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

March 19, 2024

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

RE: **Notice of Exempt Modification for T-Mobile: CTHA509A**
Crown Site ID# 845993
12 Nepaug Road, Burlington, CT 06013
Latitude: 41° 46′ 56.86″ / Longitude: -72° 59′ 22.68″

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 90-foot mount on the existing 120-foot monopole tower located at 12 Nepaug Road, Burlington, CT. The property is owned by the AT&T Mobility and the tower is owned by Crown Castle. T-Mobile now intends to replace six (6) antennas, add three (3) new remote radios and ancillary equipment at the 90-ft level. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:

Install New:
(3) Ericsson – Air 6419 B41Antennas
(3) Ericsson – 4460 B25+B66 Radios
(3) RFS Cellwave – HB158-21U6S24-xxM Cables

Remove:
(6) Ericsson – Air21 KRC118023-1_B2P_B4A - Antennas
(1) Huber & Suhner – MLE 9power/18Fiber RL 2 Hybrid Cable
(6) Andrew- LDF7-50A Coaxial Cables
(1) HSC 6x12 Hybrid 4AWG Cables

Ground:

Install New:
(1) Ericsson – 6160 AC V1 Enclosure
(1) Ericsson – B160 Enclosure

Remove:

(1) RBS – 6201 ODE Enclosure
(1.) Battery Cabinet

The facility was approved by the Connecticut Siting Council, Docket No. 268 on February 18, 2004.

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 Douglas Thompson, First Selectman, Town of Burlington, Jerry Burns, ZEO, Town of Burlington. AT&T Mobility, Property Owner and Crown Castle is the tower owner.

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

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

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

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

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

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

Sincerely,

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

Attachments
cc:

Douglas Thompson, First Selectman
Town of Burlington
200 Spielman Highway
Burlington, CT 06013
860-673-6789

Jerry Burns, ZEO
Town of Burlington
200 Spielman Highway
Burlington, CT 06013
860-673-6789

AT&T Mobility, Landowner
754 Peachtree Street
Atlanta, GA 30308
Real Estate Division

Crown Castle - Tower Owner

DOCKET NO. 268 - AT&T Wireless PCS, LLC d/b/a AT&T Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility located near Lyon and Nepaug Roads in Burlington, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	February 18, 2004

Decision and Order:
Burlington Site CT-828

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the proposed site, located at the intersection of Lyon and Nepaug Roads, Burlington, Connecticut.

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

1. The tower shall be constructed no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T Wireless and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level.

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

   a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping; and
   b) construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

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

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

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

6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.

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

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

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

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

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

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
AT&T Wireless PCS, LLC d/b/a AT&T Wireless	Christopher B. Fisher, Esq. Cuddy & Feder LLP 90 Maple Avenue White Plains, New York 10601
Intervenor	**Its Representative**
Sprint Spectrum, L.P. d/b/a Sprint PCS	Thomas J. Regan, Esq. Brown Rudnick Berlack Israels CityPlace I 185 Asylum Street Hartford, CT 06103

Town of Burlington, CT

Property Listing Report

Map Block Lot 5-11-17-A-CELL 1 1 30303111

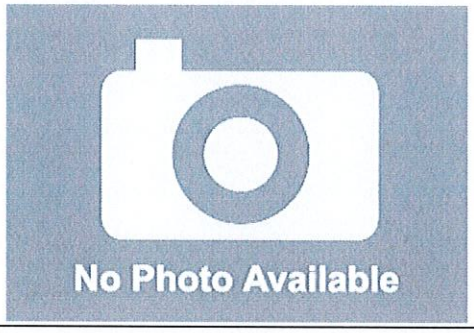
Property Information

Property Location	12 NEPAUG RD
Owner	AT&T MOBILITY
Co-Owner	
Mailing Address	754 PEACHTREE ST ATLANTA GA 30308
Land Use	402V Ind Bldg Mdl-00
Land Class	I
Zoning Code	
Census Tract	

Street Index	
Acreage	0.23
Utilities	
Lot Setting/Desc	
Additional Info	

Ph

Sketch



Primary Construction Details

Year Built	0
Stories	
Building Style	UNKNOWN
Building Use	Vacant
Building Condition	
Occupancy	
Extra Fixtures	0
Bath Style	NA
Kitchen Style	NA
AC Type	
Heating Type	
Heating Fuel	

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Total Rooms	0
Roof Style	
Roof Cover	
Interior Floors 1	
Interior Floors 2	
Exterior Walls	
Exterior Walls 2	NA
Interior Walls	
Interior Walls 2	NA

(*Industrial / Commercial Details)

Building Desc.	Ind Bldg Mdl-00
Building Grade	
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA

Report Created On 3/19/2024

Town of Burlington, CT

Property Listing Report | Map Block Lot 5-11-17-A-CELL | Building # 1 | Section # 1 | Account 30303111

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

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Improvements		
Outbuildings	202100	141470
Land	306000	214200
Total	508100	355670

Outbuilding and Extra Features

Type	Description
PerCastConcCel	240 S.F.
PerCastConcCel	360 S.F.
Fence 8' Chain	260 L.F.
Cellular Pad	1 UNIT

Sub Areas

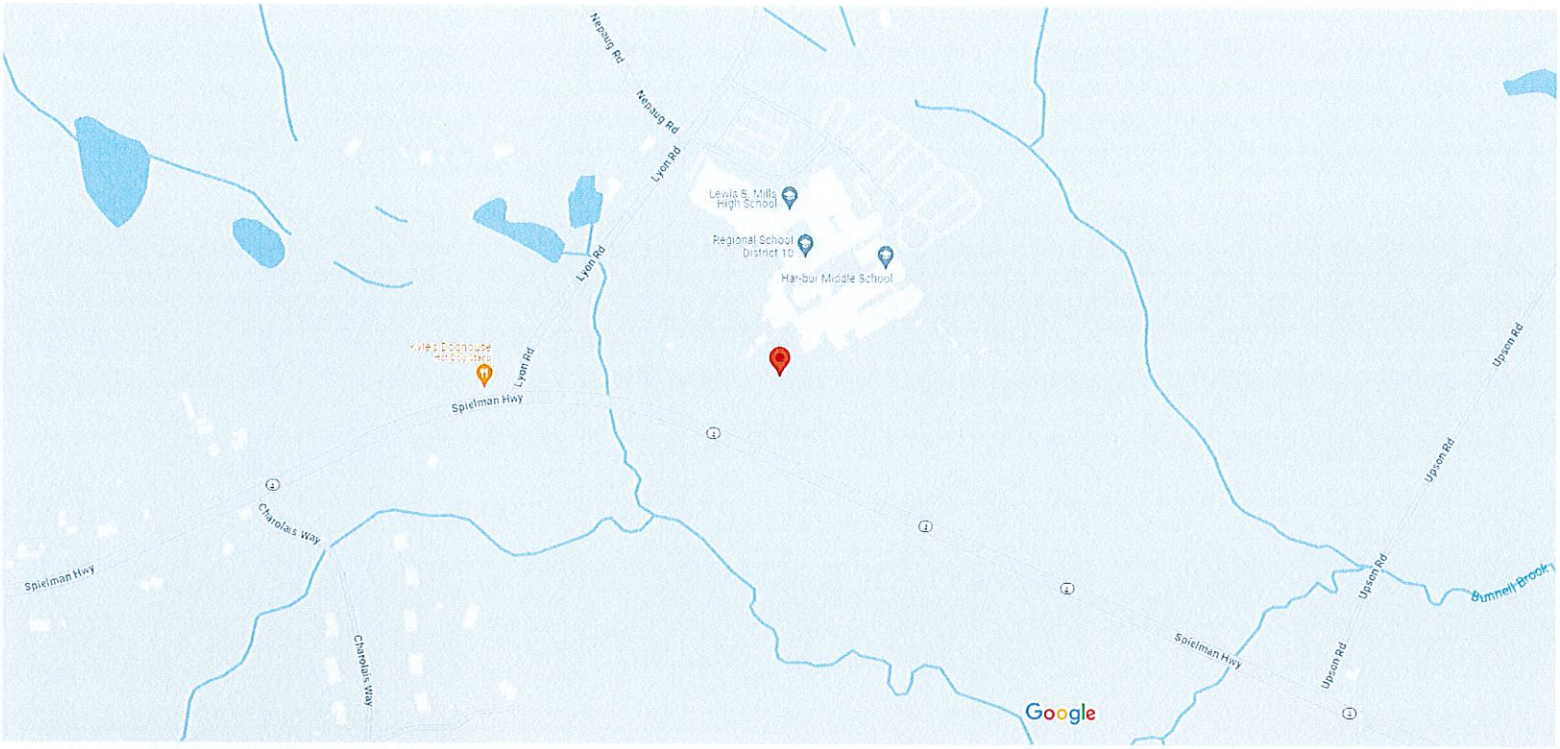
Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area		0

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
AT&T MOBILITY	0000/0000	2008-10-01	0

Report Created On 3/19/2024

12 Nepaug Rd



Map data ©2024 Google 200 ft

12 Nepaug Rd

Directions Save Nearby Send to phone Share

12 Nepaug Rd, Burlington, CT 06013

Q2H6+HR Burlington, Connecticut

Photos

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Wednesday, March 20, 2024 10:37 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775598734111: Your package has been delivered

FedEx

Hi. Your package was delivered Wed, 03/20/2024 at 10:29am.

Delivered to 200 SPIELMAN HWY, BURLINGTON, CT 06013

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	775598734111
FROM	Crown Castle 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Burlington Doulas Thompson, First Selectman 200 Spielman Highway BURLINGTON, CT, US, 06013
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Tue 3/19/2024 06:06 PM
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	BURLINGTON, CT, US, 06013
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Standard Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Wednesday, March 20, 2024 10:37 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775598756230: Your package has been delivered

Hi. Your package was delivered Wed, 03/20/2024 at 10:29am.

Delivered to 200 SPIELMAN HWY, BURLINGTON, CT 06013

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	775598756230
FROM	Crown Castle 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Burlington Jerry Burns, ZEO 200 Spielman Highway BURLINGTON, CT, US, 06013
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Tue 3/19/2024 06:06 PM
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	BURLINGTON, CT, US, 06013
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	0.50 LB
SERVICE TYPE	FedEx Standard Overnight

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, March 21, 2024 11:20 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 775598825738: Your package has been delivered

FedEx®

Hi. Your package was delivered Thu, 03/21/2024 at 11:11am.

Delivered to 754 PEACHTREE ST NE, ATLANTA, GA 30398
Received by T.MOSLEY

OBTAIN PROOF OF DELIVERY

How was your delivery ?

TRACKING NUMBER	775598825738
FROM	Crown Castle 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	AT&T Mobility AT&T Mobility, Real Estate Div 754 Peachtree Street ATLANTA, GA, US, 30398
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Tue 3/19/2024 06:06 PM
DELIVERED TO	Shipping/Receiving
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	ATLANTA, GA, US, 30398
SPECIAL HANDLING	Deliver Weekday
NUMBER OF PIECES	1
TOTAL SHIPMENT WEIGHT	1.00 LB
SERVICE TYPE	FedEx Standard Overnight

Date: **February 02, 2024**

Black & Veatch Corp.
11401 Lamar Avenue
Overland Park, KS 66211
(913) 458-6963

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Metro PCS* Co-Locate**	
	Site Number:	CTHA509A
	Site Name:	AT&T Burlington Monopole
Crown Castle Designation:	**BU Number:**	845993
	Site Name:	BURLINGTON-NEPAUG ROAD
	JDE Job Number:	2100792
	Work Order Number:	2256452
	Order Number:	656058 Rev. 2
Engineering Firm Designation:	**Black & Veatch Corp. Project Number:**	406642
Site Data:	**12 Nepaug Road, Burlington, Hartford County, CT 06013**	
	Latitude *41° 46' 56.86"*, Longitude *-72° 59' 22.68"*	
	120 Foot - Monopole Tower	

Black & Veatch Corp. 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 – 48.5%**

This analysis utilizes an ultimate 3-second gust wind speed of 115 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Khushal Patel

Respectfully submitted by:

Ping Jiang, P.E.
Professional Engineer

STATE OF CONNECTICUT
PING JIANG
30767
LICENSED
PROFESSIONAL ENGINEER

Feb 02, 2024

Digitally signed by Ping Jiang
DN: CN=Ping Jiang, dnQualifier=A01410D0000018BD4B59DC30001EECF, O=Kansas, C=US
Date: 2024.02.02 20:21:56-06'00'

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 120 ft Monopole tower designed by Engineered Endeavors, Inc and mapped by FDH Velocitel.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	115 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Seismic Ss:	0.178
Seismic S1:	0.054
Service Wind Speed:	60 mph
Seismic Loading:	Does not control per engineering judgement

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)
90.0	90.0	3	ericsson	AIR 6419 B41_TMO_CCIV2	3	1 5/8
		3	ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	rfs celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		
		3	rfs celwave	APXVLL19P_43-C-A20_TMO w/ Mount Pipe		
		3	commscope	XP-2020 Crossover Plate		
		3	rosenberger	C10-902-013 Crossover Plate		
		1	cci tower mounts (v2.1)	Miscellaneous [NA 507-1]		
		1	cci tower mounts (v2.1)	T-Arm Mount [TA 602-3]		

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)
119.0	119.0	1	cci tower mounts (v2.1)	Platform Mount [LP 1201-1_HR-1]	1	1 5/8
		1	gps	GPS_A		
		3	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe		
		6	powerwave technologies	7770.00 w/ Mount Pipe		
		1	powerwave technologies	LGP13519		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		1	powerwave technologies	LGP21401		
109.0	111.0	1	lucent	KS24019-L112A	1 3	7/8 1 1/4
	110.0	3	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
		6	alcatel lucent	RRH2X50-800		
		3	alcatel lucent	TD-RRH8X20-25		
		3	kmw communications	ETCR-654L12H6 w/ Mount Pipe		
	109.0	1	cci tower mounts (v2.1)	Platform Mount [LP 1201-1_KCKR]		
99.0	101.0	1	lucent	KS24019-L112A	1 8	1/2 1 5/8
	99.0	1	cci tower mounts (v2.1)	Platform Mount [LP 602-1_KCKR]		
		3	commscope	LNX-6514DS-A1M w/ Mount Pipe		
		3	commscope	NHH-65B-R2B		
		3	commscope	NHHSS-65B-R2B w/ Mount Pipe		
		2	raycap	RRFDC-3315-PF-48		
		3	samsung telecommunications	CBRS RT4401-48A		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
70.0	70.0	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		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	4551029	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	5072131	CCISITES
4-TOWER MANUFACTURER DRAWINGS	5117503	CCISITES

3.1) Analysis Method

tnxTower (version 8.2.2.0), 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.

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. Black & Veatch Corp. should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary) (Monopole Tower)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	120 - 97	Pole	TP28.93x22.69x0.1875	1	-8.98	1014.80	12.5	Pass
L2	97 - 48	Pole	TP39.7x27.5729x0.25	2	-25.58	1867.11	44.5	Pass
L3	48 - 0	Pole	TP51.04x38.0569x0.3125	3	-37.50	3090.62	48.1	Pass
							Summary	
						Pole (L3)	48.1	Pass
						Rating =	**48.1**	**Pass**

Table 5 - Tower Component Stresses vs. Capacity (Monopole Tower) - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	42.0	Pass
1	Base Plate	0	32.4	Pass
1	Base Foundation (Structure)	0	40.3	Pass
1	Base Foundation (Soil Interaction)	0	48.5	Pass

Structure Rating (max from all components) =	**48.5%**

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

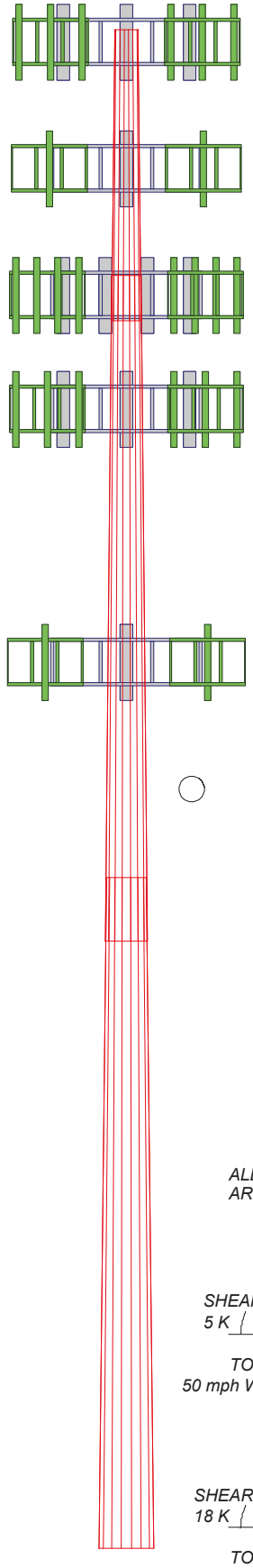
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	23.00	18	0.1875	3.62	22.6900	28.9300		1.2
2	52.62	18	0.2500	4.96	27.5729	39.7000		4.7
3	52.96	18	0.3125		38.0569	51.0400		7.9
							A572-65	13.8



MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 115 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: 48.1%

ALL REACTIONS ARE FACTORED

AXIAL 55 K

SHEAR 5 K *MOMENT 459 kip-ft*

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

AXIAL 38 K

SHEAR 18 K *MOMENT 1598 kip-ft*

TORQUE 1 kip-ft
REACTIONS - 115 mph WIND

BLACK & VEATCH
Black & Veatch Corp.
11401 Lamar Avenue
Overland Park, KS 66211
Phone: (913) 458-6963
FAX:

Job: ***Burlington - Nepaug Road (BU# 845993)***			
Project: ***406642 (845993.2256452)***			
Client: Crown Castle	Drawn by: Khushal Patel	App'd:	
Code: TIA-222-H	Date: 02/02/24	Scale: NTS	
Path: C:\Users\pat108997\Desktop\CCRSite\845993\845993.2256452 - TSA\Structural\845993.2256452 Structural Analysis.eri		Dwg No. E-1	

Tower Input Data

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

- Tower is located in Hartford County, Connecticut.
- Tower base elevation above sea level: 832.00 ft.
- Basic wind speed of 115 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Horizontals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Consider Moments - Diagonals	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
	Use Moment Magnification		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Stress Ratios		Retension Guys To Initial Tension		Offset Girt At Foundation
√	Use Code Safety Factors - Guys	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Escalate Ice	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Always Use Max Kz	√	Project Wind Area of Appurtenances		Use TIA-222-H Bracing Resist. Exemption
	Use Special Wind Profile		Alternative Appurt. EPA Calculation		Use TIA-222-H Tension Splice Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Poles
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination	√	Include Shear-Torsion Interaction
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component		Always Use Sub-Critical Flow
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Use Top Mounted Sockets
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder	√	Pole Without Linear Attachments
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole With Shroud Or No Appurtenances
	Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules		Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	*Elevation*	*Section Length*	*Splice Length*	*Number of Sides*	*Top Diameter*	*Bottom Diameter*	*Wall Thickness*	*Bend Radius*	*Pole Grade*
	ft	*ft*	*ft*		*in*	*in*	*in*	*in*	
L1	120.00-97.00	23.00	3.62	18	22.6900	28.9300	0.1875	0.7500	A572-65 (65 ksi)
L2	97.00-48.00	52.62	4.96	18	27.5729	39.7000	0.2500	1.0000	A572-65 (65 ksi)
L3	48.00-0.00	52.96		18	38.0569	51.0400	0.3125	1.2500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	23.0111	13.3918	856.7181	7.9884	11.5265	74.3258	1714.5635	6.6972	3.6634	19.538
	29.3474	17.1054	1785.3331	10.2036	14.6964	121.4807	3573.0155	8.5543	4.7617	25.396
L2	28.8068	21.6807	2044.8607	9.6996	14.0070	145.9883	4092.4120	10.8424	4.4128	17.651
	40.2739	31.3036	6154.9624	14.0047	20.1676	305.1906	12318.0236	15.6548	6.5472	26.189
L3	39.8305	37.4377	6738.3192	13.3993	19.3329	348.5416	13485.5048	18.7224	6.1480	19.674
	51.7792	50.3153	16357.7954	18.0083	25.9283	630.8853	32737.1149	25.1625	8.4330	26.986

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 120.00-97.00				1	1	1			
L2 97.00-48.00				1	1	1			
L3 48.00-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
*** **********											

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
***									
***									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	119.00 - 0.00	1	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
***									
HB114-1-08U4-M5F(1-1/4)	C	No	No	Inside Pole	109.00 - 0.00	3	No Ice	0.00	1.30
							1/2" Ice	0.00	1.30
							1" Ice	0.00	1.30
HB114-08U3M12-XXXF(7/8)	C	No	No	Inside Pole	109.00 - 0.00	1	No Ice	0.00	0.68
							1/2" Ice	0.00	0.68
							1" Ice	0.00	0.68
***									
HB158-1-08U8-S8J18(1-5/8)	C	No	No	Inside Pole	99.00 - 0.00	2	No Ice	0.00	1.30
							1/2" Ice	0.00	1.30
							1" Ice	0.00	1.30
LDF4-50A(1/2)	C	No	No	Inside Pole	99.00 - 0.00	1	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15
LDF7-50A(1-5/8)	C	No	No	Inside Pole	99.00 - 0.00	6	No Ice	0.00	0.82

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
***									
HB158-21U6S24-xxM_TMO(1-5/8)	C	No	No	Inside Pole	90.00 - 0.00	3	No Ice	0.00	2.50
							1/2" Ice	0.00	2.50
							1" Ice	0.00	2.50
***									
CU12PSM9P8XXX (1-3/8)	C	No	No	Inside Pole	70.00 - 0.00	1	No Ice	0.00	1.66
							1/2" Ice	0.00	1.66
							1" Ice	0.00	1.66
***									
**********									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	120.00-97.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.09
L2	97.00-48.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.99
L3	48.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	1.07

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	120.00-97.00	A	0.957	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.09
L2	97.00-48.00	A	0.919	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.99
L3	48.00-0.00	A	0.821	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	1.07

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	120.00-97.00	0.0000	0.0000	0.0000	0.0000
L2	97.00-48.00	0.0000	0.0000	0.0000	0.0000
L3	48.00-0.00	0.0000	0.0000	0.0000	0.0000

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

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Platform Mount [LP 1201-1_HR-1]	C	None		0.00	119.00	No Ice	26.39	26.39	2.36
						1/2" Ice	31.40	31.40	3.06
						1" Ice	36.20	36.20	3.86
4'x3" Mount Pipe	A	From Leg	0.50 0.00 0.00	0.00	119.00	No Ice	1.11	1.11	0.03
						1/2" Ice	1.36	1.36	0.04
						1" Ice	1.62	1.62	0.05
4'x3" Mount Pipe	B	From Leg	0.50 0.00 0.00	0.00	119.00	No Ice	1.11	1.11	0.03
						1/2" Ice	1.36	1.36	0.04
						1" Ice	1.62	1.62	0.05
4'x3" Mount Pipe	C	From Leg	0.50 0.00 0.00	0.00	119.00	No Ice	1.11	1.11	0.03
						1/2" Ice	1.36	1.36	0.04
						1" Ice	1.62	1.62	0.05
6'x2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
6'x2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
6'x2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
(2) 7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice	3.39	2.32	0.06
						1/2" Ice	3.75	2.66	0.10
						1" Ice	4.12	3.02	0.15
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice	3.39	2.32	0.06
						1/2" Ice	3.75	2.66	0.10
						1" Ice	4.12	3.02	0.15
(2) 7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice	3.39	2.32	0.06
						1/2" Ice	3.75	2.66	0.10
						1" Ice	4.12	3.02	0.15
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice	4.63	3.27	0.07
						1/2" Ice	5.06	3.69	0.13
						1" Ice	5.51	4.12	0.20
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice	4.63	3.27	0.07
						1/2" Ice	5.06	3.69	0.13
						1" Ice	5.51	4.12	0.20
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice	4.63	3.27	0.07
						1/2" Ice	5.06	3.69	0.13
						1" Ice	5.51	4.12	0.20
GPS_A	A	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice	0.26	0.26	0.00
						1/2" Ice	0.32	0.32	0.00
						1" Ice	0.39	0.39	0.01
LGP21401	C	From Leg	4.00 0.00	0.00	119.00	No Ice	1.10	0.35	0.01
						1/2"	1.24	0.44	0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice 1" Ice	1.38	0.54	0.03
LGP13519	C	From Leg	4.00 0.00 0.00	0.00	119.00	No Ice 1/2" Ice 1" Ice	0.29 0.36 0.44	0.18 0.24 0.31	0.01 0.01 0.01
***									
Platform Mount [LP 1201-1_KCKR]	C	None		0.00	109.00	No Ice 1/2" Ice 1" Ice	29.60 36.33 43.26	29.60 36.33 43.26	2.38 3.07 3.86
(3) 6'x2" Mount Pipe	A	From Face	4.00 0.00 0.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
(3) 6'x2" Mount Pipe	B	From Face	4.00 0.00 0.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
(3) 6'x2" Mount Pipe	C	From Face	4.00 0.00 0.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	0.02 0.03 0.05
ETCR-654L12H6 w/ Mount Pipe	A	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	10.90 11.57 12.24	4.61 5.18 5.77	0.10 0.19 0.28
ETCR-654L12H6 w/ Mount Pipe	B	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	10.90 11.57 12.24	4.61 5.18 5.77	0.10 0.19 0.28
ETCR-654L12H6 w/ Mount Pipe	C	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	10.90 11.57 12.24	4.61 5.18 5.77	0.10 0.19 0.28
KS24019-L112A	B	From Face	4.00 0.00 2.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	0.14 0.20 0.26	0.14 0.20 0.26	0.01 0.01 0.01
TD-RRH8X20-25	A	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	4.05 4.30 4.56	1.53 1.71 1.90	0.07 0.10 0.13
TD-RRH8X20-25	B	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	4.05 4.30 4.56	1.53 1.71 1.90	0.07 0.10 0.13
TD-RRH8X20-25	C	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	4.05 4.30 4.56	1.53 1.71 1.90	0.07 0.10 0.13
PCS 1900MHz 4x45W-65MHz	A	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	2.32 2.53 2.74	2.24 2.44 2.65	0.06 0.08 0.11
PCS 1900MHz 4x45W-65MHz	B	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	2.32 2.53 2.74	2.24 2.44 2.65	0.06 0.08 0.11
PCS 1900MHz 4x45W-65MHz	C	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	2.32 2.53 2.74	2.24 2.44 2.65	0.06 0.08 0.11
(2) RRH2X50-800	A	From Face	4.00 0.00	0.00	109.00	No Ice 1/2"	1.70 1.86	1.28 1.43	0.05 0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			1.00			Ice 1" Ice	2.03	1.58	0.09
(2) RRH2X50-800	B	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	1.70 1.86 2.03	1.28 1.43 1.58	0.05 0.07 0.09
(2) RRH2X50-800	C	From Face	4.00 0.00 1.00	0.00	109.00	No Ice 1/2" Ice 1" Ice	1.70 1.86 2.03	1.28 1.43 1.58	0.05 0.07 0.09
***									
Platform Mount [LP 602-1_KCKR]	C	None		0.00	99.00	No Ice 1/2" Ice 1" Ice	42.30 49.04 55.87	42.30 49.04 55.87	1.62 2.38 3.27
BSAMNT-SBS-2-2 Side By Side Bracket	A	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.07 0.09 0.11
BSAMNT-SBS-2-2 Side By Side Bracket	B	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.07 0.09 0.11
BSAMNT-SBS-2-2 Side By Side Bracket	C	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.07 0.09 0.11
LNX-6514DS-A1M w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	4.09 4.49 4.89	3.30 3.68 4.06	0.06 0.13 0.20
LNX-6514DS-A1M w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	4.09 4.49 4.89	3.30 3.68 4.06	0.06 0.13 0.20
LNX-6514DS-A1M w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	4.09 4.49 4.89	3.30 3.68 4.06	0.06 0.13 0.20
NHHSS-65B-R2B w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	3.89 4.27 4.65	3.14 3.50 3.87	0.09 0.15 0.23
NHHSS-65B-R2B w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	3.89 4.27 4.65	3.14 3.50 3.87	0.09 0.15 0.23
NHHSS-65B-R2B w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	3.89 4.27 4.65	3.14 3.50 3.87	0.09 0.15 0.23
NHH-65B-R2B	A	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	4.16 4.56 4.98	2.49 2.88 3.27	0.04 0.09 0.15
NHH-65B-R2B	B	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	4.16 4.56 4.98	2.49 2.88 3.27	0.04 0.09 0.15
NHH-65B-R2B	C	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	4.16 4.56 4.98	2.49 2.88 3.27	0.04 0.09 0.15
MT6407-77A w/ Mount Pipe	A	From Leg	4.00 0.00	0.00	99.00	No Ice 1/2"	5.94 6.47	3.10 3.55	0.10 0.13

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice 1" Ice	7.02	4.02	0.18
MT6407-77A w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	0.10 0.13 0.18
MT6407-77A w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	5.94 6.47 7.02	3.10 3.55 4.02	0.10 0.13 0.18
KS24019-L112A	B	From Leg	4.00 0.00 2.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	0.14 0.20 0.26	0.14 0.20 0.26	0.01 0.01 0.01
CBRS RT4401-48A	A	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	0.99 1.12 1.26	0.50 0.60 0.70	0.02 0.03 0.04
CBRS RT4401-48A	B	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	0.99 1.12 1.26	0.50 0.60 0.70	0.02 0.03 0.04
CBRS RT4401-48A	C	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	0.99 1.12 1.26	0.50 0.60 0.70	0.02 0.03 0.04
RFV01U-D1A	A	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RFV01U-D1A	B	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RFV01U-D1A	C	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.25 1.39 1.54	0.08 0.10 0.12
RFV01U-D2A	A	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
RFV01U-D2A	B	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
RFV01U-D2A	C	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	1.88 2.05 2.22	1.01 1.14 1.28	0.07 0.09 0.11
(2) RRFDC-3315-PF-48	B	From Leg	4.00 0.00 0.00	0.00	99.00	No Ice 1/2" Ice 1" Ice	3.71 3.95 4.20	2.19 2.39 2.61	0.02 0.05 0.09
***									
T-Arm Mount [TA 602-3]	C	None		0.00	90.00	No Ice 1/2" Ice 1" Ice	13.40 16.44 19.70	13.40 16.44 19.70	0.77 1.00 1.29
Miscellaneous [NA 507-1]	C	None		0.00	90.00	No Ice 1/2" Ice 1" Ice	4.56 6.39 8.18	4.56 6.39 8.18	0.24 0.31 0.40
8'x2" Mount Pipe	A	From Leg	4.00 0.00	0.00	90.00	No Ice 1/2"	1.90 2.73	1.90 2.73	0.03 0.04

