



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

April 24, 2024

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

RE: **Notice of Exempt Modification for T-Mobile: CT11393B**
Crown Site ID# 876381
2365 Long Hill Road, Guilford, CT 006437
Latitude: 41° 20' 47.34" / Longitude: -72° 43' 23.15"

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 155-foot mount on the existing 176-foot monopole tower located at 2365 Long Hill Road, Guilford, CT. The property is owned by James & Janice Ward Family Trust and the tower is owned by Crown Castle. T-Mobile now intends to replace six (6) antennas and ancillary equipment at the 155ft 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 B41 Antennas
- (3) RFS/Cellwave – APXVLL19P_43-C-A20 Antennas
- (3) Ericsson – 4460 B25+B66 Radios
- (3) 6/24 AWG Hybrid Cables

Remove:

- (3) Ericsson Air 21 KRC118023-1_B2A_B4P (QUAD) Antennas
- (3) Ericsson – Air 21 B4A/B12P (QUAD) Antennas.
- (3) Generic - Twin Style 1B AWS TMAs
- (9) 1-5/8 Coax Cables
- (3) 6x12 HCS
- (1) 9x8 HCS

Ground:

Install New:

- (1) 6160_V2 AC Enclosure
- (1) RBS 6601 Enclosure
- (1*) B160 Enclosure

The Foundation for a Wireless World.
CrownCastle.com

- (1) RP 6651
- (1) CSR IXRE V2
- (1) NEMA 3R Slack Box

Remove:

- (1.) RBS 6131 Enclosure
- (1.) S12000 Outdoor Enclosure
- (6.) RU22 Radios
- (1) DUW30

The facility was approved by the Connecticut Siting Council in Docket No. 238 on May 6, 2003.

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 Matthew Hoey – First Selectman, Town of Guilford, Anne Hartjen, Town Planner, Town of Guilford, James & Janice Ward Family Trust, Property Owner. Crown Castle is the tower owner.

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

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

Sincerely,

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

Melanie A. Bachman

Page 3

Sincerely,



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

Attachments

cc:

Matthew Hoey – First Selectman
Town of Guilford
31 Park Street
Guilford, CT 06437
(203) 453-6663

Anne Hartjen, Town Planner
Town of Guilford
31 Park Street
Guilford, CT 06437
(203) 453-8039

James & Janice Ward Family Trust, Property Owner
2365 Long Hill Road
Guilford, CT 06437

Crown Castle - Tower Owner

Connecticut Siting Council [\(/CSC\)](#)

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[Pending Matters \(/CSC/1_Applications-and-Other-Pending-Matters/Pending-Matters\)](#) >

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DOCKET NO. 238 - Sprint Spectrum, L.P. d/b/a Sprint PCS } Connecticut
application for a Certificate of Environmental Compatibility and } Siting
Public Need for the construction, maintenance and operation of a } Council
wireless telecommunications facility located at 2381 Long Hill Road, }
Guilford, Connecticut. }
} May 6, 2003

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a wireless 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 application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Sprint Spectrum L. P. (Sprint) for the construction, maintenance and operation of a wireless telecommunications facility at 2381 Long Hill Road, Guilford, Connecticut with the tower relocated

approximately 430 feet to the northwest to keep the tower radius within the property boundaries. The Council will not approve the proposed locations of the tower or access road as proposed in the application.

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 as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint and other entities, both public and private, but such tower shall not exceed a height of 180 feet above ground level including all appurtenances.
2. The access road shall avoid Wetland 7 and minimize impacts to other wetlands.
3. The Certificate Holder shall prepare a 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 final site plan(s) for site development to include the location of the tower and the access road and specifications for the tower foundation, placement of carrier antennas, tower height, equipment buildings, security fence, access road, and utility line; construction plans for site clearing, tree trimming, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; landscaping and provisions to protect the existing vegetative buffer that would extend around the facility compound; a tower finish that may include painting; and provisions for the prevention and containment of spills and/or other discharge into surface water and groundwater bodies.
4. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power densities 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 provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
5. 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.
6. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

7. If the facility does not initially provide, or permanently ceases to provide wireless services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or 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 antenna becomes obsolete and ceases 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, The New Haven Register, The Guilford Courier, and the Shore Line Times.

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

Sprint Spectrum, L.P.
d/b/a Sprint PCS

Its Representative

Thomas J. Regan, Esquire
Brown Rudnick Berlack Israels LLP
CityPlace I, 38th Floor
185 Asylum Street
Hartford, CT 06103-3402

Intervenor

AT&T Wireless PCS, LLC
d/b/a AT&T Wireless

Its Representative

Daniel F. Leary, Esq.
Cuddy & Feder & Worby
90 Maple Avenue
White Plains, NY 10601



Town of Guilford, CT

Property Listing Report

Map Block Lot **101023B**

Building # **1**

Unique Identifier

9786

Property Information

Property Location	2365 LONG HILL RD
Mailing Address	2365 LONG HILL RD GUILFORD CT 06437
Land Use	Residential
Zoning Code	
Neighborhood	N050

Owner	WARD JAMES J FAMILY & JANICE M FAMILY
Co-Owner	TRUSTS
Book / Page	0689/933+
Land Class	Residential
Census Tract	1903
Acreage	12.96

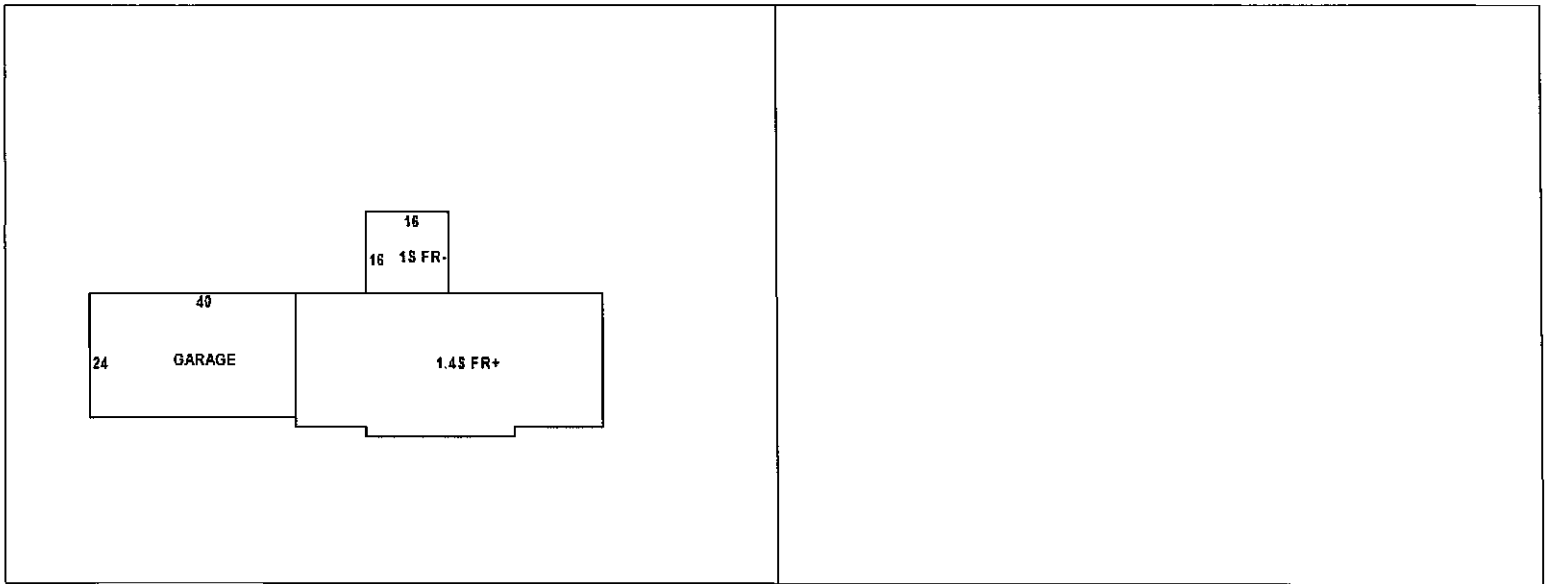
Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	318100	222670
Outbuildings	23000	16100
Land	1215100	741230
Total	1556200	980000

Utility Information

Electric	
Gas	
Sewer	
Public Water	
Well	



Primary Construction Details

Year Built	2004
Building Desc.	RESIDENTIAL
Building Style	
Stories	1.4
Exterior Walls	VINYL
Exterior Walls 2	NA
Interior Walls	DRYWALL
Interior Walls 2	OTHER
Interior Floors 1	OTHER
Interior Floors 2	NA

Heating Fuel	OIL
Heating Type	HWBB
AC Type	CENTRAL
Bedrooms	1
Full Bathrooms	2
Half Bathrooms	0
Extra Fixtures	
Total Rooms	5
Bath Style	
Kitchen Style	NA
Occupancy	

Building Use	SINGLE FAMILY
Building Condition	GOOD
Frame Type	
Fireplaces	
Bsmt Gar	
Fin Bsmt Area	
Fin Bsmt Quality	
Building Grade	
Roof Style	GABLE
Roof Cover	ARCH SHINGLES

Report Created On

4/24/2024

Town of Guilford, CT

Property Listing Report

Map Block Lot 101023B

Building # 1

Unique Identifier

9786

Detached Outbuildings

Type	Description	Area (sq ft)	Condition	Year Built
GARAGE	GARAGE	960	GOOD	2004
SHED	SHED	264	AVERAGE	2004
BARN	BARN	1152	AVERAGE	2004

Attached Extra Features

Type	Description	Area (sq ft)	Condition	Year Built

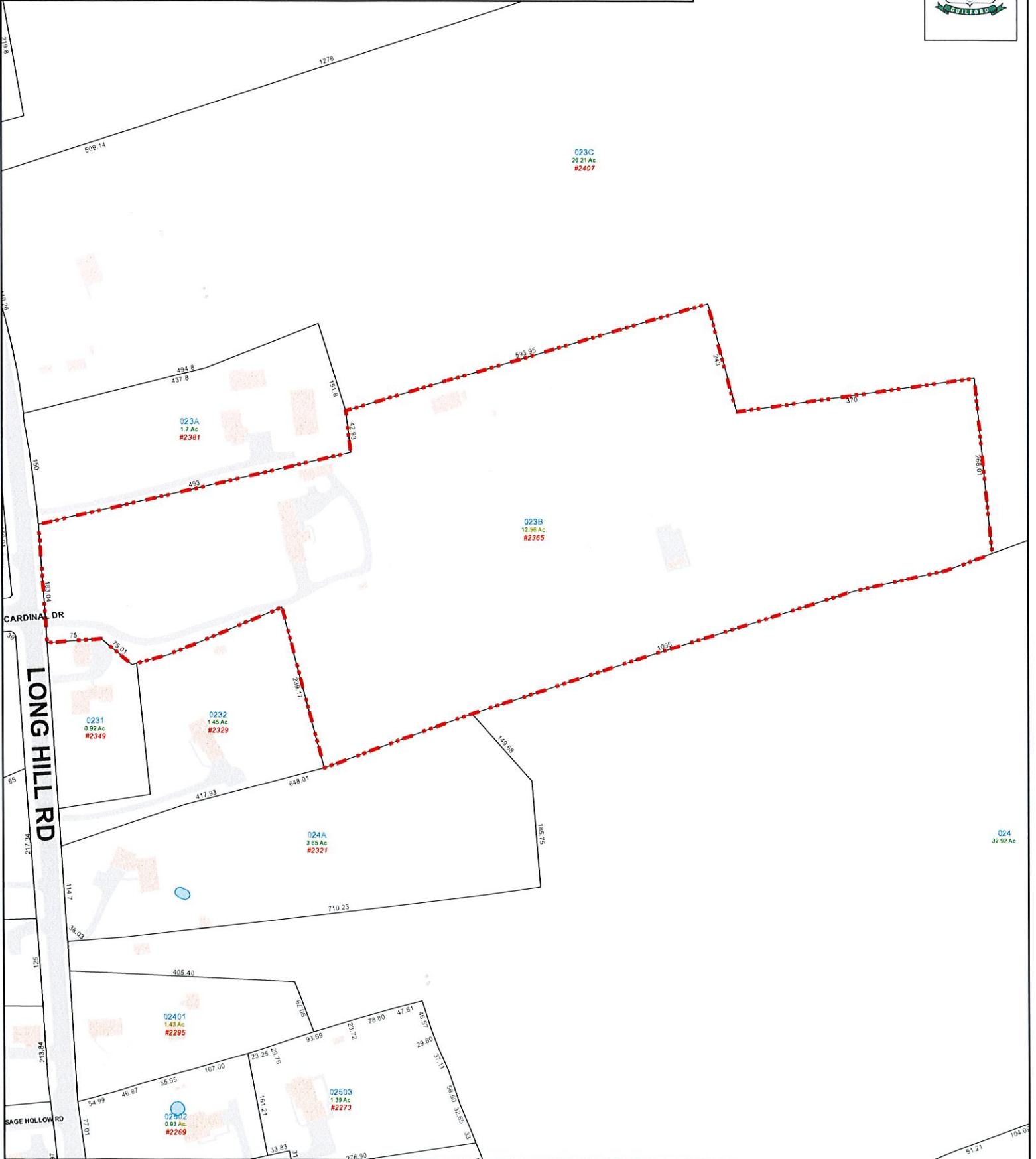
Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
WARD JAMES J FAMILY & JANICE M FAMILY	0689_933+	3/17/2005	0
WARD JAMES J & JANICE M	0643_1009	9/19/2003	0

Town of Guilford, Connecticut - Assessment Parcel Map

Unique ID: 9786

Address: 2365 LONG HILL RD



Approximate Scale: 1 inch = 200 feet



Map Produced:
August 2023

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

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, April 25, 2024 10:50 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776091929399: Your package has been delivered

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.



Hi. Your package was
delivered Thu, 04/25/2024 at
10:42am.



Delivered to 31 PARK ST, GUILFORD, CT 06437
Received by K.QUERCIA

[OBTAIN PROOF OF DELIVERY](#)

How was your delivery ?



TRACKING NUMBER	776091929399
FROM	Crown Castle 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Guilford Matthew Hoey, First Selectman 31 Park Street GUILFORD, CT, US, 06437
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 4/24/2024 05:48 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	GUILFORD, CT, US, 06437
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
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To: Barbadora, Jeff
Subject: FedEx Shipment 776091960708: Your package has been delivered

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Hi. Your package was
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10:47am.



Delivered to 50 BOSTON ST, GUILFORD, CT 06437
Received by C.LINDGREN

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How was your delivery ?



TRACKING NUMBER	776091960708
FROM	Crown Castle 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Town of Guilford Anne Hartjen, Town Planner 31 Park Street GUILFORD, CT, US, 06437
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 4/24/2024 05:48 PM
DELIVERED TO	Receptionist/Front Desk
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	GUILFORD, CT, US, 06437
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: Thursday, April 25, 2024 1:13 PM
To: Barbadora, Jeff
Subject: FedEx Shipment 776092056589: Your package has been delivered
Attachments: DeliveryPicture.jpeg

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Hi. Your package was
delivered Thu, 04/25/2024 at
1:07pm.



Delivered to 2365 LONG HILL RD, GUILFORD, CT 06437

[OBTAIN PROOF OF DELIVERY](#)



Delivery picture not showing? [View](#) in browser.

How was your delivery ?



TRACKING NUMBER	776092056589
FROM	Crown Castle 1800 W. Park Drive WESTBOROUGH, MA, US, 01581
TO	Family Trust & Property Owner James & Janice Ward 2365 Long Hill Road GUILFORD, CT, US, 06437
REFERENCE	799001.7680
SHIPPER REFERENCE	799001.7680
SHIP DATE	Wed 4/24/2024 05:48 PM
DELIVERED TO	Residence
PACKAGING TYPE	FedEx Envelope
ORIGIN	WESTBOROUGH, MA, US, 01581
DESTINATION	GUILFORD, CT, US, 06437

Date: February 8, 2024



Engineered Tower Solutions, PLLC
3227 Wellington Court
Raleigh, NC 27615
(919) 782-2710
Tomas.Sosa@ets-pllc.com

Subject: Mount Analysis Report

Carrier Designation: T-Mobile Equipment Change Out
Carrier Site Number: CT11393B
Carrier Site Name: CT393/Global Guilford_MP2

Crown Castle Designation: BU Number: 876381
Site Name: WARD
JDE Job Number: 2106554
Order Number: 661716 Rev. 0

Engineering Firm Designation: ETS, PLLC Job Number: 24124667.STR.8761

Site Data: 2381 Long Hill Rd, Guilford, New Haven County, CT 06437
Latitude 41° 20' 47.34" Longitude -72° 43' 23.15"

Structure Information: Tower Height & Type: 176.0 ft Monopole
Mount Elevation: 155.0 ft
Mount Type: 12.5 ft Platform Mount

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

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

Platform Mount

Sufficient

This analysis utilizes an ultimate 3-second gust wind speed of 121 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount Analysis prepared by: Tomas Martin Sosa, EI

Respectfully Submitted by:

Frederic Geoffrey Bost, PE
Chief Technical Officer
(919) 782-2710
Geoff.Bost@ets-pllc.com

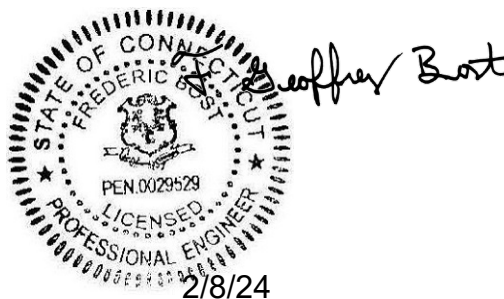


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1) INTRODUCTION

This is an existing (3)-sector 12.5 ft Platform Mount mapped by Pier Structural Engineering Corp.

2) ANALYSIS CRITERIA

Building Code: 2021 IBC
TIA-222 Revision: TIA-222-H
Risk Category: II
Ultimate Wind Speed: 121 mph
Exposure Category: B
Topographic Factor at Base: 1.0
Topographic Factor at Mount: 1.0
Ice Thickness: 1.0 in
Wind Speed with Ice: 50 mph
Seismic S_s: 0.206
Seismic S₁: 0.054
Live Loading Wind Speed: 30 mph
Man Live Load at Mid/End-Points: 250 lbs
Man Live Load at Mount Pipes: 500 lbs

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
155.0	155.0	3	Ericsson	AIR 6419 B41 TMO CCIV2	(1) 12.5 ft Platform Mount
		3	RFS/Celwave	APXVAARR24 43-U-NA20	
		3	RFS/Celwave	APXVLL19P 43-C-A20	
		3	Ericsson	RADIO 4449 B71 B85A T-MOBILE	
		3	Ericsson	RADIO 4460 B2/B25 B66 TMO	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Carrier Application	T-Mobile	01/26/2024	CCIsites
RFDS	T-Mobile	12/20/2023	CCIsites
4-Structural Analysis Report	Crown Castle	10706442	CCIsites
4-Mount Analysis Report	ETS, PLLC	8371784	On File

3.1) Analysis Method

RISA 3D (Version 21.0.1) a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed, using Microsoft Excel, by ETS, PLLC was used to calculate wind loading on all appurtenances, dishes, and mount members for various load 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 and manufacturer's specification.
- 2) The configuration of antennas, mounts and other appurtenances are as specified in Table 1 and the referenced drawings.
- 3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
- 4) Steel grades have been assumed as follows, unless noted otherwise:

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

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

4) ANALYSIS RESULTS

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

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1	Mount Pipe	MP2	155.0	49.4	Pass
	Side Arm	SA2		28.0	Pass
	Support Rail	HR2		22.1	Pass
	Grating	GRATE2		16.9	Pass
	Face Mount	FM2		15.0	Pass
	Connection Plate	CORN2		10.5	Pass
2	Mount to Tower Connection	-		32.1	Pass

Structure Rating (max from all components) =	49.4%
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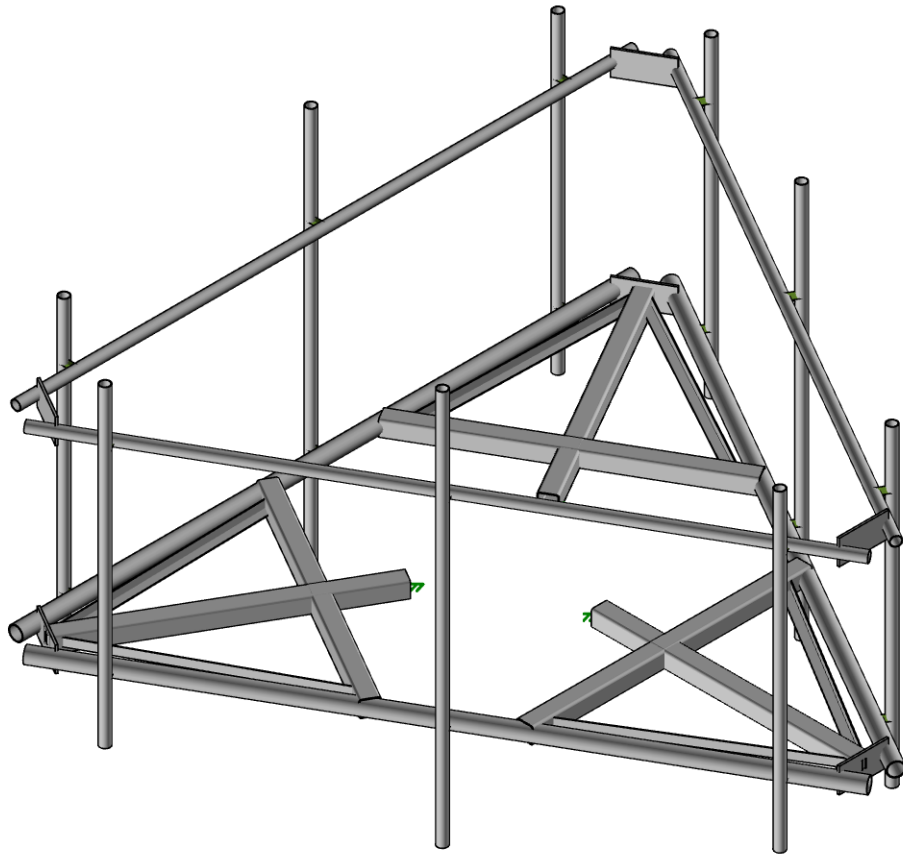
Notes:

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

4.1) Recommendations

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

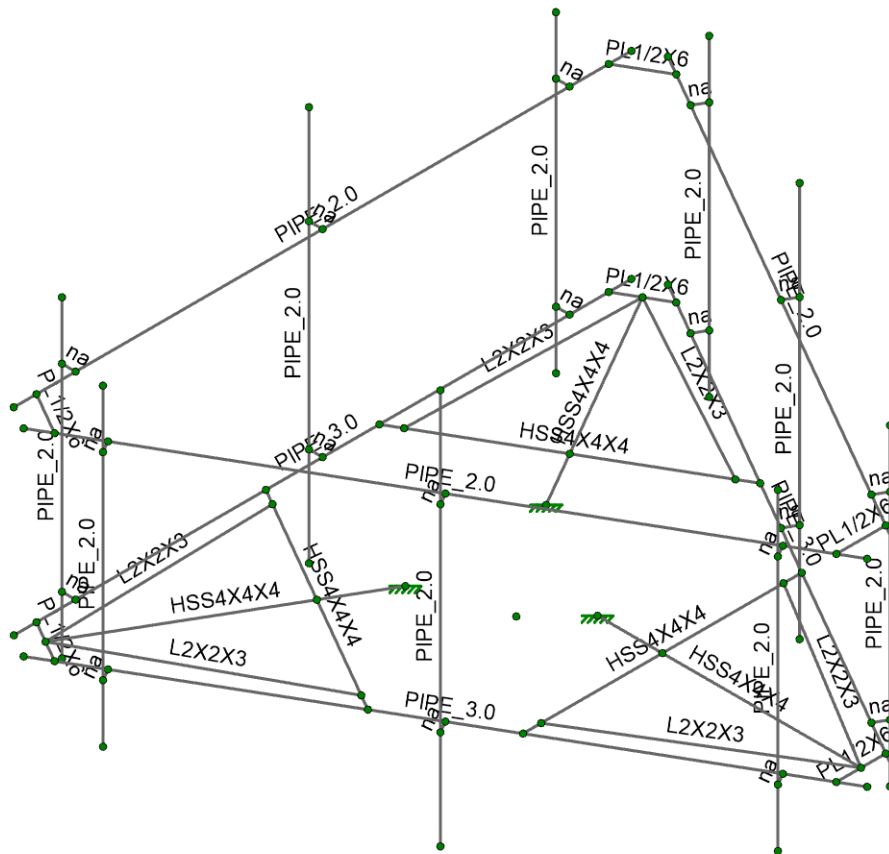
APPENDIX A
WIRE FRAME AND RENDERED MODELS



ETS, PLLC
TMS
ETS#24124667.STR.8761

876381 - WARD_Mount Analysis

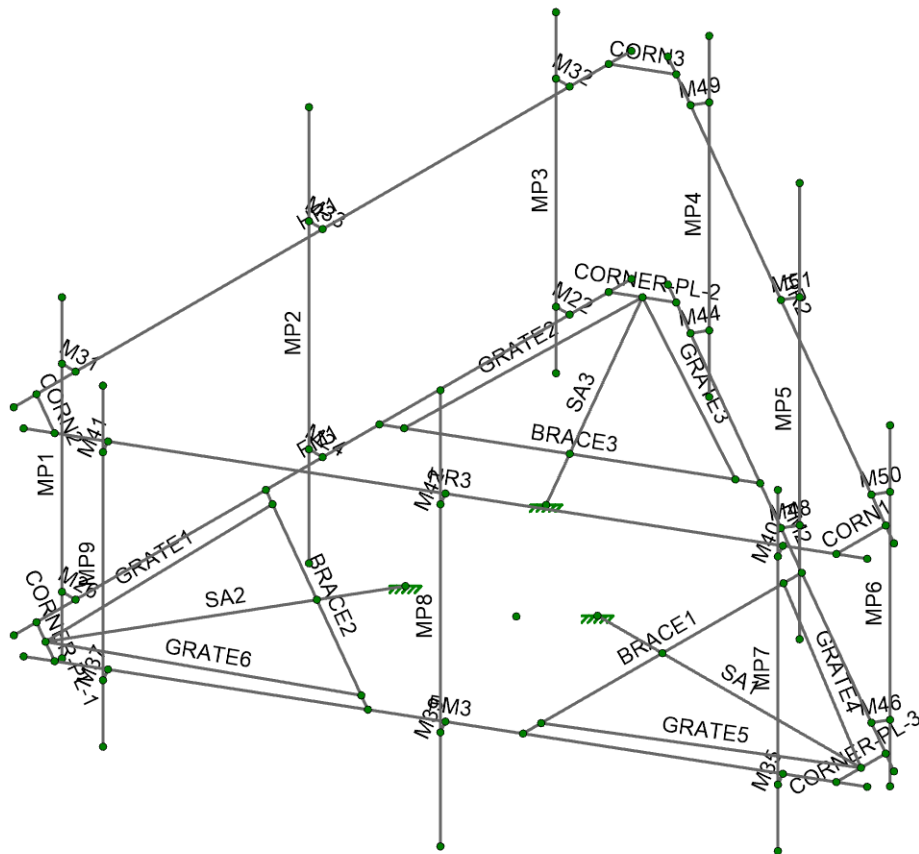
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876381 - WARD.r3d



ETS, PLLC
 TMS
 ETS#24124667.STR.8761

876381 - WARD_Mount Analysis

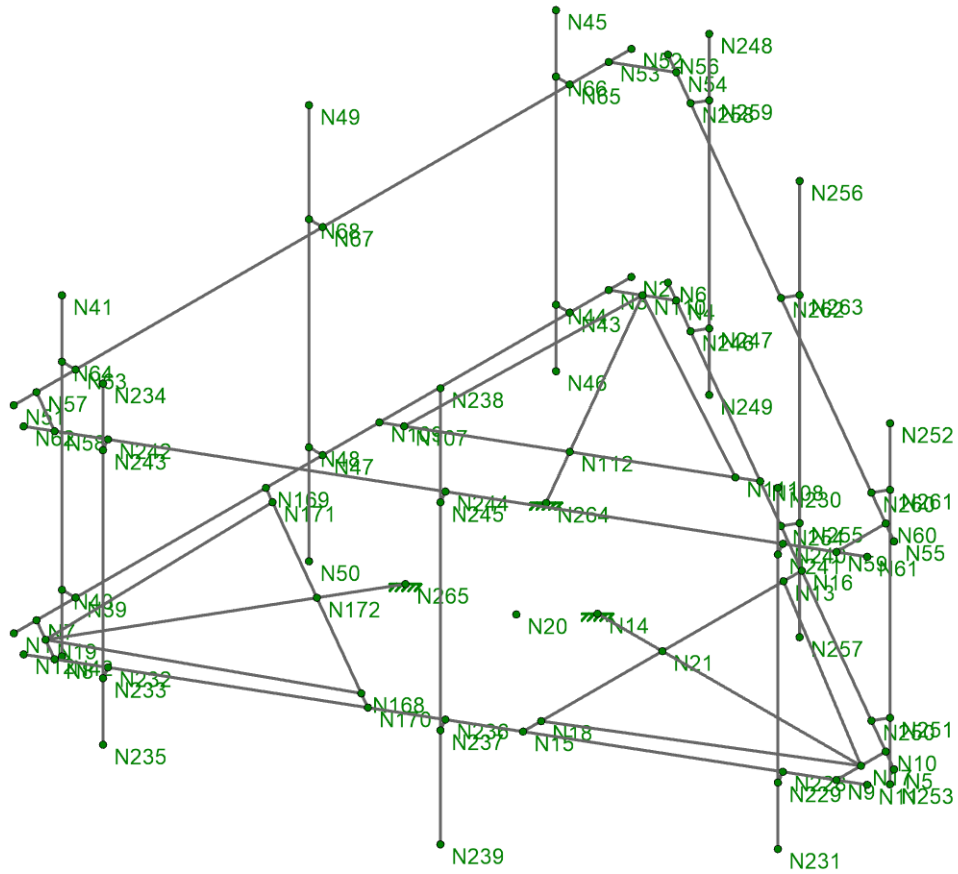
SK-2
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 876381 - WARD.r3d



ETS, PLLC
 TMS
 ETS#24124667.STR.8761

876381 - WARD_Mount Analysis

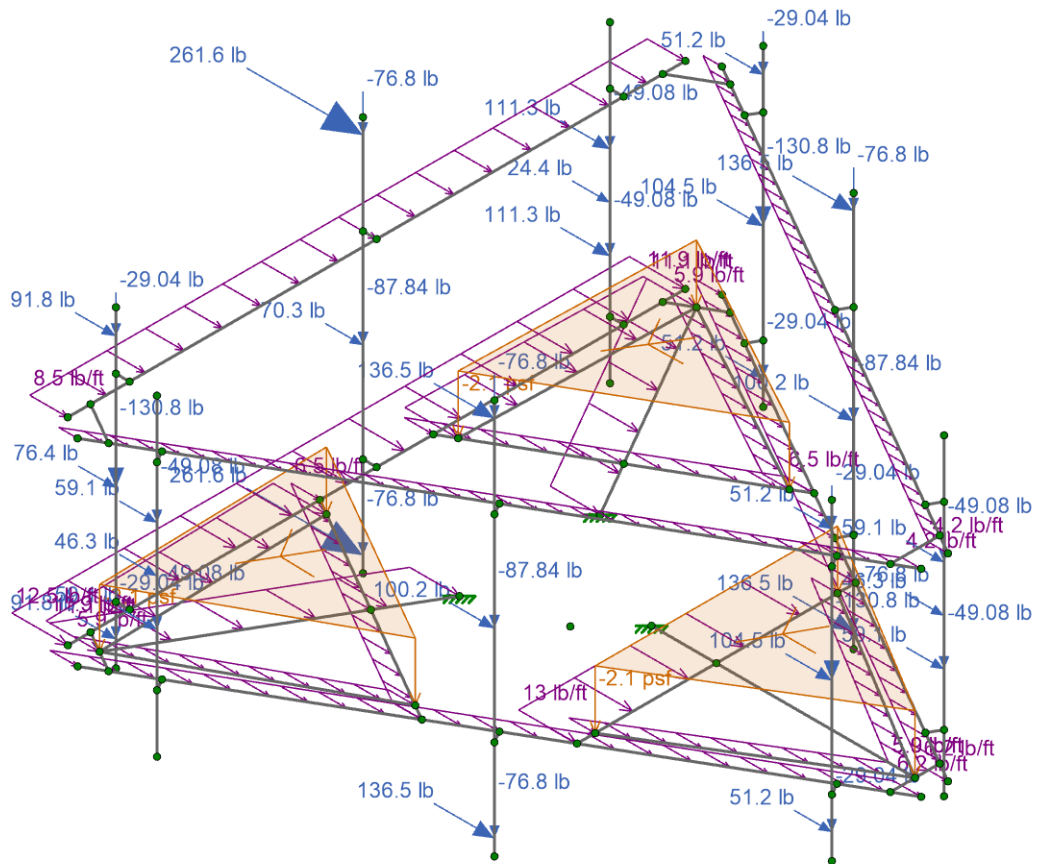
SK-3
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 876381 - WARD.r3d



ETS, PLLC
 TMS
 ETS#24124667.STR.8761

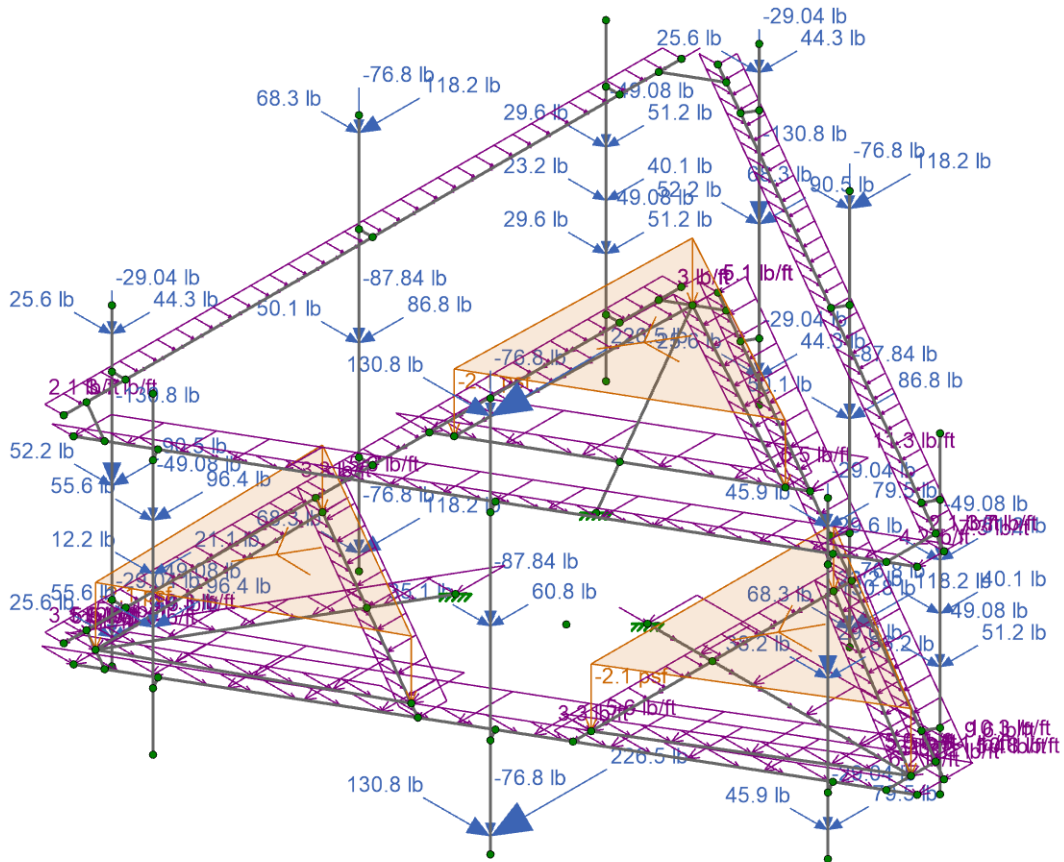
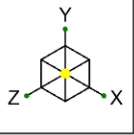
876381 - WARD_Mount Analysis

SK-4
 Feb 08, 2024 at 07:39 PM
 876381 - WARD.r3d



Loads: LC 2, 1.2D + 1.0W (0 deg)

	ETS, PLLC	876381 - WARD_Mount Analysis	SK-5
	TMS		Feb 08, 2024 at 07:39 PM
	ETS#24124667.STR.8761		876381 - WARD.r3d



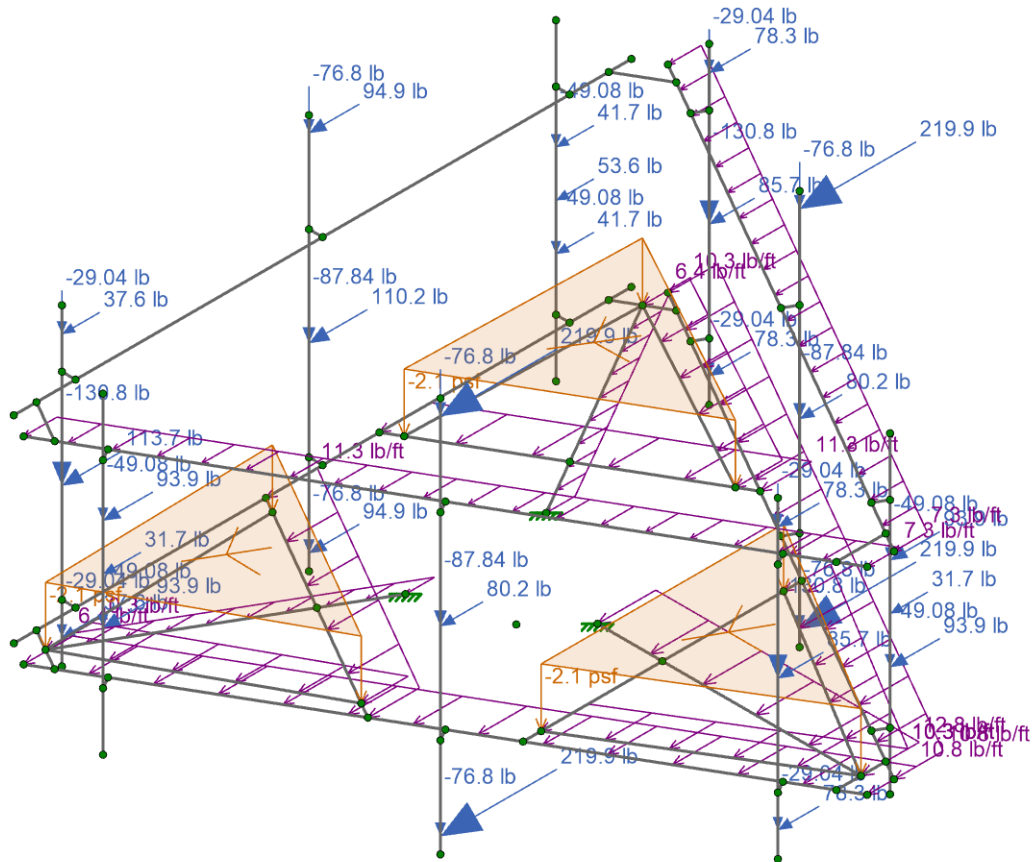
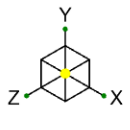
Loads: LC 4, 1.2D + 1.0W (60 deg)



ETS, PLLC
TMS
ETS#24124667.STR.8761

876381 - WARD_Mount Analysis

SK-7
Feb 08, 2024 at 07:40 PM
876381 - WARD.r3d



Loads: LC 5, 1.2D + 1.0W (90 deg)



ETS, PLLC
TMS
ETS#24124667.STR.8761

876381 - WARD_Mount Analysis

SK-8
Feb 08, 2024 at 07:40 PM
876381 - WARD.r3d

APPENDIX B
SOFTWARE INPUT CALCULATIONS

Site Inputs	
Mount Support (Tower, or Building Support)?	Tower
Risk Category (TIA Table 2-1)	II
Exposure Category	B
Basic Wind Speed without Ice, V	121 mph
Basic Wind Speed with Ice, V _i	50 mph
Design of Ice, δ _{ice}	56 pcf
Design Ice Thickness, t _i	1.00 in
Basic Wind Speed (Maintenance)	30 mph
Maintenance Load, L _m	500 lb
Maintenance Load, L _v	250 lb
Height of Structure, h	176.0 ft
Mount Centerline, h _m	155.0 ft
Topographic Factor, K _{zt}	1.00
Rooftop Wind Speed-Up Factor, K _r	1.00
Mean Elevation of base of structure above sea level, z _s	182 ft
Ground Elevation Factor, K _e	0.99
Wind Direction Probability Factor, K _d	0.95
Gust Response Factor, G _s	1.00
Shielding Factor for Appurtenances, K _s	0.90

TIA-222-H Mount Load Generator

Seismic Design Input/Output	
0.206	Spectral response acceleration at short periods, S _s
0.054	Spectral response acceleration at a period of 1 second, S ₁
D	Soil Site Class
1.600	Short-period site coefficient, F _s
2.400	Long-period site coefficient, F _l
0.220	Design spectral response acceleration at short periods, S _{DS}
0.086	Design spectral response acceleration at a period of 1 second, S _{DS1}
2.00	Response modification coefficient, R
1.00	Earthquake amplification factor, A _s
1.00	Importance Factor
0.1099	Seismic Response Coefficient, C _s
Eh = 0.110 W	Total Seismic Shear Force, E _s = ρ C _s (Q _s = ρ C _s W A _s & ρ = 1.0)
Ev = 0.044 D	Vertical Seismic Load Effect, E _v = 0.2 S _{DS1} D A _s

Output File Name: 876381 - WARD



Mount Pipe Information							Mount Pipe Forces					
Mount Pipe	Mount Location	Vertical Offset	Length	Diameter	Weight	Shape	Front Design Wind Force, F _A	Side Design Wind Force, F _A	Design Ice Thickness, t _{ice}	Ice Weight	Front Design Wind Force on Ice, F _A	Side Design Wind Force on Ice, F _A
P 2 SCH 40 x 76	MP1	0.00 ft	76.00 in	2.38 in	23.16 lb	Round	0.13 lb	59.59 lb	1.167 in	31.99 lb	0.56 lb	17.58 lb
P 4 SCH 40 x 96	MP2	0.00 ft	96.00 in	4.50 in	86.40 lb	Round	0.12 lb	110.34 lb	1.167 in	64.66 lb	0.78 lb	30.44 lb
P 2 SCH 40 x 76	MP3	0.00 ft	76.00 in	2.38 in	23.16 lb	Round	27.12 lb	59.59 lb	1.167 in	31.99 lb	9.70 lb	17.58 lb
P 2 SCH 40 x 76	MP4	0.00 ft	76.00 in	2.38 in	23.16 lb	Round	0.13 lb	59.59 lb	1.167 in	31.99 lb	0.56 lb	17.58 lb
P 4 SCH 40 x 96	MP5	0.00 ft	96.00 in	4.50 in	86.40 lb	Round	0.12 lb	110.34 lb	1.167 in	64.66 lb	0.78 lb	30.44 lb
P 2 SCH 40 x 76	MP6	0.00 ft	76.00 in	2.38 in	23.16 lb	Round	27.12 lb	59.59 lb	1.167 in	31.99 lb	9.70 lb	17.58 lb
P 2 SCH 40 x 76	MP7	0.00 ft	76.00 in	2.38 in	23.16 lb	Round	0.13 lb	59.59 lb	1.167 in	31.99 lb	0.56 lb	17.58 lb
P 4 SCH 40 x 96	MP8	0.00 ft	96.00 in	4.50 in	86.40 lb	Round	0.12 lb	110.34 lb	1.167 in	64.66 lb	0.78 lb	30.44 lb
P 2 SCH 40 x 76	MP9	0.00 ft	76.00 in	2.38 in	23.16 lb	Round	27.12 lb	59.59 lb	1.167 in	31.99 lb	9.70 lb	17.58 lb

