

Job: ***Branford/ I-95/ X55/ Dtn1 (BU 822765)***			
Project: ***TEP No. 25582.617429***			
Client: Crown Castle	Drawn by: zschartraw		App'd:
Code: TIA-222-H	Date: 10/28/21		Scale: NTS
Path:			Dwg No. E-1

Tower Input Data

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

Tower base elevation above sea level: 56.00 ft.
Basic wind speed of 122 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

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	125.00-120.00	5.00	P24x0.375	A53-B-42 (42 ksi)	
L2	120.00-115.00	5.00	P24x0.375	A53-B-42 (42 ksi)	
L3	115.00-110.00	5.00	P24x0.375	A53-B-42 (42 ksi)	
L4	110.00-105.00	5.00	P24x0.375	A53-B-42 (42 ksi)	
L5	105.00-100.00	5.00	P24x0.375	A53-B-42 (42 ksi)	
L6	100.00-95.00	5.00	P30x0.375	A53-B-42 (42 ksi)	
L7	95.00-90.00	5.00	P30x0.375	A53-B-42 (42 ksi)	
L8	90.00-85.00	5.00	P30x0.375	A53-B-42 (42 ksi)	
L9	85.00-84.75	0.25	P30x0.54375	A53-B-42 (42 ksi)	
L10	84.75-80.50	4.25	P30x0.54375	A53-B-42 (42 ksi)	
L11	80.50-80.25	0.25	P30x0.6125	A53-B-42 (42 ksi)	
L12	80.25-80.00	0.25	P30x0.6125	A53-B-42 (42 ksi)	
L13	80.00-79.75	0.25	P36x0.5125	A53-B-42 (42 ksi)	
L14	79.75-79.00	0.75	P36x0.5125	A53-B-42 (42 ksi)	
L15	79.00-78.75	0.25	P36x0.375	A53-B-42 (42 ksi)	
L16	78.75-73.75	5.00	P36x0.375	A53-B-42 (42 ksi)	
L17	73.75-73.50	0.25	P36x0.375	A53-B-42 (42 ksi)	
L18	73.50-73.25	0.25	P36x0.5625	A53-B-42 (42 ksi)	
L19	73.25-68.25	5.00	P36x0.5625	A53-B-42 (42 ksi)	
L20	68.25-63.25	5.00	P36x0.5625	A53-B-42 (42 ksi)	
L21	63.25-60.50	2.75	P36x0.5625	A53-B-42 (42 ksi)	
L22	60.50-60.25	0.25	P36x0.625	A53-B-42 (42 ksi)	
L23	60.25-60.00	0.25	P36x0.625	A53-B-42 (42 ksi)	
L24	60.00-59.75	0.25	P42x0.525	A53-B-42 (42 ksi)	
L25	59.75-54.75	5.00	P42x0.525	A53-B-42 (42 ksi)	
L26	54.75-49.75	5.00	P42x0.525	A53-B-42 (42 ksi)	
L27	49.75-44.75	5.00	P42x0.525	A53-B-42 (42 ksi)	
L28	44.75-40.50	4.25	P42x0.525	A53-B-42 (42 ksi)	
L29	40.50-40.25	0.25	P42x0.65	A53-B-42 (42 ksi)	
L30	40.25-40.00	0.25	P42x0.65	A53-B-42 (42 ksi)	

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L31	40.00-39.75	0.25	P48x0.55625	A53-B-42 (42 ksi)	
L32	39.75-34.75	5.00	P48x0.55625	A53-B-42 (42 ksi)	
L33	34.75-29.75	5.00	P48x0.55625	A53-B-42 (42 ksi)	
L34	29.75-24.75	5.00	P48x0.55625	A53-B-42 (42 ksi)	
L35	24.75-20.50	4.25	P48x0.55625	A53-B-42 (42 ksi)	
L36	20.50-20.25	0.25	P48x0.675	A53-B-42 (42 ksi)	
L37	20.25-20.00	0.25	P48x0.675	A53-B-42 (42 ksi)	
L38	20.00-19.75	0.25	P54x0.5875	A53-B-42 (42 ksi)	
L39	19.75-14.75	5.00	P54x0.5875	A53-B-42 (42 ksi)	
L40	14.75-9.75	5.00	P54x0.5875	A53-B-42 (42 ksi)	
L41	9.75-4.75	5.00	P54x0.5875	A53-B-42 (42 ksi)	
L42	4.75-4.25	0.50	P54x0.5875	A53-B-42 (42 ksi)	
L43	4.25-4.00	0.25	P54x0.5125	A53-B-42 (42 ksi)	
L44	4.00-0.00	4.00	P54x0.5125	A53-B-42 (42 ksi)	

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 125.00-120.00				1	1	1			
L2 120.00-115.00				1	1	1			
L3 115.00-110.00				1	1	1			
L4 110.00-105.00				1	1	1			
L5 105.00-100.00				1	1	1			
L6 100.00-95.00				1	1	1			
L7 95.00-90.00				1	1	1			
L8 90.00-85.00				1	1	1			
L9 85.00-84.75				1	1	0.961898			
L10 84.75-80.50				1	1	0.961898			
L11 80.50-80.25				1	1	0.855927			
L12 80.25-80.00				1	1	0.855927			
L13 80.00-79.75				1	1	0.970816			
L14				1	1	0.970816			

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
79.75-79.00									
L15				1	1	1			
79.00-78.75									
L16				1	1	1			
78.75-73.75									
L17				1	1	1			
73.75-73.50									
L18				1	1	0.957627			
73.50-73.25									
L19				1	1	0.957627			
73.25-68.25									
L20				1	1	0.957627			
68.25-63.25									
L21				1	1	0.957627			
63.25-60.50									
L22				1	1	0.863387			
60.50-60.25									
L23				1	1	0.863387			
60.25-60.00									
L24				1	1	0.980003			
60.00-59.75									
L25				1	1	0.980003			
59.75-54.75									
L26				1	1	0.980003			
54.75-49.75									
L27				1	1	0.980003			
49.75-44.75									
L28				1	1	0.980003			
44.75-40.50									
L29				1	1	0.869433			
40.50-40.25									
L30				1	1	0.869433			
40.25-40.00									
L31				1	1	0.970732			
40.00-39.75									
L32				1	1	0.970732			
39.75-34.75									
L33				1	1	0.970732			
34.75-29.75									
L34				1	1	0.970732			
29.75-24.75									
L35				1	1	0.970732			
24.75-20.50									
L36				1	1	0.876696			
20.50-20.25									
L37				1	1	0.876696			
20.25-20.00									
L38				1	1	0.96417			
20.00-19.75									
L39				1	1	0.96417			
19.75-14.75									
L40 14.75-9.75				1	1	0.96417			
L41 9.75-4.75				1	1	0.96417			
L42 4.75-4.25				1	1	0.96417			
L43 4.25-4.00				1	1	1.09283			
L44 4.00-0.00				1	1	1.09283			

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
Safety Line 3/8	C	No	Surface Ar (CaAa)	125.00 - 0.00	1	1	0.000 0.000	0.3750		0.22
90										
LDF4-50A(1/2)	C	No	Surface Ar (CaAa)	90.00 - 0.00	3	2	0.250 0.250	0.6250		0.15
HB114-1-0813U4-M5J(1-1/4)	C	No	Surface Ar (CaAa)	90.00 - 0.00	4	2	0.250 0.250	1.5400		1.20
Mods										
(Area) CCI-65FP-085125 (H)	A	No	Surface Af (CaAa)	20.50 - 0.00	1	1	0.000 0.000	8.5000	19.5000	0.00
(Area) CCI-65FP-085125 (H)	B	No	Surface Af (CaAa)	20.50 - 0.00	1	1	0.000 0.000	8.5000	19.5000	0.00
(Area) CCI-65FP-085125 (H)	C	No	Surface Af (CaAa)	20.50 - 0.00	1	1	0.000 0.000	8.5000	19.5000	0.00
**										
(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	40.50 - 20.50	1	1	0.000 0.000	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	B	No	Surface Af (CaAa)	40.50 - 20.50	1	1	0.000 0.000	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	C	No	Surface Af (CaAa)	40.50 - 20.50	1	1	0.000 0.000	6.5000	15.5000	0.00
**										
(Area) CCI-65FP-060100 (H)	A	No	Surface Af (CaAa)	75.50 - 40.50	1	1	0.000 0.000	6.0000	14.0000	0.00
(Area) CCI-65FP-060100 (H)	B	No	Surface Af (CaAa)	75.50 - 40.50	1	1	0.000 0.000	6.0000	14.0000	0.00
(Area) CCI-65FP-060100 (H)	C	No	Surface Af (CaAa)	75.50 - 40.50	1	1	0.000 0.000	6.0000	14.0000	0.00
**										
**										
Bridge Stiffener 78"x4.5"x1"	A	No	Surface Af (CaAa)	83.92 - 77.48	1	1	0.000 0.000	4.5000	11.0000	0.00
Bridge Stiffener 78"x4.5"x1"	B	No	Surface Af (CaAa)	83.92 - 77.48	1	1	0.000 0.000	4.5000	11.0000	0.00
Bridge Stiffener 78"x4.5"x1"	C	No	Surface Af (CaAa)	83.92 - 77.48	1	1	0.000 0.000	4.5000	11.0000	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
122									
HCS 6X12 4AWG(1-5/8)	B	No	No	Inside Pole	122.00 - 0.00	3	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.40 2.40 2.40
HB158-21U6S24-xx M_TMO(1-5/8)	B	No	No	Inside Pole	122.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	2.50 2.50 2.50
112									

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
HB158-1-08U8-S8J	B	No	No	Inside Pole	112.00 - 0.00	2	No Ice	0.00	1.30
18(1-5/8)							1/2" Ice	0.00	1.30
							1" Ice	0.00	1.30
100									
LDF6-50A(1-1/4)	A	No	No	Inside Pole	100.00 - 0.00	12	No Ice	0.00	0.60
							1/2" Ice	0.00	0.60
							1" Ice	0.00	0.60
FB-L98B-034-XXX(	A	No	No	Inside Pole	100.00 - 0.00	1	No Ice	0.00	0.06
3/8)							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
WR-VG86ST-BRD(	A	No	No	Inside Pole	100.00 - 0.00	6	No Ice	0.00	0.58
3/4)							1/2" Ice	0.00	0.58
							1" Ice	0.00	0.58
100266(3/8)	A	No	No	Inside Pole	100.00 - 0.00	1	No Ice	0.00	0.09
							1/2" Ice	0.00	0.09
							1" Ice	0.00	0.09
2" Flexible Conduit	A	No	No	Inside Pole	100.00 - 0.00	1	No Ice	0.00	0.34
							1/2" Ice	0.00	0.34
							1" Ice	0.00	0.34
81									
CU12PSM9P8XXX(	A	No	No	Inside Pole	81.00 - 0.00	1	No Ice	0.00	1.66
1-3/8)							1/2" Ice	0.00	1.66
							1" Ice	0.00	1.66
*******									
****									

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	125.00-120.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.188	0.000	0.00
L2	120.00-115.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	0.188	0.000	0.00
L3	115.00-110.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	0.188	0.000	0.00
L4	110.00-105.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.06
		C	0.000	0.000	0.188	0.000	0.00
L5	105.00-100.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.06
		C	0.000	0.000	0.188	0.000	0.00
L6	100.00-95.00	A	0.000	0.000	0.000	0.000	0.06
		B	0.000	0.000	0.000	0.000	0.06
		C	0.000	0.000	0.188	0.000	0.00
L7	95.00-90.00	A	0.000	0.000	0.000	0.000	0.06
		B	0.000	0.000	0.000	0.000	0.06
		C	0.000	0.000	0.188	0.000	0.00
L8	90.00-85.00	A	0.000	0.000	0.000	0.000	0.06
		B	0.000	0.000	0.000	0.000	0.06

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	2.353	0.000	0.03
L9	85.00-84.75	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	0.118	0.000	0.00
L10	84.75-80.50	A	0.000	0.000	2.213	0.000	0.05
		B	0.000	0.000	2.213	0.000	0.05
		C	0.000	0.000	4.213	0.000	0.02
L11	80.50-80.25	A	0.000	0.000	0.162	0.000	0.00
		B	0.000	0.000	0.162	0.000	0.00
		C	0.000	0.000	0.279	0.000	0.00
L12	80.25-80.00	A	0.000	0.000	0.162	0.000	0.00
		B	0.000	0.000	0.162	0.000	0.00
		C	0.000	0.000	0.279	0.000	0.00
L13	80.00-79.75	A	0.000	0.000	0.162	0.000	0.00
		B	0.000	0.000	0.162	0.000	0.00
		C	0.000	0.000	0.279	0.000	0.00
L14	79.75-79.00	A	0.000	0.000	0.485	0.000	0.01
		B	0.000	0.000	0.485	0.000	0.01
		C	0.000	0.000	0.838	0.000	0.00
L15	79.00-78.75	A	0.000	0.000	0.162	0.000	0.00
		B	0.000	0.000	0.162	0.000	0.00
		C	0.000	0.000	0.279	0.000	0.00
L16	78.75-73.75	A	0.000	0.000	2.572	0.000	0.06
		B	0.000	0.000	2.572	0.000	0.06
		C	0.000	0.000	4.924	0.000	0.03
L17	73.75-73.50	A	0.000	0.000	0.250	0.000	0.00
		B	0.000	0.000	0.250	0.000	0.00
		C	0.000	0.000	0.368	0.000	0.00
L18	73.50-73.25	A	0.000	0.000	0.250	0.000	0.00
		B	0.000	0.000	0.250	0.000	0.00
		C	0.000	0.000	0.368	0.000	0.00
L19	73.25-68.25	A	0.000	0.000	5.000	0.000	0.06
		B	0.000	0.000	5.000	0.000	0.06
		C	0.000	0.000	7.353	0.000	0.03
L20	68.25-63.25	A	0.000	0.000	5.000	0.000	0.06
		B	0.000	0.000	5.000	0.000	0.06
		C	0.000	0.000	7.353	0.000	0.03
L21	63.25-60.50	A	0.000	0.000	2.750	0.000	0.04
		B	0.000	0.000	2.750	0.000	0.03
		C	0.000	0.000	4.044	0.000	0.02
L22	60.50-60.25	A	0.000	0.000	0.250	0.000	0.00
		B	0.000	0.000	0.250	0.000	0.00
		C	0.000	0.000	0.368	0.000	0.00
L23	60.25-60.00	A	0.000	0.000	0.250	0.000	0.00
		B	0.000	0.000	0.250	0.000	0.00
		C	0.000	0.000	0.368	0.000	0.00
L24	60.00-59.75	A	0.000	0.000	0.250	0.000	0.00
		B	0.000	0.000	0.250	0.000	0.00
		C	0.000	0.000	0.368	0.000	0.00
L25	59.75-54.75	A	0.000	0.000	5.000	0.000	0.06
		B	0.000	0.000	5.000	0.000	0.06
		C	0.000	0.000	7.353	0.000	0.03
L26	54.75-49.75	A	0.000	0.000	5.000	0.000	0.06
		B	0.000	0.000	5.000	0.000	0.06
		C	0.000	0.000	7.353	0.000	0.03
L27	49.75-44.75	A	0.000	0.000	5.000	0.000	0.06
		B	0.000	0.000	5.000	0.000	0.06
		C	0.000	0.000	7.353	0.000	0.03
L28	44.75-40.50	A	0.000	0.000	4.250	0.000	0.05
		B	0.000	0.000	4.250	0.000	0.05
		C	0.000	0.000	6.250	0.000	0.02

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
L29	40.50-40.25	A	0.000	0.000	0.271	0.000	0.00
		B	0.000	0.000	0.271	0.000	0.00
		C	0.000	0.000	0.388	0.000	0.00
L30	40.25-40.00	A	0.000	0.000	0.271	0.000	0.00
		B	0.000	0.000	0.271	0.000	0.00
		C	0.000	0.000	0.388	0.000	0.00
L31	40.00-39.75	A	0.000	0.000	0.271	0.000	0.00
		B	0.000	0.000	0.271	0.000	0.00
		C	0.000	0.000	0.388	0.000	0.00
L32	39.75-34.75	A	0.000	0.000	5.417	0.000	0.06
		B	0.000	0.000	5.417	0.000	0.06
		C	0.000	0.000	7.769	0.000	0.03
L33	34.75-29.75	A	0.000	0.000	5.417	0.000	0.06
		B	0.000	0.000	5.417	0.000	0.06
		C	0.000	0.000	7.769	0.000	0.03
L34	29.75-24.75	A	0.000	0.000	5.417	0.000	0.06
		B	0.000	0.000	5.417	0.000	0.06
		C	0.000	0.000	7.769	0.000	0.03
L35	24.75-20.50	A	0.000	0.000	4.604	0.000	0.05
		B	0.000	0.000	4.604	0.000	0.05
		C	0.000	0.000	6.604	0.000	0.02
L36	20.50-20.25	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	0.472	0.000	0.00
L37	20.25-20.00	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	0.472	0.000	0.00
L38	20.00-19.75	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	0.472	0.000	0.00
L39	19.75-14.75	A	0.000	0.000	7.083	0.000	0.06
		B	0.000	0.000	7.083	0.000	0.06
		C	0.000	0.000	9.436	0.000	0.03
L40	14.75-9.75	A	0.000	0.000	7.083	0.000	0.06
		B	0.000	0.000	7.083	0.000	0.06
		C	0.000	0.000	9.436	0.000	0.03
L41	9.75-4.75	A	0.000	0.000	7.083	0.000	0.06
		B	0.000	0.000	7.083	0.000	0.06
		C	0.000	0.000	9.436	0.000	0.03
L42	4.75-4.25	A	0.000	0.000	0.708	0.000	0.01
		B	0.000	0.000	0.708	0.000	0.01
		C	0.000	0.000	0.944	0.000	0.00
L43	4.25-4.00	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	0.472	0.000	0.00
L44	4.00-0.00	A	0.000	0.000	5.667	0.000	0.05
		B	0.000	0.000	5.667	0.000	0.05
		C	0.000	0.000	7.549	0.000	0.02

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	125.00-120.00	A	0.969	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.02
		C		0.000	0.000	1.157	0.000	0.01
L2	120.00-115.00	A	0.965	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	1.153	0.000	0.01
L3	115.00-110.00	A	0.961	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	1.148	0.000	0.01
L4	110.00-105.00	A	0.957	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.06
		C		0.000	0.000	1.144	0.000	0.01
L5	105.00-100.00	A	0.952	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.06
		C		0.000	0.000	1.140	0.000	0.01
L6	100.00-95.00	A	0.947	0.000	0.000	0.000	0.000	0.06
		B		0.000	0.000	0.000	0.000	0.06
		C		0.000	0.000	1.135	0.000	0.01
L7	95.00-90.00	A	0.942	0.000	0.000	0.000	0.000	0.06
		B		0.000	0.000	0.000	0.000	0.06
		C		0.000	0.000	1.130	0.000	0.01
L8	90.00-85.00	A	0.937	0.000	0.000	0.000	0.000	0.06
		B		0.000	0.000	0.000	0.000	0.06
		C		0.000	0.000	6.173	0.000	0.08
L9	85.00-84.75	A	0.934	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	0.308	0.000	0.00
L10	84.75-80.50	A	0.932	0.000	0.000	2.556	0.000	0.07
		B		0.000	0.000	2.556	0.000	0.07
		C		0.000	0.000	7.788	0.000	0.08
L11	80.50-80.25	A	0.929	0.000	0.000	0.187	0.000	0.00
		B		0.000	0.000	0.187	0.000	0.00
		C		0.000	0.000	0.494	0.000	0.01
L12	80.25-80.00	A	0.929	0.000	0.000	0.187	0.000	0.00
		B		0.000	0.000	0.187	0.000	0.00
		C		0.000	0.000	0.494	0.000	0.01
L13	80.00-79.75	A	0.929	0.000	0.000	0.187	0.000	0.00
		B		0.000	0.000	0.187	0.000	0.00
		C		0.000	0.000	0.494	0.000	0.01
L14	79.75-79.00	A	0.928	0.000	0.000	0.560	0.000	0.01
		B		0.000	0.000	0.560	0.000	0.01
		C		0.000	0.000	1.482	0.000	0.02
L15	79.00-78.75	A	0.927	0.000	0.000	0.187	0.000	0.00
		B		0.000	0.000	0.187	0.000	0.00
		C		0.000	0.000	0.494	0.000	0.01
L16	78.75-73.75	A	0.924	0.000	0.000	3.022	0.000	0.08
		B		0.000	0.000	3.022	0.000	0.08
		C		0.000	0.000	9.150	0.000	0.09
L17	73.75-73.50	A	0.921	0.000	0.000	0.296	0.000	0.00
		B		0.000	0.000	0.296	0.000	0.00
		C		0.000	0.000	0.602	0.000	0.01
L18	73.50-73.25	A	0.921	0.000	0.000	0.296	0.000	0.00
		B		0.000	0.000	0.296	0.000	0.00
		C		0.000	0.000	0.602	0.000	0.01
L19	73.25-68.25	A	0.917	0.000	0.000	5.917	0.000	0.10
		B		0.000	0.000	5.917	0.000	0.09
		C		0.000	0.000	12.022	0.000	0.11
L20	68.25-63.25	A	0.911	0.000	0.000	5.911	0.000	0.10
		B		0.000	0.000	5.911	0.000	0.09
		C		0.000	0.000	11.992	0.000	0.11
L21	63.25-60.50	A	0.905	0.000	0.000	3.248	0.000	0.05
		B		0.000	0.000	3.248	0.000	0.05
		C		0.000	0.000	6.582	0.000	0.06
L22	60.50-60.25	A	0.903	0.000	0.000	0.295	0.000	0.00
		B		0.000	0.000	0.295	0.000	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		0.000	0.000	0.598	0.000	0.01
L23	60.25-60.00	A	0.903	0.000	0.000	0.295	0.000	0.00
		B		0.000	0.000	0.295	0.000	0.00
		C		0.000	0.000	0.598	0.000	0.01
L24	60.00-59.75	A	0.902	0.000	0.000	0.295	0.000	0.00
		B		0.000	0.000	0.295	0.000	0.00
		C		0.000	0.000	0.598	0.000	0.01
L25	59.75-54.75	A	0.898	0.000	0.000	5.898	0.000	0.09
		B		0.000	0.000	5.898	0.000	0.09
		C		0.000	0.000	11.935	0.000	0.10
L26	54.75-49.75	A	0.890	0.000	0.000	5.890	0.000	0.09
		B		0.000	0.000	5.890	0.000	0.09
		C		0.000	0.000	11.899	0.000	0.10
L27	49.75-44.75	A	0.881	0.000	0.000	5.881	0.000	0.09
		B		0.000	0.000	5.881	0.000	0.09
		C		0.000	0.000	11.859	0.000	0.10
L28	44.75-40.50	A	0.872	0.000	0.000	4.991	0.000	0.08
		B		0.000	0.000	4.991	0.000	0.08
		C		0.000	0.000	10.045	0.000	0.09
L29	40.50-40.25	A	0.867	0.000	0.000	0.314	0.000	0.00
		B		0.000	0.000	0.314	0.000	0.00
		C		0.000	0.000	0.611	0.000	0.01
L30	40.25-40.00	A	0.867	0.000	0.000	0.314	0.000	0.00
		B		0.000	0.000	0.314	0.000	0.00
		C		0.000	0.000	0.611	0.000	0.01
L31	40.00-39.75	A	0.866	0.000	0.000	0.314	0.000	0.00
		B		0.000	0.000	0.314	0.000	0.00
		C		0.000	0.000	0.610	0.000	0.01
L32	39.75-34.75	A	0.860	0.000	0.000	6.277	0.000	0.10
		B		0.000	0.000	6.277	0.000	0.09
		C		0.000	0.000	12.182	0.000	0.10
L33	34.75-29.75	A	0.848	0.000	0.000	6.265	0.000	0.10
		B		0.000	0.000	6.265	0.000	0.09
		C		0.000	0.000	12.127	0.000	0.10
L34	29.75-24.75	A	0.834	0.000	0.000	6.251	0.000	0.09
		B		0.000	0.000	6.251	0.000	0.09
		C		0.000	0.000	12.063	0.000	0.10
L35	24.75-20.50	A	0.819	0.000	0.000	5.300	0.000	0.08
		B		0.000	0.000	5.300	0.000	0.08
		C		0.000	0.000	10.195	0.000	0.08
L36	20.50-20.25	A	0.810	0.000	0.000	0.394	0.000	0.00
		B		0.000	0.000	0.394	0.000	0.00
		C		0.000	0.000	0.681	0.000	0.01
L37	20.25-20.00	A	0.809	0.000	0.000	0.394	0.000	0.00
		B		0.000	0.000	0.394	0.000	0.00
		C		0.000	0.000	0.680	0.000	0.01
L38	20.00-19.75	A	0.808	0.000	0.000	0.394	0.000	0.00
		B		0.000	0.000	0.394	0.000	0.00
		C		0.000	0.000	0.680	0.000	0.01
L39	19.75-14.75	A	0.797	0.000	0.000	7.870	0.000	0.10
		B		0.000	0.000	7.870	0.000	0.10
		C		0.000	0.000	13.552	0.000	0.10
L40	14.75-9.75	A	0.770	0.000	0.000	7.845	0.000	0.10
		B		0.000	0.000	7.845	0.000	0.10
		C		0.000	0.000	13.433	0.000	0.10
L41	9.75-4.75	A	0.730	0.000	0.000	7.809	0.000	0.10
		B		0.000	0.000	7.809	0.000	0.09
		C		0.000	0.000	13.259	0.000	0.10
L42	4.75-4.25	A	0.696	0.000	0.000	0.778	0.000	0.01
		B		0.000	0.000	0.778	0.000	0.01
		C		0.000	0.000	1.311	0.000	0.01

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L43	4.25-4.00	A	0.690	0.000	0.000	0.389	0.000	0.00
		B		0.000	0.000	0.389	0.000	0.00
		C		0.000	0.000	0.654	0.000	0.00
L44	4.00-0.00	A	0.642	0.000	0.000	6.180	0.000	0.07
		B		0.000	0.000	6.180	0.000	0.07
		C		0.000	0.000	10.294	0.000	0.07

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	125.00-120.00	0.0000	0.3693	0.0000	0.9979
L2	120.00-115.00	0.0000	0.3693	0.0000	0.9950
L3	115.00-110.00	0.0000	0.3693	0.0000	0.9920
L4	110.00-105.00	0.0000	0.3693	0.0000	0.9888
L5	105.00-100.00	0.0000	0.3693	0.0000	0.9855
L6	100.00-95.00	0.0000	0.3704	0.0000	1.0089
L7	95.00-90.00	0.0000	0.3704	0.0000	1.0051
L8	90.00-85.00	-1.7882	3.3863	-1.5834	3.4043
L9	85.00-84.75	-1.7882	3.3863	-1.5824	3.4014
L10	84.75-80.50	-0.9975	1.8889	-1.1714	2.5174
L11	80.50-80.25	-0.9008	1.7059	-1.1013	2.3663
L12	80.25-80.00	-0.9008	1.7059	-1.1012	2.3661
L13	80.00-79.75	-0.9909	1.8782	-1.2072	2.5989
L14	79.75-79.00	-0.9909	1.8782	-1.2070	2.5984
L15	79.00-78.75	-0.9909	1.8782	-1.2068	2.5978
L16	78.75-73.75	-1.0943	2.0742	-1.2739	2.7416
L17	73.75-73.50	-0.7918	1.5009	-1.0343	2.2255
L18	73.50-73.25	-0.7918	1.5009	-1.0342	2.2252
L19	73.25-68.25	-0.7918	1.5009	-1.0333	2.2225
L20	68.25-63.25	-0.7918	1.5009	-1.0313	2.2172
L21	63.25-60.50	-0.7918	1.5009	-1.0297	2.2127
L22	60.50-60.25	-0.7918	1.5009	-1.0290	2.2109
L23	60.25-60.00	-0.7918	1.5009	-1.0289	2.2106
L24	60.00-59.75	-0.8658	1.6422	-1.1172	2.4037
L25	59.75-54.75	-0.8658	1.6422	-1.1159	2.4000
L26	54.75-49.75	-0.8658	1.6422	-1.1132	2.3926
L27	49.75-44.75	-0.8658	1.6422	-1.1102	2.3844
L28	44.75-40.50	-0.8658	1.6422	-1.1071	2.3760
L29	40.50-40.25	-0.8286	1.5716	-1.0780	2.3126
L30	40.25-40.00	-0.8286	1.5716	-1.0778	2.3121
L31	40.00-39.75	-0.8941	1.6968	-1.1543	2.4787
L32	39.75-34.75	-0.8941	1.6968	-1.1521	2.4728
L33	34.75-29.75	-0.8941	1.6968	-1.1475	2.4603
L34	29.75-24.75	-0.8941	1.6968	-1.1421	2.4458
L35	24.75-20.50	-0.8941	1.6968	-1.1363	2.4301
L36	20.50-20.25	-0.7685	1.4585	-1.0353	2.2124
L37	20.25-20.00	-0.7685	1.4585	-1.0350	2.2114
L38	20.00-19.75	-0.8250	1.5663	-1.1004	2.3530
L39	19.75-14.75	-0.8250	1.5663	-1.0958	2.3408
L40	14.75-9.75	-0.8250	1.5663	-1.0850	2.3118
L41	9.75-4.75	-0.8250	1.5663	-1.0689	2.2688
L42	4.75-4.25	-0.8250	1.5663	-1.0548	2.2311
L43	4.25-4.00	-0.8250	1.5663	-1.0522	2.2244
L44	4.00-0.00	-0.8250	1.5663	-1.0320	2.1703

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	2	Safety Line 3/8	120.00 - 125.00	1.0000	1.0000
L2	2	Safety Line 3/8	115.00 - 120.00	1.0000	1.0000
L3	2	Safety Line 3/8	110.00 - 115.00	1.0000	1.0000
L4	2	Safety Line 3/8	105.00 - 110.00	1.0000	1.0000
L5	2	Safety Line 3/8	100.00 - 105.00	1.0000	1.0000
L6	2	Safety Line 3/8	95.00 - 100.00	1.0000	1.0000
L7	2	Safety Line 3/8	90.00 - 95.00	1.0000	1.0000
L8	2	Safety Line 3/8	85.00 - 90.00	1.0000	1.0000
L8	15	LDF4-50A(1/2)	85.00 - 90.00	1.0000	1.0000
L8	16	HB114-1-0813U4-M5J(1-1/4)	85.00 - 90.00	1.0000	1.0000
L9	2	Safety Line 3/8	84.75 - 85.00	1.0000	1.0000
L9	15	LDF4-50A(1/2)	84.75 - 85.00	1.0000	1.0000
L9	16	HB114-1-0813U4-M5J(1-1/4)	84.75 - 85.00	1.0000	1.0000
L10	2	Safety Line 3/8	80.50 - 84.75	1.0000	1.0000
L10	15	LDF4-50A(1/2)	80.50 - 84.75	1.0000	1.0000
L10	16	HB114-1-0813U4-M5J(1-1/4)	80.50 - 84.75	1.0000	1.0000
L10	36	Bridge Stiffener 78"x4.5"x1"	80.50 - 83.92	1.0000	1.0000
L10	37	Bridge Stiffener 78"x4.5"x1"	80.50 - 83.92	1.0000	1.0000
L10	38	Bridge Stiffener 78"x4.5"x1"	80.50 - 83.92	1.0000	1.0000
L11	2	Safety Line 3/8	80.25 - 80.50	1.0000	1.0000
L11	15	LDF4-50A(1/2)	80.25 - 80.50	1.0000	1.0000
L11	16	HB114-1-0813U4-M5J(1-1/4)	80.25 - 80.50	1.0000	1.0000
L11	36	Bridge Stiffener 78"x4.5"x1"	80.25 - 80.50	1.0000	1.0000
L11	37	Bridge Stiffener 78"x4.5"x1"	80.25 - 80.50	1.0000	1.0000
L11	38	Bridge Stiffener 78"x4.5"x1"	80.25 - 80.50	1.0000	1.0000
L12	2	Safety Line 3/8	80.00 - 80.25	1.0000	1.0000
L12	15	LDF4-50A(1/2)	80.00 - 80.25	1.0000	1.0000
L12	16	HB114-1-0813U4-M5J(1-1/4)	80.00 - 80.25	1.0000	1.0000
L12	36	Bridge Stiffener 78"x4.5"x1"	80.00 - 80.25	1.0000	1.0000
L12	37	Bridge Stiffener 78"x4.5"x1"	80.00 - 80.25	1.0000	1.0000
L12	38	Bridge Stiffener 78"x4.5"x1"	80.00 - 80.25	1.0000	1.0000
L13	2	Safety Line 3/8	79.75 - 80.00	1.0000	1.0000
L13	15	LDF4-50A(1/2)	79.75 - 80.00	1.0000	1.0000
L13	16	HB114-1-0813U4-M5J(1-1/4)	79.75 - 80.00	1.0000	1.0000
L13	36	Bridge Stiffener 78"x4.5"x1"	79.75 - 80.00	1.0000	1.0000
L13	37	Bridge Stiffener 78"x4.5"x1"	79.75 - 80.00	1.0000	1.0000
L13	38	Bridge Stiffener 78"x4.5"x1"	79.75 - 80.00	1.0000	1.0000
L14	2	Safety Line 3/8	79.00 - 79.75	1.0000	1.0000
L14	15	LDF4-50A(1/2)	79.00 - 79.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L14	16	HB114-1-0813U4-M5J(1-1/4)	79.00 - 79.75	1.0000	1.0000
L14	36	Bridge Stiffener 78"x4.5"x1"	79.00 - 79.75	1.0000	1.0000
L14	37	Bridge Stiffener 78"x4.5"x1"	79.00 - 79.75	1.0000	1.0000
L14	38	Bridge Stiffener 78"x4.5"x1"	79.00 - 79.75	1.0000	1.0000
L15	2	Safety Line 3/8	78.75 - 79.00	1.0000	1.0000
L15	15	LDF4-50A(1/2)	78.75 - 79.00	1.0000	1.0000
L15	16	HB114-1-0813U4-M5J(1-1/4)	78.75 - 79.00	1.0000	1.0000
L15	36	Bridge Stiffener 78"x4.5"x1"	78.75 - 79.00	1.0000	1.0000
L15	37	Bridge Stiffener 78"x4.5"x1"	78.75 - 79.00	1.0000	1.0000
L15	38	Bridge Stiffener 78"x4.5"x1"	78.75 - 79.00	1.0000	1.0000
L16	2	Safety Line 3/8	73.75 - 78.75	1.0000	1.0000
L16	15	LDF4-50A(1/2)	73.75 - 78.75	1.0000	1.0000
L16	16	HB114-1-0813U4-M5J(1-1/4)	73.75 - 78.75	1.0000	1.0000
L16	28	(Area) CCI-65FP-060100 (H)	73.75 - 75.50	1.0000	1.0000
L16	29	(Area) CCI-65FP-060100 (H)	73.75 - 75.50	1.0000	1.0000
L16	30	(Area) CCI-65FP-060100 (H)	73.75 - 75.50	1.0000	1.0000
L16	36	Bridge Stiffener 78"x4.5"x1"	77.48 - 78.75	1.0000	1.0000
L16	37	Bridge Stiffener 78"x4.5"x1"	77.48 - 78.75	1.0000	1.0000
L16	38	Bridge Stiffener 78"x4.5"x1"	77.48 - 78.75	1.0000	1.0000
L17	2	Safety Line 3/8	73.50 - 73.75	1.0000	1.0000
L17	15	LDF4-50A(1/2)	73.50 - 73.75	1.0000	1.0000
L17	16	HB114-1-0813U4-M5J(1-1/4)	73.50 - 73.75	1.0000	1.0000
L17	28	(Area) CCI-65FP-060100 (H)	73.50 - 73.75	1.0000	1.0000
L17	29	(Area) CCI-65FP-060100 (H)	73.50 - 73.75	1.0000	1.0000
L17	30	(Area) CCI-65FP-060100 (H)	73.50 - 73.75	1.0000	1.0000
L18	2	Safety Line 3/8	73.25 - 73.50	1.0000	1.0000
L18	15	LDF4-50A(1/2)	73.25 - 73.50	1.0000	1.0000
L18	16	HB114-1-0813U4-M5J(1-1/4)	73.25 - 73.50	1.0000	1.0000
L18	28	(Area) CCI-65FP-060100 (H)	73.25 - 73.50	1.0000	1.0000
L18	29	(Area) CCI-65FP-060100 (H)	73.25 - 73.50	1.0000	1.0000
L18	30	(Area) CCI-65FP-060100 (H)	73.25 - 73.50	1.0000	1.0000
L19	2	Safety Line 3/8	68.25 - 73.25	1.0000	1.0000
L19	15	LDF4-50A(1/2)	68.25 - 73.25	1.0000	1.0000
L19	16	HB114-1-0813U4-M5J(1-1/4)	68.25 - 73.25	1.0000	1.0000
L19	28	(Area) CCI-65FP-060100 (H)	68.25 - 73.25	1.0000	1.0000
L19	29	(Area) CCI-65FP-060100 (H)	68.25 - 73.25	1.0000	1.0000
L19	30	(Area) CCI-65FP-060100 (H)	68.25 - 73.25	1.0000	1.0000
L20	2	Safety Line 3/8	63.25 - 68.25	1.0000	1.0000
L20	15	LDF4-50A(1/2)	63.25 - 68.25	1.0000	1.0000
L20	16	HB114-1-0813U4-M5J(1-1/4)	63.25 - 68.25	1.0000	1.0000
L20	28	(Area) CCI-65FP-060100 (H)	63.25 - 68.25	1.0000	1.0000
L20	29	(Area) CCI-65FP-060100 (H)	63.25 - 68.25	1.0000	1.0000
L20	30	(Area) CCI-65FP-060100 (H)	63.25 - 68.25	1.0000	1.0000
L21	2	Safety Line 3/8	60.50 - 63.25	1.0000	1.0000
L21	15	LDF4-50A(1/2)	60.50 - 63.25	1.0000	1.0000
L21	16	HB114-1-0813U4-M5J(1-1/4)	60.50 - 63.25	1.0000	1.0000
L21	28	(Area) CCI-65FP-060100 (H)	60.50 - 63.25	1.0000	1.0000
L21	29	(Area) CCI-65FP-060100 (H)	60.50 - 63.25	1.0000	1.0000
L21	30	(Area) CCI-65FP-060100 (H)	60.50 - 63.25	1.0000	1.0000
L22	2	Safety Line 3/8	60.25 - 60.50	1.0000	1.0000
L22	15	LDF4-50A(1/2)	60.25 - 60.50	1.0000	1.0000
L22	16	HB114-1-0813U4-M5J(1-1/4)	60.25 - 60.50	1.0000	1.0000
L22	28	(Area) CCI-65FP-060100 (H)	60.25 - 60.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L22	29	(Area) CCI-65FP-060100 (H)	60.25 - 60.50	1.0000	1.0000
L22	30	(Area) CCI-65FP-060100 (H)	60.25 - 60.50	1.0000	1.0000
L23	2	Safety Line 3/8	60.00 - 60.25	1.0000	1.0000
L23	15	LDF4-50A(1/2)	60.00 - 60.25	1.0000	1.0000
L23	16	HB114-1-0813U4-M5J(1-1/4)	60.00 - 60.25	1.0000	1.0000
L23	28	(Area) CCI-65FP-060100 (H)	60.00 - 60.25	1.0000	1.0000
L23	29	(Area) CCI-65FP-060100 (H)	60.00 - 60.25	1.0000	1.0000
L23	30	(Area) CCI-65FP-060100 (H)	60.00 - 60.25	1.0000	1.0000
L24	2	Safety Line 3/8	59.75 - 60.00	1.0000	1.0000
L24	15	LDF4-50A(1/2)	59.75 - 60.00	1.0000	1.0000
L24	16	HB114-1-0813U4-M5J(1-1/4)	59.75 - 60.00	1.0000	1.0000
L24	28	(Area) CCI-65FP-060100 (H)	59.75 - 60.00	1.0000	1.0000
L24	29	(Area) CCI-65FP-060100 (H)	59.75 - 60.00	1.0000	1.0000
L24	30	(Area) CCI-65FP-060100 (H)	59.75 - 60.00	1.0000	1.0000
L25	2	Safety Line 3/8	54.75 - 59.75	1.0000	1.0000
L25	15	LDF4-50A(1/2)	54.75 - 59.75	1.0000	1.0000
L25	16	HB114-1-0813U4-M5J(1-1/4)	54.75 - 59.75	1.0000	1.0000
L25	28	(Area) CCI-65FP-060100 (H)	54.75 - 59.75	1.0000	1.0000
L25	29	(Area) CCI-65FP-060100 (H)	54.75 - 59.75	1.0000	1.0000
L25	30	(Area) CCI-65FP-060100 (H)	54.75 - 59.75	1.0000	1.0000
L26	2	Safety Line 3/8	49.75 - 54.75	1.0000	1.0000
L26	15	LDF4-50A(1/2)	49.75 - 54.75	1.0000	1.0000
L26	16	HB114-1-0813U4-M5J(1-1/4)	49.75 - 54.75	1.0000	1.0000
L26	28	(Area) CCI-65FP-060100 (H)	49.75 - 54.75	1.0000	1.0000
L26	29	(Area) CCI-65FP-060100 (H)	49.75 - 54.75	1.0000	1.0000
L26	30	(Area) CCI-65FP-060100 (H)	49.75 - 54.75	1.0000	1.0000
L27	2	Safety Line 3/8	44.75 - 49.75	1.0000	1.0000
L27	15	LDF4-50A(1/2)	44.75 - 49.75	1.0000	1.0000
L27	16	HB114-1-0813U4-M5J(1-1/4)	44.75 - 49.75	1.0000	1.0000
L27	28	(Area) CCI-65FP-060100 (H)	44.75 - 49.75	1.0000	1.0000
L27	29	(Area) CCI-65FP-060100 (H)	44.75 - 49.75	1.0000	1.0000
L27	30	(Area) CCI-65FP-060100 (H)	44.75 - 49.75	1.0000	1.0000
L28	2	Safety Line 3/8	40.50 - 44.75	1.0000	1.0000
L28	15	LDF4-50A(1/2)	40.50 - 44.75	1.0000	1.0000
L28	16	HB114-1-0813U4-M5J(1-1/4)	40.50 - 44.75	1.0000	1.0000
L28	28	(Area) CCI-65FP-060100 (H)	40.50 - 44.75	1.0000	1.0000
L28	29	(Area) CCI-65FP-060100 (H)	40.50 - 44.75	1.0000	1.0000
L28	30	(Area) CCI-65FP-060100 (H)	40.50 - 44.75	1.0000	1.0000
L29	2	Safety Line 3/8	40.25 - 40.50	1.0000	1.0000
L29	15	LDF4-50A(1/2)	40.25 - 40.50	1.0000	1.0000
L29	16	HB114-1-0813U4-M5J(1-1/4)	40.25 - 40.50	1.0000	1.0000
L29	24	(Area) CCI-65FP-065125 (H)	40.25 - 40.50	1.0000	1.0000
L29	25	(Area) CCI-65FP-065125 (H)	40.25 - 40.50	1.0000	1.0000
L29	26	(Area) CCI-65FP-065125 (H)	40.25 - 40.50	1.0000	1.0000
L30	2	Safety Line 3/8	40.00 - 40.25	1.0000	1.0000
L30	15	LDF4-50A(1/2)	40.00 - 40.25	1.0000	1.0000
L30	16	HB114-1-0813U4-M5J(1-1/4)	40.00 - 40.25	1.0000	1.0000
L30	24	(Area) CCI-65FP-065125 (H)	40.00 - 40.25	1.0000	1.0000
L30	25	(Area) CCI-65FP-065125 (H)	40.00 - 40.25	1.0000	1.0000
L30	26	(Area) CCI-65FP-065125 (H)	40.00 - 40.25	1.0000	1.0000
L31	2	Safety Line 3/8	39.75 - 40.00	1.0000	1.0000
L31	15	LDF4-50A(1/2)	39.75 - 40.00	1.0000	1.0000
L31	16	HB114-1-0813U4-M5J(1-1/4)	39.75 - 40.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L31	24	(Area) CCI-65FP-065125 (H)	39.75 - 40.00	1.0000	1.0000
L31	25	(Area) CCI-65FP-065125 (H)	39.75 - 40.00	1.0000	1.0000
L31	26	(Area) CCI-65FP-065125 (H)	39.75 - 40.00	1.0000	1.0000
L32	2	Safety Line 3/8	34.75 - 39.75	1.0000	1.0000
L32	15	LDF4-50A(1/2)	34.75 - 39.75	1.0000	1.0000
L32	16	HB114-1-0813U4-M5J(1-1/4)	34.75 - 39.75	1.0000	1.0000
L32	24	(Area) CCI-65FP-065125 (H)	34.75 - 39.75	1.0000	1.0000
L32	25	(Area) CCI-65FP-065125 (H)	34.75 - 39.75	1.0000	1.0000
L32	26	(Area) CCI-65FP-065125 (H)	34.75 - 39.75	1.0000	1.0000
L33	2	Safety Line 3/8	29.75 - 34.75	1.0000	1.0000
L33	15	LDF4-50A(1/2)	29.75 - 34.75	1.0000	1.0000
L33	16	HB114-1-0813U4-M5J(1-1/4)	29.75 - 34.75	1.0000	1.0000
L33	24	(Area) CCI-65FP-065125 (H)	29.75 - 34.75	1.0000	1.0000
L33	25	(Area) CCI-65FP-065125 (H)	29.75 - 34.75	1.0000	1.0000
L33	26	(Area) CCI-65FP-065125 (H)	29.75 - 34.75	1.0000	1.0000
L34	2	Safety Line 3/8	24.75 - 29.75	1.0000	1.0000
L34	15	LDF4-50A(1/2)	24.75 - 29.75	1.0000	1.0000
L34	16	HB114-1-0813U4-M5J(1-1/4)	24.75 - 29.75	1.0000	1.0000
L34	24	(Area) CCI-65FP-065125 (H)	24.75 - 29.75	1.0000	1.0000
L34	25	(Area) CCI-65FP-065125 (H)	24.75 - 29.75	1.0000	1.0000
L34	26	(Area) CCI-65FP-065125 (H)	24.75 - 29.75	1.0000	1.0000
L35	2	Safety Line 3/8	20.50 - 24.75	1.0000	1.0000
L35	15	LDF4-50A(1/2)	20.50 - 24.75	1.0000	1.0000
L35	16	HB114-1-0813U4-M5J(1-1/4)	20.50 - 24.75	1.0000	1.0000
L35	24	(Area) CCI-65FP-065125 (H)	20.50 - 24.75	1.0000	1.0000
L35	25	(Area) CCI-65FP-065125 (H)	20.50 - 24.75	1.0000	1.0000
L35	26	(Area) CCI-65FP-065125 (H)	20.50 - 24.75	1.0000	1.0000
L36	2	Safety Line 3/8	20.25 - 20.50	1.0000	1.0000
L36	15	LDF4-50A(1/2)	20.25 - 20.50	1.0000	1.0000
L36	16	HB114-1-0813U4-M5J(1-1/4)	20.25 - 20.50	1.0000	1.0000
L36	20	(Area) CCI-65FP-085125 (H)	20.25 - 20.50	1.0000	1.0000
L36	21	(Area) CCI-65FP-085125 (H)	20.25 - 20.50	1.0000	1.0000
L36	22	(Area) CCI-65FP-085125 (H)	20.25 - 20.50	1.0000	1.0000
L37	2	Safety Line 3/8	20.00 - 20.25	1.0000	1.0000
L37	15	LDF4-50A(1/2)	20.00 - 20.25	1.0000	1.0000
L37	16	HB114-1-0813U4-M5J(1-1/4)	20.00 - 20.25	1.0000	1.0000
L37	20	(Area) CCI-65FP-085125 (H)	20.00 - 20.25	1.0000	1.0000
L37	21	(Area) CCI-65FP-085125 (H)	20.00 - 20.25	1.0000	1.0000
L37	22	(Area) CCI-65FP-085125 (H)	20.00 - 20.25	1.0000	1.0000
L38	2	Safety Line 3/8	19.75 - 20.00	1.0000	1.0000
L38	15	LDF4-50A(1/2)	19.75 - 20.00	1.0000	1.0000
L38	16	HB114-1-0813U4-M5J(1-1/4)	19.75 - 20.00	1.0000	1.0000
L38	20	(Area) CCI-65FP-085125 (H)	19.75 - 20.00	1.0000	1.0000
L38	21	(Area) CCI-65FP-085125 (H)	19.75 - 20.00	1.0000	1.0000
L38	22	(Area) CCI-65FP-085125 (H)	19.75 - 20.00	1.0000	1.0000
L39	2	Safety Line 3/8	14.75 - 19.75	1.0000	1.0000
L39	15	LDF4-50A(1/2)	14.75 - 19.75	1.0000	1.0000
L39	16	HB114-1-0813U4-M5J(1-1/4)	14.75 - 19.75	1.0000	1.0000
L39	20	(Area) CCI-65FP-085125 (H)	14.75 - 19.75	1.0000	1.0000
L39	21	(Area) CCI-65FP-085125 (H)	14.75 - 19.75	1.0000	1.0000
L39	22	(Area) CCI-65FP-085125 (H)	14.75 - 19.75	1.0000	1.0000
L40	2	Safety Line 3/8	9.75 - 14.75	1.0000	1.0000
L40	15	LDF4-50A(1/2)	9.75 - 14.75	1.0000	1.0000
L40	16	HB114-1-0813U4-M5J(1-1/4	9.75 - 14.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
		)			
L40	20	(Area) CCI-65FP-085125 (H)	9.75 - 14.75	1.0000	1.0000
L40	21	(Area) CCI-65FP-085125 (H)	9.75 - 14.75	1.0000	1.0000
L40	22	(Area) CCI-65FP-085125 (H)	9.75 - 14.75	1.0000	1.0000
L41	2	Safety Line 3/8	4.75 - 9.75	1.0000	1.0000
L41	15	LDF4-50A(1/2)	4.75 - 9.75	1.0000	1.0000
L41	16	HB114-1-0813U4-M5J(1-1/4)	4.75 - 9.75	1.0000	1.0000
L41	20	(Area) CCI-65FP-085125 (H)	4.75 - 9.75	1.0000	1.0000
L41	21	(Area) CCI-65FP-085125 (H)	4.75 - 9.75	1.0000	1.0000
L41	22	(Area) CCI-65FP-085125 (H)	4.75 - 9.75	1.0000	1.0000
L42	2	Safety Line 3/8	4.25 - 4.75	1.0000	1.0000
L42	15	LDF4-50A(1/2)	4.25 - 4.75	1.0000	1.0000
L42	16	HB114-1-0813U4-M5J(1-1/4)	4.25 - 4.75	1.0000	1.0000
L42	20	(Area) CCI-65FP-085125 (H)	4.25 - 4.75	1.0000	1.0000
L42	21	(Area) CCI-65FP-085125 (H)	4.25 - 4.75	1.0000	1.0000
L42	22	(Area) CCI-65FP-085125 (H)	4.25 - 4.75	1.0000	1.0000
L43	2	Safety Line 3/8	4.00 - 4.25	1.0000	1.0000
L43	15	LDF4-50A(1/2)	4.00 - 4.25	1.0000	1.0000
L43	16	HB114-1-0813U4-M5J(1-1/4)	4.00 - 4.25	1.0000	1.0000
L43	20	(Area) CCI-65FP-085125 (H)	4.00 - 4.25	1.0000	1.0000
L43	21	(Area) CCI-65FP-085125 (H)	4.00 - 4.25	1.0000	1.0000
L43	22	(Area) CCI-65FP-085125 (H)	4.00 - 4.25	1.0000	1.0000
L44	2	Safety Line 3/8	0.00 - 4.00	1.0000	1.0000
L44	15	LDF4-50A(1/2)	0.00 - 4.00	1.0000	1.0000
L44	16	HB114-1-0813U4-M5J(1-1/4)	0.00 - 4.00	1.0000	1.0000
L44	20	(Area) CCI-65FP-085125 (H)	0.00 - 4.00	1.0000	1.0000
L44	21	(Area) CCI-65FP-085125 (H)	0.00 - 4.00	1.0000	1.0000
L44	22	(Area) CCI-65FP-085125 (H)	0.00 - 4.00	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L10	36	Bridge Stiffener 78"x4.5"x1"	80.50 - 83.92	Auto	1.0000
L10	37	Bridge Stiffener 78"x4.5"x1"	80.50 - 83.92	Auto	1.0000
L10	38	Bridge Stiffener 78"x4.5"x1"	80.50 - 83.92	Auto	1.0000
L11	36	Bridge Stiffener 78"x4.5"x1"	80.25 - 80.50	Auto	1.0000
L11	37	Bridge Stiffener 78"x4.5"x1"	80.25 - 80.50	Auto	1.0000
L11	38	Bridge Stiffener 78"x4.5"x1"	80.25 - 80.50	Auto	1.0000
L12	36	Bridge Stiffener 78"x4.5"x1"	80.00 - 80.25	Auto	1.0000
L12	37	Bridge Stiffener 78"x4.5"x1"	80.00 - 80.25	Auto	1.0000
L12	38	Bridge Stiffener 78"x4.5"x1"	80.00 - 80.25	Auto	1.0000
L13	36	Bridge Stiffener 78"x4.5"x1"	79.75 - 80.00	Auto	1.0000
L13	37	Bridge Stiffener 78"x4.5"x1"	79.75 - 80.00	Auto	1.0000
L13	38	Bridge Stiffener 78"x4.5"x1"	79.75 - 80.00	Auto	1.0000
L14	36	Bridge Stiffener 78"x4.5"x1"	79.00 - 79.75	Auto	1.0000
L14	37	Bridge Stiffener 78"x4.5"x1"	79.00 - 79.75	Auto	1.0000
L14	38	Bridge Stiffener 78"x4.5"x1"	79.00 - 79.75	Auto	1.0000
L15	36	Bridge Stiffener 78"x4.5"x1"	78.75 - 79.00	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L15	37	Bridge Stiffener 78"x4.5"x1"	78.75 - 79.00	Auto	1.0000
L15	38	Bridge Stiffener 78"x4.5"x1"	78.75 - 79.00	Auto	1.0000
L16	28	(Area) CCI-65FP-060100 (H)	73.75 - 75.50	Auto	1.0000
L16	29	(Area) CCI-65FP-060100 (H)	73.75 - 75.50	Auto	1.0000
L16	30	(Area) CCI-65FP-060100 (H)	73.75 - 75.50	Auto	1.0000
L16	36	Bridge Stiffener 78"x4.5"x1"	77.48 - 78.75	Auto	1.0000
L16	37	Bridge Stiffener 78"x4.5"x1"	77.48 - 78.75	Auto	1.0000
L16	38	Bridge Stiffener 78"x4.5"x1"	77.48 - 78.75	Auto	1.0000
L17	28	(Area) CCI-65FP-060100 (H)	73.50 - 73.75	Auto	1.0000
L17	29	(Area) CCI-65FP-060100 (H)	73.50 - 73.75	Auto	1.0000
L17	30	(Area) CCI-65FP-060100 (H)	73.50 - 73.75	Auto	1.0000
L18	28	(Area) CCI-65FP-060100 (H)	73.25 - 73.50	Auto	1.0000
L18	29	(Area) CCI-65FP-060100 (H)	73.25 - 73.50	Auto	1.0000
L18	30	(Area) CCI-65FP-060100 (H)	73.25 - 73.50	Auto	1.0000
L19	28	(Area) CCI-65FP-060100 (H)	68.25 - 73.25	Auto	1.0000
L19	29	(Area) CCI-65FP-060100 (H)	68.25 - 73.25	Auto	1.0000
L19	30	(Area) CCI-65FP-060100 (H)	68.25 - 73.25	Auto	1.0000
L20	28	(Area) CCI-65FP-060100 (H)	63.25 - 68.25	Auto	1.0000
L20	29	(Area) CCI-65FP-060100 (H)	63.25 - 68.25	Auto	1.0000
L20	30	(Area) CCI-65FP-060100 (H)	63.25 - 68.25	Auto	1.0000
L21	28	(Area) CCI-65FP-060100 (H)	60.50 - 63.25	Auto	1.0000
L21	29	(Area) CCI-65FP-060100 (H)	60.50 - 63.25	Auto	1.0000
L21	30	(Area) CCI-65FP-060100 (H)	60.50 - 63.25	Auto	1.0000
L22	28	(Area) CCI-65FP-060100 (H)	60.25 - 60.50	Auto	1.0000
L22	29	(Area) CCI-65FP-060100 (H)	60.25 - 60.50	Auto	1.0000
L22	30	(Area) CCI-65FP-060100 (H)	60.25 - 60.50	Auto	1.0000
L23	28	(Area) CCI-65FP-060100 (H)	60.00 - 60.25	Auto	1.0000
L23	29	(Area) CCI-65FP-060100 (H)	60.00 - 60.25	Auto	1.0000
L23	30	(Area) CCI-65FP-060100 (H)	60.00 - 60.25	Auto	1.0000
L24	28	(Area) CCI-65FP-060100 (H)	59.75 - 60.00	Auto	1.0000
L24	29	(Area) CCI-65FP-060100 (H)	59.75 - 60.00	Auto	1.0000
L24	30	(Area) CCI-65FP-060100 (H)	59.75 - 60.00	Auto	1.0000
L25	28	(Area) CCI-65FP-060100 (H)	54.75 - 59.75	Auto	1.0000
L25	29	(Area) CCI-65FP-060100 (H)	54.75 - 59.75	Auto	1.0000
L25	30	(Area) CCI-65FP-060100 (H)	54.75 - 59.75	Auto	1.0000
L26	28	(Area) CCI-65FP-060100 (H)	49.75 - 54.75	Auto	1.0000
L26	29	(Area) CCI-65FP-060100 (H)	49.75 - 54.75	Auto	1.0000
L26	30	(Area) CCI-65FP-060100 (H)	49.75 - 54.75	Auto	1.0000
L27	28	(Area) CCI-65FP-060100 (H)	44.75 - 49.75	Auto	1.0000
L27	29	(Area) CCI-65FP-060100 (H)	44.75 - 49.75	Auto	1.0000
L27	30	(Area) CCI-65FP-060100 (H)	44.75 - 49.75	Auto	1.0000
L28	28	(Area) CCI-65FP-060100 (H)	40.50 - 44.75	Auto	1.0000
L28	29	(Area) CCI-65FP-060100 (H)	40.50 - 44.75	Auto	1.0000
L28	30	(Area) CCI-65FP-060100 (H)	40.50 - 44.75	Auto	1.0000
L29	24	(Area) CCI-65FP-065125 (H)	40.25 - 40.50	Auto	1.0000
L29	25	(Area) CCI-65FP-065125 (H)	40.25 - 40.50	Auto	1.0000
L29	26	(Area) CCI-65FP-065125 (H)	40.25 - 40.50	Auto	1.0000
L30	24	(Area) CCI-65FP-065125 (H)	40.00 - 40.25	Auto	1.0000
L30	25	(Area) CCI-65FP-065125 (H)	40.00 - 40.25	Auto	1.0000
L30	26	(Area) CCI-65FP-065125 (H)	40.00 - 40.25	Auto	1.0000
L31	24	(Area) CCI-65FP-065125 (H)	39.75 - 40.00	Auto	1.0000
L31	25	(Area) CCI-65FP-065125 (H)	39.75 - 40.00	Auto	1.0000
L31	26	(Area) CCI-65FP-065125 (H)	39.75 - 40.00	Auto	1.0000
L32	24	(Area) CCI-65FP-065125 (H)	34.75 - 39.75	Auto	1.0000
L32	25	(Area) CCI-65FP-065125 (H)	34.75 - 39.75	Auto	1.0000
L32	26	(Area) CCI-65FP-065125 (H)	34.75 - 39.75	Auto	1.0000
L33	24	(Area) CCI-65FP-065125 (H)	29.75 - 34.75	Auto	1.0000
L33	25	(Area) CCI-65FP-065125 (H)	29.75 - 34.75	Auto	1.0000
L33	26	(Area) CCI-65FP-065125 (H)	29.75 - 34.75	Auto	1.0000
L34	24	(Area) CCI-65FP-065125 (H)	24.75 - 29.75	Auto	1.0000
L34	25	(Area) CCI-65FP-065125 (H)	24.75 - 29.75	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L34	26	(Area) CCI-65FP-065125 (H)	24.75 - 29.75	Auto	1.0000
L35	24	(Area) CCI-65FP-065125 (H)	20.50 - 24.75	Auto	1.0000
L35	25	(Area) CCI-65FP-065125 (H)	20.50 - 24.75	Auto	1.0000
L35	26	(Area) CCI-65FP-065125 (H)	20.50 - 24.75	Auto	1.0000
L36	20	(Area) CCI-65FP-085125 (H)	20.25 - 20.50	Auto	1.0000
L36	21	(Area) CCI-65FP-085125 (H)	20.25 - 20.50	Auto	1.0000
L36	22	(Area) CCI-65FP-085125 (H)	20.25 - 20.50	Auto	1.0000
L37	20	(Area) CCI-65FP-085125 (H)	20.00 - 20.25	Auto	1.0000
L37	21	(Area) CCI-65FP-085125 (H)	20.00 - 20.25	Auto	1.0000
L37	22	(Area) CCI-65FP-085125 (H)	20.00 - 20.25	Auto	1.0000
L38	20	(Area) CCI-65FP-085125 (H)	19.75 - 20.00	Auto	1.0000
L38	21	(Area) CCI-65FP-085125 (H)	19.75 - 20.00	Auto	1.0000
L38	22	(Area) CCI-65FP-085125 (H)	19.75 - 20.00	Auto	1.0000
L39	20	(Area) CCI-65FP-085125 (H)	14.75 - 19.75	Auto	1.0000
L39	21	(Area) CCI-65FP-085125 (H)	14.75 - 19.75	Auto	1.0000
L39	22	(Area) CCI-65FP-085125 (H)	14.75 - 19.75	Auto	1.0000
L40	20	(Area) CCI-65FP-085125 (H)	9.75 - 14.75	Auto	1.0000
L40	21	(Area) CCI-65FP-085125 (H)	9.75 - 14.75	Auto	1.0000
L40	22	(Area) CCI-65FP-085125 (H)	9.75 - 14.75	Auto	1.0000
L41	20	(Area) CCI-65FP-085125 (H)	4.75 - 9.75	Auto	1.0000
L41	21	(Area) CCI-65FP-085125 (H)	4.75 - 9.75	Auto	1.0000
L41	22	(Area) CCI-65FP-085125 (H)	4.75 - 9.75	Auto	1.0000
L42	20	(Area) CCI-65FP-085125 (H)	4.25 - 4.75	Auto	1.0000
L42	21	(Area) CCI-65FP-085125 (H)	4.25 - 4.75	Auto	1.0000
L42	22	(Area) CCI-65FP-085125 (H)	4.25 - 4.75	Auto	1.0000
L43	20	(Area) CCI-65FP-085125 (H)	4.00 - 4.25	Auto	1.0000
L43	21	(Area) CCI-65FP-085125 (H)	4.00 - 4.25	Auto	1.0000
L43	22	(Area) CCI-65FP-085125 (H)	4.00 - 4.25	Auto	1.0000
L44	20	(Area) CCI-65FP-085125 (H)	0.00 - 4.00	Auto	1.0000
L44	21	(Area) CCI-65FP-085125 (H)	0.00 - 4.00	Auto	1.0000
L44	22	(Area) CCI-65FP-085125 (H)	0.00 - 4.00	Auto	1.0000