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
8'x2" Mount Pipe	B	From Leg	4.00	0.00	90.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
8'x2" Mount Pipe	C	From Leg	4.00	0.00	90.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
AIR 6419 B41_TMO_CCIV2	A	From Leg	4.00	0.00	90.00	No Ice	6.24	2.34	0.08
			0.00			1/2"	6.74	2.73	0.12
			0.00			Ice	7.26	3.14	0.16
						1" Ice			
AIR 6419 B41_TMO_CCIV2	B	From Leg	4.00	0.00	90.00	No Ice	6.24	2.34	0.08
			0.00			1/2"	6.74	2.73	0.12
			0.00			Ice	7.26	3.14	0.16
						1" Ice			
AIR 6419 B41_TMO_CCIV2	C	From Leg	4.00	0.00	90.00	No Ice	6.24	2.34	0.08
			0.00			1/2"	6.74	2.73	0.12
			0.00			Ice	7.26	3.14	0.16
						1" Ice			
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.00	0.00	90.00	No Ice	14.69	6.87	0.18
			0.00			1/2"	15.46	7.55	0.31
			0.00			Ice	16.23	8.25	0.45
						1" Ice			
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.00	0.00	90.00	No Ice	14.69	6.87	0.18
			0.00			1/2"	15.46	7.55	0.31
			0.00			Ice	16.23	8.25	0.45
						1" Ice			
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.00	0.00	90.00	No Ice	14.69	6.87	0.18
			0.00			1/2"	15.46	7.55	0.31
			0.00			Ice	16.23	8.25	0.45
						1" Ice			
APXVLL19P_43-C-A20_TMO w/ Mount Pipe	A	From Leg	4.00	0.00	90.00	No Ice	5.08	3.20	0.08
			0.00			1/2"	5.59	3.68	0.13
			0.00			Ice	6.10	4.17	0.20
						1" Ice			
APXVLL19P_43-C-A20_TMO w/ Mount Pipe	B	From Leg	4.00	0.00	90.00	No Ice	5.08	3.20	0.08
			0.00			1/2"	5.59	3.68	0.13
			0.00			Ice	6.10	4.17	0.20
						1" Ice			
APXVLL19P_43-C-A20_TMO w/ Mount Pipe	C	From Leg	4.00	0.00	90.00	No Ice	5.08	3.20	0.08
			0.00			1/2"	5.59	3.68	0.13
			0.00			Ice	6.10	4.17	0.20
						1" Ice			
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.00	0.00	90.00	No Ice	1.97	1.59	0.07
			0.00			1/2"	2.15	1.75	0.09
			0.00			Ice	2.33	1.92	0.12
						1" Ice			
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.00	0.00	90.00	No Ice	1.97	1.59	0.07
			0.00			1/2"	2.15	1.75	0.09
			0.00			Ice	2.33	1.92	0.12
						1" Ice			
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.00	0.00	90.00	No Ice	1.97	1.59	0.07
			0.00			1/2"	2.15	1.75	0.09
			0.00			Ice	2.33	1.92	0.12
						1" Ice			
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00	0.00	90.00	No Ice	2.14	1.69	0.11
			0.00			1/2"	2.32	1.85	0.13
			0.00			Ice	2.51	2.02	0.16
						1" Ice			
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00	0.00	90.00	No Ice	2.14	1.69	0.11
			0.00			1/2"	2.32	1.85	0.13
			0.00			Ice	2.51	2.02	0.16

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						1" Ice			
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00 0.00 0.00	0.00	90.00	No Ice 1/2" Ice 1" Ice	2.14 2.32 2.51	1.69 1.85 2.02	0.11 0.13 0.16
***									
Commscope MC-PK8-DSH	C	None		0.00	70.00	No Ice 1/2" Ice 1" Ice	34.24 62.95 91.66	34.24 62.95 91.66	1.75 2.10 2.45
(2) 8'x2" Mount Pipe	A	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8'x2" Mount Pipe	B	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
(2) 8'x2" Mount Pipe	C	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0.03 0.04 0.06
MX08FRO665-21 w/ Mount Pipe	A	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	B	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
MX08FRO665-21 w/ Mount Pipe	C	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	8.01 8.52 9.04	4.23 4.69 5.16	0.11 0.19 0.29
TA08025-B604	A	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	B	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B604	C	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	0.98 1.11 1.25	0.06 0.08 0.10
TA08025-B605	A	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	B	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
TA08025-B605	C	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	1.96 2.14 2.32	1.13 1.27 1.41	0.08 0.09 0.11
RDIDC-9181-PF-48	A	From Face	4.00 0.00 0.00	0.00	70.00	No Ice 1/2" Ice 1" Ice	2.01 2.19 2.37	1.17 1.31 1.46	0.02 0.04 0.06
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Load Combinations

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	120 - 97	Pole	Max Tension	2	0.00	0.00	-0.00
			Max. Compression	26	-15.12	0.15	-0.04
			Max. Mx	20	-8.98	74.02	-0.06

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-8.98	0.04	-73.76
			Max. Vy	8	5.91	-73.92	-0.06
			Max. Vx	14	5.90	0.04	-73.76
			Max. Torque	24			0.66
L2	97 - 48	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.12	-0.39	-0.35
			Max. Mx	8	-25.58	-687.63	-0.09
			Max. My	14	-25.58	-0.08	-684.76
			Max. Vy	8	16.01	-687.63	-0.09
			Max. Vx	14	15.95	-0.08	-684.76
			Max. Torque	21			2.13
L3	48 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.30	-0.39	-0.35
			Max. Mx	8	-37.50	-1597.28	-0.10
			Max. My	14	-37.50	-0.08	-1591.11
			Max. Vy	8	18.33	-1597.28	-0.10
			Max. Vx	14	18.27	-0.08	-1591.11
			Max. Torque	21			1.48

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	31	55.30	-4.64	-2.68
	Max. H_x	21	28.13	18.31	-0.00
	Max. H_z	2	37.51	-0.00	18.25
	Max. M_x	2	1590.89	-0.00	18.25
	Max. M_z	8	1597.28	-18.31	-0.00
	Max. Torsion	21	1.48	18.31	-0.00
	Min. Vert	5	28.13	-9.12	15.79
	Min. H_x	9	28.13	-18.31	-0.00
	Min. H_z	14	37.51	-0.00	-18.25
	Min. M_x	14	-1591.11	-0.00	-18.25
	Min. M_z	20	-1597.11	18.31	-0.00
	Min. Torsion	9	-1.48	-18.31	-0.00

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	31.26	0.00	0.00	0.08	-0.06	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	37.51	0.00	-18.25	-1590.89	-0.08	0.38
0.9 Dead+1.0 Wind 0 deg - No Ice	28.13	0.00	-18.25	-1575.09	-0.06	0.38
1.2 Dead+1.0 Wind 30 deg - No Ice	37.51	9.12	-15.79	-1376.97	-795.14	-0.75
0.9 Dead+1.0 Wind 30 deg - No Ice	28.13	9.12	-15.79	-1363.29	-787.20	-0.75
1.2 Dead+1.0 Wind 60 deg - No Ice	37.51	15.82	-9.13	-796.49	-1379.84	0.42
0.9 Dead+1.0 Wind 60 deg - No Ice	28.13	15.82	-9.13	-788.59	-1366.08	0.42
1.2 Dead+1.0 Wind 90 deg - No Ice	37.51	18.31	0.00	0.10	-1597.28	1.48
0.9 Dead+1.0 Wind 90 deg - No Ice	28.13	18.31	0.00	0.07	-1581.35	1.48
1.2 Dead+1.0 Wind 120 deg - No Ice	37.51	15.86	9.16	799.16	-1384.07	0.04

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
0.9 Dead+1.0 Wind 120 deg - No Ice	28.13	15.86	9.16	791.17	-1370.28	0.04
1.2 Dead+1.0 Wind 150 deg - No Ice	37.51	9.14	15.84	1381.42	-797.58	-1.40
0.9 Dead+1.0 Wind 150 deg - No Ice	28.13	9.14	15.84	1367.65	-789.62	-1.40
1.2 Dead+1.0 Wind 180 deg - No Ice	37.51	0.00	18.25	1591.11	-0.08	-0.38
0.9 Dead+1.0 Wind 180 deg - No Ice	28.13	0.00	18.25	1575.25	-0.06	-0.38
1.2 Dead+1.0 Wind 210 deg - No Ice	37.51	-9.12	15.79	1377.19	794.97	0.75
0.9 Dead+1.0 Wind 210 deg - No Ice	28.13	-9.12	15.79	1363.45	787.08	0.75
1.2 Dead+1.0 Wind 240 deg - No Ice	37.51	-15.82	9.13	796.71	1379.67	-0.42
0.9 Dead+1.0 Wind 240 deg - No Ice	28.13	-15.82	9.13	788.75	1365.96	-0.42
1.2 Dead+1.0 Wind 270 deg - No Ice	37.51	-18.31	0.00	0.10	1597.11	-1.48
0.9 Dead+1.0 Wind 270 deg - No Ice	28.13	-18.31	0.00	0.07	1581.23	-1.48
1.2 Dead+1.0 Wind 300 deg - No Ice	37.51	-15.86	-9.16	-798.94	1383.91	-0.04
0.9 Dead+1.0 Wind 300 deg - No Ice	28.13	-15.86	-9.16	-791.01	1370.15	-0.04
1.2 Dead+1.0 Wind 330 deg - No Ice	37.51	-9.14	-15.84	-1381.20	797.42	1.40
0.9 Dead+1.0 Wind 330 deg - No Ice	28.13	-9.14	-15.84	-1367.48	789.51	1.40
1.2 Dead+1.0 Ice+1.0 Temp	55.30	0.00	0.00	0.35	-0.39	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	55.30	0.00	-5.35	-456.42	-0.45	0.07
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	55.30	2.67	-4.63	-395.08	-228.77	-0.15
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	55.30	4.63	-2.67	-228.25	-396.48	0.08
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	55.30	5.36	0.00	0.40	-458.55	0.29
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	55.30	4.64	2.68	229.53	-397.32	0.01
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	55.30	2.68	4.64	396.71	-229.26	-0.27
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	55.30	0.00	5.35	457.22	-0.45	-0.07
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	55.30	-2.67	4.63	395.87	227.88	0.15
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	55.30	-4.63	2.67	229.04	395.58	-0.08
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	55.30	-5.36	0.00	0.40	457.66	-0.29
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	55.30	-4.64	-2.68	-228.74	396.42	-0.01
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	55.30	-2.68	-4.64	-395.92	228.37	0.27
Dead+Wind 0 deg - Service	31.26	0.00	-4.68	-405.23	-0.07	0.10
Dead+Wind 30 deg - Service	31.26	2.34	-4.05	-350.73	-202.62	-0.19
Dead+Wind 60 deg - Service	31.26	4.05	-2.34	-202.85	-351.57	0.11
Dead+Wind 90 deg - Service	31.26	4.69	0.00	0.09	-406.97	0.38
Dead+Wind 120 deg - Service	31.26	4.07	2.35	203.65	-352.65	0.01
Dead+Wind 150 deg - Service	31.26	2.34	4.06	351.99	-203.24	-0.36
Dead+Wind 180 deg - Service	31.26	0.00	4.68	405.41	-0.07	-0.10
Dead+Wind 210 deg - Service	31.26	-2.34	4.05	350.91	202.48	0.19
Dead+Wind 240 deg - Service	31.26	-4.05	2.34	203.03	351.43	-0.11

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 270 deg - Service	31.26	-4.69	0.00	0.09	406.83	-0.38
Dead+Wind 300 deg - Service	31.26	-4.07	-2.35	-203.48	352.51	-0.01
Dead+Wind 330 deg - Service	31.26	-2.34	-4.06	-351.81	203.10	0.36

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-31.26	0.00	0.00	31.26	0.00	0.000%
2	0.00	-37.51	-18.25	-0.00	37.51	18.25	0.000%
3	0.00	-28.13	-18.25	-0.00	28.13	18.25	0.000%
4	9.12	-37.51	-15.79	-9.12	37.51	15.79	0.000%
5	9.12	-28.13	-15.79	-9.12	28.13	15.79	0.000%
6	15.82	-37.51	-9.13	-15.82	37.51	9.13	0.000%
7	15.82	-28.13	-9.13	-15.82	28.13	9.13	0.000%
8	18.31	-37.51	0.00	-18.31	37.51	-0.00	0.000%
9	18.31	-28.13	0.00	-18.31	28.13	-0.00	0.000%
10	15.86	-37.51	9.16	-15.86	37.51	-9.16	0.000%
11	15.86	-28.13	9.16	-15.86	28.13	-9.16	0.000%
12	9.14	-37.51	15.84	-9.14	37.51	-15.84	0.000%
13	9.14	-28.13	15.84	-9.14	28.13	-15.84	0.000%
14	0.00	-37.51	18.25	-0.00	37.51	-18.25	0.000%
15	0.00	-28.13	18.25	-0.00	28.13	-18.25	0.000%
16	-9.12	-37.51	15.79	9.12	37.51	-15.79	0.000%
17	-9.12	-28.13	15.79	9.12	28.13	-15.79	0.000%
18	-15.82	-37.51	9.13	15.82	37.51	-9.13	0.000%
19	-15.82	-28.13	9.13	15.82	28.13	-9.13	0.000%
20	-18.31	-37.51	0.00	18.31	37.51	-0.00	0.000%
21	-18.31	-28.13	0.00	18.31	28.13	-0.00	0.000%
22	-15.86	-37.51	-9.16	15.86	37.51	9.16	0.000%
23	-15.86	-28.13	-9.16	15.86	28.13	9.16	0.000%
24	-9.14	-37.51	-15.84	9.14	37.51	15.84	0.000%
25	-9.14	-28.13	-15.84	9.14	28.13	15.84	0.000%
26	0.00	-55.30	0.00	0.00	55.30	0.00	0.000%
27	0.00	-55.30	-5.35	-0.00	55.30	5.35	0.000%
28	2.67	-55.30	-4.63	-2.67	55.30	4.63	0.000%
29	4.63	-55.30	-2.67	-4.63	55.30	2.67	0.000%
30	5.36	-55.30	0.00	-5.36	55.30	-0.00	0.000%
31	4.64	-55.30	2.68	-4.64	55.30	-2.68	0.000%
32	2.68	-55.30	4.64	-2.68	55.30	-4.64	0.000%
33	0.00	-55.30	5.35	-0.00	55.30	-5.35	0.000%
34	-2.67	-55.30	4.63	2.67	55.30	-4.63	0.000%
35	-4.63	-55.30	2.67	4.63	55.30	-2.67	0.000%
36	-5.36	-55.30	0.00	5.36	55.30	-0.00	0.000%
37	-4.64	-55.30	-2.68	4.64	55.30	2.68	0.000%
38	-2.68	-55.30	-4.64	2.68	55.30	4.64	0.000%
39	0.00	-31.26	-4.68	0.00	31.26	4.68	0.000%
40	2.34	-31.26	-4.05	-2.34	31.26	4.05	0.000%
41	4.05	-31.26	-2.34	-4.05	31.26	2.34	0.000%
42	4.69	-31.26	0.00	-4.69	31.26	0.00	0.000%
43	4.07	-31.26	2.35	-4.07	31.26	-2.35	0.000%
44	2.34	-31.26	4.06	-2.34	31.26	-4.06	0.000%
45	0.00	-31.26	4.68	0.00	31.26	-4.68	0.000%
46	-2.34	-31.26	4.05	2.34	31.26	-4.05	0.000%
47	-4.05	-31.26	2.34	4.05	31.26	-2.34	0.000%
48	-4.69	-31.26	0.00	4.69	31.26	0.00	0.000%
49	-4.07	-31.26	-2.35	4.07	31.26	2.35	0.000%
50	-2.34	-31.26	-4.06	2.34	31.26	4.06	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	4	0.00000001	0.00043105
3	Yes	4	0.00000001	0.00028972
4	Yes	5	0.00000001	0.00038887
5	Yes	5	0.00000001	0.00019245
6	Yes	5	0.00000001	0.00039388
7	Yes	5	0.00000001	0.00019489
8	Yes	5	0.00000001	0.00007125
9	Yes	4	0.00000001	0.00096031
10	Yes	5	0.00000001	0.00040961
11	Yes	5	0.00000001	0.00020288
12	Yes	5	0.00000001	0.00044339
13	Yes	5	0.00000001	0.00022081
14	Yes	4	0.00000001	0.00043119
15	Yes	4	0.00000001	0.00028978
16	Yes	5	0.00000001	0.00041933
17	Yes	5	0.00000001	0.00020830
18	Yes	5	0.00000001	0.00041783
19	Yes	5	0.00000001	0.00020745
20	Yes	5	0.00000001	0.00007124
21	Yes	4	0.00000001	0.00096017
22	Yes	5	0.00000001	0.00040597
23	Yes	5	0.00000001	0.00020112
24	Yes	5	0.00000001	0.00037661
25	Yes	5	0.00000001	0.00018597
26	Yes	4	0.00000001	0.00000001
27	Yes	5	0.00000001	0.00013624
28	Yes	5	0.00000001	0.00016047
29	Yes	5	0.00000001	0.00016083
30	Yes	5	0.00000001	0.00013781
31	Yes	5	0.00000001	0.00016232
32	Yes	5	0.00000001	0.00016331
33	Yes	5	0.00000001	0.00013682
34	Yes	5	0.00000001	0.00016125
35	Yes	5	0.00000001	0.00016146
36	Yes	5	0.00000001	0.00013713
37	Yes	5	0.00000001	0.00016064
38	Yes	5	0.00000001	0.00015981
39	Yes	4	0.00000001	0.00003595
40	Yes	4	0.00000001	0.00013545
41	Yes	4	0.00000001	0.00013775
42	Yes	4	0.00000001	0.00009170
43	Yes	4	0.00000001	0.00015092
44	Yes	4	0.00000001	0.00019819
45	Yes	4	0.00000001	0.00003599
46	Yes	4	0.00000001	0.00016669
47	Yes	4	0.00000001	0.00016278
48	Yes	4	0.00000001	0.00009160
49	Yes	4	0.00000001	0.00014699
50	Yes	4	0.00000001	0.00013446

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 97	10.5118	43	0.71	0.00
L2	100.62 - 48	7.6842	43	0.68	0.00
L3	52.96 - 0	2.1556	43	0.38	0.00

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
119.00	Platform Mount [LP 1201-1_HR-1]	43	10.3640	0.70	0.00	78812
109.00	Platform Mount [LP 1201-1_KCKR]	43	8.8927	0.69	0.00	35823
99.00	Platform Mount [LP 602-1_KCKR]	43	7.4548	0.67	0.00	18693
90.00	T-Arm Mount [TA 602-3]	43	6.2148	0.63	0.00	12939
70.00	Commscope MC-PK8-DSH	43	3.7619	0.51	0.00	7676

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 97	41.3173	10	2.77	0.01
L2	100.62 - 48	30.2012	10	2.66	0.01
L3	52.96 - 0	8.4685	10	1.48	0.00

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
119.00	Platform Mount [LP 1201-1_HR-1]	10	40.7363	2.77	0.01	20057
109.00	Platform Mount [LP 1201-1_KCKR]	10	34.9520	2.73	0.01	9116
99.00	Platform Mount [LP 602-1_KCKR]	10	29.2994	2.64	0.01	4757
90.00	T-Arm Mount [TA 602-3]	10	24.4246	2.49	0.01	3295
70.00	Commscope MC-PK8-DSH	10	14.7824	1.99	0.01	1955

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 - 97 (1)	TP28.93x22.69x0.1875	23.00	0.00	0.0	16.5209	-8.98	966.47	0.009
L2	97 - 48 (2)	TP39.7x27.5729x0.25	52.62	0.00	0.0	30.3965	-25.58	1778.20	0.014
L3	48 - 0 (3)	TP51.04x38.0569x0.3125	52.96	0.00	0.0	50.3153	-37.50	2943.45	0.013

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	120 - 97 (1)	TP28.93x22.69x0.1875	74.13	608.22	0.122	0.00	608.22	0.000
L2	97 - 48 (2)	TP39.7x27.5729x0.25	687.89	1521.45	0.452	0.00	1521.45	0.000
L3	48 - 0 (3)	TP51.04x38.0569x0.3125	1598.22	3247.12	0.492	0.00	3247.12	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 - 97 (1)	TP28.93x22.69x0.1875	5.92	289.94	0.020	0.03	704.88	0.000
L2	97 - 48 (2)	TP39.7x27.5729x0.25	16.02	533.46	0.030	0.04	1789.61	0.000
L3	48 - 0 (3)	TP51.04x38.0569x0.3125	18.34	883.03	0.021	0.04	3922.84	0.000

Pole Interaction Design Data

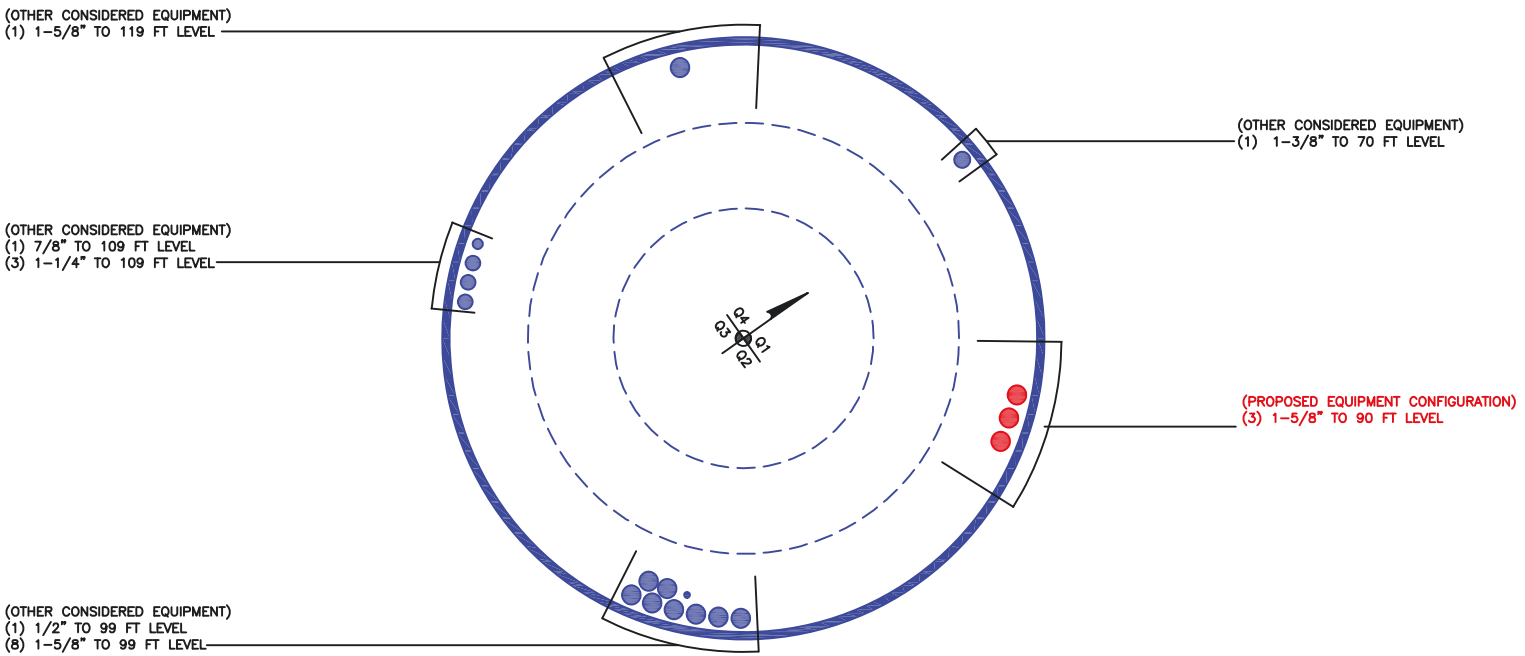
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	120 - 97 (1)	0.009	0.122	0.000	0.020	0.000	0.132	1.050	
L2	97 - 48 (2)	0.014	0.452	0.000	0.030	0.000	0.467	1.050	
L3	48 - 0 (3)	0.013	0.492	0.000	0.021	0.000	0.505	1.050	

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	120 - 97	Pole	TP28.93x22.69x0.1875	1	-8.98	1014.80	12.5	Pass
L2	97 - 48	Pole	TP39.7x27.5729x0.25	2	-25.58	1867.11	44.5	Pass
L3	48 - 0	Pole	TP51.04x38.0569x0.3125	3	-37.50	3090.62	48.1	Pass
							Summary	
						Pole (L3)	48.1	Pass
						RATING =	**48.1**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 845993 TOWER ID: C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

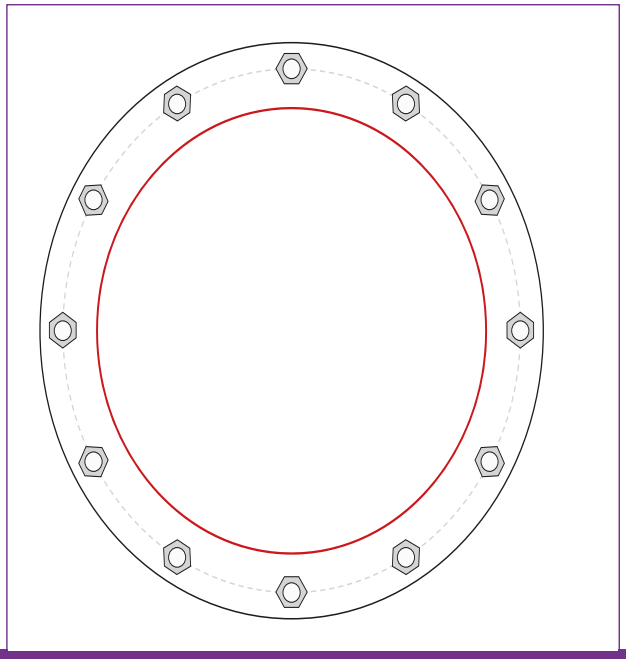
Monopole Base Plate Connection

Site Info	
BU #	845993
Site Name	LINGTON - NEPAUG R
Order #	656058

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	4.1875

Applied Loads	
Moment (kip-ft)	1598.22
Axial Force (kips)	37.50
Shear Force (kips)	18.34

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 60" BC

Base Plate Data

66" OD x 2.25" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

N/A

Pole Data

51.04" x 0.3125" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

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

Pu_c = 109.61	ϕPn_c = 268.39	**Stress Rating**
Vu = 1.53	ϕVn = 120.77	**42.0%**
Mu = 4.16	ϕMn = 128.14	**Pass**

Base Plate Summary

Max Stress (ksi):	18.36	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**32.4%**	**Pass**

Pier and Pad Foundation

BU # :	845993
Site Name:	BURLINGTON-NEF
App. Number:	656058 Rev. 2

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp}:	37.51	kips
Base Shear, Vu_comp:	18.32	kips
Moment, M_u:	1598.22	ft-kips
Tower Height, **H**:	120	ft
BP Dist. Above Fdn, bp_{dist}:	6.375	in

Pier Properties		
Pier Shape:	Square	
Pier Diameter, **dpier**:	7	ft
Ext. Above Grade, **E**:	0.9	ft
Pier Rebar Size, **Sc**:	8	
Pier Rebar Quantity, **mc**:	30	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	4	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	5.75	in

Pad Properties		
Depth, **D**:	5	ft
Pad Width, W_1:	22.6	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size (Top dir.2), Sp_{top2}:	8	
Pad Rebar Quantity (Top dir. 2), mp_{top2}:	22	
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	29	
Pad Clear Cover, cc_{pad}:	3	in

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

Soil Properties		
Total Soil Unit Weight, γ:	120	pcf
Ultimate Net Bearing, Qnet:	12.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	30	degrees
SPT Blow Count, N_{blows}:	15.1875	
Base Friction, μ:	0.45	
Neglected Depth, **N**:	3.50	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	4	ft

<--Toggle between Gross and Net

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	147.08	18.32	**11.9%**	**Pass**
Bearing Pressure (ksf)	9.40	1.48	**15.0%**	**Pass**
*Overturning (kip*ft)*	3536.00	1716.04	**48.5%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	3903.98	1651.35	**40.3%**	**Pass**
Pier Compression (kip)	31187.52	63.09	**0.2%**	**Pass**
*Pad Flexure (kip*ft)*	3170.65	549.10	**16.5%**	**Pass**
Pad Shear - 1-way (kips)	810.44	93.54	**11.0%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.018	**8.9%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	3904.13	990.81	**24.2%**	**Pass**

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

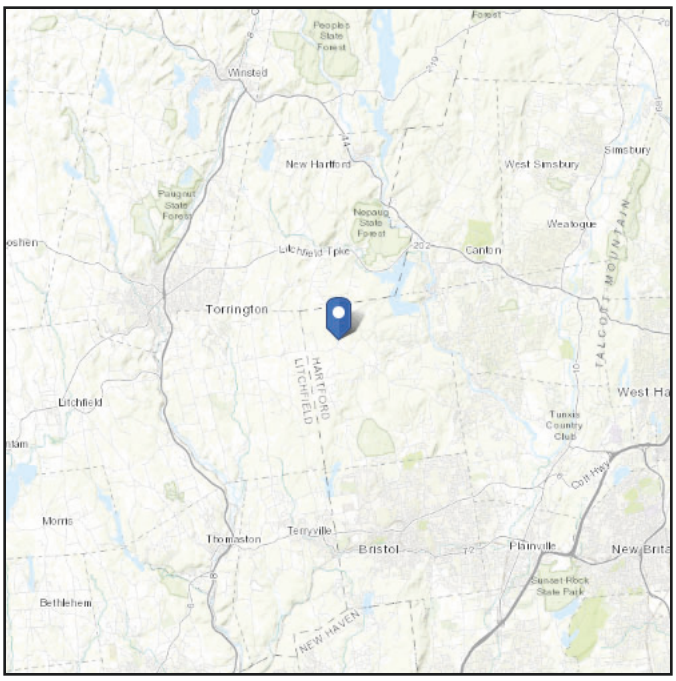
Structural Rating*:	**40.3%**
Soil Rating*:	**48.5%**

Version 5.0.2

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.782461
Risk Category:	II	**Longitude:**	-72.989633
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	832.3478464481224 ft (NAVD 88)



Wind

Results:

Wind Speed	115 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	89 Vmph
100-year MRI	96 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Fri Feb 02 2024

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

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

Seismic

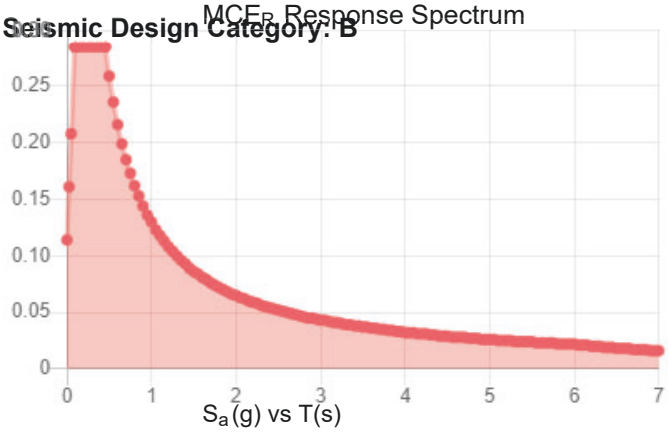
Site Soil Class: D - Default (see Section 11.4.3)

Results:

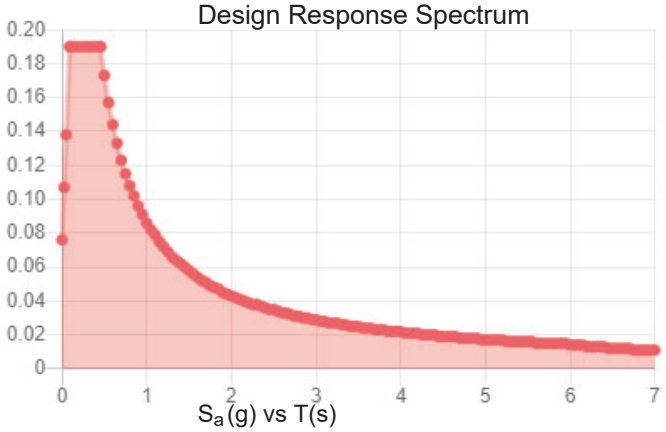
S_S :	0.178	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.095
F_v :	2.4	PGA_M :	0.152
S_{MS} :	0.285	F_{PGA} :	1.6
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.19	C_v :	0.7

Seismic Design Category: B

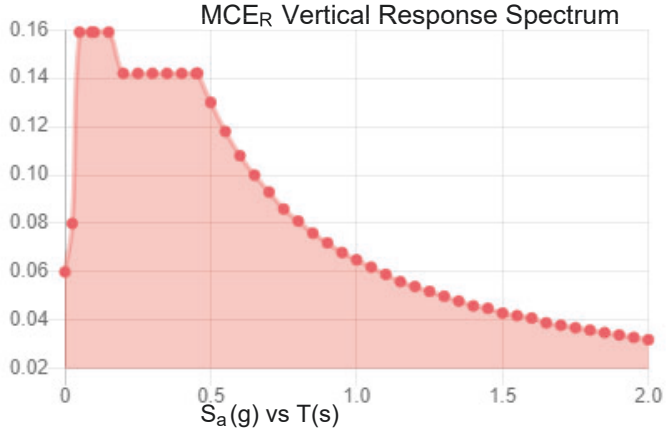
MCE_R Response Spectrum



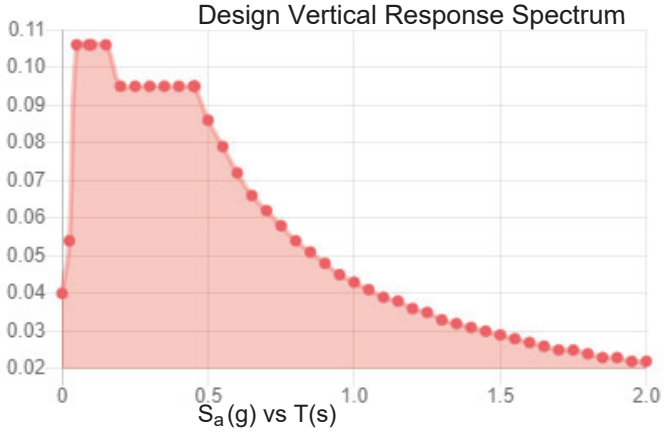
Design Response Spectrum



MCE_R Vertical Response Spectrum



Design Vertical Response Spectrum



Data Accessed: **Fri Feb 02 2024**

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:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Fri Feb 02 2024

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

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

Date: January 24, 2024

MTS Engineering, P.L.L.C.
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject:	**Mount Analysis - Conditional Passing Report**	
Carrier Designation:	**T-Mobile Equipment Change-Out**	
	Carrier Site Number:	CTHA509A
	Carrier Site Name:	AT&T Burlington Monopole
Crown Castle Designation:	**BU Number:**	845993
	Site Name:	Burlington-Nepaug Road
	JDE Job Number:	2100792
	Order Number:	656058, Rev. 2
Engineering Firm Designation:	**Report Designation:**	137121.004.01.0002
Site Data:	**12 Nepaug Road, Burlington, CT, Hartford County, 06013** **Latitude 41° 46' 56.86" Longitude -72° 59' 22.68"**	
Structure Information:	**Tower Height & Type:**	**120 ft. Monopole**
	Mount Elevation:	**90 ft.**
	Mount Type:	**12.5 ft. T-Arm Mount**

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

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

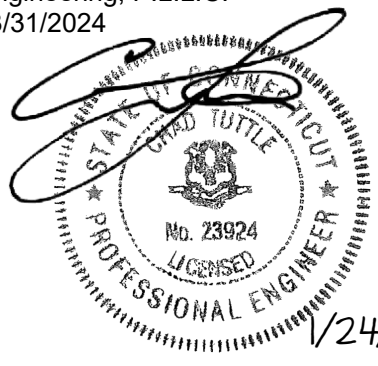
T-Arm Mount **Sufficient**

***The Capacities listed are based on recommendations listed in Sec.4.1 being installed.**

This analysis utilizes an ultimate 3-second gust wind speed of 115 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Angela Ashwood

Respectfully submitted by: MTS Engineering, P.L.L.C.
COA: BER: 2386985 Expires: 03/31/2024



Chad E. Tuttle, P.E.

