



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

August 25, 2022

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

RE: **Notice of Exempt Modification for T-Mobile: CT11082E**
Crown Site ID# 876320
528 Wheelers Farm Road, Milford, CT 06460
Latitude: 41° 14' 54.35" / Longitude: -73° 4' 44.67"

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 105' mount level on the existing 120' monopole tower located at 528 Wheelers Farm Road, Milford, CT. The property and tower are owned by Crown Castle. T-Mobile now intends to move their antenna centerline and will replace nine (9) antennas, ancillary equipment and install at the 120' level of the tower. 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: @120' Tower Level

- (3) Ericsson Air 6419 B41 Antennas
- (3) Commscope- W-65B-R1 Antennas
- (3) RFS APXAALL24-43-U-NA20
- (3) Ericsson-Radio 4460 B25+ B66 RRU
- (3) Ericsson-Radio 4480 B71+ B85 RRU
- (3) Hybrid Cable 6x24
- (1) Install Relocated Antenna Mount

Remove: @ 105' Tower Level

- (3) RFS APXVAAR24_43_U_NA20 Antennas
- (3) Ericsson AIR32 KRD901146-1_B66A_B2A Antennas
- (3) Ericsson AIR3246 B66 Antennas
- (4) Ericsson RRUS-4449 B71+B85 RRU
- (3) Generic Twin Style 1B-AWS TMAs
- (1) Remove Antenna Mount
- Remove all Coaxial Cables
- Remove all Hybrid Cables

Ground:

Install New

- (1) 6160 Cabinet
- (1.) B160 Battery Cabinet
- (1) RP 6651
- (2) PSU 4813 vR2A
- (1) CRS IXRc V2
- (1.) AAV Cabinet

Remove:

- (1) Equipment Cabinet
- (1.) Nortel Cabinet

The original facility was approved by the City of Milford, CT on March 4, 1997.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Benjamin G Blake, Mayor, City of Milford, CT and David B Sulkis, City Planner, City of Milford, CT. Crown Castle is the property and tower owner.

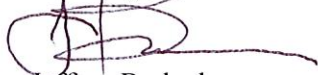
1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Melanie A. Bachman

Page 3

Sincerely,



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

Attachments

cc:

Benjamin G Blake, Mayor
City of Milford
70 West River Street
Milford, CT 06460
203-783-3201

David B Sulkis, City Planner
City of Milford
70 West River Street
Milford, CT 06460
203-783-3245

Crown Castle – Property and Tower Owner



City of Milford, Connecticut

THIS IS TO CERTIFY THAT Sprint PCS

WAS GRANTED A SPECIAL PERMIT AMENDMENT

BY THE MILFORD PLANNING & ZONING BOARD ON MARCH 4, 1997

FOR PROPERTY LOCATED AT 528 WHEELERS FARMS ROAD

MAP 104 BLOCK 915 PARCEL 13

IN THE CITY OF MILFORD, COUNTY OF NEW HAVEN, STATE OF CONNECTICUT

FOR WHICH VILLAGE FOUNDATION, INC. ARE THE OWNERS.

THE SPECIAL PERMIT AMENDMENT WAS GRANTED TO:

construct a 120' telecommunications monopole and antenna with ancillary support facilities, i.e., 10' graveled access drive and fenced equipment area 20' x 27', at 528 Wheelers Farms Road, aka Boys Village, parcel 13, block 915, Assessor's map 104, of which Village Foundation, Inc. is the owner. This approval shall be in accordance with plans prepared by O'Brien and Gere Engineers, Inc. Said plans consisting of three sheets, Title Sheet dated December, 1996; Site Plan dated 12/4/96; Detail Plan and Elevations dated 11/18/96. With the following stipulations: construction and site development shall comply with Inland Wetland Office letter dated 12/21/96 and Permit #IWJR96-080; Fire Department letter dated 1/21/97; Director of Public Works memo dated 2/4/97 and United Technologies Sikorsky Aircraft letter dated 4/1/97 RE: Review of Sikorsky Aircraft Corporation Flight Operations related to the proposed telecommunication monopole location.

"NO VARIANCE, SPECIAL PERMIT OR SPECIAL EXCEPTION GRANTED PURSUANT TO CHAPTER 124 OF ANY SPECIAL ACT SHALL BE EFFECTIVE UNTIL A COPY THEREOF...IS RECORDED IN THE LAND RECORDS OF THE TOWN IN WHICH SUCH PREMISES ARE LOCATED."

P.A. 75-317

RECORDED ~~5000~~ 6-12-97

CITY CLERK REC. NO. 5163

Nº 10574

PLANNING & ZONING BOARD

BY:

**WADE E. PIERCE
EXECUTIVE SECRETARY**



Property Information

Property Location	528 WHEELERS FARMS RD
Owner	VILLAGE FOUNDATION INC THE
Co-Owner	C/O GLOBAL SIGNAL ACQUISITIONS II LLC
Mailing Address	PMB 331 MCMURRAY PA 15317
Land Use	434V CELL TOWER MDL-00
Land Class	I
Zoning Code	
Census Tract	

Neighborhood	GG
Acreage	0
Utilities	
Lot Setting/Desc	,Suburban Level
Book / Page	00259/5630
Fire District	2

Primary Construction Details

Year Built	0
Building Desc.	CELL TOWER
Building Style	UNKNOWN
Building Grade	
Stories	
Occupancy	
Exterior Walls	
Exterior Walls 2	NA
Roof Style	
Roof Cover	
Interior Walls	
Interior Walls 2	NA
Interior Floors 1	
Interior Floors 2	NA

Heating Fuel	
Heating Type	
AC Type	
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	0

(*Industrial / Commercial Details)

Building Use	Vacant
Building Condition	
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

Photo



Sketch

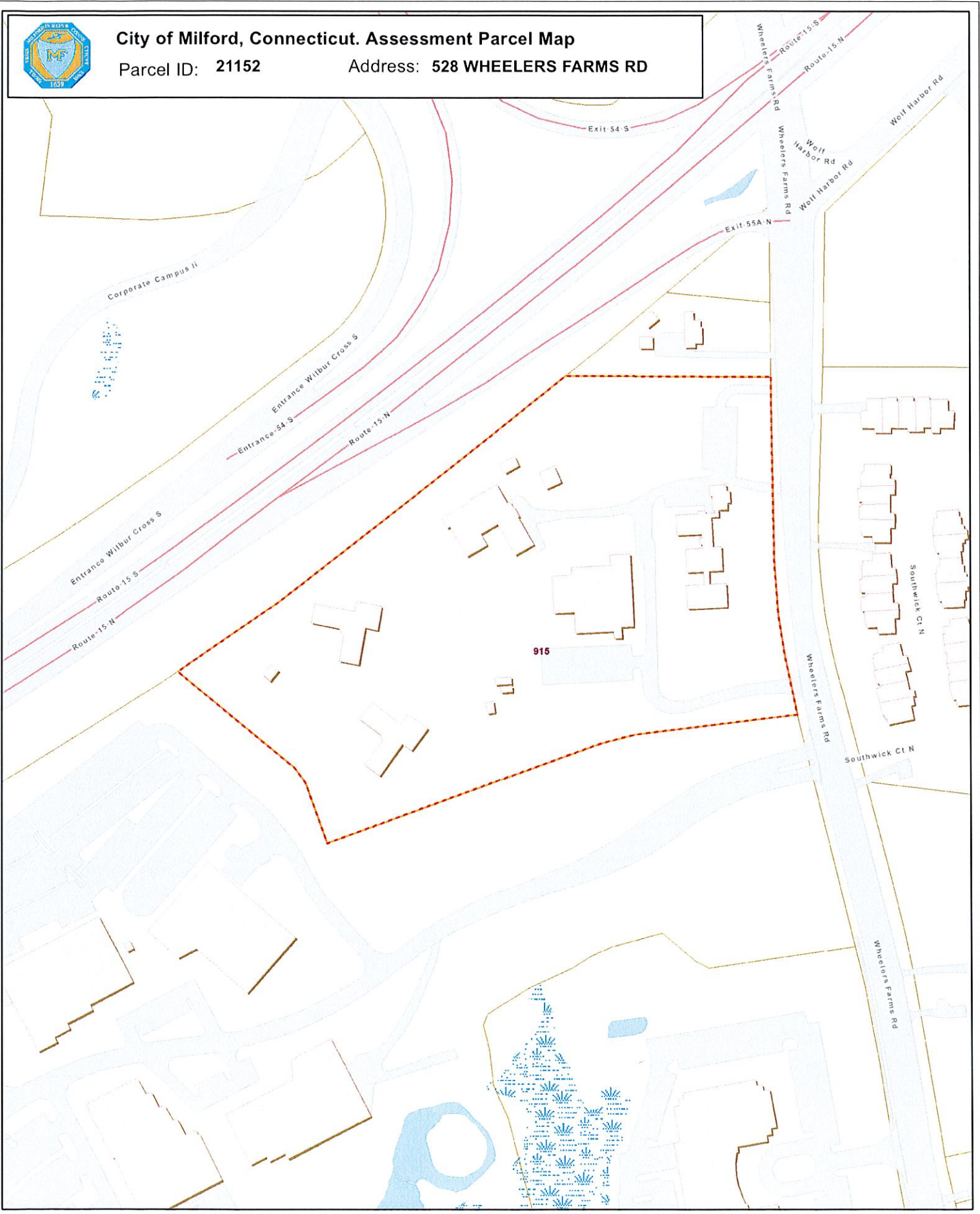




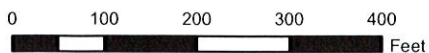
City of Milford, Connecticut. Assessment Parcel Map

Parcel ID: 21152

Address: 528 WHEELERS FARMS RD



1 inch = 200 feet



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

Map Produced: April 2021

Barbadora, Jeff

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Delivered to 70 W RIVER ST, MILFORD, CT 06460

[OBTAIN PROOF OF DELIVERY](#)

TRACKING NUMBER [777766501952](#)

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

TO City of Milford
Benjamin G Blake, Mayor
70 West River Street
MILFORD, CT, US, 06460

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Thu 8/25/2022 05:43 PM

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

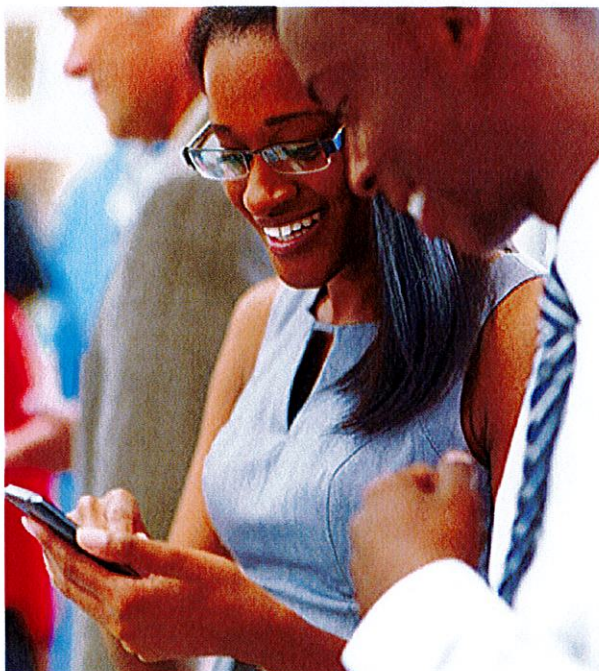
DESTINATION MILFORD, CT, US, 06460

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



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TRACKING NUMBER [777766524872](#)

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TO City of Milford
David B. Sulkis, City Planner
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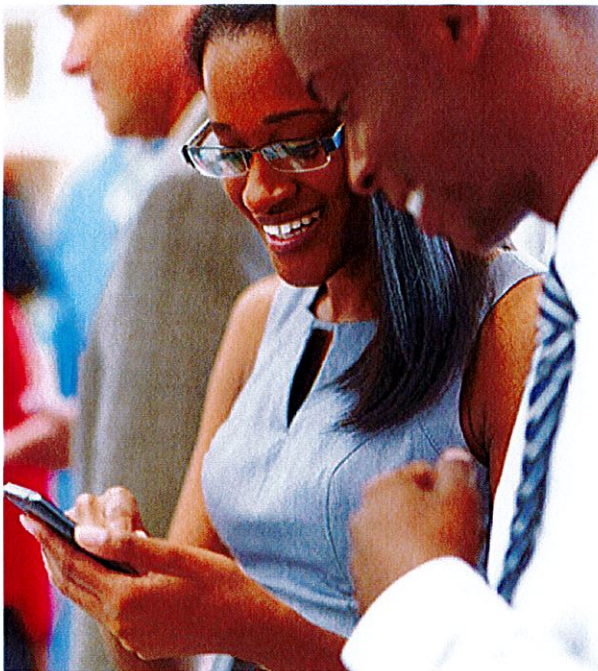
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NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 0.50 LB

SERVICE TYPE FedEx Priority Overnight



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Date: **June 22, 2022**



Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject: **Structural Analysis Report**

Carrier Designation: **Customer Co-Locate**
Site Number: CT11082E
Site Name: CTNH082A

Crown Castle Designation: **BU Number:** 876320
Site Name: 528 WHEELERS FARM RD
JDE Job Number: 719208
Work Order Number: 2128469
Order Number: 619432 Rev. 0

Engineering Firm Designation: **Crown Castle Project Number:** 2128469

Site Data: **528 Wheelers Farm Road, MILFORD, NEW HAVEN County, CT**
Latitude 41° 14' 54.35", Longitude -73° 4' 44.67"
120 Foot - Monopole Tower

Crown Castle 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

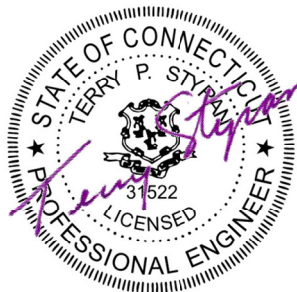
Sufficient Capacity - 84.9%

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

Structural analysis prepared by: Matthew Schmitt

Respectfully submitted by:

Terry P. Styran, P.E.
Senior Project Engineer



Terry P Styran
2022.06.22
15:33:03 -04'00'

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

- Table 1 - Proposed Equipment Configuration
- Table 2 - Other Considered Equipment

3) ANALYSIS PROCEDURE

- Table 3 - Documents Provided
- 3.1) Analysis Method
- 3.2) Assumptions

4) ANALYSIS RESULTS

- Table 4 - Section Capacity (Summary)
- Table 5 - Tower Component Stresses vs. Capacity - LC7
- 4.1) Recommendations

5) APPENDIX A

- tnxTower Output

6) APPENDIX B

- Base Level Drawing

7) APPENDIX C

- Additional Calculations

1) INTRODUCTION

This tower is a 120 ft Monopole tower designed by SUMMIT. The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	119 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
122.0	122.0	1	tower mounts	Platform Mount [LP 1201-1_HR-1]	3	1-5/8
	121.0	3	commscope	VV-65B-R1_TMO w/ Mount Pipe		
		3	ericsson	AIR 6419 B41_TMO w/ Mount Pipe		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	ericsson	Radio 4480_TMOV2		
		3	rfs celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
75.0	76.0	1	trimble	ACUTIME 2000	1	1/2
	75.0	1	tower mounts	Side Arm Mount [SO 701-1]		

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)
113.0	116.0	3	samsung telecommunications	CBRS w/ Mount Pipe	8	1-5/8
	114.0	3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		2	andrew	DB846F65ZAXY w/ Mount Pipe		
		4	antel	LPA-80063/4CF w/ Mount Pipe		
		3	commscope	CBC78T-DS-43-2X		
		4	commscope	JAHH-45B-R3B w/ Mount Pipe		
		2	commscope	JAHH-65B-R3B w/ Mount Pipe		
		2	rfs celwave	DB-T1-6Z-8AB-0Z		
	113.0	1	tower mounts	Platform Mount [LP 305-1_KCKR-HR-1]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	
105.0	107.0	3	ericsson	AIR 32 B2A/B66AA w/ Mount Pipe	1 3	1-5/8 1-3/8	
		3	ericsson	AIR 3246 B66 w/ Mount Pipe			
		3	ericsson	AIR6449 B41 w/ Mount Pipe			
		3	ericsson	RADIO 4449 B71/B85A			
		3	ericsson	RRUS 4415 B25_CCIV2			
	3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe				
	105.0	1	tower mounts	SitePro1 RMQP-4096-HK			
97.0	98.0	2	commscope	WCS-IMFQ-AMT	2	7/8	
		3	ericsson	AIR 6419 B77G w/ Mount Pipe			
		3	ericsson	AIR 6449 B77D w/ Mount Pipe			
		2	ericsson	RRUS E2 B29			
	3	quintel technology	QD4616-7 w/ Mount Pipe				
	97.0	97.0	3	ericsson			RRUS 32 B30
			2	raycap			DC6-48-60-18-8F
1			tower mounts	Side Arm Mount [SO 102-3]			
96.0	99.0	1	tower mounts	Miscellaneous [NA 507-1]	6 4 3 2	1-1/4 3/4 3/8 Conduit	
	98.0	1	commscope	WCS-IMFQ-AMT			
		3	ericsson	RRUS 4449 B5/B12			
		3	ericsson	RRUS 4478 B14			
		3	ericsson	RRUS 8843 B2/B66A			
		1	ericsson	RRUS E2 B29			
		3	kathrein	80010965 w/ Mount Pipe			
	1	raycap	DC6-48-60-18-8F				
96.0	1	tower mounts	Platform Mount [LP 712-1]				
86.0	86.0	3	fujitsu	TA08025-B604	1	1-3/8	
		3	fujitsu	TA08025-B605			
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe			
		1	raycap	RDIDC-9181-PF-48			
		1	tower mounts	Commscope MC-PK8-DSH			
82.0	82.0	-	-	-	12	7/8	

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1613534	CCISITES
4-POST-MODIFICATION INSPECTION	2460628	CCISITES
4-POST-MODIFICATION INSPECTION	3349204	CCISITES
4-POST-MODIFICATION INSPECTION	3350209	CCISITES
4-POST-MODIFICATION INSPECTION	3753892	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1614583	CCISITES

Document	Reference	Source
4-TOWER MANUFACTURER DRAWINGS	1614557	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	9101035	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	8550831	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5873963	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4961357	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3338935	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3349207	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2460630	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	1613579	CCISITES
4-POST-MODIFICATION INSPECTION	8820087	CCISITES
4-POST-MODIFICATION INSPECTION	6112300	CCISITES
4-POST-MODIFICATION INSPECTION	5760332	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 reinforcing elements. These calculations are presented in Appendix C.

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	120 - 115	Pole	TP23.01x22x0.25	Pole	6.7%	Pass
L2	115 - 110	Pole	TP24.02x23.01x0.25	Pole	14.7%	Pass
L3	110 - 105	Pole	TP25.031x24.02x0.25	Pole	22.6%	Pass
L4	105 - 100	Pole	TP26.041x25.031x0.25	Pole	34.1%	Pass
L5	100 - 99.25	Pole	TP26.192x26.041x0.25	Pole	35.5%	Pass
L6	99.25 - 99	Pole + Reinf.	TP26.243x26.192x0.3563	Reinf. 14 Tension Rupture	32.4%	Pass
L7	99 - 94	Pole + Reinf.	TP27.253x26.243x0.3563	Reinf. 14 Tension Rupture	43.1%	Pass
L8	94 - 90.08	Pole + Reinf.	TP28.045x27.253x0.3125	Pole	51.6%	Pass
L9	90.08 - 89.83	Pole + Reinf.	TP28.096x28.045x0.5125	Reinf. 11 Tension Rupture	42.9%	Pass
L10	89.83 - 89.5	Pole + Reinf.	TP28.162x28.096x0.5125	Reinf. 11 Tension Rupture	43.5%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L11	89.5 - 89.25	Pole + Reinf.	TP28.213x28.162x0.725	Reinf. 15 Tension Rupture	33.7%	Pass
L12	89.25 - 84.25	Pole + Reinf.	TP29.223x28.213x0.7	Reinf. 15 Tension Rupture	40.7%	Pass
L13	84.25 - 81.75	Pole + Reinf.	TP30.486x29.223x0.7	Reinf. 15 Tension Rupture	44.3%	Pass
L14	81.75 - 77	Pole + Reinf.	TP30.188x29.228x0.8625	Reinf. 17 Tension Rupture	40.4%	Pass
L15	77 - 76.75	Pole + Reinf.	TP30.239x30.188x0.8625	Reinf. 17 Tension Rupture	40.7%	Pass
L16	76.75 - 76.5	Pole + Reinf.	TP30.289x30.239x0.9625	Reinf. 14 Tension Rupture	38.2%	Pass
L17	76.5 - 75.5	Pole + Reinf.	TP30.491x30.289x0.9625	Reinf. 14 Tension Rupture	39.2%	Pass
L18	75.5 - 75.25	Pole + Reinf.	TP30.542x30.491x0.7625	Reinf. 17 Tension Rupture	45.1%	Pass
L19	75.25 - 74.5	Pole + Reinf.	TP30.693x30.542x0.7625	Reinf. 17 Tension Rupture	46.0%	Pass
L20	74.5 - 74.25	Pole + Reinf.	TP30.744x30.693x0.8375	Reinf. 17 Tension Rupture	48.5%	Pass
L21	74.25 - 72	Pole + Reinf.	TP31.198x30.744x0.825	Reinf. 17 Tension Rupture	51.0%	Pass
L22	72 - 71.75	Pole + Reinf.	TP31.249x31.198x0.7625	Reinf. 17 Tension Rupture	48.9%	Pass
L23	71.75 - 70.5	Pole + Reinf.	TP31.501x31.249x0.7625	Reinf. 17 Tension Rupture	50.2%	Pass
L24	70.5 - 70.25	Pole + Reinf.	TP31.552x31.501x0.7875	Reinf. 17 Tension Rupture	50.2%	Pass
L25	70.25 - 70	Pole + Reinf.	TP31.602x31.552x0.7875	Reinf. 17 Tension Rupture	50.5%	Pass
L26	70 - 69.75	Pole + Reinf.	TP31.653x31.602x0.725	Reinf. 17 Tension Rupture	52.4%	Pass
L27	69.75 - 69.5	Pole + Reinf.	TP31.703x31.653x0.875	Reinf. 4 Tension Rupture	44.5%	Pass
L28	69.5 - 69.25	Pole + Reinf.	TP31.754x31.703x0.75	Reinf. 4 Tension Rupture	49.8%	Pass
L29	69.25 - 64.25	Pole + Reinf.	TP32.764x31.754x0.7375	Reinf. 4 Tension Rupture	54.5%	Pass
L30	64.25 - 59.25	Pole + Reinf.	TP33.774x32.764x0.7125	Reinf. 4 Tension Rupture	59.0%	Pass
L31	59.25 - 56	Pole + Reinf.	TP34.431x33.774x0.7125	Reinf. 4 Tension Rupture	61.7%	Pass
L32	56 - 55.75	Pole + Reinf.	TP34.481x34.431x0.8125	Reinf. 7 Tension Rupture	59.4%	Pass
L33	55.75 - 55.5	Pole + Reinf.	TP34.532x34.481x0.8125	Reinf. 7 Tension Rupture	59.6%	Pass
L34	55.5 - 55.25	Pole + Reinf.	TP34.582x34.532x0.8875	Reinf. 7 Tension Rupture	53.7%	Pass
L35	55.25 - 54	Pole + Reinf.	TP34.835x34.582x0.875	Reinf. 7 Tension Rupture	54.6%	Pass
L36	54 - 53.75	Pole + Reinf.	TP34.885x34.835x0.75	Reinf. 7 Tension Rupture	62.6%	Pass
L37	53.75 - 53.5	Pole + Reinf.	TP34.936x34.885x0.7375	Reinf. 7 Tension Rupture	62.8%	Pass
L38	53.5 - 53.25	Pole + Reinf.	TP34.986x34.936x0.6625	Reinf. 4 Tension Rupture	67.5%	Pass
L39	53.25 - 53	Pole + Reinf.	TP35.037x34.986x0.6	Reinf. 12 Tension Rupture	69.8%	Pass
L40	53 - 48	Pole + Reinf.	TP36.047x35.037x0.5875	Reinf. 12 Tension Rupture	74.0%	Pass
L41	48 - 44.5	Pole + Reinf.	TP37.714x36.047x0.5875	Reinf. 12 Tension Rupture	76.9%	Pass
L42	44.5 - 38.75	Pole + Reinf.	TP37.291x36.129x0.6625	Reinf. 4 Tension Rupture	75.0%	Pass
L43	38.75 - 34.75	Pole + Reinf.	TP38.099x37.291x0.6625	Reinf. 4 Tension Rupture	77.4%	Pass
L44	34.75 - 34.5	Pole + Reinf.	TP38.15x38.099x0.825	Reinf. 3 Tension Rupture	62.0%	Pass
L45	34.5 - 33.75	Pole + Reinf.	TP38.301x38.15x0.825	Reinf. 3 Tension Rupture	62.4%	Pass
L46	33.75 - 33.5	Pole + Reinf.	TP38.352x38.301x0.625	Reinf. 6 Tension Rupture	76.8%	Pass
L47	33.5 - 28.5	Pole + Reinf.	TP39.362x38.352x0.6125	Reinf. 6 Tension Rupture	79.4%	Pass
L48	28.5 - 24	Pole + Reinf.	TP40.271x39.362x0.6625	Reinf. 3 Tension Rupture	81.7%	Pass
L49	24 - 23.75	Pole + Reinf.	TP40.322x40.271x0.7	Reinf. 3 Tension Rupture	78.1%	Pass
L50	23.75 - 18.75	Pole + Reinf.	TP41.332x40.322x0.6875	Reinf. 3 Tension Rupture	80.4%	Pass
L51	18.75 - 14.25	Pole + Reinf.	TP42.241x41.332x0.675	Reinf. 3 Tension Rupture	82.4%	Pass
L52	14.25 - 14	Pole + Reinf.	TP42.291x42.241x0.775	Reinf. 3 Tension Rupture	71.7%	Pass
L53	14 - 9	Pole + Reinf.	TP43.302x42.291x0.7625	Reinf. 3 Tension Rupture	73.6%	Pass
L54	9 - 5	Pole + Reinf.	TP44.11x43.302x0.75	Reinf. 3 Tension Rupture	75.0%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L55	5 - 4.75	Pole + Reinf.	TP44.16x44.11x0.9125	Reinf. 3 Tension Rupture	67.9%	Pass
L56	4.75 - 4.5	Pole + Reinf.	TP44.211x44.16x0.875	Reinf. 1 Compression	68.5%	Pass
L57	4.5 - 0	Pole + Reinf.	TP45.12x44.211x0.85	Reinf. 1 Compression	69.9%	Pass
					Summary	
				Pole	61.4%	Pass
				Reinforcement	82.4%	Pass
				Overall	82.4%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	66.8	Pass
1	Base Plate	0	50.2	Pass
1	Base Foundation (Structure)	0	84.9	Pass
1	Base Foundation (Soil Interaction)	0	53.0	Pass

Structure Rating (max from all components) =	84.9%
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Notes:

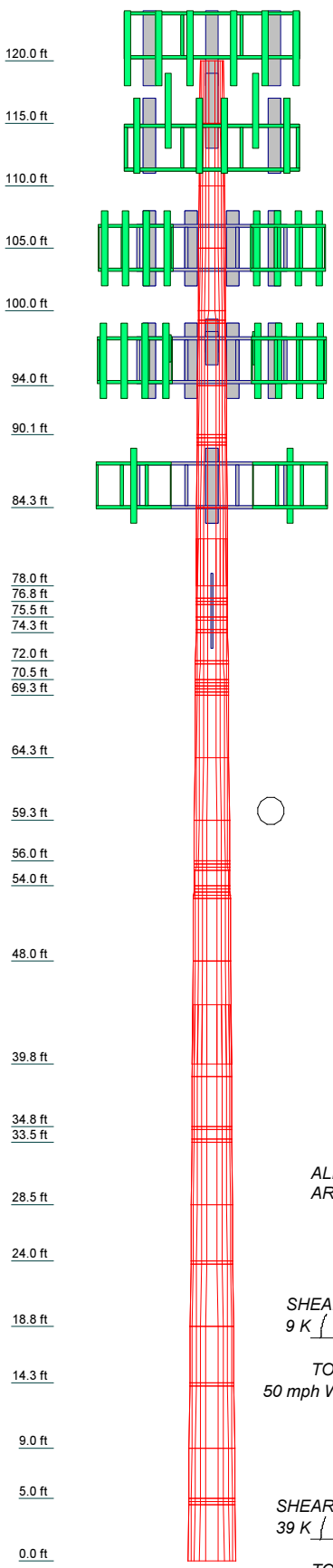
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	12	0.2500	23.0102	22.0000	23.0102	0.3	0.3
2	5.00	12	0.2500	24.0205	23.0102	24.0205	0.3	0.3
3	5.00	12	0.2500	25.0307	24.0205	25.0307	0.3	0.3
4	5.00	12	0.2500	26.0410	25.0307	26.0410	0.3	0.3
5	5.00	12	0.2500	27.0513	26.0410	27.0513	0.3	0.3
6	5.00	12	0.2500	28.0616	27.0513	28.0616	0.3	0.3
7	5.00	12	0.2500	29.0719	28.0616	29.0719	0.3	0.3
8	5.00	12	0.2500	30.0822	29.0719	30.0822	0.3	0.3
9	5.00	12	0.2500	31.0925	30.0822	31.0925	0.3	0.3
10	5.00	12	0.2500	32.1028	31.0925	32.1028	0.3	0.3
11	5.00	12	0.2500	33.1131	32.1028	33.1131	0.3	0.3
12	5.00	12	0.2500	34.1234	33.1131	34.1234	0.3	0.3
13	5.00	12	0.2500	35.1337	34.1234	35.1337	0.3	0.3
14	5.00	12	0.2500	36.1440	35.1337	36.1440	0.3	0.3
15	5.00	12	0.2500	37.1543	36.1440	37.1543	0.3	0.3
16	5.00	12	0.2500	38.1646	37.1543	38.1646	0.3	0.3
17	5.00	12	0.2500	39.1749	38.1646	39.1749	0.3	0.3
18	5.00	12	0.2500	40.1852	39.1749	40.1852	0.3	0.3
19	5.00	12	0.2500	41.1955	40.1852	41.1955	0.3	0.3
20	5.00	12	0.2500	42.2058	41.1955	42.2058	0.3	0.3
21	5.00	12	0.2500	43.2161	42.2058	43.2161	0.3	0.3
22	5.00	12	0.2500	44.2264	43.2161	44.2264	0.3	0.3
23	5.00	12	0.2500	45.2367	44.2264	45.2367	0.3	0.3
24	5.00	12	0.2500	46.2470	45.2367	46.2470	0.3	0.3
25	5.00	12	0.2500	47.2573	46.2470	47.2573	0.3	0.3
26	5.00	12	0.2500	48.2676	47.2573	48.2676	0.3	0.3
27	5.00	12	0.2500	49.2779	48.2676	49.2779	0.3	0.3
28	5.00	12	0.2500	50.2882	49.2779	50.2882	0.3	0.3
29	5.00	12	0.2500	51.2985	50.2882	51.2985	0.3	0.3
30	5.00	12	0.2500	52.3088	51.2985	52.3088	0.3	0.3
31	5.00	12	0.2500	53.3191	52.3088	53.3191	0.3	0.3
32	5.00	12	0.2500	54.3294	53.3191	54.3294	0.3	0.3
33	5.00	12	0.2500	55.3397	54.3294	55.3397	0.3	0.3
34	5.00	12	0.2500	56.3500	55.3397	56.3500	0.3	0.3
35	5.00	12	0.2500	57.3603	56.3500	57.3603	0.3	0.3
36	5.00	12	0.2500	58.3706	57.3603	58.3706	0.3	0.3
37	5.00	12	0.2500	59.3809	58.3706	59.3809	0.3	0.3
38	5.00	12	0.2500	60.3912	59.3809	60.3912	0.3	0.3
39	5.00	12	0.2500	61.4015	60.3912	61.4015	0.3	0.3
40	5.00	12	0.2500	62.4118	61.4015	62.4118	0.3	0.3
41	5.00	12	0.2500	63.4221	62.4118	63.4221	0.3	0.3
42	5.00	12	0.2500	64.4324	63.4221	64.4324	0.3	0.3
43	5.00	12	0.2500	65.4427	64.4324	65.4427	0.3	0.3
44	5.00	12	0.2500	66.4530	65.4427	66.4530	0.3	0.3
45	5.00	12	0.2500	67.4633	66.4530	67.4633	0.3	0.3
46	5.00	12	0.2500	68.4736	67.4633	68.4736	0.3	0.3
47	5.00	12	0.2500	69.4839	68.4736	69.4839	0.3	0.3
48	5.00	12	0.2500	70.4942	69.4839	70.4942	0.3	0.3
49	5.00	12	0.2500	71.5045	70.4942	71.5045	0.3	0.3
50	5.00	12	0.2500	72.5148	71.5045	72.5148	0.3	0.3
51	5.00	12	0.2500	73.5251	72.5148	73.5251	0.3	0.3
52	5.00	12	0.2500	74.5354	73.5251	74.5354	0.3	0.3
53	5.00	12	0.2500	75.5457	74.5354	75.5457	0.3	0.3
54	5.00	12	0.2500	76.5560	75.5457	76.5560	0.3	0.3
55	5.00	12	0.2500	77.5663	76.5560	77.5663	0.3	0.3
56	5.00	12	0.2500	78.5766	77.5663	78.5766	0.3	0.3
57	5.00	12	0.2500	79.5869	78.5766	79.5869	0.3	0.3
58	5.00	12	0.2500	80.5972	79.5869	80.5972	0.3	0.3
59	5.00	12	0.2500	81.6075	80.5972	81.6075	0.3	0.3
60	5.00	12	0.2500	82.6178	81.6075	82.6178	0.3	0.3
61	5.00	12	0.2500	83.6281	82.6178	83.6281	0.3	0.3
62	5.00	12	0.2500	84.6384	83.6281	84.6384	0.3	0.3
63	5.00	12	0.2500	85.6487	84.6384	85.6487	0.3	0.3
64	5.00	12	0.2500	86.6590	85.6487	86.6590	0.3	0.3
65	5.00	12	0.2500	87.6693	86.6590	87.6693	0.3	0.3
66	5.00	12	0.2500	88.6796	87.6693	88.6796	0.3	0.3
67	5.00	12	0.2500	89.6899	88.6796	89.6899	0.3	0.3
68	5.00	12	0.2500	90.7002	89.6899	90.7002	0.3	0.3
69	5.00	12	0.2500	91.7105	90.7002	91.7105	0.3	0.3
70	5.00	12	0.2500	92.7208	91.7105	92.7208	0.3	0.3
71	5.00	12	0.2500	93.7311	92.7208	93.7311	0.3	0.3
72	5.00	12	0.2500	94.7414	93.7311	94.7414	0.3	0.3
73	5.00	12	0.2500	95.7517	94.7414	95.7517	0.3	0.3
74	5.00	12	0.2500	96.7620	95.7517	96.7620	0.3	0.3
75	5.00	12	0.2500	97.7723	96.7620	97.7723	0.3	0.3
76	5.00	12	0.2500	98.7826	97.7723	98.7826	0.3	0.3
77	5.00	12	0.2500	99.7929	98.7826	99.7929	0.3	0.3
78	5.00	12	0.2500	100.8032	99.7929	100.8032	0.3	0.3
79	5.00	12	0.2500	101.8135	100.8032	101.8135	0.3	0.3
80	5.00	12	0.2500	102.8238	101.8135	102.8238	0.3	0.3
81	5.00	12	0.2500	103.8341	102.8238	103.8341	0.3	0.3
82	5.00	12	0.2500	104.8444	103.8341	104.8444	0.3	0.3
83	5.00	12	0.2500	105.8547	104.8444	105.8547	0.3	0.3
84	5.00	12	0.2500	106.8650	105.8547	106.8650	0.3	0.3
85	5.00	12	0.2500	107.8753	106.8650	107.8753	0.3	0.3
86	5.00	12	0.2500	108.8856	107.8753	108.8856	0.3	0.3
87	5.00	12	0.2500	109.8959	108.8856	109.8959	0.3	0.3
88	5.00	12	0.2500	110.9062	109.8959	110.9062	0.3	0.3
89	5.00	12	0.2500	111.9165	110.9062	111.9165	0.3	0.3
90	5.00	12	0.2500	112.9268	111.9165	112.9268	0.3	0.3
91	5.00	12	0.2500	113.9371	112.9268	113.9371	0.3	0.3
92	5.00	12	0.2500	114.9474	113.9371	114.9474	0.3	0.3
93	5.00	12	0.2500	115.9577	114.9474	115.9577	0.3	0.3
94	5.00	12	0.2500	116.9680	115.9577	116.9680	0.3	0.3
95	5.00	12	0.2500	117.9783	116.9680	117.9783	0.3	0.3
96	5.00	12	0.2500	118.9886	117.9783	118.9886	0.3	0.3
97	5.00	12	0.2500	119.9989	118.9886	119.9989	0.3	0.3
98	5.00	12	0.2500	120.0092	119.9989	120.0092	0.3	0.3
99	5.00	12	0.2500	121.0195	120.0092	121.0195	0.3	0.3
100	5.00	12	0.2500	122.0298	121.0195	122.0298	0.3	0.3



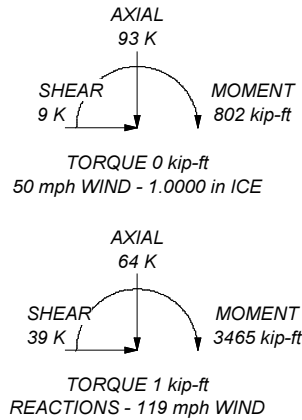
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-60	60 ksi	75 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 119 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 82.4%

ALL REACTIONS
ARE FACTORED



Crown Castle
 2000 Corporate Drive
 Canonsburg, PA 15317
 Phone: (724) 416-2000
 FAX:

Job:	BU# 876320		
Project:			
Client:	Crown Castle	Drawn by:	Matthew Schmitt
Code:	TIA-222-H	Date:	06/22/22
Path:	C:\Work Area\876320\WO 2128469 - SAIProd\876320_R.en	Scale:	NTS
		Dwg No.:	E-1

Tower Input Data

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

- Tower is located in New Haven County, Connecticut.
- Tower base elevation above sea level: 213.00 ft.
- Basic wind speed of 119 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- TOWER RATING: 82.4%.
- 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 Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification ✓ Use Code Stress Ratios ✓ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination ✓ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs	Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
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Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	120.00-115.00	5.00	0.00	12	22.0000	23.0102	0.2500	1.0000	A607-60 (60 ksi)
L2	115.00-110.00	5.00	0.00	12	23.0102	24.0205	0.2500	1.0000	A607-60 (60 ksi)
L3	110.00-105.00	5.00	0.00	12	24.0205	25.0307	0.2500	1.0000	A607-60 (60 ksi)
L4	105.00-100.00	5.00	0.00	12	25.0307	26.0410	0.2500	1.0000	A607-60 (60 ksi)
L5	100.00-99.25	0.75	0.00	12	26.0410	26.1925	0.2500	1.0000	A607-60 (60 ksi)
L6	99.25-99.00	0.25	0.00	12	26.1925	26.2430	0.3563	1.4250	A607-60 (60 ksi)
L7	99.00-94.00	5.00	0.00	12	26.2430	27.2532	0.3563	1.4250	A607-60 (60 ksi)
L8	94.00-90.08	3.92	0.00	12	27.2532	28.0453	0.3125	1.2500	A607-60 (60 ksi)
L9	90.08-89.83	0.25	0.00	12	28.0453	28.0958	0.5125	2.0500	A607-60 (60 ksi)
L10	89.83-89.50	0.33	0.00	12	28.0958	28.1625	0.5125	2.0500	A607-60 (60 ksi)
L11	89.50-89.25	0.25	0.00	12	28.1625	28.2130	0.7250	2.9000	A607-60 (60 ksi)
L12	89.25-84.25	5.00	0.00	12	28.2130	29.2232	0.7000	2.8000	A607-60 (60 ksi)
L13	84.25-78.00	6.25	3.75	12	29.2232	30.4860	0.7000	2.8000	A607-60 (60 ksi)
L14	78.00-77.00	4.75	0.00	12	29.2283	30.1880	0.8625	3.4500	A607-60 (60 ksi)
L15	77.00-76.75	0.25	0.00	12	30.1880	30.2385	0.8625	3.4500	A607-60 (60 ksi)
L16	76.75-76.50	0.25	0.00	12	30.2385	30.2890	0.9625	3.8500	A607-60 (60 ksi)
L17	76.50-75.50	1.00	0.00	12	30.2890	30.4911	0.9625	3.8500	A607-60 (60 ksi)
L18	75.50-75.25	0.25	0.00	12	30.4911	30.5416	0.7625	3.0500	A607-60 (60 ksi)
L19	75.25-74.50	0.75	0.00	12	30.5416	30.6931	0.7625	3.0500	A607-60 (60 ksi)
L20	74.50-74.25	0.25	0.00	12	30.6931	30.7436	0.8375	3.3500	A607-60 (60 ksi)
L21	74.25-72.00	2.25	0.00	12	30.7436	31.1982	0.8250	3.3000	A607-60 (60 ksi)
L22	72.00-71.75	0.25	0.00	12	31.1982	31.2487	0.7625	3.0500	A607-60 (60 ksi)
L23	71.75-70.50	1.25	0.00	12	31.2487	31.5013	0.7625	3.0500	A607-60 (60 ksi)
L24	70.50-70.25	0.25	0.00	12	31.5013	31.5518	0.7875	3.1500	A607-60 (60 ksi)
L25	70.25-70.00	0.25	0.00	12	31.5518	31.6023	0.7875	3.1500	A607-60 (60 ksi)
L26	70.00-69.75	0.25	0.00	12	31.6023	31.6528	0.7250	2.9000	A607-60 (60 ksi)
L27	69.75-69.50	0.25	0.00	12	31.6528	31.7033	0.8750	3.5000	A607-60 (60 ksi)
L28	69.50-69.25	0.25	0.00	12	31.7033	31.7538	0.7500	3.0000	A607-60 (60 ksi)
L29	69.25-64.25	5.00	0.00	12	31.7538	32.7640	0.7375	2.9500	A607-60 (60 ksi)
L30	64.25-59.25	5.00	0.00	12	32.7640	33.7742	0.7125	2.8500	A607-60 (60 ksi)
L31	59.25-56.00	3.25	0.00	12	33.7742	34.4309	0.7125	2.8500	A607-60 (60 ksi)
L32	56.00-55.75	0.25	0.00	12	34.4309	34.4814	0.8125	3.2500	A607-60 (60 ksi)
L33	55.75-55.50	0.25	0.00	12	34.4814	34.5319	0.8125	3.2500	A607-60 (60 ksi)
L34	55.50-55.25	0.25	0.00	12	34.5319	34.5824	0.8875	3.5500	A607-60 (60 ksi)
L35	55.25-54.00	1.25	0.00	12	34.5824	34.8349	0.8750	3.5000	A607-60

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L36	54.00-53.75	0.25	0.00	12	34.8349	34.8854	0.7500	3.0000	(60 ksi) A607-60
L37	53.75-53.50	0.25	0.00	12	34.8854	34.9359	0.7375	2.9500	(60 ksi) A607-60
L38	53.50-53.25	0.25	0.00	12	34.9359	34.9865	0.6625	2.6500	(60 ksi) A607-60
L39	53.25-53.00	0.25	0.00	12	34.9865	35.0370	0.6000	2.4000	(60 ksi) A607-60
L40	53.00-48.00	5.00	0.00	12	35.0370	36.0472	0.5875	2.3500	(60 ksi) A607-60
L41	48.00-39.75	8.25	4.75	12	36.0472	37.7140	0.5875	2.3500	(60 ksi) A607-60
L42	39.75-38.75	5.75	0.00	12	36.1293	37.2910	0.6625	2.6500	(60 ksi) A607-60
L43	38.75-34.75	4.00	0.00	12	37.2910	38.0992	0.6625	2.6500	(60 ksi) A607-60
L44	34.75-34.50	0.25	0.00	12	38.0992	38.1497	0.8250	3.3000	(60 ksi) A607-60
L45	34.50-33.75	0.75	0.00	12	38.1497	38.3012	0.8250	3.3000	(60 ksi) A607-60
L46	33.75-33.50	0.25	0.00	12	38.3012	38.3517	0.6250	2.5000	(60 ksi) A607-60
L47	33.50-28.50	5.00	0.00	12	38.3517	39.3619	0.6125	2.4500	(60 ksi) A607-60
L48	28.50-24.00	4.50	0.00	12	39.3619	40.2711	0.6625	2.6500	(60 ksi) A607-60
L49	24.00-23.75	0.25	0.00	12	40.2711	40.3216	0.7000	2.8000	(60 ksi) A607-60
L50	23.75-18.75	5.00	0.00	12	40.3216	41.3318	0.6875	2.7500	(60 ksi) A607-60
L51	18.75-14.25	4.50	0.00	12	41.3318	42.2410	0.6750	2.7000	(60 ksi) A607-60
L52	14.25-14.00	0.25	0.00	12	42.2410	42.2915	0.7750	3.1000	(60 ksi) A607-60
L53	14.00-9.00	5.00	0.00	12	42.2915	43.3017	0.7625	3.0500	(60 ksi) A607-60
L54	9.00-5.00	4.00	0.00	12	43.3017	44.1098	0.7500	3.0000	(60 ksi) A607-60
L55	5.00-4.75	0.25	0.00	12	44.1098	44.1603	0.9000	3.6000	(60 ksi) A607-60
L56	4.75-4.50	0.25	0.00	12	44.1603	44.2108	0.7500	3.0000	(60 ksi) A607-60
L57	4.50-0.00	4.50		12	44.2108	45.1200	0.7500	3.0000	(60 ksi) A607-60

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	22.6879	17.5087	1057.2060	7.7865	11.3960	92.7699	2142.1860	8.6173	5.2260	20.904
	23.7338	18.3220	1211.4688	8.1482	11.9193	101.6392	2454.7642	9.0175	5.4967	21.987
L2	23.7338	18.3220	1211.4688	8.1482	11.9193	101.6392	2454.7642	9.0175	5.4967	21.987
	24.7796	19.1352	1380.0520	8.5098	12.4426	110.9134	2796.3596	9.4178	5.7675	23.07
L3	24.7796	19.1352	1380.0520	8.5098	12.4426	110.9134	2796.3596	9.4178	5.7675	23.07
	25.8255	19.9485	1563.5914	8.8715	12.9659	120.5925	3168.2601	9.8180	6.0382	24.153
L4	25.8255	19.9485	1563.5914	8.8715	12.9659	120.5925	3168.2601	9.8180	6.0382	24.153
	26.8714	20.7617	1762.7225	9.2332	13.4892	130.6765	3571.7537	10.2183	6.3090	25.236
L5	26.8714	20.7617	1762.7225	9.2332	13.4892	130.6765	3571.7537	10.2183	6.3090	25.236
	27.0283	20.8837	1793.9763	9.2874	13.5677	132.2240	3635.0824	10.2783	6.3496	25.398
L6	26.9908	29.6374	2525.1346	9.2494	13.5677	186.1136	5116.6072	14.5866	6.0648	17.024
	27.0431	29.6953	2539.9741	9.2675	13.5939	186.8470	5146.6761	14.6151	6.0784	17.062
L7	27.0431	29.6953	2539.9741	9.2675	13.5939	186.8470	5146.6761	14.6151	6.0784	17.062
	28.0890	30.8542	2849.0997	9.6291	14.1172	201.8179	5773.0484	15.1855	6.3491	17.822
L8	28.1044	27.1091	2511.4256	9.6448	14.1172	177.8986	5088.8291	13.3423	6.4664	20.692

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L9	28.9244	27.9061	2739.5003	9.9283	14.5274	188.5741	5550.9704	13.7345	6.6786	21.372
	28.8538	45.4359	4396.2783	9.8567	14.5274	302.6188	8908.0517	22.3622	6.1426	11.986
	28.9061	45.5193	4420.5191	9.8748	14.5536	303.7403	8957.1702	22.4032	6.1562	12.012
L10	28.9061	45.5193	4420.5191	9.8748	14.5536	303.7403	8957.1702	22.4032	6.1562	12.012
	28.9751	45.6293	4452.6528	9.8987	14.5882	305.2240	9022.2818	22.4574	6.1740	12.047
L11	28.9002	64.0527	6154.7606	9.8226	14.5882	421.9014	12471.213	31.5248	5.6045	7.73
	28.9525	64.1707	6188.8157	9.8407	14.6143	423.4763	12540.218	31.5828	5.6181	7.749
L12	28.9613	62.0142	5991.7268	9.8496	14.6143	409.9902	12140.862	30.5215	5.6851	8.122
	30.0072	64.2913	6676.2823	10.2113	15.1376	441.0391	13527.958	31.6422	5.9558	8.508
L13	30.0072	64.2913	6676.2823	10.2113	15.1376	441.0391	13527.958	31.6422	5.9558	8.508
	31.3145	67.1376	7602.8499	10.6634	15.7917	481.4445	15405.435	33.0431	6.2942	8.992
L14	30.7395	78.7790	8090.7168	10.1550	15.1403	534.3839	16393.985	38.7726	5.5217	6.402
	30.9487	81.4443	8940.0035	10.4985	15.6374	571.7069	18114.870	40.0844	5.7789	6.7
L15	30.9487	81.4443	8940.0035	10.4985	15.6374	571.7069	18114.870	40.0844	5.7789	6.7
	31.0010	81.5846	8986.2777	10.5166	15.6636	573.7062	18208.634	40.1534	5.7924	6.716
L16	30.9657	90.7337	9926.1015	10.4808	15.6636	633.7069	20112.972	44.6564	5.5244	5.74
	31.0180	90.8903	9977.5667	10.4989	15.6897	635.9303	20217.255	44.7334	5.5380	5.754
L17	31.0180	90.8903	9977.5667	10.4989	15.6897	635.9303	20217.255	44.7334	5.5380	5.754
	31.2271	91.5164	10185.206	10.5712	15.7944	644.8629	20637.990	45.0416	5.5921	5.81
L18	31.2977	72.9911	8233.8656	10.6428	15.7944	521.3163	16684.043	35.9240	6.1281	8.037
	31.3500	73.1151	8275.9059	10.6609	15.8205	523.1115	16769.229	35.9850	6.1416	8.055
L19	31.3500	73.1151	8275.9059	10.6609	15.8205	523.1115	16769.229	35.9850	6.1416	8.055
	31.5069	73.4871	8402.8850	10.7152	15.8990	528.5155	17026.523	36.1681	6.1823	8.108
L20	31.4804	80.5131	9160.1910	10.6883	15.8990	576.1477	18561.030	39.6261	5.9813	7.142
	31.5327	80.6493	9206.7616	10.7064	15.9252	578.1255	18655.395	39.6931	5.9948	7.158
L21	31.5371	79.4788	9080.7242	10.7109	15.9252	570.2112	18400.009	39.1171	6.0283	7.307
	32.0077	80.6864	9500.9688	10.8736	16.1607	587.9067	19251.538	39.7114	6.1501	7.455
L22	32.0298	74.7273	8835.5182	10.8960	16.1607	546.7296	17903.155	36.7785	6.3176	8.285
	32.0821	74.8513	8879.5805	10.9141	16.1868	548.5680	17992.437	36.8395	6.3312	8.303
L23	32.0821	74.8513	8879.5805	10.9141	16.1868	548.5680	17992.437	36.8395	6.3312	8.303
	32.3435	75.4714	9102.0909	11.0045	16.3177	557.8062	18443.303	37.1447	6.3988	8.392
L24	32.3347	77.8824	9377.6023	10.9955	16.3177	574.6904	19001.564	38.3314	6.3318	8.04
	32.3870	78.0105	9423.9439	11.0136	16.3438	576.6059	19095.465	38.3944	6.3454	8.058
L25	32.3870	78.0105	9423.9439	11.0136	16.3438	576.6059	19095.465	38.3944	6.3454	8.058
	32.4393	78.1386	9470.4380	11.0317	16.3700	578.5245	19189.674	38.4574	6.3589	8.075
L26	32.4613	72.0830	8771.9753	11.0541	16.3700	535.8572	17774.400	35.4771	6.5264	9.002
	32.5136	72.2010	8815.0942	11.0722	16.3962	537.6319	17861.770	35.5351	6.5400	9.021
L27	32.4607	86.7165	10484.860	11.0185	16.3962	639.4708	21245.169	42.6792	6.1380	7.015

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
			0				0			
	32.5130	86.8588	10536.565	11.0365	16.4223	641.6005	21349.938	42.7492	6.1515	7.03
L28	32.5571	74.7522	9141.6464	11.0813	16.4223	556.6600	18523.454	36.7908	6.4865	8.649
	32.6094	74.8742	9186.4718	11.0994	16.4485	558.4998	18614.282	36.8508	6.5000	8.667
L29	32.6138	73.6560	9044.2945	11.1038	16.4485	549.8560	18326.192	36.2512	6.5335	8.859
	33.6596	76.0550	9957.1062	11.4655	16.9718	586.6866	20175.796	37.4319	6.8043	9.226
L30	33.6685	73.5342	9642.1220	11.4744	16.9718	568.1273	19537.553	36.1913	6.8713	9.644
	34.7143	75.8519	10582.860	11.8361	17.4950	604.9061	21443.744	37.3320	7.1420	10.024
L31	34.7143	75.8519	10582.860	11.8361	17.4950	604.9061	21443.744	37.3320	7.1420	10.024
	35.3941	77.3583	11226.016	12.0712	17.8352	629.4310	22746.952	38.0734	7.3180	10.271
L32	35.3588	87.9540	12688.036	12.0354	17.8352	711.4050	25709.401	43.2883	7.0500	8.677
	35.4111	88.0862	12745.311	12.0535	17.8613	713.5695	25825.457	43.3533	7.0635	8.694
L33	35.4111	88.0862	12745.311	12.0535	17.8613	713.5695	25825.457	43.3533	7.0635	8.694
	35.4634	88.2183	12802.759	12.0715	17.8875	715.7374	25941.861	43.4184	7.0770	8.71
L34	35.4369	96.1472	13891.445	12.0447	17.8875	776.6003	28147.833	47.3207	6.8760	7.748
	35.4892	96.2915	13954.104	12.0628	17.9137	778.9639	28274.798	47.3918	6.8896	7.763
L35	35.4936	94.9705	13772.884	12.0672	17.9137	768.8476	27907.598	46.7416	6.9231	7.912
	35.7551	95.6821	14084.785	12.1577	18.0445	780.5586	28539.593	47.0918	6.9908	7.989
L36	35.7992	82.3151	12206.476	12.2024	18.0445	676.4654	24733.629	40.5130	7.3258	9.768
	35.8515	82.4371	12260.822	12.2205	18.0707	678.4934	24843.750	40.5730	7.3393	9.786
L37	35.8559	81.0928	12069.725	12.2250	18.0707	667.9184	24456.535	39.9114	7.3728	9.997
	35.9082	81.2128	12123.363	12.2430	18.0968	669.9167	24565.220	39.9705	7.3863	10.015
L38	35.9347	73.1138	10962.287	12.2699	18.0968	605.7576	22212.565	35.9844	7.5873	11.453
	35.9869	73.2216	11010.825	12.2880	18.1230	607.5613	22310.916	36.0374	7.6009	11.473
L39	36.0090	66.4346	10026.641	12.3104	18.1230	553.2555	20316.693	32.6971	7.7684	12.947
	36.0613	66.5322	10070.890	12.3284	18.1492	554.8960	20406.354	32.7451	7.7819	12.97
L40	36.0657	65.1698	9871.8223	12.3329	18.1492	543.9275	20002.988	32.0746	7.8154	13.303
	37.1115	67.0808	10765.984	12.6946	18.6724	576.5710	21814.804	33.0151	8.0861	13.764
L41	37.1115	67.0808	10765.984	12.6946	18.6724	576.5710	21814.804	33.0151	8.0861	13.764
	38.8372	70.2341	12356.677	13.2913	19.5359	632.5129	25037.979	34.5671	8.5329	14.524
L42	38.1636	75.6596	12147.700	12.6971	18.7150	649.0896	24614.535	37.2373	7.9072	11.935
	38.3728	78.1378	13380.925	13.1130	19.3168	692.7109	27113.381	38.4571	8.2185	12.405
L43	38.3728	78.1378	13380.925	13.1130	19.3168	692.7109	27113.381	38.4571	8.2185	12.405
	39.2095	79.8618	14286.297	13.4023	19.7354	723.8929	28947.911	39.3055	8.4351	12.732
L44	39.1521	99.0189	17559.820	13.3442	19.7354	889.7637	35580.956	48.7341	7.9996	9.696
	39.2044	99.1530	17631.302	13.3622	19.7615	892.2029	35725.799	48.8001	8.0131	9.713

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L45	39.2044	99.1530	17631.302 6	13.3622	19.7615	892.2029	35725.799 1	48.8001	8.0131	9.713
	39.3613	99.5556	17846.910 3	13.4165	19.8400	899.5404	36162.678 8	48.9982	8.0537	9.762
L46	39.4319	75.8234	13738.007 3	13.4881	19.8400	692.4388	27836.927 3	37.3180	8.5897	13.744
	39.4842	75.9250	13793.334 3	13.5062	19.8662	694.3118	27949.034 8	37.3680	8.6033	13.765
L47	39.4886	74.4312	13530.908 3	13.5106	19.8662	681.1022	27417.288 6	36.6328	8.6368	14.101
	40.5344	76.4235	14646.824 1	13.8723	20.3895	718.3522	29678.436 6	37.6133	8.9075	14.543
L48	40.5168	82.5555	15781.235 7	13.8544	20.3895	773.9894	31977.062 0	40.6313	8.7735	13.243
	41.4580	84.4950	16919.823 1	14.1799	20.8604	811.0968	34284.148 9	41.5859	9.0172	13.611
L49	41.4448	89.1932	17826.819 6	14.1664	20.8604	854.5761	36121.969 5	43.8982	8.9167	12.738
	41.4971	89.3071	17895.169 8	14.1845	20.8866	856.7780	36260.465 7	43.9542	8.9302	12.757
L50	41.5015	87.7400	17592.253 0	14.1890	20.8866	842.2751	35646.674 0	43.1830	8.9637	13.038
	42.5473	89.9763	18971.998 6	14.5507	21.4099	886.1335	38442.412 8	44.2836	9.2344	13.432
L51	42.5517	88.3675	18644.244 5	14.5551	21.4099	870.8249	37778.294 1	43.4918	9.2679	13.73
	43.4929	90.3436	19923.196 1	14.8806	21.8808	910.5326	40369.796 7	44.4644	9.5116	14.091
L52	43.4577	103.4783	22710.080 1	14.8448	21.8808	1037.8991	46016.779 3	50.9289	9.2436	11.927
	43.5100	103.6043	22793.169 6	14.8629	21.9070	1040.4524	46185.141 1	50.9909	9.2571	11.945
L53	43.5144	101.9640	22445.799 9	14.8674	21.9070	1024.5958	45481.275 9	50.1836	9.2906	12.184
	44.5602	104.4443	24123.945 5	15.2290	22.4303	1075.5090	48881.653 9	51.4043	9.5613	12.539
L54	44.5646	102.7623	23749.394 7	15.2335	22.4303	1058.8106	48122.712 5	50.5765	9.5948	12.793
	45.4013	104.7139	25128.420 8	15.5228	22.8489	1099.7659	50916.993 3	51.5370	9.8114	13.082
L55	45.3483	125.2220	29842.238 8	15.4691	22.8489	1306.0700	60468.466 4	61.6305	9.4094	10.455
	45.4006	125.3684	29947.013 2	15.4872	22.8750	1309.1564	60680.767 8	61.7025	9.4230	10.47
L56	45.4536	104.8359	25216.339 7	15.5409	22.8750	1102.3514	51095.140 8	51.5971	9.8250	13.1
	45.5058	104.9579	25304.461 7	15.5590	22.9012	1104.9400	51273.699 8	51.6571	9.8385	13.118
L57	45.5058	104.9579	25304.461 7	15.5590	22.9012	1104.9400	51273.699 8	51.6571	9.8385	13.118
	46.4471	107.1536	26925.970 9	15.8845	23.3722	1152.0532	54559.317 0	52.7377	10.0822	13.443

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L1 120.00-115.00				1	1	1			
L2 115.00-110.00				1	1	1			
L3 110.00-105.00				1	1	1			
L4 105.00-100.00				1	1	1			
L5 100.00-99.25				1	1	1			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	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
ft	ft ²	in							
L6 99.25-99.00				1	1	1.04187			
L7 99.00-94.00				1	1	1.0291			
L8 94.00-90.08				1	1	1.16066			
L9 90.08-89.83				1	1	1.02045			
L10 89.83-89.50				1	1	1.01917			
L11 89.50-89.25				1	1	0.912595			
L12 89.25-84.25				1	1	0.923531			
L13 84.25-78.00				1	1	0.913676			
L14 78.00-77.00				1	1	0.996207			
L15 77.00-76.75				1	1	0.995117			
L16 76.75-76.50				1	1	0.948882			
L17 76.50-75.50				1	1	0.944612			
L18 75.50-75.25				1	1	1.04608			
L19 75.25-74.50				1	1	1.04286			
L20 74.50-74.25				1	1	0.888787			
L21 74.25-72.00				1	1	0.894048			
L22 72.00-71.75				1	1	1.07313			
L23 71.75-70.50				1	1	1.06768			
L24 70.50-70.25				1	1	1.09135			
L25 70.25-70.00				1	1	1.09021			
L26 70.00-69.75				1	1	1.11122			
L27 69.75-69.50				1	1	0.981926			
L28 69.50-69.25				1	1	0.979276			
L29 69.25-64.25				1	1	0.977438			
L30 64.25-59.25				1	1	0.993457			
L31 59.25-56.00				1	1	0.982651			
L32 56.00-55.75				1	1	1.01703			
L33 55.75-55.50				1	1	1.01608			
L34 55.50-55.25				1	1	0.978222			
L35 55.25-54.00				1	1	0.987109			
L36 54.00-53.75				1	1	1.03699			
L37 53.75-53.50				1	1	1.05325			
L38 53.50-53.25				1	1	1.10735			
L39 53.25-				1	1	1.09715			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	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
ft	ft ²	in							
L40 53.00-48.00				1	1	1.10333			
L41 48.00-39.75				1	1	1.09216			
L42 39.75-38.75				1	1	0.976499			
L43 38.75-34.75				1	1	0.967639			
L44 34.75-34.50				1	1	0.981987			
L45 34.50-33.75				1	1	0.979855			
L46 33.75-33.50				1	1	1.02183			
L47 33.50-28.50				1	1	1.03112			
L48 28.50-24.00				1	1	0.945617			
L49 24.00-23.75				1	1	0.949621			
L50 23.75-18.75				1	1	0.956115			
L51 18.75-14.25				1	1	0.964379			
L52 14.25-14.00				1	1	0.954431			
L53 14.00-9.00				1	1	0.958435			
L54 9.00-5.00				1	1	0.965286			
L55 5.00-4.75				1	1	0.910959			
L56 4.75-4.50				1	1	1.04098			
L57 4.50-0.00				1	1	1.0299			

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

HB158-21U6S24-xxM_TMO(1-5/8)	C	No	Surface Ar (CaAa)	120.00 - 0.00	3	3	0.000 - 0.000	1.9960		2.50
LDF7-50A(1-5/8)	A	No	Surface Ar (CaAa)	113.00 - 0.00	8	6	0.250 - 0.250	1.9800		0.82
*										
HCS 6X12 6AWG(1-3/8)	B	No	Surface Ar (CaAa)	105.00 - 0.00	3	3	-0.250 - -0.250	1.3800		1.70
MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	B	No	Surface Ar (CaAa)	105.00 - 0.00	1	1	-0.220 - -0.220	1.6250		1.07
*										
CU12PSM9P8XXX(1-3/8)	B	No	Surface Ar (CaAa)	86.00 - 0.00	1	1	0.000 - 0.000	1.4110		1.66
Mod 1613579										
C6x10.5	A	No	Surface Af (CaAa)	56.00 - 7.67	1	1	0.000 - 0.000	6.0000	16.0600	10.50
C6x10.5	B	No	Surface Af (CaAa)	56.00 - 8.00	1	1	-0.250 - -0.250	6.0000	16.0600	10.50
C6x10.5	B	No	Surface Af (CaAa)	56.00 - 0.00	1	1	0.500 - 0.500	6.0000	16.0600	10.50
C6x10.5	C	No	Surface Af	56.00 -	1	1	0.500	6.0000	16.0600	10.50