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
122									
AIR6449 B41_T-MOBILE	A	From	4.00	0.0000	122.00	No Ice	5.19	2.71	0.13
w/ Mount Pipe		Centroid-Face	0.00			1/2" Ice	5.59	3.04	0.17
			0.00			1" Ice	6.02	3.38	0.23
AIR6449 B41_T-MOBILE	B	From	4.00	0.0000	122.00	No Ice	5.19	2.71	0.13
w/ Mount Pipe		Centroid-Face	0.00			1/2" Ice	5.59	3.04	0.17
			0.00			1" Ice	6.02	3.38	0.23
AIR6449 B41_T-MOBILE	C	From	4.00	0.0000	122.00	No Ice	5.19	2.71	0.13
w/ Mount Pipe		Centroid-Face	0.00			1/2" Ice	5.59	3.04	0.17
			0.00			1" Ice	6.02	3.38	0.23
APXVAALL24_43-U-NA20	A	From	4.00	0.0000	122.00	No Ice	14.69	6.87	0.18
w/ Mount Pipe		Centroid-Face	0.00			1/2" Ice	15.46	7.55	0.31
			0.00			1" Ice	16.23	8.25	0.45

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
APXVAALL24_43-U-NA20 w/ Mount Pipe	B	From Centroid-Face	4.00 0.00 0.00	0.0000	122.00	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 w/ Mount Pipe	C	From Centroid-Face	4.00 0.00 0.00	0.0000	122.00	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
VV-65A-R1_TMO w/ Mount Pipe	A	From Centroid-Face	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice 1" Ice	4.46 4.91 5.36	2.69 3.10 3.52	0.05 0.10 0.15
VV-65A-R1_TMO w/ Mount Pipe	B	From Centroid-Face	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice 1" Ice	4.46 4.91 5.36	2.69 3.10 3.52	0.05 0.10 0.15
VV-65A-R1_TMO w/ Mount Pipe	C	From Centroid-Face	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice 1" Ice	4.46 4.91 5.36	2.69 3.10 3.52	0.05 0.10 0.15
RADIO 4460 B2/B25 B66_TMO	A	From Centroid-Face	4.00 0.00 0.00	0.0000	122.00	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 Centroid-Face	4.00 0.00 0.00	0.0000	122.00	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 Centroid-Face	4.00 0.00 0.00	0.0000	122.00	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 4449 B71/B85A	A	From Centroid-Face	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.31 1.46 1.61	0.07 0.09 0.11
RADIO 4449 B71/B85A	B	From Centroid-Face	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.31 1.46 1.61	0.07 0.09 0.11
RADIO 4449 B71/B85A	C	From Centroid-Face	4.00 0.00 0.00	0.0000	122.00	No Ice 1/2" Ice 1" Ice	1.64 1.80 1.97	1.31 1.46 1.61	0.07 0.09 0.11
Platform Mount [LP 405-1_HR-1] **112**	C	None		0.0000	122.00	No Ice 1/2" Ice 1" Ice	25.33 33.79 42.16	25.33 33.79 42.16	2.06 2.63 3.36
MT6407-77A w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	4.91 5.26 5.61	2.68 3.14 3.62	0.10 0.14 0.18
MT6407-77A w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	4.91 5.26 5.61	2.68 3.14 3.62	0.10 0.14 0.18
MT6407-77A w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	4.91 5.26 5.61	2.68 3.14 3.62	0.10 0.14 0.18
(2) MX06FRO660-03 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	6.54 7.06 7.60	5.55 6.05 6.57	0.10 0.18 0.28
(2) MX06FRO660-03 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	6.54 7.06 7.60	5.55 6.05 6.57	0.10 0.18 0.28
(2) MX06FRO660-03 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	6.54 7.06 7.60	5.55 6.05 6.57	0.10 0.18 0.28
HBXX-6517DS-A2M w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00	0.0000	112.00	No Ice 1/2" Ice	7.97 8.73	5.99 6.72	0.08 0.14

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		g	1.00			1" Ice	9.51	7.47	0.21
HBXX-6517DS-A2M w/ Mount Pipe	B	From Centroid-Le g	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	7.97 8.73 9.51	5.99 6.72 7.47	0.08 0.14 0.21
HBXX-6517DS-A2M w/ Mount Pipe	C	From Centroid-Le g	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	7.97 8.73 9.51	5.99 6.72 7.47	0.08 0.14 0.21
RFV01U-D1A	A	From Centroid-Le g	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RFV01U-D1A	B	From Centroid-Le g	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RFV01U-D1A	C	From Centroid-Le g	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RxxDC-3315-PF-48	A	From Centroid-Le g	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	3.92 4.18 4.45	2.61 2.83 3.05	0.03 0.06 0.10
RxxDC-3315-PF-48	B	From Centroid-Le g	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	3.92 4.18 4.45	2.61 2.83 3.05	0.03 0.06 0.10
RFV01U-D2A	A	From Centroid-Le g	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
RFV01U-D2A	B	From Centroid-Le g	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
RFV01U-D2A	C	From Centroid-Le g	4.00 0.00 1.00	0.0000	112.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
Platform Mount [LP 303-1]	C	None		0.0000	112.00	No Ice 1/2" Ice 1" Ice	14.69 18.01 21.34	14.69 18.01 21.34	1.25 1.57 1.94
100									
7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	5.75 6.18 6.61	4.25 5.01 5.71	0.06 0.10 0.16
7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	5.75 6.18 6.61	4.25 5.01 5.71	0.06 0.10 0.16
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	9.22 9.98 10.76	6.25 6.96 7.70	0.07 0.14 0.22
(2) 80010965 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	12.26 13.03 13.80	5.79 6.47 7.17	0.14 0.23 0.33
(2) 80010964 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	8.61 9.18 9.77	4.10 4.59 5.10	0.12 0.19 0.26
(2) 80010964 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	8.61 9.18 9.77	4.10 4.59 5.10	0.12 0.19 0.26
(2) SBNHH-1D65A w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice 1" Ice	3.04 3.34 3.65	2.45 2.75 3.05	0.05 0.10 0.16
SBNHH-1D65A w/ Mount	C	From Leg	4.00	0.0000	100.00	No Ice	3.04	2.45	0.05

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
Pipe			0.00			1/2" Ice	3.34	2.75	0.10
			0.00			1" Ice	3.65	3.05	0.16
(2) LGP21401	A	From Leg	4.00	0.0000	100.00	No Ice	1.10	0.21	0.01
			0.00			1/2" Ice	1.24	0.27	0.02
			0.00			1" Ice	1.38	0.35	0.03
(2) LGP21401	B	From Leg	4.00	0.0000	100.00	No Ice	1.10	0.21	0.01
			0.00			1/2" Ice	1.24	0.27	0.02
			0.00			1" Ice	1.38	0.35	0.03
(2) LGP21401	C	From Leg	4.00	0.0000	100.00	No Ice	1.10	0.21	0.01
			0.00			1/2" Ice	1.24	0.27	0.02
			0.00			1" Ice	1.38	0.35	0.03
RRUS 32	A	From Leg	4.00	0.0000	100.00	No Ice	2.86	1.78	0.06
			0.00			1/2" Ice	3.08	1.97	0.08
			0.00			1" Ice	3.32	2.17	0.10
RRUS 32	B	From Leg	4.00	0.0000	100.00	No Ice	2.86	1.78	0.06
			0.00			1/2" Ice	3.08	1.97	0.08
			0.00			1" Ice	3.32	2.17	0.10
RRUS 32	C	From Leg	4.00	0.0000	100.00	No Ice	2.86	1.78	0.06
			0.00			1/2" Ice	3.08	1.97	0.08
			0.00			1" Ice	3.32	2.17	0.10
RRUS 4449 B5/B12	A	From Leg	4.00	0.0000	100.00	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			0.00			1" Ice	2.33	1.73	0.11
RRUS 4449 B5/B12	B	From Leg	4.00	0.0000	100.00	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			0.00			1" Ice	2.33	1.73	0.11
RRUS 4449 B5/B12	C	From Leg	4.00	0.0000	100.00	No Ice	1.97	1.41	0.07
			0.00			1/2" Ice	2.14	1.56	0.09
			0.00			1" Ice	2.33	1.73	0.11
RRUS 8843 B2/B66A	A	From Leg	4.00	0.0000	100.00	No Ice	1.64	1.35	0.07
			0.00			1/2" Ice	1.80	1.50	0.09
			0.00			1" Ice	1.97	1.65	0.11
RRUS 8843 B2/B66A	B	From Leg	4.00	0.0000	100.00	No Ice	1.64	1.35	0.07
			0.00			1/2" Ice	1.80	1.50	0.09
			0.00			1" Ice	1.97	1.65	0.11
RRUS 8843 B2/B66A	C	From Leg	4.00	0.0000	100.00	No Ice	1.64	1.35	0.07
			0.00			1/2" Ice	1.80	1.50	0.09
			0.00			1" Ice	1.97	1.65	0.11
(2) DC6-48-60-18-8F	A	From Leg	4.00	0.0000	100.00	No Ice	1.21	1.21	0.03
			0.00			1/2" Ice	1.89	1.89	0.05
			0.00			1" Ice	2.11	2.11	0.08
DC6-48-60-18-8F	B	From Leg	4.00	0.0000	100.00	No Ice	1.21	1.21	0.03
			0.00			1/2" Ice	1.89	1.89	0.05
			0.00			1" Ice	2.11	2.11	0.08
2.4" Dia x 6-ft Pipe	A	From Leg	2.00	0.0000	100.00	No Ice	1.43	1.43	0.02
			0.00			1/2" Ice	1.93	1.93	0.03
			0.00			1" Ice	2.30	2.30	0.05
2.4" Dia x 6-ft Pipe	B	From Leg	2.00	0.0000	100.00	No Ice	1.43	1.43	0.02
			0.00			1/2" Ice	1.93	1.93	0.03
			0.00			1" Ice	2.30	2.30	0.05
2.4" Dia x 6-ft Pipe	C	From Leg	2.00	0.0000	100.00	No Ice	1.43	1.43	0.02
			0.00			1/2" Ice	1.93	1.93	0.03
			0.00			1" Ice	2.30	2.30	0.05
T-Arm Mount [TA 602-3]	C	None		0.0000	100.00	No Ice	13.40	13.40	0.77
						1/2" Ice	16.44	16.44	1.00
						1" Ice	19.70	19.70	1.29

90

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
NNVV-65B-R4 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	7.55 8.04 8.53	4.23 4.67 5.12	0.11 0.20 0.30
NNVV-65B-R4 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	7.55 8.04 8.53	4.23 4.67 5.12	0.11 0.20 0.30
NNVV-65B-R4 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	7.55 8.04 8.53	4.23 4.67 5.12	0.11 0.20 0.30
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	4.09 4.48 4.88	2.86 3.23 3.61	0.08 0.13 0.19
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	4.09 4.48 4.88	2.86 3.23 3.61	0.08 0.13 0.19
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	4.09 4.48 4.88	2.86 3.23 3.61	0.08 0.13 0.19
PCS 1900MHZ 4X45W-65MHZ	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	2.32 2.53 2.74	2.24 2.44 2.65	0.06 0.08 0.11
(2) PCS 1900MHZ 4X45W-65MHZ	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	2.32 2.53 2.74	2.24 2.44 2.65	0.06 0.08 0.11
(2) RRH2X50-800	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	2.13 2.32 2.51	1.77 1.95 2.13	0.05 0.07 0.10
(2) RRH2X50-800	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	2.13 2.32 2.51	1.77 1.95 2.13	0.05 0.07 0.10
(2) RRH2X50-800	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	2.13 2.32 2.51	1.77 1.95 2.13	0.05 0.07 0.10
FZHN	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	2.03 2.21 2.39	0.62 0.73 0.84	0.05 0.06 0.08
FZHN	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	2.03 2.21 2.39	0.62 0.73 0.84	0.05 0.06 0.08
FZHN	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	2.03 2.21 2.39	0.62 0.73 0.84	0.05 0.06 0.08
(2) AIRPAIR ODU	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	1.01 1.14 1.28	0.46 0.56 0.67	0.01 0.02 0.03
AIRPAIR ODU	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	1.01 1.14 1.28	0.46 0.56 0.67	0.01 0.02 0.03
(2) 2.4" Dia x 6-ft Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	1.43 1.93 2.30	1.43 1.93 2.30	0.02 0.03 0.05
(2) 2.4" Dia x 6-ft Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	1.43 1.93 2.30	1.43 1.93 2.30	0.02 0.03 0.05
(2) 2.4" Dia x 6-ft Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	1.43 1.93 2.30	1.43 1.93 2.30	0.02 0.03 0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Platform Mount [LP 303-1_KCKR-HR-1]	C	None		0.0000	90.00	No Ice	28.31	28.31	1.77
						1/2" Ice	35.69	35.69	2.30
						1" Ice	43.11	43.11	2.94
81									
MX08FRO665-21 w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
TA08025-B604	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B605	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
RDIDC-9181-PF-48	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	2.01 2.19 2.37	1.17 1.31 1.46	0.02 0.04 0.06
(2) 2.4" Dia x 8-ft Mount Pipe	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 2.4" Dia x 8-ft Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 2.4" Dia x 8-ft Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	81.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
Commscope MC-PK8-DSH	C	None		0.0000	81.00	No Ice 1/2" Ice 1" Ice	34.24 62.95 91.66	34.24 62.95 91.66	1.75 2.10 2.45
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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 ft²	Weight K
90											
A-ANT-18G-2-C	B	Paraboloid w/Shroud (HP)	From Centroid -Leg	4.00 0.00 -2.00	90.0000		90.00	2.17	No Ice 1/2" Ice 1" Ice	3.72 4.01 4.30	0.03 0.05 0.07
A-ANT-18G-2-C	C	Paraboloid w/Shroud (HP)	From Centroid -Leg	4.00 0.00 -2.00	30.0000		90.00	2.17	No Ice 1/2" Ice 1" Ice	3.72 4.01 4.30	0.03 0.05 0.07
*****											
**											

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	125 - 120 (1)	P24x0.375	5.00	0.00	0.0	27.8325	-4.90	1052.07	0.005
L2	120 - 115 (2)	P24x0.375	5.00	0.00	0.0	27.8325	-5.52	1052.07	0.005
L3	115 - 110 (3)	P24x0.375	5.00	0.00	0.0	27.8325	-9.54	1052.07	0.009
L4	110 - 105 (4)	P24x0.375	5.00	0.00	0.0	27.8325	-10.18	1052.07	0.010
L5	105 - 100 (5)	P24x0.375	5.00	0.00	0.0	27.8325	-10.83	1052.07	0.010
L6	100 - 95 (6)	P30x0.375	5.00	0.00	0.0	34.9011	-14.79	1311.06	0.011
L7	95 - 90 (7)	P30x0.375	5.00	0.00	0.0	34.9011	-15.65	1311.06	0.012
L8	90 - 85 (8)	P30x0.375	5.00	0.00	0.0	34.9011	-20.28	1311.06	0.015
L9	85 - 84.75 (9)	P30x0.54375	0.25	0.00	0.0	50.3184	-20.34	1902.03	0.011
L10	84.75 - 80.5 (10)	P30x0.54375	4.25	0.00	0.0	50.3184	-24.52	1902.03	0.013
L11	80.5 - 80.25 (11)	P30x0.6125	0.25	0.00	0.0	56.5482	-24.58	2137.52	0.011
L12	80.25 - 80 (12)	P30x0.6125	0.25	0.00	0.0	56.5482	-24.64	2137.52	0.012
L13	80 - 79.75 (13)	P36x0.5125	0.25	0.00	0.0	57.1372	-24.70	2159.79	0.011
L14	79.75 - 79 (14)	P36x0.5125	0.75	0.00	0.0	57.1372	-24.90	2159.79	0.012
L15	79 - 78.75 (15)	P36x0.375	0.25	0.00	0.0	41.9697	-24.96	1490.10	0.017
L16	78.75 - 73.75 (16)	P36x0.375	5.00	0.00	0.0	41.9697	-26.02	1490.10	0.017
L17	73.75 - 73.5 (17)	P36x0.375	0.25	0.00	0.0	41.9697	-26.08	1490.10	0.017
L18	73.5 - 73.25 (18)	P36x0.5625	0.25	0.00	0.0	62.6232	-26.15	2367.16	0.011
L19	73.25 - 68.25 (19)	P36x0.5625	5.00	0.00	0.0	62.6232	-27.56	2367.16	0.012
L20	68.25 - 63.25 (20)	P36x0.5625	5.00	0.00	0.0	62.6232	-28.99	2367.16	0.012
L21	63.25 - 60.5 (21)	P36x0.5625	2.75	0.00	0.0	62.6232	-29.77	2367.16	0.013
L22	60.5 - 60.25 (22)	P36x0.625	0.25	0.00	0.0	69.4586	-29.85	2625.54	0.011
L23	60.25 - 60 (23)	P36x0.625	0.25	0.00	0.0	69.4586	-29.92	2625.54	0.011
L24	60 - 59.75 (24)	P42x0.525	0.25	0.00	0.0	68.4062	-30.00	2569.67	0.012
L25	59.75 - 54.75 (25)	P42x0.525	5.00	0.00	0.0	68.4062	-31.57	2569.67	0.012
L26	54.75 - 49.75 (26)	P42x0.525	5.00	0.00	0.0	68.4062	-33.15	2569.67	0.013
L27	49.75 - 44.75 (27)	P42x0.525	5.00	0.00	0.0	68.4062	-34.74	2569.67	0.014

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L28	44.75 - 40.5 (28)	P42x0.525	4.25	0.00	0.0	68.4062	-36.09	2569.67	0.014
L29	40.5 - 40.25 (29)	P42x0.65	0.25	0.00	0.0	84.4382	-36.18	3191.76	0.011
L30	40.25 - 40 (30)	P42x0.65	0.25	0.00	0.0	84.4382	-36.26	3191.76	0.011
L31	40 - 39.75 (31)	P48x0.55625	0.25	0.00	0.0	82.9085	-36.35	3039.70	0.012
L32	39.75 - 34.75 (32)	P48x0.55625	5.00	0.00	0.0	82.9085	-38.20	3039.70	0.013
L33	34.75 - 29.75 (33)	P48x0.55625	5.00	0.00	0.0	82.9085	-40.06	3039.70	0.013
L34	29.75 - 24.75 (34)	P48x0.55625	5.00	0.00	0.0	82.9085	-41.92	3039.70	0.014
L35	24.75 - 20.5 (35)	P48x0.55625	4.25	0.00	0.0	82.9085	-43.50	3039.70	0.014
L36	20.5 - 20.25 (36)	P48x0.675	0.25	0.00	0.0	100.3560	-43.60	3793.47	0.011
L37	20.25 - 20 (37)	P48x0.675	0.25	0.00	0.0	100.3560	-43.70	3793.47	0.012
L38	20 - 19.75 (38)	P54x0.5875	0.25	0.00	0.0	98.5827	-43.81	3545.23	0.012
L39	19.75 - 14.75 (39)	P54x0.5875	5.00	0.00	0.0	98.5827	-45.96	3545.23	0.013
L40	14.75 - 9.75 (40)	P54x0.5875	5.00	0.00	0.0	98.5827	-48.11	3545.23	0.014
L41	9.75 - 4.75 (41)	P54x0.5875	5.00	0.00	0.0	98.5827	-50.27	3545.23	0.014
L42	4.75 - 4.25 (42)	P54x0.5875	0.50	0.00	0.0	98.5827	-50.48	3545.23	0.014
L43	4.25 - 4 (43)	P54x0.5125	0.25	0.00	0.0	86.1184	-50.59	2978.68	0.017
L44	4 - 0 (44)	P54x0.5125	4.00	0.00	0.0	86.1184	-52.30	2978.68	0.018

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	125 - 120 (1)	P24x0.375	7.31	623.72	0.012	0.00	623.72	0.000
L2	120 - 115 (2)	P24x0.375	25.88	623.72	0.041	0.00	623.72	0.000
L3	115 - 110 (3)	P24x0.375	54.95	623.72	0.088	0.00	623.72	0.000
L4	110 - 105 (4)	P24x0.375	92.45	623.72	0.148	0.00	623.72	0.000
L5	105 - 100 (5)	P24x0.375	131.17	623.72	0.210	0.00	623.72	0.000
L6	100 - 95 (6)	P30x0.375	189.80	947.86	0.200	0.00	947.86	0.000
L7	95 - 90 (7)	P30x0.375	249.25	947.86	0.263	0.00	947.86	0.000
L8	90 - 85 (8)	P30x0.375	324.96	947.86	0.343	0.00	947.86	0.000
L9	85 - 84.75 (9)	P30x0.54375	328.82	1443.46	0.228	0.00	1443.46	0.000
L10	84.75 - 80.5 (10)	P30x0.54375	396.15	1443.46	0.274	0.00	1443.46	0.000
L11	80.5 - 80.25 (11)	P30x0.6125	400.67	1666.50	0.240	0.00	1666.50	0.000
L12	80.25 - 80 (12)	P30x0.6125	405.19	1666.50	0.243	0.00	1666.50	0.000
L13	80 - 79.75 (13)	P36x0.5125	409.72	1894.72	0.216	0.00	1894.72	0.000
L14	79.75 - 79 (14)	P36x0.5125	423.32	1894.72	0.223	0.00	1894.72	0.000
L15	79 - 78.75 (15)	P36x0.375	427.86	1338.81	0.320	0.00	1338.81	0.000
L16	78.75 - 73.75 (16)	P36x0.375	519.47	1338.81	0.388	0.00	1338.81	0.000
L17	73.75 - 73.5 (17)	P36x0.375	524.08	1338.81	0.391	0.00	1338.81	0.000
L18	73.5 - 73.25 (18)	P36x0.5625	528.71	2105.04	0.251	0.00	2105.04	0.000
L19	73.25 - 68.25 (19)	P36x0.5625	622.07	2105.04	0.296	0.00	2105.04	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L20	68.25 - 63.25 (20)	P36x0.5625	719.27	2105.04	0.342	0.00	2105.04	0.000
L21	63.25 - 60.5 (21)	P36x0.5625	773.95	2105.04	0.368	0.00	2105.04	0.000
L22	60.5 - 60.25 (22)	P36x0.625	778.97	2373.92	0.328	0.00	2373.92	0.000
L23	60.25 - 60 (23)	P36x0.625	783.99	2373.92	0.330	0.00	2373.92	0.000
L24	60 - 59.75 (24)	P42x0.525	789.01	2600.93	0.303	0.00	2600.93	0.000
L25	59.75 - 54.75 (25)	P42x0.525	890.37	2600.93	0.342	0.00	2600.93	0.000
L26	54.75 - 49.75 (26)	P42x0.525	993.26	2600.93	0.382	0.00	2600.93	0.000
L27	49.75 - 44.75 (27)	P42x0.525	1097.59	2600.93	0.422	0.00	2600.93	0.000
L28	44.75 - 40.5 (28)	P42x0.525	1187.33	2600.93	0.457	0.00	2600.93	0.000
L29	40.5 - 40.25 (29)	P42x0.65	1192.64	3306.63	0.361	0.00	3306.63	0.000
L30	40.25 - 40 (30)	P42x0.65	1197.96	3306.63	0.362	0.00	3306.63	0.000
L31	40 - 39.75 (31)	P48x0.55625	1203.28	3569.34	0.337	0.00	3569.34	0.000
L32	39.75 - 34.75 (32)	P48x0.55625	1310.54	3569.34	0.367	0.00	3569.34	0.000
L33	34.75 - 29.75 (33)	P48x0.55625	1419.28	3569.34	0.398	0.00	3569.34	0.000
L34	29.75 - 24.75 (34)	P48x0.55625	1529.40	3569.34	0.428	0.00	3569.34	0.000
L35	24.75 - 20.5 (35)	P48x0.55625	1624.03	3569.34	0.455	0.00	3569.34	0.000
L36	20.5 - 20.25 (36)	P48x0.675	1629.63	4429.59	0.368	0.00	4429.59	0.000
L37	20.25 - 20 (37)	P48x0.675	1635.24	4429.59	0.369	0.00	4429.59	0.000
L38	20 - 19.75 (38)	P54x0.5875	1640.85	4739.87	0.346	0.00	4739.87	0.000
L39	19.75 - 14.75 (39)	P54x0.5875	1753.89	4739.87	0.370	0.00	4739.87	0.000
L40	14.75 - 9.75 (40)	P54x0.5875	1868.47	4739.87	0.394	0.00	4739.87	0.000
L41	9.75 - 4.75 (41)	P54x0.5875	1984.56	4739.87	0.419	0.00	4739.87	0.000
L42	4.75 - 4.25 (42)	P54x0.5875	1996.25	4739.87	0.421	0.00	4739.87	0.000
L43	4.25 - 4 (43)	P54x0.5125	2002.10	4080.77	0.491	0.00	4080.77	0.000
L44	4 - 0 (44)	P54x0.5125	2096.16	4080.77	0.514	0.00	4080.77	0.000

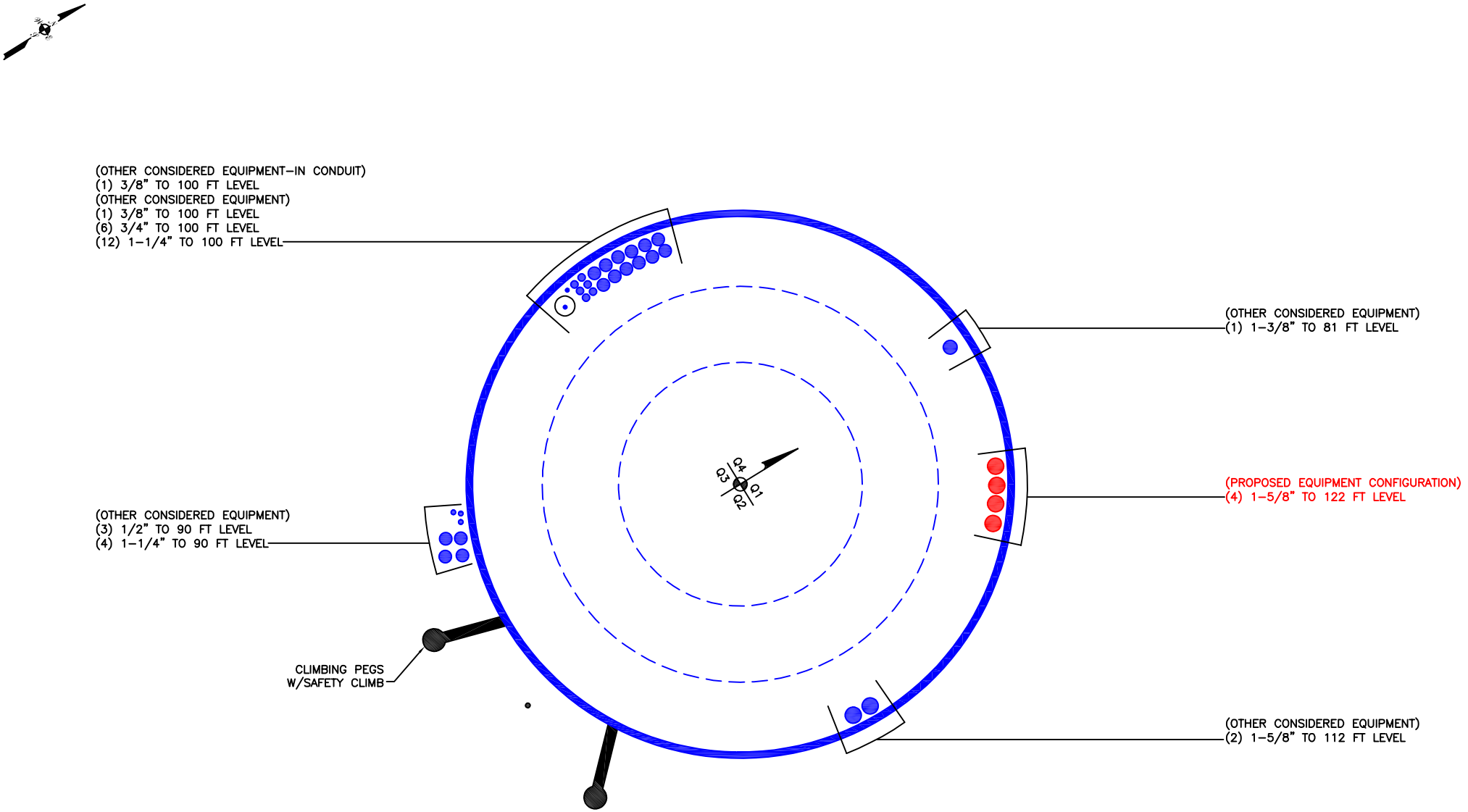
Pole Shear Design Data

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	125 - 120 (1)	P24x0.375	3.59	315.62	0.011	0.00	655.57	0.000
L2	120 - 115 (2)	P24x0.375	3.84	315.62	0.012	0.00	655.57	0.000
L3	115 - 110 (3)	P24x0.375	7.38	315.62	0.023	0.28	655.57	0.000
L4	110 - 105 (4)	P24x0.375	7.63	315.62	0.024	0.33	655.57	0.000
L5	105 - 100 (5)	P24x0.375	7.86	315.62	0.025	0.33	655.57	0.000
L6	100 - 95 (6)	P30x0.375	11.75	395.78	0.030	0.21	994.73	0.000
L7	95 - 90 (7)	P30x0.375	12.03	395.78	0.030	0.21	994.73	0.000
L8	90 - 85 (8)	P30x0.375	15.42	395.78	0.039	1.03	994.73	0.001
L9	85 - 84.75 (9)	P30x0.54375	15.43	570.61	0.027	1.03	1477.73	0.001
L10	84.75 - 80.5 (10)	P30x0.54375	18.09	570.61	0.032	1.03	1477.73	0.001
L11	80.5 - 80.25	P30x0.6125	18.10	641.26	0.028	1.03	1656.82	0.001

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 $\frac{T_u}{\phi T_n}$
	(11)							
L12	80.25 - 80 (12)	P30x0.6125	18.11	641.26	0.028	1.03	1656.82	0.001
L13	80 - 79.75 (13)	P36x0.5125	18.12	647.94	0.028	1.03	2021.57	0.001
L14	79.75 - 79 (14)	P36x0.5125	18.17	647.94	0.028	1.03	2021.57	0.001
L15	79 - 78.75 (15)	P36x0.375	18.19	454.19	0.040	1.03	1094.28	0.001
L16	78.75 - 73.75 (16)	P36x0.375	18.48	454.19	0.041	1.03	1094.28	0.001
L17	73.75 - 73.5 (17)	P36x0.375	18.49	454.19	0.041	1.03	1094.28	0.001
L18	73.5 - 73.25 (18)	P36x0.5625	18.50	710.15	0.026	1.03	2212.54	0.000
L19	73.25 - 68.25 (19)	P36x0.5625	19.14	710.15	0.027	0.93	2212.54	0.000
L20	68.25 - 63.25 (20)	P36x0.5625	19.72	710.15	0.028	0.93	2212.54	0.000
L21	63.25 - 60.5 (21)	P36x0.5625	20.03	710.15	0.028	0.93	2212.54	0.000
L22	60.5 - 60.25 (22)	P36x0.625	20.06	787.66	0.025	0.93	2449.72	0.000
L23	60.25 - 60 (23)	P36x0.625	20.08	787.66	0.025	0.93	2449.72	0.000
L24	60 - 59.75 (24)	P42x0.525	20.10	775.73	0.026	0.93	2800.23	0.000
L25	59.75 - 54.75 (25)	P42x0.525	20.42	775.73	0.026	0.93	2800.23	0.000
L26	54.75 - 49.75 (26)	P42x0.525	20.72	775.73	0.027	0.93	2800.23	0.000
L27	49.75 - 44.75 (27)	P42x0.525	21.00	775.73	0.027	0.93	2800.23	0.000
L28	44.75 - 40.5 (28)	P42x0.525	21.22	775.73	0.027	0.93	2800.23	0.000
L29	40.5 - 40.25 (29)	P42x0.65	21.24	957.53	0.022	0.93	3481.03	0.000
L30	40.25 - 40 (30)	P42x0.65	21.27	957.53	0.022	0.93	3481.03	0.000
L31	40 - 39.75 (31)	P48x0.55625	21.29	940.18	0.023	0.93	3775.58	0.000
L32	39.75 - 34.75 (32)	P48x0.55625	21.60	940.18	0.023	0.93	3775.58	0.000
L33	34.75 - 29.75 (33)	P48x0.55625	21.88	940.18	0.023	0.93	3775.58	0.000
L34	29.75 - 24.75 (34)	P48x0.55625	22.15	940.18	0.024	0.93	3775.58	0.000
L35	24.75 - 20.5 (35)	P48x0.55625	22.37	940.18	0.024	0.93	3775.58	0.000
L36	20.5 - 20.25 (36)	P48x0.675	22.39	1138.04	0.020	0.93	4735.08	0.000
L37	20.25 - 20 (37)	P48x0.675	22.42	1138.04	0.020	0.93	4735.08	0.000
L38	20 - 19.75 (38)	P54x0.5875	22.44	1117.93	0.020	0.93	4954.02	0.000
L39	19.75 - 14.75 (39)	P54x0.5875	22.75	1117.93	0.020	0.93	4954.02	0.000
L40	14.75 - 9.75 (40)	P54x0.5875	23.06	1117.93	0.021	0.93	4954.02	0.000
L41	9.75 - 4.75 (41)	P54x0.5875	23.35	1117.93	0.021	0.93	4954.02	0.000
L42	4.75 - 4.25 (42)	P54x0.5875	23.38	1117.93	0.021	0.93	4954.02	0.000
L43	4.25 - 4 (43)	P54x0.5125	23.39	976.58	0.024	0.93	3653.59	0.000
L44	4 - 0 (44)	P54x0.5125	23.62	976.58	0.024	0.93	3653.59	0.000

APPENDIX B

BASE LEVEL DRAWING


(OTHER CONSIDERED EQUIPMENT–IN CONDUIT)
(1) 3/8" TO 100 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 100 FT LEVEL
(6) 3/4" TO 100 FT LEVEL
(12) 1–1/4" TO 100 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1–3/8" TO 81 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION)
(4) 1–5/8" TO 122 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(3) 1/2" TO 90 FT LEVEL
(4) 1–1/4" TO 90 FT LEVEL
CLIMBING PEGS
W/SAFETY CLIMB
(OTHER CONSIDERED EQUIPMENT)
(2) 1–5/8" TO 112 FT LEVEL
Q4
Q3
Q1
Q2

APPENDIX C

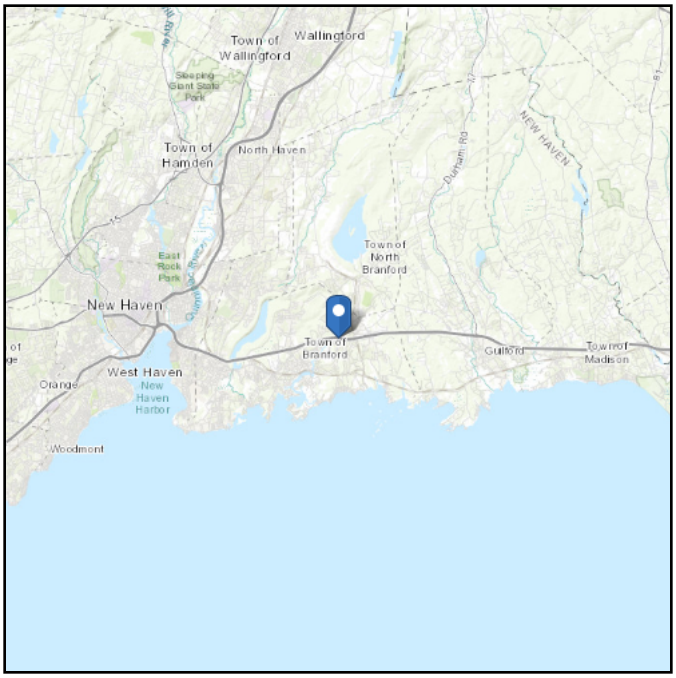
ADDITIONAL CALCULATIONS

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: 56.16 ft (NAVD 88)
Latitude: 41.293933
Longitude: -72.785706



Wind

Results:

Wind Speed:	122 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	93 Vmph
100-year MRI	99 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:	Mon Oct 25 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.