1/24/24

TABLE OF CONTENTS

1) INTRODUCTION

This is an existing 3 - sector 12.5' T-Arm Mount, mapped P-sec and analyzed by POD Group.

The mount has been modified per reinforcement drawings prepared by POD Group, in November of 2020. Reinforcement consists of new SitePro1 Part# HRK14 2'-0" above the existing face horizontal with (3) additional SitePro1 Part# SCX2-K crossover plate.

2) ANALYSIS CRITERIA

Building Code:	2022 Connecticut State Building Code
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	115 mph
Exposure Category:	B
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1.0 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.178
Seismic S_1:	0.054
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb.
Man Live Load at Mount Pipes:	500 lb.

Table 1 – Proposed and Existing Equipment Configuration

Mount Centerline (ft.)	Antenna Centerline (ft.)	Number of Antennas	Manufacturer	Model / Type	Mount / Modification Details
90	90	3	Ericsson	AIR 6419 B41_TMO_CCIV2	12.5 ft. T-Arm Mount
		3	RFS/Celwave	APXVAALL24_43-U- NA20_TMO	
		3	RFS/Celwave	APXVLL19P_43-C-A20_TMO	
		3	Ericsson	Radio 4449 B71 B85A_T-Mobile	
		3	Ericsson	Radio 4460 B2/B25 B66_TMO	

Table 2 – Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 08/31/2023	Crown Castle
RFDS		Date: 11/16/2023	
Mount Analysis Report	POD Group	Date: 11/12/2020	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 21.0.0), 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.

A tool internally developed by MTS Engineering, P.L.L.C., was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B.

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

3.2) Assumptions

1. The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
3. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected members unless otherwise specified in this report.
4. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
   The following assumptions have been included in the analysis of the mount.

Component	Section	Length	Note
Existing Equipment Mounting Pipes	2" Std. Pipe	10'-0"	In Position 2, All Sector.
Existing Equipment Mounting Pipes	2" Std. Pipe	6'-0"	In Position 3, All Sector.
Connection Angles	L2.5X2.5X4	2'-3"	-

5. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
6. Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
7. The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
8. The following material grades were assumed (Unless Noted Otherwise):
   (a) Connection Bolts : ASTM A325
   (b) Steel Pipe : ASTM A53 (GR. 35)
   (c) HSS (Round) : ASTM 500 (GR. B-42)
   (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
   (e) Channel : ASTM A36 (GR. 36)
   (f) Steel Solid Rod : ASTM A36 (GR. 36)
   (g) Steel Plate : ASTM A36 (GR. 36)
   (h) Steel Angle : ASTM A36 (GR. 36)
   (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. MTS Engineering, P.L.L.C. 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 (T-Arm Mount)

Notes	Component	Centerline (ft.)	Critical Member	% Capacity	Pass / Fail
1,2	Face Horizontals	90	5	41.0	Pass
	Support Tubes		11	60.1	Pass
	Mount Pipes		40	60.6	Pass
	Support Rails		18	35.9	Pass
	Connection Angles		46	31.9	Pass
3	Mount to Tower Connection		-	40.7	Pass

Structure Rating with Recommendations (max from all components) =	60.6%

Notes:
1) Capacities listed are based on Recommendations listed in Section 4.1 being installed
2) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
3) See additional documentation in "Appendix D - Additional Calculations" for calculations supporting the % capacity reported.

4.1) Recommendations

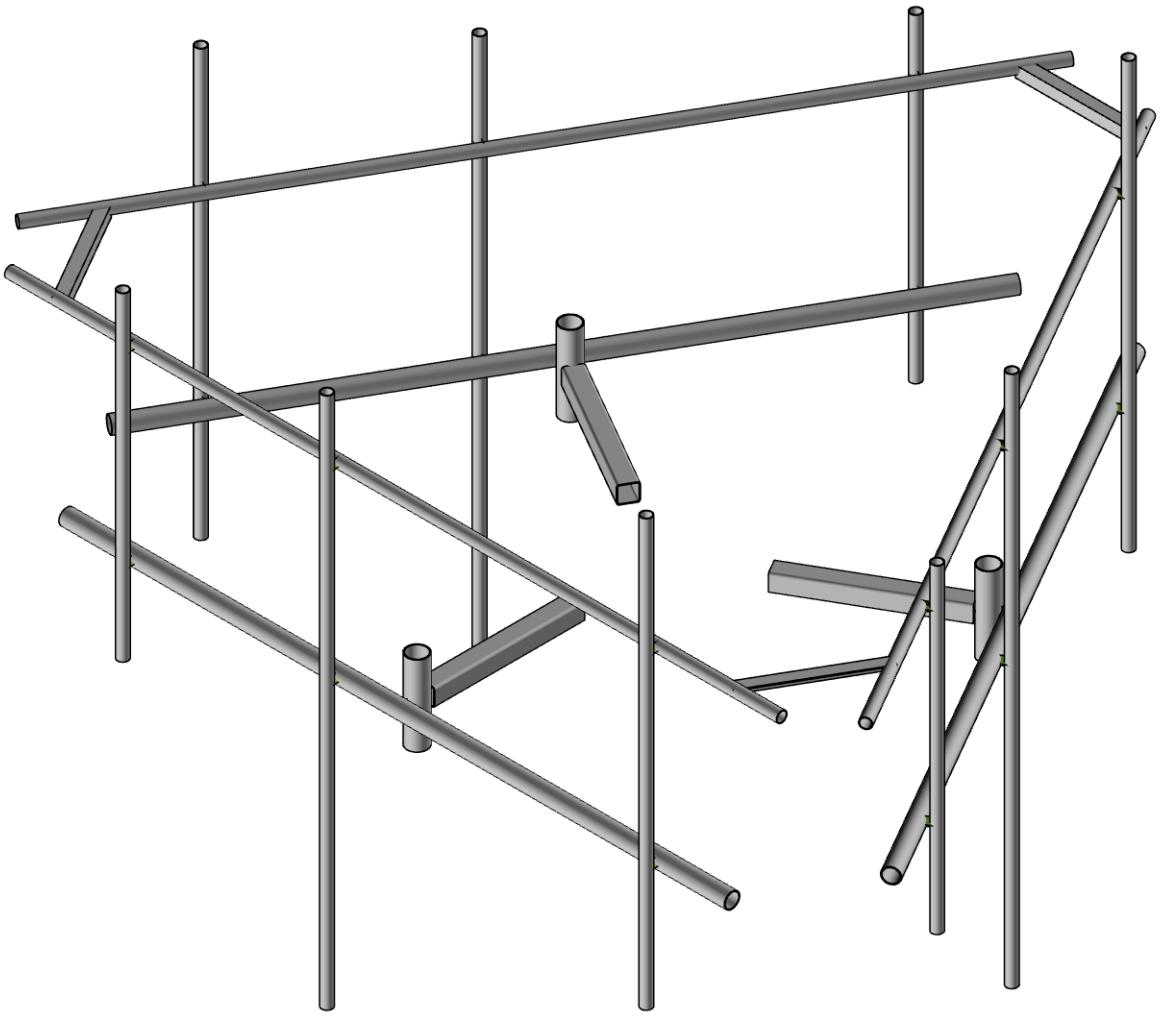
The mounts has sufficient capacity to carry the proposed and existing loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Replace existing mount pipe in Position 1 with new 2'' Std. x 8'-0'' long Rosenberg Mount Pipes Part# C10-981-222 using (1) Commscope Part# XP-2020 and (1) Rosenberger Part# C10-902-013 crossover plates to accommodate proposed loading in all sector.

No modifications are required at this time, provided that the above-listed changes are completed.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

RISA A NEMETSCHEK COMPANY	MTS Engineering, P.L.L.C.	845993 - Burlington-Nepaug Road	GRG-1
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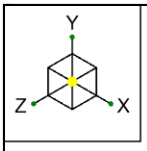

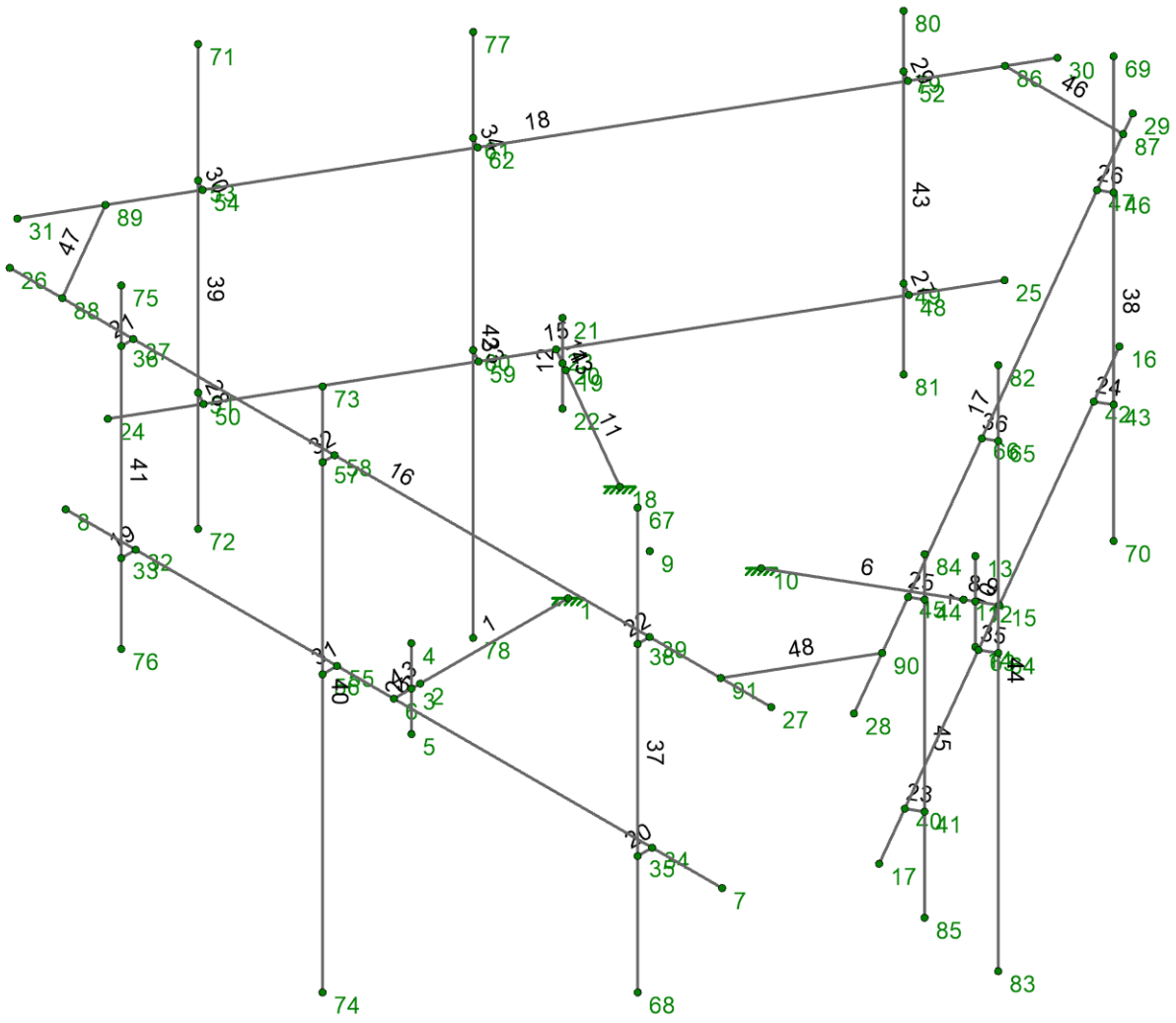

Envelope Only Solution

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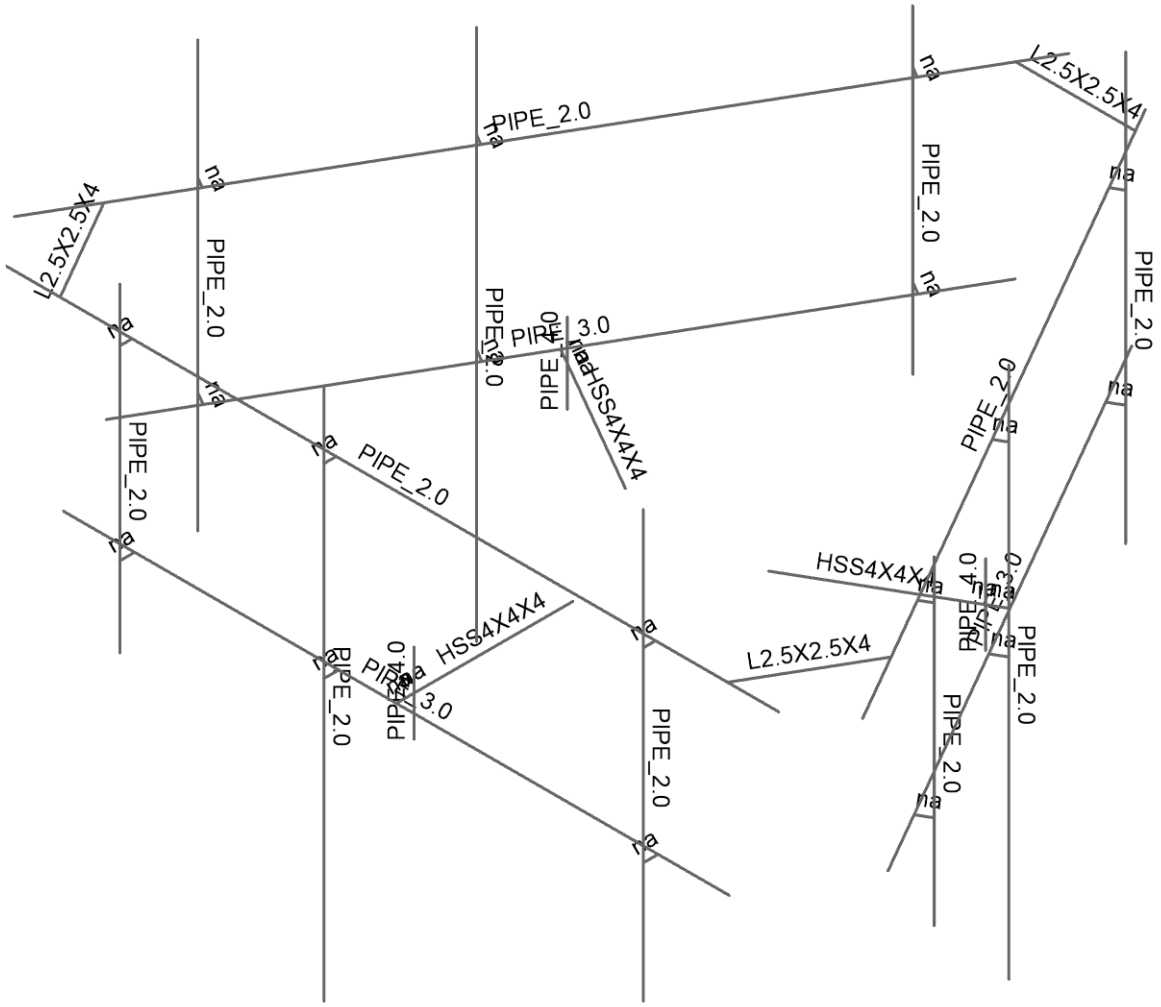

Envelope Only Solution

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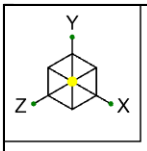

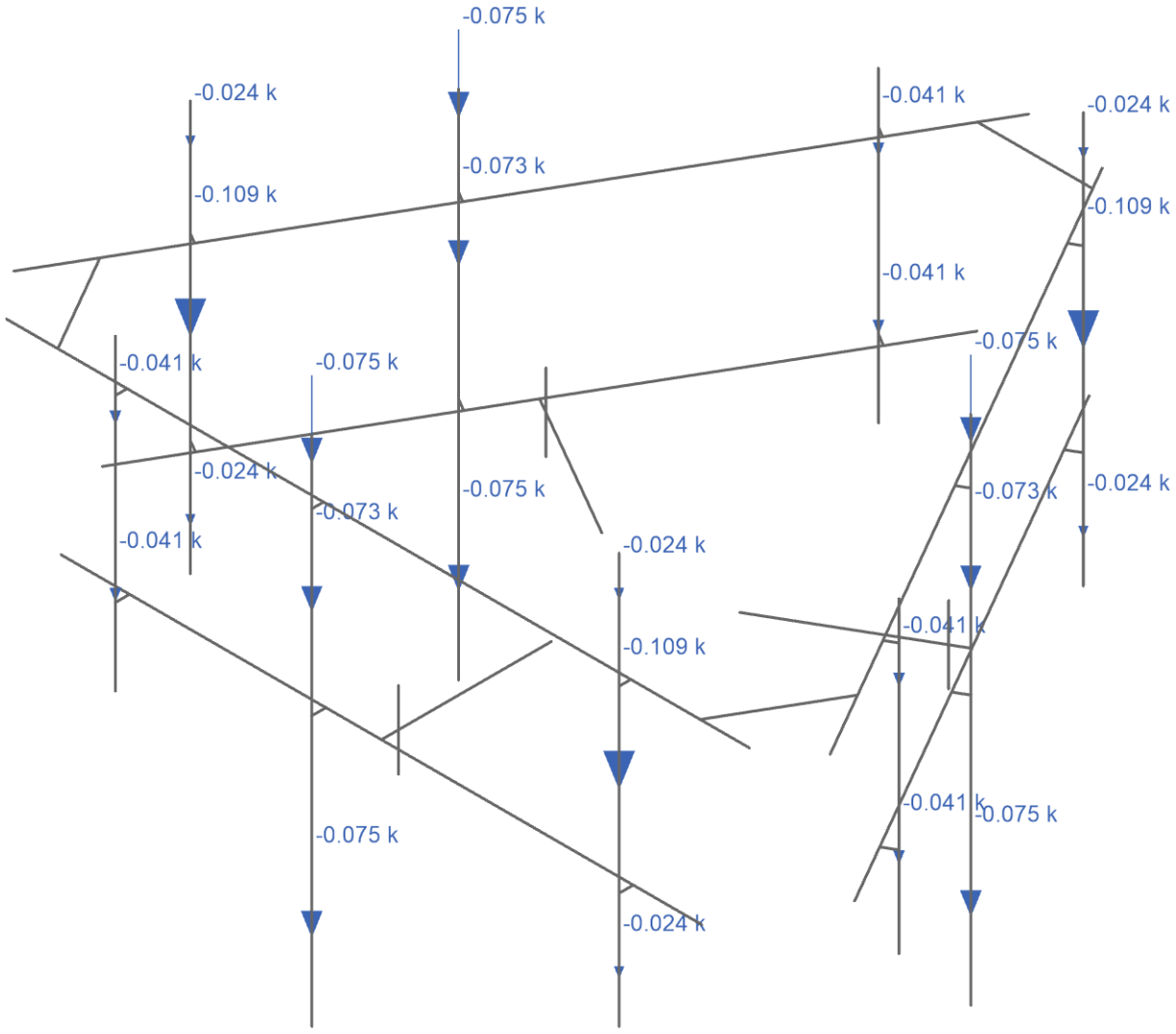

Loads: BLC 1, Dead
Envelope Only Solution

IRISA A NEMETSCHEK COMPANY	MTS Engineering, P.L.L.C.	845993 - Burlington-Nepaug Road	GRG-4
	GRG		Jan 23, 2024 at 04:36 PM
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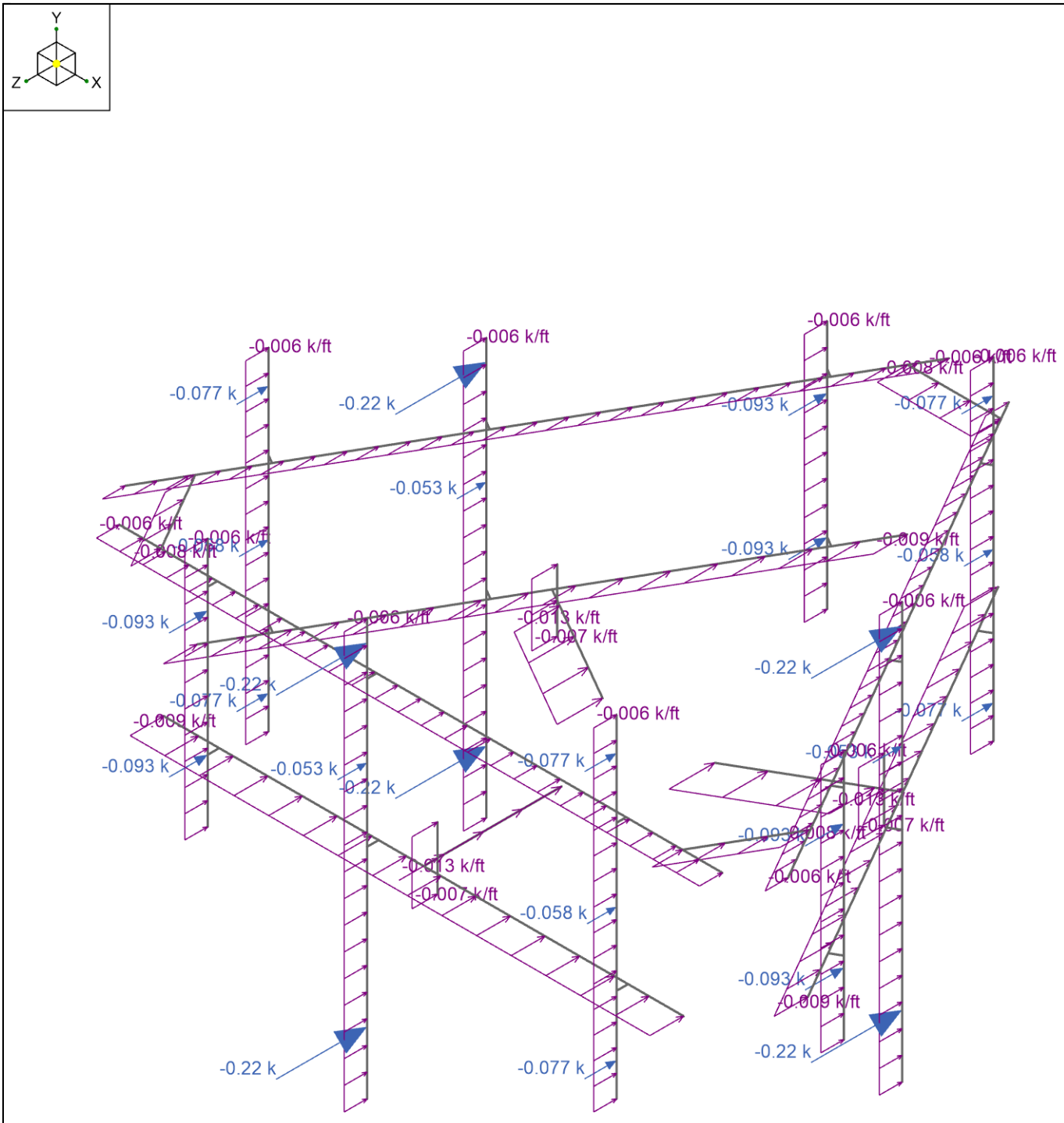

Loads: BLC 2, 0 Wind - No Ice
Envelope Only Solution

IRISA	MTS Engineering, P.L.L.C.	845993 - Burlington-Nepaug Road	GRG-5
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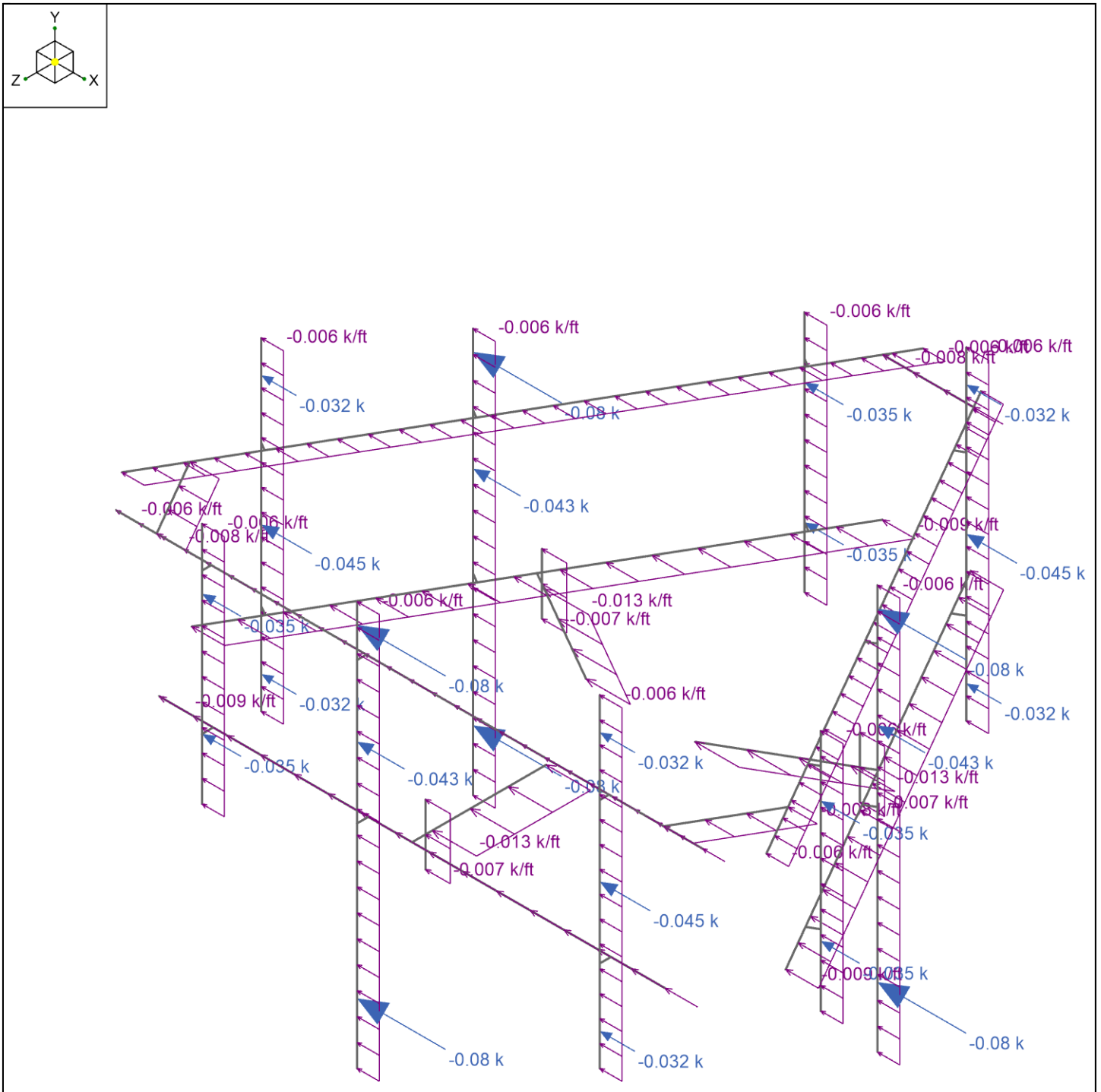