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
			(CaAa)	0.00			0.500			
Mod 2460630										
(Area) Aero MP3-04 (H)	A	No	Surface Af (CaAa)	25.42 - 0.00	1	1	-0.250 -0.250	4.7800	12.7800	0.00
(Area) Aero MP3-04 (H)	A	No	Surface Af (CaAa)	25.42 - 0.00	1	1	0.250 0.250	4.7800	12.7800	0.00
(Area) Aero MP3-04 (H)	B	No	Surface Af (CaAa)	25.42 - 0.00	1	1	0.250 0.250	4.7800	12.7800	0.00
(Area) Aero MP3-04 (H)	C	No	Surface Af (CaAa)	25.42 - 0.00	1	1	-0.250 -0.250	4.7800	12.7800	0.00
Mod 3338935										
PL 1 x 5	A	No	Surface Af (CaAa)	37.00 - 2.50	1	1	0.500 0.500	5.0000	12.0000	0.00
PL 1 x 5	B	No	Surface Af (CaAa)	37.00 - 2.50	1	1	0.000 0.000	5.0000	12.0000	0.00
PL 1 x 5	C	No	Surface Af (CaAa)	37.00 - 2.50	1	1	0.000 0.000	5.0000	12.0000	0.00
PL 1 x 5	C	No	Surface Af (CaAa)	37.00 - 2.50	1	1	0.500 0.500	5.0000	12.0000	0.00
*										
PL 1 x 5	A	No	Surface Af (CaAa)	72.00 - 31.50	1	1	0.500 0.500	5.0000	12.0000	0.00
PL 1 x 5	B	No	Surface Af (CaAa)	72.00 - 31.50	1	1	0.000 0.000	5.0000	12.0000	0.00
PL 1 x 5	C	No	Surface Af (CaAa)	72.00 - 31.50	1	1	0.000 0.000	5.0000	12.0000	0.00
PL 1 x 5	C	No	Surface Af (CaAa)	72.00 - 31.50	1	1	0.500 0.500	5.0000	12.0000	0.00
Mod 3349207										
(Area) Aero MP3-03 (H)	A	No	Surface Af (CaAa)	15.42 - 0.00	1	1	0.500 0.500	4.0600	11.2600	0.00
(Area) Aero MP3-03 (H)	B	No	Surface Af (CaAa)	15.42 - 0.00	1	1	0.000 0.000	4.0600	11.2600	0.00
(Area) Aero MP3-03 (H)	C	No	Surface Af (CaAa)	15.42 - 0.00	1	1	0.000 0.000	4.0600	11.2600	0.00
(Area) Aero MP3-03 (H)	C	No	Surface Af (CaAa)	15.42 - 0.00	1	1	0.500 0.500	4.0600	11.2600	0.00
*										
(Area) Aero MP3-03 (H)	A	No	Surface Af (CaAa)	45.42 - 25.42	1	1	-0.250 -0.250	4.0600	11.2600	0.00
(Area) Aero MP3-03 (H)	A	No	Surface Af (CaAa)	45.42 - 25.42	1	1	0.250 0.250	4.0600	11.2600	0.00
(Area) Aero MP3-03 (H)	B	No	Surface Af (CaAa)	45.42 - 25.42	1	1	0.250 0.250	4.0600	11.2600	0.00
(Area) Aero MP3-03 (H)	C	No	Surface Af (CaAa)	45.42 - 25.42	1	1	-0.250 -0.250	4.0600	11.2600	0.00
Mod 4961357										
(Area) CCI-65FP-045100 (H)	A	No	Surface Af (CaAa)	72.00 - 52.00	1	1	-0.250 -0.250	4.5000	11.0000	0.00
(Area) CCI-65FP-045100 (H)	A	No	Surface Af (CaAa)	72.00 - 52.00	1	1	0.250 0.250	4.5000	11.0000	0.00
(Area) CCI-65FP-045100 (H)	B	No	Surface Af (CaAa)	72.00 - 52.00	1	1	0.250 0.250	4.5000	11.0000	0.00
PMI 5760332										
(Area) CCI-65FP-065125 (H)	C	No	Surface Af (CaAa)	74.75 - 50.50	1	1	-0.250 -0.250	6.5000	15.5000	0.00
Mod 4961357										
(Area) CCI-65FP-060100 (H)	A	No	Surface Af (CaAa)	92.00 - 67.00	1	1	0.000 0.000	6.0000	14.0000	0.00
(Area) CCI-65FP-060100 (H)	C	No	Surface Af (CaAa)	92.00 - 67.00	1	1	0.250 0.250	6.0000	14.0000	0.00
*										
(Area) CCI-65FP-045100 (H)	A	No	Surface Af (CaAa)	92.08 - 68.00	1	1	0.250 0.250	4.5000	11.0000	0.00
(Area) CCI-65FP-045100 (H)	B	No	Surface Af (CaAa)	92.08 - 68.00	1	1	0.250 0.250	4.5000	11.0000	0.00
Mod 5873963										
(Area) CCI-65FP-	A	No	Surface Af	57.50 -	1	1	0.500	4.5000	11.0000	0.00

Tower Sectio n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
		B	0.000	0.000	3.382	0.000	0.03
		C	0.000	0.000	3.994	0.000	0.04
L5	100.00-99.25	A	0.000	0.000	0.891	0.000	0.00
		B	0.000	0.000	0.932	0.000	0.00
		C	0.000	0.000	1.449	0.000	0.01
L6	99.25-99.00	A	0.000	0.000	0.297	0.000	0.00
		B	0.000	0.000	0.311	0.000	0.00
		C	0.000	0.000	0.483	0.000	0.00
L7	99.00-94.00	A	0.000	0.000	5.940	0.000	0.03
		B	0.000	0.000	6.216	0.000	0.03
		C	0.000	0.000	9.661	0.000	0.06
L8	94.00-90.08	A	0.000	0.000	8.077	0.000	0.03
		B	0.000	0.000	6.373	0.000	0.02
		C	0.000	0.000	9.494	0.000	0.06
L9	90.08-89.83	A	0.000	0.000	0.735	0.000	0.00
		B	0.000	0.000	0.498	0.000	0.00
		C	0.000	0.000	0.733	0.000	0.00
L10	89.83-89.50	A	0.000	0.000	0.970	0.000	0.00
		B	0.000	0.000	0.658	0.000	0.00
		C	0.000	0.000	0.968	0.000	0.01
L11	89.50-89.25	A	0.000	0.000	0.735	0.000	0.00
		B	0.000	0.000	0.498	0.000	0.00
		C	0.000	0.000	0.733	0.000	0.00
L12	89.25-84.25	A	0.000	0.000	14.690	0.000	0.03
		B	0.000	0.000	10.213	0.000	0.03
		C	0.000	0.000	14.661	0.000	0.08
L13	84.25-78.00	A	0.000	0.000	19.863	0.000	0.04
		B	0.000	0.000	16.006	0.000	0.05
		C	0.000	0.000	18.326	0.000	0.10
L14	78.00-77.00	A	0.000	0.000	4.271	0.000	0.01
		B	0.000	0.000	3.468	0.000	0.01
		C	0.000	0.000	2.932	0.000	0.02
L15	77.00-76.75	A	0.000	0.000	1.068	0.000	0.00
		B	0.000	0.000	0.867	0.000	0.00
		C	0.000	0.000	0.733	0.000	0.00
L16	76.75-76.50	A	0.000	0.000	1.068	0.000	0.00
		B	0.000	0.000	0.867	0.000	0.00
		C	0.000	0.000	0.733	0.000	0.00
L17	76.50-75.50	A	0.000	0.000	4.271	0.000	0.01
		B	0.000	0.000	3.468	0.000	0.01
		C	0.000	0.000	2.932	0.000	0.02
L18	75.50-75.25	A	0.000	0.000	1.068	0.000	0.00
		B	0.000	0.000	0.867	0.000	0.00
		C	0.000	0.000	0.733	0.000	0.00
L19	75.25-74.50	A	0.000	0.000	3.204	0.000	0.00
		B	0.000	0.000	2.601	0.000	0.01
		C	0.000	0.000	2.470	0.000	0.01
L20	74.50-74.25	A	0.000	0.000	1.068	0.000	0.00
		B	0.000	0.000	0.867	0.000	0.00
		C	0.000	0.000	1.004	0.000	0.00
L21	74.25-72.00	A	0.000	0.000	9.611	0.000	0.01
		B	0.000	0.000	6.469	0.000	0.02
		C	0.000	0.000	7.035	0.000	0.04
L22	72.00-71.75	A	0.000	0.000	1.651	0.000	0.00
		B	0.000	0.000	1.096	0.000	0.00
		C	0.000	0.000	1.087	0.000	0.00
L23	71.75-70.50	A	0.000	0.000	8.256	0.000	0.01
		B	0.000	0.000	5.480	0.000	0.01
		C	0.000	0.000	5.436	0.000	0.02
L24	70.50-70.25	A	0.000	0.000	1.651	0.000	0.00
		B	0.000	0.000	1.096	0.000	0.00
		C	0.000	0.000	1.087	0.000	0.00
L25	70.25-70.00	A	0.000	0.000	1.651	0.000	0.00
		B	0.000	0.000	1.096	0.000	0.00
		C	0.000	0.000	1.087	0.000	0.00
L26	70.00-69.75	A	0.000	0.000	1.651	0.000	0.00
		B	0.000	0.000	1.096	0.000	0.00
		C	0.000	0.000	1.087	0.000	0.00
L27	69.75-69.50	A	0.000	0.000	1.651	0.000	0.00

Tower Section	Tower Elevation	Face	A _R	A _F	C _{AA} In Face	C _{AA} Out Face	Weight
n	ft		ft ²	ft ²	ft ²	ft ²	K
		B	0.000	0.000	1.096	0.000	0.00
		C	0.000	0.000	1.087	0.000	0.00
L28	69.50-69.25	A	0.000	0.000	1.651	0.000	0.00
		B	0.000	0.000	1.096	0.000	0.00
		C	0.000	0.000	1.087	0.000	0.00
L29	69.25-64.25	A	0.000	0.000	21.961	0.000	0.03
		B	0.000	0.000	13.776	0.000	0.04
		C	0.000	0.000	18.994	0.000	0.08
L30	64.25-59.25	A	0.000	0.000	17.607	0.000	0.03
		B	0.000	0.000	11.505	0.000	0.04
		C	0.000	0.000	16.744	0.000	0.08
L31	59.25-56.00	A	0.000	0.000	12.569	0.000	0.02
		B	0.000	0.000	8.603	0.000	0.03
		C	0.000	0.000	12.946	0.000	0.05
L32	56.00-55.75	A	0.000	0.000	1.318	0.000	0.00
		B	0.000	0.000	1.263	0.000	0.01
		C	0.000	0.000	1.462	0.000	0.01
L33	55.75-55.50	A	0.000	0.000	1.318	0.000	0.00
		B	0.000	0.000	1.263	0.000	0.01
		C	0.000	0.000	1.462	0.000	0.01
L34	55.50-55.25	A	0.000	0.000	1.318	0.000	0.00
		B	0.000	0.000	1.263	0.000	0.01
		C	0.000	0.000	1.462	0.000	0.01
L35	55.25-54.00	A	0.000	0.000	6.589	0.000	0.02
		B	0.000	0.000	6.314	0.000	0.04
		C	0.000	0.000	7.311	0.000	0.03
L36	54.00-53.75	A	0.000	0.000	1.318	0.000	0.00
		B	0.000	0.000	1.263	0.000	0.01
		C	0.000	0.000	1.462	0.000	0.01
L37	53.75-53.50	A	0.000	0.000	1.318	0.000	0.00
		B	0.000	0.000	1.263	0.000	0.01
		C	0.000	0.000	1.462	0.000	0.01
L38	53.50-53.25	A	0.000	0.000	1.318	0.000	0.00
		B	0.000	0.000	1.263	0.000	0.01
		C	0.000	0.000	1.462	0.000	0.01
L39	53.25-53.00	A	0.000	0.000	1.318	0.000	0.00
		B	0.000	0.000	1.263	0.000	0.01
		C	0.000	0.000	1.462	0.000	0.01
L40	53.00-48.00	A	0.000	0.000	20.357	0.000	0.09
		B	0.000	0.000	22.255	0.000	0.14
		C	0.000	0.000	26.536	0.000	0.14
L41	48.00-39.75	A	0.000	0.000	36.724	0.000	0.14
		B	0.000	0.000	37.257	0.000	0.24
		C	0.000	0.000	39.214	0.000	0.22
L42	39.75-38.75	A	0.000	0.000	4.375	0.000	0.02
		B	0.000	0.000	4.228	0.000	0.03
		C	0.000	0.000	3.942	0.000	0.03
L43	38.75-34.75	A	0.000	0.000	19.374	0.000	0.07
		B	0.000	0.000	18.785	0.000	0.12
		C	0.000	0.000	19.519	0.000	0.11
L44	34.75-34.50	A	0.000	0.000	1.302	0.000	0.00
		B	0.000	0.000	1.265	0.000	0.01
		C	0.000	0.000	1.402	0.000	0.01
L45	34.50-33.75	A	0.000	0.000	3.906	0.000	0.01
		B	0.000	0.000	3.796	0.000	0.02
		C	0.000	0.000	4.207	0.000	0.02
L46	33.75-33.50	A	0.000	0.000	1.302	0.000	0.00
		B	0.000	0.000	1.265	0.000	0.01
		C	0.000	0.000	1.402	0.000	0.01
L47	33.50-28.50	A	0.000	0.000	23.540	0.000	0.09
		B	0.000	0.000	22.805	0.000	0.14
		C	0.000	0.000	23.044	0.000	0.14
L48	28.50-24.00	A	0.000	0.000	20.027	0.000	0.08
		B	0.000	0.000	19.195	0.000	0.13
		C	0.000	0.000	17.910	0.000	0.12
L49	24.00-23.75	A	0.000	0.000	1.154	0.000	0.00
		B	0.000	0.000	1.087	0.000	0.01
		C	0.000	0.000	1.016	0.000	0.01
L50	23.75-18.75	A	0.000	0.000	23.073	0.000	0.09

Tower Section n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L51	18.75-14.25	B	0.000	0.000	21.738	0.000	0.14
		C	0.000	0.000	20.311	0.000	0.14
		A	0.000	0.000	21.558	0.000	0.08
L52	14.25-14.00	B	0.000	0.000	20.356	0.000	0.13
		C	0.000	0.000	19.863	0.000	0.12
		A	0.000	0.000	1.323	0.000	0.00
L53	14.00-9.00	B	0.000	0.000	1.256	0.000	0.01
		C	0.000	0.000	1.354	0.000	0.01
		A	0.000	0.000	26.457	0.000	0.09
L54	9.00-5.00	B	0.000	0.000	25.121	0.000	0.14
		C	0.000	0.000	27.077	0.000	0.14
		A	0.000	0.000	18.495	0.000	0.04
L55	5.00-4.75	B	0.000	0.000	17.097	0.000	0.08
		C	0.000	0.000	21.662	0.000	0.11
		A	0.000	0.000	1.073	0.000	0.00
L56	4.75-4.50	B	0.000	0.000	1.006	0.000	0.00
		C	0.000	0.000	1.354	0.000	0.01
		A	0.000	0.000	1.073	0.000	0.00
L57	4.50-0.00	B	0.000	0.000	1.006	0.000	0.00
		C	0.000	0.000	1.354	0.000	0.01
		A	0.000	0.000	17.228	0.000	0.03
		B	0.000	0.000	16.026	0.000	0.08
		C	0.000	0.000	20.203	0.000	0.12
		A	0.000	0.000			

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section n	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	120.00-115.00	A	0.965	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	4.949	0.000	0.07
L2	115.00-110.00	A	0.961	0.000	0.000	5.176	0.000	0.06
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	4.944	0.000	0.07
L3	110.00-105.00	A	0.957	0.000	0.000	8.621	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	4.938	0.000	0.07
L4	105.00-100.00	A	0.952	0.000	0.000	8.615	0.000	0.10
		B		0.000	0.000	6.185	0.000	0.08
		C		0.000	0.000	6.218	0.000	0.08
L5	100.00-99.25	A	0.949	0.000	0.000	1.292	0.000	0.02
		B		0.000	0.000	1.473	0.000	0.01
		C		0.000	0.000	2.024	0.000	0.02
L6	99.25-99.00	A	0.949	0.000	0.000	0.431	0.000	0.01
		B		0.000	0.000	0.491	0.000	0.00
		C		0.000	0.000	0.675	0.000	0.01
L7	99.00-94.00	A	0.946	0.000	0.000	8.608	0.000	0.10
		B		0.000	0.000	9.809	0.000	0.10
		C		0.000	0.000	13.485	0.000	0.14
L8	94.00-90.08	A	0.942	0.000	0.000	10.903	0.000	0.10
		B		0.000	0.000	9.555	0.000	0.09
		C		0.000	0.000	12.842	0.000	0.14
L9	90.08-89.83	A	0.940	0.000	0.000	0.961	0.000	0.01
		B		0.000	0.000	0.724	0.000	0.01
		C		0.000	0.000	0.970	0.000	0.01
L10	89.83-89.50	A	0.939	0.000	0.000	1.269	0.000	0.01
		B		0.000	0.000	0.955	0.000	0.01
		C		0.000	0.000	1.280	0.000	0.01
L11	89.50-89.25	A	0.939	0.000	0.000	0.961	0.000	0.01
		B		0.000	0.000	0.724	0.000	0.01
		C		0.000	0.000	0.970	0.000	0.01
L12	89.25-84.25	A	0.936	0.000	0.000	19.218	0.000	0.16
		B		0.000	0.000	15.037	0.000	0.13
		C		0.000	0.000	19.388	0.000	0.20
L13	84.25-78.00	A	0.930	0.000	0.000	25.891	0.000	0.21

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
		B		0.000	0.000	23.481	0.000	0.20
		C		0.000	0.000	24.202	0.000	0.25
L14	78.00-77.00	A	0.926	0.000	0.000	5.492	0.000	0.04
		B		0.000	0.000	4.910	0.000	0.04
		C		0.000	0.000	3.872	0.000	0.04
L15	77.00-76.75	A	0.925	0.000	0.000	1.372	0.000	0.01
		B		0.000	0.000	1.226	0.000	0.01
		C		0.000	0.000	0.967	0.000	0.01
L16	76.75-76.50	A	0.925	0.000	0.000	1.372	0.000	0.01
		B		0.000	0.000	1.226	0.000	0.01
		C		0.000	0.000	0.967	0.000	0.01
L17	76.50-75.50	A	0.924	0.000	0.000	5.486	0.000	0.04
		B		0.000	0.000	4.902	0.000	0.04
		C		0.000	0.000	3.867	0.000	0.04
L18	75.50-75.25	A	0.923	0.000	0.000	1.371	0.000	0.01
		B		0.000	0.000	1.225	0.000	0.01
		C		0.000	0.000	0.967	0.000	0.01
L19	75.25-74.50	A	0.923	0.000	0.000	4.114	0.000	0.03
		B		0.000	0.000	3.675	0.000	0.03
		C		0.000	0.000	3.216	0.000	0.03
L20	74.50-74.25	A	0.922	0.000	0.000	1.371	0.000	0.01
		B		0.000	0.000	1.225	0.000	0.01
		C		0.000	0.000	1.283	0.000	0.01
L21	74.25-72.00	A	0.920	0.000	0.000	12.337	0.000	0.09
		B		0.000	0.000	9.316	0.000	0.08
		C		0.000	0.000	8.994	0.000	0.09
L22	72.00-71.75	A	0.919	0.000	0.000	2.092	0.000	0.01
		B		0.000	0.000	1.499	0.000	0.01
		C		0.000	0.000	1.366	0.000	0.01
L23	71.75-70.50	A	0.918	0.000	0.000	10.456	0.000	0.07
		B		0.000	0.000	7.492	0.000	0.05
		C		0.000	0.000	6.828	0.000	0.06
L24	70.50-70.25	A	0.917	0.000	0.000	2.091	0.000	0.01
		B		0.000	0.000	1.498	0.000	0.01
		C		0.000	0.000	1.365	0.000	0.01
L25	70.25-70.00	A	0.917	0.000	0.000	2.091	0.000	0.01
		B		0.000	0.000	1.498	0.000	0.01
		C		0.000	0.000	1.365	0.000	0.01
L26	70.00-69.75	A	0.916	0.000	0.000	2.091	0.000	0.01
		B		0.000	0.000	1.498	0.000	0.01
		C		0.000	0.000	1.365	0.000	0.01
L27	69.75-69.50	A	0.916	0.000	0.000	2.090	0.000	0.01
		B		0.000	0.000	1.498	0.000	0.01
		C		0.000	0.000	1.365	0.000	0.01
L28	69.50-69.25	A	0.916	0.000	0.000	2.090	0.000	0.01
		B		0.000	0.000	1.497	0.000	0.01
		C		0.000	0.000	1.365	0.000	0.01
L29	69.25-64.25	A	0.912	0.000	0.000	28.230	0.000	0.21
		B		0.000	0.000	19.665	0.000	0.16
		C		0.000	0.000	24.029	0.000	0.22
L30	64.25-59.25	A	0.905	0.000	0.000	22.938	0.000	0.18
		B		0.000	0.000	16.773	0.000	0.14
		C		0.000	0.000	21.339	0.000	0.20
L31	59.25-56.00	A	0.899	0.000	0.000	16.287	0.000	0.12
		B		0.000	0.000	12.276	0.000	0.10
		C		0.000	0.000	16.410	0.000	0.15
L32	56.00-55.75	A	0.896	0.000	0.000	1.672	0.000	0.01
		B		0.000	0.000	1.658	0.000	0.02
		C		0.000	0.000	1.824	0.000	0.02
L33	55.75-55.50	A	0.896	0.000	0.000	1.672	0.000	0.01
		B		0.000	0.000	1.658	0.000	0.02
		C		0.000	0.000	1.824	0.000	0.02
L34	55.50-55.25	A	0.895	0.000	0.000	1.672	0.000	0.01
		B		0.000	0.000	1.658	0.000	0.02
		C		0.000	0.000	1.824	0.000	0.02
L35	55.25-54.00	A	0.894	0.000	0.000	8.357	0.000	0.07
		B		0.000	0.000	8.287	0.000	0.08
		C		0.000	0.000	9.118	0.000	0.08
L36	54.00-53.75	A	0.893	0.000	0.000	1.671	0.000	0.01

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
		B		0.000	0.000	1.657	0.000	0.02
		C		0.000	0.000	1.823	0.000	0.02
L37	53.75-53.50	A	0.892	0.000	0.000	1.671	0.000	0.01
		B		0.000	0.000	1.657	0.000	0.02
		C		0.000	0.000	1.823	0.000	0.02
L38	53.50-53.25	A	0.892	0.000	0.000	1.671	0.000	0.01
		B		0.000	0.000	1.657	0.000	0.02
		C		0.000	0.000	1.823	0.000	0.02
L39	53.25-53.00	A	0.891	0.000	0.000	1.671	0.000	0.01
		B		0.000	0.000	1.656	0.000	0.02
		C		0.000	0.000	1.823	0.000	0.02
L40	53.00-48.00	A	0.887	0.000	0.000	25.966	0.000	0.25
		B		0.000	0.000	29.380	0.000	0.32
		C		0.000	0.000	33.271	0.000	0.32
L41	48.00-39.75	A	0.874	0.000	0.000	46.809	0.000	0.43
		B		0.000	0.000	49.083	0.000	0.52
		C		0.000	0.000	49.541	0.000	0.50
L42	39.75-38.75	A	0.865	0.000	0.000	5.590	0.000	0.05
		B		0.000	0.000	5.599	0.000	0.06
		C		0.000	0.000	5.010	0.000	0.06
L43	38.75-34.75	A	0.859	0.000	0.000	24.557	0.000	0.22
		B		0.000	0.000	24.569	0.000	0.26
		C		0.000	0.000	24.499	0.000	0.24
L44	34.75-34.50	A	0.854	0.000	0.000	1.643	0.000	0.01
		B		0.000	0.000	1.643	0.000	0.02
		C		0.000	0.000	1.749	0.000	0.02
L45	34.50-33.75	A	0.853	0.000	0.000	4.928	0.000	0.04
		B		0.000	0.000	4.929	0.000	0.05
		C		0.000	0.000	5.246	0.000	0.05
L46	33.75-33.50	A	0.852	0.000	0.000	1.642	0.000	0.01
		B		0.000	0.000	1.642	0.000	0.02
		C		0.000	0.000	1.748	0.000	0.02
L47	33.50-28.50	A	0.845	0.000	0.000	29.797	0.000	0.26
		B		0.000	0.000	29.784	0.000	0.31
		C		0.000	0.000	28.903	0.000	0.29
L48	28.50-24.00	A	0.831	0.000	0.000	25.289	0.000	0.23
		B		0.000	0.000	25.081	0.000	0.27
		C		0.000	0.000	22.509	0.000	0.24
L49	24.00-23.75	A	0.823	0.000	0.000	1.444	0.000	0.01
		B		0.000	0.000	1.411	0.000	0.02
		C		0.000	0.000	1.269	0.000	0.01
L50	23.75-18.75	A	0.813	0.000	0.000	28.828	0.000	0.25
		B		0.000	0.000	28.152	0.000	0.30
		C		0.000	0.000	25.329	0.000	0.27
L51	18.75-14.25	A	0.793	0.000	0.000	26.827	0.000	0.23
		B		0.000	0.000	26.182	0.000	0.27
		C		0.000	0.000	24.655	0.000	0.25
L52	14.25-14.00	A	0.781	0.000	0.000	1.641	0.000	0.01
		B		0.000	0.000	1.604	0.000	0.02
		C		0.000	0.000	1.674	0.000	0.02
L53	14.00-9.00	A	0.765	0.000	0.000	32.722	0.000	0.26
		B		0.000	0.000	31.949	0.000	0.31
		C		0.000	0.000	33.371	0.000	0.30
L54	9.00-5.00	A	0.728	0.000	0.000	22.934	0.000	0.16
		B		0.000	0.000	21.878	0.000	0.19
		C		0.000	0.000	26.482	0.000	0.23
L55	5.00-4.75	A	0.702	0.000	0.000	1.331	0.000	0.01
		B		0.000	0.000	1.286	0.000	0.01
		C		0.000	0.000	1.646	0.000	0.01
L56	4.75-4.50	A	0.698	0.000	0.000	1.330	0.000	0.01
		B		0.000	0.000	1.285	0.000	0.01
		C		0.000	0.000	1.644	0.000	0.01
L57	4.50-0.00	A	0.650	0.000	0.000	21.309	0.000	0.13
		B		0.000	0.000	20.405	0.000	0.17
		C		0.000	0.000	24.466	0.000	0.23

Feed Line Center of Pressure

Section	Elevation	CP _x	CP _z	CP _x	CP _z
	ft	in	in	Ice in	Ice in
L1	120.00-115.00	0.0000	3.0109	0.0000	3.0354
L2	115.00-110.00	-1.5261	-0.2799	-1.3205	0.0380
L3	110.00-105.00	-2.2323	-1.7713	-1.9159	-1.2748
L4	105.00-100.00	-0.8759	-2.9192	-0.5001	-2.5642
L5	100.00-99.25	-0.1326	-2.4131	0.0051	-2.2499
L6	99.25-99.00	-0.1326	-2.4196	0.0053	-2.2564
L7	99.00-94.00	-0.1320	-2.4477	0.0067	-2.2861
L8	94.00-90.08	-1.0050	-2.2807	-0.6619	-2.2047
L9	90.08-89.83	-1.6546	-2.1420	-1.2064	-2.1165
L10	89.83-89.50	-1.6570	-2.1451	-1.2083	-2.1197
L11	89.50-89.25	-1.6604	-2.1495	-1.2108	-2.1240
L12	89.25-84.25	-1.6104	-2.2038	-1.1191	-2.1941
L13	84.25-78.00	-1.5541	-1.9979	-1.0114	-2.0592
L14	78.00-77.00	-0.8763	-2.0878	-0.5179	-2.1043
L15	77.00-76.75	-0.8790	-2.0942	-0.5211	-2.1106
L16	76.75-76.50	-0.8802	-2.0972	-0.5219	-2.1136
L17	76.50-75.50	-0.8829	-2.1036	-0.5236	-2.1203
L18	75.50-75.25	-0.8852	-2.1090	-0.5252	-2.1261
L19	75.25-74.50	-0.4731	-1.7909	-0.1960	-1.8668
L20	74.50-74.25	0.2914	-1.1979	0.4234	-1.3755
L21	74.25-72.00	0.3435	-0.9572	0.4843	-1.1818
L22	72.00-71.75	0.2786	-1.5467	0.3828	-1.6760
L23	71.75-70.50	0.2801	-1.5528	0.3846	-1.6823
L24	70.50-70.25	0.2816	-1.5590	0.3863	-1.6887
L25	70.25-70.00	0.2821	-1.5611	0.3868	-1.6908
L26	70.00-69.75	0.2826	-1.5630	0.3874	-1.6928
L27	69.75-69.50	0.2831	-1.5653	0.3880	-1.6953
L28	69.50-69.25	0.2836	-1.5671	0.3885	-1.6971
L29	69.25-64.25	0.7189	-1.6081	0.7663	-1.7673
L30	64.25-59.25	1.6229	-1.7241	1.5067	-1.8950
L31	59.25-56.00	2.2404	-2.1129	2.0571	-2.2262
L32	56.00-55.75	0.3863	-2.5479	0.5027	-2.5908
L33	55.75-55.50	0.3868	-2.5509	0.5033	-2.5938
L34	55.50-55.25	0.3874	-2.5542	0.5039	-2.5972
L35	55.25-54.00	0.3891	-2.5632	0.5058	-2.6063
L36	54.00-53.75	0.3907	-2.5718	0.5075	-2.6150
L37	53.75-53.50	0.3912	-2.5747	0.5081	-2.6180
L38	53.50-53.25	0.3917	-2.5775	0.5086	-2.6208
L39	53.25-53.00	0.3922	-2.5802	0.5092	-2.6236
L40	53.00-48.00	-0.0454	-3.2622	0.1581	-3.2242
L41	48.00-39.75	-0.5878	-3.1403	-0.2889	-3.0856
L42	39.75-38.75	-1.2396	-2.5230	-0.8444	-2.5283
L43	38.75-34.75	-0.8641	-2.7149	-0.5513	-2.7004
L44	34.75-34.50	-0.6226	-2.8443	-0.3563	-2.8197
L45	34.50-33.75	-0.6238	-2.8503	-0.3573	-2.8256
L46	33.75-33.50	-0.6248	-2.8554	-0.3582	-2.8307
L47	33.50-28.50	-0.9916	-2.7292	-0.6548	-2.7197
L48	28.50-24.00	-1.2498	-2.6054	-0.8672	-2.6235
L49	24.00-23.75	-1.1480	-2.5253	-0.8000	-2.5702
L50	23.75-18.75	-1.1589	-2.5499	-0.8109	-2.5948
L51	18.75-14.25	-1.0222	-2.6749	-0.7009	-2.7111
L52	14.25-14.00	-0.6480	-2.8931	-0.3868	-2.9111
L53	14.00-9.00	-0.6538	-2.9213	-0.3954	-2.9381
L54	9.00-5.00	-0.0575	-1.7140	0.1277	-1.8985
L55	5.00-4.75	0.2936	-1.1994	0.4278	-1.4596
L56	4.75-4.50	0.2938	-1.2001	0.4269	-1.4599
L57	4.50-0.00	-0.0023	-0.7747	0.1651	-1.1100