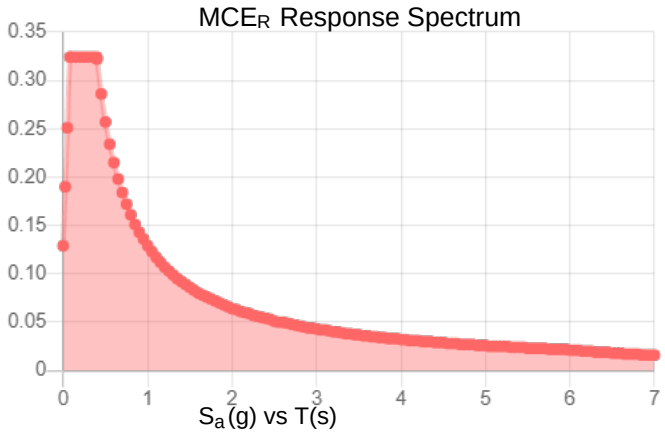
Seismic

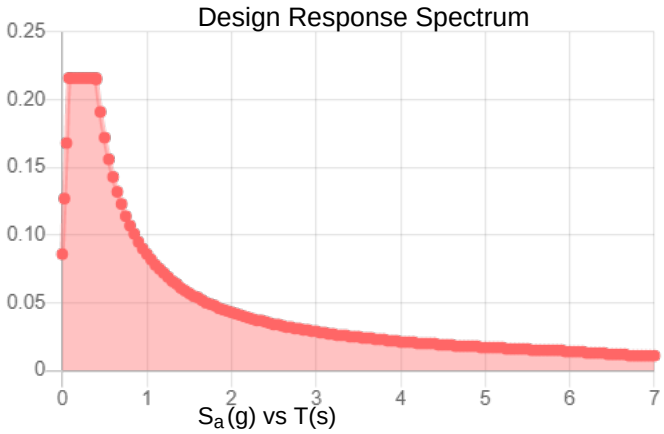
Site Soil Class: D - Default (see Section 11.4.3)

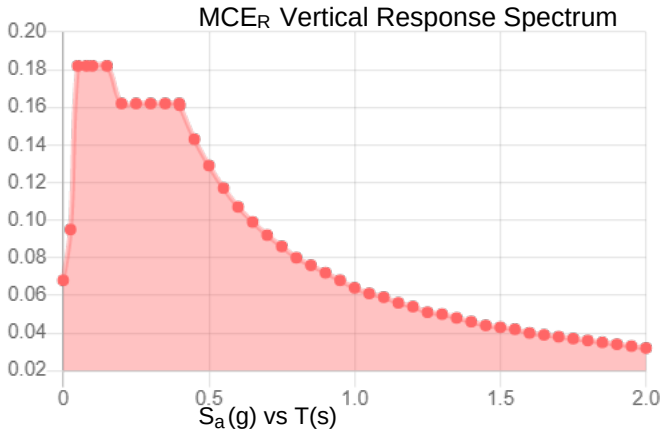
Results:

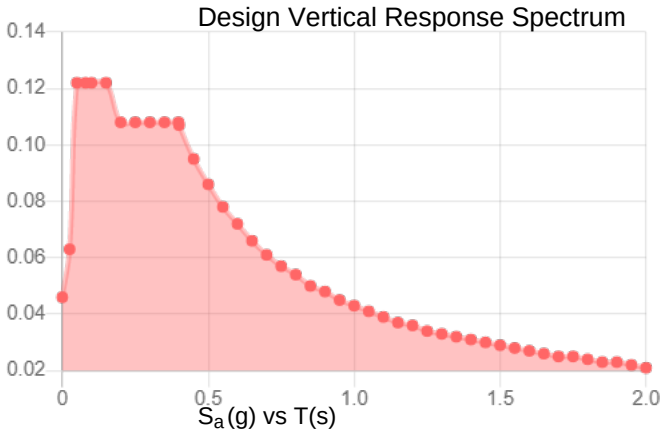
S_S :	0.202	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.113
F_v :	2.4	PGA_M :	0.178
S_{MS} :	0.324	F_{PGA} :	1.574
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.216	C_v :	0.704

Seismic Design Category B









Data Accessed: Mon Oct 25 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:	Mon Oct 25 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.

CCIpole

per TIA-222- H

Site BU: 822765

Work Order: 2034251

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	125	25		0	24	24	0.375		A53-B-42
2	100	20		0	30.00	30	0.375		A53-B-42
3	80	20		0	36.00	36	0.375		A53-B-42
4	60	20		0	42.00	42	0.375		A53-B-42
5	40	20		0	48.00	48	0.375		A53-B-42
6	20	20		0	54.00	54	0.375		A53-B-42

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	4.25	plate	(TS) 1.25x6.50 (65 ksi)	3						139				214								349
2	0	4.25	plate	TS) 1.25x1.6875 (65 ks	8	19			64		109		154		199	215				289		334	
3	4.25	20	plate	-CFP-085125 - Lower P	3	0					120						240						
4	20	20.5	plate	CCI-CFP-085125 - Offse	3	0					120						240						
5	20.5	40	plate	CFP-065125 - Lower P	3	0					120						240						
6	40	40.5	plate	CCI-CFP-065125 - Offse	3	0					120						240						
7	40.5	60	plate	FP-060100-25 - Lower	3	0					120						240						
8	60	60.5	plate	I-CFP-060100-25 - Off	3	0					120						240						
9	60.5	73.5	plate	CCI-CFP-060100-15	3	0					120						240						
10	79	80	plate	Stiffener 4.5x1 - Lowe	3	0					120						240						
11	80	80.5	plate	dge Stiffener 4.5x1 - Of	3	0					120						240						
12	80.5	85	plate	Stiffener 4.5x1 - Uppe	3	0					120						240						
13																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in2)	Bolt Hole Size (in)	Reinforcement Material
1	1.25	5.75	7.1875	3.625	Welded	0	Welded	n/a	0.750	7.188	0.0000	A572-65
2	1.25	0.9375	1.17188	1.21875	Welded	0	Welded	n/a	0.750	1.172	0.0000	A572-65
3	8.5	1.25	10.625	0.625	PC 8.8 - M20 (100)	45	None	n/a	24.000	9.063	1.1875	A572-65
4	8.5	1.25	10.625	3.625	None	0	None	n/a	24.000	9.063	1.1875	A572-65
5	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	90	None	n/a	16.000	6.563	1.1875	A572-65
6	6.5	1.25	8.125	3.625	None	0	None	n/a	16.000	6.563	1.1875	A572-65
7	6	1	6	0.5	PC 8.8 - M20 (100)	66	None	n/a	16.000	4.750	1.1875	A572-65
8	6	1	6	3.5	None	0	None	n/a	16.000	4.750	1.1875	A572-65
9	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	24.000	4.750	1.1875	A572-65
10	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	None	n/a	16.000	3.250	1.1875	A572-65
11	4.5	1	4.5	3.5	None	0	None	n/a	16.000	3.250	1.1875	A572-65
12	4.5	1	4.5	0.5	None	0	PC 8.8 - M20 (100)	18.000	16.000	3.250	1.1875	A572-65

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
CCI-CFP-060100-15	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	8	N	3	3	-	-	-	-	-	-	-	-	-
Bridge Stiffener 4.5x1 - Lower Plate	Top	0	0	0	0	-	-	-	-	-	-	-	-	-
	Bottom	6	N	3	3	-	-	-	-	-	-	-	-	-
(TS) 1.25x6.50 (65 ksi)	Top	-	-	-	-	80	None	-	-	-	-	30	0.375	-
	Bottom	0	-	0	0	80	PJP Groove	11.5	0.5	45	0	30	0.375	-
(TS) 1.25x1.6875 (65 ksi)	Top	-	-	-	-	80	None	-	-	-	-	60	0.375	-
	Bottom	0	-	0	0	80	PJP Groove	1.875	0.5625	45	0.5625	6	0.375	-
CCI-CFP-085125 - Lower Plate	Top	0	0	0	0	-	-	-	-	-	-	-	-	-
	Bottom	15	N	3	3	-	-	-	-	-	-	-	-	-
CCI-CFP-085125 - Offset	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	0	-	0	0	0	0	0	-	-	0	-	-	-
CCI-CFP-065125 - Lower Plate	Top	0	0	0	0	-	-	-	-	-	-	-	-	-
	Bottom	30	N	3	3	-	-	-	-	-	-	-	-	-
CCI-CFP-065125 - Offset	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	0	-	0	0	0	0	0	-	-	0	-	-	-
CCI-CFP-060100-25 - Lower Plate	Top	0	0	0	0	-	-	-	-	-	-	-	-	-
	Bottom	22	N	3	3	-	-	-	-	-	-	-	-	-
CCI-CFP-060100-25 - Offset	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	0	-	0	0	0	0	0	-	-	0	-	-	-
CCI-CFP-060100-15	Top	8	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	8	N	3	3	-	-	-	-	-	-	-	-	-
Bridge Stiffener 4.5x1 - Offset	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	0	-	0	0	0	0	0	-	-	0	-	-	-
Bridge Stiffener 4.5x1 - Upper Plate	Top	6	N	3	3	-	-	-	-	-	-	-	-	-
	Bottom	0	-	0	0	0	0	0	-	-	0	-	-	-

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	125 - 120	5		0	24.000	24.000	0.375	A53-B-42	1.000
2	120 - 115	5		0	24.000	24.000	0.375	A53-B-42	1.000
3	115 - 110	5		0	24.000	24.000	0.375	A53-B-42	1.000
4	110 - 105	5		0	24.000	24.000	0.375	A53-B-42	1.000
5	105 - 100	5	0	0	24.000	24.000	0.375	A53-B-42	1.000
6	100 - 95	5		0	30.000	30.000	0.375	A53-B-42	1.000
7	95 - 90	5		0	30.000	30.000	0.375	A53-B-42	1.000
8	90 - 85	5		0	30.000	30.000	0.375	A53-B-42	1.000
9	85 - 84.75	0.25		0	30.000	30.000	0.54375	A53-B-42	0.962
10	84.75 - 80.5	4.25		0	30.000	30.000	0.54375	A53-B-42	0.962
11	80.5 - 80.25	0.25		0	30.000	30.000	0.6125	A53-B-42	0.856
12	80.25 - 80	0.25	0	0	30.000	30.000	0.6125	A53-B-42	0.856
13	80 - 79.75	0.25		0	36.000	36.000	0.5125	A53-B-42	0.971
14	79.75 - 79	0.75		0	36.000	36.000	0.5125	A53-B-42	0.971
15	79 - 78.75	0.25		0	36.000	36.000	0.375	A53-B-42	1.000
16	78.75 - 73.75	5		0	36.000	36.000	0.375	A53-B-42	1.000
17	73.75 - 73.5	0.25		0	36.000	36.000	0.375	A53-B-42	1.000
18	73.5 - 73.25	0.25		0	36.000	36.000	0.5625	A53-B-42	0.958
19	73.25 - 68.25	5		0	36.000	36.000	0.5625	A53-B-42	0.958
20	68.25 - 63.25	5		0	36.000	36.000	0.5625	A53-B-42	0.958
21	63.25 - 60.5	2.75		0	36.000	36.000	0.5625	A53-B-42	0.958
22	60.5 - 60.25	0.25		0	36.000	36.000	0.625	A53-B-42	0.863
23	60.25 - 60	0.25	0	0	36.000	36.000	0.625	A53-B-42	0.863
24	60 - 59.75	0.25		0	42.000	42.000	0.525	A53-B-42	0.980
25	59.75 - 54.75	5		0	42.000	42.000	0.525	A53-B-42	0.980
26	54.75 - 49.75	5		0	42.000	42.000	0.525	A53-B-42	0.980
27	49.75 - 44.75	5		0	42.000	42.000	0.525	A53-B-42	0.980
28	44.75 - 40.5	4.25		0	42.000	42.000	0.525	A53-B-42	0.980
29	40.5 - 40.25	0.25		0	42.000	42.000	0.65	A53-B-42	0.869
30	40.25 - 40	0.25	0	0	42.000	42.000	0.65	A53-B-42	0.869
31	40 - 39.75	0.25		0	48.000	48.000	0.55625	A53-B-42	0.971
32	39.75 - 34.75	5		0	48.000	48.000	0.55625	A53-B-42	0.971
33	34.75 - 29.75	5		0	48.000	48.000	0.55625	A53-B-42	0.971
34	29.75 - 24.75	5		0	48.000	48.000	0.55625	A53-B-42	0.971
35	24.75 - 20.5	4.25		0	48.000	48.000	0.55625	A53-B-42	0.971
36	20.5 - 20.25	0.25		0	48.000	48.000	0.675	A53-B-42	0.877
37	20.25 - 20	0.25	0	0	48.000	48.000	0.675	A53-B-42	0.877
38	20 - 19.75	0.25		0	54.000	54.000	0.5875	A53-B-42	0.964
39	19.75 - 14.75	5		0	54.000	54.000	0.5875	A53-B-42	0.964
40	14.75 - 9.75	5		0	54.000	54.000	0.5875	A53-B-42	0.964
41	9.75 - 4.75	5		0	54.000	54.000	0.5875	A53-B-42	0.964
42	4.75 - 4.25	0.5		0	54.000	54.000	0.5875	A53-B-42	0.964
43	4.25 - 4	0.25		0	54.000	54.000	0.5125	A53-B-42	1.093
44	4 - 0	4		0	54.000	54.000	0.5125	A53-B-42	1.093

TNX Section Forces

Increment (ft): 5

	Section Height (ft)	TNX Output P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	125 - 120	4.90	7.31	3.59
2	120 - 115	5.52	25.88	3.84
3	115 - 110	9.54	54.95	7.38
4	110 - 105	10.18	92.45	7.63
5	105 - 100	10.83	131.17	7.86
6	100 - 95	14.79	189.80	11.75
7	95 - 90	15.65	249.25	12.03
8	90 - 85	20.28	324.96	15.42
9	85 - 84.75	20.34	328.82	15.43
10	84.75 - 80.5	24.52	396.15	18.09
11	80.5 - 80.25	24.58	400.67	18.10
12	80.25 - 80	24.64	405.19	18.11
13	80 - 79.75	24.70	409.72	18.12
14	79.75 - 79	24.90	423.32	18.17
15	79 - 78.75	24.96	427.86	18.19
16	78.75 - 73.75	26.02	519.47	18.48
17	73.75 - 73.5	26.08	524.08	18.49
18	73.5 - 73.25	26.15	528.70	18.50
19	73.25 - 68.25	27.56	622.07	19.14
20	68.25 - 63.25	28.99	719.27	19.72
21	63.25 - 60.5	29.77	773.95	20.03
22	60.5 - 60.25	29.85	778.97	20.06
23	60.25 - 60	29.92	783.99	20.08
24	60 - 59.75	30.00	789.01	20.10
25	59.75 - 54.75	31.57	890.36	20.42
26	54.75 - 49.75	33.15	993.26	20.72
27	49.75 - 44.75	34.74	1097.59	21.00
28	44.75 - 40.5	36.09	1187.33	21.22
29	40.5 - 40.25	36.18	1192.64	21.24
30	40.25 - 40	36.26	1197.96	21.27
31	40 - 39.75	36.35	1203.28	21.29
32	39.75 - 34.75	38.20	1310.54	21.60
33	34.75 - 29.75	40.06	1419.28	21.88
34	29.75 - 24.75	41.92	1529.40	22.15
35	24.75 - 20.5	43.50	1624.04	22.37
36	20.5 - 20.25	43.60	1629.63	22.39
37	20.25 - 20	43.70	1635.24	22.42
38	20 - 19.75	43.81	1640.85	22.44
39	19.75 - 14.75	45.96	1753.89	22.75
40	14.75 - 9.75	48.11	1868.48	23.06
41	9.75 - 4.75	50.27	1984.56	23.35
42	4.75 - 4.25	50.48	1996.25	23.38
43	4.25 - 4	50.59	2002.10	23.39
44	4 - 0	52.30	2096.16	23.62

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
125 - 120	Pole	TP24x24x0.375	Pole	1.6%	Pass
120 - 115	Pole	TP24x24x0.375	Pole	4.5%	Pass
115 - 110	Pole	TP24x24x0.375	Pole	9.3%	Pass
110 - 105	Pole	TP24x24x0.375	Pole	15.1%	Pass
105 - 100	Pole	TP24x24x0.375	Pole	21.1%	Pass
100 - 95	Pole	TP30x30x0.375	Pole	20.2%	Pass
95 - 90	Pole	TP30x30x0.375	Pole	26.3%	Pass
90 - 85	Pole	TP30x30x0.375	Pole	34.3%	Pass
85 - 84.75	Pole + Reinf.	TP30x30x0.5438	Reinf. 12 Tension Rupture	25.6%	Pass
84.75 - 80.5	Pole + Reinf.	TP30x30x0.5438	Reinf. 12 Tension Rupture	30.9%	Pass
80.5 - 80.25	Pole + Reinf.	TP30x30x0.6125	Reinf. 11 Tension Rupture	33.0%	Pass
80.25 - 80	Pole + Reinf.	TP30x30x0.6125	Reinf. 11 Tension Rupture	33.4%	Pass
80 - 79.75	Pole + Reinf.	TP36x36x0.5125	Reinf. 10 Tension Rupture	23.4%	Pass
79.75 - 79	Pole + Reinf.	TP36x36x0.5125	Reinf. 10 Tension Rupture	24.1%	Pass
79 - 78.75	Pole	TP36x36x0.375	Pole	32.2%	Pass
78.75 - 73.75	Pole	TP36x36x0.375	Pole	38.8%	Pass
73.75 - 73.5	Pole	TP36x36x0.375	Pole	39.1%	Pass
73.5 - 73.25	Pole + Reinf.	TP36x36x0.5625	Reinf. 9 Compression	31.0%	Pass
73.25 - 68.25	Pole + Reinf.	TP36x36x0.5625	Reinf. 9 Compression	36.3%	Pass
68.25 - 63.25	Pole + Reinf.	TP36x36x0.5625	Reinf. 9 Compression	41.8%	Pass
63.25 - 60.5	Pole + Reinf.	TP36x36x0.5625	Reinf. 9 Compression	45.0%	Pass
60.5 - 60.25	Pole + Reinf.	TP36x36x0.625	Reinf. 8 Tension Rupture	38.4%	Pass
60.25 - 60	Pole + Reinf.	TP36x36x0.625	Reinf. 8 Tension Rupture	38.6%	Pass
60 - 59.75	Pole + Reinf.	TP42x42x0.525	Pole	31.2%	Pass
59.75 - 54.75	Pole + Reinf.	TP42x42x0.525	Pole	35.1%	Pass
54.75 - 49.75	Pole + Reinf.	TP42x42x0.525	Pole	39.0%	Pass
49.75 - 44.75	Pole + Reinf.	TP42x42x0.525	Pole	43.1%	Pass
44.75 - 40.5	Pole + Reinf.	TP42x42x0.525	Pole	46.5%	Pass
40.5 - 40.25	Pole + Reinf.	TP42x42x0.65	Reinf. 6 Tension Rupture	39.6%	Pass
40.25 - 40	Pole + Reinf.	TP42x42x0.65	Reinf. 6 Tension Rupture	39.7%	Pass
40 - 39.75	Pole + Reinf.	TP48x48x0.5563	Pole	34.8%	Pass
39.75 - 34.75	Pole + Reinf.	TP48x48x0.5563	Pole	37.8%	Pass
34.75 - 29.75	Pole + Reinf.	TP48x48x0.5563	Pole	40.9%	Pass
29.75 - 24.75	Pole + Reinf.	TP48x48x0.5563	Pole	44.1%	Pass
24.75 - 20.5	Pole + Reinf.	TP48x48x0.5563	Pole	46.8%	Pass
20.5 - 20.25	Pole + Reinf.	TP48x48x0.675	Reinf. 4 Compression	42.2%	Pass
20.25 - 20	Pole + Reinf.	TP48x48x0.675	Reinf. 4 Compression	42.3%	Pass
20 - 19.75	Pole + Reinf.	TP54x54x0.5875	Pole	36.1%	Pass
19.75 - 14.75	Pole + Reinf.	TP54x54x0.5875	Pole	38.5%	Pass
14.75 - 9.75	Pole + Reinf.	TP54x54x0.5875	Pole	41.0%	Pass
9.75 - 4.75	Pole + Reinf.	TP54x54x0.5875	Pole	43.5%	Pass
4.75 - 4.25	Pole + Reinf.	TP54x54x0.5875	Pole	43.8%	Pass
4.25 - 4	Pole + Reinf.	TP54x54x0.5125	Pole	49.7%	Pass
4 - 0	Pole + Reinf.	TP54x54x0.5125	Pole	52.1%	Pass
				Summary	
			Pole	52.1%	Pass
			Reinforcement	45.0%	Pass
			Overall	52.1%	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	R7	R8	R9	R10	R11	R12
125 - 120	1942	n/a	1942	27.83	n/a	27.83	1.6%												
120 - 115	1942	n/a	1942	27.83	n/a	27.83	4.5%												
115 - 110	1942	n/a	1942	27.83	n/a	27.83	9.3%												
110 - 105	1942	n/a	1942	27.83	n/a	27.83	15.1%												
105 - 100	1942	n/a	1942	27.83	n/a	27.83	21.1%												
100 - 95	3829	n/a	3829	34.90	n/a	34.90	20.2%												
95 - 90	3829	n/a	3829	34.90	n/a	34.90	26.3%												
90 - 85	3829	n/a	3829	34.90	n/a	34.90	34.3%												
85 - 84.75	3829	1634	5463	34.90	13.50	48.40	24.2%												25.6%
84.75 - 80.5	3829	1634	5463	34.90	13.50	48.40	29.1%												30.9%
80.5 - 80.25	3829	2322	6152	34.90	13.50	48.40	26.3%											33.0%	
80.25 - 80	3829	2322	6152	34.90	13.50	48.40	26.6%											33.4%	
80 - 79.75	6659	2322	8981	41.97	13.50	55.47	22.7%										23.4%		
79.75 - 79	6659	2322	8981	41.97	13.50	55.47	23.5%										24.1%		
79 - 78.75	6659	n/a	6659	41.97	n/a	41.97	32.2%												
78.75 - 73.75	6659	n/a	6659	41.97	n/a	41.97	38.8%												
73.75 - 73.5	6659	n/a	6659	41.97	n/a	41.97	39.1%												
73.5 - 73.25	6659	3108	9767	41.97	18.00	59.97	26.8%									31.0%			
73.25 - 68.25	6659	3108	9767	41.97	18.00	59.97	31.4%									36.3%			
68.25 - 63.25	6659	3108	9767	41.97	18.00	59.97	36.2%									41.8%			
63.25 - 60.5	6659	3108	9767	41.97	18.00	59.97	38.9%									45.0%			
60.5 - 60.25	6659	4188	10847	41.97	18.00	59.97	35.3%								38.4%				
60.25 - 60	6659	4188	10847	41.97	18.00	59.97	35.5%								38.6%				
60 - 59.75	10622	4188	14810	49.04	18.00	67.04	31.2%							28.7%					
59.75 - 54.75	10622	4188	14810	49.04	18.00	67.04	35.1%							32.3%					
54.75 - 49.75	10622	4188	14810	49.04	18.00	67.04	39.0%							36.0%					
49.75 - 44.75	10622	4188	14810	49.04	18.00	67.04	43.1%							39.7%					
44.75 - 40.5	10622	4188	14810	49.04	18.00	67.04	46.5%							42.9%					
40.5 - 40.25	10622	7435	18056	49.04	24.38	73.41	38.4%						39.6%						
40.25 - 40	10622	7435	18056	49.04	24.38	73.41	38.6%						39.7%						
40 - 39.75	15908	7435	23343	56.11	24.38	80.48	34.8%					31.1%							
39.75 - 34.75	15908	7435	23343	56.11	24.38	80.48	37.8%					33.8%							
34.75 - 29.75	15908	7435	23343	56.11	24.38	80.48	40.9%					36.6%							
29.75 - 24.75	15908	7435	23343	56.11	24.38	80.48	44.1%					39.4%							
24.75 - 20.5	15908	7435	23343	56.11	24.38	80.48	46.8%					41.8%							
20.5 - 20.25	15908	12261	28169	56.11	31.88	87.98	39.1%				42.2%								
20.25 - 20	15908	12261	28169	56.11	31.88	87.98	39.2%				42.3%								
20 - 19.75	22710	12261	34970	63.18	31.88	95.05	36.1%			34.4%									
19.75 - 14.75	22710	12261	34970	63.18	31.88	95.05	38.5%			36.7%									
14.75 - 9.75	22710	12261	34970	63.18	31.88	95.05	41.0%			39.1%									
9.75 - 4.75	22710	12261	34970	63.18	31.88	95.05	43.5%			41.5%									
4.75 - 4.25	22710	12261	34970	63.18	31.88	95.05	43.8%			41.7%									
4.25 - 4	22718	8375	31093	63.18	30.94	94.11	49.7%	33.8%	36.8%										
4 - 0	22718	8375	31093	63.18	30.94	94.11	52.1%	35.3%	38.6%										

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

Monopole Flange Plate Connection

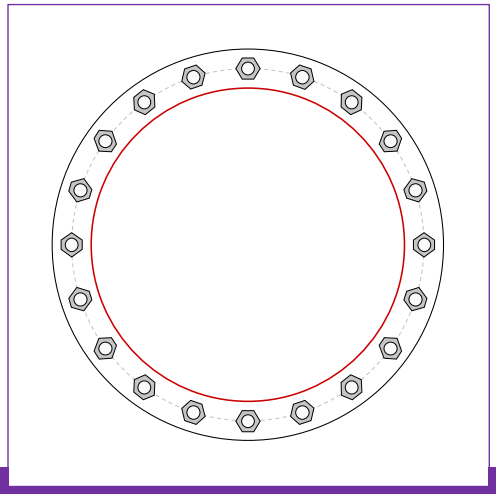
Elevation = 100 ft.

BU #	822765
Site Name	anford/ I-95/ X55/ Dtr
Order #	587423 Rev. 0
TIA-222 Revision	H

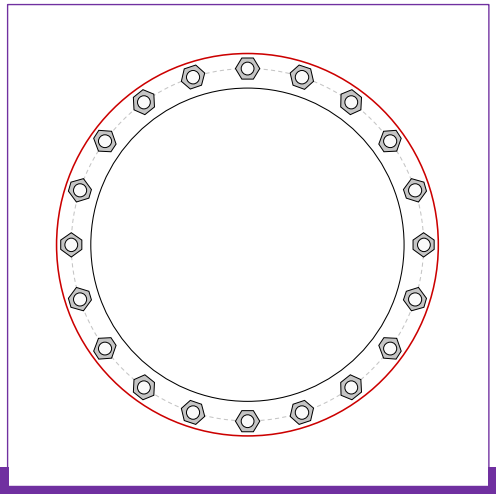
Applied Loads	
Moment (kip-ft)	131.17
Axial Force (kips)	10.83
Shear Force (kips)	7.86

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(20) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 27" BC

Top Plate Data

30" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

24" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

24" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Pole Data

30" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	11.11	
Allowable (kips)	54.54	
Stress Rating:	**19.4%**	Pass

Top Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Bottom Plate Capacity

Max Stress (ksi):	-
Allowable Stress (ksi):	-
Stress Rating:	**Pirod OK**
Tension Side Stress Rating:	**Pirod OK**

Monopole Flange Plate Connection

Elevation = 80 ft.

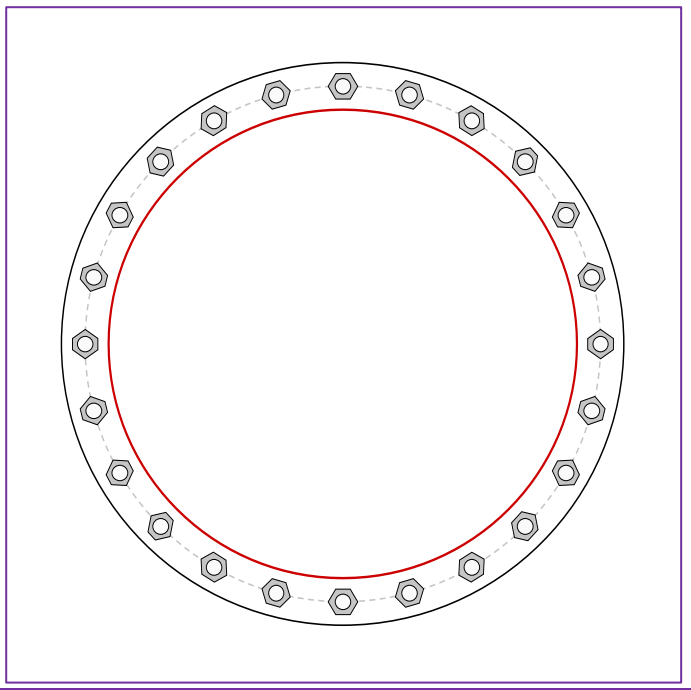
BU #	822765
Site Name	ranford/ I-95/ X55/ Dtr
Order #	587423 Rev. 0

TIA-222 Revision	H

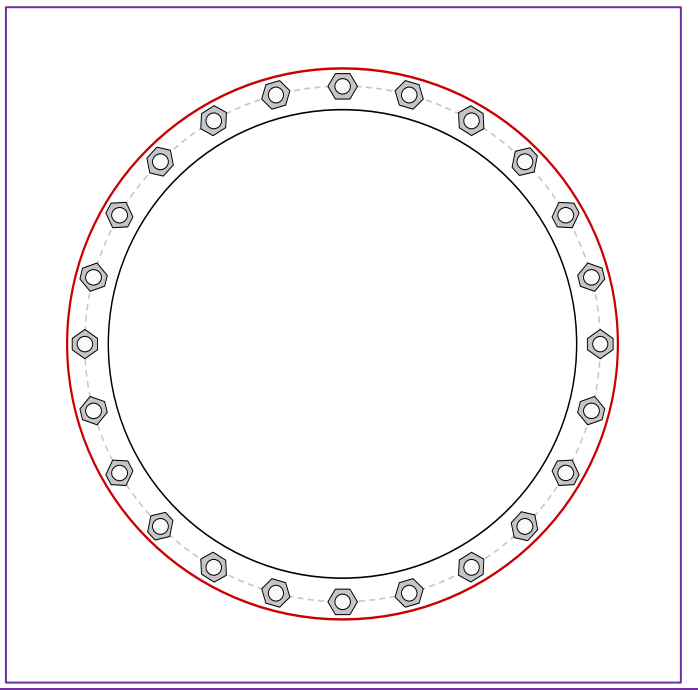
Applied Loads to Flange Connections		Applied Loads to Bridge Stiffeners	
Moment (kip-ft)	186.99	Moment (kip-ft)	218.20
Axial Force (kips)	24.64	Axial Force (kips)	0.00
Shear Force (kips)	18.11	Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(24) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 33" BC

Top Plate Data

36" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

30" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

30" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Pole Data

36" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bridge Stiffener Group 1 Data

(3) Bolted, 4.5''x1'', A572-65, Lu=16", Neglect Flange in MOI: No

Analysis Results

Bolt Capacity

Max Load (kips)	10.30	
Allowable (kips)	54.53	
Stress Rating:	**18.0%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	7.63	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**22.4%**	**Pass**
Tension Side Stress Rating:	**7.1%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	7.71	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**22.7%**	**Pass**
Tension Side Stress Rating:	**N/A**	

Bridge Stiffener Group 1 Analysis Capacity

Max Compression (kip):	94.36	
Max Tension (kip):	94.36	
Comp. Capacity (kip):	196.59	
Tens. Capacity (kip):	195.00	(Rupture)
Comp. Stress Rating:	**45.7%**	**Pass**
Tens. Stress Rating:	**46.1%**	**Pass**

Monopole Flange Plate Connection

Elevation = 60 ft.

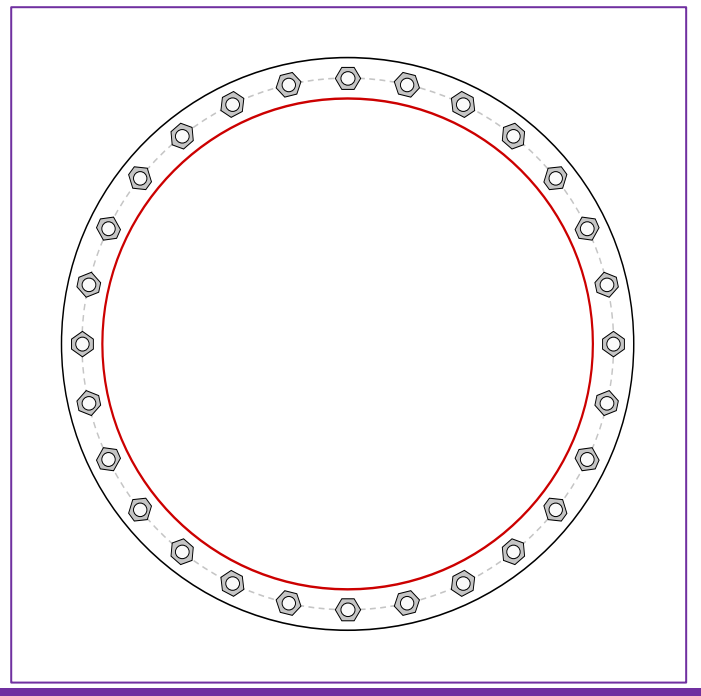
BU #	822765
Site Name	ranford/ I-95/ X55/ Dtr
Order #	587423 Rev. 0

TIA-222 Revision	H

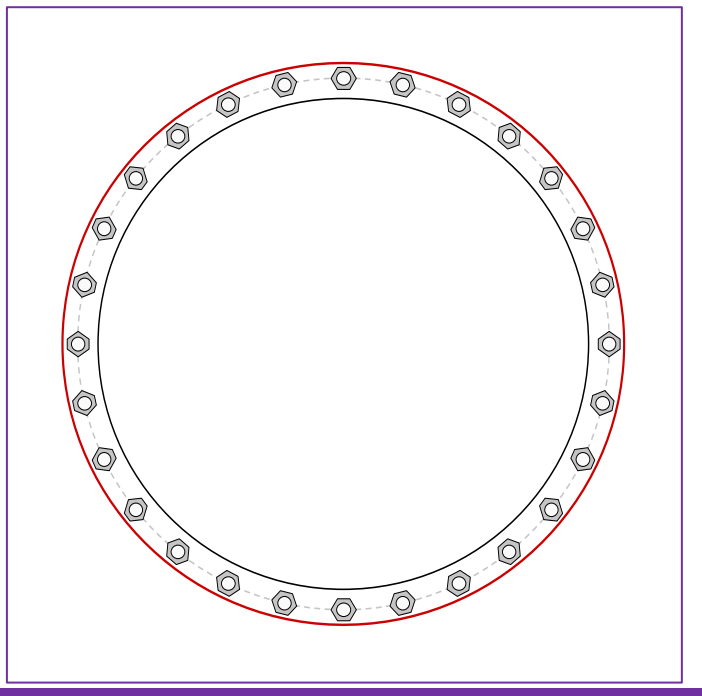
Applied Loads to Flange Connections		Applied Loads to Bridge Stiffeners	
Moment (kip-ft)	342.42	Moment (kip-ft)	441.57
Axial Force (kips)	29.92	Axial Force (kips)	0.00
Shear Force (kips)	20.08	Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(28) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 39" BC

Top Plate Data

42" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

36" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

36" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Pole Data

42" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bridge Stiffener Group 1 Data

(3) Bolted, 6''x1'', A572-65, Lu=16", Neglect Flange in MOI: No

Analysis Results

Bolt Capacity

Max Load (kips)	13.98	
Allowable (kips)	54.53	
Stress Rating:	**24.4%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	9.65	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**28.4%**	**Pass**
Tension Side Stress Rating:	**9.3%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	10.03	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**29.5%**	**Pass**
Tension Side Stress Rating:	**N/A**	

Bridge Stiffener Group 1 Analysis Capacity

Max Compression (kip):	164.31	
Max Tension (kip):	164.31	
Comp. Capacity (kip):	262.12	
Tens. Capacity (kip):	285.00	(Rupture)
Comp. Stress Rating:	**59.7%**	**Pass**
Tens. Stress Rating:	**54.9%**	**Pass**

Monopole Flange Plate Connection

Elevation = 40 ft.

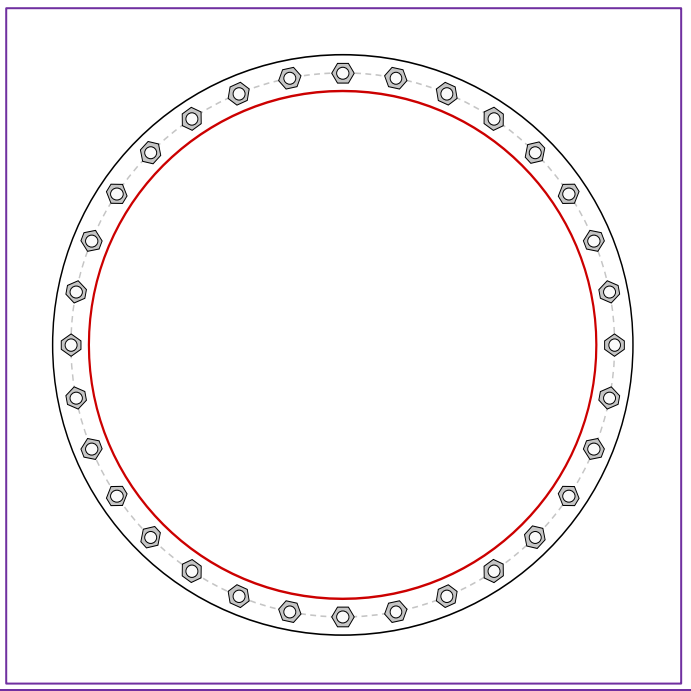
BU #	822765
Site Name	ranford/ I-95/ X55/ Dtr
Order #	587423 Rev. 0

TIA-222 Revision	H

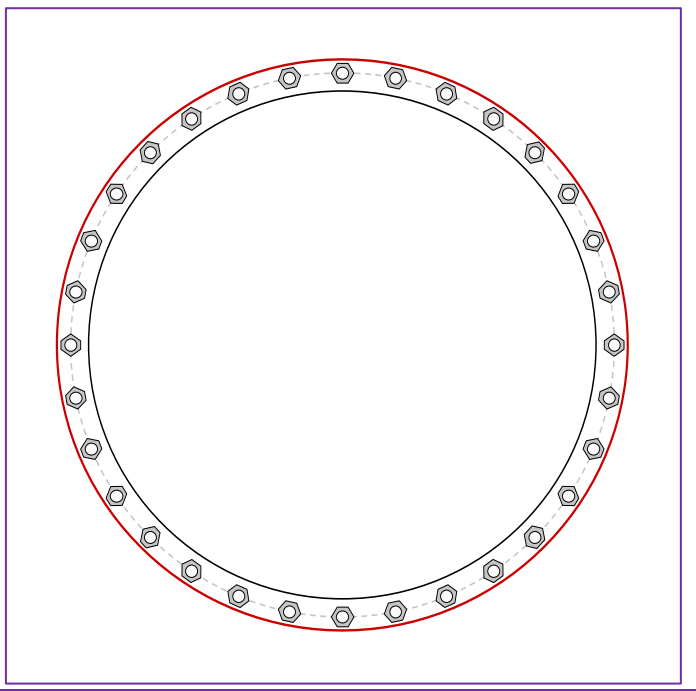
Applied Loads to Flange Connections		Applied Loads to Bridge Stiffeners	
Moment (kip-ft)	478.11	Moment (kip-ft)	719.85
Axial Force (kips)	36.26	Axial Force (kips)	0.00
Shear Force (kips)	21.27	Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(32) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 45" BC

Top Plate Data

48" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

42" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

42" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Pole Data

48" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bridge Stiffener Group 1 Data

(3) Bolted, 6.5''x1.25'', A572-65, Lu=16", Neglect Flange in MOI: No

Analysis Results

Bolt Capacity

Max Load (kips)	14.80	
Allowable (kips)	54.53	
Stress Rating:	**25.9%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	10.25	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**30.1%**	**Pass**
Tension Side Stress Rating:	**9.6%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	10.60	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**31.1%**	**Pass**
Tension Side Stress Rating:	**N/A**	

Bridge Stiffener Group 1 Analysis Capacity

Max Compression (kip):	233.86	
Max Tension (kip):	233.86	
Comp. Capacity (kip):	394.29	
Tens. Capacity (kip):	393.75	(Rupture)
Comp. Stress Rating:	**56.5%**	**Pass**
Tens. Stress Rating:	**56.6%**	**Pass**

Monopole Flange Plate Connection

Elevation = 20 ft.