Loads: BLC 3, 90 Wind - No Ice Envelope Only Solution

IRISA	MTS Engineering, P.L.L.C.	845993 - Burlington-Nepaug Road	GRG-6
	GRG		Jan 23, 2024 at 04:36 PM
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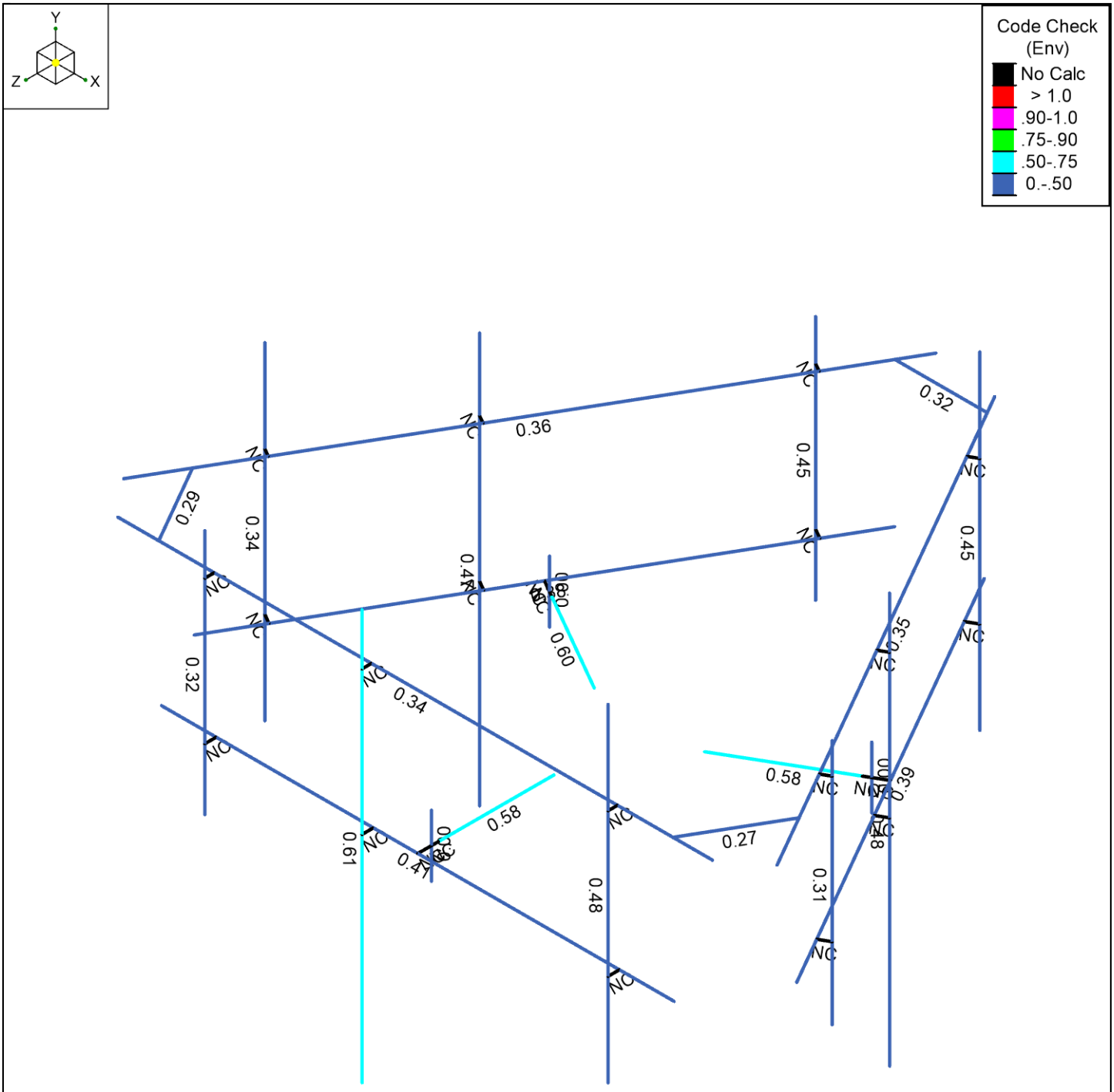

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

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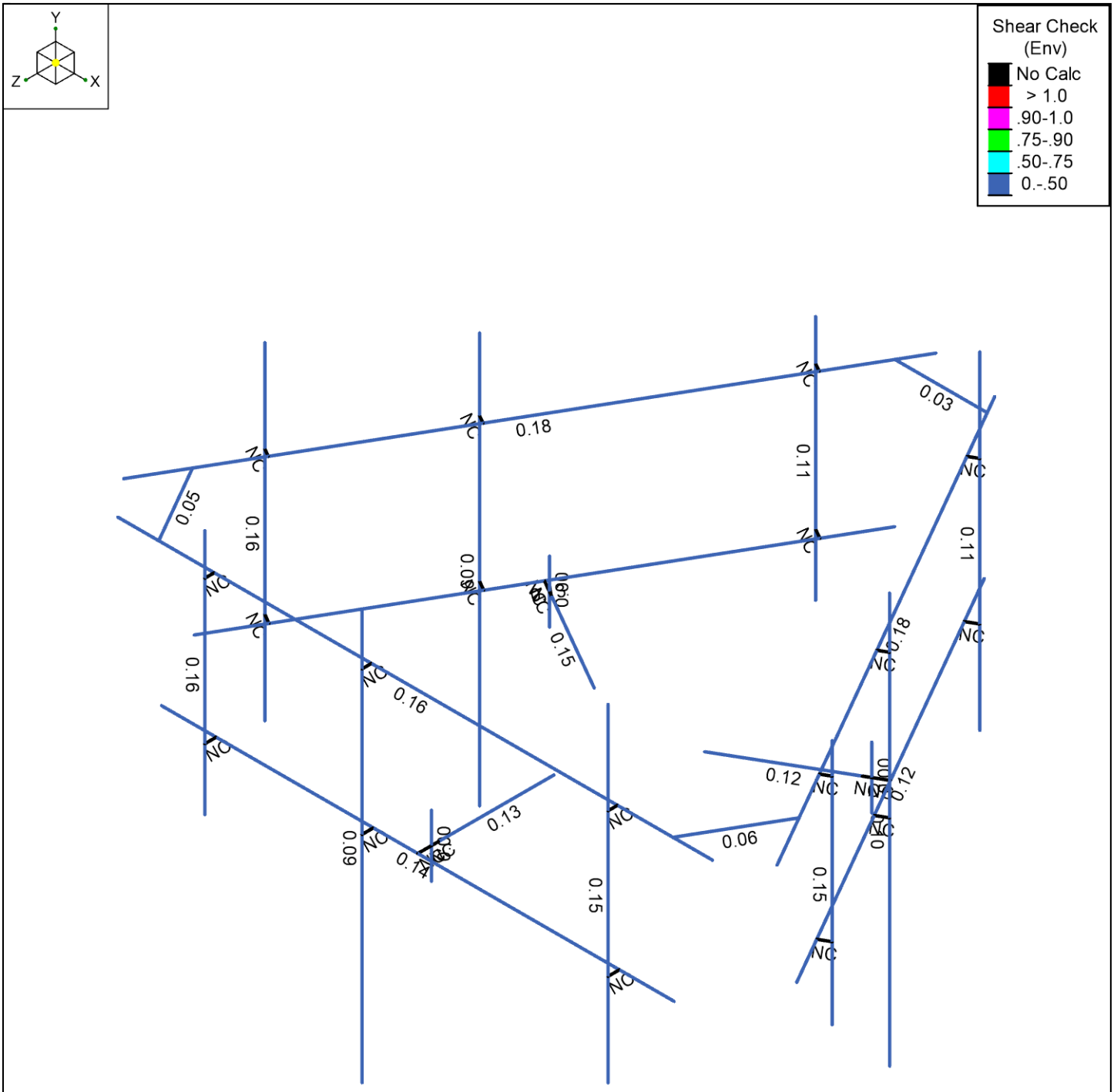

Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

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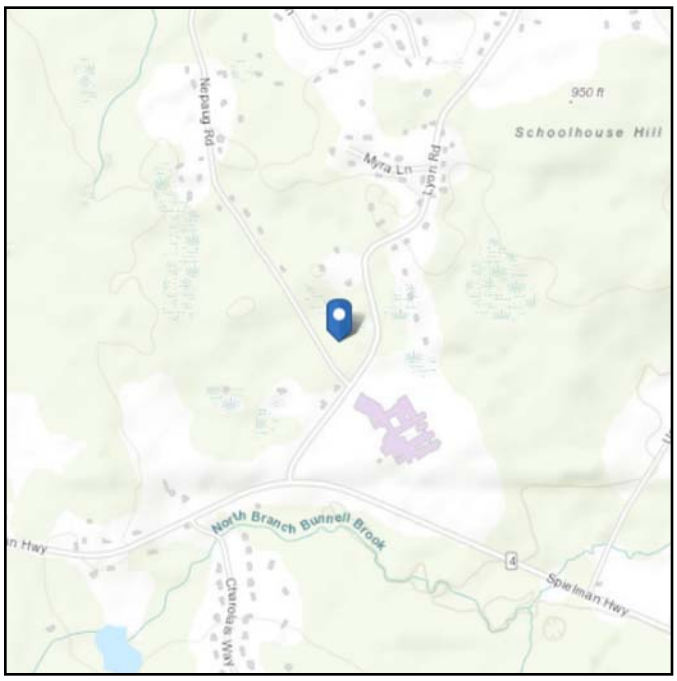
APPENDIX B

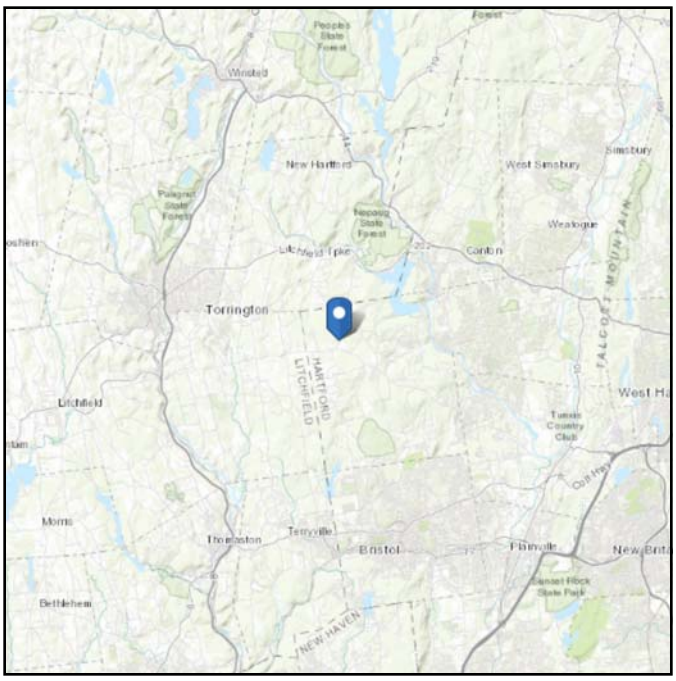
SOFTWARE INPUT CALCULATIONS

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	41.782461
Risk Category:	II	**Longitude:**	-72.989633
Soil Class:	D - Default (see Section 11.4.3)	**Elevation:**	832.3478464481224 ft (NAVD 88)





Wind

Results:

Wind Speed	115 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	89 Vmph
100-year MRI	96 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Tue Jan 23 2024

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

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

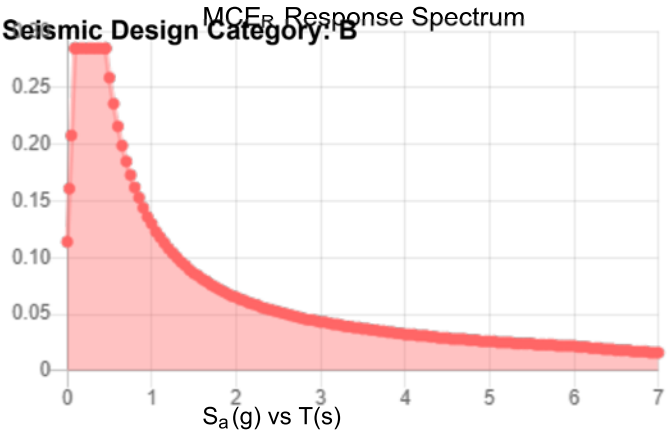
Seismic

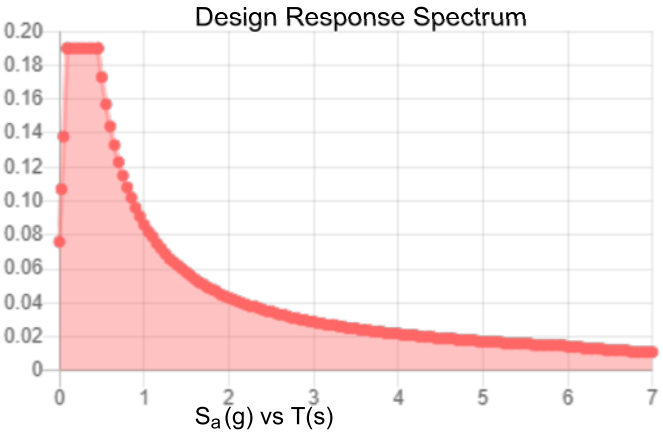
Site Soil Class: D - Default (see Section 11.4.3)

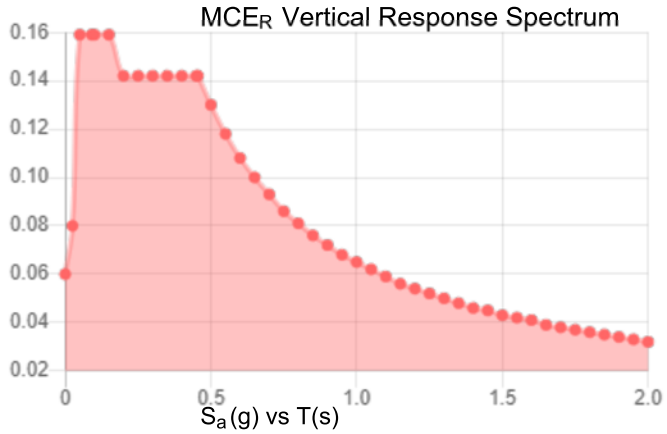
Results:

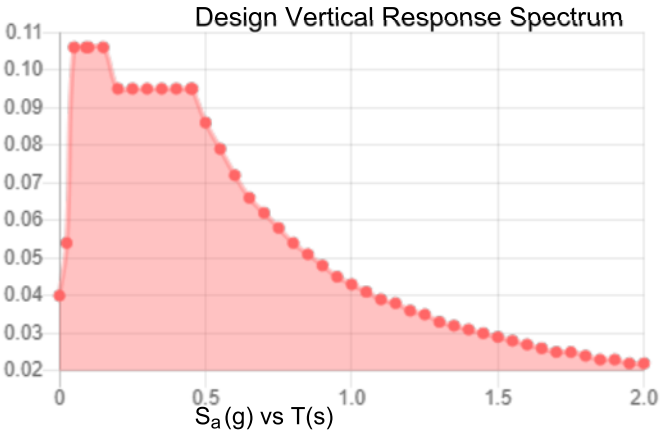
S_S :	0.178	S_{D1} :	0.086
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.095
F_v :	2.4	PGA_M :	0.152
S_{MS} :	0.285	F_{PGA} :	1.6
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.19	C_v :	0.7

Seismic Design Category: B









Data Accessed: Tue Jan 23 2024

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:	5 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Tue Jan 23 2024

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

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

PROJECT	**137121.004.01.0002 - Burlington-Nep KSC**
SUBJECT	**T-Arm Mount Analysis**
DATE	**01/23/24**

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

Tower Type		:	Monopole		
Ground Elevation	z_s	:	832	ft	[ASCE7 Hazard Tool]
Tower Height		:	120.00	ft	
Mount Elevation		:	90.00	ft	
Antenna Elevation		:	90.00	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	B		[Sec. 2.6.5.1.2]
Topography Category		:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	:	115	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	:	1.00	in	[ASCE7 Hazard Tool]
Seismic Design Cat.		:	B		[ASCE7 Hazard Tool]
	S_S	:	0.18		
	S_1	:	0.05		
	S_{DS}	:	0.19		
	S_{D1}	:	0.09		
Gust Factor	G_h	:	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	:	0.96		[Sec. 2.6.5.2]
Topography Facto	K_{zt}	:	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	:	0.97		[Sec. 2.6.8]
Directionality Factor	K_d	:	0.95		[Sec. 16.6]
Shielding Factor	K_a	:	0.90		[Sec. 16.6]
Design Ice Thickness	t_{iz}	:	1.11	in	[Sec. 2.6.10]
Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.095		[Sec. 2.7.7.1]
Amplification	A_s	:	2		[Sec. 16.7]
	q_z	:	29.93	psf	

PROJECT	**137121.004.01.0002 - Burlington-Nep KSC**
SUBJECT	**T-Arm Mount Analysis**
DATE	**01/23/24**

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

Manufacturer	Model	Qty	Height (in^2)	Width (in^2)	Depth (in^2)	Weight (lbs)	C_aA_a (N) (ft^2)	C_aA_a (T) (ft^2)	C_aA_a (N) Ice (ft^2)	C_aA_a (T) Ice (ft^2)	$F_{A\,(N)}$ (k)	$F_{A\,(T)}$ (k)	$F_{A\,(N)}$ Ice (k)	$F_{A\,(T)}$ Ice (k)
RFS/CELWAVE	APXVLL19P_43-C-A20_TMC	0.5	75.8	11.3	4.6	48.4	2.58	1.06	3.11	1.55	0.08	0.03	0.02	0.01
RFS/CELWAVE	APXVLL19P_43-C-A20_TMC	0.5					2.58	1.06	3.11	1.55	0.08	0.03	0.02	0.01
ERICSSON	ADIO 4460 B2/B25 B66_TM	1	17.0	15.1	11.9	109.0	2.14	1.69	2.77	2.26	0.06	0.05	0.01	0.01
RFS/CELWAVE	XVAALL24_43-U-NA20_TM	0.5	95.9	24.0	8.5	149.9	7.34	2.66	8.11	3.34	0.22	0.08	0.05	0.02
RFS/CELWAVE	XVAALL24_43-U-NA20_TM	0.5					7.34	2.66	8.11	3.34	0.22	0.08	0.05	0.02
ERICSSON	IO 4449 B71 B85A_T-MOB	1	17.9	13.2	10.6	73.2	1.97	1.59	2.58	2.15	0.05	0.04	0.01	0.01
ERICSSON	AIR 6419 B41_TMO_CCIV2	0.5	34.5	19.9	8.0	81.8	3.12	1.17	3.63	1.57	0.09	0.04	0.02	0.01
ERICSSON	AIR 6419 B41_TMO_CCIV2	0.5					3.12	1.17	3.63	1.57	0.09	0.04	0.02	0.01
RFS/CELWAVE	APXVLL19P_43-C-A20_TMC	0.5	75.8	11.3	4.6	48.4	2.58	1.06	3.11	1.55	0.08	0.03	0.02	0.01
RFS/CELWAVE	APXVLL19P_43-C-A20_TMC	0.5					2.58	1.06	3.11	1.55	0.08	0.03	0.02	0.01
ERICSSON	ADIO 4460 B2/B25 B66_TM	1	17.0	15.1	11.9	109.0	2.14	1.69	2.77	2.26	0.06	0.05	0.01	0.01
RFS/CELWAVE	XVAALL24_43-U-NA20_TM	0.5	95.9	24.0	8.5	149.9	7.34	2.66	8.11	3.34	0.22	0.08	0.05	0.02
RFS/CELWAVE	XVAALL24_43-U-NA20_TM	0.5					7.34	2.66	8.11	3.34	0.22	0.08	0.05	0.02
ERICSSON	IO 4449 B71 B85A_T-MOB	1	17.9	13.2	10.6	73.2	1.97	1.59	2.58	2.15	0.05	0.04	0.01	0.01
ERICSSON	AIR 6419 B41_TMO_CCIV2	0.5	34.5	19.9	8.0	81.8	3.12	1.17	3.63	1.57	0.09	0.04	0.02	0.01
ERICSSON	AIR 6419 B41_TMO_CCIV2	0.5					3.12	1.17	3.63	1.57	0.09	0.04	0.02	0.01
RFS/CELWAVE	APXVLL19P_43-C-A20_TMC	0.5	75.8	11.3	4.6	48.4	2.58	1.06	3.11	1.55	0.08	0.03	0.02	0.01
RFS/CELWAVE	APXVLL19P_43-C-A20_TMC	0.5					2.58	1.06	3.11	1.55	0.08	0.03	0.02	0.01
ERICSSON	ADIO 4460 B2/B25 B66_TM	1	17.0	15.1	11.9	109.0	2.14	1.69	2.77	2.26	0.06	0.05	0.01	0.01
RFS/CELWAVE	XVAALL24_43-U-NA20_TM	0.5	95.9	24.0	8.5	149.9	7.34	2.66	8.11	3.34	0.22	0.08	0.05	0.02
RFS/CELWAVE	XVAALL24_43-U-NA20_TM	0.5					7.34	2.66	8.11	3.34	0.22	0.08	0.05	0.02
ERICSSON	IO 4449 B71 B85A_T-MOB	1	17.9	13.2	10.6	73.2	1.97	1.59	2.58	2.15	0.05	0.04	0.01	0.01

PROJECT	**137121.004.01.0002 - Burlington-Nep KSC**
SUBJECT	**T-Arm Mount Analysis**
DATE	**01/23/24**

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

Manufacturer	Model	Qty	Height (in^2)	Width (in^2)	Depth (in^2)	Weight (lbs)	C_aA_a (N) (ft^2)	C_aA_a (T) (ft^2)	C_aA_a (N) Ice (ft^2)	C_aA_a (T) Ice (ft^2)	$F_{A(N)}$ (k)	$F_{A(T)}$ (k)	$F_{A(N)}$ Ice (k)	$F_{A(T)}$ Ice (k)
ERICSSON	AIR 6419 B41_TMO_CCIV2	0.5	34.5	19.9	8.0	81.8	3.12	1.17	3.63	1.57	0.09	0.04	0.02	0.01
ERICSSON	AIR 6419 B41_TMO_CCIV2	0.5					3.12	1.17	3.63	1.57	0.09	0.04	0.02	0.01

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	0	0	1.5544	
2	2	0	0	4.3721	
3	3	0	0	4.538767	
4	4	0	0.75	4.538767	
5	5	0	-0.75	4.538767	
6	6	0	0	4.871767	
7	7	6.25	0	4.871767	
8	8	-6.25	0	4.871767	
9	9	0	0	0	
10	10	1.34615	0	-0.7772	
11	11	3.78635	0	-2.18605	
12	12	3.930688	0	-2.269384	
13	13	3.930688	0.75	-2.269384	
14	14	3.930688	-0.75	-2.269384	
15	15	4.219074	0	-2.435884	
16	16	1.094074	0	-7.848542	
17	17	7.344074	0	2.976775	
18	18	-1.34615	0	-0.7772	
19	19	-3.78635	0	-2.18605	
20	20	-3.930688	0	-2.269384	
21	21	-3.930688	0.75	-2.269384	
22	22	-3.930688	-0.75	-2.269384	
23	23	-4.219074	0	-2.435884	
24	24	-7.344074	0	2.976775	
25	25	-1.094074	0	-7.848542	
26	26	-7.269343	3.5	4.918645	
27	27	7.230657	3.5	4.918645	
28	28	8.125	3.5	4.235623	
29	29	0.875	3.5	-8.321746	
30	30	-0.759672	3.5	-8.5215	
31	31	-8.009672	3.5	4.035868	
32	32	-4.916667	0	4.871767	
33	33	-4.916667	0	5.147812	
34	34	4.916667	0	4.871767	
35	35	4.916667	0	5.147812	
36	36	-4.916667	3.5	5.147812	
37	37	-4.916667	3.5	4.918645	
38	38	4.916667	3.5	5.147812	
39	39	4.916667	3.5	4.918645	
40	40	6.677407	0	1.822075	
41	41	6.916469	0	1.684053	
42	42	1.76074	0	-6.693842	
43	43	1.999802	0	-6.831864	
44	44	6.916469	3.5	1.684053	
45	45	6.718005	3.5	1.798636	
46	46	1.999802	3.5	-6.831864	
47	47	1.801338	3.5	-6.717281	
48	48	-1.76074	0	-6.693842	
49	49	-1.999802	0	-6.831864	
50	50	-6.677407	0	1.822075	
51	51	-6.916469	0	1.684053	
52	52	-1.801338	3.5	-6.717281	
53	53	-6.916469	3.5	1.684053	
54	54	-6.718005	3.5	1.798636	
55	55	-1.083337	0	4.871767	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	-1.083337	0	5.147812	
57	57	-1.083337	3.5	5.147812	
58	58	-1.083337	3.5	4.918645	
59	59	-4.760739	0	-1.497692	
60	60	-4.99976	0	-1.635692	
61	61	-4.99976	3.5	-1.635692	
62	62	-4.801336	3.5	-1.521131	
63	63	4.760742	0	-1.497686	
64	64	4.999772	0	-1.63569	
65	65	4.999772	3.5	-1.63569	
66	66	4.80134	3.5	-1.521125	
67	67	4.916667	5.75	5.147812	
68	68	4.916667	-2.25	5.147812	
69	69	1.999802	5.75	-6.831864	
70	70	1.999802	-2.25	-6.831864	
71	71	-6.916469	5.75	1.684053	
72	72	-6.916469	-2.25	1.684053	
73	73	-1.083337	4.75	5.147812	
74	74	-1.083337	-5.25	5.147812	
75	75	-4.916667	4.5	5.147812	
76	76	-4.916667	-1.5	5.147812	
77	77	-4.99976	5.25	-1.635692	
78	78	-4.99976	-4.75	-1.635692	
79	79	-1.999802	3.5	-6.831864	
80	80	-1.999802	4.5	-6.831864	
81	81	-1.999802	-1.5	-6.831864	
82	82	4.999772	4.75	-1.63569	
83	83	4.999772	-5.25	-1.63569	
84	84	6.916469	4.25	1.684053	
85	85	6.916469	-1.75	1.684053	
86	86	-1.125	3.5	-7.888733	
87	87	1.125	3.5	-7.888733	
88	88	-6.269343	3.5	4.918645	
89	89	-7.394343	3.5	2.970088	
90	90	7.394343	3.5	2.970088	
91	91	6.269343	3.5	4.918645	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	9						
3	10	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	18	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

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

Hot Rolled Steel Properties (Continued)

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
8	A500 Gr.C RND	29000	11154	0.3	0.65	0.527	46	1.4	62	1.3
9	A500 Gr.C RECT	29000	11154	0.3	0.65	0.527	50	1.4	62	1.3
10	A913 Gr.65	29000	11154	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 [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	MF-H1	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	SF-H1	HSS4X4X4	Beam	Tube	A53 Gr.B	Typical	3.37	7.8	7.8	12.8
3	MF-P1	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
4	MF-CP	PIPE_4.0	Column	Pipe	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
5	MF-H2	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
6	MF-CA	L2.5X2.5X4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	2	1		SF-H1	Beam	Tube	A53 Gr.B	Typical
2	2	5	4		MF-CP	Column	Pipe	A53 Gr.B	Typical
3	3	3	2		RIGID	None	None	RIGID	Typical
4	4	6	3		RIGID	None	None	RIGID	Typical
5	5	8	7		MF-H1	Beam	Pipe	A53 Gr.B	Typical
6	6	11	10		SF-H1	Beam	Tube	A53 Gr.B	Typical
7	7	14	13		MF-CP	Column	Pipe	A53 Gr.B	Typical
8	8	12	11		RIGID	None	None	RIGID	Typical
9	9	15	12		RIGID	None	None	RIGID	Typical
10	10	17	16		MF-H1	Beam	Pipe	A53 Gr.B	Typical
11	11	19	18		SF-H1	Beam	Tube	A53 Gr.B	Typical
12	12	22	21		MF-CP	Column	Pipe	A53 Gr.B	Typical
13	13	20	19		RIGID	None	None	RIGID	Typical
14	14	23	20		RIGID	None	None	RIGID	Typical
15	15	25	24		MF-H1	Beam	Pipe	A53 Gr.B	Typical
16	16	26	27		MF-H2	Beam	Pipe	A53 Gr.B	Typical
17	17	28	29		MF-H2	Beam	Pipe	A53 Gr.B	Typical
18	18	30	31		MF-H2	Beam	Pipe	A53 Gr.B	Typical
19	19	32	33		RIGID	None	None	RIGID	Typical
20	20	34	35		RIGID	None	None	RIGID	Typical
21	21	36	37		RIGID	None	None	RIGID	Typical
22	22	38	39		RIGID	None	None	RIGID	Typical
23	23	40	41		RIGID	None	None	RIGID	Typical
24	24	42	43		RIGID	None	None	RIGID	Typical
25	25	44	45		RIGID	None	None	RIGID	Typical
26	26	46	47		RIGID	None	None	RIGID	Typical
27	27	48	49		RIGID	None	None	RIGID	Typical
28	28	50	51		RIGID	None	None	RIGID	Typical
29	29	79	52		RIGID	None	None	RIGID	Typical
30	30	53	54		RIGID	None	None	RIGID	Typical
31	31	55	56		RIGID	None	None	RIGID	Typical
32	32	57	58		RIGID	None	None	RIGID	Typical
33	33	59	60		RIGID	None	None	RIGID	Typical
34	34	61	62		RIGID	None	None	RIGID	Typical
35	35	63	64		RIGID	None	None	RIGID	Typical
36	36	65	66		RIGID	None	None	RIGID	Typical
37	37	67	68		MF-P1	Column	Pipe	A53 Gr.B	Typical
38	38	69	70		MF-P1	Column	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
39	39	71	72		MF-P1	Column	Pipe	A53 Gr.B	Typical
40	40	73	74		MF-P1	Column	Pipe	A53 Gr.B	Typical
41	41	75	76		MF-P1	Column	Pipe	A53 Gr.B	Typical
42	42	77	78		MF-P1	Column	Pipe	A53 Gr.B	Typical
43	43	80	81		MF-P1	Column	Pipe	A53 Gr.B	Typical
44	44	82	83		MF-P1	Column	Pipe	A53 Gr.B	Typical
45	45	84	85		MF-P1	Column	Pipe	A53 Gr.B	Typical
46	46	86	87	180	MF-CA	Beam	Single Angle	A36 Gr.36	Typical
47	47	88	89	180	MF-CA	Beam	Single Angle	A36 Gr.36	Typical
48	48	90	91	180	MF-CA	Beam	Single Angle	A36 Gr.36	Typical

Member Advanced Data

	Label	Physical	Deflection Ratio Options	Seismic DR
1	1	Yes	N/A	None
2	2	Yes	** NA **	None
3	3	Yes	** NA **	None
4	4	Yes	** NA **	None
5	5	Yes	N/A	None
6	6	Yes	N/A	None
7	7	Yes	** NA **	None
8	8	Yes	** NA **	None
9	9	Yes	** NA **	None
10	10	Yes	N/A	None
11	11	Yes	N/A	None
12	12	Yes	** NA **	None
13	13	Yes	** NA **	None
14	14	Yes	** NA **	None
15	15	Yes	N/A	None
16	16	Yes	N/A	None
17	17	Yes	N/A	None
18	18	Yes	N/A	None
19	19	Yes	** NA **	None
20	20	Yes	** NA **	None
21	21	Yes	** NA **	None
22	22	Yes	** NA **	None
23	23	Yes	** NA **	None
24	24	Yes	** NA **	None
25	25	Yes	** NA **	None
26	26	Yes	** NA **	None
27	27	Yes	** NA **	None
28	28	Yes	** NA **	None
29	29	Yes	** NA **	None
30	30	Yes	** NA **	None
31	31	Yes	** NA **	None
32	32	Yes	** NA **	None
33	33	Yes	** NA **	None
34	34	Yes	** NA **	None
35	35	Yes	** NA **	None
36	36	Yes	** NA **	None
37	37	Yes	** NA **	None
38	38	Yes	** NA **	None
39	39	Yes	** NA **	None
40	40	Yes	** NA **	None
41	41	Yes	** NA **	None
42	42	Yes	** NA **	None

Member Advanced Data (Continued)