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	4	HB158-21U6S24-xxM_TMO(1-5/8)	115.00 - 120.00	1.0000	1.0000
L2	4	HB158-21U6S24-xxM_TMO(1-5/8)	110.00 - 115.00	1.0000	1.0000
L2	7	LDF7-50A(1-5/8)	110.00 - 113.00	1.0000	1.0000
L3	4	HB158-21U6S24-xxM_TMO(1-5/8)	105.00 - 110.00	1.0000	1.0000
L3	7	LDF7-50A(1-5/8)	105.00 - 110.00	1.0000	1.0000
L4	4	HB158-21U6S24-xxM_TMO(1-5/8)	100.00 - 105.00	1.0000	1.0000
L4	7	LDF7-50A(1-5/8)	100.00 - 105.00	1.0000	1.0000
L4	9	HCS 6X12 6AWG(1-3/8)	100.00 - 105.00	1.0000	1.0000
L4	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	100.00 - 105.00	1.0000	1.0000
L4	74	PL 1.25x4	100.00 - 100.75	1.0000	1.0000
L4	75	PL 1.25x4	100.00 - 100.75	1.0000	1.0000
L4	76	PL 1.25x4	100.00 - 100.75	1.0000	1.0000
L5	4	HB158-21U6S24-xxM_TMO(1-5/8)	99.25 - 100.00	1.0000	1.0000
L5	7	LDF7-50A(1-5/8)	99.25 - 100.00	1.0000	1.0000
L5	9	HCS 6X12 6AWG(1-3/8)	99.25 - 100.00	1.0000	1.0000
L5	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	99.25 - 100.00	1.0000	1.0000
L5	74	PL 1.25x4	99.25 - 100.00	1.0000	1.0000
L5	75	PL 1.25x4	99.25 - 100.00	1.0000	1.0000
L5	76	PL 1.25x4	99.25 - 100.00	1.0000	1.0000
L6	4	HB158-21U6S24-xxM_TMO(1-5/8)	99.00 - 99.25	1.0000	1.0000
L6	7	LDF7-50A(1-5/8)	99.00 - 99.25	1.0000	1.0000
L6	9	HCS 6X12 6AWG(1-3/8)	99.00 - 99.25	1.0000	1.0000
L6	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	99.00 - 99.25	1.0000	1.0000
L6	74	PL 1.25x4	99.00 - 99.25	1.0000	1.0000
L6	75	PL 1.25x4	99.00 - 99.25	1.0000	1.0000
L6	76	PL 1.25x4	99.00 - 99.25	1.0000	1.0000
L7	4	HB158-21U6S24-xxM_TMO(1-5/8)	94.00 - 99.00	1.0000	1.0000
L7	7	LDF7-50A(1-5/8)	94.00 - 99.00	1.0000	1.0000
L7	9	HCS 6X12 6AWG(1-3/8)	94.00 - 99.00	1.0000	1.0000
L7	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	94.00 - 99.00	1.0000	1.0000
L7	74	PL 1.25x4	94.00 - 99.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L7	75	PL 1.25x4	94.00 - 99.00	1.0000	1.0000
L7	76	PL 1.25x4	94.00 - 99.00	1.0000	1.0000
L8	4	HB158-21U6S24-xxM_TMO(1-5/8)	90.08 - 94.00	1.0000	1.0000
L8	7	LDF7-50A(1-5/8)	90.08 - 94.00	1.0000	1.0000
L8	9	HCS 6X12 6AWG(1-3/8)	90.08 - 94.00	1.0000	1.0000
L8	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	90.08 - 94.00	1.0000	1.0000
L8	63	(Area) CCI-65FP-060100 (H)	90.08 - 92.00	1.0000	1.0000
L8	64	(Area) CCI-65FP-060100 (H)	90.08 - 92.00	1.0000	1.0000
L8	66	(Area) CCI-65FP-045100 (H)	90.08 - 92.08	1.0000	1.0000
L8	67	(Area) CCI-65FP-045100 (H)	90.08 - 92.08	1.0000	1.0000
L8	74	PL 1.25x4	90.08 - 94.00	1.0000	1.0000
L8	75	PL 1.25x4	90.08 - 94.00	1.0000	1.0000
L8	76	PL 1.25x4	90.08 - 94.00	1.0000	1.0000
L9	4	HB158-21U6S24-xxM_TMO(1-5/8)	89.83 - 90.08	1.0000	1.0000
L9	7	LDF7-50A(1-5/8)	89.83 - 90.08	1.0000	1.0000
L9	9	HCS 6X12 6AWG(1-3/8)	89.83 - 90.08	1.0000	1.0000
L9	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	89.83 - 90.08	1.0000	1.0000
L9	63	(Area) CCI-65FP-060100 (H)	89.83 - 90.08	1.0000	1.0000
L9	64	(Area) CCI-65FP-060100 (H)	89.83 - 90.08	1.0000	1.0000
L9	66	(Area) CCI-65FP-045100 (H)	89.83 - 90.08	1.0000	1.0000
L9	67	(Area) CCI-65FP-045100 (H)	89.83 - 90.08	1.0000	1.0000
L9	74	PL 1.25x4	89.83 - 90.08	1.0000	1.0000
L9	75	PL 1.25x4	89.83 - 90.08	1.0000	1.0000
L9	76	PL 1.25x4	89.83 - 90.08	1.0000	1.0000
L10	4	HB158-21U6S24-xxM_TMO(1-5/8)	89.50 - 89.83	1.0000	1.0000
L10	7	LDF7-50A(1-5/8)	89.50 - 89.83	1.0000	1.0000
L10	9	HCS 6X12 6AWG(1-3/8)	89.50 - 89.83	1.0000	1.0000
L10	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	89.50 - 89.83	1.0000	1.0000
L10	63	(Area) CCI-65FP-060100 (H)	89.50 - 89.83	1.0000	1.0000
L10	64	(Area) CCI-65FP-060100 (H)	89.50 - 89.83	1.0000	1.0000
L10	66	(Area) CCI-65FP-045100 (H)	89.50 - 89.83	1.0000	1.0000
L10	67	(Area) CCI-65FP-045100 (H)	89.50 - 89.83	1.0000	1.0000
L10	74	PL 1.25x4	89.50 - 89.83	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L10	75	PL 1.25x4	89.50 - 89.83	1.0000	1.0000
L10	76	PL 1.25x4	89.50 - 89.83	1.0000	1.0000
L11	4	HB158-21U6S24-xxM_TMO(1-5/8)	89.25 - 89.50	1.0000	1.0000
L11	7	LDF7-50A(1-5/8)	89.25 - 89.50	1.0000	1.0000
L11	9	HCS 6X12 6AWG(1-3/8)	89.25 - 89.50	1.0000	1.0000
L11	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	89.25 - 89.50	1.0000	1.0000
L11	63	(Area) CCI-65FP-060100 (H)	89.25 - 89.50	1.0000	1.0000
L11	64	(Area) CCI-65FP-060100 (H)	89.25 - 89.50	1.0000	1.0000
L11	66	(Area) CCI-65FP-045100 (H)	89.25 - 89.50	1.0000	1.0000
L11	67	(Area) CCI-65FP-045100 (H)	89.25 - 89.50	1.0000	1.0000
L11	74	PL 1.25x4	89.25 - 89.50	1.0000	1.0000
L11	75	PL 1.25x4	89.25 - 89.50	1.0000	1.0000
L11	76	PL 1.25x4	89.25 - 89.50	1.0000	1.0000
L12	4	HB158-21U6S24-xxM_TMO(1-5/8)	84.25 - 89.25	1.0000	1.0000
L12	7	LDF7-50A(1-5/8)	84.25 - 89.25	1.0000	1.0000
L12	9	HCS 6X12 6AWG(1-3/8)	84.25 - 89.25	1.0000	1.0000
L12	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	84.25 - 89.25	1.0000	1.0000
L12	23	CU12PSM9P8XXX(1-3/8)	84.25 - 86.00	1.0000	1.0000
L12	63	(Area) CCI-65FP-060100 (H)	84.25 - 89.25	1.0000	1.0000
L12	64	(Area) CCI-65FP-060100 (H)	84.25 - 89.25	1.0000	1.0000
L12	66	(Area) CCI-65FP-045100 (H)	84.25 - 89.25	1.0000	1.0000
L12	67	(Area) CCI-65FP-045100 (H)	84.25 - 89.25	1.0000	1.0000
L12	74	PL 1.25x4	84.25 - 89.25	1.0000	1.0000
L12	75	PL 1.25x4	84.25 - 89.25	1.0000	1.0000
L12	76	PL 1.25x4	84.25 - 89.25	1.0000	1.0000
L13	4	HB158-21U6S24-xxM_TMO(1-5/8)	78.00 - 84.25	1.0000	1.0000
L13	7	LDF7-50A(1-5/8)	78.00 - 84.25	1.0000	1.0000
L13	9	HCS 6X12 6AWG(1-3/8)	78.00 - 84.25	1.0000	1.0000
L13	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	78.00 - 84.25	1.0000	1.0000
L13	23	CU12PSM9P8XXX(1-3/8)	78.00 - 84.25	1.0000	1.0000
L13	63	(Area) CCI-65FP-060100 (H)	78.00 - 84.25	1.0000	1.0000
L13	64	(Area) CCI-65FP-060100 (H)	78.00 - 84.25	1.0000	1.0000
L13	66	(Area) CCI-65FP-045100 (H)	78.00 - 84.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L13	67	(Area) CCI-65FP-045100 (H)	78.00 - 84.25	1.0000	1.0000
L13	74	PL 1.25x4	78.00 - 84.25	1.0000	1.0000
L13	75	PL 1.25x4	78.00 - 84.25	1.0000	1.0000
L13	76	PL 1.25x4	78.00 - 84.25	1.0000	1.0000
L13	78	PL 1.25x4	78.00 - 80.00	1.0000	1.0000
L13	79	PL 1.25x4	78.00 - 78.25	1.0000	1.0000
L13	80	PL 1.25x4	78.00 - 80.00	1.0000	1.0000
L13	81	PL 1.25x4	78.00 - 80.00	1.0000	1.0000
L14	4	HB158-21U6S24- xxM_TMO(1-5/8)	77.00 - 78.00	1.0000	1.0000
L14	7	LDF7-50A(1-5/8)	77.00 - 78.00	1.0000	1.0000
L14	9	HCS 6X12 6AWG(1-3/8)	77.00 - 78.00	1.0000	1.0000
L14	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	77.00 - 78.00	1.0000	1.0000
L14	23	CU12PSM9P8XXX(1-3/8)	77.00 - 78.00	1.0000	1.0000
L14	63	(Area) CCI-65FP-060100 (H)	77.00 - 78.00	1.0000	1.0000
L14	64	(Area) CCI-65FP-060100 (H)	77.00 - 78.00	1.0000	1.0000
L14	66	(Area) CCI-65FP-045100 (H)	77.00 - 78.00	1.0000	1.0000
L14	67	(Area) CCI-65FP-045100 (H)	77.00 - 78.00	1.0000	1.0000
L14	74	PL 1.25x4	77.00 - 78.00	1.0000	1.0000
L14	75	PL 1.25x4	77.00 - 78.00	1.0000	1.0000
L14	76	PL 1.25x4	77.00 - 78.00	1.0000	1.0000
L14	78	PL 1.25x4	77.00 - 78.00	1.0000	1.0000
L14	79	PL 1.25x4	77.00 - 78.00	1.0000	1.0000
L14	80	PL 1.25x4	77.00 - 78.00	1.0000	1.0000
L14	81	PL 1.25x4	77.00 - 78.00	1.0000	1.0000
L15	4	HB158-21U6S24- xxM_TMO(1-5/8)	76.75 - 77.00	1.0000	1.0000
L15	7	LDF7-50A(1-5/8)	76.75 - 77.00	1.0000	1.0000
L15	9	HCS 6X12 6AWG(1-3/8)	76.75 - 77.00	1.0000	1.0000
L15	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	76.75 - 77.00	1.0000	1.0000
L15	23	CU12PSM9P8XXX(1-3/8)	76.75 - 77.00	1.0000	1.0000
L15	63	(Area) CCI-65FP-060100 (H)	76.75 - 77.00	1.0000	1.0000
L15	64	(Area) CCI-65FP-060100 (H)	76.75 - 77.00	1.0000	1.0000
L15	66	(Area) CCI-65FP-045100 (H)	76.75 - 77.00	1.0000	1.0000
L15	67	(Area) CCI-65FP-045100 (H)	76.75 - 77.00	1.0000	1.0000
L15	74	PL 1.25x4	76.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L15	75	PL 1.25x4	77.00 76.75 - 77.00	1.0000	1.0000
L15	76	PL 1.25x4	76.75 - 77.00	1.0000	1.0000
L15	78	PL 1.25x4	76.75 - 77.00	1.0000	1.0000
L15	79	PL 1.25x4	76.75 - 77.00	1.0000	1.0000
L15	80	PL 1.25x4	76.75 - 77.00	1.0000	1.0000
L15	81	PL 1.25x4	76.75 - 77.00	1.0000	1.0000
L16	4	HB158-21U6S24-xxM_TMO(1-5/8)	76.50 - 76.75	1.0000	1.0000
L16	7	LDF7-50A(1-5/8)	76.50 - 76.75	1.0000	1.0000
L16	9	HCS 6X12 6AWG(1-3/8)	76.50 - 76.75	1.0000	1.0000
L16	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	76.50 - 76.75	1.0000	1.0000
L16	23	CU12PSM9P8XXX(1-3/8)	76.50 - 76.75	1.0000	1.0000
L16	63	(Area) CCI-65FP-060100 (H)	76.50 - 76.75	1.0000	1.0000
L16	64	(Area) CCI-65FP-060100 (H)	76.50 - 76.75	1.0000	1.0000
L16	66	(Area) CCI-65FP-045100 (H)	76.50 - 76.75	1.0000	1.0000
L16	67	(Area) CCI-65FP-045100 (H)	76.50 - 76.75	1.0000	1.0000
L16	74	PL 1.25x4	76.50 - 76.75	1.0000	1.0000
L16	75	PL 1.25x4	76.50 - 76.75	1.0000	1.0000
L16	76	PL 1.25x4	76.50 - 76.75	1.0000	1.0000
L16	78	PL 1.25x4	76.50 - 76.75	1.0000	1.0000
L16	79	PL 1.25x4	76.50 - 76.75	1.0000	1.0000
L16	80	PL 1.25x4	76.50 - 76.75	1.0000	1.0000
L16	81	PL 1.25x4	76.50 - 76.75	1.0000	1.0000
L17	4	HB158-21U6S24-xxM_TMO(1-5/8)	75.50 - 76.50	1.0000	1.0000
L17	7	LDF7-50A(1-5/8)	75.50 - 76.50	1.0000	1.0000
L17	9	HCS 6X12 6AWG(1-3/8)	75.50 - 76.50	1.0000	1.0000
L17	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	75.50 - 76.50	1.0000	1.0000
L17	23	CU12PSM9P8XXX(1-3/8)	75.50 - 76.50	1.0000	1.0000
L17	63	(Area) CCI-65FP-060100 (H)	75.50 - 76.50	1.0000	1.0000
L17	64	(Area) CCI-65FP-060100 (H)	75.50 - 76.50	1.0000	1.0000
L17	66	(Area) CCI-65FP-045100 (H)	75.50 - 76.50	1.0000	1.0000
L17	67	(Area) CCI-65FP-045100 (H)	75.50 - 76.50	1.0000	1.0000
L17	74	PL 1.25x4	75.50 - 76.50	1.0000	1.0000
L17	75	PL 1.25x4	75.50 - 76.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L17	76	PL 1.25x4	75.50 - 76.50	1.0000	1.0000
L17	78	PL 1.25x4	75.50 - 76.50	1.0000	1.0000
L17	79	PL 1.25x4	75.50 - 76.50	1.0000	1.0000
L17	80	PL 1.25x4	75.50 - 76.50	1.0000	1.0000
L17	81	PL 1.25x4	75.50 - 76.50	1.0000	1.0000
L18	4	HB158-21U6S24-xxM_TMO(1-5/8)	75.25 - 75.50	1.0000	1.0000
L18	7	LDF7-50A(1-5/8)	75.25 - 75.50	1.0000	1.0000
L18	9	HCS 6X12 6AWG(1-3/8)	75.25 - 75.50	1.0000	1.0000
L18	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	75.25 - 75.50	1.0000	1.0000
L18	23	CU12PSM9P8XXX(1-3/8)	75.25 - 75.50	1.0000	1.0000
L18	63	(Area) CCI-65FP-060100 (H)	75.25 - 75.50	1.0000	1.0000
L18	64	(Area) CCI-65FP-060100 (H)	75.25 - 75.50	1.0000	1.0000
L18	66	(Area) CCI-65FP-045100 (H)	75.25 - 75.50	1.0000	1.0000
L18	67	(Area) CCI-65FP-045100 (H)	75.25 - 75.50	1.0000	1.0000
L18	74	PL 1.25x4	75.25 - 75.50	1.0000	1.0000
L18	75	PL 1.25x4	75.25 - 75.50	1.0000	1.0000
L18	76	PL 1.25x4	75.25 - 75.50	1.0000	1.0000
L18	78	PL 1.25x4	75.25 - 75.50	1.0000	1.0000
L18	79	PL 1.25x4	75.25 - 75.50	1.0000	1.0000
L18	80	PL 1.25x4	75.25 - 75.50	1.0000	1.0000
L18	81	PL 1.25x4	75.25 - 75.50	1.0000	1.0000
L19	4	HB158-21U6S24-xxM_TMO(1-5/8)	74.50 - 75.25	1.0000	1.0000
L19	7	LDF7-50A(1-5/8)	74.50 - 75.25	1.0000	1.0000
L19	9	HCS 6X12 6AWG(1-3/8)	74.50 - 75.25	1.0000	1.0000
L19	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	74.50 - 75.25	1.0000	1.0000
L19	23	CU12PSM9P8XXX(1-3/8)	74.50 - 75.25	1.0000	1.0000
L19	61	(Area) CCI-65FP-065125 (H)	74.50 - 74.75	1.0000	1.0000
L19	63	(Area) CCI-65FP-060100 (H)	74.50 - 75.25	1.0000	1.0000
L19	64	(Area) CCI-65FP-060100 (H)	74.50 - 75.25	1.0000	1.0000
L19	66	(Area) CCI-65FP-045100 (H)	74.50 - 75.25	1.0000	1.0000
L19	67	(Area) CCI-65FP-045100 (H)	74.50 - 75.25	1.0000	1.0000
L19	74	PL 1.25x4	74.50 - 75.25	1.0000	1.0000
L19	75	PL 1.25x4	74.50 - 75.25	1.0000	1.0000
L19	76	PL 1.25x4	74.50 - 75.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L19	78	PL 1.25x4	75.25 74.50 -	1.0000	1.0000
L19	79	PL 1.25x4	75.25 74.50 -	1.0000	1.0000
L19	80	PL 1.25x4	75.25 74.50 -	1.0000	1.0000
L19	81	PL 1.25x4	75.25 74.50 -	1.0000	1.0000
L20	4	HB158-21U6S24-xxM_TMO(1-5/8)	74.25 - 74.50	1.0000	1.0000
L20	7	LDF7-50A(1-5/8)	74.25 - 74.50	1.0000	1.0000
L20	9	HCS 6X12 6AWG(1-3/8)	74.25 - 74.50	1.0000	1.0000
L20	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	74.25 - 74.50	1.0000	1.0000
L20	23	CU12PSM9P8XXX(1-3/8)	74.25 - 74.50	1.0000	1.0000
L20	61	(Area) CCI-65FP-065125 (H)	74.25 - 74.50	1.0000	1.0000
L20	63	(Area) CCI-65FP-060100 (H)	74.25 - 74.50	1.0000	1.0000
L20	64	(Area) CCI-65FP-060100 (H)	74.25 - 74.50	1.0000	1.0000
L20	66	(Area) CCI-65FP-045100 (H)	74.25 - 74.50	1.0000	1.0000
L20	67	(Area) CCI-65FP-045100 (H)	74.25 - 74.50	1.0000	1.0000
L20	74	PL 1.25x4	74.25 - 74.50	1.0000	1.0000
L20	75	PL 1.25x4	74.25 - 74.50	1.0000	1.0000
L20	76	PL 1.25x4	74.25 - 74.50	1.0000	1.0000
L20	78	PL 1.25x4	74.25 - 74.50	1.0000	1.0000
L20	79	PL 1.25x4	74.25 - 74.50	1.0000	1.0000
L20	80	PL 1.25x4	74.25 - 74.50	1.0000	1.0000
L20	81	PL 1.25x4	74.25 - 74.50	1.0000	1.0000
L21	4	HB158-21U6S24-xxM_TMO(1-5/8)	72.00 - 74.25	1.0000	1.0000
L21	7	LDF7-50A(1-5/8)	72.00 - 74.25	1.0000	1.0000
L21	9	HCS 6X12 6AWG(1-3/8)	72.00 - 74.25	1.0000	1.0000
L21	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	72.00 - 74.25	1.0000	1.0000
L21	23	CU12PSM9P8XXX(1-3/8)	72.00 - 74.25	1.0000	1.0000
L21	61	(Area) CCI-65FP-065125 (H)	72.00 - 74.25	1.0000	1.0000
L21	63	(Area) CCI-65FP-060100 (H)	72.00 - 74.25	1.0000	1.0000
L21	64	(Area) CCI-65FP-060100 (H)	72.00 - 74.25	1.0000	1.0000
L21	66	(Area) CCI-65FP-045100 (H)	72.00 - 74.25	1.0000	1.0000
L21	67	(Area) CCI-65FP-045100 (H)	72.00 - 74.25	1.0000	1.0000
L21	74	PL 1.25x4	74.00 - 74.25	1.0000	1.0000
L21	75	PL 1.25x4	74.00 - 74.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L21	76	PL 1.25x4	73.00 - 74.25	1.0000	1.0000
L21	78	PL 1.25x4	72.00 - 74.25	1.0000	1.0000
L21	79	PL 1.25x4	72.00 - 74.25	1.0000	1.0000
L21	80	PL 1.25x4	72.00 - 74.25	1.0000	1.0000
L21	81	PL 1.25x4	72.00 - 74.25	1.0000	1.0000
L22	4	HB158-21U6S24-xxM_TMO(1-5/8)	71.75 - 72.00	1.0000	1.0000
L22	7	LDF7-50A(1-5/8)	71.75 - 72.00	1.0000	1.0000
L22	9	HCS 6X12 6AWG(1-3/8)	71.75 - 72.00	1.0000	1.0000
L22	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	71.75 - 72.00	1.0000	1.0000
L22	23	CU12PSM9P8XXX(1-3/8)	71.75 - 72.00	1.0000	1.0000
L22	42	PL 1 x 5	71.75 - 72.00	1.0000	1.0000
L22	43	PL 1 x 5	71.75 - 72.00	1.0000	1.0000
L22	44	PL 1 x 5	71.75 - 72.00	1.0000	1.0000
L22	45	PL 1 x 5	71.75 - 72.00	1.0000	1.0000
L22	57	(Area) CCI-65FP-045100 (H)	71.75 - 72.00	1.0000	1.0000
L22	58	(Area) CCI-65FP-045100 (H)	71.75 - 72.00	1.0000	1.0000
L22	59	(Area) CCI-65FP-045100 (H)	71.75 - 72.00	1.0000	1.0000
L22	61	(Area) CCI-65FP-065125 (H)	71.75 - 72.00	1.0000	1.0000
L22	63	(Area) CCI-65FP-060100 (H)	71.75 - 72.00	1.0000	1.0000
L22	64	(Area) CCI-65FP-060100 (H)	71.75 - 72.00	1.0000	1.0000
L22	66	(Area) CCI-65FP-045100 (H)	71.75 - 72.00	1.0000	1.0000
L22	67	(Area) CCI-65FP-045100 (H)	71.75 - 72.00	1.0000	1.0000
L22	78	PL 1.25x4	71.75 - 72.00	1.0000	1.0000
L22	79	PL 1.25x4	71.75 - 72.00	1.0000	1.0000
L22	80	PL 1.25x4	71.75 - 72.00	1.0000	1.0000
L22	81	PL 1.25x4	71.75 - 72.00	1.0000	1.0000
L23	4	HB158-21U6S24-xxM_TMO(1-5/8)	70.50 - 71.75	1.0000	1.0000
L23	7	LDF7-50A(1-5/8)	70.50 - 71.75	1.0000	1.0000
L23	9	HCS 6X12 6AWG(1-3/8)	70.50 - 71.75	1.0000	1.0000
L23	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	70.50 - 71.75	1.0000	1.0000
L23	23	CU12PSM9P8XXX(1-3/8)	70.50 - 71.75	1.0000	1.0000
L23	42	PL 1 x 5	70.50 - 71.75	1.0000	1.0000
L23	43	PL 1 x 5	70.50 - 71.75	1.0000	1.0000
L23	44	PL 1 x 5	70.50 - 71.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L23	45	PL 1 x 5	71.75 70.50 -	1.0000	1.0000
L23	57	(Area) CCI-65FP-045100 (H)	71.75 70.50 -	1.0000	1.0000
L23	58	(Area) CCI-65FP-045100 (H)	71.75 70.50 -	1.0000	1.0000
L23	59	(Area) CCI-65FP-045100 (H)	71.75 70.50 -	1.0000	1.0000
L23	61	(Area) CCI-65FP-065125 (H)	71.75 70.50 -	1.0000	1.0000
L23	63	(Area) CCI-65FP-060100 (H)	71.75 70.50 -	1.0000	1.0000
L23	64	(Area) CCI-65FP-060100 (H)	71.75 70.50 -	1.0000	1.0000
L23	66	(Area) CCI-65FP-045100 (H)	71.75 70.50 -	1.0000	1.0000
L23	67	(Area) CCI-65FP-045100 (H)	71.75 70.50 -	1.0000	1.0000
L23	78	PL 1.25x4	70.50 - 71.75	1.0000	1.0000
L23	79	PL 1.25x4	70.50 - 71.75	1.0000	1.0000
L23	80	PL 1.25x4	70.50 - 71.75	1.0000	1.0000
L23	81	PL 1.25x4	70.50 - 71.75	1.0000	1.0000
L24	4	HB158-21U6S24- xxM_TMO(1-5/8)	70.25 - 70.50	1.0000	1.0000
L24	7	LDF7-50A(1-5/8)	70.25 - 70.50	1.0000	1.0000
L24	9	HCS 6X12 6AWG(1-3/8)	70.25 - 70.50	1.0000	1.0000
L24	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	70.25 - 70.50	1.0000	1.0000
L24	23	CU12PSM9P8XXX(1-3/8)	70.25 - 70.50	1.0000	1.0000
L24	42	PL 1 x 5	70.25 - 70.50	1.0000	1.0000
L24	43	PL 1 x 5	70.25 - 70.50	1.0000	1.0000
L24	44	PL 1 x 5	70.25 - 70.50	1.0000	1.0000
L24	45	PL 1 x 5	70.25 - 70.50	1.0000	1.0000
L24	57	(Area) CCI-65FP-045100 (H)	70.25 - 70.50	1.0000	1.0000
L24	58	(Area) CCI-65FP-045100 (H)	70.25 - 70.50	1.0000	1.0000
L24	59	(Area) CCI-65FP-045100 (H)	70.25 - 70.50	1.0000	1.0000
L24	61	(Area) CCI-65FP-065125 (H)	70.25 - 70.50	1.0000	1.0000
L24	63	(Area) CCI-65FP-060100 (H)	70.25 - 70.50	1.0000	1.0000
L24	64	(Area) CCI-65FP-060100 (H)	70.25 - 70.50	1.0000	1.0000
L24	66	(Area) CCI-65FP-045100 (H)	70.25 - 70.50	1.0000	1.0000
L24	67	(Area) CCI-65FP-045100 (H)	70.25 - 70.50	1.0000	1.0000
L24	78	PL 1.25x4	70.25 - 70.50	1.0000	1.0000
L24	79	PL 1.25x4	70.25 - 70.50	1.0000	1.0000
L24	80	PL 1.25x4	70.25 - 70.50	1.0000	1.0000
L24	81	PL 1.25x4	70.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L25	4	HB158-21U6S24-xxM_TMO(1-5/8)	70.50 70.00 - 70.25	1.0000	1.0000
L25	7	LDF7-50A(1-5/8)	70.00 - 70.25	1.0000	1.0000
L25	9	HCS 6X12 6AWG(1-3/8)	70.00 - 70.25	1.0000	1.0000
L25	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	70.00 - 70.25	1.0000	1.0000
L25	23	CU12PSM9P8XXX(1-3/8)	70.00 - 70.25	1.0000	1.0000
L25	42	PL 1 x 5	70.00 - 70.25	1.0000	1.0000
L25	43	PL 1 x 5	70.00 - 70.25	1.0000	1.0000
L25	44	PL 1 x 5	70.00 - 70.25	1.0000	1.0000
L25	45	PL 1 x 5	70.00 - 70.25	1.0000	1.0000
L25	57	(Area) CCI-65FP-045100 (H)	70.00 - 70.25	1.0000	1.0000
L25	58	(Area) CCI-65FP-045100 (H)	70.00 - 70.25	1.0000	1.0000
L25	59	(Area) CCI-65FP-045100 (H)	70.00 - 70.25	1.0000	1.0000
L25	61	(Area) CCI-65FP-065125 (H)	70.00 - 70.25	1.0000	1.0000
L25	63	(Area) CCI-65FP-060100 (H)	70.00 - 70.25	1.0000	1.0000
L25	64	(Area) CCI-65FP-060100 (H)	70.00 - 70.25	1.0000	1.0000
L25	66	(Area) CCI-65FP-045100 (H)	70.00 - 70.25	1.0000	1.0000
L25	67	(Area) CCI-65FP-045100 (H)	70.00 - 70.25	1.0000	1.0000
L25	78	PL 1.25x4	70.00 - 70.25	1.0000	1.0000
L25	79	PL 1.25x4	70.00 - 70.25	1.0000	1.0000
L25	80	PL 1.25x4	70.00 - 70.25	1.0000	1.0000
L25	81	PL 1.25x4	70.00 - 70.25	1.0000	1.0000
L26	4	HB158-21U6S24-xxM_TMO(1-5/8)	69.75 - 70.00	1.0000	1.0000
L26	7	LDF7-50A(1-5/8)	69.75 - 70.00	1.0000	1.0000
L26	9	HCS 6X12 6AWG(1-3/8)	69.75 - 70.00	1.0000	1.0000
L26	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	69.75 - 70.00	1.0000	1.0000
L26	23	CU12PSM9P8XXX(1-3/8)	69.75 - 70.00	1.0000	1.0000
L26	42	PL 1 x 5	69.75 - 70.00	1.0000	1.0000
L26	43	PL 1 x 5	69.75 - 70.00	1.0000	1.0000
L26	44	PL 1 x 5	69.75 - 70.00	1.0000	1.0000
L26	45	PL 1 x 5	69.75 - 70.00	1.0000	1.0000
L26	57	(Area) CCI-65FP-045100 (H)	69.75 - 70.00	1.0000	1.0000
L26	58	(Area) CCI-65FP-045100 (H)	69.75 - 70.00	1.0000	1.0000
L26	59	(Area) CCI-65FP-045100 (H)	69.75 - 70.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L26	61	(Area) CCI-65FP-065125 (H)	69.75 - 70.00	1.0000	1.0000
L26	63	(Area) CCI-65FP-060100 (H)	69.75 - 70.00	1.0000	1.0000
L26	64	(Area) CCI-65FP-060100 (H)	69.75 - 70.00	1.0000	1.0000
L26	66	(Area) CCI-65FP-045100 (H)	69.75 - 70.00	1.0000	1.0000
L26	67	(Area) CCI-65FP-045100 (H)	69.75 - 70.00	1.0000	1.0000
L26	78	PL 1.25x4	69.75 - 70.00	1.0000	1.0000
L26	79	PL 1.25x4	69.75 - 70.00	1.0000	1.0000
L26	80	PL 1.25x4	69.75 - 70.00	1.0000	1.0000
L26	81	PL 1.25x4	69.75 - 70.00	1.0000	1.0000
L27	4	HB158-21U6S24- xxM_TMO(1-5/8)	69.50 - 69.75	1.0000	1.0000
L27	7	LDF7-50A(1-5/8)	69.50 - 69.75	1.0000	1.0000
L27	9	HCS 6X12 6AWG(1-3/8)	69.50 - 69.75	1.0000	1.0000
L27	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	69.50 - 69.75	1.0000	1.0000
L27	23	CU12PSM9P8XXX(1-3/8)	69.50 - 69.75	1.0000	1.0000
L27	42	PL 1 x 5	69.50 - 69.75	1.0000	1.0000
L27	43	PL 1 x 5	69.50 - 69.75	1.0000	1.0000
L27	44	PL 1 x 5	69.50 - 69.75	1.0000	1.0000
L27	45	PL 1 x 5	69.50 - 69.75	1.0000	1.0000
L27	57	(Area) CCI-65FP-045100 (H)	69.50 - 69.75	1.0000	1.0000
L27	58	(Area) CCI-65FP-045100 (H)	69.50 - 69.75	1.0000	1.0000
L27	59	(Area) CCI-65FP-045100 (H)	69.50 - 69.75	1.0000	1.0000
L27	61	(Area) CCI-65FP-065125 (H)	69.50 - 69.75	1.0000	1.0000
L27	63	(Area) CCI-65FP-060100 (H)	69.50 - 69.75	1.0000	1.0000
L27	64	(Area) CCI-65FP-060100 (H)	69.50 - 69.75	1.0000	1.0000
L27	66	(Area) CCI-65FP-045100 (H)	69.50 - 69.75	1.0000	1.0000
L27	67	(Area) CCI-65FP-045100 (H)	69.50 - 69.75	1.0000	1.0000
L27	78	PL 1.25x4	69.50 - 69.75	1.0000	1.0000
L27	79	PL 1.25x4	69.50 - 69.75	1.0000	1.0000
L27	80	PL 1.25x4	69.50 - 69.75	1.0000	1.0000
L27	81	PL 1.25x4	69.50 - 69.75	1.0000	1.0000
L28	4	HB158-21U6S24- xxM_TMO(1-5/8)	69.25 - 69.50	1.0000	1.0000
L28	7	LDF7-50A(1-5/8)	69.25 - 69.50	1.0000	1.0000
L28	9	HCS 6X12 6AWG(1-3/8)	69.25 - 69.50	1.0000	1.0000
L28	10	MLE Hybrid 9Power/18Fiber RL 2(1	69.25 - 69.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L28	23	CU12PSM9P8XXX(1-3/8) 5/8")	69.25 - 69.50	1.0000	1.0000
L28	42	PL 1 x 5	69.25 - 69.50	1.0000	1.0000
L28	43	PL 1 x 5	69.25 - 69.50	1.0000	1.0000
L28	44	PL 1 x 5	69.25 - 69.50	1.0000	1.0000
L28	45	PL 1 x 5	69.25 - 69.50	1.0000	1.0000
L28	57	(Area) CCI-65FP-045100 (H)	69.25 - 69.50	1.0000	1.0000
L28	58	(Area) CCI-65FP-045100 (H)	69.25 - 69.50	1.0000	1.0000
L28	59	(Area) CCI-65FP-045100 (H)	69.25 - 69.50	1.0000	1.0000
L28	61	(Area) CCI-65FP-065125 (H)	69.25 - 69.50	1.0000	1.0000
L28	63	(Area) CCI-65FP-060100 (H)	69.25 - 69.50	1.0000	1.0000
L28	64	(Area) CCI-65FP-060100 (H)	69.25 - 69.50	1.0000	1.0000
L28	66	(Area) CCI-65FP-045100 (H)	69.25 - 69.50	1.0000	1.0000
L28	67	(Area) CCI-65FP-045100 (H)	69.25 - 69.50	1.0000	1.0000
L28	78	PL 1.25x4	69.25 - 69.50	1.0000	1.0000
L28	79	PL 1.25x4	69.25 - 69.50	1.0000	1.0000
L28	80	PL 1.25x4	69.25 - 69.50	1.0000	1.0000
L28	81	PL 1.25x4	69.25 - 69.50	1.0000	1.0000
L29	4	HB158-21U6S24- xxM_TMO(1-5/8)	64.25 - 69.25	1.0000	1.0000
L29	7	LDF7-50A(1-5/8)	64.25 - 69.25	1.0000	1.0000
L29	9	HCS 6X12 6AWG(1-3/8)	64.25 - 69.25	1.0000	1.0000
L29	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	64.25 - 69.25	1.0000	1.0000
L29	23	CU12PSM9P8XXX(1-3/8) 5/8")	64.25 - 69.25	1.0000	1.0000
L29	42	PL 1 x 5	64.25 - 69.25	1.0000	1.0000
L29	43	PL 1 x 5	64.25 - 69.25	1.0000	1.0000
L29	44	PL 1 x 5	64.25 - 69.25	1.0000	1.0000
L29	45	PL 1 x 5	64.25 - 69.25	1.0000	1.0000
L29	57	(Area) CCI-65FP-045100 (H)	64.25 - 69.25	1.0000	1.0000
L29	58	(Area) CCI-65FP-045100 (H)	64.25 - 69.25	1.0000	1.0000
L29	59	(Area) CCI-65FP-045100 (H)	64.25 - 69.25	1.0000	1.0000
L29	61	(Area) CCI-65FP-065125 (H)	64.25 - 69.25	1.0000	1.0000
L29	63	(Area) CCI-65FP-060100 (H)	67.00 - 69.25	1.0000	1.0000
L29	64	(Area) CCI-65FP-060100 (H)	67.00 - 69.25	1.0000	1.0000
L29	66	(Area) CCI-65FP-045100 (H)	68.00 - 69.25	1.0000	1.0000
L29	67	(Area) CCI-65FP-045100	68.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L29	78	(H) PL 1.25x4	69.25 68.50 - 69.25	1.0000	1.0000
L29	79	PL 1.25x4	68.25 - 69.25	1.0000	1.0000
L29	80	PL 1.25x4	68.25 - 69.25	1.0000	1.0000
L29	81	PL 1.25x4	68.25 - 69.25	1.0000	1.0000
L30	4	HB158-21U6S24- xxM_TMO(1-5/8)	59.25 - 64.25	1.0000	1.0000
L30	7	LDF7-50A(1-5/8)	59.25 - 64.25	1.0000	1.0000
L30	9	HCS 6X12 6AWG(1-3/8)	59.25 - 64.25	1.0000	1.0000
L30	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	59.25 - 64.25	1.0000	1.0000
L30	23	CU12PSM9P8XXX(1-3/8)	59.25 - 64.25	1.0000	1.0000
L30	42	PL 1 x 5	59.25 - 64.25	1.0000	1.0000
L30	43	PL 1 x 5	59.25 - 64.25	1.0000	1.0000
L30	44	PL 1 x 5	59.25 - 64.25	1.0000	1.0000
L30	45	PL 1 x 5	59.25 - 64.25	1.0000	1.0000
L30	57	(Area) CCI-65FP-045100 (H)	59.25 - 64.25	1.0000	1.0000
L30	58	(Area) CCI-65FP-045100 (H)	59.25 - 64.25	1.0000	1.0000
L30	59	(Area) CCI-65FP-045100 (H)	59.25 - 64.25	1.0000	1.0000
L30	61	(Area) CCI-65FP-065125 (H)	59.25 - 64.25	1.0000	1.0000
L31	4	HB158-21U6S24- xxM_TMO(1-5/8)	56.00 - 59.25	1.0000	1.0000
L31	7	LDF7-50A(1-5/8)	56.00 - 59.25	1.0000	1.0000
L31	9	HCS 6X12 6AWG(1-3/8)	56.00 - 59.25	1.0000	1.0000
L31	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	56.00 - 59.25	1.0000	1.0000
L31	23	CU12PSM9P8XXX(1-3/8)	56.00 - 59.25	1.0000	1.0000
L31	42	PL 1 x 5	56.00 - 59.25	1.0000	1.0000
L31	43	PL 1 x 5	56.00 - 59.25	1.0000	1.0000
L31	44	PL 1 x 5	56.00 - 59.25	1.0000	1.0000
L31	45	PL 1 x 5	56.00 - 59.25	1.0000	1.0000
L31	57	(Area) CCI-65FP-045100 (H)	56.00 - 59.25	1.0000	1.0000
L31	58	(Area) CCI-65FP-045100 (H)	56.00 - 59.25	1.0000	1.0000
L31	59	(Area) CCI-65FP-045100 (H)	56.00 - 59.25	1.0000	1.0000
L31	61	(Area) CCI-65FP-065125 (H)	56.00 - 59.25	1.0000	1.0000
L31	69	(Area) CCI-65FP-045100 (H)	56.00 - 57.50	1.0000	1.0000
L31	70	(Area) CCI-65FP-045100 (H)	56.00 - 57.50	1.0000	1.0000
L31	71	(Area) CCI-65FP-045100 (H)	56.00 - 57.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L31	72	(Area) CCI-65FP-045100 (H)	56.00 - 57.25	1.0000	1.0000
L32	4	HB158-21U6S24-xxM_TMO(1-5/8)	55.75 - 56.00	1.0000	1.0000
L32	7	LDF7-50A(1-5/8)	55.75 - 56.00	1.0000	1.0000
L32	9	HCS 6X12 6AWG(1-3/8)	55.75 - 56.00	1.0000	1.0000
L32	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	55.75 - 56.00	1.0000	1.0000
L32	23	CU12PSM9P8XXX(1-3/8)	55.75 - 56.00	1.0000	1.0000
L32	27	C6x10.5	55.75 - 56.00	1.0000	1.0000
L32	28	C6x10.5	55.75 - 56.00	1.0000	1.0000
L32	29	C6x10.5	55.75 - 56.00	1.0000	1.0000
L32	30	C6x10.5	55.75 - 56.00	1.0000	1.0000
L32	42	PL 1 x 5	55.75 - 56.00	1.0000	1.0000
L32	43	PL 1 x 5	55.75 - 56.00	1.0000	1.0000
L32	44	PL 1 x 5	55.75 - 56.00	1.0000	1.0000
L32	45	PL 1 x 5	55.75 - 56.00	1.0000	1.0000
L32	57	(Area) CCI-65FP-045100 (H)	55.75 - 56.00	1.0000	1.0000
L32	58	(Area) CCI-65FP-045100 (H)	55.75 - 56.00	1.0000	1.0000
L32	59	(Area) CCI-65FP-045100 (H)	55.75 - 56.00	1.0000	1.0000
L32	61	(Area) CCI-65FP-065125 (H)	55.75 - 56.00	1.0000	1.0000
L32	69	(Area) CCI-65FP-045100 (H)	55.75 - 56.00	1.0000	1.0000
L32	70	(Area) CCI-65FP-045100 (H)	55.75 - 56.00	1.0000	1.0000
L32	71	(Area) CCI-65FP-045100 (H)	55.75 - 56.00	1.0000	1.0000
L32	72	(Area) CCI-65FP-045100 (H)	55.75 - 56.00	1.0000	1.0000
L33	4	HB158-21U6S24-xxM_TMO(1-5/8)	55.50 - 55.75	1.0000	1.0000
L33	7	LDF7-50A(1-5/8)	55.50 - 55.75	1.0000	1.0000
L33	9	HCS 6X12 6AWG(1-3/8)	55.50 - 55.75	1.0000	1.0000
L33	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	55.50 - 55.75	1.0000	1.0000
L33	23	CU12PSM9P8XXX(1-3/8)	55.50 - 55.75	1.0000	1.0000
L33	27	C6x10.5	55.50 - 55.75	1.0000	1.0000
L33	28	C6x10.5	55.50 - 55.75	1.0000	1.0000
L33	29	C6x10.5	55.50 - 55.75	1.0000	1.0000
L33	30	C6x10.5	55.50 - 55.75	1.0000	1.0000
L33	42	PL 1 x 5	55.50 - 55.75	1.0000	1.0000
L33	43	PL 1 x 5	55.50 - 55.75	1.0000	1.0000
L33	44	PL 1 x 5	55.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L33	45	PL 1 x 5	55.75 55.50 -	1.0000	1.0000
L33	57	(Area) CCI-65FP-045100 (H)	55.75 55.50 -	1.0000	1.0000
L33	58	(Area) CCI-65FP-045100 (H)	55.75 55.50 -	1.0000	1.0000
L33	59	(Area) CCI-65FP-045100 (H)	55.75 55.50 -	1.0000	1.0000
L33	61	(Area) CCI-65FP-065125 (H)	55.75 55.50 -	1.0000	1.0000
L33	69	(Area) CCI-65FP-045100 (H)	55.75 55.50 -	1.0000	1.0000
L33	70	(Area) CCI-65FP-045100 (H)	55.75 55.50 -	1.0000	1.0000
L33	71	(Area) CCI-65FP-045100 (H)	55.75 55.50 -	1.0000	1.0000
L33	72	(Area) CCI-65FP-045100 (H)	55.75 55.50 -	1.0000	1.0000
L34	4	HB158-21U6S24- xxM_TMO(1-5/8)	55.25 - 55.50	1.0000	1.0000
L34	7	LDF7-50A(1-5/8)	55.25 - 55.50	1.0000	1.0000
L34	9	HCS 6X12 6AWG(1-3/8)	55.25 - 55.50	1.0000	1.0000
L34	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	55.25 - 55.50	1.0000	1.0000
L34	23	CU12PSM9P8XXX(1-3/8)	55.25 - 55.50	1.0000	1.0000
L34	27	C6x10.5	55.25 - 55.50	1.0000	1.0000
L34	28	C6x10.5	55.25 - 55.50	1.0000	1.0000
L34	29	C6x10.5	55.25 - 55.50	1.0000	1.0000
L34	30	C6x10.5	55.25 - 55.50	1.0000	1.0000
L34	42	PL 1 x 5	55.25 - 55.50	1.0000	1.0000
L34	43	PL 1 x 5	55.25 - 55.50	1.0000	1.0000
L34	44	PL 1 x 5	55.25 - 55.50	1.0000	1.0000
L34	45	PL 1 x 5	55.25 - 55.50	1.0000	1.0000
L34	57	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	1.0000	1.0000
L34	58	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	1.0000	1.0000
L34	59	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	1.0000	1.0000
L34	61	(Area) CCI-65FP-065125 (H)	55.25 - 55.50	1.0000	1.0000
L34	69	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	1.0000	1.0000
L34	70	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	1.0000	1.0000
L34	71	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	1.0000	1.0000
L34	72	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	1.0000	1.0000
L35	4	HB158-21U6S24- xxM_TMO(1-5/8)	54.00 - 55.25	1.0000	1.0000
L35	7	LDF7-50A(1-5/8)	54.00 - 55.25	1.0000	1.0000
L35	9	HCS 6X12 6AWG(1-3/8)	54.00 - 55.25	1.0000	1.0000
L35	10	MLE Hybrid	54.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
		9Power/18Fiber RL 2(1 5/8")	55.25		
L35	23	CU12PSM9P8XXX(1-3/8)	54.00 - 55.25	1.0000	1.0000
L35	27	C6x10.5	54.00 - 55.25	1.0000	1.0000
L35	28	C6x10.5	54.00 - 55.25	1.0000	1.0000
L35	29	C6x10.5	54.00 - 55.25	1.0000	1.0000
L35	30	C6x10.5	54.00 - 55.25	1.0000	1.0000
L35	42	PL 1 x 5	54.00 - 55.25	1.0000	1.0000
L35	43	PL 1 x 5	54.00 - 55.25	1.0000	1.0000
L35	44	PL 1 x 5	54.00 - 55.25	1.0000	1.0000
L35	45	PL 1 x 5	54.00 - 55.25	1.0000	1.0000
L35	57	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	1.0000	1.0000
L35	58	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	1.0000	1.0000
L35	59	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	1.0000	1.0000
L35	61	(Area) CCI-65FP-065125 (H)	54.00 - 55.25	1.0000	1.0000
L35	69	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	1.0000	1.0000
L35	70	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	1.0000	1.0000
L35	71	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	1.0000	1.0000
L35	72	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	1.0000	1.0000
L36	4	HB158-21U6S24- xxM_TMO(1-5/8)	53.75 - 54.00	1.0000	1.0000
L36	7	LDF7-50A(1-5/8)	53.75 - 54.00	1.0000	1.0000
L36	9	HCS 6X12 6AWG(1-3/8)	53.75 - 54.00	1.0000	1.0000
L36	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	53.75 - 54.00	1.0000	1.0000
L36	23	CU12PSM9P8XXX(1-3/8)	53.75 - 54.00	1.0000	1.0000
L36	27	C6x10.5	53.75 - 54.00	1.0000	1.0000
L36	28	C6x10.5	53.75 - 54.00	1.0000	1.0000
L36	29	C6x10.5	53.75 - 54.00	1.0000	1.0000
L36	30	C6x10.5	53.75 - 54.00	1.0000	1.0000
L36	42	PL 1 x 5	53.75 - 54.00	1.0000	1.0000
L36	43	PL 1 x 5	53.75 - 54.00	1.0000	1.0000
L36	44	PL 1 x 5	53.75 - 54.00	1.0000	1.0000
L36	45	PL 1 x 5	53.75 - 54.00	1.0000	1.0000
L36	57	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	1.0000	1.0000
L36	58	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	1.0000	1.0000
L36	59	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L36	61	(Area) CCI-65FP-065125 (H)	53.75 - 54.00	1.0000	1.0000
L36	69	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	1.0000	1.0000
L36	70	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	1.0000	1.0000
L36	71	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	1.0000	1.0000
L36	72	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	1.0000	1.0000
L37	4	HB158-21U6S24-xxM_TMO(1-5/8)	53.50 - 53.75	1.0000	1.0000
L37	7	LDF7-50A(1-5/8)	53.50 - 53.75	1.0000	1.0000
L37	9	HCS 6X12 6AWG(1-3/8)	53.50 - 53.75	1.0000	1.0000
L37	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	53.50 - 53.75	1.0000	1.0000
L37	23	CU12PSM9P8XXX(1-3/8)	53.50 - 53.75	1.0000	1.0000
L37	27	C6x10.5	53.50 - 53.75	1.0000	1.0000
L37	28	C6x10.5	53.50 - 53.75	1.0000	1.0000
L37	29	C6x10.5	53.50 - 53.75	1.0000	1.0000
L37	30	C6x10.5	53.50 - 53.75	1.0000	1.0000
L37	42	PL 1 x 5	53.50 - 53.75	1.0000	1.0000
L37	43	PL 1 x 5	53.50 - 53.75	1.0000	1.0000
L37	44	PL 1 x 5	53.50 - 53.75	1.0000	1.0000
L37	45	PL 1 x 5	53.50 - 53.75	1.0000	1.0000
L37	57	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	1.0000	1.0000
L37	58	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	1.0000	1.0000
L37	59	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	1.0000	1.0000
L37	61	(Area) CCI-65FP-065125 (H)	53.50 - 53.75	1.0000	1.0000
L37	69	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	1.0000	1.0000
L37	70	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	1.0000	1.0000
L37	71	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	1.0000	1.0000
L37	72	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	1.0000	1.0000
L38	4	HB158-21U6S24-xxM_TMO(1-5/8)	53.25 - 53.50	1.0000	1.0000
L38	7	LDF7-50A(1-5/8)	53.25 - 53.50	1.0000	1.0000
L38	9	HCS 6X12 6AWG(1-3/8)	53.25 - 53.50	1.0000	1.0000
L38	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	53.25 - 53.50	1.0000	1.0000
L38	23	CU12PSM9P8XXX(1-3/8)	53.25 - 53.50	1.0000	1.0000
L38	27	C6x10.5	53.25 - 53.50	1.0000	1.0000
L38	28	C6x10.5	53.25 - 53.50	1.0000	1.0000
L38	29	C6x10.5	53.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L38	30	C6x10.5	53.50 53.25 -	1.0000	1.0000
L38	42	PL 1 x 5	53.50 53.25 -	1.0000	1.0000
L38	43	PL 1 x 5	53.50 53.25 -	1.0000	1.0000
L38	44	PL 1 x 5	53.50 53.25 -	1.0000	1.0000
L38	45	PL 1 x 5	53.50 53.25 -	1.0000	1.0000
L38	57	(Area) CCI-65FP-045100 (H)	53.50 53.25 -	1.0000	1.0000
L38	58	(Area) CCI-65FP-045100 (H)	53.50 53.25 -	1.0000	1.0000
L38	59	(Area) CCI-65FP-045100 (H)	53.50 53.25 -	1.0000	1.0000
L38	61	(Area) CCI-65FP-065125 (H)	53.50 53.25 -	1.0000	1.0000
L38	69	(Area) CCI-65FP-045100 (H)	53.50 53.25 -	1.0000	1.0000
L38	70	(Area) CCI-65FP-045100 (H)	53.50 53.25 -	1.0000	1.0000
L38	71	(Area) CCI-65FP-045100 (H)	53.50 53.25 -	1.0000	1.0000
L38	72	(Area) CCI-65FP-045100 (H)	53.50 53.25 -	1.0000	1.0000
L39	4	HB158-21U6S24- xxM_TMO(1-5/8)	53.00 - 53.25	1.0000	1.0000
L39	7	LDF7-50A(1-5/8)	53.00 - 53.25	1.0000	1.0000
L39	9	HCS 6X12 6AWG(1-3/8)	53.00 - 53.25	1.0000	1.0000
L39	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	53.00 - 53.25	1.0000	1.0000
L39	23	CU12PSM9P8XXX(1-3/8)	53.00 - 53.25	1.0000	1.0000
L39	27	C6x10.5	53.00 - 53.25	1.0000	1.0000
L39	28	C6x10.5	53.00 - 53.25	1.0000	1.0000
L39	29	C6x10.5	53.00 - 53.25	1.0000	1.0000
L39	30	C6x10.5	53.00 - 53.25	1.0000	1.0000
L39	42	PL 1 x 5	53.00 - 53.25	1.0000	1.0000
L39	43	PL 1 x 5	53.00 - 53.25	1.0000	1.0000
L39	44	PL 1 x 5	53.00 - 53.25	1.0000	1.0000
L39	45	PL 1 x 5	53.00 - 53.25	1.0000	1.0000
L39	57	(Area) CCI-65FP-045100 (H)	53.00 - 53.25	1.0000	1.0000
L39	58	(Area) CCI-65FP-045100 (H)	53.00 - 53.25	1.0000	1.0000
L39	59	(Area) CCI-65FP-045100 (H)	53.00 - 53.25	1.0000	1.0000
L39	61	(Area) CCI-65FP-065125 (H)	53.00 - 53.25	1.0000	1.0000
L39	69	(Area) CCI-65FP-045100 (H)	53.00 - 53.25	1.0000	1.0000
L39	70	(Area) CCI-65FP-045100 (H)	53.00 - 53.25	1.0000	1.0000
L39	71	(Area) CCI-65FP-045100 (H)	53.00 - 53.25	1.0000	1.0000
L39	72	(Area) CCI-65FP-045100	53.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L40	4	(H) HB158-21U6S24- xxM_TMO(1-5/8)	53.25 48.00 - 53.00	1.0000	1.0000
L40	7	LDF7-50A(1-5/8)	48.00 - 53.00	1.0000	1.0000
L40	9	HCS 6X12 6AWG(1-3/8)	48.00 - 53.00	1.0000	1.0000
L40	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	48.00 - 53.00	1.0000	1.0000
L40	23	CU12PSM9P8XXX(1-3/8)	48.00 - 53.00	1.0000	1.0000
L40	27	C6x10.5	48.00 - 53.00	1.0000	1.0000
L40	28	C6x10.5	48.00 - 53.00	1.0000	1.0000
L40	29	C6x10.5	48.00 - 53.00	1.0000	1.0000
L40	30	C6x10.5	48.00 - 53.00	1.0000	1.0000
L40	42	PL 1 x 5	48.00 - 53.00	1.0000	1.0000
L40	43	PL 1 x 5	48.00 - 53.00	1.0000	1.0000
L40	44	PL 1 x 5	48.00 - 53.00	1.0000	1.0000
L40	45	PL 1 x 5	48.00 - 53.00	1.0000	1.0000
L40	57	(Area) CCI-65FP-045100 (H)	52.00 - 53.00	1.0000	1.0000
L40	58	(Area) CCI-65FP-045100 (H)	52.00 - 53.00	1.0000	1.0000
L40	59	(Area) CCI-65FP-045100 (H)	52.00 - 53.00	1.0000	1.0000
L40	61	(Area) CCI-65FP-065125 (H)	50.50 - 53.00	1.0000	1.0000
L40	69	(Area) CCI-65FP-045100 (H)	48.00 - 53.00	1.0000	1.0000
L40	70	(Area) CCI-65FP-045100 (H)	48.00 - 53.00	1.0000	1.0000
L40	71	(Area) CCI-65FP-045100 (H)	48.00 - 53.00	1.0000	1.0000
L40	72	(Area) CCI-65FP-045100 (H)	48.00 - 53.00	1.0000	1.0000
L41	4	(H) HB158-21U6S24- xxM_TMO(1-5/8)	39.75 - 48.00	1.0000	1.0000
L41	7	LDF7-50A(1-5/8)	39.75 - 48.00	1.0000	1.0000
L41	9	HCS 6X12 6AWG(1-3/8)	39.75 - 48.00	1.0000	1.0000
L41	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	39.75 - 48.00	1.0000	1.0000
L41	23	CU12PSM9P8XXX(1-3/8)	39.75 - 48.00	1.0000	1.0000
L41	27	C6x10.5	39.75 - 48.00	1.0000	1.0000
L41	28	C6x10.5	39.75 - 48.00	1.0000	1.0000
L41	29	C6x10.5	39.75 - 48.00	1.0000	1.0000
L41	30	C6x10.5	39.75 - 48.00	1.0000	1.0000
L41	42	PL 1 x 5	39.75 - 48.00	1.0000	1.0000
L41	43	PL 1 x 5	39.75 - 48.00	1.0000	1.0000
L41	44	PL 1 x 5	39.75 - 48.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L41	45	PL 1 x 5	39.75 - 48.00	1.0000	1.0000
L41	52	(Area) Aero MP3-03 (H)	39.75 - 45.42	1.0000	1.0000
L41	53	(Area) Aero MP3-03 (H)	39.75 - 45.42	1.0000	1.0000
L41	54	(Area) Aero MP3-03 (H)	39.75 - 45.42	1.0000	1.0000
L41	55	(Area) Aero MP3-03 (H)	39.75 - 45.42	1.0000	1.0000
L41	69	(Area) CCI-65FP-045100 (H)	42.50 - 48.00	1.0000	1.0000
L41	70	(Area) CCI-65FP-045100 (H)	42.50 - 48.00	1.0000	1.0000
L41	71	(Area) CCI-65FP-045100 (H)	42.50 - 48.00	1.0000	1.0000
L41	72	(Area) CCI-65FP-045100 (H)	42.25 - 48.00	1.0000	1.0000
L42	4	HB158-21U6S24-xxM_TMO(1-5/8)	38.75 - 39.75	1.0000	1.0000
L42	7	LDF7-50A(1-5/8)	38.75 - 39.75	1.0000	1.0000
L42	9	HCS 6X12 6AWG(1-3/8)	38.75 - 39.75	1.0000	1.0000
L42	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	38.75 - 39.75	1.0000	1.0000
L42	23	CU12PSM9P8XXX(1-3/8)	38.75 - 39.75	1.0000	1.0000
L42	27	C6x10.5	38.75 - 39.75	1.0000	1.0000
L42	28	C6x10.5	38.75 - 39.75	1.0000	1.0000
L42	29	C6x10.5	38.75 - 39.75	1.0000	1.0000
L42	30	C6x10.5	38.75 - 39.75	1.0000	1.0000
L42	42	PL 1 x 5	38.75 - 39.75	1.0000	1.0000
L42	43	PL 1 x 5	38.75 - 39.75	1.0000	1.0000
L42	44	PL 1 x 5	38.75 - 39.75	1.0000	1.0000
L42	45	PL 1 x 5	38.75 - 39.75	1.0000	1.0000
L42	52	(Area) Aero MP3-03 (H)	38.75 - 39.75	1.0000	1.0000
L42	53	(Area) Aero MP3-03 (H)	38.75 - 39.75	1.0000	1.0000
L42	54	(Area) Aero MP3-03 (H)	38.75 - 39.75	1.0000	1.0000
L42	55	(Area) Aero MP3-03 (H)	38.75 - 39.75	1.0000	1.0000
L43	4	HB158-21U6S24-xxM_TMO(1-5/8)	34.75 - 38.75	1.0000	1.0000
L43	7	LDF7-50A(1-5/8)	34.75 - 38.75	1.0000	1.0000
L43	9	HCS 6X12 6AWG(1-3/8)	34.75 - 38.75	1.0000	1.0000
L43	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	34.75 - 38.75	1.0000	1.0000
L43	23	CU12PSM9P8XXX(1-3/8)	34.75 - 38.75	1.0000	1.0000
L43	27	C6x10.5	34.75 - 38.75	1.0000	1.0000
L43	28	C6x10.5	34.75 - 38.75	1.0000	1.0000
L43	29	C6x10.5	34.75 - 38.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L43	30	C6x10.5	38.75 34.75 -	1.0000	1.0000
L43	37	PL 1 x 5	38.75 34.75 -	1.0000	1.0000
L43	38	PL 1 x 5	37.00 34.75 -	1.0000	1.0000
L43	39	PL 1 x 5	37.00 34.75 -	1.0000	1.0000
L43	40	PL 1 x 5	37.00 34.75 -	1.0000	1.0000
L43	42	PL 1 x 5	37.00 34.75 -	1.0000	1.0000
L43	43	PL 1 x 5	38.75 34.75 -	1.0000	1.0000
L43	44	PL 1 x 5	38.75 34.75 -	1.0000	1.0000
L43	45	PL 1 x 5	38.75 34.75 -	1.0000	1.0000
L43	52	(Area) Aero MP3-03 (H)	38.75 34.75 -	1.0000	1.0000
L43	53	(Area) Aero MP3-03 (H)	38.75 34.75 -	1.0000	1.0000
L43	54	(Area) Aero MP3-03 (H)	38.75 34.75 -	1.0000	1.0000
L43	55	(Area) Aero MP3-03 (H)	38.75 34.75 -	1.0000	1.0000
L44	4	HB158-21U6S24- xxM_TMO(1-5/8)	34.50 - 34.75	1.0000	1.0000
L44	7	LDF7-50A(1-5/8)	34.50 - 34.75	1.0000	1.0000
L44	9	HCS 6X12 6AWG(1-3/8)	34.50 - 34.75	1.0000	1.0000
L44	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	34.50 - 34.75	1.0000	1.0000
L44	23	CU12PSM9P8XXX(1-3/8)	34.50 - 34.75	1.0000	1.0000
L44	27	C6x10.5	34.50 - 34.75	1.0000	1.0000
L44	28	C6x10.5	34.50 - 34.75	1.0000	1.0000
L44	29	C6x10.5	34.50 - 34.75	1.0000	1.0000
L44	30	C6x10.5	34.50 - 34.75	1.0000	1.0000
L44	37	PL 1 x 5	34.50 - 34.75	1.0000	1.0000
L44	38	PL 1 x 5	34.50 - 34.75	1.0000	1.0000
L44	39	PL 1 x 5	34.50 - 34.75	1.0000	1.0000
L44	40	PL 1 x 5	34.50 - 34.75	1.0000	1.0000
L44	42	PL 1 x 5	34.50 - 34.75	1.0000	1.0000
L44	43	PL 1 x 5	34.50 - 34.75	1.0000	1.0000
L44	44	PL 1 x 5	34.50 - 34.75	1.0000	1.0000
L44	45	PL 1 x 5	34.50 - 34.75	1.0000	1.0000
L44	52	(Area) Aero MP3-03 (H)	34.50 - 34.75	1.0000	1.0000
L44	53	(Area) Aero MP3-03 (H)	34.50 - 34.75	1.0000	1.0000
L44	54	(Area) Aero MP3-03 (H)	34.50 - 34.75	1.0000	1.0000
L44	55	(Area) Aero MP3-03 (H)	34.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L45	4	HB158-21U6S24-xxM_TMO(1-5/8)	34.75 33.75 - 34.50	1.0000	1.0000
L45	7	LDF7-50A(1-5/8)	33.75 - 34.50	1.0000	1.0000
L45	9	HCS 6X12 6AWG(1-3/8)	33.75 - 34.50	1.0000	1.0000
L45	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	33.75 - 34.50	1.0000	1.0000
L45	23	CU12PSM9P8XXX(1-3/8)	33.75 - 34.50	1.0000	1.0000
L45	27	C6x10.5	33.75 - 34.50	1.0000	1.0000
L45	28	C6x10.5	33.75 - 34.50	1.0000	1.0000
L45	29	C6x10.5	33.75 - 34.50	1.0000	1.0000
L45	30	C6x10.5	33.75 - 34.50	1.0000	1.0000
L45	37	PL 1 x 5	33.75 - 34.50	1.0000	1.0000
L45	38	PL 1 x 5	33.75 - 34.50	1.0000	1.0000
L45	39	PL 1 x 5	33.75 - 34.50	1.0000	1.0000
L45	40	PL 1 x 5	33.75 - 34.50	1.0000	1.0000
L45	42	PL 1 x 5	33.75 - 34.50	1.0000	1.0000
L45	43	PL 1 x 5	33.75 - 34.50	1.0000	1.0000
L45	44	PL 1 x 5	33.75 - 34.50	1.0000	1.0000
L45	45	PL 1 x 5	33.75 - 34.50	1.0000	1.0000
L45	52	(Area) Aero MP3-03 (H)	33.75 - 34.50	1.0000	1.0000
L45	53	(Area) Aero MP3-03 (H)	33.75 - 34.50	1.0000	1.0000
L45	54	(Area) Aero MP3-03 (H)	33.75 - 34.50	1.0000	1.0000
L45	55	(Area) Aero MP3-03 (H)	33.75 - 34.50	1.0000	1.0000
L46	4	HB158-21U6S24-xxM_TMO(1-5/8)	33.50 - 33.75	1.0000	1.0000
L46	7	LDF7-50A(1-5/8)	33.50 - 33.75	1.0000	1.0000
L46	9	HCS 6X12 6AWG(1-3/8)	33.50 - 33.75	1.0000	1.0000
L46	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	33.50 - 33.75	1.0000	1.0000
L46	23	CU12PSM9P8XXX(1-3/8)	33.50 - 33.75	1.0000	1.0000
L46	27	C6x10.5	33.50 - 33.75	1.0000	1.0000
L46	28	C6x10.5	33.50 - 33.75	1.0000	1.0000
L46	29	C6x10.5	33.50 - 33.75	1.0000	1.0000
L46	30	C6x10.5	33.50 - 33.75	1.0000	1.0000
L46	37	PL 1 x 5	33.50 - 33.75	1.0000	1.0000
L46	38	PL 1 x 5	33.50 - 33.75	1.0000	1.0000
L46	39	PL 1 x 5	33.50 - 33.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L46	40	PL 1 x 5	33.50 - 33.75	1.0000	1.0000
L46	42	PL 1 x 5	33.50 - 33.75	1.0000	1.0000
L46	43	PL 1 x 5	33.50 - 33.75	1.0000	1.0000
L46	44	PL 1 x 5	33.50 - 33.75	1.0000	1.0000
L46	45	PL 1 x 5	33.50 - 33.75	1.0000	1.0000
L46	52	(Area) Aero MP3-03 (H)	33.50 - 33.75	1.0000	1.0000
L46	53	(Area) Aero MP3-03 (H)	33.50 - 33.75	1.0000	1.0000
L46	54	(Area) Aero MP3-03 (H)	33.50 - 33.75	1.0000	1.0000
L46	55	(Area) Aero MP3-03 (H)	33.50 - 33.75	1.0000	1.0000
L47	4	HB158-21U6S24-xxM_TMO(1-5/8)	28.50 - 33.50	1.0000	1.0000
L47	7	LDF7-50A(1-5/8)	28.50 - 33.50	1.0000	1.0000
L47	9	HCS 6X12 6AWG(1-3/8)	28.50 - 33.50	1.0000	1.0000
L47	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	28.50 - 33.50	1.0000	1.0000
L47	23	CU12PSM9P8XXX(1-3/8)	28.50 - 33.50	1.0000	1.0000
L47	27	C6x10.5	28.50 - 33.50	1.0000	1.0000
L47	28	C6x10.5	28.50 - 33.50	1.0000	1.0000
L47	29	C6x10.5	28.50 - 33.50	1.0000	1.0000
L47	30	C6x10.5	28.50 - 33.50	1.0000	1.0000
L47	37	PL 1 x 5	28.50 - 33.50	1.0000	1.0000
L47	38	PL 1 x 5	28.50 - 33.50	1.0000	1.0000
L47	39	PL 1 x 5	28.50 - 33.50	1.0000	1.0000
L47	40	PL 1 x 5	28.50 - 33.50	1.0000	1.0000
L47	42	PL 1 x 5	31.50 - 33.50	1.0000	1.0000
L47	43	PL 1 x 5	31.50 - 33.50	1.0000	1.0000
L47	44	PL 1 x 5	31.50 - 33.50	1.0000	1.0000
L47	45	PL 1 x 5	31.50 - 33.50	1.0000	1.0000
L47	52	(Area) Aero MP3-03 (H)	28.50 - 33.50	1.0000	1.0000
L47	53	(Area) Aero MP3-03 (H)	28.50 - 33.50	1.0000	1.0000
L47	54	(Area) Aero MP3-03 (H)	28.50 - 33.50	1.0000	1.0000
L47	55	(Area) Aero MP3-03 (H)	28.50 - 33.50	1.0000	1.0000
L48	4	HB158-21U6S24-xxM_TMO(1-5/8)	24.00 - 28.50	1.0000	1.0000
L48	7	LDF7-50A(1-5/8)	24.00 - 28.50	1.0000	1.0000
L48	9	HCS 6X12 6AWG(1-3/8)	24.00 - 28.50	1.0000	1.0000
L48	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	24.00 - 28.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L48	23	CU12PSM9P8XXX(1-3/8) 5/8"	24.00 - 28.50	1.0000	1.0000
L48	27	C6x10.5	24.00 - 28.50	1.0000	1.0000
L48	28	C6x10.5	24.00 - 28.50	1.0000	1.0000
L48	29	C6x10.5	24.00 - 28.50	1.0000	1.0000
L48	30	C6x10.5	24.00 - 28.50	1.0000	1.0000
L48	32	(Area) Aero MP3-04 (H)	24.00 - 25.42	1.0000	1.0000
L48	33	(Area) Aero MP3-04 (H)	24.00 - 25.42	1.0000	1.0000
L48	34	(Area) Aero MP3-04 (H)	24.00 - 25.42	1.0000	1.0000
L48	35	(Area) Aero MP3-04 (H)	24.00 - 25.42	1.0000	1.0000
L48	37	PL 1 x 5	24.00 - 28.50	1.0000	1.0000
L48	38	PL 1 x 5	24.00 - 28.50	1.0000	1.0000
L48	39	PL 1 x 5	24.00 - 28.50	1.0000	1.0000
L48	40	PL 1 x 5	24.00 - 28.50	1.0000	1.0000
L48	52	(Area) Aero MP3-03 (H)	25.42 - 28.50	1.0000	1.0000
L48	53	(Area) Aero MP3-03 (H)	25.42 - 28.50	1.0000	1.0000
L48	54	(Area) Aero MP3-03 (H)	25.42 - 28.50	1.0000	1.0000
L48	55	(Area) Aero MP3-03 (H)	25.42 - 28.50	1.0000	1.0000
L49	4	HB158-21U6S24- xxM_TMO(1-5/8)	23.75 - 24.00	1.0000	1.0000
L49	7	LDF7-50A(1-5/8)	23.75 - 24.00	1.0000	1.0000
L49	9	HCS 6X12 6AWG(1-3/8)	23.75 - 24.00	1.0000	1.0000
L49	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	23.75 - 24.00	1.0000	1.0000
L49	23	CU12PSM9P8XXX(1-3/8) 5/8"	23.75 - 24.00	1.0000	1.0000
L49	27	C6x10.5	23.75 - 24.00	1.0000	1.0000
L49	28	C6x10.5	23.75 - 24.00	1.0000	1.0000
L49	29	C6x10.5	23.75 - 24.00	1.0000	1.0000
L49	30	C6x10.5	23.75 - 24.00	1.0000	1.0000
L49	32	(Area) Aero MP3-04 (H)	23.75 - 24.00	1.0000	1.0000
L49	33	(Area) Aero MP3-04 (H)	23.75 - 24.00	1.0000	1.0000
L49	34	(Area) Aero MP3-04 (H)	23.75 - 24.00	1.0000	1.0000
L49	35	(Area) Aero MP3-04 (H)	23.75 - 24.00	1.0000	1.0000
L49	37	PL 1 x 5	23.75 - 24.00	1.0000	1.0000
L49	38	PL 1 x 5	23.75 - 24.00	1.0000	1.0000
L49	39	PL 1 x 5	23.75 - 24.00	1.0000	1.0000
L49	40	PL 1 x 5	23.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L50	4	HB158-21U6S24-xxM_TMO(1-5/8)	24.00 18.75 - 23.75	1.0000	1.0000
L50	7	LDF7-50A(1-5/8)	18.75 - 23.75	1.0000	1.0000
L50	9	HCS 6X12 6AWG(1-3/8)	18.75 - 23.75	1.0000	1.0000
L50	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	18.75 - 23.75	1.0000	1.0000
L50	23	CU12PSM9P8XXX(1-3/8)	18.75 - 23.75	1.0000	1.0000
L50	27	C6x10.5	18.75 - 23.75	1.0000	1.0000
L50	28	C6x10.5	18.75 - 23.75	1.0000	1.0000
L50	29	C6x10.5	18.75 - 23.75	1.0000	1.0000
L50	30	C6x10.5	18.75 - 23.75	1.0000	1.0000
L50	32	(Area) Aero MP3-04 (H)	18.75 - 23.75	1.0000	1.0000
L50	33	(Area) Aero MP3-04 (H)	18.75 - 23.75	1.0000	1.0000
L50	34	(Area) Aero MP3-04 (H)	18.75 - 23.75	1.0000	1.0000
L50	35	(Area) Aero MP3-04 (H)	18.75 - 23.75	1.0000	1.0000
L50	37	PL 1 x 5	18.75 - 23.75	1.0000	1.0000
L50	38	PL 1 x 5	18.75 - 23.75	1.0000	1.0000
L50	39	PL 1 x 5	18.75 - 23.75	1.0000	1.0000
L50	40	PL 1 x 5	18.75 - 23.75	1.0000	1.0000
L51	4	HB158-21U6S24-xxM_TMO(1-5/8)	14.25 - 18.75	1.0000	1.0000
L51	7	LDF7-50A(1-5/8)	14.25 - 18.75	1.0000	1.0000
L51	9	HCS 6X12 6AWG(1-3/8)	14.25 - 18.75	1.0000	1.0000
L51	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	14.25 - 18.75	1.0000	1.0000
L51	23	CU12PSM9P8XXX(1-3/8)	14.25 - 18.75	1.0000	1.0000
L51	27	C6x10.5	14.25 - 18.75	1.0000	1.0000
L51	28	C6x10.5	14.25 - 18.75	1.0000	1.0000
L51	29	C6x10.5	14.25 - 18.75	1.0000	1.0000
L51	30	C6x10.5	14.25 - 18.75	1.0000	1.0000
L51	32	(Area) Aero MP3-04 (H)	14.25 - 18.75	1.0000	1.0000
L51	33	(Area) Aero MP3-04 (H)	14.25 - 18.75	1.0000	1.0000
L51	34	(Area) Aero MP3-04 (H)	14.25 - 18.75	1.0000	1.0000
L51	35	(Area) Aero MP3-04 (H)	14.25 - 18.75	1.0000	1.0000
L51	37	PL 1 x 5	14.25 - 18.75	1.0000	1.0000
L51	38	PL 1 x 5	14.25 - 18.75	1.0000	1.0000
L51	39	PL 1 x 5	14.25 - 18.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L51	40	PL 1 x 5	14.25 - 18.75	1.0000	1.0000
L51	47	(Area) Aero MP3-03 (H)	14.25 - 15.42	1.0000	1.0000
L51	48	(Area) Aero MP3-03 (H)	14.25 - 15.42	1.0000	1.0000
L51	49	(Area) Aero MP3-03 (H)	14.25 - 15.42	1.0000	1.0000
L51	50	(Area) Aero MP3-03 (H)	14.25 - 15.42	1.0000	1.0000
L52	4	HB158-21U6S24-xxM_TMO(1-5/8)	14.00 - 14.25	1.0000	1.0000
L52	7	LDF7-50A(1-5/8)	14.00 - 14.25	1.0000	1.0000
L52	9	HCS 6X12 6AWG(1-3/8)	14.00 - 14.25	1.0000	1.0000
L52	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	14.00 - 14.25	1.0000	1.0000
L52	23	CU12PSM9P8XXX(1-3/8)	14.00 - 14.25	1.0000	1.0000
L52	27	C6x10.5	14.00 - 14.25	1.0000	1.0000
L52	28	C6x10.5	14.00 - 14.25	1.0000	1.0000
L52	29	C6x10.5	14.00 - 14.25	1.0000	1.0000
L52	30	C6x10.5	14.00 - 14.25	1.0000	1.0000
L52	32	(Area) Aero MP3-04 (H)	14.00 - 14.25	1.0000	1.0000
L52	33	(Area) Aero MP3-04 (H)	14.00 - 14.25	1.0000	1.0000
L52	34	(Area) Aero MP3-04 (H)	14.00 - 14.25	1.0000	1.0000
L52	35	(Area) Aero MP3-04 (H)	14.00 - 14.25	1.0000	1.0000
L52	37	PL 1 x 5	14.00 - 14.25	1.0000	1.0000
L52	38	PL 1 x 5	14.00 - 14.25	1.0000	1.0000
L52	39	PL 1 x 5	14.00 - 14.25	1.0000	1.0000
L52	40	PL 1 x 5	14.00 - 14.25	1.0000	1.0000
L52	47	(Area) Aero MP3-03 (H)	14.00 - 14.25	1.0000	1.0000
L52	48	(Area) Aero MP3-03 (H)	14.00 - 14.25	1.0000	1.0000
L52	49	(Area) Aero MP3-03 (H)	14.00 - 14.25	1.0000	1.0000
L52	50	(Area) Aero MP3-03 (H)	14.00 - 14.25	1.0000	1.0000
L53	4	HB158-21U6S24-xxM_TMO(1-5/8)	9.00 - 14.00	1.0000	1.0000
L53	7	LDF7-50A(1-5/8)	9.00 - 14.00	1.0000	1.0000
L53	9	HCS 6X12 6AWG(1-3/8)	9.00 - 14.00	1.0000	1.0000
L53	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	9.00 - 14.00	1.0000	1.0000
L53	23	CU12PSM9P8XXX(1-3/8)	9.00 - 14.00	1.0000	1.0000
L53	27	C6x10.5	9.00 - 14.00	1.0000	1.0000
L53	28	C6x10.5	9.00 - 14.00	1.0000	1.0000
L53	29	C6x10.5	9.00 - 14.00	1.0000	1.0000
L53	30	C6x10.5	9.00 - 14.00	1.0000	1.0000
L53	32	(Area) Aero MP3-04 (H)	9.00 - 14.00	1.0000	1.0000
L53	33	(Area) Aero MP3-04 (H)	9.00 - 14.00	1.0000	1.0000
L53	34	(Area) Aero MP3-04 (H)	9.00 - 14.00	1.0000	1.0000
L53	35	(Area) Aero MP3-04 (H)	9.00 - 14.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L53	37	PL 1 x 5	9.00 - 14.00	1.0000	1.0000
L53	38	PL 1 x 5	9.00 - 14.00	1.0000	1.0000
L53	39	PL 1 x 5	9.00 - 14.00	1.0000	1.0000
L53	40	PL 1 x 5	9.00 - 14.00	1.0000	1.0000
L53	47	(Area) Aero MP3-03 (H)	9.00 - 14.00	1.0000	1.0000
L53	48	(Area) Aero MP3-03 (H)	9.00 - 14.00	1.0000	1.0000
L53	49	(Area) Aero MP3-03 (H)	9.00 - 14.00	1.0000	1.0000
L53	50	(Area) Aero MP3-03 (H)	9.00 - 14.00	1.0000	1.0000
L54	4	HB158-21U6S24- xxM_TMO(1-5/8)	5.00 - 9.00	1.0000	1.0000
L54	7	LDF7-50A(1-5/8)	5.00 - 9.00	1.0000	1.0000
L54	9	HCS 6X12 6AWG(1-3/8)	5.00 - 9.00	1.0000	1.0000
L54	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	5.00 - 9.00	1.0000	1.0000
L54	23	CU12PSM9P8XXX(1-3/8)	5.00 - 9.00	1.0000	1.0000
L54	27	C6x10.5	7.67 - 9.00	1.0000	1.0000
L54	28	C6x10.5	8.00 - 9.00	1.0000	1.0000
L54	29	C6x10.5	5.00 - 9.00	1.0000	1.0000
L54	30	C6x10.5	5.00 - 9.00	1.0000	1.0000
L54	32	(Area) Aero MP3-04 (H)	5.00 - 9.00	1.0000	1.0000
L54	33	(Area) Aero MP3-04 (H)	5.00 - 9.00	1.0000	1.0000
L54	34	(Area) Aero MP3-04 (H)	5.00 - 9.00	1.0000	1.0000
L54	35	(Area) Aero MP3-04 (H)	5.00 - 9.00	1.0000	1.0000
L54	37	PL 1 x 5	5.00 - 9.00	1.0000	1.0000
L54	38	PL 1 x 5	5.00 - 9.00	1.0000	1.0000
L54	39	PL 1 x 5	5.00 - 9.00	1.0000	1.0000
L54	40	PL 1 x 5	5.00 - 9.00	1.0000	1.0000
L54	47	(Area) Aero MP3-03 (H)	5.00 - 9.00	1.0000	1.0000
L54	48	(Area) Aero MP3-03 (H)	5.00 - 9.00	1.0000	1.0000
L54	49	(Area) Aero MP3-03 (H)	5.00 - 9.00	1.0000	1.0000
L54	50	(Area) Aero MP3-03 (H)	5.00 - 9.00	1.0000	1.0000
L55	4	HB158-21U6S24- xxM_TMO(1-5/8)	4.75 - 5.00	1.0000	1.0000
L55	7	LDF7-50A(1-5/8)	4.75 - 5.00	1.0000	1.0000
L55	9	HCS 6X12 6AWG(1-3/8)	4.75 - 5.00	1.0000	1.0000
L55	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	4.75 - 5.00	1.0000	1.0000
L55	23	CU12PSM9P8XXX(1-3/8)	4.75 - 5.00	1.0000	1.0000
L55	29	C6x10.5	4.75 - 5.00	1.0000	1.0000
L55	30	C6x10.5	4.75 - 5.00	1.0000	1.0000
L55	32	(Area) Aero MP3-04 (H)	4.75 - 5.00	1.0000	1.0000
L55	33	(Area) Aero MP3-04 (H)	4.75 - 5.00	1.0000	1.0000
L55	34	(Area) Aero MP3-04 (H)	4.75 - 5.00	1.0000	1.0000
L55	35	(Area) Aero MP3-04 (H)	4.75 - 5.00	1.0000	1.0000
L55	37	PL 1 x 5	4.75 - 5.00	1.0000	1.0000
L55	38	PL 1 x 5	4.75 - 5.00	1.0000	1.0000
L55	39	PL 1 x 5	4.75 - 5.00	1.0000	1.0000
L55	40	PL 1 x 5	4.75 - 5.00	1.0000	1.0000
L55	47	(Area) Aero MP3-03 (H)	4.75 - 5.00	1.0000	1.0000
L55	48	(Area) Aero MP3-03 (H)	4.75 - 5.00	1.0000	1.0000
L55	49	(Area) Aero MP3-03 (H)	4.75 - 5.00	1.0000	1.0000
L55	50	(Area) Aero MP3-03 (H)	4.75 - 5.00	1.0000	1.0000
L56	4	HB158-21U6S24- xxM_TMO(1-5/8)	4.50 - 4.75	1.0000	1.0000
L56	7	LDF7-50A(1-5/8)	4.50 - 4.75	1.0000	1.0000
L56	9	HCS 6X12 6AWG(1-3/8)	4.50 - 4.75	1.0000	1.0000
L56	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	4.50 - 4.75	1.0000	1.0000
L56	23	CU12PSM9P8XXX(1-3/8)	4.50 - 4.75	1.0000	1.0000
L56	29	C6x10.5	4.50 - 4.75	1.0000	1.0000
L56	30	C6x10.5	4.50 - 4.75	1.0000	1.0000
L56	32	(Area) Aero MP3-04 (H)	4.50 - 4.75	1.0000	1.0000
L56	33	(Area) Aero MP3-04 (H)	4.50 - 4.75	1.0000	1.0000
L56	34	(Area) Aero MP3-04 (H)	4.50 - 4.75	1.0000	1.0000
L56	35	(Area) Aero MP3-04 (H)	4.50 - 4.75	1.0000	1.0000
L56	37	PL 1 x 5	4.50 - 4.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L56	38	PL 1 x 5	4.50 - 4.75	1.0000	1.0000
L56	39	PL 1 x 5	4.50 - 4.75	1.0000	1.0000
L56	40	PL 1 x 5	4.50 - 4.75	1.0000	1.0000
L56	47	(Area) Aero MP3-03 (H)	4.50 - 4.75	1.0000	1.0000
L56	48	(Area) Aero MP3-03 (H)	4.50 - 4.75	1.0000	1.0000
L56	49	(Area) Aero MP3-03 (H)	4.50 - 4.75	1.0000	1.0000
L56	50	(Area) Aero MP3-03 (H)	4.50 - 4.75	1.0000	1.0000
L57	4	HB158-21U6S24-xxM_TMO(1-5/8)	0.00 - 4.50	1.0000	1.0000
L57	7	LDF7-50A(1-5/8)	0.00 - 4.50	1.0000	1.0000
L57	9	HCS 6X12 6AWG(1-3/8)	0.00 - 4.50	1.0000	1.0000
L57	10	MLE Hybrid 9Power/18Fiber RL 2(1 5/8")	0.00 - 4.50	1.0000	1.0000
L57	23	CU12PSM9P8XXX(1-3/8)	0.00 - 4.50	1.0000	1.0000
L57	29	C6x10.5	0.00 - 4.50	1.0000	1.0000
L57	30	C6x10.5	0.00 - 4.50	1.0000	1.0000
L57	32	(Area) Aero MP3-04 (H)	0.00 - 4.50	1.0000	1.0000
L57	33	(Area) Aero MP3-04 (H)	0.00 - 4.50	1.0000	1.0000
L57	34	(Area) Aero MP3-04 (H)	0.00 - 4.50	1.0000	1.0000
L57	35	(Area) Aero MP3-04 (H)	0.00 - 4.50	1.0000	1.0000
L57	37	PL 1 x 5	2.50 - 4.50	1.0000	1.0000
L57	38	PL 1 x 5	2.50 - 4.50	1.0000	1.0000
L57	39	PL 1 x 5	2.50 - 4.50	1.0000	1.0000
L57	40	PL 1 x 5	2.50 - 4.50	1.0000	1.0000
L57	47	(Area) Aero MP3-03 (H)	0.00 - 4.50	1.0000	1.0000
L57	48	(Area) Aero MP3-03 (H)	0.00 - 4.50	1.0000	1.0000
L57	49	(Area) Aero MP3-03 (H)	0.00 - 4.50	1.0000	1.0000
L57	50	(Area) Aero MP3-03 (H)	0.00 - 4.50	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L4	74	PL 1.25x4	100.00 - 100.75	Auto	0.0000
L4	75	PL 1.25x4	100.00 - 100.75	Auto	0.0000
L4	76	PL 1.25x4	100.00 - 100.75	Auto	0.0000
L5	74	PL 1.25x4	99.25 - 100.00	Auto	0.0000
L5	75	PL 1.25x4	99.25 - 100.00	Auto	0.0000
L5	76	PL 1.25x4	99.25 - 100.00	Auto	0.0000
L6	74	PL 1.25x4	99.00 - 99.25	Auto	0.0000
L6	75	PL 1.25x4	99.00 - 99.25	Auto	0.0000
L6	76	PL 1.25x4	99.00 - 99.25	Auto	0.0000
L7	74	PL 1.25x4	94.00 - 99.00	Auto	0.0000
L7	75	PL 1.25x4	94.00 - 99.00	Auto	0.0000
L7	76	PL 1.25x4	94.00 - 99.00	Auto	0.0000
L8	63	(Area) CCI-65FP-060100	90.08 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L8	64	(Area) CCI-65FP-060100 (H)	92.00	Auto	0.0000
L8	66	(Area) CCI-65FP-045100 (H)	90.08 - 92.00	Auto	0.0000
L8	67	(Area) CCI-65FP-045100 (H)	90.08 - 92.08	Auto	0.0000
L8	74	PL 1.25x4 (H)	90.08 - 94.00	Auto	0.0000
L8	75	PL 1.25x4 (H)	90.08 - 94.00	Auto	0.0000
L8	76	PL 1.25x4 (H)	90.08 - 94.00	Auto	0.0000
L9	63	(Area) CCI-65FP-060100 (H)	89.83 - 90.08	Auto	0.0000
L9	64	(Area) CCI-65FP-060100 (H)	89.83 - 90.08	Auto	0.0000
L9	66	(Area) CCI-65FP-045100 (H)	89.83 - 90.08	Auto	0.0000
L9	67	(Area) CCI-65FP-045100 (H)	89.83 - 90.08	Auto	0.0000
L9	74	PL 1.25x4 (H)	89.83 - 90.08	Auto	0.0000
L9	75	PL 1.25x4 (H)	89.83 - 90.08	Auto	0.0000
L9	76	PL 1.25x4 (H)	89.83 - 90.08	Auto	0.0000
L10	63	(Area) CCI-65FP-060100 (H)	89.50 - 89.83	Auto	0.0000
L10	64	(Area) CCI-65FP-060100 (H)	89.50 - 89.83	Auto	0.0000
L10	66	(Area) CCI-65FP-045100 (H)	89.50 - 89.83	Auto	0.0000
L10	67	(Area) CCI-65FP-045100 (H)	89.50 - 89.83	Auto	0.0000
L10	74	PL 1.25x4 (H)	89.50 - 89.83	Auto	0.0000
L10	75	PL 1.25x4 (H)	89.50 - 89.83	Auto	0.0000
L10	76	PL 1.25x4 (H)	89.50 - 89.83	Auto	0.0000
L11	63	(Area) CCI-65FP-060100 (H)	89.25 - 89.50	Auto	0.0648
L11	64	(Area) CCI-65FP-060100 (H)	89.25 - 89.50	Auto	0.0648
L11	66	(Area) CCI-65FP-045100 (H)	89.25 - 89.50	Auto	0.0000
L11	67	(Area) CCI-65FP-045100 (H)	89.25 - 89.50	Auto	0.0000
L11	74	PL 1.25x4 (H)	89.25 - 89.50	Auto	0.0000
L11	75	PL 1.25x4 (H)	89.25 - 89.50	Auto	0.0000
L11	76	PL 1.25x4 (H)	89.25 - 89.50	Auto	0.0000
L12	63	(Area) CCI-65FP-060100 (H)	84.25 - 89.25	Auto	0.0299
L12	64	(Area) CCI-65FP-060100 (H)	84.25 - 89.25	Auto	0.0299
L12	66	(Area) CCI-65FP-045100 (H)	84.25 - 89.25	Auto	0.0000
L12	67	(Area) CCI-65FP-045100 (H)	84.25 - 89.25	Auto	0.0000
L12	74	PL 1.25x4 (H)	84.25 - 89.25	Auto	0.0000
L12	75	PL 1.25x4 (H)	84.25 - 89.25	Auto	0.0000
L12	76	PL 1.25x4 (H)	84.25 - 89.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L13	63	(Area) CCI-65FP-060100 (H)	89.25 78.00 - 84.25	Auto	0.0005
L13	64	(Area) CCI-65FP-060100 (H)	78.00 - 84.25	Auto	0.0005
L13	66	(Area) CCI-65FP-045100 (H)	78.00 - 84.25	Auto	0.0000
L13	67	(Area) CCI-65FP-045100 (H)	78.00 - 84.25	Auto	0.0000
L13	74	PL 1.25x4	78.00 - 84.25	Auto	0.0000
L13	75	PL 1.25x4	78.00 - 84.25	Auto	0.0000
L13	76	PL 1.25x4	78.00 - 84.25	Auto	0.0000
L13	78	PL 1.25x4	78.00 - 80.00	Auto	0.0000
L13	79	PL 1.25x4	78.00 - 78.25	Auto	0.0000
L13	80	PL 1.25x4	78.00 - 80.00	Auto	0.0000
L13	81	PL 1.25x4	78.00 - 80.00	Auto	0.0000
L14	63	(Area) CCI-65FP-060100 (H)	77.00 - 78.00	Auto	0.0414
L14	64	(Area) CCI-65FP-060100 (H)	77.00 - 78.00	Auto	0.0414
L14	66	(Area) CCI-65FP-045100 (H)	77.00 - 78.00	Auto	0.0000
L14	67	(Area) CCI-65FP-045100 (H)	77.00 - 78.00	Auto	0.0000
L14	74	PL 1.25x4	77.00 - 78.00	Auto	0.0000
L14	75	PL 1.25x4	77.00 - 78.00	Auto	0.0000
L14	76	PL 1.25x4	77.00 - 78.00	Auto	0.0000
L14	78	PL 1.25x4	77.00 - 78.00	Auto	0.0000
L14	79	PL 1.25x4	77.00 - 78.00	Auto	0.0000
L14	80	PL 1.25x4	77.00 - 78.00	Auto	0.0000
L14	81	PL 1.25x4	77.00 - 78.00	Auto	0.0000
L15	63	(Area) CCI-65FP-060100 (H)	76.75 - 77.00	Auto	0.0357
L15	64	(Area) CCI-65FP-060100 (H)	76.75 - 77.00	Auto	0.0357
L15	66	(Area) CCI-65FP-045100 (H)	76.75 - 77.00	Auto	0.0000
L15	67	(Area) CCI-65FP-045100 (H)	76.75 - 77.00	Auto	0.0000
L15	74	PL 1.25x4	76.75 - 77.00	Auto	0.0000
L15	75	PL 1.25x4	76.75 - 77.00	Auto	0.0000
L15	76	PL 1.25x4	76.75 - 77.00	Auto	0.0000
L15	78	PL 1.25x4	76.75 - 77.00	Auto	0.0000
L15	79	PL 1.25x4	76.75 - 77.00	Auto	0.0000
L15	80	PL 1.25x4	76.75 - 77.00	Auto	0.0000
L15	81	PL 1.25x4	76.75 - 77.00	Auto	0.0000
L16	63	(Area) CCI-65FP-060100	76.50 -	Auto	0.0781