Appurtenance Information - MP1							Appurtenance Forces - MP1					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{ice}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
RFS/CELWAVE / APXVLL19P_43-C-A20_TMO	1	0.00 ft	75.80 in	11.30 in	4.60 in	48.39 lb	204.04 lb	83.60 lb	1.167 in	113.53 lb	43.34 lb	22.14 lb
ERICSSON / RADIO 4460 B2/B25 B66_TMO	1	0.00 ft	17.00 in	15.10 in	11.90 in	109.00 lb	84.75 lb	66.79 lb	1.167 in	41.20 lb	16.07 lb	13.80 lb

Appurtenance Information - MP2							Appurtenance Forces - MP2					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{ice}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
RFS/CELWAVE / APXVAARR24_43-U-NA20	1	0.00 ft	95.90 in	24.00 in	8.70 in	128.00 lb	581.22 lb	210.78 lb	1.167 in	278.66 lb	111.48 lb	46.78 lb
ERICSSON / RADIO 4449 B71 B85A_T-MOBILE	1	0.00 ft	17.91 in	13.20 in	10.63 in	73.21 lb	78.06 lb	62.86 lb	1.167 in	38.56 lb	14.88 lb	13.10 lb

Appurtenance Information - MP3							Appurtenance Forces - MP3					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{ice}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
ERICSSON / AIR 6419 B41_TMO_CCIV2	1	0.00 ft	34.49 in	19.92 in	7.99 in	81.84 lb	247.23 lb	92.71 lb	1.167 in	97.59 lb	50.36 lb	22.24 lb

Appurtenance Information - MP4							Appurtenance Forces - MP4					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{ice}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
RFS/CELWAVE / APXVLL19P_43-C-A20_TMO	1	0.00 ft	75.80 in	11.30 in	4.60 in	48.39 lb	204.04 lb	83.60 lb	1.167 in	113.53 lb	43.34 lb	22.14 lb
ERICSSON / RADIO 4460 B2/B25 B66_TMO	1	0.00 ft	17.00 in	15.10 in	11.90 in	109.00 lb	84.75 lb	66.79 lb	1.167 in	41.20 lb	16.07 lb	13.80 lb

Appurtenance Information - MP5							Appurtenance Forces - MP5					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{ice}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
RFS/CELWAVE / APXVAARR24_43-U-NA20	1	0.00 ft	95.90 in	24.00 in	8.70 in	128.00 lb	581.22 lb	210.78 lb	1.167 in	278.66 lb	111.48 lb	46.78 lb
ERICSSON / RADIO 4449 B71 B85A_T-MOBILE	1	0.00 ft	17.91 in	13.20 in	10.63 in	73.21 lb	78.06 lb	62.86 lb	1.167 in	38.56 lb	14.88 lb	13.10 lb

Appurtenance Information - MP6							Appurtenance Forces - MP6					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{ice}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
ERICSSON / AIR 6419 B41_TMO_CCIV2	1	0.00 ft	34.49 in	19.92 in	7.99 in	81.84 lb	247.23 lb	92.71 lb	1.167 in	97.59 lb	50.36 lb	22.24 lb

Appurtenance Information - MP7							Appurtenance Forces - MP7					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_g	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
RFS/CELWAVE / APXVLL19P_43-C-A20_TMO	1	0.00 ft	75.80 in	11.30 in	4.60 in	48.39 lb	204.04 lb	83.60 lb	1.167 in	113.53 lb	43.34 lb	22.14 lb
ERICSSON / RADIO 4460 B2/B25 B66_TMO	1	0.00 ft	17.00 in	15.10 in	11.90 in	109.00 lb	84.75 lb	66.79 lb	1.167 in	41.20 lb	16.07 lb	13.80 lb

Appurtenance Information - MP8							Appurtenance Forces - MP8					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_g	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
RFS/CELWAVE / APXVAARR24_43-U-NA20	1	0.00 ft	95.90 in	24.00 in	8.70 in	128.00 lb	581.22 lb	210.78 lb	1.167 in	278.66 lb	111.48 lb	46.78 lb
ERICSSON / RADIO 4449 B71 B85A_T-MOBILE	1	0.00 ft	17.91 in	13.20 in	10.63 in	73.21 lb	78.06 lb	62.86 lb	1.167 in	38.56 lb	14.88 lb	13.10 lb

Appurtenance Information - MP9							Appurtenance Forces - MP9					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_g	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
ERICSSON / AIR 6419 B41_TMO_CCIV2	1	0.00 ft	34.49 in	19.92 in	7.99 in	81.84 lb	247.23 lb	92.71 lb	1.167 in	97.59 lb	50.36 lb	22.24 lb

Member Distributed Loads Mount Members	Member Information			Member Forces		
	Width/Diameter (in)	Depth/Diameter (in)	Length (in)	Ka * Force /Length, No Ice	Ice Weight (plf)	Ka * Force /Length, Ice
HSS4X4X1/4_SA	4.000 in	4.000 in	64.0 in	12.8 lb/ft	9.7 lb/ft	3.2 lb/ft
3.0 SCH 40	3.500 in	3.500 in	150.0 in	12.5 lb/ft	6.7 lb/ft	3.6 lb/ft
L2X2X3/16	2.000 in	2.000 in	56.0 in	11.9 lb/ft	5.7 lb/ft	3.1 lb/ft
2.0 SCH 40	2.375 in	2.375 in	150.0 in	8.5 lb/ft	5.1 lb/ft	2.9 lb/ft
PL1/2X6	6.000 in	0.500 in	12.0 in	21.4 lb/ft	10.3 lb/ft	4.5 lb/ft
HSS4X4X1/4_B	4.000 in	4.000 in	68.0 in	13.0 lb/ft	9.7 lb/ft	3.3 lb/ft

Member Lookup	Member Label	Position	Maintenance Load
3.0 SCH 40	FM1	90°	Start/Mid/End
3.0 SCH 40	FM2	210°	Start/Mid/End
3.0 SCH 40	FM3	330°	Start/Mid/End
HSS4X4X1/4_B	BRACE1	90°	Mid
HSS4X4X1/4_B	BRACE2	210°	Mid
HSS4X4X1/4_B	BRACE3	330°	Mid
HSS4X4X1/4_SA	SA1	0°	Start
HSS4X4X1/4_SA	SA2	120°	Start
HSS4X4X1/4_SA	SA3	240°	Start
L2X2X3/16	GRATE1	90°	
L2X2X3/16	GRATE2	90°	
L2X2X3/16	GRATE3	210°	
L2X2X3/16	GRATE4	210°	
L2X2X3/16	GRATE5	330°	
L2X2X3/16	GRATE6	330°	
2.0 SCH 40	HR1	90°	Start/Mid/End

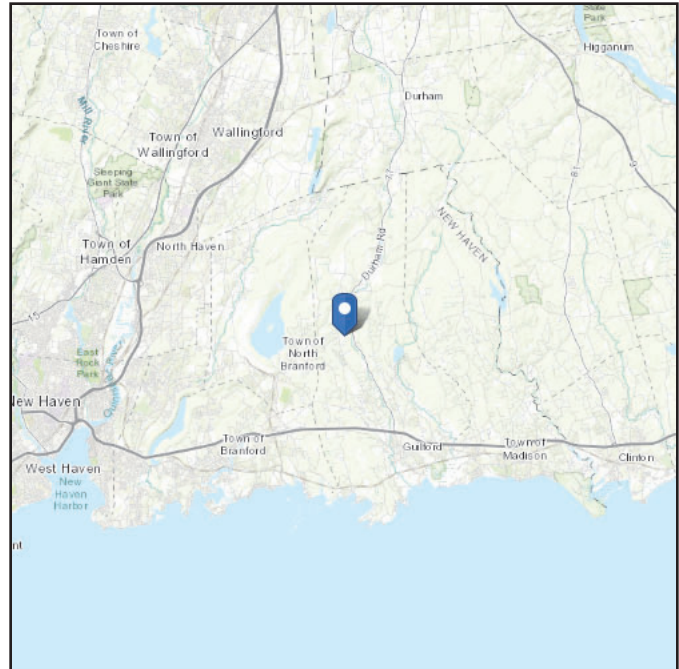
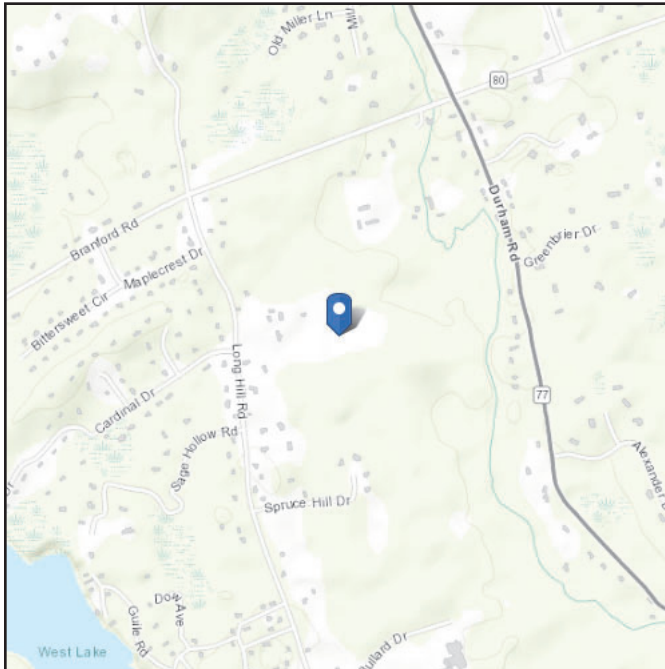
Member Lookup	Member Label	Position	Maintenance Load
2.0 SCH 40	HR2	210°	Start/Mid/End
2.0 SCH 40	HR3	330°	Start/Mid/End

ASCE Hazards Report

Address:
No Address at This Location

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

Latitude: 41.346483
Longitude: -72.723097
Elevation: 181.96154098024942 ft (NAVD 88)



Wind

Results:

Wind Speed	121 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	93 Vmph
100-year MRI	99 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Thu Feb 08 2024

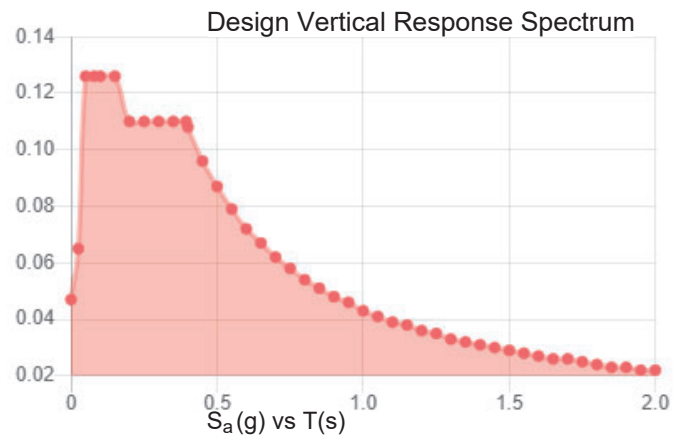
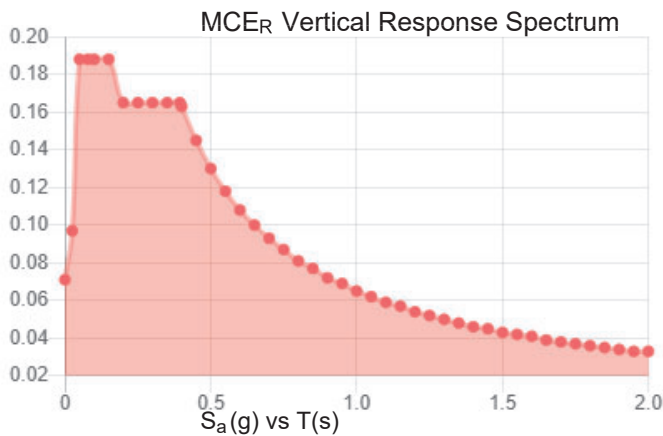
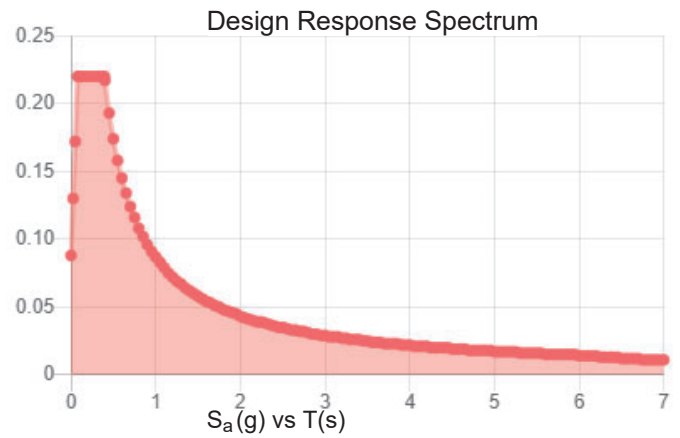
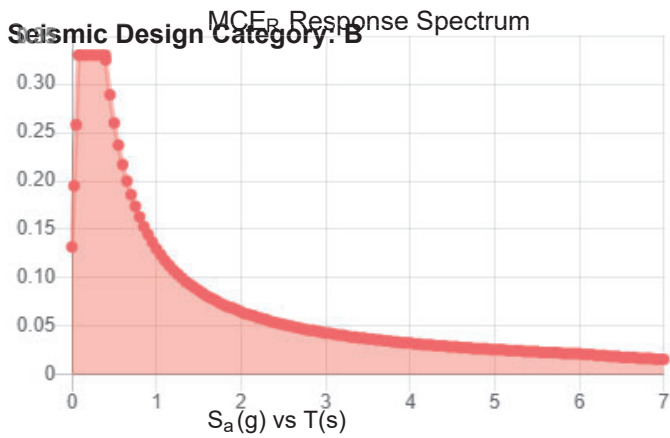
Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance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

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

Results:

S_s :	0.206	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.116
F_v :	2.4	PGA _M :	0.181
S_{MS} :	0.33	F_{PGA} :	1.569
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.22	C_v :	0.713



Data Accessed: Thu Feb 08 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: 15 F
Gust Speed 50 mph

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

Date Accessed: Thu Feb 08 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.

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APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4D	Yes	Y	1	1.4	175	1.4								
2	1.2D + 1.0W (0 deg)	Yes	Y	1	1.2	2	1	175	1.2	176	1				
3	1.2D + 1.0W (30 deg)	Yes	Y	1	1.2	3	1	175	1.2	177	1				
4	1.2D + 1.0W (60 deg)	Yes	Y	1	1.2	4	1	175	1.2	178	1				
5	1.2D + 1.0W (90 deg)	Yes	Y	1	1.2	5	1	175	1.2	179	1				
6	1.2D + 1.0W (120 deg)	Yes	Y	1	1.2	6	1	175	1.2	180	1				
7	1.2D + 1.0W (150 deg)	Yes	Y	1	1.2	7	1	175	1.2	181	1				
8	1.2D + 1.0W (180 deg)	Yes	Y	1	1.2	8	1	175	1.2	182	1				
9	1.2D + 1.0W (210 deg)	Yes	Y	1	1.2	9	1	175	1.2	183	1				
10	1.2D + 1.0W (240 deg)	Yes	Y	1	1.2	10	1	175	1.2	184	1				
11	1.2D + 1.0W (270 deg)	Yes	Y	1	1.2	11	1	175	1.2	185	1				
12	1.2D + 1.0W (300 deg)	Yes	Y	1	1.2	12	1	175	1.2	186	1				
13	1.2D + 1.0W (330 deg)	Yes	Y	1	1.2	13	1	175	1.2	187	1				
14	1.2D + Di + Wi (0 deg)	Yes	Y	1	1.2	14	1	15	1	175	1.2	188	1	189	1
15	1.2D + Di + Wi (30 deg)	Yes	Y	1	1.2	14	1	16	1	175	1.2	188	1	190	1
16	1.2D + Di + Wi (60 deg)	Yes	Y	1	1.2	14	1	17	1	175	1.2	188	1	191	1
17	1.2D + Di + Wi (90 deg)	Yes	Y	1	1.2	14	1	18	1	175	1.2	188	1	192	1
18	1.2D + Di + Wi (120 deg)	Yes	Y	1	1.2	14	1	19	1	175	1.2	188	1	193	1
19	1.2D + Di + Wi (150 deg)	Yes	Y	1	1.2	14	1	20	1	175	1.2	188	1	194	1
20	1.2D + Di + Wi (180 deg)	Yes	Y	1	1.2	14	1	21	1	175	1.2	188	1	195	1
21	1.2D + Di + Wi (210 deg)	Yes	Y	1	1.2	14	1	22	1	175	1.2	188	1	196	1
22	1.2D + Di + Wi (240 deg)	Yes	Y	1	1.2	14	1	23	1	175	1.2	188	1	197	1
23	1.2D + Di + Wi (270 deg)	Yes	Y	1	1.2	14	1	24	1	175	1.2	188	1	198	1
24	1.2D + Di + Wi (300 deg)	Yes	Y	1	1.2	14	1	25	1	175	1.2	188	1	199	1
25	1.2D + Di + Wi (330 deg)	Yes	Y	1	1.2	14	1	26	1	175	1.2	188	1	200	1
26	1.2D + 1.0 Ev + 1.0Eh (0 deg)	Yes	Y	1	1.2	1	0.044	27	0.11	175	1.2	175	0.044	201	0.11
27	1.2D + 1.0 Ev + 1.0Eh (30 deg)	Yes	Y	1	1.2	1	0.044	28	0.11	175	1.2	175	0.044	202	0.11
28	1.2D + 1.0 Ev + 1.0Eh (60 deg)	Yes	Y	1	1.2	1	0.044	29	0.11	175	1.2	175	0.044	203	0.11
29	1.2D + 1.0 Ev + 1.0Eh (90 deg)	Yes	Y	1	1.2	1	0.044	30	0.11	175	1.2	175	0.044	204	0.11
30	1.2D + 1.0 Ev + 1.0Eh (120 deg)	Yes	Y	1	1.2	1	0.044	31	0.11	175	1.2	175	0.044	205	0.11
31	1.2D + 1.0 Ev + 1.0Eh (150 deg)	Yes	Y	1	1.2	1	0.044	32	0.11	175	1.2	175	0.044	206	0.11
32	1.2D + 1.0 Ev + 1.0Eh (180 deg)	Yes	Y	1	1.2	1	0.044	33	0.11	175	1.2	175	0.044	207	0.11
33	1.2D + 1.0 Ev + 1.0Eh (210 deg)	Yes	Y	1	1.2	1	0.044	34	0.11	175	1.2	175	0.044	208	0.11
34	1.2D + 1.0 Ev + 1.0Eh (240 deg)	Yes	Y	1	1.2	1	0.044	35	0.11	175	1.2	175	0.044	209	0.11
35	1.2D + 1.0 Ev + 1.0Eh (270 deg)	Yes	Y	1	1.2	1	0.044	36	0.11	175	1.2	175	0.044	210	0.11
36	1.2D + 1.0 Ev + 1.0Eh (300 deg)	Yes	Y	1	1.2	1	0.044	37	0.11	175	1.2	175	0.044	211	0.11
37	1.2D + 1.0 Ev + 1.0Eh (330 deg)	Yes	Y	1	1.2	1	0.044	38	0.11	175	1.2	175	0.044	212	0.11
38	1.2D + 1.5Lm1 + 1.0Wm (0 deg)	Yes	Y	1	1.2	39	1.5	2	0.061	175	1.2	176	0.061		
39	1.2D + 1.5Lm1 + 1.0Wm (30 deg)	Yes	Y	1	1.2	39	1.5	3	0.061	175	1.2	177	0.061		
40	1.2D + 1.5Lm1 + 1.0Wm (60 deg)	Yes	Y	1	1.2	39	1.5	4	0.061	175	1.2	178	0.061		
41	1.2D + 1.5Lm1 + 1.0Wm (90 deg)	Yes	Y	1	1.2	39	1.5	5	0.061	175	1.2	179	0.061		
42	1.2D + 1.5Lm1 + 1.0Wm (120 deg)	Yes	Y	1	1.2	39	1.5	6	0.061	175	1.2	180	0.061		
43	1.2D + 1.5Lm1 + 1.0Wm (150 deg)	Yes	Y	1	1.2	39	1.5	7	0.061	175	1.2	181	0.061		
44	1.2D + 1.5Lm1 + 1.0Wm (180 deg)	Yes	Y	1	1.2	39	1.5	8	0.061	175	1.2	182	0.061		
45	1.2D + 1.5Lm1 + 1.0Wm (210 deg)	Yes	Y	1	1.2	39	1.5	9	0.061	175	1.2	183	0.061		
46	1.2D + 1.5Lm1 + 1.0Wm (240 deg)	Yes	Y	1	1.2	39	1.5	10	0.061	175	1.2	184	0.061		
47	1.2D + 1.5Lm1 + 1.0Wm (270 deg)	Yes	Y	1	1.2	39	1.5	11	0.061	175	1.2	185	0.061		
48	1.2D + 1.5Lm1 + 1.0Wm (300 deg)	Yes	Y	1	1.2	39	1.5	12	0.061	175	1.2	186	0.061		
49	1.2D + 1.5Lm1 + 1.0Wm (330 deg)	Yes	Y	1	1.2	39	1.5	13	0.061	175	1.2	187	0.061		
50	1.2D + 1.5Lm2 + 1.0Wm (0 deg)	Yes	Y	1	1.2	40	1.5	2	0.061	175	1.2	176	0.061		
51	1.2D + 1.5Lm2 + 1.0Wm (30 deg)	Yes	Y	1	1.2	40	1.5	3	0.061	175	1.2	177	0.061		
52	1.2D + 1.5Lm2 + 1.0Wm (60 deg)	Yes	Y	1	1.2	40	1.5	4	0.061	175	1.2	178	0.061		
53	1.2D + 1.5Lm2 + 1.0Wm (90 deg)	Yes	Y	1	1.2	40	1.5	5	0.061	175	1.2	179	0.061		
54	1.2D + 1.5Lm2 + 1.0Wm (120 deg)	Yes	Y	1	1.2	40	1.5	6	0.061	175	1.2	180	0.061		
55	1.2D + 1.5Lm2 + 1.0Wm (150 deg)	Yes	Y	1	1.2	40	1.5	7	0.061	175	1.2	181	0.061		



Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
56	1.2D + 1.5Lm2 + 1.0Wm (180 deg)	Yes	Y	1	1.2	40	1.5	8	0.061	175	1.2	182	0.061		
57	1.2D + 1.5Lm2 + 1.0Wm (210 deg)	Yes	Y	1	1.2	40	1.5	9	0.061	175	1.2	183	0.061		
58	1.2D + 1.5Lm2 + 1.0Wm (240 deg)	Yes	Y	1	1.2	40	1.5	10	0.061	175	1.2	184	0.061		
59	1.2D + 1.5Lm2 + 1.0Wm (270 deg)	Yes	Y	1	1.2	40	1.5	11	0.061	175	1.2	185	0.061		
60	1.2D + 1.5Lm2 + 1.0Wm (300 deg)	Yes	Y	1	1.2	40	1.5	12	0.061	175	1.2	186	0.061		
61	1.2D + 1.5Lm2 + 1.0Wm (330 deg)	Yes	Y	1	1.2	40	1.5	13	0.061	175	1.2	187	0.061		
62	1.2D + 1.5Lm3 + 1.0Wm (0 deg)	Yes	Y	1	1.2	41	1.5	2	0.061	175	1.2	176	0.061		
63	1.2D + 1.5Lm3 + 1.0Wm (30 deg)	Yes	Y	1	1.2	41	1.5	3	0.061	175	1.2	177	0.061		
64	1.2D + 1.5Lm3 + 1.0Wm (60 deg)	Yes	Y	1	1.2	41	1.5	4	0.061	175	1.2	178	0.061		
65	1.2D + 1.5Lm3 + 1.0Wm (90 deg)	Yes	Y	1	1.2	41	1.5	5	0.061	175	1.2	179	0.061		
66	1.2D + 1.5Lm3 + 1.0Wm (120 deg)	Yes	Y	1	1.2	41	1.5	6	0.061	175	1.2	180	0.061		
67	1.2D + 1.5Lm3 + 1.0Wm (150 deg)	Yes	Y	1	1.2	41	1.5	7	0.061	175	1.2	181	0.061		
68	1.2D + 1.5Lm3 + 1.0Wm (180 deg)	Yes	Y	1	1.2	41	1.5	8	0.061	175	1.2	182	0.061		
69	1.2D + 1.5Lm3 + 1.0Wm (210 deg)	Yes	Y	1	1.2	41	1.5	9	0.061	175	1.2	183	0.061		
70	1.2D + 1.5Lm3 + 1.0Wm (240 deg)	Yes	Y	1	1.2	41	1.5	10	0.061	175	1.2	184	0.061		
71	1.2D + 1.5Lm3 + 1.0Wm (270 deg)	Yes	Y	1	1.2	41	1.5	11	0.061	175	1.2	185	0.061		
72	1.2D + 1.5Lm3 + 1.0Wm (300 deg)	Yes	Y	1	1.2	41	1.5	12	0.061	175	1.2	186	0.061		
73	1.2D + 1.5Lm3 + 1.0Wm (330 deg)	Yes	Y	1	1.2	41	1.5	13	0.061	175	1.2	187	0.061		
74	1.2D + 1.5Lm4 + 1.0Wm (0 deg)	Yes	Y	1	1.2	42	1.5	2	0.061	175	1.2	176	0.061		
75	1.2D + 1.5Lm4 + 1.0Wm (30 deg)	Yes	Y	1	1.2	42	1.5	3	0.061	175	1.2	177	0.061		
76	1.2D + 1.5Lm4 + 1.0Wm (60 deg)	Yes	Y	1	1.2	42	1.5	4	0.061	175	1.2	178	0.061		
77	1.2D + 1.5Lm4 + 1.0Wm (90 deg)	Yes	Y	1	1.2	42	1.5	5	0.061	175	1.2	179	0.061		
78	1.2D + 1.5Lm4 + 1.0Wm (120 deg)	Yes	Y	1	1.2	42	1.5	6	0.061	175	1.2	180	0.061		
79	1.2D + 1.5Lm4 + 1.0Wm (150 deg)	Yes	Y	1	1.2	42	1.5	7	0.061	175	1.2	181	0.061		
80	1.2D + 1.5Lm4 + 1.0Wm (180 deg)	Yes	Y	1	1.2	42	1.5	8	0.061	175	1.2	182	0.061		
81	1.2D + 1.5Lm4 + 1.0Wm (210 deg)	Yes	Y	1	1.2	42	1.5	9	0.061	175	1.2	183	0.061		
82	1.2D + 1.5Lm4 + 1.0Wm (240 deg)	Yes	Y	1	1.2	42	1.5	10	0.061	175	1.2	184	0.061		
83	1.2D + 1.5Lm4 + 1.0Wm (270 deg)	Yes	Y	1	1.2	42	1.5	11	0.061	175	1.2	185	0.061		
84	1.2D + 1.5Lm4 + 1.0Wm (300 deg)	Yes	Y	1	1.2	42	1.5	12	0.061	175	1.2	186	0.061		
85	1.2D + 1.5Lm4 + 1.0Wm (330 deg)	Yes	Y	1	1.2	42	1.5	13	0.061	175	1.2	187	0.061		
86	1.2D + 1.5Lm5 + 1.0Wm (0 deg)	Yes	Y	1	1.2	43	1.5	2	0.061	175	1.2	176	0.061		
87	1.2D + 1.5Lm5 + 1.0Wm (30 deg)	Yes	Y	1	1.2	43	1.5	3	0.061	175	1.2	177	0.061		
88	1.2D + 1.5Lm5 + 1.0Wm (60 deg)	Yes	Y	1	1.2	43	1.5	4	0.061	175	1.2	178	0.061		
89	1.2D + 1.5Lm5 + 1.0Wm (90 deg)	Yes	Y	1	1.2	43	1.5	5	0.061	175	1.2	179	0.061		
90	1.2D + 1.5Lm5 + 1.0Wm (120 deg)	Yes	Y	1	1.2	43	1.5	6	0.061	175	1.2	180	0.061		
91	1.2D + 1.5Lm5 + 1.0Wm (150 deg)	Yes	Y	1	1.2	43	1.5	7	0.061	175	1.2	181	0.061		
92	1.2D + 1.5Lm5 + 1.0Wm (180 deg)	Yes	Y	1	1.2	43	1.5	8	0.061	175	1.2	182	0.061		
93	1.2D + 1.5Lm5 + 1.0Wm (210 deg)	Yes	Y	1	1.2	43	1.5	9	0.061	175	1.2	183	0.061		
94	1.2D + 1.5Lm5 + 1.0Wm (240 deg)	Yes	Y	1	1.2	43	1.5	10	0.061	175	1.2	184	0.061		
95	1.2D + 1.5Lm5 + 1.0Wm (270 deg)	Yes	Y	1	1.2	43	1.5	11	0.061	175	1.2	185	0.061		
96	1.2D + 1.5Lm5 + 1.0Wm (300 deg)	Yes	Y	1	1.2	43	1.5	12	0.061	175	1.2	186	0.061		
97	1.2D + 1.5Lm5 + 1.0Wm (330 deg)	Yes	Y	1	1.2	43	1.5	13	0.061	175	1.2	187	0.061		
98	1.2D + 1.5Lm6 + 1.0Wm (0 deg)	Yes	Y	1	1.2	44	1.5	2	0.061	175	1.2	176	0.061		
99	1.2D + 1.5Lm6 + 1.0Wm (30 deg)	Yes	Y	1	1.2	44	1.5	3	0.061	175	1.2	177	0.061		
100	1.2D + 1.5Lm6 + 1.0Wm (60 deg)	Yes	Y	1	1.2	44	1.5	4	0.061	175	1.2	178	0.061		
101	1.2D + 1.5Lm6 + 1.0Wm (90 deg)	Yes	Y	1	1.2	44	1.5	5	0.061	175	1.2	179	0.061		
102	1.2D + 1.5Lm6 + 1.0Wm (120 deg)	Yes	Y	1	1.2	44	1.5	6	0.061	175	1.2	180	0.061		
103	1.2D + 1.5Lm6 + 1.0Wm (150 deg)	Yes	Y	1	1.2	44	1.5	7	0.061	175	1.2	181	0.061		
104	1.2D + 1.5Lm6 + 1.0Wm (180 deg)	Yes	Y	1	1.2	44	1.5	8	0.061	175	1.2	182	0.061		
105	1.2D + 1.5Lm6 + 1.0Wm (210 deg)	Yes	Y	1	1.2	44	1.5	9	0.061	175	1.2	183	0.061		
106	1.2D + 1.5Lm6 + 1.0Wm (240 deg)	Yes	Y	1	1.2	44	1.5	10	0.061	175	1.2	184	0.061		
107	1.2D + 1.5Lm6 + 1.0Wm (270 deg)	Yes	Y	1	1.2	44	1.5	11	0.061	175	1.2	185	0.061		
108	1.2D + 1.5Lm6 + 1.0Wm (300 deg)	Yes	Y	1	1.2	44	1.5	12	0.061	175	1.2	186	0.061		
109	1.2D + 1.5Lm6 + 1.0Wm (330 deg)	Yes	Y	1	1.2	44	1.5	13	0.061	175	1.2	187	0.061		
110	1.2D + 1.5Lm7 + 1.0Wm (0 deg)	Yes	Y	1	1.2	45	1.5	2	0.061	175	1.2	176	0.061		



Load Combinations (Continued)

	Description	Solve P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
111	1.2D + 1.5Lm7 + 1.0Wm (30 deg)	Yes	Y	1	1.2	45	1.5	3	0.061	175	1.2	177	0.061	
112	1.2D + 1.5Lm7 + 1.0Wm (60 deg)	Yes	Y	1	1.2	45	1.5	4	0.061	175	1.2	178	0.061	
113	1.2D + 1.5Lm7 + 1.0Wm (90 deg)	Yes	Y	1	1.2	45	1.5	5	0.061	175	1.2	179	0.061	
114	1.2D + 1.5Lm7 + 1.0Wm (120 deg)	Yes	Y	1	1.2	45	1.5	6	0.061	175	1.2	180	0.061	
115	1.2D + 1.5Lm7 + 1.0Wm (150 deg)	Yes	Y	1	1.2	45	1.5	7	0.061	175	1.2	181	0.061	
116	1.2D + 1.5Lm7 + 1.0Wm (180 deg)	Yes	Y	1	1.2	45	1.5	8	0.061	175	1.2	182	0.061	
117	1.2D + 1.5Lm7 + 1.0Wm (210 deg)	Yes	Y	1	1.2	45	1.5	9	0.061	175	1.2	183	0.061	
118	1.2D + 1.5Lm7 + 1.0Wm (240 deg)	Yes	Y	1	1.2	45	1.5	10	0.061	175	1.2	184	0.061	
119	1.2D + 1.5Lm7 + 1.0Wm (270 deg)	Yes	Y	1	1.2	45	1.5	11	0.061	175	1.2	185	0.061	
120	1.2D + 1.5Lm7 + 1.0Wm (300 deg)	Yes	Y	1	1.2	45	1.5	12	0.061	175	1.2	186	0.061	
121	1.2D + 1.5Lm7 + 1.0Wm (330 deg)	Yes	Y	1	1.2	45	1.5	13	0.061	175	1.2	187	0.061	
122	1.2D + 1.5Lm8 + 1.0Wm (0 deg)	Yes	Y	1	1.2	46	1.5	2	0.061	175	1.2	176	0.061	
123	1.2D + 1.5Lm8 + 1.0Wm (30 deg)	Yes	Y	1	1.2	46	1.5	3	0.061	175	1.2	177	0.061	
124	1.2D + 1.5Lm8 + 1.0Wm (60 deg)	Yes	Y	1	1.2	46	1.5	4	0.061	175	1.2	178	0.061	
125	1.2D + 1.5Lm8 + 1.0Wm (90 deg)	Yes	Y	1	1.2	46	1.5	5	0.061	175	1.2	179	0.061	
126	1.2D + 1.5Lm8 + 1.0Wm (120 deg)	Yes	Y	1	1.2	46	1.5	6	0.061	175	1.2	180	0.061	
127	1.2D + 1.5Lm8 + 1.0Wm (150 deg)	Yes	Y	1	1.2	46	1.5	7	0.061	175	1.2	181	0.061	
128	1.2D + 1.5Lm8 + 1.0Wm (180 deg)	Yes	Y	1	1.2	46	1.5	8	0.061	175	1.2	182	0.061	
129	1.2D + 1.5Lm8 + 1.0Wm (210 deg)	Yes	Y	1	1.2	46	1.5	9	0.061	175	1.2	183	0.061	
130	1.2D + 1.5Lm8 + 1.0Wm (240 deg)	Yes	Y	1	1.2	46	1.5	10	0.061	175	1.2	184	0.061	
131	1.2D + 1.5Lm8 + 1.0Wm (270 deg)	Yes	Y	1	1.2	46	1.5	11	0.061	175	1.2	185	0.061	
132	1.2D + 1.5Lm8 + 1.0Wm (300 deg)	Yes	Y	1	1.2	46	1.5	12	0.061	175	1.2	186	0.061	
133	1.2D + 1.5Lm8 + 1.0Wm (330 deg)	Yes	Y	1	1.2	46	1.5	13	0.061	175	1.2	187	0.061	
134	1.2D + 1.5Lm9 + 1.0Wm (0 deg)	Yes	Y	1	1.2	47	1.5	2	0.061	175	1.2	176	0.061	
135	1.2D + 1.5Lm9 + 1.0Wm (30 deg)	Yes	Y	1	1.2	47	1.5	3	0.061	175	1.2	177	0.061	
136	1.2D + 1.5Lm9 + 1.0Wm (60 deg)	Yes	Y	1	1.2	47	1.5	4	0.061	175	1.2	178	0.061	
137	1.2D + 1.5Lm9 + 1.0Wm (90 deg)	Yes	Y	1	1.2	47	1.5	5	0.061	175	1.2	179	0.061	
138	1.2D + 1.5Lm9 + 1.0Wm (120 deg)	Yes	Y	1	1.2	47	1.5	6	0.061	175	1.2	180	0.061	
139	1.2D + 1.5Lm9 + 1.0Wm (150 deg)	Yes	Y	1	1.2	47	1.5	7	0.061	175	1.2	181	0.061	
140	1.2D + 1.5Lm9 + 1.0Wm (180 deg)	Yes	Y	1	1.2	47	1.5	8	0.061	175	1.2	182	0.061	
141	1.2D + 1.5Lm9 + 1.0Wm (210 deg)	Yes	Y	1	1.2	47	1.5	9	0.061	175	1.2	183	0.061	
142	1.2D + 1.5Lm9 + 1.0Wm (240 deg)	Yes	Y	1	1.2	47	1.5	10	0.061	175	1.2	184	0.061	
143	1.2D + 1.5Lm9 + 1.0Wm (270 deg)	Yes	Y	1	1.2	47	1.5	11	0.061	175	1.2	185	0.061	
144	1.2D + 1.5Lm9 + 1.0Wm (300 deg)	Yes	Y	1	1.2	47	1.5	12	0.061	175	1.2	186	0.061	
145	1.2D + 1.5Lm9 + 1.0Wm (330 deg)	Yes	Y	1	1.2	47	1.5	13	0.061	175	1.2	187	0.061	
146	1.2D + 1.5Lm10 + 1.0Wm (0 deg)		Y	1	1.2	48	1.5	2	0.061	175	1.2	176	0.061	
147	1.2D + 1.5Lm10 + 1.0Wm (30 deg)		Y	1	1.2	48	1.5	3	0.061	175	1.2	177	0.061	
148	1.2D + 1.5Lm10 + 1.0Wm (60 deg)		Y	1	1.2	48	1.5	4	0.061	175	1.2	178	0.061	
149	1.2D + 1.5Lm10 + 1.0Wm (90 deg)		Y	1	1.2	48	1.5	5	0.061	175	1.2	179	0.061	
150	1.2D + 1.5Lm10 + 1.0Wm (120 deg)		Y	1	1.2	48	1.5	6	0.061	175	1.2	180	0.061	
151	1.2D + 1.5Lm10 + 1.0Wm (150 deg)		Y	1	1.2	48	1.5	7	0.061	175	1.2	181	0.061	
152	1.2D + 1.5Lm10 + 1.0Wm (180 deg)		Y	1	1.2	48	1.5	8	0.061	175	1.2	182	0.061	
153	1.2D + 1.5Lm10 + 1.0Wm (210 deg)		Y	1	1.2	48	1.5	9	0.061	175	1.2	183	0.061	
154	1.2D + 1.5Lm10 + 1.0Wm (240 deg)		Y	1	1.2	48	1.5	10	0.061	175	1.2	184	0.061	
155	1.2D + 1.5Lm10 + 1.0Wm (270 deg)		Y	1	1.2	48	1.5	11	0.061	175	1.2	185	0.061	
156	1.2D + 1.5Lm10 + 1.0Wm (300 deg)		Y	1	1.2	48	1.5	12	0.061	175	1.2	186	0.061	
157	1.2D + 1.5Lm10 + 1.0Wm (330 deg)		Y	1	1.2	48	1.5	13	0.061	175	1.2	187	0.061	
158	1.2D + 1.5Lm11 + 1.0Wm (0 deg)		Y	1	1.2	49	1.5	2	0.061	175	1.2	176	0.061	
159	1.2D + 1.5Lm11 + 1.0Wm (30 deg)		Y	1	1.2	49	1.5	3	0.061	175	1.2	177	0.061	
160	1.2D + 1.5Lm11 + 1.0Wm (60 deg)		Y	1	1.2	49	1.5	4	0.061	175	1.2	178	0.061	
161	1.2D + 1.5Lm11 + 1.0Wm (90 deg)		Y	1	1.2	49	1.5	5	0.061	175	1.2	179	0.061	
162	1.2D + 1.5Lm11 + 1.0Wm (120 deg)		Y	1	1.2	49	1.5	6	0.061	175	1.2	180	0.061	
163	1.2D + 1.5Lm11 + 1.0Wm (150 deg)		Y	1	1.2	49	1.5	7	0.061	175	1.2	181	0.061	
164	1.2D + 1.5Lm11 + 1.0Wm (180 deg)		Y	1	1.2	49	1.5	8	0.061	175	1.2	182	0.061	
165	1.2D + 1.5Lm11 + 1.0Wm (210 deg)		Y	1	1.2	49	1.5	9	0.061	175	1.2	183	0.061	



Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
166	1.2D + 1.5Lm11 + 1.0Wm (240 deg)		Y	1	1.2	49	1.5	10	0.061	175	1.2	184	0.061		
167	1.2D + 1.5Lm11 + 1.0Wm (270 deg)		Y	1	1.2	49	1.5	11	0.061	175	1.2	185	0.061		
168	1.2D + 1.5Lm11 + 1.0Wm (300 deg)		Y	1	1.2	49	1.5	12	0.061	175	1.2	186	0.061		
169	1.2D + 1.5Lm11 + 1.0Wm (330 deg)		Y	1	1.2	49	1.5	13	0.061	175	1.2	187	0.061		
170	1.2D + 1.5Lm12 + 1.0Wm (0 deg)		Y	1	1.2	50	1.5	2	0.061	175	1.2	176	0.061		
171	1.2D + 1.5Lm12 + 1.0Wm (30 deg)		Y	1	1.2	50	1.5	3	0.061	175	1.2	177	0.061		
172	1.2D + 1.5Lm12 + 1.0Wm (60 deg)		Y	1	1.2	50	1.5	4	0.061	175	1.2	178	0.061		
173	1.2D + 1.5Lm12 + 1.0Wm (90 deg)		Y	1	1.2	50	1.5	5	0.061	175	1.2	179	0.061		
174	1.2D + 1.5Lm12 + 1.0Wm (120 deg)		Y	1	1.2	50	1.5	6	0.061	175	1.2	180	0.061		
175	1.2D + 1.5Lm12 + 1.0Wm (150 deg)		Y	1	1.2	50	1.5	7	0.061	175	1.2	181	0.061		
176	1.2D + 1.5Lm12 + 1.0Wm (180 deg)		Y	1	1.2	50	1.5	8	0.061	175	1.2	182	0.061		
177	1.2D + 1.5Lm12 + 1.0Wm (210 deg)		Y	1	1.2	50	1.5	9	0.061	175	1.2	183	0.061		
178	1.2D + 1.5Lm12 + 1.0Wm (240 deg)		Y	1	1.2	50	1.5	10	0.061	175	1.2	184	0.061		
179	1.2D + 1.5Lm12 + 1.0Wm (270 deg)		Y	1	1.2	50	1.5	11	0.061	175	1.2	185	0.061		
180	1.2D + 1.5Lm12 + 1.0Wm (300 deg)		Y	1	1.2	50	1.5	12	0.061	175	1.2	186	0.061		
181	1.2D + 1.5Lm12 + 1.0Wm (330 deg)		Y	1	1.2	50	1.5	13	0.061	175	1.2	187	0.061		
182	1.2D + 1.5Lm13 + 1.0Wm (0 deg)		Y	1	1.2	51	1.5	2	0.061	175	1.2	176	0.061		
183	1.2D + 1.5Lm13 + 1.0Wm (30 deg)		Y	1	1.2	51	1.5	3	0.061	175	1.2	177	0.061		
184	1.2D + 1.5Lm13 + 1.0Wm (60 deg)		Y	1	1.2	51	1.5	4	0.061	175	1.2	178	0.061		
185	1.2D + 1.5Lm13 + 1.0Wm (90 deg)		Y	1	1.2	51	1.5	5	0.061	175	1.2	179	0.061		
186	1.2D + 1.5Lm13 + 1.0Wm (120 deg)		Y	1	1.2	51	1.5	6	0.061	175	1.2	180	0.061		
187	1.2D + 1.5Lm13 + 1.0Wm (150 deg)		Y	1	1.2	51	1.5	7	0.061	175	1.2	181	0.061		
188	1.2D + 1.5Lm13 + 1.0Wm (180 deg)		Y	1	1.2	51	1.5	8	0.061	175	1.2	182	0.061		
189	1.2D + 1.5Lm13 + 1.0Wm (210 deg)		Y	1	1.2	51	1.5	9	0.061	175	1.2	183	0.061		
190	1.2D + 1.5Lm13 + 1.0Wm (240 deg)		Y	1	1.2	51	1.5	10	0.061	175	1.2	184	0.061		
191	1.2D + 1.5Lm13 + 1.0Wm (270 deg)		Y	1	1.2	51	1.5	11	0.061	175	1.2	185	0.061		
192	1.2D + 1.5Lm13 + 1.0Wm (300 deg)		Y	1	1.2	51	1.5	12	0.061	175	1.2	186	0.061		
193	1.2D + 1.5Lm13 + 1.0Wm (330 deg)		Y	1	1.2	51	1.5	13	0.061	175	1.2	187	0.061		
194	1.2D + 1.5Lm14 + 1.0Wm (0 deg)		Y	1	1.2	52	1.5	2	0.061	175	1.2	176	0.061		
195	1.2D + 1.5Lm14 + 1.0Wm (30 deg)		Y	1	1.2	52	1.5	3	0.061	175	1.2	177	0.061		
196	1.2D + 1.5Lm14 + 1.0Wm (60 deg)		Y	1	1.2	52	1.5	4	0.061	175	1.2	178	0.061		
197	1.2D + 1.5Lm14 + 1.0Wm (90 deg)		Y	1	1.2	52	1.5	5	0.061	175	1.2	179	0.061		
198	1.2D + 1.5Lm14 + 1.0Wm (120 deg)		Y	1	1.2	52	1.5	6	0.061	175	1.2	180	0.061		
199	1.2D + 1.5Lm14 + 1.0Wm (150 deg)		Y	1	1.2	52	1.5	7	0.061	175	1.2	181	0.061		
200	1.2D + 1.5Lm14 + 1.0Wm (180 deg)		Y	1	1.2	52	1.5	8	0.061	175	1.2	182	0.061		
201	1.2D + 1.5Lm14 + 1.0Wm (210 deg)		Y	1	1.2	52	1.5	9	0.061	175	1.2	183	0.061		
202	1.2D + 1.5Lm14 + 1.0Wm (240 deg)		Y	1	1.2	52	1.5	10	0.061	175	1.2	184	0.061		
203	1.2D + 1.5Lm14 + 1.0Wm (270 deg)		Y	1	1.2	52	1.5	11	0.061	175	1.2	185	0.061		
204	1.2D + 1.5Lm14 + 1.0Wm (300 deg)		Y	1	1.2	52	1.5	12	0.061	175	1.2	186	0.061		
205	1.2D + 1.5Lm14 + 1.0Wm (330 deg)		Y	1	1.2	52	1.5	13	0.061	175	1.2	187	0.061		
206	1.2D + 1.5Lm15 + 1.0Wm (0 deg)		Y	1	1.2	53	1.5	2	0.061	175	1.2	176	0.061		
207	1.2D + 1.5Lm15 + 1.0Wm (30 deg)		Y	1	1.2	53	1.5	3	0.061	175	1.2	177	0.061		
208	1.2D + 1.5Lm15 + 1.0Wm (60 deg)		Y	1	1.2	53	1.5	4	0.061	175	1.2	178	0.061		
209	1.2D + 1.5Lm15 + 1.0Wm (90 deg)		Y	1	1.2	53	1.5	5	0.061	175	1.2	179	0.061		
210	1.2D + 1.5Lm15 + 1.0Wm (120 deg)		Y	1	1.2	53	1.5	6	0.061	175	1.2	180	0.061		
211	1.2D + 1.5Lm15 + 1.0Wm (150 deg)		Y	1	1.2	53	1.5	7	0.061	175	1.2	181	0.061		
212	1.2D + 1.5Lm15 + 1.0Wm (180 deg)		Y	1	1.2	53	1.5	8	0.061	175	1.2	182	0.061		
213	1.2D + 1.5Lm15 + 1.0Wm (210 deg)		Y	1	1.2	53	1.5	9	0.061	175	1.2	183	0.061		
214	1.2D + 1.5Lm15 + 1.0Wm (240 deg)		Y	1	1.2	53	1.5	10	0.061	175	1.2	184	0.061		
215	1.2D + 1.5Lm15 + 1.0Wm (270 deg)		Y	1	1.2	53	1.5	11	0.061	175	1.2	185	0.061		
216	1.2D + 1.5Lm15 + 1.0Wm (300 deg)		Y	1	1.2	53	1.5	12	0.061	175	1.2	186	0.061		
217	1.2D + 1.5Lm15 + 1.0Wm (330 deg)		Y	1	1.2	53	1.5	13	0.061	175	1.2	187	0.061		
218	1.2D + 1.5Lm16 + 1.0Wm (0 deg)		Y	1	1.2	54	1.5	2	0.061	175	1.2	176	0.061		
219	1.2D + 1.5Lm16 + 1.0Wm (30 deg)		Y	1	1.2	54	1.5	3	0.061	175	1.2	177	0.061		
220	1.2D + 1.5Lm16 + 1.0Wm (60 deg)		Y	1	1.2	54	1.5	4	0.061	175	1.2	178	0.061		



Load Combinations (Continued)

	Description	Solve P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
221	1.2D + 1.5Lm16 + 1.0Wm (90 deg)	Y	1	1.2	54	1.5	5	0.061	175	1.2	179	0.061		
222	1.2D + 1.5Lm16 + 1.0Wm (120 deg)	Y	1	1.2	54	1.5	6	0.061	175	1.2	180	0.061		
223	1.2D + 1.5Lm16 + 1.0Wm (150 deg)	Y	1	1.2	54	1.5	7	0.061	175	1.2	181	0.061		
224	1.2D + 1.5Lm16 + 1.0Wm (180 deg)	Y	1	1.2	54	1.5	8	0.061	175	1.2	182	0.061		
225	1.2D + 1.5Lm16 + 1.0Wm (210 deg)	Y	1	1.2	54	1.5	9	0.061	175	1.2	183	0.061		
226	1.2D + 1.5Lm16 + 1.0Wm (240 deg)	Y	1	1.2	54	1.5	10	0.061	175	1.2	184	0.061		
227	1.2D + 1.5Lm16 + 1.0Wm (270 deg)	Y	1	1.2	54	1.5	11	0.061	175	1.2	185	0.061		
228	1.2D + 1.5Lm16 + 1.0Wm (300 deg)	Y	1	1.2	54	1.5	12	0.061	175	1.2	186	0.061		
229	1.2D + 1.5Lm16 + 1.0Wm (330 deg)	Y	1	1.2	54	1.5	13	0.061	175	1.2	187	0.061		
230	1.2D + 1.5Lm17 + 1.0Wm (0 deg)	Y	1	1.2	55	1.5	2	0.061	175	1.2	176	0.061		
231	1.2D + 1.5Lm17 + 1.0Wm (30 deg)	Y	1	1.2	55	1.5	3	0.061	175	1.2	177	0.061		
232	1.2D + 1.5Lm17 + 1.0Wm (60 deg)	Y	1	1.2	55	1.5	4	0.061	175	1.2	178	0.061		
233	1.2D + 1.5Lm17 + 1.0Wm (90 deg)	Y	1	1.2	55	1.5	5	0.061	175	1.2	179	0.061		
234	1.2D + 1.5Lm17 + 1.0Wm (120 deg)	Y	1	1.2	55	1.5	6	0.061	175	1.2	180	0.061		
235	1.2D + 1.5Lm17 + 1.0Wm (150 deg)	Y	1	1.2	55	1.5	7	0.061	175	1.2	181	0.061		
236	1.2D + 1.5Lm17 + 1.0Wm (180 deg)	Y	1	1.2	55	1.5	8	0.061	175	1.2	182	0.061		
237	1.2D + 1.5Lm17 + 1.0Wm (210 deg)	Y	1	1.2	55	1.5	9	0.061	175	1.2	183	0.061		
238	1.2D + 1.5Lm17 + 1.0Wm (240 deg)	Y	1	1.2	55	1.5	10	0.061	175	1.2	184	0.061		
239	1.2D + 1.5Lm17 + 1.0Wm (270 deg)	Y	1	1.2	55	1.5	11	0.061	175	1.2	185	0.061		
240	1.2D + 1.5Lm17 + 1.0Wm (300 deg)	Y	1	1.2	55	1.5	12	0.061	175	1.2	186	0.061		
241	1.2D + 1.5Lm17 + 1.0Wm (330 deg)	Y	1	1.2	55	1.5	13	0.061	175	1.2	187	0.061		
242	1.2D + 1.5Lm18 + 1.0Wm (0 deg)	Y	1	1.2	56	1.5	2	0.061	175	1.2	176	0.061		
243	1.2D + 1.5Lm18 + 1.0Wm (30 deg)	Y	1	1.2	56	1.5	3	0.061	175	1.2	177	0.061		
244	1.2D + 1.5Lm18 + 1.0Wm (60 deg)	Y	1	1.2	56	1.5	4	0.061	175	1.2	178	0.061		
245	1.2D + 1.5Lm18 + 1.0Wm (90 deg)	Y	1	1.2	56	1.5	5	0.061	175	1.2	179	0.061		
246	1.2D + 1.5Lm18 + 1.0Wm (120 deg)	Y	1	1.2	56	1.5	6	0.061	175	1.2	180	0.061		
247	1.2D + 1.5Lm18 + 1.0Wm (150 deg)	Y	1	1.2	56	1.5	7	0.061	175	1.2	181	0.061		
248	1.2D + 1.5Lm18 + 1.0Wm (180 deg)	Y	1	1.2	56	1.5	8	0.061	175	1.2	182	0.061		
249	1.2D + 1.5Lm18 + 1.0Wm (210 deg)	Y	1	1.2	56	1.5	9	0.061	175	1.2	183	0.061		
250	1.2D + 1.5Lm18 + 1.0Wm (240 deg)	Y	1	1.2	56	1.5	10	0.061	175	1.2	184	0.061		
251	1.2D + 1.5Lm18 + 1.0Wm (270 deg)	Y	1	1.2	56	1.5	11	0.061	175	1.2	185	0.061		
252	1.2D + 1.5Lm18 + 1.0Wm (300 deg)	Y	1	1.2	56	1.5	12	0.061	175	1.2	186	0.061		
253	1.2D + 1.5Lm18 + 1.0Wm (330 deg)	Y	1	1.2	56	1.5	13	0.061	175	1.2	187	0.061		
254	1.2D + 1.5Lm19 + 1.0Wm (0 deg)	Y	1	1.2	57	1.5	2	0.061	175	1.2	176	0.061		
255	1.2D + 1.5Lm19 + 1.0Wm (30 deg)	Y	1	1.2	57	1.5	3	0.061	175	1.2	177	0.061		
256	1.2D + 1.5Lm19 + 1.0Wm (60 deg)	Y	1	1.2	57	1.5	4	0.061	175	1.2	178	0.061		
257	1.2D + 1.5Lm19 + 1.0Wm (90 deg)	Y	1	1.2	57	1.5	5	0.061	175	1.2	179	0.061		
258	1.2D + 1.5Lm19 + 1.0Wm (120 deg)	Y	1	1.2	57	1.5	6	0.061	175	1.2	180	0.061		
259	1.2D + 1.5Lm19 + 1.0Wm (150 deg)	Y	1	1.2	57	1.5	7	0.061	175	1.2	181	0.061		
260	1.2D + 1.5Lm19 + 1.0Wm (180 deg)	Y	1	1.2	57	1.5	8	0.061	175	1.2	182	0.061		
261	1.2D + 1.5Lm19 + 1.0Wm (210 deg)	Y	1	1.2	57	1.5	9	0.061	175	1.2	183	0.061		
262	1.2D + 1.5Lm19 + 1.0Wm (240 deg)	Y	1	1.2	57	1.5	10	0.061	175	1.2	184	0.061		
263	1.2D + 1.5Lm19 + 1.0Wm (270 deg)	Y	1	1.2	57	1.5	11	0.061	175	1.2	185	0.061		
264	1.2D + 1.5Lm19 + 1.0Wm (300 deg)	Y	1	1.2	57	1.5	12	0.061	175	1.2	186	0.061		
265	1.2D + 1.5Lm19 + 1.0Wm (330 deg)	Y	1	1.2	57	1.5	13	0.061	175	1.2	187	0.061		
266	1.2D + 1.5Lm20 + 1.0Wm (0 deg)	Y	1	1.2	58	1.5	2	0.061	175	1.2	176	0.061		
267	1.2D + 1.5Lm20 + 1.0Wm (30 deg)	Y	1	1.2	58	1.5	3	0.061	175	1.2	177	0.061		
268	1.2D + 1.5Lm20 + 1.0Wm (60 deg)	Y	1	1.2	58	1.5	4	0.061	175	1.2	178	0.061		
269	1.2D + 1.5Lm20 + 1.0Wm (90 deg)	Y	1	1.2	58	1.5	5	0.061	175	1.2	179	0.061		
270	1.2D + 1.5Lm20 + 1.0Wm (120 deg)	Y	1	1.2	58	1.5	6	0.061	175	1.2	180	0.061		
271	1.2D + 1.5Lm20 + 1.0Wm (150 deg)	Y	1	1.2	58	1.5	7	0.061	175	1.2	181	0.061		
272	1.2D + 1.5Lm20 + 1.0Wm (180 deg)	Y	1	1.2	58	1.5	8	0.061	175	1.2	182	0.061		
273	1.2D + 1.5Lm20 + 1.0Wm (210 deg)	Y	1	1.2	58	1.5	9	0.061	175	1.2	183	0.061		
274	1.2D + 1.5Lm20 + 1.0Wm (240 deg)	Y	1	1.2	58	1.5	10	0.061	175	1.2	184	0.061		
275	1.2D + 1.5Lm20 + 1.0Wm (270 deg)	Y	1	1.2	58	1.5	11	0.061	175	1.2	185	0.061		



Load Combinations (Continued)

	Description	Solve P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
276	1.2D + 1.5Lm20 + 1.0Wm (300 deg)		Y	1	1.2	58	1.5	12	0.061	175	1.2	186	0.061	
277	1.2D + 1.5Lm20 + 1.0Wm (330 deg)		Y	1	1.2	58	1.5	13	0.061	175	1.2	187	0.061	
278	1.2D + 1.5Lm21 + 1.0Wm (0 deg)		Y	1	1.2	59	1.5	2	0.061	175	1.2	176	0.061	
279	1.2D + 1.5Lm21 + 1.0Wm (30 deg)		Y	1	1.2	59	1.5	3	0.061	175	1.2	177	0.061	
280	1.2D + 1.5Lm21 + 1.0Wm (60 deg)		Y	1	1.2	59	1.5	4	0.061	175	1.2	178	0.061	
281	1.2D + 1.5Lm21 + 1.0Wm (90 deg)		Y	1	1.2	59	1.5	5	0.061	175	1.2	179	0.061	
282	1.2D + 1.5Lm21 + 1.0Wm (120 deg)		Y	1	1.2	59	1.5	6	0.061	175	1.2	180	0.061	
283	1.2D + 1.5Lm21 + 1.0Wm (150 deg)		Y	1	1.2	59	1.5	7	0.061	175	1.2	181	0.061	
284	1.2D + 1.5Lm21 + 1.0Wm (180 deg)		Y	1	1.2	59	1.5	8	0.061	175	1.2	182	0.061	
285	1.2D + 1.5Lm21 + 1.0Wm (210 deg)		Y	1	1.2	59	1.5	9	0.061	175	1.2	183	0.061	
286	1.2D + 1.5Lm21 + 1.0Wm (240 deg)		Y	1	1.2	59	1.5	10	0.061	175	1.2	184	0.061	
287	1.2D + 1.5Lm21 + 1.0Wm (270 deg)		Y	1	1.2	59	1.5	11	0.061	175	1.2	185	0.061	
288	1.2D + 1.5Lm21 + 1.0Wm (300 deg)		Y	1	1.2	59	1.5	12	0.061	175	1.2	186	0.061	
289	1.2D + 1.5Lm21 + 1.0Wm (330 deg)		Y	1	1.2	59	1.5	13	0.061	175	1.2	187	0.061	
290	1.2D + 1.5Lm22 + 1.0Wm (0 deg)		Y	1	1.2	60	1.5	2	0.061	175	1.2	176	0.061	
291	1.2D + 1.5Lm22 + 1.0Wm (30 deg)		Y	1	1.2	60	1.5	3	0.061	175	1.2	177	0.061	
292	1.2D + 1.5Lm22 + 1.0Wm (60 deg)		Y	1	1.2	60	1.5	4	0.061	175	1.2	178	0.061	
293	1.2D + 1.5Lm22 + 1.0Wm (90 deg)		Y	1	1.2	60	1.5	5	0.061	175	1.2	179	0.061	
294	1.2D + 1.5Lm22 + 1.0Wm (120 deg)		Y	1	1.2	60	1.5	6	0.061	175	1.2	180	0.061	
295	1.2D + 1.5Lm22 + 1.0Wm (150 deg)		Y	1	1.2	60	1.5	7	0.061	175	1.2	181	0.061	
296	1.2D + 1.5Lm22 + 1.0Wm (180 deg)		Y	1	1.2	60	1.5	8	0.061	175	1.2	182	0.061	
297	1.2D + 1.5Lm22 + 1.0Wm (210 deg)		Y	1	1.2	60	1.5	9	0.061	175	1.2	183	0.061	
298	1.2D + 1.5Lm22 + 1.0Wm (240 deg)		Y	1	1.2	60	1.5	10	0.061	175	1.2	184	0.061	
299	1.2D + 1.5Lm22 + 1.0Wm (270 deg)		Y	1	1.2	60	1.5	11	0.061	175	1.2	185	0.061	
300	1.2D + 1.5Lm22 + 1.0Wm (300 deg)		Y	1	1.2	60	1.5	12	0.061	175	1.2	186	0.061	
301	1.2D + 1.5Lm22 + 1.0Wm (330 deg)		Y	1	1.2	60	1.5	13	0.061	175	1.2	187	0.061	
302	1.2D + 1.5Lm23 + 1.0Wm (0 deg)		Y	1	1.2	61	1.5	2	0.061	175	1.2	176	0.061	
303	1.2D + 1.5Lm23 + 1.0Wm (30 deg)		Y	1	1.2	61	1.5	3	0.061	175	1.2	177	0.061	
304	1.2D + 1.5Lm23 + 1.0Wm (60 deg)		Y	1	1.2	61	1.5	4	0.061	175	1.2	178	0.061	
305	1.2D + 1.5Lm23 + 1.0Wm (90 deg)		Y	1	1.2	61	1.5	5	0.061	175	1.2	179	0.061	
306	1.2D + 1.5Lm23 + 1.0Wm (120 deg)		Y	1	1.2	61	1.5	6	0.061	175	1.2	180	0.061	
307	1.2D + 1.5Lm23 + 1.0Wm (150 deg)		Y	1	1.2	61	1.5	7	0.061	175	1.2	181	0.061	
308	1.2D + 1.5Lm23 + 1.0Wm (180 deg)		Y	1	1.2	61	1.5	8	0.061	175	1.2	182	0.061	
309	1.2D + 1.5Lm23 + 1.0Wm (210 deg)		Y	1	1.2	61	1.5	9	0.061	175	1.2	183	0.061	
310	1.2D + 1.5Lm23 + 1.0Wm (240 deg)		Y	1	1.2	61	1.5	10	0.061	175	1.2	184	0.061	
311	1.2D + 1.5Lm23 + 1.0Wm (270 deg)		Y	1	1.2	61	1.5	11	0.061	175	1.2	185	0.061	
312	1.2D + 1.5Lm23 + 1.0Wm (300 deg)		Y	1	1.2	61	1.5	12	0.061	175	1.2	186	0.061	
313	1.2D + 1.5Lm23 + 1.0Wm (330 deg)		Y	1	1.2	61	1.5	13	0.061	175	1.2	187	0.061	
314	1.2D + 1.5Lm24 + 1.0Wm (0 deg)		Y	1	1.2	62	1.5	2	0.061	175	1.2	176	0.061	
315	1.2D + 1.5Lm24 + 1.0Wm (30 deg)		Y	1	1.2	62	1.5	3	0.061	175	1.2	177	0.061	
316	1.2D + 1.5Lm24 + 1.0Wm (60 deg)		Y	1	1.2	62	1.5	4	0.061	175	1.2	178	0.061	
317	1.2D + 1.5Lm24 + 1.0Wm (90 deg)		Y	1	1.2	62	1.5	5	0.061	175	1.2	179	0.061	
318	1.2D + 1.5Lm24 + 1.0Wm (120 deg)		Y	1	1.2	62	1.5	6	0.061	175	1.2	180	0.061	
319	1.2D + 1.5Lm24 + 1.0Wm (150 deg)		Y	1	1.2	62	1.5	7	0.061	175	1.2	181	0.061	
320	1.2D + 1.5Lm24 + 1.0Wm (180 deg)		Y	1	1.2	62	1.5	8	0.061	175	1.2	182	0.061	
321	1.2D + 1.5Lm24 + 1.0Wm (210 deg)		Y	1	1.2	62	1.5	9	0.061	175	1.2	183	0.061	
322	1.2D + 1.5Lm24 + 1.0Wm (240 deg)		Y	1	1.2	62	1.5	10	0.061	175	1.2	184	0.061	
323	1.2D + 1.5Lm24 + 1.0Wm (270 deg)		Y	1	1.2	62	1.5	11	0.061	175	1.2	185	0.061	
324	1.2D + 1.5Lm24 + 1.0Wm (300 deg)		Y	1	1.2	62	1.5	12	0.061	175	1.2	186	0.061	
325	1.2D + 1.5Lm24 + 1.0Wm (330 deg)		Y	1	1.2	62	1.5	13	0.061	175	1.2	187	0.061	
326	1.2D + 1.5Lm25 + 1.0Wm (0 deg)		Y	1	1.2	63	1.5	2	0.061	175	1.2	176	0.061	
327	1.2D + 1.5Lm25 + 1.0Wm (30 deg)		Y	1	1.2	63	1.5	3	0.061	175	1.2	177	0.061	
328	1.2D + 1.5Lm25 + 1.0Wm (60 deg)		Y	1	1.2	63	1.5	4	0.061	175	1.2	178	0.061	
329	1.2D + 1.5Lm25 + 1.0Wm (90 deg)		Y	1	1.2	63	1.5	5	0.061	175	1.2	179	0.061	
330	1.2D + 1.5Lm25 + 1.0Wm (120 deg)		Y	1	1.2	63	1.5	6	0.061	175	1.2	180	0.061	



Load Combinations (Continued)

	Description	Solve P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
331	1.2D + 1.5Lm25 + 1.0Wm (150 deg)	Y	1	1.2	63	1.5	7	0.061	175	1.2	181	0.061		
332	1.2D + 1.5Lm25 + 1.0Wm (180 deg)	Y	1	1.2	63	1.5	8	0.061	175	1.2	182	0.061		
333	1.2D + 1.5Lm25 + 1.0Wm (210 deg)	Y	1	1.2	63	1.5	9	0.061	175	1.2	183	0.061		
334	1.2D + 1.5Lm25 + 1.0Wm (240 deg)	Y	1	1.2	63	1.5	10	0.061	175	1.2	184	0.061		
335	1.2D + 1.5Lm25 + 1.0Wm (270 deg)	Y	1	1.2	63	1.5	11	0.061	175	1.2	185	0.061		
336	1.2D + 1.5Lm25 + 1.0Wm (300 deg)	Y	1	1.2	63	1.5	12	0.061	175	1.2	186	0.061		
337	1.2D + 1.5Lm25 + 1.0Wm (330 deg)	Y	1	1.2	63	1.5	13	0.061	175	1.2	187	0.061		
338	1.2D + 1.5Lm26 + 1.0Wm (0 deg)	Y	1	1.2	64	1.5	2	0.061	175	1.2	176	0.061		
339	1.2D + 1.5Lm26 + 1.0Wm (30 deg)	Y	1	1.2	64	1.5	3	0.061	175	1.2	177	0.061		
340	1.2D + 1.5Lm26 + 1.0Wm (60 deg)	Y	1	1.2	64	1.5	4	0.061	175	1.2	178	0.061		
341	1.2D + 1.5Lm26 + 1.0Wm (90 deg)	Y	1	1.2	64	1.5	5	0.061	175	1.2	179	0.061		
342	1.2D + 1.5Lm26 + 1.0Wm (120 deg)	Y	1	1.2	64	1.5	6	0.061	175	1.2	180	0.061		
343	1.2D + 1.5Lm26 + 1.0Wm (150 deg)	Y	1	1.2	64	1.5	7	0.061	175	1.2	181	0.061		
344	1.2D + 1.5Lm26 + 1.0Wm (180 deg)	Y	1	1.2	64	1.5	8	0.061	175	1.2	182	0.061		
345	1.2D + 1.5Lm26 + 1.0Wm (210 deg)	Y	1	1.2	64	1.5	9	0.061	175	1.2	183	0.061		
346	1.2D + 1.5Lm26 + 1.0Wm (240 deg)	Y	1	1.2	64	1.5	10	0.061	175	1.2	184	0.061		
347	1.2D + 1.5Lm26 + 1.0Wm (270 deg)	Y	1	1.2	64	1.5	11	0.061	175	1.2	185	0.061		
348	1.2D + 1.5Lm26 + 1.0Wm (300 deg)	Y	1	1.2	64	1.5	12	0.061	175	1.2	186	0.061		
349	1.2D + 1.5Lm26 + 1.0Wm (330 deg)	Y	1	1.2	64	1.5	13	0.061	175	1.2	187	0.061		
350	1.2D + 1.5Lm27 + 1.0Wm (0 deg)	Y	1	1.2	65	1.5	2	0.061	175	1.2	176	0.061		
351	1.2D + 1.5Lm27 + 1.0Wm (30 deg)	Y	1	1.2	65	1.5	3	0.061	175	1.2	177	0.061		
352	1.2D + 1.5Lm27 + 1.0Wm (60 deg)	Y	1	1.2	65	1.5	4	0.061	175	1.2	178	0.061		
353	1.2D + 1.5Lm27 + 1.0Wm (90 deg)	Y	1	1.2	65	1.5	5	0.061	175	1.2	179	0.061		
354	1.2D + 1.5Lm27 + 1.0Wm (120 deg)	Y	1	1.2	65	1.5	6	0.061	175	1.2	180	0.061		
355	1.2D + 1.5Lm27 + 1.0Wm (150 deg)	Y	1	1.2	65	1.5	7	0.061	175	1.2	181	0.061		
356	1.2D + 1.5Lm27 + 1.0Wm (180 deg)	Y	1	1.2	65	1.5	8	0.061	175	1.2	182	0.061		
357	1.2D + 1.5Lm27 + 1.0Wm (210 deg)	Y	1	1.2	65	1.5	9	0.061	175	1.2	183	0.061		
358	1.2D + 1.5Lm27 + 1.0Wm (240 deg)	Y	1	1.2	65	1.5	10	0.061	175	1.2	184	0.061		
359	1.2D + 1.5Lm27 + 1.0Wm (270 deg)	Y	1	1.2	65	1.5	11	0.061	175	1.2	185	0.061		
360	1.2D + 1.5Lm27 + 1.0Wm (300 deg)	Y	1	1.2	65	1.5	12	0.061	175	1.2	186	0.061		
361	1.2D + 1.5Lm27 + 1.0Wm (330 deg)	Y	1	1.2	65	1.5	13	0.061	175	1.2	187	0.061		
362	1.2D + 1.5Lm28 + 1.0Wm (0 deg)	Y	1	1.2	66	1.5	2	0.061	175	1.2	176	0.061		
363	1.2D + 1.5Lm28 + 1.0Wm (30 deg)	Y	1	1.2	66	1.5	3	0.061	175	1.2	177	0.061		
364	1.2D + 1.5Lm28 + 1.0Wm (60 deg)	Y	1	1.2	66	1.5	4	0.061	175	1.2	178	0.061		
365	1.2D + 1.5Lm28 + 1.0Wm (90 deg)	Y	1	1.2	66	1.5	5	0.061	175	1.2	179	0.061		
366	1.2D + 1.5Lm28 + 1.0Wm (120 deg)	Y	1	1.2	66	1.5	6	0.061	175	1.2	180	0.061		
367	1.2D + 1.5Lm28 + 1.0Wm (150 deg)	Y	1	1.2	66	1.5	7	0.061	175	1.2	181	0.061		
368	1.2D + 1.5Lm28 + 1.0Wm (180 deg)	Y	1	1.2	66	1.5	8	0.061	175	1.2	182	0.061		
369	1.2D + 1.5Lm28 + 1.0Wm (210 deg)	Y	1	1.2	66	1.5	9	0.061	175	1.2	183	0.061		
370	1.2D + 1.5Lm28 + 1.0Wm (240 deg)	Y	1	1.2	66	1.5	10	0.061	175	1.2	184	0.061		
371	1.2D + 1.5Lm28 + 1.0Wm (270 deg)	Y	1	1.2	66	1.5	11	0.061	175	1.2	185	0.061		
372	1.2D + 1.5Lm28 + 1.0Wm (300 deg)	Y	1	1.2	66	1.5	12	0.061	175	1.2	186	0.061		
373	1.2D + 1.5Lm28 + 1.0Wm (330 deg)	Y	1	1.2	66	1.5	13	0.061	175	1.2	187	0.061		
374	1.2D + 1.5Lm29 + 1.0Wm (0 deg)	Y	1	1.2	67	1.5	2	0.061	175	1.2	176	0.061		
375	1.2D + 1.5Lm29 + 1.0Wm (30 deg)	Y	1	1.2	67	1.5	3	0.061	175	1.2	177	0.061		
376	1.2D + 1.5Lm29 + 1.0Wm (60 deg)	Y	1	1.2	67	1.5	4	0.061	175	1.2	178	0.061		
377	1.2D + 1.5Lm29 + 1.0Wm (90 deg)	Y	1	1.2	67	1.5	5	0.061	175	1.2	179	0.061		
378	1.2D + 1.5Lm29 + 1.0Wm (120 deg)	Y	1	1.2	67	1.5	6	0.061	175	1.2	180	0.061		
379	1.2D + 1.5Lm29 + 1.0Wm (150 deg)	Y	1	1.2	67	1.5	7	0.061	175	1.2	181	0.061		
380	1.2D + 1.5Lm29 + 1.0Wm (180 deg)	Y	1	1.2	67	1.5	8	0.061	175	1.2	182	0.061		
381	1.2D + 1.5Lm29 + 1.0Wm (210 deg)	Y	1	1.2	67	1.5	9	0.061	175	1.2	183	0.061		
382	1.2D + 1.5Lm29 + 1.0Wm (240 deg)	Y	1	1.2	67	1.5	10	0.061	175	1.2	184	0.061		
383	1.2D + 1.5Lm29 + 1.0Wm (270 deg)	Y	1	1.2	67	1.5	11	0.061	175	1.2	185	0.061		
384	1.2D + 1.5Lm29 + 1.0Wm (300 deg)	Y	1	1.2	67	1.5	12	0.061	175	1.2	186	0.061		
385	1.2D + 1.5Lm29 + 1.0Wm (330 deg)	Y	1	1.2	67	1.5	13	0.061	175	1.2	187	0.061		



Load Combinations (Continued)

	Description	Solve P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
386	1.2D + 1.5Lm30 + 1.0Wm (0 deg)		Y	1	1.2	68	1.5	2	0.061	175	1.2	176	0.061	
387	1.2D + 1.5Lm30 + 1.0Wm (30 deg)		Y	1	1.2	68	1.5	3	0.061	175	1.2	177	0.061	
388	1.2D + 1.5Lm30 + 1.0Wm (60 deg)		Y	1	1.2	68	1.5	4	0.061	175	1.2	178	0.061	
389	1.2D + 1.5Lm30 + 1.0Wm (90 deg)		Y	1	1.2	68	1.5	5	0.061	175	1.2	179	0.061	
390	1.2D + 1.5Lm30 + 1.0Wm (120 deg)		Y	1	1.2	68	1.5	6	0.061	175	1.2	180	0.061	
391	1.2D + 1.5Lm30 + 1.0Wm (150 deg)		Y	1	1.2	68	1.5	7	0.061	175	1.2	181	0.061	
392	1.2D + 1.5Lm30 + 1.0Wm (180 deg)		Y	1	1.2	68	1.5	8	0.061	175	1.2	182	0.061	
393	1.2D + 1.5Lm30 + 1.0Wm (210 deg)		Y	1	1.2	68	1.5	9	0.061	175	1.2	183	0.061	
394	1.2D + 1.5Lm30 + 1.0Wm (240 deg)		Y	1	1.2	68	1.5	10	0.061	175	1.2	184	0.061	
395	1.2D + 1.5Lm30 + 1.0Wm (270 deg)		Y	1	1.2	68	1.5	11	0.061	175	1.2	185	0.061	
396	1.2D + 1.5Lm30 + 1.0Wm (300 deg)		Y	1	1.2	68	1.5	12	0.061	175	1.2	186	0.061	
397	1.2D + 1.5Lm30 + 1.0Wm (330 deg)		Y	1	1.2	68	1.5	13	0.061	175	1.2	187	0.061	
398	1.2D + 1.5Lm31 + 1.0Wm (0 deg)		Y	1	1.2	69	1.5	2	0.061	175	1.2	176	0.061	
399	1.2D + 1.5Lm31 + 1.0Wm (30 deg)		Y	1	1.2	69	1.5	3	0.061	175	1.2	177	0.061	
400	1.2D + 1.5Lm31 + 1.0Wm (60 deg)		Y	1	1.2	69	1.5	4	0.061	175	1.2	178	0.061	
401	1.2D + 1.5Lm31 + 1.0Wm (90 deg)		Y	1	1.2	69	1.5	5	0.061	175	1.2	179	0.061	
402	1.2D + 1.5Lm31 + 1.0Wm (120 deg)		Y	1	1.2	69	1.5	6	0.061	175	1.2	180	0.061	
403	1.2D + 1.5Lm31 + 1.0Wm (150 deg)		Y	1	1.2	69	1.5	7	0.061	175	1.2	181	0.061	
404	1.2D + 1.5Lm31 + 1.0Wm (180 deg)		Y	1	1.2	69	1.5	8	0.061	175	1.2	182	0.061	
405	1.2D + 1.5Lm31 + 1.0Wm (210 deg)		Y	1	1.2	69	1.5	9	0.061	175	1.2	183	0.061	
406	1.2D + 1.5Lm31 + 1.0Wm (240 deg)		Y	1	1.2	69	1.5	10	0.061	175	1.2	184	0.061	
407	1.2D + 1.5Lm31 + 1.0Wm (270 deg)		Y	1	1.2	69	1.5	11	0.061	175	1.2	185	0.061	
408	1.2D + 1.5Lm31 + 1.0Wm (300 deg)		Y	1	1.2	69	1.5	12	0.061	175	1.2	186	0.061	
409	1.2D + 1.5Lm31 + 1.0Wm (330 deg)		Y	1	1.2	69	1.5	13	0.061	175	1.2	187	0.061	
410	1.2D + 1.5Lm32 + 1.0Wm (0 deg)		Y	1	1.2	70	1.5	2	0.061	175	1.2	176	0.061	
411	1.2D + 1.5Lm32 + 1.0Wm (30 deg)		Y	1	1.2	70	1.5	3	0.061	175	1.2	177	0.061	
412	1.2D + 1.5Lm32 + 1.0Wm (60 deg)		Y	1	1.2	70	1.5	4	0.061	175	1.2	178	0.061	
413	1.2D + 1.5Lm32 + 1.0Wm (90 deg)		Y	1	1.2	70	1.5	5	0.061	175	1.2	179	0.061	
414	1.2D + 1.5Lm32 + 1.0Wm (120 deg)		Y	1	1.2	70	1.5	6	0.061	175	1.2	180	0.061	
415	1.2D + 1.5Lm32 + 1.0Wm (150 deg)		Y	1	1.2	70	1.5	7	0.061	175	1.2	181	0.061	
416	1.2D + 1.5Lm32 + 1.0Wm (180 deg)		Y	1	1.2	70	1.5	8	0.061	175	1.2	182	0.061	
417	1.2D + 1.5Lm32 + 1.0Wm (210 deg)		Y	1	1.2	70	1.5	9	0.061	175	1.2	183	0.061	
418	1.2D + 1.5Lm32 + 1.0Wm (240 deg)		Y	1	1.2	70	1.5	10	0.061	175	1.2	184	0.061	
419	1.2D + 1.5Lm32 + 1.0Wm (270 deg)		Y	1	1.2	70	1.5	11	0.061	175	1.2	185	0.061	
420	1.2D + 1.5Lm32 + 1.0Wm (300 deg)		Y	1	1.2	70	1.5	12	0.061	175	1.2	186	0.061	
421	1.2D + 1.5Lm32 + 1.0Wm (330 deg)		Y	1	1.2	70	1.5	13	0.061	175	1.2	187	0.061	
422	1.2D + 1.5Lm33 + 1.0Wm (0 deg)		Y	1	1.2	71	1.5	2	0.061	175	1.2	176	0.061	
423	1.2D + 1.5Lm33 + 1.0Wm (30 deg)		Y	1	1.2	71	1.5	3	0.061	175	1.2	177	0.061	
424	1.2D + 1.5Lm33 + 1.0Wm (60 deg)		Y	1	1.2	71	1.5	4	0.061	175	1.2	178	0.061	
425	1.2D + 1.5Lm33 + 1.0Wm (90 deg)		Y	1	1.2	71	1.5	5	0.061	175	1.2	179	0.061	
426	1.2D + 1.5Lm33 + 1.0Wm (120 deg)		Y	1	1.2	71	1.5	6	0.061	175	1.2	180	0.061	
427	1.2D + 1.5Lm33 + 1.0Wm (150 deg)		Y	1	1.2	71	1.5	7	0.061	175	1.2	181	0.061	
428	1.2D + 1.5Lm33 + 1.0Wm (180 deg)		Y	1	1.2	71	1.5	8	0.061	175	1.2	182	0.061	
429	1.2D + 1.5Lm33 + 1.0Wm (210 deg)		Y	1	1.2	71	1.5	9	0.061	175	1.2	183	0.061	
430	1.2D + 1.5Lm33 + 1.0Wm (240 deg)		Y	1	1.2	71	1.5	10	0.061	175	1.2	184	0.061	
431	1.2D + 1.5Lm33 + 1.0Wm (270 deg)		Y	1	1.2	71	1.5	11	0.061	175	1.2	185	0.061	
432	1.2D + 1.5Lm33 + 1.0Wm (300 deg)		Y	1	1.2	71	1.5	12	0.061	175	1.2	186	0.061	
433	1.2D + 1.5Lm33 + 1.0Wm (330 deg)		Y	1	1.2	71	1.5	13	0.061	175	1.2	187	0.061	
434	1.2D + 1.5Lm34 + 1.0Wm (0 deg)		Y	1	1.2	72	1.5	2	0.061	175	1.2	176	0.061	
435	1.2D + 1.5Lm34 + 1.0Wm (30 deg)		Y	1	1.2	72	1.5	3	0.061	175	1.2	177	0.061	
436	1.2D + 1.5Lm34 + 1.0Wm (60 deg)		Y	1	1.2	72	1.5	4	0.061	175	1.2	178	0.061	
437	1.2D + 1.5Lm34 + 1.0Wm (90 deg)		Y	1	1.2	72	1.5	5	0.061	175	1.2	179	0.061	
438	1.2D + 1.5Lm34 + 1.0Wm (120 deg)		Y	1	1.2	72	1.5	6	0.061	175	1.2	180	0.061	
439	1.2D + 1.5Lm34 + 1.0Wm (150 deg)		Y	1	1.2	72	1.5	7	0.061	175	1.2	181	0.061	
440	1.2D + 1.5Lm34 + 1.0Wm (180 deg)		Y	1	1.2	72	1.5	8	0.061	175	1.2	182	0.061	



Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
441	1.2D + 1.5Lm34 + 1.0Wm (210 deg)		Y	1	1.2	72	1.5	9	0.061	175	1.2	183	0.061		
442	1.2D + 1.5Lm34 + 1.0Wm (240 deg)		Y	1	1.2	72	1.5	10	0.061	175	1.2	184	0.061		
443	1.2D + 1.5Lm34 + 1.0Wm (270 deg)		Y	1	1.2	72	1.5	11	0.061	175	1.2	185	0.061		
444	1.2D + 1.5Lm34 + 1.0Wm (300 deg)		Y	1	1.2	72	1.5	12	0.061	175	1.2	186	0.061		
445	1.2D + 1.5Lm34 + 1.0Wm (330 deg)		Y	1	1.2	72	1.5	13	0.061	175	1.2	187	0.061		
446	1.2D + 1.5Lm35 + 1.0Wm (0 deg)		Y	1	1.2	73	1.5	2	0.061	175	1.2	176	0.061		
447	1.2D + 1.5Lm35 + 1.0Wm (30 deg)		Y	1	1.2	73	1.5	3	0.061	175	1.2	177	0.061		
448	1.2D + 1.5Lm35 + 1.0Wm (60 deg)		Y	1	1.2	73	1.5	4	0.061	175	1.2	178	0.061		
449	1.2D + 1.5Lm35 + 1.0Wm (90 deg)		Y	1	1.2	73	1.5	5	0.061	175	1.2	179	0.061		
450	1.2D + 1.5Lm35 + 1.0Wm (120 deg)		Y	1	1.2	73	1.5	6	0.061	175	1.2	180	0.061		
451	1.2D + 1.5Lm35 + 1.0Wm (150 deg)		Y	1	1.2	73	1.5	7	0.061	175	1.2	181	0.061		
452	1.2D + 1.5Lm35 + 1.0Wm (180 deg)		Y	1	1.2	73	1.5	8	0.061	175	1.2	182	0.061		
453	1.2D + 1.5Lm35 + 1.0Wm (210 deg)		Y	1	1.2	73	1.5	9	0.061	175	1.2	183	0.061		
454	1.2D + 1.5Lm35 + 1.0Wm (240 deg)		Y	1	1.2	73	1.5	10	0.061	175	1.2	184	0.061		
455	1.2D + 1.5Lm35 + 1.0Wm (270 deg)		Y	1	1.2	73	1.5	11	0.061	175	1.2	185	0.061		
456	1.2D + 1.5Lm35 + 1.0Wm (300 deg)		Y	1	1.2	73	1.5	12	0.061	175	1.2	186	0.061		
457	1.2D + 1.5Lm35 + 1.0Wm (330 deg)		Y	1	1.2	73	1.5	13	0.061	175	1.2	187	0.061		
458	1.2D + 1.5Lm36 + 1.0Wm (0 deg)		Y	1	1.2	74	1.5	2	0.061	175	1.2	176	0.061		
459	1.2D + 1.5Lm36 + 1.0Wm (30 deg)		Y	1	1.2	74	1.5	3	0.061	175	1.2	177	0.061		
460	1.2D + 1.5Lm36 + 1.0Wm (60 deg)		Y	1	1.2	74	1.5	4	0.061	175	1.2	178	0.061		
461	1.2D + 1.5Lm36 + 1.0Wm (90 deg)		Y	1	1.2	74	1.5	5	0.061	175	1.2	179	0.061		
462	1.2D + 1.5Lm36 + 1.0Wm (120 deg)		Y	1	1.2	74	1.5	6	0.061	175	1.2	180	0.061		
463	1.2D + 1.5Lm36 + 1.0Wm (150 deg)		Y	1	1.2	74	1.5	7	0.061	175	1.2	181	0.061		
464	1.2D + 1.5Lm36 + 1.0Wm (180 deg)		Y	1	1.2	74	1.5	8	0.061	175	1.2	182	0.061		
465	1.2D + 1.5Lm36 + 1.0Wm (210 deg)		Y	1	1.2	74	1.5	9	0.061	175	1.2	183	0.061		
466	1.2D + 1.5Lm36 + 1.0Wm (240 deg)		Y	1	1.2	74	1.5	10	0.061	175	1.2	184	0.061		
467	1.2D + 1.5Lm36 + 1.0Wm (270 deg)		Y	1	1.2	74	1.5	11	0.061	175	1.2	185	0.061		
468	1.2D + 1.5Lm36 + 1.0Wm (300 deg)		Y	1	1.2	74	1.5	12	0.061	175	1.2	186	0.061		
469	1.2D + 1.5Lm36 + 1.0Wm (330 deg)		Y	1	1.2	74	1.5	13	0.061	175	1.2	187	0.061		
470	1.2D + 1.5Lv (Position 1)	Yes	Y	1	1.2	75	1.5	175	1.2						
471	1.2D + 1.5Lv (Position 2)	Yes	Y	1	1.2	76	1.5	175	1.2						
472	1.2D + 1.5Lv (Position 3)	Yes	Y	1	1.2	77	1.5	175	1.2						
473	1.2D + 1.5Lv (Position 4)	Yes	Y	1	1.2	78	1.5	175	1.2						
474	1.2D + 1.5Lv (Position 5)	Yes	Y	1	1.2	79	1.5	175	1.2						
475	1.2D + 1.5Lv (Position 6)	Yes	Y	1	1.2	80	1.5	175	1.2						
476	1.2D + 1.5Lv (Position 7)	Yes	Y	1	1.2	81	1.5	175	1.2						
477	1.2D + 1.5Lv (Position 8)	Yes	Y	1	1.2	82	1.5	175	1.2						
478	1.2D + 1.5Lv (Position 9)	Yes	Y	1	1.2	83	1.5	175	1.2						
479	1.2D + 1.5Lv (Position 10)	Yes	Y	1	1.2	84	1.5	175	1.2						
480	1.2D + 1.5Lv (Position 11)	Yes	Y	1	1.2	85	1.5	175	1.2						
481	1.2D + 1.5Lv (Position 12)	Yes	Y	1	1.2	86	1.5	175	1.2						
482	1.2D + 1.5Lv (Position 13)	Yes	Y	1	1.2	87	1.5	175	1.2						
483	1.2D + 1.5Lv (Position 14)	Yes	Y	1	1.2	88	1.5	175	1.2						
484	1.2D + 1.5Lv (Position 15)	Yes	Y	1	1.2	89	1.5	175	1.2						
485	1.2D + 1.5Lv (Position 16)	Yes	Y	1	1.2	90	1.5	175	1.2						
486	1.2D + 1.5Lv (Position 17)	Yes	Y	1	1.2	91	1.5	175	1.2						
487	1.2D + 1.5Lv (Position 18)	Yes	Y	1	1.2	92	1.5	175	1.2						
488	1.2D + 1.5Lv (Position 19)	Yes	Y	1	1.2	93	1.5	175	1.2						
489	1.2D + 1.5Lv (Position 20)	Yes	Y	1	1.2	94	1.5	175	1.2						
490	1.2D + 1.5Lv (Position 21)	Yes	Y	1	1.2	95	1.5	175	1.2						
491	1.2D + 1.5Lv (Position 22)	Yes	Y	1	1.2	96	1.5	175	1.2						
492	1.2D + 1.5Lv (Position 23)	Yes	Y	1	1.2	97	1.5	175	1.2						
493	1.2D + 1.5Lv (Position 24)	Yes	Y	1	1.2	98	1.5	175	1.2						
494	1.2D + 1.5Lv (Position 25)		Y	1	1.2	99	1.5	175	1.2						
495	1.2D + 1.5Lv (Position 26)		Y	1	1.2	100	1.5	175	1.2						



Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
496	1.2D + 1.5Lv (Position 27)		Y	1	1.2	101	1.5	175	1.2						
497	1.2D + 1.5Lv (Position 28)		Y	1	1.2	102	1.5	175	1.2						
498	1.2D + 1.5Lv (Position 29)		Y	1	1.2	103	1.5	175	1.2						
499	1.2D + 1.5Lv (Position 30)		Y	1	1.2	104	1.5	175	1.2						
500	1.2D + 1.5Lv (Position 31)		Y	1	1.2	105	1.5	175	1.2						
501	1.2D + 1.5Lv (Position 32)		Y	1	1.2	106	1.5	175	1.2						
502	1.2D + 1.5Lv (Position 33)		Y	1	1.2	107	1.5	175	1.2						
503	1.2D + 1.5Lv (Position 34)		Y	1	1.2	108	1.5	175	1.2						
504	1.2D + 1.5Lv (Position 35)		Y	1	1.2	109	1.5	175	1.2						
505	1.2D + 1.5Lv (Position 36)		Y	1	1.2	110	1.5	175	1.2						
506	1.2D + 1.5Lv (Position 37)		Y	1	1.2	111	1.5	175	1.2						
507	1.2D + 1.5Lv (Position 38)		Y	1	1.2	112	1.5	175	1.2						
508	1.2D + 1.5Lv (Position 39)		Y	1	1.2	113	1.5	175	1.2						
509	1.2D + 1.5Lv (Position 40)		Y	1	1.2	114	1.5	175	1.2						
510	1.2D + 1.5Lv (Position 41)		Y	1	1.2	115	1.5	175	1.2						
511	1.2D + 1.5Lv (Position 42)		Y	1	1.2	116	1.5	175	1.2						
512	1.2D + 1.5Lv (Position 43)		Y	1	1.2	117	1.5	175	1.2						
513	1.2D + 1.5Lv (Position 44)		Y	1	1.2	118	1.5	175	1.2						
514	1.2D + 1.5Lv (Position 45)		Y	1	1.2	119	1.5	175	1.2						
515	1.2D + 1.5Lv (Position 46)		Y	1	1.2	120	1.5	175	1.2						
516	1.2D + 1.5Lv (Position 47)		Y	1	1.2	121	1.5	175	1.2						
517	1.2D + 1.5Lv (Position 48)		Y	1	1.2	122	1.5	175	1.2						
518	1.2D + 1.5Lv (Position 49)		Y	1	1.2	123	1.5	175	1.2						
519	1.2D + 1.5Lv (Position 50)		Y	1	1.2	124	1.5	175	1.2						
520	1.2D + 1.5Lv (Position 51)		Y	1	1.2	125	1.5	175	1.2						
521	1.2D + 1.5Lv (Position 52)		Y	1	1.2	126	1.5	175	1.2						
522	1.2D + 1.5Lv (Position 53)		Y	1	1.2	127	1.5	175	1.2						
523	1.2D + 1.5Lv (Position 54)		Y	1	1.2	128	1.5	175	1.2						
524	1.2D + 1.5Lv (Position 55)		Y	1	1.2	129	1.5	175	1.2						
525	1.2D + 1.5Lv (Position 56)		Y	1	1.2	130	1.5	175	1.2						
526	1.2D + 1.5Lv (Position 57)		Y	1	1.2	131	1.5	175	1.2						
527	1.2D + 1.5Lv (Position 58)		Y	1	1.2	132	1.5	175	1.2						
528	1.2D + 1.5Lv (Position 59)		Y	1	1.2	133	1.5	175	1.2						
529	1.2D + 1.5Lv (Position 60)		Y	1	1.2	134	1.5	175	1.2						
530	1.2D + 1.5Lv (Position 61)		Y	1	1.2	135	1.5	175	1.2						
531	1.2D + 1.5Lv (Position 62)		Y	1	1.2	136	1.5	175	1.2						
532	1.2D + 1.5Lv (Position 63)		Y	1	1.2	137	1.5	175	1.2						
533	1.2D + 1.5Lv (Position 64)		Y	1	1.2	138	1.5	175	1.2						
534	1.2D + 1.5Lv (Position 65)		Y	1	1.2	139	1.5	175	1.2						
535	1.2D + 1.5Lv (Position 66)		Y	1	1.2	140	1.5	175	1.2						
536	1.2D + 1.5Lv (Position 67)		Y	1	1.2	141	1.5	175	1.2						
537	1.2D + 1.5Lv (Position 68)		Y	1	1.2	142	1.5	175	1.2						
538	1.2D + 1.5Lv (Position 69)		Y	1	1.2	143	1.5	175	1.2						
539	1.2D + 1.5Lv (Position 70)		Y	1	1.2	144	1.5	175	1.2						
540	1.2D + 1.5Lv (Position 71)		Y	1	1.2	145	1.5	175	1.2						
541	1.2D + 1.5Lv (Position 72)		Y	1	1.2	146	1.5	175	1.2						
542	1.2D + 1.5Lv (Position 73)		Y	1	1.2	147	1.5	175	1.2						
543	1.2D + 1.5Lv (Position 74)		Y	1	1.2	148	1.5	175	1.2						
544	1.2D + 1.5Lv (Position 75)		Y	1	1.2	149	1.5	175	1.2						
545	1.2D + 1.5Lv (Position 76)		Y	1	1.2	150	1.5	175	1.2						
546	1.2D + 1.5Lv (Position 77)		Y	1	1.2	151	1.5	175	1.2						
547	1.2D + 1.5Lv (Position 78)		Y	1	1.2	152	1.5	175	1.2						
548	1.2D + 1.5Lv (Position 79)		Y	1	1.2	153	1.5	175	1.2						
549	1.2D + 1.5Lv (Position 80)		Y	1	1.2	154	1.5	175	1.2						
550	1.2D + 1.5Lv (Position 81)		Y	1	1.2	155	1.5	175	1.2						



Load Combinations (Continued)

	Description	Solve P-Delta	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor
551	1.2D + 1.5Lv (Position 82)	Y	1	1.2	156	1.5	175	1.2					
552	1.2D + 1.5Lv (Position 83)	Y	1	1.2	157	1.5	175	1.2					
553	1.2D + 1.5Lv (Position 84)	Y	1	1.2	158	1.5	175	1.2					
554	1.2D + 1.5Lv (Position 85)	Y	1	1.2	159	1.5	175	1.2					
555	1.2D + 1.5Lv (Position 86)	Y	1	1.2	160	1.5	175	1.2					
556	1.2D + 1.5Lv (Position 87)	Y	1	1.2	161	1.5	175	1.2					
557	1.2D + 1.5Lv (Position 88)	Y	1	1.2	162	1.5	175	1.2					
558	1.2D + 1.5Lv (Position 89)	Y	1	1.2	163	1.5	175	1.2					
559	1.2D + 1.5Lv (Position 90)	Y	1	1.2	164	1.5	175	1.2					
560	1.2D + 1.5Lv (Position 91)	Y	1	1.2	165	1.5	175	1.2					
561	1.2D + 1.5Lv (Position 92)	Y	1	1.2	166	1.5	175	1.2					
562	1.2D + 1.5Lv (Position 93)	Y	1	1.2	167	1.5	175	1.2					
563	1.2D + 1.5Lv (Position 94)	Y	1	1.2	168	1.5	175	1.2					
564	1.2D + 1.5Lv (Position 95)	Y	1	1.2	169	1.5	175	1.2					
565	1.2D + 1.5Lv (Position 96)	Y	1	1.2	170	1.5	175	1.2					
566	1.2D + 1.5Lv (Position 97)	Y	1	1.2	171	1.5	175	1.2					
567	1.2D + 1.5Lv (Position 98)	Y	1	1.2	172	1.5	175	1.2					
568	1.2D + 1.5Lv (Position 99)	Y	1	1.2	173	1.5	175	1.2					
569	1.2D + 1.5Lv (Position 100)	Y	1	1.2	174	1.5	175	1.2					

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]	
1	HR1A	W10X33	Beam	None	A992	Typical	9.71	36.6	171	0.583

Material Take-Off

	Material	Size	Pieces	Length[in]	Weight[K]
0	General Members				
1	RIGID		18	59.7	0
2	Total General		18	59.7	0
3					
4	Hot Rolled Steel				
5	A36 Gr.36	L2X2X3	6	339.1	0.069
6	A36 Gr.36	PL1/2X6	6	72	0.061
7	A500 Gr.B Rect	HSS4X4X4	6	395.1	0.406
8	A53 Gr.B	PIPE 2.0	12	1194	0.345
9	A53 Gr.B	PIPE 3.0	3	450	0.264
10	Total HR Steel		33	2450.3	1.146



Node Coordinates

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
1	N1	-63.231019	0	104.188223	
2	N2	-63.231019	0	-45.811777	
3	N3	-63.231019	0	-40.311777	
4	N4	-52.838714	0	-46.311777	
5	N5	72.301957	0	25.938223	
6	N6	-57.601853	0	-49.061777	
7	N7	-63.231019	0	98.688223	
8	N8	-52.838714	0	104.688223	
9	N9	67.538817	0	35.188223	
10	N10	67.538817	0	23.188223	
11	N11	72.301957	0	32.438223	
12	N12	-57.601853	0	107.438223	
13	N13	19.288817	0	-0.256641	
14	N14	3.538817	0	29.188223	
15	N15	19.288817	0	63.045373	
16	N16	19.288817	0	-4.668928	
17	N17	67.538817	0	29.188223	
18	N18	19.288817	0	58.633086	
19	N19	-58.034866	0	101.688223	
20	N20	-16.176972	-10	29.188223	
21	N21	19.288817	0	29.188223	
22	N39	-63.231019	0	89.188223	
23	N40	-66.546019	0	89.188223	
24	N41	-66.546019	62	89.188223	
25	N42	-66.546019	-14	89.188223	
26	N43	-63.231019	0	-30.811777	
27	N44	-66.546019	0	-30.811777	
28	N45	-66.546019	62	-30.811777	
29	N46	-66.546019	-14	-30.811777	
30	N47	-63.231019	0	29.188223	
31	N48	-66.546019	0	29.188223	
32	N49	-66.546019	72	29.188223	
33	N50	-66.546019	-24	29.188223	
34	N51	-63.231019	48	104.188223	
35	N52	-63.231019	48	-45.811777	
36	N53	-63.231019	48	-40.311777	
37	N54	-52.838714	48	-46.311777	
38	N55	72.301957	48	25.938223	
39	N56	-57.601853	48	-49.061777	
40	N57	-63.231019	48	98.688223	
41	N58	-52.838714	48	104.688223	
42	N59	67.538817	48	35.188223	
43	N60	67.538817	48	23.188223	
44	N61	72.301957	48	32.438223	
45	N62	-57.601853	48	107.438223	
46	N63	-63.231019	48	89.188223	
47	N64	-66.546019	48	89.188223	
48	N65	-63.231019	48	-30.811777	
49	N66	-66.546019	48	-30.811777	
50	N67	-63.231019	48	29.188223	
51	N68	-66.546019	48	29.188223	
52	N107	-59.409866	0	13.19638	
53	N108	-4.588714	0	-18.454627	
54	N109	-63.231019	0	15.402524	
55	N110	-58.034866	0	-43.311777	



Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
56	N111	-8.409866	0	-16.248483	
57	N112	-33.909866	0	-1.526052	
58	N168	-8.409866	0	74.624929	
59	N169	-63.231019	0	42.973922	
60	N170	-4.588714	0	76.831072	
61	N171	-59.409866	0	45.180065	
62	N172	-33.909866	0	59.902497	
63	N228	59.311576	0	39.938223	
64	N229	60.969076	0	42.809097	
65	N230	60.969076	62	42.809097	
66	N231	60.969076	-14	42.809097	
67	N232	-44.611472	0	99.938223	
68	N233	-42.953972	0	102.809097	
69	N234	-42.953972	62	102.809097	
70	N235	-42.953972	-14	102.809097	
71	N236	7.350052	0	69.938223	
72	N237	9.007552	0	72.809097	
73	N238	9.007552	72	72.809097	
74	N239	9.007552	-24	72.809097	
75	N240	59.311576	48	39.938223	
76	N241	60.969076	48	42.809097	
77	N242	-44.611472	48	99.938223	
78	N243	-42.953972	48	102.809097	
79	N244	7.350052	48	69.938223	
80	N245	9.007552	48	72.809097	
81	N246	-44.611472	0	-41.561777	
82	N247	-42.953972	0	-44.432651	
83	N248	-42.953972	62	-44.432651	
84	N249	-42.953972	-14	-44.432651	
85	N250	59.311576	0	18.438223	
86	N251	60.969076	0	15.567349	
87	N252	60.969076	62	15.567349	
88	N253	60.969076	-14	15.567349	
89	N254	7.350052	0	-11.561777	
90	N255	9.007552	0	-14.432651	
91	N256	9.007552	72	-14.432651	
92	N257	9.007552	-24	-14.432651	
93	N258	-44.611472	48	-41.561777	
94	N259	-42.953972	48	-44.432651	
95	N260	59.311576	48	18.438223	
96	N261	60.969076	48	15.567349	
97	N262	7.350052	48	-11.561777	
98	N263	9.007552	48	-14.432651	
99	N264	-26.034866	0	12.113849	
100	N265	-26.034866	0	46.262597	

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	SA3	N110	N264		HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical
2	SA2	N19	N265		HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical
3	SA1	N17	N14		HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical
4	MP9	N235	N234		PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
5	MP8	N239	N238		PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
6	MP7	N231	N230		PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
7	MP6	N253	N252		PIPE 2.0	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
8	MP5	N257	N256		PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
9	MP4	N249	N248		PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
10	MP3	N46	N45		PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
11	MP2	N50	N49		PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
12	MP1	N42	N41		PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
13	M51	N262	N263		RIGID	None	None	RIGID	Typical
14	M50	N260	N261		RIGID	None	None	RIGID	Typical
15	M49	N258	N259		RIGID	None	None	RIGID	Typical
16	M48	N254	N255		RIGID	None	None	RIGID	Typical
17	M46	N250	N251		RIGID	None	None	RIGID	Typical
18	M44	N246	N247		RIGID	None	None	RIGID	Typical
19	M42	N244	N245		RIGID	None	None	RIGID	Typical
20	M41	N242	N243		RIGID	None	None	RIGID	Typical
21	M40	N240	N241		RIGID	None	None	RIGID	Typical
22	M39	N236	N237		RIGID	None	None	RIGID	Typical
23	M37	N232	N233		RIGID	None	None	RIGID	Typical
24	M35	N228	N229		RIGID	None	None	RIGID	Typical
25	M33	N67	N68		RIGID	None	None	RIGID	Typical
26	M32	N65	N66		RIGID	None	None	RIGID	Typical
27	M31	N63	N64		RIGID	None	None	RIGID	Typical
28	M26	N39	N40		RIGID	None	None	RIGID	Typical
29	M24	N47	N48		RIGID	None	None	RIGID	Typical
30	M22	N43	N44		RIGID	None	None	RIGID	Typical
31	HR3	N61	N62		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
32	HR2	N55	N56		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
33	HR1	N51	N52		PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical
34	GRATE6	N19	N168	270	L2X2X3	None	None	A36 Gr.36	Typical
35	GRATE5	N17	N18		L2X2X3	None	None	A36 Gr.36	Typical
36	GRATE4	N17	N13	270	L2X2X3	None	None	A36 Gr.36	Typical
37	GRATE3	N110	N111		L2X2X3	None	None	A36 Gr.36	Typical
38	GRATE2	N110	N107	270	L2X2X3	None	None	A36 Gr.36	Typical
39	GRATE1	N19	N171		L2X2X3	None	None	A36 Gr.36	Typical
40	FM3	N11	N12		PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical
41	FM2	N5	N6		PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical
42	FM1	N1	N2		PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical
43	CORNER-PL-3	N9	N10		PL1/2X6	None	None	A36 Gr.36	Typical
44	CORNER-PL-2	N3	N4		PL1/2X6	None	None	A36 Gr.36	Typical
45	CORNER-PL-1	N7	N8		PL1/2X6	None	None	A36 Gr.36	Typical
46	CORN3	N53	N54		PL1/2X6	Beam	None	A36 Gr.36	Typical
47	CORN2	N57	N58	180	PL1/2X6	Beam	None	A36 Gr.36	Typical
48	CORN1	N59	N60	180	PL1/2X6	Beam	None	A36 Gr.36	Typical
49	BRACE3	N108	N109	180	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical
50	BRACE2	N169	N170	180	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical
51	BRACE1	N15	N16	180	HSS4X4X4	Beam	Tube	A500 Gr.B Rect	Typical

Member Advanced Data

	Label	Physical	Deflection Ratio Options	Seismic DR
1	SA3	Yes	N/A	None
2	SA2	Yes	N/A	None
3	SA1	Yes	N/A	None
4	MP9	Yes	** NA **	None
5	MP8	Yes	** NA **	None
6	MP7	Yes	** NA **	None
7	MP6	Yes	** NA **	None
8	MP5	Yes	** NA **	None



Member Advanced Data (Continued)

	Label	Physical	Deflection Ratio Options	Seismic DR
9	MP4	Yes	** NA **	None
10	MP3	Yes	** NA **	None
11	MP2	Yes	** NA **	None
12	MP1	Yes	** NA **	None
13	M51	Yes	** NA **	None
14	M50	Yes	** NA **	None
15	M49	Yes	** NA **	None
16	M48	Yes	** NA **	None
17	M46	Yes	** NA **	None
18	M44	Yes	** NA **	None
19	M42	Yes	** NA **	None
20	M41	Yes	** NA **	None
21	M40	Yes	** NA **	None
22	M39	Yes	** NA **	None
23	M37	Yes	** NA **	None
24	M35	Yes	** NA **	None
25	M33	Yes	** NA **	None
26	M32	Yes	** NA **	None
27	M31	Yes	** NA **	None
28	M26	Yes	** NA **	None
29	M24	Yes	** NA **	None
30	M22	Yes	** NA **	None
31	HR3	Yes	N/A	None
32	HR2	Yes	N/A	None
33	HR1	Yes	N/A	None
34	GRATE6	Yes	** NA **	None
35	GRATE5	Yes	** NA **	None
36	GRATE4	Yes	** NA **	None
37	GRATE3	Yes	** NA **	None
38	GRATE2	Yes	** NA **	None
39	GRATE1	Yes	** NA **	None
40	FM3	Yes	N/A	None
41	FM2	Yes	N/A	None
42	FM1	Yes	N/A	None
43	CORNER-PL-3	Yes	** NA **	None
44	CORNER-PL-2	Yes	** NA **	None
45	CORNER-PL-1	Yes	** NA **	None
46	CORN3	Yes	Default	None
47	CORN2	Yes	Default	None
48	CORN1	Yes	Default	None
49	BRACE3	Yes	N/A	None
50	BRACE2	Yes	N/A	None
51	BRACE1	Yes	N/A	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Channel Conn.	a [in]	Function
1	SA3	HSS4X4X4	64	48.25	48.25	N/A	N/A	Lateral
2	SA2	HSS4X4X4	64	48.25	48.25	N/A	N/A	Lateral
3	SA1	HSS4X4X4	64	48.25	48.25	N/A	N/A	Lateral
4	MP9	PIPE 2.0	76			N/A	N/A	Lateral
5	MP8	PIPE 2.0	96			N/A	N/A	Lateral
6	MP7	PIPE 2.0	76			N/A	N/A	Lateral
7	MP6	PIPE 2.0	76			N/A	N/A	Lateral
8	MP5	PIPE 2.0	96			N/A	N/A	Lateral
9	MP4	PIPE 2.0	76			N/A	N/A	Lateral



Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Channel Conn.	a [in]	Function
10	MP3	PIPE 2.0	76			N/A	N/A	Lateral
11	MP2	PIPE 2.0	96			N/A	N/A	Lateral
12	MP1	PIPE 2.0	76			N/A	N/A	Lateral
13	HR3	PIPE 2.0	150		Segment	N/A	N/A	Lateral
14	HR2	PIPE 2.0	150		Segment	N/A	N/A	Lateral
15	HR1	PIPE 2.0	150		Segment	N/A	N/A	Lateral
16	GRATE6	L2X2X3	56.525			N/A	N/A	Lateral
17	GRATE5	L2X2X3	56.525			N/A	N/A	Lateral
18	GRATE4	L2X2X3	56.525			N/A	N/A	Lateral
19	GRATE3	L2X2X3	56.525			N/A	N/A	Lateral
20	GRATE2	L2X2X3	56.525			N/A	N/A	Lateral
21	GRATE1	L2X2X3	56.525			N/A	N/A	Lateral
22	FM3	PIPE 3.0	150	55.714	Segment	N/A	N/A	Lateral
23	FM2	PIPE 3.0	150	55.714	Segment	N/A	N/A	Lateral
24	FM1	PIPE 3.0	150	55.714	Segment	N/A	N/A	Lateral
25	CORNER-PL-3	PL1/2X6	12			N/A	N/A	Lateral
26	CORNER-PL-2	PL1/2X6	12			N/A	N/A	Lateral
27	CORNER-PL-1	PL1/2X6	12			N/A	N/A	Lateral
28	CORN3	PL1/2X6	12			N/A	N/A	Lateral
29	CORN2	PL1/2X6	12			N/A	N/A	Lateral
30	CORN1	PL1/2X6	12			N/A	N/A	Lateral
31	BRACE3	HSS4X4X4	67.714	33.857	33.857	N/A	N/A	Lateral
32	BRACE2	HSS4X4X4	67.714	33.857	33.857	N/A	N/A	Lateral
33	BRACE1	HSS4X4X4	67.714	33.857	33.857	N/A	N/A	Lateral

Node Reactions

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
0	1	N14	24.751	1175.66	-0.059	-15.849	-0.157	2251.969
1	2		-1412.645	1790.695	-21.174	-19.478	22.504	3817.682
2	3		-1189.469	1674.519	-160.754	-414.368	4.368	3530.034
3	4		-715.539	1402.471	-811.916	-750.948	665.134	2880.149
4	5		16.941	1012.155	-1248.698	-879.874	1158.107	1932.785
5	6		751.584	620.289	-842.819	-747.061	703.987	973.509
6	7		1229.778	345.353	-154.394	-404.866	0.732	312.154
7	8		1455.355	225.441	20.954	-7.696	-22.65	35.773
8	9		1232.131	340.967	160.623	386.889	-4.548	325.016
9	10		757.987	612.648	811.917	724.005	-665.678	977.174
10	11		25.586	1003.248	1248.561	852.686	-1158.31	1926.14
11	12		-709.195	1394.711	842.484	719.662	-703.767	2883.344
12	13		-1187.177	1670.008	154.144	378.028	-0.867	3542.49
13	14		-304.036	2273.723	-6.015	-23.475	6.4	4376.383
14	15		-249.18	2245.491	-41.168	-114.612	6.326	4306.013
15	16		-137.648	2181.693	-183.87	-191.819	150.373	4153.119
16	17		40.216	2089.399	-280.007	-220.779	258.679	3929.427
17	18		218.61	1996.828	-194.321	-191.175	163.093	3703.555
18	19		330.885	1932.325	-40.134	-112.69	5.758	3548.736
19	20		385.92	1903.136	5.888	-20.835	-6.883	3480.987
20	21		331.063	1931.337	41.046	70.282	-6.812	3551.458
21	22		219.522	1995.113	183.752	147.509	-150.876	3704.48
22	23		41.661	2087.42	279.885	176.469	-259.165	3928.265
23	24		-136.739	2179.972	194.19	146.863	-163.557	4154.019
24	25		-249.005	2244.495	40.006	68.401	-6.24	4308.708
25	26		-95.276	1098.237	-1.437	-14.876	0.818	2133.035
26	27		-80.255	1091.082	-33.099	-41.358	27.374	2115.702
27	28		-37.855	1071.494	-55.889	-60.512	46.545	2067.667



Node Reactions (Continued)

LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
28	29	20.615	1044.702	-63.734	-67.24	53.22	2001.727
29	30	79.451	1017.899	-54.51	-59.719	45.594	1935.592
30	31	122.87	998.281	-30.7	-39.98	25.719	1887.02
31	32	139.269	991.082	1.327	-13.29	-1.092	1868.975
32	33	124.247	998.236	32.99	13.191	-27.649	1886.316
33	34	81.847	1017.82	55.78	32.346	-46.82	1934.368
34	35	23.377	1044.611	63.625	39.076	-53.494	2000.315
35	36	-35.459	1071.415	54.401	31.557	-45.866	2066.441
36	37	-78.877	1091.036	30.591	11.817	-25.991	2114.998
37	38	-59.516	850.447	-7.1	-125.816	8.417	1635.303
38	39	-45.905	843.361	-15.61	-149.89	7.307	1617.68
39	40	-16.987	826.753	-55.327	-170.432	47.617	1577.891
40	41	27.698	802.905	-81.97	-178.285	77.681	1519.945
41	42	72.523	778.982	-57.217	-170.171	49.977	1461.393
42	43	101.694	762.189	-15.231	-149.312	7.093	1421.061
43	44	115.458	754.86	-4.536	-125.077	5.667	1404.218
44	45	101.846	761.944	3.974	-101.004	6.777	1421.847
45	46	72.927	778.551	43.691	-80.46	-33.534	1461.644
46	47	28.243	802.4	70.334	-72.608	-63.597	1519.596
47	48	-16.582	826.321	45.58	-80.723	-35.892	1578.141
48	49	-45.753	843.115	3.594	-101.579	6.991	1618.464
49	50	-65.244	807.89	-1.336	-13.937	1.243	1706.502
50	51	-51.626	800.799	-9.845	-38.035	0.13	1688.86
51	52	-22.705	784.165	-49.565	-58.591	40.443	1649.048
52	53	21.981	760.293	-76.203	-66.45	70.503	1591.099
53	54	66.805	736.346	-51.441	-58.341	42.791	1532.527
54	55	95.974	719.516	-9.455	-37.474	-0.092	1492.146
55	56	109.733	712.158	1.233	-13.218	-1.51	1475.273
56	57	96.116	719.246	9.743	10.878	-0.398	1492.921
57	58	67.194	735.879	49.463	31.436	-40.711	1532.741
58	59	22.508	759.752	76.1	39.295	-70.77	1590.697
59	60	-22.316	783.697	51.338	31.184	-43.057	1649.26
60	61	-51.484	800.528	9.352	10.319	-0.175	1689.634
61	62	-59.518	850.476	4.439	97.951	-5.945	1635.372
62	63	-45.896	843.414	-4.077	73.873	-7.05	1617.758
63	64	-16.972	826.82	-43.798	53.326	33.265	1578
64	65	27.714	802.973	-70.426	45.461	63.316	1520.073
65	66	72.537	779.051	-45.658	53.564	35.6	1461.507
66	67	101.702	762.248	-3.674	74.419	-7.281	1421.149
67	68	115.456	754.897	7.014	98.652	-8.701	1404.298
68	69	101.834	761.956	15.531	122.728	-7.597	1421.919
69	70	72.91	778.549	55.251	143.277	-47.913	1461.685
70	71	28.223	802.397	81.879	151.142	-77.963	1519.618
71	72	-16.6	826.318	57.11	143.038	-50.245	1578.176
72	73	-45.765	843.122	15.127	122.185	-7.366	1618.526
73	74	-58.437	1044.635	4.814	238.372	-6.248	1930.11
74	75	-44.813	1037.577	-3.707	214.281	-7.35	1912.509
75	76	-15.887	1020.986	-43.43	193.718	32.964	1872.776
76	77	28.8	997.148	-70.065	185.845	63.023	1814.881
77	78	73.624	973.236	-45.299	193.952	35.307	1756.335
78	79	102.792	956.437	-3.305	214.816	-7.585	1715.982
79	80	116.548	949.084	7.395	239.059	-9.018	1699.13
80	81	102.924	956.139	15.916	263.15	-7.916	1716.737
81	82	73.997	972.729	55.639	283.715	-48.232	1756.479
82	83	29.31	996.568	82.275	291.586	-78.289	1814.38



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
83	84		-15.514	1020.479	57.507	283.479	-50.572	1872.918
84	85		-44.682	1037.278	15.514	262.617	-7.681	1913.263
85	86		-67.421	1554.368	-2.6	536.858	4.417	2679.861
86	87		-53.798	1547.283	-11.108	512.696	3.304	2662.23
87	88		-24.871	1530.661	-50.823	492.072	43.612	2622.474
88	89		19.821	1506.796	-77.454	484.151	73.663	2564.56
89	90		64.647	1482.872	-52.684	492.238	45.941	2506.02
90	91		93.809	1466.082	-10.696	513.137	3.053	2465.706
91	92		107.559	1458.746	-0.009	537.45	1.633	2448.906
92	93		93.935	1465.828	8.498	561.611	2.747	2466.543
93	94		65.008	1482.449	48.214	582.237	-37.563	2506.307
94	95		20.316	1506.315	74.844	590.157	-67.613	2564.227
95	96		-24.51	1530.237	50.074	582.069	-39.89	2622.76
96	97		-53.672	1547.029	8.086	561.172	2.998	2663.066
97	98		-48.642	2021.434	-0.577	238.868	2.082	4531.883
98	99		-35.033	2014.345	-9.085	214.75	0.97	4514.281
99	100		-6.122	1997.72	-48.798	194.18	41.277	4474.575
100	101		38.56	1973.861	-75.429	186.314	71.329	4416.811
101	102		83.381	1949.935	-50.667	194.412	43.616	4358.437
102	103		112.543	1933.127	-8.686	215.27	0.737	4318.183
103	104		126.301	1925.778	1.999	239.53	-0.681	4301.376
104	105		112.692	1932.864	10.507	263.647	0.431	4318.984
105	106		83.78	1949.488	50.221	284.22	-39.877	4358.698
106	107		39.099	1973.348	76.851	292.085	-69.928	4416.468
107	108		-5.723	1997.272	52.089	283.986	-42.213	4474.835
108	109		-34.885	2014.082	10.108	263.13	0.665	4515.08
109	110		-48.641	2021.439	-2.082	-266.81	0.391	4531.904
110	111		-35.025	2014.362	-10.589	-290.914	-0.722	4514.342
111	112		-6.111	1997.749	-50.304	-311.462	39.587	4474.656
112	113		38.572	1973.897	-76.942	-319.306	69.649	4416.896
113	114		83.392	1949.964	-52.187	-311.185	41.945	4358.514
114	115		112.551	1933.142	-10.208	-290.304	-0.932	4318.241
115	116		126.301	1925.781	0.479	-266.032	-2.352	4301.396
116	117		112.685	1932.856	8.987	-241.929	-1.239	4318.963
117	118		83.77	1949.467	48.702	-221.378	-41.549	4358.658
118	119		39.087	1973.32	75.339	-213.535	-71.609	4416.424
119	120		-5.733	1997.252	50.584	-221.657	-43.905	4474.798
120	121		-34.891	2014.075	8.605	-242.536	-1.028	4515.063
121	122		-67.419	1554.358	-0.074	-564.755	-1.926	2679.846
122	123		-53.811	1547.291	-8.582	-588.909	-3.037	2662.281
123	124		-24.896	1530.696	-48.304	-609.496	37.28	2622.538
124	125		19.791	1506.847	-74.949	-617.332	67.35	2564.614
125	126		64.622	1482.907	-50.194	-609.16	39.647	2506.074
126	127		93.796	1466.087	-8.211	-588.224	-3.233	2465.748
127	128		107.561	1458.734	2.475	-563.905	-4.652	2448.886
128	129		93.953	1465.798	10.984	-539.752	-3.54	2466.457
129	130		65.038	1482.391	50.706	-519.163	-43.859	2506.209
130	131		20.351	1506.242	77.35	-511.329	-73.928	2564.138
131	132		-24.48	1530.18	52.594	-519.501	-46.223	2622.671
132	133		-53.654	1547.001	10.612	-540.434	-3.344	2662.988
133	134		-58.431	1044.609	-7.478	-266.243	8.725	1930.053
134	135		-44.818	1037.521	-15.999	-290.327	7.626	1912.43
135	136		-15.897	1020.918	-55.726	-310.877	47.947	1872.647
136	137		28.789	997.08	-82.368	-318.734	78.01	1814.721
137	138		73.614	973.166	-57.607	-310.611	50.299	1756.199



Node Reactions (Continued)

LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]	
138	139	102.788	956.375	-15.617	-289.737	7.413	1715.891	
139	140	116.554	949.049	-4.918	-265.488	5.984	1699.061	
140	141	102.94	956.135	3.603	-241.406	7.083	1716.69	
141	142	74.018	972.738	43.331	-220.853	-33.239	1756.481	
142	143	29.333	996.576	69.972	-212.998	-63.301	1814.413	
143	144	-15.493	1020.489	45.21	-221.121	-35.589	1872.928	
144	145	-44.666	1037.281	3.221	-241.993	7.296	1913.227	
145	470	26.498	925.074	-4.656	-109.328	5.435	1741.086	
146	471	21.534	895.076	-0.052	-13.583	-0.132	1778.259	
147	472	26.495	925.079	4.56	82.167	-5.709	1741.096	
148	473	34.512	1524.726	-0.248	13.139	-0.375	3383.083	
149	474	21.085	1251.523	-0.311	241.835	1.02	2221.905	
150	475	26.342	948.321	4.695	98.272	-5.488	1780.429	
151	476	34.512	1524.727	0.153	-40.321	0.101	3383.084	
152	477	21.086	1251.525	0.205	-269.004	-1.283	2221.913	
153	478	26.345	948.316	-4.792	-125.433	5.214	1780.421	
154	479	21.715	1389.785	-0.053	-13.585	-0.132	2361.917	
155	480	21.494	1004.17	-0.181	-30.017	0.109	1915.32	
156	481	21.494	1004.17	0.076	2.849	-0.373	1915.32	
157	482	32.643	1510.841	-0.048	-13.59	-0.136	3296.137	
158	483	25.846	943.638	-3.977	-110.3	4.553	1776.482	
159	484	25.844	943.642	3.879	83.138	-4.826	1776.49	
160	485	26.695	915.926	-6.342	-107.647	7.058	1722.696	
161	486	20.053	897.648	-0.054	-13.578	-0.131	1786.921	
162	487	26.694	915.96	6.249	80.496	-7.337	1722.774	
163	488	36.672	1545.949	-0.714	15.694	0.59	3320.587	
164	489	23.017	1250.247	1.658	243.493	-0.609	2234.261	
165	490	25.656	936.24	5.788	95.069	-6.422	1765.563	
166	491	36.673	1545.955	0.621	-42.912	-0.869	3320.606	
167	492	23.017	1250.231	-1.766	-270.668	0.349	2234.225	
168	493	25.658	936.212	-5.881	-122.217	6.143	1765.498	
169	1	N264	-12.424	1175.674	-21.405	1958.213	-0.158	-1112.278
170	2		-1105.943	620.059	-229.543	1215.977	703.944	160.559
171	3		-748.825	345.478	-986.614	473.132	1.41	194.557
172	4		-710.371	225.25	-1271.269	33.905	-21.967	-11.135
173	5		-475.959	342.084	-1146.812	90.53	-5.246	-498.402
174	6		323.106	611.937	-1062.529	483.015	-664.576	-1114.463
175	7		1070.122	1003.362	-646.218	1241.308	-1159.588	-1702.861
176	8		1084.461	1394.962	193.002	2137.898	-703.725	-2065.283
177	9		727.312	1669.906	949.847	2878.555	-1.547	-2098.671
178	10		688.831	1790.909	1234.392	3316.91	21.818	-1892.085
179	11		454.519	1673.426	1109.932	3261.838	5.063	-1405.367
180	12		-344.328	1403.204	1025.769	2871.035	664.031	-790.892
181	13		-1091.501	1012.067	609.458	2114.257	1159.384	-203.088
182	14		-277.777	1996.637	-91.906	3302.696	163.237	-1685.64
183	15		-200.513	1933.161	-264.621	3131.837	6.829	-1676.763
184	16		-187.666	1903.457	-336.151	3025.636	-6.568	-1722.729
185	17		-128.733	1931.81	-306.037	3041.161	-7.33	-1837.616
186	18		49.747	1995	-281.265	3134.14	-150.717	-1979.837
187	19		222.894	2088.257	-175.213	3315.569	-259.93	-2118.066
188	20		236.736	2180.213	21.071	3524.411	-163.705	-2204.839
189	21		159.471	2243.707	193.776	3695.148	-7.316	-2213.672
190	22		146.622	2273.451	265.302	3801.295	6.08	-2167.651
191	23		87.693	2245.067	235.187	3785.869	6.84	-2052.796
192	24		-90.778	2181.855	210.42	3692.988	150.209	-1910.656