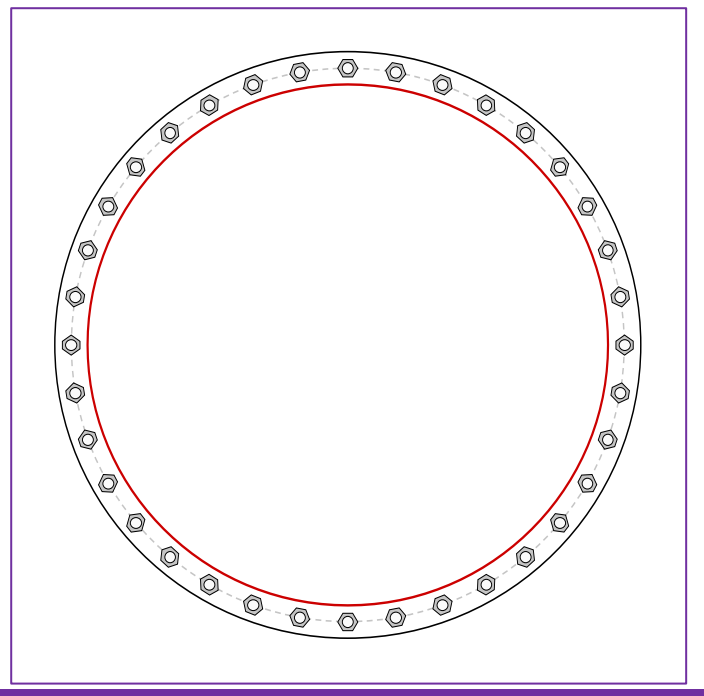
BU #	822765
Site Name	ranford/ I-95/ X55/ Dtr
Order #	587423 Rev. 0

TIA-222 Revision	H

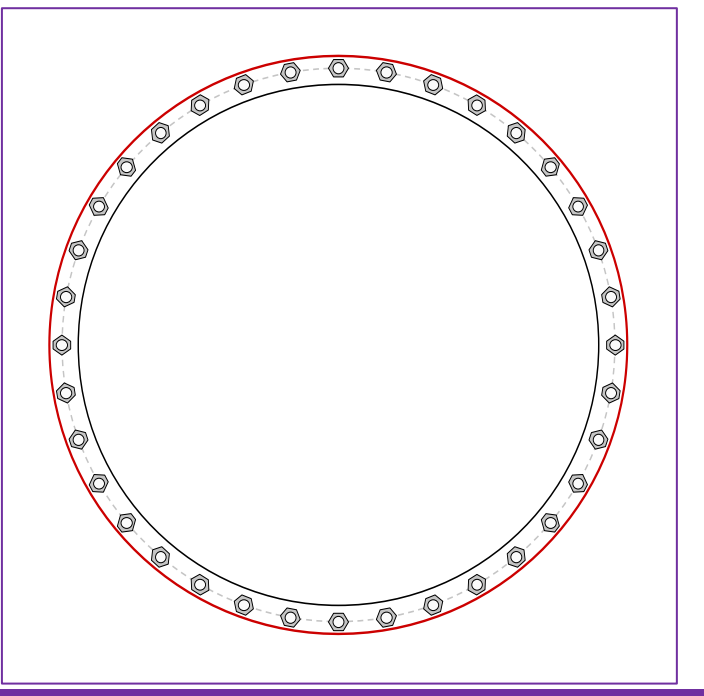
Applied Loads to Flange Connections		Applied Loads to Bridge Stiffeners	
Moment (kip-ft)	602.36	Moment (kip-ft)	1032.88
Axial Force (kips)	43.70	Axial Force (kips)	0.00
Shear Force (kips)	22.42	Shear Force (kips)	0.00

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - Internal



Connection Properties

Bolt Data

(36) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 51" BC

Top Plate Data

54" OD x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

48" ID x 1.25" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

48" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bottom Pole Data

54" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Bridge Stiffener Group 1 Data

(3) Bolted, 8.5''x1.25'', A572-65, Lu=16", Neglect Flange in MOI: No

Analysis Results

Bolt Capacity

Max Load (kips)	14.53	
Allowable (kips)	54.53	
Stress Rating:	**25.4%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	10.12	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**29.8%**	**Pass**
Tension Side Stress Rating:	**9.3%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	10.51	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**30.9%**	**Pass**
Tension Side Stress Rating:	**N/A**	

Bridge Stiffener Group 1 Analysis Capacity

Max Compression (kip):	299.12	
Max Tension (kip):	299.12	
Comp. Capacity (kip):	515.61	
Tens. Capacity (kip):	543.75	(Rupture)
Comp. Stress Rating:	**55.2%**	**Pass**
Tens. Stress Rating:	**52.4%**	**Pass**

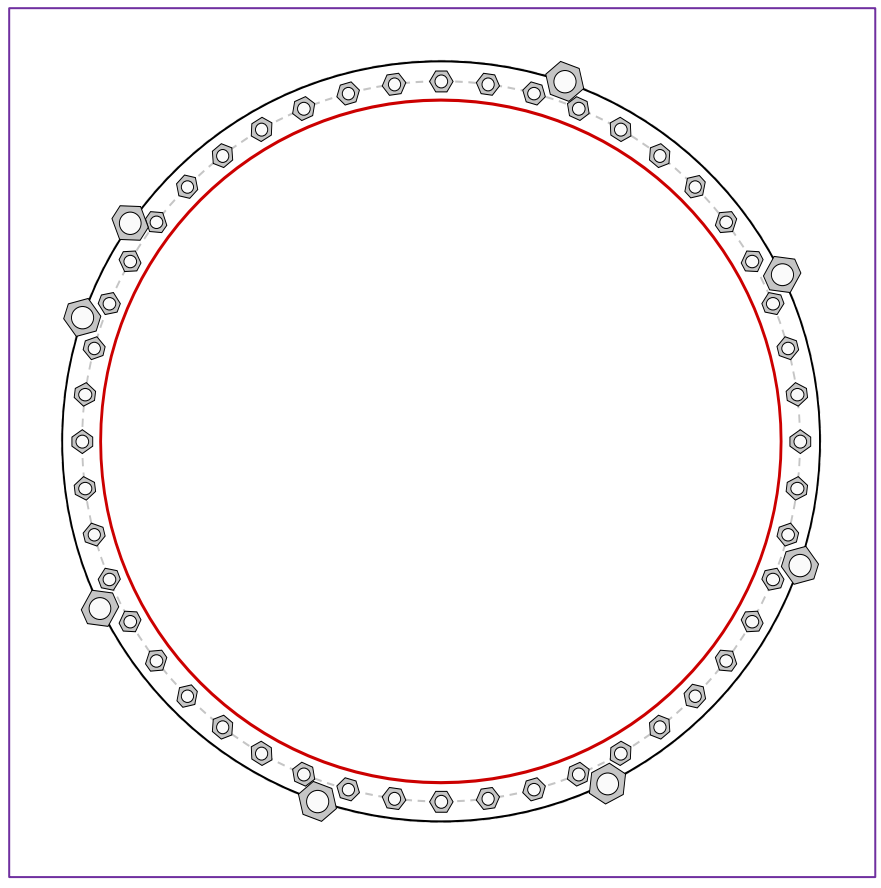
Monopole Base Plate Connection

Site Info	
BU #	822765
Site Name	ranford/ I-95/ X55/ Dtr
Order #	587423 Rev. 0

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

Applied Loads	
Moment (kip-ft)	2096.00
Axial Force (kips)	52.00
Shear Force (kips)	24.00

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (48) 1" ø bolts (A687 N; Fy=105 ksi, Fu=125 ksi) on 57" BC

GROUP 2: (8) 1-3/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 60.25" BC

pos. (deg): 341, 296, 251, 206, 161, 145, 71, 26

Base Plate Data

60.125" OD x 1" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Stiffener Data

N/A

Pole Data

54" x 0.375" round pole (A53-B-42; Fy=42 ksi, Fu=63 ksi)

Analysis Results

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

GROUP 1:

Pu_t = 23.61	ϕPn_t = 56.81	**Stress Rating**
Vu = 0.5	ϕVn = 36.82	**39.6%**
Mu = n/a	ϕMn = n/a	**Pass**

GROUP 2:

Pu_t = 81.56	ϕPn_t = 178.13	**Stress Rating**
Vu = 0	ϕVn = 112.75	**43.6%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	28.34	(Flexural)
Allowable Stress (ksi):	32.4	
Stress Rating:	**83.3%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

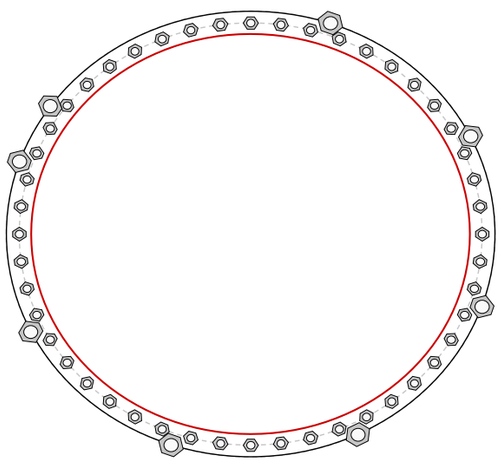
note: Bending interaction not considered when Grout Considered = "Yes"

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

Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	l_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	0	1	A687	57	0.5	2	N-Included		No
2	1	7.5	1	A687	57	0.5	2	N-Included		No
3	1	15	1	A687	57	0.5	2	N-Included		No
4	1	22.5	1	A687	57	0.5	2	N-Included		No
5	1	30	1	A687	57	0.5	2	N-Included		No
6	1	37.5	1	A687	57	0.5	2	N-Included		No
7	1	45	1	A687	57	0.5	2	N-Included		No
8	1	52.5	1	A687	57	0.5	2	N-Included		No
9	1	60	1	A687	57	0.5	2	N-Included		No
10	1	67.5	1	A687	57	0.5	2	N-Included		No
11	1	75	1	A687	57	0.5	2	N-Included		No
12	1	82.5	1	A687	57	0.5	2	N-Included		No
13	1	90	1	A687	57	0.5	2	N-Included		No
14	1	97.5	1	A687	57	0.5	2	N-Included		No
15	1	105	1	A687	57	0.5	2	N-Included		No
16	1	112.5	1	A687	57	0.5	2	N-Included		No
17	1	120	1	A687	57	0.5	2	N-Included		No
18	1	127.5	1	A687	57	0.5	2	N-Included		No
19	1	135	1	A687	57	0.5	2	N-Included		No
20	1	142.5	1	A687	57	0.5	2	N-Included		No
21	1	150	1	A687	57	0.5	2	N-Included		No
22	1	157.5	1	A687	57	0.5	2	N-Included		No
23	1	165	1	A687	57	0.5	2	N-Included		No
24	1	172.5	1	A687	57	0.5	2	N-Included		No
25	1	180	1	A687	57	0.5	2	N-Included		No
26	1	187.5	1	A687	57	0.5	2	N-Included		No
27	1	195	1	A687	57	0.5	2	N-Included		No
28	1	202.5	1	A687	57	0.5	2	N-Included		No
29	1	210	1	A687	57	0.5	2	N-Included		No
30	1	217.5	1	A687	57	0.5	2	N-Included		No
31	1	225	1	A687	57	0.5	2	N-Included		No
32	1	232.5	1	A687	57	0.5	2	N-Included		No
33	1	240	1	A687	57	0.5	2	N-Included		No
34	1	247.5	1	A687	57	0.5	2	N-Included		No
35	1	255	1	A687	57	0.5	2	N-Included		No
36	1	262.5	1	A687	57	0.5	2	N-Included		No
37	1	270	1	A687	57	0.5	2	N-Included		No
38	1	277.5	1	A687	57	0.5	2	N-Included		No
39	1	285	1	A687	57	0.5	2	N-Included		No
40	1	292.5	1	A687	57	0.5	2	N-Included		No
41	1	300	1	A687	57	0.5	2	N-Included		No
42	1	307.5	1	A687	57	0.5	2	N-Included		No
43	1	315	1	A687	57	0.5	2	N-Included		No
44	1	322.5	1	A687	57	0.5	2	N-Included		No
45	1	330	1	A687	57	0.5	2	N-Included		No
46	1	337.5	1	A687	57	0.5	2	N-Included		No
47	1	345	1	A687	57	0.5	2	N-Included		No
48	1	352.5	1	A687	57	0.5	2	N-Included		No
49	2	341	1.75	A193 Gr. B7	60.25	0.5	0.5	N-Included		No
50	2	296	1.75	A193 Gr. B7	60.25	0.5	0.5	N-Included		No
51	2	251	1.75	A193 Gr. B7	60.25	0.5	0.5	N-Included		No
52	2	206	1.75	A193 Gr. B7	60.25	0.5	0.5	N-Included		No
53	2	161	1.75	A193 Gr. B7	60.25	0.5	0.5	N-Included		No
54	2	145	1.75	A193 Gr. B7	60.25	0.5	0.5	N-Included		No
55	2	71	1.75	A193 Gr. B7	60.25	0.5	0.5	N-Included		No
56	2	26	1.75	A193 Gr. B7	60.25	0.5	0.5	N-Included		No

Plot Graphic



Drilled Pier Foundation

BU # :	822765
Site Name:	Branford/ I-95/ X55/ Dtn1
Order Number:	587423 Rev. 0
TIA-222 Revison:	H
Tower Type:	Monopole

Report File:

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

Go to Soil Calculations

Applied Loads	Comp.	Uplift
Moment (kip-ft)	2096	
Axial Force (kips)	52	
Shear Force (kips)	24	

Material Properties			Rebar 2, Fy Override (ksi)
Concrete Strength, f'c:	4	ksi	
Rebar Strength, Fy:	60	ksi	
Tie Yield Strength, Fyt:	60	ksi	

Pier Design Data		
Depth	21	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 21' below grade		
Pier Diameter	6	ft
Rebar Quantity	24	
Rebar Size	9	
Clear Cover to Ties	3	in
Tie Size	5	
Tie Spacing	18	in

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	5.75	-
Soil Safety Factor	2.63	-
Max Moment (kip-ft)	2213.12	-
Rating*	*48.2%*	-
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	387.09	-
End Bearing (kips)	254.47	-
Weight of Concrete (kips)	109.42	-
Total Capacity (kips)	641.56	-
Axial (kips)	161.42	-
Rating*	*24.0%*	-
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	5.73	-
Critical Moment (kip-ft)	2213.11	-
Critical Moment Capacity	3402.55	-
Rating*	*61.9%*	-
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	15.99	-
Critical Shear (kip)	307.42	-
Critical Shear Capacity	490.44	-
Rating*	*59.7%*	-

Structural Foundation Rating*	**61.9%**
Soil Interaction Rating*	**48.2%**

*Rating per TIA-222-H Section 15.5

Soil Profile

Groundwater Depth	n/a	# of Layers	3

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.33	3.33	120	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.33	11	7.67	120	150	0	34	0.979	0.979				20	Cohesionless
3	11	21	10	150	150	0	33	1.987	1.987			12	100	Cohesionless

Date: October 21, 2021

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

Subject:	**Mount Analysis Report**	
Carrier Designation:	**T-Mobile Equipment Change-Out**	
	Carrier Site Number:	CT11025B
	Carrier Site Name:	Branford/ I-95/ X55/ Dtn 1
Crown Castle Designation:	**BU Number:**	822765
	Site Name:	Branford/ I-95/ X55/ Dtn 1
	JDE Job Number:	687336
	Order Number:	587423, Rev. 0
Engineering Firm Designation:	**B+T Group Report Designation:**	101126.009.01
Site Data:	**10 Sylvia St., Branford, CT, New Haven County, 06405** **Latitude 41° 17' 38.16" Longitude -72° 47' 8.54"**	
Structure Information:	**Tower Height & Type:**	**125 ft. Monopole**
	Mount Elevation:	**122 ft.**
	Mount Type:	**17 ft. Platform Mount**

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

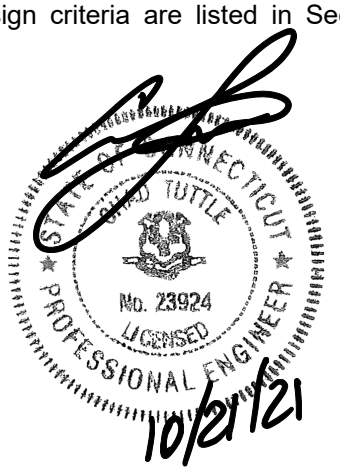
The purpose of the analysis is to determine acceptability of the mount's stress level. Based on our analysis we have determined the stress level to be:

Platform Mount **Sufficient**

This analysis utilizes an ultimate 3-second gust wind speed of 122 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Harrison Holmlund

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2022



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

This is an existing 3 - sector 17' Platform Mount, mapped by Pier Structural Engineering Corp and analysed by B+T Group.
The mount has been modified per reinforcement drawings prepared by B+T Group in May of 2019. Reinforcement consists of the installation of new horizontal pipes 2" Std. x 17'-6" long with SitePro1 support rail connection assembly AHCP, 2'-6" above the main horizontals.

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	122 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:	0.202
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.)	Qty.	Manufacturer	Model / Type	Mount / Modification Details
122	122	3	Commscope	VV-65A-R1_TMO	17' Platform Mount
		3	Ericsson	AIR6449 B41_T-Mobile	
		3	RFS/Celwave	APXVAALL24_43-U-NA20	
		3	Ericsson	RADIO 4449 B71/B85A	
		3	Ericsson	RADIO 4460 B2/B25 B66_TMO	

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 10/18/2021	Crown Castle
RFDS		Date: 10/06/2021	
Mount Mapping	Pier Structural Engineering Corp.	Date: 04/17/2019	
Previous MA	B+T Group	Date: 05/09/2019	On File

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

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 “Software Input Calculations”.

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

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.
   The following assumptions have been included in the analysis of the mount

Component	Section	Length	Note
Support Rail	2” Std. Pipe	17’-6”	-
Existing Mount Pipe for Antenna	2” Std. Pipe	9’-0”	In Pos.2

6. All prior structural modifications, if any, are assumed to be correctly installed and fully effective.
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 Horizontals	122	1	53.6	Pass
	Support Rails	122	14	45.1	Pass
	Mount Pipes	122	143	77.7	Pass
	Support Tubes	122	11	32.8	Pass
	Solid Rods	122	44	32.4	Pass
	Connection Angles	122	16	21.9	Pass
	Connection Plates	122	3	11.5	Pass
2	Connection Bolts	122	-	35.3	Pass

Structure Rating (max from all components) =	77.7%

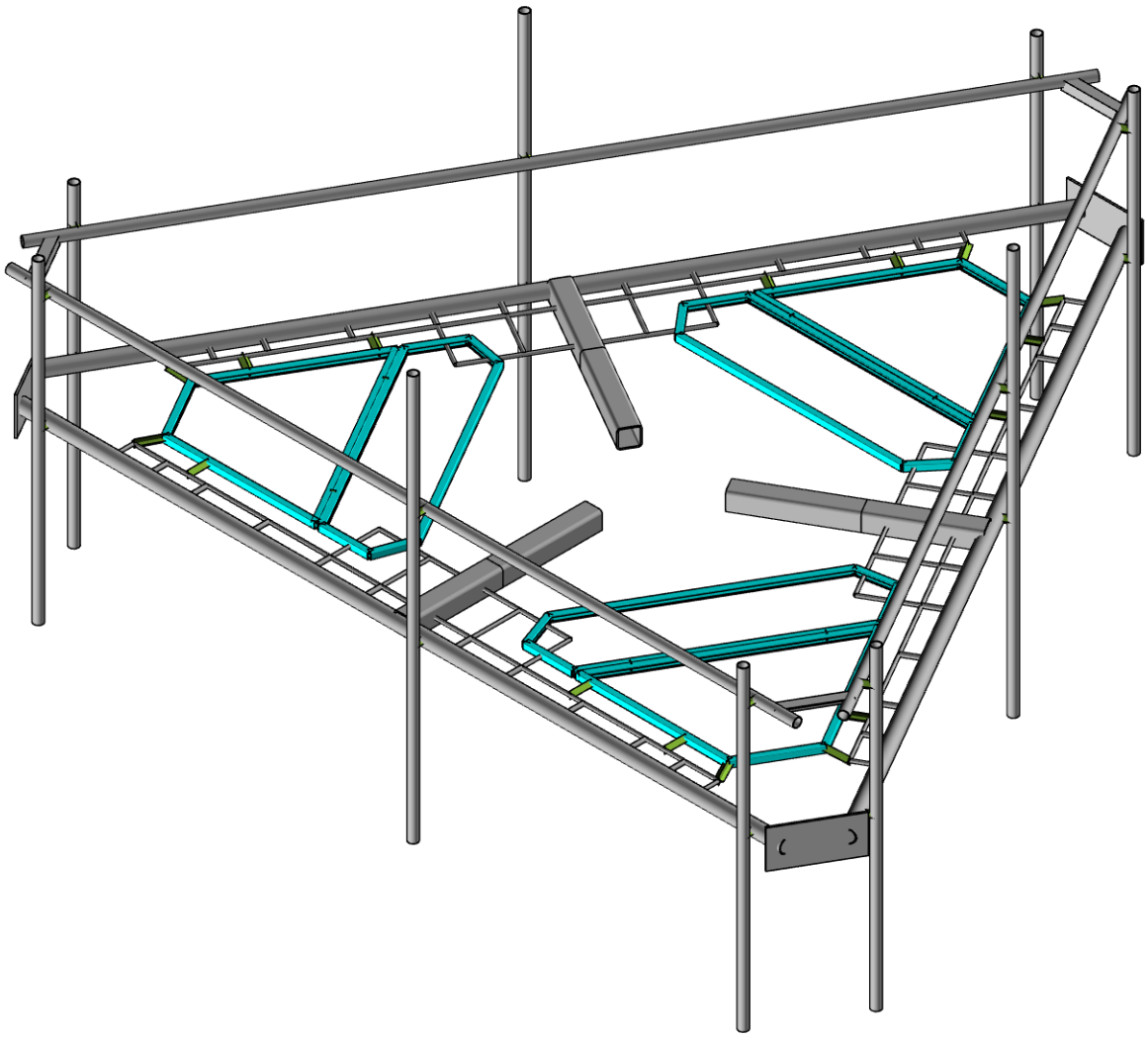
Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) See additional documentation in "Appendix D - Additional Calculations" for calculations supporting the % capacity reported.

4.1) Recommendations

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

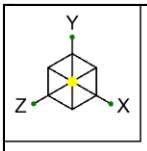
APPENDIX A

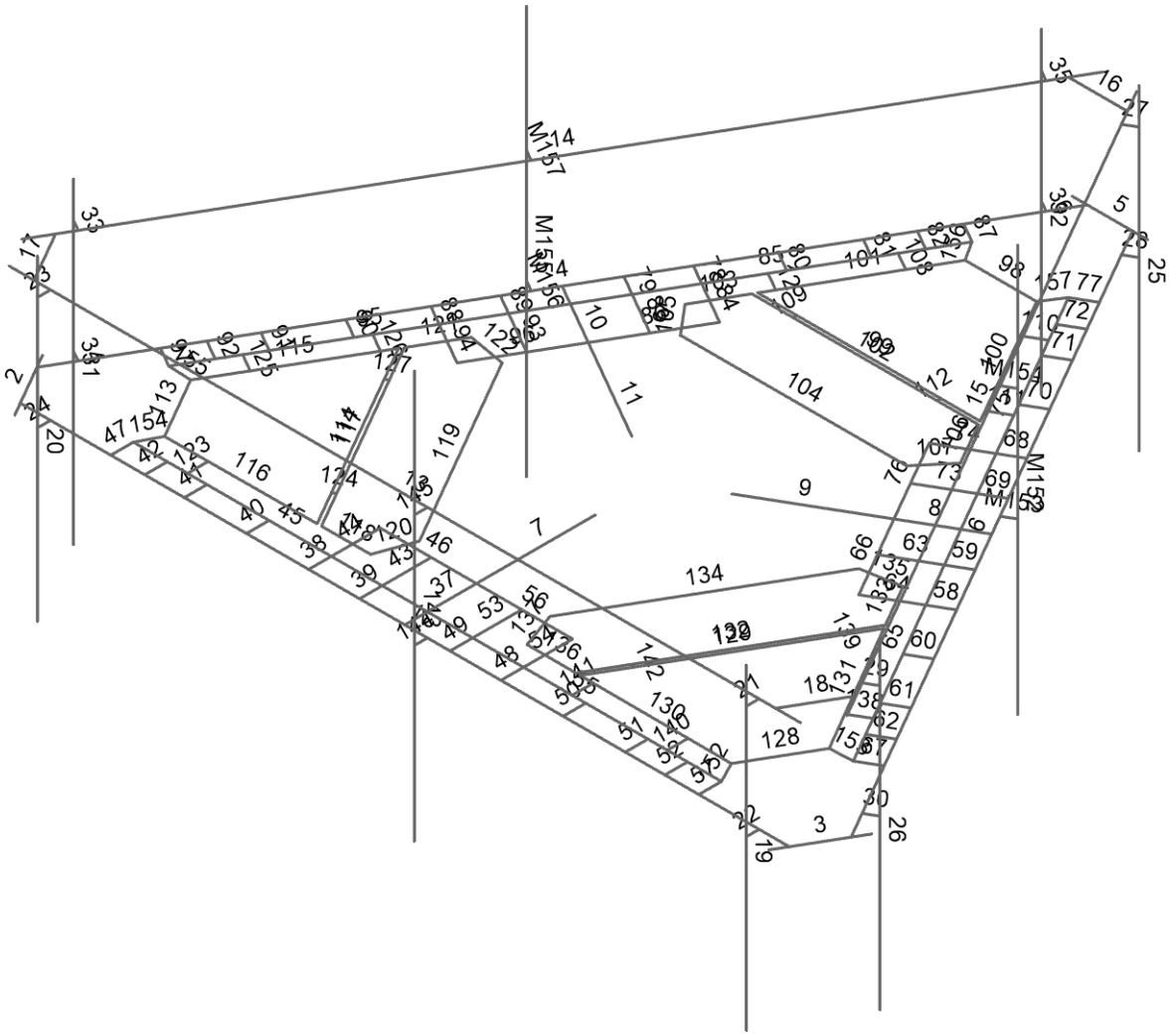
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

B+T Group	822765 - Branford/ I-95/ X55/ Dtn 1	SK-1
MP		Oct 19, 2021
101126.009.01		101126_009_01_Branford I-95 X5…





Envelope Only Solution

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MP		Oct 19, 2021
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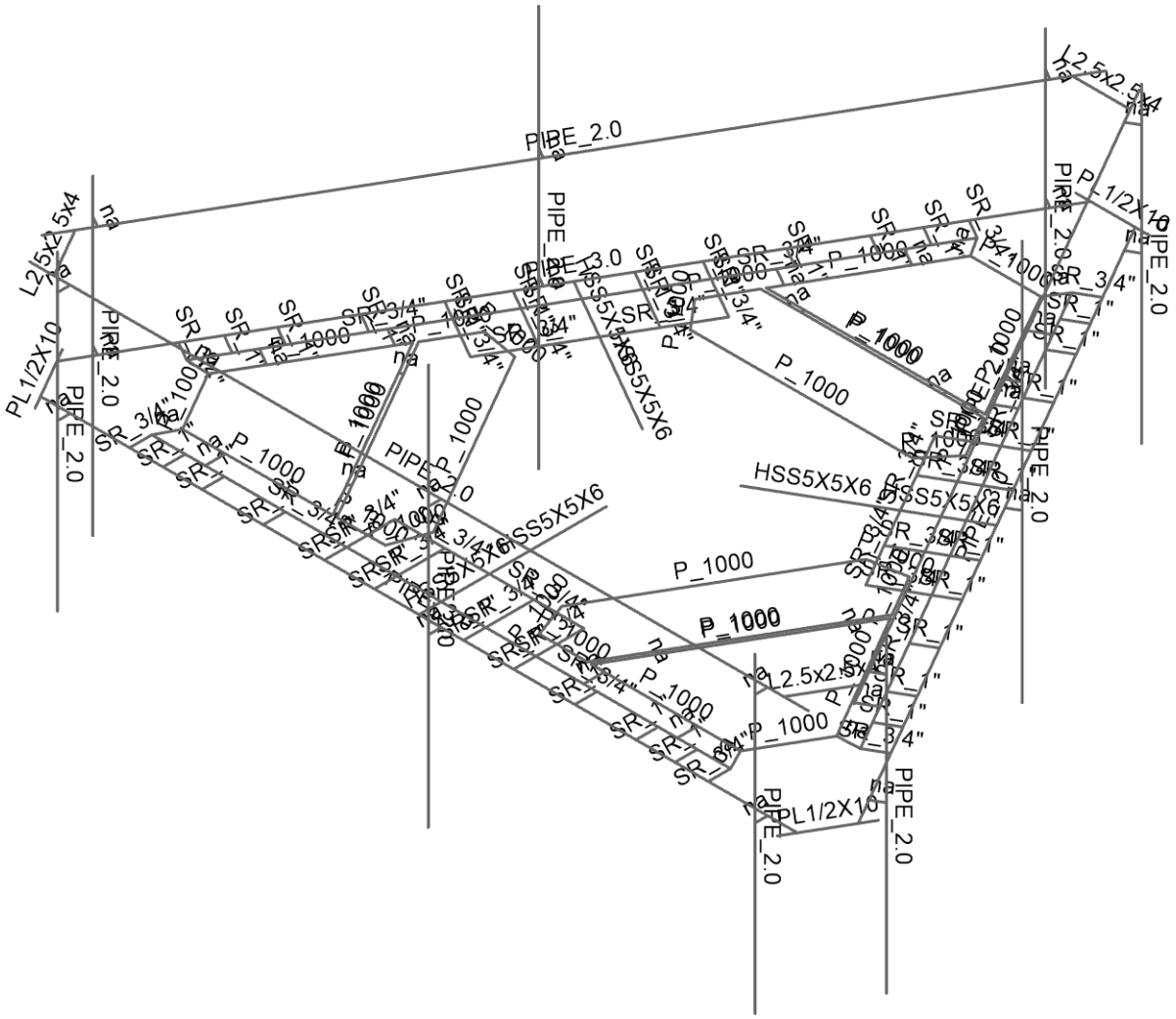

Envelope Only Solution

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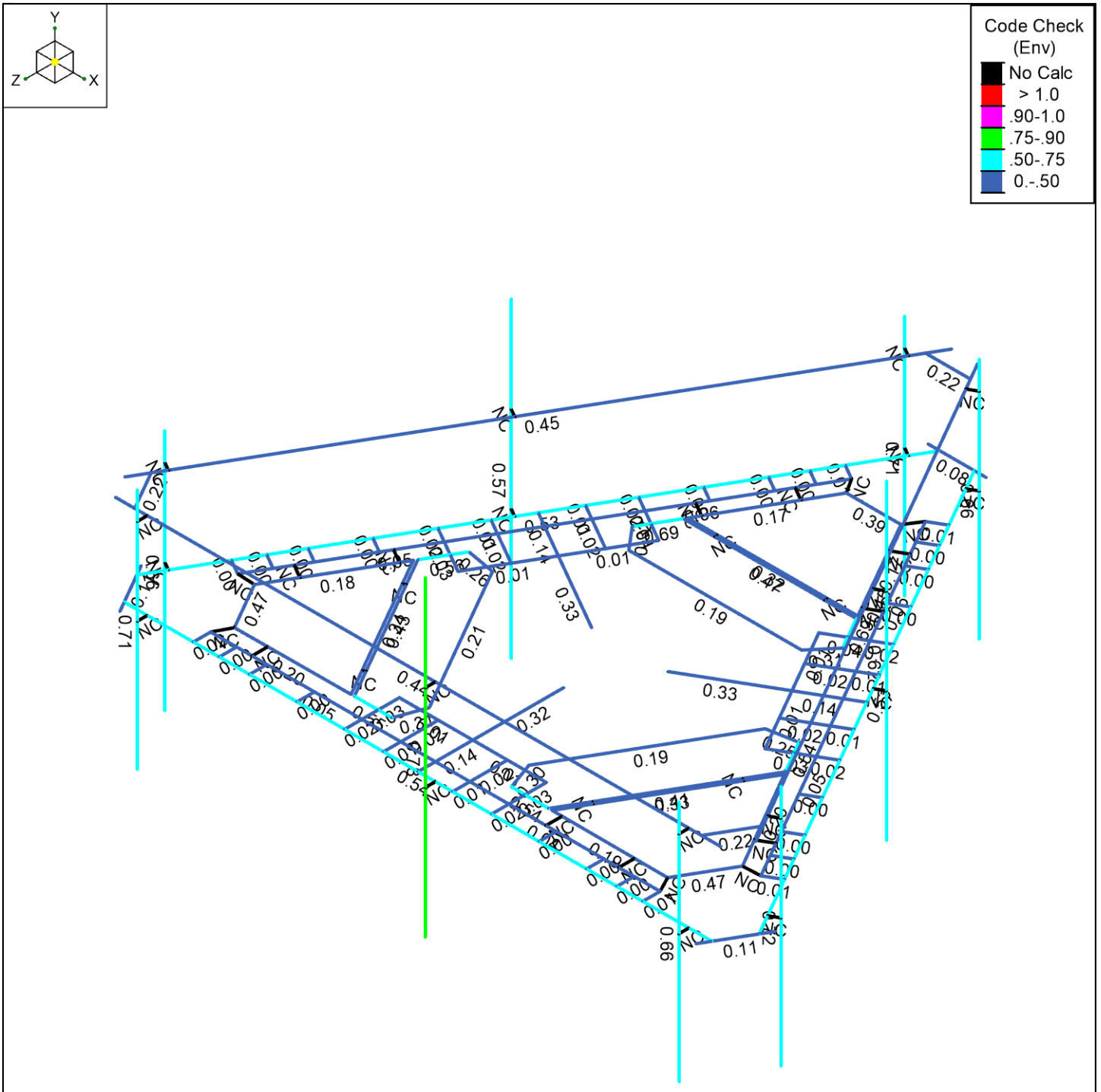

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	822765 - Branford/ I-95/ X55/ Dtn 1	SK-4
MP		Oct 19, 2021
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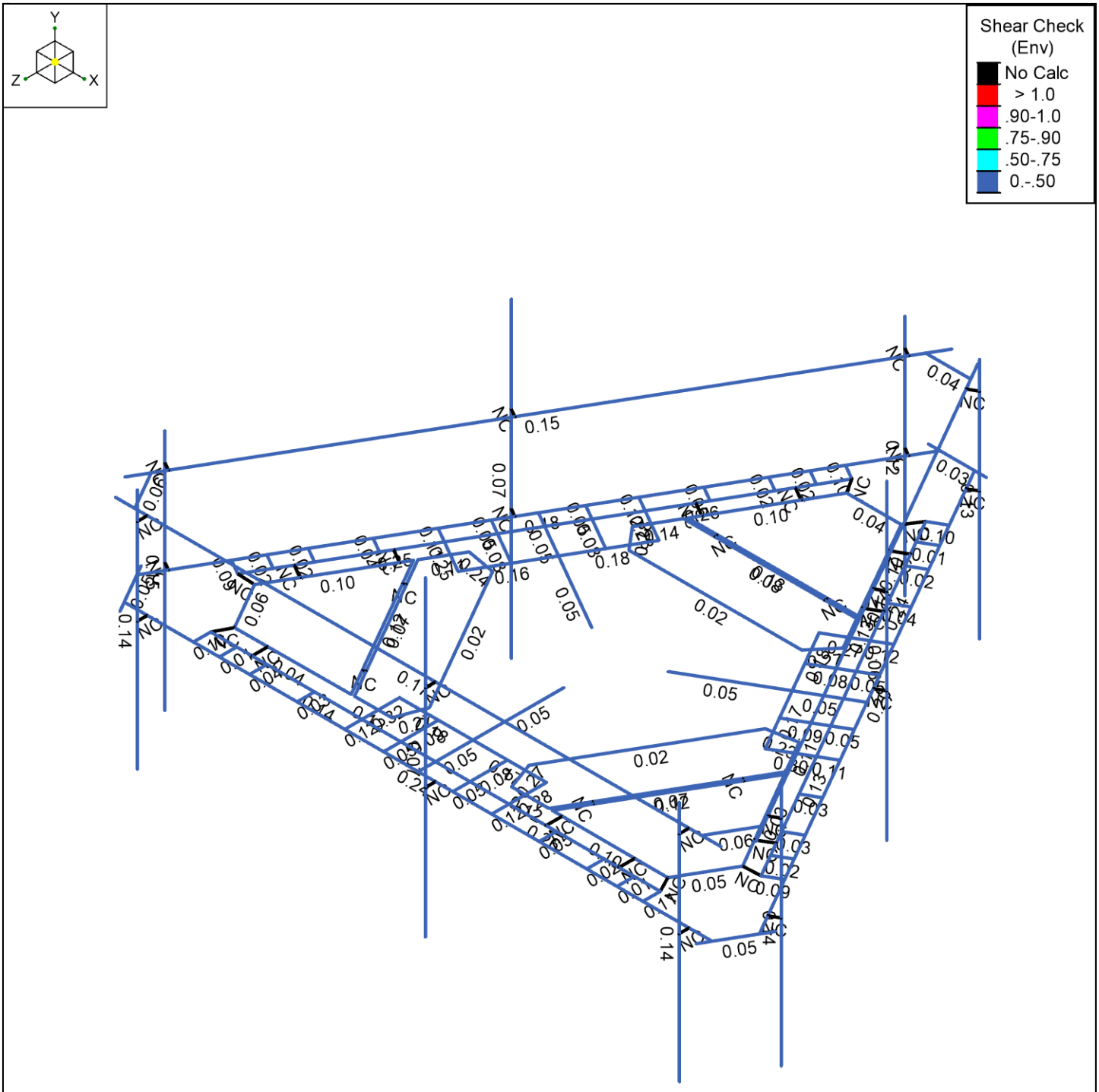


Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	822765 - Branford/ I-95/ X55/ Dtn 1	SK-5
MP		Oct 19, 2021
101126.009.01		101126_009_01_Branford I-95 X5…

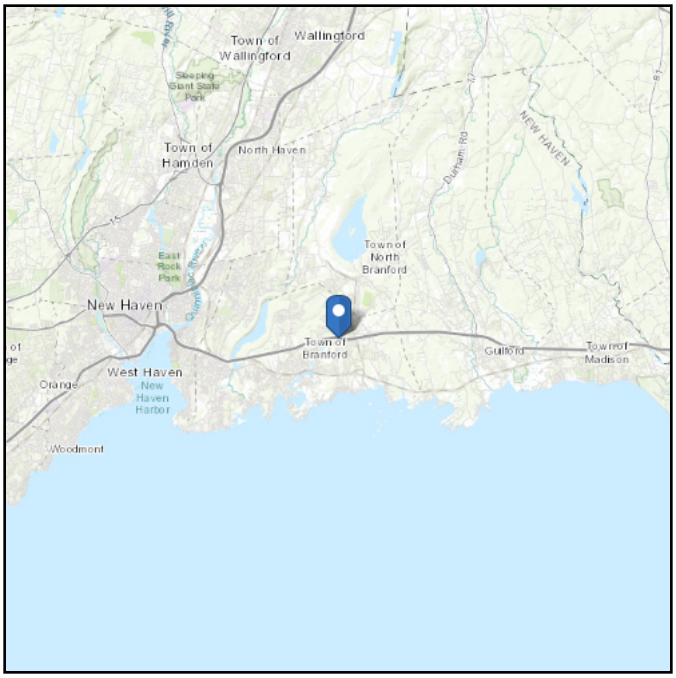
APPENDIX B

SOFTWARE INPUT CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Elevation:**	56.16 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.293933
Soil Class:	D - Default (see Section 11.4.3)	**Longitude:**	-72.785706



Wind

Results:

Wind Speed:	122 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	93 Vmph
100-year MRI	99 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:	Tue Oct 19 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.

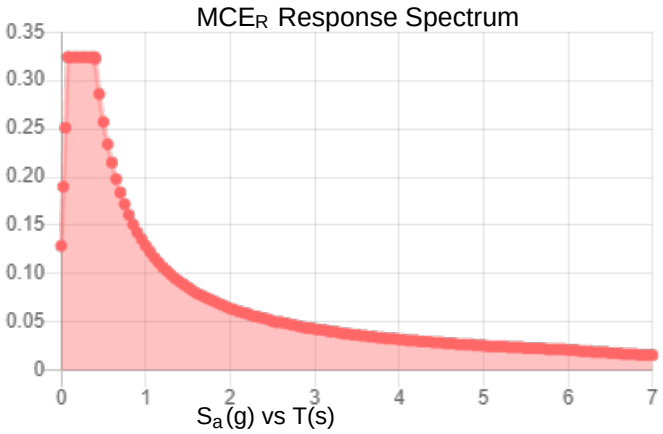
Seismic

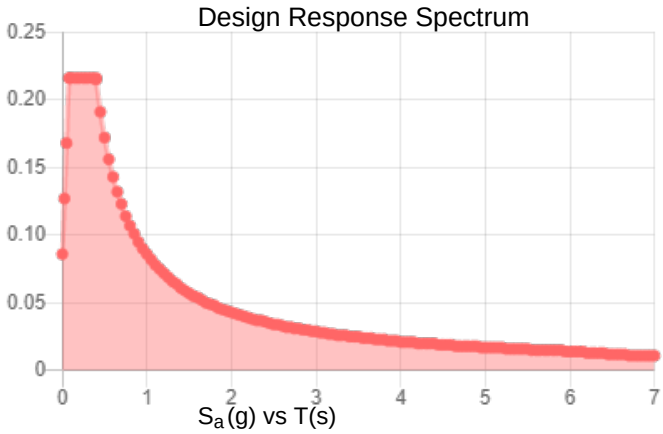
Site Soil Class: D - Default (see Section 11.4.3)

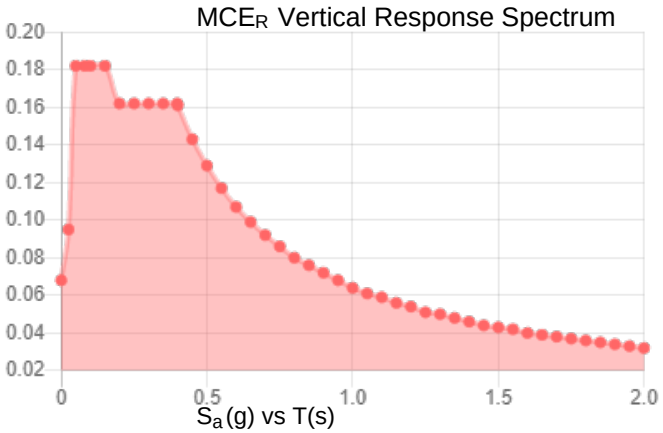
Results:

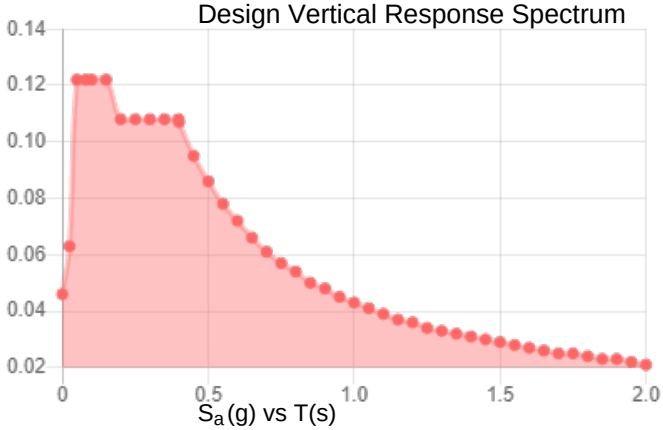
S_S :	0.202	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.113
F_v :	2.4	PGA_M :	0.178
S_{MS} :	0.324	F_{PGA} :	1.574
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.216	C_v :	0.704

Seismic Design Category B









Data Accessed: Tue Oct 19 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:	Tue Oct 19 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.