	Label	Physical	Deflection Ratio Options	Seismic DR
43	43	Yes	** NA **	None
44	44	Yes	** NA **	None
45	45	Yes	** NA **	None
46	46	Yes	N/A	None
47	47	Yes	N/A	None
48	48	Yes	N/A	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Channel Conn.	a [ft]	Function
1	1	SF-H1	2.818	Lbyy	N/A	N/A	Lateral
2	2	MF-CP	1.5	Lbyy	N/A	N/A	Lateral
3	5	MF-H1	12.5	Lbyy	N/A	N/A	Lateral
4	6	SF-H1	2.818	Lbyy	N/A	N/A	Lateral
5	7	MF-CP	1.5	Lbyy	N/A	N/A	Lateral
6	10	MF-H1	12.5	Lbyy	N/A	N/A	Lateral
7	11	SF-H1	2.818	Lbyy	N/A	N/A	Lateral
8	12	MF-CP	1.5	Lbyy	N/A	N/A	Lateral
9	15	MF-H1	12.5	Lbyy	N/A	N/A	Lateral
10	16	MF-H2	14.5	Lbyy	N/A	N/A	Lateral
11	17	MF-H2	14.5	Lbyy	N/A	N/A	Lateral
12	18	MF-H2	14.5	Lbyy	N/A	N/A	Lateral
13	37	MF-P1	8	Lbyy	N/A	N/A	Lateral
14	38	MF-P1	8	Lbyy	N/A	N/A	Lateral
15	39	MF-P1	8	Lbyy	N/A	N/A	Lateral
16	40	MF-P1	10	Lbyy	N/A	N/A	Lateral
17	41	MF-P1	6	Lbyy	N/A	N/A	Lateral
18	42	MF-P1	10	Lbyy	N/A	N/A	Lateral
19	43	MF-P1	6	Lbyy	N/A	N/A	Lateral
20	44	MF-P1	10	Lbyy	N/A	N/A	Lateral
21	45	MF-P1	6	Lbyy	N/A	N/A	Lateral
22	46	MF-CA	2.25	Lbyy	N/A	N/A	Lateral
23	47	MF-CA	2.25	Lbyy	N/A	N/A	Lateral
24	48	MF-CA	2.25	Lbyy	N/A	N/A	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	Y	-0.024	%10
2	37	Y	-0.024	%90
3	37	Y	-0.109	%50
4	37	Y	0	0
5	37	Y	0	0
6	40	Y	-0.075	%5
7	40	Y	-0.075	%85
8	40	Y	-0.073	%30
9	40	Y	0	0
10	40	Y	0	0
11	41	Y	-0.041	%25
12	41	Y	-0.041	%75
13	41	Y	0	0
14	41	Y	0	0
15	41	Y	0	0
16	39	Y	-0.024	%10
17	39	Y	-0.024	%90

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
18	39	Y	-0.109	%50
19	39	Y	0	0
20	39	Y	0	0
21	42	Y	-0.075	%5
22	42	Y	-0.075	%85
23	42	Y	-0.073	%30
24	42	Y	0	0
25	42	Y	0	0
26	43	Y	-0.041	%25
27	43	Y	-0.041	%75
28	43	Y	0	0
29	43	Y	0	0
30	43	Y	0	0
31	38	Y	-0.024	%10
32	38	Y	-0.024	%90
33	38	Y	-0.109	%50
34	38	Y	0	0
35	38	Y	0	0
36	44	Y	-0.075	%5
37	44	Y	-0.075	%85
38	44	Y	-0.073	%30
39	44	Y	0	0
40	44	Y	0	0
41	45	Y	-0.041	%25
42	45	Y	-0.041	%75
43	45	Y	0	0
44	45	Y	0	0
45	45	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	Z	-0.077	%10
2	37	Z	-0.077	%90
3	37	Z	-0.058	%50
4	37	Z	0	0
5	37	Z	0	0
6	40	Z	-0.22	%5
7	40	Z	-0.22	%85
8	40	Z	-0.053	%30
9	40	Z	0	0
10	40	Z	0	0
11	41	Z	-0.093	%25
12	41	Z	-0.093	%75
13	41	Z	0	0
14	41	Z	0	0
15	41	Z	0	0
16	39	Z	-0.077	%10
17	39	Z	-0.077	%90
18	39	Z	-0.058	%50
19	39	Z	0	0
20	39	Z	0	0
21	42	Z	-0.22	%5
22	42	Z	-0.22	%85
23	42	Z	-0.053	%30
24	42	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
25	42	Z	0	0
26	43	Z	-0.093	%25
27	43	Z	-0.093	%75
28	43	Z	0	0
29	43	Z	0	0
30	43	Z	0	0
31	38	Z	-0.077	%10
32	38	Z	-0.077	%90
33	38	Z	-0.058	%50
34	38	Z	0	0
35	38	Z	0	0
36	44	Z	-0.22	%5
37	44	Z	-0.22	%85
38	44	Z	-0.053	%30
39	44	Z	0	0
40	44	Z	0	0
41	45	Z	-0.093	%25
42	45	Z	-0.093	%75
43	45	Z	0	0
44	45	Z	0	0
45	45	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	X	-0.032	%10
2	37	X	-0.032	%90
3	37	X	-0.045	%50
4	37	X	0	0
5	37	X	0	0
6	40	X	-0.08	%5
7	40	X	-0.08	%85
8	40	X	-0.043	%30
9	40	X	0	0
10	40	X	0	0
11	41	X	-0.035	%25
12	41	X	-0.035	%75
13	41	X	0	0
14	41	X	0	0
15	41	X	0	0
16	39	X	-0.032	%10
17	39	X	-0.032	%90
18	39	X	-0.045	%50
19	39	X	0	0
20	39	X	0	0
21	42	X	-0.08	%5
22	42	X	-0.08	%85
23	42	X	-0.043	%30
24	42	X	0	0
25	42	X	0	0
26	43	X	-0.035	%25
27	43	X	-0.035	%75
28	43	X	0	0
29	43	X	0	0
30	43	X	0	0
31	38	X	-0.032	%10

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
32	38	X	-0.032	%90
33	38	X	-0.045	%50
34	38	X	0	0
35	38	X	0	0
36	44	X	-0.08	%5
37	44	X	-0.08	%85
38	44	X	-0.043	%30
39	44	X	0	0
40	44	X	0	0
41	45	X	-0.035	%25
42	45	X	-0.035	%75
43	45	X	0	0
44	45	X	0	0
45	45	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	Z	-0.018	%10
2	37	Z	-0.018	%90
3	37	Z	-0.011	%50
4	37	Z	0	0
5	37	Z	0	0
6	40	Z	-0.046	%5
7	40	Z	-0.046	%85
8	40	Z	-0.01	%30
9	40	Z	0	0
10	40	Z	0	0
11	41	Z	-0.021	%25
12	41	Z	-0.021	%75
13	41	Z	0	0
14	41	Z	0	0
15	41	Z	0	0
16	39	Z	-0.018	%10
17	39	Z	-0.018	%90
18	39	Z	-0.011	%50
19	39	Z	0	0
20	39	Z	0	0
21	42	Z	-0.046	%5
22	42	Z	-0.046	%85
23	42	Z	-0.01	%30
24	42	Z	0	0
25	42	Z	0	0
26	43	Z	-0.021	%25
27	43	Z	-0.021	%75
28	43	Z	0	0
29	43	Z	0	0
30	43	Z	0	0
31	38	Z	-0.018	%10
32	38	Z	-0.018	%90
33	38	Z	-0.011	%50
34	38	Z	0	0
35	38	Z	0	0
36	44	Z	-0.046	%5
37	44	Z	-0.046	%85
38	44	Z	-0.01	%30

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
39	44	Z	0	0
40	44	Z	0	0
41	45	Z	-0.021	%25
42	45	Z	-0.021	%75
43	45	Z	0	0
44	45	Z	0	0
45	45	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	X	-0.009	%10
2	37	X	-0.009	%90
3	37	X	-0.009	%50
4	37	X	0	0
5	37	X	0	0
6	40	X	-0.019	%5
7	40	X	-0.019	%85
8	40	X	-0.008	%30
9	40	X	0	0
10	40	X	0	0
11	41	X	-0.009	%25
12	41	X	-0.009	%75
13	41	X	0	0
14	41	X	0	0
15	41	X	0	0
16	39	X	-0.009	%10
17	39	X	-0.009	%90
18	39	X	-0.009	%50
19	39	X	0	0
20	39	X	0	0
21	42	X	-0.019	%5
22	42	X	-0.019	%85
23	42	X	-0.008	%30
24	42	X	0	0
25	42	X	0	0
26	43	X	-0.009	%25
27	43	X	-0.009	%75
28	43	X	0	0
29	43	X	0	0
30	43	X	0	0
31	38	X	-0.009	%10
32	38	X	-0.009	%90
33	38	X	-0.009	%50
34	38	X	0	0
35	38	X	0	0
36	44	X	-0.019	%5
37	44	X	-0.019	%85
38	44	X	-0.008	%30
39	44	X	0	0
40	44	X	0	0
41	45	X	-0.009	%25
42	45	X	-0.009	%75
43	45	X	0	0
44	45	X	0	0
45	45	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	Z	-0.005	%10
2	37	Z	-0.005	%90
3	37	Z	-0.004	%50
4	37	Z	0	0
5	37	Z	0	0
6	40	Z	-0.015	%5
7	40	Z	-0.015	%85
8	40	Z	-0.004	%30
9	40	Z	0	0
10	40	Z	0	0
11	41	Z	-0.006	%25
12	41	Z	-0.006	%75
13	41	Z	0	0
14	41	Z	0	0
15	41	Z	0	0
16	39	Z	-0.005	%10
17	39	Z	-0.005	%90
18	39	Z	-0.004	%50
19	39	Z	0	0
20	39	Z	0	0
21	42	Z	-0.015	%5
22	42	Z	-0.015	%85
23	42	Z	-0.004	%30
24	42	Z	0	0
25	42	Z	0	0
26	43	Z	-0.006	%25
27	43	Z	-0.006	%75
28	43	Z	0	0
29	43	Z	0	0
30	43	Z	0	0
31	38	Z	-0.005	%10
32	38	Z	-0.005	%90
33	38	Z	-0.004	%50
34	38	Z	0	0
35	38	Z	0	0
36	44	Z	-0.015	%5
37	44	Z	-0.015	%85
38	44	Z	-0.004	%30
39	44	Z	0	0
40	44	Z	0	0
41	45	Z	-0.006	%25
42	45	Z	-0.006	%75
43	45	Z	0	0
44	45	Z	0	0
45	45	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	X	-0.002	%10
2	37	X	-0.002	%90
3	37	X	-0.003	%50
4	37	X	0	0
5	37	X	0	0
6	40	X	-0.005	%5

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
7	40	X	-0.005	%85
8	40	X	-0.003	%30
9	40	X	0	0
10	40	X	0	0
11	41	X	-0.002	%25
12	41	X	-0.002	%75
13	41	X	0	0
14	41	X	0	0
15	41	X	0	0
16	39	X	-0.002	%10
17	39	X	-0.002	%90
18	39	X	-0.003	%50
19	39	X	0	0
20	39	X	0	0
21	42	X	-0.005	%5
22	42	X	-0.005	%85
23	42	X	-0.003	%30
24	42	X	0	0
25	42	X	0	0
26	43	X	-0.002	%25
27	43	X	-0.002	%75
28	43	X	0	0
29	43	X	0	0
30	43	X	0	0
31	38	X	-0.002	%10
32	38	X	-0.002	%90
33	38	X	-0.003	%50
34	38	X	0	0
35	38	X	0	0
36	44	X	-0.005	%5
37	44	X	-0.005	%85
38	44	X	-0.003	%30
39	44	X	0	0
40	44	X	0	0
41	45	X	-0.002	%25
42	45	X	-0.002	%75
43	45	X	0	0
44	45	X	0	0
45	45	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	Y	-0.071	%10
2	37	Y	-0.071	%90
3	37	Y	-0.039	%50
4	37	Y	0	0
5	37	Y	0	0
6	40	Y	-0.191	%5
7	40	Y	-0.191	%85
8	40	Y	-0.036	%30
9	40	Y	0	0
10	40	Y	0	0
11	41	Y	-0.082	%25
12	41	Y	-0.082	%75
13	41	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
14	41	Y	0	0
15	41	Y	0	0
16	39	Y	-0.071	%10
17	39	Y	-0.071	%90
18	39	Y	-0.039	%50
19	39	Y	0	0
20	39	Y	0	0
21	42	Y	-0.191	%5
22	42	Y	-0.191	%85
23	42	Y	-0.036	%30
24	42	Y	0	0
25	42	Y	0	0
26	43	Y	-0.082	%25
27	43	Y	-0.082	%75
28	43	Y	0	0
29	43	Y	0	0
30	43	Y	0	0
31	38	Y	-0.071	%10
32	38	Y	-0.071	%90
33	38	Y	-0.039	%50
34	38	Y	0	0
35	38	Y	0	0
36	44	Y	-0.191	%5
37	44	Y	-0.191	%85
38	44	Y	-0.036	%30
39	44	Y	0	0
40	44	Y	0	0
41	45	Y	-0.082	%25
42	45	Y	-0.082	%75
43	45	Y	0	0
44	45	Y	0	0
45	45	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	Z	-0.009	%10
2	37	Z	-0.009	%90
3	37	Z	-0.021	%50
4	37	Z	0	0
5	37	Z	0	0
6	40	Z	-0.029	%5
7	40	Z	-0.029	%85
8	40	Z	-0.014	%30
9	40	Z	0	0
10	40	Z	0	0
11	41	Z	-0.015	%25
12	41	Z	-0.015	%75
13	41	Z	0	0
14	41	Z	0	0
15	41	Z	0	0
16	39	Z	-0.009	%10
17	39	Z	-0.009	%90
18	39	Z	-0.021	%50
19	39	Z	0	0
20	39	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
21	42	Z	-0.029	%5
22	42	Z	-0.029	%85
23	42	Z	-0.014	%30
24	42	Z	0	0
25	42	Z	0	0
26	43	Z	-0.015	%25
27	43	Z	-0.015	%75
28	43	Z	0	0
29	43	Z	0	0
30	43	Z	0	0
31	38	Z	-0.009	%10
32	38	Z	-0.009	%90
33	38	Z	-0.021	%50
34	38	Z	0	0
35	38	Z	0	0
36	44	Z	-0.029	%5
37	44	Z	-0.029	%85
38	44	Z	-0.014	%30
39	44	Z	0	0
40	44	Z	0	0
41	45	Z	-0.015	%25
42	45	Z	-0.015	%75
43	45	Z	0	0
44	45	Z	0	0
45	45	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	37	X	-0.009	%10
2	37	X	-0.009	%90
3	37	X	-0.021	%50
4	37	X	0	0
5	37	X	0	0
6	40	X	-0.029	%5
7	40	X	-0.029	%85
8	40	X	-0.014	%30
9	40	X	0	0
10	40	X	0	0
11	41	X	-0.015	%25
12	41	X	-0.015	%75
13	41	X	0	0
14	41	X	0	0
15	41	X	0	0
16	39	X	-0.009	%10
17	39	X	-0.009	%90
18	39	X	-0.021	%50
19	39	X	0	0
20	39	X	0	0
21	42	X	-0.029	%5
22	42	X	-0.029	%85
23	42	X	-0.014	%30
24	42	X	0	0
25	42	X	0	0
26	43	X	-0.015	%25
27	43	X	-0.015	%75

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
28	43	X	0	0
29	43	X	0	0
30	43	X	0	0
31	38	X	-0.009	%10
32	38	X	-0.009	%90
33	38	X	-0.021	%50
34	38	X	0	0
35	38	X	0	0
36	44	X	-0.029	%5
37	44	X	-0.029	%85
38	44	X	-0.014	%30
39	44	X	0	0
40	44	X	0	0
41	45	X	-0.015	%25
42	45	X	-0.015	%75
43	45	X	0	0
44	45	X	0	0
45	45	X	0	0

Member Point Loads (BLC 16 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	16	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 2)

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

Member Point Loads (BLC 18 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 4)

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

Member Point Loads (BLC 20 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	10	Y	-0.25	%5

Member Point Loads (BLC 22 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	16	Y	-0.25	%95

Member Point Loads (BLC 23 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	5	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	18	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 10)

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

Member Point Loads (BLC 26 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	17	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	10	Y	-0.25	%95

Member Point Loads (BLC 28 : Maint LL 13)

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

Member Point Loads (BLC 29 : Maint LL 14)

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

Member Point Loads (BLC 30 : Maint LL 15)

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

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.013	-0.013	0	%100
2	2	Z	-0.007	-0.007	0	%100
3	5	Z	-0.009	-0.009	0	%100
4	6	Z	-0.013	-0.013	0	%100
5	7	Z	-0.007	-0.007	0	%100
6	10	Z	-0.009	-0.009	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
7	11	Z	-0.013	-0.013	0	%100
8	12	Z	-0.007	-0.007	0	%100
9	15	Z	-0.009	-0.009	0	%100
10	16	Z	-0.006	-0.006	0	%100
11	17	Z	-0.006	-0.006	0	%100
12	18	Z	-0.006	-0.006	0	%100
13	37	Z	-0.006	-0.006	0	%100
14	38	Z	-0.006	-0.006	0	%100
15	39	Z	-0.006	-0.006	0	%100
16	40	Z	-0.006	-0.006	0	%100
17	41	Z	-0.006	-0.006	0	%100
18	42	Z	-0.006	-0.006	0	%100
19	43	Z	-0.006	-0.006	0	%100
20	44	Z	-0.006	-0.006	0	%100
21	45	Z	-0.006	-0.006	0	%100
22	46	Z	-0.008	-0.008	0	%100
23	47	Z	-0.008	-0.008	0	%100
24	48	Z	-0.008	-0.008	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.013	-0.013	0	%100
2	2	X	-0.007	-0.007	0	%100
3	5	X	-0.009	-0.009	0	%100
4	6	X	-0.013	-0.013	0	%100
5	7	X	-0.007	-0.007	0	%100
6	10	X	-0.009	-0.009	0	%100
7	11	X	-0.013	-0.013	0	%100
8	12	X	-0.007	-0.007	0	%100
9	15	X	-0.009	-0.009	0	%100
10	16	X	-0.006	-0.006	0	%100
11	17	X	-0.006	-0.006	0	%100
12	18	X	-0.006	-0.006	0	%100
13	37	X	-0.006	-0.006	0	%100
14	38	X	-0.006	-0.006	0	%100
15	39	X	-0.006	-0.006	0	%100
16	40	X	-0.006	-0.006	0	%100
17	41	X	-0.006	-0.006	0	%100
18	42	X	-0.006	-0.006	0	%100
19	43	X	-0.006	-0.006	0	%100
20	44	X	-0.006	-0.006	0	%100
21	45	X	-0.006	-0.006	0	%100
22	46	X	-0.008	-0.008	0	%100
23	47	X	-0.008	-0.008	0	%100
24	48	X	-0.008	-0.008	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.004	-0.004	0	%100
2	2	Z	-0.002	-0.002	0	%100
3	5	Z	-0.002	-0.002	0	%100
4	6	Z	-0.004	-0.004	0	%100
5	7	Z	-0.002	-0.002	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
6	10	Z	-0.002	-0.002	0	%100
7	11	Z	-0.004	-0.004	0	%100
8	12	Z	-0.002	-0.002	0	%100
9	15	Z	-0.002	-0.002	0	%100
10	16	Z	-0.001	-0.001	0	%100
11	17	Z	-0.001	-0.001	0	%100
12	18	Z	-0.001	-0.001	0	%100
13	37	Z	-0.001	-0.001	0	%100
14	38	Z	-0.001	-0.001	0	%100
15	39	Z	-0.001	-0.001	0	%100
16	40	Z	-0.001	-0.001	0	%100
17	41	Z	-0.001	-0.001	0	%100
18	42	Z	-0.001	-0.001	0	%100
19	43	Z	-0.001	-0.001	0	%100
20	44	Z	-0.001	-0.001	0	%100
21	45	Z	-0.001	-0.001	0	%100
22	46	Z	-0.003	-0.003	0	%100
23	47	Z	-0.003	-0.003	0	%100
24	48	Z	-0.003	-0.003	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.004	-0.004	0	%100
2	2	X	-0.002	-0.002	0	%100
3	5	X	-0.002	-0.002	0	%100
4	6	X	-0.004	-0.004	0	%100
5	7	X	-0.002	-0.002	0	%100
6	10	X	-0.002	-0.002	0	%100
7	11	X	-0.004	-0.004	0	%100
8	12	X	-0.002	-0.002	0	%100
9	15	X	-0.002	-0.002	0	%100
10	16	X	-0.001	-0.001	0	%100
11	17	X	-0.001	-0.001	0	%100
12	18	X	-0.001	-0.001	0	%100
13	37	X	-0.001	-0.001	0	%100
14	38	X	-0.001	-0.001	0	%100
15	39	X	-0.001	-0.001	0	%100
16	40	X	-0.001	-0.001	0	%100
17	41	X	-0.001	-0.001	0	%100
18	42	X	-0.001	-0.001	0	%100
19	43	X	-0.001	-0.001	0	%100
20	44	X	-0.001	-0.001	0	%100
21	45	X	-0.001	-0.001	0	%100
22	46	X	-0.003	-0.003	0	%100
23	47	X	-0.003	-0.003	0	%100
24	48	X	-0.003	-0.003	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.0009	-0.0009	0	%100
2	2	Z	-0.0004	-0.0004	0	%100
3	5	Z	-0.0003	-0.0003	0	%100
4	6	Z	-0.0009	-0.0009	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
5	7	Z	-0.0004	-0.0004	0	%100
6	10	Z	-0.0003	-0.0003	0	%100
7	11	Z	-0.0009	-0.0009	0	%100
8	12	Z	-0.0004	-0.0004	0	%100
9	15	Z	-0.0003	-0.0003	0	%100
10	16	Z	-0.0002	-0.0002	0	%100
11	17	Z	-0.0002	-0.0002	0	%100
12	18	Z	-0.0002	-0.0002	0	%100
13	37	Z	-0.0002	-0.0002	0	%100
14	38	Z	-0.0002	-0.0002	0	%100
15	39	Z	-0.0002	-0.0002	0	%100
16	40	Z	-0.0002	-0.0002	0	%100
17	41	Z	-0.0002	-0.0002	0	%100
18	42	Z	-0.0002	-0.0002	0	%100
19	43	Z	-0.0002	-0.0002	0	%100
20	44	Z	-0.0002	-0.0002	0	%100
21	45	Z	-0.0002	-0.0002	0	%100
22	46	Z	-0.0006	-0.0006	0	%100
23	47	Z	-0.0006	-0.0006	0	%100
24	48	Z	-0.0006	-0.0006	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.0009	-0.0009	0	%100
2	2	X	-0.0004	-0.0004	0	%100
3	5	X	-0.0003	-0.0003	0	%100
4	6	X	-0.0009	-0.0009	0	%100
5	7	X	-0.0004	-0.0004	0	%100
6	10	X	-0.0003	-0.0003	0	%100
7	11	X	-0.0009	-0.0009	0	%100
8	12	X	-0.0004	-0.0004	0	%100
9	15	X	-0.0003	-0.0003	0	%100
10	16	X	-0.0002	-0.0002	0	%100
11	17	X	-0.0002	-0.0002	0	%100
12	18	X	-0.0002	-0.0002	0	%100
13	37	X	-0.0002	-0.0002	0	%100
14	38	X	-0.0002	-0.0002	0	%100
15	39	X	-0.0002	-0.0002	0	%100
16	40	X	-0.0002	-0.0002	0	%100
17	41	X	-0.0002	-0.0002	0	%100
18	42	X	-0.0002	-0.0002	0	%100
19	43	X	-0.0002	-0.0002	0	%100
20	44	X	-0.0002	-0.0002	0	%100
21	45	X	-0.0002	-0.0002	0	%100
22	46	X	-0.0006	-0.0006	0	%100
23	47	X	-0.0006	-0.0006	0	%100
24	48	X	-0.0006	-0.0006	0	%100

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.009	-0.009	0	%100
2	2	Y	-0.008	-0.008	0	%100
3	5	Y	-0.006	-0.006	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
4	6	Y	-0.009	-0.009	0	%100
5	7	Y	-0.008	-0.008	0	%100
6	10	Y	-0.006	-0.006	0	%100
7	11	Y	-0.009	-0.009	0	%100
8	12	Y	-0.008	-0.008	0	%100
9	15	Y	-0.006	-0.006	0	%100
10	16	Y	-0.005	-0.005	0	%100
11	17	Y	-0.005	-0.005	0	%100
12	18	Y	-0.005	-0.005	0	%100
13	37	Y	-0.005	-0.005	0	%100
14	38	Y	-0.005	-0.005	0	%100
15	39	Y	-0.005	-0.005	0	%100
16	40	Y	-0.005	-0.005	0	%100
17	41	Y	-0.005	-0.005	0	%100
18	42	Y	-0.005	-0.005	0	%100
19	43	Y	-0.005	-0.005	0	%100
20	44	Y	-0.005	-0.005	0	%100
21	45	Y	-0.005	-0.005	0	%100
22	46	Y	-0.006	-0.006	0	%100
23	47	Y	-0.006	-0.006	0	%100
24	48	Y	-0.006	-0.006	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.002	-0.002	0	%100
2	2	Z	-0.002	-0.002	0	%100
3	5	Z	-0.001	-0.001	0	%100
4	6	Z	-0.002	-0.002	0	%100
5	7	Z	-0.002	-0.002	0	%100
6	10	Z	-0.001	-0.001	0	%100
7	11	Z	-0.002	-0.002	0	%100
8	12	Z	-0.002	-0.002	0	%100
9	15	Z	-0.001	-0.001	0	%100
10	16	Z	-0.0007	-0.0007	0	%100
11	17	Z	-0.0007	-0.0007	0	%100
12	18	Z	-0.0007	-0.0007	0	%100
13	37	Z	-0.0007	-0.0007	0	%100
14	38	Z	-0.0007	-0.0007	0	%100
15	39	Z	-0.0007	-0.0007	0	%100
16	40	Z	-0.0007	-0.0007	0	%100
17	41	Z	-0.0007	-0.0007	0	%100
18	42	Z	-0.0007	-0.0007	0	%100
19	43	Z	-0.0007	-0.0007	0	%100
20	44	Z	-0.0007	-0.0007	0	%100
21	45	Z	-0.0007	-0.0007	0	%100
22	46	Z	-0.0008	-0.0008	0	%100
23	47	Z	-0.0008	-0.0008	0	%100
24	48	Z	-0.0008	-0.0008	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.002	-0.002	0	%100
2	2	X	-0.002	-0.002	0	%100

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
3	5	X	-0.001	-0.001	0	%100
4	6	X	-0.002	-0.002	0	%100
5	7	X	-0.002	-0.002	0	%100
6	10	X	-0.001	-0.001	0	%100
7	11	X	-0.002	-0.002	0	%100
8	12	X	-0.002	-0.002	0	%100
9	15	X	-0.001	-0.001	0	%100
10	16	X	-0.0007	-0.0007	0	%100
11	17	X	-0.0007	-0.0007	0	%100
12	18	X	-0.0007	-0.0007	0	%100
13	37	X	-0.0007	-0.0007	0	%100
14	38	X	-0.0007	-0.0007	0	%100
15	39	X	-0.0007	-0.0007	0	%100
16	40	X	-0.0007	-0.0007	0	%100
17	41	X	-0.0007	-0.0007	0	%100
18	42	X	-0.0007	-0.0007	0	%100
19	43	X	-0.0007	-0.0007	0	%100
20	44	X	-0.0007	-0.0007	0	%100
21	45	X	-0.0007	-0.0007	0	%100
22	46	X	-0.0008	-0.0008	0	%100
23	47	X	-0.0008	-0.0008	0	%100
24	48	X	-0.0008	-0.0008	0	%100

Member Area Loads

No Data to Print...