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
193	25		-263.931	2088.611	104.368	3511.64	259.439	-1772.472
194	26		-86.926	1017.92	-41.537	1706.175	45.595	-916.102
195	27		-88.02	998.287	-91.068	1654.201	25.713	-908.904
196	28		-68.496	991.09	-121.28	1625.241	-1.085	-922.983
197	29		-33.561	998.25	-124.09	1627.029	-27.64	-954.591
198	30		7.406	1017.845	-98.753	1659.086	-46.827	-995.241
199	31		43.404	1044.616	-52.069	1712.791	-53.493	-1034.008
200	32		64.839	1071.418	3.493	1773.816	-45.869	-1060.56
201	33		65.933	1091.055	53.024	1825.777	-25.988	-1067.749
202	34		46.409	1098.254	83.236	1854.731	0.809	-1053.665
203	35		11.474	1091.093	86.047	1852.951	27.363	-1022.059
204	36		-29.493	1071.494	60.709	1820.907	46.55	-981.418
205	37		-65.491	1044.722	14.026	1767.208	53.217	-942.657
206	38		-76.059	973.231	-41.114	1424.032	35.309	-1046.132
207	39		-54.274	956.454	-87.294	1378.714	-7.539	-1044.044
208	40		-51.923	949.081	-104.655	1351.92	-8.971	-1056.609
209	41		-37.619	956.216	-97.058	1355.331	-7.954	-1086.332
210	42		11.121	972.694	-91.91	1379.238	-48.16	-1123.892
211	43		56.695	996.584	-66.506	1425.495	-78.362	-1159.811
212	44		57.573	1020.503	-15.313	1480.312	-50.564	-1181.999
213	45		35.788	1037.281	30.866	1525.622	-7.717	-1184.085
214	46		33.437	1044.657	48.227	1552.413	-6.285	-1171.516
215	47		19.134	1037.519	40.63	1549.007	-7.303	-1141.796
216	48		-29.606	1021.04	35.483	1525.106	32.902	-1104.241
217	49		-75.18	997.152	10.078	1478.855	63.105	-1068.325
218	50		-77.96	1482.871	-29.649	1924.141	45.935	-1679.302
219	51		-56.177	1466.102	-75.821	1878.84	3.09	-1677.264
220	52		-53.834	1458.747	-93.171	1852.057	1.671	-1689.916
221	53		-39.542	1465.909	-85.567	1855.459	2.7	-1719.714
222	54		9.192	1482.418	-80.416	1879.354	-37.5	-1757.339
223	55		54.763	1506.334	-55.005	1925.604	-67.695	-1793.309
224	56		55.64	1530.265	-3.808	1980.407	-39.891	-1815.512
225	57		33.857	1547.036	42.363	2025.7	2.952	-1817.547
226	58		31.514	1554.393	59.712	2052.48	4.371	-1804.892
227	59		17.223	1547.229	52.108	2049.083	3.342	-1775.096
228	60		-31.51	1530.718	46.957	2025.194	43.54	-1737.477
229	61		-77.082	1506.803	21.546	1978.951	73.737	-1701.509
230	62		-85.575	1949.944	-46.883	3677.321	43.603	-2347.597
231	63		-63.798	1933.157	-93.051	3632.092	0.768	-2345.554
232	64		-61.461	1925.789	-110.408	3605.328	-0.649	-2358.156
233	65		-47.176	1932.955	-102.817	3608.727	0.378	-2387.901
234	66		1.549	1949.468	-97.678	3632.606	-39.82	-2425.455
235	67		47.115	1973.378	-72.276	3678.753	-70.016	-2461.303
236	68		47.997	1997.311	-21.087	3733.417	-42.221	-2483.412
237	69		26.22	2014.099	25.08	3778.638	0.613	-2485.453
238	70		23.882	2021.47	42.436	3805.398	2.03	-2472.848
239	71		9.597	2014.302	34.845	3802.006	1.002	-2443.105
240	72		-39.126	1997.788	29.706	3778.132	41.2	-2405.557
241	73		-84.693	1973.878	4.304	3731.991	71.397	-2369.711
242	74		-86.898	1949.973	-46.133	3930.188	41.932	-1909.771
243	75		-65.121	1933.173	-92.298	3884.931	-0.902	-1907.738
244	76		-62.779	1925.792	-109.648	3858.127	-2.321	-1920.331
245	77		-48.49	1932.947	-102.051	3861.498	-1.292	-1950.045
246	78		0.238	1949.446	-96.909	3885.372	-41.493	-1987.57
247	79		45.81	1973.35	-71.51	3931.526	-71.699	-2023.395



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
248	80		46.697	1997.29	-20.326	3986.208	-43.913	-2045.489
249	81		24.92	2014.092	25.837	4031.457	-1.081	-2047.521
250	82		22.578	2021.475	43.187	4058.257	0.338	-2034.923
251	83		8.29	2014.318	35.59	4054.892	-0.691	-2005.212
252	84		-40.437	1997.817	30.449	4031.025	39.509	-1967.693
253	85		-86.01	1973.914	5.05	3984.876	69.716	-1931.87
254	86		-75.791	1482.907	-30.872	2474.893	39.64	-725.484
255	87		-54.019	1466.108	-77.051	2429.563	-3.196	-723.472
256	88		-51.685	1458.736	-94.415	2402.722	-4.614	-736.097
257	89		-37.4	1465.88	-86.824	2406.071	-3.587	-765.856
258	90		11.334	1482.362	-81.686	2429.974	-43.797	-803.442
259	91		56.915	1506.262	-56.286	2476.275	-74.01	-839.343
260	92		57.807	1530.209	-5.093	2531.12	-46.225	-861.473
261	93		36.035	1547.009	41.085	2576.441	-3.39	-863.483
262	94		33.701	1554.384	58.448	2603.279	-1.972	-850.854
263	95		19.416	1547.238	50.858	2599.936	-2.999	-821.097
264	96		-29.317	1530.755	45.72	2576.039	37.208	-783.516
265	97		-74.899	1506.855	20.32	2529.744	67.423	-747.618
266	98		-86.707	973.166	-34.952	1676.206	50.292	-609.099
267	99		-64.928	956.397	-81.135	1630.922	7.45	-607.044
268	100		-62.583	949.052	-98.504	1604.144	6.021	-619.624
269	101		-48.284	956.218	-90.916	1607.579	7.036	-649.35
270	102		0.457	972.709	-85.775	1631.534	-33.177	-686.925
271	103		46.034	996.597	-60.375	1677.827	-63.383	-722.845
272	104		46.919	1020.519	-9.184	1732.631	-35.591	-745.008
273	105		25.141	1037.289	36.999	1777.906	7.25	-747.062
274	106		22.796	1044.637	54.368	1804.681	8.678	-734.478
275	107		8.497	1037.469	46.779	1801.253	7.664	-704.754
276	108		-40.244	1020.977	41.639	1777.303	47.875	-667.185
277	109		-85.822	997.089	16.239	1731.017	78.083	-631.267
278	110		-85.829	778.982	-34.2	1350.672	49.976	-583.321
279	111		-64.052	762.211	-80.379	1305.375	7.136	-581.239
280	112		-61.709	754.862	-97.745	1278.593	5.71	-593.802
281	113		-47.421	762.026	-90.152	1282.032	6.736	-623.52
282	114		1.31	778.521	-85.009	1305.998	-33.465	-661.09
283	115		46.888	802.42	-59.611	1352.308	-63.673	-697.018
284	116		47.78	826.35	-8.424	1407.136	-35.888	-719.202
285	117		26.003	843.123	37.754	1452.424	6.951	-721.282
286	118		23.66	850.474	55.12	1479.203	8.377	-708.716
287	119		9.372	843.308	47.527	1475.769	7.351	-679
288	120		-39.358	826.811	42.384	1451.81	47.551	-641.436
289	121		-84.937	802.913	16.986	1405.505	77.76	-605.511
290	122		-77.968	736.346	-32.135	1356.363	42.793	-715.736
291	123		-56.191	719.538	-78.311	1311.019	-0.046	-713.636
292	124		-53.852	712.16	-95.67	1284.201	-1.464	-726.201
293	125		-39.56	719.329	-88.073	1287.645	-0.436	-755.949
294	126		9.175	735.849	-82.928	1311.623	-40.64	-793.543
295	127		54.749	759.772	-57.526	1357.934	-70.844	-829.478
296	128		55.632	783.726	-6.335	1412.775	-43.05	-851.676
297	129		33.854	800.536	39.841	1458.11	-0.213	-853.773
298	130		31.515	807.916	57.199	1484.925	1.205	-841.205
299	131		17.224	800.745	49.602	1481.487	0.177	-811.459
300	132		-31.51	784.224	44.457	1457.515	40.379	-773.871
301	133		-77.085	760.301	19.055	1411.21	70.585	-737.939
302	134		-75.83	779.049	-39.987	1238.902	35.608	-777.138



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
303	135		-54.053	762.268	-86.16	1193.585	-7.229	-775.039
304	136		-51.711	754.898	-103.514	1166.797	-8.649	-787.596
305	137		-37.411	762.036	-95.916	1170.227	-7.629	-817.313
306	138		11.325	778.517	-90.769	1194.163	-47.835	-854.872
307	139		56.892	802.415	-65.362	1240.451	-78.031	-890.8
308	140		57.769	826.345	-14.169	1295.284	-50.232	-913.002
309	141		35.991	843.128	32.002	1340.593	-7.397	-915.098
310	142		33.649	850.501	49.356	1367.378	-5.976	-902.538
311	143		19.35	843.36	41.758	1363.954	-6.997	-872.823
312	144		-29.386	826.877	36.612	1340.024	33.208	-835.27
313	145		-74.953	802.98	11.205	1293.742	63.405	-799.344
314	470		-9.106	948.332	-25.158	1492.781	-5.484	-975.338
315	471		-10.809	1251.536	-18.105	1803.332	1.018	-1320.407
316	472		-17.464	1524.745	-29.766	2923.306	-0.383	-1702.947
317	473		-17.32	948.33	-20.419	1604.631	5.212	-781.6
318	474		-10.363	1251.538	-18.363	2058.76	-1.286	-878.009
319	475		-17.117	1524.746	-29.966	2950.036	0.094	-1656.649
320	476		-17.28	925.088	-20.619	1562.513	5.434	-775.881
321	477		-10.812	895.089	-18.621	1546.833	-0.131	-877.383
322	478		-9.301	925.09	-25.223	1466.771	-5.704	-941.724
323	479		-10.902	1004.182	-18.523	1673.747	0.108	-931.681
324	480		-10.68	1004.182	-18.651	1657.314	-0.374	-960.144
325	481		-10.901	1389.798	-18.779	2052.297	-0.134	-1169.211
326	482		-16.366	943.652	-20.394	1593.653	4.551	-792.736
327	483		-9.564	943.654	-24.319	1496.937	-4.822	-960.262
328	484		-16.357	1510.86	-28.247	2861.372	-0.143	-1636.324
329	485		-7.817	936.251	-25.11	1481.508	-6.418	-965.132
330	486		-10.071	1250.259	-20.762	1813.204	-0.611	-1328.019
331	487		-18.946	1545.967	-31.405	2867.904	0.582	-1673.912
332	488		-17.919	936.226	-19.28	1590.099	6.141	-776.924
333	489		-13.035	1250.244	-19.051	2070.256	0.347	-882.724
334	490		-17.792	1545.973	-32.073	2897.224	-0.877	-1623.165
335	491		-18.839	915.94	-19.947	1545.746	7.057	-768.141
336	492		-10.072	897.659	-17.339	1554.33	-0.131	-881.717
337	493		-7.938	915.972	-26.238	1451.741	-7.331	-931.116
338	1	N265	-12.322	1175.675	21.464	-1942.367	-0.156	-1139.734
339	2		-1082.066	612.388	250.722	-1207.61	-665.188	138.754
340	3		-1095.703	1003.147	-601.886	-2094.881	-1159.56	-223.296
341	4		-373.893	1395.425	-1035.561	-2858.17	-702.612	-819.655
342	5		459.036	1668.911	-1104.634	-3254.437	-1.613	-1443.074
343	6		725.148	1790.928	-1213.403	-3297.45	22.723	-1925.827
344	7		734.126	1674.442	-948.651	-2849.68	4.933	-2123.949
345	8		1060.846	1402.755	-213.962	-2119.508	664.647	-2090.785
346	9		1074.563	1012.283	638.783	-1233.501	1159.358	-1729.752
347	10		352.992	619.597	1072.437	-468.307	702.833	-1132.535
348	11		-480.116	346.476	1141.65	-70.426	1.48	-507.541
349	12		-746.308	225.233	1250.498	-26.196	-22.866	-24.468
350	13		-755.34	341.069	985.66	-475.205	-5.112	172.584
351	14		-269.141	1994.922	97.921	-3281.657	-151.137	-1723.944
352	15		-264.41	2086.63	-102.956	-3488.449	-259.747	-1810.296
353	16		-100.217	2180.133	-214.795	-3671.291	-163.42	-1950.022
354	17		88.528	2244.075	-234.566	-3765.12	-6.908	-2094.183
355	18		157.197	2273.457	-259.232	-3777.824	6.89	-2208.363
356	19		160.344	2244.704	-193.401	-3669.692	7.125	-2252.354
357	20		228.314	2181.937	-26.961	-3501.173	150.638	-2243.315



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
358	21		223.585	2090.242	173.921	-3294.46	259.265	-2157.01
359	22		59.404	1996.721	285.76	-3111.517	162.961	-2017.227
360	23		-129.349	1932.797	305.536	-3017.587	6.43	-1872.981
361	24		-198.021	1903.456	330.206	-3004.81	-7.37	-1758.782
362	25		-201.171	1932.176	264.371	-3113.018	-7.606	-1714.859
363	26		-89.221	1017.842	42.973	-1691.431	-46.82	-939.199
364	27		-66.781	1044.63	-11.579	-1751.904	-53.492	-966.343
365	28		-29.391	1071.415	-57.89	-1805.369	-45.864	-1005.892
366	29		12.95	1091.048	-83.601	-1837.572	-25.984	-1047.293
367	30		48.894	1098.255	-81.796	-1839.855	0.826	-1079.436
368	31		68.791	1091.103	-52.977	-1811.627	27.363	-1093.691
369	32		67.324	1071.5	-4.822	-1760.402	46.547	-1086.254
370	33		44.884	1044.709	49.73	-1699.937	53.22	-1059.112
371	34		7.494	1017.925	96.042	-1646.465	45.594	-1019.557
372	35		-34.848	998.295	121.752	-1614.248	25.714	-978.149
373	36		-70.792	991.09	119.947	-1611.957	-1.097	-946.004
374	37		-90.689	998.241	91.128	-1640.192	-27.636	-931.755
375	38		-84.055	1949.479	48.209	-3664.038	-41.519	-2371.072
376	39		-84.886	1973.342	-3.806	-3718.053	-71.685	-2393.103
377	40		-40.869	1997.323	-30.267	-3764.596	-43.834	-2429.479
378	41		9.932	2014.036	-34.486	-3788.798	-1.073	-2467.57
379	42		26.156	2021.481	-41.122	-3791.457	0.405	-2497.068
380	43		26.697	2014.385	-24.973	-3764.121	-0.687	-2509.159
381	44		46.619	1997.795	19.844	-3719.535	39.558	-2507.13
382	45		47.45	1973.933	71.859	-3665.524	69.725	-2485.103
383	46		3.434	1949.95	98.32	-3618.974	41.875	-2448.723
384	47		-47.368	1933.239	102.54	-3594.766	-0.886	-2410.627
385	48		-63.592	1925.797	109.176	-3592.103	-2.365	-2381.128
386	49		-64.133	1932.89	93.027	-3619.443	-1.273	-2369.04
387	50		-76.427	1482.393	30.984	-1910.851	-43.832	-1702.723
388	51		-77.261	1506.253	-21.039	-1965.004	-74.006	-1724.842
389	52		-33.239	1530.241	-47.508	-2011.66	-46.155	-1761.342
390	53		17.572	1546.952	-51.74	-2035.879	-3.392	-1799.506
391	54		33.804	1554.39	-58.388	-2038.529	-1.915	-1829.053
392	55		34.349	1547.304	-42.246	-2011.166	-3.005	-1841.186
393	56		54.277	1530.731	2.574	-1966.511	37.248	-1839.161
394	57		55.112	1506.872	54.597	-1912.362	67.424	-1817.046
395	58		11.091	1482.882	81.067	-1865.7	39.574	-1780.542
396	59		-39.721	1466.173	85.299	-1841.474	-3.19	-1742.373
397	60		-55.953	1458.739	91.948	-1838.82	-4.667	-1712.825
398	61		-56.498	1465.822	75.806	-1866.188	-3.577	-1700.696
399	62		-74.536	972.736	42.447	-1410.717	-33.219	-1069.508
400	63		-75.368	996.584	-9.573	-1464.883	-63.387	-1091.61
401	64		-31.343	1020.547	-36.036	-1511.547	-35.528	-1128.058
402	65		19.474	1037.228	-40.263	-1535.781	7.24	-1166.16
403	66		35.716	1044.638	-46.906	-1538.439	8.728	-1195.63
404	67		36.27	1037.531	-30.752	-1511.061	7.651	-1207.673
405	68		56.2	1020.949	14.076	-1466.39	47.907	-1205.597
406	69		57.032	997.102	66.096	-1412.229	78.076	-1183.499
407	70		13.008	973.138	92.558	-1365.557	50.219	-1147.047
408	71		-37.81	956.458	96.786	-1341.317	7.449	-1108.939
409	72		-54.052	949.051	103.429	-1338.655	5.961	-1079.468
410	73		-54.606	956.156	87.276	-1366.038	7.039	-1067.429
411	74		-74.302	778.547	41.322	-1225.574	-33.512	-800.498
412	75		-75.136	802.406	-10.698	-1279.756	-63.681	-822.612



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
413	76		-31.119	826.377	-37.164	-1326.451	-35.829	-859.069
414	77		19.694	843.061	-41.39	-1350.714	6.938	-897.169
415	78		35.932	850.474	-48.034	-1353.39	8.423	-926.634
416	79		36.477	843.369	-31.888	-1326.016	7.333	-938.668
417	80		56.399	826.783	12.933	-1281.344	47.579	-936.582
418	81		57.234	802.925	64.953	-1227.168	77.749	-914.471
419	82		13.217	778.952	91.419	-1180.465	49.899	-878.011
420	83		-37.596	762.27	95.646	-1156.196	7.131	-839.905
421	84		-53.834	754.86	102.29	-1153.516	5.646	-810.439
422	85		-54.379	761.963	86.144	-1180.895	6.735	-798.409
423	86		-76.427	735.876	33.473	-1343.096	-40.68	-739.143
424	87		-77.256	759.759	-18.545	-1397.284	-70.845	-761.254
425	88		-33.231	783.754	-45.005	-1443.997	-42.986	-797.716
426	89		17.58	800.474	-49.23	-1468.299	-0.22	-835.849
427	90		33.81	807.917	-55.873	-1470.99	1.257	-865.345
428	91		34.352	800.807	-39.722	-1443.589	0.166	-877.391
429	92		54.275	784.196	5.103	-1398.89	40.414	-875.305
430	93		55.104	760.314	57.121	-1344.707	70.58	-853.198
431	94		11.08	736.317	83.582	-1297.986	42.722	-816.733
432	95		-39.732	719.598	87.807	-1273.678	-0.045	-778.594
433	96		-55.962	712.158	94.451	-1270.983	-1.522	-749.096
434	97		-56.504	719.266	78.299	-1298.389	-0.431	-737.055
435	98		-84.293	778.545	35.532	-1337.477	-47.875	-606.76
436	99		-85.113	802.402	-16.482	-1391.648	-78.031	-628.855
437	100		-41.084	826.373	-42.939	-1438.36	-50.167	-665.308
438	101		9.724	843.067	-47.161	-1462.648	-7.403	-703.418
439	102		25.951	850.502	-53.799	-1465.331	-5.924	-732.885
440	103		26.497	843.422	-37.641	-1437.963	-7.007	-744.927
441	104		46.419	826.85	7.186	-1393.316	33.243	-742.86
442	105		47.24	802.993	59.201	-1339.15	63.401	-720.769
443	106		3.211	779.021	85.657	-1292.43	35.538	-684.313
444	107		-47.597	762.329	89.88	-1268.136	-7.227	-646.197
445	108		-63.824	754.897	96.518	-1265.449	-8.707	-616.729
446	109		-64.37	761.974	80.36	-1292.821	-7.624	-604.691
447	110		-85.171	972.724	36.281	-1662.994	-48.192	-632.536
448	111		-85.997	996.572	-15.738	-1717.141	-78.354	-654.608
449	112		-41.968	1020.533	-42.196	-1763.834	-50.49	-691.054
450	113		8.85	1037.222	-46.416	-1788.113	-7.715	-729.17
451	114		25.088	1044.66	-53.049	-1790.792	-6.224	-758.646
452	115		25.636	1037.583	-36.888	-1763.428	-7.305	-770.707
453	116		45.559	1021.014	7.944	-1718.794	32.945	-768.666
454	117		46.386	997.167	59.962	-1664.652	63.11	-746.597
455	118		2.358	973.204	86.42	-1617.952	35.247	-710.148
456	119		-48.461	956.517	90.641	-1593.667	-7.529	-672.026
457	120		-64.699	949.082	97.275	-1590.984	-9.02	-642.549
458	121		-65.247	956.156	81.113	-1618.351	-7.94	-630.492
459	122		-74.25	1482.445	32.208	-2461.628	-37.528	-748.922
460	123		-75.069	1506.32	-19.812	-2515.816	-67.684	-770.963
461	124		-31.037	1530.292	-46.271	-2562.514	-39.814	-807.39
462	125		19.773	1546.974	-50.488	-2586.741	2.957	-845.516
463	126		35.997	1554.393	-57.124	-2589.34	4.436	-875.026
464	127		36.534	1547.29	-40.969	-2561.916	3.343	-887.132
465	128		56.45	1530.69	3.859	-2517.232	43.587	-885.134
466	129		57.27	1506.815	55.879	-2463.049	73.744	-863.097
467	130		13.239	1482.842	82.337	-2416.344	45.876	-826.667



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
468	131		-37.572	1466.162	86.556	-2392.11	3.103	-788.535
469	132		-53.796	1458.745	93.191	-2389.507	1.625	-759.024
470	133		-54.333	1465.846	77.036	-2416.936	2.717	-746.921
471	134		-85.372	1949.497	47.462	-3916.866	-39.841	-1933.228
472	135		-86.197	1973.367	-4.549	-3970.897	-69.997	-1955.241
473	136		-42.174	1997.341	-31.007	-4017.445	-42.136	-1991.594
474	137		8.63	2014.04	-35.229	-4041.641	0.626	-2029.655
475	138		24.857	2021.473	-41.871	-4044.272	2.103	-2059.123
476	139		25.402	2014.366	-25.729	-4016.895	1.012	-2071.206
477	140		45.324	1997.762	19.084	-3972.281	41.255	-2069.186
478	141		46.15	1973.894	71.095	-3918.255	71.412	-2047.177
479	142		2.127	1949.918	97.554	-3871.7	43.553	-2010.821
480	143		-48.678	1933.221	101.776	-3847.498	0.789	-1972.753
481	144		-64.905	1925.79	108.418	-3844.862	-0.687	-1943.284
482	145		-65.45	1932.895	92.276	-3872.243	0.404	-1931.205
483	470		-17.385	1524.749	29.811	-2909.721	0.103	-1726.496
484	471		-10.719	1251.54	18.157	-1789.76	-1.284	-1343.946
485	472		-9.025	948.33	25.208	-1479.199	5.209	-998.86
486	473		-17.191	925.091	20.667	-1548.941	-5.703	-799.41
487	474		-10.72	895.09	18.674	-1533.252	-0.131	-900.913
488	475		-9.219	925.087	25.273	-1453.187	5.429	-965.243
489	476		-17.231	948.333	20.466	-1591.056	-5.482	-805.129
490	477		-10.27	1251.536	18.416	-2045.169	1.023	-901.539
491	478		-17.038	1524.748	30.012	-2936.449	-0.372	-1680.197
492	479		-10.81	1004.183	18.576	-1660.166	-0.372	-955.214
493	480		-10.81	1389.799	18.831	-2038.715	-0.131	-1192.745
494	481		-10.589	1004.183	18.704	-1643.733	0.11	-983.676
495	482		-16.276	943.655	20.442	-1580.078	-4.82	-816.266
496	483		-16.276	1510.862	28.293	-2847.786	-0.134	-1659.872
497	484		-9.481	943.652	24.369	-1483.354	4.548	-983.784
498	485		-18.871	1545.977	31.449	-2854.317	-0.867	-1697.501
499	486		-9.979	1250.245	20.815	-1799.589	0.349	-1351.541
500	487		-7.739	936.226	25.157	-1467.884	6.137	-988.614
501	488		-18.752	915.973	19.994	-1532.239	-7.33	-791.697
502	489		-9.979	897.66	17.393	-1540.754	-0.13	-905.239
503	490		-7.858	915.94	26.286	-1438.101	7.052	-954.592
504	491		-17.834	936.253	19.326	-1576.58	-6.415	-800.47
505	492		-12.942	1250.26	19.104	-2056.699	-0.607	-906.281
506	493		-17.714	1545.969	32.116	-2883.602	0.594	-1646.735
507	1	Totals:	0.005	3527.009	-0.001			
508	2		-3600.654	3023.143	0.005			
509	3		-3033.998	3023.144	-1749.254			
510	4		-1799.803	3023.147	-3118.746			
511	5		0.018	3023.15	-3500.144			
512	6		1799.838	3023.154	-3118.752			
513	7		3034.025	3023.157	-1749.263			
514	8		3600.661	3023.158	-0.006			
515	9		3034.006	3023.157	1749.253			
516	10		1799.81	3023.154	3118.745			
517	11		-0.011	3023.151	3500.143			
518	12		-1799.83	3023.147	3118.751			
519	13		-3034.017	3023.144	1749.262			
520	14		-850.954	6265.282	0			
521	15		-714.103	6265.282	-408.745			
522	16		-425.532	6265.283	-734.817			



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
523	17		0.011	6265.284	-820.61			
524	18		425.554	6265.285	-734.818			
525	19		714.123	6265.285	-408.747			
526	20		850.97	6265.286	-0.002			
527	21		714.119	6265.285	408.743			
528	22		425.548	6265.285	734.815			
529	23		0.005	6265.284	820.608			
530	24		-425.538	6265.283	734.816			
531	25		-714.107	6265.282	408.745			
532	26		-271.423	3133.999	0			
533	27		-235.056	3133.999	-135.746			
534	28		-135.742	3133.999	-235.059			
535	29		0.005	3133.999	-271.425			
536	30		135.751	3134	-235.059			
537	31		235.065	3134	-135.746			
538	32		271.431	3134	-0.001			
539	33		235.064	3134	135.745			
540	34		135.75	3134	235.058			
541	35		0.003	3133.999	271.424			
542	36		-135.743	3133.999	235.058			
543	37		-235.057	3133.999	135.745			
544	38		-219.63	3773.157	-0.005			
545	39		-185.064	3773.157	-106.71			
546	40		-109.778	3773.157	-190.249			
547	41		0.011	3773.158	-213.514			
548	42		109.8	3773.158	-190.249			
549	43		185.085	3773.158	-106.71			
550	44		219.65	3773.158	-0.006			
551	45		185.084	3773.158	106.699			
552	46		109.798	3773.158	190.238			
553	47		0.009	3773.158	213.504			
554	48		-109.78	3773.158	190.239			
555	49		-185.065	3773.157	106.7			
556	50		-219.63	3773.153	-0.001			
557	51		-185.064	3773.154	-106.705			
558	52		-109.778	3773.154	-190.244			
559	53		0.011	3773.154	-213.51			
560	54		109.8	3773.154	-190.245			
561	55		185.086	3773.154	-106.706			
562	56		219.65	3773.154	-0.001			
563	57		185.084	3773.154	106.703			
564	58		109.799	3773.154	190.243			
565	59		0.009	3773.154	213.508			
566	60		-109.78	3773.154	190.243			
567	61		-185.065	3773.154	106.704			
568	62		-219.628	3773.156	0.003			
569	63		-185.062	3773.156	-106.702			
570	64		-109.776	3773.156	-190.241			
571	65		0.013	3773.156	-213.506			
572	66		109.802	3773.156	-190.241			
573	67		185.087	3773.157	-106.703			
574	68		219.652	3773.157	0.002			
575	69		185.086	3773.157	106.707			
576	70		109.8	3773.157	190.246			
577	71		0.011	3773.156	213.511			



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
578	72		-109.778	3773.156	190.246			
579	73		-185.063	3773.156	106.707			
580	74		-219.636	3773.155	0.002			
581	75		-185.07	3773.155	-106.702			
582	76		-109.784	3773.155	-190.241			
583	77		0.005	3773.156	-213.507			
584	78		109.794	3773.156	-190.242			
585	79		185.079	3773.156	-106.703			
586	80		219.644	3773.156	0.002			
587	81		185.078	3773.156	106.707			
588	82		109.792	3773.156	190.246			
589	83		0.003	3773.156	213.511			
590	84		-109.786	3773.155	190.246			
591	85		-185.071	3773.155	106.707			
592	86		-219.639	3773.15	0.001			
593	87		-185.073	3773.15	-106.704			
594	88		-109.787	3773.15	-190.243			
595	89		0.002	3773.151	-213.508			
596	90		109.791	3773.151	-190.243			
597	91		185.076	3773.151	-106.705			
598	92		219.641	3773.151	0			
599	93		185.075	3773.151	106.705			
600	94		109.789	3773.151	190.244			
601	95		0	3773.151	213.509			
602	96		-109.789	3773.151	190.244			
603	97		-185.074	3773.15	106.705			
604	98		-219.641	3773.145	0.003			
605	99		-185.075	3773.145	-106.702			
606	100		-109.789	3773.146	-190.241			
607	101		0	3773.146	-213.506			
608	102		109.789	3773.146	-190.242			
609	103		185.074	3773.146	-106.703			
610	104		219.639	3773.146	0.002			
611	105		185.073	3773.146	106.707			
612	106		109.787	3773.146	190.246			
613	107		-0.002	3773.146	213.511			
614	108		-109.791	3773.146	190.246			
615	109		-185.076	3773.145	106.707			
616	110		-219.64	3773.145	-0.001			
617	111		-185.074	3773.145	-106.706			
618	112		-109.788	3773.145	-190.245			
619	113		0.001	3773.145	-213.51			
620	114		109.79	3773.145	-190.245			
621	115		185.075	3773.145	-106.706			
622	116		219.64	3773.145	-0.002			
623	117		185.074	3773.145	106.703			
624	118		109.788	3773.145	190.242			
625	119		-0.001	3773.145	213.508			
626	120		-109.79	3773.145	190.243			
627	121		-185.075	3773.145	106.704			
628	122		-219.637	3773.148	-0.001			
629	123		-185.071	3773.149	-106.705			
630	124		-109.785	3773.149	-190.244			
631	125		0.004	3773.149	-213.51			
632	126		109.793	3773.149	-190.245			



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
633	127		185.079	3773.149	-106.706			
634	128		219.644	3773.149	-0.001			
635	129		185.078	3773.149	106.703			
636	130		109.792	3773.149	190.242			
637	131		0.003	3773.149	213.508			
638	132		-109.786	3773.149	190.243			
639	133		-185.072	3773.149	106.704			
640	134		-219.634	3773.156	-0.003			
641	135		-185.068	3773.156	-106.708			
642	136		-109.782	3773.156	-190.247			
643	137		0.007	3773.156	-213.512			
644	138		109.796	3773.157	-190.247			
645	139		185.082	3773.157	-106.709			
646	140		219.647	3773.157	-0.004			
647	141		185.081	3773.157	106.701			
648	142		109.795	3773.157	190.24			
649	143		0.006	3773.156	213.505			
650	144		-109.783	3773.156	190.24			
651	145		-185.069	3773.156	106.701			
652	470		0.007	3398.155	-0.003			
653	471		0.006	3398.152	-0.001			
654	472		0.007	3398.154	0.001			
655	473		0.001	3398.147	0			
656	474		0.003	3398.151	0			
657	475		0.006	3398.154	0.001			
658	476		0.001	3398.147	0			
659	477		0.004	3398.15	-0.001			
660	478		0.006	3398.154	-0.003			
661	479		0.004	3398.15	0			
662	480		0.004	3398.151	-0.001			
663	481		0.004	3398.151	0			
664	482		0.001	3398.148	0			
665	483		0.006	3398.154	-0.003			
666	484		0.006	3398.154	0.001			
667	485		0.008	3398.154	-0.004			
668	486		0.004	3398.152	-0.001			
669	487		0.009	3398.154	0.002			
670	488		0.001	3398.148	0.001			
671	489		0.003	3398.151	0			
672	490		0.006	3398.153	0.002			
673	491		0.001	3398.148	0			
674	492		0.003	3398.15	-0.001			
675	493		0.007	3398.154	-0.003			
676	1	COG (in):	X: -16.177	Y: 17.7	Z: 29.188			
677	2		X: -16.177	Y: 17.7	Z: 29.188			
678	3		X: -16.177	Y: 17.7	Z: 29.188			
679	4		X: -16.177	Y: 17.7	Z: 29.188			
680	5		X: -16.177	Y: 17.7	Z: 29.188			
681	6		X: -16.177	Y: 17.7	Z: 29.188			
682	7		X: -16.177	Y: 17.7	Z: 29.188			
683	8		X: -16.177	Y: 17.7	Z: 29.188			
684	9		X: -16.177	Y: 17.7	Z: 29.188			
685	10		X: -16.177	Y: 17.7	Z: 29.188			
686	11		X: -16.177	Y: 17.7	Z: 29.188			
687	12		X: -16.177	Y: 17.7	Z: 29.188			



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
688	13		X: -16.177	Y: 17.7	Z: 29.188			
689	14		X: -16.177	Y: 17.655	Z: 29.188			
690	15		X: -16.177	Y: 17.655	Z: 29.188			
691	16		X: -16.177	Y: 17.655	Z: 29.188			
692	17		X: -16.177	Y: 17.655	Z: 29.188			
693	18		X: -16.177	Y: 17.655	Z: 29.188			
694	19		X: -16.177	Y: 17.655	Z: 29.188			
695	20		X: -16.177	Y: 17.655	Z: 29.188			
696	21		X: -16.177	Y: 17.655	Z: 29.188			
697	22		X: -16.177	Y: 17.655	Z: 29.188			
698	23		X: -16.177	Y: 17.655	Z: 29.188			
699	24		X: -16.177	Y: 17.655	Z: 29.188			
700	25		X: -16.177	Y: 17.655	Z: 29.188			
701	26		X: -16.177	Y: 17.7	Z: 29.188			
702	27		X: -16.177	Y: 17.7	Z: 29.188			
703	28		X: -16.177	Y: 17.7	Z: 29.188			
704	29		X: -16.177	Y: 17.7	Z: 29.188			
705	30		X: -16.177	Y: 17.7	Z: 29.188			
706	31		X: -16.177	Y: 17.7	Z: 29.188			
707	32		X: -16.177	Y: 17.7	Z: 29.188			
708	33		X: -16.177	Y: 17.7	Z: 29.188			
709	34		X: -16.177	Y: 17.7	Z: 29.188			
710	35		X: -16.177	Y: 17.7	Z: 29.188			
711	36		X: -16.177	Y: 17.7	Z: 29.188			
712	37		X: -16.177	Y: 17.7	Z: 29.188			
713	38		X: -26.189	Y: 18.952	Z: 41.115			
714	39		X: -26.189	Y: 18.952	Z: 41.115			
715	40		X: -26.189	Y: 18.952	Z: 41.115			
716	41		X: -26.189	Y: 18.952	Z: 41.115			
717	42		X: -26.189	Y: 18.952	Z: 41.115			
718	43		X: -26.189	Y: 18.952	Z: 41.115			
719	44		X: -26.189	Y: 18.952	Z: 41.115			
720	45		X: -26.189	Y: 18.952	Z: 41.115			
721	46		X: -26.189	Y: 18.952	Z: 41.115			
722	47		X: -26.189	Y: 18.952	Z: 41.115			
723	48		X: -26.189	Y: 18.952	Z: 41.115			
724	49		X: -26.189	Y: 18.952	Z: 41.115			
725	50		X: -26.189	Y: 18.952	Z: 29.188			
726	51		X: -26.189	Y: 18.952	Z: 29.188			
727	52		X: -26.189	Y: 18.952	Z: 29.188			
728	53		X: -26.189	Y: 18.952	Z: 29.188			
729	54		X: -26.189	Y: 18.952	Z: 29.188			
730	55		X: -26.189	Y: 18.952	Z: 29.188			
731	56		X: -26.189	Y: 18.952	Z: 29.188			
732	57		X: -26.189	Y: 18.952	Z: 29.188			
733	58		X: -26.189	Y: 18.952	Z: 29.188			
734	59		X: -26.189	Y: 18.952	Z: 29.188			
735	60		X: -26.189	Y: 18.952	Z: 29.188			
736	61		X: -26.189	Y: 18.952	Z: 29.188			
737	62		X: -26.189	Y: 18.952	Z: 17.262			
738	63		X: -26.189	Y: 18.952	Z: 17.262			
739	64		X: -26.189	Y: 18.952	Z: 17.262			
740	65		X: -26.189	Y: 18.952	Z: 17.262			
741	66		X: -26.189	Y: 18.952	Z: 17.262			
742	67		X: -26.189	Y: 18.952	Z: 17.262			



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
743	68		X: -26.189	Y: 18.952	Z: 17.262			
744	69		X: -26.189	Y: 18.952	Z: 17.262			
745	70		X: -26.189	Y: 18.952	Z: 17.262			
746	71		X: -26.189	Y: 18.952	Z: 17.262			
747	72		X: -26.189	Y: 18.952	Z: 17.262			
748	73		X: -26.189	Y: 18.952	Z: 17.262			
749	74		X: -21.5	Y: 18.952	Z: 14.554			
750	75		X: -21.5	Y: 18.952	Z: 14.554			
751	76		X: -21.5	Y: 18.952	Z: 14.554			
752	77		X: -21.5	Y: 18.952	Z: 14.554			
753	78		X: -21.5	Y: 18.952	Z: 14.554			
754	79		X: -21.5	Y: 18.952	Z: 14.554			
755	80		X: -21.5	Y: 18.952	Z: 14.554			
756	81		X: -21.5	Y: 18.952	Z: 14.554			
757	82		X: -21.5	Y: 18.952	Z: 14.554			
758	83		X: -21.5	Y: 18.952	Z: 14.554			
759	84		X: -21.5	Y: 18.952	Z: 14.554			
760	85		X: -21.5	Y: 18.952	Z: 14.554			
761	86		X: -11.171	Y: 18.952	Z: 20.518			
762	87		X: -11.171	Y: 18.952	Z: 20.518			
763	88		X: -11.171	Y: 18.952	Z: 20.518			
764	89		X: -11.171	Y: 18.952	Z: 20.518			
765	90		X: -11.171	Y: 18.952	Z: 20.518			
766	91		X: -11.171	Y: 18.952	Z: 20.518			
767	92		X: -11.171	Y: 18.952	Z: 20.518			
768	93		X: -11.171	Y: 18.952	Z: 20.518			
769	94		X: -11.171	Y: 18.952	Z: 20.518			
770	95		X: -11.171	Y: 18.952	Z: 20.518			
771	96		X: -11.171	Y: 18.952	Z: 20.518			
772	97		X: -11.171	Y: 18.952	Z: 20.518			
773	98		X: -0.842	Y: 18.952	Z: 26.481			
774	99		X: -0.842	Y: 18.952	Z: 26.481			
775	100		X: -0.842	Y: 18.952	Z: 26.481			
776	101		X: -0.842	Y: 18.952	Z: 26.481			
777	102		X: -0.842	Y: 18.952	Z: 26.481			
778	103		X: -0.842	Y: 18.952	Z: 26.481			
779	104		X: -0.842	Y: 18.952	Z: 26.481			
780	105		X: -0.842	Y: 18.952	Z: 26.481			
781	106		X: -0.842	Y: 18.952	Z: 26.481			
782	107		X: -0.842	Y: 18.952	Z: 26.481			
783	108		X: -0.842	Y: 18.952	Z: 26.481			
784	109		X: -0.842	Y: 18.952	Z: 26.481			
785	110		X: -0.842	Y: 18.952	Z: 31.896			
786	111		X: -0.842	Y: 18.952	Z: 31.896			
787	112		X: -0.842	Y: 18.952	Z: 31.896			
788	113		X: -0.842	Y: 18.952	Z: 31.896			
789	114		X: -0.842	Y: 18.952	Z: 31.896			
790	115		X: -0.842	Y: 18.952	Z: 31.896			
791	116		X: -0.842	Y: 18.952	Z: 31.896			
792	117		X: -0.842	Y: 18.952	Z: 31.896			
793	118		X: -0.842	Y: 18.952	Z: 31.896			
794	119		X: -0.842	Y: 18.952	Z: 31.896			
795	120		X: -0.842	Y: 18.952	Z: 31.896			
796	121		X: -0.842	Y: 18.952	Z: 31.896			
797	122		X: -11.171	Y: 18.952	Z: 37.859			



Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [lb-ft]	MY [lb-ft]	MZ [lb-ft]
798	123		X: -11.171	Y: 18.952	Z: 37.859			
799	124		X: -11.171	Y: 18.952	Z: 37.859			
800	125		X: -11.171	Y: 18.952	Z: 37.859			
801	126		X: -11.171	Y: 18.952	Z: 37.859			
802	127		X: -11.171	Y: 18.952	Z: 37.859			
803	128		X: -11.171	Y: 18.952	Z: 37.859			
804	129		X: -11.171	Y: 18.952	Z: 37.859			
805	130		X: -11.171	Y: 18.952	Z: 37.859			
806	131		X: -11.171	Y: 18.952	Z: 37.859			
807	132		X: -11.171	Y: 18.952	Z: 37.859			
808	133		X: -11.171	Y: 18.952	Z: 37.859			
809	134		X: -21.5	Y: 18.952	Z: 43.822			
810	135		X: -21.5	Y: 18.952	Z: 43.822			
811	136		X: -21.5	Y: 18.952	Z: 43.822			
812	137		X: -21.5	Y: 18.952	Z: 43.822			
813	138		X: -21.5	Y: 18.952	Z: 43.822			
814	139		X: -21.5	Y: 18.952	Z: 43.822			
815	140		X: -21.5	Y: 18.952	Z: 43.822			
816	141		X: -21.5	Y: 18.952	Z: 43.822			
817	142		X: -21.5	Y: 18.952	Z: 43.822			
818	143		X: -21.5	Y: 18.952	Z: 43.822			
819	144		X: -21.5	Y: 18.952	Z: 43.822			
820	145		X: -21.5	Y: 18.952	Z: 43.822			
821	470		X: -21.37	Y: 15.747	Z: 37.465			
822	471		X: -21.37	Y: 15.747	Z: 29.188			
823	472		X: -21.37	Y: 15.747	Z: 20.912			
824	473		X: -6.413	Y: 15.747	Z: 28.83			
825	474		X: -13.581	Y: 15.747	Z: 24.691			
826	475		X: -20.748	Y: 15.747	Z: 20.553			
827	476		X: -6.413	Y: 15.747	Z: 29.547			
828	477		X: -13.581	Y: 15.747	Z: 33.685			
829	478		X: -20.748	Y: 15.747	Z: 37.823			
830	479		X: -12.263	Y: 15.747	Z: 29.188			
831	480		X: -18.134	Y: 15.747	Z: 32.578			
832	481		X: -18.134	Y: 15.747	Z: 25.799			
833	482		X: -6.939	Y: 15.747	Z: 29.188			
834	483		X: -20.796	Y: 15.747	Z: 37.189			
835	484		X: -20.796	Y: 15.747	Z: 21.188			
836	485		X: -21.37	Y: 21.044	Z: 37.465			
837	486		X: -21.37	Y: 21.044	Z: 29.188			
838	487		X: -21.37	Y: 21.044	Z: 20.912			
839	488		X: -6.413	Y: 21.044	Z: 28.83			
840	489		X: -13.581	Y: 21.044	Z: 24.691			
841	490		X: -20.748	Y: 21.044	Z: 20.553			
842	491		X: -6.413	Y: 21.044	Z: 29.547			
843	492		X: -13.581	Y: 21.044	Z: 33.685			
844	493		X: -20.748	Y: 21.044	Z: 37.823			