PROJECT	**101126.009.01 - Branford/ I-**		**KSC**
SUBJECT	**Platform Mount Analysis**		
DATE	**10-19-21**	PAGE	OF

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

Tower Type		:	Monopole		
Ground Elevation	z_s	:	56	ft	[ASCE7 Hazard Tool]
Tower Height		:	125.00	ft	
Mount Elevation		:	122.00	ft	
Antenna Elevation		:	122.00	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	:	122	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	:	1.05		[Sec. 2.6.5.2]
Topography Factor	K_{zt}	:	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	:	1.00		[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}	:	1.14	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	:	2.904		[Sec. 16.7]

	q_z	:	37.79	psf

PROJECT	**101126.009.01 - Branford/ I-**		**KSC**
SUBJECT	**Platform Mount Analysis**		
DATE	**10-19-21**	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)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.07	1.35	0.10	0.04	0.02	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.07	1.35	0.10	0.04	0.02	0.01
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.34	2.66	8.11	3.34	0.28	0.10	0.05	0.02
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.34	2.66	8.11	3.34	0.28	0.10	0.05	0.02
ERICSSON	RADIO 4449 B71/B85A	1	1.13	1.20	1.37	1.09	1.85	1.53	0.06	0.04	0.01	0.01
COMMSCOPE	VV-65A-R1_TMO	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_TMO	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_TMO	1	1.13	1.20	1.78	1.40	2.33	1.90	0.07	0.06	0.01	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.07	1.35	0.10	0.04	0.02	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.07	1.35	0.10	0.04	0.02	0.01
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.34	2.66	8.11	3.34	0.28	0.10	0.05	0.02
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.34	2.66	8.11	3.34	0.28	0.10	0.05	0.02
ERICSSON	RADIO 4449 B71/B85A	1	1.13	1.20	1.37	1.09	1.85	1.53	0.06	0.04	0.01	0.01
COMMSCOPE	VV-65A-R1_TMO	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_TMO	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_TMO	1	1.13	1.20	1.78	1.40	2.33	1.90	0.07	0.06	0.01	0.01

PROJECT	101126.009.01 - Branford/ I-	KSC
SUBJECT	Platform Mount Analysis	
DATE	10-19-21	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)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.07	1.35	0.10	0.04	0.02	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.64	1.02	3.07	1.35	0.10	0.04	0.02	0.01
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.34	2.66	8.11	3.34	0.28	0.10	0.05	0.02
RFS/CELWAVE	APXVAALL24_43-U-NA20	0.5	4.00	1.27	7.34	2.66	8.11	3.34	0.28	0.10	0.05	0.02
ERICSSON	RADIO 4449 B71/B85A	1	1.13	1.20	1.37	1.09	1.85	1.53	0.06	0.04	0.01	0.01
COMMSCOPE	VV-65A-R1_TMO	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_TMO	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_TMO	1	1.13	1.20	1.78	1.40	2.33	1.90	0.07	0.06	0.01	0.01

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	-8.5	0	5.484828	
2	2	8.5	0	5.484828	
3	3	-8.333333	0	5.773503	
4	4	-9.166667	0	4.330127	
5	5	8.333333	0	5.773503	
6	6	9.166667	0	4.330127	
7	7	-9	0	4.618802	
8	8	-0.5	0	-10.10363	
9	9	0.833333	0	-10.10363	
10	10	-0.833333	0	-10.10363	
11	11	9	0	4.618802	
12	12	0.5	0	-10.10363	
13	13	0	0	0	
14	14	0	0	1.276494	
15	15	1.105476	0	-0.638247	
16	16	-1.105476	0	-0.638247	
17	17	-2.718168	0	-5.26165	
18	18	-2.313097	0	-5.030181	
19	19	-8.75	2.5	5.484828	
20	20	8.75	2.5	5.484828	
21	25	-0.651042	2.5	-9.842018	
22	26	0.651042	2.5	-9.842018	
23	27	-8.197917	2.5	5.484828	
24	28	-8.848958	2.5	4.35719	
25	29	8.848958	2.5	4.35719	
26	30	8.197917	2.5	5.484828	
27	31	7.833335	3.291667	5.769634	
28	32	7.833335	-3.708333	5.769634	
29	33	-7.833333	3.291667	5.771286	
30	34	-7.833333	-3.708333	5.771286	
31	35	7.831683	2.5	5.484828	
32	36	7.833335	2.5	5.769634	
33	37	7.833335	0	5.484828	
34	38	7.833335	0	5.769634	
35	39	-7.833333	2.5	5.484828	
36	40	-7.833333	2.5	5.771286	
37	41	-7.833333	0	5.484828	
38	42	-7.833333	0	5.771286	
39	43	1.079982	3.291667	-9.668684	
40	44	1.079982	-3.708333	-9.668684	
41	45	8.914747	3.291667	3.898223	
42	46	8.914747	-3.708333	3.898223	
43	47	0.834158	2.5	-9.524851	
44	48	1.079982	2.5	-9.668684	
45	49	0.833332	0	-9.526281	
46	50	1.079982	0	-9.668684	
47	51	8.666667	2.5	4.041452	
48	52	8.914747	2.5	3.898223	
49	53	8.666667	0	4.041452	
50	54	8.914747	0	3.898223	
51	55	-8.913317	3.291667	3.89905	
52	56	-8.913317	-3.708333	3.89905	
53	57	-1.081414	3.291667	-9.669509	
54	58	-1.081414	-3.708333	-9.669509	
55	59	-8.665842	2.5	4.040023	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	60	-8.913317	2.5	3.89905	
57	61	-8.666668	0	4.041454	
58	62	-8.913317	0	3.89905	
59	63	-0.833333	2.5	-9.526279	
60	64	-1.081414	2.5	-9.669509	
61	65	-0.833333	0	-9.526279	
62	66	-1.081414	0	-9.669509	
63	67	0	0	5.484828	
64	68	0	0	3.484828	
65	69	-2.125	0	5.484828	
66	70	-1	0	5.484828	
67	71	-3.5	0	4.984828	
68	72	-3.5	0	5.484828	
69	73	-4.875	0	4.984828	
70	74	-4.875	0	5.484828	
71	75	-5.75	0	4.984828	
72	76	-5.75	0	5.484828	
73	77	-1	0	4.984828	
74	78	-1	0	3.901494	
75	79	-2.125	0	4.984828	
76	80	-2.125	0	3.901494	
77	81	-6.5	0	5.484828	
78	82	-6.5	0	4.984828	
79	83	2.125	0	5.484828	
80	84	1	0	5.484828	
81	85	3.5	0	4.984828	
82	86	3.5	0	5.484828	
83	87	4.875	0	4.984828	
84	88	4.875	0	5.484828	
85	89	5.75	0	4.984828	
86	90	5.75	0	5.484828	
87	91	1	0	4.984828	
88	92	1	0	3.901494	
89	93	2.125	0	4.984828	
90	94	0	0	4.984828	
91	95	0	0	3.901494	
92	96	2.125	0	3.901494	
93	97	6.5	0	5.484828	
94	98	6.5	0	4.984828	
95	99	4.75	0	-2.742414	
96	100	3.017949	0	-1.742414	
97	101	5.8125	0	-0.90211	
98	102	5.25	0	-1.876388	
99	103	6.066987	0	0.538675	
100	104	6.5	0	0.288675	
101	105	6.754487	0	1.72946	
102	106	7.1875	0	1.47946	
103	107	7.191987	0	2.487232	
104	108	7.625	0	2.237232	
105	109	4.816987	0	-1.626388	
106	110	3.878793	0	-1.084722	
107	111	5.379487	0	-0.65211	
108	112	4.441293	0	-0.110443	
109	113	8	0	2.886751	
110	114	7.566987	0	3.136751	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	115	3.6875	0	-4.582718	
112	116	4.25	0	-3.608439	
113	117	2.566987	0	-5.523503	
114	118	3	0	-5.773503	
115	119	1.879487	0	-6.714288	
116	120	2.3125	0	-6.964288	
117	121	1.441987	0	-7.47206	
118	122	1.875	0	-7.72206	
119	123	3.816987	0	-3.358439	
120	124	2.878793	0	-2.816773	
121	125	3.254487	0	-4.332718	
122	126	4.316987	0	-2.492414	
123	127	3.378793	0	-1.950747	
124	128	2.316293	0	-3.791051	
125	129	1.5	0	-8.371579	
126	130	1.066987	0	-8.121579	
127	131	-4.75	0	-2.742414	
128	132	-3.017949	0	-1.742414	
129	133	-3.6875	0	-4.582718	
130	134	-4.25	0	-3.608439	
131	135	-2.566987	0	-5.523503	
132	136	-3	0	-5.773503	
133	137	-1.879487	0	-6.714288	
134	138	-2.3125	0	-6.964288	
135	139	-1.441987	0	-7.47206	
136	140	-1.875	0	-7.72206	
137	141	-3.816987	0	-3.358439	
138	142	-2.878793	0	-2.816773	
139	143	-3.254487	0	-4.332718	
140	144	-2.316293	0	-3.791051	
141	145	-1.5	0	-8.371579	
142	146	-1.066987	0	-8.121579	
143	147	-5.8125	0	-0.90211	
144	148	-5.25	0	-1.876388	
145	149	-6.066987	0	0.538675	
146	150	-6.5	0	0.288675	
147	151	-6.754487	0	1.72946	
148	152	-7.1875	0	1.47946	
149	153	-7.191987	0	2.487232	
150	154	-7.625	0	2.237232	
151	155	-4.816987	0	-1.626388	
152	156	-3.878793	0	-1.084722	
153	157	-5.379487	0	-0.65211	
154	158	-4.316987	0	-2.492414	
155	159	-3.378793	0	-1.950747	
156	160	-4.441293	0	-0.110443	
157	161	-8	0	2.886751	
158	162	-7.566987	0	3.136751	
159	163	0.791667	0	-7.692685	
160	164	2.458333	0	-4.776019	
161	165	-0.791667	0	-7.692685	
162	166	-2.458333	0	-4.776019	
163	167	-2.505952	0	-4.692685	
164	168	-3.042969	0	-3.752907	
165	169	-2.5	0	-3.109352	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
166	170	2.505952	0	-4.692685	
167	171	3.042969	0	-3.752907	
168	172	2.5	0	-3.109352	
169	173	-1.66547	0	-7.084977	
170	174	-1.268539	0	-6.858159	
171	175	-1.591005	0	-4.776019	
172	176	-1.591005	0	-4.692685	
173	177	1.66547	0	-7.084977	
174	178	1.268539	0	-6.858159	
175	179	2.718168	0	-5.26165	
176	180	2.313097	0	-5.030181	
177	181	1.591005	0	-4.776019	
178	182	1.591005	0	-4.692685	
179	183	-7.057894	0	3.160739	
180	184	-5.36532	0	0.25903	
181	185	-6.266227	0	4.531946	
182	186	-2.906987	0	4.516988	
183	187	-2.811008	0	4.516561	
184	188	-1.728628	0	4.511742	
185	189	-1.442778	0	3.719739	
186	190	-5.316961	0	0.176124	
187	191	-4.771597	0	-0.758835	
188	192	-3.942778	0	-0.610388	
189	193	-5.303035	0	4.984828	
190	194	-5.30507	0	4.527666	
191	195	-3.340651	0	3.76586	
192	196	-3.268482	0	3.724193	
193	197	-6.968505	0	2.100149	
194	198	-6.573609	0	2.330493	
195	199	-5.915807	0	0.276823	
196	200	-5.512814	0	0.511889	
197	201	-4.931656	0	1.010158	
198	202	-4.859487	0	0.968492	
199	203	6.266227	0	4.531946	
200	204	2.906987	0	4.516988	
201	205	7.057894	0	3.160739	
202	206	5.36532	0	0.25903	
203	207	5.316961	0	0.176124	
204	208	4.771597	0	-0.758835	
205	209	3.942778	0	-0.610388	
206	210	2.811008	0	4.516561	
207	211	1.728628	0	4.511742	
208	212	1.442778	0	3.719739	
209	213	6.968505	0	2.100149	
210	214	6.573609	0	2.330493	
211	215	4.931656	0	1.010158	
212	216	4.859487	0	0.968492	
213	217	5.303035	0	4.984828	
214	218	5.30507	0	4.527666	
215	219	3.197639	0	4.984828	
216	220	3.199716	0	4.518292	
217	221	3.340651	0	3.76586	
218	222	3.268482	0	3.724193	
219	223	0.5	5.25	5.771286	
220	224	0.5	-3.75	5.771286	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
221	225	0.5	0	5.484828	
222	226	0.5	0	5.771286	
223	227	0.5	2.5	5.484828	
224	228	0.5	2.5	5.771286	
225	241	-2.125	0	4.513506	
226	242	-1.508377	0	3.901494	
227	243	2.125	0	4.513506	
228	244	1.508377	0	3.901494	
229	245	4.971311	0	-0.416449	
230	246	4.132982	0	-0.644454	
231	247	2.846311	0	-4.097057	
232	248	2.624605	0	-3.25704	
233	249	-2.846311	0	-4.097057	
234	250	-2.624605	0	-3.25704	
235	251	-4.971311	0	-0.416449	
236	252	-4.132982	0	-0.644454	
237	N241	4.74808	5.25	-3.318656	
238	N242	4.74808	-3.75	-3.318656	
239	N243	4.5	0	-3.175426	
240	N244	4.74808	0	-3.318656	
241	N245	4.5	2.5	-3.175426	
242	N246	4.74808	2.5	-3.318656	
243	N247	-5.24808	5.25	-2.45263	
244	N248	-5.24808	-3.75	-2.45263	
245	N249	-5	0	-2.309401	
246	N250	-5.24808	0	-2.45263	
247	N251	-5	2.5	-2.309401	
248	N252	-5.24808	2.5	-2.45263	
249	253	9.125	2.5	4.835309	
250	254	0.375	2.5	-10.320136	
251	255	-0.375	2.5	-10.320136	
252	256	-9.125	2.5	4.835309	

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	14	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	16	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	15	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e^{5}°F^{-1}]	Density [k/ft^{3}]	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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	MF-H1	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	MF-H2	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
3	MF-P1	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
4	F1-S1	HSS5X5X6	Beam	Tube	A500 Gr.B Rect	Typical	6.18	21.7	21.7	36.1
5	F1-SR1	SR_1"	Beam	BAR	A36 Gr.36	Typical	0.785	0.049	0.049	0.098
6	F1-SR2	SR_3/4"	Beam	BAR	A36 Gr.36	Typical	0.442	0.016	0.016	0.031
7	F1-CA1	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
8	F1-C1	PL1/2X10	Beam	RECT	A36 Gr.36	Typical	5	0.104	41.667	0.404

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	1	2		MF-H1	Beam	Pipe	A53 Gr.B	Typical
2	2	3	4		F1-C1	Beam	RECT	A36 Gr.36	Typical
3	3	5	6		F1-C1	Beam	RECT	A36 Gr.36	Typical
4	4	7	8		MF-H1	Beam	Pipe	A53 Gr.B	Typical
5	5	9	10		F1-C1	Beam	RECT	A36 Gr.36	Typical
6	6	11	12		MF-H1	Beam	Pipe	A53 Gr.B	Typical
7	7	68	14		F1-S1	Beam	Tube	A500 Gr.B Rect	Typical
8	8	99	100		F1-S1	Beam	Tube	A500 Gr.B Rect	Typical
9	9	100	15		F1-S1	Beam	Tube	A500 Gr.B Rect	Typical
10	10	131	132		F1-S1	Beam	Tube	A500 Gr.B Rect	Typical
11	11	132	16		F1-S1	Beam	Tube	A500 Gr.B Rect	Typical
12	12	17	18		RIGID	None	None	RIGID	Typical
13	13	19	20		MF-H2	Beam	Pipe	A53 Gr.B	Typical
14	14	255	256		MF-H2	Beam	Pipe	A53 Gr.B	Typical
15	15	253	254		MF-H2	Beam	Pipe	A53 Gr.B	Typical
16	16	25	26	180	F1-CA1	Beam	Single Angle	A36 Gr.36	Typical
17	17	27	28	180	F1-CA1	Beam	Single Angle	A36 Gr.36	Typical
18	18	29	30	180	F1-CA1	Beam	Single Angle	A36 Gr.36	Typical
19	19	31	32		MF-P1	Column	Pipe	A53 Gr.B	Typical
20	20	33	34		MF-P1	Column	Pipe	A53 Gr.B	Typical
21	21	35	36		RIGID	None	None	RIGID	Typical
22	22	37	38		RIGID	None	None	RIGID	Typical
23	23	39	40		RIGID	None	None	RIGID	Typical
24	24	41	42		RIGID	None	None	RIGID	Typical
25	25	43	44		MF-P1	Column	Pipe	A53 Gr.B	Typical
26	26	45	46		MF-P1	Column	Pipe	A53 Gr.B	Typical
27	27	47	48		RIGID	None	None	RIGID	Typical
28	28	49	50		RIGID	None	None	RIGID	Typical
29	29	51	52		RIGID	None	None	RIGID	Typical
30	30	53	54		RIGID	None	None	RIGID	Typical
31	31	55	56		MF-P1	Column	Pipe	A53 Gr.B	Typical
32	32	57	58		MF-P1	Column	Pipe	A53 Gr.B	Typical
33	33	59	60		RIGID	None	None	RIGID	Typical
34	34	61	62		RIGID	None	None	RIGID	Typical
35	35	63	64		RIGID	None	None	RIGID	Typical
36	36	65	66		RIGID	None	None	RIGID	Typical
37	37	67	68		F1-S1	Beam	Tube	A500 Gr.B Rect	Typical
38	38	69	79		F1-SR1	Beam	BAR	A36 Gr.36	Typical
39	39	70	77		F1-SR1	Beam	BAR	A36 Gr.36	Typical
40	40	71	72		F1-SR1	Beam	BAR	A36 Gr.36	Typical
41	41	73	74		F1-SR1	Beam	BAR	A36 Gr.36	Typical
42	42	75	76		F1-SR1	Beam	BAR	A36 Gr.36	Typical
43	43	77	78		F1-SR2	Beam	BAR	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
44	44	79	80		F1-SR2	Beam	BAR	A36 Gr.36	Typical
45	45	94	82		F1-SR2	Beam	BAR	A36 Gr.36	Typical
46	46	95	80		F1-SR2	Beam	BAR	A36 Gr.36	Typical
47	47	81	82		F1-SR2	Beam	BAR	A36 Gr.36	Typical
48	48	83	93		F1-SR1	Beam	BAR	A36 Gr.36	Typical
49	49	84	91		F1-SR1	Beam	BAR	A36 Gr.36	Typical
50	50	85	86		F1-SR1	Beam	BAR	A36 Gr.36	Typical
51	51	87	88		F1-SR1	Beam	BAR	A36 Gr.36	Typical
52	52	89	90		F1-SR1	Beam	BAR	A36 Gr.36	Typical
53	53	91	92		F1-SR2	Beam	BAR	A36 Gr.36	Typical
54	54	93	96		F1-SR2	Beam	BAR	A36 Gr.36	Typical
55	55	94	98		F1-SR2	Beam	BAR	A36 Gr.36	Typical
56	56	95	96		F1-SR2	Beam	BAR	A36 Gr.36	Typical
57	57	97	98		F1-SR2	Beam	BAR	A36 Gr.36	Typical
58	58	101	111		F1-SR1	Beam	BAR	A36 Gr.36	Typical
59	59	102	109		F1-SR1	Beam	BAR	A36 Gr.36	Typical
60	60	103	104		F1-SR1	Beam	BAR	A36 Gr.36	Typical
61	61	105	106		F1-SR1	Beam	BAR	A36 Gr.36	Typical
62	62	107	108		F1-SR1	Beam	BAR	A36 Gr.36	Typical
63	63	109	110		F1-SR2	Beam	BAR	A36 Gr.36	Typical
64	64	111	112		F1-SR2	Beam	BAR	A36 Gr.36	Typical
65	65	126	114		F1-SR2	Beam	BAR	A36 Gr.36	Typical
66	66	127	112		F1-SR2	Beam	BAR	A36 Gr.36	Typical
67	67	113	114		F1-SR2	Beam	BAR	A36 Gr.36	Typical
68	68	115	125		F1-SR1	Beam	BAR	A36 Gr.36	Typical
69	69	116	123		F1-SR1	Beam	BAR	A36 Gr.36	Typical
70	70	117	118		F1-SR1	Beam	BAR	A36 Gr.36	Typical
71	71	119	120		F1-SR1	Beam	BAR	A36 Gr.36	Typical
72	72	121	122		F1-SR1	Beam	BAR	A36 Gr.36	Typical
73	73	123	124		F1-SR2	Beam	BAR	A36 Gr.36	Typical
74	74	125	128		F1-SR2	Beam	BAR	A36 Gr.36	Typical
75	75	126	130		F1-SR2	Beam	BAR	A36 Gr.36	Typical
76	76	127	128		F1-SR2	Beam	BAR	A36 Gr.36	Typical
77	77	129	130		F1-SR2	Beam	BAR	A36 Gr.36	Typical
78	78	133	143		F1-SR1	Beam	BAR	A36 Gr.36	Typical
79	79	134	141		F1-SR1	Beam	BAR	A36 Gr.36	Typical
80	80	135	136		F1-SR1	Beam	BAR	A36 Gr.36	Typical
81	81	137	138		F1-SR1	Beam	BAR	A36 Gr.36	Typical
82	82	139	140		F1-SR1	Beam	BAR	A36 Gr.36	Typical
83	83	141	142		F1-SR2	Beam	BAR	A36 Gr.36	Typical
84	84	143	144		F1-SR2	Beam	BAR	A36 Gr.36	Typical
85	85	158	146		F1-SR2	Beam	BAR	A36 Gr.36	Typical
86	86	159	144		F1-SR2	Beam	BAR	A36 Gr.36	Typical
87	87	145	146		F1-SR2	Beam	BAR	A36 Gr.36	Typical
88	88	147	157		F1-SR1	Beam	BAR	A36 Gr.36	Typical
89	89	148	155		F1-SR1	Beam	BAR	A36 Gr.36	Typical
90	90	149	150		F1-SR1	Beam	BAR	A36 Gr.36	Typical
91	91	151	152		F1-SR1	Beam	BAR	A36 Gr.36	Typical
92	92	153	154		F1-SR1	Beam	BAR	A36 Gr.36	Typical
93	93	155	156		F1-SR2	Beam	BAR	A36 Gr.36	Typical
94	94	157	160		F1-SR2	Beam	BAR	A36 Gr.36	Typical
95	95	158	162		F1-SR2	Beam	BAR	A36 Gr.36	Typical
96	96	159	160		F1-SR2	Beam	BAR	A36 Gr.36	Typical
97	97	161	162		F1-SR2	Beam	BAR	A36 Gr.36	Typical
98	98	165	163		CF1	Beam	CS	A653 SS Gr33	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
99	99	166	164	180	CF1	Beam	CS	A653 SS Gr33	Typical
100	100	163	164		CF1	Beam	CS	A653 SS Gr33	Typical
101	101	165	166	180	CF1	Beam	CS	A653 SS Gr33	Typical
102	102	167	170		CF1	Beam	CS	A653 SS Gr33	Typical
103	103	167	168	180	CF1	Beam	CS	A653 SS Gr33	Typical
104	104	169	172	180	CF1	Beam	CS	A653 SS Gr33	Typical
105	105	168	169	180	CF1	Beam	CS	A653 SS Gr33	Typical
106	106	170	171		CF1	Beam	CS	A653 SS Gr33	Typical
107	107	171	172		CF1	Beam	CS	A653 SS Gr33	Typical
108	108	173	174		RIGID	None	None	RIGID	Typical
109	109	175	176		RIGID	None	None	RIGID	Typical
110	110	177	178		RIGID	None	None	RIGID	Typical
111	111	179	180		RIGID	None	None	RIGID	Typical
112	112	181	182		RIGID	None	None	RIGID	Typical
113	113	185	183		CF1	Beam	CS	A653 SS Gr33	Typical
114	114	186	184	180	CF1	Beam	CS	A653 SS Gr33	Typical
115	115	183	184		CF1	Beam	CS	A653 SS Gr33	Typical
116	116	185	186	180	CF1	Beam	CS	A653 SS Gr33	Typical
117	117	187	190		CF1	Beam	CS	A653 SS Gr33	Typical
118	118	187	188	180	CF1	Beam	CS	A653 SS Gr33	Typical
119	119	189	192	180	CF1	Beam	CS	A653 SS Gr33	Typical
120	120	188	189	180	CF1	Beam	CS	A653 SS Gr33	Typical
121	121	190	191		CF1	Beam	CS	A653 SS Gr33	Typical
122	122	191	192		CF1	Beam	CS	A653 SS Gr33	Typical
123	123	193	194		RIGID	None	None	RIGID	Typical
124	124	195	196		RIGID	None	None	RIGID	Typical
125	125	197	198		RIGID	None	None	RIGID	Typical
126	126	199	200		RIGID	None	None	RIGID	Typical
127	127	201	202		RIGID	None	None	RIGID	Typical
128	128	205	203		CF1	Beam	CS	A653 SS Gr33	Typical
129	129	206	204	180	CF1	Beam	CS	A653 SS Gr33	Typical
130	130	203	204		CF1	Beam	CS	A653 SS Gr33	Typical
131	131	205	206	180	CF1	Beam	CS	A653 SS Gr33	Typical
132	132	207	210		CF1	Beam	CS	A653 SS Gr33	Typical
133	133	207	208	180	CF1	Beam	CS	A653 SS Gr33	Typical
134	134	209	212	180	CF1	Beam	CS	A653 SS Gr33	Typical
135	135	208	209	180	CF1	Beam	CS	A653 SS Gr33	Typical
136	136	210	211		CF1	Beam	CS	A653 SS Gr33	Typical
137	137	211	212		CF1	Beam	CS	A653 SS Gr33	Typical
138	138	213	214		RIGID	None	None	RIGID	Typical
139	139	215	216		RIGID	None	None	RIGID	Typical
140	140	217	218		RIGID	None	None	RIGID	Typical
141	141	219	220		RIGID	None	None	RIGID	Typical
142	142	221	222		RIGID	None	None	RIGID	Typical
143	143	223	224		MF-P1	Column	Pipe	A53 Gr.B	Typical
144	144	225	226		RIGID	None	None	RIGID	Typical
145	145	227	228		RIGID	None	None	RIGID	Typical
146	152	203	98		RIGID	None	None	RIGID	Typical
147	153	205	114		RIGID	None	None	RIGID	Typical
148	154	185	82		RIGID	None	None	RIGID	Typical
149	155	183	162		RIGID	None	None	RIGID	Typical
150	156	165	146		RIGID	None	None	RIGID	Typical
151	157	163	130		RIGID	None	None	RIGID	Typical
152	M152	N241	N242		MF-P1	Column	Pipe	A53 Gr.B	Typical
153	M153	N243	N244		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
154	M154	N245	N246		RIGID	None	None	RIGID	Typical
155	M155	N247	N248		MF-P1	Column	Pipe	A53 Gr.B	Typical
156	M156	N249	N250		RIGID	None	None	RIGID	Typical
157	M157	N251	N252		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	T/C Only	Physical	Deflection Ratio Options	Seismic DR
1	1		Yes	N/A	None
2	2		Yes	Default	None
3	3		Yes	N/A	None
4	4		Yes	N/A	None
5	5		Yes	N/A	None
6	6		Yes	N/A	None
7	7		Yes	N/A	None
8	8		Yes	N/A	None
9	9		Yes	N/A	None
10	10		Yes	N/A	None
11	11		Yes	N/A	None
12	12		Yes	** NA **	None
13	13		Yes	N/A	None
14	14		Yes	N/A	None
15	15		Yes	N/A	None
16	16		Yes	N/A	None
17	17		Yes	N/A	None
18	18		Yes	N/A	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	N/A	None
38	38	Euler Buckling	Yes	N/A	None
39	39	Euler Buckling	Yes	N/A	None
40	40	Euler Buckling	Yes	N/A	None
41	41	Euler Buckling	Yes	N/A	None
42	42	Euler Buckling	Yes	N/A	None
43	43	Euler Buckling	Yes	N/A	None
44	44	Euler Buckling	Yes	N/A	None
45	45	Euler Buckling	Yes	N/A	None
46	46	Euler Buckling	Yes	N/A	None
47	47	Euler Buckling	Yes	N/A	None
48	48	Euler Buckling	Yes	N/A	None

Member Advanced Data (Continued)

	Label	T/C Only	Physical	Deflection Ratio Options	Seismic DR
49	49	Euler Buckling	Yes	N/A	None
50	50	Euler Buckling	Yes	N/A	None
51	51	Euler Buckling	Yes	N/A	None
52	52	Euler Buckling	Yes	N/A	None
53	53	Euler Buckling	Yes	N/A	None
54	54	Euler Buckling	Yes	N/A	None
55	55	Euler Buckling	Yes	N/A	None
56	56	Euler Buckling	Yes	N/A	None
57	57	Euler Buckling	Yes	N/A	None
58	58	Euler Buckling	Yes	N/A	None
59	59	Euler Buckling	Yes	N/A	None
60	60	Euler Buckling	Yes	N/A	None
61	61	Euler Buckling	Yes	N/A	None
62	62	Euler Buckling	Yes	N/A	None
63	63	Euler Buckling	Yes	N/A	None
64	64	Euler Buckling	Yes	N/A	None
65	65	Euler Buckling	Yes	N/A	None
66	66	Euler Buckling	Yes	N/A	None
67	67	Euler Buckling	Yes	N/A	None
68	68	Euler Buckling	Yes	N/A	None
69	69	Euler Buckling	Yes	N/A	None
70	70	Euler Buckling	Yes	N/A	None
71	71	Euler Buckling	Yes	N/A	None
72	72	Euler Buckling	Yes	N/A	None
73	73	Euler Buckling	Yes	N/A	None
74	74	Euler Buckling	Yes	N/A	None
75	75	Euler Buckling	Yes	N/A	None
76	76	Euler Buckling	Yes	N/A	None
77	77	Euler Buckling	Yes	N/A	None
78	78	Euler Buckling	Yes	N/A	None
79	79	Euler Buckling	Yes	N/A	None
80	80	Euler Buckling	Yes	N/A	None
81	81	Euler Buckling	Yes	N/A	None
82	82	Euler Buckling	Yes	N/A	None
83	83	Euler Buckling	Yes	N/A	None
84	84	Euler Buckling	Yes	N/A	None
85	85	Euler Buckling	Yes	N/A	None
86	86	Euler Buckling	Yes	N/A	None
87	87	Euler Buckling	Yes	N/A	None
88	88	Euler Buckling	Yes	N/A	None
89	89	Euler Buckling	Yes	N/A	None
90	90	Euler Buckling	Yes	N/A	None
91	91	Euler Buckling	Yes	N/A	None
92	92	Euler Buckling	Yes	N/A	None
93	93	Euler Buckling	Yes	N/A	None
94	94	Euler Buckling	Yes	N/A	None
95	95	Euler Buckling	Yes	N/A	None
96	96	Euler Buckling	Yes	N/A	None
97	97	Euler Buckling	Yes	N/A	None
98	98		Yes	N/A	None
99	99		Yes	N/A	None
100	100		Yes	N/A	None
101	101		Yes	N/A	None
102	102		Yes	N/A	None
103	103		Yes	N/A	None

Member Advanced Data (Continued)

	Label	T/C Only	Physical	Deflection Ratio Options	Seismic DR
104	104		Yes	N/A	None
105	105		Yes	N/A	None
106	106		Yes	N/A	None
107	107		Yes	N/A	None
108	108		Yes	** NA **	None
109	109		Yes	** NA **	None
110	110		Yes	** NA **	None
111	111		Yes	** NA **	None
112	112		Yes	** NA **	None
113	113		Yes	N/A	None
114	114		Yes	N/A	None
115	115		Yes	N/A	None
116	116		Yes	N/A	None
117	117		Yes	N/A	None
118	118		Yes	N/A	None
119	119		Yes	N/A	None
120	120		Yes	N/A	None
121	121		Yes	N/A	None
122	122		Yes	N/A	None
123	123		Yes	** NA **	None
124	124		Yes	** NA **	None
125	125		Yes	** NA **	None
126	126		Yes	** NA **	None
127	127		Yes	** NA **	None
128	128		Yes	N/A	None
129	129		Yes	N/A	None
130	130		Yes	N/A	None
131	131		Yes	N/A	None
132	132		Yes	N/A	None
133	133		Yes	N/A	None
134	134		Yes	N/A	None
135	135		Yes	N/A	None
136	136		Yes	N/A	None
137	137		Yes	N/A	None
138	138		Yes	** NA **	None
139	139		Yes	** NA **	None
140	140	Euler Buckling	Yes	** NA **	None
141	141	Euler Buckling	Yes	** NA **	None
142	142		Yes	** NA **	None
143	143		Yes	** NA **	None
144	144		Yes	** NA **	None
145	145		Yes	** NA **	None
146	152		Yes	** NA **	None
147	153		Yes	** NA **	None
148	154		Yes	** NA **	None
149	155		Yes	** NA **	None
150	156		Yes	** NA **	None
151	157		Yes	** NA **	None
152	M152		Yes	** NA **	None
153	M153		Yes	** NA **	None
154	M154		Yes	** NA **	None
155	M155		Yes	** NA **	None
156	M156		Yes	** NA **	None
157	M157		Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	1	MF-H1	17	Lbyy	Lateral
2	2	F1-C1	1.667	Lbyy	Lateral
3	3	F1-C1	1.667	Lbyy	Lateral
4	4	MF-H1	17	Lbyy	Lateral
5	5	F1-C1	1.667	Lbyy	Lateral
6	6	MF-H1	17	Lbyy	Lateral
7	7	F1-S1	2.208	Lbyy	Lateral
8	8	F1-S1	2	Lbyy	Lateral
9	9	F1-S1	2.208	Lbyy	Lateral
10	10	F1-S1	2	Lbyy	Lateral
11	11	F1-S1	2.208	Lbyy	Lateral
12	13	MF-H2	17.5	Lbyy	Lateral
13	14	MF-H2	17.5	Lbyy	Lateral
14	15	MF-H2	17.5	Lbyy	Lateral
15	16	F1-CA1	1.302	Lbyy	Lateral
16	17	F1-CA1	1.302	Lbyy	Lateral
17	18	F1-CA1	1.302	Lbyy	Lateral
18	19	MF-P1	7	Lbyy	Lateral
19	20	MF-P1	7	Lbyy	Lateral
20	25	MF-P1	7	Lbyy	Lateral
21	26	MF-P1	7	Lbyy	Lateral
22	31	MF-P1	7	Lbyy	Lateral
23	32	MF-P1	7	Lbyy	Lateral
24	37	F1-S1	2	Lbyy	Lateral
25	38	F1-SR1	0.5	Lbyy	Lateral
26	39	F1-SR1	0.5	Lbyy	Lateral
27	40	F1-SR1	0.5	Lbyy	Lateral
28	41	F1-SR1	0.5	Lbyy	Lateral
29	42	F1-SR1	0.5	Lbyy	Lateral
30	43	F1-SR2	1.083	Lbyy	Lateral
31	44	F1-SR2	1.083	Lbyy	Lateral
32	45	F1-SR2	6.5	Lbyy	Lateral
33	46	F1-SR2	2.125	Lbyy	Lateral
34	47	F1-SR2	0.5	Lbyy	Lateral
35	48	F1-SR1	0.5	Lbyy	Lateral
36	49	F1-SR1	0.5	Lbyy	Lateral
37	50	F1-SR1	0.5	Lbyy	Lateral
38	51	F1-SR1	0.5	Lbyy	Lateral
39	52	F1-SR1	0.5	Lbyy	Lateral
40	53	F1-SR2	1.083	Lbyy	Lateral
41	54	F1-SR2	1.083	Lbyy	Lateral
42	55	F1-SR2	6.5	Lbyy	Lateral
43	56	F1-SR2	2.125	Lbyy	Lateral
44	57	F1-SR2	0.5	Lbyy	Lateral
45	58	F1-SR1	0.5	Lbyy	Lateral
46	59	F1-SR1	0.5	Lbyy	Lateral
47	60	F1-SR1	0.5	Lbyy	Lateral
48	61	F1-SR1	0.5	Lbyy	Lateral
49	62	F1-SR1	0.5	Lbyy	Lateral
50	63	F1-SR2	1.083	Lbyy	Lateral
51	64	F1-SR2	1.083	Lbyy	Lateral
52	65	F1-SR2	6.5	Lbyy	Lateral
53	66	F1-SR2	2.125	Lbyy	Lateral
54	67	F1-SR2	0.5	Lbyy	Lateral
55	68	F1-SR1	0.5	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
56	69	F1-SR1	0.5	Lbyy	Lateral
57	70	F1-SR1	0.5	Lbyy	Lateral
58	71	F1-SR1	0.5	Lbyy	Lateral
59	72	F1-SR1	0.5	Lbyy	Lateral
60	73	F1-SR2	1.083	Lbyy	Lateral
61	74	F1-SR2	1.083	Lbyy	Lateral
62	75	F1-SR2	6.5	Lbyy	Lateral
63	76	F1-SR2	2.125	Lbyy	Lateral
64	77	F1-SR2	0.5	Lbyy	Lateral
65	78	F1-SR1	0.5	Lbyy	Lateral
66	79	F1-SR1	0.5	Lbyy	Lateral
67	80	F1-SR1	0.5	Lbyy	Lateral
68	81	F1-SR1	0.5	Lbyy	Lateral
69	82	F1-SR1	0.5	Lbyy	Lateral
70	83	F1-SR2	1.083	Lbyy	Lateral
71	84	F1-SR2	1.083	Lbyy	Lateral
72	85	F1-SR2	6.5	Lbyy	Lateral
73	86	F1-SR2	2.125	Lbyy	Lateral
74	87	F1-SR2	0.5	Lbyy	Lateral
75	88	F1-SR1	0.5	Lbyy	Lateral
76	89	F1-SR1	0.5	Lbyy	Lateral
77	90	F1-SR1	0.5	Lbyy	Lateral
78	91	F1-SR1	0.5	Lbyy	Lateral
79	92	F1-SR1	0.5	Lbyy	Lateral
80	93	F1-SR2	1.083	Lbyy	Lateral
81	94	F1-SR2	1.083	Lbyy	Lateral
82	95	F1-SR2	6.5	Lbyy	Lateral
83	96	F1-SR2	2.125	Lbyy	Lateral
84	97	F1-SR2	0.5	Lbyy	Lateral
85	143	MF-P1	9	Lbyy	Lateral
86	M152	MF-P1	9	Lbyy	Lateral
87	M155	MF-P1	9	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	Y	-0.057	%5
2	19	Y	-0.057	%40
3	19	Y	0	0
4	19	Y	0	0
5	19	Y	0	0
6	143	Y	-0.061	%5
7	143	Y	-0.061	%90
8	143	Y	-0.075	%45
9	143	Y	0	0
10	143	Y	0	0
11	20	Y	-0.017	%5
12	20	Y	-0.017	%60
13	20	Y	-0.109	%35
14	20	Y	0	0
15	20	Y	0	0
16	31	Y	-0.057	%5
17	31	Y	-0.057	%40
18	31	Y	0	0
19	31	Y	0	0
20	31	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
21	M155	Y	-0.061	%5
22	M155	Y	-0.061	%90
23	M155	Y	-0.075	%45
24	M155	Y	0	0
25	M155	Y	0	0
26	32	Y	-0.017	%5
27	32	Y	-0.017	%60
28	32	Y	-0.109	%35
29	32	Y	0	0
30	32	Y	0	0
31	25	Y	-0.057	%5
32	25	Y	-0.057	%40
33	25	Y	0	0
34	25	Y	0	0
35	25	Y	0	0
36	M152	Y	-0.061	%5
37	M152	Y	-0.061	%90
38	M152	Y	-0.075	%45
39	M152	Y	0	0
40	M152	Y	0	0
41	26	Y	-0.017	%5
42	26	Y	-0.017	%60
43	26	Y	-0.109	%35
44	26	Y	0	0
45	26	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	Z	-0.1	%5
2	19	Z	-0.1	%40
3	19	Z	0	0
4	19	Z	0	0
5	19	Z	0	0
6	143	Z	-0.277	%5
7	143	Z	-0.277	%90
8	143	Z	-0.056	%45
9	143	Z	0	0
10	143	Z	0	0
11	20	Z	-0.1	%5
12	20	Z	-0.1	%60
13	20	Z	-0.073	%35
14	20	Z	0	0
15	20	Z	0	0
16	31	Z	-0.1	%5
17	31	Z	-0.1	%40
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0
21	M155	Z	-0.277	%5
22	M155	Z	-0.277	%90
23	M155	Z	-0.056	%45
24	M155	Z	0	0
25	M155	Z	0	0
26	32	Z	-0.1	%5
27	32	Z	-0.1	%60

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
28	32	Z	-0.073	%35
29	32	Z	0	0
30	32	Z	0	0
31	25	Z	-0.1	%5
32	25	Z	-0.1	%40
33	25	Z	0	0
34	25	Z	0	0
35	25	Z	0	0
36	M152	Z	-0.277	%5
37	M152	Z	-0.277	%90
38	M152	Z	-0.056	%45
39	M152	Z	0	0
40	M152	Z	0	0
41	26	Z	-0.1	%5
42	26	Z	-0.1	%60
43	26	Z	-0.073	%35
44	26	Z	0	0
45	26	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	X	-0.038	%5
2	19	X	-0.038	%40
3	19	X	0	0
4	19	X	0	0
5	19	X	0	0
6	143	X	-0.101	%5
7	143	X	-0.101	%90
8	143	X	-0.045	%45
9	143	X	0	0
10	143	X	0	0
11	20	X	-0.038	%5
12	20	X	-0.038	%60
13	20	X	-0.057	%35
14	20	X	0	0
15	20	X	0	0
16	31	X	-0.038	%5
17	31	X	-0.038	%40
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0
21	M155	X	-0.101	%5
22	M155	X	-0.101	%90
23	M155	X	-0.045	%45
24	M155	X	0	0
25	M155	X	0	0
26	32	X	-0.038	%5
27	32	X	-0.038	%60
28	32	X	-0.057	%35
29	32	X	0	0
30	32	X	0	0
31	25	X	-0.038	%5
32	25	X	-0.038	%40
33	25	X	0	0
34	25	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
35	25	X	0	0
36	M152	X	-0.101	%5
37	M152	X	-0.101	%90
38	M152	X	-0.045	%45
39	M152	X	0	0
40	M152	X	0	0
41	26	X	-0.038	%5
42	26	X	-0.038	%60
43	26	X	-0.057	%35
44	26	X	0	0
45	26	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	Z	-0.02	%5
2	19	Z	-0.02	%40
3	19	Z	0	0
4	19	Z	0	0
5	19	Z	0	0
6	143	Z	-0.051	%5
7	143	Z	-0.051	%90
8	143	Z	-0.009	%45
9	143	Z	0	0
10	143	Z	0	0
11	20	Z	-0.017	%5
12	20	Z	-0.017	%60
13	20	Z	-0.012	%35
14	20	Z	0	0
15	20	Z	0	0
16	31	Z	-0.02	%5
17	31	Z	-0.02	%40
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0
21	M155	Z	-0.051	%5
22	M155	Z	-0.051	%90
23	M155	Z	-0.009	%45
24	M155	Z	0	0
25	M155	Z	0	0
26	32	Z	-0.017	%5
27	32	Z	-0.017	%60
28	32	Z	-0.012	%35
29	32	Z	0	0
30	32	Z	0	0
31	25	Z	-0.02	%5
32	25	Z	-0.02	%40
33	25	Z	0	0
34	25	Z	0	0
35	25	Z	0	0
36	M152	Z	-0.051	%5
37	M152	Z	-0.051	%90
38	M152	Z	-0.009	%45
39	M152	Z	0	0
40	M152	Z	0	0
41	26	Z	-0.017	%5

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
42	26	Z	-0.017	%60
43	26	Z	-0.012	%35
44	26	Z	0	0
45	26	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	X	-0.009	%5
2	19	X	-0.009	%40
3	19	X	0	0
4	19	X	0	0
5	19	X	0	0
6	143	X	-0.021	%5
7	143	X	-0.021	%90
8	143	X	-0.008	%45
9	143	X	0	0
10	143	X	0	0
11	20	X	-0.006	%5
12	20	X	-0.006	%60
13	20	X	-0.01	%35
14	20	X	0	0
15	20	X	0	0
16	31	X	-0.009	%5
17	31	X	-0.009	%40
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0
21	M155	X	-0.021	%5
22	M155	X	-0.021	%90
23	M155	X	-0.008	%45
24	M155	X	0	0
25	M155	X	0	0
26	32	X	-0.006	%5
27	32	X	-0.006	%60
28	32	X	-0.01	%35
29	32	X	0	0
30	32	X	0	0
31	25	X	-0.009	%5
32	25	X	-0.009	%40
33	25	X	0	0
34	25	X	0	0
35	25	X	0	0
36	M152	X	-0.021	%5
37	M152	X	-0.021	%90
38	M152	X	-0.008	%45
39	M152	X	0	0
40	M152	X	0	0
41	26	X	-0.006	%5
42	26	X	-0.006	%60
43	26	X	-0.01	%35
44	26	X	0	0
45	26	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	Z	-0.006	%5
2	19	Z	-0.006	%40
3	19	Z	0	0
4	19	Z	0	0
5	19	Z	0	0
6	143	Z	-0.017	%5
7	143	Z	-0.017	%90
8	143	Z	-0.003	%45
9	143	Z	0	0
10	143	Z	0	0
11	20	Z	-0.006	%5
12	20	Z	-0.006	%60
13	20	Z	-0.004	%35
14	20	Z	0	0
15	20	Z	0	0
16	31	Z	-0.006	%5
17	31	Z	-0.006	%40
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0
21	M155	Z	-0.017	%5
22	M155	Z	-0.017	%90
23	M155	Z	-0.003	%45
24	M155	Z	0	0
25	M155	Z	0	0
26	32	Z	-0.006	%5
27	32	Z	-0.006	%60
28	32	Z	-0.004	%35
29	32	Z	0	0
30	32	Z	0	0
31	25	Z	-0.006	%5
32	25	Z	-0.006	%40
33	25	Z	0	0
34	25	Z	0	0
35	25	Z	0	0
36	M152	Z	-0.017	%5
37	M152	Z	-0.017	%90
38	M152	Z	-0.003	%45
39	M152	Z	0	0
40	M152	Z	0	0
41	26	Z	-0.006	%5
42	26	Z	-0.006	%60
43	26	Z	-0.004	%35
44	26	Z	0	0
45	26	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	X	-0.002	%5
2	19	X	-0.002	%40
3	19	X	0	0
4	19	X	0	0
5	19	X	0	0
6	143	X	-0.006	%5

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
7	143	X	-0.006	%90
8	143	X	-0.003	%45
9	143	X	0	0
10	143	X	0	0
11	20	X	-0.002	%5
12	20	X	-0.002	%60
13	20	X	-0.004	%35
14	20	X	0	0
15	20	X	0	0
16	31	X	-0.002	%5
17	31	X	-0.002	%40
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0
21	M155	X	-0.006	%5
22	M155	X	-0.006	%90
23	M155	X	-0.003	%45
24	M155	X	0	0
25	M155	X	0	0
26	32	X	-0.002	%5
27	32	X	-0.002	%60
28	32	X	-0.004	%35
29	32	X	0	0
30	32	X	0	0
31	25	X	-0.002	%5
32	25	X	-0.002	%40
33	25	X	0	0
34	25	X	0	0
35	25	X	0	0
36	M152	X	-0.006	%5
37	M152	X	-0.006	%90
38	M152	X	-0.003	%45
39	M152	X	0	0
40	M152	X	0	0
41	26	X	-0.002	%5
42	26	X	-0.002	%60
43	26	X	-0.004	%35
44	26	X	0	0
45	26	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	Y	-0.098	%5
2	19	Y	-0.098	%40
3	19	Y	0	0
4	19	Y	0	0
5	19	Y	0	0
6	143	Y	-0.191	%5
7	143	Y	-0.191	%90
8	143	Y	-0.031	%45
9	143	Y	0	0
10	143	Y	0	0
11	20	Y	-0.044	%5
12	20	Y	-0.044	%60
13	20	Y	-0.04	%35