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L16	64	(Area) CCI-65FP-060100 (H)	76.75	Auto	0.0781
L16	66	(Area) CCI-65FP-045100 (H)	76.75	Auto	0.0000
L16	67	(Area) CCI-65FP-045100 (H)	76.75	Auto	0.0000
L16	74	PL 1.25x4 (H)	76.75	Auto	0.0000
L16	75	PL 1.25x4 (H)	76.75	Auto	0.0000
L16	76	PL 1.25x4 (H)	76.75	Auto	0.0000
L16	78	PL 1.25x4 (H)	76.75	Auto	0.0000
L16	79	PL 1.25x4 (H)	76.75	Auto	0.0000
L16	80	PL 1.25x4 (H)	76.75	Auto	0.0000
L16	81	PL 1.25x4 (H)	76.75	Auto	0.0000
L17	63	(Area) CCI-65FP-060100 (H)	76.50	Auto	0.0725
L17	64	(Area) CCI-65FP-060100 (H)	76.50	Auto	0.0725
L17	66	(Area) CCI-65FP-045100 (H)	76.50	Auto	0.0000
L17	67	(Area) CCI-65FP-045100 (H)	76.50	Auto	0.0000
L17	74	PL 1.25x4 (H)	76.50	Auto	0.0000
L17	75	PL 1.25x4 (H)	76.50	Auto	0.0000
L17	76	PL 1.25x4 (H)	76.50	Auto	0.0000
L17	78	PL 1.25x4 (H)	76.50	Auto	0.0000
L17	79	PL 1.25x4 (H)	76.50	Auto	0.0000
L17	80	PL 1.25x4 (H)	76.50	Auto	0.0000
L17	81	PL 1.25x4 (H)	76.50	Auto	0.0000
L18	63	(Area) CCI-65FP-060100 (H)	75.50	Auto	0.0000
L18	64	(Area) CCI-65FP-060100 (H)	75.50	Auto	0.0000
L18	66	(Area) CCI-65FP-045100 (H)	75.50	Auto	0.0000
L18	67	(Area) CCI-65FP-045100 (H)	75.50	Auto	0.0000
L18	74	PL 1.25x4 (H)	75.50	Auto	0.0000
L18	75	PL 1.25x4 (H)	75.50	Auto	0.0000
L18	76	PL 1.25x4 (H)	75.50	Auto	0.0000
L18	78	PL 1.25x4 (H)	75.50	Auto	0.0000
L18	79	PL 1.25x4 (H)	75.50	Auto	0.0000
L18	80	PL 1.25x4 (H)	75.50	Auto	0.0000
L18	81	PL 1.25x4 (H)	75.50	Auto	0.0000
L19	61	(Area) CCI-65FP-065125 (H)	74.75	Auto	0.0499
L19	63	(Area) CCI-65FP-060100 (H)	74.50	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L19	64	(Area) CCI-65FP-060100 (H)	75.25	Auto	0.0000
L19	66	(Area) CCI-65FP-045100 (H)	75.25	Auto	0.0000
L19	67	(Area) CCI-65FP-045100 (H)	75.25	Auto	0.0000
L19	74	PL 1.25x4	75.25	Auto	0.0000
L19	75	PL 1.25x4	75.25	Auto	0.0000
L19	76	PL 1.25x4	75.25	Auto	0.0000
L19	78	PL 1.25x4	75.25	Auto	0.0000
L19	79	PL 1.25x4	75.25	Auto	0.0000
L19	80	PL 1.25x4	75.25	Auto	0.0000
L19	81	PL 1.25x4	75.25	Auto	0.0000
L20	61	(Area) CCI-65FP-065125 (H)	74.25 - 74.50	Auto	0.0788
L20	63	(Area) CCI-65FP-060100 (H)	74.25 - 74.50	Auto	0.0020
L20	64	(Area) CCI-65FP-060100 (H)	74.25 - 74.50	Auto	0.0020
L20	66	(Area) CCI-65FP-045100 (H)	74.25 - 74.50	Auto	0.0000
L20	67	(Area) CCI-65FP-045100 (H)	74.25 - 74.50	Auto	0.0000
L20	74	PL 1.25x4	74.25 - 74.50	Auto	0.0000
L20	75	PL 1.25x4	74.25 - 74.50	Auto	0.0000
L20	76	PL 1.25x4	74.25 - 74.50	Auto	0.0000
L20	78	PL 1.25x4	74.25 - 74.50	Auto	0.0000
L20	79	PL 1.25x4	74.25 - 74.50	Auto	0.0000
L20	80	PL 1.25x4	74.25 - 74.50	Auto	0.0000
L20	81	PL 1.25x4	74.25 - 74.50	Auto	0.0000
L21	61	(Area) CCI-65FP-065125 (H)	72.00 - 74.25	Auto	0.0632
L21	63	(Area) CCI-65FP-060100 (H)	72.00 - 74.25	Auto	0.0000
L21	64	(Area) CCI-65FP-060100 (H)	72.00 - 74.25	Auto	0.0000
L21	66	(Area) CCI-65FP-045100 (H)	72.00 - 74.25	Auto	0.0000
L21	67	(Area) CCI-65FP-045100 (H)	72.00 - 74.25	Auto	0.0000
L21	74	PL 1.25x4	74.00 - 74.25	Auto	0.0000
L21	75	PL 1.25x4	74.00 - 74.25	Auto	0.0000
L21	76	PL 1.25x4	73.00 - 74.25	Auto	0.0000
L21	78	PL 1.25x4	72.00 - 74.25	Auto	0.0000
L21	79	PL 1.25x4	72.00 - 74.25	Auto	0.0000
L21	80	PL 1.25x4	72.00 - 74.25	Auto	0.0000
L21	81	PL 1.25x4	72.00 - 74.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L22	42	PL 1 x 5	74.25 71.75 - 72.00	Auto	0.0000
L22	43	PL 1 x 5	71.75 - 72.00	Auto	0.0000
L22	44	PL 1 x 5	71.75 - 72.00	Auto	0.0000
L22	45	PL 1 x 5	71.75 - 72.00	Auto	0.0000
L22	57	(Area) CCI-65FP-045100 (H)	71.75 - 72.00	Auto	0.0000
L22	58	(Area) CCI-65FP-045100 (H)	71.75 - 72.00	Auto	0.0000
L22	59	(Area) CCI-65FP-045100 (H)	71.75 - 72.00	Auto	0.0000
L22	61	(Area) CCI-65FP-065125 (H)	71.75 - 72.00	Auto	0.0270
L22	63	(Area) CCI-65FP-060100 (H)	71.75 - 72.00	Auto	0.0000
L22	64	(Area) CCI-65FP-060100 (H)	71.75 - 72.00	Auto	0.0000
L22	66	(Area) CCI-65FP-045100 (H)	71.75 - 72.00	Auto	0.0000
L22	67	(Area) CCI-65FP-045100 (H)	71.75 - 72.00	Auto	0.0000
L22	78	PL 1.25x4	71.75 - 72.00	Auto	0.0000
L22	79	PL 1.25x4	71.75 - 72.00	Auto	0.0000
L22	80	PL 1.25x4	71.75 - 72.00	Auto	0.0000
L22	81	PL 1.25x4	71.75 - 72.00	Auto	0.0000
L23	42	PL 1 x 5	70.50 - 71.75	Auto	0.0000
L23	43	PL 1 x 5	70.50 - 71.75	Auto	0.0000
L23	44	PL 1 x 5	70.50 - 71.75	Auto	0.0000
L23	45	PL 1 x 5	70.50 - 71.75	Auto	0.0000
L23	57	(Area) CCI-65FP-045100 (H)	70.50 - 71.75	Auto	0.0000
L23	58	(Area) CCI-65FP-045100 (H)	70.50 - 71.75	Auto	0.0000
L23	59	(Area) CCI-65FP-045100 (H)	70.50 - 71.75	Auto	0.0000
L23	61	(Area) CCI-65FP-065125 (H)	70.50 - 71.75	Auto	0.0208
L23	63	(Area) CCI-65FP-060100 (H)	70.50 - 71.75	Auto	0.0000
L23	64	(Area) CCI-65FP-060100 (H)	70.50 - 71.75	Auto	0.0000
L23	66	(Area) CCI-65FP-045100 (H)	70.50 - 71.75	Auto	0.0000
L23	67	(Area) CCI-65FP-045100 (H)	70.50 - 71.75	Auto	0.0000
L23	78	PL 1.25x4	70.50 - 71.75	Auto	0.0000
L23	79	PL 1.25x4	70.50 - 71.75	Auto	0.0000
L23	80	PL 1.25x4	70.50 - 71.75	Auto	0.0000
L23	81	PL 1.25x4	70.50 - 71.75	Auto	0.0000
L24	42	PL 1 x 5	70.25 - 70.50	Auto	0.0000
L24	43	PL 1 x 5	70.25 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L24	44	PL 1 x 5	70.50 70.25 - 70.50	Auto	0.0000
L24	45	PL 1 x 5	70.25 - 70.50	Auto	0.0000
L24	57	(Area) CCI-65FP-045100 (H)	70.25 - 70.50	Auto	0.0000
L24	58	(Area) CCI-65FP-045100 (H)	70.25 - 70.50	Auto	0.0000
L24	59	(Area) CCI-65FP-045100 (H)	70.25 - 70.50	Auto	0.0000
L24	61	(Area) CCI-65FP-065125 (H)	70.25 - 70.50	Auto	0.0248
L24	63	(Area) CCI-65FP-060100 (H)	70.25 - 70.50	Auto	0.0000
L24	64	(Area) CCI-65FP-060100 (H)	70.25 - 70.50	Auto	0.0000
L24	66	(Area) CCI-65FP-045100 (H)	70.25 - 70.50	Auto	0.0000
L24	67	(Area) CCI-65FP-045100 (H)	70.25 - 70.50	Auto	0.0000
L24	78	PL 1.25x4	70.25 - 70.50	Auto	0.0000
L24	79	PL 1.25x4	70.25 - 70.50	Auto	0.0000
L24	80	PL 1.25x4	70.25 - 70.50	Auto	0.0000
L24	81	PL 1.25x4	70.25 - 70.50	Auto	0.0000
L25	42	PL 1 x 5	70.00 - 70.25	Auto	0.0000
L25	43	PL 1 x 5	70.00 - 70.25	Auto	0.0000
L25	44	PL 1 x 5	70.00 - 70.25	Auto	0.0000
L25	45	PL 1 x 5	70.00 - 70.25	Auto	0.0000
L25	57	(Area) CCI-65FP-045100 (H)	70.00 - 70.25	Auto	0.0000
L25	58	(Area) CCI-65FP-045100 (H)	70.00 - 70.25	Auto	0.0000
L25	59	(Area) CCI-65FP-045100 (H)	70.00 - 70.25	Auto	0.0000
L25	61	(Area) CCI-65FP-065125 (H)	70.00 - 70.25	Auto	0.0227
L25	63	(Area) CCI-65FP-060100 (H)	70.00 - 70.25	Auto	0.0000
L25	64	(Area) CCI-65FP-060100 (H)	70.00 - 70.25	Auto	0.0000
L25	66	(Area) CCI-65FP-045100 (H)	70.00 - 70.25	Auto	0.0000
L25	67	(Area) CCI-65FP-045100 (H)	70.00 - 70.25	Auto	0.0000
L25	78	PL 1.25x4	70.00 - 70.25	Auto	0.0000
L25	79	PL 1.25x4	70.00 - 70.25	Auto	0.0000
L25	80	PL 1.25x4	70.00 - 70.25	Auto	0.0000
L25	81	PL 1.25x4	70.00 - 70.25	Auto	0.0000
L26	42	PL 1 x 5	69.75 - 70.00	Auto	0.0000
L26	43	PL 1 x 5	69.75 - 70.00	Auto	0.0000
L26	44	PL 1 x 5	69.75 - 70.00	Auto	0.0000
L26	45	PL 1 x 5	69.75 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L26	57	(Area) CCI-65FP-045100 (H)	70.00 69.75 - 70.00	Auto	0.0000
L26	58	(Area) CCI-65FP-045100 (H)	69.75 - 70.00	Auto	0.0000
L26	59	(Area) CCI-65FP-045100 (H)	69.75 - 70.00	Auto	0.0000
L26	61	(Area) CCI-65FP-065125 (H)	69.75 - 70.00	Auto	0.0000
L26	63	(Area) CCI-65FP-060100 (H)	69.75 - 70.00	Auto	0.0000
L26	64	(Area) CCI-65FP-060100 (H)	69.75 - 70.00	Auto	0.0000
L26	66	(Area) CCI-65FP-045100 (H)	69.75 - 70.00	Auto	0.0000
L26	67	(Area) CCI-65FP-045100 (H)	69.75 - 70.00	Auto	0.0000
L26	78	PL 1.25x4	69.75 - 70.00	Auto	0.0000
L26	79	PL 1.25x4	69.75 - 70.00	Auto	0.0000
L26	80	PL 1.25x4	69.75 - 70.00	Auto	0.0000
L26	81	PL 1.25x4	69.75 - 70.00	Auto	0.0000
L27	42	PL 1 x 5	69.50 - 69.75	Auto	0.0000
L27	43	PL 1 x 5	69.50 - 69.75	Auto	0.0000
L27	44	PL 1 x 5	69.50 - 69.75	Auto	0.0000
L27	45	PL 1 x 5	69.50 - 69.75	Auto	0.0000
L27	57	(Area) CCI-65FP-045100 (H)	69.50 - 69.75	Auto	0.0000
L27	58	(Area) CCI-65FP-045100 (H)	69.50 - 69.75	Auto	0.0000
L27	59	(Area) CCI-65FP-045100 (H)	69.50 - 69.75	Auto	0.0000
L27	61	(Area) CCI-65FP-065125 (H)	69.50 - 69.75	Auto	0.0547
L27	63	(Area) CCI-65FP-060100 (H)	69.50 - 69.75	Auto	0.0000
L27	64	(Area) CCI-65FP-060100 (H)	69.50 - 69.75	Auto	0.0000
L27	66	(Area) CCI-65FP-045100 (H)	69.50 - 69.75	Auto	0.0000
L27	67	(Area) CCI-65FP-045100 (H)	69.50 - 69.75	Auto	0.0000
L27	78	PL 1.25x4	69.50 - 69.75	Auto	0.0000
L27	79	PL 1.25x4	69.50 - 69.75	Auto	0.0000
L27	80	PL 1.25x4	69.50 - 69.75	Auto	0.0000
L27	81	PL 1.25x4	69.50 - 69.75	Auto	0.0000
L28	42	PL 1 x 5	69.25 - 69.50	Auto	0.0000
L28	43	PL 1 x 5	69.25 - 69.50	Auto	0.0000
L28	44	PL 1 x 5	69.25 - 69.50	Auto	0.0000
L28	45	PL 1 x 5	69.25 - 69.50	Auto	0.0000
L28	57	(Area) CCI-65FP-045100 (H)	69.25 - 69.50	Auto	0.0000
L28	58	(Area) CCI-65FP-045100	69.25 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L28	59	(Area) CCI-65FP-045100 (H)	69.50	Auto	0.0000
L28	61	(Area) CCI-65FP-065125 (H)	69.50	Auto	0.0010
L28	63	(Area) CCI-65FP-060100 (H)	69.50	Auto	0.0000
L28	64	(Area) CCI-65FP-060100 (H)	69.50	Auto	0.0000
L28	66	(Area) CCI-65FP-045100 (H)	69.50	Auto	0.0000
L28	67	(Area) CCI-65FP-045100 (H)	69.50	Auto	0.0000
L28	78	PL 1.25x4 (H)	69.50	Auto	0.0000
L28	79	PL 1.25x4 (H)	69.50	Auto	0.0000
L28	80	PL 1.25x4 (H)	69.50	Auto	0.0000
L28	81	PL 1.25x4 (H)	69.50	Auto	0.0000
L29	42	PL 1 x 5 (H)	64.25 - 69.25	Auto	0.0000
L29	43	PL 1 x 5 (H)	64.25 - 69.25	Auto	0.0000
L29	44	PL 1 x 5 (H)	64.25 - 69.25	Auto	0.0000
L29	45	PL 1 x 5 (H)	64.25 - 69.25	Auto	0.0000
L29	57	(Area) CCI-65FP-045100 (H)	64.25 - 69.25	Auto	0.0000
L29	58	(Area) CCI-65FP-045100 (H)	64.25 - 69.25	Auto	0.0000
L29	59	(Area) CCI-65FP-045100 (H)	64.25 - 69.25	Auto	0.0000
L29	61	(Area) CCI-65FP-065125 (H)	64.25 - 69.25	Auto	0.0000
L29	63	(Area) CCI-65FP-060100 (H)	67.00 - 69.25	Auto	0.0000
L29	64	(Area) CCI-65FP-060100 (H)	67.00 - 69.25	Auto	0.0000
L29	66	(Area) CCI-65FP-045100 (H)	68.00 - 69.25	Auto	0.0000
L29	67	(Area) CCI-65FP-045100 (H)	68.00 - 69.25	Auto	0.0000
L29	78	PL 1.25x4 (H)	68.50 - 69.25	Auto	0.0000
L29	79	PL 1.25x4 (H)	68.25 - 69.25	Auto	0.0000
L29	80	PL 1.25x4 (H)	68.25 - 69.25	Auto	0.0000
L29	81	PL 1.25x4 (H)	68.25 - 69.25	Auto	0.0000
L30	42	PL 1 x 5 (H)	59.25 - 64.25	Auto	0.0000
L30	43	PL 1 x 5 (H)	59.25 - 64.25	Auto	0.0000
L30	44	PL 1 x 5 (H)	59.25 - 64.25	Auto	0.0000
L30	45	PL 1 x 5 (H)	59.25 - 64.25	Auto	0.0000
L30	57	(Area) CCI-65FP-045100 (H)	59.25 - 64.25	Auto	0.0000
L30	58	(Area) CCI-65FP-045100 (H)	59.25 - 64.25	Auto	0.0000
L30	59	(Area) CCI-65FP-045100 (H)	59.25 - 64.25	Auto	0.0000
L30	61	(Area) CCI-65FP-065125 (H)	59.25 - 64.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L31	42	(H) PL 1 x 5	64.25 56.00 - 59.25	Auto	0.0000
L31	43	PL 1 x 5	56.00 - 59.25	Auto	0.0000
L31	44	PL 1 x 5	56.00 - 59.25	Auto	0.0000
L31	45	PL 1 x 5	56.00 - 59.25	Auto	0.0000
L31	57	(Area) CCI-65FP-045100	56.00 - 59.25	Auto	0.0000
L31	58	(Area) CCI-65FP-045100	56.00 - 59.25	Auto	0.0000
L31	59	(Area) CCI-65FP-045100	56.00 - 59.25	Auto	0.0000
L31	61	(Area) CCI-65FP-065125	56.00 - 59.25	Auto	0.0000
L31	69	(Area) CCI-65FP-045100	56.00 - 57.50	Auto	0.0000
L31	70	(Area) CCI-65FP-045100	56.00 - 57.50	Auto	0.0000
L31	71	(Area) CCI-65FP-045100	56.00 - 57.50	Auto	0.0000
L31	72	(Area) CCI-65FP-045100	56.00 - 57.25	Auto	0.0000
L32	27	C6x10.5	55.75 - 56.00	Auto	0.0000
L32	28	C6x10.5	55.75 - 56.00	Auto	0.0000
L32	29	C6x10.5	55.75 - 56.00	Auto	0.0000
L32	30	C6x10.5	55.75 - 56.00	Auto	0.0000
L32	42	PL 1 x 5	55.75 - 56.00	Auto	0.0000
L32	43	PL 1 x 5	55.75 - 56.00	Auto	0.0000
L32	44	PL 1 x 5	55.75 - 56.00	Auto	0.0000
L32	45	PL 1 x 5	55.75 - 56.00	Auto	0.0000
L32	57	(Area) CCI-65FP-045100	55.75 - 56.00	Auto	0.0000
L32	58	(Area) CCI-65FP-045100	55.75 - 56.00	Auto	0.0000
L32	59	(Area) CCI-65FP-045100	55.75 - 56.00	Auto	0.0000
L32	61	(Area) CCI-65FP-065125	55.75 - 56.00	Auto	0.0000
L32	69	(Area) CCI-65FP-045100	55.75 - 56.00	Auto	0.0000
L32	70	(Area) CCI-65FP-045100	55.75 - 56.00	Auto	0.0000
L32	71	(Area) CCI-65FP-045100	55.75 - 56.00	Auto	0.0000
L32	72	(Area) CCI-65FP-045100	55.75 - 56.00	Auto	0.0000
L33	27	C6x10.5	55.50 - 55.75	Auto	0.0000
L33	28	C6x10.5	55.50 - 55.75	Auto	0.0000
L33	29	C6x10.5	55.50 - 55.75	Auto	0.0000
L33	30	C6x10.5	55.50 - 55.75	Auto	0.0000
L33	42	PL 1 x 5	55.50 - 55.75	Auto	0.0000
L33	43	PL 1 x 5	55.50 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L33	44	PL 1 x 5	55.75 55.50 - 55.75	Auto	0.0000
L33	45	PL 1 x 5	55.50 - 55.75	Auto	0.0000
L33	57	(Area) CCI-65FP-045100 (H)	55.50 - 55.75	Auto	0.0000
L33	58	(Area) CCI-65FP-045100 (H)	55.50 - 55.75	Auto	0.0000
L33	59	(Area) CCI-65FP-045100 (H)	55.50 - 55.75	Auto	0.0000
L33	61	(Area) CCI-65FP-065125 (H)	55.50 - 55.75	Auto	0.0000
L33	69	(Area) CCI-65FP-045100 (H)	55.50 - 55.75	Auto	0.0000
L33	70	(Area) CCI-65FP-045100 (H)	55.50 - 55.75	Auto	0.0000
L33	71	(Area) CCI-65FP-045100 (H)	55.50 - 55.75	Auto	0.0000
L33	72	(Area) CCI-65FP-045100 (H)	55.50 - 55.75	Auto	0.0000
L34	27	C6x10.5	55.25 - 55.50	Auto	0.0000
L34	28	C6x10.5	55.25 - 55.50	Auto	0.0000
L34	29	C6x10.5	55.25 - 55.50	Auto	0.0000
L34	30	C6x10.5	55.25 - 55.50	Auto	0.0000
L34	42	PL 1 x 5	55.25 - 55.50	Auto	0.0000
L34	43	PL 1 x 5	55.25 - 55.50	Auto	0.0000
L34	44	PL 1 x 5	55.25 - 55.50	Auto	0.0000
L34	45	PL 1 x 5	55.25 - 55.50	Auto	0.0000
L34	57	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	Auto	0.0000
L34	58	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	Auto	0.0000
L34	59	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	Auto	0.0000
L34	61	(Area) CCI-65FP-065125 (H)	55.25 - 55.50	Auto	0.0000
L34	69	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	Auto	0.0000
L34	70	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	Auto	0.0000
L34	71	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	Auto	0.0000
L34	72	(Area) CCI-65FP-045100 (H)	55.25 - 55.50	Auto	0.0000
L35	27	C6x10.5	54.00 - 55.25	Auto	0.0000
L35	28	C6x10.5	54.00 - 55.25	Auto	0.0000
L35	29	C6x10.5	54.00 - 55.25	Auto	0.0000
L35	30	C6x10.5	54.00 - 55.25	Auto	0.0000
L35	42	PL 1 x 5	54.00 - 55.25	Auto	0.0000
L35	43	PL 1 x 5	54.00 - 55.25	Auto	0.0000
L35	44	PL 1 x 5	54.00 - 55.25	Auto	0.0000
L35	45	PL 1 x 5	54.00 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L35	57	(Area) CCI-65FP-045100 (H)	55.25 54.00 - 55.25	Auto	0.0000
L35	58	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	Auto	0.0000
L35	59	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	Auto	0.0000
L35	61	(Area) CCI-65FP-065125 (H)	54.00 - 55.25	Auto	0.0000
L35	69	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	Auto	0.0000
L35	70	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	Auto	0.0000
L35	71	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	Auto	0.0000
L35	72	(Area) CCI-65FP-045100 (H)	54.00 - 55.25	Auto	0.0000
L36	27	C6x10.5	53.75 - 54.00	Auto	0.0000
L36	28	C6x10.5	53.75 - 54.00	Auto	0.0000
L36	29	C6x10.5	53.75 - 54.00	Auto	0.0000
L36	30	C6x10.5	53.75 - 54.00	Auto	0.0000
L36	42	PL 1 x 5	53.75 - 54.00	Auto	0.0000
L36	43	PL 1 x 5	53.75 - 54.00	Auto	0.0000
L36	44	PL 1 x 5	53.75 - 54.00	Auto	0.0000
L36	45	PL 1 x 5	53.75 - 54.00	Auto	0.0000
L36	57	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	Auto	0.0000
L36	58	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	Auto	0.0000
L36	59	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	Auto	0.0000
L36	61	(Area) CCI-65FP-065125 (H)	53.75 - 54.00	Auto	0.0000
L36	69	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	Auto	0.0000
L36	70	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	Auto	0.0000
L36	71	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	Auto	0.0000
L36	72	(Area) CCI-65FP-045100 (H)	53.75 - 54.00	Auto	0.0000
L37	27	C6x10.5	53.50 - 53.75	Auto	0.0000
L37	28	C6x10.5	53.50 - 53.75	Auto	0.0000
L37	29	C6x10.5	53.50 - 53.75	Auto	0.0000
L37	30	C6x10.5	53.50 - 53.75	Auto	0.0000
L37	42	PL 1 x 5	53.50 - 53.75	Auto	0.0000
L37	43	PL 1 x 5	53.50 - 53.75	Auto	0.0000
L37	44	PL 1 x 5	53.50 - 53.75	Auto	0.0000
L37	45	PL 1 x 5	53.50 - 53.75	Auto	0.0000
L37	57	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	Auto	0.0000
L37	58	(Area) CCI-65FP-045100	53.50 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L37	59	(Area) CCI-65FP-045100 (H)	53.75	Auto	0.0000
L37	61	(Area) CCI-65FP-065125 (H)	53.50 - 53.75	Auto	0.0000
L37	69	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	Auto	0.0000
L37	70	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	Auto	0.0000
L37	71	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	Auto	0.0000
L37	72	(Area) CCI-65FP-045100 (H)	53.50 - 53.75	Auto	0.0000
L38	27	C6x10.5 (H)	53.25 - 53.50	Auto	0.0000
L38	28	C6x10.5 (H)	53.25 - 53.50	Auto	0.0000
L38	29	C6x10.5 (H)	53.25 - 53.50	Auto	0.0000
L38	30	C6x10.5 (H)	53.25 - 53.50	Auto	0.0000
L38	42	PL 1 x 5 (H)	53.25 - 53.50	Auto	0.0000
L38	43	PL 1 x 5 (H)	53.25 - 53.50	Auto	0.0000
L38	44	PL 1 x 5 (H)	53.25 - 53.50	Auto	0.0000
L38	45	PL 1 x 5 (H)	53.25 - 53.50	Auto	0.0000
L38	57	(Area) CCI-65FP-045100 (H)	53.25 - 53.50	Auto	0.0000
L38	58	(Area) CCI-65FP-045100 (H)	53.25 - 53.50	Auto	0.0000
L38	59	(Area) CCI-65FP-045100 (H)	53.25 - 53.50	Auto	0.0000
L38	61	(Area) CCI-65FP-065125 (H)	53.25 - 53.50	Auto	0.0000
L38	69	(Area) CCI-65FP-045100 (H)	53.25 - 53.50	Auto	0.0000
L38	70	(Area) CCI-65FP-045100 (H)	53.25 - 53.50	Auto	0.0000
L38	71	(Area) CCI-65FP-045100 (H)	53.25 - 53.50	Auto	0.0000
L38	72	(Area) CCI-65FP-045100 (H)	53.25 - 53.50	Auto	0.0000
L39	27	C6x10.5 (H)	53.00 - 53.25	Auto	0.0000
L39	28	C6x10.5 (H)	53.00 - 53.25	Auto	0.0000
L39	29	C6x10.5 (H)	53.00 - 53.25	Auto	0.0000
L39	30	C6x10.5 (H)	53.00 - 53.25	Auto	0.0000
L39	42	PL 1 x 5 (H)	53.00 - 53.25	Auto	0.0000
L39	43	PL 1 x 5 (H)	53.00 - 53.25	Auto	0.0000
L39	44	PL 1 x 5 (H)	53.00 - 53.25	Auto	0.0000
L39	45	PL 1 x 5 (H)	53.00 - 53.25	Auto	0.0000
L39	57	(Area) CCI-65FP-045100 (H)	53.00 - 53.25	Auto	0.0000
L39	58	(Area) CCI-65FP-045100 (H)	53.00 - 53.25	Auto	0.0000
L39	59	(Area) CCI-65FP-045100 (H)	53.00 - 53.25	Auto	0.0000
L39	61	(Area) CCI-65FP-065125 (H)	53.00 - 53.25	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L39	69	(Area) CCI-65FP-045100 (H)	53.25	Auto	0.0000
L39	70	(Area) CCI-65FP-045100 (H)	53.25	Auto	0.0000
L39	71	(Area) CCI-65FP-045100 (H)	53.25	Auto	0.0000
L39	72	(Area) CCI-65FP-045100 (H)	53.25	Auto	0.0000
L40	27	C6x10.5 (H)	53.00	Auto	0.0000
L40	28	C6x10.5	48.00 - 53.00	Auto	0.0000
L40	29	C6x10.5	48.00 - 53.00	Auto	0.0000
L40	30	C6x10.5	48.00 - 53.00	Auto	0.0000
L40	42	PL 1 x 5	48.00 - 53.00	Auto	0.0000
L40	43	PL 1 x 5	48.00 - 53.00	Auto	0.0000
L40	44	PL 1 x 5	48.00 - 53.00	Auto	0.0000
L40	45	PL 1 x 5	48.00 - 53.00	Auto	0.0000
L40	57	(Area) CCI-65FP-045100 (H)	52.00 - 53.00	Auto	0.0000
L40	58	(Area) CCI-65FP-045100 (H)	52.00 - 53.00	Auto	0.0000
L40	59	(Area) CCI-65FP-045100 (H)	52.00 - 53.00	Auto	0.0000
L40	61	(Area) CCI-65FP-065125 (H)	50.50 - 53.00	Auto	0.0000
L40	69	(Area) CCI-65FP-045100 (H)	48.00 - 53.00	Auto	0.0000
L40	70	(Area) CCI-65FP-045100 (H)	48.00 - 53.00	Auto	0.0000
L40	71	(Area) CCI-65FP-045100 (H)	48.00 - 53.00	Auto	0.0000
L40	72	(Area) CCI-65FP-045100 (H)	48.00 - 53.00	Auto	0.0000
L41	27	C6x10.5 (H)	39.75 - 48.00	Auto	0.0000
L41	28	C6x10.5	39.75 - 48.00	Auto	0.0000
L41	29	C6x10.5	39.75 - 48.00	Auto	0.0000
L41	30	C6x10.5	39.75 - 48.00	Auto	0.0000
L41	42	PL 1 x 5	39.75 - 48.00	Auto	0.0000
L41	43	PL 1 x 5	39.75 - 48.00	Auto	0.0000
L41	44	PL 1 x 5	39.75 - 48.00	Auto	0.0000
L41	45	PL 1 x 5	39.75 - 48.00	Auto	0.0000
L41	52	(Area) Aero MP3-03 (H)	39.75 - 45.42	Auto	0.0000
L41	53	(Area) Aero MP3-03 (H)	39.75 - 45.42	Auto	0.0000
L41	54	(Area) Aero MP3-03 (H)	39.75 - 45.42	Auto	0.0000
L41	55	(Area) Aero MP3-03 (H)	39.75 - 45.42	Auto	0.0000
L41	69	(Area) CCI-65FP-045100 (H)	42.50 - 48.00	Auto	0.0000
L41	70	(Area) CCI-65FP-045100 (H)	42.50 - 48.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L41	71	(H) (Area) CCI-65FP-045100	48.00 42.50 - 48.00	Auto	0.0000
L41	72	(H) (Area) CCI-65FP-045100	48.00 42.25 - 48.00	Auto	0.0000
L42	27	(H) C6x10.5	48.00 38.75 - 39.75	Auto	0.0000
L42	28	C6x10.5	38.75 - 39.75	Auto	0.0000
L42	29	C6x10.5	38.75 - 39.75	Auto	0.0000
L42	30	C6x10.5	38.75 - 39.75	Auto	0.0000
L42	42	PL 1 x 5	38.75 - 39.75	Auto	0.0000
L42	43	PL 1 x 5	38.75 - 39.75	Auto	0.0000
L42	44	PL 1 x 5	38.75 - 39.75	Auto	0.0000
L42	45	PL 1 x 5	38.75 - 39.75	Auto	0.0000
L42	52	(Area) Aero MP3-03 (H)	38.75 - 39.75	Auto	0.0000
L42	53	(Area) Aero MP3-03 (H)	38.75 - 39.75	Auto	0.0000
L42	54	(Area) Aero MP3-03 (H)	38.75 - 39.75	Auto	0.0000
L42	55	(Area) Aero MP3-03 (H)	38.75 - 39.75	Auto	0.0000
L43	27	C6x10.5	34.75 - 38.75	Auto	0.0000
L43	28	C6x10.5	34.75 - 38.75	Auto	0.0000
L43	29	C6x10.5	34.75 - 38.75	Auto	0.0000
L43	30	C6x10.5	34.75 - 38.75	Auto	0.0000
L43	37	PL 1 x 5	34.75 - 37.00	Auto	0.0000
L43	38	PL 1 x 5	34.75 - 37.00	Auto	0.0000
L43	39	PL 1 x 5	34.75 - 37.00	Auto	0.0000
L43	40	PL 1 x 5	34.75 - 37.00	Auto	0.0000
L43	42	PL 1 x 5	34.75 - 38.75	Auto	0.0000
L43	43	PL 1 x 5	34.75 - 38.75	Auto	0.0000
L43	44	PL 1 x 5	34.75 - 38.75	Auto	0.0000
L43	45	PL 1 x 5	34.75 - 38.75	Auto	0.0000
L43	52	(Area) Aero MP3-03 (H)	34.75 - 38.75	Auto	0.0000
L43	53	(Area) Aero MP3-03 (H)	34.75 - 38.75	Auto	0.0000
L43	54	(Area) Aero MP3-03 (H)	34.75 - 38.75	Auto	0.0000
L43	55	(Area) Aero MP3-03 (H)	34.75 - 38.75	Auto	0.0000
L44	27	C6x10.5	34.50 - 34.75	Auto	0.0000
L44	28	C6x10.5	34.50 - 34.75	Auto	0.0000
L44	29	C6x10.5	34.50 - 34.75	Auto	0.0000
L44	30	C6x10.5	34.50 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L44	37	PL 1 x 5	34.75 - 34.50 - 34.75	Auto	0.0000
L44	38	PL 1 x 5	34.50 - 34.75	Auto	0.0000
L44	39	PL 1 x 5	34.50 - 34.75	Auto	0.0000
L44	40	PL 1 x 5	34.50 - 34.75	Auto	0.0000
L44	42	PL 1 x 5	34.50 - 34.75	Auto	0.0000
L44	43	PL 1 x 5	34.50 - 34.75	Auto	0.0000
L44	44	PL 1 x 5	34.50 - 34.75	Auto	0.0000
L44	45	PL 1 x 5	34.50 - 34.75	Auto	0.0000
L44	52	(Area) Aero MP3-03 (H)	34.50 - 34.75	Auto	0.0000
L44	53	(Area) Aero MP3-03 (H)	34.50 - 34.75	Auto	0.0000
L44	54	(Area) Aero MP3-03 (H)	34.50 - 34.75	Auto	0.0000
L44	55	(Area) Aero MP3-03 (H)	34.50 - 34.75	Auto	0.0000
L45	27	C6x10.5	33.75 - 34.50	Auto	0.0000
L45	28	C6x10.5	33.75 - 34.50	Auto	0.0000
L45	29	C6x10.5	33.75 - 34.50	Auto	0.0000
L45	30	C6x10.5	33.75 - 34.50	Auto	0.0000
L45	37	PL 1 x 5	33.75 - 34.50	Auto	0.0000
L45	38	PL 1 x 5	33.75 - 34.50	Auto	0.0000
L45	39	PL 1 x 5	33.75 - 34.50	Auto	0.0000
L45	40	PL 1 x 5	33.75 - 34.50	Auto	0.0000
L45	42	PL 1 x 5	33.75 - 34.50	Auto	0.0000
L45	43	PL 1 x 5	33.75 - 34.50	Auto	0.0000
L45	44	PL 1 x 5	33.75 - 34.50	Auto	0.0000
L45	45	PL 1 x 5	33.75 - 34.50	Auto	0.0000
L45	52	(Area) Aero MP3-03 (H)	33.75 - 34.50	Auto	0.0000
L45	53	(Area) Aero MP3-03 (H)	33.75 - 34.50	Auto	0.0000
L45	54	(Area) Aero MP3-03 (H)	33.75 - 34.50	Auto	0.0000
L45	55	(Area) Aero MP3-03 (H)	33.75 - 34.50	Auto	0.0000
L46	27	C6x10.5	33.50 - 33.75	Auto	0.0000
L46	28	C6x10.5	33.50 - 33.75	Auto	0.0000
L46	29	C6x10.5	33.50 - 33.75	Auto	0.0000
L46	30	C6x10.5	33.50 - 33.75	Auto	0.0000
L46	37	PL 1 x 5	33.50 - 33.75	Auto	0.0000
L46	38	PL 1 x 5	33.50 - 33.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L46	39	PL 1 x 5	33.75 - 33.50 - 33.75	Auto	0.0000
L46	40	PL 1 x 5	33.50 - 33.75	Auto	0.0000
L46	42	PL 1 x 5	33.50 - 33.75	Auto	0.0000
L46	43	PL 1 x 5	33.50 - 33.75	Auto	0.0000
L46	44	PL 1 x 5	33.50 - 33.75	Auto	0.0000
L46	45	PL 1 x 5	33.50 - 33.75	Auto	0.0000
L46	52	(Area) Aero MP3-03 (H)	33.50 - 33.75	Auto	0.0000
L46	53	(Area) Aero MP3-03 (H)	33.50 - 33.75	Auto	0.0000
L46	54	(Area) Aero MP3-03 (H)	33.50 - 33.75	Auto	0.0000
L46	55	(Area) Aero MP3-03 (H)	33.50 - 33.75	Auto	0.0000
L47	27	C6x10.5	28.50 - 33.50	Auto	0.0000
L47	28	C6x10.5	28.50 - 33.50	Auto	0.0000
L47	29	C6x10.5	28.50 - 33.50	Auto	0.0000
L47	30	C6x10.5	28.50 - 33.50	Auto	0.0000
L47	37	PL 1 x 5	28.50 - 33.50	Auto	0.0000
L47	38	PL 1 x 5	28.50 - 33.50	Auto	0.0000
L47	39	PL 1 x 5	28.50 - 33.50	Auto	0.0000
L47	40	PL 1 x 5	28.50 - 33.50	Auto	0.0000
L47	42	PL 1 x 5	31.50 - 33.50	Auto	0.0000
L47	43	PL 1 x 5	31.50 - 33.50	Auto	0.0000
L47	44	PL 1 x 5	31.50 - 33.50	Auto	0.0000
L47	45	PL 1 x 5	31.50 - 33.50	Auto	0.0000
L47	52	(Area) Aero MP3-03 (H)	28.50 - 33.50	Auto	0.0000
L47	53	(Area) Aero MP3-03 (H)	28.50 - 33.50	Auto	0.0000
L47	54	(Area) Aero MP3-03 (H)	28.50 - 33.50	Auto	0.0000
L47	55	(Area) Aero MP3-03 (H)	28.50 - 33.50	Auto	0.0000
L48	27	C6x10.5	24.00 - 28.50	Auto	0.0000
L48	28	C6x10.5	24.00 - 28.50	Auto	0.0000
L48	29	C6x10.5	24.00 - 28.50	Auto	0.0000
L48	30	C6x10.5	24.00 - 28.50	Auto	0.0000
L48	32	(Area) Aero MP3-04 (H)	24.00 - 25.42	Auto	0.0000
L48	33	(Area) Aero MP3-04 (H)	24.00 - 25.42	Auto	0.0000
L48	34	(Area) Aero MP3-04 (H)	24.00 - 25.42	Auto	0.0000
L48	35	(Area) Aero MP3-04 (H)	24.00 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L48	37	PL 1 x 5	25.42 - 24.00 - 28.50	Auto	0.0000
L48	38	PL 1 x 5	24.00 - 28.50	Auto	0.0000
L48	39	PL 1 x 5	24.00 - 28.50	Auto	0.0000
L48	40	PL 1 x 5	24.00 - 28.50	Auto	0.0000
L48	52	(Area) Aero MP3-03 (H)	25.42 - 28.50	Auto	0.0000
L48	53	(Area) Aero MP3-03 (H)	25.42 - 28.50	Auto	0.0000
L48	54	(Area) Aero MP3-03 (H)	25.42 - 28.50	Auto	0.0000
L48	55	(Area) Aero MP3-03 (H)	25.42 - 28.50	Auto	0.0000
L49	27	C6x10.5	23.75 - 24.00	Auto	0.0000
L49	28	C6x10.5	23.75 - 24.00	Auto	0.0000
L49	29	C6x10.5	23.75 - 24.00	Auto	0.0000
L49	30	C6x10.5	23.75 - 24.00	Auto	0.0000
L49	32	(Area) Aero MP3-04 (H)	23.75 - 24.00	Auto	0.0000
L49	33	(Area) Aero MP3-04 (H)	23.75 - 24.00	Auto	0.0000
L49	34	(Area) Aero MP3-04 (H)	23.75 - 24.00	Auto	0.0000
L49	35	(Area) Aero MP3-04 (H)	23.75 - 24.00	Auto	0.0000
L49	37	PL 1 x 5	23.75 - 24.00	Auto	0.0000
L49	38	PL 1 x 5	23.75 - 24.00	Auto	0.0000
L49	39	PL 1 x 5	23.75 - 24.00	Auto	0.0000
L49	40	PL 1 x 5	23.75 - 24.00	Auto	0.0000
L50	27	C6x10.5	18.75 - 23.75	Auto	0.0000
L50	28	C6x10.5	18.75 - 23.75	Auto	0.0000
L50	29	C6x10.5	18.75 - 23.75	Auto	0.0000
L50	30	C6x10.5	18.75 - 23.75	Auto	0.0000
L50	32	(Area) Aero MP3-04 (H)	18.75 - 23.75	Auto	0.0000
L50	33	(Area) Aero MP3-04 (H)	18.75 - 23.75	Auto	0.0000
L50	34	(Area) Aero MP3-04 (H)	18.75 - 23.75	Auto	0.0000
L50	35	(Area) Aero MP3-04 (H)	18.75 - 23.75	Auto	0.0000
L50	37	PL 1 x 5	18.75 - 23.75	Auto	0.0000
L50	38	PL 1 x 5	18.75 - 23.75	Auto	0.0000
L50	39	PL 1 x 5	18.75 - 23.75	Auto	0.0000
L50	40	PL 1 x 5	18.75 - 23.75	Auto	0.0000
L51	27	C6x10.5	14.25 - 18.75	Auto	0.0000
L51	28	C6x10.5	14.25 -	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L51	29	C6x10.5	18.75 14.25 - 18.75	Auto	0.0000
L51	30	C6x10.5	14.25 - 18.75	Auto	0.0000
L51	32	(Area) Aero MP3-04 (H)	14.25 - 18.75	Auto	0.0000
L51	33	(Area) Aero MP3-04 (H)	14.25 - 18.75	Auto	0.0000
L51	34	(Area) Aero MP3-04 (H)	14.25 - 18.75	Auto	0.0000
L51	35	(Area) Aero MP3-04 (H)	14.25 - 18.75	Auto	0.0000
L51	37	PL 1 x 5	14.25 - 18.75	Auto	0.0000
L51	38	PL 1 x 5	14.25 - 18.75	Auto	0.0000
L51	39	PL 1 x 5	14.25 - 18.75	Auto	0.0000
L51	40	PL 1 x 5	14.25 - 18.75	Auto	0.0000
L51	47	(Area) Aero MP3-03 (H)	14.25 - 15.42	Auto	0.0000
L51	48	(Area) Aero MP3-03 (H)	14.25 - 15.42	Auto	0.0000
L51	49	(Area) Aero MP3-03 (H)	14.25 - 15.42	Auto	0.0000
L51	50	(Area) Aero MP3-03 (H)	14.25 - 15.42	Auto	0.0000
L52	27	C6x10.5	14.00 - 14.25	Auto	0.0000
L52	28	C6x10.5	14.00 - 14.25	Auto	0.0000
L52	29	C6x10.5	14.00 - 14.25	Auto	0.0000
L52	30	C6x10.5	14.00 - 14.25	Auto	0.0000
L52	32	(Area) Aero MP3-04 (H)	14.00 - 14.25	Auto	0.0000
L52	33	(Area) Aero MP3-04 (H)	14.00 - 14.25	Auto	0.0000
L52	34	(Area) Aero MP3-04 (H)	14.00 - 14.25	Auto	0.0000
L52	35	(Area) Aero MP3-04 (H)	14.00 - 14.25	Auto	0.0000
L52	37	PL 1 x 5	14.00 - 14.25	Auto	0.0000
L52	38	PL 1 x 5	14.00 - 14.25	Auto	0.0000
L52	39	PL 1 x 5	14.00 - 14.25	Auto	0.0000
L52	40	PL 1 x 5	14.00 - 14.25	Auto	0.0000
L52	47	(Area) Aero MP3-03 (H)	14.00 - 14.25	Auto	0.0000
L52	48	(Area) Aero MP3-03 (H)	14.00 - 14.25	Auto	0.0000
L52	49	(Area) Aero MP3-03 (H)	14.00 - 14.25	Auto	0.0000
L52	50	(Area) Aero MP3-03 (H)	14.00 - 14.25	Auto	0.0000
L53	27	C6x10.5	9.00 - 14.00	Auto	0.0000
L53	28	C6x10.5	9.00 - 14.00	Auto	0.0000
L53	29	C6x10.5	9.00 - 14.00	Auto	0.0000
L53	30	C6x10.5	9.00 - 14.00	Auto	0.0000
L53	32	(Area) Aero MP3-04 (H)	9.00 - 14.00	Auto	0.0000
L53	33	(Area) Aero MP3-04 (H)	9.00 - 14.00	Auto	0.0000
L53	34	(Area) Aero MP3-04 (H)	9.00 - 14.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L53	35	(Area) Aero MP3-04 (H)	9.00 - 14.00	Auto	0.0000
L53	37	PL 1 x 5	9.00 - 14.00	Auto	0.0000
L53	38	PL 1 x 5	9.00 - 14.00	Auto	0.0000
L53	39	PL 1 x 5	9.00 - 14.00	Auto	0.0000
L53	40	PL 1 x 5	9.00 - 14.00	Auto	0.0000
L53	47	(Area) Aero MP3-03 (H)	9.00 - 14.00	Auto	0.0000
L53	48	(Area) Aero MP3-03 (H)	9.00 - 14.00	Auto	0.0000
L53	49	(Area) Aero MP3-03 (H)	9.00 - 14.00	Auto	0.0000
L53	50	(Area) Aero MP3-03 (H)	9.00 - 14.00	Auto	0.0000
L54	27	C6x10.5	7.67 - 9.00	Auto	0.0000
L54	28	C6x10.5	8.00 - 9.00	Auto	0.0000
L54	29	C6x10.5	5.00 - 9.00	Auto	0.0000
L54	30	C6x10.5	5.00 - 9.00	Auto	0.0000
L54	32	(Area) Aero MP3-04 (H)	5.00 - 9.00	Auto	0.0000
L54	33	(Area) Aero MP3-04 (H)	5.00 - 9.00	Auto	0.0000
L54	34	(Area) Aero MP3-04 (H)	5.00 - 9.00	Auto	0.0000
L54	35	(Area) Aero MP3-04 (H)	5.00 - 9.00	Auto	0.0000
L54	37	PL 1 x 5	5.00 - 9.00	Auto	0.0000
L54	38	PL 1 x 5	5.00 - 9.00	Auto	0.0000
L54	39	PL 1 x 5	5.00 - 9.00	Auto	0.0000
L54	40	PL 1 x 5	5.00 - 9.00	Auto	0.0000
L54	47	(Area) Aero MP3-03 (H)	5.00 - 9.00	Auto	0.0000
L54	48	(Area) Aero MP3-03 (H)	5.00 - 9.00	Auto	0.0000
L54	49	(Area) Aero MP3-03 (H)	5.00 - 9.00	Auto	0.0000
L54	50	(Area) Aero MP3-03 (H)	5.00 - 9.00	Auto	0.0000
L55	29	C6x10.5	4.75 - 5.00	Auto	0.0000
L55	30	C6x10.5	4.75 - 5.00	Auto	0.0000
L55	32	(Area) Aero MP3-04 (H)	4.75 - 5.00	Auto	0.0000
L55	33	(Area) Aero MP3-04 (H)	4.75 - 5.00	Auto	0.0000
L55	34	(Area) Aero MP3-04 (H)	4.75 - 5.00	Auto	0.0000
L55	35	(Area) Aero MP3-04 (H)	4.75 - 5.00	Auto	0.0000
L55	37	PL 1 x 5	4.75 - 5.00	Auto	0.0000
L55	38	PL 1 x 5	4.75 - 5.00	Auto	0.0000
L55	39	PL 1 x 5	4.75 - 5.00	Auto	0.0000
L55	40	PL 1 x 5	4.75 - 5.00	Auto	0.0000
L55	47	(Area) Aero MP3-03 (H)	4.75 - 5.00	Auto	0.0000
L55	48	(Area) Aero MP3-03 (H)	4.75 - 5.00	Auto	0.0000
L55	49	(Area) Aero MP3-03 (H)	4.75 - 5.00	Auto	0.0000
L55	50	(Area) Aero MP3-03 (H)	4.75 - 5.00	Auto	0.0000
L56	29	C6x10.5	4.50 - 4.75	Auto	0.0000
L56	30	C6x10.5	4.50 - 4.75	Auto	0.0000
L56	32	(Area) Aero MP3-04 (H)	4.50 - 4.75	Auto	0.0000
L56	33	(Area) Aero MP3-04 (H)	4.50 - 4.75	Auto	0.0000
L56	34	(Area) Aero MP3-04 (H)	4.50 - 4.75	Auto	0.0000
L56	35	(Area) Aero MP3-04 (H)	4.50 - 4.75	Auto	0.0000
L56	37	PL 1 x 5	4.50 - 4.75	Auto	0.0000
L56	38	PL 1 x 5	4.50 - 4.75	Auto	0.0000
L56	39	PL 1 x 5	4.50 - 4.75	Auto	0.0000
L56	40	PL 1 x 5	4.50 - 4.75	Auto	0.0000
L56	47	(Area) Aero MP3-03 (H)	4.50 - 4.75	Auto	0.0000
L56	48	(Area) Aero MP3-03 (H)	4.50 - 4.75	Auto	0.0000
L56	49	(Area) Aero MP3-03 (H)	4.50 - 4.75	Auto	0.0000
L56	50	(Area) Aero MP3-03 (H)	4.50 - 4.75	Auto	0.0000
L57	29	C6x10.5	0.00 - 4.50	Auto	0.0000
L57	30	C6x10.5	0.00 - 4.50	Auto	0.0000
L57	32	(Area) Aero MP3-04 (H)	0.00 - 4.50	Auto	0.0000
L57	33	(Area) Aero MP3-04 (H)	0.00 - 4.50	Auto	0.0000
L57	34	(Area) Aero MP3-04 (H)	0.00 - 4.50	Auto	0.0000
L57	35	(Area) Aero MP3-04 (H)	0.00 - 4.50	Auto	0.0000
L57	37	PL 1 x 5	2.50 - 4.50	Auto	0.0000
L57	38	PL 1 x 5	2.50 - 4.50	Auto	0.0000
L57	39	PL 1 x 5	2.50 - 4.50	Auto	0.0000
L57	40	PL 1 x 5	2.50 - 4.50	Auto	0.0000
L57	47	(Area) Aero MP3-03 (H)	0.00 - 4.50	Auto	0.0000
L57	48	(Area) Aero MP3-03 (H)	0.00 - 4.50	Auto	0.0000
L57	49	(Area) Aero MP3-03 (H)	0.00 - 4.50	Auto	0.0000
L57	50	(Area) Aero MP3-03 (H)	0.00 - 4.50	Auto	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft

VV-65B-R1_TMO w/ Mount Pipe	A	From Leg	4.00 0.00 -1.00	0.0000	122.00
VV-65B-R1_TMO w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	122.00
VV-65B-R1_TMO w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	122.00
AIR 6419 B41_TMO w/ Mount Pipe	A	From Leg	4.00 0.00 -1.00	0.0000	122.00
AIR 6419 B41_TMO w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	122.00
AIR 6419 B41_TMO w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	122.00
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.00 0.00 -1.00	0.0000	122.00
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.00 0.00 -1.00	0.0000	122.00
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.00 0.00 -1.00	0.0000	122.00
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00 0.00 -1.00	0.0000	122.00
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00 0.00 -1.00	0.0000	122.00
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00 0.00 -1.00	0.0000	122.00
Radio 4480_TMOV2	A	From Leg	4.00 0.00 -1.00	0.0000	122.00
Radio 4480_TMOV2	B	From Leg	4.00 0.00 -1.00	0.0000	122.00
Radio 4480_TMOV2	C	From Leg	4.00 0.00 -1.00	0.0000	122.00
Platform Mount [LP 1201-1_HR-1] (2) 6' x 2" Mount Pipe	C	None		0.0000	122.00
	A	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.00
(2) 6' x 2" Mount Pipe	B	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.00
(2) 6' x 2" Mount Pipe	C	From Centroid-Leg	4.00 0.00 0.00	0.0000	122.00

*

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement
			Horz Lateral ft	Vert ft		
CBRS w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	3.00		
CBRS w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	3.00		
CBRS w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	3.00		
(2) JAHH-65B-R3B w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
(2) JAHH-45B-R3B w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
(2) JAHH-45B-R3B w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
(2) DB846F65ZAXY w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
(2) LPA-80063/4CF w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
(2) LPA-80063/4CF w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
(2) RFV01U-D1A	A	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
RFV01U-D1A	C	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
(2) RFV01U-D2A	B	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
RFV01U-D2A	C	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
DB-T1-6Z-8AB-0Z	A	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
DB-T1-6Z-8AB-0Z	B	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
CBC78T-DS-43-2X	A	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
CBC78T-DS-43-2X	B	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
CBC78T-DS-43-2X	C	From Centroid-Leg	4.00	0.00	0.0000	113.00
			0.00	1.00		
Platform Mount [LP_305-1_KCKR-HR-1] *	C	None			0.0000	113.00
AIR 3246 B66 w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
AIR 3246 B66 w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
AIR 3246 B66 w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement
			Horz Lateral ft	Vert ft		
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
AIR6449 B41 w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
AIR6449 B41 w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
AIR6449 B41 w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
RADIO 4449 B71/B85A	A	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
RADIO 4449 B71/B85A	B	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
RADIO 4449 B71/B85A	C	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
RRUS 4415 B25_CCIV2	A	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
RRUS 4415 B25_CCIV2	B	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
RRUS 4415 B25_CCIV2	C	From Centroid-Leg	4.00	0.00	0.0000	105.00
			0.00	2.00		
SitePro1 RMQP-4096-HK *	C	None			0.0000	105.00
AIR 6419 B77G w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
AIR 6419 B77G w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
AIR 6419 B77G w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
AIR 6449 B77D w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
AIR 6449 B77D w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
AIR 6449 B77D w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement
			Horz Lateral ft	Vert ft		
QD4616-7 w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
QD4616-7 w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
QD4616-7 w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
WCS-IMFQ-AMT	A	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
WCS-IMFQ-AMT	B	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
RRUS 32 B30	A	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	0.00		
RRUS 32 B30	B	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	0.00		
RRUS 32 B30	C	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	0.00		
RRUS E2 B29	A	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
RRUS E2 B29	C	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	1.00		
DC6-48-60-18-8F	A	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	0.00		
DC6-48-60-18-8F	B	From Centroid-Leg	4.00	0.00	0.0000	97.00
			0.00	0.00		
Side Arm Mount [SO 102-3] *	C	None			0.0000	97.00
80010965 w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	0.0000	96.00
			0.00	2.00		
80010965 w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	0.0000	96.00
			0.00	2.00		
80010965 w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	0.0000	96.00
			0.00	2.00		
WCS-IMFQ-AMT	C	From Centroid-Leg	4.00	0.00	0.0000	96.00
			0.00	2.00		
RRUS 4449 B5/B12	A	From Centroid-Leg	4.00	0.00	0.0000	96.00
			0.00	2.00		
RRUS 4449 B5/B12	B	From Centroid-Leg	4.00	0.00	0.0000	96.00
			0.00	2.00		
RRUS 4449 B5/B12	C	From Centroid-Leg	4.00	0.00	0.0000	96.00
			0.00	2.00		
RRUS 4478 B14	A	From Centroid-Leg	4.00	0.00	0.0000	96.00
			0.00	2.00		
RRUS 4478 B14	B	From Centroid-Leg	4.00	0.00	0.0000	96.00
			0.00	2.00		

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
RRUS 4478 B14	C	From Centroid-Leg	4.00 0.00 2.00	0.0000	96.00
RRUS 8843 B2/B66A	A	From Centroid-Leg	4.00 0.00 2.00	0.0000	96.00
RRUS 8843 B2/B66A	B	From Centroid-Leg	4.00 0.00 2.00	0.0000	96.00
RRUS 8843 B2/B66A	C	From Centroid-Leg	4.00 0.00 2.00	0.0000	96.00
RRUS E2 B29	A	From Centroid-Leg	4.00 0.00 2.00	0.0000	96.00
DC6-48-60-18-8F	A	From Centroid-Leg	4.00 0.00 2.00	0.0000	96.00
Platform Mount [LP 712-1]	C	None		0.0000	96.00
Miscellaneous [NA 507-1]	C	None		0.0000	99.00
(2) L 2-1/2x2-1/2x3/16 (40" Long)	A	From Centroid-Leg	2.00 0.00 0.00	0.0000	96.00
(2) L 2-1/2x2-1/2x3/16 (40" Long)	B	From Centroid-Leg	2.00 0.00 0.00	0.0000	96.00
(2) L 2-1/2x2-1/2x3/16 (40" Long)	C	From Centroid-Leg	2.00 0.00 0.00	0.0000	96.00
*					
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	86.00
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	86.00
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	86.00
TA08025-B604	A	From Leg	4.00 0.00 0.00	0.0000	86.00
TA08025-B604	B	From Leg	4.00 0.00 0.00	0.0000	86.00
TA08025-B604	C	From Leg	4.00 0.00 0.00	0.0000	86.00
TA08025-B605	A	From Leg	4.00 0.00 0.00	0.0000	86.00
TA08025-B605	B	From Leg	4.00 0.00 0.00	0.0000	86.00
TA08025-B605	C	From Leg	4.00 0.00 0.00	0.0000	86.00
RDIDC-9181-PF-48	A	From Leg	4.00 0.00 0.00	0.0000	86.00
Commscope MC-PK8-DSH	C	None		0.0000	86.00
(2) 8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	86.00
(2) 8' x 2" Mount Pipe	B	From Leg	4.00	0.0000	86.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
(2) 8' x 2" Mount Pipe	C	From Leg	0.00 0.00 4.00 0.00 0.00	0.0000	86.00
* ACUTIME 2000	A	From Leg	3.00 0.00 1.00	0.0000	75.00
Side Arm Mount [SO 701-1]	A	From Leg	1.50 0.00 0.00	0.0000	75.00

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

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp

Comb. No.	Description
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	120 - 115	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-8.91	0.00	-0.08
			Max. Mx	8	-4.98	-36.83	-0.04
			Max. My	14	-4.98	-0.00	-36.85
			Max. Vy	8	6.18	-36.83	-0.04
			Max. Vx	2	-6.18	0.00	36.76
			Max. Torque	18			0.00
L2	115 - 110	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-16.98	-0.30	0.06
			Max. Mx	8	-9.02	-88.02	-0.20
			Max. My	2	-9.05	0.11	87.02
			Max. Vy	20	-11.76	87.82	0.20
			Max. Vx	2	-11.54	0.11	87.02
			Max. Torque	10			0.35
L3	110 - 105	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17.72	-0.18	0.04
			Max. Mx	8	-9.50	-148.02	-0.47
			Max. My	14	-9.53	-0.50	-145.87
			Max. Vy	20	-12.26	147.90	0.43
			Max. Vx	2	-12.01	0.40	145.84
			Max. Torque	10			0.35
L4	105 - 100	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.72	-0.14	0.05
			Max. Mx	8	-15.06	-238.55	-0.72
			Max. My	14	-15.10	-0.75	-235.03
			Max. Vy	20	-17.15	238.44	0.68
			Max. Vx	2	-16.86	0.66	234.99
			Max. Torque	10			0.35
L5	100 - 99.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.86	-0.14	0.05
			Max. Mx	8	-15.15	-251.44	-0.76
			Max. My	14	-15.18	-0.78	-247.70
			Max. Vy	20	-17.22	251.33	0.72
			Max. Vx	2	-16.93	0.69	247.66
			Max. Torque	10			0.35
L6	99.25 - 99	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.92	-0.14	0.05
			Max. Mx	8	-15.19	-255.74	-0.77
			Max. My	14	-15.23	-0.79	-251.93
			Max. Vy	20	-17.25	255.64	0.73

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L7	99 - 94	Pole	Max. Vx	2	-16.95	0.71	251.89
			Max. Torque	10			0.35
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.69	0.07	1.14
			Max. Mx	20	-20.65	361.75	1.41
			Max. My	2	-20.68	1.01	357.28
			Max. Vy	20	-23.14	361.75	1.41
L8	94 - 90.08	Pole	Max. Vx	2	-22.92	1.01	357.28
			Max. Torque	8			0.84
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.69	0.11	1.13
			Max. Mx	20	-21.34	453.17	1.50
			Max. My	2	-21.37	1.10	447.81
			Max. Vy	20	-23.52	453.17	1.50
L9	90.08 - 89.83	Pole	Max. Vx	2	-23.29	1.10	447.81
			Max. Torque	8			0.84
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.77	0.11	1.13
			Max. Mx	20	-21.41	459.05	1.50
			Max. My	2	-21.44	1.11	453.64
			Max. Vy	20	-23.53	459.05	1.50
L10	89.83 - 89.5	Pole	Max. Vx	2	-23.31	1.11	453.64
			Max. Torque	8			0.84
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.88	0.12	1.13
			Max. Mx	20	-21.49	466.82	1.51
			Max. My	2	-21.52	1.11	461.33
			Max. Vy	20	-23.57	466.82	1.51
L11	89.5 - 89.25	Pole	Max. Vx	2	-23.34	1.11	461.33
			Max. Torque	8			0.84
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.97	0.12	1.13
			Max. Mx	20	-21.56	472.71	1.52
			Max. My	2	-21.59	1.12	467.17
			Max. Vy	20	-23.60	472.71	1.52
L12	89.25 - 84.25	Pole	Max. Vx	2	-23.37	1.12	467.17
			Max. Torque	8			0.84
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.69	0.18	1.45
			Max. Mx	20	-26.02	597.42	1.74
			Max. My	2	-26.05	1.23	590.87
			Max. Vy	20	-27.21	597.42	1.74
L13	84.25 - 78	Pole	Max. Vx	2	-27.01	1.23	590.87
			Max. Torque	8			1.07
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.66	0.20	1.46
			Max. Mx	20	-26.73	665.76	1.80
			Max. My	2	-26.76	1.28	658.70
			Max. Vy	20	-27.48	665.76	1.80
L14	78 - 77	Pole	Max. Vx	2	-27.27	1.28	658.70
			Max. Torque	8			1.07
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.99	0.23	1.48
			Max. Mx	20	-29.39	797.72	1.91
			Max. My	2	-29.42	1.38	789.64
			Max. Vy	20	-28.09	797.72	1.91
L15	77 - 76.75	Pole	Max. Vx	2	-27.86	1.38	789.64
			Max. Torque	8			1.07
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.11	0.24	1.48
			Max. Mx	20	-29.49	804.75	1.91
			Max. My	2	-29.52	1.38	796.61
			Max. Vy	20	-28.12	804.75	1.91
L16	76.75 - 76.5	Pole	Max. Vx	2	-27.89	1.38	796.61
			Max. Torque	8			1.07
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.24	0.24	1.48