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	34	L	Y	-0.5
2	50	L	Y	-0.5
3	42	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	55	L	Y	-0.5
2	59	L	Y	-0.5
3	63	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s²/ft, k*s²*ft)]
1	32	L	Y	-0.5
2	48	L	Y	-0.5
3	40	L	Y	-0.5

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed
1	Dead	DL	-1		45	
2	0 Wind - No Ice	WLZ			45	24
3	90 Wind - No Ice	WLX			45	24
4	0 Wind - Ice	WLZ			45	24

Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed
5	90 Wind - Ice	WLX			45	24
6	0 Wind - Service	WLZ			45	24
7	90 Wind - Service	WLX			45	24
8	Ice	OL1			45	24
9	0 Seismic	ELZ			45	24
10	90 Seismic	ELX			45	24
11	Live Load a	LL		3		
12	Live Load b	LL		3		
13	Live Load c	LL		3		
14	Live Load d	LL				
15	Live Load e	LL				
16	Maint LL 1	LL			1	
17	Maint LL 2	LL			1	
18	Maint LL 3	LL			1	
19	Maint LL 4	LL			1	
20	Maint LL 5	LL			1	
21	Maint LL 6	LL			1	
22	Maint LL 7	LL			1	
23	Maint LL 8	LL			1	
24	Maint LL 9	LL			1	
25	Maint LL 10	LL			1	
26	Maint LL 11	LL			1	
27	Maint LL 12	LL			1	
28	Maint LL 13	LL			1	
29	Maint LL 14	LL			1	
30	Maint LL 15	LL			1	
31	Maint LL 16	LL				
32	Maint LL 17	LL				
33	Maint LL 18	LL				
34	Maint LL 19	LL				
35	Maint LL 20	LL				
36	Maint LL 21	LL				
37	Maint LL 22	LL				
38	Maint LL 23	LL				
39	Maint LL 24	LL				

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL e + Service - 0 W	Yes	Y	1	1.2	6	1			15	1.5
87	1.2 D + 1.5 LL e + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	15	1.5
88	1.2 D + 1.5 LL e + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	15	1.5
89	1.2 D + 1.5 LL e + Service - 90 W	Yes	Y	1	1.2	7	1			15	1.5
90	1.2 D + 1.5 LL e + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	15	1.5
91	1.2 D + 1.5 LL e + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	15	1.5
92	1.2 D + 1.5 LL e + Service - 180 W	Yes	Y	1	1.2	6	-1			15	1.5
93	1.2 D + 1.5 LL e + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	15	1.5
94	1.2 D + 1.5 LL e + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	15	1.5
95	1.2 D + 1.5 LL e + Service - 270 W	Yes	Y	1	1.2	7	-1			15	1.5
96	1.2 D + 1.5 LL e + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	15	1.5
97	1.2 D + 1.5 LL e + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	15	1.5
98	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					16	1.5
99	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					17	1.5
100	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					18	1.5
101	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					19	1.5
102	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					20	1.5
103	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					21	1.5
104	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					22	1.5
105	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					23	1.5
106	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					24	1.5
107	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					25	1.5
108	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					26	1.5
109	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					27	1.5
110	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					28	1.5
111	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					29	1.5
112	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					30	1.5
113	1.2 D + 1.5 LL Maint (16)	Yes	Y	1	1.2					31	1.5
114	1.2 D + 1.5 LL Maint (17)	Yes	Y	1	1.2					32	1.5
115	1.2 D + 1.5 LL Maint (18)	Yes	Y	1	1.2					33	1.5
116	1.2 D + 1.5 LL Maint (19)	Yes	Y	1	1.2					34	1.5
117	1.2 D + 1.5 LL Maint (20)	Yes	Y	1	1.2					35	1.5
118	1.2 D + 1.5 LL Maint (21)	Yes	Y	1	1.2					36	1.5
119	1.2 D + 1.5 LL Maint (22)	Yes	Y	1	1.2					37	1.5
120	1.2 D + 1.5 LL Maint (23)	Yes	Y	1	1.2					38	1.5
121	1.2 D + 1.5 LL Maint (24)	Yes	Y	1	1.2					39	1.5

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
0	1	max	0.892	5	2.123	20	1.319	2	-1.141	2	2.529	5	0.759	105
1		min	-0.893	11	0.605	2	-1.152	8	-6.813	20	-2.577	11	-0.854	99
2	10	max	0.864	5	1.937	24	1.304	2	2.964	49	3.626	9	5.419	24

Envelope Node Reactions (Continued)

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
3		min	-0.679	11	0.629	6	-1.411	8	0.292	7	-3.671	3	1.289	6
4	18	max	0.673	5	2.016	16	1.337	2	2.873	62	3.741	13	-1.389	10
5		min	-0.857	11	0.669	10	-1.397	8	0.098	9	-3.714	8	-5.891	16
6	Totals:	max	2.429	5	5.908	23	3.96	2						
7		min	-2.429	11	2.666	5	-3.96	8						

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

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
0	40	PIPE_2.0	0.606	4.688	2	0.091	4.688		9	9.837	32.13	1.872	1.872	1	H1-1b
1	11	HSS4X4X4	0.601	2.818	2	0.149	2.818	y	43	103.505	106.155	12.311	12.311	1.468	H1-1b
2	1	HSS4X4X4	0.585	2.818	22	0.127	2.818	y	66	103.505	106.155	12.311	12.311	1.543	H1-1b
3	6	HSS4X4X4	0.577	2.818	2	0.124	2.818	y	103	103.505	106.155	12.311	12.311	1.491	H1-1b
4	44	PIPE_2.0	0.481	4.792	2	0.099	4.688		2	9.837	32.13	1.872	1.872	1	H1-1b
5	37	PIPE_2.0	0.479	5.75	42	0.152	5.75		7	14.916	32.13	1.872	1.872	1	H1-1b
6	42	PIPE_2.0	0.465	5.208	9	0.088	5.208		2	9.837	32.13	1.872	1.872	1	H1-1b
7	43	PIPE_2.0	0.449	4.5	67	0.109	4.5		5	20.867	32.13	1.872	1.872	1	H1-1b
8	38	PIPE_2.0	0.448	5.75	45	0.108	5.75		11	14.916	32.13	1.872	1.872	1	H1-1b
9	5	PIPE_3.0	0.41	6.25	45	0.14	6.25		2	28.251	65.205	5.749	5.749	1	H1-1b
10	10	PIPE_3.0	0.39	6.25	38	0.118	6.25		19	28.251	65.205	5.749	5.749	1	H1-1b
11	15	PIPE_3.0	0.382	6.25	42	0.126	6.25		21	28.251	65.205	5.749	5.749	1	H1-1b
12	18	PIPE_2.0	0.359	11.781	49	0.182	11.932		106	4.679	32.13	1.872	1.872	1	H1-1b
13	17	PIPE_2.0	0.351	12.536	44	0.176	13.896		43	4.679	32.13	1.872	1.872	1	H1-1b
14	16	PIPE_2.0	0.344	12.083	41	0.162	13.443		2	4.679	32.13	1.872	1.872	1	H1-1b
15	39	PIPE_2.0	0.336	5.75	2	0.162	5.75		3	14.916	32.13	1.872	1.872	1	H1-1b
16	41	PIPE_2.0	0.325	4.5	70	0.157	4.5		9	20.867	32.13	1.872	1.872	1	H1-1b
17	46	L2.5X2.5X4	0.319	0	39	0.032	0	y	5	32.685	38.556	1.114	2.537	1.5	H2-1
18	45	PIPE_2.0	0.306	4.25	2	0.152	4.25		2	20.867	32.13	1.872	1.872	1	H1-1b
19	47	L2.5X2.5X4	0.291	0	44	0.053	0	y	9	32.685	38.556	1.114	2.537	1.5	H2-1
20	48	L2.5X2.5X4	0.274	2.25	68	0.056	2.25	y	102	32.685	38.556	1.114	2.537	1.5	H2-1
21	2	PIPE_4.0	0	0.75	25	0	0.75		8	92.571	93.24	10.631	10.631	1	H1-1b*
22	12	PIPE_4.0	0	0.75	24	0	0.75		4	92.571	93.24	10.631	10.631	1	H1-1b*
23	7	PIPE_4.0	0	0.75	25	0	0.75		12	92.571	93.24	10.631	10.631	1	H1-1b*

APPENDIX D

ADDITIONAL CALCULATIONS

PROJECT	**137121.004.01.0002 - Burlington-Nep KSC**				
SUBJECT	**T-Arm Mount Analysis**				
DATE	**01/24/24**	PAGE	1	OF	1

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

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	1.319	k
Vertical Shear	:	2.123	k
Horizontal Shear	:	0.893	k
Torsion	:	0.854	k.ft
Moment from Horizontal Forces	:	2.577	k.ft
Moment from Vertical Forces	:	6.813	k.ft

Bolt Parameters

Assumed

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

Summary of Forces

Shear Resultant Force	:	2.30	k
Force from Horz. Moment	:	4.67	k
Force from Vert. Moment	:	12.34	k
Shear Load / Bolt	:	0.58	k
Tension Load / Bolt	:	0.33	k
Resultant from Moments / Bolt	:	6.60	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	**33.43%**		**OKAY**
Nominal Shear Stress, F_{nv}	:	54.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	12.43	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	**7.28%**		**OKAY**
Unity Check, Combined	:	**40.71%**		**OKAY**
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	**1.66%**		**OKAY**

FOX HILL TELECOM

Radio Frequency Emissions Analysis Report

T-Mobile

Site ID: CTHA509A

AT&T Burlington Monopole
12 Nepaug Road
Burlington, CT 06013

March 13, 2024

Fox Hill Telecom Project Number: 240073

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	34.94 %

FOX HILL TELECOM

March 13, 2024

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

Emissions Analysis for Site: **CTHA509A – AT&T Burlington Monopole**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **12 Nepaug Road, Burlington, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (µW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz & 700 MHz bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2500 MHz (BRS) bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **12 Nepaug Road, Burlington, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65 for far field modeling calculations.

In OET-65, plane wave power densities in the Far Field of an antenna are calculated by considering antenna gain and reflective waves that would contribute to exposure.

Since the radiation pattern of an antenna has developed in the **Far Field** region the power gain in specific directions needs to be considered in exposure predictions to yield an Effective Radiated Power (ERP) in each specific direction from the antenna. Also, since the vertical radiation pattern of the antenna is considered, the exposure calculations would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels. To determine a worst-case scenario at each point along the calculation radials, each point was calculated using the antenna gain value at each angle of incident and compared against the result using an isotropic radiator at the antenna height with the greater of the two used to yield the more pessimistic far field value for each point along the calculation radial.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential 1.6 times increase in power density in calculating far field power density values.

With these factors Considered, the worst case **Far Field prediction model** utilized in this analysis is determined by the following equation:

Equation 9 per FCC OET65 for Far Field Modeling

$$S = \frac{33.4\ ERP}{R^2}$$

S = Power Density (in μw/cm^2)
ERP = Effective Radiated Power from antenna (watts)
R = Distance from the antenna (meters)

Predicted far field power density values for all carriers identified in this report were calculated 6 feet above the ground level and are displayed as a percentage of the applicable FCC standards. All emissions values for other carriers were calculated using the same Far Field model outlined above, using industry standard radio configurations and frequency band selection based upon available licenses in this geographic area for emissions contribution estimates.

For each T-Mobile 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	4	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	4	35
5G	1900 MHz (PCS)	4	40
LTE	2100 MHz (AWS)	4	60
LTE / 5G NR	2500 MHz (BRS)	8	30

Table 1: Channel Data Table

The following T-Mobile 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAALL24_43-U-NA20	90
A	2	RFS APXVLL19P_43-C-A20	90
A	3	Ericsson AIR6419 B41	90
B	1	RFS APXVAALL24_43-U-NA20	90
B	2	RFS APXVLL19P_43-C-A20	90
B	3	Ericsson AIR6419 B41	90
C	1	RFS APXVAALL24_43-U-NA20	90
C	2	RFS APXVLL19P_43-C-A20	90
C	3	Ericsson AIR6419 B41	90

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	6	200	4,678.48	2.48
Antenna A2	RFS APXVLL19P_43-C-A20	1900 MHz (PCS) / 2100 MHz (AWS	16.05 / 16.75	12	540	23,437.14	2.75
Antenna A3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	240	33,900.90	4.87
						Sector A Composite MPE%	**10.10**
Antenna B1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	6	200	4,678.48	2.48
Antenna B2	RFS APXVLL19P_43-C-A20	1900 MHz (PCS) / 2100 MHz (AWS	16.05 / 16.75	15	620	26,940.61	2.75
Antenna B3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	240	33,900.90	4.87
						Sector B Composite MPE%	**10.10**
Antenna C1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	6	200	4,678.48	2.48
Antenna C2	RFS APXVLL19P_43-C-A20	1900 MHz (PCS) / 2100 MHz (AWS	16.05 / 16.75	15	620	26,940.61	2.75
Antenna C3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	240	33,900.90	4.87
						Sector C Composite MPE%	**10.10**

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional identified carriers on site and their emissions contribution estimates, 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. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite estimated MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
T-MOBILE – Max Per Sector Value	**10.10 %**
AT&T	7.07 %
Verizon Wireless	7.90 %
Dish Wireless	8.30 %
Sprint	1.57 %
Site Total MPE %:	**34.94 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	10.10 %
T-MOBILE Sector B Total:	10.10 %
T-MOBILE Sector C Total:	10.10 %
Site Total:	34.94 %

Table 5: Site MPE Summary

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 T-Mobile sectors have the same configuration yielding the same results for all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	4	926.96	90	8.16	600 MHz	400	2.04%
T-Mobile 700 MHz LTE	2	485.32	90	2.05	700 MHz	467	0.44%
T-Mobile 1900 MHz (PCS) LTE	4	1,409.51	90	7.10	1900 MHz (PCS)	1000	0.71%
T-Mobile 1900 MHz (PCS) 5G	4	1,610.87	90	8.20	1900 MHz (PCS)	1000	0.82%
T-Mobile 2100 MHz (AWS) LTE	4	2,838.91	90	12.20	2100 MHz (AWS)	1000	1.22%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	4,237.61	90	48.70	2500 MHz (BRS)	1000	4.87%
						Total:	**10.10 %**

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 estimates value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

T-MOBILE Sector	Power Density Value (%)
Sector A:	10.10 %
Sector B:	10.10 %
Sector C:	10.10 %
T-MOBILE Maximum Total (per sector):	10.10 %
Site Total:	34.94 %
Site Compliance Status:	**COMPLIANT**

The estimated composite MPE value for this site assuming all carriers present is **34.94 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon the far field calculations performed for all carriers identified in this report.

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 estimated values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Worcester, MA 01609
(978)660-3998

THE COMPOUND AUDIT WAS COMPLETED ON 09/20/2023, THE CONSTRUCTION DRAWING REFLECT CONDITIONS AT TIME OF AUDIT.

T-Mobile

T-MOBILE SITE NUMBER: CTHA509A
T-MOBILE SITE NAME: AT&T BURLINGTON MONOPOLE
T-MOBILE PROJECT: ANCHOR

BUSINESS UNIT #: 845993
SITE ADDRESS: 12 NEPAUG ROAD
BURLINGTON, CT 06013
COUNTY: HARTFORD
SITE TYPE: MONOPOLE TOWER
TOWER HEIGHT: 119'-6"

SITE INFORMATION

CROWN CASTLE USA INC.	
SITE NAME:	BURLINGTON-NEPAUG
BU NUMBER:	845993
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	T-MOBILE 1001 PINNACLE POINT DRIVE COLUMBIA SC, 29223
SITE ADDRESS:	12 NEPAUG ROAD BURLINGTON, CT 06013
COUNTY:	HARTFORD
LATITUDE:	41° 46' 56.86" / 41.7825°
LONGITUDE:	-72° 59' 22.68" / -72.9896°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	827'+/- AMSL
AREA OF CONSTRUCTION:	EXISTING
CURRENT ZONING:	R44
MAP/PARCEL #:	5-11-17-A
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	REGIONAL SCHOOL DISTRICT #10 24 LYON RD BURLINGTON, CT 06013 ----
JURISDICTION:	CT-Burlington Lepc 200 SPEILMAN HIGHWAY BURLINGTON, CT 06013
ELECTRIC PROVIDER:	NORTHEAST UTILITIES ----
TELCO PROVIDER:	AT&T ----

PROJECT TEAM

A&E FIRM:	P. MARSHALL & ASSOCIATES, LLC 3545 WHITEHALL PARK DRIVE, SUITE 450 CHARLOTTE, NC 28273 PROJECT ENGINEER - TREVOR MCALLISTER 478-542-3291
CROWN CASTLE USA INC. DISTRICT CONTACTS:	1500 CORPORATE DRIVE CANONSBURG, PA 15317 Tricia Pelon - PROJECT MANAGER Tricia.Pelon@crowncastle.com Israel Carey - CONSTRUCTION MANAGER Israel.Carey@crowncastle.com Susan Palm - AES Susan.Palm@crowncastle.com

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

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	COMPOUND PLAN
C-1.2	EXISTING EQUIPMENT PLAN
C-1.3	FINAL EQUIPMENT PLAN
C-2	TOWER ELEVATIONS
C-3	ANTENNA PLANS
C-4	FINAL EQUIPMENT SCHEDULE
C-5.1	TOWER EQUIPMENT DETAILS & SPECIFICATIONS
C-5.2	TOWER EQUIPMENT DETAILS & SPECIFICATIONS
C-6.1	ENCLOSURE CLEARANCES
C-6.2	SITE SUPPORT CABINET SPECIFICATIONS
C-6.3	BATTERY CABINET SPECIFICATIONS
E-1	PANEL SCHEDULES & ONE-LINE DIAGRAM
E-2	ELECTRICAL DETAILS
G-1	TYPICAL GROUNDING SCHEMATIC
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
ATTACHED	RFDS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22X34. 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.

CALL CONNECTICUT ONE CALL 811
(800) 922-4455 CBYD.COM
CALL 2 WORKING DAYS BEFORE YOU DIG!

PROJECT DESCRIPTION

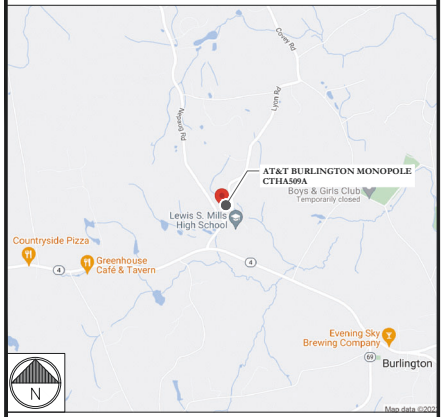
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (6)ERICSSON - AIR21 KRC118023-1_B2P_B4A ANTENNA
- REMOVE (1) HUBER AND SUHNER - MLE 9POWER/18FIBER RL 2 HYBRID CABLE
- REMOVE (1) ERICSSON - HCS 6X12 4AWG HYBRID CABLE
- REMOVE (6) ANDREW - LDF7-50A COAX CABLE
- INSTALL (3) ERICSSON - AIR 6419 B41 (ACTIVE ANTENNA - MASSIVE MIMO) ANTENNA
- INSTALL (3) RFS/CELWAVE - APXVLL19P_43-C-A20 (QUAD) ANTENNA
- INSTALL (3) ERICSSON - 4460 B25 + B66 RADIO
- INSTALL (3) RFS/CELWAVE - HB158-21U6S24-xxM CABLE

GROUND SCOPE OF WORK:
- REMOVE (1) RBS - 6201 ODE ENCLOSURE
- REMOVE (1) BATTERY CABINET
- INSTALL (1) ERICSSON - 6160 AC V1 ENCLOSURE
- INSTALL (1) ERICSSON - B160 ENCLOSURE

EXISTING T-MOBILE ELECTRIC SERVICE:
METER AND DISCONNECT: 200A 120/240V~1PH
PPC: NORTHERN TECHNOLOGIES, INC. 200A 120/240V~1PH, FAULT CURRENT RATING 65kA, 200A GENERATOR PLUG, 200A MAXIMUM BRANCH CIRCUIT SIZE & 24 AC BREAKER POSITIONS.

LOCATION MAP



NO SCALE

APPLICABLE CODES & REFERENCE DOCUMENTS

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

CODE TYPE	CODE
BUILDING	2021 IBC
MECHANICAL	2021 IMC
ELECTRICAL	2020 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	BLACK & VEATCH # 406642
DATED:	02/02/2024
MOUNT ANALYSIS:	B+T GROUP # 137121.004.01.0002
DATED:	01/24/2024
RFDS REVISION:	8
DATED:	11/16/2023
ORDER ID:	656058
REVISION:	2

INSTALLER NOTE:

NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT ANALYSIS BY B+T GROUP # 137121.004.01.0002 DATED 01/24/2024.

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/27/2023	SMS	PRELIMINARY	JS
B	10/03/2023	SMS	PRELIMINARY	JS
C	02/09/2024	JS	PRELIMINARY	JS
0	03/04/2024	JS	FINAL	JS

SHEET NUMBER: T-1
REVISION: 0

T-MOBILE_NATIONAL_ANCHOR

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

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

GENERAL NOTES:

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

GREENFIELD GROUNDING NOTES:

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

ELECTRICAL INSTALLATION NOTES:

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

CONDUCTOR COLOR CODE

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

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

APWA UNIFORM COLOR CODE:

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

ABBREVIATIONS:

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

T Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

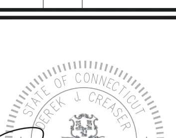
BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

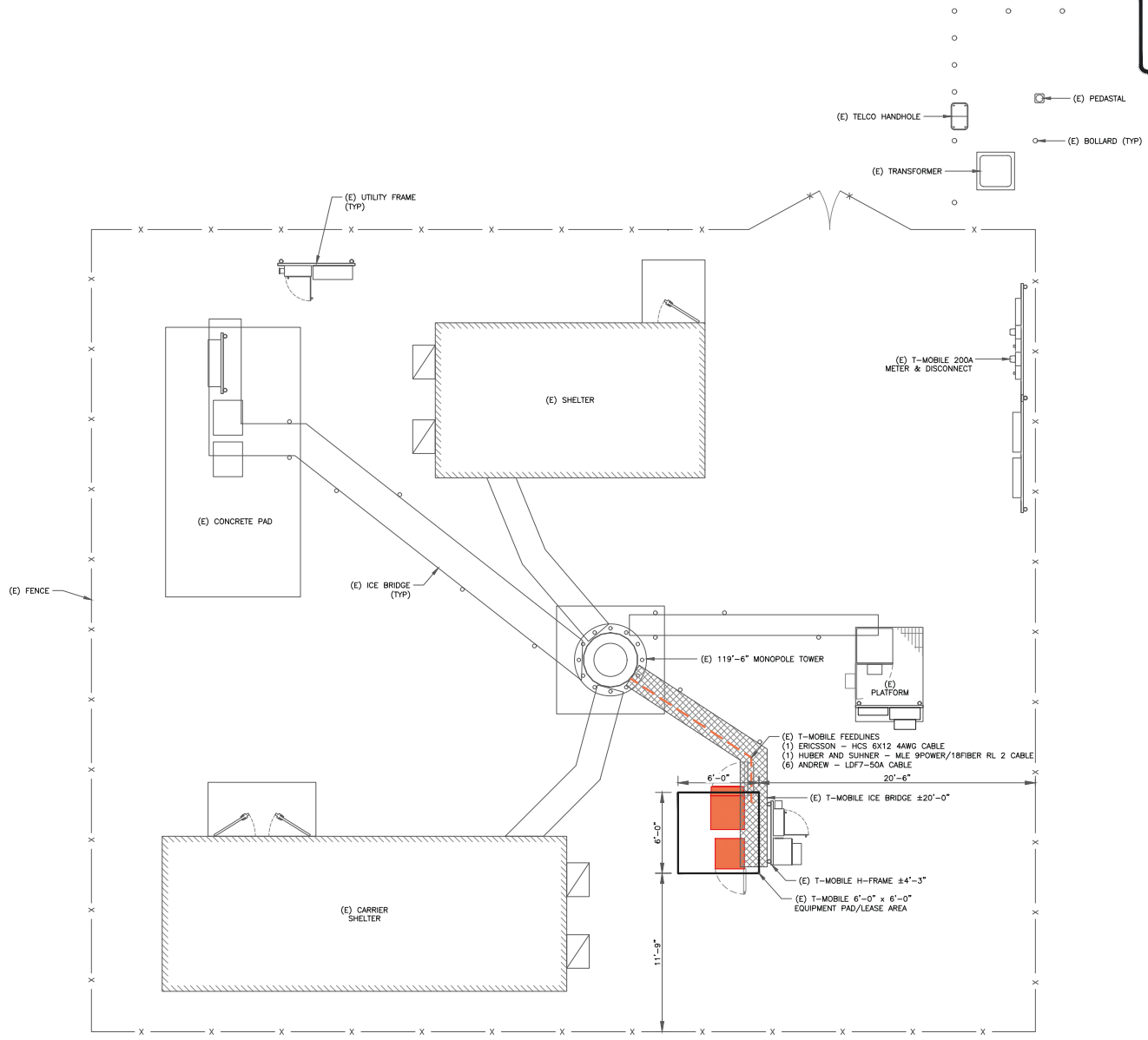
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/27/2023	SMS	PRELIMINARY	JS
B	10/03/2023	SMS	PRELIMINARY	JS
C	02/09/2024	JS	PRELIMINARY	JS
0	03/04/2024	JS	FINAL	JS



SHEET NUMBER: T-2

REVISION: 0



1 COMPOUND PLAN
SCALE: 4" 3" 2" 1" 0 4" 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

T-MOBILE

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
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12 NEPAUG ROAD
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EXISTING 119'-6"
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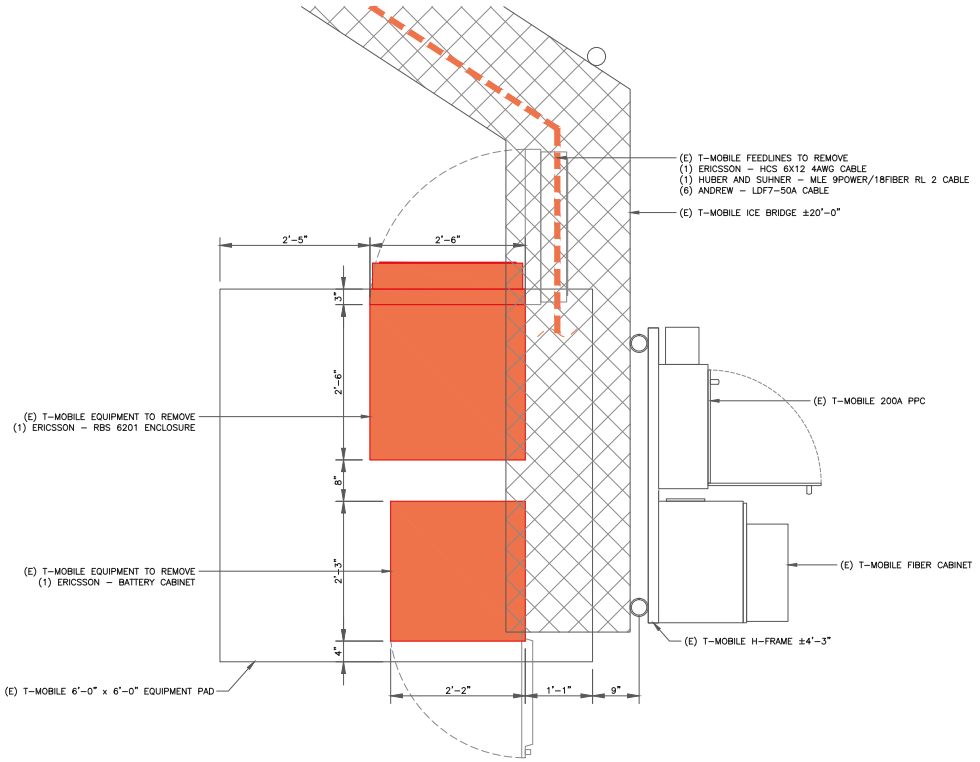
STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: C-1.1
REVISION: 0

T-MOBILE_NATIONAL_ANCHOR

EQUIPMENT LEGEND:

- EXISTING
- TO BE RELOCATED/REMOVED
- NEW/RELOCATED



1 EXISTING EQUIPMENT PLAN

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

N

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

ISSUED FOR:

REV	DATE:	DRWN	DESCRIPTION	DES./QA
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0	03/04/2024	JS	FINAL	JS

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

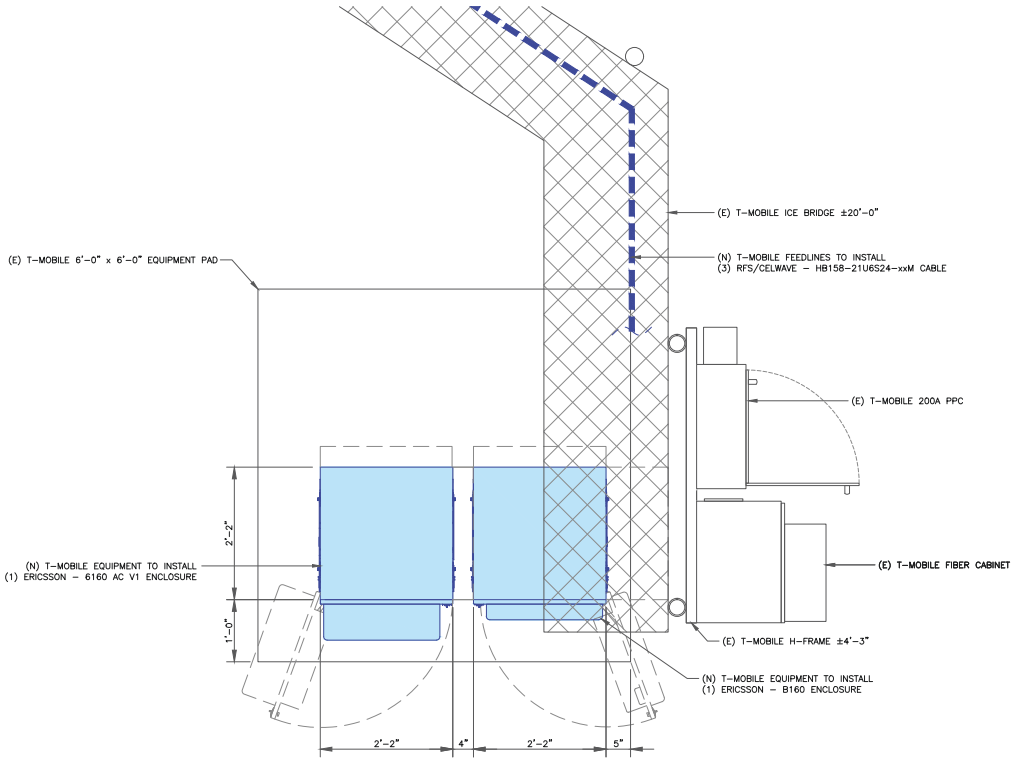
SHEET NUMBER: C-1.2

REVISION: 0

T-MOBILE_NATIONAL_ANCHOR

EQUIPMENT LEGEND:

- EXISTING
- TO BE RELOCATED/REMOVED
- NEW/RELOCATED



1 FINAL EQUIPMENT PLAN

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

N

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

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12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

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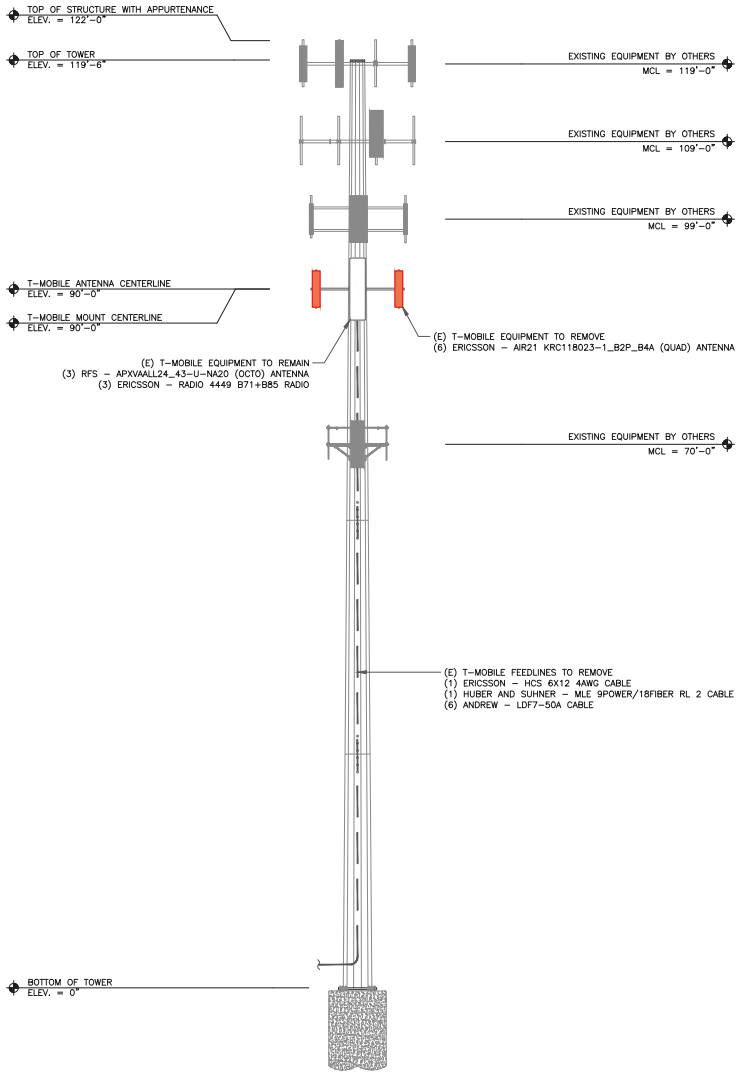
0	03/04/2024	JS	FINAL	JS

STATE OF CONNECTICUT
DEREK J. CREASER
No. 23...
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: C-1.3