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
0	N14	max	1455.355	8	2273.723	14	1248.561	11	852.686	11	1158.107	5	4531.904	110
1		min	-1412.645	2	225.441	8	-1248.698	5	-879.874	5	-1158.31	11	35.773	8
2	N264	max	1084.461	8	2273.451	22	1234.392	10	4058.257	82	1159.384	13	194.557	3
3		min	-1105.943	2	225.25	4	-1271.269	4	33.905	4	-1159.588	7	-2485.453	69
4	N265	max	1074.563	9	2273.457	18	1250.498	12	-26.196	12	1159.358	9	172.584	13



Company : ETS, PLLC
 Designer : TMS
 Job Number : ETS#24124667.STR.8761
 Model Name : 876381 - WARD_Mount Analysis

2/8/2024
 7:40:43 PM
 Checked By : GGS

Envelope Node Reactions (Continued)

Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
5	min	-1095.703	3	225.233	12	-1213.403	6	-4044.272	138	-1159.56	3	-2509.159	43
6	Totals:	max	3600.661	8	6265.286	20	3500.143	11					
7	min	-3600.654	2	3023.143	2	-3500.144	5						

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

Member	Shape	Code Check	Loc[in]	LC	Shear	Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
0	MP2	PIPE 2.0	0.494	24	2	0.039	47	10	14916.096	32130	1871.625	1871.625	1	H1-1b	
1	MP5	PIPE 2.0	0.494	24	6	0.04	47	2	14916.096	32130	1871.625	1871.625	1	H1-1b	
2	MP8	PIPE 2.0	0.494	24	10	0.039	47	6	14916.096	32130	1871.625	1871.625	1	H1-1b	
3	MP9	PIPE 2.0	0.317	14.25	3	0.126	26.125	4	19863.118	32130	1871.625	1871.625	1	H1-1b	
4	MP3	PIPE 2.0	0.317	14.25	7	0.126	26.125	8	19863.118	32130	1871.625	1871.625	1	H1-1b	
5	MP6	PIPE 2.0	0.317	14.25	11	0.126	26.125	12	19863.118	32130	1871.625	1871.625	1	H1-1b	
6	MP1	PIPE 2.0	0.299	14.25	10	0.119	37.208	8	19863.118	32130	1871.625	1871.625	1	H1-1b	
7	MP7	PIPE 2.0	0.299	14.25	6	0.119	37.208	4	19863.118	32130	1871.625	1871.625	1	H1-1b	
8	MP4	PIPE 2.0	0.299	14.25	2	0.119	37.208	12	19863.118	32130	1871.625	1871.625	1	H1-1b	
9	SA2	HSS4X4X4	0.28	64	138	0.097	64	z	9	130390.361	139518	16180.5	16180.5	2.443	H1-1b
10	SA3	HSS4X4X4	0.28	64	70	0.097	64	z	13	130390.361	139518	16180.5	16180.5	2.443	H1-1b
11	SA1	HSS4X4X4	0.28	64	98	0.097	64	z	5	130390.361	139518	16180.5	16180.5	2.443	H1-1b
12	HR2	PIPE 2.0	0.221	75	13	0.198	143.75	6	6295.422	32130	1871.625	1871.625	1	H1-1b	
13	HR1	PIPE 2.0	0.221	75	9	0.198	6.25	2	6295.422	32130	1871.625	1871.625	1	H1-1b	
14	HR3	PIPE 2.0	0.221	75	5	0.198	6.25	10	6295.422	32130	1871.625	1871.625	1	H1-1b	
15	GRATE2	L2X2X3	0.169	56.525	9	0.008	56.525	z	25	7724.972	23392.8	557.717	1094.122	1.394	H2-1
16	GRATE4	L2X2X3	0.169	56.525	13	0.008	56.525	z	17	7724.972	23392.8	557.717	1094.387	1.396	H2-1
17	GRATE6	L2X2X3	0.169	56.525	5	0.008	56.525	z	21	7724.972	23392.8	557.717	1093.869	1.393	H2-1
18	GRATE1	L2X2X3	0.165	56.525	7	0.008	56.525	y	15	7724.972	23392.8	557.717	1097.36	1.413	H2-1
19	GRATE5	L2X2X3	0.165	56.525	3	0.008	56.525	y	23	7724.972	23392.8	557.717	1097.646	1.415	H2-1
20	GRATE3	L2X2X3	0.165	56.525	11	0.008	56.525	y	19	7724.972	23392.8	557.717	1097.097	1.411	H2-1
21	FM1	PIPE 3.0	0.15	60.937	43	0.077	143.75	8	58098.732	65205	5748.75	5748.75	1	H1-1b	
22	FM2	PIPE 3.0	0.15	89.062	83	0.077	6.25	12	58098.732	65205	5748.75	5748.75	1	H1-1b	
23	FM3	PIPE 3.0	0.15	60.937	111	0.077	143.75	4	58098.732	65205	5748.75	5748.75	1	H1-1b	
24	BRACE1	HSS4X4X4	0.142	33.857	25	0.039	63.482	y	4	134946.528	139518	16180.5	16180.5	1.349	H1-1b
25	BRACE3	HSS4X4X4	0.142	33.857	21	0.039	63.482	y	12	134946.528	139518	16180.5	16180.5	1.349	H1-1b
26	BRACE2	HSS4X4X4	0.142	33.857	17	0.039	63.482	y	8	134946.528	139518	16180.5	16180.5	1.349	H1-1b
27	CORN2	PL1/2X6	0.105	12	8	0.179	12	y	3	67747.009	97200	1012.5	12150	1.94	H1-1b
28	CORN3	PL1/2X6	0.105	0	12	0.179	0	y	7	67747.009	97200	1012.5	12150	1.941	H1-1b
29	CORN1	PL1/2X6	0.105	12	4	0.179	12	y	11	67747.009	97200	1012.5	12150	1.942	H1-1b
30	CORNER-PL-1	PL1/2X6	0.075	6	4	0.086	6	y	39	67747.009	97200	1012.5	12150	1.351	H1-1b
31	CORNER-PL-2	PL1/2X6	0.075	6	8	0.086	6	y	79	67747.009	97200	1012.5	12150	1.351	H1-1b
32	CORNER-PL-3	PL1/2X6	0.075	6	12	0.086	6	y	119	67747.009	97200	1012.5	12150	1.351	H1-1b

APPENDIX D
ADDITIONAL CALCULATIONS

TIA-222-H 4-Bolt Connection Check

Connection Details	
Bolt Diameter =	0.625 in
Bolt Quantity =	4
Bolt Threads/Inch, n =	11
Vertical Bolt Spacing =	7.000 in
Horizontal Bolt Spacing =	7.000 in
Bolt Grade =	A325
Plate Height =	10.000 in
Plate Width =	10.000 in
Plate Thickness =	0.625
Plate Grade =	A36
Standoff Member Type =	HSS
Member Height =	4.000 in
Member Width =	4.000 in
Member Thickness =	0.250 in
Use TIA-222-H Section 15.5?	No
Weld Size =	1/4 in

Connection Check (Bolts)		
ϕ =	0.75	Strength Reduction Factor
A_n =	0.226 in ²	Net Bolt Area (AISC Table 7-17)
A_b =	0.307 in ²	Gross Bolt Area
$F_{u,bolt}$ =	120 ksi	Bolt Ultimate Stress Capacity
ϕR_{nt} =	20.34 kip	Bolt Nominal Tensile Capacity (TIA-H 4.9.6.1)
ϕR_{nv} =	13.81 kip	Bolt Nominal Shear Capacity (TIA-H 4.9.6.3)
$V_{u,bolt}$ =	0.792 kip	Shear Force Per Bolt
$T_{u,bolt}$ =	3.885 kip	Tension Force Per Bolt
CSR =	19.1%	OK (TIA 4.9.6.4)

Connection Check (Plate)		
ϕ =	0.9	Strength Reduction Factor
F_y =	36 ksi	Plate Yield Capacity
Y_{LH} =	9.06 in	Horizontal plate yield line
Y_{LV} =	9.06 in	Vertical plate yield line
Y_{LD} =	8.12 in	Diagonal plate yield line
M_{max} =	8.2 kip-in	Plate Bending Moment
F_b =	32.4 ksi	Nominal Plate Yield Capacity
f_b =	10.4 ksi	Plate Bending Stress Demand
CSR =	32.1%	OK

Connection Check (Welds)		
ϕ =	0.75	Strength Reduction Factor
F_{EXX} =	70 ksi	Filler Metal Strength (70 ksi assumed)
$F_{u,bm}$ =	58 ksi	Base Metal Strength
ϕR_n =	5.6 k/in	Nominal Weld Capacity
R_u =	1.7 k/in	Weld Shear Demand
CSR =	30.7%	OK



Date: February 12, 2024



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

Subject: Structural Analysis Report

Carrier Designation: T-Mobile Co-Locate
Site Number: CT11393B
Site Name: CT393/Global Guilford_MP2

Crown Castle Designation: **BU Number:** 876381
Site Name: WARD
JDE Job Number: 2106554
Work Order Number: 2281092
Order Number: 661716 Rev. 0

Engineering Firm Designation: **Crown Castle Project Number** 2281092

Site Data: 2381 Long Hill Rd, Guilford, New Haven County, CT
Latitude: 41° 20' 47.34" Longitude: -72° 43' 23.15"
176 ft - Monopole Tower

Crown Castle is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above-mentioned tower.

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

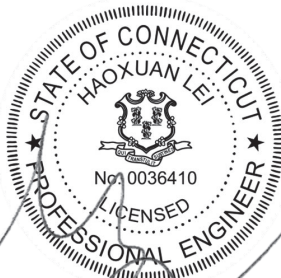
LC7: Proposed Equipment Configuration **Sufficient Capacity - 72.4%**

This analysis has been performed in accordance with the 2022 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 121 mph. Applicable Standard references and design criteria are listed in Section 2 – “Analysis Criteria”.

Structural analysis prepared by: Matthew Schmitt

Respectfully submitted by:

Haoxuan Lei, P.E.
Project Engineer



Digitally signed
by Haoxuan Lei
Date:
2024.02.13
17:57:49[®]-06'00'

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1) INTRODUCTION

This tower is a 176 ft Monopole Tower designed by Engineered Endeavors, Inc.. The tower has been modified in the past to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision: TIA-222-H
Risk Category: II
Wind Speed: 121 mph
Exposure Category: B
Topographic Factor: 1
Ice Thickness: 1.00 in
Wind Speed with Ice: 50 mph
Service Wind Speed: 60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
155	155	3	ericsson	AIR 6419 B41_TMO_CCIV2 w/ Mount Pipe	3	1-5/8
		3	ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
		3	rfs celwave	APXVLL19P_43-C-A20_TMO w/ Mount Pipe		
		1	tower mounts	Platform Mount [LP 303-1_HR-1]		
10	12	1	kathrein	OG-860/1920/GPS-A	1	1/4
	10	1	tower mounts	Side Arm Mount [SO 701-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
176	178	3	alcatel lucent	RRH2X50-800	1 3	1-1/4 1/2
		3	commscope	DT465B-2XR w/ Mount Pipe		
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe		
	176	3	alcatel lucent	TD-RRH8X20-25		
		9	rfs celwave	ACU-A20-N		
		1	tower mounts	Platform Mount [LP 712-1]		
174	175	3	alcatel lucent	800 EXTERNAL NOTCH FILTER	-	-
		3	alcatel lucent	800MHZ RRH		
	174	1	tower mounts	Side Arm Mount [SO 102-3]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
	173	3	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
167	168	3	ericsson	AIR 6449 B77D_CCVI2	6 3 3 2	1-5/8 7/8 13/16 3/8
	167	3	cci antennas	OPA65R-BU6D w/ Mount Pipe		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14		
		3	ericsson	RRUS 8843 B2/B66A		
		3	kathrein	80010965 w/ Mount Pipe		
		3	raycap	DC6-48-60-18-8F		
	1	tower mounts	Platform Mount [LP 304-1_HR-1]			
166	3	ericsson	AIR 6419 B77G			
145	145	3	amphenol	BXA-70063-6CF-EDIN-X w/ Mount Pipe	2	1-1/2
		3	commscope	CBC78T-DS-43-2X		
		6	commscope	JAHH-65B-R3B w/ Mount Pipe		
		1	raycap	RVZDC-6627-PF-48		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
		1	tower mounts	Platform Mount [LP 303-1_KCKR-HR-1]		
50	51	1	lucent	KS24019-L112A	1	1/2
	50	1	tower mounts	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	1532993	CCISITES
4-POST-MODIFICATION INSPECTION	5163807	CCISITES
4-POST-MODIFICATION INSPECTION	5885207	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1614617	CCISITES
4-TOWER MANUFACTURER DRAWINGS	1613550	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4318894	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5650483	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.

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

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
176 - 171	Pole	TP17.626x16.5x0.1875	Pole	8.5	Pass
171 - 166	Pole	TP18.752x17.626x0.1875	Pole	17.0	Pass
166 - 161	Pole	TP19.878x18.752x0.1875	Pole	28.9	Pass
161 - 156	Pole	TP21.004x19.878x0.1875	Pole	38.9	Pass
156 - 151	Pole	TP22.13x21.004x0.1875	Pole	51.1	Pass
151 - 147.75	Pole	TP23.65x22.13x0.1875	Pole	58.3	Pass
147.75 - 142.75	Pole	TP23.601x22.487x0.3125	Pole	41.0	Pass
142.75 - 137.75	Pole	TP24.714x23.601x0.3125	Pole	47.4	Pass
137.75 - 132.75	Pole	TP25.828x24.714x0.3125	Pole	52.6	Pass
132.75 - 127.75	Pole	TP26.942x25.828x0.3125	Pole	56.9	Pass
127.75 - 127.5	Pole	TP26.998x26.942x0.3125	Pole	57.1	Pass
127.5 - 122.5	Pole	TP28.111x26.998x0.3125	Pole	60.7	Pass
122.5 - 120.75	Pole	TP28.501x28.111x0.3125	Pole	61.8	Pass
120.75 - 120.5	Pole	TP28.557x28.501x0.3125	Pole	62.0	Pass
120.5 - 117.25	Pole	TP29.281x28.557x0.3125	Pole	63.8	Pass
117.25 - 117	Pole + Reinf.	TP29.337x29.281x0.5375	Reinf. 4 Tension Rupture	60.1	Pass
117 - 112	Pole + Reinf.	TP30.45x29.337x0.525	Reinf. 4 Tension Rupture	63.4	Pass
112 - 107	Pole + Reinf.	TP31.564x30.45x0.525	Reinf. 4 Tension Rupture	66.3	Pass
107 - 102	Pole + Reinf.	TP32.678x31.564x0.5125	Reinf. 4 Tension Rupture	69.0	Pass
102 - 99.42	Pole + Reinf.	TP34.33x32.678x0.5125	Reinf. 4 Tension Rupture	70.3	Pass
99.42 - 94.42	Pole	TP33.741x32.628x0.375	Pole	63.1	Pass
94.42 - 89.42	Pole	TP34.853x33.741x0.375	Pole	64.0	Pass
89.42 - 87.25	Pole	TP35.335x34.853x0.375	Pole	64.4	Pass
87.25 - 87	Pole	TP35.391x35.335x0.375	Pole	64.4	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
87 - 82	Pole	TP36.503x35.391x0.375	Pole	65.3	Pass
82 - 77	Pole	TP37.616x36.503x0.375	Pole	66.3	Pass
77 - 72	Pole	TP38.728x37.616x0.375	Pole	67.3	Pass
72 - 67	Pole	TP39.841x38.728x0.375	Pole	68.1	Pass
67 - 62	Pole	TP40.953x39.841x0.375	Pole	68.9	Pass
62 - 61.5	Pole	TP41.064x40.953x0.375	Pole	68.9	Pass
61.5 - 61.25	Pole + Reinf.	TP41.12x41.064x0.5875	Reinf. 2 Tension Rupture	66.8	Pass
61.25 - 56.25	Pole + Reinf.	TP42.232x41.12x0.575	Reinf. 2 Tension Rupture	67.6	Pass
56.25 - 53.04	Pole + Reinf.	TP44.3x42.232x0.575	Reinf. 2 Tension Rupture	68.0	Pass
53.04 - 45.96	Pole + Reinf.	TP43.773x42.197x0.575	Reinf. 2 Tension Rupture	71.0	Pass
45.96 - 40.96	Pole + Reinf.	TP44.886x43.773x0.5625	Reinf. 2 Tension Rupture	71.6	Pass
40.96 - 35.96	Pole + Reinf.	TP45.998x44.886x0.5625	Reinf. 2 Tension Rupture	72.0	Pass
35.96 - 32.25	Pole + Reinf.	TP46.823x45.998x0.5625	Reinf. 2 Tension Rupture	72.4	Pass
32.25 - 32	Pole + Reinf.	TP46.879x46.823x0.775	Reinf. 2 Tension Rupture	52.3	Pass
32 - 31.75	Pole + Reinf.	TP46.934x46.879x0.6125	Reinf. 1 Tension Rupture	65.2	Pass
31.75 - 26.75	Pole + Reinf.	TP48.047x46.934x0.6125	Reinf. 1 Tension Rupture	65.7	Pass
26.75 - 21.75	Pole + Reinf.	TP49.16x48.047x0.6125	Reinf. 1 Tension Rupture	66.1	Pass
21.75 - 16.75	Pole + Reinf.	TP50.272x49.16x0.6	Reinf. 1 Tension Rupture	66.5	Pass
16.75 - 11.75	Pole + Reinf.	TP51.385x50.272x0.6	Reinf. 1 Tension Rupture	66.8	Pass
11.75 - 6.75	Pole + Reinf.	TP52.498x51.385x0.5875	Reinf. 1 Tension Rupture	67.1	Pass
6.75 - 1.75	Pole + Reinf.	TP53.611x52.498x0.5875	Reinf. 1 Tension Rupture	67.4	Pass
1.75 - 0	Pole + Reinf.	TP54x53.611x0.5875	Reinf. 1 Tension Rupture	67.4	Pass
				Summary	
			Pole	68.9	Pass
			Reinforcement	72.4	Pass
			Overall	72.4	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	66.2	Pass
1	Base Plate	0	54.0	Pass
1	Base Foundation (Structural)	0	60.1	Pass
1	Base Foundation (Soil)	0	28.9	Pass

Structure Rating (max from all components) =	72.4%
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Notes:

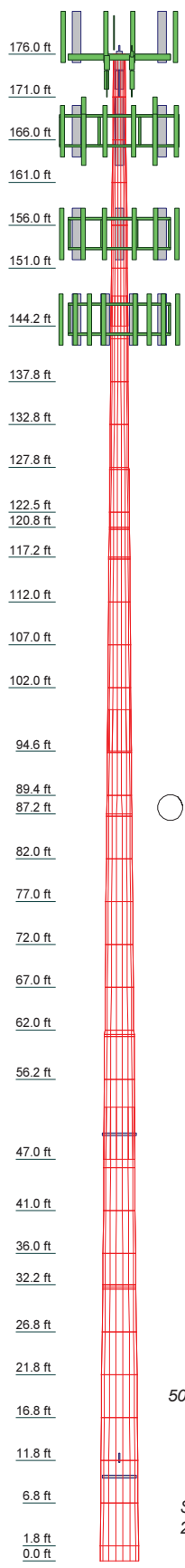
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

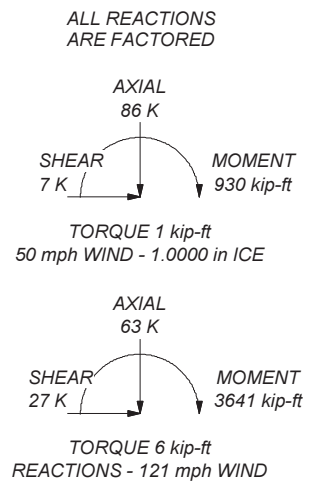
Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
2	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
3	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
4	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
5	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
6	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
7	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
8	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
9	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
10	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
11	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
12	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
13	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
14	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
15	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
16	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
17	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
18	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
19	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
20	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
21	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
22	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
23	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
24	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
25	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
26	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
27	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
28	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
29	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
30	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
31	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
32	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
33	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
34	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
35	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
36	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
37	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
38	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
39	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
40	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
41	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
42	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
43	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
44	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
45	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2
46	5.00	18	0.1875	3.50	71.423	69.878	0.2	0.2



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

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 121 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



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

Job:	BU# 876381			
Project:				
Client:	Crown Castle	Drawn by:	Matthew Schmitt	
Code:	TIA-222-H	Date:	02/12/24	
Path:	C:\SAPI Work Area\876381\W0 2281092 - SAIProd\876381.dwg		Scale:	NTS
			Dwg No.	E-1

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in New Haven County, Connecticut.

Tower base elevation above sea level: 181.00 ft.

Basic wind speed of 121 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

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric Distribute Leg Loads As Uniform | <ul style="list-style-type: none"> Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurtenances Alternative Appurt. EPA Calculation Autocalc Torque Arm Areas Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs Use ASCE 10 X-Brace Ly Rules | <ul style="list-style-type: none"> Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <li style="text-align: center;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known |
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Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	176.00-171.00	5.00	0.00	18	16.5000	17.6260	0.1875	0.7500	A572-65 (65 ksi)
L2	171.00-166.00	5.00	0.00	18	17.6260	18.7520	0.1875	0.7500	A572-65 (65 ksi)
L3	166.00-161.00	5.00	0.00	18	18.7520	19.8780	0.1875	0.7500	A572-65 (65 ksi)
L4	161.00-156.00	5.00	0.00	18	19.8780	21.0039	0.1875	0.7500	A572-65 (65 ksi)
L5	156.00-151.00	5.00	0.00	18	21.0039	22.1299	0.1875	0.7500	A572-65 (65 ksi)
L6	151.00-144.25	6.75	3.50	18	22.1299	23.6500	0.1875	0.7500	A572-65 (65 ksi)
L7	144.25-142.75	5.00	0.00	18	22.4868	23.6006	0.3125	1.2500	A572-65 (65 ksi)
L8	142.75-137.75	5.00	0.00	18	23.6006	24.7144	0.3125	1.2500	A572-65 (65 ksi)
L9	137.75-132.75	5.00	0.00	18	24.7144	25.8281	0.3125	1.2500	A572-65 (65 ksi)
L10	132.75-127.75	5.00	0.00	18	25.8281	26.9419	0.3125	1.2500	A572-65 (65 ksi)
L11	127.75-127.50	0.25	0.00	18	26.9419	26.9976	0.3125	1.2500	A572-65 (65 ksi)
L12	127.50-122.50	5.00	0.00	18	26.9976	28.1114	0.3125	1.2500	A572-65 (65 ksi)
L13	122.50-120.75	1.75	0.00	18	28.1114	28.5012	0.3125	1.2500	A572-65 (65 ksi)
L14	120.75-120.50	0.25	0.00	18	28.5012	28.5569	0.3125	1.2500	A572-65 (65 ksi)
L15	120.50-117.25	3.25	0.00	18	28.5569	29.2809	0.3125	1.2500	A572-65 (65 ksi)
L16	117.25-117.00	0.25	0.00	18	29.2809	29.3366	0.5375	2.1500	A572-65 (65 ksi)
L17	117.00-112.00	5.00	0.00	18	29.3366	30.4503	0.5250	2.1000	A572-65 (65 ksi)
L18	112.00-107.00	5.00	0.00	18	30.4503	31.5641	0.5250	2.1000	A572-65 (65 ksi)
L19	107.00-102.00	5.00	0.00	18	31.5641	32.6779	0.5125	2.0500	A572-65 (65 ksi)
L20	102.00-94.58	7.42	4.83	18	32.6779	34.3300	0.5125	2.0500	A572-65 (65 ksi)
L21	94.58-94.42	5.00	0.00	18	32.6283	33.7408	0.3750	1.5000	A572-65 (65 ksi)
L22	94.42-89.42	5.00	0.00	18	33.7408	34.8532	0.3750	1.5000	A572-65 (65 ksi)
L23	89.42-87.25	2.17	0.00	18	34.8532	35.3353	0.3750	1.5000	A572-65 (65 ksi)
L24	87.25-87.00	0.25	0.00	18	35.3353	35.3909	0.3750	1.5000	A572-65 (65 ksi)
L25	87.00-82.00	5.00	0.00	18	35.3909	36.5033	0.3750	1.5000	A572-65 (65 ksi)
L26	82.00-77.00	5.00	0.00	18	36.5033	37.6158	0.3750	1.5000	A572-65 (65 ksi)
L27	77.00-72.00	5.00	0.00	18	37.6158	38.7282	0.3750	1.5000	A572-65 (65 ksi)
L28	72.00-67.00	5.00	0.00	18	38.7282	39.8406	0.3750	1.5000	A572-65 (65 ksi)
L29	67.00-62.00	5.00	0.00	18	39.8406	40.9531	0.3750	1.5000	A572-65 (65 ksi)
L30	62.00-61.50	0.50	0.00	18	40.9531	41.0643	0.3750	1.5000	A572-65 (65 ksi)
L31	61.50-61.25	0.25	0.00	18	41.0643	41.1199	0.5875	2.3500	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L32	61.25-56.25	5.00	0.00	18	41.1199	42.2324	0.5750	2.3000	A572-65 (65 ksi)
L33	56.25-46.96	9.29	6.08	18	42.2324	44.3000	0.5750	2.3000	A572-65 (65 ksi)
L34	46.96-45.96	7.08	0.00	18	42.1965	43.7729	0.5750	2.3000	A572-65 (65 ksi)
L35	45.96-40.96	5.00	0.00	18	43.7729	44.8856	0.5625	2.2500	A572-65 (65 ksi)
L36	40.96-35.96	5.00	0.00	18	44.8856	45.9982	0.5625	2.2500	A572-65 (65 ksi)
L37	35.96-32.25	3.71	0.00	18	45.9982	46.8231	0.5625	2.2500	A572-65 (65 ksi)
L38	32.25-32.00	0.25	0.00	18	46.8231	46.8788	0.7750	3.1000	A572-65 (65 ksi)
L39	32.00-31.75	0.25	0.00	18	46.8788	46.9344	0.6125	2.4500	A572-65 (65 ksi)
L40	31.75-26.75	5.00	0.00	18	46.9344	48.0471	0.6125	2.4500	A572-65 (65 ksi)
L41	26.75-21.75	5.00	0.00	18	48.0471	49.1598	0.6125	2.4500	A572-65 (65 ksi)
L42	21.75-16.75	5.00	0.00	18	49.1598	50.2725	0.6000	2.4000	A572-65 (65 ksi)
L43	16.75-11.75	5.00	0.00	18	50.2725	51.3852	0.6000	2.4000	A572-65 (65 ksi)
L44	11.75-6.75	5.00	0.00	18	51.3852	52.4979	0.5875	2.3500	A572-65 (65 ksi)
L45	6.75-1.75	5.00	0.00	18	52.4979	53.6106	0.5875	2.3500	A572-65 (65 ksi)
L46	1.75-0.00	1.75		18	53.6106	54.0000	0.5875	2.3500	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	16.7256	9.7080	326.3677	5.7909	8.3820	38.9367	653.1649	4.8549	2.5740	13.728
	17.8690	10.3781	398.7235	6.1907	8.9540	44.5302	797.9717	5.1900	2.7722	14.785
L2	17.8690	10.3781	398.7235	6.1907	8.9540	44.5302	797.9717	5.1900	2.7722	14.785
	19.0123	11.0482	481.0533	6.5904	9.5260	50.4990	962.7396	5.5251	2.9703	15.842
L3	19.0123	11.0482	481.0533	6.5904	9.5260	50.4990	962.7396	5.5251	2.9703	15.842
	20.1557	11.7183	574.0011	6.9901	10.0980	56.8431	1148.7576	5.8603	3.1685	16.899
L4	20.1557	11.7183	574.0011	6.9901	10.0980	56.8431	1148.7576	5.8603	3.1685	16.899
	21.2990	12.3884	678.2110	7.3898	10.6700	63.5624	1357.3144	6.1954	3.3667	17.956
L5	21.2990	12.3884	678.2110	7.3898	10.6700	63.5624	1357.3144	6.1954	3.3667	17.956
	22.4424	13.0585	794.3269	7.7896	11.2420	70.6571	1589.6991	6.5305	3.5649	19.013
L6	22.4424	13.0585	794.3269	7.7896	11.2420	70.6571	1589.6991	6.5305	3.5649	19.013
	23.9859	13.9631	971.1102	8.3292	12.0142	80.8302	1943.4981	6.9829	3.8324	20.439
L7	23.5772	21.9941	1366.2960	7.8719	11.4233	119.6061	2734.3898	10.9992	3.4077	10.905
	23.9165	23.0989	1582.6906	8.2673	11.9891	132.0108	3167.4638	11.5516	3.6037	11.532
L8	23.9165	23.0989	1582.6906	8.2673	11.9891	132.0108	3167.4638	11.5516	3.6037	11.532
	25.0474	24.2036	1820.8062	8.6627	12.5549	145.0275	3644.0082	12.1041	3.7997	12.159
L9	25.0474	24.2036	1820.8062	8.6627	12.5549	145.0275	3644.0082	12.1041	3.7997	12.159
	26.1784	25.3083	2081.6815	9.0581	13.1207	158.6563	4166.1020	12.6566	3.9958	12.786
L10	26.1784	25.3083	2081.6815	9.0581	13.1207	158.6563	4166.1020	12.6566	3.9958	12.786
	27.3093	26.4131	2366.3553	9.4534	13.6865	172.8970	4735.8243	13.2090	4.1918	13.414
L11	27.3093	26.4131	2366.3553	9.4534	13.6865	172.8970	4735.8243	13.2090	4.1918	13.414
	27.3659	26.4683	2381.2323	9.4732	13.7148	173.6251	4765.5979	13.2367	4.2016	13.445
L12	27.3659	26.4683	2381.2323	9.4732	13.7148	173.6251	4765.5979	13.2367	4.2016	13.445

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
L13	28.4969	27.5730	2692.0127	9.8686	14.2806	188.5085	5387.5676	13.7891	4.3976	14.072
	28.4969	27.5730	2692.0127	9.8686	14.2806	188.5085	5387.5676	13.7891	4.3976	14.072
L14	28.8927	27.9597	2806.8582	10.0070	14.4786	193.8623	5617.4096	13.9825	4.4662	14.292
	28.8927	27.9597	2806.8582	10.0070	14.4786	193.8623	5617.4096	13.9825	4.4662	14.292
L15	28.9492	28.0149	2823.5265	10.0268	14.5069	194.6332	5650.7683	14.0101	4.4760	14.323
	28.9492	28.0149	2823.5265	10.0268	14.5069	194.6332	5650.7683	14.0101	4.4760	14.323
L16	29.6497	49.0369	5118.4174	10.2039	14.8747	344.1027	10243.5698	24.5231	4.2074	7.828
	29.7062	49.1319	5148.2252	10.2237	14.9030	345.4496	10303.2246	24.5706	4.2172	7.846
L17	29.7081	48.0101	5035.0496	10.2281	14.9030	337.8555	10076.7245	24.0096	4.2392	8.075
	30.8391	49.8661	5641.8392	10.6235	15.4688	364.7245	11291.1020	24.9378	4.4353	8.448
L18	30.8391	49.8661	5641.8392	10.6235	15.4688	364.7245	11291.1020	24.9378	4.4353	8.448
	31.9701	51.7220	6295.5200	11.0189	16.0346	392.6217	12599.3238	25.8659	4.6313	8.821
L19	31.9720	50.5109	6153.0545	11.0233	16.0346	383.7368	12314.2054	25.2602	4.6533	9.08
	33.1029	52.3226	6839.1925	11.4187	16.6004	411.9904	13687.3843	26.1663	4.8493	9.462
L20	33.1029	52.3226	6839.1925	11.4187	16.6004	411.9904	13687.3843	26.1663	4.8493	9.462
	34.7805	55.0101	7948.0893	12.0052	17.4396	455.7485	15906.6369	27.5103	5.1401	10.029
L21	34.1658	38.3895	5045.4513	11.4499	16.5752	304.3976	10097.5415	19.1984	5.0826	13.554
	34.2034	39.7136	5585.7246	11.8449	17.1403	325.8822	11178.7990	19.8606	5.2784	14.076
L22	34.2034	39.7136	5585.7246	11.8449	17.1403	325.8822	11178.7990	19.8606	5.2784	14.076
	35.3330	41.0377	6163.2522	12.2398	17.7054	348.0995	12334.6141	20.5227	5.4742	14.598
L23	35.3330	41.0377	6163.2522	12.2398	17.7054	348.0995	12334.6141	20.5227	5.4742	14.598
	35.8225	41.6115	6425.3957	12.4109	17.9503	357.9545	12859.2461	20.8097	5.5590	14.824
L24	35.8225	41.6115	6425.3957	12.4109	17.9503	357.9545	12859.2461	20.8097	5.5590	14.824
	35.8790	41.6777	6456.1129	12.4306	17.9786	359.1004	12920.7209	20.8428	5.5688	14.85
L25	35.8790	41.6777	6456.1129	12.4306	17.9786	359.1004	12920.7209	20.8428	5.5688	14.85
	37.0086	43.0017	7091.1886	12.8256	18.5437	382.4044	14191.7080	21.5050	5.7646	15.372
L26	37.0086	43.0017	7091.1886	12.8256	18.5437	382.4044	14191.7080	21.5050	5.7646	15.372
	38.1382	44.3258	7766.6031	13.2205	19.1088	406.4411	15543.4257	22.1671	5.9604	15.894
L27	38.1382	44.3258	7766.6031	13.2205	19.1088	406.4411	15543.4257	22.1671	5.9604	15.894
	39.2678	45.6499	8483.5985	13.6154	19.6739	431.2104	16978.3599	22.8293	6.1562	16.416
L28	39.2678	45.6499	8483.5985	13.6154	19.6739	431.2104	16978.3599	22.8293	6.1562	16.416
	40.3974	46.9740	9243.4168	14.0103	20.2390	456.7123	18498.9964	23.4914	6.3519	16.939
L29	40.3974	46.9740	9243.4168	14.0103	20.2390	456.7123	18498.9964	23.4914	6.3519	16.939
	41.5270	48.2980	10047.3002	14.4052	20.8042	482.9469	20107.8208	24.1536	6.5477	17.461
L30	41.5270	48.2980	10047.3002	14.4052	20.8042	482.9469	20107.8208	24.1536	6.5477	17.461
	41.6399	48.4304	10130.1599	14.4447	20.8607	485.6106	20273.6493	24.2198	6.5673	17.513
L31	41.6072	75.4781	15623.2277	14.3693	20.8607	748.9324	31267.0128	37.7462	6.1933	10.542
	41.6636	75.5818	15687.7227	14.3890	20.8889	751.0069	31396.0878	37.7981	6.2031	10.558
L32	41.6656	73.9965	15368.1510	14.3934	20.8889	735.7083	30756.5238	37.0053	6.2251	10.826
	42.7952	76.0268	16668.1463	14.7884	21.4540	776.9236	33358.2249	38.0206	6.4209	11.167
L33	42.7952	76.0268	16668.1463	14.7884	21.4540	776.9236	33358.2249	38.0206	6.4209	11.167
	44.8947	79.8003	19275.3233	15.5224	22.5044	856.5135	38576.0096	39.9077	6.7848	11.8
L34	44.1334	75.9614	16625.1886	14.7756	21.4358	775.5790	33272.2531	37.9879	6.4146	11.156
	44.3594	78.8382	18586.5508	15.3352	22.2366	835.8536	37197.5582	39.4266	6.6920	11.638
L35	44.3613	77.1467	18198.2841	15.3397	22.2366	818.3929	36420.5140	38.5807	6.7140	11.936
	45.4912	79.1333	19640.6489	15.7347	22.8019	861.3617	39307.1415	39.5742	6.9099	12.284
L36	45.4912	79.1333	19640.6489	15.7347	22.8019	861.3617	39307.1415	39.5742	6.9099	12.284
	46.6211	81.1198	21157.2814	16.1297	23.3671	905.4300	42342.4021	40.5676	7.1057	12.632
L37	46.6211	81.1198	21157.2814	16.1297	23.3671	905.4300	42342.4021	40.5676	7.1057	12.632
	47.4587	82.5926	22330.6455	16.4225	23.7861	938.8089	44690.6742	41.3041	7.2509	12.89
L38	47.4259	113.2715	30344.6280	16.3471	23.7861	1275.7270	60729.1842	56.6465	6.8769	8.873
	47.4824	113.4083	30454.7468	16.3668	23.8144	1278.8370	60949.5668	56.7149	6.8867	8.886
L39	47.5074	89.9451	24324.4780	16.4245	23.8144	1021.4185	48680.9628	44.9811	7.1727	11.71
	47.5639	90.0532	24412.3334	16.4443	23.8427	1023.8926	48856.7892	45.0352	7.1825	11.726
L40	47.5639	90.0532	24412.3334	16.4443	23.8427	1023.8926	48856.7892	45.0352	7.1825	11.726
	48.6938	92.2164	26214.1499	16.8393	24.4079	1074.0018	52462.7931	46.1170	7.3783	12.046
L41	48.6938	92.2164	26214.1499	16.8393	24.4079	1074.0018	52462.7931	46.1170	7.3783	12.046
	49.8237	94.3796	28102.5128	17.2343	24.9732	1125.3083	56242.0036	47.1987	7.5741	12.366
L42	49.8256	92.4772	27550.2622	17.2387	24.9732	1103.1945	55136.7757	46.2474	7.5961	12.66
	50.9554	94.5963	29487.8419	17.6337	25.5384	1154.6464	59014.4846	47.3071	7.7920	12.987
L43	50.9554	94.5963	29487.8419	17.6337	25.5384	1154.6464	59014.4846	47.3071	7.7920	12.987
	52.0853	96.7153	31514.2015	18.0287	26.1037	1207.2711	63069.8701	48.3668	7.9878	13.313

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
L44	52.0872	94.7237	30880.4466	18.0332	26.1037	1182.9927	61801.5266	47.3708	8.0098	13.634
	53.2171	96.7986	32954.4775	18.4282	26.6689	1235.6888	65952.3173	48.4085	8.2056	13.967
L45	53.2171	96.7986	32954.4775	18.4282	26.6689	1235.6888	65952.3173	48.4085	8.2056	13.967
	54.3470	98.8734	35119.3550	18.8232	27.2342	1289.5331	70284.9210	49.4461	8.4015	14.3
L46	54.3470	98.8734	35119.3550	18.8232	27.2342	1289.5331	70284.9210	49.4461	8.4015	14.3
	54.7424	99.5996	35898.8851	18.9614	27.4320	1308.6499	71845.0069	49.8093	8.4700	14.417

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 176.00-171.00				1	1	1			
L2 171.00-166.00				1	1	1			
L3 166.00-161.00				1	1	1			
L4 161.00-156.00				1	1	1			
L5 156.00-151.00				1	1	1			
L6 151.00-144.25				1	1	1			
L7 144.25-142.75				1	1	1			
L8 142.75-137.75				1	1	1			
L9 137.75-132.75				1	1	1			
L10 132.75-127.75				1	1	1			
L11 127.75-127.50				1	1	1			
L12 127.50-122.50				1	1	1			
L13 122.50-120.75				1	1	1			
L14 120.75-120.50				1	1	1			
L15 120.50-117.25				1	1	1			
L16 117.25-117.00				1	1	0.952312			
L17 117.00-112.00				1	1	0.960445			
L18 112.00-107.00				1	1	0.94734			
L19 107.00-102.00				1	1	0.957579			
L20 102.00-94.58				1	1	0.951466			
L21 94.58-94.42				1	1	1			
L22 94.42-89.42				1	1	1			
L23 89.42-87.25				1	1	1			
L24 87.25-87.00				1	1	1			
L25 87.00-82.00				1	1	1			
L26 82.00-				1	1	1			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
77.00									
L27 77.00-72.00				1	1	1			
L28 72.00-67.00				1	1	1			
L29 67.00-62.00				1	1	1			
L30 62.00-61.50				1	1	1			
L31 61.50-61.25				1	1	0.964154			
L32 61.25-56.25				1	1	0.975927			
L33 56.25-46.96				1	1	0.97047			
L34 46.96-45.96				1	1	0.964382			
L35 45.96-40.96				1	1	0.977523			
L36 40.96-35.96				1	1	0.96991			
L37 35.96-32.25				1	1	0.964503			
L38 32.25-32.00				1	1	0.989594			
L39 32.00-31.75				1	1	0.976295			
L40 31.75-26.75				1	1	0.967755			
L41 26.75-21.75				1	1	0.959607			
L42 21.75-16.75				1	1	0.971409			
L43 16.75-11.75				1	1	0.963819			
L44 11.75-6.75				1	1	0.976672			
L45 6.75-1.75				1	1	0.969571			
L46 1.75-0.00				1	1	0.967156			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement	Total Number	Number Per Row	Start/End Position	Width or Diameter	Perimeter	Weight
				ft				in	in	plf
HCS 6X12 4AWG(1-5/8)	C	No	Surface Ar (CaAa)	155.00 - 6.00	3	3	0.150 0.273	1.6600		2.40

LDF4-50A(1/2)	C	No	Surface Ar (CaAa)	50.00 - 6.00	1	1	-0.200 -0.200	0.6300		0.15

(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	35.00 - 0.00	1	1	-0.417 -0.417	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	35.00 - 0.00	1	1	0.417 0.417	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	B	No	Surface Af (CaAa)	35.00 - 0.00	1	1	0.083 0.083	6.5000	15.5000	0.00

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
(Area) CCI-65FP-065125 (H) *****	C	No	Surface Af (CaAa)	35.00 - 0.00	1	1	-0.083 -0.083	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	A	No	Surface Af (CaAa)	64.25 - 29.25	1	1	-0.250 -0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H)	B	No	Surface Af (CaAa)	64.25 - 29.25	1	1	-0.250 -0.250	6.5000	15.5000	0.00
(Area) CCI-65FP-065125 (H) *****	C	No	Surface Af (CaAa)	64.25 - 29.25	1	1	-0.250 -0.250	6.5000	15.5000	0.00
CCI-65FP-060100	A	No	Surface Af (CaAa)	89.25 - 64.25	1	1	-0.250 -0.250	6.0000	14.0000	20.42
CCI-65FP-060100	B	No	Surface Af (CaAa)	89.25 - 64.25	1	1	-0.250 -0.250	6.0000	14.0000	20.42
CCI-65FP-060100 *****	C	No	Surface Af (CaAa)	89.25 - 64.25	1	1	-0.250 -0.250	6.0000	14.0000	20.42
(Area) CCI-65FP-060100 (H)	A	No	Surface Af (CaAa)	94.41 - 89.25	1	1	-0.250 -0.250	6.0000	14.0000	0.00
(Area) CCI-65FP-060100 (H)	B	No	Surface Af (CaAa)	94.41 - 89.25	1	1	-0.250 -0.250	6.0000	14.0000	0.00
(Area) CCI-65FP-060100 (H)	C	No	Surface Af (CaAa)	94.41 - 89.25	1	1	-0.250 -0.250	6.0000	14.0000	0.00
CCI-65FP-060100	A	No	Surface Af (CaAa)	119.25 - 94.41	1	1	-0.250 -0.250	6.0000	14.0000	20.42
CCI-65FP-060100	B	No	Surface Af (CaAa)	119.25 - 94.41	1	1	-0.250 -0.250	6.0000	14.0000	20.42
CCI-65FP-060100 *****	C	No	Surface Af (CaAa)	119.25 - 94.41	1	1	-0.250 -0.250	6.0000	14.0000	20.42
CCI-65FP-045100	A	No	Surface Af (CaAa)	129.25 - 119.25	1	1	-0.250 -0.250	4.5000	11.0000	15.31
CCI-65FP-045100	B	No	Surface Af (CaAa)	129.25 - 119.25	1	1	-0.250 -0.250	4.5000	11.0000	15.31
CCI-65FP-045100 *****	C	No	Surface Af (CaAa)	129.25 - 119.25	1	1	-0.250 -0.250	4.5000	11.0000	15.31