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L17	76.5 - 75.5	Pole	Max. Mx	20	-29.59	811.78	1.92
			Max. My	2	-29.62	1.39	803.59
			Max. Vy	20	-28.15	811.78	1.92
			Max. Vx	2	-27.92	1.39	803.59
			Max. Torque	8			1.07
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.75	0.24	1.50
			Max. Mx	20	-29.98	839.99	1.94
			Max. My	2	-30.01	1.41	831.55
			Max. Vy	20	-28.28	839.99	1.94
L18	75.5 - 75.25	Pole	Max. Vx	2	-28.03	1.41	831.55
			Max. Torque	8			1.07
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.87	0.25	1.50
			Max. Mx	20	-30.07	847.06	1.95
			Max. My	2	-30.11	1.41	838.56
			Max. Vy	20	-28.31	847.06	1.95
			Max. Vx	2	-28.05	1.41	838.56
			Max. Torque	8			1.07
			Max Tension	1	0.00	0.00	0.00
L19	75.25 - 74.5	Pole	Max. Compression	26	-50.34	0.25	1.83
			Max. Mx	20	-30.41	868.38	2.17
			Max. My	2	-30.45	1.43	859.89
			Max. Vy	20	-28.48	868.38	2.17
			Max. Vx	2	-28.19	1.43	859.89
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.46	0.25	1.83
			Max. Mx	20	-30.50	875.50	2.18
			Max. My	2	-30.54	1.43	866.94
L20	74.5 - 74.25	Pole	Max. Vy	20	-28.51	875.50	2.18
			Max. Vx	2	-28.21	1.43	866.94
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.47	0.26	1.86
			Max. Mx	20	-31.25	939.94	2.23
			Max. My	2	-31.29	1.48	930.68
			Max. Vy	20	-28.78	939.94	2.23
			Max. Vx	2	-28.46	1.48	930.68
			Max. Torque	8			1.31
L21	74.25 - 72	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.60	0.26	1.86
			Max. Mx	20	-31.35	947.14	2.24
			Max. My	2	-31.39	1.48	937.79
			Max. Vy	20	-28.81	947.14	2.24
			Max. Vx	2	-28.48	1.48	937.79
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.25	0.27	1.89
			Max. Mx	20	-31.81	983.26	2.26
L22	72 - 71.75	Pole	Max. My	2	-31.85	1.51	973.48
			Max. Vy	20	-28.99	983.26	2.26
			Max. Vx	2	-28.64	1.51	973.48
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.39	0.28	1.89
			Max. Mx	20	-31.92	990.50	2.27
			Max. My	2	-31.95	1.51	980.64
			Max. Vy	20	-29.02	990.50	2.27
			Max. Vx	2	-28.66	1.51	980.64
L23	71.75 - 70.5	Pole	Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.52	0.28	1.90
			Max. Mx	20	-32.02	997.76	2.28
			Max. My	2	-32.05	1.52	987.81
			Max. Vy	20	-29.05	997.76	2.28
			Max. Vx	2	-28.69	1.52	987.81
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.39	0.28	1.89
L24	70.5 - 70.25	Pole	Max. Mx	20	-31.92	990.50	2.27
			Max. My	2	-31.95	1.51	980.64
			Max. Vy	20	-29.02	990.50	2.27
			Max. Vx	2	-28.66	1.51	980.64
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.52	0.28	1.90
			Max. Mx	20	-32.02	997.76	2.28
			Max. My	2	-32.05	1.52	987.81
			Max. Vy	20	-29.05	997.76	2.28
L25	70.25 - 70	Pole	Max. Vx	2	-28.69	1.52	987.81
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.52	0.28	1.90
			Max. Mx	20	-32.02	997.76	2.28
			Max. My	2	-32.05	1.52	987.81
			Max. Vy	20	-29.05	997.76	2.28
			Max. Vx	2	-28.69	1.52	987.81
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
L26	70 - 69.75	Pole	Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L27	69.75 - 69.5	Pole	Max. Compression	26	-52.65	0.28	1.91
			Max. Mx	20	-32.11	1005.03	2.28
			Max. My	2	-32.15	1.52	994.98
			Max. Vy	20	-29.08	1005.03	2.28
			Max. Vx	2	-28.72	1.52	994.98
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.79	0.29	1.91
			Max. Mx	20	-32.21	1012.30	2.29
			Max. My	2	-32.24	1.53	1002.17
L28	69.5 - 69.25	Pole	Max. Vy	20	-29.12	1012.30	2.29
			Max. Vx	2	-28.75	1.53	1002.17
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.91	0.29	1.92
			Max. Mx	20	-32.29	1019.58	2.29
			Max. My	2	-32.33	1.53	1009.36
			Max. Vy	20	-29.15	1019.58	2.29
			Max. Vx	2	-28.78	1.53	1009.36
			Max. Torque	8			1.31
L29	69.25 - 64.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.21	0.35	1.95
L30	64.25 - 59.25	Pole	Max. Mx	20	-34.02	1166.88	2.41
			Max. My	2	-34.06	1.63	1154.52
			Max. Vy	20	-29.78	1166.88	2.41
			Max. Vx	2	-29.30	1.63	1154.52
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.48	0.39	1.98
			Max. Mx	20	-35.79	1317.23	2.52
			Max. My	2	-35.83	1.73	1302.27
			Max. Vy	8	30.38	-1317.03	-0.74
L31	59.25 - 56	Pole	Max. Vx	2	-29.82	1.73	1302.27
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.99	0.41	1.99
			Max. Mx	20	-36.95	1416.57	2.59
			Max. My	2	-36.99	1.80	1399.69
			Max. Vy	8	30.78	-1416.38	-0.81
			Max. Vx	2	-30.15	1.80	1399.69
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
L32	56 - 55.75	Pole	Max. Compression	26	-59.14	0.41	1.99
			Max. Mx	20	-37.07	1424.27	2.60
			Max. My	2	-37.12	1.80	1407.23
			Max. Vy	8	30.80	-1424.08	-0.81
			Max. Vx	2	-30.17	1.80	1407.23
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.30	0.41	1.99
			Max. Mx	20	-37.19	1431.97	2.60
			Max. My	2	-37.23	1.81	1414.78
L33	55.75 - 55.5	Pole	Max. Vy	8	30.84	-1431.78	-0.82
			Max. Vx	2	-30.20	1.81	1414.78
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.30	0.41	1.99
			Max. Mx	20	-37.19	1431.97	2.60
			Max. My	2	-37.23	1.81	1414.78
			Max. Vy	8	30.84	-1431.78	-0.82
			Max. Vx	2	-30.20	1.81	1414.78
			Max. Torque	8			1.31
L34	55.5 - 55.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.45	0.41	2.00
			Max. Mx	20	-37.31	1439.68	2.61
			Max. My	2	-37.35	1.81	1422.33
			Max. Vy	8	30.87	-1439.50	-0.82
			Max. Vx	2	-30.23	1.81	1422.33
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.24	0.42	2.00
			Max. Mx	20	-37.90	1478.37	2.64
L35	55.25 - 54	Pole	Max. My	2	-37.95	1.83	1460.20
			Max. Vy	8	31.05	-1478.19	-0.85
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L36	54 - 53.75	Pole	Max. Vx	2	-30.37	1.83	1460.20
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.39	0.42	2.00
			Max. Mx	20	-38.02	1486.13	2.64
			Max. My	2	-38.07	1.84	1467.79
			Max. Vy	8	31.07	-1485.95	-0.85
			Max. Vx	2	-30.39	1.84	1467.79
L37	53.75 - 53.5	Pole	Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.54	0.42	2.01
			Max. Mx	20	-38.14	1493.90	2.65
			Max. My	2	-38.18	1.84	1475.39
			Max. Vy	8	31.10	-1493.73	-0.85
			Max. Vx	2	-30.42	1.84	1475.39
			Max. Torque	8			1.31
L38	53.5 - 53.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.69	0.42	2.01
			Max. Mx	20	-38.25	1501.68	2.66
			Max. My	2	-38.29	1.84	1483.00
			Max. Vy	8	31.14	-1501.51	-0.86
			Max. Vx	2	-30.44	1.84	1483.00
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
L39	53.25 - 53	Pole	Max. Compression	26	-60.82	0.42	2.01
			Max. Mx	20	-38.35	1509.46	2.66
			Max. My	2	-38.39	1.85	1490.61
			Max. Vy	8	31.17	-1509.29	-0.86
			Max. Vx	2	-30.47	1.85	1490.61
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.47	0.43	2.03
L40	53 - 48	Pole	Max. Mx	20	-40.36	1666.73	2.78
			Max. My	2	-40.40	1.93	1644.13
			Max. Vy	8	31.77	-1666.61	-0.96
			Max. Vx	2	-30.96	1.93	1644.13
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.34	0.45	2.07
			Max. Mx	20	-41.79	1778.54	2.86
L41	48 - 39.75	Pole	Max. My	2	-41.84	1.99	1753.01
			Max. Vy	8	32.16	-1778.45	-1.02
			Max. Vx	2	-31.29	1.99	1753.01
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.10	0.47	2.12
			Max. Mx	20	-45.59	1965.59	3.00
			Max. My	2	-45.63	2.08	1934.77
L42	39.75 - 38.75	Pole	Max. Vy	8	32.91	-1965.55	-1.13
			Max. Vx	2	-31.94	2.08	1934.77
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.28	0.50	2.16
			Max. Mx	20	-47.27	2098.03	3.09
			Max. My	2	-47.31	2.15	2063.18
			Max. Vy	8	33.35	-2098.02	-1.21
L43	38.75 - 34.75	Pole	Max. Vx	2	-32.30	2.15	2063.18
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.44	0.51	2.16
			Max. Mx	20	-47.41	-2106.36	-1.21
			Max. My	2	-47.45	2.15	2071.25
			Max. Vy	8	33.37	-2106.36	-1.21
			Max. Vx	2	-32.31	2.15	2071.25
L44	34.75 - 34.5	Pole	Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.44	0.51	2.16
			Max. Mx	8	-47.41	-2106.36	-1.21
L45	34.5 - 33.75	Pole	Max. My	2	-47.45	2.15	2071.25
			Max. Vy	8	33.37	-2106.36	-1.21
			Max. Vx	2	-32.31	2.15	2071.25
			Max. Torque	8			1.31
		Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.92	0.51	2.17

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L46	33.75 - 33.5	Pole	Max. Mx	8	-47.78	-2131.42	-1.23
			Max. My	2	-47.82	2.17	2095.51
			Max. Vy	8	33.47	-2131.42	-1.23
			Max. Vx	2	-32.38	2.17	2095.51
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.06	0.51	2.17
			Max. Mx	8	-47.89	-2139.79	-1.23
			Max. My	2	-47.93	2.17	2103.60
			Max. Vy	8	33.49	-2139.79	-1.23
L47	33.5 - 28.5	Pole	Max. Vx	2	-32.40	2.17	2103.60
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-75.80	0.55	2.22
			Max. Mx	8	-50.02	-2308.45	-1.33
			Max. My	2	-50.06	2.25	2266.62
			Max. Vy	8	33.99	-2308.45	-1.33
			Max. Vx	2	-32.83	2.25	2266.62
			Max. Torque	8			1.31
			L48	28.5 - 24	Pole	Max Tension	1
Max. Compression	26	-78.25				0.57	2.27
Max. Mx	8	-51.97				-2462.25	-1.41
Max. My	2	-52.00				2.32	2415.08
Max. Vy	8	34.39				-2462.25	-1.41
Max. Vx	2	-33.19				2.32	2415.08
Max. Torque	8						1.31
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-78.39				0.57	2.27
L49	24 - 23.75	Pole				Max. Mx	8
			Max. My	2	-52.12	2.33	2423.37
			Max. Vy	8	34.40	-2470.85	-1.41
			Max. Vx	2	-33.20	2.33	2423.37
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-78.39	0.57	2.27
			Max. Mx	8	-52.09	-2470.85	-1.41
			Max. My	2	-52.12	2.33	2423.37
			L50	23.75 - 18.75	Pole	Max. Vy	8
Max. Vx	2	-33.20				2.33	2423.37
Max. Torque	8						1.31
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-81.23				0.60	2.32
Max. Mx	8	-54.37				-2643.91	-1.51
Max. My	2	-54.39				2.40	2590.32
Max. Vy	8	34.84				-2643.91	-1.51
Max. Vx	2	-33.60				2.40	2590.32
L51	18.75 - 14.25	Pole				Max. Torque	8
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.81	0.62	2.37
			Max. Mx	8	-56.45	-2801.46	-1.59
			Max. My	2	-56.47	2.47	2742.18
			Max. Vy	8	35.21	-2801.46	-1.59
			Max. Vx	2	-33.93	2.47	2742.18
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			L52	14.25 - 14	Pole	Max. Compression	26
Max. Mx	8	-56.59				-2810.26	-1.60
Max. My	2	-56.61				2.48	2750.66
Max. Vy	8	35.22				-2810.26	-1.60
Max. Vx	2	-33.93				2.48	2750.66
Max. Torque	8						1.31
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-87.14				0.67	2.41
Max. Mx	8	-59.14				-2987.64	-1.69
L53	14 - 9	Pole				Max. My	2
			Max. Vy	8	35.74	-2987.64	-1.69
			Max. Vx	2	-34.31	2.55	2921.22
			Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.14	0.67	2.41
			Max. Mx	8	-59.14	-2987.64	-1.69
			Max. My	2	-59.16	2.55	2921.22
			Max. Vy	8	35.74	-2987.64	-1.69
			L54	9 - 5	Pole	Max. Vx	2
Max. Torque	8						1.31
Max Tension	1	0.00				0.00	0.00
Max. Compression	26	-89.57				0.69	2.31
Max. Mx	8	-61.14				-3131.37	-1.86
Max. My	2	-61.15				2.60	3058.90
Max. Vy	8	36.14				-3131.37	-1.86
Max. Vx	2	-34.61				2.60	3058.90

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L55	5 - 4.75	Pole	Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.74	0.69	2.30
			Max. Mx	8	-61.29	-3140.41	-1.88
			Max. My	2	-61.30	2.60	3067.54
			Max. Vy	8	36.15	-3140.41	-1.88
			Max. Vx	2	-34.61	2.60	3067.54
L56	4.75 - 4.5	Pole	Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.89	0.69	2.29
			Max. Mx	8	-61.42	-3149.45	-1.89
			Max. My	2	-61.43	2.60	3076.18
			Max. Vy	8	36.18	-3149.45	-1.89
			Max. Vx	2	-34.63	2.60	3076.18
L57	4.5 - 0	Pole	Max. Torque	8			1.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-92.65	0.68	2.12
			Max. Mx	8	-63.80	-3313.22	-2.13
			Max. My	2	-63.80	2.64	3232.61
			Max. Vy	8	36.61	-3313.22	-2.13
			Max. Vx	2	-34.98	2.64	3232.61
		Max. Torque	8			1.31	

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	92.65	0.00	0.00
	Max. H _x	20	63.81	36.59	0.02
	Max. H _z	2	63.81	0.02	34.96
	Max. M _x	2	3232.61	0.02	34.96
	Max. M _z	8	3313.22	-36.59	-0.02
	Max. Torsion	8	1.31	-36.59	-0.02
	Min. Vert	5	47.86	-17.75	30.67
	Min. H _x	8	63.81	-36.59	-0.02
	Min. H _z	14	63.81	-0.02	-34.96
	Min. M _x	14	-3231.14	-0.02	-34.96
	Min. M _z	20	-3312.78	36.59	0.02
	Min. Torsion	20	-1.31	36.59	0.02

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturing Moment, M _x kip-ft	Overturing Moment, M _z kip-ft	Torque kip-ft
Dead Only	53.18	0.00	0.00	-0.57	-0.18	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	63.81	-0.02	-34.96	-3232.61	2.64	0.22
0.9 Dead+1.0 Wind 0 deg - No Ice	47.86	-0.02	-34.96	-3201.71	2.66	0.22
1.2 Dead+1.0 Wind 30 deg - No Ice	63.81	17.75	-30.67	-2813.11	-1628.96	-0.47
0.9 Dead+1.0 Wind 30 deg - No Ice	47.86	17.75	-30.67	-2786.28	-1613.47	-0.46
1.2 Dead+1.0 Wind 60 deg - No Ice	63.81	33.44	-19.25	-1726.75	-3004.17	-1.23
0.9 Dead+1.0 Wind 60 deg - No Ice	47.86	33.44	-19.25	-1710.40	-2975.98	-1.22
1.2 Dead+1.0 Wind 90 deg - No Ice	63.81	36.59	0.02	2.13	-3313.22	-1.31

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
0.9 Dead+1.0 Wind 90 deg - No Ice	47.86	36.59	0.02	2.29	-3281.89	-1.30
1.2 Dead+1.0 Wind 120 deg - No Ice	63.81	31.05	17.89	1640.87	-2852.23	-1.24
0.9 Dead+1.0 Wind 120 deg - No Ice	47.86	31.05	17.89	1625.52	-2825.17	-1.23
1.2 Dead+1.0 Wind 150 deg - No Ice	63.81	18.36	31.69	2851.40	-1655.21	-0.88
0.9 Dead+1.0 Wind 150 deg - No Ice	47.86	18.36	31.69	2824.74	-1639.55	-0.88
1.2 Dead+1.0 Wind 180 deg - No Ice	63.81	0.02	34.96	3231.14	-3.07	-0.21
0.9 Dead+1.0 Wind 180 deg - No Ice	47.86	0.02	34.96	3200.64	-2.99	-0.21
1.2 Dead+1.0 Wind 210 deg - No Ice	63.81	-17.75	30.67	2811.64	1628.52	0.47
0.9 Dead+1.0 Wind 210 deg - No Ice	47.86	-17.75	30.67	2785.20	1613.14	0.46
1.2 Dead+1.0 Wind 240 deg - No Ice	63.81	-33.44	19.25	1725.29	3003.73	1.23
0.9 Dead+1.0 Wind 240 deg - No Ice	47.86	-33.44	19.25	1709.33	2975.65	1.22
1.2 Dead+1.0 Wind 270 deg - No Ice	63.81	-36.59	-0.02	-3.59	3312.78	1.31
0.9 Dead+1.0 Wind 270 deg - No Ice	47.86	-36.59	-0.02	-3.36	3281.57	1.30
1.2 Dead+1.0 Wind 300 deg - No Ice	63.81	-31.05	-17.89	-1642.33	2851.80	1.24
0.9 Dead+1.0 Wind 300 deg - No Ice	47.86	-31.05	-17.89	-1626.60	2824.84	1.23
1.2 Dead+1.0 Wind 330 deg - No Ice	63.81	-18.36	-31.69	-2852.87	1654.78	0.89
0.9 Dead+1.0 Wind 330 deg - No Ice	47.86	-18.36	-31.69	-2825.81	1639.23	0.88
1.2 Dead+1.0 Ice+1.0 Temp	92.65	0.00	0.00	-2.12	0.68	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	92.65	-0.00	-8.30	-783.08	1.26	0.06
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	92.65	4.15	-7.19	-678.21	-390.22	-0.11
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	92.65	7.41	-4.27	-402.21	-694.22	-0.31
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	92.65	8.32	0.00	-1.80	-782.10	-0.33
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	92.65	7.20	4.15	388.51	-677.49	-0.32
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	92.65	4.21	7.27	678.36	-393.63	-0.24
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	92.65	0.00	8.30	778.41	0.18	-0.06
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	92.65	-4.15	7.19	673.54	391.66	0.11
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	92.65	-7.41	4.27	397.54	695.67	0.31
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	92.65	-8.32	-0.00	-2.88	783.54	0.33
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	92.65	-7.20	-4.15	-393.18	678.94	0.32
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	92.65	-4.21	-7.27	-683.03	395.07	0.24
Dead+Wind 0 deg - Service	53.18	-0.00	-8.37	-770.35	0.50	0.06
Dead+Wind 30 deg - Service	53.18	4.25	-7.35	-670.45	-388.11	-0.11
Dead+Wind 60 deg - Service	53.18	8.01	-4.61	-411.74	-715.72	-0.30
Dead+Wind 90 deg - Service	53.18	8.76	0.00	0.08	-789.29	-0.32
Dead+Wind 120 deg - Service	53.18	7.44	4.28	390.39	-679.47	-0.31
Dead+Wind 150 deg - Service	53.18	4.40	7.59	678.74	-394.37	-0.22
Dead+Wind 180 deg - Service	53.18	0.00	8.37	769.14	-0.86	-0.06

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 210 deg - Service	53.18	-4.25	7.35	669.24	387.75	0.11
Dead+Wind 240 deg - Service	53.18	-8.01	4.61	410.54	715.36	0.30
Dead+Wind 270 deg - Service	53.18	-8.76	-0.00	-1.28	788.93	0.32
Dead+Wind 300 deg - Service	53.18	-7.44	-4.28	-391.60	679.11	0.31
Dead+Wind 330 deg - Service	53.18	-4.40	-7.59	-679.94	394.01	0.22

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-53.18	0.00	0.00	53.18	0.00	0.000%
2	-0.02	-63.81	-34.96	0.02	63.81	34.96	0.000%
3	-0.02	-47.86	-34.96	0.02	47.86	34.96	0.000%
4	17.75	-63.81	-30.67	-17.75	63.81	30.67	0.000%
5	17.75	-47.86	-30.67	-17.75	47.86	30.67	0.000%
6	33.44	-63.81	-19.25	-33.44	63.81	19.25	0.000%
7	33.44	-47.86	-19.25	-33.44	47.86	19.25	0.000%
8	36.59	-63.81	0.02	-36.59	63.81	-0.02	0.000%
9	36.59	-47.86	0.02	-36.59	47.86	-0.02	0.000%
10	31.05	-63.81	17.89	-31.05	63.81	-17.89	0.000%
11	31.05	-47.86	17.89	-31.05	47.86	-17.89	0.000%
12	18.36	-63.81	31.69	-18.36	63.81	-31.69	0.000%
13	18.36	-47.86	31.69	-18.36	47.86	-31.69	0.000%
14	0.02	-63.81	34.96	-0.02	63.81	-34.96	0.000%
15	0.02	-47.86	34.96	-0.02	47.86	-34.96	0.000%
16	-17.75	-63.81	30.67	17.75	63.81	-30.67	0.000%
17	-17.75	-47.86	30.67	17.75	47.86	-30.67	0.000%
18	-33.44	-63.81	19.25	33.44	63.81	-19.25	0.000%
19	-33.44	-47.86	19.25	33.44	47.86	-19.25	0.000%
20	-36.59	-63.81	-0.02	36.59	63.81	0.02	0.000%
21	-36.59	-47.86	-0.02	36.59	47.86	0.02	0.000%
22	-31.05	-63.81	-17.89	31.05	63.81	17.89	0.000%
23	-31.05	-47.86	-17.89	31.05	47.86	17.89	0.000%
24	-18.36	-63.81	-31.69	18.36	63.81	31.69	0.000%
25	-18.36	-47.86	-31.69	18.36	47.86	31.69	0.000%
26	0.00	-92.65	0.00	0.00	92.65	0.00	0.000%
27	-0.00	-92.65	-8.30	0.00	92.65	8.30	0.000%
28	4.15	-92.65	-7.19	-4.15	92.65	7.19	0.000%
29	7.41	-92.65	-4.27	-7.41	92.65	4.27	0.000%
30	8.32	-92.65	0.00	-8.32	92.65	-0.00	0.000%
31	7.20	-92.65	4.15	-7.20	92.65	-4.15	0.000%
32	4.21	-92.65	7.27	-4.21	92.65	-7.27	0.000%
33	0.00	-92.65	8.30	-0.00	92.65	-8.30	0.000%
34	-4.15	-92.65	7.19	4.15	92.65	-7.19	0.000%
35	-7.41	-92.65	4.27	7.41	92.65	-4.27	0.000%
36	-8.32	-92.65	-0.00	8.32	92.65	0.00	0.000%
37	-7.20	-92.65	-4.15	7.20	92.65	4.15	0.000%
38	-4.21	-92.65	-7.27	4.21	92.65	7.27	0.000%
39	-0.00	-53.18	-8.37	0.00	53.18	8.37	0.000%
40	4.25	-53.18	-7.35	-4.25	53.18	7.35	0.000%
41	8.01	-53.18	-4.61	-8.01	53.18	4.61	0.000%
42	8.76	-53.18	0.00	-8.76	53.18	-0.00	0.000%
43	7.44	-53.18	4.28	-7.44	53.18	-4.28	0.000%
44	4.40	-53.18	7.59	-4.40	53.18	-7.59	0.000%
45	0.00	-53.18	8.37	-0.00	53.18	-8.37	0.000%
46	-4.25	-53.18	7.35	4.25	53.18	-7.35	0.000%
47	-8.01	-53.18	4.61	8.01	53.18	-4.61	0.000%
48	-8.76	-53.18	-0.00	8.76	53.18	0.00	0.000%
49	-7.44	-53.18	-4.28	7.44	53.18	4.28	0.000%
50	-4.40	-53.18	-7.59	4.40	53.18	7.59	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00017555
3	Yes	5	0.00000001	0.00006672
4	Yes	6	0.00000001	0.00038269
5	Yes	6	0.00000001	0.00013329
6	Yes	6	0.00000001	0.00043924
7	Yes	6	0.00000001	0.00015102
8	Yes	5	0.00000001	0.00044384
9	Yes	5	0.00000001	0.00020911
10	Yes	6	0.00000001	0.00038582
11	Yes	6	0.00000001	0.00013392
12	Yes	6	0.00000001	0.00039877
13	Yes	6	0.00000001	0.00013878
14	Yes	5	0.00000001	0.00019113
15	Yes	5	0.00000001	0.00007629
16	Yes	6	0.00000001	0.00038881
17	Yes	6	0.00000001	0.00013565
18	Yes	6	0.00000001	0.00041970
19	Yes	6	0.00000001	0.00014394
20	Yes	5	0.00000001	0.00048276
21	Yes	5	0.00000001	0.00022834
22	Yes	6	0.00000001	0.00040535
23	Yes	6	0.00000001	0.00014107
24	Yes	6	0.00000001	0.00038661
25	Yes	6	0.00000001	0.00013417
26	Yes	4	0.00000001	0.00000001
27	Yes	6	0.00000001	0.00023836
28	Yes	6	0.00000001	0.00026411
29	Yes	6	0.00000001	0.00027120
30	Yes	6	0.00000001	0.00023774
31	Yes	6	0.00000001	0.00026245
32	Yes	6	0.00000001	0.00026351
33	Yes	6	0.00000001	0.00023591
34	Yes	6	0.00000001	0.00026225
35	Yes	6	0.00000001	0.00026881
36	Yes	6	0.00000001	0.00023822
37	Yes	6	0.00000001	0.00026580
38	Yes	6	0.00000001	0.00026595
39	Yes	4	0.00000001	0.00081815
40	Yes	5	0.00000001	0.00013447
41	Yes	5	0.00000001	0.00016627
42	Yes	5	0.00000001	0.00003918
43	Yes	5	0.00000001	0.00013291
44	Yes	5	0.00000001	0.00014641
45	Yes	4	0.00000001	0.00081693
46	Yes	5	0.00000001	0.00013988
47	Yes	5	0.00000001	0.00014719
48	Yes	5	0.00000001	0.00003948
49	Yes	5	0.00000001	0.00015158
50	Yes	5	0.00000001	0.00013502

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 115	13.234	41	0.9352	0.0012
L2	115 - 110	12.258	41	0.9288	0.0012
L3	110 - 105	11.292	41	0.9134	0.0012

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L4	105 - 100	10.349	41	0.8864	0.0011
L5	100 - 99.25	9.440	41	0.8468	0.0010
L6	99.25 - 99	9.308	41	0.8399	0.0010
L7	99 - 94	9.264	41	0.8382	0.0010
L8	94 - 90.08	8.405	41	0.8000	0.0009
L9	90.08 - 89.83	7.765	41	0.7587	0.0008
L10	89.83 - 89.5	7.726	41	0.7570	0.0008
L11	89.5 - 89.25	7.673	41	0.7547	0.0008
L12	89.25 - 84.25	7.634	41	0.7534	0.0008
L13	84.25 - 78	6.860	41	0.7247	0.0007
L14	81.75 - 77	6.484	41	0.7090	0.0007
L15	77 - 76.75	5.786	41	0.6912	0.0006
L16	76.75 - 76.5	5.750	41	0.6897	0.0006
L17	76.5 - 75.5	5.714	41	0.6883	0.0006
L18	75.5 - 75.25	5.571	41	0.6827	0.0006
L19	75.25 - 74.5	5.535	41	0.6810	0.0006
L20	74.5 - 74.25	5.428	41	0.6757	0.0006
L21	74.25 - 72	5.393	41	0.6740	0.0006
L22	72 - 71.75	5.079	41	0.6589	0.0006
L23	71.75 - 70.5	5.045	41	0.6570	0.0006
L24	70.5 - 70.25	4.874	41	0.6479	0.0006
L25	70.25 - 70	4.840	41	0.6461	0.0006
L26	70 - 69.75	4.806	41	0.6443	0.0006
L27	69.75 - 69.5	4.772	41	0.6423	0.0006
L28	69.5 - 69.25	4.739	41	0.6406	0.0006
L29	69.25 - 64.25	4.705	41	0.6387	0.0005
L30	64.25 - 59.25	4.057	41	0.5988	0.0005
L31	59.25 - 56	3.452	41	0.5561	0.0004
L32	56 - 55.75	3.084	41	0.5277	0.0004
L33	55.75 - 55.5	3.056	41	0.5258	0.0004
L34	55.5 - 55.25	3.028	41	0.5238	0.0004
L35	55.25 - 54	3.001	41	0.5220	0.0004
L36	54 - 53.75	2.866	41	0.5130	0.0004
L37	53.75 - 53.5	2.839	41	0.5109	0.0004
L38	53.5 - 53.25	2.812	41	0.5087	0.0004
L39	53.25 - 53	2.786	41	0.5064	0.0004
L40	53 - 48	2.759	41	0.5037	0.0004
L41	48 - 39.75	2.260	41	0.4499	0.0003
L42	44.5 - 38.75	1.944	41	0.4118	0.0003
L43	38.75 - 34.75	1.467	41	0.3763	0.0002
L44	34.75 - 34.5	1.169	41	0.3350	0.0002
L45	34.5 - 33.75	1.151	41	0.3329	0.0002
L46	33.75 - 33.5	1.099	41	0.3266	0.0002
L47	33.5 - 28.5	1.082	41	0.3239	0.0002
L48	28.5 - 24	0.772	41	0.2683	0.0002
L49	24 - 23.75	0.541	41	0.2220	0.0001
L50	23.75 - 18.75	0.530	41	0.2196	0.0001
L51	18.75 - 14.25	0.326	41	0.1702	0.0001
L52	14.25 - 14	0.187	41	0.1252	0.0001
L53	14 - 9	0.180	41	0.1231	0.0001
L54	9 - 5	0.074	41	0.0790	0.0000
L55	5 - 4.75	0.023	41	0.0435	0.0000
L56	4.75 - 4.5	0.021	41	0.0417	0.0000
L57	4.5 - 0	0.019	41	0.0395	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
122.00	VV-65B-R1_TMO w/ Mount Pipe	41	13.234	0.9352	0.0012	27028
113.00	CBRS w/ Mount Pipe	41	11.869	0.9240	0.0012	19295
105.00	AIR 3246 B66 w/ Mount Pipe	41	10.349	0.8864	0.0011	8617
99.00	Miscellaneous [NA 507-1]	41	9.264	0.8382	0.0010	7209
97.00	AIR 6419 B77G w/ Mount Pipe	41	8.916	0.8252	0.0010	7146

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
96.00	80010965 w/ Mount Pipe	41	8.744	0.8179	0.0009	6932
86.00	MX08FRO665-21 w/ Mount Pipe	41	7.127	0.7359	0.0007	9641
75.00	ACUTIME 2000	41	5.499	0.6792	0.0006	9314

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 115	55.563	6	3.9300	0.0051
L2	115 - 110	51.465	6	3.9031	0.0051
L3	110 - 105	47.412	6	3.8383	0.0049
L4	105 - 100	43.453	6	3.7252	0.0044
L5	100 - 99.25	39.640	6	3.5584	0.0040
L6	99.25 - 99	39.084	6	3.5294	0.0040
L7	99 - 94	38.899	6	3.5223	0.0040
L8	94 - 90.08	35.295	6	3.3616	0.0036
L9	90.08 - 89.83	32.607	6	3.1883	0.0032
L10	89.83 - 89.5	32.441	6	3.1810	0.0032
L11	89.5 - 89.25	32.221	6	3.1712	0.0031
L12	89.25 - 84.25	32.056	6	3.1658	0.0031
L13	84.25 - 78	28.805	6	3.0454	0.0029
L14	81.75 - 77	27.229	6	2.9792	0.0027
L15	77 - 76.75	24.299	6	2.9044	0.0026
L16	76.75 - 76.5	24.147	6	2.8980	0.0026
L17	76.5 - 75.5	23.996	6	2.8921	0.0026
L18	75.5 - 75.25	23.393	6	2.8687	0.0025
L19	75.25 - 74.5	23.243	6	2.8613	0.0025
L20	74.5 - 74.25	22.796	6	2.8392	0.0025
L21	74.25 - 72	22.647	6	2.8323	0.0025
L22	72 - 71.75	21.328	6	2.7686	0.0024
L23	71.75 - 70.5	21.184	6	2.7608	0.0023
L24	70.5 - 70.25	20.467	6	2.7223	0.0023
L25	70.25 - 70	20.324	6	2.7147	0.0023
L26	70 - 69.75	20.182	6	2.7071	0.0023
L27	69.75 - 69.5	20.041	6	2.6989	0.0022
L28	69.5 - 69.25	19.900	6	2.6919	0.0022
L29	69.25 - 64.25	19.759	6	2.6838	0.0022
L30	64.25 - 59.25	17.038	6	2.5162	0.0020
L31	59.25 - 56	14.498	6	2.3365	0.0017
L32	56 - 55.75	12.948	6	2.2171	0.0016
L33	55.75 - 55.5	12.833	6	2.2090	0.0016
L34	55.5 - 55.25	12.717	6	2.2008	0.0016
L35	55.25 - 54	12.602	6	2.1932	0.0016
L36	54 - 53.75	12.033	6	2.1552	0.0015
L37	53.75 - 53.5	11.921	6	2.1463	0.0015
L38	53.5 - 53.25	11.809	6	2.1373	0.0015
L39	53.25 - 53	11.697	6	2.1273	0.0015
L40	53 - 48	11.586	6	2.1163	0.0015
L41	48 - 39.75	9.489	6	1.8900	0.0013
L42	44.5 - 38.75	8.162	6	1.7299	0.0011
L43	38.75 - 34.75	6.158	6	1.5805	0.0010
L44	34.75 - 34.5	4.907	6	1.4069	0.0009
L45	34.5 - 33.75	4.834	6	1.3981	0.0008
L46	33.75 - 33.5	4.616	6	1.3718	0.0008
L47	33.5 - 28.5	4.544	6	1.3603	0.0008
L48	28.5 - 24	3.243	6	1.1267	0.0007
L49	24 - 23.75	2.272	6	0.9321	0.0005
L50	23.75 - 18.75	2.224	6	0.9219	0.0005
L51	18.75 - 14.25	1.367	6	0.7144	0.0004
L52	14.25 - 14	0.783	6	0.5258	0.0003
L53	14 - 9	0.756	6	0.5166	0.0003
L54	9 - 5	0.312	6	0.3316	0.0002
L55	5 - 4.75	0.096	6	0.1827	0.0001
L56	4.75 - 4.5	0.087	6	0.1749	0.0001

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L57	4.5 - 0	0.078	6	0.1657	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
122.00	VV-65B-R1_TMO w/ Mount Pipe	6	55.563	3.9300	0.0051	6496
113.00	CBRS w/ Mount Pipe	6	49.836	3.8828	0.0051	4637
105.00	AIR 3246 B66 w/ Mount Pipe	6	43.453	3.7252	0.0044	2066
99.00	Miscellaneous [NA 507-1]	6	38.899	3.5223	0.0041	1726
97.00	AIR 6419 B77G w/ Mount Pipe	6	37.437	3.4675	0.0039	1710
96.00	80010965 w/ Mount Pipe	6	36.716	3.4369	0.0039	1659
86.00	MX08FRO665-21 w/ Mount Pipe	6	29.928	3.0924	0.0030	2308
75.00	ACUTIME 2000	6	23.094	2.8538	0.0025	2228

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	120 - 115 (1)	TP23.0102x22x0.25	5.00	0.00	0.0	18.322	-4.97	989.39	0.005
L2	115 - 110 (2)	TP24.0205x23.0102x0.25	5.00	0.00	0.0	19.135	-9.02	1033.30	0.009
L3	110 - 105 (3)	TP25.0307x24.0205x0.25	5.00	0.00	0.0	19.948	-9.50	1077.22	0.009
L4	105 - 100 (4)	TP26.041x25.0307x0.25	5.00	0.00	0.0	20.761	-15.06	1121.13	0.013
L5	100 - 99.25 (5)	TP26.1925x26.041x0.25	0.75	0.00	0.0	20.883	-15.15	1127.72	0.013
L6	99.25 - 99 (6)	TP26.243x26.1925x0.356	0.25	0.00	0.0	29.695	-15.19	1603.55	0.009
L7	99 - 94 (7)	TP27.2532x26.243x0.356	5.00	0.00	0.0	30.854	-20.60	1666.13	0.012
L8	94 - 90.08 (8)	TP28.0453x27.2532x0.31	3.92	0.00	0.0	27.906	-21.28	1506.93	0.014
L9	90.08 - 89.83 (9)	TP28.0958x28.0453x0.51	0.25	0.00	0.0	45.519	-21.35	2458.04	0.009
L10	89.83 - 89.5 (10)	TP28.1625x28.0958x0.51	0.33	0.00	0.0	45.629	-21.42	2463.98	0.009
L11	89.5 - 89.25 (11)	TP28.213x28.1625x0.725	0.25	0.00	0.0	64.170	-21.49	3465.22	0.006
L12	89.25 - 84.25 (12)	TP29.2232x28.213x0.7	5.00	0.00	0.0	64.291	-25.93	3471.73	0.007
L13	84.25 - 78 (13)	TP30.486x29.2232x0.7	6.25	0.00	0.0	65.429	-26.64	3533.21	0.008
L14	78 - 77 (14)	TP30.188x29.2283x0.862	4.75	0.00	0.0	81.444	-29.28	4397.99	0.007
L15	77 - 76.75 (15)	TP30.2385x30.188x0.862	0.25	0.00	0.0	81.584	-29.38	4405.57	0.007
L16	76.75 - 76.5 (16)	TP30.289x30.2385x0.962	0.25	0.00	0.0	90.890	-29.48	4908.07	0.006
L17	76.5 - 75.5 (17)	TP30.4911x30.289x0.962	1.00	0.00	0.0	91.516	-29.87	4941.89	0.006
L18	75.5 - 75.25	TP30.5416x30.4911x0.76	0.25	0.00	0.0	73.115	-29.96	3948.21	0.008

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L19	(18) 75.25 - 74.5	25 TP30.6931x30.5416x0.76	0.75	0.00	0.0	1 73.487	-30.30	3968.31	0.008
L20	(19) 74.5 - 74.25	25 TP30.7436x30.6931x0.83	0.25	0.00	0.0	1 80.649	-30.39	4355.06	0.007
L21	(20) 74.25 - 72	75 TP31.1982x30.7436x0.82	2.25	0.00	0.0	3 80.686	-31.14	4357.07	0.007
L22	(21) 72 - 71.75	5 TP31.2487x31.1982x0.76	0.25	0.00	0.0	4 74.851	-31.24	4041.97	0.008
L23	(22) 71.75 - 70.5	25 TP31.5013x31.2487x0.76	1.25	0.00	0.0	3 75.471	-31.69	4075.45	0.008
L24	(23) 70.5 - 70.25	25 TP31.5518x31.5013x0.78	0.25	0.00	0.0	4 78.010	-31.80	4212.57	0.008
L25	(24) 70.25 - 70	75 TP31.6023x31.5518x0.78	0.25	0.00	0.0	5 78.138	-31.90	4219.48	0.008
L26	(25) 70 - 69.75	75 TP31.6528x31.6023x0.72	0.25	0.00	0.0	6 72.201	-31.99	3898.85	0.008
L27	(26) 69.75 - 69.5	5 TP31.7033x31.6528x0.87	0.25	0.00	0.0	0 86.858	-32.09	4690.37	0.007
L28	(27) 69.5 - 69.25	5 TP31.7538x31.7033x0.75	0.25	0.00	0.0	8 74.874	-32.17	4043.21	0.008
L29	(28) 69.25 - 64.25	2 TP32.764x31.7538x0.737	5.00	0.00	0.0	2 76.055	-33.90	4106.97	0.008
L30	(29) 64.25 - 59.25	5 TP33.7742x32.764x0.712	5.00	0.00	0.0	0 75.851	-35.67	4096.00	0.009
L31	(30) 59.25 - 56	5 TP34.4309x33.7742x0.71	3.25	0.00	0.0	9 77.358	-36.84	4177.35	0.009
L32	(31) 56 - 55.75	25 TP34.4814x34.4309x0.81	0.25	0.00	0.0	3 88.086	-36.96	4756.65	0.008
L33	(32) 55.75 - 55.5	25 TP34.5319x34.4814x0.81	0.25	0.00	0.0	2 88.218	-37.08	4763.79	0.008
L34	(33) 55.5 - 55.25	25 TP34.5824x34.5319x0.88	0.25	0.00	0.0	3 96.291	-37.20	5199.74	0.007
L35	(34) 55.25 - 54	75 TP34.8349x34.5824x0.87	1.25	0.00	0.0	5 95.682	-37.80	5166.83	0.007
L36	(35) 54 - 53.75	5 TP34.8854x34.8349x0.75	0.25	0.00	0.0	1 82.437	-37.92	4451.60	0.009
L37	(36) 53.75 - 53.5	1 TP34.936x34.8854x0.737	0.25	0.00	0.0	1 81.212	-38.03	4385.49	0.009
L38	(37) 53.5 - 53.25	5 TP34.9865x34.936x0.662	0.25	0.00	0.0	8 73.221	-38.14	3953.97	0.010
L39	(38) 53.25 - 53	5 TP35.037x34.9865x0.6	0.25	0.00	0.0	6 66.532	-38.24	3592.74	0.011
L40	(39) 53 - 48 (40)	2 TP36.0472x35.037x0.587	5.00	0.00	0.0	2 67.080	-40.26	3622.36	0.011
L41	(40) 48 - 39.75	5 TP37.714x36.0472x0.587	8.25	0.00	0.0	8 68.418	-41.70	3694.60	0.011
L42	(41) 39.75 - 38.75	5 TP37.291x36.1293x0.662	5.75	0.00	0.0	6 78.137	-45.50	4219.44	0.011
L43	(42) 38.75 - 34.75	5 TP38.0992x37.291x0.662	4.00	0.00	0.0	8 79.861	-47.19	4312.54	0.011
L44	(43) 34.75 - 34.5	5 TP38.1497x38.0992x0.82	0.25	0.00	0.0	8 99.153	-47.33	5354.26	0.009
L45	(44) 34.5 - 33.75	5 TP38.3012x38.1497x0.82	0.75	0.00	0.0	0 99.555	-47.70	5376.00	0.009
L46	(45) 33.75 - 33.5	5 TP38.3517x38.3012x0.62	0.25	0.00	0.0	6 75.925	-47.81	4099.95	0.012
L47	(46) 33.5 - 28.5	5 TP39.3619x38.3517x0.61	5.00	0.00	0.0	0 76.423	-49.96	4126.87	0.012
L48	(47) 28.5 - 24 (48)	25 TP40.2711x39.3619x0.66	4.50	0.00	0.0	5 84.495	-51.91	4562.73	0.011
L49	(48) 24 - 23.75	25 TP40.3216x40.2711x0.7	0.25	0.00	0.0	0 89.307	-52.04	4822.58	0.011
L50	(49) 23.75 - 18.75	1 TP41.3318x40.3216x0.68	5.00	0.00	0.0	1 89.976	-54.32	4858.72	0.011
L51	(50) 18.75 - 14.25	75 TP42.241x41.3318x0.675	4.50	0.00	0.0	3 90.343	-56.42	4878.56	0.012
L52	(51) 14.25 - 14	6 TP42.2915x42.241x0.775	0.25	0.00	0.0	6 103.60	-56.56	5594.63	0.010
	(52)	40							

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L53	14 - 9 (53)	TP43.3017x42.2915x0.76 25	5.00	0.00	0.0	104.44 40	-59.12	5639.99	0.010
L54	9 - 5 (54)	TP44.1098x43.3017x0.75	4.00	0.00	0.0	104.71 40	-61.13	5654.55	0.011
L55	5 - 4.75 (55)	TP44.1603x44.1098x0.9	0.25	0.00	0.0	125.36 80	-61.28	6769.89	0.009
L56	4.75 - 4.5 (56)	TP44.2108x44.1603x0.75	0.25	0.00	0.0	104.95 80	-61.41	5667.73	0.011
L57	4.5 - 0 (57)	TP45.12x44.2108x0.75	4.50	0.00	0.0	107.15 40	-63.80	5786.29	0.011

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{nx} kip-ft	Ratio M _{ux} / φM _{nx}	M _{uy} kip-ft	φM _{ny} kip-ft	Ratio M _{uy} / φM _{ny}
L1	120 - 115 (1)	TP23.0102x22x0.25	36.89	564.83	0.065	0.00	564.83	0.000
L2	115 - 110 (2)	TP24.0205x23.0102x0.25	88.02	607.66	0.145	0.00	607.66	0.000
L3	110 - 105 (3)	TP25.0307x24.0205x0.25	148.03	651.21	0.227	0.00	651.21	0.000
L4	105 - 100 (4)	TP26.041x25.0307x0.25	238.55	695.40	0.343	0.00	695.40	0.000
L5	100 - 99.25 (5)	TP26.1925x26.041x0.25	251.44	702.08	0.358	0.00	702.08	0.000
L6	99.25 - 99 (6)	TP26.243x26.1925x0.356 3	255.74	1059.43	0.241	0.00	1059.43	0.000
L7	99 - 94 (7)	TP27.2532x26.243x0.356 3	361.89	1144.31	0.316	0.00	1144.31	0.000
L8	94 - 90.08 (8)	TP28.0453x27.2532x0.31 25	454.54	1056.37	0.430	0.00	1056.37	0.000
L9	90.08 - 89.83 (9)	TP28.0958x28.0453x0.51 25	460.53	1722.21	0.267	0.00	1722.21	0.000
L10	89.83 - 89.5 (10)	TP28.1625x28.0958x0.51 25	468.45	1730.62	0.271	0.00	1730.62	0.000
L11	89.5 - 89.25 (11)	TP28.213x28.1625x0.725	474.46	2401.11	0.198	0.00	2401.11	0.000
L12	89.25 - 84.25 (12)	TP29.2232x28.213x0.7	602.37	2500.69	0.241	0.00	2500.69	0.000
L13	84.25 - 78 (13)	TP30.486x29.2232x0.7	672.88	2591.13	0.260	0.00	2591.13	0.000
L14	78 - 77 (14)	TP30.188x29.2283x0.862 5	810.00	3241.57	0.250	0.00	3241.57	0.000
L15	77 - 76.75 (15)	TP30.2385x30.188x0.862 5	817.33	3252.92	0.251	0.00	3252.92	0.000
L16	76.75 - 76.5 (16)	TP30.289x30.2385x0.962 5	824.68	3605.72	0.229	0.00	3605.72	0.000
L17	76.5 - 75.5 (17)	TP30.4911x30.289x0.962 5	854.13	3656.38	0.234	0.00	3656.38	0.000
L18	75.5 - 75.25 (18)	TP30.5416x30.4911x0.76 25	861.52	2966.04	0.290	0.00	2966.04	0.000
L19	75.25 - 74.5 (19)	TP30.6931x30.5416x0.76 25	883.91	2996.68	0.295	0.00	2996.68	0.000
L20	74.5 - 74.25 (20)	TP30.7436x30.6931x0.83 75	891.35	3277.97	0.272	0.00	3277.97	0.000
L21	74.25 - 72 (21)	TP31.1982x30.7436x0.82 5	958.87	3333.43	0.288	0.00	3333.43	0.000
L22	72 - 71.75 (22)	TP31.2487x31.1982x0.76 25	966.42	3110.38	0.311	0.00	3110.38	0.000
L23	71.75 - 70.5 (23)	TP31.5013x31.2487x0.76 25	1004.37	3162.76	0.318	0.00	3162.76	0.000
L24	70.5 - 70.25 (24)	TP31.5518x31.5013x0.78 75	1011.98	3269.36	0.310	0.00	3269.36	0.000
L25	70.25 - 70 (25)	TP31.6023x31.5518x0.78 75	1019.62	3280.23	0.311	0.00	3280.23	0.000
L26	70 - 69.75 (26)	TP31.6528x31.6023x0.72 5	1027.26	3048.38	0.337	0.00	3048.38	0.000
L27	69.75 - 69.5	TP31.7033x31.6528x0.87	1034.91	3637.88	0.284	0.00	3637.88	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 $\frac{M_{uy}}{\phi M_{ny}}$
L28	(27) 69.5 - 69.25	5 TP31.7538x31.7033x0.75	1042.58	3166.69	0.329	0.00	3166.69	0.000
L29	(28) 69.25 - 64.25	5 TP32.764x31.7538x0.737	1197.63	3326.52	0.360	0.00	3326.52	0.000
L30	(29) 64.25 - 59.25	5 TP33.7742x32.764x0.712	1355.97	3429.82	0.395	0.00	3429.82	0.000
L31	(30) 59.25 - 56	5 TP34.4309x33.7742x0.71	1460.65	3568.88	0.409	0.00	3568.88	0.000
L32	(31) 56 - 55.75	25 TP34.4814x34.4309x0.81	1468.76	4045.94	0.363	0.00	4045.94	0.000
L33	(32) 55.75 - 55.5	25 TP34.5319x34.4814x0.81	1476.88	4058.23	0.364	0.00	4058.23	0.000
L34	(33) 55.5 - 55.25	25 TP34.5824x34.5319x0.88	1485.02	4416.73	0.336	0.00	4416.73	0.000
L35	(34) 55.25 - 54	75 TP34.8349x34.5824x0.87	1525.85	4425.77	0.345	0.00	4425.77	0.000
L36	(35) 54 - 53.75	5 TP34.8854x34.8349x0.75	1534.05	3847.06	0.399	0.00	3847.06	0.000
L37	(36) 53.75 - 53.5	5 TP34.936x34.8854x0.737	1542.26	3798.43	0.406	0.00	3798.43	0.000
L38	(37) 53.5 - 53.25	5 TP34.9865x34.936x0.662	1550.48	3444.88	0.450	0.00	3444.88	0.000
L39	(38) 53.25 - 53	5 TP35.037x34.9865x0.6	1558.71	3146.26	0.495	0.00	3146.26	0.000
L40	(39) 53 - 48 (40)	5 TP36.0472x35.037x0.587	1724.88	3269.16	0.528	0.00	3269.16	0.000
L41	(41) 48 - 39.75	5 TP37.714x36.0472x0.587	1842.93	3401.93	0.542	0.00	3401.93	0.000
L42	(42) 39.75 - 38.75	5 TP37.291x36.1293x0.662	2040.47	3927.67	0.520	0.00	3927.67	0.000
L43	(43) 38.75 - 34.75	5 TP38.0992x37.291x0.662	2180.39	4104.48	0.531	0.00	4104.48	0.000
L44	(44) 34.75 - 34.5	5 TP38.1497x38.0992x0.82	2189.20	5058.79	0.433	0.00	5058.79	0.000
L45	(45) 34.5 - 33.75	5 TP38.3012x38.1497x0.82	2215.67	5100.39	0.434	0.00	5100.39	0.000
L46	(46) 33.75 - 33.5	5 TP38.3517x38.3012x0.62	2224.50	3936.75	0.565	0.00	3936.75	0.000
L47	(47) 33.5 - 28.5	25 TP39.3619x38.3517x0.61	2402.65	4073.06	0.590	0.00	4073.06	0.000
L48	(48) 28.5 - 24	25 TP40.2711x39.3619x0.66	2565.23	4598.92	0.558	0.00	4598.92	0.000
L49	(49) 24 - 23.75	25 TP40.3216x40.2711x0.7	2574.32	4857.93	0.530	0.00	4857.93	0.000
L50	(50) 23.75 - 18.75	75 TP41.3318x40.3216x0.68	2757.52	5024.38	0.549	0.00	5024.38	0.000
L51	(51) 18.75 - 14.25	75 TP42.241x41.3318x0.675	2924.43	5162.72	0.566	0.00	5162.72	0.000
L52	(52) 14.25 - 14	75 TP42.2915x42.241x0.775	2933.75	5899.37	0.497	0.00	5899.37	0.000
L53	(53) 14 - 9	25 TP43.3017x42.2915x0.76	3121.50	6098.13	0.512	0.00	6098.13	0.000
L54	(54) 9 - 5	25 TP44.1098x43.3017x0.75	3273.30	6235.67	0.525	0.00	6235.67	0.000
L55	(55) 5 - 4.75	75 TP44.1603x44.1098x0.9	3282.83	7422.92	0.442	0.00	7422.92	0.000
L56	(56) 4.75 - 4.5	75 TP44.2108x44.1603x0.75	3292.38	6265.01	0.526	0.00	6265.01	0.000
L57	(57) 4.5 - 0	75 TP45.12x44.2108x0.75	3465.07	6532.14	0.530	0.00	6532.14	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	120 - 115 (1)	TP23.0102x22x0.25	6.19	296.82	0.021	0.00	594.24	0.000
L2	115 - 110 (2)	TP24.0205x23.0102x0.25	11.76	309.99	0.038	0.26	648.17	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio V_u ϕV_n	Actual T_u kip-ft	ϕT_n kip-ft	Ratio T_u ϕT_n
L3	110 - 105 (3)	TP25.0307x24.0205x0.25	12.26	323.17	0.038	0.26	704.43	0.000
L4	105 - 100 (4)	TP26.041x25.0307x0.25	17.15	336.34	0.051	0.26	763.04	0.000
L5	100 - 99.25 (5)	TP26.1925x26.041x0.25	17.22	338.32	0.051	0.26	772.03	0.000
L6	99.25 - 99 (6)	TP26.243x26.1925x0.356 3	17.25	481.06	0.036	0.26	1095.42	0.000
L7	99 - 94 (7)	TP27.2532x26.243x0.356 3	23.35	499.84	0.047	0.62	1182.58	0.001
L8	94 - 90.08 (8)	TP28.0453x27.2532x0.31 25	23.95	452.08	0.053	0.65	1102.83	0.001
L9	90.08 - 89.83 (9)	TP28.0958x28.0453x0.51 25	23.98	737.41	0.033	0.66	1789.19	0.000
L10	89.83 - 89.5 (10)	TP28.1625x28.0958x0.51 25	24.03	739.20	0.033	0.66	1797.85	0.000
L11	89.5 - 89.25 (11)	TP28.213x28.1625x0.725	24.08	1039.56	0.023	0.66	2513.58	0.000
L12	89.25 - 84.25 (12)	TP29.2232x28.213x0.7	28.00	1041.52	0.027	0.92	2613.16	0.000
L13	84.25 - 78 (13)	TP30.486x29.2232x0.7	28.42	1059.96	0.027	0.94	2706.53	0.000
L14	78 - 77 (14)	TP30.188x29.2283x0.862 5	29.31	1319.40	0.022	0.98	3403.47	0.000
L15	77 - 76.75 (15)	TP30.2385x30.188x0.862 5	29.35	1321.67	0.022	0.98	3415.20	0.000
L16	76.75 - 76.5 (16)	TP30.289x30.2385x0.962 5	29.39	1472.42	0.020	0.98	3798.33	0.000
L17	76.5 - 75.5 (17)	TP30.4911x30.289x0.962 5	29.54	1482.57	0.020	0.98	3850.85	0.000
L18	75.5 - 75.25 (18)	TP30.5416x30.4911x0.76 25	29.57	1184.46	0.025	0.98	3102.65	0.000
L19	75.25 - 74.5 (19)	TP30.6931x30.5416x0.76 25	29.78	1190.49	0.025	1.20	3134.31	0.000
L20	74.5 - 74.25 (20)	TP30.7436x30.6931x0.83 75	29.82	1306.52	0.023	1.20	3436.97	0.000
L21	74.25 - 72 (21)	TP31.1982x30.7436x0.82 5	30.21	1307.12	0.023	1.20	3492.26	0.000
L22	72 - 71.75 (22)	TP31.2487x31.1982x0.76 25	30.25	1212.59	0.025	1.20	3251.76	0.000
L23	71.75 - 70.5 (23)	TP31.5013x31.2487x0.76 25	30.47	1222.64	0.025	1.21	3305.85	0.000
L24	70.5 - 70.25 (24)	TP31.5518x31.5013x0.78 75	30.51	1263.77	0.024	1.21	3419.91	0.000
L25	70.25 - 70 (25)	TP31.6023x31.5518x0.78 75	30.55	1265.85	0.024	1.21	3431.15	0.000
L26	70 - 69.75 (26)	TP31.6528x31.6023x0.72 5	30.59	1169.66	0.026	1.21	3182.05	0.000
L27	69.75 - 69.5 (27)	TP31.7033x31.6528x0.87 5	30.64	1407.11	0.022	1.21	3815.73	0.000
L28	69.5 - 69.25 (28)	TP31.7538x31.7033x0.75	30.68	1212.96	0.025	1.21	3307.97	0.000
L29	69.25 - 64.25 (29)	TP32.764x31.7538x0.737 5	31.35	1232.09	0.025	1.21	3470.98	0.000
L30	64.25 - 59.25 (30)	TP33.7742x32.764x0.712 5	32.01	1228.80	0.026	1.21	3573.61	0.000
L31	59.25 - 56 (31)	TP34.4309x33.7742x0.71 25	32.43	1253.20	0.026	1.21	3716.97	0.000
L32	56 - 55.75 (32)	TP34.4814x34.4309x0.81 25	32.47	1427.00	0.023	1.21	4226.21	0.000
L33	55.75 - 55.5 (33)	TP34.5319x34.4814x0.81 25	32.51	1429.14	0.023	1.22	4238.90	0.000
L34	55.5 - 55.25 (34)	TP34.5824x34.5319x0.88 75	32.56	1559.92	0.021	1.22	4623.46	0.000
L35	55.25 - 54 (35)	TP34.8349x34.5824x0.87 5	32.78	1550.05	0.021	1.23	4630.33	0.000
L36	54 - 53.75 (36)	TP34.8854x34.8349x0.75	32.82	1335.48	0.025	1.23	4009.98	0.000
L37	53.75 - 53.5 (37)	TP34.936x34.8854x0.737 5	32.86	1315.65	0.025	1.23	3957.72	0.000
L38	53.5 - 53.25	TP34.9865x34.936x0.662	32.90	1186.19	0.028	1.23	3581.39	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio V_u ϕV_n	Actual T_u kip-ft	ϕT_n kip-ft	Ratio T_u ϕT_n
L39	(38) 53.25 - 53	5 TP35.037x34.9865x0.6	32.94	1077.82	0.031	1.23	3264.92	0.000
L40	(39) 53 - 48 (40)	5 TP36.0472x35.037x0.587	33.53	1086.71	0.031	1.23	3389.60	0.000
L41	(40) 48 - 39.75	5 TP37.714x36.0472x0.587	33.95	1108.38	0.031	1.23	3526.13	0.000
L42	(41) 39.75 - 38.75	5 TP37.291x36.1293x0.662	34.76	1265.83	0.027	1.23	4078.45	0.000
L43	(42) 38.75 - 34.75	5 TP38.0992x37.291x0.662	35.23	1293.76	0.027	1.23	4260.41	0.000
L44	(43) 34.75 - 34.5	5 TP38.1497x38.0992x0.82	35.24	1606.28	0.022	1.23	5273.72	0.000
L45	(44) 34.5 - 33.75	5 TP38.3012x38.1497x0.82	35.34	1612.80	0.022	1.23	5316.63	0.000
L46	(45) 33.75 - 33.5	5 TP38.3517x38.3012x0.62	35.36	1229.99	0.029	1.23	4081.78	0.000
L47	(46) 33.5 - 28.5	5 TP39.3619x38.3517x0.61	35.91	1238.06	0.029	1.23	4219.95	0.000
L48	(47) 28.5 - 24 (48)	25 TP40.2711x39.3619x0.66	36.38	1368.82	0.027	1.23	4769.09	0.000
L49	(48) 24 - 23.75	25 TP40.3216x40.2711x0.7	36.39	1446.77	0.025	1.23	5042.35	0.000
L50	(49) 23.75 - 18.75	75 TP41.3318x40.3216x0.68	36.90	1457.62	0.025	1.23	5211.26	0.000
L51	(50) 18.75 - 14.25	75 TP42.241x41.3318x0.675	37.31	1463.57	0.025	1.23	5351.18	0.000
L52	(51) 14.25 - 14	75 TP42.2915x42.241x0.775	37.32	1678.39	0.022	1.23	6129.33	0.000
L53	(52) 14 - 9 (53)	25 TP43.3017x42.2915x0.76	37.79	1692.00	0.022	1.23	6331.23	0.000
L54	(53) 9 - 5 (54)	25 TP44.1098x43.3017x0.75	38.16	1696.37	0.022	1.23	6470.03	0.000
L55	(54) 5 - 4.75 (55)	25 TP44.1603x44.1098x0.9	38.16	2030.97	0.019	1.23	7728.46	0.000
L56	(55) 4.75 - 4.5 (56)	25 TP44.2108x44.1603x0.75	38.19	1700.32	0.022	1.23	6500.22	0.000
L57	(56) 4.5 - 0 (57)	25 TP45.12x44.2108x0.75	38.61	1735.89	0.022	1.23	6775.02	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P_u ϕP_n	Ratio M_{ux} ϕM_{nx}	Ratio M_{uy} ϕM_{ny}	Ratio V_u ϕV_n	Ratio T_u ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	120 - 115 (1)	0.005	0.065	0.000	0.021	0.000	0.071	1.050	4.8.2
L2	115 - 110 (2)	0.009	0.145	0.000	0.038	0.000	0.155	1.050	4.8.2
L3	110 - 105 (3)	0.009	0.227	0.000	0.038	0.000	0.238	1.050	4.8.2
L4	105 - 100 (4)	0.013	0.343	0.000	0.051	0.000	0.359	1.050	4.8.2
L5	100 - 99.25 (5)	0.013	0.358	0.000	0.051	0.000	0.374	1.050	4.8.2
L6	99.25 - 99 (6)	0.009	0.241	0.000	0.036	0.000	0.252	1.050	4.8.2
L7	99 - 94 (7)	0.012	0.316	0.000	0.047	0.001	0.331	1.050	4.8.2
L8	94 - 90.08 (8)	0.014	0.430	0.000	0.053	0.001	0.447	1.050	4.8.2
L9	90.08 - 89.83 (9)	0.009	0.267	0.000	0.033	0.000	0.277	1.050	4.8.2
L10	89.83 - 89.5 (10)	0.009	0.271	0.000	0.033	0.000	0.280	1.050	4.8.2
L11	89.5 - 89.25 (11)	0.006	0.198	0.000	0.023	0.000	0.204	1.050	4.8.2
L12	89.25 - 84.25 (12)	0.007	0.241	0.000	0.027	0.000	0.249	1.050	4.8.2
L13	84.25 - 78 (13)	0.008	0.260	0.000	0.027	0.000	0.268	1.050	4.8.2
L14	78 - 77 (14)	0.007	0.250	0.000	0.022	0.000	0.257	1.050	4.8.2
L15	77 - 76.75 (15)	0.007	0.251	0.000	0.022	0.000	0.258	1.050	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L16	76.75 - 76.5 (16)	0.006	0.229	0.000	0.020	0.000	0.235	1.050	4.8.2
L17	76.5 - 75.5 (17)	0.006	0.234	0.000	0.020	0.000	0.240	1.050	4.8.2
L18	75.5 - 75.25 (18)	0.008	0.290	0.000	0.025	0.000	0.299	1.050	4.8.2
L19	75.25 - 74.5 (19)	0.008	0.295	0.000	0.025	0.000	0.303	1.050	4.8.2
L20	74.5 - 74.25 (20)	0.007	0.272	0.000	0.023	0.000	0.279	1.050	4.8.2
L21	74.25 - 72 (21)	0.007	0.288	0.000	0.023	0.000	0.295	1.050	4.8.2
L22	72 - 71.75 (22)	0.008	0.311	0.000	0.025	0.000	0.319	1.050	4.8.2
L23	71.75 - 70.5 (23)	0.008	0.318	0.000	0.025	0.000	0.326	1.050	4.8.2
L24	70.5 - 70.25 (24)	0.008	0.310	0.000	0.024	0.000	0.318	1.050	4.8.2
L25	70.25 - 70 (25)	0.008	0.311	0.000	0.024	0.000	0.319	1.050	4.8.2
L26	70 - 69.75 (26)	0.008	0.337	0.000	0.026	0.000	0.346	1.050	4.8.2
L27	69.75 - 69.5 (27)	0.007	0.284	0.000	0.022	0.000	0.292	1.050	4.8.2
L28	69.5 - 69.25 (28)	0.008	0.329	0.000	0.025	0.000	0.338	1.050	4.8.2
L29	69.25 - 64.25 (29)	0.008	0.360	0.000	0.025	0.000	0.369	1.050	4.8.2
L30	64.25 - 59.25 (30)	0.009	0.395	0.000	0.026	0.000	0.405	1.050	4.8.2
L31	59.25 - 56 (31)	0.009	0.409	0.000	0.026	0.000	0.419	1.050	4.8.2
L32	56 - 55.75 (32)	0.008	0.363	0.000	0.023	0.000	0.371	1.050	4.8.2
L33	55.75 - 55.5 (33)	0.008	0.364	0.000	0.023	0.000	0.372	1.050	4.8.2
L34	55.5 - 55.25 (34)	0.007	0.336	0.000	0.021	0.000	0.344	1.050	4.8.2
L35	55.25 - 54 (35)	0.007	0.345	0.000	0.021	0.000	0.353	1.050	4.8.2
L36	54 - 53.75 (36)	0.009	0.399	0.000	0.025	0.000	0.408	1.050	4.8.2
L37	53.75 - 53.5 (37)	0.009	0.406	0.000	0.025	0.000	0.415	1.050	4.8.2
L38	53.5 - 53.25 (38)	0.010	0.450	0.000	0.028	0.000	0.461	1.050	4.8.2
L39	53.25 - 53 (39)	0.011	0.495	0.000	0.031	0.000	0.507	1.050	4.8.2
L40	53 - 48 (40)	0.011	0.528	0.000	0.031	0.000	0.540	1.050	4.8.2
L41	48 - 39.75 (41)	0.011	0.542	0.000	0.031	0.000	0.554	1.050	4.8.2
L42	39.75 - 38.75 (42)	0.011	0.520	0.000	0.027	0.000	0.531	1.050	4.8.2
L43	38.75 - 34.75 (43)	0.011	0.531	0.000	0.027	0.000	0.543	1.050	4.8.2
L44	34.75 - 34.5 (44)	0.009	0.433	0.000	0.022	0.000	0.442	1.050	4.8.2
L45	34.5 - 33.75 (45)	0.009	0.434	0.000	0.022	0.000	0.444	1.050	4.8.2
L46	33.75 - 33.5 (46)	0.012	0.565	0.000	0.029	0.000	0.578	1.050	4.8.2
L47	33.5 - 28.5 (47)	0.012	0.590	0.000	0.029	0.000	0.603	1.050	4.8.2
L48	28.5 - 24 (48)	0.011	0.558	0.000	0.027	0.000	0.570	1.050	4.8.2
L49	24 - 23.75 (49)	0.011	0.530	0.000	0.025	0.000	0.541	1.050	4.8.2
L50	23.75 - 18.75 (50)	0.011	0.549	0.000	0.025	0.000	0.561	1.050	4.8.2
L51	18.75 - 14.25	0.012	0.566	0.000	0.025	0.000	0.579	1.050	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
	(51)								
L52	14.25 - 14	0.010	0.497	0.000	0.022	0.000	0.508	1.050	4.8.2
	(52)								
L53	14 - 9 (53)	0.010	0.512	0.000	0.022	0.000	0.523	1.050	4.8.2
L54	9 - 5 (54)	0.011	0.525	0.000	0.022	0.000	0.536	1.050	4.8.2
L55	5 - 4.75 (55)	0.009	0.442	0.000	0.019	0.000	0.452	1.050	4.8.2
L56	4.75 - 4.5 (56)	0.011	0.526	0.000	0.022	0.000	0.537	1.050	4.8.2
L57	4.5 - 0 (57)	0.011	0.530	0.000	0.022	0.000	0.542	1.050	4.8.2