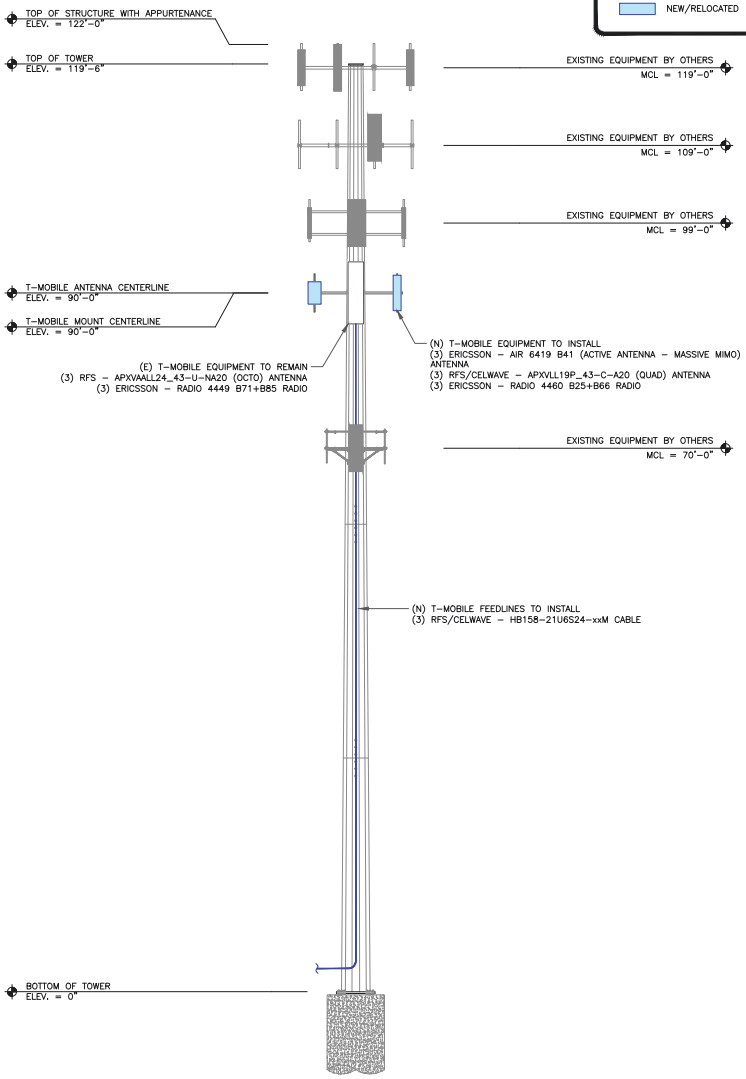
REVISION: 0

T-MOBILE_NATIONAL_ANCHOR



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

EQUIPMENT LEGEND:
- EXISTING
- TO BE RELOCATED/REMOVED
- NEW/RELOCATED



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

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

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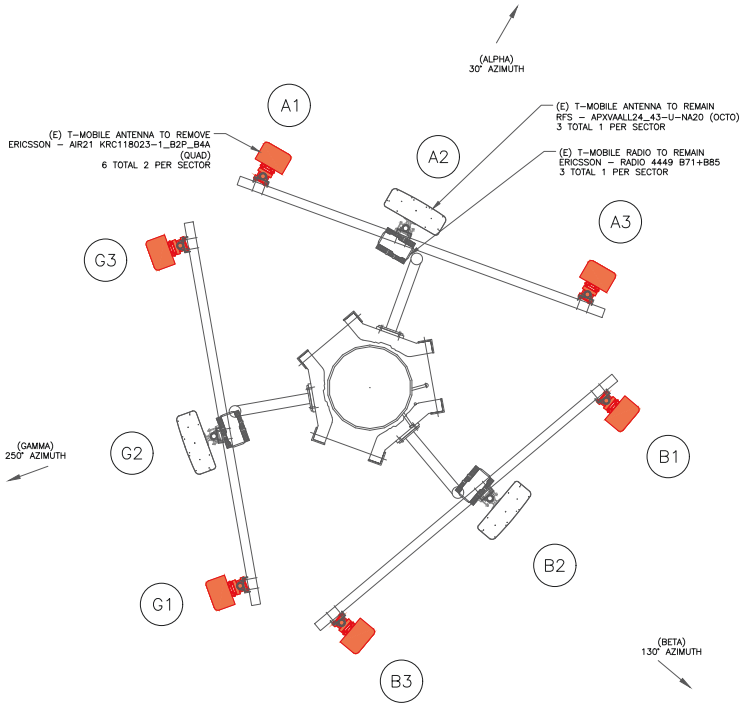
0	03/04/2024	JS	FINAL	JS

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: C-2

REVISION: 0

T-MOBILE_NATIONAL_ANCHOR



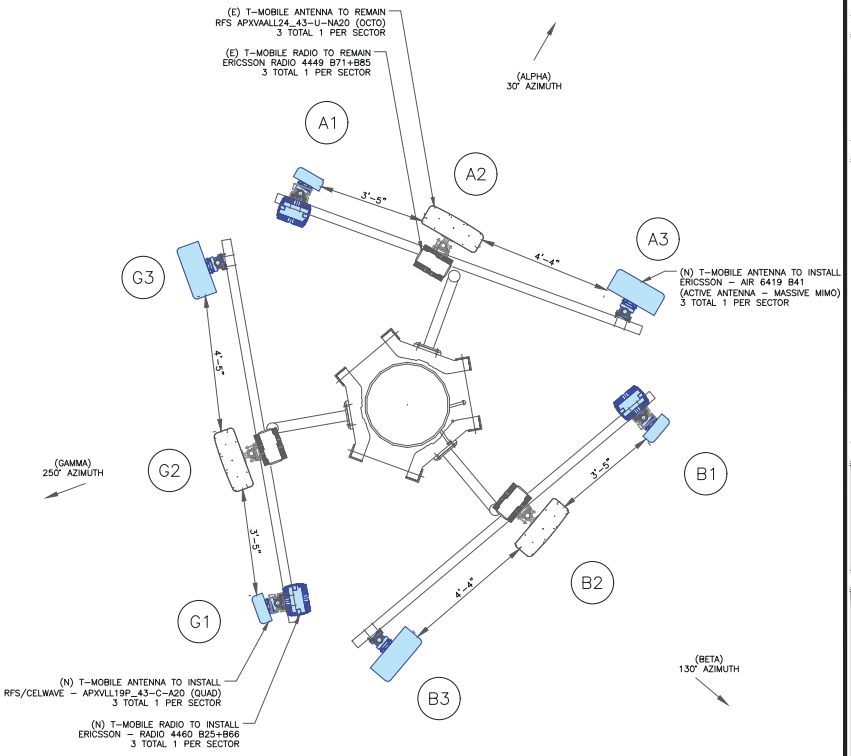
1 EXISTING ANTENNA PLAN

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

N

EQUIPMENT LEGEND:

- EXISTING
- TO BE RELOCATED/REMOVED
- NEW/RELOCATED



2 FINAL ANTENNA PLAN

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

N

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

ISSUED FOR:

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0	03/04/2024	JS	FINAL	JS

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER: C-3

REVISION: 0

T-MOBILE_NATIONAL_ANCHOR

FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

POSITION	ANTENNA				RADIO			DIPLEXER			TMA		SURGE PROTECTION		CABLES			
	TECH	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
ALPHA																		
A1	–	(N) RFS/CELWAVE – APXVLL19P_43–C–A20 (QUAD)	30°	90'–0"	1	(N) 4460 B25+B66	TOWER	–	–	–	–	–	–	–	1	(N) HYBRID	1–5/8"	140'–0"
A2	–	(E) RFS – APXVAALL24_43–U–NA20 (OCTO)	30°	90'–0"	1	(E) 4449 B71+B85	TOWER	–	–	–	–	–	–	–	–	–	–	–
A3	–	(N) ERICSSON – AIR6419 B41 (ACTIVE ANTENNA MASSIVE MIMO)	30°	90'–0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BETA																		
B1		(N) RFS/CELWAVE – APXVLL19P_43–C–A20 (QUAD)	130°	90'–0"	1	(N) 4460 B25+B66	TOWER	–	–	–	–	–	–	–	1	(N) HYBRID	1–5/8"	140'–0"
B2		(E) RFS – APXVAALL24_43–U–NA20 (OCTO)	130°	90'–0"	1	(E) 4449 B71+B85	TOWER	–	–	–	–	–	–	–	–	–	–	–
B3		(N) ERICSSON – AIR6419 B41 (ACTIVE ANTENNA MASSIVE MIMO)	130°	90'–0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–
GAMMA																		
G1		(N) RFS/CELWAVE – APXVLL19P_43–C–A20 (QUAD)	250°	90'–0"	1	(N) 4460 B25+B66	TOWER	–	–	–	–	–	–	–	1	(N) HYBRID	1–5/8"	140'–0"
G2		(E) RFS – APXVAALL24_43–U–NA20 (OCTO)	250°	90'–0"	1	(E) 4449 B71+B85	TOWER	–	–	–	–	–	–	–	–	–	–	–
G3		(N) ERICSSON – AIR6419 B41 (ACTIVE ANTENNA MASSIVE MIMO)	250°	90'–0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–
														UNUSED FEEDLINES	–	–	–	–
															–	–	–	–

1 FINAL EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

ISSUED FOR:

REV	DATE:	DRWN	DESCRIPTION	DES./QA
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0	03/04/2024	JS	FINAL	JS

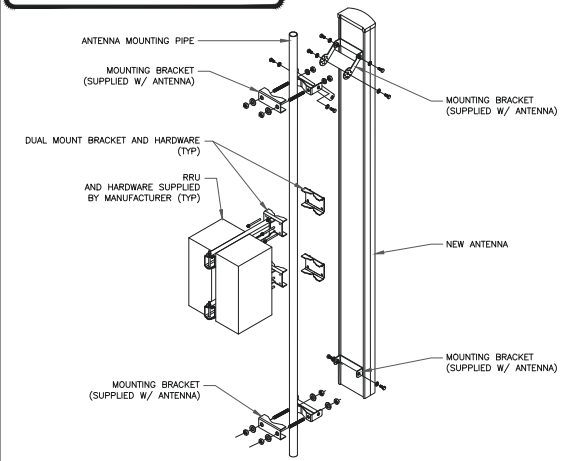
STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER: C-4

REVISION: 0

INSTALLER NOTES:

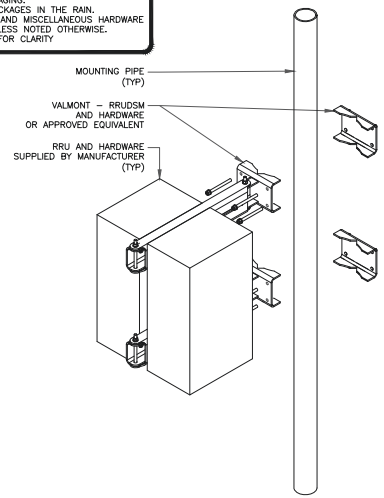
1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRUs RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRU PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



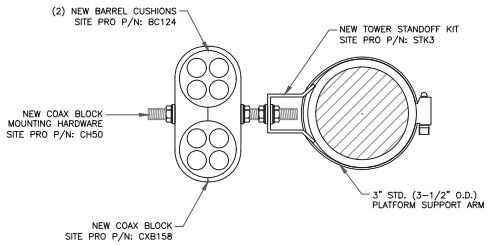
1 MOUNTING DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTES:

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



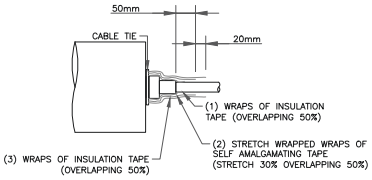
2 RRU MOUNTING DETAIL
SCALE: NOT TO SCALE



3 RF JUMPER DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTE:

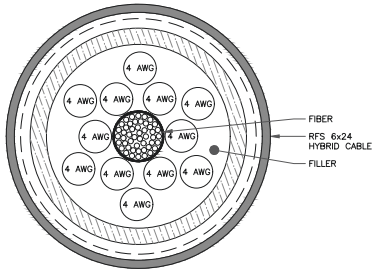
JUMPERS TO BE TORQUED TO 221.27 IN/LBS



4 RF JUMPER CONNECTION
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

PARAMETER	VALUE
NOMINAL DIAMETER (INCHES)	1.79
CROSS SECTION AREA (SQUARE INCHES)	3.13
JACKET COLOR	BLACK
WEIGHT PER LINEAR FOOT (POUNDS)	2.5



6 6x24 HYBRID TRUNK CROSS SECTION
SCALE: NOT TO SCALE

SKU#: N/A

T-Mobile

CROWN CASTLE

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12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

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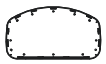
STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

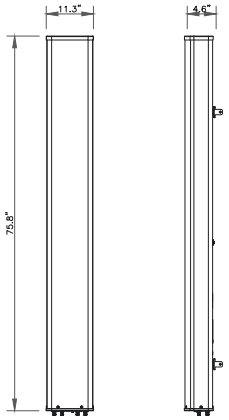
SHEET NUMBER: C-5.1

REVISION: 0

T-MOBILE_NATIONAL_ANCHOR

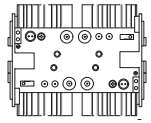
MANUFACTURER:	COMMSCOPE
MODEL:	APXVLL19P_43-C-A20 4-PORT ANTENNA
DIMENSIONS (HxWxD):	75.8"x11.3"x4.6"
WEIGHT:	40.9 LBS
BAND:	HIGH BAND
MOUNTING KIT:	APM40-2 (INCLUDED)

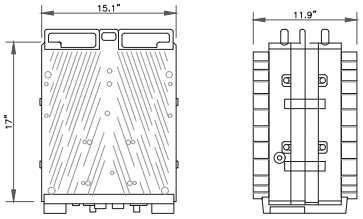




1 RFS/CELWAVE / APXVLL19P_43-C-A20 ANTENA
SCALE: NOT TO SCALE

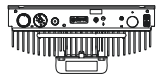
MANUFACTURER:	ERICSSON
MODEL:	4460 RADIO (KRC 161 912/3)
DIMENSIONS (HxWxD):	17"x15.1"x11.9"
WEIGHT:	109 LBS
BAND:	B2/B25 B66 DUAL BAND

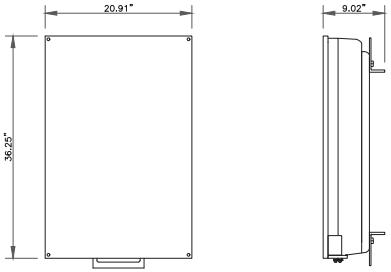




2 ERICCSON / 4460 RADIO
SCALE: NOT TO SCALE

MANUFACTURER:	ERICSSON
MODEL:	AIR 6419 B41 (2.5GHz M-MIMO)
DIMENSIONS (HxWxD):	36.25"x20.91"x9.02"
WEIGHT:	83 LBS
BAND:	B41
MOUNTING KIT:	SXK109 2016/1





3 ERICSSON / AIR 6419 B41
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

T-MOBILE_NATIONAL_ANCHOR

T-Mobile

CROWN CASTLE

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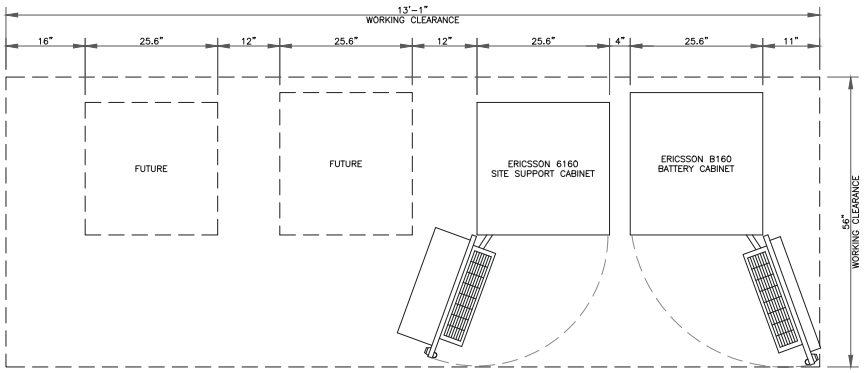
0	03/04/2024	JS	FINAL	JS

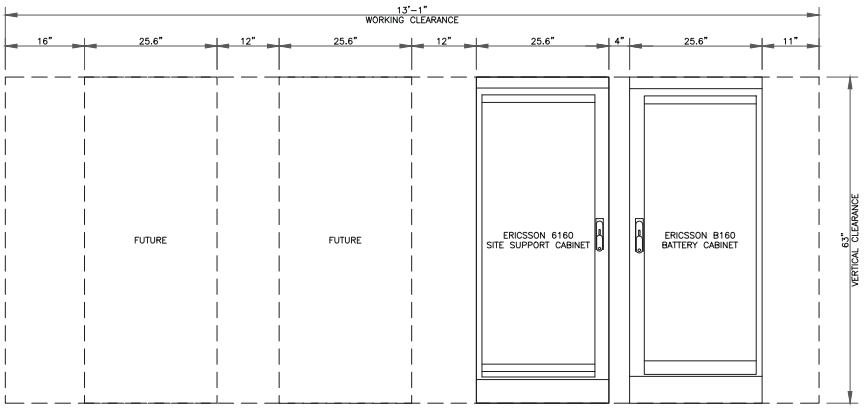
STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED
PROFESSIONAL ENGINEER

SHEET NUMBER: C-5.2

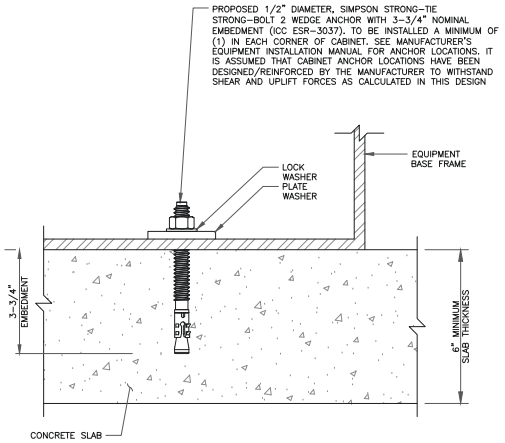
REVISION: 0



1 PLAN VIEW WORKING CLEARANCE 6160 & B160 LAYOUT
SCALE: NOT TO SCALE

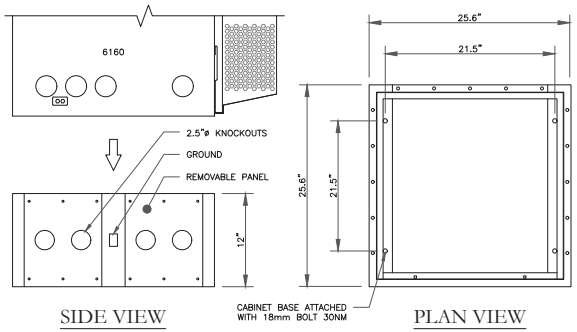


2 ELEVATION VIEW WORKING CLEARANCE 6160 & B160 LAYOUT
SCALE: NOT TO SCALE



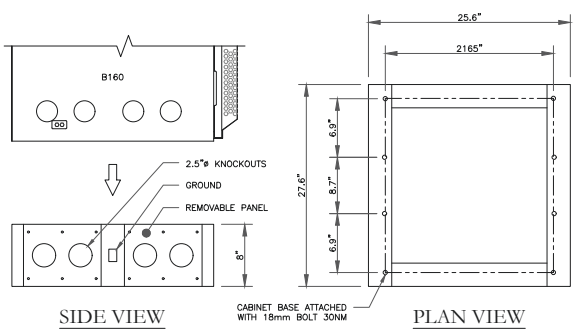
3 TYPICAL ANCHOR BOLT DETAIL
SCALE: NOT TO SCALE

MANUFACTURER:	ERICSSON
MODEL:	6160 12" BASE FRAME (SXK 125 5009/1)
DIMENSIONS (HxWxD):	12"x25.6"x25.6"
T-MOBILE SKU#	T.B.D.



4 ERICSSON 6160 PLINTH DETAIL
SCALE: NOT TO SCALE

MANUFACTURER:	ERICSSON
MODEL:	B160 BASE FRAME (SKU 125 5010/1)
DIMENSIONS (HxWxD):	8"x27.5"x25.6"
T-MOBILE SKU#	T.B.D.



5 ERICSSON B160 PLINTH DETAIL
SCALE: NOT TO SCALE

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/27/2023	SMS	PRELIMINARY	JS
B	10/03/2023	SMS	PRELIMINARY	JS
C	02/09/2024	JS	PRELIMINARY	JS
0	03/04/2024	JS	FINAL	JS

SHEET NUMBER: C-6.1
REVISION: 0

MANUFACTURER:	ERICSSON
MODEL:	(UT6160_ENCL_AC) V1 CABINET
DIMENSIONS (HxWxD):	63"x25.6"x33.6"
WEIGHT:	373 LBS
SKU #:	T.B.D.

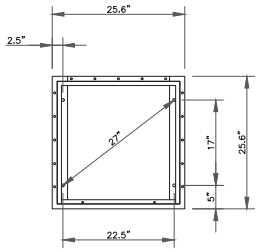
NOTE:

CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS

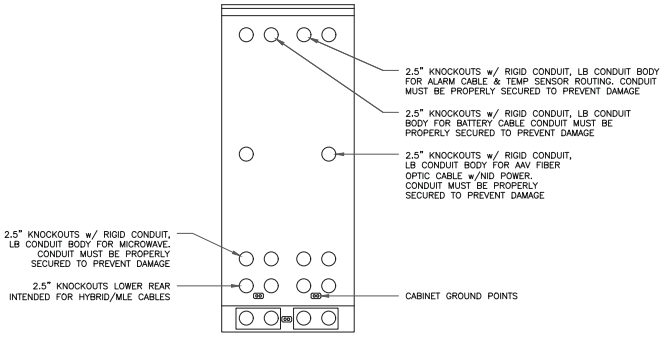
CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING

GROUNDING NOTE:

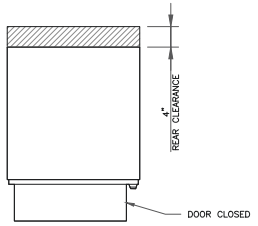
CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED.



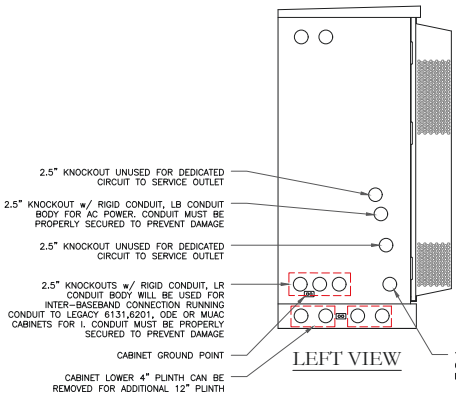
BOLT DOWN PATTERN



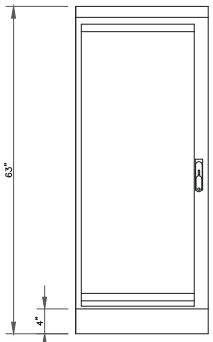
REAR VIEW



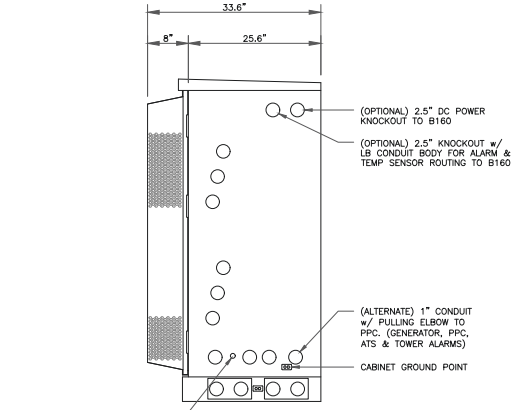
PLAN VIEW



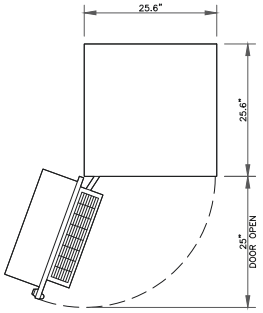
LEFT VIEW



FRONT VIEW



RIGHT VIEW



DOOR SWING

1 6160 ERICSSON SITE SUPPORT CABINET
SCALE: 1" 6" 0 1" 1"=1'-0" (FULL SIZE) 1/2"=1'-0" (11x17)

T-MOBILE_NATIONAL_ANCHOR

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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B	10/03/2023	SMS	PRELIMINARY	JS
C	02/09/2024	JS	PRELIMINARY	JS
0	03/04/2024	JS	FINAL	JS

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: C-6.2

REVISION: 0

MANUFACTURER:	ERICSSON
MODEL:	B160 BATTERY CABINET
DIMENSIONS (HxWxD):	63"x25.6"x29.5"
WEIGHT:	295 LBS
SKU #:	T.B.D.

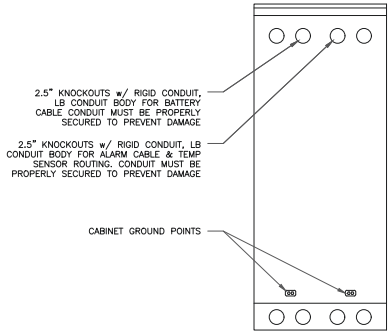
NOTE:

CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS

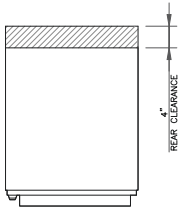
CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING

GROUNDING NOTE:

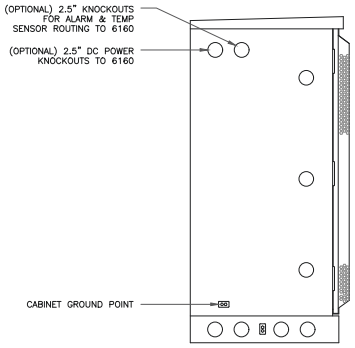
CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED.



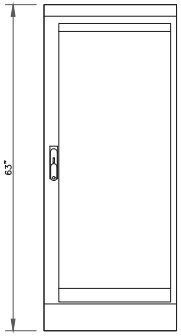
REAR VIEW



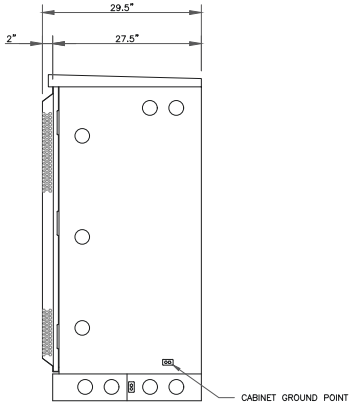
PLAN VIEW



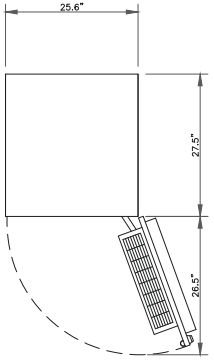
LEFT VIEW



FRONT VIEW



RIGHT VIEW



DOOR SWING

1 ERICSSON B160 BATTERY CABINET
SCALE: 1"=1'-0" (FULL SIZE) 1/2"=1'-0" (11x17)

T-MOBILE_NATIONAL_ANCHOR

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

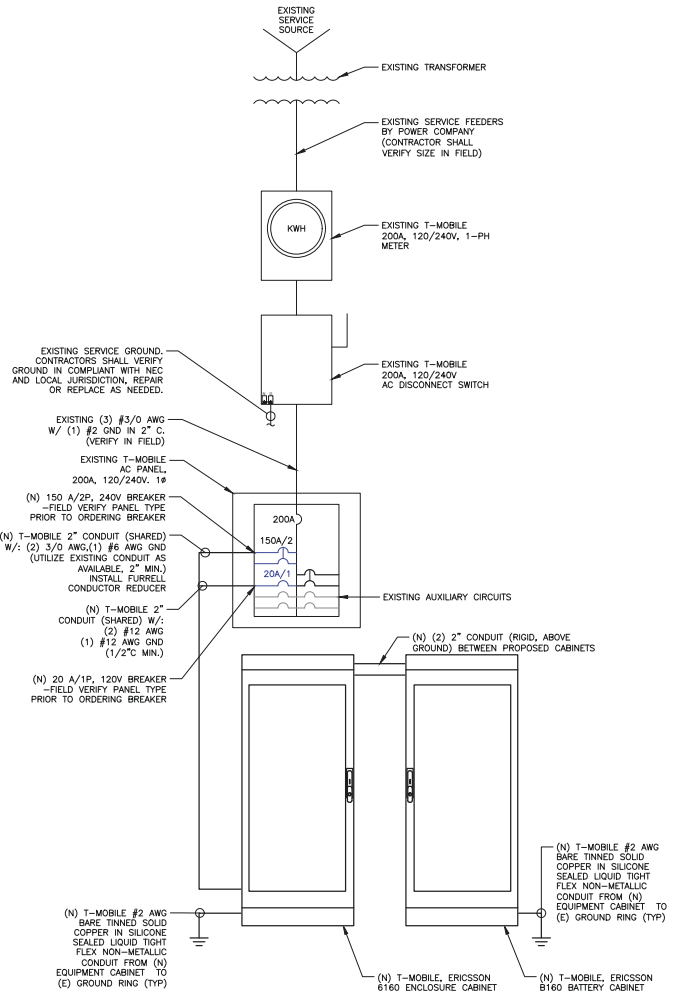
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/27/2023	SMS	PRELIMINARY	JS
B	10/03/2023	SMS	PRELIMINARY	JS
C	02/09/2024	JS	PRELIMINARY	JS
0	03/04/2024	JS	FINAL	JS

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: C-6.3

REVISION: 0



1 ONE-LINE DIAGRAM
SCALE: NOT TO SCALE

T-MOBILE SITE #:			LOCATION:				VOLTAGE:	240/120 1Ø			MOUNTING / ENCLOSURE:		EXISTING /	NEMA 3R	
CTHA509A (EXISTING)			H-FRAME				MAIN C/B:	200 AMPS			AVAIL. FAULT CURRENT:	EXISTING			
9/29/2023							BUS RATING:	200 AMPS			SHORT CIRCUIT RATING:	EXISTING			
AMPS/ POLES	WIRE & CONDUIT	TYPE	DESCRIPTION	KVA	CKT	A	B	CKT	KVA	DESCRIPTION	TYPE	WIRE & CONDUIT		AMPS/ POLES	
60/2	EXISTING	EQ	SURGE PROTECTION	0.10	1	2.91		2	2.81	BTS	EQ	EXISTING		100/2	
-	-	EQ	-	0.10	3		2.91	4	2.81	-	EQ	-		-	
			EMPTY		5	0.18		6	0.18	FIBER CAB	R	EXISTING		20/1	
			EMPTY		7		0.50	8	0.50	LED FLOOD	L	EXISTING		15/1	
			EMPTY		9			10		EMPTY					
			EMPTY		11			12		EMPTY					
			EMPTY		13			14		EMPTY					
			EMPTY		15			16		EMPTY					
			EMPTY		17			18		EMPTY					
			EMPTY		19			20		EMPTY					
			EMPTY		21			22		EMPTY					
			EMPTY		23			24		EMPTY					
				PHASE TOTAL		3.1	3.4	KVA							
										TOTAL CONNECTED LOAD		6.5	kVA	27 A	
										TOTAL DEMAND LOAD		6.6	kVA	28 A	

LOAD TYPE	DESCRIPTION	CONN. LOAD KVA	CONN. LOAD AMPS	DEMAND FACTOR	DESIGN LOAD KVA	DESIGN LOAD AMPS
L	LIGHTING	0.5	2.1	1.25	0.6	2.6
R	RECEPTACLE	0.2	0.8	NEC	0.2	0.8
M	MOTOR	0.0	0.0	NEC	0.0	0.0
H	HEATING	0.0	0.0	1.00	0.0	0.0
AC	HVAC	0.0	0.0	1.00	0.0	0.0
EQ	EQUIPMENT	5.8	24.3	1.00	5.8	24.3
E	EXISTING	0.0	0.0	1.25	0.0	0.0

* ALL EQUIPMENT LOADS CONSIDERED CONTINUOUS LOADS

NOTES:

DEPICTED LOAD BASED ON ASSUMPTIONS OF EQUIPMENT INSTALLED AND WAS NOT V.I.F. NOTIFY E.O.R. OF ANY DISCREPANCIES PRIOR TO INSTALLATION OF PROPOSED EQUIPMENT.