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
HYBRIFLEX RRH 1-SECTOR(1/2)	C	No	No	Inside Pole	176.00 - 6.00	3	No Ice	0.00	0.20
							1/2" Ice	0.00	0.20
							1" Ice	0.00	0.20
HB114-21U3M12-XXXF(1-1/4)	C	No	No	Inside Pole	176.00 - 6.00	1	No Ice	0.00	1.22
							1/2" Ice	0.00	1.22
							1" Ice	0.00	1.22
***** FB-L98B-034-XXX(3/8)	B	No	No	Inside Pole	167.00 - 6.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
LDF7-50A(1-5/8)	B	No	No	Inside Pole	167.00 - 6.00	6	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
FB-L98B-002-75000(3/8)	B	No	No	Inside Pole	167.00 - 6.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
							1" Ice	0.00	0.06

PWRT-608-S(13/16)	B	No	No	Inside Pole	167.00 - 6.00	3	No Ice	0.00	0.62
							1/2" Ice	0.00	0.62
							1" Ice	0.00	0.62
PWRT-606-S(7/8)	B	No	No	Inside Pole	167.00 - 6.00	3	No Ice	0.00	0.89
							1/2" Ice	0.00	0.89
							1" Ice	0.00	0.89

MLE HYBRID 3POWER/6FIBER RL 2(1-1/4)	A	No	No	Inside Pole	145.00 - 6.00	2	No Ice	0.00	0.68
							1/2" Ice	0.00	0.68
							1" Ice	0.00	0.68

MLC HYBRID 6X12 L(1-1/2)	A	No	No	Inside Pole	145.00 - 6.00	2	No Ice	0.00	1.85
							1/2" Ice	0.00	1.85
							1" Ice	0.00	1.85

LDF1-50A(1/4)	C	No	No	Inside Pole	10.00 - 6.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	176.00-171.00	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	0.01
L2	171.00-166.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.01
L3	166.00-161.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.01
L4	161.00-156.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	0.000	0.000	0.01
L5	156.00-151.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	1.992	0.000	0.04
L6	151.00-144.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.06
		C	0.000	0.000	3.361	0.000	0.06
L7	144.25-142.75	A	0.000	0.000	0.000	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.01
		C	0.000	0.000	0.747	0.000	0.01
L8	142.75-137.75	A	0.000	0.000	0.000	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	2.490	0.000	0.05
L9	137.75-132.75	A	0.000	0.000	0.000	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.05
		C	0.000	0.000	2.490	0.000	0.05
L10	132.75-127.75	A	0.000	0.000	1.125	0.000	0.05

Tower Section	Tower Elevation ft	Face	A_R	A_F	C_{AA}	C_{AA}	Weight K
			ft ²	ft ²	In Face ft ²	Out Face ft ²	
		B	0.000	0.000	1.125	0.000	0.07
		C	0.000	0.000	3.615	0.000	0.07
L11	127.75-127.50	A	0.000	0.000	0.188	0.000	0.01
		B	0.000	0.000	0.188	0.000	0.01
		C	0.000	0.000	0.312	0.000	0.01
L12	127.50-122.50	A	0.000	0.000	3.750	0.000	0.10
		B	0.000	0.000	3.750	0.000	0.12
		C	0.000	0.000	6.240	0.000	0.12
L13	122.50-120.75	A	0.000	0.000	1.312	0.000	0.04
		B	0.000	0.000	1.312	0.000	0.04
		C	0.000	0.000	2.184	0.000	0.04
L14	120.75-120.50	A	0.000	0.000	0.188	0.000	0.01
		B	0.000	0.000	0.188	0.000	0.01
		C	0.000	0.000	0.312	0.000	0.01
L15	120.50-117.25	A	0.000	0.000	2.938	0.000	0.08
		B	0.000	0.000	2.938	0.000	0.09
		C	0.000	0.000	4.556	0.000	0.09
L16	117.25-117.00	A	0.000	0.000	0.250	0.000	0.01
		B	0.000	0.000	0.250	0.000	0.01
		C	0.000	0.000	0.374	0.000	0.01
L17	117.00-112.00	A	0.000	0.000	5.000	0.000	0.13
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.15
L18	112.00-107.00	A	0.000	0.000	5.000	0.000	0.13
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.15
L19	107.00-102.00	A	0.000	0.000	5.000	0.000	0.13
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.15
L20	102.00-94.58	A	0.000	0.000	7.417	0.000	0.19
		B	0.000	0.000	7.417	0.000	0.22
		C	0.000	0.000	11.110	0.000	0.22
L21	94.58-94.42	A	0.000	0.000	0.167	0.000	0.00
		B	0.000	0.000	0.167	0.000	0.00
		C	0.000	0.000	0.250	0.000	0.00
L22	94.42-89.42	A	0.000	0.000	3.766	0.000	0.03
		B	0.000	0.000	3.766	0.000	0.05
		C	0.000	0.000	6.256	0.000	0.05
L23	89.42-87.25	A	0.000	0.000	2.126	0.000	0.05
		B	0.000	0.000	2.126	0.000	0.06
		C	0.000	0.000	3.205	0.000	0.06
L24	87.25-87.00	A	0.000	0.000	0.250	0.000	0.01
		B	0.000	0.000	0.250	0.000	0.01
		C	0.000	0.000	0.374	0.000	0.01
L25	87.00-82.00	A	0.000	0.000	5.000	0.000	0.13
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.15
L26	82.00-77.00	A	0.000	0.000	5.000	0.000	0.13
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.15
L27	77.00-72.00	A	0.000	0.000	5.000	0.000	0.13
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.15
L28	72.00-67.00	A	0.000	0.000	5.000	0.000	0.13
		B	0.000	0.000	5.000	0.000	0.15
		C	0.000	0.000	7.490	0.000	0.15
L29	67.00-62.00	A	0.000	0.000	5.188	0.000	0.08
		B	0.000	0.000	5.188	0.000	0.10
		C	0.000	0.000	7.677	0.000	0.10
L30	62.00-61.50	A	0.000	0.000	0.542	0.000	0.00
		B	0.000	0.000	0.542	0.000	0.00
		C	0.000	0.000	0.791	0.000	0.00

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L31	61.50-61.25	A	0.000	0.000	0.271	0.000	0.00
		B	0.000	0.000	0.271	0.000	0.00
		C	0.000	0.000	0.395	0.000	0.00
L32	61.25-56.25	A	0.000	0.000	5.417	0.000	0.03
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	7.907	0.000	0.05
L33	56.25-46.96	A	0.000	0.000	10.068	0.000	0.05
		B	0.000	0.000	10.068	0.000	0.09
		C	0.000	0.000	14.888	0.000	0.08
L34	46.96-45.96	A	0.000	0.000	1.083	0.000	0.01
		B	0.000	0.000	1.083	0.000	0.01
		C	0.000	0.000	1.644	0.000	0.01
L35	45.96-40.96	A	0.000	0.000	5.417	0.000	0.03
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.222	0.000	0.05
L36	40.96-35.96	A	0.000	0.000	5.417	0.000	0.03
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.222	0.000	0.05
L37	35.96-32.25	A	0.000	0.000	9.974	0.000	0.02
		B	0.000	0.000	6.995	0.000	0.04
		C	0.000	0.000	9.074	0.000	0.03
L38	32.25-32.00	A	0.000	0.000	0.812	0.000	0.00
		B	0.000	0.000	0.542	0.000	0.00
		C	0.000	0.000	0.682	0.000	0.00
L39	32.00-31.75	A	0.000	0.000	0.812	0.000	0.00
		B	0.000	0.000	0.542	0.000	0.00
		C	0.000	0.000	0.682	0.000	0.00
L40	31.75-26.75	A	0.000	0.000	13.542	0.000	0.03
		B	0.000	0.000	8.125	0.000	0.05
		C	0.000	0.000	10.930	0.000	0.05
L41	26.75-21.75	A	0.000	0.000	10.833	0.000	0.03
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.222	0.000	0.05
L42	21.75-16.75	A	0.000	0.000	10.833	0.000	0.03
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.222	0.000	0.05
L43	16.75-11.75	A	0.000	0.000	10.833	0.000	0.03
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.222	0.000	0.05
L44	11.75-6.75	A	0.000	0.000	10.833	0.000	0.03
		B	0.000	0.000	5.417	0.000	0.05
		C	0.000	0.000	8.222	0.000	0.05
L45	6.75-1.75	A	0.000	0.000	10.833	0.000	0.00
		B	0.000	0.000	5.417	0.000	0.01
		C	0.000	0.000	5.837	0.000	0.01
L46	1.75-0.00	A	0.000	0.000	3.792	0.000	0.00
		B	0.000	0.000	1.896	0.000	0.00
		C	0.000	0.000	1.896	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	176.00-171.00	A	1.003	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	0.01
L2	171.00-166.00	A	1.001	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.01
		C		0.000	0.000	0.000	0.000	0.01

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
L3	166.00-161.00	A	0.997	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	0.000	0.000	0.01
L4	161.00-156.00	A	0.994	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	0.000	0.000	0.01
L5	156.00-151.00	A	0.991	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	3.481	0.000	0.06
L6	151.00-144.25	A	0.987	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.06
		C		0.000	0.000	5.868	0.000	0.10
L7	144.25-142.75	A	0.985	0.000	0.000	0.000	0.000	0.01
		B		0.000	0.000	0.000	0.000	0.01
		C		0.000	0.000	1.304	0.000	0.02
L8	142.75-137.75	A	0.982	0.000	0.000	0.000	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	4.340	0.000	0.08
L9	137.75-132.75	A	0.979	0.000	0.000	0.000	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.05
		C		0.000	0.000	4.336	0.000	0.08
L10	132.75-127.75	A	0.975	0.000	0.000	1.299	0.000	0.06
		B		0.000	0.000	1.299	0.000	0.08
		C		0.000	0.000	5.630	0.000	0.11
L11	127.75-127.50	A	0.973	0.000	0.000	0.216	0.000	0.01
		B		0.000	0.000	0.216	0.000	0.01
		C		0.000	0.000	0.433	0.000	0.01
L12	127.50-122.50	A	0.971	0.000	0.000	4.328	0.000	0.13
		B		0.000	0.000	4.328	0.000	0.15
		C		0.000	0.000	8.654	0.000	0.18
L13	122.50-120.75	A	0.968	0.000	0.000	1.514	0.000	0.05
		B		0.000	0.000	1.514	0.000	0.05
		C		0.000	0.000	3.027	0.000	0.06
L14	120.75-120.50	A	0.968	0.000	0.000	0.216	0.000	0.01
		B		0.000	0.000	0.216	0.000	0.01
		C		0.000	0.000	0.432	0.000	0.01
L15	120.50-117.25	A	0.966	0.000	0.000	3.468	0.000	0.10
		B		0.000	0.000	3.468	0.000	0.11
		C		0.000	0.000	6.276	0.000	0.13
L16	117.25-117.00	A	0.965	0.000	0.000	0.298	0.000	0.01
		B		0.000	0.000	0.298	0.000	0.01
		C		0.000	0.000	0.514	0.000	0.01
L17	117.00-112.00	A	0.963	0.000	0.000	5.963	0.000	0.16
		B		0.000	0.000	5.963	0.000	0.18
		C		0.000	0.000	10.278	0.000	0.21
L18	112.00-107.00	A	0.958	0.000	0.000	5.958	0.000	0.16
		B		0.000	0.000	5.958	0.000	0.18
		C		0.000	0.000	10.269	0.000	0.21
L19	107.00-102.00	A	0.954	0.000	0.000	5.954	0.000	0.16
		B		0.000	0.000	5.954	0.000	0.18
		C		0.000	0.000	10.259	0.000	0.21
L20	102.00-94.58	A	0.948	0.000	0.000	8.823	0.000	0.24
		B		0.000	0.000	8.823	0.000	0.27
		C		0.000	0.000	15.197	0.000	0.31
L21	94.58-94.42	A	0.944	0.000	0.000	0.198	0.000	0.01
		B		0.000	0.000	0.198	0.000	0.01
		C		0.000	0.000	0.342	0.000	0.01
L22	94.42-89.42	A	0.942	0.000	0.000	4.281	0.000	0.06
		B		0.000	0.000	4.281	0.000	0.08
		C		0.000	0.000	8.571	0.000	0.11
L23	89.42-87.25	A	0.938	0.000	0.000	2.518	0.000	0.07
		B		0.000	0.000	2.518	0.000	0.08

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L24	87.25-87.00	C	0.937	0.000	0.000	4.375	0.000	0.09
		A		0.000	0.000	0.297	0.000	0.01
		B		0.000	0.000	0.297	0.000	0.01
L25	87.00-82.00	C	0.934	0.000	0.000	0.511	0.000	0.01
		A		0.000	0.000	5.934	0.000	0.16
		B		0.000	0.000	5.934	0.000	0.18
L26	82.00-77.00	C	0.928	0.000	0.000	10.214	0.000	0.21
		A		0.000	0.000	5.928	0.000	0.16
		B		0.000	0.000	5.928	0.000	0.18
L27	77.00-72.00	C	0.922	0.000	0.000	10.201	0.000	0.21
		A		0.000	0.000	5.922	0.000	0.16
		B		0.000	0.000	5.922	0.000	0.18
L28	72.00-67.00	C	0.916	0.000	0.000	10.187	0.000	0.21
		A		0.000	0.000	5.916	0.000	0.16
		B		0.000	0.000	5.916	0.000	0.18
L29	67.00-62.00	C	0.909	0.000	0.000	10.173	0.000	0.21
		A		0.000	0.000	6.096	0.000	0.11
		B		0.000	0.000	6.096	0.000	0.14
L30	62.00-61.50	C	0.905	0.000	0.000	10.345	0.000	0.16
		A		0.000	0.000	0.632	0.000	0.01
		B		0.000	0.000	0.632	0.000	0.01
L31	61.50-61.25	C	0.904	0.000	0.000	1.057	0.000	0.01
		A		0.000	0.000	0.316	0.000	0.00
		B		0.000	0.000	0.316	0.000	0.00
L32	61.25-56.25	C	0.900	0.000	0.000	0.528	0.000	0.01
		A		0.000	0.000	6.317	0.000	0.06
		B		0.000	0.000	6.317	0.000	0.08
L33	56.25-46.96	C	0.889	0.000	0.000	10.555	0.000	0.11
		A		0.000	0.000	11.720	0.000	0.11
		B		0.000	0.000	11.720	0.000	0.15
L34	46.96-45.96	C	0.880	0.000	0.000	20.303	0.000	0.20
		A		0.000	0.000	1.261	0.000	0.01
		B		0.000	0.000	1.261	0.000	0.02
L35	45.96-40.96	C	0.874	0.000	0.000	2.347	0.000	0.02
		A		0.000	0.000	6.290	0.000	0.06
		B		0.000	0.000	6.290	0.000	0.08
L36	40.96-35.96	C	0.863	0.000	0.000	11.684	0.000	0.11
		A		0.000	0.000	6.280	0.000	0.06
		B		0.000	0.000	6.280	0.000	0.08
L37	35.96-32.25	C	0.853	0.000	0.000	11.649	0.000	0.11
		A		0.000	0.000	11.544	0.000	0.08
		B		0.000	0.000	8.096	0.000	0.08
L38	32.25-32.00	C	0.848	0.000	0.000	12.059	0.000	0.10
		A		0.000	0.000	0.940	0.000	0.01
		B		0.000	0.000	0.626	0.000	0.01
L39	32.00-31.75	C	0.847	0.000	0.000	0.893	0.000	0.01
		A		0.000	0.000	0.940	0.000	0.01
		B		0.000	0.000	0.626	0.000	0.01
L40	31.75-26.75	C	0.840	0.000	0.000	0.893	0.000	0.01
		A		0.000	0.000	15.641	0.000	0.10
		B		0.000	0.000	9.385	0.000	0.09
L41	26.75-21.75	C	0.824	0.000	0.000	14.702	0.000	0.13
		A		0.000	0.000	12.482	0.000	0.08
		B		0.000	0.000	6.241	0.000	0.08
L42	21.75-16.75	C	0.805	0.000	0.000	11.523	0.000	0.11
		A		0.000	0.000	12.444	0.000	0.08
		B		0.000	0.000	6.222	0.000	0.08
L43	16.75-11.75	C	0.781	0.000	0.000	11.462	0.000	0.11
		A		0.000	0.000	12.396	0.000	0.08
		B		0.000	0.000	6.198	0.000	0.08
L44	11.75-6.75	C	0.748	0.000	0.000	11.384	0.000	0.10
		A		0.000	0.000	12.330	0.000	0.08
		B		0.000	0.000	6.198	0.000	0.08

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L45	6.75-1.75	B	0.692	0.000	0.000	6.165	0.000	0.07
		C		0.000	0.000	11.277	0.000	0.10
		A		0.000	0.000	12.218	0.000	0.05
L46	1.75-0.00	B	0.591	0.000	0.000	6.109	0.000	0.03
		C		0.000	0.000	6.857	0.000	0.04
		A		0.000	0.000	4.205	0.000	0.01
		B		0.000	0.000	2.103	0.000	0.01
		C		0.000	0.000	2.103	0.000	0.01

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	176.00-171.00	0.0000	0.0000	0.0000	0.0000
L2	171.00-166.00	0.0000	0.0000	0.0000	0.0000
L3	166.00-161.00	0.0000	0.0000	0.0000	0.0000
L4	161.00-156.00	0.0000	0.0000	0.0000	0.0000
L5	156.00-151.00	-1.1526	2.4296	-1.0107	2.1304
L6	151.00-144.25	-1.3717	2.8913	-1.1903	2.5091
L7	144.25-142.75	-1.3786	2.9060	-1.2002	2.5299
L8	142.75-137.75	-1.3865	2.9226	-1.2111	2.5529
L9	137.75-132.75	-1.3979	2.9467	-1.2278	2.5881
L10	132.75-127.75	-1.0690	2.2534	-1.0484	2.2099
L11	127.75-127.50	-0.6927	1.4601	-0.7764	1.6365
L12	127.50-122.50	-0.7011	1.4779	-0.7852	1.6551
L13	122.50-120.75	-0.7117	1.5002	-0.7963	1.6785
L14	120.75-120.50	-0.7148	1.5068	-0.7995	1.6853
L15	120.50-117.25	-0.6536	1.3778	-0.7413	1.5625
L16	117.25-117.00	-0.6232	1.3137	-0.7119	1.5006
L17	117.00-112.00	-0.6307	1.3294	-0.7198	1.5173
L18	112.00-107.00	-0.6446	1.3588	-0.7346	1.5484
L19	107.00-102.00	-0.6582	1.3875	-0.7488	1.5784
L20	102.00-94.58	-0.6746	1.4221	-0.7659	1.6145
L21	94.58-94.42	-0.6770	1.4271	-0.7685	1.6200
L22	94.42-89.42	-0.7875	1.6600	-0.8774	1.8495
L23	89.42-87.25	-0.6998	1.4751	-0.7913	1.6680
L24	87.25-87.00	-0.6958	1.4667	-0.7874	1.6597
L25	87.00-82.00	-0.7023	1.4804	-0.7940	1.6737
L26	82.00-77.00	-0.7145	1.5061	-0.8063	1.6997
L27	77.00-72.00	-0.7264	1.5311	-0.8183	1.7248
L28	72.00-67.00	-0.7380	1.5556	-0.8298	1.7491
L29	67.00-62.00	-0.7355	1.5505	-0.8306	1.7509
L30	62.00-61.50	-0.7254	1.5291	-0.8244	1.7377
L31	61.50-61.25	-0.7265	1.5313	-0.8254	1.7399
L32	61.25-56.25	-0.7322	1.5433	-0.8309	1.7516
L33	56.25-46.96	-0.7159	1.6357	-0.7648	1.9331
L34	46.96-45.96	-0.6566	1.7640	-0.6097	2.2391
L35	45.96-40.96	-0.6620	1.7787	-0.6147	2.2474
L36	40.96-35.96	-0.6709	1.8029	-0.6227	2.2697
L37	35.96-32.25	2.0521	2.6798	1.6140	2.8706
L38	32.25-32.00	2.6400	2.8765	2.1445	3.0205
L39	32.00-31.75	2.6420	2.8786	2.1458	3.0221
L40	31.75-26.75	3.1250	3.4041	2.4684	3.4723
L41	26.75-21.75	3.8295	4.1698	2.9105	4.0842
L42	21.75-16.75	3.8837	4.2273	2.9473	4.1242
L43	16.75-11.75	3.9371	4.2838	2.9829	4.1596
L44	11.75-6.75	3.9896	4.3393	3.0166	4.1871

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L45	6.75-1.75	4.8622	3.1326	3.9554	2.6861
L46	1.75-0.00	5.0569	2.9196	4.1348	2.3872

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L5	16	HCS 6X12 4AWG(1-5/8)	151.00 - 155.00	1.0000	1.0000
L6	16	HCS 6X12 4AWG(1-5/8)	144.25 - 151.00	1.0000	1.0000
L7	16	HCS 6X12 4AWG(1-5/8)	142.75 - 144.25	1.0000	1.0000
L8	16	HCS 6X12 4AWG(1-5/8)	137.75 - 142.75	1.0000	1.0000
L9	16	HCS 6X12 4AWG(1-5/8)	132.75 - 137.75	1.0000	1.0000
L10	16	HCS 6X12 4AWG(1-5/8)	127.75 - 132.75	1.0000	1.0000
L10	47	CCI-65FP-045100	127.75 - 129.25	1.0000	1.0000
L10	48	CCI-65FP-045100	127.75 - 129.25	1.0000	1.0000
L10	49	CCI-65FP-045100	127.75 - 129.25	1.0000	1.0000
L11	16	HCS 6X12 4AWG(1-5/8)	127.50 - 127.75	1.0000	1.0000
L11	47	CCI-65FP-045100	127.50 - 127.75	1.0000	1.0000
L11	48	CCI-65FP-045100	127.50 - 127.75	1.0000	1.0000
L11	49	CCI-65FP-045100	127.50 - 127.75	1.0000	1.0000
L12	16	HCS 6X12 4AWG(1-5/8)	122.50 - 127.50	1.0000	1.0000
L12	47	CCI-65FP-045100	122.50 - 127.50	1.0000	1.0000
L12	48	CCI-65FP-045100	122.50 - 127.50	1.0000	1.0000
L12	49	CCI-65FP-045100	122.50 - 127.50	1.0000	1.0000
L13	16	HCS 6X12 4AWG(1-5/8)	120.75 - 122.50	1.0000	1.0000
L13	47	CCI-65FP-045100	120.75 - 122.50	1.0000	1.0000
L13	48	CCI-65FP-045100	120.75 - 122.50	1.0000	1.0000
L13	49	CCI-65FP-045100	120.75 - 122.50	1.0000	1.0000
L14	16	HCS 6X12 4AWG(1-5/8)	120.50 - 120.75	1.0000	1.0000
L14	47	CCI-65FP-045100	120.50 - 120.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _g No Ice	K _g Ice
L14	48	CCI-65FP-045100	120.50 - 120.75	1.0000	1.0000
L14	49	CCI-65FP-045100	120.50 - 120.75	1.0000	1.0000
L15	16	HCS 6X12 4AWG(1-5/8)	117.25 - 120.50	1.0000	1.0000
L15	43	CCI-65FP-060100	117.25 - 119.25	1.0000	1.0000
L15	44	CCI-65FP-060100	117.25 - 119.25	1.0000	1.0000
L15	45	CCI-65FP-060100	117.25 - 119.25	1.0000	1.0000
L15	47	CCI-65FP-045100	119.25 - 120.50	1.0000	1.0000
L15	48	CCI-65FP-045100	119.25 - 120.50	1.0000	1.0000
L15	49	CCI-65FP-045100	119.25 - 120.50	1.0000	1.0000
L16	16	HCS 6X12 4AWG(1-5/8)	117.00 - 117.25	1.0000	1.0000
L16	43	CCI-65FP-060100	117.00 - 117.25	1.0000	1.0000
L16	44	CCI-65FP-060100	117.00 - 117.25	1.0000	1.0000
L16	45	CCI-65FP-060100	117.00 - 117.25	1.0000	1.0000
L17	16	HCS 6X12 4AWG(1-5/8)	112.00 - 117.00	1.0000	1.0000
L17	43	CCI-65FP-060100	112.00 - 117.00	1.0000	1.0000
L17	44	CCI-65FP-060100	112.00 - 117.00	1.0000	1.0000
L17	45	CCI-65FP-060100	112.00 - 117.00	1.0000	1.0000
L18	16	HCS 6X12 4AWG(1-5/8)	107.00 - 112.00	1.0000	1.0000
L18	43	CCI-65FP-060100	107.00 - 112.00	1.0000	1.0000
L18	44	CCI-65FP-060100	107.00 - 112.00	1.0000	1.0000
L18	45	CCI-65FP-060100	107.00 - 112.00	1.0000	1.0000
L19	16	HCS 6X12 4AWG(1-5/8)	102.00 - 107.00	1.0000	1.0000
L19	43	CCI-65FP-060100	102.00 - 107.00	1.0000	1.0000
L19	44	CCI-65FP-060100	102.00 - 107.00	1.0000	1.0000
L19	45	CCI-65FP-060100	102.00 - 107.00	1.0000	1.0000
L20	16	HCS 6X12 4AWG(1-5/8)	94.58 - 102.00	1.0000	1.0000
L20	43	CCI-65FP-060100	94.58 - 102.00	1.0000	1.0000
L20	44	CCI-65FP-060100	94.58 - 102.00	1.0000	1.0000
L20	45	CCI-65FP-060100	94.58 - 102.00	1.0000	1.0000
L21	16	HCS 6X12 4AWG(1-5/8)	94.42 - 94.58	1.0000	1.0000
L21	43	CCI-65FP-060100	94.42 - 94.58	1.0000	1.0000
L21	44	CCI-65FP-060100	94.42 - 94.58	1.0000	1.0000
L21	45	CCI-65FP-060100	94.42 - 94.58	1.0000	1.0000
L22	16	HCS 6X12 4AWG(1-5/8)	89.42 - 94.42	1.0000	1.0000
L22	40	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	1.0000	1.0000
L22	41	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	1.0000	1.0000
L22	42	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	1.0000	1.0000
L22	43	CCI-65FP-060100	94.41 - 94.42	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _g No Ice	K _g Ice
L22	44	CCI-65FP-060100	94.41 - 94.42	1.0000	1.0000
L22	45	CCI-65FP-060100	94.41 - 94.42	1.0000	1.0000
L23	16	HCS 6X12 4AWG(1-5/8)	87.25 - 89.42	1.0000	1.0000
L23	36	CCI-65FP-060100	87.25 - 89.25	1.0000	1.0000
L23	37	CCI-65FP-060100	87.25 - 89.25	1.0000	1.0000
L23	38	CCI-65FP-060100	87.25 - 89.25	1.0000	1.0000
L23	40	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	1.0000	1.0000
L23	41	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	1.0000	1.0000
L23	42	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	1.0000	1.0000
L24	16	HCS 6X12 4AWG(1-5/8)	87.00 - 87.25	1.0000	1.0000
L24	36	CCI-65FP-060100	87.00 - 87.25	1.0000	1.0000
L24	37	CCI-65FP-060100	87.00 - 87.25	1.0000	1.0000
L24	38	CCI-65FP-060100	87.00 - 87.25	1.0000	1.0000
L25	16	HCS 6X12 4AWG(1-5/8)	82.00 - 87.00	1.0000	1.0000
L25	36	CCI-65FP-060100	82.00 - 87.00	1.0000	1.0000
L25	37	CCI-65FP-060100	82.00 - 87.00	1.0000	1.0000
L25	38	CCI-65FP-060100	82.00 - 87.00	1.0000	1.0000
L26	16	HCS 6X12 4AWG(1-5/8)	77.00 - 82.00	1.0000	1.0000
L26	36	CCI-65FP-060100	77.00 - 82.00	1.0000	1.0000
L26	37	CCI-65FP-060100	77.00 - 82.00	1.0000	1.0000
L26	38	CCI-65FP-060100	77.00 - 82.00	1.0000	1.0000
L27	16	HCS 6X12 4AWG(1-5/8)	72.00 - 77.00	1.0000	1.0000
L27	36	CCI-65FP-060100	72.00 - 77.00	1.0000	1.0000
L27	37	CCI-65FP-060100	72.00 - 77.00	1.0000	1.0000
L27	38	CCI-65FP-060100	72.00 - 77.00	1.0000	1.0000
L28	16	HCS 6X12 4AWG(1-5/8)	67.00 - 72.00	1.0000	1.0000
L28	36	CCI-65FP-060100	67.00 - 72.00	1.0000	1.0000
L28	37	CCI-65FP-060100	67.00 - 72.00	1.0000	1.0000
L28	38	CCI-65FP-060100	67.00 - 72.00	1.0000	1.0000
L29	16	HCS 6X12 4AWG(1-5/8)	62.00 - 67.00	1.0000	1.0000
L29	32	(Area) CCI-65FP-065125 (H)	62.00 - 64.25	1.0000	1.0000
L29	33	(Area) CCI-65FP-065125 (H)	62.00 - 64.25	1.0000	1.0000
L29	34	(Area) CCI-65FP-065125 (H)	62.00 - 64.25	1.0000	1.0000
L29	36	CCI-65FP-060100	64.25 - 67.00	1.0000	1.0000
L29	37	CCI-65FP-060100	64.25 - 67.00	1.0000	1.0000
L29	38	CCI-65FP-060100	64.25 - 67.00	1.0000	1.0000
L30	16	HCS 6X12 4AWG(1-5/8)	61.50 - 62.00	1.0000	1.0000
L30	32	(Area) CCI-65FP-065125 (H)	61.50 - 62.00	1.0000	1.0000
L30	33	(Area) CCI-65FP-065125 (H)	61.50 - 62.00	1.0000	1.0000
L30	34	(Area) CCI-65FP-065125 (H)	61.50 - 62.00	1.0000	1.0000
L31	16	HCS 6X12 4AWG(1-5/8)	61.25 - 61.50	1.0000	1.0000
L31	32	(Area) CCI-65FP-065125 (H)	61.25 - 61.50	1.0000	1.0000
L31	33	(Area) CCI-65FP-065125 (H)	61.25 - 61.50	1.0000	1.0000
L31	34	(Area) CCI-65FP-065125 (H)	61.25 - 61.50	1.0000	1.0000
L32	16	HCS 6X12 4AWG(1-5/8)	56.25 - 61.25	1.0000	1.0000
L32	32	(Area) CCI-65FP-065125 (H)	56.25 - 61.25	1.0000	1.0000
L32	33	(Area) CCI-65FP-065125 (H)	56.25 - 61.25	1.0000	1.0000
L32	34	(Area) CCI-65FP-065125 (H)	56.25 - 61.25	1.0000	1.0000
L33	16	HCS 6X12 4AWG(1-5/8)	46.96 - 56.25	1.0000	1.0000
L33	23	LDF4-50A(1/2)	46.96 - 50.00	1.0000	1.0000
L33	32	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	1.0000	1.0000
L33	33	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	1.0000	1.0000
L33	34	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	1.0000	1.0000
L34	16	HCS 6X12 4AWG(1-5/8)	45.96 - 46.96	1.0000	1.0000
L34	23	LDF4-50A(1/2)	45.96 - 46.96	1.0000	1.0000
L34	32	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	1.0000	1.0000
L34	33	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	1.0000	1.0000
L34	34	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	1.0000	1.0000
L35	16	HCS 6X12 4AWG(1-5/8)	40.96 - 45.96	1.0000	1.0000
L35	23	LDF4-50A(1/2)	40.96 - 45.96	1.0000	1.0000
L35	32	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	1.0000	1.0000
L35	33	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	1.0000	1.0000
L35	34	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _g No Ice	K _g Ice
L36	16	HCS 6X12 4AWG(1-5/8)	35.96 - 40.96	1.0000	1.0000
L36	23	LDF4-50A(1/2)	35.96 - 40.96	1.0000	1.0000
L36	32	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	1.0000	1.0000
L36	33	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	1.0000	1.0000
L36	34	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	1.0000	1.0000
L37	16	HCS 6X12 4AWG(1-5/8)	32.25 - 35.96	1.0000	1.0000
L37	23	LDF4-50A(1/2)	32.25 - 35.96	1.0000	1.0000
L37	27	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	1.0000	1.0000
L37	28	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	1.0000	1.0000
L37	29	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	1.0000	1.0000
L37	30	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	1.0000	1.0000
L37	32	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	1.0000	1.0000
L37	33	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	1.0000	1.0000
L37	34	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	1.0000	1.0000
L38	16	HCS 6X12 4AWG(1-5/8)	32.00 - 32.25	1.0000	1.0000
L38	23	LDF4-50A(1/2)	32.00 - 32.25	1.0000	1.0000
L38	27	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	28	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	29	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	30	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	32	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	33	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L38	34	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	1.0000	1.0000
L39	16	HCS 6X12 4AWG(1-5/8)	31.75 - 32.00	1.0000	1.0000
L39	23	LDF4-50A(1/2)	31.75 - 32.00	1.0000	1.0000
L39	27	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	28	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	29	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	30	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	32	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	33	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L39	34	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	1.0000	1.0000
L40	16	HCS 6X12 4AWG(1-5/8)	26.75 - 31.75	1.0000	1.0000
L40	23	LDF4-50A(1/2)	26.75 - 31.75	1.0000	1.0000
L40	27	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	1.0000	1.0000
L40	28	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	1.0000	1.0000
L40	29	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	1.0000	1.0000
L40	30	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	1.0000	1.0000
L40	32	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	1.0000	1.0000
L40	33	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	1.0000	1.0000
L40	34	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	1.0000	1.0000
L41	16	HCS 6X12 4AWG(1-5/8)	21.75 - 26.75	1.0000	1.0000
L41	23	LDF4-50A(1/2)	21.75 - 26.75	1.0000	1.0000
L41	27	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	1.0000	1.0000
L41	28	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	1.0000	1.0000
L41	29	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	1.0000	1.0000
L41	30	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	1.0000	1.0000
L42	16	HCS 6X12 4AWG(1-5/8)	16.75 - 21.75	1.0000	1.0000
L42	23	LDF4-50A(1/2)	16.75 - 21.75	1.0000	1.0000
L42	27	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	1.0000	1.0000
L42	28	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	1.0000	1.0000
L42	29	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	1.0000	1.0000
L42	30	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	1.0000	1.0000
L43	16	HCS 6X12 4AWG(1-5/8)	11.75 - 16.75	1.0000	1.0000
L43	23	LDF4-50A(1/2)	11.75 - 16.75	1.0000	1.0000
L43	27	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	1.0000	1.0000
L43	28	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	1.0000	1.0000
L43	29	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	1.0000	1.0000
L43	30	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	1.0000	1.0000
L44	16	HCS 6X12 4AWG(1-5/8)	6.75 - 11.75	1.0000	1.0000
L44	23	LDF4-50A(1/2)	6.75 - 11.75	1.0000	1.0000
L44	27	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	1.0000	1.0000
L44	28	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _g No Ice	K _g Ice
L44	29	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	1.0000	1.0000
L44	30	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	1.0000	1.0000
L45	16	HCS 6X12 4AWG(1-5/8)	6.00 - 6.75	1.0000	1.0000
L45	23	LDF4-50A(1/2)	6.00 - 6.75	1.0000	1.0000
L45	27	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	1.0000	1.0000
L45	28	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	1.0000	1.0000
L45	29	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	1.0000	1.0000
L45	30	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	1.0000	1.0000
L46	27	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	1.0000	1.0000
L46	28	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	1.0000	1.0000
L46	29	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	1.0000	1.0000
L46	30	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L10	47	CCI-65FP-045100	127.75 - 129.25	Auto	0.0750
L10	48	CCI-65FP-045100	127.75 - 129.25	Auto	0.0750
L10	49	CCI-65FP-045100	127.75 - 129.25	Auto	0.0750
L11	47	CCI-65FP-045100	127.50 - 127.75	Auto	0.0674
L11	48	CCI-65FP-045100	127.50 - 127.75	Auto	0.0674
L11	49	CCI-65FP-045100	127.50 - 127.75	Auto	0.0674
L12	47	CCI-65FP-045100	122.50 - 127.50	Auto	0.0445
L12	48	CCI-65FP-045100	122.50 - 127.50	Auto	0.0445
L12	49	CCI-65FP-045100	122.50 - 127.50	Auto	0.0445
L13	47	CCI-65FP-045100	120.75 - 122.50	Auto	0.0151
L13	48	CCI-65FP-045100	120.75 - 122.50	Auto	0.0151
L13	49	CCI-65FP-045100	120.75 - 122.50	Auto	0.0151
L14	47	CCI-65FP-045100	120.50 - 120.75	Auto	0.0064
L14	48	CCI-65FP-045100	120.50 - 120.75	Auto	0.0064
L14	49	CCI-65FP-045100	120.50 - 120.75	Auto	0.0064
L15	43	CCI-65FP-060100	117.25 - 119.25	Auto	0.2393
L15	44	CCI-65FP-060100	117.25 - 119.25	Auto	0.2393
L15	45	CCI-65FP-060100	117.25 - 119.25	Auto	0.2393
L15	47	CCI-65FP-045100	119.25 -	Auto	0.0013

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L15	48	CCI-65FP-045100	120.50 119.25 - 120.50	Auto	0.0013
L15	49	CCI-65FP-045100	119.25 - 120.50	Auto	0.0013
L16	43	CCI-65FP-060100	117.00 - 117.25	Auto	0.2979
L16	44	CCI-65FP-060100	117.00 - 117.25	Auto	0.2979
L16	45	CCI-65FP-060100	117.00 - 117.25	Auto	0.2979
L17	43	CCI-65FP-060100	112.00 - 117.00	Auto	0.2771
L17	44	CCI-65FP-060100	112.00 - 117.00	Auto	0.2771
L17	45	CCI-65FP-060100	112.00 - 117.00	Auto	0.2771
L18	43	CCI-65FP-060100	107.00 - 112.00	Auto	0.2445
L18	44	CCI-65FP-060100	107.00 - 112.00	Auto	0.2445
L18	45	CCI-65FP-060100	107.00 - 112.00	Auto	0.2445
L19	43	CCI-65FP-060100	102.00 - 107.00	Auto	0.2081
L19	44	CCI-65FP-060100	102.00 - 107.00	Auto	0.2081
L19	45	CCI-65FP-060100	102.00 - 107.00	Auto	0.2081
L20	43	CCI-65FP-060100	94.58 - 102.00	Auto	0.1676
L20	44	CCI-65FP-060100	94.58 - 102.00	Auto	0.1676
L20	45	CCI-65FP-060100	94.58 - 102.00	Auto	0.1676
L21	43	CCI-65FP-060100	94.42 - 94.58	Auto	0.1208
L21	44	CCI-65FP-060100	94.42 - 94.58	Auto	0.1208
L21	45	CCI-65FP-060100	94.42 - 94.58	Auto	0.1208
L22	40	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	Auto	0.1039
L22	41	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	Auto	0.1039
L22	42	(Area) CCI-65FP-060100 (H)	89.42 - 94.41	Auto	0.1039
L22	43	CCI-65FP-060100	94.41 - 94.42	Auto	0.1203
L22	44	CCI-65FP-060100	94.41 - 94.42	Auto	0.1203
L22	45	CCI-65FP-060100	94.41 - 94.42	Auto	0.1203
L23	36	CCI-65FP-060100	87.25 - 89.25	Auto	0.0800
L23	37	CCI-65FP-060100	87.25 - 89.25	Auto	0.0800
L23	38	CCI-65FP-060100	87.25 - 89.25	Auto	0.0800
L23	40	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	Auto	0.0871
L23	41	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	Auto	0.0871
L23	42	(Area) CCI-65FP-060100 (H)	89.25 - 89.42	Auto	0.0871
L24	36	CCI-65FP-060100	87.00 - 87.25	Auto	0.0727
L24	37	CCI-65FP-060100	87.00 - 87.25	Auto	0.0727
L24	38	CCI-65FP-060100	87.00 - 87.25	Auto	0.0727
L25	36	CCI-65FP-060100	82.00 - 87.00	Auto	0.0556
L25	37	CCI-65FP-060100	82.00 - 87.00	Auto	0.0556
L25	38	CCI-65FP-060100	82.00 - 87.00	Auto	0.0556
L26	36	CCI-65FP-060100	77.00 - 82.00	Auto	0.0229
L26	37	CCI-65FP-060100	77.00 - 82.00	Auto	0.0229
L26	38	CCI-65FP-060100	77.00 - 82.00	Auto	0.0229
L27	36	CCI-65FP-060100	72.00 - 77.00	Auto	0.0007
L27	37	CCI-65FP-060100	72.00 - 77.00	Auto	0.0007
L27	38	CCI-65FP-060100	72.00 - 77.00	Auto	0.0007
L28	36	CCI-65FP-060100	67.00 - 72.00	Auto	0.0000
L28	37	CCI-65FP-060100	67.00 - 72.00	Auto	0.0000
L28	38	CCI-65FP-060100	67.00 - 72.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L29	32	(Area) CCI-65FP-065125 (H)	62.00 - 64.25	Auto	0.0014
L29	33	(Area) CCI-65FP-065125 (H)	62.00 - 64.25	Auto	0.0014
L29	34	(Area) CCI-65FP-065125 (H)	62.00 - 64.25	Auto	0.0014
L29	36	CCI-65FP-060100	64.25 - 67.00	Auto	0.0000
L29	37	CCI-65FP-060100	64.25 - 67.00	Auto	0.0000
L29	38	CCI-65FP-060100	64.25 - 67.00	Auto	0.0000
L30	32	(Area) CCI-65FP-065125 (H)	61.50 - 62.00	Auto	0.0000
L30	33	(Area) CCI-65FP-065125 (H)	61.50 - 62.00	Auto	0.0000
L30	34	(Area) CCI-65FP-065125 (H)	61.50 - 62.00	Auto	0.0000
L31	32	(Area) CCI-65FP-065125 (H)	61.25 - 61.50	Auto	0.0464
L31	33	(Area) CCI-65FP-065125 (H)	61.25 - 61.50	Auto	0.0464
L31	34	(Area) CCI-65FP-065125 (H)	61.25 - 61.50	Auto	0.0464
L32	32	(Area) CCI-65FP-065125 (H)	56.25 - 61.25	Auto	0.0272
L32	33	(Area) CCI-65FP-065125 (H)	56.25 - 61.25	Auto	0.0272
L32	34	(Area) CCI-65FP-065125 (H)	56.25 - 61.25	Auto	0.0272
L33	32	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	Auto	0.0013
L33	33	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	Auto	0.0013
L33	34	(Area) CCI-65FP-065125 (H)	46.96 - 56.25	Auto	0.0013
L34	32	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	Auto	0.0000
L34	33	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	Auto	0.0000
L34	34	(Area) CCI-65FP-065125 (H)	45.96 - 46.96	Auto	0.0000
L35	32	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	Auto	0.0000
L35	33	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	Auto	0.0000
L35	34	(Area) CCI-65FP-065125 (H)	40.96 - 45.96	Auto	0.0000
L36	32	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	Auto	0.0000
L36	33	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	Auto	0.0000
L36	34	(Area) CCI-65FP-065125 (H)	35.96 - 40.96	Auto	0.0000
L37	27	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	Auto	0.0000
L37	28	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	Auto	0.0000
L37	29	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	Auto	0.0000
L37	30	(Area) CCI-65FP-065125 (H)	32.25 - 35.00	Auto	0.0000
L37	32	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	Auto	0.0000
L37	33	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	Auto	0.0000
L37	34	(Area) CCI-65FP-065125 (H)	32.25 - 35.96	Auto	0.0000
L38	27	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	28	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	29	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	30	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	32	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	33	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L38	34	(Area) CCI-65FP-065125 (H)	32.00 - 32.25	Auto	0.0000
L39	27	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	28	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	29	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	30	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	32	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	33	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L39	34	(Area) CCI-65FP-065125 (H)	31.75 - 32.00	Auto	0.0000
L40	27	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	Auto	0.0000
L40	28	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	Auto	0.0000
L40	29	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	Auto	0.0000
L40	30	(Area) CCI-65FP-065125 (H)	26.75 - 31.75	Auto	0.0000
L40	32	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	Auto	0.0000
L40	33	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	Auto	0.0000
L40	34	(Area) CCI-65FP-065125 (H)	29.25 - 31.75	Auto	0.0000
L41	27	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	Auto	0.0000
L41	28	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	Auto	0.0000
L41	29	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	Auto	0.0000
L41	30	(Area) CCI-65FP-065125 (H)	21.75 - 26.75	Auto	0.0000
L42	27	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	Auto	0.0000
L42	28	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	Auto	0.0000
L42	29	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L42	30	(Area) CCI-65FP-065125 (H)	16.75 - 21.75	Auto	0.0000
L43	27	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	Auto	0.0000
L43	28	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	Auto	0.0000
L43	29	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	Auto	0.0000
L43	30	(Area) CCI-65FP-065125 (H)	11.75 - 16.75	Auto	0.0000
L44	27	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	Auto	0.0000
L44	28	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	Auto	0.0000
L44	29	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	Auto	0.0000
L44	30	(Area) CCI-65FP-065125 (H)	6.75 - 11.75	Auto	0.0000
L45	27	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	Auto	0.0000
L45	28	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	Auto	0.0000
L45	29	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	Auto	0.0000
L45	30	(Area) CCI-65FP-065125 (H)	1.75 - 6.75	Auto	0.0000
L46	27	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	Auto	0.0000
L46	28	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	Auto	0.0000
L46	29	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	Auto	0.0000
L46	30	(Area) CCI-65FP-065125 (H)	0.00 - 1.75	Auto	0.0000