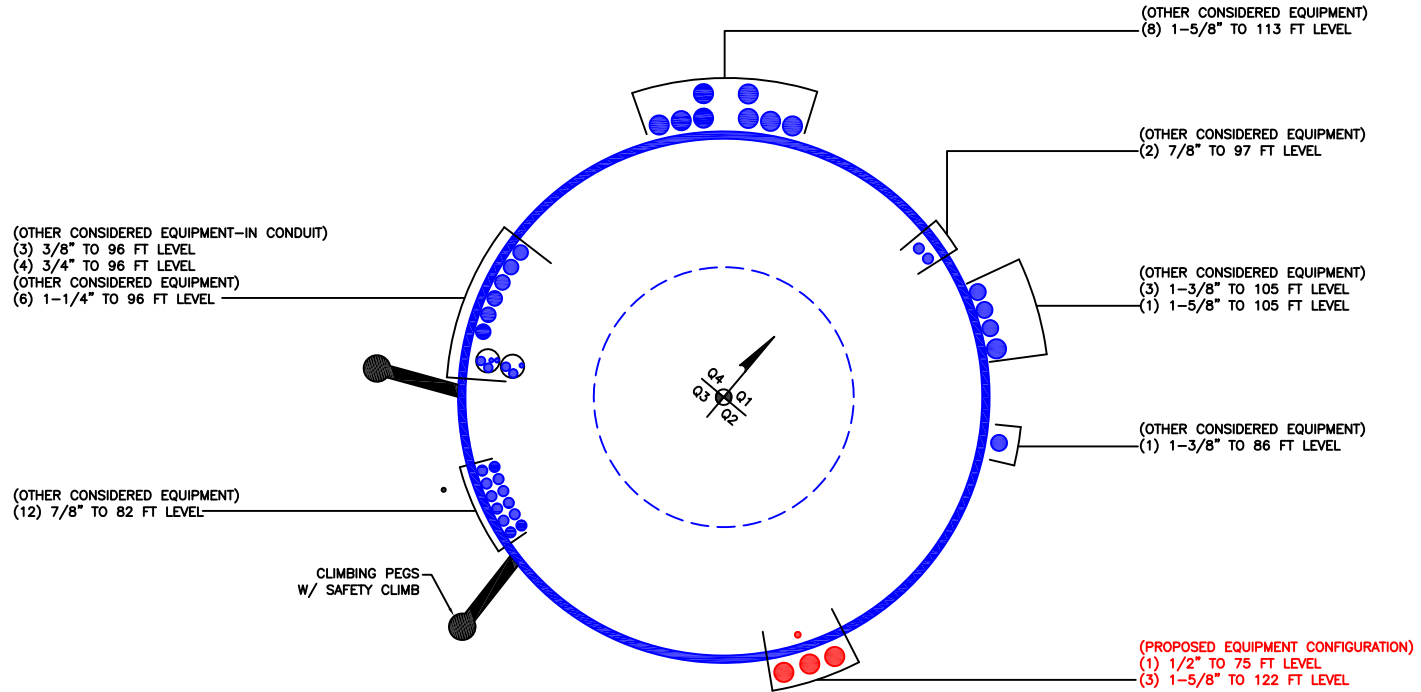
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	120 - 115	Pole	TP23.0102x22x0.25	1	-4.97	1038.86	6.7	Pass
L2	115 - 110	Pole	TP24.0205x23.0102x0.25	2	-9.02	1084.96	14.8	Pass
L3	110 - 105	Pole	TP25.0307x24.0205x0.25	3	-9.50	1131.08	22.6	Pass
L4	105 - 100	Pole	TP26.041x25.0307x0.25	4	-15.06	1177.19	34.2	Pass
L5	100 - 99.25	Pole	TP26.1925x26.041x0.25	5	-15.15	1184.11	35.6	Pass
L6	99.25 - 99	Pole	TP26.243x26.1925x0.3563	6	-15.19	1683.73	24.0	Pass
L7	99 - 94	Pole	TP27.2532x26.243x0.3563	7	-20.60	1749.44	31.5	Pass
L8	94 - 90.08	Pole	TP28.0453x27.2532x0.3125	8	-21.28	1582.28	42.6	Pass
L9	90.08 - 89.83	Pole	TP28.0958x28.0453x0.5125	9	-21.35	2580.94	26.4	Pass
L10	89.83 - 89.5	Pole	TP28.1625x28.0958x0.5125	10	-21.42	2587.18	26.7	Pass
L11	89.5 - 89.25	Pole	TP28.213x28.1625x0.725	11	-21.49	3638.48	19.5	Pass
L12	89.25 - 84.25	Pole	TP29.2232x28.213x0.7	12	-25.93	3645.32	23.7	Pass
L13	84.25 - 78	Pole	TP30.486x29.2232x0.7	13	-26.64	3709.87	25.5	Pass
L14	78 - 77	Pole	TP30.188x29.2283x0.8625	14	-29.28	4617.89	24.5	Pass
L15	77 - 76.75	Pole	TP30.2385x30.188x0.8625	15	-29.38	4625.85	24.6	Pass
L16	76.75 - 76.5	Pole	TP30.289x30.2385x0.9625	16	-29.48	5153.47	22.4	Pass
L17	76.5 - 75.5	Pole	TP30.4911x30.289x0.9625	17	-29.87	5188.98	22.9	Pass
L18	75.5 - 75.25	Pole	TP30.5416x30.4911x0.7625	18	-29.96	4145.62	28.4	Pass
L19	75.25 - 74.5	Pole	TP30.6931x30.5416x0.7625	19	-30.30	4166.73	28.9	Pass
L20	74.5 - 74.25	Pole	TP30.7436x30.6931x0.8375	20	-30.39	4572.81	26.6	Pass
L21	74.25 - 72	Pole	TP31.1982x30.7436x0.825	21	-31.14	4574.92	28.1	Pass
L22	72 - 71.75	Pole	TP31.2487x31.1982x0.7625	22	-31.24	4244.07	30.4	Pass
L23	71.75 - 70.5	Pole	TP31.5013x31.2487x0.7625	23	-31.69	4279.22	31.0	Pass
L24	70.5 - 70.25	Pole	TP31.5518x31.5013x0.7875	24	-31.80	4423.20	30.3	Pass
L25	70.25 - 70	Pole	TP31.6023x31.5518x0.7875	25	-31.90	4430.45	30.4	Pass
L26	70 - 69.75	Pole	TP31.6528x31.6023x0.725	26	-31.99	4093.79	32.9	Pass
L27	69.75 - 69.5	Pole	TP31.7033x31.6528x0.875	27	-32.09	4924.89	27.8	Pass
L28	69.5 - 69.25	Pole	TP31.7538x31.7033x0.75	28	-32.17	4245.37	32.2	Pass
L29	69.25 - 64.25	Pole	TP32.764x31.7538x0.7375	29	-33.90	4312.32	35.1	Pass
L30	64.25 - 59.25	Pole	TP33.7742x32.764x0.7125	30	-35.67	4300.80	38.5	Pass
L31	59.25 - 56	Pole	TP34.4309x33.7742x0.7125	31	-36.84	4386.22	39.9	Pass
L32	56 - 55.75	Pole	TP34.4814x34.4309x0.8125	32	-36.96	4994.48	35.4	Pass
L33	55.75 - 55.5	Pole	TP34.5319x34.4814x0.8125	33	-37.08	5001.98	35.5	Pass
L34	55.5 - 55.25	Pole	TP34.5824x34.5319x0.8875	34	-37.20	5459.73	32.7	Pass
L35	55.25 - 54	Pole	TP34.8349x34.5824x0.875	35	-37.80	5425.17	33.6	Pass
L36	54 - 53.75	Pole	TP34.8854x34.8349x0.75	36	-37.92	4674.18	38.8	Pass
L37	53.75 - 53.5	Pole	TP34.936x34.8854x0.7375	37	-38.03	4604.76	39.6	Pass
L38	53.5 - 53.25	Pole	TP34.9865x34.936x0.6625	38	-38.14	4151.67	43.9	Pass
L39	53.25 - 53	Pole	TP35.037x34.9865x0.6	39	-38.24	3772.38	48.3	Pass
L40	53 - 48	Pole	TP36.0472x35.037x0.5875	40	-40.26	3803.48	51.4	Pass
L41	48 - 39.75	Pole	TP37.714x36.0472x0.5875	41	-41.70	3879.33	52.8	Pass
L42	39.75 - 38.75	Pole	TP37.291x36.1293x0.6625	42	-45.50	4430.41	50.6	Pass
L43	38.75 - 34.75	Pole	TP38.0992x37.291x0.6625	43	-47.19	4528.17	51.7	Pass
L44	34.75 - 34.5	Pole	TP38.1497x38.0992x0.825	44	-47.33	5621.97	42.1	Pass
L45	34.5 - 33.75	Pole	TP38.3012x38.1497x0.825	45	-47.70	5644.80	42.3	Pass
L46	33.75 - 33.5	Pole	TP38.3517x38.3012x0.625	46	-47.81	4304.95	55.0	Pass
L47	33.5 - 28.5	Pole	TP39.3619x38.3517x0.6125	47	-49.96	4333.21	57.4	Pass
L48	28.5 - 24	Pole	TP40.2711x39.3619x0.6625	48	-51.91	4790.87	54.3	Pass
L49	24 - 23.75	Pole	TP40.3216x40.2711x0.7	49	-52.04	5063.71	51.6	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L50	23.75 - 18.75	Pole	TP41.3318x40.3216x0.6875	50	-54.32	5101.66	53.4	Pass	
L51	18.75 - 14.25	Pole	TP42.241x41.3318x0.675	51	-56.42	5122.49	55.1	Pass	
L52	14.25 - 14	Pole	TP42.2915x42.241x0.775	52	-56.56	5874.36	48.4	Pass	
L53	14 - 9	Pole	TP43.3017x42.2915x0.7625	53	-59.12	5921.99	49.8	Pass	
L54	9 - 5	Pole	TP44.1098x43.3017x0.75	54	-61.13	5937.28	51.1	Pass	
L55	5 - 4.75	Pole	TP44.1603x44.1098x0.9	55	-61.28	7108.38	43.0	Pass	
L56	4.75 - 4.5	Pole	TP44.2108x44.1603x0.75	56	-61.41	5951.12	51.1	Pass	
L57	4.5 - 0	Pole	TP45.12x44.2108x0.75	57	-63.80	6075.60	51.6	Pass	
							Summary		
							Pole (L47)	57.4	Pass
							RATING =	57.4	Pass

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

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

Pole Geometry

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	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	120	42	3.75	12	22	30.486	0.25	Auto	A607-60
2	81.75	42	4.75	12	29.23	37.714	0.3125	Auto	A607-60
3	44.5	44.5	0	12	36.13	45.12	0.375	Auto	A607-60

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12
1	0	4.75	plate	(TS) 1.25x4.00 (65 ksi)	3			0		0						0	
2	0	24	channel	MP3-04 (1.25in)	4			0		0				0		0	
3	4.75	34.75	plate	PL 1" X 5"	4		3				-3		-4				-3.3
4	33.75	69.75	plate	PL 1" X 5"	4		-2.5				2.5		2.5				2.5
5	0	14.25	channel	MP3-03 (1.25in)	4		-1.8				1.5		1.5				1.75
6	24	44.25	channel	MP3-03 (1.25in)	4			0		0				0		0	
7	53.5	70.5	plate	CCI-SFP-045100	1											2.25	
8	53.25	72	plate	CCI-SFP-065125	1			0									
9	54	70	plate	CCI-AFP-045100	2					0				0			
10	69.5	89.5	plate	CCI-AFP-060100	2	0									0		
11	70	90.08	plate	CCI-AFP-045100	2					0				0			
12	44	56	plate	CCI-SFP-045100	3			3			-3		-3				
13	43.75	55.5	plate	CCI-SFP-045100	1												-3
14	74.5	99.25	plate	PL 1.25" X 4"	1			0									
15	75.5	99.25	plate	PL 1.25" X 4"	1					0							
16	75.5	99.25	plate	PL 1.25" X 4"	1												0
17	69.75	78.5	plate	PL 1.25" X 4"	2				0			0					
18	70	78.5	plate	PL 1.25" X 4"	1												-2
19	69.75	76.75	plate	PL 1.25" X 4"	1								-3				
20	0	5	plate	(TS) 1.25x6.00	1										0		
21	0	5	plate	(TS) 1.25x6.00 (mod)	1						0						
22																	

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 (in ²)	Bolt Hole Size (in)	Reinforcement Material
1	1.25	4	5	8	Welded	n/a	Welded	n/a	6.000	5.000	0.0000	A572-65
2	4.78	1.61	4.13	0.61	PC 8.8 - M20 (100)	17	PC 8.8 - M20 (100)	17.000	18.000	3.566	1.2500	A572-65
3	5	1	5	0.5	PC 8.8 - M20 (100)	27	PC 8.8 - M20 (100)	27.000	18.000	3.750	1.1875	A572-65
4	5	1	5	0.5	PC 8.8 - M20 (100)	27	PC 8.8 - M20 (100)	27.000	18.000	3.750	1.1875	A572-65
5	4.06	1.57	2.92	0.59	PC 8.8 - M20 (100)	14	PC 8.8 - M20 (100)	14.000	18.000	2.526	1.2500	A572-65
6	4.06	1.57	2.92	0.59	PC 8.8 - M20 (100)	14	PC 8.8 - M20 (100)	14.000	18.000	2.526	1.2500	A572-65
7	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
8	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
9	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	20.000	3.250	1.1875	A572-65
10	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
11	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	20.000	3.250	1.1875	A572-65
12	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
13	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
14	4	1.25	5	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	27.000	3.438	1.1875	A572-65
15	4	1.25	5	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	27.000	3.438	1.1875	A572-65
16	4	1.25	5	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	27.000	3.438	1.1875	A572-65
17	4	1.25	5	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	27.000	3.438	1.1875	A572-65
18	4	1.25	5	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	27.000	3.438	1.1875	A572-65
19	4	1.25	5	0.625	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	27.000	3.438	1.1875	A572-65
20	1.25	5.25	6.5625	3.375	Welded	n/a	Welded	n/a	1.250	6.563	0.0000	A572-65
21	1.25	5.1875	6.48438	3.34375	Welded	n/a	Welded	n/a	1.250	6.484	0.0000	A572-65

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
(TS) 1.25x4.00 (65 ksi)	Top	-	-	-	-	80	None	-	-	-	-	39	0.375	-
	Bottom	-	-	-	-	80	CJP Groove	8	0.625	45	0.625	-	-	-
PL 1" X 5"	Top	9	N	3	3	0	-	-	-	-	-	-	-	-
	Bottom	9	N	3	3	0	-	0	-	-	0	-	-	-
PL 1.25" X 4"	Top	6	N	3	3	0	-	-	-	-	-	-	-	-
	Bottom	6	N	3	3	0	-	0	-	-	0	-	-	-
(TS) 1.25x6.00	Top	-	-	-	-	80	None	-	-	-	-	60	0.313	-
	Bottom	-	-	-	-	80	CJP Groove	10.5	0.625	45	0.3125	-	-	-
(TS) 1.25x6.00 (mod)	Top	-	-	-	-	80	None	-	-	-	-	60	0.313	-
	Bottom	-	-	-	-	80	CJP Groove	10.375	0.625	45	0.3125	-	-	-

TNX Geometry Input

Increment (ft): [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	120 - 115	5		12	22.000	23.010	0.25	A607-60	1.000
2	115 - 110	5		12	23.010	24.020	0.25	A607-60	1.000
3	110 - 105	5		12	24.020	25.031	0.25	A607-60	1.000
4	105 - 100	5		12	25.031	26.041	0.25	A607-60	1.000
5	100 - 99.25	0.75		12	26.041	26.192	0.25	A607-60	1.000
6	99.25 - 99	0.25		12	26.192	26.243	0.35625	A607-60	1.042
7	99 - 94	5		12	26.243	27.253	0.35625	A607-60	1.029
8	94 - 90.08	3.92		12	27.253	28.045	0.3125	A607-60	1.161
9	90.08 - 89.83	0.25		12	28.045	28.096	0.5125	A607-60	1.020
10	89.83 - 89.5	0.33		12	28.096	28.162	0.5125	A607-60	1.019
11	89.5 - 89.25	0.25		12	28.162	28.213	0.725	A607-60	0.913
12	89.25 - 84.25	5		12	28.213	29.223	0.7	A607-60	0.924
13	84.25 - 81.75	6.25	3.75	12	29.223	30.486	0.7	A607-60	0.914
14	81.75 - 77	4.75		12	29.228	30.188	0.8625	A607-60	0.996
15	77 - 76.75	0.25		12	30.188	30.239	0.8625	A607-60	0.995
16	76.75 - 76.5	0.25		12	30.239	30.289	0.9625	A607-60	0.949
17	76.5 - 75.5	1		12	30.289	30.491	0.9625	A607-60	0.945
18	75.5 - 75.25	0.25		12	30.491	30.542	0.7625	A607-60	1.046
19	75.25 - 74.5	0.75		12	30.542	30.693	0.7625	A607-60	1.043
20	74.5 - 74.25	0.25		12	30.693	30.744	0.8375	A607-60	0.889
21	74.25 - 72	2.25		12	30.744	31.198	0.825	A607-60	0.894
22	72 - 71.75	0.25		12	31.198	31.249	0.7625	A607-60	1.073
23	71.75 - 70.5	1.25		12	31.249	31.501	0.7625	A607-60	1.068
24	70.5 - 70.25	0.25		12	31.501	31.552	0.7875	A607-60	1.091
25	70.25 - 70	0.25		12	31.552	31.602	0.7875	A607-60	1.090
26	70 - 69.75	0.25		12	31.602	31.653	0.725	A607-60	1.111
27	69.75 - 69.5	0.25		12	31.653	31.703	0.875	A607-60	0.982
28	69.5 - 69.25	0.25		12	31.703	31.754	0.75	A607-60	0.979
29	69.25 - 64.25	5		12	31.754	32.764	0.7375	A607-60	0.977
30	64.25 - 59.25	5		12	32.764	33.774	0.7125	A607-60	0.993
31	59.25 - 56	3.25		12	33.774	34.431	0.7125	A607-60	0.983
32	56 - 55.75	0.25		12	34.431	34.481	0.8125	A607-60	1.017
33	55.75 - 55.5	0.25		12	34.481	34.532	0.8125	A607-60	1.016
34	55.5 - 55.25	0.25		12	34.532	34.582	0.8875	A607-60	0.978
35	55.25 - 54	1.25		12	34.582	34.835	0.875	A607-60	0.987
36	54 - 53.75	0.25		12	34.835	34.885	0.75	A607-60	1.037
37	53.75 - 53.5	0.25		12	34.885	34.936	0.7375	A607-60	1.053
38	53.5 - 53.25	0.25		12	34.936	34.986	0.6625	A607-60	1.107
39	53.25 - 53	0.25		12	34.986	35.037	0.6	A607-60	1.097
40	53 - 48	5		12	35.037	36.047	0.5875	A607-60	1.103
41	48 - 44.5	8.25	4.75	12	36.047	37.714	0.5875	A607-60	1.092
42	44.5 - 38.75	5.75		12	36.129	37.291	0.6625	A607-60	0.976
43	38.75 - 34.75	4		12	37.291	38.099	0.6625	A607-60	0.968
44	34.75 - 34.5	0.25		12	38.099	38.150	0.825	A607-60	0.982
45	34.5 - 33.75	0.75		12	38.150	38.301	0.825	A607-60	0.980
46	33.75 - 33.5	0.25		12	38.301	38.352	0.625	A607-60	1.022
47	33.5 - 28.5	5		12	38.352	39.362	0.6125	A607-60	1.031
48	28.5 - 24	4.5		12	39.362	40.271	0.6625	A607-60	0.946
49	24 - 23.75	0.25		12	40.271	40.322	0.7	A607-60	0.950
50	23.75 - 18.75	5		12	40.322	41.332	0.6875	A607-60	0.956
51	18.75 - 14.25	4.5		12	41.332	42.241	0.675	A607-60	0.964
52	14.25 - 14	0.25		12	42.241	42.291	0.775	A607-60	0.954
53	14 - 9	5		12	42.291	43.302	0.7625	A607-60	0.958
54	9 - 5	4		12	43.302	44.110	0.75	A607-60	0.965
55	5 - 4.75	0.25		12	44.110	44.160	0.9125	A607-60	0.899
56	4.75 - 4.5	0.25		12	44.160	44.211	0.875	A607-60	0.895
57	4.5 - 0	4.5		12	44.211	45.120	0.85	A607-60	0.911

TNX Section Forces

Increment (ft):		TNX Output		
5				
	Section Height (ft)	P _u	M _{ux} (kip-ft)	V _u (K)
1	120 - 115	4.97	36.89	6.19
2	115 - 110	9.02	88.02	11.76
3	110 - 105	9.50	148.03	12.26
4	105 - 100	15.06	238.55	17.15
5	100 - 99.25	15.15	251.44	17.22
6	99.25 - 99	15.19	255.74	17.25
7	99 - 94	20.60	361.89	23.35
8	94 - 90.08	21.28	454.54	23.95
9	90.08 - 89.83	21.35	460.53	23.98
10	89.83 - 89.5	21.42	468.45	24.03
11	89.5 - 89.25	21.49	474.46	24.08
12	89.25 - 84.25	25.93	602.37	28.00
13	84.25 - 81.75	26.64	672.88	28.42
14	81.75 - 77	29.28	810.00	29.31
15	77 - 76.75	29.38	817.33	29.35
16	76.75 - 76.5	29.48	824.68	29.39
17	76.5 - 75.5	29.87	854.14	29.54
18	75.5 - 75.25	29.96	861.52	29.57
19	75.25 - 74.5	30.30	883.91	29.78
20	74.5 - 74.25	30.39	891.35	29.82
21	74.25 - 72	31.14	958.87	30.21
22	72 - 71.75	31.24	966.42	30.25
23	71.75 - 70.5	31.69	1004.36	30.47
24	70.5 - 70.25	31.80	1011.98	30.51
25	70.25 - 70	31.90	1019.62	30.55
26	70 - 69.75	31.99	1027.26	30.59
27	69.75 - 69.5	32.09	1034.91	30.64
28	69.5 - 69.25	32.17	1042.58	30.68
29	69.25 - 64.25	33.90	1197.63	31.35
30	64.25 - 59.25	35.67	1355.97	32.01
31	59.25 - 56	36.84	1460.65	32.43
32	56 - 55.75	36.96	1468.76	32.47
33	55.75 - 55.5	37.08	1476.88	32.51
34	55.5 - 55.25	37.20	1485.02	32.56
35	55.25 - 54	37.80	1525.85	32.78
36	54 - 53.75	37.92	1534.05	32.82
37	53.75 - 53.5	38.03	1542.26	32.86
38	53.5 - 53.25	38.14	1550.48	32.90
39	53.25 - 53	38.24	1558.71	32.94
40	53 - 48	40.26	1724.87	33.53
41	48 - 44.5	41.70	1842.93	33.95
42	44.5 - 38.75	45.50	2040.47	34.76
43	38.75 - 34.75	47.19	2180.39	35.23
44	34.75 - 34.5	47.33	2189.20	35.24
45	34.5 - 33.75	47.70	2215.67	35.34
46	33.75 - 33.5	47.81	2224.50	35.36
47	33.5 - 28.5	49.96	2402.65	35.91
48	28.5 - 24	51.91	2565.23	36.38
49	24 - 23.75	52.04	2574.33	36.39
50	23.75 - 18.75	54.32	2757.52	36.90
51	18.75 - 14.25	56.42	2924.43	37.31
52	14.25 - 14	56.56	2933.75	37.32
53	14 - 9	59.12	3121.50	37.79
54	9 - 5	61.13	3273.30	38.16
55	5 - 4.75	61.28	3282.83	38.16
56	4.75 - 4.5	61.41	3292.37	38.19
57	4.5 - 0	63.80	3465.07	38.61

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
120 - 115	Pole	TP23.01x22x0.25	Pole	6.7%	Pass
115 - 110	Pole	TP24.02x23.01x0.25	Pole	14.7%	Pass
110 - 105	Pole	TP25.031x24.02x0.25	Pole	22.6%	Pass
105 - 100	Pole	TP26.041x25.031x0.25	Pole	34.1%	Pass
100 - 99.25	Pole	TP26.192x26.041x0.25	Pole	35.5%	Pass
99.25 - 99	Pole + Reinf.	TP26.243x26.192x0.3563	Reinf. 14 Tension Rupture	32.4%	Pass
99 - 94	Pole + Reinf.	TP27.253x26.243x0.3563	Reinf. 14 Tension Rupture	43.1%	Pass
94 - 90.08	Pole + Reinf.	TP28.045x27.253x0.3125	Pole	51.6%	Pass
90.08 - 89.83	Pole + Reinf.	TP28.096x28.045x0.5125	Reinf. 11 Tension Rupture	42.9%	Pass
89.83 - 89.5	Pole + Reinf.	TP28.162x28.096x0.5125	Reinf. 11 Tension Rupture	43.5%	Pass
89.5 - 89.25	Pole + Reinf.	TP28.213x28.162x0.725	Reinf. 15 Tension Rupture	33.7%	Pass
89.25 - 84.25	Pole + Reinf.	TP29.223x28.213x0.7	Reinf. 15 Tension Rupture	40.7%	Pass
84.25 - 81.75	Pole + Reinf.	TP30.486x29.223x0.7	Reinf. 15 Tension Rupture	44.3%	Pass
81.75 - 77	Pole + Reinf.	TP30.188x29.228x0.8625	Reinf. 17 Tension Rupture	40.4%	Pass
77 - 76.75	Pole + Reinf.	TP30.239x30.188x0.8625	Reinf. 17 Tension Rupture	40.7%	Pass
76.75 - 76.5	Pole + Reinf.	TP30.289x30.239x0.9625	Reinf. 14 Tension Rupture	38.2%	Pass
76.5 - 75.5	Pole + Reinf.	TP30.491x30.289x0.9625	Reinf. 14 Tension Rupture	39.2%	Pass
75.5 - 75.25	Pole + Reinf.	TP30.542x30.491x0.7625	Reinf. 17 Tension Rupture	45.1%	Pass
75.25 - 74.5	Pole + Reinf.	TP30.693x30.542x0.7625	Reinf. 17 Tension Rupture	46.0%	Pass
74.5 - 74.25	Pole + Reinf.	TP30.744x30.693x0.8375	Reinf. 17 Tension Rupture	48.5%	Pass
74.25 - 72	Pole + Reinf.	TP31.198x30.744x0.825	Reinf. 17 Tension Rupture	51.0%	Pass
72 - 71.75	Pole + Reinf.	TP31.249x31.198x0.7625	Reinf. 17 Tension Rupture	48.9%	Pass
71.75 - 70.5	Pole + Reinf.	TP31.501x31.249x0.7625	Reinf. 17 Tension Rupture	50.2%	Pass
70.5 - 70.25	Pole + Reinf.	TP31.552x31.501x0.7875	Reinf. 17 Tension Rupture	50.2%	Pass
70.25 - 70	Pole + Reinf.	TP31.602x31.552x0.7875	Reinf. 17 Tension Rupture	50.5%	Pass
70 - 69.75	Pole + Reinf.	TP31.653x31.602x0.725	Reinf. 17 Tension Rupture	52.4%	Pass
69.75 - 69.5	Pole + Reinf.	TP31.703x31.653x0.875	Reinf. 4 Tension Rupture	44.5%	Pass
69.5 - 69.25	Pole + Reinf.	TP31.754x31.703x0.75	Reinf. 4 Tension Rupture	49.8%	Pass
69.25 - 64.25	Pole + Reinf.	TP32.764x31.754x0.7375	Reinf. 4 Tension Rupture	54.5%	Pass
64.25 - 59.25	Pole + Reinf.	TP33.774x32.764x0.7125	Reinf. 4 Tension Rupture	59.0%	Pass
59.25 - 56	Pole + Reinf.	TP34.431x33.774x0.7125	Reinf. 4 Tension Rupture	61.7%	Pass
56 - 55.75	Pole + Reinf.	TP34.481x34.431x0.8125	Reinf. 7 Tension Rupture	59.4%	Pass
55.75 - 55.5	Pole + Reinf.	TP34.532x34.481x0.8125	Reinf. 7 Tension Rupture	59.6%	Pass
55.5 - 55.25	Pole + Reinf.	TP34.582x34.532x0.8875	Reinf. 7 Tension Rupture	53.7%	Pass
55.25 - 54	Pole + Reinf.	TP34.835x34.582x0.875	Reinf. 7 Tension Rupture	54.6%	Pass
54 - 53.75	Pole + Reinf.	TP34.885x34.835x0.75	Reinf. 7 Tension Rupture	62.6%	Pass
53.75 - 53.5	Pole + Reinf.	TP34.936x34.885x0.7375	Reinf. 7 Tension Rupture	62.8%	Pass
53.5 - 53.25	Pole + Reinf.	TP34.986x34.936x0.6625	Reinf. 4 Tension Rupture	67.5%	Pass
53.25 - 53	Pole + Reinf.	TP35.037x34.986x0.6	Reinf. 12 Tension Rupture	69.8%	Pass
53 - 48	Pole + Reinf.	TP36.047x35.037x0.5875	Reinf. 12 Tension Rupture	74.0%	Pass
48 - 44.5	Pole + Reinf.	TP37.714x36.047x0.5875	Reinf. 12 Tension Rupture	76.9%	Pass
44.5 - 38.75	Pole + Reinf.	TP37.291x36.129x0.6625	Reinf. 4 Tension Rupture	75.0%	Pass
38.75 - 34.75	Pole + Reinf.	TP38.099x37.291x0.6625	Reinf. 4 Tension Rupture	77.4%	Pass
34.75 - 34.5	Pole + Reinf.	TP38.15x38.099x0.825	Reinf. 3 Tension Rupture	62.0%	Pass
34.5 - 33.75	Pole + Reinf.	TP38.301x38.15x0.825	Reinf. 3 Tension Rupture	62.4%	Pass
33.75 - 33.5	Pole + Reinf.	TP38.352x38.301x0.625	Reinf. 6 Tension Rupture	76.8%	Pass
33.5 - 28.5	Pole + Reinf.	TP39.362x38.352x0.6125	Reinf. 6 Tension Rupture	79.4%	Pass
28.5 - 24	Pole + Reinf.	TP40.271x39.362x0.6625	Reinf. 3 Tension Rupture	81.7%	Pass
24 - 23.75	Pole + Reinf.	TP40.322x40.271x0.7	Reinf. 3 Tension Rupture	78.1%	Pass
23.75 - 18.75	Pole + Reinf.	TP41.332x40.322x0.6875	Reinf. 3 Tension Rupture	80.4%	Pass
18.75 - 14.25	Pole + Reinf.	TP42.241x41.332x0.675	Reinf. 3 Tension Rupture	82.4%	Pass
14.25 - 14	Pole + Reinf.	TP42.291x42.241x0.775	Reinf. 3 Tension Rupture	71.7%	Pass
14 - 9	Pole + Reinf.	TP43.302x42.291x0.7625	Reinf. 3 Tension Rupture	73.6%	Pass
9 - 5	Pole + Reinf.	TP44.11x43.302x0.75	Reinf. 3 Tension Rupture	75.0%	Pass
5 - 4.75	Pole + Reinf.	TP44.16x44.11x0.9125	Reinf. 3 Tension Rupture	67.9%	Pass
4.75 - 4.5	Pole + Reinf.	TP44.211x44.16x0.875	Reinf. 1 Compression	68.5%	Pass
4.5 - 0	Pole + Reinf.	TP45.12x44.211x0.85	Reinf. 1 Compression	69.9%	Pass
				Summary	
			Pole	61.4%	Pass
			Reinforcement	82.4%	Pass
			Overall	82.4%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in ⁴)			Area (in ²)			% Capacity* (100% Max. Allowable)																					
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21
120 - 115	1213	n/a	1213	18.30	n/a	18.30	6.7%																					
115 - 110	1382	n/a	1382	19.11	n/a	19.11	14.7%																					
110 - 105	1566	n/a	1566	19.92	n/a	19.92	22.6%																					
105 - 100	1765	n/a	1765	20.73	n/a	20.73	34.1%																					
100 - 99.25	1796	n/a	1796	20.85	n/a	20.85	35.5%																					
99.25 - 99	1892	740	2633	20.89	10.00	30.89	27.9%															32.4%		32.4%				
99 - 94	2116	800	2916	21.71	10.00	31.71	37.4%															43.1%		43.1%				
94 - 90.08	2439	519	2958	22.34	10.00	32.34	51.6%															51.4%		51.4%				
90.08 - 89.83	2235	2180	4415	22.38	24.00	46.38	30.0%											42.9%				41.3%		36.0%		41.4%		
89.83 - 89.5	2251	2190	4441	22.44	24.00	46.44	30.4%											43.5%				41.8%		36.4%		42.0%		
89.5 - 89.25	2276	3952	6228	22.48	36.00	58.48	22.8%										27.5%	32.9%				33.6%		33.7%		29.1%		
89.25 - 84.25	2531	4227	6758	23.29	36.00	59.29	27.9%										33.3%	39.8%				40.6%		40.7%		35.2%		
84.25 - 81.75	2665	4368	7033	23.70	36.00	59.70	30.7%										36.2%	43.3%				44.2%		44.3%		38.4%		
81.75 - 77	3434	5537	8970	30.02	51.00	81.02	25.8%										33.3%	38.9%				40.3%		35.9%		34.0%		40.4%
77 - 76.75	3451	5554	9005	30.07	51.00	81.07	26.0%										33.5%	39.1%				40.5%		36.2%		34.3%		40.7%
76.75 - 76.5	3483	6565	10048	30.12	56.00	86.12	23.9%										32.2%	32.7%				38.2%		34.4%		34.5%		36.1%
76.5 - 75.5	3554	6648	10202	30.32	56.00	86.32	24.6%										33.1%	33.6%				39.2%		35.3%		35.4%		37.0%
75.5 - 75.25	3556	4807	8363	30.37	46.00	76.37	29.4%										40.5%	41.0%				40.0%				45.1%		43.2%
75.25 - 74.5	3609	4852	8461	30.53	46.00	76.53	30.0%										41.3%	41.8%				40.7%				46.0%		44.0%
74.5 - 74.25	3738	5532	9270	30.58	41.00	71.58	30.5%										45.2%	44.7%							48.5%		44.0%	42.8%
74.25 - 72	3906	5690	9596	31.03	41.00	72.03	32.3%										47.6%	47.1%							51.0%		46.3%	45.1%
72 - 71.75	3808	5092	8900	31.09	49.13	80.21	31.6%										33.0%	42.4%							48.9%		46.9%	41.8%
71.75 - 70.5	3902	5171	9072	31.34	49.13	80.46	32.6%										34.0%	43.5%							50.2%		48.1%	42.9%
70.5 - 70.25	3925	5537	9462	31.39	53.63	85.01	31.9%										36.8%	34.2%							50.2%		42.3%	43.1%
70.25 - 70	3944	5554	9498	31.44	53.63	85.07	32.0%										37.0%	34.4%							50.5%		42.5%	43.4%
70 - 69.75	3961	4823	8785	31.49	48.63	80.12	35.2%										44.9%	34.4%				46.3%		46.8%				
69.75 - 69.5	4028	6551	10579	31.54	53.63	85.17	30.4%										38.2%	33.9%				43.3%		36.4%				
69.5 - 69.25	4004	5187	9190	31.59	41.63	73.22	34.3%										49.8%	49.3%				49.3%		38.5%		47.2%		
69.25 - 64.25	4401	5507	9909	32.61	41.63	74.23	38.1%										54.5%	42.4%				54.2%		42.4%		51.9%		
64.25 - 59.25	4825	5838	10663	33.62	41.63	75.25	41.7%										59.0%	58.7%				46.0%		56.2%				
59.25 - 56	5114	6058	11172	34.28	41.63	75.91	44.0%										61.7%	61.5%				48.2%		58.9%				
56 - 55.75	5209	7530	12738	34.33	55.13	89.46	40.4%										58.6%	59.4%				40.0%		50.5%		51.4%		
55.75 - 55.5	5232	7551	12782	34.38	55.13	89.51	40.6%										58.8%	59.6%				40.2%		50.6%		51.6%		
55.5 - 55.25	5199	8671	13870	34.43	59.63	94.06	37.0%										57.0%	53.7%				40.1%		48.9%		48.6%		50.8%
55.25 - 54	5314	8793	14107	34.69	59.63	94.31	37.7%										51.6%	54.6%				40.8%		49.8%		49.4%		51.7%
54 - 53.75	5328	6906	12234	34.74	50.63	85.36	43.8%										56.0%	62.6%				46.0%		55.8%		54.0%		
53.75 - 53.5	5351	6925	12276	34.79	50.63	85.41	43.9%										56.2%	62.8%				46.2%		56.0%		54.2%		
53.5 - 53.25	5418	5610	11027	34.84	46.13	80.97	50.4%										67.5%					53.7%		40.1%		48.9%		
53.25 - 53	5388	4730	10118	34.89	38.00	72.89	53.2%										67.8%					53.7%		40.1%		48.9%		
53 - 48	5872	4982	10854	35.91	38.00	73.91	57.1%										71.6%					53.7%		40.1%		48.9%		
48 - 44.5	6228	5162	11390	36.62	38.00	74.62	59.8%										74.2%					53.7%		40.1%		48.9%		
44.5 - 38.75	7765	5730	13494	44.51	31.68	76.19	52.4%										75.0%					53.7%		40.1%		48.9%		
38.75 - 34.75	8286	5977	14263	45.49	31.68	77.17	54.6%										77.4%					53.7%		40.1%		48.9%		
34.75 - 34.5	8319	9340	17659	45.55	51.68	97.23	43.8%										62.0%	61.1%				61.1%						
34.5 - 33.75	8419	9410	17829	45.73	51.68	97.41	44.1%										62.4%	61.4%				61.5%						
33.75 - 33.5	8462	5245	13707	45.79	31.68	77.47	58.8%										76.7%					61.5%						
33.5 - 28.5	9155	5523	14678	47.01	31.68	78.69	61.4%										79.4%					61.5%						
28.5 - 24	9807	7211	17019	48.11	31.68	79.79	57.2%										81.7%					61.5%						
24 - 23.75	9844	8023	17867	48.17	36.52	84.69	54.7%										74.5%	78.1%				61.5%						
23.75 - 18.75	10609	8417	19026	49.38	36.52	85.90	56.9%										76.6%	80.4%				61.5%						
18.75 - 14.25	11331	8779	20110	50.48	36.52	87.00	58.9%										78.4%	82.4%				61.5%						
14.25 - 14	11366	11460	22827	50.54	48.20	98.74	53.0%										70.3%	71.7%				66.1%						
14 - 9	12208	11986	24194	51.76	48.20	99.96	55.1%										72.0%	73.5%				67.8%						
9 - 5	12911	12415	25326	52.73	48.20	100.93	56.7%										73.4%	74.9%				69.1%						
5 - 4.75	13162	17431	30593	52.80	61.25	114.04	49.6%										67.3%	67.9%				64.0%						57.0%
4.75 - 4.5	13034	16199	29233	52.86	56.25	109.10	51.2%										68.5%	59.9%				67.1%						50.0%
4.5 - 0	13862	16787	30648	53.95	56.25	110.20	53.0%										69.8%	61.3%				68.6%						48.0%

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

Monopole Base Plate Connection

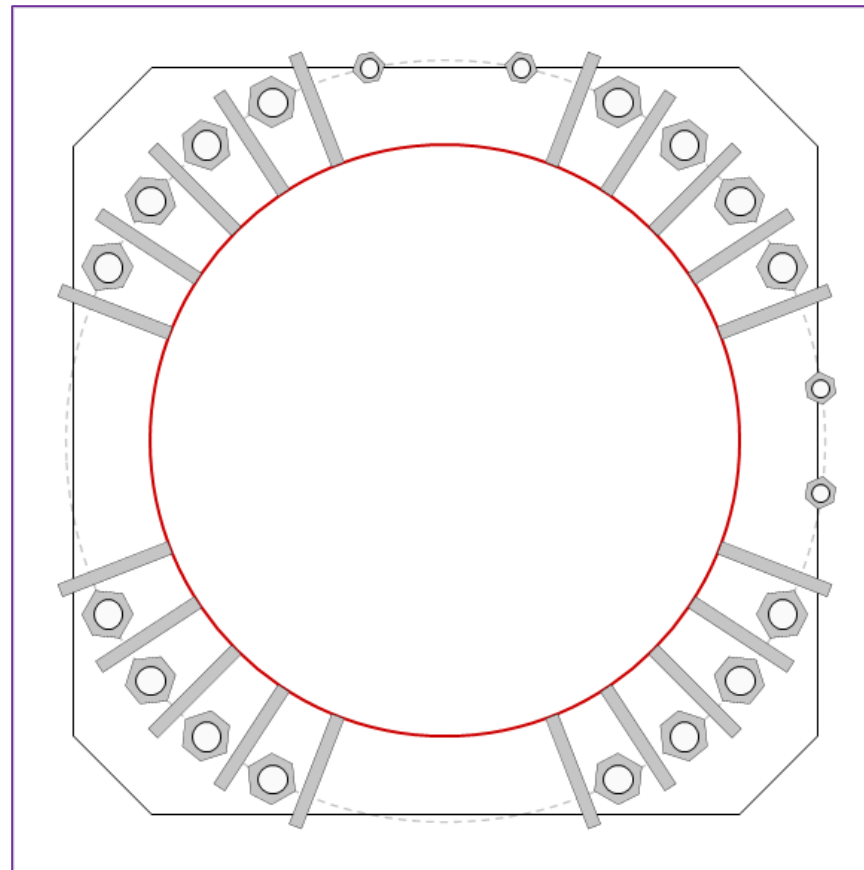


Site Info	
BU #	876320
Site Name	528 Wheelers Farm Rd
Order #	619432 Rev 0

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

Applied Loads	
Moment (kip-ft)	3465.07
Axial Force (kips)	63.80
Shear Force (kips)	38.61

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
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Anchor Rod Data

GROUP 1: (16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 58" BC
Anchor Spacing: 6 in

GROUP 2: (4) 1-3/8" ϕ bolts (R71 150ksi 1-3/8" N; $F_y=120$ ksi, $F_u=125$ ksi) on 58" BC
pos. (deg): 7.9, 78.4, 101.6, 352.1

Base Plate Data

57" W x 3.25" Plate (A572-50; $F_y=50$ ksi, $F_u=65$ ksi); Clip: 6 in

Stiffener Data

(20) 18"H x 9"W x 1"T, Notch: 0.75"
plate: $F_y=50$ ksi ; weld: $F_y=80$ ksi
horiz. weld: 0.5" groove, 45° dbl bevel, 0.5" fillet
vert. weld: 0.375" fillet

Pole Data

45.12" x 0.375" 12-sided pole (A607-60; $F_y=60$ ksi, $F_u=75$ ksi)

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

GROUP 1:			Stress Rating
$Pu_t = 170.97$	$\phi Pn_t = 243.75$		
$Vu = 2.41$	$\phi Vn = 149.1$		66.8%
$Mu = n/a$	$\phi Mn = n/a$		Pass

GROUP 2:			Stress Rating
$Pu_t = 57.11$	$\phi Pn_t = 108.75$		
$Vu = 0$	$\phi Vn = 69.6$		50.0%
$Mu = n/a$	$\phi Mn = n/a$		Pass

Base Plate Summary

Max Stress (ksi):	3.42	(Shear)
Allowable Stress (ksi):	29.25	
Stress Rating:	11.1%	Pass

Stiffener Summary

Horizontal Weld:	34.3%	Pass
Vertical Weld:	45.1%	Pass
Plate Flexure+Shear:	17.1%	Pass
Plate Tension+Shear:	35.4%	Pass
Plate Compression:	50.2%	Pass

Pole Summary

Punching Shear:	19.6%	Pass
-----------------	--------------	-------------

CClplate

Elevation (ft) | 0 (Base)

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

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

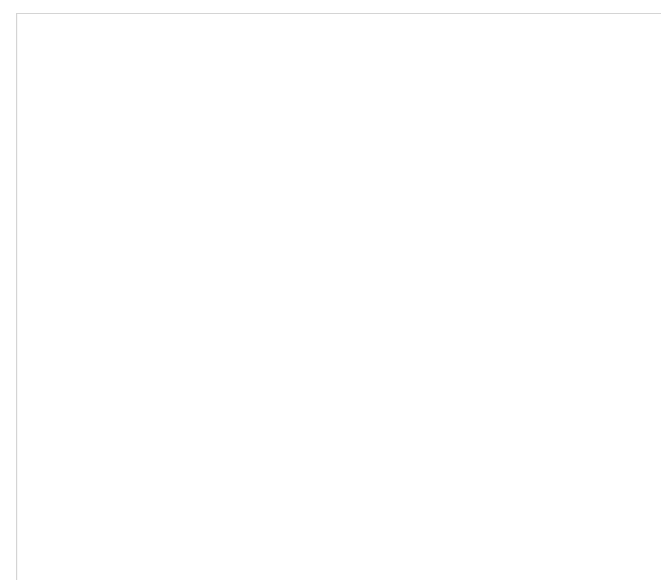
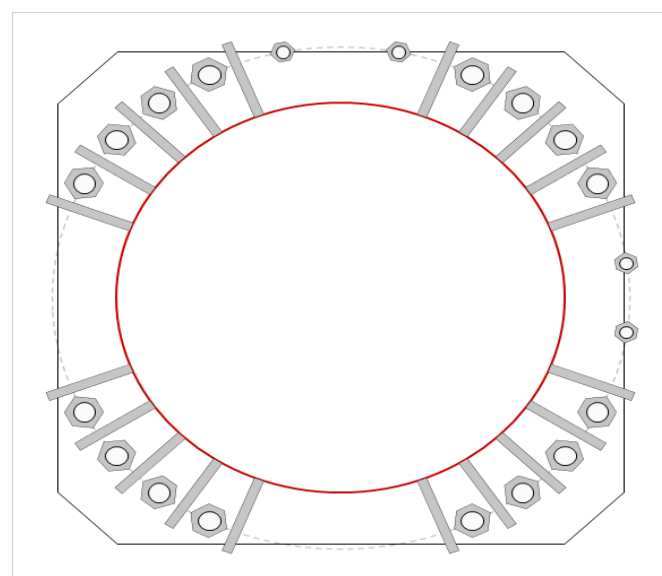
Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η	I_{xx} (in)	Thread Type	Area Override, in ²	Tension Only
1	1	27.1866826	2.25	A615-75	58	0.5	2	N-Included		No
2	1	39.0622275	2.25	A615-75	58	0.5	2	N-Included		No
3	1	50.9377725	2.25	A615-75	58	0.5	2	N-Included		No
4	1	62.8133174	2.25	A615-75	58	0.5	2	N-Included		No
5	1	117.186683	2.25	A615-75	58	0.5	2	N-Included		No
6	1	129.062228	2.25	A615-75	58	0.5	2	N-Included		No
7	1	140.937772	2.25	A615-75	58	0.5	2	N-Included		No
8	1	152.813317	2.25	A615-75	58	0.5	2	N-Included		No
9	1	207.186683	2.25	A615-75	58	0.5	2	N-Included		No
10	1	219.062228	2.25	A615-75	58	0.5	2	N-Included		No
11	1	230.937772	2.25	A615-75	58	0.5	2	N-Included		No
12	1	242.813317	2.25	A615-75	58	0.5	2	N-Included		No
13	1	297.186683	2.25	A615-75	58	0.5	2	N-Included		No
14	1	309.062228	2.25	A615-75	58	0.5	2	N-Included		No
15	1	320.937772	2.25	A615-75	58	0.5	2	N-Included		No
16	1	332.813317	2.25	A615-75	58	0.5	2	N-Included		No
17	2	7.9	1.375	R71 150ksi 1-3/8"	58	0.5	0.25	N-Included		No
18	2	78.4	1.375	R71 150ksi 1-3/8"	58	0.5	0.25	N-Included		No
19	2	101.6	1.375	R71 150ksi 1-3/8"	58	0.5	0.25	N-Included		No
20	2	352.1	1.375	R71 150ksi 1-3/8"	58	0.5	0.25	N-Included		No

Custom Stiffener Connection

Stiffener	Stiffener Group ID	Location (deg.)	Width (in)	Height (in)	Thickness (in)	H. Notch (in)	V. Notch (in)	Grade (ksi)	Weld Type	Groove Depth (in)	Groove Angle (deg.)	H. Fillet Weld Size (in)	V. Fillet Weld Size (in)	Weld Strength (ksi)
1	1	21.2489102	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
2	1	33.1244551	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
3	1	45	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
4	1	56.8755449	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
5	1	68.7510898	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
6	1	111.24891	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
7	1	123.124455	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
8	1	135	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
9	1	146.875545	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
10	1	158.75109	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
11	1	201.24891	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
12	1	213.124455	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
13	1	225	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
14	1	236.875545	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
15	1	248.75109	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
16	1	291.24891	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
17	1	303.124455	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
18	1	315	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
19	1	326.875545	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80
20	1	338.75109	9	18	1	0.75	0.75	50	Both	0.5	45	0.5	0.375	80

Plot Graphic



Drilled Pier Foundation

BU # :	876320
Site Name:	528 Wheelers Farm Rd
Order Number:	619432 Rev 0
TIA-222 Revision:	H
Tower Type:	Monopole



Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	3465.07	
Axial Force (kips)	63.81	
Shear Force (kips)	38.58	

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

Pier Design Data		
Depth	19	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
<i>From 0.5' above grade to 19' below grade</i>		
Pier Diameter	7	ft
Rebar Quantity	32	
Rebar Size	11	
Clear Cover to Ties	4	in
Tie Size	5	
Tie Spacing	18	in

Rebar 2, Fy Override (ksi)
Rebar 3, Fy Override (ksi)
[Rebar & Pier Options](#)
[Embedded Pole Inputs](#)
[Belled Pier Inputs](#)

Analysis Results

Soil Lateral Check	Compression	Uplift
D _{v=0} (ft from TOC)	5.74	-
Soil Safety Factor	2.39	-
Max Moment (kip-ft)	3664.03	-
Rating*	53.0%	-

Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	525.00	-
End Bearing (kips)	600.00	-
Weight of Concrete (kips)	100.49	-
Total Capacity (kips)	1125.00	-
Axial (kips)	164.30	-
Rating*	13.9%	-

Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	5.57	-
Critical Moment (kip-ft)	3663.58	-
Critical Moment Capacity	7549.38	-
Rating*	46.2%	-

Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	15.43	-
Critical Shear (kip)	620.74	-
Critical Shear Capacity	696.27	-
Rating*	84.9%	-

Structural Foundation Rating*	84.9%
Soil Interaction Rating*	53.0%

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	<input checked="" type="checkbox"/>
N/A	<input type="checkbox"/>
Additional Longitudinal Rebar	
Input Effective Depths (else Actual):	<input checked="" type="checkbox"/>
Shear Design Options	
Check Shear along Depth of Pier:	<input checked="" type="checkbox"/>
Utilize Shear-Friction Methodology:	<input type="checkbox"/>
Override Critical Depth:	<input type="checkbox"/>

[Go to Soil Calculations](#)

Soil Profile			
Groundwater Depth	7	# of Layers	7

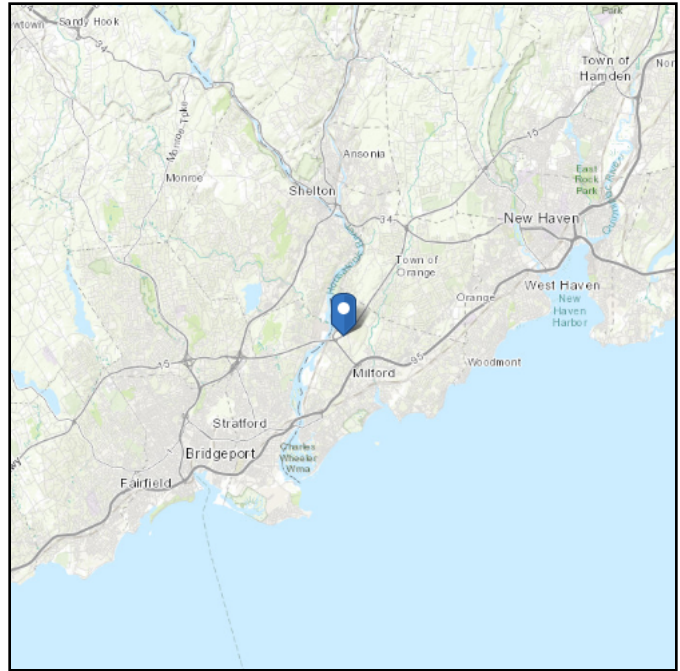
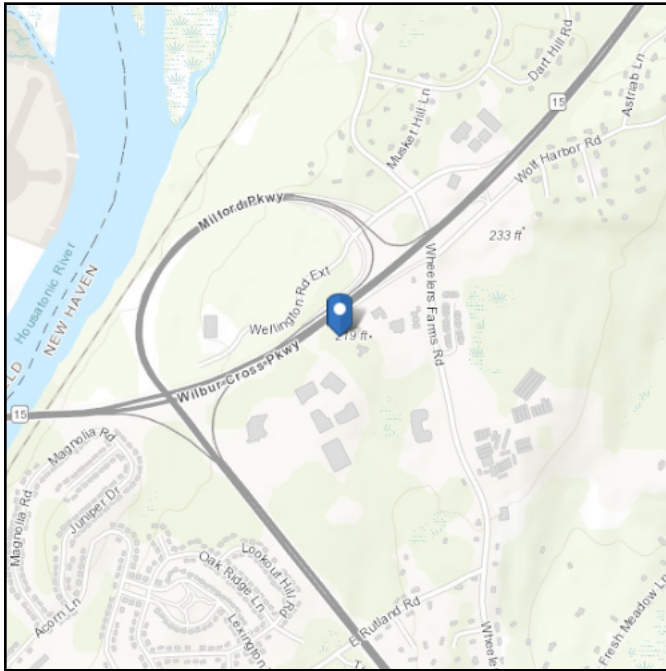
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	2	2	100	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	2	3.5	1.5	135	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
3	3.5	6	2.5	135	150	0	42	0.000	0.000	0.00	0.00			Cohesionless
4	6	7	1	135	150	0	42	0.000	0.000	1.28	1.28			Cohesionless
5	7	13.5	6.5	72.6	87.6	0	42	0.000	0.000	1.28	1.28			Cohesionless
6	13.5	14	0.5	77.6	87.6	8	0	3.600	3.600	1.28	1.28			Cohesive
7	14	19	5	77.6	87.6	8	0	3.60	3.60	4.32	4.32	20.78758		Cohesive

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: 212.97 ft (NAVD 88)
Latitude: 41.248431
Longitude: -73.079075



Wind

Results:

Wind Speed	119 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Wed Jun 22 2022

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).

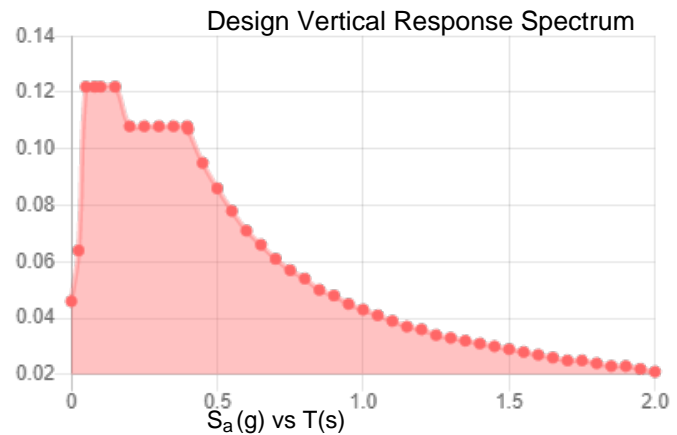
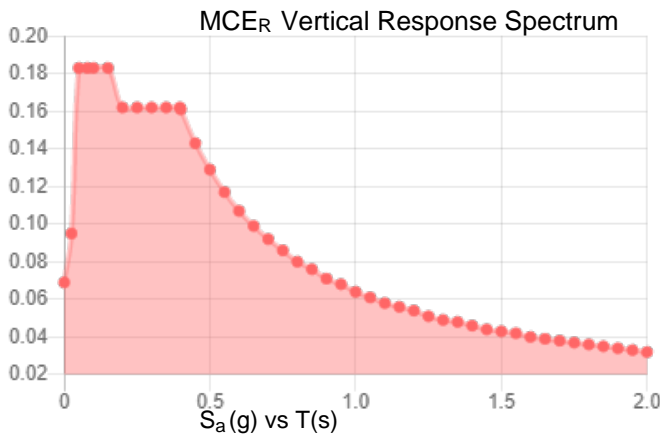
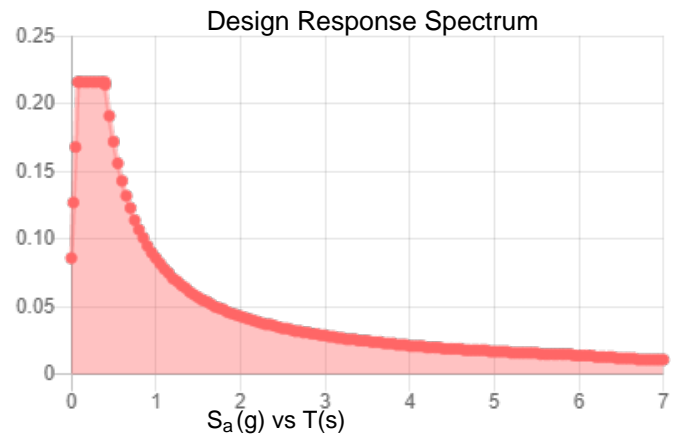
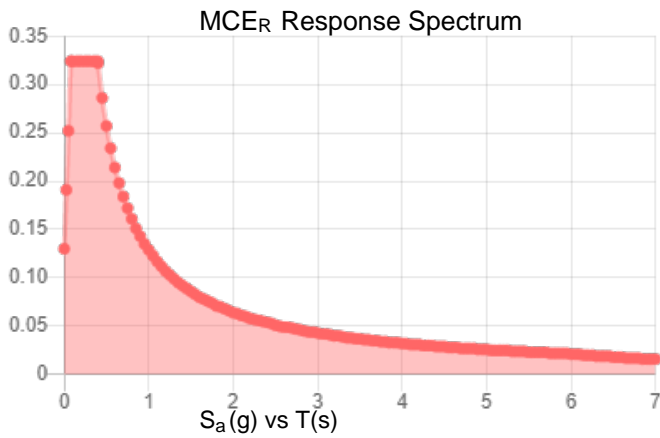
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.203	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.114
F_v :	2.4	PGA _M :	0.179
S_{MS} :	0.324	F_{PGA} :	1.572
S_{M1} :	0.129	I_e :	1
S_{DS} :	0.216	C_v :	0.705

Seismic Design Category B



Data Accessed: Wed Jun 22 2022

Date Source:

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

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Wed Jun 22 2022

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.

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Date: **June 15, 2022**

INFINIGY

Infinigy
500 West Office Center Drive, Suite 150
Fort Washington, PA 19034
(518) 690-0790
structural@infinigy.com

Subject: **Mount Analysis Report**

Carrier Designation: **T-Mobile Equipment Change Out**
Carrier Site Number: CT11082E
Carrier Site Name: Stratford/ MP X 53/ Main

Crown Castle Designation: **Crown Castle BU Number:** 876320
Crown Castle Site Name: 528 WHEELERS FARM RD
Crown Castle JDE Job Number: 719208
Crown Castle Order Number: 619432 Rev. 0

Engineering Firm Designation: **Infinigy Report Designation:** 1039-Z0001-B

Site Data: **528 Wheelers Farm Road, Milford, New Haven County, CT, 06460**
Latitude 41°14'54.35" Longitude -73°4'44.67"

Structure Information: **Tower Height & Type:** **120.0 ft Monopole**
Mount Elevation: **122.0 ft**
Mount Type: **14.0 ft Platform**

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

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

Platform

Sufficient

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

Mount analysis prepared by: Farhad Ahmadyar

Respectfully Submitted by: Emmanuel Poulin, P.E.

structural@infinigy.com

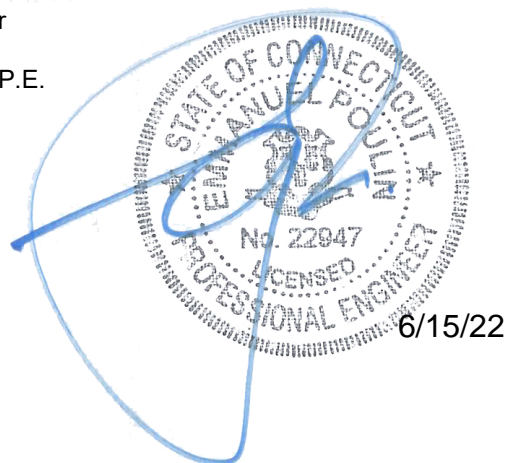


TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

4.1) Recommendations

5) APPENDIX A

Wire Frame and Rendered Models

6) APPENDIX B

Software Input Calculations

7) APPENDIX C

Software Analysis Output

8) APPENDIX D

Additional Calculations

1) INTRODUCTION

This is an existing 3-sector 14.0 ft Platform.

2) ANALYSIS CRITERIA

Building Code: 2015 IBC / 2018 Connecticut State Building Code
TIA-222 Revision: TIA-222-H
Risk Category: II
Ultimate Wind Speed: 119 mph
Exposure Category: C
Topographic Factor at Base: 1.0
Topographic Factor at Mount: 1.0
Ice Thickness: 0.75 in
Wind Speed with Ice: 50 mph
Seismic S_s: 0.196
Seismic S₁: 0.063
Live Loading Wind Speed: 30 mph
Man Live Load at Mid/End-Points: 250 lb
Man Live Load at Mount Pipes: 500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
122.0	121.0	3	COMMSCOPE	VV-65B-R1_TMO	14.0 ft Platform
		3	ERICSSON	AIR 6419 B41_TMO	
		3	RFS/CELWAVE	APXVAALL24_43-U-NA20_TMO	
		3	ERICSSON	RADIO 4460 B2/B25 B66_TMO	
		3	ERICSSON	RADIO 4480_TMOV2	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	T-Mobile Application	619432 Rev.0	CCI Sites
Tower Manufacturer Drawings	Paul J. Ford	1614557	CCI Sites
Loading Documents	T-Mobile	RFDS Version: 7	TSA
Previous Mount Analysis Report	Infinigy	9970781	CCI Sites

3.1) Analysis Method

RISA-3D (Version 20.0.0), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

Infinigy Mount Analysis Tool V2.3, a tool internally developed by Infinigy, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B "Software Input Calculations".