2 EXISTING PANEL SCHEDULE
SCALE: NOT TO SCALE

T-MOBILE SITE #:			LOCATION:				VOLTAGE:	240/120 1Ø			MOUNTING / ENCLOSURE:		EXISTING /	NEMA 3R	
CTHA509A (PROPOSED)			H-FRAME				MAIN C/B:	200 AMPS			AVAIL. FAULT CURRENT:	EXISTING			
9/29/2023							BUS RATING:	200 AMPS			SHORT CIRCUIT RATING:	EXISTING			
AMPS/ POLES	WIRE & CONDUIT	TYPE	DESCRIPTION	KVA	CKT	A	B	CKT	KVA	DESCRIPTION	TYPE	WIRE & CONDUIT		AMPS/ POLES	
60/2	EXISTING	EQ	SURGE PROTECTION	0.10	1	2.91		2	2.81	BTS	EQ	EXISTING		100/2	
-	-	EQ	-	0.10	3		2.91	4	2.81	-	EQ	-		-	
			EMPTY		5	0.18		6	0.18	FIBER CAB	R	EXISTING		20/1	
			EMPTY		7		0.50	8	0.50	LED FLOOD	L	EXISTING		15/1	
			EMPTY		9	2.61		10	**2.61**	**(N) 6160**	**EQ**	**2#3/0, 1#2G, 2"C**		**150/2**	
			EMPTY		11		2.61	12	**2.61**	-	**EQ**	-		-	
			EMPTY		13			14	**0.00**	-	**EQ**	-		-	
			EMPTY		15			16	**0.00**	-	**EQ**	-		-	
			EMPTY		17	0.18		18	**0.18**	**(N) 6160 GFCI**	**R**	**2#12, 1#12G, 1/2"C**		**20/1**	
			EMPTY		19			20		EMPTY					
			EMPTY		21			22		EMPTY					
			EMPTY		23			24		EMPTY					
				PHASE TOTAL		5.9	6.0	KVA							
										TOTAL CONNECTED LOAD		11.9	kVA	50 A	
										TOTAL DEMAND LOAD		12.0	kVA	50 A	

LOAD TYPE	DESCRIPTION	CONN. LOAD KVA	CONN. LOAD AMPS	DEMAND FACTOR	DESIGN LOAD KVA	DESIGN LOAD AMPS
L	LIGHTING	0.5	2.1	1.25	0.6	2.6
R	RECEPTACLE	0.4	1.5	NEC	0.4	1.5
M	MOTOR	0.0	0.0	NEC	0.0	0.0
H	HEATING	0.0	0.0	1.00	0.0	0.0
AC	HVAC	0.0	0.0	1.00	0.0	0.0
EQ	EQUIPMENT	11.0	46.0	1.00	11.0	46.0
E	EXISTING	0.0	0.0	1.25	0.0	0.0

* ALL EQUIPMENT LOADS CONSIDERED CONTINUOUS LOADS

NOTES:

DEPICTED LOAD BASED ON ASSUMPTIONS OF EQUIPMENT INSTALLED AND WAS NOT V.I.F. NOTIFY E.O.R. OF ANY DISCREPANCIES PRIOR TO INSTALLATION OF PROPOSED EQUIPMENT.

3 FINAL PANEL SCHEDULE
SCALE: NOT TO SCALE

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/27/2023	SMS	PRELIMINARY	JS
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C	02/09/2024	JS	PRELIMINARY	JS
0	03/04/2024	JS	FINAL	JS

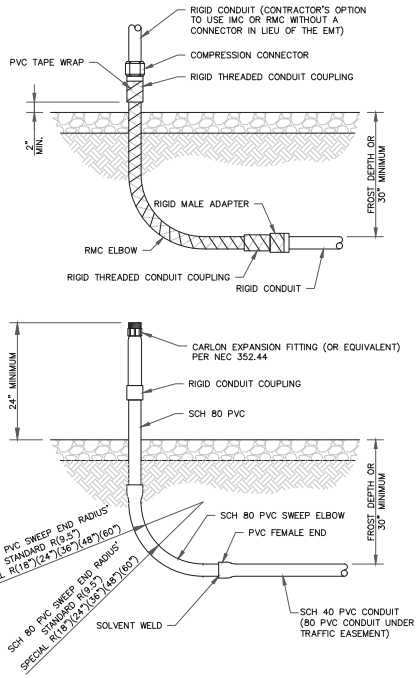
STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: E-1

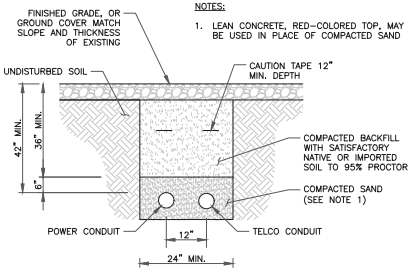
REVISION: 0

INSTALLER NOTES:

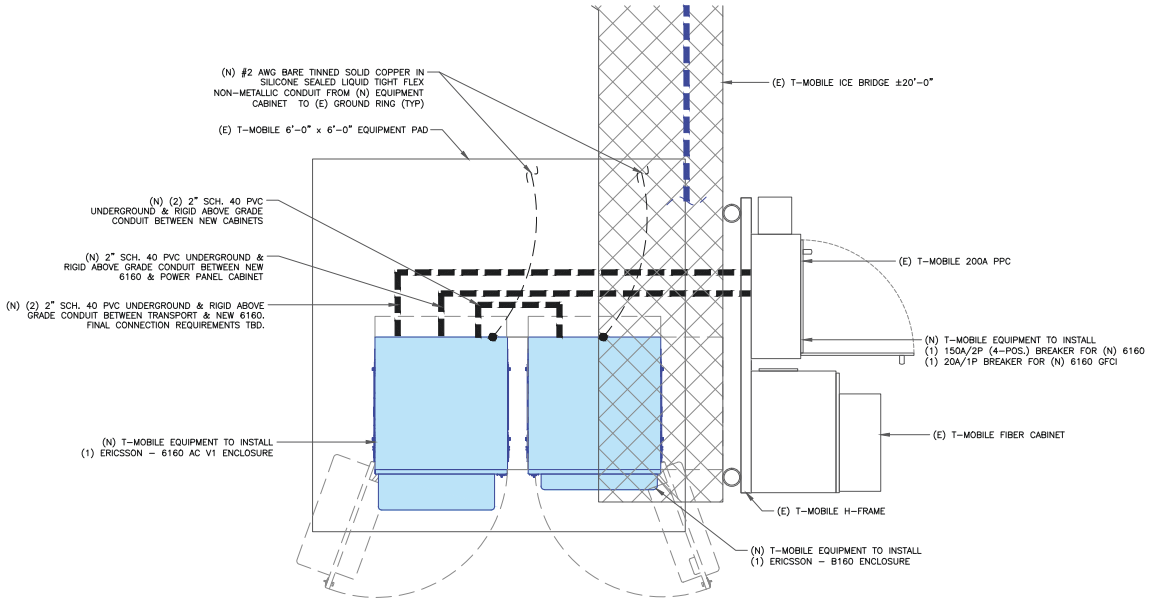
ALL METAL CONDUIT INSTALLED IN DIRECT CONTACT WITH THE EARTH SHALL BE CONSIDERED TO BE INSTALLED IN A SEVERELY CORROSIVE ENVIRONMENT AND IS REQUIRED TO HAVE SUPPLEMENTAL PROTECTION AGAINST CORROSION (NEC ARTICLE 342.10(B) & 344.10(B)(1)). THIS PROTECTION SHALL EITHER BE AN APPROVED MANUFACTURER INSTALLED PROTECTIVE COATING ON THE CONDUIT OR SHALL BE (2) LAYERS OF 10 MIL PVC PIPE WRAP TAPE INSTALLED USING OPPOSING SPIRAL WRAPS. ON VERTICAL PIPE THE OUTSIDE LAYER OF TAPE SHALL BE WRAPPED SO AS TO PROVIDE SHEDDING OF WATER (i.e. TAPE SHOULD WRAP IN AN UPWARD DIRECTION WITH LOWER WRAP BEING BENEATH THE WRAP ABOVE). SPIRAL WRAPS SHALL HAVE A MINIMUM OF 1/4" OVERLAP WITH THE PRECEDING TAPE WRAP. ANY OTHER METHODS OF CORROSION PROTECTION SHALL REQUIRE APPROVAL BY THE ENGINEER OF RECORD PRIOR TO BEING USED.



1 CONDUIT STUB UP DETAILS
SCALE: NOT TO SCALE



2 TRENCH DETAIL
SCALE: NOT TO SCALE



1 COMPOUND PLAN
SCALE: 1' 6" 0 1' 1"=1'-0" (FULL SIZE) 1/2"=1'-0" (11x17)

N

T-MOBILE_NATIONAL_ANCHOR

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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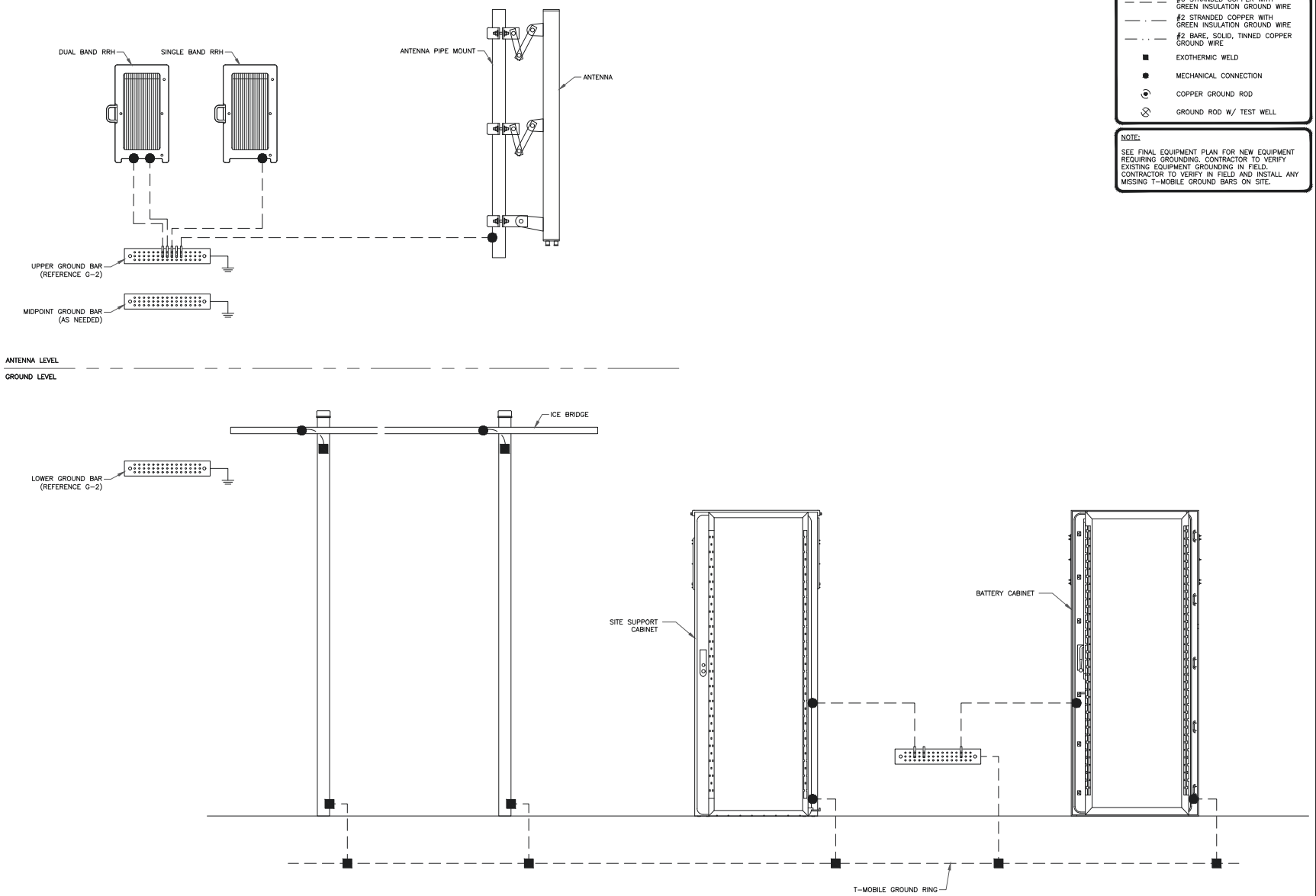
B	10/03/2023	SMS	PRELIMINARY	JS
C	02/09/2024	JS	PRELIMINARY	JS
0	03/04/2024	JS	FINAL	JS

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: E-2

REVISION: 0



1 TYPICAL FINAL GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

GROUNDING PLAN LEGEND:

- #6 STRANDED COPPER WITH GREEN INSULATION GROUND WIRE
- #2 STRANDED COPPER WITH GREEN INSULATION GROUND WIRE
- #2 BARE, SOLID, TINNED COPPER GROUND WIRE
- EXOTHERMIC WELD
- MECHANICAL CONNECTION
- COPPER GROUND ROD
- GROUND ROD W/ TEST WELL

NOTE:

SEE FINAL EQUIPMENT PLAN FOR NEW EQUIPMENT REQUIRING GROUNDING. CONTRACTOR TO VERIFY EXISTING EQUIPMENT GROUNDING IN FIELD. CONTRACTOR TO VERIFY IN FIELD AND INSTALL ANY MISSING T-MOBILE GROUND BARS ON SITE.

T-Mobile

CROWN CASTLE

P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
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EXISTING 119'-6"
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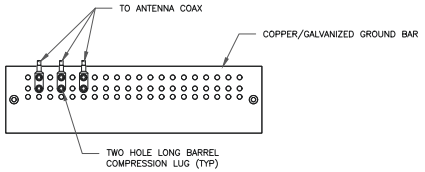
B	10/03/2023	SMS	PRELIMINARY	JS
C	02/09/2024	JS	PRELIMINARY	JS
0	03/04/2024	JS	FINAL	JS

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED
PROFESSIONAL ENGINEER

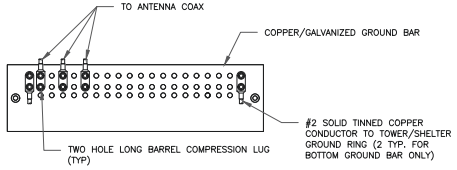
SHEET NUMBER: G-1
REVISION: 0



NOTES:

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

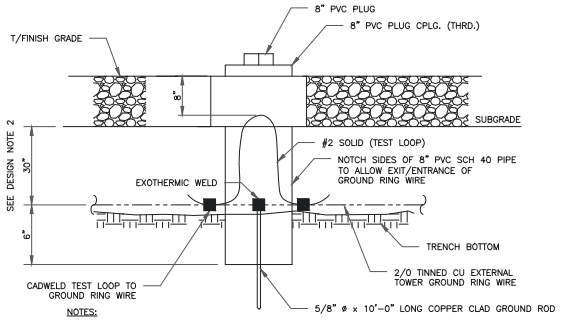
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

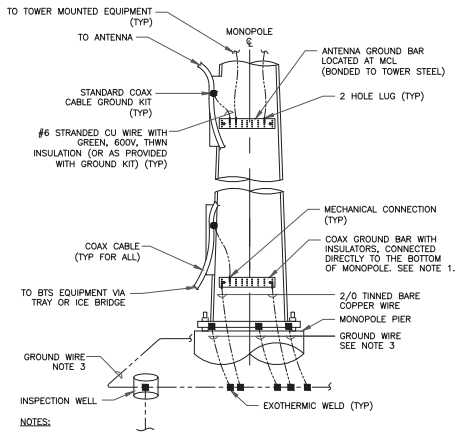
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

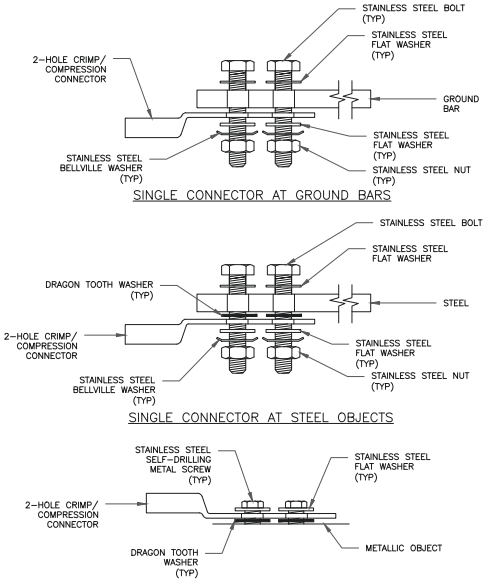
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



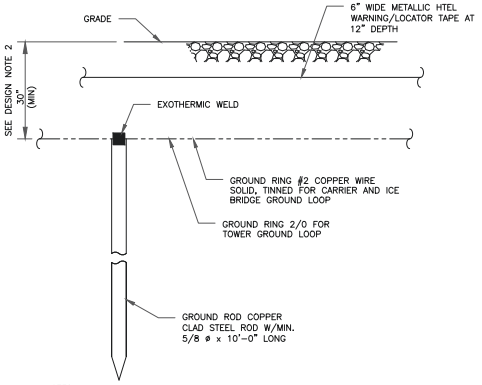
NOTES:

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

4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

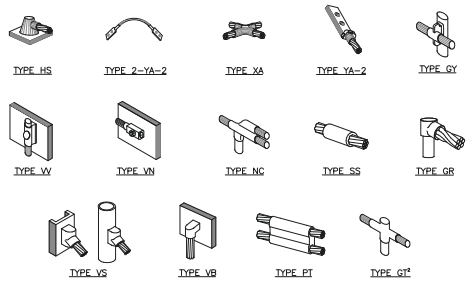
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/27/2023	SMS	PRELIMINARY	JS
B	10/03/2023	SMS	PRELIMINARY	JS
C	02/09/2024	JS	PRELIMINARY	JS
0	03/04/2024	JS	FINAL	JS

STATE OF CONNECTICUT
DEREK J. CREAGER
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: G-2
REVISION: 0

T-MOBILE_NATIONAL_ANCHOR

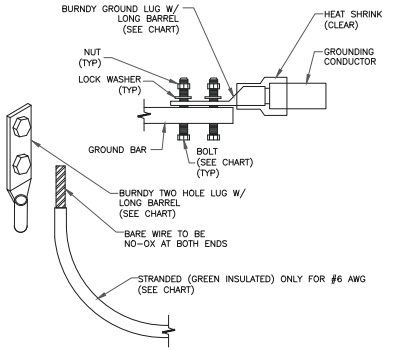


NOTE:

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

1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE

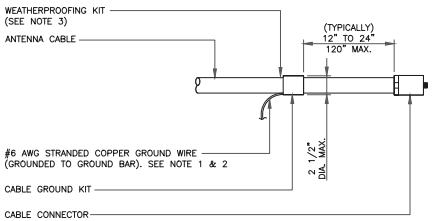
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



NOTES:

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

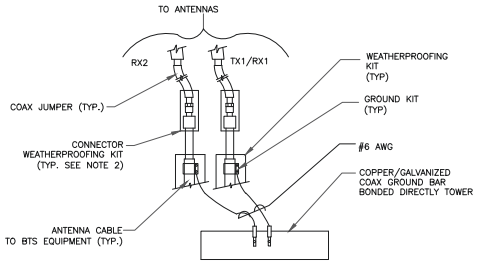
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



NOTES:

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

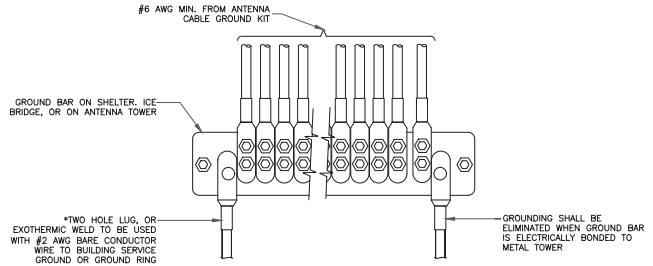
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



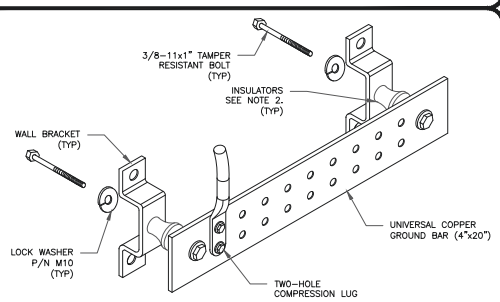
NOTES:

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

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



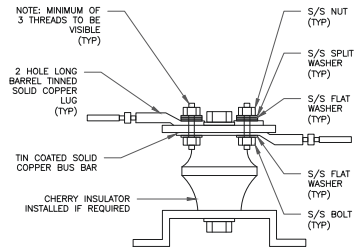
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



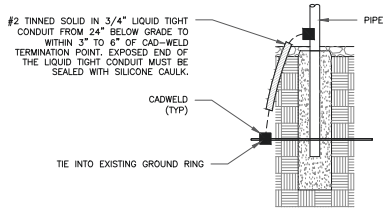
NOTES:

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

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

T-Mobile

CROWN CASTLE

PM&A
P. MARSHALL & ASSOCIATES
3545 WHITEHALL PARK DRIVE, SUITE 450
CHARLOTTE, NORTH CAROLINA 28273

T-MOBILE SITE NUMBER:
CTHA509A

BU #: **845993**
CROWN CASTLE SITE NAME:
BURLINGTON-NEPAUG

12 NEPAUG ROAD
BURLINGTON, CT 06013

EXISTING 119'-6"
MONOPOLE TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	09/27/2023	SMS	PRELIMINARY	JS
B	10/03/2023	SMS	PRELIMINARY	JS
C	02/09/2024	JS	PRELIMINARY	JS
0	03/04/2024	JS	FINAL	JS

STATE OF CONNECTICUT
DEREK J. CREASER
LICENSED PROFESSIONAL ENGINEER

SHEET NUMBER: G-3
REVISION: 0

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTHA509A_Anchor_8

Print Name: Standard
PORs: Anchor_Phase 3

Section 1 - Site Information

Site ID: CTHA509A
Status: Final
Version: 8
Project Type: Anchor
Approved: 11/16/2023 10:45:20 AM
Approved By: SHERAZ.SOOFI1@T-MOBILE.COM
Last Modified: 11/16/2023 10:53:02 AM
Last Modified By: SHERAZ.SOOFI1@T-MOBILE.COM

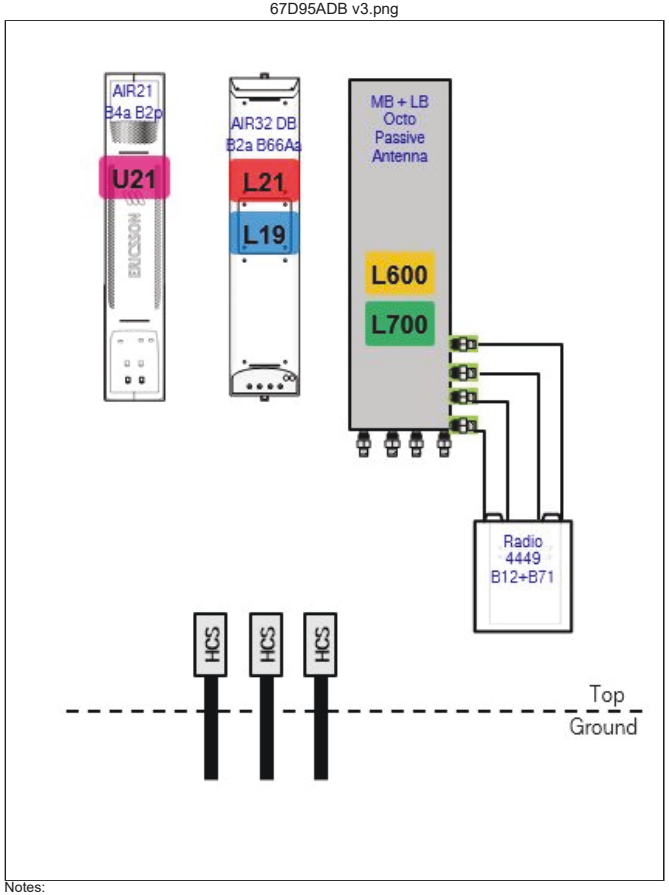
Site Name: AT&T Burlington Monopole
Site Class: Monopole
Site Type: Structure Non Building
Plan Year: 2023
Market: CONNECTICUT CT
Vendor: Ericsson
Landlord: Crown Castle ATT

Latitude: 41.7825
Longitude: -72.9896
Address: 12 Nepaug Road
City, State: Burlington, CT
Region: NORTHEAST

RAN Template: 67D5D998E 6160			**AL Template:** 67D5998E_1xAIR+1OP+1QP	
Sector Count: 3	**Antenna Count:** 9	**Coax Line Count:** 0	**TMA Count:** 0	**RRU Count:** 6

Section 2 - Existing Template Images

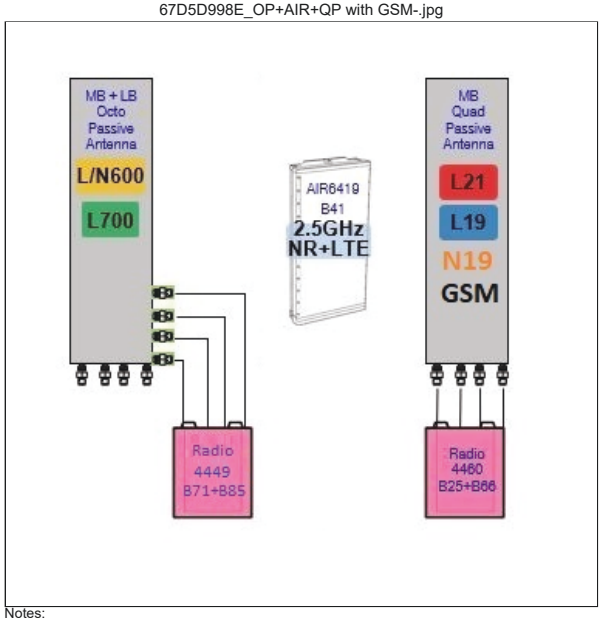
67D95ADB v3.png



Notes:

Section 3 - Proposed Template Images

67D5D998E_OP+AIR+QP with GSM-.jpg



Notes:

Section 4 - Siteplan Images

----- This section is intentionally blank. -----

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTHA509A_Anchor_8

Print Name: Standard
PORs: Anchor_Phase 3

Section 5 - RAN Equipment

Existing RAN Equipment

Template: 67D05A

Enclosure	1	2
Enclosure Type	RBS 6201 ODE	Battery Cabinet
Baseband	BB 6630 (L2100); BB 6648 (N600, L600, L700); DUW30 (U2100 (DECOMMISSIONED))	
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG*; Ericsson 9x18 HCS *Select Length*	

Proposed RAN Equipment

Template: 67D5D998E 6160

Enclosure	1	2
Enclosure Type	Enclosure 6160 AC V1	B160
Baseband	BB 6630 (N1900, L1900, L2100); BB 6648 (N600, L600, L700); RP 6651 (N2500)	
Transport System	CSR IXRe V2 (Gen2)	
Hybrid Cable System	Hybrid Trunk 6/24 4AWG 40m **(x 3)**	

RAN Scope of Work:

Remove all unused equipment's from RAN section.
Remove existing 6102 and Battery Cabinet and Add (1) 6160 and (1) B160 cabinets.
Add (1) RP6651 for NR2500
Add (1) IXRe router to 6160.
Add (3) Hybrid Trunk 6/24 4AWG 40m same confirmed
6102 existing Cabinet.
Cabinet consolidation Due to space constrain.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTHA509A_Anchor_8

Print Name: Standard
PORs: Anchor_Phase 3

Section 6 - A&L Equipment

Existing Template: 67D05A_2xAIR+1OP
Proposed Template: 67D5998E_1xAIR+1OP+1QP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)				Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)	
Azimuth	30		30				30	
M. Tilt								
Height (ft)	90		90				90	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech			L600 N600 L700	L600 N600 L700				L2100
Dark Tech								
Restricted Tech								
Decomm. Tech		U2100						
E. Tilt	2	2	2				2	
Cables			Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2)				Fiber Jumper
TMAs								
Diplexer / Combiners								
Radio			Radio 4449 B71+B 85 (At Antenna)	--- Radio 4449 B71+B 85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Cable: Fiber Jumper

Scope of Work:

Replace LB Dual in Position 2 with (1) LB/MB Octo.
Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.
Replace AIR21 for L2100 in Position 3 with (1) AIR32 DB for L1900 and L2100.

*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTHA509A_Anchor_8

Print Name: Standard
PORs: Anchor_Phase 3

Sector 1 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	RFS_APXVLL19P_43-C-A20 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Azimuth	30		30				30	
M. Tilt								
Height (ft)	90		90				90	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech	L2100 L1900 N1900	L2100 L1900 N1900	L700 N600 L600	L700 N600 L600			N2500	N2500
Dark Tech								
Restricted Tech								
Decomm. Tech								
E. Tilt								
Cables	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2)			Fiber Jumper (x4)	Fiber Jumper (x4)
TMAs								
Diplexer / Combiners								
Radio	Radio 4460 B25+B66 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

11/16/2023- swapped the VV-65A-R1 for a APXVLL19P_43-C-A2.
Replace AIR21 KRC118023-1_B2P_B4A with VV-65A-R1 at P1.
Replace AIR21 KRC118023-1_B2P_B4A with AIR6419 at P3.
Add (1) 4460 Radio and connect it to quad antenna at P1.
Remove all unused material.

*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTHA509A_Anchor_8

Print Name: Standard
PORs: Anchor_Phase 3

Sector 2 (Existing) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)				Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)	
Azimuth	130		130				130	
M. Tilt								
Height (ft)	90		90				90	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech			L600 N600 L700	L600 N600 L700				L2100
Dark Tech								
Restricted Tech								
Decomm. Tech		U2100						
E. Tilt	2	2	2	2			2	2
Cables			Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)**				Fiber Jumper
TMAs								
Diplexer / Combiners								
Radio			Radio 4449 B71+B 85 (At Antenna)	--- Radio 4449 B71+B 85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Cable: Fiber Jumper

Scope of Work:

Replace LB Dual in Position 2 with (1) LB/MB Octo.
Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.
Replace AIR21 for L2100 in Position 3 with (1) AIR32 DB for L1900 and L2100.

*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTHA509A_Anchor_8

Print Name: Standard
PORs: Anchor_Phase 3

Sector 2 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	RFS_APXVLL19P_43-C-A20 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Azimuth	130		130				130	
M. Tilt								
Height (ft)	90		90				90	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech	N1900 L1900 L2100	N1900 L1900 L2100	N600 L700 L600	N600 L700 L600			N2500	N2500
Dark Tech								
Restricted Tech								
Decomm. Tech								
E. Tilt								
Cables	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2)			Fiber Jumper (x4)	Fiber Jumper (x4)
TMAs								
Diplexer / Combiners								
Radio	Radio 4460 B25+B66 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

11/16/2023- swapped the VV-65A-R1 for a APXVLL19P_43-C-A2.
Replace AIR21 KRC118023-1_B2P_B4A with VV-65A-R1 at P1.
Replace AIR21 KRC118023-1_B2P_B4A with AIR6419 at P3.
Add (1) 4460 Radio and connect it to quad antenna at P1.
Remove all unused material.

*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTHA509A_Anchor_8

Print Name: Standard
PORs: Anchor_Phase 3

Sector 3 (Existing) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)				Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)	
Azimuth	250		250				250	
M. Tilt								
Height (ft)	90		90				90	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech			L600 N600 L700	L600 N600 L700				L2100
Dark Tech								
Restricted Tech								
Decomm. Tech		U2100						
E. Tilt	2	2	2	2			2	2
Cables			Coax Jumper **(x2)** Fiber Jumper	Coax Jumper **(x2)**				Fiber Jumper
TMAs								
Diplexer / Combiners								
Radio			Radio 4449 B71+B85 (At Antenna)	— Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Cable: Fiber Jumper

Scope of Work:

Replace LB Dual in Position 2 with (1) LB/MB Octo.
Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.
Replace AIR21 for L2100 in Position 3 with (1) AIR32 DB for L1900 and L2100.

*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.

RAN Template:	A&L Template:
67D5D998E 6160	67D5998E_1xAIR+1OP+1QP

CTHA509A_Anchor_8

Print Name: Standard
PORs: Anchor_Phase 3

Sector 3 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	RFS_APXVLL19P_43-C-A20 (Quad)		RFS - APXVAALL24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Azimuth	250		250				250	
M. Tilt								
Height (ft)	90		90				90	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech	L1900 L2100 N1900	L1900 L2100 N1900	L700 L600 N600	L700 L600 N600			N2500	N2500
Dark Tech								
Restricted Tech								
Decomm. Tech								
E. Tilt								
Cables	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2)			Fiber Jumper (x4)	Fiber Jumper (x4)
TMAs								
Diplexer / Combiners								
Radio	Radio 4460 B25+B66 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

11/16/2023- swapped the VV-65A-R1 for a APXVLL19P_43-C-A2.
Replace AIR21 KRC118023-1_B2P_B4A with VV-65A-R1 at P1.
Replace AIR21 KRC118023-1_B2P_B4A with AIR6419 at P3.
Add (1) 4460 Radio and connect it to quad antenna at P1.
Remove all unused material.

*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.