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
14	20	Y	0	0
15	20	Y	0	0
16	31	Y	-0.098	%5
17	31	Y	-0.098	%40
18	31	Y	0	0
19	31	Y	0	0
20	31	Y	0	0
21	M155	Y	-0.191	%5
22	M155	Y	-0.191	%90
23	M155	Y	-0.031	%45
24	M155	Y	0	0
25	M155	Y	0	0
26	32	Y	-0.044	%5
27	32	Y	-0.044	%60
28	32	Y	-0.04	%35
29	32	Y	0	0
30	32	Y	0	0
31	25	Y	-0.098	%5
32	25	Y	-0.098	%40
33	25	Y	0	0
34	25	Y	0	0
35	25	Y	0	0
36	M152	Y	-0.191	%5
37	M152	Y	-0.191	%90
38	M152	Y	-0.031	%45
39	M152	Y	0	0
40	M152	Y	0	0
41	26	Y	-0.044	%5
42	26	Y	-0.044	%60
43	26	Y	-0.04	%35
44	26	Y	0	0
45	26	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	Z	-0.036	%5
2	19	Z	-0.036	%40
3	19	Z	0	0
4	19	Z	0	0
5	19	Z	0	0
6	143	Z	-0.039	%5
7	143	Z	-0.039	%90
8	143	Z	-0.024	%45
9	143	Z	0	0
10	143	Z	0	0
11	20	Z	-0.01	%5
12	20	Z	-0.01	%60
13	20	Z	-0.034	%35
14	20	Z	0	0
15	20	Z	0	0
16	31	Z	-0.036	%5
17	31	Z	-0.036	%40
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
21	M155	Z	-0.039	%5
22	M155	Z	-0.039	%90
23	M155	Z	-0.024	%45
24	M155	Z	0	0
25	M155	Z	0	0
26	32	Z	-0.01	%5
27	32	Z	-0.01	%60
28	32	Z	-0.034	%35
29	32	Z	0	0
30	32	Z	0	0
31	25	Z	-0.036	%5
32	25	Z	-0.036	%40
33	25	Z	0	0
34	25	Z	0	0
35	25	Z	0	0
36	M152	Z	-0.039	%5
37	M152	Z	-0.039	%90
38	M152	Z	-0.024	%45
39	M152	Z	0	0
40	M152	Z	0	0
41	26	Z	-0.01	%5
42	26	Z	-0.01	%60
43	26	Z	-0.034	%35
44	26	Z	0	0
45	26	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	X	-0.036	%5
2	19	X	-0.036	%40
3	19	X	0	0
4	19	X	0	0
5	19	X	0	0
6	143	X	-0.039	%5
7	143	X	-0.039	%90
8	143	X	-0.024	%45
9	143	X	0	0
10	143	X	0	0
11	20	X	-0.01	%5
12	20	X	-0.01	%60
13	20	X	-0.034	%35
14	20	X	0	0
15	20	X	0	0
16	31	X	-0.036	%5
17	31	X	-0.036	%40
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0
21	M155	X	-0.039	%5
22	M155	X	-0.039	%90
23	M155	X	-0.024	%45
24	M155	X	0	0
25	M155	X	0	0
26	32	X	-0.01	%5
27	32	X	-0.01	%60

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
28	32	X	-0.034	%35
29	32	X	0	0
30	32	X	0	0
31	25	X	-0.036	%5
32	25	X	-0.036	%40
33	25	X	0	0
34	25	X	0	0
35	25	X	0	0
36	M152	X	-0.039	%5
37	M152	X	-0.039	%90
38	M152	X	-0.024	%45
39	M152	X	0	0
40	M152	X	0	0
41	26	X	-0.01	%5
42	26	X	-0.01	%60
43	26	X	-0.034	%35
44	26	X	0	0
45	26	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	13	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	4	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	14	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

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

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	13	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	4	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	14	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	15	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	7	Y	-0.25	%5

Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	11	Y	-0.25	%5

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	9	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	-0.012	-0.012	0	%100
2	2	Z	-0.034	-0.034	0	%100
3	3	Z	-0.034	-0.034	0	%100
4	4	Z	-0.012	-0.012	0	%100
5	5	Z	-0.034	-0.034	0	%100
6	6	Z	-0.012	-0.012	0	%100

Member Distributed Loads (BLC 2 : 0 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	7	Z	-0.018	-0.018	0	%100
8	8	Z	-0.018	-0.018	0	%100
9	9	Z	-0.018	-0.018	0	%100
10	10	Z	-0.018	-0.018	0	%100
11	11	Z	-0.018	-0.018	0	%100
12	13	Z	-0.008	-0.008	0	%100
13	14	Z	-0.008	-0.008	0	%100
14	15	Z	-0.008	-0.008	0	%100
15	16	Z	-0.009	-0.009	0	%100
16	17	Z	-0.009	-0.009	0	%100
17	18	Z	-0.009	-0.009	0	%100
18	19	Z	-0.008	-0.008	0	%100
19	20	Z	-0.008	-0.008	0	%100
20	25	Z	-0.008	-0.008	0	%100
21	26	Z	-0.008	-0.008	0	%100
22	31	Z	-0.008	-0.008	0	%100
23	32	Z	-0.008	-0.008	0	%100
24	37	Z	-0.018	-0.018	0	%100
25	38	Z	-0.003	-0.003	0	%100
26	39	Z	-0.003	-0.003	0	%100
27	40	Z	-0.003	-0.003	0	%100
28	41	Z	-0.003	-0.003	0	%100
29	42	Z	-0.003	-0.003	0	%100
30	43	Z	-0.002	-0.002	0	%100
31	44	Z	-0.002	-0.002	0	%100
32	45	Z	-0.003	-0.003	0	%100
33	46	Z	-0.003	-0.003	0	%100
34	47	Z	-0.002	-0.002	0	%100
35	48	Z	-0.003	-0.003	0	%100
36	49	Z	-0.003	-0.003	0	%100
37	50	Z	-0.003	-0.003	0	%100
38	51	Z	-0.003	-0.003	0	%100
39	52	Z	-0.003	-0.003	0	%100
40	53	Z	-0.002	-0.002	0	%100
41	54	Z	-0.002	-0.002	0	%100
42	55	Z	-0.003	-0.003	0	%100
43	56	Z	-0.003	-0.003	0	%100
44	57	Z	-0.002	-0.002	0	%100
45	58	Z	-0.003	-0.003	0	%100
46	59	Z	-0.003	-0.003	0	%100
47	60	Z	-0.003	-0.003	0	%100
48	61	Z	-0.003	-0.003	0	%100
49	62	Z	-0.003	-0.003	0	%100
50	63	Z	-0.002	-0.002	0	%100
51	64	Z	-0.002	-0.002	0	%100
52	65	Z	-0.003	-0.003	0	%100
53	66	Z	-0.003	-0.003	0	%100
54	67	Z	-0.002	-0.002	0	%100
55	68	Z	-0.003	-0.003	0	%100
56	69	Z	-0.003	-0.003	0	%100
57	70	Z	-0.003	-0.003	0	%100
58	71	Z	-0.003	-0.003	0	%100
59	72	Z	-0.003	-0.003	0	%100
60	73	Z	-0.002	-0.002	0	%100
61	74	Z	-0.002	-0.002	0	%100

Member Distributed Loads (BLC 2 : 0 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, %)]
62	75	Z	-0.003	-0.003	0	%100
63	76	Z	-0.003	-0.003	0	%100
64	77	Z	-0.002	-0.002	0	%100
65	78	Z	-0.003	-0.003	0	%100
66	79	Z	-0.003	-0.003	0	%100
67	80	Z	-0.003	-0.003	0	%100
68	81	Z	-0.003	-0.003	0	%100
69	82	Z	-0.003	-0.003	0	%100
70	83	Z	-0.002	-0.002	0	%100
71	84	Z	-0.002	-0.002	0	%100
72	85	Z	-0.003	-0.003	0	%100
73	86	Z	-0.003	-0.003	0	%100
74	87	Z	-0.002	-0.002	0	%100
75	88	Z	-0.003	-0.003	0	%100
76	89	Z	-0.003	-0.003	0	%100
77	90	Z	-0.003	-0.003	0	%100
78	91	Z	-0.003	-0.003	0	%100
79	92	Z	-0.003	-0.003	0	%100
80	93	Z	-0.002	-0.002	0	%100
81	94	Z	-0.002	-0.002	0	%100
82	95	Z	-0.003	-0.003	0	%100
83	96	Z	-0.003	-0.003	0	%100
84	97	Z	-0.002	-0.002	0	%100
85	143	Z	-0.008	-0.008	0	%100
86	M152	Z	-0.008	-0.008	0	%100
87	M155	Z	-0.008	-0.008	0	%100
88	98	Z	-0.007	-0.007	0	%100
89	99	Z	-0.009	-0.009	0	%100
90	100	Z	-0.009	-0.009	0	%100
91	101	Z	-0.009	-0.009	0	%100
92	102	Z	-0.009	-0.009	0	%100
93	103	Z	-0.006	-0.006	0	%100
94	104	Z	-0.009	-0.009	0	%100
95	105	Z	-0.006	-0.006	0	%100
96	106	Z	-0.006	-0.006	0	%100
97	107	Z	-0.006	-0.006	0	%100
98	113	Z	-0.007	-0.007	0	%100
99	114	Z	-0.009	-0.009	0	%100
100	115	Z	-0.009	-0.009	0	%100
101	116	Z	-0.009	-0.009	0	%100
102	117	Z	-0.009	-0.009	0	%100
103	118	Z	-0.006	-0.006	0	%100
104	119	Z	-0.009	-0.009	0	%100
105	120	Z	-0.006	-0.006	0	%100
106	121	Z	-0.006	-0.006	0	%100
107	122	Z	-0.006	-0.006	0	%100
108	128	Z	-0.007	-0.007	0	%100
109	129	Z	-0.009	-0.009	0	%100
110	130	Z	-0.009	-0.009	0	%100
111	131	Z	-0.009	-0.009	0	%100
112	132	Z	-0.009	-0.009	0	%100
113	133	Z	-0.006	-0.006	0	%100
114	134	Z	-0.009	-0.009	0	%100
115	135	Z	-0.006	-0.006	0	%100
116	136	Z	-0.006	-0.006	0	%100

Member Distributed Loads (BLC 2 : 0 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, %)]
117	137	Z	-0.006	-0.006	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	-0.012	-0.012	0	%100
2	2	X	-0.034	-0.034	0	%100
3	3	X	-0.034	-0.034	0	%100
4	4	X	-0.012	-0.012	0	%100
5	5	X	-0.034	-0.034	0	%100
6	6	X	-0.012	-0.012	0	%100
7	7	X	-0.018	-0.018	0	%100
8	8	X	-0.018	-0.018	0	%100
9	9	X	-0.018	-0.018	0	%100
10	10	X	-0.018	-0.018	0	%100
11	11	X	-0.018	-0.018	0	%100
12	13	X	-0.008	-0.008	0	%100
13	14	X	-0.008	-0.008	0	%100
14	15	X	-0.008	-0.008	0	%100
15	16	X	-0.009	-0.009	0	%100
16	17	X	-0.009	-0.009	0	%100
17	18	X	-0.009	-0.009	0	%100
18	19	X	-0.008	-0.008	0	%100
19	20	X	-0.008	-0.008	0	%100
20	25	X	-0.008	-0.008	0	%100
21	26	X	-0.008	-0.008	0	%100
22	31	X	-0.008	-0.008	0	%100
23	32	X	-0.008	-0.008	0	%100
24	37	X	-0.018	-0.018	0	%100
25	38	X	-0.003	-0.003	0	%100
26	39	X	-0.003	-0.003	0	%100
27	40	X	-0.003	-0.003	0	%100
28	41	X	-0.003	-0.003	0	%100
29	42	X	-0.003	-0.003	0	%100
30	43	X	-0.002	-0.002	0	%100
31	44	X	-0.002	-0.002	0	%100
32	45	X	-0.003	-0.003	0	%100
33	46	X	-0.003	-0.003	0	%100
34	47	X	-0.002	-0.002	0	%100
35	48	X	-0.003	-0.003	0	%100
36	49	X	-0.003	-0.003	0	%100
37	50	X	-0.003	-0.003	0	%100
38	51	X	-0.003	-0.003	0	%100
39	52	X	-0.003	-0.003	0	%100
40	53	X	-0.002	-0.002	0	%100
41	54	X	-0.002	-0.002	0	%100
42	55	X	-0.003	-0.003	0	%100
43	56	X	-0.003	-0.003	0	%100
44	57	X	-0.002	-0.002	0	%100
45	58	X	-0.003	-0.003	0	%100
46	59	X	-0.003	-0.003	0	%100
47	60	X	-0.003	-0.003	0	%100
48	61	X	-0.003	-0.003	0	%100
49	62	X	-0.003	-0.003	0	%100
50	63	X	-0.002	-0.002	0	%100
51	64	X	-0.002	-0.002	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, %)]
52	65	X	-0.003	-0.003	0	%100
53	66	X	-0.003	-0.003	0	%100
54	67	X	-0.002	-0.002	0	%100
55	68	X	-0.003	-0.003	0	%100
56	69	X	-0.003	-0.003	0	%100
57	70	X	-0.003	-0.003	0	%100
58	71	X	-0.003	-0.003	0	%100
59	72	X	-0.003	-0.003	0	%100
60	73	X	-0.002	-0.002	0	%100
61	74	X	-0.002	-0.002	0	%100
62	75	X	-0.003	-0.003	0	%100
63	76	X	-0.003	-0.003	0	%100
64	77	X	-0.002	-0.002	0	%100
65	78	X	-0.003	-0.003	0	%100
66	79	X	-0.003	-0.003	0	%100
67	80	X	-0.003	-0.003	0	%100
68	81	X	-0.003	-0.003	0	%100
69	82	X	-0.003	-0.003	0	%100
70	83	X	-0.002	-0.002	0	%100
71	84	X	-0.002	-0.002	0	%100
72	85	X	-0.003	-0.003	0	%100
73	86	X	-0.003	-0.003	0	%100
74	87	X	-0.002	-0.002	0	%100
75	88	X	-0.003	-0.003	0	%100
76	89	X	-0.003	-0.003	0	%100
77	90	X	-0.003	-0.003	0	%100
78	91	X	-0.003	-0.003	0	%100
79	92	X	-0.003	-0.003	0	%100
80	93	X	-0.002	-0.002	0	%100
81	94	X	-0.002	-0.002	0	%100
82	95	X	-0.003	-0.003	0	%100
83	96	X	-0.003	-0.003	0	%100
84	97	X	-0.002	-0.002	0	%100
85	143	X	-0.008	-0.008	0	%100
86	M152	X	-0.008	-0.008	0	%100
87	M155	X	-0.008	-0.008	0	%100
88	98	X	-0.007	-0.007	0	%100
89	99	X	-0.009	-0.009	0	%100
90	100	X	-0.009	-0.009	0	%100
91	101	X	-0.009	-0.009	0	%100
92	102	X	-0.009	-0.009	0	%100
93	103	X	-0.006	-0.006	0	%100
94	104	X	-0.009	-0.009	0	%100
95	105	X	-0.006	-0.006	0	%100
96	106	X	-0.006	-0.006	0	%100
97	107	X	-0.006	-0.006	0	%100
98	113	X	-0.007	-0.007	0	%100
99	114	X	-0.009	-0.009	0	%100
100	115	X	-0.009	-0.009	0	%100
101	116	X	-0.009	-0.009	0	%100
102	117	X	-0.009	-0.009	0	%100
103	118	X	-0.006	-0.006	0	%100
104	119	X	-0.009	-0.009	0	%100
105	120	X	-0.006	-0.006	0	%100
106	121	X	-0.006	-0.006	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, %)]
107	122	X	-0.006	-0.006	0	%100
108	128	X	-0.007	-0.007	0	%100
109	129	X	-0.009	-0.009	0	%100
110	130	X	-0.009	-0.009	0	%100
111	131	X	-0.009	-0.009	0	%100
112	132	X	-0.009	-0.009	0	%100
113	133	X	-0.006	-0.006	0	%100
114	134	X	-0.009	-0.009	0	%100
115	135	X	-0.006	-0.006	0	%100
116	136	X	-0.006	-0.006	0	%100
117	137	X	-0.006	-0.006	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	-0.002	-0.002	0	%100
2	2	Z	-0.008	-0.008	0	%100
3	3	Z	-0.008	-0.008	0	%100
4	4	Z	-0.002	-0.002	0	%100
5	5	Z	-0.008	-0.008	0	%100
6	6	Z	-0.002	-0.002	0	%100
7	7	Z	-0.005	-0.005	0	%100
8	8	Z	-0.005	-0.005	0	%100
9	9	Z	-0.005	-0.005	0	%100
10	10	Z	-0.005	-0.005	0	%100
11	11	Z	-0.005	-0.005	0	%100
12	13	Z	-0.001	-0.001	0	%100
13	14	Z	-0.001	-0.001	0	%100
14	15	Z	-0.001	-0.001	0	%100
15	16	Z	-0.004	-0.004	0	%100
16	17	Z	-0.004	-0.004	0	%100
17	18	Z	-0.004	-0.004	0	%100
18	19	Z	-0.001	-0.001	0	%100
19	20	Z	-0.001	-0.001	0	%100
20	25	Z	-0.001	-0.001	0	%100
21	26	Z	-0.001	-0.001	0	%100
22	31	Z	-0.001	-0.001	0	%100
23	32	Z	-0.001	-0.001	0	%100
24	37	Z	-0.005	-0.005	0	%100
25	38	Z	-0.001	-0.001	0	%100
26	39	Z	-0.001	-0.001	0	%100
27	40	Z	-0.001	-0.001	0	%100
28	41	Z	-0.001	-0.001	0	%100
29	42	Z	-0.001	-0.001	0	%100
30	43	Z	-0.001	-0.001	0	%100
31	44	Z	-0.001	-0.001	0	%100
32	45	Z	-0.002	-0.002	0	%100
33	46	Z	-0.002	-0.002	0	%100
34	47	Z	-0.001	-0.001	0	%100
35	48	Z	-0.001	-0.001	0	%100
36	49	Z	-0.001	-0.001	0	%100
37	50	Z	-0.001	-0.001	0	%100
38	51	Z	-0.001	-0.001	0	%100
39	52	Z	-0.001	-0.001	0	%100
40	53	Z	-0.001	-0.001	0	%100
41	54	Z	-0.001	-0.001	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, %)]
42	55	Z	-0.002	-0.002	0	%100
43	56	Z	-0.002	-0.002	0	%100
44	57	Z	-0.001	-0.001	0	%100
45	58	Z	-0.001	-0.001	0	%100
46	59	Z	-0.001	-0.001	0	%100
47	60	Z	-0.001	-0.001	0	%100
48	61	Z	-0.001	-0.001	0	%100
49	62	Z	-0.001	-0.001	0	%100
50	63	Z	-0.001	-0.001	0	%100
51	64	Z	-0.001	-0.001	0	%100
52	65	Z	-0.002	-0.002	0	%100
53	66	Z	-0.002	-0.002	0	%100
54	67	Z	-0.001	-0.001	0	%100
55	68	Z	-0.001	-0.001	0	%100
56	69	Z	-0.001	-0.001	0	%100
57	70	Z	-0.001	-0.001	0	%100
58	71	Z	-0.001	-0.001	0	%100
59	72	Z	-0.001	-0.001	0	%100
60	73	Z	-0.001	-0.001	0	%100
61	74	Z	-0.001	-0.001	0	%100
62	75	Z	-0.002	-0.002	0	%100
63	76	Z	-0.002	-0.002	0	%100
64	77	Z	-0.001	-0.001	0	%100
65	78	Z	-0.001	-0.001	0	%100
66	79	Z	-0.001	-0.001	0	%100
67	80	Z	-0.001	-0.001	0	%100
68	81	Z	-0.001	-0.001	0	%100
69	82	Z	-0.001	-0.001	0	%100
70	83	Z	-0.001	-0.001	0	%100
71	84	Z	-0.001	-0.001	0	%100
72	85	Z	-0.002	-0.002	0	%100
73	86	Z	-0.002	-0.002	0	%100
74	87	Z	-0.001	-0.001	0	%100
75	88	Z	-0.001	-0.001	0	%100
76	89	Z	-0.001	-0.001	0	%100
77	90	Z	-0.001	-0.001	0	%100
78	91	Z	-0.001	-0.001	0	%100
79	92	Z	-0.001	-0.001	0	%100
80	93	Z	-0.001	-0.001	0	%100
81	94	Z	-0.001	-0.001	0	%100
82	95	Z	-0.002	-0.002	0	%100
83	96	Z	-0.002	-0.002	0	%100
84	97	Z	-0.001	-0.001	0	%100
85	143	Z	-0.001	-0.001	0	%100
86	M152	Z	-0.001	-0.001	0	%100
87	M155	Z	-0.001	-0.001	0	%100
88	98	Z	-0.003	-0.003	0	%100
89	99	Z	-0.004	-0.004	0	%100
90	100	Z	-0.004	-0.004	0	%100
91	101	Z	-0.004	-0.004	0	%100
92	102	Z	-0.004	-0.004	0	%100
93	103	Z	-0.003	-0.003	0	%100
94	104	Z	-0.004	-0.004	0	%100
95	105	Z	-0.003	-0.003	0	%100
96	106	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, %)]
97	107	Z	-0.003	-0.003	0	%100
98	113	Z	-0.003	-0.003	0	%100
99	114	Z	-0.004	-0.004	0	%100
100	115	Z	-0.004	-0.004	0	%100
101	116	Z	-0.004	-0.004	0	%100
102	117	Z	-0.004	-0.004	0	%100
103	118	Z	-0.003	-0.003	0	%100
104	119	Z	-0.004	-0.004	0	%100
105	120	Z	-0.003	-0.003	0	%100
106	121	Z	-0.003	-0.003	0	%100
107	122	Z	-0.003	-0.003	0	%100
108	128	Z	-0.003	-0.003	0	%100
109	129	Z	-0.004	-0.004	0	%100
110	130	Z	-0.004	-0.004	0	%100
111	131	Z	-0.004	-0.004	0	%100
112	132	Z	-0.004	-0.004	0	%100
113	133	Z	-0.003	-0.003	0	%100
114	134	Z	-0.004	-0.004	0	%100
115	135	Z	-0.003	-0.003	0	%100
116	136	Z	-0.003	-0.003	0	%100
117	137	Z	-0.003	-0.003	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	-0.002	-0.002	0	%100
2	2	X	-0.008	-0.008	0	%100
3	3	X	-0.008	-0.008	0	%100
4	4	X	-0.002	-0.002	0	%100
5	5	X	-0.008	-0.008	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.005	-0.005	0	%100
8	8	X	-0.005	-0.005	0	%100
9	9	X	-0.005	-0.005	0	%100
10	10	X	-0.005	-0.005	0	%100
11	11	X	-0.005	-0.005	0	%100
12	13	X	-0.001	-0.001	0	%100
13	14	X	-0.001	-0.001	0	%100
14	15	X	-0.001	-0.001	0	%100
15	16	X	-0.004	-0.004	0	%100
16	17	X	-0.004	-0.004	0	%100
17	18	X	-0.004	-0.004	0	%100
18	19	X	-0.001	-0.001	0	%100
19	20	X	-0.001	-0.001	0	%100
20	25	X	-0.001	-0.001	0	%100
21	26	X	-0.001	-0.001	0	%100
22	31	X	-0.001	-0.001	0	%100
23	32	X	-0.001	-0.001	0	%100
24	37	X	-0.005	-0.005	0	%100
25	38	X	-0.001	-0.001	0	%100
26	39	X	-0.001	-0.001	0	%100
27	40	X	-0.001	-0.001	0	%100
28	41	X	-0.001	-0.001	0	%100
29	42	X	-0.001	-0.001	0	%100
30	43	X	-0.001	-0.001	0	%100
31	44	X	-0.001	-0.001	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, %)]
32	45	X	-0.002	-0.002	0	%100
33	46	X	-0.002	-0.002	0	%100
34	47	X	-0.001	-0.001	0	%100
35	48	X	-0.001	-0.001	0	%100
36	49	X	-0.001	-0.001	0	%100
37	50	X	-0.001	-0.001	0	%100
38	51	X	-0.001	-0.001	0	%100
39	52	X	-0.001	-0.001	0	%100
40	53	X	-0.001	-0.001	0	%100
41	54	X	-0.001	-0.001	0	%100
42	55	X	-0.002	-0.002	0	%100
43	56	X	-0.002	-0.002	0	%100
44	57	X	-0.001	-0.001	0	%100
45	58	X	-0.001	-0.001	0	%100
46	59	X	-0.001	-0.001	0	%100
47	60	X	-0.001	-0.001	0	%100
48	61	X	-0.001	-0.001	0	%100
49	62	X	-0.001	-0.001	0	%100
50	63	X	-0.001	-0.001	0	%100
51	64	X	-0.001	-0.001	0	%100
52	65	X	-0.002	-0.002	0	%100
53	66	X	-0.002	-0.002	0	%100
54	67	X	-0.001	-0.001	0	%100
55	68	X	-0.001	-0.001	0	%100
56	69	X	-0.001	-0.001	0	%100
57	70	X	-0.001	-0.001	0	%100
58	71	X	-0.001	-0.001	0	%100
59	72	X	-0.001	-0.001	0	%100
60	73	X	-0.001	-0.001	0	%100
61	74	X	-0.001	-0.001	0	%100
62	75	X	-0.002	-0.002	0	%100
63	76	X	-0.002	-0.002	0	%100
64	77	X	-0.001	-0.001	0	%100
65	78	X	-0.001	-0.001	0	%100
66	79	X	-0.001	-0.001	0	%100
67	80	X	-0.001	-0.001	0	%100
68	81	X	-0.001	-0.001	0	%100
69	82	X	-0.001	-0.001	0	%100
70	83	X	-0.001	-0.001	0	%100
71	84	X	-0.001	-0.001	0	%100
72	85	X	-0.002	-0.002	0	%100
73	86	X	-0.002	-0.002	0	%100
74	87	X	-0.001	-0.001	0	%100
75	88	X	-0.001	-0.001	0	%100
76	89	X	-0.001	-0.001	0	%100
77	90	X	-0.001	-0.001	0	%100
78	91	X	-0.001	-0.001	0	%100
79	92	X	-0.001	-0.001	0	%100
80	93	X	-0.001	-0.001	0	%100
81	94	X	-0.001	-0.001	0	%100
82	95	X	-0.002	-0.002	0	%100
83	96	X	-0.002	-0.002	0	%100
84	97	X	-0.001	-0.001	0	%100
85	143	X	-0.001	-0.001	0	%100
86	M152	X	-0.001	-0.001	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, %)]
87	M155	X	-0.001	-0.001	0	%100
88	98	X	-0.003	-0.003	0	%100
89	99	X	-0.004	-0.004	0	%100
90	100	X	-0.004	-0.004	0	%100
91	101	X	-0.004	-0.004	0	%100
92	102	X	-0.004	-0.004	0	%100
93	103	X	-0.003	-0.003	0	%100
94	104	X	-0.004	-0.004	0	%100
95	105	X	-0.003	-0.003	0	%100
96	106	X	-0.003	-0.003	0	%100
97	107	X	-0.003	-0.003	0	%100
98	113	X	-0.003	-0.003	0	%100
99	114	X	-0.004	-0.004	0	%100
100	115	X	-0.004	-0.004	0	%100
101	116	X	-0.004	-0.004	0	%100
102	117	X	-0.004	-0.004	0	%100
103	118	X	-0.003	-0.003	0	%100
104	119	X	-0.004	-0.004	0	%100
105	120	X	-0.003	-0.003	0	%100
106	121	X	-0.003	-0.003	0	%100
107	122	X	-0.003	-0.003	0	%100
108	128	X	-0.003	-0.003	0	%100
109	129	X	-0.004	-0.004	0	%100
110	130	X	-0.004	-0.004	0	%100
111	131	X	-0.004	-0.004	0	%100
112	132	X	-0.004	-0.004	0	%100
113	133	X	-0.003	-0.003	0	%100
114	134	X	-0.004	-0.004	0	%100
115	135	X	-0.003	-0.003	0	%100
116	136	X	-0.003	-0.003	0	%100
117	137	X	-0.003	-0.003	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	-0.0004	-0.0004	0	%100
2	2	Z	-0.002	-0.002	0	%100
3	3	Z	-0.002	-0.002	0	%100
4	4	Z	-0.0004	-0.0004	0	%100
5	5	Z	-0.002	-0.002	0	%100
6	6	Z	-0.0004	-0.0004	0	%100
7	7	Z	-0.001	-0.001	0	%100
8	8	Z	-0.001	-0.001	0	%100
9	9	Z	-0.001	-0.001	0	%100
10	10	Z	-0.001	-0.001	0	%100
11	11	Z	-0.001	-0.001	0	%100
12	13	Z	-0.0002	-0.0002	0	%100
13	14	Z	-0.0002	-0.0002	0	%100
14	15	Z	-0.0002	-0.0002	0	%100
15	16	Z	-0.0006	-0.0006	0	%100
16	17	Z	-0.0006	-0.0006	0	%100
17	18	Z	-0.0006	-0.0006	0	%100
18	19	Z	-0.0002	-0.0002	0	%100
19	20	Z	-0.0002	-0.0002	0	%100
20	25	Z	-0.0002	-0.0002	0	%100
21	26	Z	-0.0002	-0.0002	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service) (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, %)]
22	31	Z	-0.0002	-0.0002	0	%100
23	32	Z	-0.0002	-0.0002	0	%100
24	37	Z	-0.001	-0.001	0	%100
25	38	Z	-1e-04	-1e-04	0	%100
26	39	Z	-1e-04	-1e-04	0	%100
27	40	Z	-1e-04	-1e-04	0	%100
28	41	Z	-1e-04	-1e-04	0	%100
29	42	Z	-1e-04	-1e-04	0	%100
30	43	Z	-1e-04	-1e-04	0	%100
31	44	Z	-1e-04	-1e-04	0	%100
32	45	Z	-1e-04	-1e-04	0	%100
33	46	Z	-1e-04	-1e-04	0	%100
34	47	Z	-1e-04	-1e-04	0	%100
35	48	Z	-1e-04	-1e-04	0	%100
36	49	Z	-1e-04	-1e-04	0	%100
37	50	Z	-1e-04	-1e-04	0	%100
38	51	Z	-1e-04	-1e-04	0	%100
39	52	Z	-1e-04	-1e-04	0	%100
40	53	Z	-1e-04	-1e-04	0	%100
41	54	Z	-1e-04	-1e-04	0	%100
42	55	Z	-1e-04	-1e-04	0	%100
43	56	Z	-1e-04	-1e-04	0	%100
44	57	Z	-1e-04	-1e-04	0	%100
45	58	Z	-1e-04	-1e-04	0	%100
46	59	Z	-1e-04	-1e-04	0	%100
47	60	Z	-1e-04	-1e-04	0	%100
48	61	Z	-1e-04	-1e-04	0	%100
49	62	Z	-1e-04	-1e-04	0	%100
50	63	Z	-1e-04	-1e-04	0	%100
51	64	Z	-1e-04	-1e-04	0	%100
52	65	Z	-1e-04	-1e-04	0	%100
53	66	Z	-1e-04	-1e-04	0	%100
54	67	Z	-1e-04	-1e-04	0	%100
55	68	Z	-1e-04	-1e-04	0	%100
56	69	Z	-1e-04	-1e-04	0	%100
57	70	Z	-1e-04	-1e-04	0	%100
58	71	Z	-1e-04	-1e-04	0	%100
59	72	Z	-1e-04	-1e-04	0	%100
60	73	Z	-1e-04	-1e-04	0	%100
61	74	Z	-1e-04	-1e-04	0	%100
62	75	Z	-1e-04	-1e-04	0	%100
63	76	Z	-1e-04	-1e-04	0	%100
64	77	Z	-1e-04	-1e-04	0	%100
65	78	Z	-1e-04	-1e-04	0	%100
66	79	Z	-1e-04	-1e-04	0	%100
67	80	Z	-1e-04	-1e-04	0	%100
68	81	Z	-1e-04	-1e-04	0	%100
69	82	Z	-1e-04	-1e-04	0	%100
70	83	Z	-1e-04	-1e-04	0	%100
71	84	Z	-1e-04	-1e-04	0	%100
72	85	Z	-1e-04	-1e-04	0	%100
73	86	Z	-1e-04	-1e-04	0	%100
74	87	Z	-1e-04	-1e-04	0	%100
75	88	Z	-1e-04	-1e-04	0	%100
76	89	Z	-1e-04	-1e-04	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service) (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, %)]
77	90	Z	-1e-04	-1e-04	0	%100
78	91	Z	-1e-04	-1e-04	0	%100
79	92	Z	-1e-04	-1e-04	0	%100
80	93	Z	-1e-04	-1e-04	0	%100
81	94	Z	-1e-04	-1e-04	0	%100
82	95	Z	-1e-04	-1e-04	0	%100
83	96	Z	-1e-04	-1e-04	0	%100
84	97	Z	-1e-04	-1e-04	0	%100
85	143	Z	-0.0002	-0.0002	0	%100
86	M152	Z	-0.0002	-0.0002	0	%100
87	M155	Z	-0.0002	-0.0002	0	%100
88	98	Z	-0.0004	-0.0004	0	%100
89	99	Z	-0.0006	-0.0006	0	%100
90	100	Z	-0.0006	-0.0006	0	%100
91	101	Z	-0.0006	-0.0006	0	%100
92	102	Z	-0.0006	-0.0006	0	%100
93	103	Z	-0.0004	-0.0004	0	%100
94	104	Z	-0.0006	-0.0006	0	%100
95	105	Z	-0.0004	-0.0004	0	%100
96	106	Z	-0.0004	-0.0004	0	%100
97	107	Z	-0.0004	-0.0004	0	%100
98	113	Z	-0.0004	-0.0004	0	%100
99	114	Z	-0.0006	-0.0006	0	%100
100	115	Z	-0.0006	-0.0006	0	%100
101	116	Z	-0.0006	-0.0006	0	%100
102	117	Z	-0.0006	-0.0006	0	%100
103	118	Z	-0.0004	-0.0004	0	%100
104	119	Z	-0.0006	-0.0006	0	%100
105	120	Z	-0.0004	-0.0004	0	%100
106	121	Z	-0.0004	-0.0004	0	%100
107	122	Z	-0.0004	-0.0004	0	%100
108	128	Z	-0.0004	-0.0004	0	%100
109	129	Z	-0.0006	-0.0006	0	%100
110	130	Z	-0.0006	-0.0006	0	%100
111	131	Z	-0.0006	-0.0006	0	%100
112	132	Z	-0.0006	-0.0006	0	%100
113	133	Z	-0.0004	-0.0004	0	%100
114	134	Z	-0.0006	-0.0006	0	%100
115	135	Z	-0.0004	-0.0004	0	%100
116	136	Z	-0.0004	-0.0004	0	%100
117	137	Z	-0.0004	-0.0004	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	-0.0004	-0.0004	0	%100
2	2	X	-0.002	-0.002	0	%100
3	3	X	-0.002	-0.002	0	%100
4	4	X	-0.0004	-0.0004	0	%100
5	5	X	-0.002	-0.002	0	%100
6	6	X	-0.0004	-0.0004	0	%100
7	7	X	-0.001	-0.001	0	%100
8	8	X	-0.001	-0.001	0	%100
9	9	X	-0.001	-0.001	0	%100
10	10	X	-0.001	-0.001	0	%100
11	11	X	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service) (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, %)]
12	13	X	-0.0002	-0.0002	0	%100
13	14	X	-0.0002	-0.0002	0	%100
14	15	X	-0.0002	-0.0002	0	%100
15	16	X	-0.0006	-0.0006	0	%100
16	17	X	-0.0006	-0.0006	0	%100
17	18	X	-0.0006	-0.0006	0	%100
18	19	X	-0.0002	-0.0002	0	%100
19	20	X	-0.0002	-0.0002	0	%100
20	25	X	-0.0002	-0.0002	0	%100
21	26	X	-0.0002	-0.0002	0	%100
22	31	X	-0.0002	-0.0002	0	%100
23	32	X	-0.0002	-0.0002	0	%100
24	37	X	-0.001	-0.001	0	%100
25	38	X	-1e-04	-1e-04	0	%100
26	39	X	-1e-04	-1e-04	0	%100
27	40	X	-1e-04	-1e-04	0	%100
28	41	X	-1e-04	-1e-04	0	%100
29	42	X	-1e-04	-1e-04	0	%100
30	43	X	-1e-04	-1e-04	0	%100
31	44	X	-1e-04	-1e-04	0	%100
32	45	X	-1e-04	-1e-04	0	%100
33	46	X	-1e-04	-1e-04	0	%100
34	47	X	-1e-04	-1e-04	0	%100
35	48	X	-1e-04	-1e-04	0	%100
36	49	X	-1e-04	-1e-04	0	%100
37	50	X	-1e-04	-1e-04	0	%100
38	51	X	-1e-04	-1e-04	0	%100
39	52	X	-1e-04	-1e-04	0	%100
40	53	X	-1e-04	-1e-04	0	%100
41	54	X	-1e-04	-1e-04	0	%100
42	55	X	-1e-04	-1e-04	0	%100
43	56	X	-1e-04	-1e-04	0	%100
44	57	X	-1e-04	-1e-04	0	%100
45	58	X	-1e-04	-1e-04	0	%100
46	59	X	-1e-04	-1e-04	0	%100
47	60	X	-1e-04	-1e-04	0	%100
48	61	X	-1e-04	-1e-04	0	%100
49	62	X	-1e-04	-1e-04	0	%100
50	63	X	-1e-04	-1e-04	0	%100
51	64	X	-1e-04	-1e-04	0	%100
52	65	X	-1e-04	-1e-04	0	%100
53	66	X	-1e-04	-1e-04	0	%100
54	67	X	-1e-04	-1e-04	0	%100
55	68	X	-1e-04	-1e-04	0	%100
56	69	X	-1e-04	-1e-04	0	%100
57	70	X	-1e-04	-1e-04	0	%100
58	71	X	-1e-04	-1e-04	0	%100
59	72	X	-1e-04	-1e-04	0	%100
60	73	X	-1e-04	-1e-04	0	%100
61	74	X	-1e-04	-1e-04	0	%100
62	75	X	-1e-04	-1e-04	0	%100
63	76	X	-1e-04	-1e-04	0	%100
64	77	X	-1e-04	-1e-04	0	%100
65	78	X	-1e-04	-1e-04	0	%100
66	79	X	-1e-04	-1e-04	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service) (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, %)]
67	80	X	-1e-04	-1e-04	0	%100
68	81	X	-1e-04	-1e-04	0	%100
69	82	X	-1e-04	-1e-04	0	%100
70	83	X	-1e-04	-1e-04	0	%100
71	84	X	-1e-04	-1e-04	0	%100
72	85	X	-1e-04	-1e-04	0	%100
73	86	X	-1e-04	-1e-04	0	%100
74	87	X	-1e-04	-1e-04	0	%100
75	88	X	-1e-04	-1e-04	0	%100
76	89	X	-1e-04	-1e-04	0	%100
77	90	X	-1e-04	-1e-04	0	%100
78	91	X	-1e-04	-1e-04	0	%100
79	92	X	-1e-04	-1e-04	0	%100
80	93	X	-1e-04	-1e-04	0	%100
81	94	X	-1e-04	-1e-04	0	%100
82	95	X	-1e-04	-1e-04	0	%100
83	96	X	-1e-04	-1e-04	0	%100
84	97	X	-1e-04	-1e-04	0	%100
85	143	X	-0.0002	-0.0002	0	%100
86	M152	X	-0.0002	-0.0002	0	%100
87	M155	X	-0.0002	-0.0002	0	%100
88	98	X	-0.0004	-0.0004	0	%100
89	99	X	-0.0006	-0.0006	0	%100
90	100	X	-0.0006	-0.0006	0	%100
91	101	X	-0.0006	-0.0006	0	%100
92	102	X	-0.0006	-0.0006	0	%100
93	103	X	-0.0004	-0.0004	0	%100
94	104	X	-0.0006	-0.0006	0	%100
95	105	X	-0.0004	-0.0004	0	%100
96	106	X	-0.0004	-0.0004	0	%100
97	107	X	-0.0004	-0.0004	0	%100
98	113	X	-0.0004	-0.0004	0	%100
99	114	X	-0.0006	-0.0006	0	%100
100	115	X	-0.0006	-0.0006	0	%100
101	116	X	-0.0006	-0.0006	0	%100
102	117	X	-0.0006	-0.0006	0	%100
103	118	X	-0.0004	-0.0004	0	%100
104	119	X	-0.0006	-0.0006	0	%100
105	120	X	-0.0004	-0.0004	0	%100
106	121	X	-0.0004	-0.0004	0	%100
107	122	X	-0.0004	-0.0004	0	%100
108	128	X	-0.0004	-0.0004	0	%100
109	129	X	-0.0006	-0.0006	0	%100
110	130	X	-0.0006	-0.0006	0	%100
111	131	X	-0.0006	-0.0006	0	%100
112	132	X	-0.0006	-0.0006	0	%100
113	133	X	-0.0004	-0.0004	0	%100
114	134	X	-0.0006	-0.0006	0	%100
115	135	X	-0.0004	-0.0004	0	%100
116	136	X	-0.0004	-0.0004	0	%100
117	137	X	-0.0004	-0.0004	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	-0.006	-0.006	0	%100
2	2	Y	-0.016	-0.016	0	%100
3	3	Y	-0.016	-0.016	0	%100
4	4	Y	-0.006	-0.006	0	%100
5	5	Y	-0.016	-0.016	0	%100
6	6	Y	-0.006	-0.006	0	%100
7	7	Y	-0.011	-0.011	0	%100
8	8	Y	-0.011	-0.011	0	%100
9	9	Y	-0.011	-0.011	0	%100
10	10	Y	-0.011	-0.011	0	%100
11	11	Y	-0.011	-0.011	0	%100
12	13	Y	-0.005	-0.005	0	%100
13	14	Y	-0.005	-0.005	0	%100
14	15	Y	-0.005	-0.005	0	%100
15	16	Y	-0.007	-0.007	0	%100
16	17	Y	-0.007	-0.007	0	%100
17	18	Y	-0.007	-0.007	0	%100
18	19	Y	-0.005	-0.005	0	%100
19	20	Y	-0.005	-0.005	0	%100
20	25	Y	-0.005	-0.005	0	%100
21	26	Y	-0.005	-0.005	0	%100
22	31	Y	-0.005	-0.005	0	%100
23	32	Y	-0.005	-0.005	0	%100
24	37	Y	-0.011	-0.011	0	%100
25	38	Y	-0.003	-0.003	0	%100
26	39	Y	-0.003	-0.003	0	%100
27	40	Y	-0.003	-0.003	0	%100
28	41	Y	-0.003	-0.003	0	%100
29	42	Y	-0.003	-0.003	0	%100
30	43	Y	-0.003	-0.003	0	%100
31	44	Y	-0.003	-0.003	0	%100
32	45	Y	-0.003	-0.003	0	%100
33	46	Y	-0.003	-0.003	0	%100
34	47	Y	-0.003	-0.003	0	%100
35	48	Y	-0.003	-0.003	0	%100
36	49	Y	-0.003	-0.003	0	%100
37	50	Y	-0.003	-0.003	0	%100
38	51	Y	-0.003	-0.003	0	%100
39	52	Y	-0.003	-0.003	0	%100
40	53	Y	-0.003	-0.003	0	%100
41	54	Y	-0.003	-0.003	0	%100
42	55	Y	-0.003	-0.003	0	%100
43	56	Y	-0.003	-0.003	0	%100
44	57	Y	-0.003	-0.003	0	%100
45	58	Y	-0.003	-0.003	0	%100
46	59	Y	-0.003	-0.003	0	%100
47	60	Y	-0.003	-0.003	0	%100
48	61	Y	-0.003	-0.003	0	%100
49	62	Y	-0.003	-0.003	0	%100
50	63	Y	-0.003	-0.003	0	%100
51	64	Y	-0.003	-0.003	0	%100
52	65	Y	-0.003	-0.003	0	%100
53	66	Y	-0.003	-0.003	0	%100
54	67	Y	-0.003	-0.003	0	%100
55	68	Y	-0.003	-0.003	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, %)]
56	69	Y	-0.003	-0.003	0	%100
57	70	Y	-0.003	-0.003	0	%100
58	71	Y	-0.003	-0.003	0	%100
59	72	Y	-0.003	-0.003	0	%100
60	73	Y	-0.003	-0.003	0	%100
61	74	Y	-0.003	-0.003	0	%100
62	75	Y	-0.003	-0.003	0	%100
63	76	Y	-0.003	-0.003	0	%100
64	77	Y	-0.003	-0.003	0	%100
65	78	Y	-0.003	-0.003	0	%100
66	79	Y	-0.003	-0.003	0	%100
67	80	Y	-0.003	-0.003	0	%100
68	81	Y	-0.003	-0.003	0	%100
69	82	Y	-0.003	-0.003	0	%100
70	83	Y	-0.003	-0.003	0	%100
71	84	Y	-0.003	-0.003	0	%100
72	85	Y	-0.003	-0.003	0	%100
73	86	Y	-0.003	-0.003	0	%100
74	87	Y	-0.003	-0.003	0	%100
75	88	Y	-0.003	-0.003	0	%100
76	89	Y	-0.003	-0.003	0	%100
77	90	Y	-0.003	-0.003	0	%100
78	91	Y	-0.003	-0.003	0	%100
79	92	Y	-0.003	-0.003	0	%100
80	93	Y	-0.003	-0.003	0	%100
81	94	Y	-0.003	-0.003	0	%100
82	95	Y	-0.003	-0.003	0	%100
83	96	Y	-0.003	-0.003	0	%100
84	97	Y	-0.003	-0.003	0	%100
85	143	Y	-0.005	-0.005	0	%100
86	M152	Y	-0.005	-0.005	0	%100
87	M155	Y	-0.005	-0.005	0	%100
88	98	Y	-0.005	-0.005	0	%100
89	99	Y	-0.005	-0.005	0	%100
90	100	Y	-0.005	-0.005	0	%100
91	101	Y	-0.005	-0.005	0	%100
92	102	Y	-0.005	-0.005	0	%100
93	103	Y	-0.005	-0.005	0	%100
94	104	Y	-0.005	-0.005	0	%100
95	105	Y	-0.005	-0.005	0	%100
96	106	Y	-0.005	-0.005	0	%100
97	107	Y	-0.005	-0.005	0	%100
98	113	Y	-0.005	-0.005	0	%100
99	114	Y	-0.005	-0.005	0	%100
100	115	Y	-0.005	-0.005	0	%100
101	116	Y	-0.005	-0.005	0	%100
102	117	Y	-0.005	-0.005	0	%100
103	118	Y	-0.005	-0.005	0	%100
104	119	Y	-0.005	-0.005	0	%100
105	120	Y	-0.005	-0.005	0	%100
106	121	Y	-0.005	-0.005	0	%100
107	122	Y	-0.005	-0.005	0	%100
108	128	Y	-0.005	-0.005	0	%100
109	129	Y	-0.005	-0.005	0	%100
110	130	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, %)]
111	131	Y	-0.005	-0.005	0	%100
112	132	Y	-0.005	-0.005	0	%100
113	133	Y	-0.005	-0.005	0	%100
114	134	Y	-0.005	-0.005	0	%100
115	135	Y	-0.005	-0.005	0	%100
116	136	Y	-0.005	-0.005	0	%100
117	137	Y	-0.005	-0.005	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	-0.005	-0.005	0	%100
3	3	Z	-0.005	-0.005	0	%100
4	4	Z	-0.002	-0.002	0	%100
5	5	Z	-0.005	-0.005	0	%100
6	6	Z	-0.002	-0.002	0	%100
7	7	Z	-0.007	-0.007	0	%100
8	8	Z	-0.007	-0.007	0	%100
9	9	Z	-0.007	-0.007	0	%100
10	10	Z	-0.007	-0.007	0	%100
11	11	Z	-0.007	-0.007	0	%100
12	13	Z	-0.001	-0.001	0	%100
13	14	Z	-0.001	-0.001	0	%100
14	15	Z	-0.001	-0.001	0	%100
15	16	Z	-0.001	-0.001	0	%100
16	17	Z	-0.001	-0.001	0	%100
17	18	Z	-0.001	-0.001	0	%100
18	19	Z	-0.001	-0.001	0	%100
19	20	Z	-0.001	-0.001	0	%100
20	25	Z	-0.001	-0.001	0	%100
21	26	Z	-0.001	-0.001	0	%100
22	31	Z	-0.001	-0.001	0	%100
23	32	Z	-0.001	-0.001	0	%100
24	37	Z	-0.007	-0.007	0	%100
25	38	Z	-0.0008	-0.0008	0	%100
26	39	Z	-0.0008	-0.0008	0	%100
27	40	Z	-0.0008	-0.0008	0	%100
28	41	Z	-0.0008	-0.0008	0	%100
29	42	Z	-0.0008	-0.0008	0	%100
30	43	Z	-0.0007	-0.0007	0	%100
31	44	Z	-0.0007	-0.0007	0	%100
32	45	Z	-0.0007	-0.0007	0	%100
33	46	Z	-0.0007	-0.0007	0	%100
34	47	Z	-0.0007	-0.0007	0	%100
35	48	Z	-0.0008	-0.0008	0	%100
36	49	Z	-0.0008	-0.0008	0	%100
37	50	Z	-0.0008	-0.0008	0	%100
38	51	Z	-0.0008	-0.0008	0	%100
39	52	Z	-0.0008	-0.0008	0	%100
40	53	Z	-0.0007	-0.0007	0	%100
41	54	Z	-0.0007	-0.0007	0	%100
42	55	Z	-0.0007	-0.0007	0	%100
43	56	Z	-0.0007	-0.0007	0	%100
44	57	Z	-0.0007	-0.0007	0	%100
45	58	Z	-0.0008	-0.0008	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, %)]
46	59	Z	-0.0008	-0.0008	0	%100
47	60	Z	-0.0008	-0.0008	0	%100
48	61	Z	-0.0008	-0.0008	0	%100
49	62	Z	-0.0008	-0.0008	0	%100
50	63	Z	-0.0007	-0.0007	0	%100
51	64	Z	-0.0007	-0.0007	0	%100
52	65	Z	-0.0007	-0.0007	0	%100
53	66	Z	-0.0007	-0.0007	0	%100
54	67	Z	-0.0007	-0.0007	0	%100
55	68	Z	-0.0008	-0.0008	0	%100
56	69	Z	-0.0008	-0.0008	0	%100
57	70	Z	-0.0008	-0.0008	0	%100
58	71	Z	-0.0008	-0.0008	0	%100
59	72	Z	-0.0008	-0.0008	0	%100
60	73	Z	-0.0007	-0.0007	0	%100
61	74	Z	-0.0007	-0.0007	0	%100
62	75	Z	-0.0007	-0.0007	0	%100
63	76	Z	-0.0007	-0.0007	0	%100
64	77	Z	-0.0007	-0.0007	0	%100
65	78	Z	-0.0008	-0.0008	0	%100
66	79	Z	-0.0008	-0.0008	0	%100
67	80	Z	-0.0008	-0.0008	0	%100
68	81	Z	-0.0008	-0.0008	0	%100
69	82	Z	-0.0008	-0.0008	0	%100
70	83	Z	-0.0007	-0.0007	0	%100
71	84	Z	-0.0007	-0.0007	0	%100
72	85	Z	-0.0007	-0.0007	0	%100
73	86	Z	-0.0007	-0.0007	0	%100
74	87	Z	-0.0007	-0.0007	0	%100
75	88	Z	-0.0008	-0.0008	0	%100
76	89	Z	-0.0008	-0.0008	0	%100
77	90	Z	-0.0008	-0.0008	0	%100
78	91	Z	-0.0008	-0.0008	0	%100
79	92	Z	-0.0008	-0.0008	0	%100
80	93	Z	-0.0007	-0.0007	0	%100
81	94	Z	-0.0007	-0.0007	0	%100
82	95	Z	-0.0007	-0.0007	0	%100
83	96	Z	-0.0007	-0.0007	0	%100
84	97	Z	-0.0007	-0.0007	0	%100
85	143	Z	-0.001	-0.001	0	%100
86	M152	Z	-0.001	-0.001	0	%100
87	M155	Z	-0.001	-0.001	0	%100
88	98	Z	-0.0005	-0.0005	0	%100
89	99	Z	-0.0005	-0.0005	0	%100
90	100	Z	-0.0005	-0.0005	0	%100
91	101	Z	-0.0005	-0.0005	0	%100
92	102	Z	-0.0005	-0.0005	0	%100
93	103	Z	-0.0005	-0.0005	0	%100
94	104	Z	-0.0005	-0.0005	0	%100
95	105	Z	-0.0005	-0.0005	0	%100
96	106	Z	-0.0005	-0.0005	0	%100
97	107	Z	-0.0005	-0.0005	0	%100
98	113	Z	-0.0005	-0.0005	0	%100
99	114	Z	-0.0005	-0.0005	0	%100
100	115	Z	-0.0005	-0.0005	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, %)]
101	116	Z	-0.0005	-0.0005	0	%100
102	117	Z	-0.0005	-0.0005	0	%100
103	118	Z	-0.0005	-0.0005	0	%100
104	119	Z	-0.0005	-0.0005	0	%100
105	120	Z	-0.0005	-0.0005	0	%100
106	121	Z	-0.0005	-0.0005	0	%100
107	122	Z	-0.0005	-0.0005	0	%100
108	128	Z	-0.0005	-0.0005	0	%100
109	129	Z	-0.0005	-0.0005	0	%100
110	130	Z	-0.0005	-0.0005	0	%100
111	131	Z	-0.0005	-0.0005	0	%100
112	132	Z	-0.0005	-0.0005	0	%100
113	133	Z	-0.0005	-0.0005	0	%100
114	134	Z	-0.0005	-0.0005	0	%100
115	135	Z	-0.0005	-0.0005	0	%100
116	136	Z	-0.0005	-0.0005	0	%100
117	137	Z	-0.0005	-0.0005	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	-0.005	-0.005	0	%100
3	3	X	-0.005	-0.005	0	%100
4	4	X	-0.002	-0.002	0	%100
5	5	X	-0.005	-0.005	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.007	-0.007	0	%100
8	8	X	-0.007	-0.007	0	%100
9	9	X	-0.007	-0.007	0	%100
10	10	X	-0.007	-0.007	0	%100
11	11	X	-0.007	-0.007	0	%100
12	13	X	-0.001	-0.001	0	%100
13	14	X	-0.001	-0.001	0	%100
14	15	X	-0.001	-0.001	0	%100
15	16	X	-0.001	-0.001	0	%100
16	17	X	-0.001	-0.001	0	%100
17	18	X	-0.001	-0.001	0	%100
18	19	X	-0.001	-0.001	0	%100
19	20	X	-0.001	-0.001	0	%100
20	25	X	-0.001	-0.001	0	%100
21	26	X	-0.001	-0.001	0	%100
22	31	X	-0.001	-0.001	0	%100
23	32	X	-0.001	-0.001	0	%100
24	37	X	-0.007	-0.007	0	%100
25	38	X	-0.0008	-0.0008	0	%100
26	39	X	-0.0008	-0.0008	0	%100
27	40	X	-0.0008	-0.0008	0	%100
28	41	X	-0.0008	-0.0008	0	%100
29	42	X	-0.0008	-0.0008	0	%100
30	43	X	-0.0007	-0.0007	0	%100
31	44	X	-0.0007	-0.0007	0	%100
32	45	X	-0.0007	-0.0007	0	%100
33	46	X	-0.0007	-0.0007	0	%100
34	47	X	-0.0007	-0.0007	0	%100
35	48	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, %)]
36	49	X	-0.0008	-0.0008	0	%100
37	50	X	-0.0008	-0.0008	0	%100
38	51	X	-0.0008	-0.0008	0	%100
39	52	X	-0.0008	-0.0008	0	%100
40	53	X	-0.0007	-0.0007	0	%100
41	54	X	-0.0007	-0.0007	0	%100
42	55	X	-0.0007	-0.0007	0	%100
43	56	X	-0.0007	-0.0007	0	%100
44	57	X	-0.0007	-0.0007	0	%100
45	58	X	-0.0008	-0.0008	0	%100
46	59	X	-0.0008	-0.0008	0	%100
47	60	X	-0.0008	-0.0008	0	%100
48	61	X	-0.0008	-0.0008	0	%100
49	62	X	-0.0008	-0.0008	0	%100
50	63	X	-0.0007	-0.0007	0	%100
51	64	X	-0.0007	-0.0007	0	%100
52	65	X	-0.0007	-0.0007	0	%100
53	66	X	-0.0007	-0.0007	0	%100
54	67	X	-0.0007	-0.0007	0	%100
55	68	X	-0.0008	-0.0008	0	%100
56	69	X	-0.0008	-0.0008	0	%100
57	70	X	-0.0008	-0.0008	0	%100
58	71	X	-0.0008	-0.0008	0	%100
59	72	X	-0.0008	-0.0008	0	%100
60	73	X	-0.0007	-0.0007	0	%100
61	74	X	-0.0007	-0.0007	0	%100
62	75	X	-0.0007	-0.0007	0	%100
63	76	X	-0.0007	-0.0007	0	%100
64	77	X	-0.0007	-0.0007	0	%100
65	78	X	-0.0008	-0.0008	0	%100
66	79	X	-0.0008	-0.0008	0	%100
67	80	X	-0.0008	-0.0008	0	%100
68	81	X	-0.0008	-0.0008	0	%100
69	82	X	-0.0008	-0.0008	0	%100
70	83	X	-0.0007	-0.0007	0	%100
71	84	X	-0.0007	-0.0007	0	%100
72	85	X	-0.0007	-0.0007	0	%100
73	86	X	-0.0007	-0.0007	0	%100
74	87	X	-0.0007	-0.0007	0	%100
75	88	X	-0.0008	-0.0008	0	%100
76	89	X	-0.0008	-0.0008	0	%100
77	90	X	-0.0008	-0.0008	0	%100
78	91	X	-0.0008	-0.0008	0	%100
79	92	X	-0.0008	-0.0008	0	%100
80	93	X	-0.0007	-0.0007	0	%100
81	94	X	-0.0007	-0.0007	0	%100
82	95	X	-0.0007	-0.0007	0	%100
83	96	X	-0.0007	-0.0007	0	%100
84	97	X	-0.0007	-0.0007	0	%100
85	143	X	-0.001	-0.001	0	%100
86	M152	X	-0.001	-0.001	0	%100
87	M155	X	-0.001	-0.001	0	%100
88	98	X	-0.0005	-0.0005	0	%100
89	99	X	-0.0005	-0.0005	0	%100
90	100	X	-0.0005	-0.0005	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, %)]
91	101	X	-0.0005	-0.0005	0	%100
92	102	X	-0.0005	-0.0005	0	%100
93	103	X	-0.0005	-0.0005	0	%100
94	104	X	-0.0005	-0.0005	0	%100
95	105	X	-0.0005	-0.0005	0	%100
96	106	X	-0.0005	-0.0005	0	%100
97	107	X	-0.0005	-0.0005	0	%100
98	113	X	-0.0005	-0.0005	0	%100
99	114	X	-0.0005	-0.0005	0	%100
100	115	X	-0.0005	-0.0005	0	%100
101	116	X	-0.0005	-0.0005	0	%100
102	117	X	-0.0005	-0.0005	0	%100
103	118	X	-0.0005	-0.0005	0	%100
104	119	X	-0.0005	-0.0005	0	%100
105	120	X	-0.0005	-0.0005	0	%100
106	121	X	-0.0005	-0.0005	0	%100
107	122	X	-0.0005	-0.0005	0	%100
108	128	X	-0.0005	-0.0005	0	%100
109	129	X	-0.0005	-0.0005	0	%100
110	130	X	-0.0005	-0.0005	0	%100
111	131	X	-0.0005	-0.0005	0	%100
112	132	X	-0.0005	-0.0005	0	%100
113	133	X	-0.0005	-0.0005	0	%100
114	134	X	-0.0005	-0.0005	0	%100
115	135	X	-0.0005	-0.0005	0	%100
116	136	X	-0.0005	-0.0005	0	%100
117	137	X	-0.0005	-0.0005	0	%100