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

3.2) Assumptions

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

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM A500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

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

4) ANALYSIS RESULTS

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

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,2,3	Mount Pipe(s)	MP3	122.0	72.4	Pass
	Horizontal(s)	HOR2		54.2	Pass
	Standoff(s)	S3		76.9	Pass
	Grating Angle(s)	G5		48.3	Pass
	Handrail(s)	HR1		46.2	Pass
	Mount Connection(s)	--		43.2	Pass

Structure Rating (max from all components) =	76.9%
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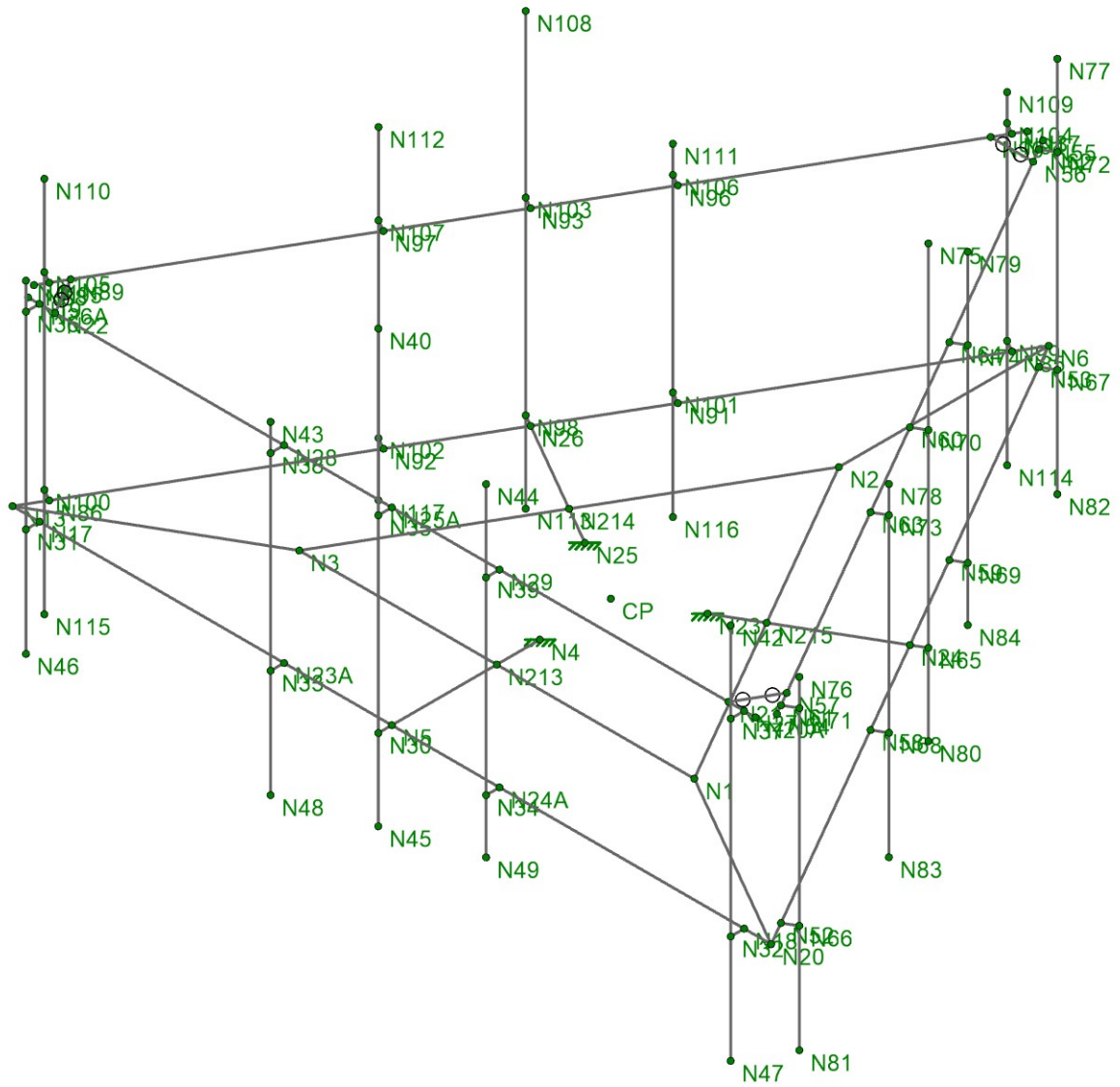
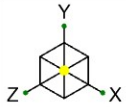
Notes:

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

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



Infinigy

876320

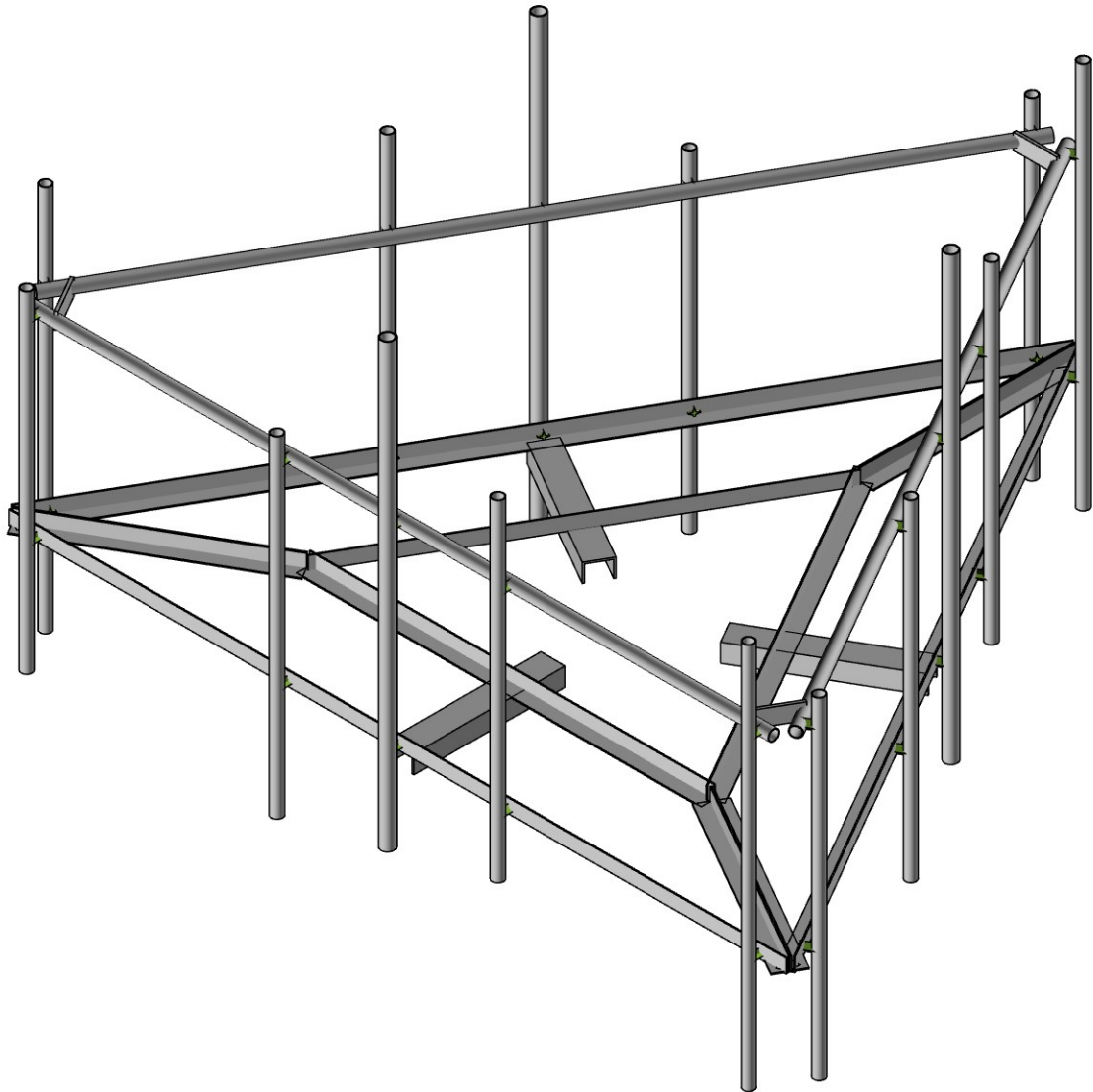
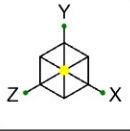
WIREFRAME1

FA

Jun 15, 2022

1039-Z0001-B

876320_loaded.r3d



Infinigy	876320	RENDERED2
FA		Jun 15, 2022
1039-Z0001-B		876320_loaded.r3d

APPENDIX B
SOFTWARE INPUT CALCULATIONS

Program Inputs

PROJECT INFORMATION	
Site Name:	528 WHEELERS FARM RD
Carrier:	T-Mobile
Engineer:	Farhad Ahmadyar

SITE INFORMATION	
Risk Category:	II
Exposure Category:	C
Topo Factor Procedure:	Method 1, Category 1
Site Class:	D - Stiff Soil (Assumed)
Ground Elevation:	212.97 ft *Rev H

MOUNT INFORMATION	
Mount Type:	Platform
Num Sectors:	3
Centerline AGL:	122.00 ft
Tower Height AGL:	120.00 ft

TOPOGRAPHIC DATA	
Topo Feature:	N/A
Slope Distance:	N/A ft
Crest Distance:	N/A ft
Crest Height:	N/A ft

FACTORS	
Directionality Fact. (K_d):	0.950
Ground Ele. Factor (K_e):	0.992 *Rev H Only
Rooftop Speed-Up (K_s):	1.000 *Rev H Only
Topographic Factor (K_{zt}):	1.000
Height Esc. Fact. (K_{iz}):	1.140
Gust Effect Factor (G_h):	1.000
Shielding Factor (K_a):	0.900
Velocity Pressure Co. (K_z):	1.320 (Mount Elev)

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

WIND AND ICE DATA	
Ultimate Wind (V_{ult}):	119 mph
Design Wind (V):	N/A mph
Ice Wind (V_{ice}):	50 mph
Base Ice Thickness (t_i):	0.75 in
Radial Ice Thickness (t_{iz}):	0.855 in
Flat Pressure:	90.203 psf
Round Pressure:	54.122 psf
Ice Wind Pressure:	9.555 psf

SEISMIC DATA	
Short-Period Accel. (S_s):	0.196 g
1-Second Accel. (S_1):	0.063 g
Short-Period Design (S_{DS}):	0.209
1-Second Design (S_{D1}):	0.101
Short-Period Coeff. (F_a):	1.600
1-Second Coeff. (F_v):	2.400
Amplification Factor (A_s):	3.000
Response Mod. Coeff. (R):	2.000
Seismic Importance (I_e):	1.000
Seismic Response Co. (C_s):	0.105
Total App. Weight:	478.068 lb
Total Shear Force (V_s):	49.974 lb
Hor. Seismic Load (E_h):	49.974 lb
Vert. Seismic Load (E_v):	19.990 lb *

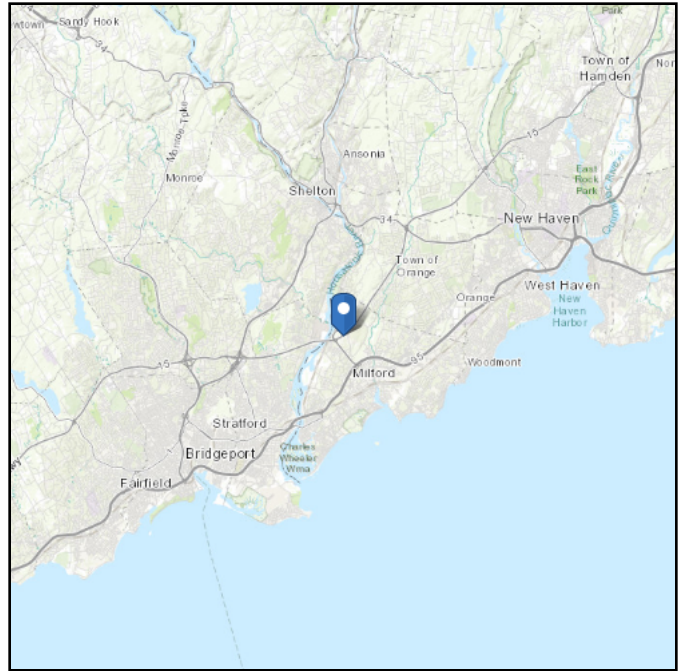
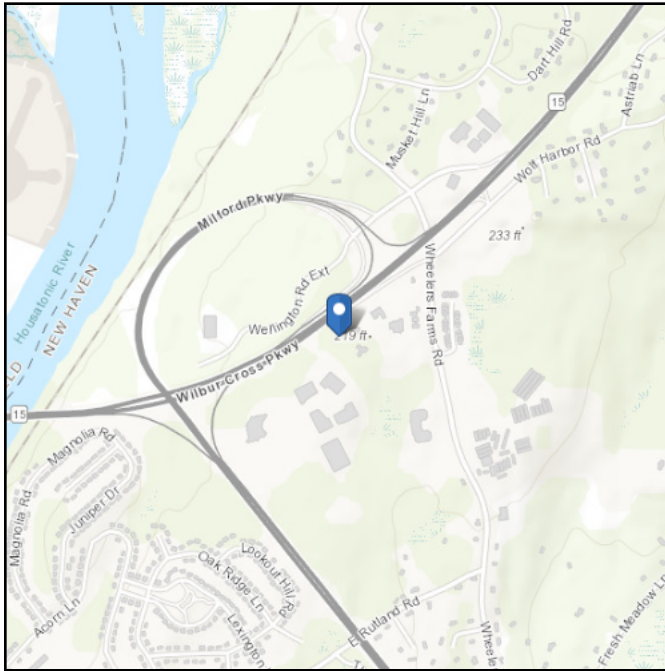
*For reference only. Per TIA rev H section 16.7, E_v is not applicable to mounts

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 212.97 ft (NAVD 88)
Latitude: 41.248431
Longitude: -73.079075



Wind

Results:

Wind Speed	119 Vmph per the state of Connecticut allowing to use ASCE-16 wind speeds
10-year MRI	77 Vmph
25-year MRI	87 Vmph
50-year MRI	93 Vmph
100-year MRI	100 Vmph

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

Date Accessed: Wed Jun 15 2022

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

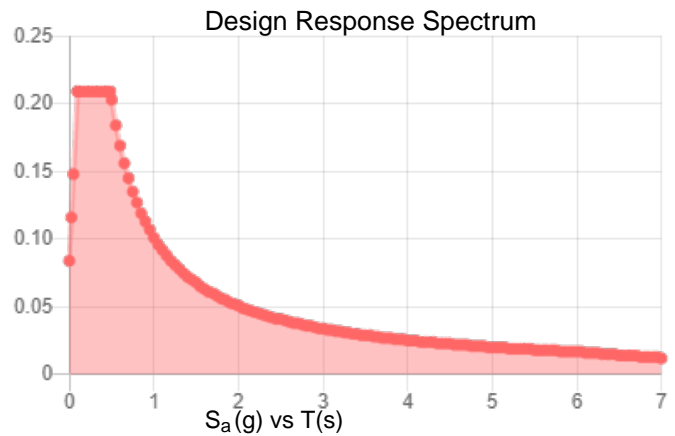
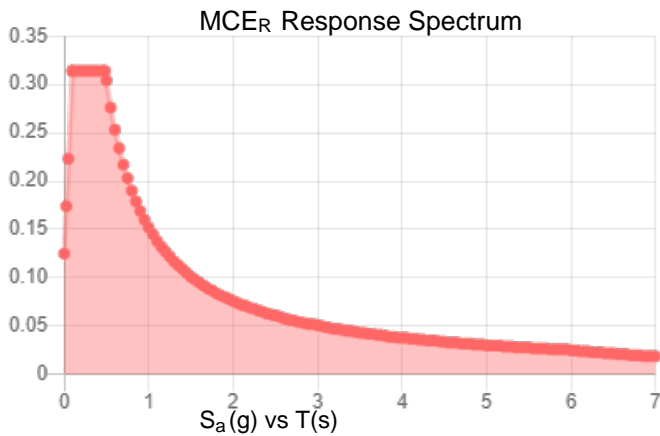
Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.196	S_{DS} :	0.209
S_1 :	0.063	S_{D1} :	0.101
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.104
S_{MS} :	0.314	PGA_M :	0.166
S_{M1} :	0.152	F_{PGA} :	1.591
		I_e :	1

Seismic Design Category B



Data Accessed: Wed Jun 15 2022

Date Source:

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

Ice

Results:

Ice Thickness: 0.75 in.

Concurrent Temperature: 15 F

Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Wed Jun 15 2022

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

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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APPENDIX C
SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	HOR1	N13	N20	270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
2	HOR2	N13	N6		Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
3	HOR3	N20	N6	270	Face Horizontal	Beam	Single Angle	A36 Gr.36	Typical
4	G4	N3	N1		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
5	G5	N3	N2	270	Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
6	G6	N1	N2		Grating Angle	Beam	Single Angle	A36 Gr.36	Typical
7	G3	N20	N1	180	Corner Angle	Beam	Double Angle (No Gap)	A36 Gr.36	Typical
8	G2	N6	N2	180	Corner Angle	Beam	Double Angle (No Gap)	A36 Gr.36	Typical
9	G1	N13	N3	180	Corner Angle	Beam	Double Angle (No Gap)	A36 Gr.36	Typical
10	S1	N4	N5	90	Standoff	Beam	Channel	A36 Gr.36	Typical
11	S3	N23	N24	90	Standoff	Beam	Channel	A36 Gr.36	Typical
12	S2	N25	N26	90	Standoff	Beam	Channel	A36 Gr.36	Typical
13	HR1	N19	N20A		Handrail	Beam	Pipe	A53 Gr.B	Typical
14	M14	N26A	N36		RIGID	None	None	RIGID	Typical
15	M15	N17	N31		RIGID	None	None	RIGID	Typical
16	M16	N28	N38		RIGID	None	None	RIGID	Typical
17	M17	N25A	N35		RIGID	None	None	RIGID	Typical
18	M18	N5	N30		RIGID	None	None	RIGID	Typical
19	M19	N23A	N33		RIGID	None	None	RIGID	Typical
20	M20	N29	N39		RIGID	None	None	RIGID	Typical
21	M21A	N27	N37		RIGID	None	None	RIGID	Typical
22	M22A	N18	N32		RIGID	None	None	RIGID	Typical
23	M23	N34	N24A		RIGID	None	None	RIGID	Typical
24	MP5	N41	N46		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
25	MP4	N43	N48		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
26	MP3	N40	N45		2.5 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
27	MP2	N44	N49		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
28	MP1	N42	N47		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
29	HR3	N54	N55		Handrail	Beam	Pipe	A53 Gr.B	Typical
30	M30	N61	N71		RIGID	None	None	RIGID	Typical
31	M31	N52	N66		RIGID	None	None	RIGID	Typical
32	M32	N63	N73		RIGID	None	None	RIGID	Typical
33	M33	N60	N70		RIGID	None	None	RIGID	Typical
34	M34	N24	N65		RIGID	None	None	RIGID	Typical
35	M35	N58	N68		RIGID	None	None	RIGID	Typical
36	M36	N64	N74		RIGID	None	None	RIGID	Typical
37	M37	N62	N72		RIGID	None	None	RIGID	Typical
38	M38	N53	N67		RIGID	None	None	RIGID	Typical
39	M39	N69	N59		RIGID	None	None	RIGID	Typical
40	MP15	N76	N81		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
41	MP14	N78	N83		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
42	MP13	N75	N80		2.5 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
43	MP12	N79	N84		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
44	MP11	N77	N82		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
45	HR2	N87	N88		Handrail	Beam	Pipe	A53 Gr.B	Typical
46	M46	N94	N104		RIGID	None	None	RIGID	Typical
47	M47	N85	N99		RIGID	None	None	RIGID	Typical
48	M48	N96	N106		RIGID	None	None	RIGID	Typical
49	M49	N93	N103		RIGID	None	None	RIGID	Typical
50	M50	N26	N98		RIGID	None	None	RIGID	Typical
51	M51	N91	N101		RIGID	None	None	RIGID	Typical
52	M52	N97	N107		RIGID	None	None	RIGID	Typical
53	M53	N95	N105		RIGID	None	None	RIGID	Typical
54	M54	N86	N100		RIGID	None	None	RIGID	Typical
55	M55	N102	N92		RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
56	MP10	N109	N114		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
57	MP9	N111	N116		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
58	MP8	N108	N113		2.5 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
59	MP7	N112	N117		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
60	MP6	N110	N115		2.0 STD Mount Pipe	Column	Pipe	A53 Gr.B	Typical
61	CP1	N22	N89		Handrail Corner Plate	Beam	RECT	A36 Gr.36	Typical
62	CP2	N56	N90		Handrail Corner Plate	Beam	RECT	A36 Gr.36	Typical
63	CP3	N21	N57		Handrail Corner Plate	Beam	RECT	A36 Gr.36	Typical

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Therm. Coeff. [1e ⁶ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	2.9e+07	1.115e+07	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	2.9e+07	1.115e+07	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	2.9e+07	1.115e+07	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	2.9e+07	1.115e+07	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B RECT	2.9e+07	1.115e+07	0.3	0.65	0.527	46	1.4	58	1.3
6	A500 Gr.C RND	2.9e+07	1.115e+07	0.3	0.65	0.527	46	1.4	62	1.3
7	A500 Gr.C RECT	2.9e+07	1.115e+07	0.3	0.65	0.527	50	1.4	62	1.3
8	A53 Gr.B	2.9e+07	1.115e+07	0.3	0.65	0.49	35	1.6	60	1.2
9	A1085	2.9e+07	1.115e+07	0.3	0.65	0.49	50	1.4	65	1.3
10	A913 Gr.65	2.9e+07	1.115e+07	0.3	0.65	0.49	65	1.1	80	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	Face Horizontal	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	0.031
2	Grating Angle	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	0.031
3	Standoff	BPL5.375X4X0.375	Beam	Channel	A36 Gr.36	Typical	4.734	7.631	21.877	0.209
4	2.0 STD Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
5	2.5 STD Mount Pipe	PIPE 2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
6	Corner Plate	6X0.375	VBrace	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
7	Corner Angle	LL3X3X4X0	Beam	Double Angle (No Gap)	A36 Gr.36	Typical	2.88	4.5	2.46	0.063
8	Top Support Pipe	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
9	Handrail	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
10	Handrail Corner Plate	PL3.5"X.625"	Beam	RECT	A36 Gr.36	Typical	2.188	0.071	2.233	0.253

Node Coordinates

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
1	N1	44.00005	0	-23.382538	
2	N2	0.00005	0	-99.592774	
3	N3	-43.99995	0	-23.382538	
4	N4	0.00005	0	-32.999838	
5	N5	0.00005	0	0.000147	
6	N6	0.00005	0	-146.358146	
7	N13	-84.49995	0	0.000147	
8	N20	84.50005	0	0.000147	
9	N23	13.671224	0	-56.679006	
10	N24	42.25005	0	-73.178999	
11	N25	-13.671124	0	-56.679006	
12	N26	-42.24995	0	-73.178999	
13	N213	0.00005	0	-23.382538	
14	N214	-21.99995	0	-61.487656	
15	N215	22.00005	0	-61.487656	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
16	CP	0.00005	0	-48.78595	
17	N17	-78.49995	0	0.000147	
18	N18	78.50005	0	0.000147	
19	N19	-80.99995	42	0.000147	
20	N20A	81.00005	42	0.000147	
21	N21	75.00005	42	0.000147	
22	N22	-74.99995	42	0.000147	
23	N23A	-23.99995	0	0.000147	
24	N24A	24.00005	0	0.000147	
25	N25A	0.00005	42	0.000147	
26	N26A	-78.49995	42	0.000147	
27	N27	78.50005	42	0.000147	
28	N28	-23.99995	42	0.000147	
29	N29	24.00005	42	0.000147	
30	N30	0.00005	0	3.000147	
31	N31	-78.49995	0	3.000147	
32	N32	78.50005	0	3.000147	
33	N33	-23.99995	0	3.000147	
34	N34	24.00005	0	3.000147	
35	N35	0.00005	42	3.000147	
36	N36	-78.49995	42	3.000147	
37	N37	78.50005	42	3.000147	
38	N38	-23.99995	42	3.000147	
39	N39	24.00005	42	3.000147	
40	N40	0.00005	78	3.000147	
41	N41	-78.49995	48	3.000147	
42	N42	78.50005	60	3.000147	
43	N43	-23.99995	48	3.000147	
44	N44	24.00005	60	3.000147	
45	N45	0.00005	-18	3.000147	
46	N46	-78.49995	-24	3.000147	
47	N47	78.50005	-24	3.000147	
48	N48	-23.99995	-24	3.000147	
49	N49	24.00005	-12	3.000147	
50	N52	81.50005	0	-5.196005	
51	N53	3.00005	0	-141.161993	
52	N54	82.75005	42	-3.030941	
53	N55	1.75005	42	-143.327056	
54	N56	4.75005	42	-138.130904	
55	N57	79.75005	42	-8.227093	
56	N58	54.25005	0	-52.394389	
57	N59	30.25005	0	-93.963608	
58	N60	42.25005	42	-73.178999	
59	N61	81.50005	42	-5.196004	
60	N62	3.00005	42	-141.161993	
61	N63	54.25005	42	-52.394389	
62	N64	30.25005	42	-93.963608	
63	N65	44.848126	0	-74.678999	
64	N66	84.098126	0	-6.696004	
65	N67	5.598126	0	-142.661993	
66	N68	56.848126	0	-53.894389	
67	N69	32.848126	0	-95.463608	
68	N70	44.848126	42	-74.678999	
69	N71	84.098126	42	-6.696004	
70	N72	5.598126	42	-142.661993	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
71	N73	56.848126	42	-53.894389	
72	N74	32.848126	42	-95.463608	
73	N75	44.848126	78	-74.678999	
74	N76	84.098126	48	-6.696004	
75	N77	5.598126	60	-142.661993	
76	N78	56.848126	48	-53.894389	
77	N79	32.848126	60	-95.463608	
78	N80	44.848126	-18	-74.678999	
79	N81	84.098126	-24	-6.696004	
80	N82	5.598126	-24	-142.661993	
81	N83	56.848126	-24	-53.894389	
82	N84	32.848126	-12	-95.463608	
83	N85	-2.99995	0	-141.161993	
84	N86	-81.49995	0	-5.196005	
85	N87	-1.74995	42	-143.327057	
86	N88	-82.74995	42	-3.030941	
87	N89	-79.74995	42	-8.227094	
88	N90	-4.74995	42	-138.130904	
89	N91	-30.24995	0	-93.963609	
90	N92	-54.24995	0	-52.394389	
91	N93	-42.24995	42	-73.178999	
92	N94	-2.99995	42	-141.161993	
93	N95	-81.49995	42	-5.196005	
94	N96	-30.24995	42	-93.963609	
95	N97	-54.24995	42	-52.394389	
96	N98	-44.848026	0	-74.678999	
97	N99	-5.598026	0	-142.661993	
98	N100	-84.098026	0	-6.696005	
99	N101	-32.848026	0	-95.463609	
100	N102	-56.848026	0	-53.894389	
101	N103	-44.848026	42	-74.678999	
102	N104	-5.598026	42	-142.661993	
103	N105	-84.098026	42	-6.696005	
104	N106	-32.848026	42	-95.463609	
105	N107	-56.848026	42	-53.894389	
106	N108	-44.848026	78	-74.678999	
107	N109	-5.598026	48	-142.661993	
108	N110	-84.098026	60	-6.696005	
109	N111	-32.848026	48	-95.463609	
110	N112	-56.848026	60	-53.894389	
111	N113	-44.848026	-18	-74.678999	
112	N114	-5.598026	-24	-142.661993	
113	N115	-84.098026	-24	-6.696005	
114	N116	-32.848026	-24	-95.463609	
115	N117	-56.848026	-12	-53.894389	

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	Lcomp bot [in]	L-Torque [in]	Channel Conn.	a [in]	Function
1	HOR1	Face Horizontal	169	Segment	Segment	Segment	Segment	Segment	N/A	N/A	Lateral
2	HOR2	Face Horizontal	169	Segment	Segment	Segment	Segment	Segment	N/A	N/A	Lateral
3	HOR3	Face Horizontal	169	Segment	Segment	Segment	Segment	Segment	N/A	N/A	Lateral
4	G4	Grating Angle	88			Lbyy			N/A	N/A	Lateral
5	G5	Grating Angle	88			Lbyy			N/A	N/A	Lateral
6	G6	Grating Angle	88			Lbyy			N/A	N/A	Lateral
7	G3	Corner Angle	46.765			Lbyy			N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	Lcomp bot [in]	L-Torque [in]	Channel Conn.	a [in]	Function
8	G2	Corner Angle	46.765			Lbyy		N/A	N/A	Lateral
9	G1	Corner Angle	46.765			Lbyy		N/A	N/A	Lateral
10	S1	Standoff	33			Lbyy		N/A	N/A	Lateral
11	S3	Standoff	33			Lbyy		N/A	N/A	Lateral
12	S2	Standoff	33			Lbyy		N/A	N/A	Lateral
13	HR1	Handrail	162			Lbyy		N/A	N/A	Lateral
14	MP5	2.0 STD Mount Pipe	72					N/A	N/A	Lateral
15	MP4	2.0 STD Mount Pipe	72					N/A	N/A	Lateral
16	MP3	2.5 STD Mount Pipe	96					N/A	N/A	Lateral
17	MP2	2.0 STD Mount Pipe	72					N/A	N/A	Lateral
18	MP1	2.0 STD Mount Pipe	84					N/A	N/A	Lateral
19	HR3	Handrail	162			Lbyy		N/A	N/A	Lateral
20	MP15	2.0 STD Mount Pipe	72					N/A	N/A	Lateral
21	MP14	2.0 STD Mount Pipe	72					N/A	N/A	Lateral
22	MP13	2.5 STD Mount Pipe	96					N/A	N/A	Lateral
23	MP12	2.0 STD Mount Pipe	72					N/A	N/A	Lateral
24	MP11	2.0 STD Mount Pipe	84					N/A	N/A	Lateral
25	HR2	Handrail	162			Lbyy		N/A	N/A	Lateral
26	MP10	2.0 STD Mount Pipe	72					N/A	N/A	Lateral
27	MP9	2.0 STD Mount Pipe	72					N/A	N/A	Lateral
28	MP8	2.5 STD Mount Pipe	96					N/A	N/A	Lateral
29	MP7	2.0 STD Mount Pipe	72					N/A	N/A	Lateral
30	MP6	2.0 STD Mount Pipe	84					N/A	N/A	Lateral
31	CP1	Handrail Corner Plate	9.5					N/A	N/A	Lateral
32	CP2	Handrail Corner Plate	9.5					N/A	N/A	Lateral
33	CP3	Handrail Corner Plate	9.5			Lbyy		N/A	N/A	Lateral

Basic Load Cases

BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
1	Self Weight	DL		-1		24		3
2	Wind Load AZI 0	WLZ				48		
3	Wind Load AZI 30	None				48		
4	Wind Load AZI 60	None				48		
5	Wind Load AZI 90	WLX				48		
6	Wind Load AZI 120	None				48		
7	Wind Load AZI 150	None				48		
8	Wind Load AZI 180	None				48		
9	Wind Load AZI 210	None				48		
10	Wind Load AZI 240	None				48		
11	Wind Load AZI 270	None				48		
12	Wind Load AZI 300	None				48		
13	Wind Load AZI 330	None				48		
14	Distr. Wind Load Z	WLZ					63	
15	Distr. Wind Load X	WLX					63	
16	Ice Weight	OL1				24	63	3
17	Ice Wind Load AZI 0	OL2				48		
18	Ice Wind Load AZI 30	None				48		
19	Ice Wind Load AZI 60	None				48		
20	Ice Wind Load AZI 90	OL3				48		
21	Ice Wind Load AZI 120	None				48		
22	Ice Wind Load AZI 150	None				48		
23	Ice Wind Load AZI 180	None				48		
24	Ice Wind Load AZI 210	None				48		
25	Ice Wind Load AZI 240	None				48		
26	Ice Wind Load AZI 270	None				48		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Member)
27	Ice Wind Load AZI 300	None					48		
28	Ice Wind Load AZI 330	None					48		
29	Distr. Ice Wind Load Z	OL2						63	
30	Distr. Ice Wind Load X	OL3						63	
31	Seismic Load Z	ELZ			-0.314		24		
32	Seismic Load X	ELX	-0.314				24		
33	Service Live Loads	LL				1			
34	Maintenance Load Lm1	LL				1			
35	Maintenance Load Lm2	LL				1			
36	Maintenance Load Lm3	LL				1			
37	Maintenance Load Lm4	LL				1			
38	Maintenance Load Lm5	LL				1			
39	Maintenance Load Lm6	LL				1			
40	Maintenance Load Lm7	LL				1			
41	Maintenance Load Lm8	LL				1			
42	Maintenance Load Lm9	LL				1			
43	Maintenance Load Lm10	LL				1			
44	Maintenance Load Lm11	LL				1			
45	Maintenance Load Lm12	LL				1			
46	Maintenance Load Lm13	LL				1			
47	Maintenance Load Lm14	LL				1			
48	Maintenance Load Lm15	LL				1			
49	BLC 1 Transient Area Loads	None						102	
50	BLC 16 Transient Area Loads	None						102	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4DL	Yes	Y	1	1.4								
2	1.2DL + 1WL AZI 0	Yes	Y	1	1.2	2	1	14	1	15			
3	1.2DL + 1WL AZI 30	Yes	Y	1	1.2	3	1	14	0.866	15	0.5		
4	1.2DL + 1WL AZI 60	Yes	Y	1	1.2	4	1	14	0.5	15	0.866		
5	1.2DL + 1WL AZI 90	Yes	Y	1	1.2	5	1	14		15	1		
6	1.2DL + 1WL AZI 120	Yes	Y	1	1.2	6	1	14	-0.5	15	0.866		
7	1.2DL + 1WL AZI 150	Yes	Y	1	1.2	7	1	14	-0.866	15	0.5		
8	1.2DL + 1WL AZI 180	Yes	Y	1	1.2	8	1	14	-1	15			
9	1.2DL + 1WL AZI 210	Yes	Y	1	1.2	9	1	14	-0.866	15	-0.5		
10	1.2DL + 1WL AZI 240	Yes	Y	1	1.2	10	1	14	-0.5	15	-0.866		
11	1.2DL + 1WL AZI 270	Yes	Y	1	1.2	11	1	14		15	-1		
12	1.2DL + 1WL AZI 300	Yes	Y	1	1.2	12	1	14	0.5	15	-0.866		
13	1.2DL + 1WL AZI 330	Yes	Y	1	1.2	13	1	14	0.866	15	-0.5		
14	0.9DL + 1WL AZI 0	Yes	Y	1	0.9	2	1	14	1	15			
15	0.9DL + 1WL AZI 30	Yes	Y	1	0.9	3	1	14	0.866	15	0.5		
16	0.9DL + 1WL AZI 60	Yes	Y	1	0.9	4	1	14	0.5	15	0.866		
17	0.9DL + 1WL AZI 90	Yes	Y	1	0.9	5	1	14		15	1		
18	0.9DL + 1WL AZI 120	Yes	Y	1	0.9	6	1	14	-0.5	15	0.866		
19	0.9DL + 1WL AZI 150	Yes	Y	1	0.9	7	1	14	-0.866	15	0.5		
20	0.9DL + 1WL AZI 180	Yes	Y	1	0.9	8	1	14	-1	15			
21	0.9DL + 1WL AZI 210	Yes	Y	1	0.9	9	1	14	-0.866	15	-0.5		
22	0.9DL + 1WL AZI 240	Yes	Y	1	0.9	10	1	14	-0.5	15	-0.866		
23	0.9DL + 1WL AZI 270	Yes	Y	1	0.9	11	1	14		15	-1		
24	0.9DL + 1WL AZI 300	Yes	Y	1	0.9	12	1	14	0.5	15	-0.866		
25	0.9DL + 1WL AZI 330	Yes	Y	1	0.9	13	1	14	0.866	15	-0.5		
26	1.2D + 1.0Di	Yes	Y	1	1.2	16	1						
27	1.2D + 1.0Di + 1.0Wi AZI 0	Yes	Y	1	1.2	16	1	17	1	29	1	30	
28	1.2D + 1.0Di + 1.0Wi AZI 30	Yes	Y	1	1.2	16	1	18	1	29	0.866	30	0.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
29	1.2D + 1.0Di + 1.0Wi AZI 60	Yes	Y	1	1.2	16	1	19	1	29	0.5	30	0.866
30	1.2D + 1.0Di + 1.0Wi AZI 90	Yes	Y	1	1.2	16	1	20	1	29		30	1
31	1.2D + 1.0Di + 1.0Wi AZI 120	Yes	Y	1	1.2	16	1	21	1	29	-0.5	30	0.866
32	1.2D + 1.0Di + 1.0Wi AZI 150	Yes	Y	1	1.2	16	1	22	1	29	-0.866	30	0.5
33	1.2D + 1.0Di + 1.0Wi AZI 180	Yes	Y	1	1.2	16	1	23	1	29	-1	30	
34	1.2D + 1.0Di + 1.0Wi AZI 210	Yes	Y	1	1.2	16	1	24	1	29	-0.866	30	-0.5
35	1.2D + 1.0Di + 1.0Wi AZI 240	Yes	Y	1	1.2	16	1	25	1	29	-0.5	30	-0.866
36	1.2D + 1.0Di + 1.0Wi AZI 270	Yes	Y	1	1.2	16	1	26	1	29		30	-1
37	1.2D + 1.0Di + 1.0Wi AZI 300	Yes	Y	1	1.2	16	1	27	1	29	0.5	30	-0.866
38	1.2D + 1.0Di + 1.0Wi AZI 330	Yes	Y	1	1.2	16	1	28	1	29	0.866	30	-0.5
39	(1.2 + 0.2Sds)DL + 1.0E AZI 0	Yes	Y	1	1.242	31	1	32					
40	(1.2 + 0.2Sds)DL + 1.0E AZI 30	Yes	Y	1	1.242	31	0.866	32	0.5				
41	(1.2 + 0.2Sds)DL + 1.0E AZI 60	Yes	Y	1	1.242	31	0.5	32	0.866				
42	(1.2 + 0.2Sds)DL + 1.0E AZI 90	Yes	Y	1	1.242	31		32	1				
43	(1.2 + 0.2Sds)DL + 1.0E AZI 120	Yes	Y	1	1.242	31	-0.5	32	0.866				
44	(1.2 + 0.2Sds)DL + 1.0E AZI 150	Yes	Y	1	1.242	31	-0.866	32	0.5				
45	(1.2 + 0.2Sds)DL + 1.0E AZI 180	Yes	Y	1	1.242	31	-1	32					
46	(1.2 + 0.2Sds)DL + 1.0E AZI 210	Yes	Y	1	1.242	31	-0.866	32	-0.5				
47	(1.2 + 0.2Sds)DL + 1.0E AZI 240	Yes	Y	1	1.242	31	-0.5	32	-0.866				
48	(1.2 + 0.2Sds)DL + 1.0E AZI 270	Yes	Y	1	1.242	31		32	-1				
49	(1.2 + 0.2Sds)DL + 1.0E AZI 300	Yes	Y	1	1.242	31	0.5	32	-0.866				
50	(1.2 + 0.2Sds)DL + 1.0E AZI 330	Yes	Y	1	1.242	31	0.866	32	-0.5				
51	(0.9 - 0.2Sds)DL + 1.0E AZI 0	Yes	Y	1	0.858	31	1	32					
52	(0.9 - 0.2Sds)DL + 1.0E AZI 30	Yes	Y	1	0.858	31	0.866	32	0.5				
53	(0.9 - 0.2Sds)DL + 1.0E AZI 60	Yes	Y	1	0.858	31	0.5	32	0.866				
54	(0.9 - 0.2Sds)DL + 1.0E AZI 90	Yes	Y	1	0.858	31		32	1				
55	(0.9 - 0.2Sds)DL + 1.0E AZI 120	Yes	Y	1	0.858	31	-0.5	32	0.866				
56	(0.9 - 0.2Sds)DL + 1.0E AZI 150	Yes	Y	1	0.858	31	-0.866	32	0.5				
57	(0.9 - 0.2Sds)DL + 1.0E AZI 180	Yes	Y	1	0.858	31	-1	32					
58	(0.9 - 0.2Sds)DL + 1.0E AZI 210	Yes	Y	1	0.858	31	-0.866	32	-0.5				
59	(0.9 - 0.2Sds)DL + 1.0E AZI 240	Yes	Y	1	0.858	31	-0.5	32	-0.866				
60	(0.9 - 0.2Sds)DL + 1.0E AZI 270	Yes	Y	1	0.858	31		32	-1				
61	(0.9 - 0.2Sds)DL + 1.0E AZI 300	Yes	Y	1	0.858	31	0.5	32	-0.866				
62	(0.9 - 0.2Sds)DL + 1.0E AZI 330	Yes	Y	1	0.858	31	0.866	32	-0.5				
63	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 0	Yes	Y	1	1	2	0.254	14	0.254	15		33	1.5
64	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 30	Yes	Y	1	1	3	0.254	14	0.22	15	0.127	33	1.5
65	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 60	Yes	Y	1	1	4	0.254	14	0.127	15	0.22	33	1.5
66	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 90	Yes	Y	1	1	5	0.254	14		15	0.254	33	1.5
67	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 120	Yes	Y	1	1	6	0.254	14	-0.127	15	0.22	33	1.5
68	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 150	Yes	Y	1	1	7	0.254	14	-0.22	15	0.127	33	1.5
69	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 180	Yes	Y	1	1	8	0.254	14	-0.254	15		33	1.5
70	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 210	Yes	Y	1	1	9	0.254	14	-0.22	15	-0.127	33	1.5
71	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 240	Yes	Y	1	1	10	0.254	14	-0.127	15	-0.22	33	1.5
72	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 270	Yes	Y	1	1	11	0.254	14		15	-0.254	33	1.5
73	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 300	Yes	Y	1	1	12	0.254	14	0.127	15	-0.22	33	1.5
74	1.0DL + 1.5LL + 1.0SWL (60 mph) AZI 330	Yes	Y	1	1	13	0.254	14	0.22	15	-0.127	33	1.5
75	1.2DL + 1.5LL	Yes	Y	1	1.2	33	1.5						
76	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	34	1.5	2	0.064	14	0.064	15	
77	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	34	1.5	3	0.064	14	0.055	15	0.032
78	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	34	1.5	4	0.064	14	0.032	15	0.055
79	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	34	1.5	5	0.064	14		15	0.064
80	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	34	1.5	6	0.064	14	-0.032	15	0.055
81	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	34	1.5	7	0.064	14	-0.055	15	0.032
82	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	34	1.5	8	0.064	14	-0.064	15	
83	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	34	1.5	9	0.064	14	-0.055	15	-0.032

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
84	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	34	1.5	10	0.064	14	-0.032	15	-0.055
85	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	34	1.5	11	0.064	14		15	-0.064
86	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	34	1.5	12	0.064	14	0.032	15	-0.055
87	1.2DL + 1.5LM-MP1 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	34	1.5	13	0.064	14	0.055	15	-0.032
88	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	35	1.5	2	0.064	14	0.064	15	
89	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	35	1.5	3	0.064	14	0.055	15	0.032
90	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	35	1.5	4	0.064	14	0.032	15	0.055
91	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	35	1.5	5	0.064	14		15	0.064
92	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	35	1.5	6	0.064	14	-0.032	15	0.055
93	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	35	1.5	7	0.064	14	-0.055	15	0.032
94	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	35	1.5	8	0.064	14	-0.064	15	
95	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	35	1.5	9	0.064	14	-0.055	15	-0.032
96	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	35	1.5	10	0.064	14	-0.032	15	-0.055
97	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	35	1.5	11	0.064	14		15	-0.064
98	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	35	1.5	12	0.064	14	0.032	15	-0.055
99	1.2DL + 1.5LM-MP2 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	35	1.5	13	0.064	14	0.055	15	-0.032
100	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	36	1.5	2	0.064	14	0.064	15	
101	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	36	1.5	3	0.064	14	0.055	15	0.032
102	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	36	1.5	4	0.064	14	0.032	15	0.055
103	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	36	1.5	5	0.064	14		15	0.064
104	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	36	1.5	6	0.064	14	-0.032	15	0.055
105	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	36	1.5	7	0.064	14	-0.055	15	0.032
106	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	36	1.5	8	0.064	14	-0.064	15	
107	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	36	1.5	9	0.064	14	-0.055	15	-0.032
108	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	36	1.5	10	0.064	14	-0.032	15	-0.055
109	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	36	1.5	11	0.064	14		15	-0.064
110	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	36	1.5	12	0.064	14	0.032	15	-0.055
111	1.2DL + 1.5LM-MP3 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	36	1.5	13	0.064	14	0.055	15	-0.032
112	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	37	1.5	2	0.064	14	0.064	15	
113	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	37	1.5	3	0.064	14	0.055	15	0.032
114	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	37	1.5	4	0.064	14	0.032	15	0.055
115	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	37	1.5	5	0.064	14		15	0.064
116	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	37	1.5	6	0.064	14	-0.032	15	0.055
117	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	37	1.5	7	0.064	14	-0.055	15	0.032
118	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	37	1.5	8	0.064	14	-0.064	15	
119	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	37	1.5	9	0.064	14	-0.055	15	-0.032
120	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	37	1.5	10	0.064	14	-0.032	15	-0.055
121	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	37	1.5	11	0.064	14		15	-0.064
122	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	37	1.5	12	0.064	14	0.032	15	-0.055
123	1.2DL + 1.5LM-MP4 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	37	1.5	13	0.064	14	0.055	15	-0.032
124	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	38	1.5	2	0.064	14	0.064	15	
125	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	38	1.5	3	0.064	14	0.055	15	0.032
126	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	38	1.5	4	0.064	14	0.032	15	0.055
127	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	38	1.5	5	0.064	14		15	0.064
128	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	38	1.5	6	0.064	14	-0.032	15	0.055
129	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	38	1.5	7	0.064	14	-0.055	15	0.032
130	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	38	1.5	8	0.064	14	-0.064	15	
131	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	38	1.5	9	0.064	14	-0.055	15	-0.032
132	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	38	1.5	10	0.064	14	-0.032	15	-0.055
133	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	38	1.5	11	0.064	14		15	-0.064
134	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	38	1.5	12	0.064	14	0.032	15	-0.055
135	1.2DL + 1.5LM-MP5 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	38	1.5	13	0.064	14	0.055	15	-0.032
136	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	39	1.5	2	0.064	14	0.064	15	
137	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	39	1.5	3	0.064	14	0.055	15	0.032
138	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	39	1.5	4	0.064	14	0.032	15	0.055

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
139	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	39	1.5	5	0.064	14		15	0.064
140	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	39	1.5	6	0.064	14	-0.032	15	0.055
141	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	39	1.5	7	0.064	14	-0.055	15	0.032
142	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	39	1.5	8	0.064	14	-0.064	15	
143	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	39	1.5	9	0.064	14	-0.055	15	-0.032
144	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	39	1.5	10	0.064	14	-0.032	15	-0.055
145	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	39	1.5	11	0.064	14		15	-0.064
146	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	39	1.5	12	0.064	14	0.032	15	-0.055
147	1.2DL + 1.5LM-MP6 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	39	1.5	13	0.064	14	0.055	15	-0.032
148	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	40	1.5	2	0.064	14	0.064	15	
149	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	40	1.5	3	0.064	14	0.055	15	0.032
150	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	40	1.5	4	0.064	14	0.032	15	0.055
151	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	40	1.5	5	0.064	14		15	0.064
152	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	40	1.5	6	0.064	14	-0.032	15	0.055
153	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	40	1.5	7	0.064	14	-0.055	15	0.032
154	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	40	1.5	8	0.064	14	-0.064	15	
155	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	40	1.5	9	0.064	14	-0.055	15	-0.032
156	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	40	1.5	10	0.064	14	-0.032	15	-0.055
157	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	40	1.5	11	0.064	14		15	-0.064
158	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	40	1.5	12	0.064	14	0.032	15	-0.055
159	1.2DL + 1.5LM-MP7 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	40	1.5	13	0.064	14	0.055	15	-0.032
160	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	41	1.5	2	0.064	14	0.064	15	
161	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	41	1.5	3	0.064	14	0.055	15	0.032
162	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	41	1.5	4	0.064	14	0.032	15	0.055
163	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	41	1.5	5	0.064	14		15	0.064
164	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	41	1.5	6	0.064	14	-0.032	15	0.055
165	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	41	1.5	7	0.064	14	-0.055	15	0.032
166	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	41	1.5	8	0.064	14	-0.064	15	
167	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	41	1.5	9	0.064	14	-0.055	15	-0.032
168	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	41	1.5	10	0.064	14	-0.032	15	-0.055
169	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	41	1.5	11	0.064	14		15	-0.064
170	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	41	1.5	12	0.064	14	0.032	15	-0.055
171	1.2DL + 1.5LM-MP8 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	41	1.5	13	0.064	14	0.055	15	-0.032
172	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	42	1.5	2	0.064	14	0.064	15	
173	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	42	1.5	3	0.064	14	0.055	15	0.032
174	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	42	1.5	4	0.064	14	0.032	15	0.055
175	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	42	1.5	5	0.064	14		15	0.064
176	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	42	1.5	6	0.064	14	-0.032	15	0.055
177	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	42	1.5	7	0.064	14	-0.055	15	0.032
178	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	42	1.5	8	0.064	14	-0.064	15	
179	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	42	1.5	9	0.064	14	-0.055	15	-0.032
180	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	42	1.5	10	0.064	14	-0.032	15	-0.055
181	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	42	1.5	11	0.064	14		15	-0.064
182	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	42	1.5	12	0.064	14	0.032	15	-0.055
183	1.2DL + 1.5LM-MP9 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	42	1.5	13	0.064	14	0.055	15	-0.032
184	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	43	1.5	2	0.064	14	0.064	15	
185	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	43	1.5	3	0.064	14	0.055	15	0.032
186	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	43	1.5	4	0.064	14	0.032	15	0.055
187	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	43	1.5	5	0.064	14		15	0.064
188	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	43	1.5	6	0.064	14	-0.032	15	0.055
189	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	43	1.5	7	0.064	14	-0.055	15	0.032
190	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	43	1.5	8	0.064	14	-0.064	15	
191	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	43	1.5	9	0.064	14	-0.055	15	-0.032
192	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	43	1.5	10	0.064	14	-0.032	15	-0.055
193	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	43	1.5	11	0.064	14		15	-0.064

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
194	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	43	1.5	12	0.064	14	0.032	15	-0.055
195	1.2DL + 1.5LM-MP10 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	43	1.5	13	0.064	14	0.055	15	-0.032
196	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	44	1.5	2	0.064	14	0.064	15	
197	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	44	1.5	3	0.064	14	0.055	15	0.032
198	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	44	1.5	4	0.064	14	0.032	15	0.055
199	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	44	1.5	5	0.064	14		15	0.064
200	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	44	1.5	6	0.064	14	-0.032	15	0.055
201	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	44	1.5	7	0.064	14	-0.055	15	0.032
202	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	44	1.5	8	0.064	14	-0.064	15	
203	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	44	1.5	9	0.064	14	-0.055	15	-0.032
204	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	44	1.5	10	0.064	14	-0.032	15	-0.055
205	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	44	1.5	11	0.064	14		15	-0.064
206	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	44	1.5	12	0.064	14	0.032	15	-0.055
207	1.2DL + 1.5LM-MP11 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	44	1.5	13	0.064	14	0.055	15	-0.032
208	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	45	1.5	2	0.064	14	0.064	15	
209	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	45	1.5	3	0.064	14	0.055	15	0.032
210	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	45	1.5	4	0.064	14	0.032	15	0.055
211	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	45	1.5	5	0.064	14		15	0.064
212	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	45	1.5	6	0.064	14	-0.032	15	0.055
213	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	45	1.5	7	0.064	14	-0.055	15	0.032
214	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	45	1.5	8	0.064	14	-0.064	15	
215	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	45	1.5	9	0.064	14	-0.055	15	-0.032
216	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	45	1.5	10	0.064	14	-0.032	15	-0.055
217	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	45	1.5	11	0.064	14		15	-0.064
218	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	45	1.5	12	0.064	14	0.032	15	-0.055
219	1.2DL + 1.5LM-MP12 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	45	1.5	13	0.064	14	0.055	15	-0.032
220	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	46	1.5	2	0.064	14	0.064	15	
221	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	46	1.5	3	0.064	14	0.055	15	0.032
222	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	46	1.5	4	0.064	14	0.032	15	0.055
223	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	46	1.5	5	0.064	14		15	0.064
224	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	46	1.5	6	0.064	14	-0.032	15	0.055
225	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	46	1.5	7	0.064	14	-0.055	15	0.032
226	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	46	1.5	8	0.064	14	-0.064	15	
227	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	46	1.5	9	0.064	14	-0.055	15	-0.032
228	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	46	1.5	10	0.064	14	-0.032	15	-0.055
229	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	46	1.5	11	0.064	14		15	-0.064
230	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	46	1.5	12	0.064	14	0.032	15	-0.055
231	1.2DL + 1.5LM-MP13 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	46	1.5	13	0.064	14	0.055	15	-0.032
232	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	47	1.5	2	0.064	14	0.064	15	
233	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	47	1.5	3	0.064	14	0.055	15	0.032
234	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	47	1.5	4	0.064	14	0.032	15	0.055
235	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	47	1.5	5	0.064	14		15	0.064
236	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	47	1.5	6	0.064	14	-0.032	15	0.055
237	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	47	1.5	7	0.064	14	-0.055	15	0.032
238	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	47	1.5	8	0.064	14	-0.064	15	
239	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	47	1.5	9	0.064	14	-0.055	15	-0.032
240	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	47	1.5	10	0.064	14	-0.032	15	-0.055
241	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	47	1.5	11	0.064	14		15	-0.064
242	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	47	1.5	12	0.064	14	0.032	15	-0.055
243	1.2DL + 1.5LM-MP14 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	47	1.5	13	0.064	14	0.055	15	-0.032
244	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 0	Yes	Y	1	1.2	48	1.5	2	0.064	14	0.064	15	
245	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 30	Yes	Y	1	1.2	48	1.5	3	0.064	14	0.055	15	0.032
246	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 60	Yes	Y	1	1.2	48	1.5	4	0.064	14	0.032	15	0.055
247	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 90	Yes	Y	1	1.2	48	1.5	5	0.064	14		15	0.064
248	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 120	Yes	Y	1	1.2	48	1.5	6	0.064	14	-0.032	15	0.055

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
249	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 150	Yes	Y	1	1.2	48	1.5	7	0.064	14	-0.055	15	0.032
250	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 180	Yes	Y	1	1.2	48	1.5	8	0.064	14	-0.064	15	
251	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 210	Yes	Y	1	1.2	48	1.5	9	0.064	14	-0.055	15	-0.032
252	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 240	Yes	Y	1	1.2	48	1.5	10	0.064	14	-0.032	15	-0.055
253	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 270	Yes	Y	1	1.2	48	1.5	11	0.064	14		15	-0.064
254	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 300	Yes	Y	1	1.2	48	1.5	12	0.064	14	0.032	15	-0.055
255	1.2DL + 1.5LM-MP15 + 1SWL (30 mph) AZI 330	Yes	Y	1	1.2	48	1.5	13	0.064	14	0.055	15	-0.032

Material Take-Off

	Material	Size	Pieces	Length[in]	Weight[K]
1	General Members				
2	RIGID		30	90	0
3	Total General		30	90	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	BPL5.375X4X0.375	3	99	0.133
7	A36 Gr.36	L3X3X4	6	771	0.315
8	A36 Gr.36	LL3X3X4X0	3	140.3	0.115
9	A36 Gr.36	PL3.5"X.625"	3	28.5	0.018
10	A53 Gr.B	PIPE 2.0	15	1386	0.401
11	A53 Gr.B	PIPE 2.5	3	288	0.131
12	Total HR Steel		33	2712.8	1.112

Envelope Node Reactions

Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC	
1	N4	max	2266.156	18	2128.458	33	1008.909	2	2973.131	14	1454.294	6	404.631	133
2		min	-2274.182	12	-178.077	14	-963.07	20	-7271.809	8	-1444.259	24	-405.441	79
3	N23	max	1764.824	4	2123.23	37	2271.77	15	3598.048	12	2155.361	10	6222.458	12
4		min	-1729.089	22	-156.991	18	-2287.183	9	-1444.267	18	-2144.884	16	-2492.206	18
5	N25	max	1620.257	18	2123.925	29	2390.015	14	3624.055	4	1852.745	2	2476.738	22
6		min	-1652.655	12	-156.866	22	-2415.527	8	-1470.167	22	-1842.939	20	-6207.263	4
7	Totals:	max	5429.917	17	5906.593	32	5580.185	2						
8		min	-5429.938	11	2279.412	62	-5580.153	20						

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

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn	
1	S3	BPL5.375X4X0.375	0.769	0	11	0.218	9.281	z	9	138750.816	153393.75	12374.249	25664.502	2.929	H1-1b
2	S2	BPL5.375X4X0.375	0.769	0	5	0.219	9.281	z	13	138750.816	153393.75	12374.249	25664.502	2.919	H1-1b
3	S1	BPL5.375X4X0.375	0.749	0	7	0.211	9.281	z	5	138750.816	153393.75	12374.249	25664.502	3	H1-1b
4	MP3	PIPE 2.5	0.724	78	2	0.088	78		12	30038.461	50715	3596.25	3596.25	1	H1-1b
5	MP13	PIPE 2.5	0.713	78	6	0.084	78		4	30038.461	50715	3596.25	3596.25	1	H1-1b
6	MP8	PIPE 2.5	0.712	78	10	0.085	78		8	30038.461	50715	3596.25	3596.25	1	H1-1b
7	MP15	PIPE 2.0	0.583	48	13	0.143	48		7	20866.733	32130	1871.625	1871.625	1	H1-1b
8	MP10	PIPE 2.0	0.58	48	5	0.139	48		11	20866.733	32130	1871.625	1871.625	1	H1-1b
9	MP5	PIPE 2.0	0.573	48	9	0.141	48		3	20866.733	32130	1871.625	1871.625	1	H1-1b
10	HOR2	L3X3X4	0.542	109.146	5	0.541	0	y	9	29544.225	46656	1688.138	3576.488	1.5	H2-1
11	HOR1	L3X3X4	0.537	59.854	9	0.54	169	z	13	29544.225	46656	1688.138	3576.488	1.5	H2-1
12	HOR3	L3X3X4	0.534	59.854	13	0.535	169	z	5	29544.225	46656	1688.138	3576.488	1.5	H2-1
13	MP9	PIPE 2.0	0.513	6	5	0.137	48		6	20866.733	32130	1871.625	1871.625	1	H1-1b
14	MP4	PIPE 2.0	0.509	6	9	0.14	48		10	20866.733	32130	1871.625	1871.625	1	H1-1b
15	MP14	PIPE 2.0	0.509	6	13	0.141	48		2	20866.733	32130	1871.625	1871.625	1	H1-1b
16	MP12	PIPE 2.0	0.499	18	11	0.132	60		10	20866.733	32130	1871.625	1871.625	1	H1-1b



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

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
17	MP2	PIPE 2.0	0.496	18	7	0.135	60	6	20866.733	32130	1871.625	1871.625	1	H1-1b
18	MP7	PIPE 2.0	0.495	18	3	0.136	60	2	20866.733	32130	1871.625	1871.625	1	H1-1b
19	MP11	PIPE 2.0	0.483	59.5	11	0.132	59.5	4	17855.085	32130	1871.625	1871.625	1	H1-1b
20	G5	L3X3X4	0.483	44	4	0.027	44	z	19614376.353	46656	1688.138	3108.201	1.271	H2-1
21	G4	L3X3X4	0.483	44	8	0.027	44	y	8014376.353	46656	1688.138	3110.28	1.274	H2-1
22	MP6	PIPE 2.0	0.478	59.5	3	0.137	59.5	8	17855.085	32130	1871.625	1871.625	1	H1-1b
23	MP1	PIPE 2.0	0.476	59.5	7	0.136	59.5	12	17855.085	32130	1871.625	1871.625	1	H1-1b
24	G6	L3X3X4	0.475	44	11	0.027	44	y	14414376.353	46656	1688.138	3123.455	1.294	H2-1
25	HR1	PIPE 2.0	0.462	81	9	0.22	5.062	22	5397.31	32130	1871.625	1871.625	1	H1-1b
26	HR2	PIPE 2.0	0.46	81	5	0.221	158.625	9	5397.31	32130	1871.625	1871.625	1	H1-1b
27	HR3	PIPE 2.0	0.457	81	13	0.22	5.062	14	5397.31	32130	1871.625	1871.625	1	H1-1b
28	G2	LL3X3X4X0	0.137	0	4	0.019	46.765	z	576393.472	93312	6480	4361.544	1	H1-1b
29	G1	LL3X3X4X0	0.134	0	8	0.019	46.765	z	976393.472	93312	6480	4361.544	1	H1-1b
30	G3	LL3X3X4X0	0.133	0	12	0.019	46.765	z	1376393.472	93312	6480	4361.544	1	H1-1b
31	CP2	PL3.5"X.625"	0.004	4.75	2	0.641	9.5	y	561249.935	70875	922.852	5167.97	1.136	H1-1b
32	CP3	PL3.5"X.625"	0.003	9.5	9	0.652	9.5	y	1361249.935	70875	922.852	5167.97	1.136	H1-1b*
33	CP1	PL3.5"X.625"	0.003	0	5	0.651	9.5	y	961249.935	70875	922.852	5167.97	1.136	H1-1b*

Envelope AISI S100-16: LRFD Member Cold Formed Steel Code Checks

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APPENDIX D
ADDITIONAL CALCUATIONS

INFINIGY

Bolt Calculation Tool, V1.6.1

PROJECT DATA	
Site Name:	528 WHEELERS FARM RD
Site Number:	876320
Connection Description:	Mount to Tower

MAXIMUM BOLT LOADS		
Bolt Tension:	6682.99	lbs
Bolt Shear:	15268.67	lbs

WORST CASE BOLT LOADS ¹		
Bolt Tension:	574.57	lbs
Bolt Shear:	15268.67	lbs

BOLT PROPERTIES		
Bolt Type:	Bolt	-
Bolt Diameter:	1	in
Bolt Grade:	A325	-
# of Bolts:	2	-
Threads Excluded?	No	-

¹ Worst case bolt loads correspond to Load combination #8 on member S1 in RISA-3D, which causes the maximum demand on the bolts.

Member Information
I nodes of S1, S3, S2,

BOLT CHECK		
Tensile Strength	54516.96	
Shear Strength	35342.92	
Max Tensile Usage	12.3%	
Max Shear Usage	43.2%	
Interaction Check (Worst Case)	0.19	≤1.05
Result	Pass	





Radio Frequency Emissions Analysis Report



Site ID: CT11082E

Stratford/ MP X 53/ Main
528 Wheelers Farms Road
Milford, CT 06460

August 10, 2022

Fox Hill Telecom Project Number: 221558

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	68.34 %

August 10, 2022

T-MOBILE
Attn: RF Manager
35 Griffin Road South
Bloomfield, CT 06009

Emissions Analysis for Site: **CT11082E – Stratford/ MP X 53/ Main**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **528 Wheelers Farms Road, Milford, CT**, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ 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.