Member Distributed Loads (BLC 30 : 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	105	Y	-0.003	-0.003	0	0.842
2	107	Y	-0.003	-0.003	0	0.842
3	102	Y	-0.003	-0.007	0	1.002
4	102	Y	-0.007	-0.01	1.002	2.005
5	102	Y	-0.01	-0.011	2.005	3.007
6	102	Y	-0.011	-0.008	3.007	4.01
7	102	Y	-0.008	-0.002	4.01	5.012
8	103	Y	-0.005	-0.007	0	1.082
9	106	Y	-0.005	-0.007	0	1.082
10	98	Y	-0.008	-0.008	0	1.583
11	99	Y	-0.012	-0.009	0	2.458
12	99	Y	-0.009	-0.006	2.458	4.917
13	100	Y	-0.011	-0.011	0.471	2.145
14	101	Y	-0.008	-0.008	0.18	2.703
15	113	Y	-0.008	-0.008	0	1.583
16	114	Y	-0.012	-0.009	0	2.458
17	114	Y	-0.009	-0.006	2.458	4.917
18	115	Y	-0.011	-0.011	0.471	2.145
19	116	Y	-0.008	-0.008	0.18	2.703
20	117	Y	-0.002	-0.008	0	1.002
21	117	Y	-0.008	-0.011	1.002	2.005
22	117	Y	-0.011	-0.01	2.005	3.007
23	117	Y	-0.01	-0.007	3.007	4.01
24	117	Y	-0.007	-0.003	4.01	5.012
25	118	Y	-0.004	-0.008	0	1.082

Member Distributed Loads (BLC 30 : 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, %)]
26	121	Y	-0.004	-0.008	0	1.082
27	119	Y	-0.005	-0.007	0	1
28	119	Y	-0.007	-0.006	1	2
29	119	Y	-0.006	-0.006	2	3
30	119	Y	-0.006	-0.007	3	4
31	119	Y	-0.007	-0.005	4	5
32	120	Y	-0.003	-0.003	0	0.842
33	122	Y	-0.003	-0.003	0	0.842
34	134	Y	-0.005	-0.007	0	1
35	134	Y	-0.007	-0.006	1	2
36	134	Y	-0.006	-0.006	2	3
37	134	Y	-0.006	-0.007	3	4
38	134	Y	-0.007	-0.005	4	5
39	135	Y	-0.003	-0.003	0	0.842
40	137	Y	-0.003	-0.003	0	0.842
41	132	Y	-0.002	-0.008	0	1.002
42	132	Y	-0.008	-0.01	1.002	2.005
43	132	Y	-0.01	-0.009	2.005	3.007
44	132	Y	-0.009	-0.008	3.007	4.01
45	132	Y	-0.008	-0.004	4.01	5.012
46	133	Y	-0.004	-0.008	0	1.082
47	136	Y	-0.005	-0.008	0	1.082
48	128	Y	-0.008	-0.008	0	1.583
49	129	Y	-0.006	-0.009	0	2.458
50	129	Y	-0.009	-0.012	2.458	4.917
51	130	Y	-0.008	-0.008	0.18	2.703
52	131	Y	-0.011	-0.011	0.471	2.145
53	104	Y	-0.005	-0.007	0	1
54	104	Y	-0.007	-0.006	1	2
55	104	Y	-0.006	-0.006	2	3
56	104	Y	-0.006	-0.007	3	4
57	104	Y	-0.007	-0.005	4	5

Member Distributed Loads (BLC 31 : 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	132	Y	-0.005	-0.004	3.007	4.01
2	132	Y	-0.004	-0.002	4.01	5.012
3	133	Y	-0.002	-0.004	0	1.082
4	136	Y	-0.002	-0.004	0	1.082
5	128	Y	-0.004	-0.004	0	1.583
6	129	Y	-0.003	-0.004	0	2.458
7	129	Y	-0.004	-0.006	2.458	4.917
8	130	Y	-0.004	-0.004	0.18	2.703
9	131	Y	-0.006	-0.006	0.471	2.145
10	104	Y	-0.002	-0.003	0	1
11	104	Y	-0.003	-0.003	1	2
12	104	Y	-0.003	-0.003	2	3
13	104	Y	-0.003	-0.003	3	4
14	104	Y	-0.003	-0.002	4	5
15	105	Y	-0.002	-0.002	0	0.842
16	107	Y	-0.002	-0.002	0	0.842
17	102	Y	-0.001	-0.004	0	1.002
18	102	Y	-0.004	-0.005	1.002	2.005
19	102	Y	-0.005	-0.005	2.005	3.007
20	102	Y	-0.005	-0.004	3.007	4.01

Member Distributed Loads (BLC 31 : 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, %)]
21	102	Y	-0.004	-0.0008513	4.01	5.012
22	103	Y	-0.003	-0.004	0	1.082
23	106	Y	-0.003	-0.004	0	1.082
24	98	Y	-0.004	-0.004	0	1.583
25	99	Y	-0.006	-0.004	0	2.458
26	99	Y	-0.004	-0.003	2.458	4.917
27	100	Y	-0.006	-0.006	0.471	2.145
28	101	Y	-0.004	-0.004	0.18	2.703
29	113	Y	-0.004	-0.004	0	1.583
30	114	Y	-0.006	-0.005	0	2.458
31	114	Y	-0.005	-0.003	2.458	4.917
32	115	Y	-0.006	-0.006	0.471	2.145
33	116	Y	-0.004	-0.004	0.18	2.703
34	117	Y	-0.0008625	-0.004	0	1.002
35	117	Y	-0.004	-0.005	1.002	2.005
36	117	Y	-0.005	-0.005	2.005	3.007
37	117	Y	-0.005	-0.004	3.007	4.01
38	117	Y	-0.004	-0.001	4.01	5.012
39	118	Y	-0.002	-0.004	0	1.082
40	121	Y	-0.002	-0.004	0	1.082
41	119	Y	-0.002	-0.003	0	1
42	119	Y	-0.003	-0.003	1	2
43	119	Y	-0.003	-0.003	2	3
44	119	Y	-0.003	-0.003	3	4
45	119	Y	-0.003	-0.002	4	5
46	120	Y	-0.002	-0.002	0	0.842
47	122	Y	-0.002	-0.002	0	0.842
48	134	Y	-0.002	-0.003	0	1
49	134	Y	-0.003	-0.003	1	2
50	134	Y	-0.003	-0.003	2	3
51	134	Y	-0.003	-0.003	3	4
52	134	Y	-0.003	-0.002	4	5
53	135	Y	-0.002	-0.002	0	0.842
54	137	Y	-0.002	-0.002	0	0.842
55	132	Y	-0.0008419	-0.004	0	1.002
56	132	Y	-0.004	-0.005	1.002	2.005
57	132	Y	-0.005	-0.005	2.005	3.007

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	185	183	184	186	Y	Two Way	-0.01
2	187	190	191	188	Y	Two Way	-0.01
3	188	191	192	189	Y	Two Way	-0.01
4	212	209	208	211	Y	Two Way	-0.01
5	211	208	207	210	Y	Two Way	-0.01
6	204	206	205	203	Y	Two Way	-0.01
7	172	171	168	169	Y	Two Way	-0.01
8	168	167	170	171	Y	Two Way	-0.01
9	166	165	163	164	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	185	183	184	186	Y	Two Way	-0.005
2	187	190	191	188	Y	Two Way	-0.005
3	188	191	192	189	Y	Two Way	-0.005
4	212	209	208	211	Y	Two Way	-0.005
5	211	208	207	210	Y	Two Way	-0.005
6	204	206	205	203	Y	Two Way	-0.005
7	172	171	168	169	Y	Two Way	-0.005
8	168	167	170	171	Y	Two Way	-0.005
9	166	165	163	164	Y	Two Way	-0.005

Node Loads and Enforced Displacements (BLC 11 : Live Load a)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	41	L	Y	-0.5
2	53	L	Y	-0.5
3	65	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 12 : Live Load b)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	225	L	Y	-0.5
2	N243	L	Y	-0.5
3	N249	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 13 : Live Load c)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	37	L	Y	-0.5
2	49	L	Y	-0.5
3	61	L	Y	-0.5

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	117	
3	90 Wind - No Ice	WLX			45	117	
4	0 Wind - Ice	WLZ			45	117	
5	90 Wind - Ice	WLX			45	117	
6	0 Wind - Service	WLZ			45	117	
7	90 Wind - Service	WLX			45	117	
8	Ice	OL1			45	117	9
9	0 Seismic	ELZ			45	117	
10	90 Seismic	ELX			45	117	
11	Live Load a	LL		3			
12	Live Load b	LL		3			
13	Live Load c	LL		3			
14	Live Load d	LL					
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		

Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
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	BLC 1 Transient Area Loads	None				57	
31	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

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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
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

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
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

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	14	max	1.395	5	2.843	20	2.086	2	-2.829	2	3.856	5	0.765	93
2		min	-1.405	11	1.037	2	-2.223	8	-11.188	20	-3.849	11	-0.75	87
3	16	max	1.518	5	2.818	15	2.006	2	5.47	15	5.041	13	-3.164	10
4		min	-1.434	11	1.132	9	-1.942	8	1.459	9	-5.085	7	-9.601	16
5	15	max	1.394	5	2.807	24	2.093	2	5.644	25	5.114	9	9.466	24
6		min	-1.468	11	1.141	7	-2.02	8	1.558	7	-5.058	3	3.114	6
7	Totals:	max	4.307	5	8.337	14	6.185	2						
8		min	-4.307	11	4.029	8	-6.185	8						

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	1	PIPE_3.0	0.536	8.5	20	0.242	8.5		2	15.471	65.205	5.749	5.749	1.871	H1-1b
2	2	PL1/2X10	0.111	1.319	2	0.048	1.319	y	9	58.832	162	1.688	33.75	1.345	H1-1b
3	3	PL1/2X10	0.115	1.319	2	0.054	0.347	y	13	58.832	162	1.688	33.75	1.298	H1-1b
4	4	PIPE_3.0	0.526	8.5	16	0.179	8.5		10	15.471	65.205	5.749	5.749	1.867	H1-1b
5	5	PL1/2X10	0.083	1.319	6	0.031	0.347	y	5	58.832	162	1.688	33.75	1.221	H1-1b
6	6	PIPE_3.0	0.531	8.5	25	0.204	8.5		7	15.471	65.205	5.749	5.749	1.867	H1-1b
7	7	HSS5X5X6	0.322	2.208	22	0.048	2.208	y	93	252.433	255.852	36.57	36.57	1.289	H1-1b
8	8	HSS5X5X6	0.138	2	25	0.047	2	y	97	253.044	255.852	36.57	36.57	1.751	H1-1b
9	9	HSS5X5X6	0.327	2.208	14	0.048	2.208	y	97	252.433	255.852	36.57	36.57	1.289	H1-1b
10	10	HSS5X5X6	0.138	2	15	0.047	2	y	95	253.044	255.852	36.57	36.57	1.755	H1-1b
11	11	HSS5X5X6	0.328	2.208	14	0.048	2.208	y	95	252.433	255.852	36.57	36.57	1.289	H1-1b
12	13	PIPE_2.0	0.445	9.297	66	0.168	16.771		2	3.212	32.13	1.872	1.872	2.124	H1-1b
13	14	PIPE_2.0	0.451	9.297	62	0.155	16.771		9	3.212	32.13	1.872	1.872	2.159	H1-1b
14	15	PIPE_2.0	0.447	9.297	69	0.139	0.729		7	3.212	32.13	1.872	1.872	2.157	H1-1b
15	16	L2.5x2.5x4	0.219	0	62	0.037	1.302	y	11	36.481	38.556	1.114	2.537	1.024	H2-1
16	17	L2.5x2.5x4	0.218	0	67	0.063	1.302	y	3	36.481	38.556	1.114	2.537	1.045	H2-1
17	18	L2.5x2.5x4	0.217	0	70	0.063	1.302	y	7	36.481	38.556	1.114	2.537	1.018	H2-1
18	19	PIPE_2.0	0.657	3.281	42	0.144	3.281		7	17.855	32.13	1.872	1.872	3	H1-1b
19	20	PIPE_2.0	0.71	3.281	70	0.139	3.281		9	17.855	32.13	1.872	1.872	3	H1-1b
20	25	PIPE_2.0	0.659	3.281	45	0.134	3.281		71	17.855	32.13	1.872	1.872	3	H1-1b
21	26	PIPE_2.0	0.716	3.281	62	0.14	3.281		13	17.855	32.13	1.872	1.872	3	H1-1b
22	31	PIPE_2.0	0.662	3.281	38	0.145	3.281		2	17.855	32.13	1.872	1.872	3	H1-1b
23	32	PIPE_2.0	0.712	3.281	67	0.119	3.281		41	17.855	32.13	1.872	1.872	3	H1-1b
24	37	HSS5X5X6	0.139	2	19	0.047	2	y	93	253.044	255.852	36.57	36.57	1.747	H1-1b
25	38	SR_1"	0.019	0	13	0.12	0		13	24.687	25.447	0.424	0.424	1.32	H1-1b*
26	39	SR_1"	0.011	0	13	0.05	0.5		25	24.687	25.447	0.424	0.424	1.08	H1-1b*
27	40	SR_1"	0.001	0	7	0.035	0		7	24.687	25.447	0.424	0.424	1.329	H1-1b*
28	41	SR_1"	0.003	0.5	3	0.036	0.5		25	24.687	25.447	0.424	0.424	1.602	H1-1b*
29	42	SR_1"	0.001	0.5	4	0.013	0		6	24.687	25.447	0.424	0.424	2.218	H1-1b*
30	43	SR_3/4"	0.02	0	13	0.088	1.083		25	11.114	14.314	0.179	0.179	1.368	H1-1b*
31	44	SR_3/4"	0.033	0	13	0.324	0		24	11.114	14.314	0.179	0.179	2.737	H1-1b*
32	45	SR_3/4"	0.049	0	6	0.144	5.349		20	0.577	14.314	0.179	0.179	2.78	H1-1b*
33	46	SR_3/4"	0.011	1.505	2	0.181	1.018		24	5.396	14.314	0.179	0.179	1.592	H1-1b*
34	47	SR_3/4"	0.016	0.5	8	0.103	0		2	13.563	14.314	0.179	0.179	1.403	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
35	48	SR_1"	0.017	0	4	0.122	0		3	24.687	25.447	0.424	0.424	1.318	H1-1b*
36	49	SR_1"	0.01	0	4	0.051	0.5		15	24.687	25.447	0.424	0.424	1.157	H1-1b*
37	50	SR_1"	0.003	0	7	0.048	0.5		20	24.687	25.447	0.424	0.424	1.298	H1-1b*
38	51	SR_1"	0.002	0.5	13	0.016	0		10	24.687	25.447	0.424	0.424	1.623	H1-1b*
39	52	SR_1"	0.001	0.5	11	0.012	0		11	24.687	25.447	0.424	0.424	2.185	H1-1b*
40	53	SR_3/4"	0.018	0	4	0.084	0		15	11.114	14.314	0.179	0.179	1.407	H1-1b*
41	54	SR_3/4"	0.029	0	4	0.28	0		3	11.114	14.314	0.179	0.179	2.755	H1-1b*
42	55	SR_3/4"	0.044	0	10	0.26	3.453		18	0.577	14.314	0.179	0.179	2.636	H1-1b*
43	56	SR_3/4"	0.008	1.505	2	0.171	1.018		3	5.396	14.314	0.179	0.179	1.684	H1-1b*
44	57	SR_3/4"	0.006	0.5	8	0.11	0		2	13.563	14.314	0.179	0.179	1.497	H1-1b*
45	58	SR_1"	0.016	0	4	0.108	0		4	24.687	25.447	0.424	0.424	1.308	H1-1b*
46	59	SR_1"	0.011	0	4	0.048	0.5		17	24.687	25.447	0.424	0.424	1.077	H1-1b*
47	60	SR_1"	0	0	10	0.026	0		11	24.687	25.447	0.424	0.424	1.343	H1-1b*
48	61	SR_1"	0.003	0.5	6	0.034	0.5		18	24.687	25.447	0.424	0.424	1.563	H1-1b*
49	62	SR_1"	0.002	0.5	8	0.017	0		9	24.687	25.447	0.424	0.424	2.219	H1-1b*
50	63	SR_3/4"	0.019	0	4	0.085	1.083		17	11.114	14.314	0.179	0.179	1.153	H1-1b*
51	64	SR_3/4"	0.029	0	4	0.296	0		16	11.114	14.314	0.179	0.179	2.912	H1-1b*
52	65	SR_3/4"	0.053	0	9	0.134	5.349		24	0.577	14.314	0.179	0.179	2.693	H1-1b*
53	66	SR_3/4"	0.006	0	8	0.172	1.018		16	5.396	14.314	0.179	0.179	1.902	H1-1b*
54	67	SR_3/4"	0.012	0.5	13	0.087	0		5	13.563	14.314	0.179	0.179	1.498	H1-1b*
55	68	SR_1"	0.023	0	8	0.117	0.5		8	24.687	25.447	0.424	0.424	1.317	H1-1b*
56	69	SR_1"	0.014	0	8	0.05	0.5		19	24.687	25.447	0.424	0.424	1.119	H1-1b*
57	70	SR_1"	0.003	0.5	20	0.043	0.5		21	24.687	25.447	0.424	0.424	1.325	H1-1b*
58	71	SR_1"	0.001	0.5	5	0.021	0		2	24.687	25.447	0.424	0.424	1.577	H1-1b*
59	72	SR_1"	0.001	0.5	3	0.015	0		3	24.687	25.447	0.424	0.424	1.832	H1-1b*
60	73	SR_3/4"	0.024	0	8	0.082	0		19	11.114	14.314	0.179	0.179	1.399	H1-1b*
61	74	SR_3/4"	0.041	0	8	0.267	0.463		8	11.114	14.314	0.179	0.179	2.78	H1-1b*
62	75	SR_3/4"	0.058	0	2	0.238	3.453		21	0.577	14.314	0.179	0.179	2.264	H1-1b*
63	76	SR_3/4"	0.01	1.505	7	0.177	1.018		8	5.396	14.314	0.179	0.179	1.668	H1-1b*
64	77	SR_3/4"	0.01	0.5	13	0.096	0		6	13.563	14.314	0.179	0.179	2.196	H1-1b*
65	78	SR_1"	0.023	0	8	0.123	0.5		8	24.687	25.447	0.424	0.424	1.314	H1-1b*
66	79	SR_1"	0.014	0	8	0.047	0		21	24.687	25.447	0.424	0.424	1.03	H1-1b*
67	80	SR_1"	0.003	0.5	20	0.049	0.5		17	24.687	25.447	0.424	0.424	1.32	H1-1b*
68	81	SR_1"	0.001	0.5	11	0.021	0		2	24.687	25.447	0.424	0.424	1.56	H1-1b*
69	82	SR_1"	0.001	0.5	13	0.017	0		2	24.687	25.447	0.424	0.424	2.132	H1-1b*
70	83	SR_3/4"	0.025	0	8	0.081	0		21	11.114	14.314	0.179	0.179	1.266	H1-1b*
71	84	SR_3/4"	0.041	0	8	0.282	0.463		8	11.114	14.314	0.179	0.179	2.83	H1-1b*
72	85	SR_3/4"	0.06	0	2	0.257	3.453		19	0.577	14.314	0.179	0.179	2.684	H1-1b*
73	86	SR_3/4"	0.01	1.505	9	0.181	1.018		8	5.396	14.314	0.179	0.179	1.518	H1-1b*
74	87	SR_3/4"	0.013	0.5	3	0.097	0		10	13.563	14.314	0.179	0.179	2.137	H1-1b*
75	88	SR_1"	0.017	0	12	0.11	0		12	24.687	25.447	0.424	0.424	1.311	H1-1b*
76	89	SR_1"	0.011	0	12	0.049	0		23	24.687	25.447	0.424	0.424	1.046	H1-1b*
77	90	SR_1"	0.004	0	3	0.044	0.5		14	24.687	25.447	0.424	0.424	1.293	H1-1b*
78	91	SR_1"	0.002	0.5	10	0.02	0		7	24.687	25.447	0.424	0.424	1.583	H1-1b*
79	92	SR_1"	0.001	0.5	7	0.016	0		7	24.687	25.447	0.424	0.424	1.967	H1-1b*
80	93	SR_3/4"	0.019	0	12	0.082	0		23	11.114	14.314	0.179	0.179	1.24	H1-1b*
81	94	SR_3/4"	0.031	0	12	0.253	0.463		12	11.114	14.314	0.179	0.179	2.862	H1-1b*
82	95	SR_3/4"	0.054	0	7	0.246	3.453		14	0.577	14.314	0.179	0.179	2.273	H1-1b*
83	96	SR_3/4"	0.005	0	8	0.161	1.018		12	5.396	14.314	0.179	0.179	2.314	H1-1b*
84	97	SR_3/4"	0.003	0.5	4	0.094	0		11	13.563	14.314	0.179	0.179	1.822	H1-1b*
85	143	PIPE_2.0	0.777	5.25	2	0.074	5.25		8	12.144	32.13	1.872	1.872	2.482	H1-1b
86	M152	PIPE_2.0	0.622	5.25	7	0.058	5.25		13	12.144	32.13	1.872	1.872	1.841	H1-1b
87	M155	PIPE_2.0	0.573	5.25	2	0.07	5.25		2	12.144	32.13	1.872	1.872	2.33	H1-1b

APPENDIX D

ADDITIONAL CALCUATIONS

PROJECT	**101126.009.01 - Branford/ I-95/ X55 KSC**				
SUBJECT	**Platform Mount Analysis**				
DATE	**10/21/21**	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	:	2.086	k
Vertical Shear	:	2.843	k
Horizontal Shear	:	1.395	k
Torsion	:	0.765	k.ft
Moment from Horizontal Forces	:	3.856	k.ft
Moment from Vertical Forces	:	-2.829	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	:	3.17	k
Force from Horz. Moment	:	6.98	k
Force from Vert. Moment	:	-5.12	k
Shear Load / Bolt	:	0.79	k
Tension Load / Bolt	:	0.52	k
Resultant from Moments / Bolt	:	4.33	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	:	**23.42%**		**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	:	**11.88%**		**OKAY**
Unity Check, Combined	:	**35.30%**		**OKAY**
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	**2.28%**		**OKAY**

PROJECT	**101126.009.01 - Branford/ I-95/ X55 KSC**				
SUBJECT	**Platform Mount Analysis**				
DATE	**10/21/21**	PAGE	1	OF	1

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

[REF: AISC 360-05]

Connecting Member Parameters

Plate Yield Strength, F_y	:	36.00	ksi	[AISC Table 2-5]
Plate Tensile Strength, F_u	:	58.00	ksi	[AISC Table 2-5]
Plate Height	:	9.00	in	
Plate Width	:	9.00	in	
Plate Thickness	:	0.50	in	
Edge Distance	:	1.06	in	
Gross Tension Area, A_{gt}	:	4.50	in^2	
Gross Shear Area, A_{gv}	:	0.75	in^2	
Net Area for tension, A_{nv}	:	4.16	in^2	
Net Area for shear, A_{nt}	:	3.00	in^2	

Plate Check

Available Tensile Yield	:	145.80	k	[Eq. J4-1]
Available Tensile Rupture	:	180.80	k	[Eq. J4-2]
Unity Check, Plate Tension	:	**3.33%**		**OKAY**
Available Shear Yield	:	16.20	k	[Eq. J4-3]
Available Shear Rupture	:	104.40	k	[Eq. J4-4]
Unity Check, Plate Shear	:	**19.55%**		**OKAY**
Available Block Shear, ΦRn	:	77.40	k	[Eq. J4-5]
Unity Check, Block Shear	:	**4.09%**		**OKAY**

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: CT11025B

822765
10 Sylvia Street
Brandford, Connecticut 06405

December 9, 2021

EBI Project Number: 6221007492

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**62.57%**

December 9, 2021

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

Emissions Analysis for Site: CT11025B - 822765

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

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

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

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

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

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

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

6) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

7) 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.

8) 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.

9) 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.

10) 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.

11) 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.

12) 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.

13) 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.

14) The antennas used in this modeling are the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope VV-65A-R1 for the 1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Commscope VV-65A-R1 for the 1900

MHz / 1900 MHz / 2100 MHz / 2100 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.

15) The antenna mounting height centerline of the proposed antennas is 122 feet above ground level (AGL).

16) 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.

17) 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:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd
Height (AGL):	122 feet	Height (AGL):	122 feet	Height (AGL):	122 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	36,356.09	ERP (W):	36,356.09	ERP (W):	36,356.09
Antenna A1 MPE %:	**9.71%**	Antenna B1 MPE %:	**9.71%**	Antenna C1 MPE %:	**9.71%**
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):	122 feet	Height (AGL):	122 feet	Height (AGL):	122 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200 Watts	Total TX Power (W):	200 Watts	Total TX Power (W):	200 Watts
ERP (W):	4,151.83	ERP (W):	4,151.83	ERP (W):	4,151.83
Antenna A2 MPE %:	**2.64%**	Antenna B2 MPE %:	**2.64%**	Antenna C2 MPE %:	**2.64%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
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 / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz / 2100 MHz
Gain:	15.15 dBd / 15.15 dBd / 15.8 dBd / 15.8 dBd	Gain:	15.15 dBd / 15.15 dBd / 15.8 dBd / 15.8 dBd	Gain:	15.15 dBd / 15.15 dBd / 15.8 dBd / 15.8 dBd
Height (AGL):	122 feet	Height (AGL):	122 feet	Height (AGL):	122 feet
Channel Count:	10	Channel Count:	10	Channel Count:	10
Total TX Power (W):	420 Watts	Total TX Power (W):	420 Watts	Total TX Power (W):	420 Watts
ERP (W):	14,699.59	ERP (W):	14,699.59	ERP (W):	14,699.59
Antenna A3 MPE %:	**3.93%**	Antenna B3 MPE %:	**3.93%**	Antenna C3 MPE %:	**3.93%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	16.28%
AT&T	29.73%
Verizon	4.24%
Clearwire	12.32%
Site Total MPE % :	62.57%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	16.28%
T-Mobile Sector B Total:	16.28%
T-Mobile Sector C Total:	16.28%
Site Total MPE % :	62.57%

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 2500 MHz LTE 1C & 2C Traffic	1	11044.63	122.0	29.51	2500 MHz LTE 1C & 2C Traffic	1000	2.95%
T-Mobile 2500 MHz LTE 1C & 2C Broadcast	1	1074.06	122.0	2.87	2500 MHz LTE 1C & 2C Broadcast	1000	0.29%
T-Mobile 2500 MHz NR Traffic	1	22089.26	122.0	59.02	2500 MHz NR Traffic	1000	5.90%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	122.0	5.74	2500 MHz NR Broadcast	1000	0.57%
T-Mobile 600 MHz LTE	2	591.73	122.0	3.16	600 MHz LTE	400	0.79%
T-Mobile 600 MHz NR	1	1577.94	122.0	4.22	600 MHz NR	400	1.05%
T-Mobile 700 MHz LTE	2	695.22	122.0	3.71	700 MHz LTE	467	0.80%
T-Mobile 1900 MHz GSM	4	982.02	122.0	10.49	1900 MHz GSM	1000	1.05%
T-Mobile 1900 MHz LTE	2	1964.04	122.0	10.49	1900 MHz LTE	1000	1.05%
T-Mobile 2100 MHz UMTS	2	1140.57	122.0	6.09	2100 MHz UMTS	1000	0.61%
T-Mobile 2100 MHz LTE	2	2281.14	122.0	12.19	2100 MHz LTE	1000	1.22%
						Total:	**16.28%**

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	16.28%
Sector B:	16.28%
Sector C:	16.28%
T-Mobile Maximum MPE % (Sector A):	16.28%
Site Total:	62.57%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **62.57%** 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: CT11025B
T-MOBILE SITE NAME: BRANDFORD/ I-95/ X55/ DTN1
SITE TYPE: MONOPOLE
TOWER HEIGHT: 125'-0"
BUSINESS UNIT #: 822765
SITE ADDRESS: 10 SYLVIA STREET BRANDFORD, CT 06405
COUNTY: NEW HAVEN COUNTY
JURISDICTION: TOWN OF BRANDFORD

T-MOBILE ANCHOR SITE CONFIGURATION: 67D5A998E 6160

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	BRANDFORD/ I-95/ X55/ DTN1
SITE ADDRESS:	10 SYLVIA STREET BRANDFORD, CT 06405
COUNTY:	NEW HAVEN COUNTY
MAP/PARCEL #:	----
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41.29391100
LONGITUDE:	-72.78572900
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	54.0 FT
CURRENT ZONING:	----
JURISDICTION:	TOWN OF BRANDFORD
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	---- ---- CITY, STATE ZIP
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 35 GRIFFIN ROAD BLOOMFIELD, CT 06002
ELECTRIC PROVIDER:	---- ----
TELCO PROVIDER:	---- ----
JOB NO.:	2438.6885

PROJECT TEAM

A&E FIRM:	CROWN CASTLE USA INC. 2000 CORPORATE DRIVE CANONSBURG, PA 15317 CROWNAE.APPROVAL@CROWNCASTLE.COM
CROWN CASTLE USA INC. DISTRICT CONTACTS:	1200 MACARTHUR BLVD, SUITE 200 MAHWAH, NJ 07430 TRICIA PELON - PROJECT MANAGER ---- JASON D'AMICO - CONSTRUCTION MANAGER ----

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

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	ENLARGED SITE PLANS
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	ANTENNA & CABLE SCHEDULE
C-4	PLUMBING DIAGRAM
C-5	EQUIPMENT SPECS
E-1	AC PANEL SCHEDULES & ONE LINE DIAGRAM
G-1	ANTENNA GROUNDING DIAGRAM
G-2	GROUNDING DETAILS
G-3	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 (6) ANTENNAS
- REMOVE (3) TMAs
- REMOVE (6) 1-5/8" COAX CABLES
- REMOVE (1) 1-5/8" HYBRID CABLE
- INSTALL (6) ANTENNAS
- INSTALL (3) RRUs
- INSTALL (1) 1-5/8" HYBRID CABLE

GROUND SCOPE OF WORK:
- REMOVE (1) 6131 EQUIPMENT CABINET
- INSTALL (1) 6160 EQUIPMENT CABINET
- INSTALL (1) B160 BATTERY CABINET
- INSTALL (1) DC DU & (4) RECTIFIERS
- INSTALL (1) IXRe ROUTER IN 6160
- INSTALL (1) BB6648 FOR L2500,N2500
- INSTALL (1) PSU4813 VOLTAGE BOOSTER IN 6160

NOTE:
THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. T-MOBILE IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.

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	2018IMC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	TOWER ENGINEERING PROFESSIONALS
DATED:	10/28/21
MOUNT ANALYSIS:	B+T GROUP
DATED:	10/21/21
AC ELECTRICAL POWER DESIGN:	BY OTHERS
DATED:	
RFDS REVISION:	8
DATED:	10/04/21
ORDER ID:	587423
REVISION:	0

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
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

FPA FRENCH & PARRELLO ASSOCIATES
1800 Route 34, Suite 101 • Wall, New Jersey 07719
o: 732.312.9800 f: 732.312.9801

T-MOBILE SITE NUMBER:
CT11025B

BU #: **822765**
BRANDFORD/ I-95/ X55/ DTN1

10 SYLVIA STREET
BRANDFORD, CT 06405

EXISTING 125'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/24/21	K.S.S.	PRELIMINARY	J.B.
B	11/30/21	K.S.S.	FINAL	J.B.
C	12/07/21	K.S.S.	FINAL	J.B.

STATE OF CONNECTICUT
JOHN B. BOSCO
No. 25605
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER: T-1
REVISION: B

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.

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

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).

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CROWN CASTLE
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FPA FRENCH & PARRELLO ASSOCIATES
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T-MOBILE SITE NUMBER:
CT11025B

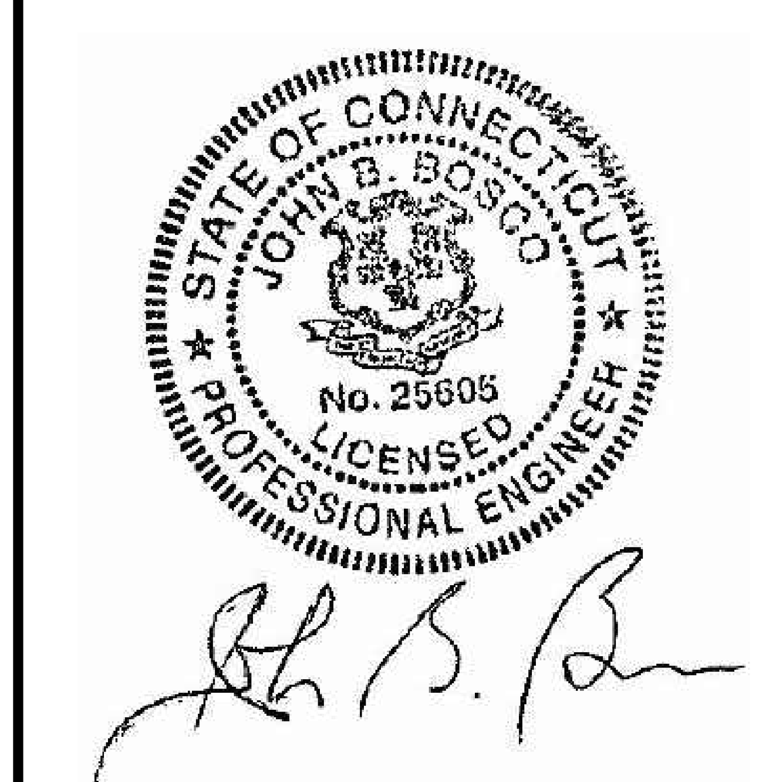
BU #: **822765**
BRANDFORD/ I-95/ X55/ DTN1

10 SYLVIA STREET
BRANDFORD, CT 06405

EXISTING 125'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/24/21	K.S.S.	PRELIMINARY	J.B.
B	11/30/21	K.S.S.	FINAL	J.B.
C	12/07/21	K.S.S.	FINAL	J.B.