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz & 700 MHz bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2500 MHz (BRS) bands is $1000 \mu\text{W}/\text{cm}^2$. 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 performed for the proposed upgrades to the T-MOBILE antenna facility located at **528 Wheelers Farms Road, Milford, CT**, 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 manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	4	40
GSM	1900 MHz (PCS)	1	15
LTE	2100 MHz (AWS)	4	40
LTE / 5G NR	2500 MHz (BRS)	8	20

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAALL24_43-U-NA20	121
A	2	Commscope VV-65B-R1	121
A	3	Ericsson AIR6419 B41	121
B	1	RFS APXVAALL24_43-U-NA20	121
B	2	Commscope VV-65B-R1	121
B	3	Ericsson AIR6419 B41	121
C	1	RFS APXVAALL24_43-U-NA20	121
C	2	Commscope VV-65B-R1	121
C	3	Ericsson AIR6419 B41	121

Table 2: Antenna Data

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



RESULTS

Per the calculations completed for the proposed T-MOBILE configurations *Table 3* shows resulting emissions power levels and percentages of the FCC’s allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	1.83
Antenna A2	Commscope VV-65B-R1	1900 MHz (PCS) / 2100 MHz (AWS)	16.55 / 16.85	9	335	15,654.24	4.26
Antenna A3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	6.14
Sector A Composite MPE%							12.23
Antenna B1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	1.83
Antenna B2	Commscope VV-65B-R1	1900 MHz (PCS) / 2100 MHz (AWS)	16.55 / 16.85	9	335	15,654.24	4.26
Antenna B3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	6.14
Sector B Composite MPE%							12.23
Antenna C1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	1.83
Antenna C2	Commscope VV-65B-R1	1900 MHz (PCS) / 2100 MHz (AWS)	16.55 / 16.85	9	335	15,654.24	4.26
Antenna C3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	6.14
Sector C Composite MPE%							12.23

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
T-MOBILE – Max Per Sector Value	12.23 %
DISH	3.70 %
AT&T	14.52 %
XM Radio	0.20 %
Metricom	0.67 %
Verizon	37.02 %
Site Total MPE %:	68.34 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	12.23 %
T-MOBILE Sector B Total:	12.23 %
T-MOBILE Sector C Total:	12.23 %
Site Total:	68.34 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	2	926.96	121	5.04	600 MHz	400	1.26%
T-Mobile 700 MHz LTE	2	485.32	121	2.64	700 MHz	467	0.57%
T-Mobile 1900 MHz (PCS) LTE	4	1,807.42	121	19.65	1900 MHz (PCS)	1000	1.97%
T-Mobile 1900 MHz (PCS) GSM	1	677.78	121	1.84	1900 MHz (PCS)	1000	0.18%
T-Mobile 2100 MHz (AWS) LTE	4	1,936.69	121	21.06	2100 MHz (AWS)	1000	2.11%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	2,825.08	121	61.44	2500 MHz (BRS)	1000	6.14%
						Total:	12.23%

Table 6: T-MOBILE Maximum Sector MPE Power Values



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:	12.23 %
Sector B:	12.23 %
Sector C:	12.23 %
T-MOBILE Maximum Total (per sector):	12.23 %
Site Total:	68.34 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **68.34 %** 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.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Holden, MA 01520
(978)660-3998

T-Mobile

T-MOBILE SITE NUMBER: CT11082E

T-MOBILE SITE NAME: STRATFORD/ MP X 53/ MAIN

SITE TYPE: MONOPOLE

TOWER HEIGHT: 120'-0"

BUSINESS UNIT #: 876320

SITE ADDRESS: 528 WHEELERS FARM ROAD MILFORD, CT 06460

COUNTY: NEW HAVEN

JURISDICTION: NEW HAVEN COUNTY

CT11082E _ANCHOR: 67E5998E_1XAIR+1OP+1QP

T-Mobile

35 GRIFFIN ROAD
BLOOMFIELD, CT 06002

CROWN CASTLE

1500 CORPORATE DRIVE
CANONSBURG, PA 15317

INFINIGY

FROM ZERO TO INFINIGY
the solutions are endless

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

T-MOBILE SITE NUMBER:
CT11082E

BU #: **876320**
528 WHEELERS FARM RD

528 WHEELERS FARM ROAD
MILFORD, CT 06460

EXISTING 120'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES/QA
A	07/12/22	RCD	PRELIMINARY	SS
B	08/03/22	FP	PRELIMINARY	-
0	08/22/22	CB	100% FINALS	-

SITE INFORMATION

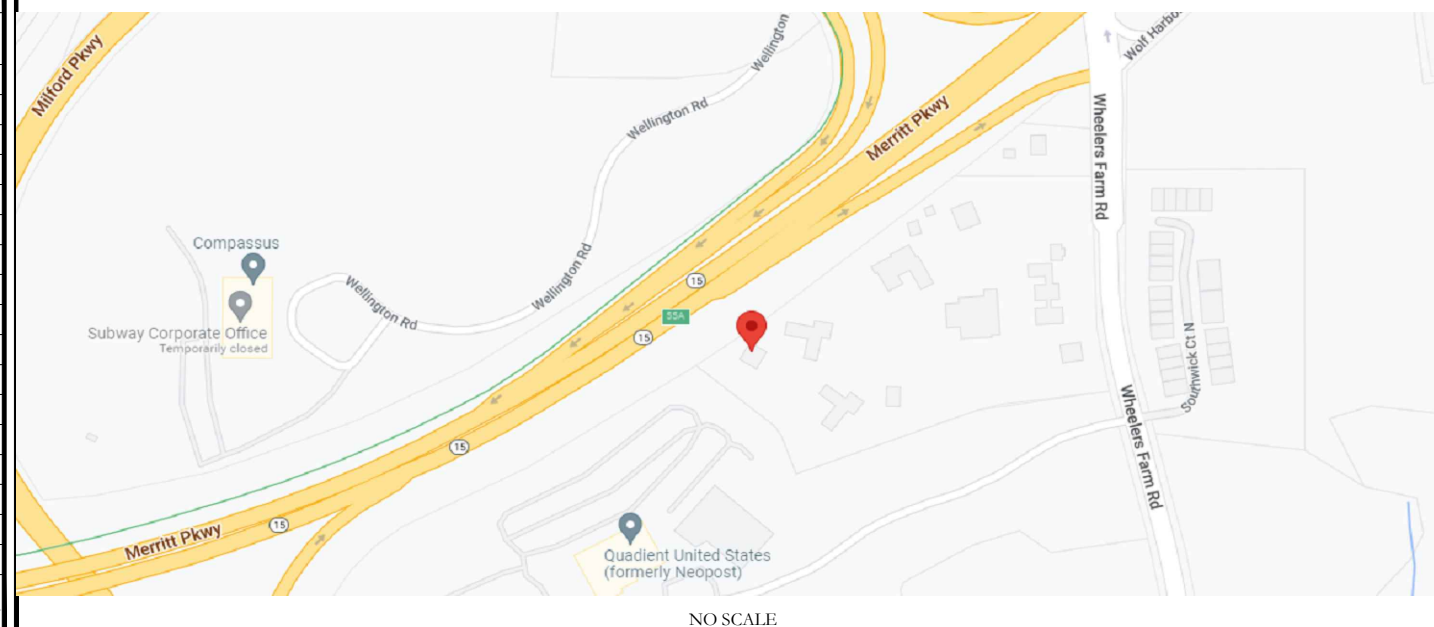
CROWN CASTLE USA INC. 528 WHEELERS FARM RD
SITE NAME:
SITE ADDRESS: 528 WHEELERS FARM ROAD MILFORD, CT 06460
COUNTY: NEW HAVEN
MAP/PARCEL #: VERIFY
AREA OF CONSTRUCTION: EXISTING
LATITUDE: 41.24846194° (41° 14' 54.35")
LONGITUDE: -73.07905830° (-73° 4' 44.67")
LAT/LONG TYPE: NAD83
GROUND ELEVATION: ±207 FT
CURRENT ZONING: TBD
JURISDICTION: NEW HAVEN COUNTY
OCCUPANCY CLASSIFICATION: TBD
TYPE OF CONSTRUCTION: TBD
A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER: TBD
TOWER OWNER: CROWN CASTLE
2000 CORPORATE DRIVE
CANONSBURG, PA 15317
CARRIER/APPLICANT: T-MOBILE
35 GRIFFIN ROAD
BLOOMFIELD, CT 06002
ELECTRIC PROVIDER: TBD
TELCO PROVIDER: TBD

DRAWING INDEX

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

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

LOCATION MAP



NO SCALE

PROJECT DESCRIPTION

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

TOWER SCOPE OF WORK:

- REMOVE (9) ANTENNAS
- REMOVE (3) TMAS
- REMOVE (3) RRHS
- REMOVE ALL COAX CABLES
- REMOVE ALL HYBRID CABLES
- INSTALL (9) ANTENNAS
- INSTALL (6) RRHS
- INSTALL (3) HYBRID CABLES

GROUND SCOPE OF WORK:

- REMOVE (1) EQUIPMENT CABINET
- REMOVE (1) NORTEL CABINET
- INSTALL (1) 6160 & (1) B160 BATTERY CABINET
- INSTALL (1) PSU4813 VOLTAGE BOOSTER IN (P) CABINET
- INSTALL (1) CSR IXRE ROUTER IN (P) CABINET
- INSTALL (1) RP 6651 IN (P) CABINET
- INSTALL (1) PSU4813 VOLTAGE BOOSTER IN (E) CABINET
- INSTALL (1) AVV CABINET
- INSTALL 125 AMP BREAKER FOR 6160

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

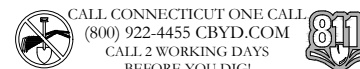
APPLICABLE CODES/REFERENCE DOCUMENTS

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

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

REFERENCE DOCUMENTS:

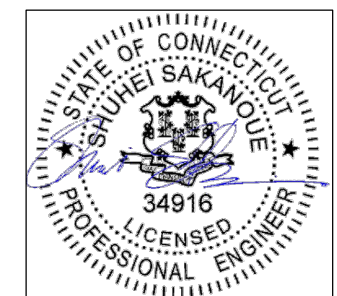
STRUCTURAL ANALYSIS:	CROWN CASTLE
DATED:	06/22/2022
MOUNT ANALYSIS:	INFINIGY
DATED:	06/15/2022
RFDS REVISION:	7
DATED:	4/26/2022
ORDER ID:	619432
REVISION:	0



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.



08/22/22

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-1

REVISION:

0

PROJECT TEAM

A&E FIRM: INFINIGY
500 WEST OFFICE CENTER DR. SUITE 150,
FORT WASHINGTON, PA 19034
CROWN CASTLE USA INC. DISTRICT CONTACTS:
1500 CORPORATE DRIVE
CANONSBURG, PA 15317
TBD - PROJECT MANAGER
TBD - CONSTRUCTION MANAGER

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- 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.
- "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.
- 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.
- 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).
- 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." 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.
- 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.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- 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.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- 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.
- 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.
- 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.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- 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.
- 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.
- 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.
- 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.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- 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.

GREENFIELD GROUNDING NOTES:

- 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.
- THE CONTRACTOR SHALL PERFORM IEEE FALL-OFF-POTENTIAL 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTI-OXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- 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.
- 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).
- 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).

GENERAL NOTES:

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- 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.
- 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.
- 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.
- 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.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- 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.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
- 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° AT TIME OF PLACEMENT.
- 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.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WFF) 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
- 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"
- 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:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- 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. VERIFY 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.
- 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.
- 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).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- 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.
- 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.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- 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.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE LABELED WITH LAMICOID TAGS, 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).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREFOLD SPECMATE WIREWAY).
- SLOTTED WIRING CUP SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "T-MOBILE".
- 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
277/480V, 3Ø	GROUND	GREEN
	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
DC VOLTAGE	NEUTRAL	GREY
	GROUND	GREEN
	POS (+)	RED**
	NEG (-)	BLACK**

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

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE LONG TERM EVOLUTION
LTE	MASTER GROUND BAR
MWB	MICROWAVE
NW	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDSD	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

APWA UNIFORM COLOR CODE:

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

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T-MOBILE SITE NUMBER:
CT11082E

BU #: 876320

528 WHEELERS FARM RD

528 WHEELERS FARM ROAD
MILFORD, CT 06460

EXISTING 120'-0" MONOPOLE

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	07/12/22	RCD	PRELIMINARY	SS
B	08/03/22	FP	PRELIMINARY	-
0	08/22/22	CB	100% FINALS	-

STATE OF CONNECTICUT
SHUHEI SAKANOE
34916
LICENSED PROFESSIONAL ENGINEER

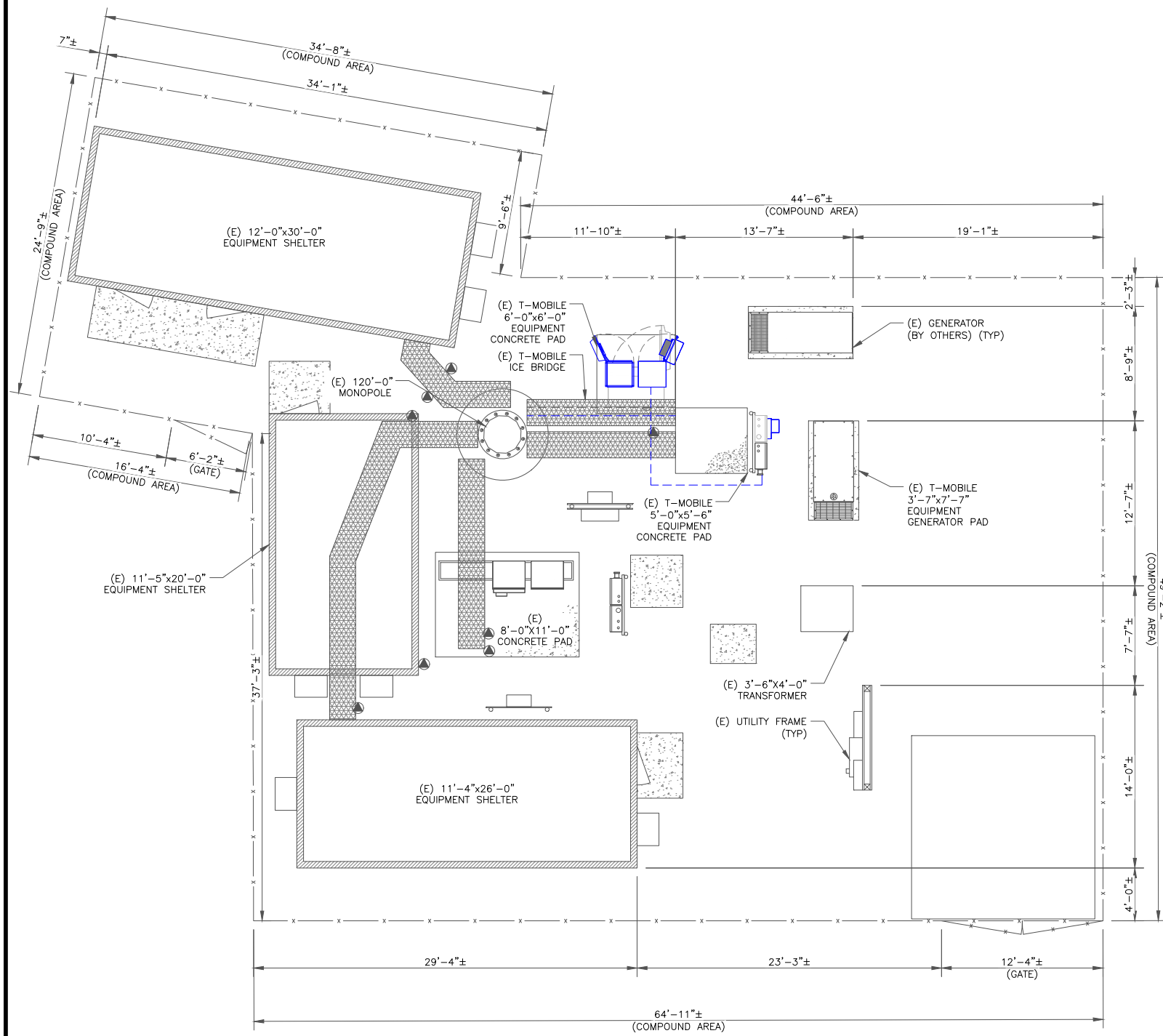
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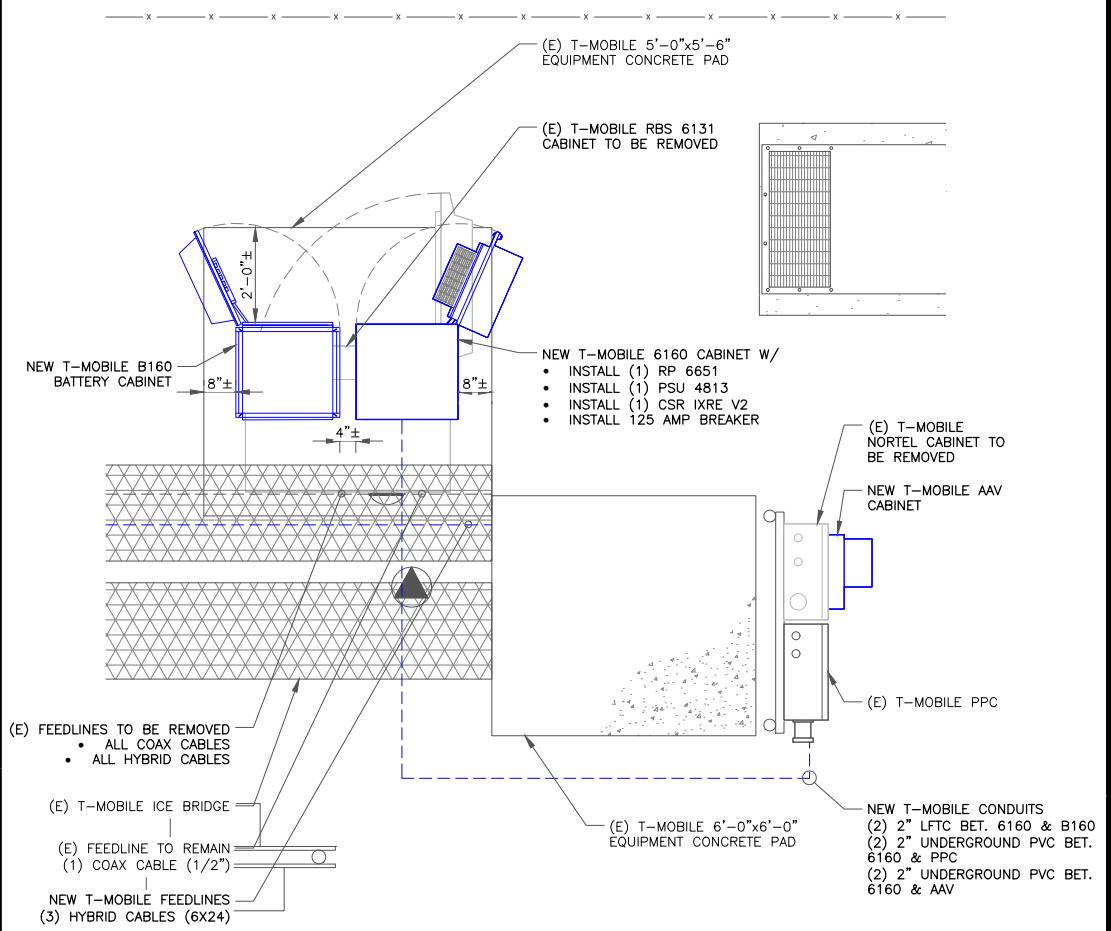
SHEET NUMBER: T-2	REVISION: 0
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NOTE:

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



1 SITE PLAN
 3/16"=1'-0" (FULL SIZE)
 3/32"=1'-0" (11x17)



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



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 35 GRIFFIN ROAD
 BLOOMFIELD, CT 06002

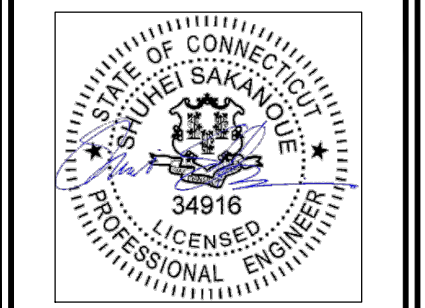
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T-MOBILE SITE NUMBER:
CT11082E
 BU #: 876320
528 WHEELERS FARM RD
 528 WHEELERS FARM ROAD
 MILFORD, CT 06460
 EXISTING 120'-0" MONOPOLE

ISSUED FOR:

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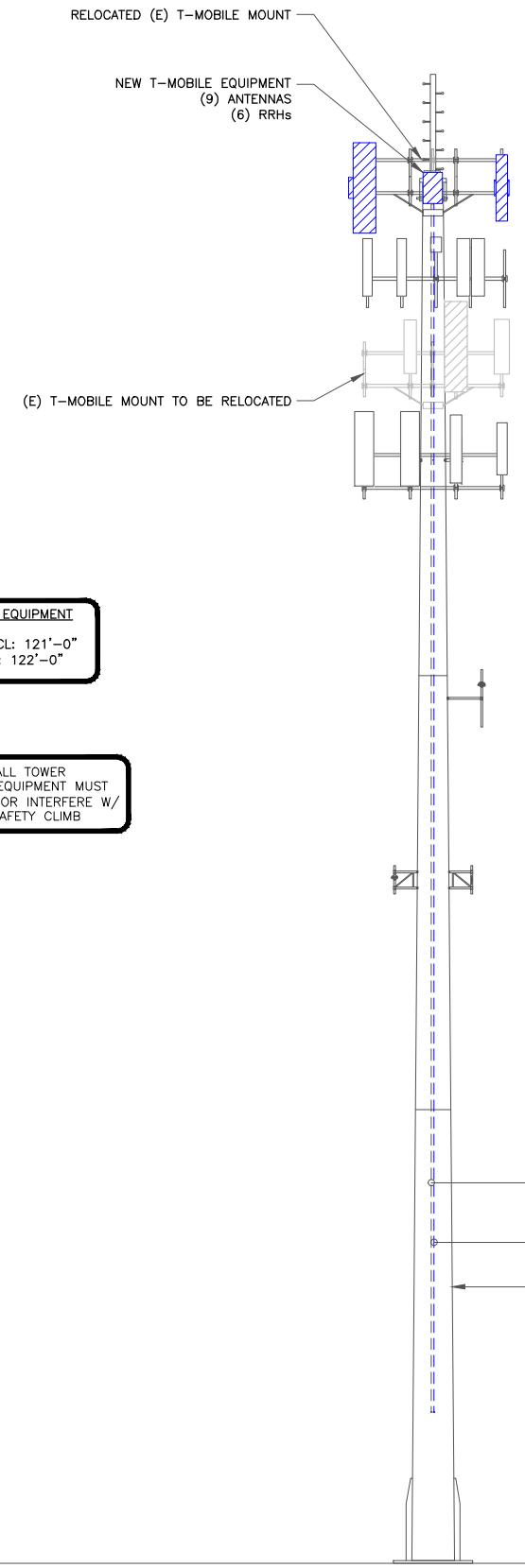
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SHEET NUMBER: **C-1** REVISION: **0**

NOTES:

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



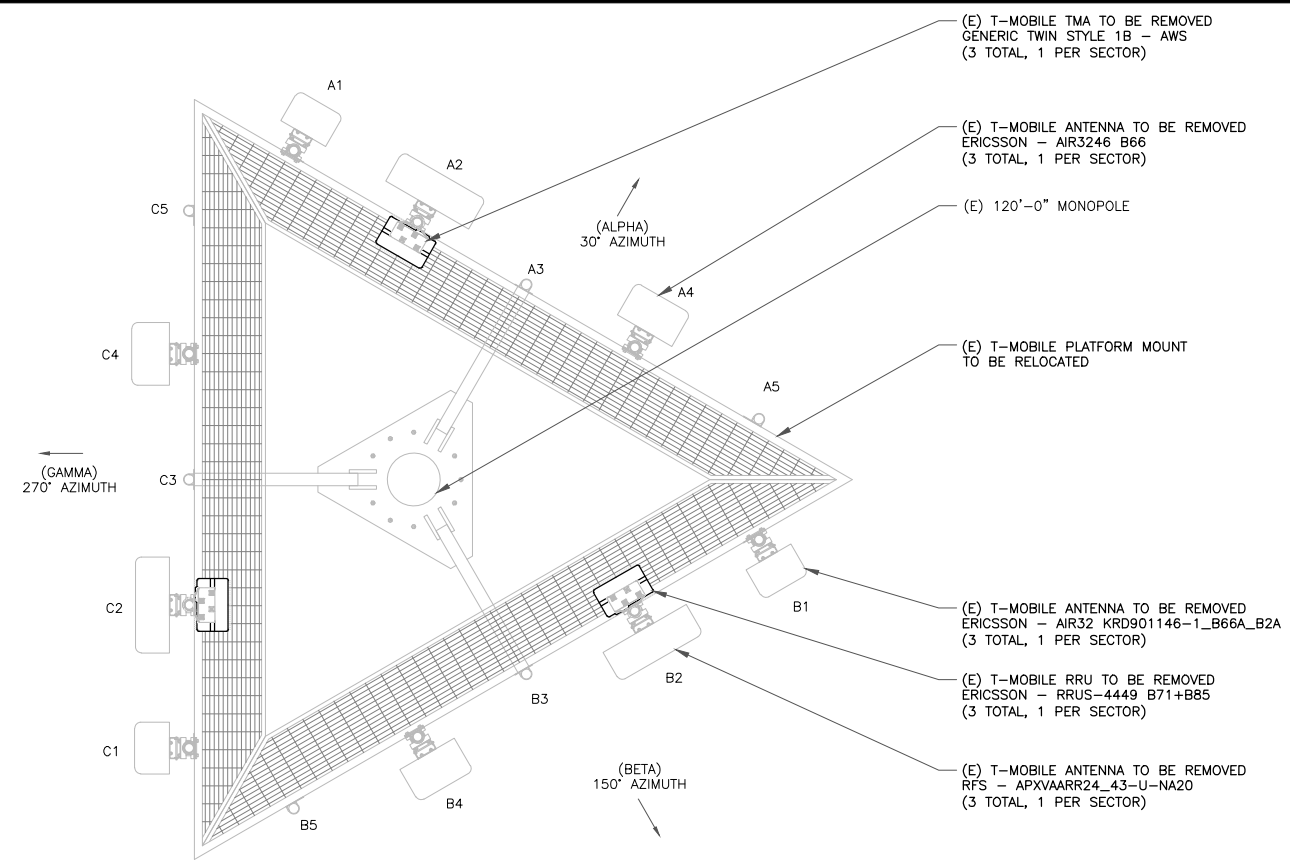
- STRUCTURES W/ APPURTENANCES
- ELEV. = 131'-3"
 - TOP OF ANTENNA ELEV. = 123'-0"
 - RAD CENTER OF ANTENNA ELEV. = 121'-0"
 - RAD CENTER OF ANTENNA MOUNT ELEV. = 122'-0"
 - TOP OF MONOPOLE ELEV. = 120'-0"
 - RAD CENTER OF ANTENNA MOUNT ELEV. = 113'-0"
 - RAD CENTER OF ANTENNA ELEV. = 107'-0"
 - RAD CENTER OF ANTENNA MOUNT ELEV. = 105'-0"
 - RAD CENTER OF ANTENNA MOUNT ELEV. = 97'-0"
 - RAD CENTER OF ANTENNA MOUNT ELEV. = 96'-0"
 - RAD CENTER OF ANTENNA MOUNT ELEV. = 75'-0"
 - RAD CENTER OF ANTENNA MOUNT ELEV. = 60'-0"

T-MOBILE EQUIPMENT
 ANTENNA CL: 121'-0"
 MOUNT CL: 122'-0"

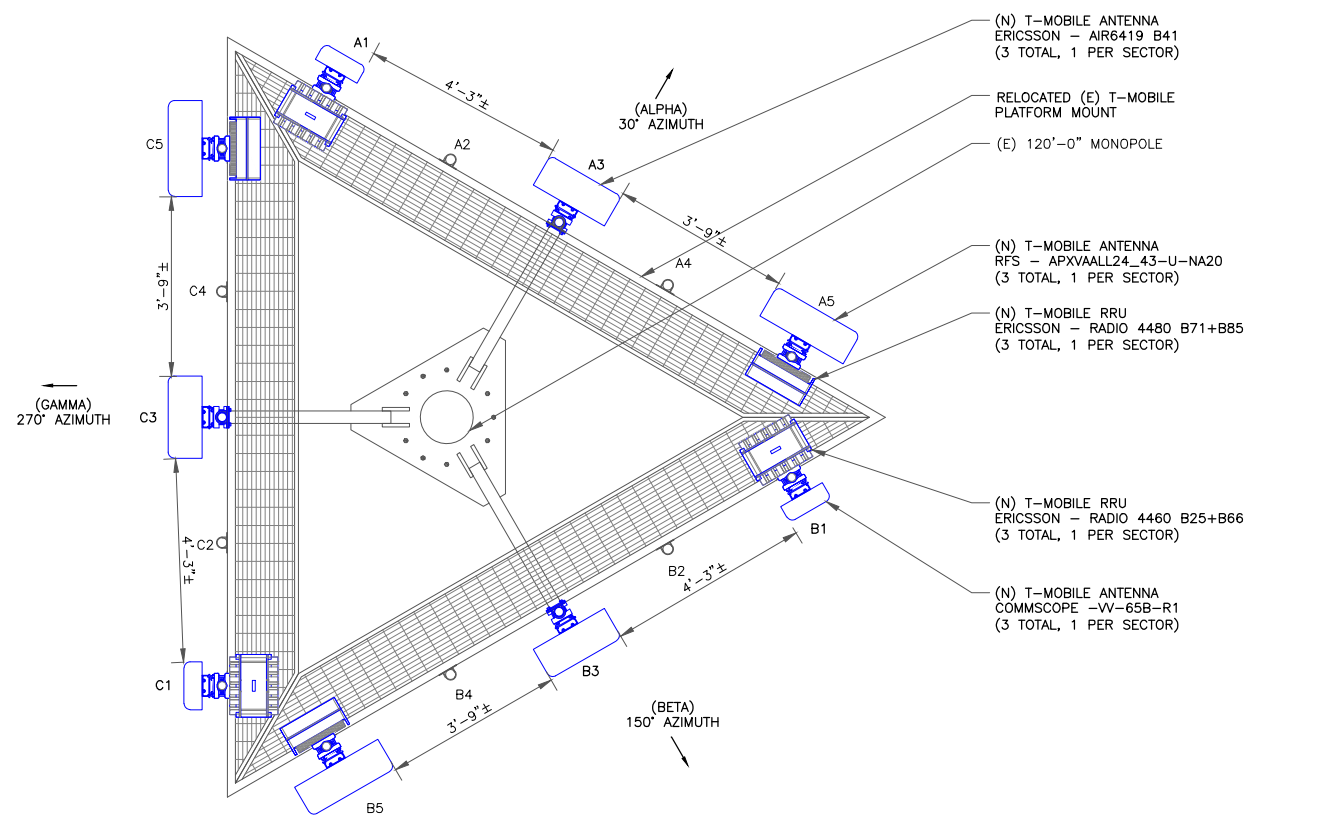
ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB

- (E) FEEDLINES TO BE REMOVED
 - ALL COAX CABLES
 - ALL HYBRID CABLES
- NEW T-MOBILE FEEDLINES (3) HYBRID CABLES (6X24)
- (E) 120'-0" MONOPOLE

1 FINAL ELEVATION
 SCALE: 1/8"=1'-0" (FULL SIZE)
 1/16"=1'-0" (11x17)



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



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

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0	08/22/22	CB	100% FINALS	-

STATE OF CONNECTICUT
 SHUHEI SAKANQUE
 34916
 LICENSED PROFESSIONAL ENGINEER
 08/22/22

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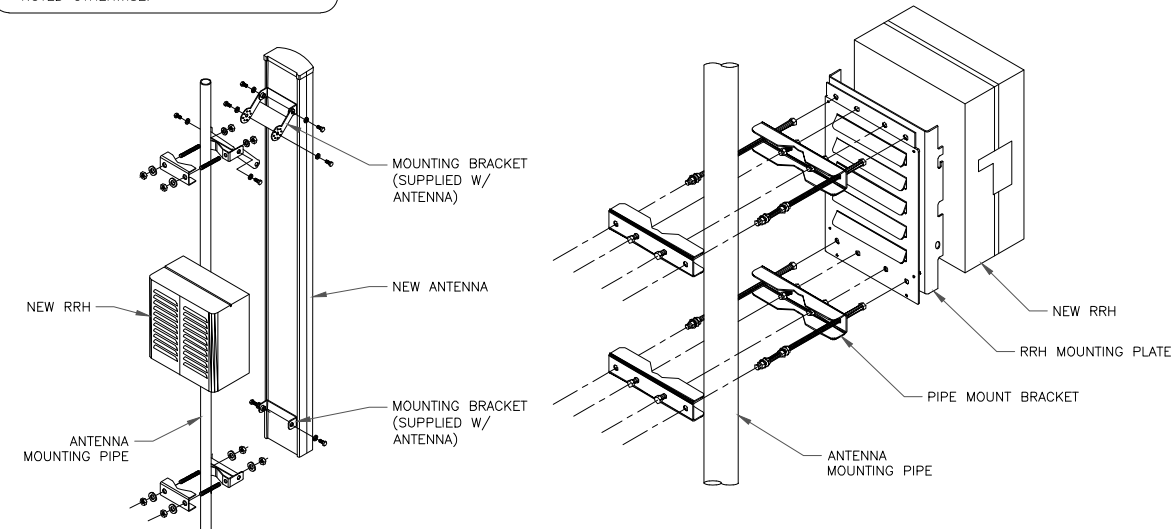
SHEET NUMBER: **C-2** REVISION: **0**

ANTENNA SCHEDULE										
SECTOR	POS.	TECHNOLOGY	RAD CENTER	AZIMUTH	ANTENNA MANUFACTURER	ANTENNA MODEL	MECH. TILT	ELECT. TILT	TOWER MOUNTED EQUIPMENT	FEEDLINE TYPE
ALPHA	A1	G1900, L1900, L2100	121'-0"	30'	COMMSCOPE	WV-65B-R1	0	-	(1) ERICSSON - RRUS 4460 B25+B65	(1) 6X24 HYBRID 50M IN LENGTH
ALPHA	A2	-	-	-	-	-	-	-	-	-
ALPHA	A3	L2500, N2500	121'-0"	30'	ERICSSON	ERICSSON - AIR6419 B41	0	-	-	-
ALPHA	A4	-	-	-	-	-	-	-	-	-
ALPHA	A5	L700, L600, N600	121'-0"	30'	RFS	APXVAALL24_43-U-NA20	0	-	(1) ERICSSON - RRUS 4480 B71+B85	-
BETA	B1	G1900, L1900, L2100	121'-0"	150'	COMMSCOPE	WV-65B-R1	0	-	(1) ERICSSON - RRUS 4460 B25+B65	(1) 6X24 HYBRID 50M IN LENGTH
BETA	B2	-	-	-	-	-	-	-	-	-
BETA	B3	L2500, N2500	121'-0"	150'	ERICSSON	ERICSSON - AIR6419 B41	0	-	-	-
BETA	B4	-	-	-	-	-	-	-	-	-
BETA	B5	L700, L600, N600	121'-0"	150'	RFS	APXVAALL24_43-U-NA20	0	-	(1) ERICSSON - RRUS 4480 B71+B85	-
GAMMA	C1	G1900, L1900, L2100	121'-0"	270'	COMMSCOPE	WV-65B-R1	0	-	(1) ERICSSON - RRUS 4460 B25+B65	(1) 6X24 HYBRID 50M IN LENGTH
GAMMA	C2	-	-	-	-	-	-	-	-	-
GAMMA	C3	L2500, N2500	121'-0"	270'	ERICSSON	ERICSSON - AIR6419 B41	0	-	-	-
GAMMA	C4	-	-	-	-	-	-	-	-	-
GAMMA	C5	L700, L600, N600	121'-0"	270'	RFS	APXVAALL24_43-U-NA20	0	-	(1) ERICSSON - RRUS 4480 B71+B85	-

1 ANTENNA AND CABLE SCHEDULE
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



NOTE:

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

2 ANTENNA WITH RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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T-MOBILE SITE NUMBER:
CT11082E

BU #: 876320
528 WHEELERS FARM RD

528 WHEELERS FARM ROAD
MILFORD, CT 06460

EXISTING 120'-0" MONOPOLE

ISSUED FOR:

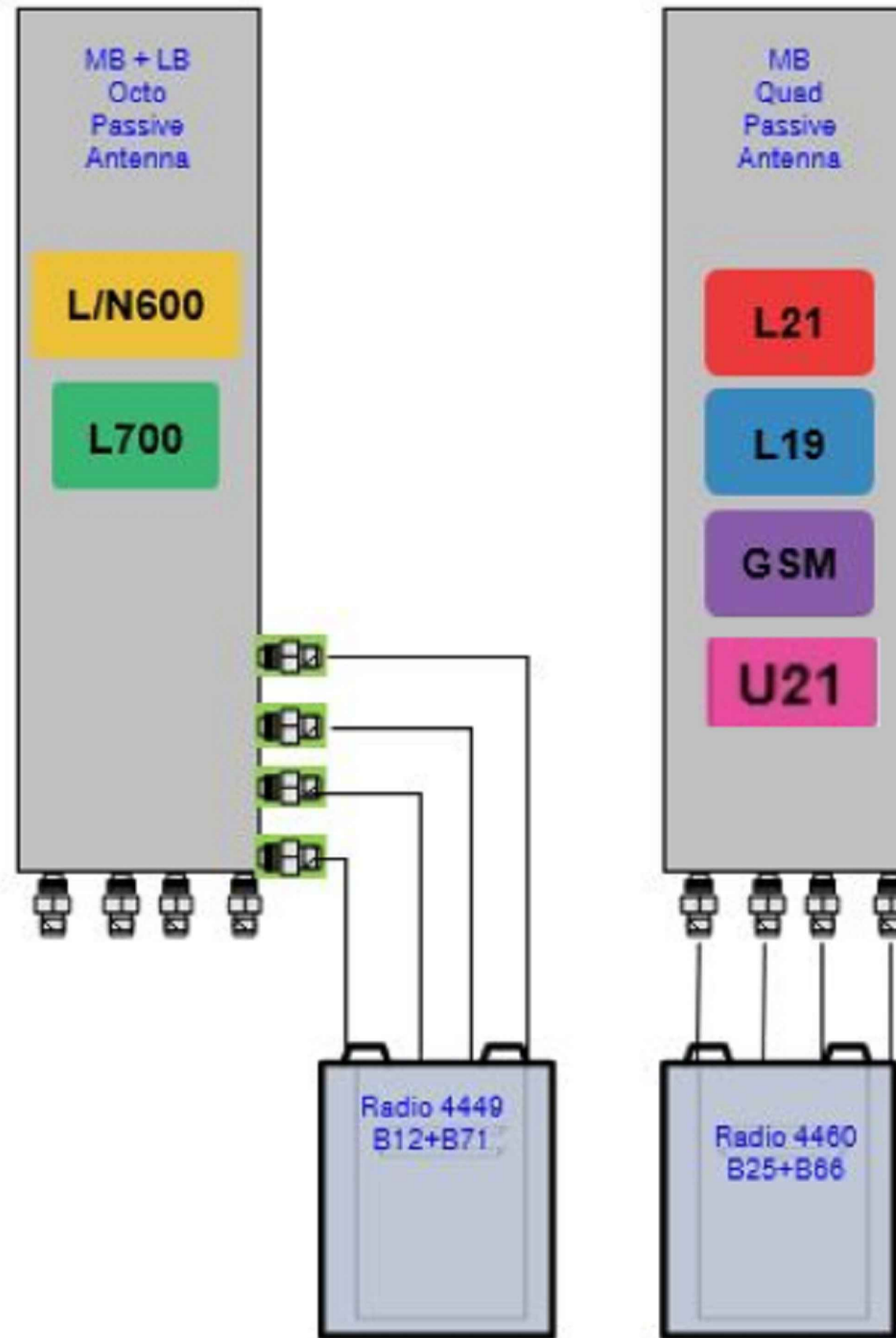
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A	07/12/22	RCD	PRELIMINARY	SS
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STATE OF CONNECTICUT
SHUHEI SAKANOU
34916
LICENSED PROFESSIONAL ENGINEER

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SHEET NUMBER: **C-3** REVISION: **0**



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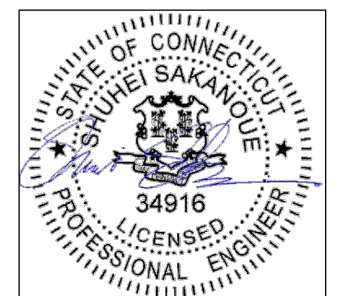
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 BU #: **876320**
528 WHEELERS FARM RD
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 EXISTING 120'-0" MONOPOLE

ISSUED FOR:

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0	08/22/22	CB	100% FINALS	-

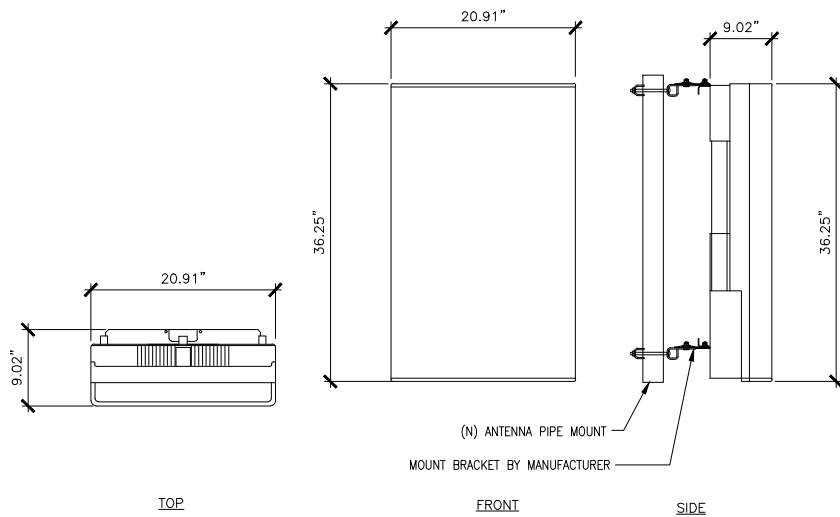


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SHEET NUMBER: **C-4** REVISION: **0**

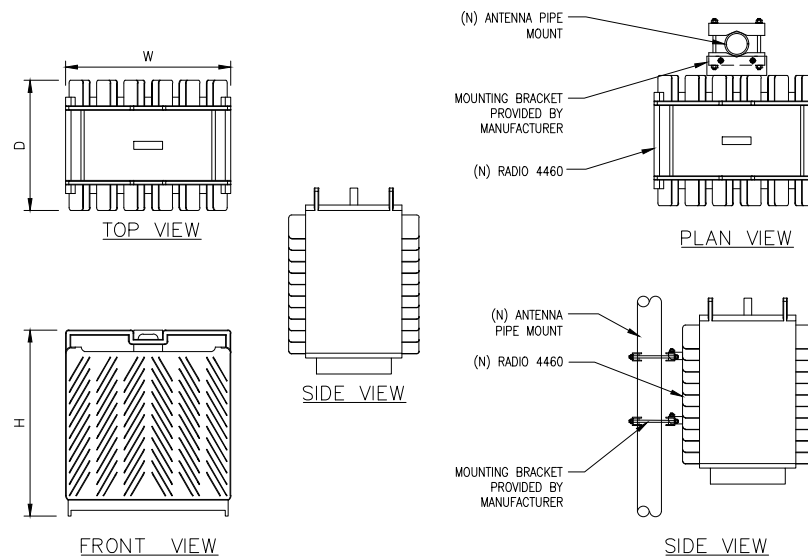
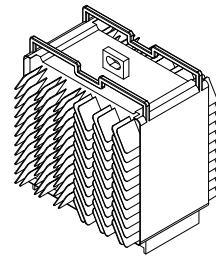
MANUFACTURER: ERICSSON
 MODEL: AIR6419 B41
 WEIGHT: 96.5 LBS (W/ MOUNT BRACKET 113)
 DIMENSIONS: 36.25"H. X 20.91"W. X 9.02"D.
 FREQUENCY: REFER TO RF DATA SHEET



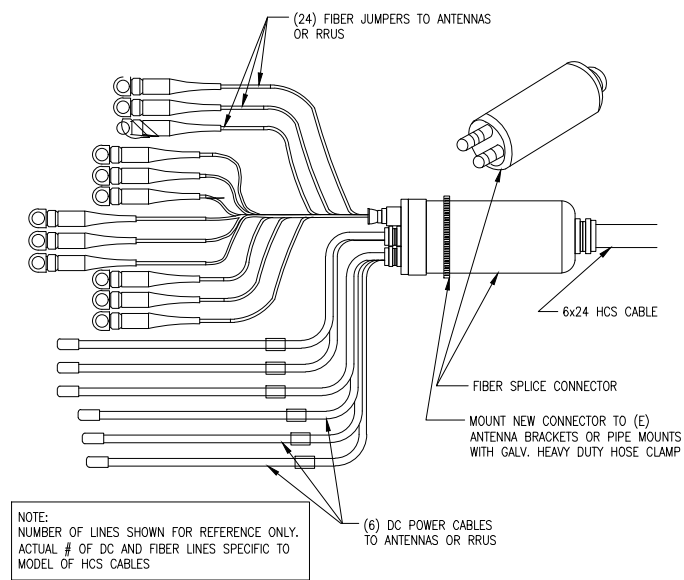
1 (N) AIR6419 B41 ANTENNA SPEC
 SCALE: NOT TO SCALE

ERICSSON RADIO-4460 B25 B66

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



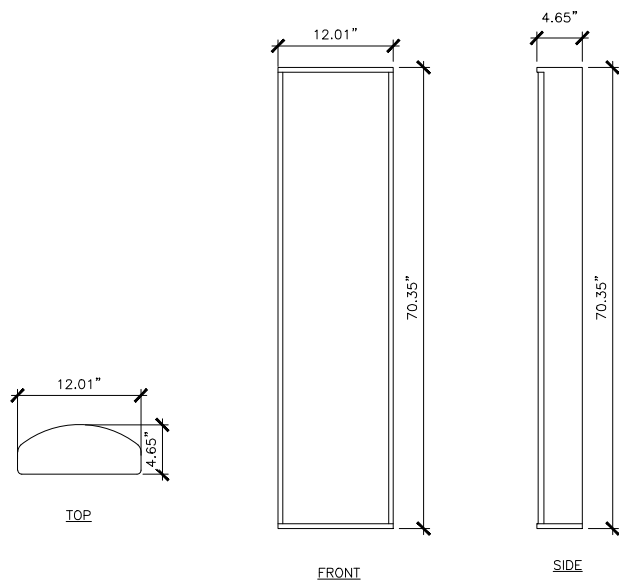
2 (N) RADIO 4460 SPEC
 SCALE: NOT TO SCALE



NOTE:
 NUMBER OF LINES SHOWN FOR REFERENCE ONLY.
 ACTUAL # OF DC AND FIBER LINES SPECIFIC TO
 MODEL OF HCS CABLES

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

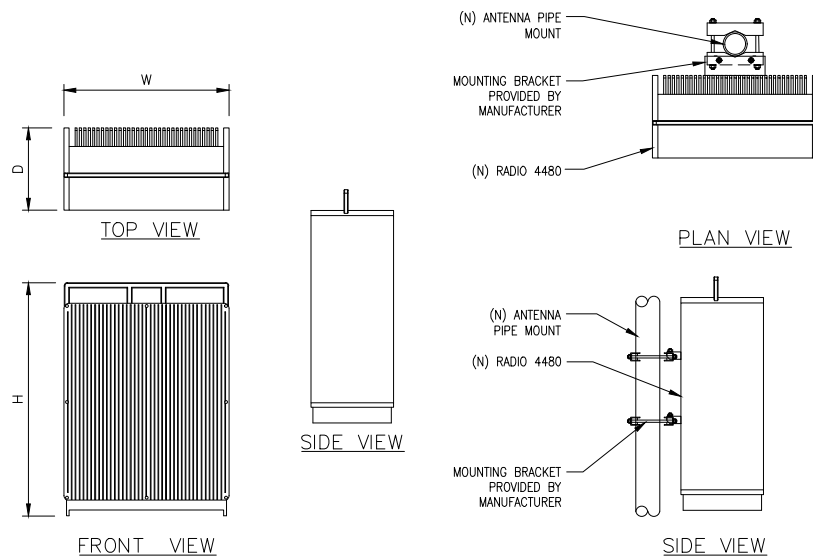
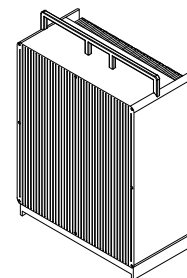
MANUFACTURER: commscope
 MODEL: W-65B-R1
 WEIGHT: 41.67 LBS
 DIMENSIONS: 70.35"H. X 12.01"W. X 4.65"D.
 FREQUENCY: REFER TO RF DATA SHEET



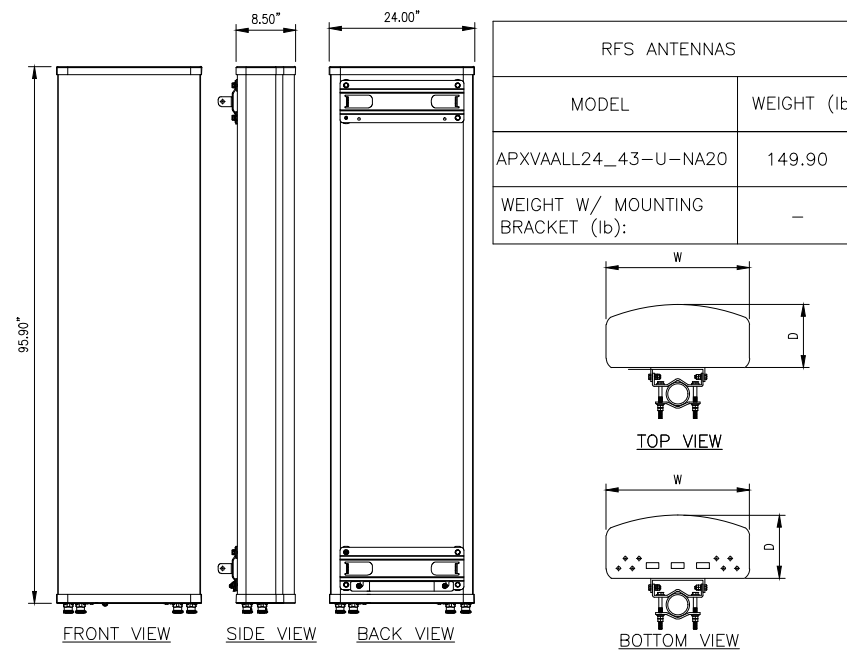
4 (N) W-65B-R1 ANTENNA SPEC
 SCALE: NOT TO SCALE

ERICSSON RADIO-4480 B71 B85

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



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



6 (N) APXVAALL24_43-U-NA20 ANTENNA SPEC
 SCALE: NOT TO SCALE

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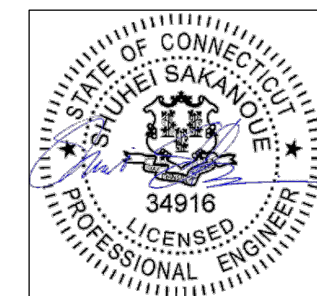
BU #: 876320
528 WHEELERS FARM RD

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EXISTING 120'-0" MONOPOLE

ISSUED FOR:

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0	08/22/22	CB	100% FINALS	-



08/22/22

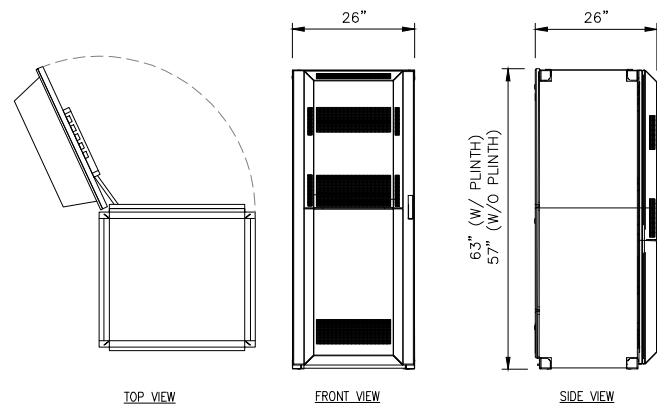
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C-5

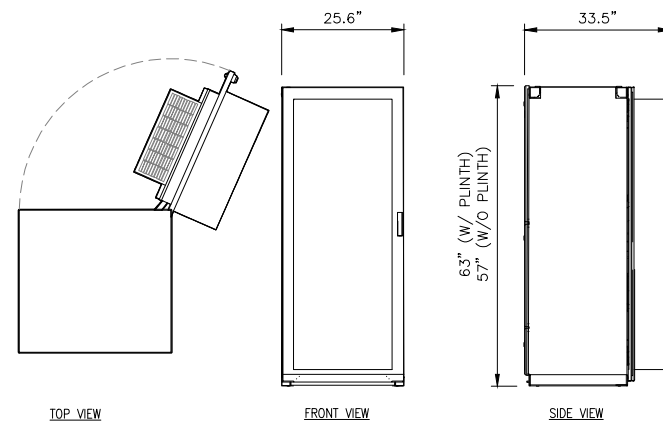
REVISION:

0



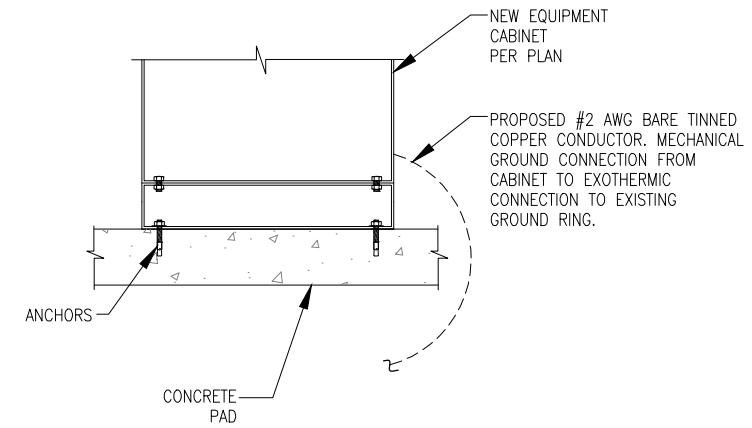
ERICSSON MODEL NO.:	B160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x26"x26" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	485 LBS
MAXIMUM WEIGHT:	2100± LBS

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

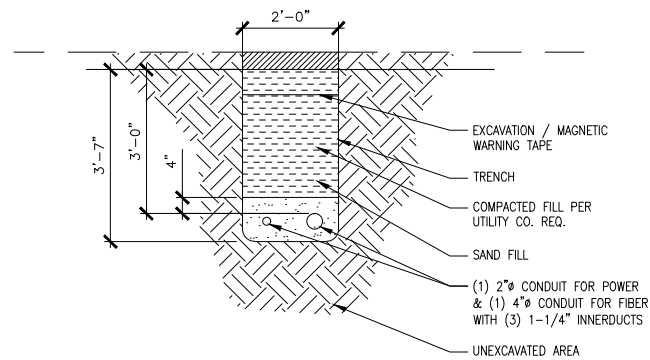


ERICSSON MODEL NO.:	6160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x25.6"x25.6" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	410 LBS
MAXIMUM WEIGHT:	770± LBS

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



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



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

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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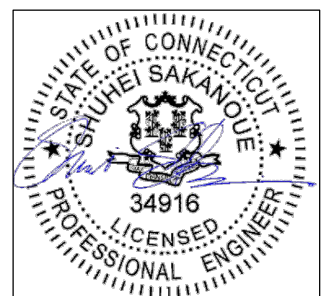
BU #: 876320
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528 WHEELERS FARM ROAD
MILFORD, CT 06460

EXISTING 120'-0" MONOPOLE

ISSUED FOR:

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0	08/22/22	CB	100% FINALS	-



08/22/22

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SHEET NUMBER:

C-6

REVISION:

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NOTES:

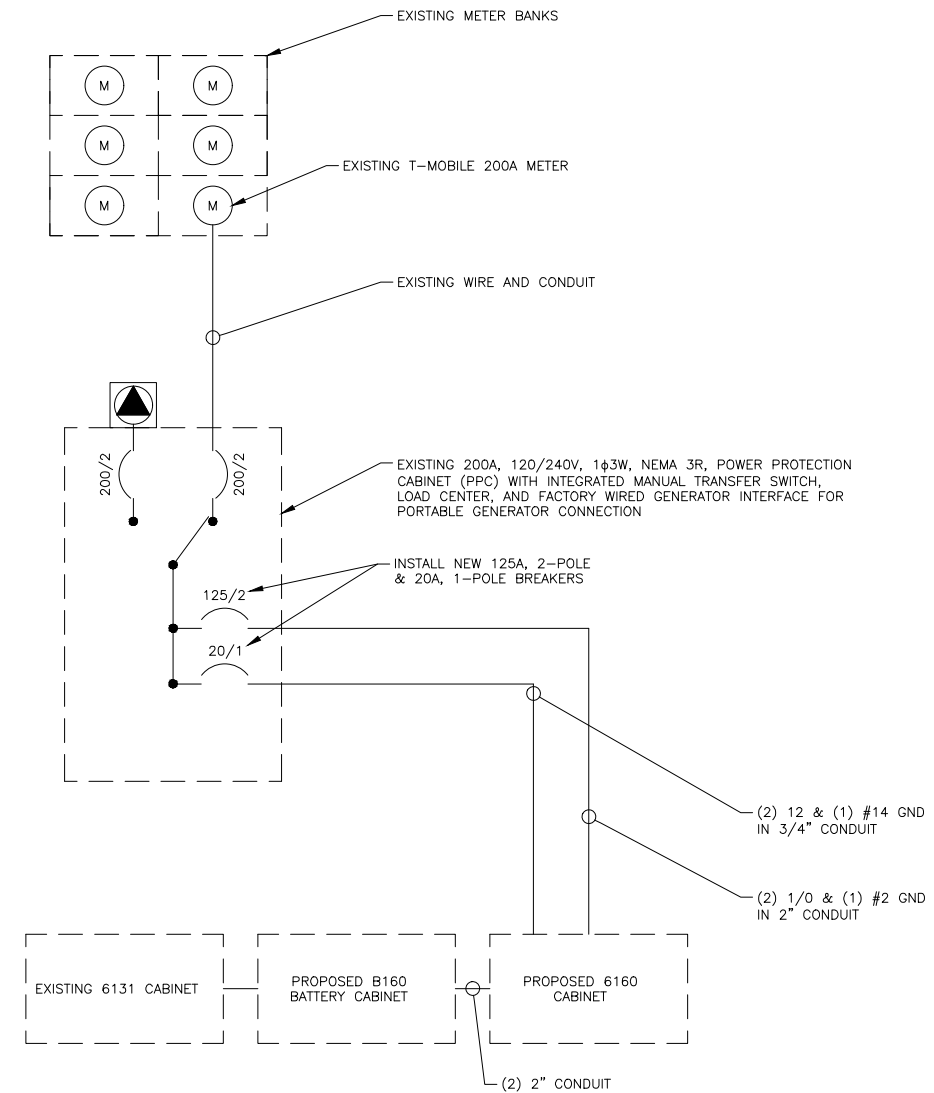
- EXISTING DISTRIBUTION PANEL WAS NOT ACCESSIBLE DURING SITE VISIT PERFORMED BY INFINIGY. CONTRACTOR SHALL INFORM ENGINEER IF THERE ARE ANY DISCREPANCIES IN PANEL SCHEDULE.

T-MOBILE PANEL SCHEDULE											
MAIN: 200A MAIN BREAKER			VOTAGE/PHASE: 120/240V, 1-PHASE, 3-WIRE				SHORT CIRCUIT CURRENT RATING: --				
MOUNTING: INSIDE PPC ENCLOSURE			ENCLOSURE: NEMA 3R				SURGE PROTECTION DEVICE: YES				
DESCRIPTION	LOAD (VA)	C or NC	C/B	CIR No.	PHASE LOADS (VA)		CIR No.	C/B	C or NC	LOAD (VA)	DESCRIPTION
					A	B					
6160	3500	C	125	1	3501		7	60	NC	1	SURGE ARRESTOR
	3500	C		2		3501	8		NC	1	
6160 GFI	180	NC	20	3	180		9	20	NC	0	OFF
TELCO FAN	200	NC	10	4		200	10	20	NC	0	OFF
MMBS (TO BE OFF)	0	C	100	5	180		11	20	NC	180	EXTERNAL RECEPTACLE
	0	C		6		180	12	20	NC	180	INTERNAL RECEPTACLE
BASE LOAD (VA) =					3861	3881	C = CONTINUOUS LOAD; NC = NON-CONTINUOUS LOAD				
25% OF CONTINUOUS LOAD (VA) =					2188	2188	NEW BREAKER TO BE SAME TYPE AND HAVE SAME AIC RATING AS EXISTING. CUSTOMER HAS NOT PROVIDED LOADS FOR EQUIPMENT CABINETS THEREFORE THE CABINET LOADS SHOWN ARE ESTIMATED VALUES.				
TOTAL LOAD (VA) =					6049	6069					
TOTAL LOAD (A) =					50	51					

1 AC PANEL SCHEDULE
SCALE: NOT TO SCALE

NOTES:

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



2 ONE LINE DIAGRAM
SCALE: NOT TO SCALE



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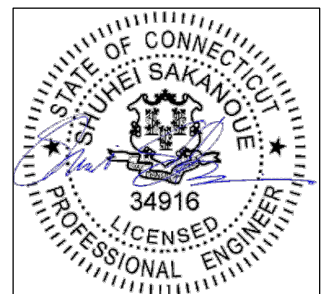
BU #: 876320
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EXISTING 120'-0" MONOPOLE

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0	08/22/22	CB	100% FINALS	-



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E-1

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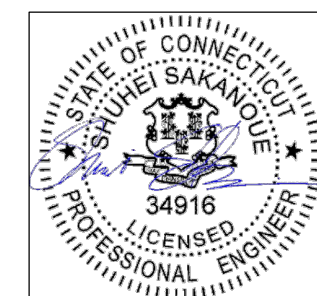
BU #: **876320**
528 WHEELERS FARM RD

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EXISTING 120'-0" MONOPOLE

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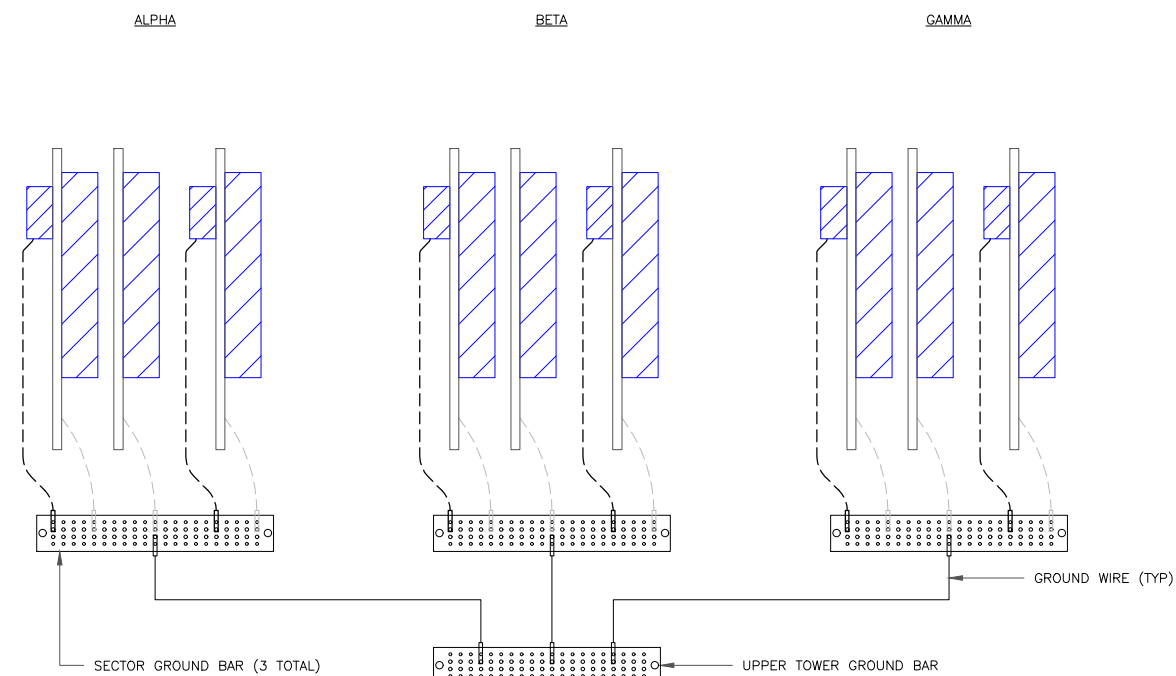


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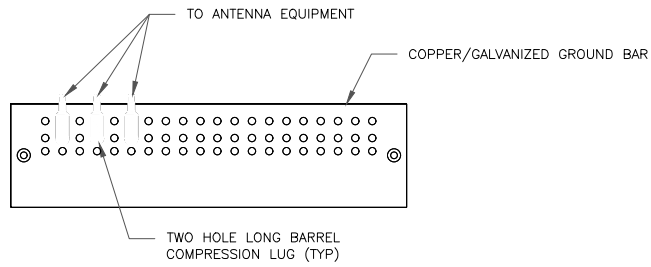
SHEET NUMBER: REVISION:

G-1 **0**



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

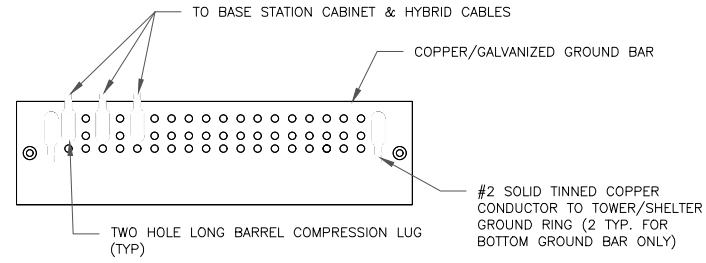
1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



NOTES:

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

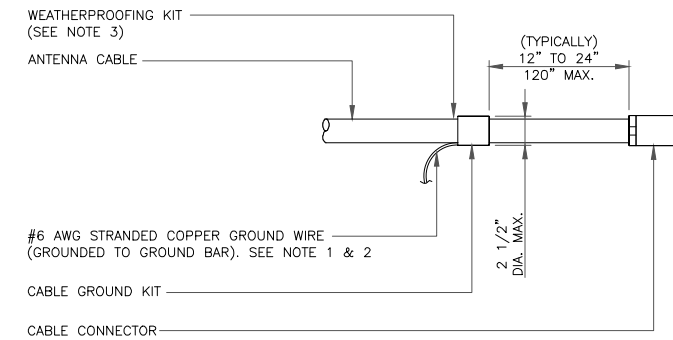
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

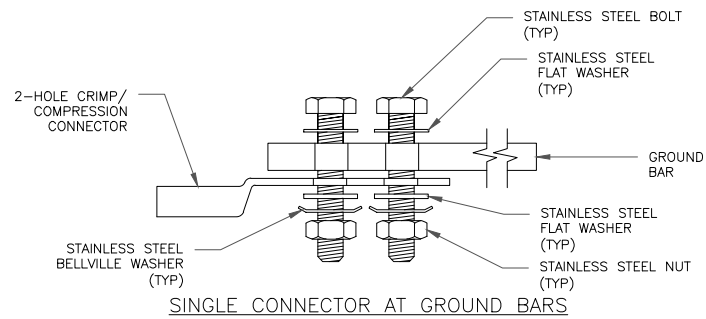
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



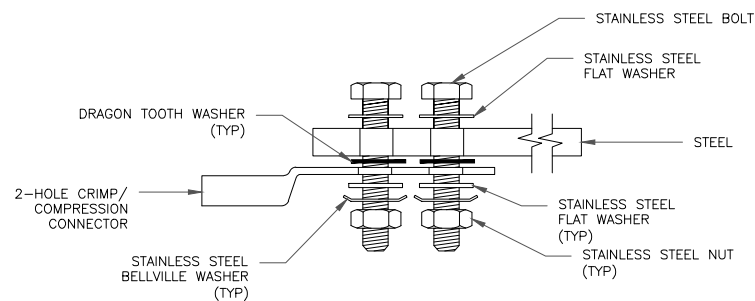
NOTES:

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

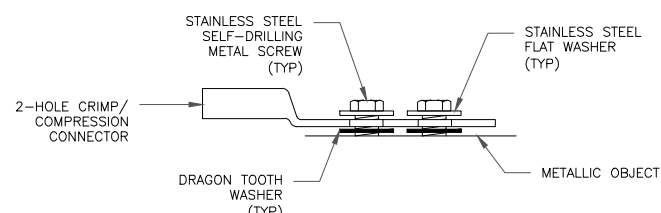
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS



SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

4 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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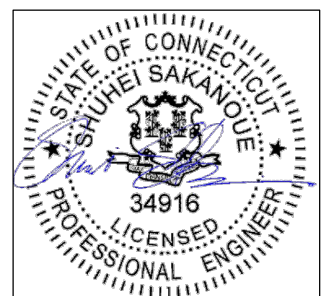
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