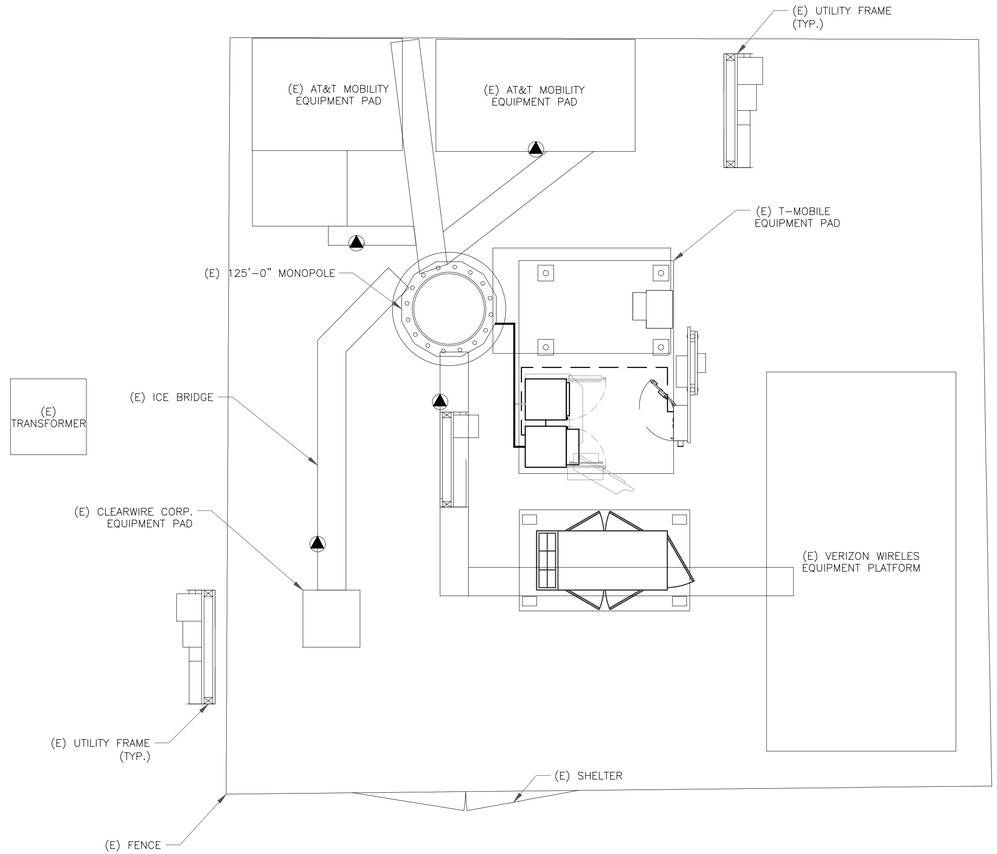
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: T-2

REVISION: B

NOTES:

THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. T-MOBILE IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.



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

N

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

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MAHWAH, NJ 07430

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BRANDFORD/ I-95/ X55/ DTN1

10 SYLVIA STREET
BRANDFORD, CT 06405

EXISTING 125'-0" MONOPOLE

ISSUED FOR:

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STATE OF CONNECTICUT
JOHN B. BOSCO
No. 25605
LICENSED
PROFESSIONAL ENGINEER

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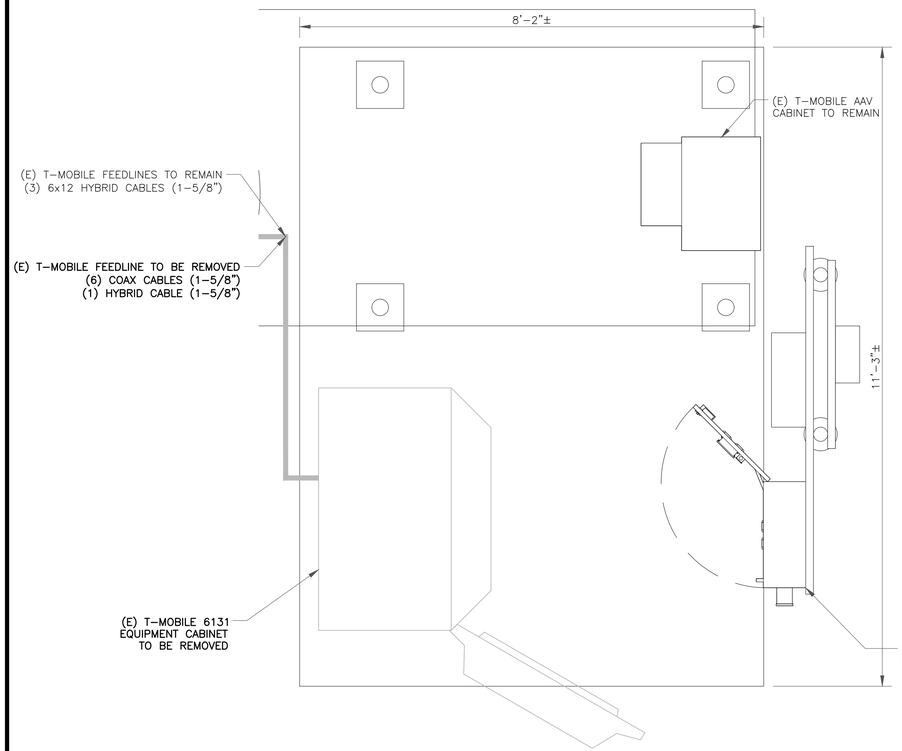
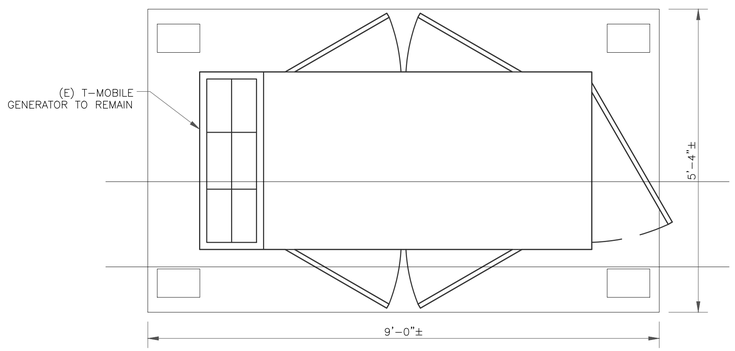
SHEET NUMBER: C-1.1

REVISION: B

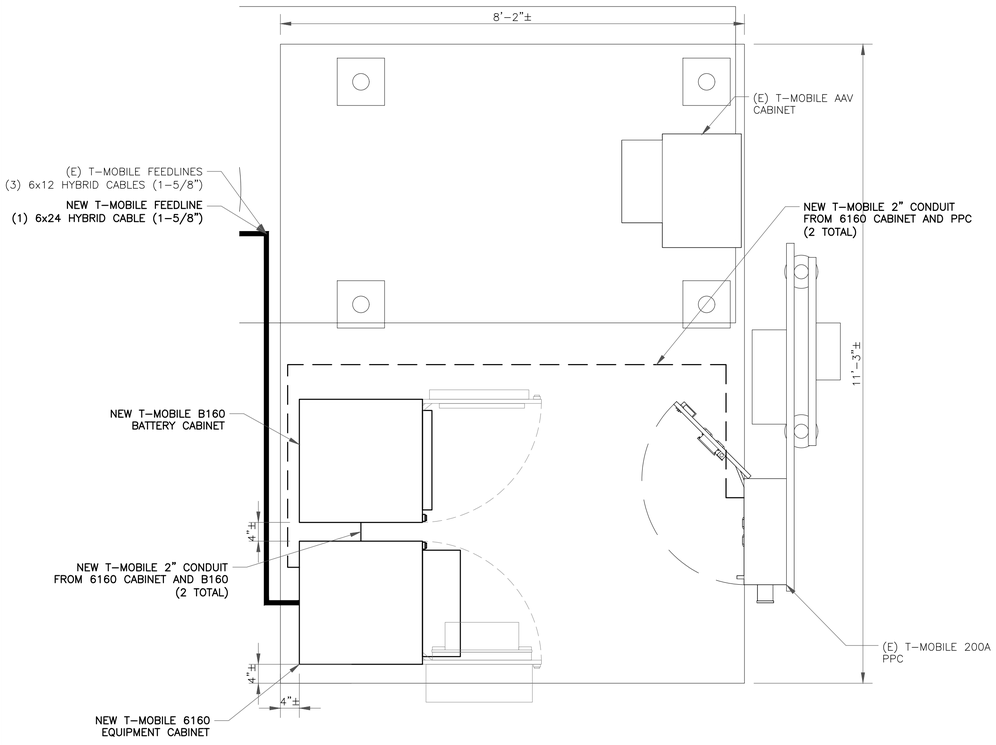


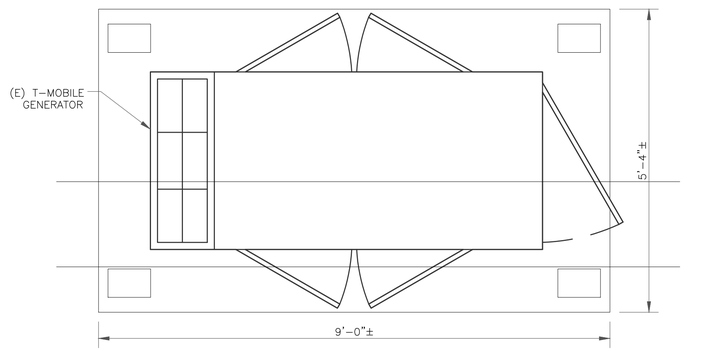


1 EXISTING ENLARGED SITE PLAN

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

N





2 NEW ENLARGED SITE PLAN

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

N

NOTES:

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BU #: **822765**
BRANDFORD/ I-95/ X55/ DTN1

10 SYLVIA STREET
BRANDFORD, CT 06405

EXISTING 125'-0" MONOPOLE

ISSUED FOR:

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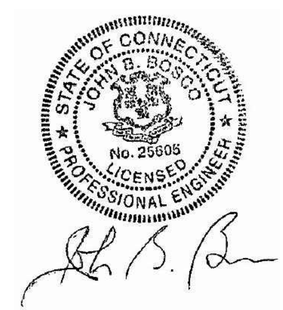
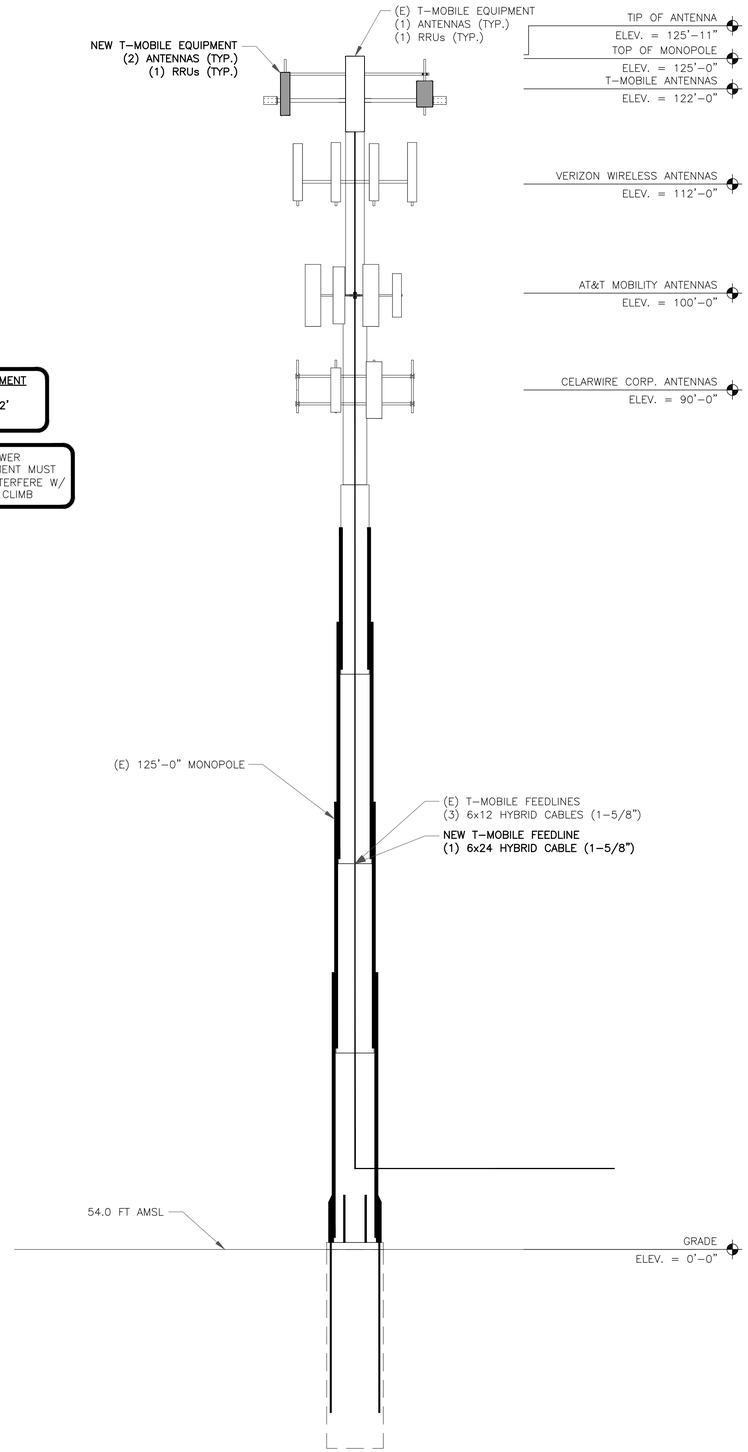
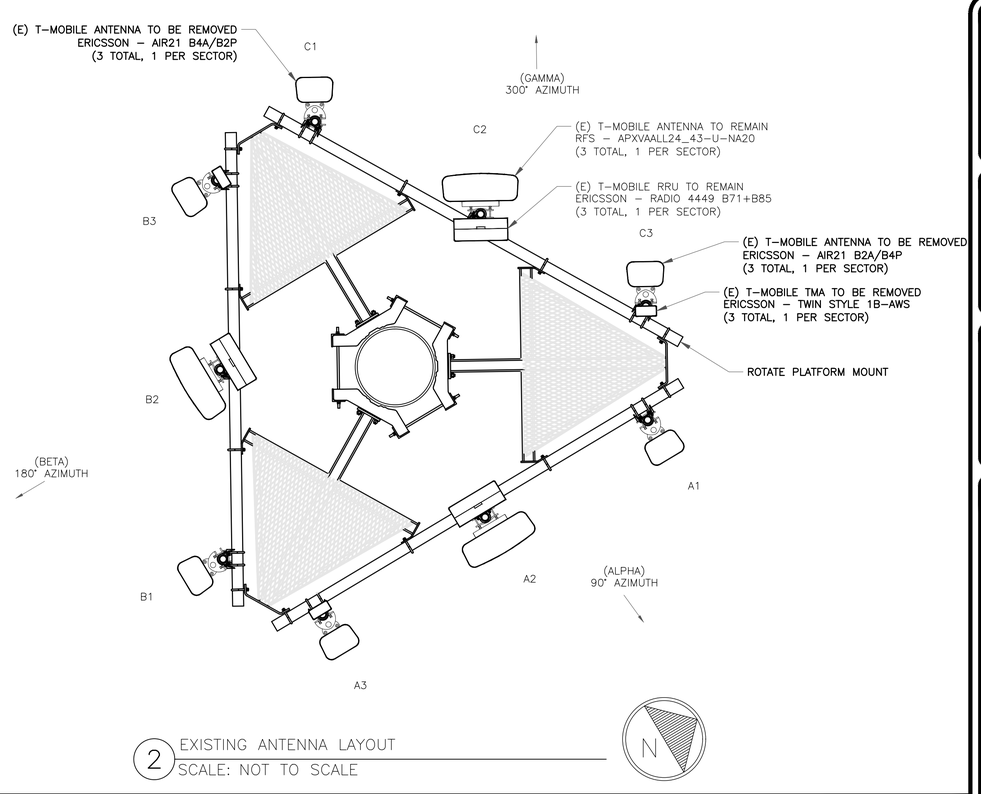


SHEET NUMBER: C-1.2

REVISION: B



1 FINAL ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA LAYOUT
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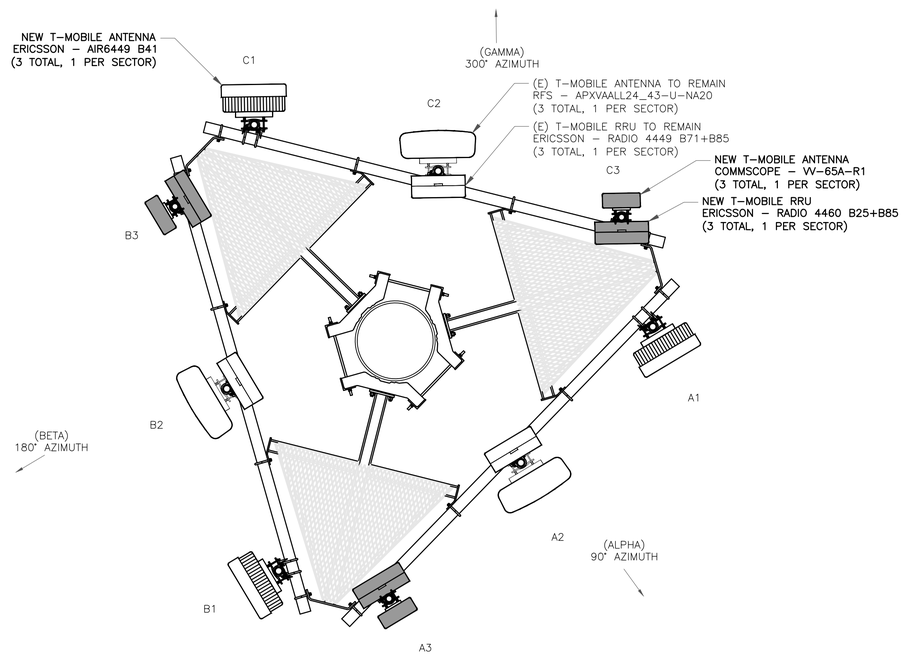

3 FINAL ANTENNA LAYOUT
SCALE: NOT TO SCALE

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SHEET NUMBER: **C-2**

REVISION: **B**

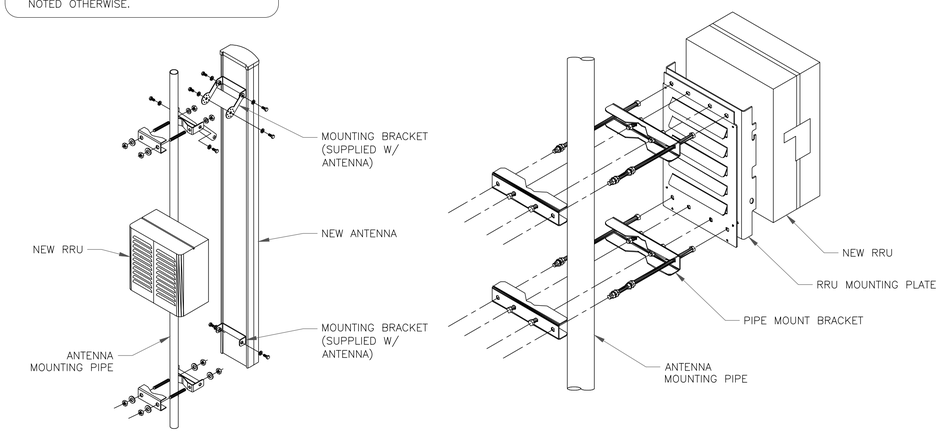
ANTENNA SCHEDULE

SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE	FEEDLINE LENGTH
ALPHA	A1	L2500/N2500	122'	90°	ERICSSON	AIR6449 B41	0°	2°/2°	–	(1) 1-5/8" 6x12 HYBRID (SHARED)	180'-0"
ALPHA	A2	L600/L700/N600	122'	90°	RFS	APXVAALL24_43-U-NA20	0°	2°/2°/0°/0°	(1) ERICSSON – RADIO 4449 B71+B85	(SHARED FIBER)	–
ALPHA	A3	L2100/L1900/G1900	122'	90°	COMMSCOPE	VV-65A-R1	0°	2°/2°	(1) ERICSSON – RADIO 4460 B25+B66	(SHARED FIBER)	–
BETA	B1	L2500/N2500	122'	180°	ERICSSON	AIR6449 B41	0°	2°/2°	–	(1) 1-5/8" 6x12 HYBRID (SHARED)	180'-0"
BETA	B2	L600/L700/N600	122'	180°	RFS	APXVAALL24_43-U-NA20	0°	2°/2°/0°/0°	(1) ERICSSON – RADIO 4449 B71+B85	(1) 1-5/8" 6x24 HYBRID (SHARED)	180'-0"
BETA	B3	L2100/L1900/G1900	122'	180°	COMMSCOPE	VV-65A-R1	0°	2°/2°	(1) ERICSSON – RADIO 4460 B25+B66	(SHARED FIBER)	–
GAMMA	C1	L2500/N2500	122'	300°	ERICSSON	AIR6449 B41	0°	2°/2°	–	(1) 1-5/8" 6x12 HYBRID (SHARED)	180'-0"
GAMMA	C2	L600/L700/N600	122'	300°	RFS	APXVAALL24_43-U-NA20	0°	2°/2°/0°/0°	(1) ERICSSON – RADIO 4449 B71+B85	(SHARED FIBER)	–
GAMMA	C3	L2100/L1900/G1900	122'	300°	COMMSCOPE	VV-65A-R1	0°	2°/2°	(1) ERICSSON – RADIO 4460 B25+B66	(SHARED FIBER)	–

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



2 ANTENNA WITH RRU MOUNTING DETAIL
SCALE: NOT TO SCALE

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BRANDFORD/ I-95/ X55/ DTN1

10 SYLVIA STREET
BRANDFORD, CT 06405

EXISTING 125'-0" MONOPOLE

ISSUED FOR:

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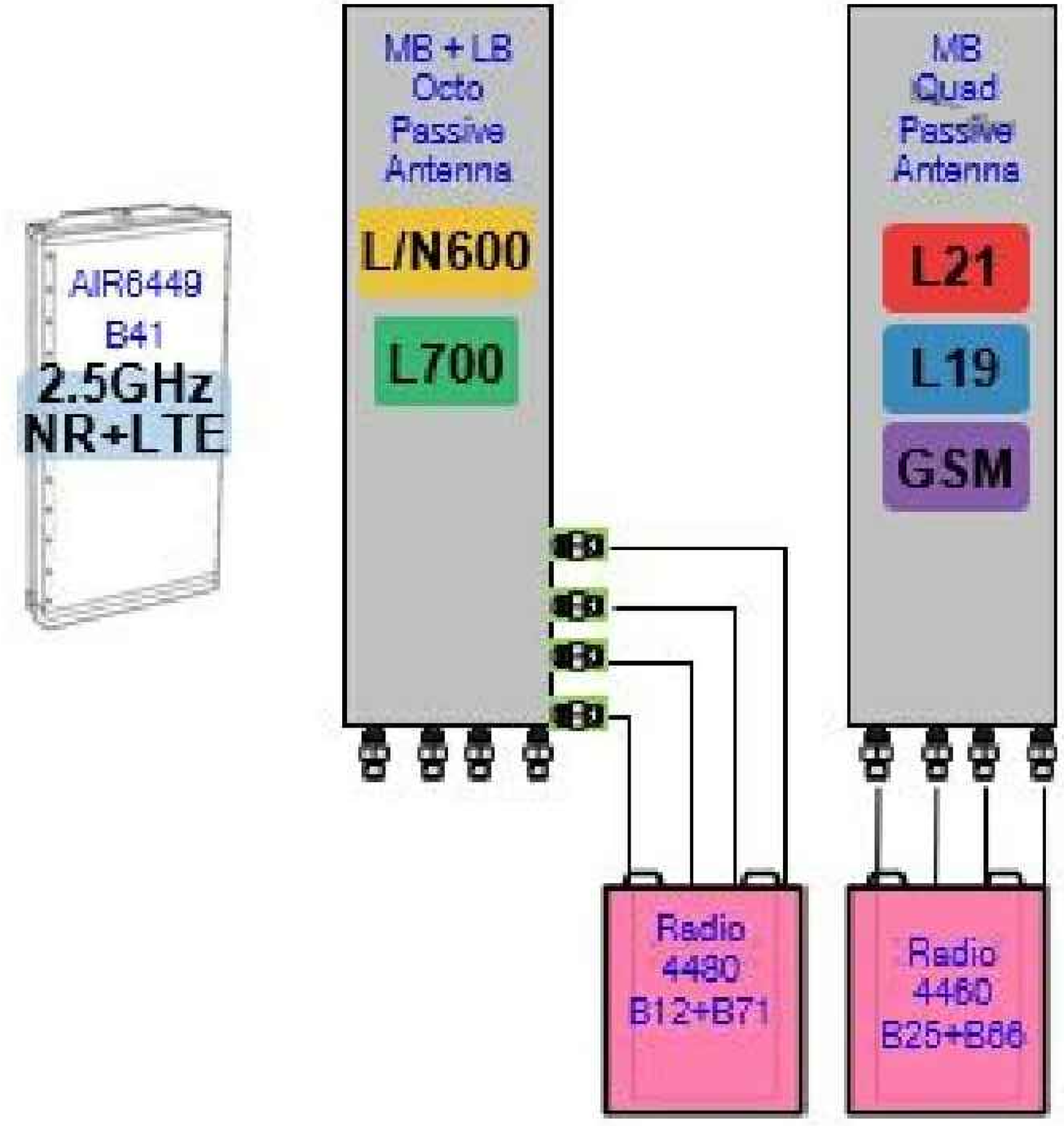
C	12/07/21	K.S.S.	FINAL	J.B.

STATE OF CONNECTICUT
JOHN B. BOSCO
No. 25605
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER: C-3

REVISION: B



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
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10 SYLVIA STREET
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EXISTING 125'-0" MONOPOLE

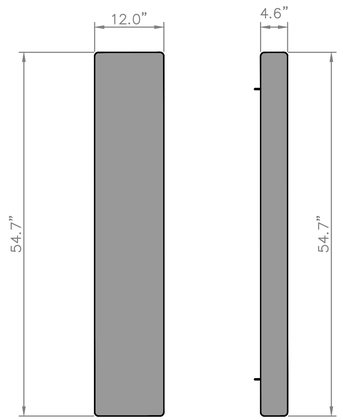
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	11/24/21	K.S.S.	PRELIMINARY	J.B.
B	11/30/21	K.S.S.	FINAL	J.B.
C	12/07/21	K.S.S.	FINAL	J.B.

STATE OF CONNECTICUT
JOHN B. BOSCO
No. 25605
LICENSED
PROFESSIONAL ENGINEER

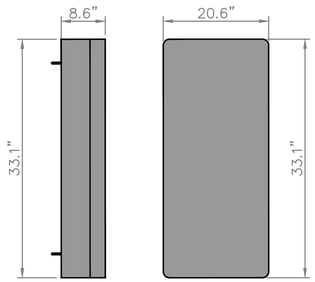
SHEET NUMBER: C-4

REVISION: B



MECHANICAL
SPECIFICATIONS:
OVERALL
HEIGHT: 54.7 IN.
WIDTH: 12.0 IN.
DEPTH: 4.6 IN.
WEIGHT: 33.3 LBS.

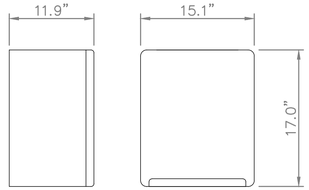
1 VV-65A-R1 (QUAD) DETAIL
SCALE: NOT TO SCALE



MECHANICAL
SPECIFICATIONS:
OVERALL
HEIGHT: 33.1 IN.
WIDTH: 20.6 IN.
DEPTH: 8.6 IN.
WEIGHT: 104 LBS.

2 AIR6449 B41 ANTENNA DETAIL
SCALE: NOT TO SCALE

MECHANICAL
SPECIFICATIONS:
OVERALL
HEIGHT: 17.0 IN.
WIDTH: 15.1 IN.
DEPTH: 11.9 IN.
WEIGHT: 104 LBS.



3 RADIO 4460 B25 B66 DETAIL
SCALE: NOT TO SCALE

Technical Specifications

Dimensions		
	Height	63 in.
	Width	25.6 in.
	Depth	33.5 in.
Max. Weight		605 lbs

4 6160 CABINET DETAIL
SCALE: NOT TO SCALE

Technical Specifications

Dimensions		
	Height	63 in.
	Width	25.6 in.
	Depth	25.6 in.
Max. Weight		1,883 lbs

5 B160 BATTERY CABINET DETAIL
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

FPA
FRENCH & PARRELLO ASSOCIATES
1800 Route 34, Suite 101 • Wall, New Jersey 07719
o: 732.312.9600 f: 732.312.9601

T-MOBILE SITE NUMBER:
CT11025B

BU #: **822765**
BRANDFORD/ I-95/ X55/ DTN1

10 SYLVIA STREET
BRANDFORD, CT 06405

EXISTING 125'-0" MONOPOLE

ISSUED FOR:

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SHEET NUMBER: C-5

REVISION: B

JOB NAME: CT11025B RATING: 240/120V, 1 PH, 3W, 200A		**TM (T-MOBILE PANEL)** (EXISTING)						T-MOBILE LOCATION: PPC	
CKT. NO.	CIRCUIT DESCRIPTION	POLE	BKR.	A	B	BKR.	POLE	CIRCUIT DESCRIPTION	CKT. NO.
1	POWER MONITOR	1	20			20	1	GFCI	2
3						15	1	NO LABEL	4
5	LIGHT	1	20			150	2	6160/B160	6
7	NO LABEL	1	20						8
9						150	2		10
11									12
13									14
15									16
17									18
19									20
21									22
23									24

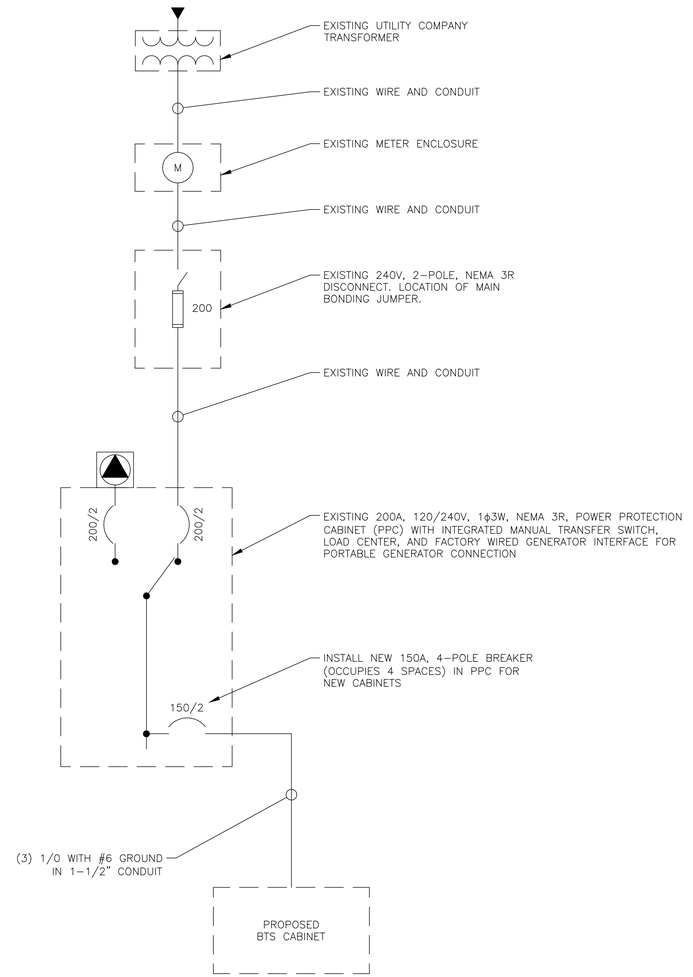
NOTES

1. ALL BUSING TO BE COPPER
2. BOLT ON BREAKERS ONLY
3. CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SHORT CIRCUIT RATING PRIOR TO PURCHASING ANY EQUIPMENT.
4. ALL WIRE SIZES ARE BASED ON 75 DEGREE WIRE.
5. SHORT CIRCUIT RATING: PANEL SHALL BE FULLY RATED TO INTERRUPT SYMMETRICAL SHORT CIRCUIT CURRENT AVAILA

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

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

FPA FRENCH & PARRELLO ASSOCIATES
1800 Route 34, Suite 101 • Wall, New Jersey 07719
o: 732.312.9800 f: 732.312.9801

T-MOBILE SITE NUMBER:
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10 SYLVIA STREET
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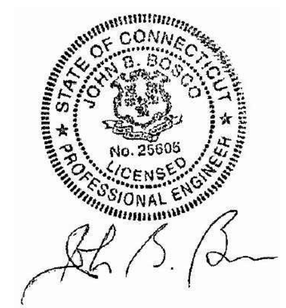
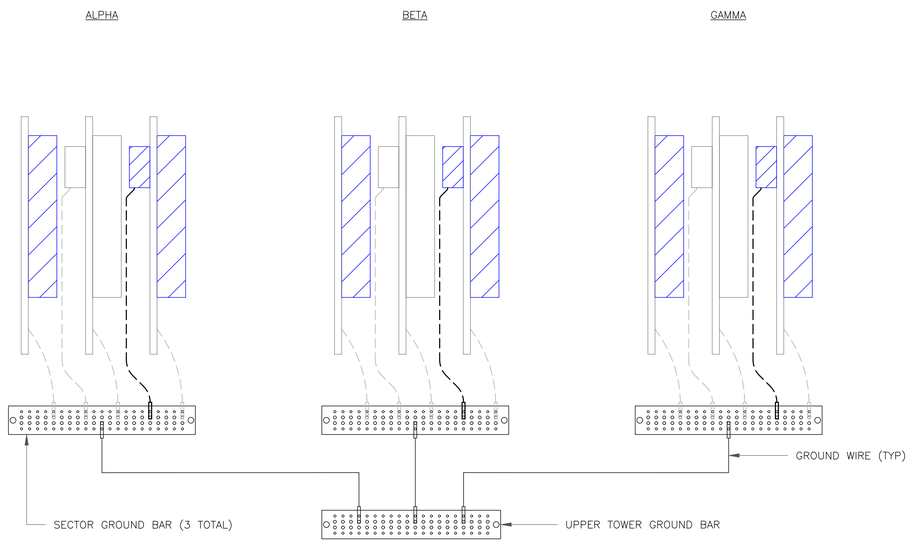


SHEET NUMBER: E-1

REVISION: B



NOTE:

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

1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

1200 MACARTHUR BLVD, SUITE 200
MAHWAH, NJ 07430

FPA
FRENCH & PARRELLO ASSOCIATES
1800 Route 34, Suite 101 • Wall, New Jersey 07719
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T-MOBILE SITE NUMBER:
CT11025B

BU #: **822765**
BRANDFORD/ I-95/ X55/ DTN1

10 SYLVIA STREET
BRANDFORD, CT 06405

EXISTING 125'-0" MONOPOLE

ISSUED FOR:

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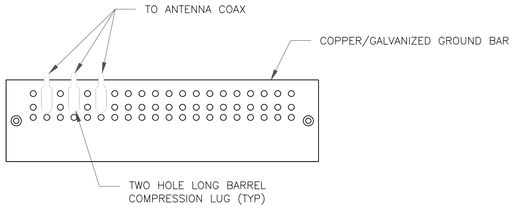
STATE OF CONNECTICUT
JOHN B. BOSCO
No. 25605
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER: G-1

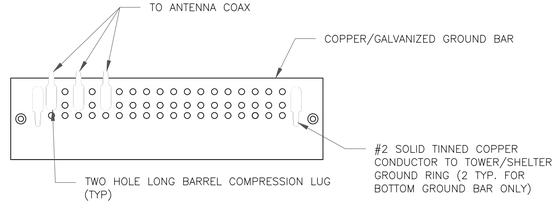
REVISION: B



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.

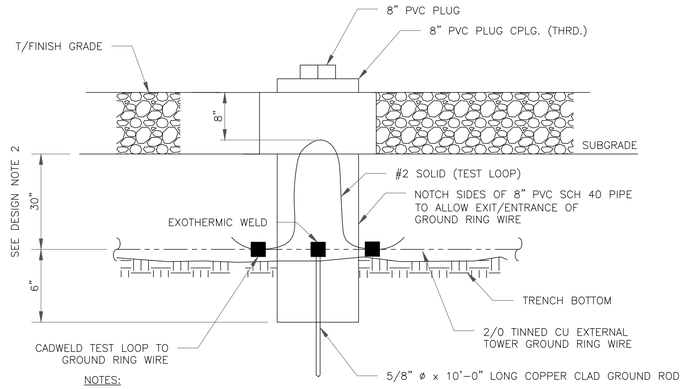
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



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.

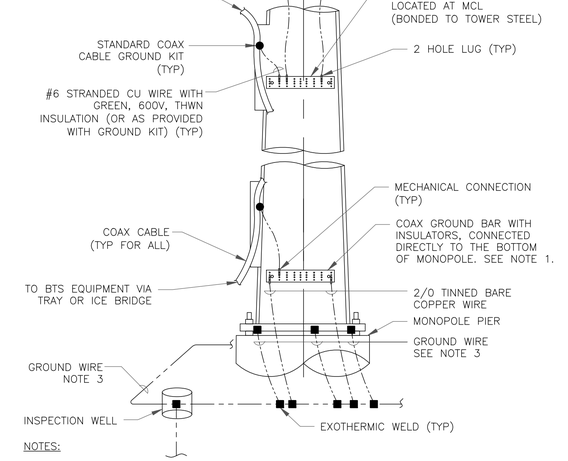
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

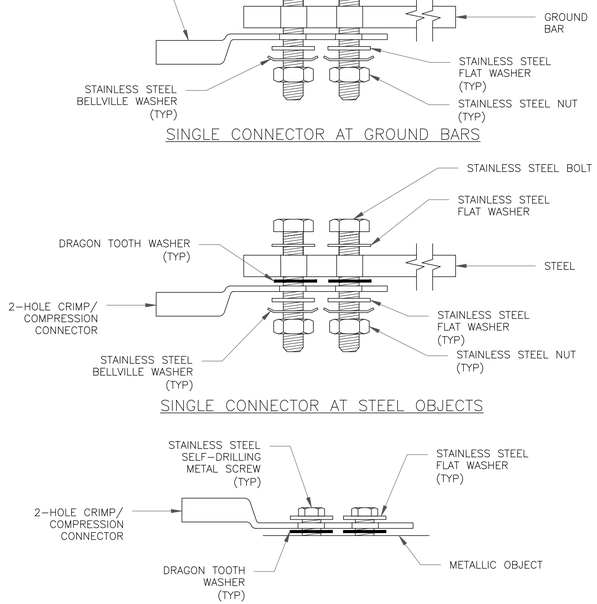
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



NOTES:

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE

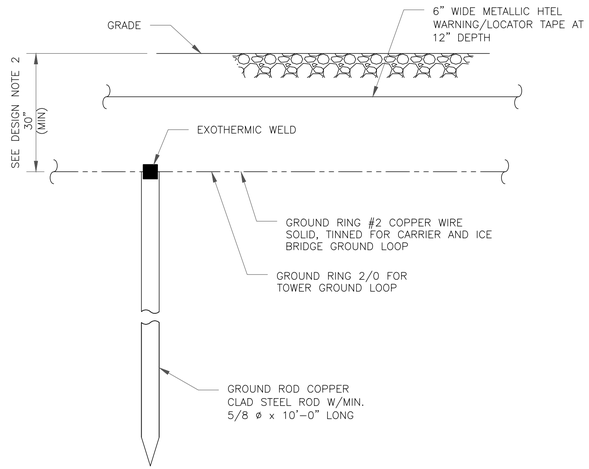


SINGLE CONNECTOR AT GROUND BARS

SINGLE CONNECTOR AT STEEL OBJECTS

SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

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T-MOBILE SITE NUMBER:
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BU #: **822765**
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10 SYLVIA STREET
BRANDFORD, CT 06405

EXISTING 125'-0" MONOPOLE

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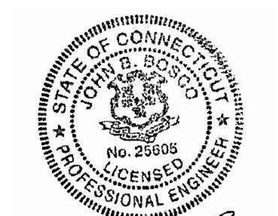
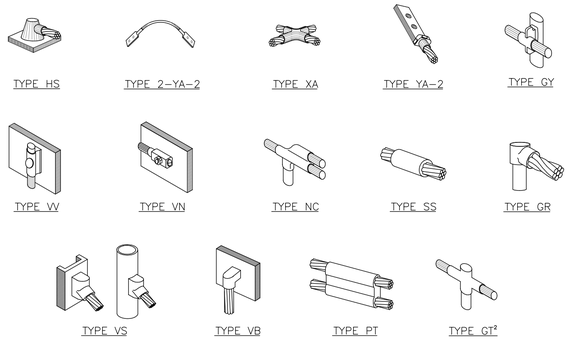


SHEET NUMBER: G-2

REVISION: B

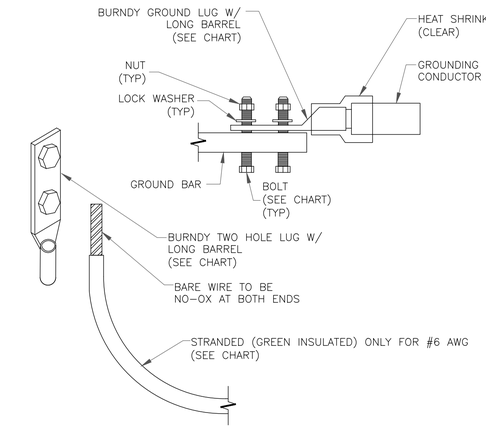


NOTE:

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE

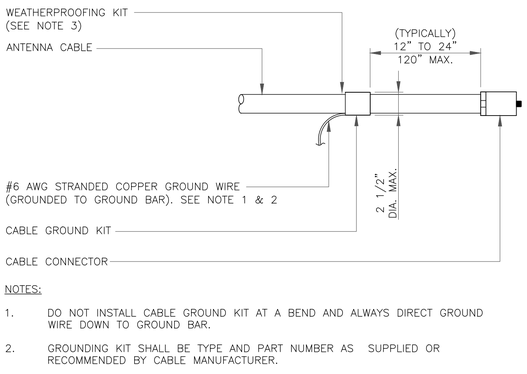
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



NOTES:

1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER,GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

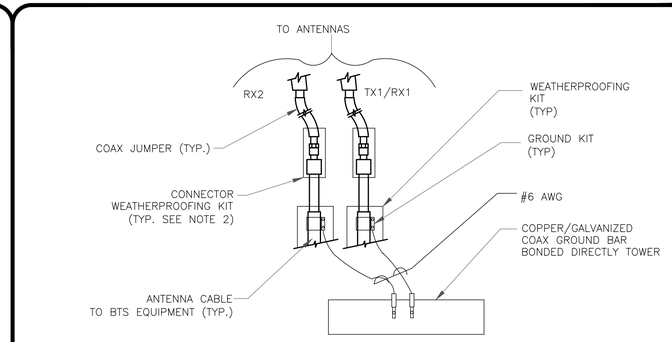
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



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.

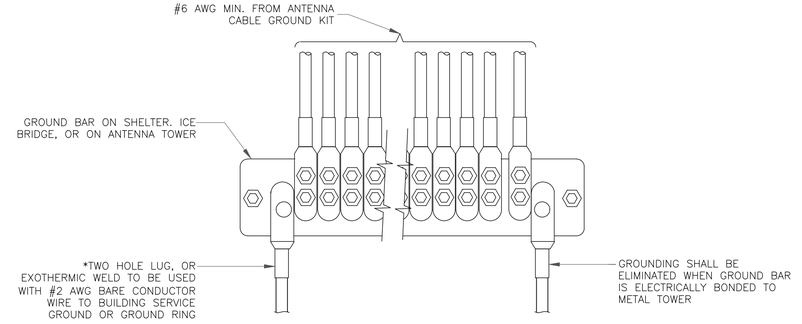
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



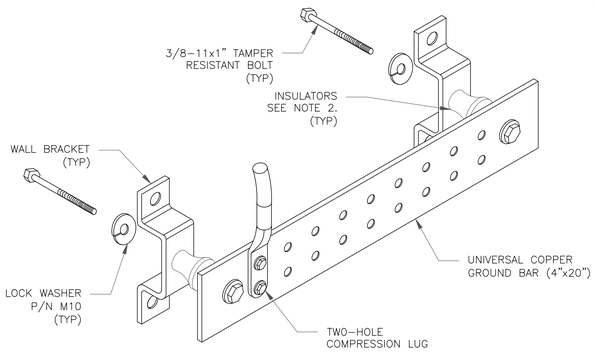
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



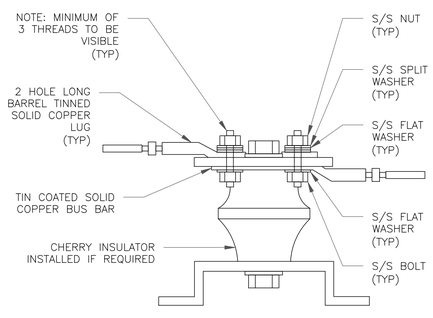
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



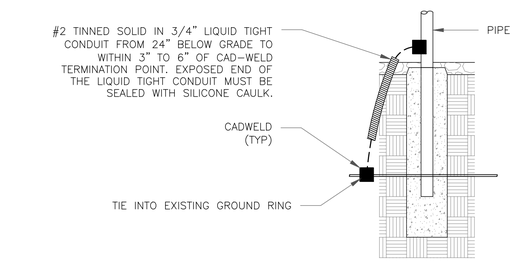
NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

T-Mobile
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE
1200 MACARTHUR BLVD, SUITE 200
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STATE OF CONNECTICUT
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No. 25605
LICENSED
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SHEET NUMBER: G-3

REVISION: B