Discrete Tower Loads

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

Lighting Rod 5/8" x 5'	C	From Leg	0.00 0.00 2.50	0.0000	176.00

DT465B-2XR w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	176.00
DT465B-2XR w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	176.00
DT465B-2XR w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	176.00
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	176.00
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	176.00
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	176.00
RRH2X50-800	A	From Leg	4.00 0.00 2.00	0.0000	176.00
RRH2X50-800	B	From Leg	4.00 0.00	0.0000	176.00

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement
			Horz Lateral	Vert ft	ft		
RRH2X50-800	C	From Leg		2.00			
				4.00		0.0000	176.00
				0.00			
TD-RRH8X20-25	A	From Leg		2.00			
				4.00		0.0000	176.00
				0.00			
TD-RRH8X20-25	B	From Leg		0.00			
				4.00		0.0000	176.00
				0.00			
TD-RRH8X20-25	C	From Leg		0.00			
				4.00		0.0000	176.00
				0.00			
(6) ACU-A20-N	B	From Leg		0.00			
				4.00		0.0000	176.00
				0.00			
(3) ACU-A20-N	C	From Leg		0.00			
				4.00		0.0000	176.00
				0.00			
Platform Mount [LP 712-1]	C	None				0.0000	176.00
(2) 6' x 2" Mount Pipe	A	From Leg		4.00		0.0000	176.00
				0.00			
(2) 6' x 2" Mount Pipe	B	From Leg		0.00			
				4.00		0.0000	176.00
				0.00			
(2) 6' x 2" Mount Pipe	C	From Leg		0.00			
				4.00		0.0000	176.00
				0.00			
*****				0.00			
800MHZ RRH	A	From Leg		1.00		0.0000	174.00
				0.00			
800MHZ RRH	B	From Leg		1.00		0.0000	174.00
				0.00			
800MHZ RRH	C	From Leg		1.00		0.0000	174.00
				0.00			
PCS 1900MHz 4x45W-65MHz	A	From Leg		1.00		0.0000	174.00
				0.00			
PCS 1900MHz 4x45W-65MHz	B	From Leg		-1.00		0.0000	174.00
				1.00			
PCS 1900MHz 4x45W-65MHz	C	From Leg		0.00		0.0000	174.00
				-1.00			
800 EXTERNAL NOTCH FILTER	A	From Leg		1.00		0.0000	174.00
				0.00			
800 EXTERNAL NOTCH FILTER	B	From Leg		2.00		0.0000	174.00
				1.00			
800 EXTERNAL NOTCH FILTER	C	From Leg		0.00		0.0000	174.00
				2.00			
5' x 2" Pipe Mount	A	From Leg		1.00		0.0000	174.00

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement
			Horz Lateral ft ft ft	Vert ft	°		
				0.00			
5' x 2" Pipe Mount	B	From Leg		0.00			
				1.00	0.0000	174.00	
				0.00			
5' x 2" Pipe Mount	C	From Leg		0.00			
				1.00	0.0000	174.00	
				0.00			
Side Arm Mount [SO 102-3] *****	C	None		0.00	0.0000	174.00	
OPA65R-BU6D w/ Mount Pipe	A	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
OPA65R-BU6D w/ Mount Pipe	B	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
OPA65R-BU6D w/ Mount Pipe	C	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
80010965 w/ Mount Pipe	A	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
80010965 w/ Mount Pipe	B	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
80010965 w/ Mount Pipe	C	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
RRUS 4449 B5/B12	A	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
RRUS 4449 B5/B12	B	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
RRUS 4449 B5/B12	C	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
DC6-48-60-18-8F	A	From Leg		1.00	0.0000	167.00	
				0.00			
				0.00			
(2) DC6-48-60-18-8F	B	From Leg		1.00	0.0000	167.00	
				0.00			
				0.00			
RRUS 4478 B14	A	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
RRUS 4478 B14	B	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
RRUS 4478 B14	C	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
RRUS 8843 B2/B66A	A	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			
RRUS 8843 B2/B66A	B	From Leg		4.00	0.0000	167.00	
				0.00			
				0.00			

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement
			Horz Lateral	Vert			
			ft	ft	ft	°	ft
RRUS 8843 B2/B66A	C	From Leg	4.00	0.00	0.00	0.0000	167.00
Platform Mount [LP 304-1_HR-1]	C	None				0.0000	167.00
4' x 2" Pipe Mount	A	From Leg	2.00	0.00	0.00	0.0000	167.00
4' x 2" Pipe Mount	B	From Leg	2.00	0.00	0.00	0.0000	167.00
4' x 2" Pipe Mount	C	From Leg	2.00	0.00	0.00	0.0000	167.00
AIR 6449 B77D_CCV12	A	From Leg	4.00	0.00	1.00	0.0000	167.00
AIR 6449 B77D_CCV12	B	From Leg	4.00	0.00	1.00	0.0000	167.00
AIR 6449 B77D_CCV12	C	From Leg	4.00	0.00	1.00	0.0000	167.00
AIR 6419 B77G	A	From Leg	4.00	0.00	-1.00	0.0000	167.00
AIR 6419 B77G	B	From Leg	4.00	0.00	-1.00	0.0000	167.00
AIR 6419 B77G	C	From Leg	4.00	0.00	-1.00	0.0000	167.00
8' x 2" Mount Pipe	A	From Leg	4.00	0.00	0.00	0.0000	167.00
8' x 2" Mount Pipe	B	From Leg	4.00	0.00	0.00	0.0000	167.00
8' x 2" Mount Pipe	C	From Leg	4.00	0.00	0.00	0.0000	167.00

AIR 6419 B41_TMO_CCV2 w/ Mount Pipe	A	From Leg	4.00	0.00	0.00	0.0000	155.00
AIR 6419 B41_TMO_CCV2 w/ Mount Pipe	B	From Leg	4.00	0.00	0.00	0.0000	155.00
AIR 6419 B41_TMO_CCV2 w/ Mount Pipe	C	From Leg	4.00	0.00	0.00	0.0000	155.00
APXVLL19P_43-C-A20_TMO w/ Mount Pipe	A	From Leg	4.00	0.00	0.00	0.0000	155.00
APXVLL19P_43-C-A20_TMO w/ Mount Pipe	B	From Leg	4.00	0.00	0.00	0.0000	155.00
APXVLL19P_43-C-A20_TMO	C	From Leg	4.00	0.00	0.00	0.0000	155.00

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement
			Horz Lateral	Vert			
			ft	ft	ft	°	ft
w/ Mount Pipe			0.00	0.00			
RADIO 4449 B71 B85A_T- MOBILE	A	From Leg	4.00	0.00	0.00	0.0000	155.00
RADIO 4449 B71 B85A_T- MOBILE	B	From Leg	4.00	0.00	0.00	0.0000	155.00
RADIO 4449 B71 B85A_T- MOBILE	C	From Leg	4.00	0.00	0.00	0.0000	155.00
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00	0.00	0.00	0.0000	155.00
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00	0.00	0.00	0.0000	155.00
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00	0.00	0.00	0.0000	155.00
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00	0.00	0.00	0.0000	155.00
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00	0.00	0.00	0.0000	155.00
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00	0.00	0.00	0.0000	155.00
Platform Mount [LP 303- 1_HR-1] ***** ***	C	None				0.0000	155.00
BXA-70063-6CF-EDIN-X w/ Mount Pipe	A	From Leg	4.00	0.00	0.00	0.0000	145.00
BXA-70063-6CF-EDIN-X w/ Mount Pipe	B	From Leg	4.00	0.00	0.00	0.0000	145.00
BXA-70063-6CF-EDIN-X w/ Mount Pipe	C	From Leg	4.00	0.00	0.00	0.0000	145.00
(2) JAHH-65B-R3B w/ Mount Pipe	A	From Leg	4.00	0.00	0.00	0.0000	145.00
(2) JAHH-65B-R3B w/ Mount Pipe	B	From Leg	4.00	0.00	0.00	0.0000	145.00
(2) JAHH-65B-R3B w/ Mount Pipe	C	From Leg	4.00	0.00	0.00	0.0000	145.00
MT6407-77A w/ Mount Pipe	A	From Leg	4.00	0.00	0.00	0.0000	145.00
MT6407-77A w/ Mount Pipe	B	From Leg	4.00	0.00	0.00	0.0000	145.00
MT6407-77A w/ Mount Pipe	C	From Leg	4.00	0.00	0.00	0.0000	145.00

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement
			Horz Lateral	Vert			
			ft	ft	ft	°	ft
			0.00				
			0.00				
CBC78T-DS-43-2X	A	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				
CBC78T-DS-43-2X	B	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				
CBC78T-DS-43-2X	C	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				
RVZDC-6627-PF-48	B	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				
(3) RFV01U-D1A	A	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				
RFV01U-D2A	A	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				
RFV01U-D2A	B	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				
RFV01U-D2A	C	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				
Platform Mount [LP 303- 1_KCKR-HR-1]	C	None				0.0000	145.00
8' x 2" Mount Pipe	A	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				
8' x 2" Mount Pipe	B	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				
8' x 2" Mount Pipe	C	From Leg	4.00			0.0000	145.00
			0.00				
			0.00				

KS24019-L112A	A	From Leg	3.00			0.0000	50.00
			0.00				
			1.00				
3' x 2" Pipe Mount	A	From Leg	3.00			0.0000	50.00
			0.00				
			0.00				
Side Arm Mount [SO 701-1]	A	From Leg	1.50			0.0000	50.00
			0.00				
			0.00				

OG-860/1920/GPS-A	A	From Leg	3.00			0.0000	10.00
			0.00				
			2.00				
Side Arm Mount [SO 701-1]	A	From Leg	1.50			0.0000	10.00
			0.00				
			0.00				
3' x 2" Pipe Mount	A	From Leg	3.00			0.0000	10.00
			0.00				
			0.00				

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	176 - 171	Pole	Max Tension	26	0.00	0.00	-0.00
			Max. Compression	26	-6.70	-0.03	-0.11
			Max. Mx	20	-3.02	23.03	0.06
			Max. My	14	-3.02	0.01	-23.12
			Max. Vy	8	4.54	-23.02	0.06
			Max. Vx	2	-4.55	0.01	23.04
L2	171 - 166	Pole	Max. Torque	20			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-14.41	-0.22	-0.11
			Max. Mx	8	-6.87	-51.11	0.35
			Max. My	14	-6.87	-0.05	-51.19
			Max. Vy	8	9.55	-51.11	0.35
L3	166 - 161	Pole	Max. Vx	2	-9.56	-0.05	51.12
			Max. Torque	9			-3.17
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-14.84	-0.23	-0.10
			Max. Mx	8	-7.17	-99.50	0.30
			Max. My	14	-7.16	-0.06	-99.63
L4	161 - 156	Pole	Max. Vy	8	9.81	-99.50	0.30
			Max. Vx	2	-9.83	-0.06	99.56
			Max. Torque	9			-3.17
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-15.28	-0.24	-0.09
			Max. Mx	8	-7.49	-149.22	0.26
L5	156 - 151	Pole	Max. My	14	-7.49	-0.06	-149.40
			Max. Vy	8	10.08	-149.22	0.26
			Max. Vx	2	-10.09	-0.06	149.34
			Max. Torque	9			-3.17
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.12	-0.25	-0.14
L6	151 - 144.25	Pole	Max. Mx	8	-11.19	-214.09	0.39
			Max. My	14	-11.19	-0.07	-214.36
			Max. Vy	8	13.80	-214.09	0.39
			Max. Vx	2	-13.81	-0.07	214.24
			Max. Torque	21			4.77
			Max Tension	1	0.00	0.00	0.00
L7	144.25 - 142.75	Pole	Max. Compression	26	-22.49	-0.25	-0.18
			Max. Mx	8	-11.48	-259.18	0.34
			Max. My	14	-11.47	-0.07	-259.51
			Max. Vy	8	13.96	-259.18	0.34
			Max. Vx	2	-13.98	-0.07	259.35
			Max. Torque	21			4.77
L8	142.75 - 137.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.80	-0.71	1.58
			Max. Mx	8	-15.91	-339.54	1.67
			Max. My	2	-15.90	-0.19	341.01
			Max. Vy	8	18.54	-339.54	1.67
			Max. Vx	2	-18.60	-0.19	341.01
L9	137.75 - 132.75	Pole	Max. Torque	13			6.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.60	-0.72	1.51
			Max. Mx	8	-16.61	-432.89	1.59
			Max. My	2	-16.59	-0.20	434.59
			Max. Vy	8	18.82	-432.89	1.59
L9	137.75 - 132.75	Pole	Max. Vx	2	-18.87	-0.20	434.59
			Max. Torque	13			6.36
L9	137.75 - 132.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.44	-0.72	1.43

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L10	132.75 - 127.75	Pole	Max. Mx	8	-17.33	-527.63	1.51
			Max. My	2	-17.32	-0.20	529.55
			Max. Vy	8	19.10	-527.63	1.51
			Max. Vx	2	-19.15	-0.20	529.55
			Max. Torque	13			6.36
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.41	-0.72	1.34
L11	127.75 - 127.5	Pole	Max. Mx	8	-18.17	-623.77	1.43
			Max. My	2	-18.16	-0.21	625.91
			Max. Vy	8	19.38	-623.77	1.43
			Max. Vx	2	-19.44	-0.21	625.91
			Max. Torque	13			6.35
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.48	-0.72	1.34
L12	127.5 - 122.5	Pole	Max. Mx	8	-18.23	-628.62	1.43
			Max. My	2	-18.22	-0.21	630.76
			Max. Vy	8	19.39	-628.62	1.43
			Max. Vx	2	-19.44	-0.21	630.76
			Max. Torque	13			6.34
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-34.73	-0.72	1.25
L13	122.5 - 120.75	Pole	Max. Mx	8	-19.28	-726.28	1.35
			Max. My	2	-19.27	-0.21	728.65
			Max. Vy	8	19.70	-726.28	1.35
			Max. Vx	2	-19.75	-0.21	728.65
			Max. Torque	13			6.34
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.17	-0.72	1.22
L14	120.75 - 120.5	Pole	Max. Mx	8	-19.65	-760.82	1.32
			Max. My	2	-19.64	-0.21	763.26
			Max. Vy	8	19.81	-760.82	1.32
			Max. Vx	2	-19.86	-0.21	763.26
			Max. Torque	13			6.34
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.24	-0.72	1.21
L15	120.5 - 117.25	Pole	Max. Mx	8	-19.72	-765.77	1.32
			Max. My	2	-19.71	-0.21	768.22
			Max. Vy	8	19.81	-765.77	1.32
			Max. Vx	2	-19.86	-0.21	768.22
			Max. Torque	13			6.34
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.12	-0.72	1.15
L16	117.25 - 117	Pole	Max. Mx	8	-20.46	-830.45	1.27
			Max. My	2	-20.45	-0.21	833.04
			Max. Vy	8	20.01	-830.45	1.27
			Max. Vx	2	-20.07	-0.21	833.04
			Max. Torque	13			6.34
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.21	-0.72	1.15
L17	117 - 112	Pole	Max. Mx	8	-20.55	-835.45	1.27
			Max. My	2	-20.54	-0.21	838.05
			Max. Vy	8	20.02	-835.45	1.27
			Max. Vx	2	-20.07	-0.21	838.05
			Max. Torque	13			6.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.99	-0.72	1.05
			Max. Mx	8	-22.06	-936.49	1.20
			Max. My	2	-22.05	-0.22	939.31
			Max. Vy	8	20.41	-936.49	1.20
			Max. Vx	2	-20.47	-0.22	939.31
			Max. Torque	13			6.33

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L18	112 - 107	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.80	-0.72	0.95
			Max. Mx	8	-23.60	-1039.46	1.12
			Max. My	2	-23.60	-0.22	1042.49
			Max. Vy	8	20.79	-1039.46	1.12
			Max. Vx	2	-20.85	-0.22	1042.49
L19	107 - 102	Pole	Max. Torque	13			6.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.64	-0.72	0.85
			Max. Mx	8	-25.17	-1144.33	1.04
			Max. My	2	-25.17	-0.22	1147.57
			Max. Vy	8	21.17	-1144.33	1.04
L20	102 - 94.5833	Pole	Max. Vx	2	-21.23	-0.22	1147.57
			Max. Torque	13			6.33
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.60	-0.72	0.79
			Max. Mx	8	-25.99	-1199.26	1.00
			Max. My	2	-25.98	-0.23	1202.60
L21	94.5833 - 94.4167	Pole	Max. Vy	8	21.37	-1199.26	1.00
			Max. Vx	2	-21.43	-0.23	1202.60
			Max. Torque	13			6.32
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.45	-0.72	0.69
			Max. Mx	8	-28.35	-1307.25	0.92
L22	94.4167 - 89.4167	Pole	Max. My	2	-28.34	-0.23	1310.80
			Max. Vy	8	21.84	-1307.25	0.92
			Max. Vx	2	-21.89	-0.23	1310.80
			Max. Torque	13			6.32
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.74	-0.72	0.58
L23	89.4167 - 87.25	Pole	Max. Mx	8	-29.40	-1417.10	0.85
			Max. My	2	-29.40	-0.23	1420.85
			Max. Vy	8	22.12	-1417.10	0.85
			Max. Vx	2	-22.18	-0.23	1420.85
			Max. Torque	13			6.32
			Max Tension	1	0.00	0.00	0.00
L24	87.25 - 87	Pole	Max. Compression	26	-47.46	-0.72	0.53
			Max. Mx	8	-30.02	-1465.13	0.82
			Max. My	2	-30.01	-0.23	1468.98
			Max. Vy	8	22.25	-1465.13	0.82
			Max. Vx	2	-22.31	-0.23	1468.98
			Max. Torque	13			6.31
L25	87 - 82	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.26	-0.72	0.41
			Max. Mx	8	-31.57	-1582.67	0.74
			Max. My	2	-31.56	-0.23	1586.73
			Max. Vy	8	22.56	-1582.67	0.74
			Max. Vx	2	-22.61	-0.23	1586.73
L26	82 - 77	Pole	Max. Torque	13			6.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.00	-0.72	0.29
			Max. Mx	8	-33.07	-1696.11	0.66

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L27	77 - 72	Pole	Max. My	2	-33.06	-0.24	1700.36
			Max. Vy	8	22.85	-1696.11	0.66
			Max. Vx	2	-22.90	-0.24	1700.36
			Max. Torque	13			6.31
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.77	-0.72	0.18
			Max. Mx	8	-34.60	-1810.96	0.59
			Max. My	2	-34.59	-0.24	1815.41
			Max. Vy	8	23.13	-1810.96	0.59
			Max. Vx	2	-23.18	-0.24	1815.41
L28	72 - 67	Pole	Max. Torque	13			6.30
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.58	-0.72	0.05
			Max. Mx	8	-36.16	-1927.21	0.51
			Max. My	2	-36.15	-0.24	1931.85
			Max. Vy	8	23.41	-1927.21	0.51
			Max. Vx	2	-23.46	-0.24	1931.85
			Max. Torque	13			6.30
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.25	-0.72	-0.07
L29	67 - 62	Pole	Max. Mx	8	-37.58	-2044.80	0.43
			Max. My	2	-37.58	-0.24	2049.63
			Max. Vy	8	23.67	-2044.80	0.43
			Max. Vx	2	-23.72	-0.24	2049.63
			Max. Torque	13			6.30
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.40	-0.72	-0.08
			Max. Mx	8	-37.71	-2056.63	0.43
			Max. My	2	-37.71	-0.24	2061.48
			Max. Vy	8	23.68	-2056.63	0.43
L30	62 - 61.5	Pole	Max. Vx	2	-23.74	-0.24	2061.48
			Max. Torque	13			6.30
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.50	-0.72	-0.09
			Max. Mx	8	-37.80	-2062.55	0.42
			Max. My	2	-37.79	-0.24	2067.41
			Max. Vy	8	23.69	-2062.55	0.42
			Max. Vx	2	-23.75	-0.24	2067.41
			Max. Torque	13			6.30
			Max Tension	1	0.00	0.00	0.00
L31	61.5 - 61.25	Pole	Max. Compression	26	-58.50	-0.72	-0.22
			Max. Mx	8	-39.49	-2181.82	0.34
			Max. My	2	-39.49	-0.24	2186.86
			Max. Vy	8	24.03	-2181.82	0.34
			Max. Vx	2	-24.08	-0.24	2186.86
			Max. Torque	13			6.30
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.80	-0.72	-0.31
			Max. Mx	8	-40.60	-2259.24	0.29
			Max. My	2	-40.60	-0.24	2264.40
L32	61.25 - 56.25	Pole	Max. Vy	8	24.24	-2259.24	0.29
			Max. Vx	2	-24.29	-0.24	2264.40
			Max. Torque	13			6.30
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.01	-0.72	-0.01
			Max. Mx	8	-45.00	-2433.25	0.50
			Max. My	2	-44.99	-0.24	2438.91
			Max. Vy	8	24.89	-2433.25	0.50
			Max. Vx	2	-24.92	-0.24	2438.91
			Max. Torque	13			6.39
L33	56.25 - 46.9567	Pole	Max. My	2	-44.99	-0.24	2438.91
			Max. Vy	8	24.89	-2433.25	0.50
			Max. Vx	2	-24.92	-0.24	2438.91
			Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.01	-0.72	-0.01
			Max. Mx	8	-45.00	-2433.25	0.50
			Max. My	2	-44.99	-0.24	2438.91
			Max. Vy	8	24.89	-2433.25	0.50
			Max. Vx	2	-24.92	-0.24	2438.91
L34	46.9567 - 45.9567	Pole	Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.01	-0.72	-0.01
			Max. Mx	8	-45.00	-2433.25	0.50
			Max. My	2	-44.99	-0.24	2438.91
			Max. Vy	8	24.89	-2433.25	0.50
			Max. Vx	2	-24.92	-0.24	2438.91
			Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.01	-0.72	-0.01

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L35	45.9567 - 40.9567	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.09	-0.72	-0.16
			Max. Mx	8	-46.77	-2558.32	0.42
			Max. My	2	-46.77	-0.24	2564.03
			Max. Vy	8	25.17	-2558.32	0.42
			Max. Vx	2	-25.20	-0.24	2564.03
L36	40.9567 - 35.9567	Pole	Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.20	-0.72	-0.31
			Max. Mx	8	-48.57	-2684.79	0.33
			Max. My	2	-48.57	-0.24	2690.55
			Max. Vy	8	25.45	-2684.79	0.33
L37	35.9567 - 32.25	Pole	Max. Vx	14	25.47	-0.24	-2690.18
			Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.84	-0.70	-0.41
			Max. Mx	8	-49.92	-2779.42	0.27
			Max. My	2	-49.92	-0.24	2785.21
L38	32.25 - 32	Pole	Max. Vy	8	25.64	-2779.42	0.27
			Max. Vx	14	25.67	-0.24	-2784.97
			Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.99	-0.70	-0.42
			Max. Mx	8	-50.06	-2785.83	0.26
L39	32 - 31.75	Pole	Max. My	2	-50.06	-0.24	2791.62
			Max. Vy	8	25.64	-2785.83	0.26
			Max. Vx	14	25.67	-0.24	-2791.39
			Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.11	-0.70	-0.43
L40	31.75 - 26.75	Pole	Max. Mx	8	-50.16	-2792.24	0.26
			Max. My	2	-50.16	-0.24	2798.04
			Max. Vy	8	25.66	-2792.24	0.26
			Max. Vx	14	25.69	-0.24	-2797.81
			Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
L41	26.75 - 21.75	Pole	Max. Compression	26	-73.51	-0.66	-0.56
			Max. Mx	8	-52.16	-2921.18	0.17
			Max. My	2	-52.16	-0.24	2927.02
			Max. Vy	8	25.94	-2921.18	0.17
			Max. Vx	14	25.96	-0.24	-2926.97
			Max. Torque	13			6.39
L42	21.75 - 16.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-75.88	-0.62	-0.70
			Max. Mx	8	-54.20	-3051.45	0.08
			Max. My	14	-54.20	-0.24	-3057.47
			Max. Vy	8	26.20	-3051.45	0.08
			Max. Vx	14	26.23	-0.24	-3057.47
L43	16.75 - 11.75	Pole	Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-78.28	-0.58	-0.84
			Max. Mx	8	-56.26	-3183.05	-0.02
			Max. My	14	-56.26	-0.24	-3189.30
			Max. Vy	8	26.47	-3183.05	-0.02
L43	16.75 - 11.75	Pole	Max. Vx	14	26.50	-0.24	-3189.30
			Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
L43	16.75 - 11.75	Pole	Max. Compression	26	-80.70	-0.54	-0.98
			Max. Mx	8	-58.36	-3316.00	-0.11

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L44	11.75 - 6.75	Pole	Max. My	14	-58.36	-0.24	-3322.47
			Max. Vy	8	26.74	-3316.00	-0.11
			Max. Vx	14	26.76	-0.24	-3322.47
			Max. Torque	13			6.39
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-83.26	-0.51	-0.60
			Max. Mx	8	-60.57	-3450.53	0.16
			Max. My	2	-60.57	-0.24	3456.80
			Max. Vy	8	27.08	-3450.53	0.16
			Max. Vx	14	27.08	-0.24	-3456.79
L45	6.75 - 1.75	Pole	Max. Torque	13			6.50
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.55	-0.47	-0.60
			Max. Mx	8	-62.60	-3586.50	0.15
			Max. My	14	-62.60	-0.24	-3592.78
			Max. Vy	8	27.34	-3586.50	0.15
			Max. Vx	14	27.35	-0.24	-3592.78
			Max. Torque	13			6.50
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.33	-0.46	-0.60
L46	1.75 - 0	Pole	Max. Mx	8	-63.30	-3634.41	0.15
			Max. My	14	-63.30	-0.24	-3640.70
			Max. Vy	8	27.45	-3634.41	0.15
			Max. Vx	14	27.45	-0.24	-3640.70
			Max. Torque	13			6.50

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	86.33	-0.00	7.00
	Max. H _x	21	47.49	27.42	0.00
	Max. H _z	3	47.49	0.00	27.43
	Max. M _x	2	3640.68	0.00	27.43
	Max. M _z	8	3634.41	-27.42	0.00
	Max. Torsion	13	6.50	-13.72	-23.76
	Min. Vert	5	47.49	-13.71	23.74
	Min. H _x	9	47.49	-27.42	0.00
	Min. H _z	15	47.49	0.00	-27.43
	Min. M _x	14	-3640.70	0.00	-27.43
	Min. M _z	20	-3633.90	27.42	0.00
	Min. Torsion	25	-6.50	13.72	23.76

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	52.76	0.00	0.00	0.06	-0.19	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	63.31	0.00	-27.43	-3640.68	-0.24	0.53
0.9 Dead+1.0 Wind 0 deg - No Ice	47.49	0.00	-27.43	-3576.02	-0.18	0.53
1.2 Dead+1.0 Wind 30 deg - No Ice	63.31	13.71	-23.74	-3149.75	-1818.94	-5.57

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
Ice						
0.9 Dead+1.0 Wind 30 deg - No Ice	47.49	13.71	-23.74	-3093.83	-1786.54	-5.58
1.2 Dead+1.0 Wind 60 deg - No Ice	63.31	23.74	-13.71	-1816.92	-3147.25	-0.46
0.9 Dead+1.0 Wind 60 deg - No Ice	47.49	23.74	-13.71	-1784.65	-3091.31	-0.47
1.2 Dead+1.0 Wind 90 deg - No Ice	63.31	27.42	0.00	-0.15	-3634.41	4.77
0.9 Dead+1.0 Wind 90 deg - No Ice	47.49	27.42	0.00	-0.09	-3569.82	4.77
1.2 Dead+1.0 Wind 120 deg - No Ice	63.31	23.76	13.72	1818.88	-3150.62	-0.99
0.9 Dead+1.0 Wind 120 deg - No Ice	47.49	23.76	13.72	1786.60	-3094.62	-1.00
1.2 Dead+1.0 Wind 150 deg - No Ice	63.31	13.72	23.76	3153.29	-1820.61	-6.49
0.9 Dead+1.0 Wind 150 deg - No Ice	47.49	13.72	23.76	3097.29	-1788.26	-6.50
1.2 Dead+1.0 Wind 180 deg - No Ice	63.31	0.00	27.43	3640.70	-0.24	-0.53
0.9 Dead+1.0 Wind 180 deg - No Ice	47.49	0.00	27.43	3576.06	-0.18	-0.53
1.2 Dead+1.0 Wind 210 deg - No Ice	63.31	-13.71	23.74	3149.91	1818.18	5.57
0.9 Dead+1.0 Wind 210 deg - No Ice	47.49	-13.71	23.74	3093.97	1785.99	5.59
1.2 Dead+1.0 Wind 240 deg - No Ice	63.31	-23.74	13.71	1816.92	3146.75	0.46
0.9 Dead+1.0 Wind 240 deg - No Ice	47.49	-23.74	13.71	1784.68	3090.95	0.47
1.2 Dead+1.0 Wind 270 deg - No Ice	63.31	-27.42	0.00	-0.15	3633.90	-4.77
0.9 Dead+1.0 Wind 270 deg - No Ice	47.49	-27.42	0.00	-0.09	3569.46	-4.77
1.2 Dead+1.0 Wind 300 deg - No Ice	63.31	-23.76	-13.72	-1818.86	3150.12	0.99
0.9 Dead+1.0 Wind 300 deg - No Ice	47.49	-23.76	-13.72	-1786.55	3094.26	1.00
1.2 Dead+1.0 Wind 330 deg - No Ice	63.31	-13.72	-23.76	-3153.11	1820.39	6.49
0.9 Dead+1.0 Wind 330 deg - No Ice	47.49	-13.72	-23.76	-3097.14	1788.10	6.50
1.2 Dead+1.0 Ice+1.0 Temp	86.33	0.00	-0.00	0.60	-0.46	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	86.33	0.00	-7.00	-929.10	-0.58	0.12
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	86.33	3.50	-6.06	-803.98	-465.10	-1.00
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	86.33	6.07	-3.50	-463.64	-804.61	-0.11
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	86.33	7.01	-0.00	0.56	-929.04	0.82
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	86.33	6.07	3.50	465.13	-805.21	-0.23
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	86.33	3.50	6.07	805.73	-465.42	-1.22
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	86.33	0.00	7.00	930.24	-0.58	-0.12
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	86.33	-3.50	6.06	805.14	463.92	1.00
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	86.33	-6.07	3.50	464.78	803.46	0.11

Load Combination	Vertical	Shear _x	Shear _y	Overturning Moment, M _x	Overturning Moment, M _y	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	86.33	-7.01	-0.00	0.56	927.88	-0.82
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	86.33	-6.07	-3.50	-463.98	804.05	0.23
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	86.33	-3.50	-6.07	-804.58	464.29	1.22
Dead+Wind 0 deg - Service	52.76	0.00	-6.35	-835.41	-0.21	0.13
Dead+Wind 30 deg - Service	52.76	3.18	-5.50	-722.77	-417.51	-1.32
Dead+Wind 60 deg - Service	52.76	5.50	-3.18	-416.91	-722.33	-0.11
Dead+Wind 90 deg - Service	52.76	6.35	-0.01	-0.01	-834.12	1.13
Dead+Wind 120 deg - Service	52.76	5.51	3.18	417.37	-723.11	-0.23
Dead+Wind 150 deg - Service	52.76	3.18	5.51	723.56	-417.95	-1.54
Dead+Wind 180 deg - Service	52.76	0.00	6.35	835.42	-0.21	-0.13
Dead+Wind 210 deg - Service	52.76	-3.18	5.50	722.78	417.08	1.32
Dead+Wind 240 deg - Service	52.76	-5.50	3.18	416.92	721.92	0.11
Dead+Wind 270 deg - Service	52.76	-6.35	-0.01	-0.01	833.70	-1.13
Dead+Wind 300 deg - Service	52.76	-5.51	-3.18	-417.36	722.69	0.23
Dead+Wind 330 deg - Service	52.76	-3.18	-5.51	-723.54	417.54	1.54

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-52.76	0.00	0.00	52.76	0.00	0.000%
2	0.00	-63.31	-27.43	0.00	63.31	27.43	0.000%
3	0.00	-47.49	-27.43	0.00	47.49	27.43	0.000%
4	13.71	-63.31	-23.74	-13.71	63.31	23.74	0.000%
5	13.71	-47.49	-23.74	-13.71	47.49	23.74	0.000%
6	23.74	-63.31	-13.71	-23.74	63.31	13.71	0.000%
7	23.74	-47.49	-13.71	-23.74	47.49	13.71	0.000%
8	27.42	-63.31	0.00	-27.42	63.31	0.00	0.000%
9	27.42	-47.49	0.00	-27.42	47.49	0.00	0.000%
10	23.76	-63.31	13.72	-23.76	63.31	-13.72	0.000%
11	23.76	-47.49	13.72	-23.76	47.49	-13.72	0.000%
12	13.72	-63.31	23.76	-13.72	63.31	-23.76	0.000%
13	13.72	-47.49	23.76	-13.72	47.49	-23.76	0.000%
14	0.00	-63.31	27.43	0.00	63.31	-27.43	0.000%
15	0.00	-47.49	27.43	0.00	47.49	-27.43	0.000%
16	-13.71	-63.31	23.74	13.71	63.31	-23.74	0.000%
17	-13.71	-47.49	23.74	13.71	47.49	-23.74	0.000%
18	-23.74	-63.31	13.71	23.74	63.31	-13.71	0.000%
19	-23.74	-47.49	13.71	23.74	47.49	-13.71	0.000%
20	-27.42	-63.31	0.00	27.42	63.31	0.00	0.000%
21	-27.42	-47.49	0.00	27.42	47.49	0.00	0.000%
22	-23.76	-63.31	-13.72	23.76	63.31	13.72	0.000%
23	-23.76	-47.49	-13.72	23.76	47.49	13.72	0.000%
24	-13.72	-63.31	-23.76	13.72	63.31	23.76	0.000%
25	-13.72	-47.49	-23.76	13.72	47.49	23.76	0.000%
26	0.00	-86.33	0.00	-0.00	86.33	0.00	0.000%
27	0.00	-86.33	-7.00	-0.00	86.33	7.00	0.000%
28	3.50	-86.33	-6.06	-3.50	86.33	6.06	0.000%
29	6.07	-86.33	-3.50	-6.07	86.33	3.50	0.000%
30	7.01	-86.33	0.00	-7.01	86.33	0.00	0.000%
31	6.07	-86.33	3.50	-6.07	86.33	-3.50	0.000%
32	3.50	-86.33	6.07	-3.50	86.33	-6.07	0.000%
33	0.00	-86.33	7.00	-0.00	86.33	-7.00	0.000%
34	-3.50	-86.33	6.06	3.50	86.33	-6.06	0.000%
35	-6.07	-86.33	3.50	6.07	86.33	-3.50	0.000%
36	-7.01	-86.33	0.00	7.01	86.33	0.00	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
37	-6.07	-86.33	-3.50	6.07	86.33	3.50	0.000%
38	-3.50	-86.33	-6.07	3.50	86.33	6.07	0.000%
39	0.00	-52.76	-6.35	0.00	52.76	6.35	0.000%
40	3.18	-52.76	-5.50	-3.18	52.76	5.50	0.000%
41	5.50	-52.76	-3.18	-5.50	52.76	3.18	0.000%
42	6.35	-52.76	0.00	-6.35	52.76	0.01	0.018%
43	5.51	-52.76	3.18	-5.51	52.76	-3.18	0.000%
44	3.18	-52.76	5.51	-3.18	52.76	-5.51	0.000%
45	0.00	-52.76	6.35	0.00	52.76	-6.35	0.000%
46	-3.18	-52.76	5.50	3.18	52.76	-5.50	0.000%
47	-5.50	-52.76	3.18	5.50	52.76	-3.18	0.000%
48	-6.35	-52.76	0.00	6.35	52.76	0.01	0.018%
49	-5.51	-52.76	-3.18	5.51	52.76	3.18	0.000%
50	-3.18	-52.76	-5.51	3.18	52.76	5.51	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	6	0.00000001	0.00015615
3	Yes	5	0.00000001	0.00080324
4	Yes	7	0.00000001	0.00074167
5	Yes	7	0.00000001	0.00017601
6	Yes	7	0.00000001	0.00079303
7	Yes	7	0.00000001	0.00019062
8	Yes	7	0.00000001	0.00009898
9	Yes	6	0.00000001	0.00041636
10	Yes	7	0.00000001	0.00078697
11	Yes	7	0.00000001	0.00018884
12	Yes	7	0.00000001	0.00087373
13	Yes	7	0.00000001	0.00021333
14	Yes	6	0.00000001	0.00015617
15	Yes	5	0.00000001	0.00080325
16	Yes	7	0.00000001	0.00085968
17	Yes	7	0.00000001	0.00020954
18	Yes	7	0.00000001	0.00079097
19	Yes	7	0.00000001	0.00019014
20	Yes	7	0.00000001	0.00009898
21	Yes	6	0.00000001	0.00041636
22	Yes	7	0.00000001	0.00080014
23	Yes	7	0.00000001	0.00019253
24	Yes	7	0.00000001	0.00073555
25	Yes	7	0.00000001	0.00017426
26	Yes	4	0.00000001	0.00008326
27	Yes	7	0.00000001	0.00044112
28	Yes	7	0.00000001	0.00057935
29	Yes	7	0.00000001	0.00058393
30	Yes	7	0.00000001	0.00044386
31	Yes	7	0.00000001	0.00058185
32	Yes	7	0.00000001	0.00059724
33	Yes	7	0.00000001	0.00043966
34	Yes	7	0.00000001	0.00059098
35	Yes	7	0.00000001	0.00057973
36	Yes	7	0.00000001	0.00044192
37	Yes	7	0.00000001	0.00058304
38	Yes	7	0.00000001	0.00057660
39	Yes	5	0.00000001	0.00023869

40	Yes	6	0.00000001	0.00011203
41	Yes	6	0.00000001	0.00012466
42	Yes	5	0.00000001	0.00076906
43	Yes	6	0.00000001	0.00012134
44	Yes	6	0.00000001	0.00016488
45	Yes	5	0.00000001	0.00023793
46	Yes	6	0.00000001	0.00015722
47	Yes	6	0.00000001	0.00012313
48	Yes	5	0.00000001	0.00076785
49	Yes	6	0.00000001	0.00012735
50	Yes	6	0.00000001	0.00011253

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	176 - 171	32.092	39	1.9069	0.0242
L2	171 - 166	30.100	39	1.8962	0.0233
L3	166 - 161	28.127	39	1.8705	0.0221
L4	161 - 156	26.191	39	1.8243	0.0195
L5	156 - 151	24.313	39	1.7597	0.0174
L6	151 - 144.25	22.511	39	1.6801	0.0148
L7	147.75 - 142.75	21.387	39	1.6202	0.0132
L8	142.75 - 137.75	19.713	39	1.5719	0.0120
L9	137.75 - 132.75	18.105	39	1.4972	0.0104
L10	132.75 - 127.75	16.579	39	1.4163	0.0090
L11	127.75 - 127.5	15.140	39	1.3314	0.0078
L12	127.5 - 122.5	15.071	39	1.3271	0.0077
L13	122.5 - 120.75	13.727	39	1.2395	0.0066
L14	120.75 - 120.5	13.278	39	1.2092	0.0063
L15	120.5 - 117.25	13.215	39	1.2048	0.0063
L16	117.25 - 117	12.415	39	1.1469	0.0056
L17	117 - 112	12.355	39	1.1443	0.0056
L18	112 - 107	11.185	39	1.0899	0.0051
L19	107 - 102	10.072	39	1.0358	0.0047
L20	102 - 94.5833	9.016	39	0.9808	0.0042
L21	99.4167 - 94.4167	8.493	39	0.9527	0.0040
L22	94.4167 - 89.4167	7.512	39	0.9195	0.0038
L23	89.4167 - 87.25	6.589	39	0.8438	0.0033
L24	87.25 - 87	6.213	39	0.8114	0.0032
L25	87 - 82	6.171	39	0.8077	0.0031
L26	82 - 77	5.364	39	0.7341	0.0027
L27	77 - 72	4.633	39	0.6621	0.0024
L28	72 - 67	3.977	44	0.5916	0.0020
L29	67 - 62	3.393	44	0.5228	0.0017
L30	62 - 61.5	2.881	44	0.4556	0.0014
L31	61.5 - 61.25	2.834	44	0.4490	0.0014
L32	61.25 - 56.25	2.810	44	0.4469	0.0014
L33	56.25 - 46.9567	2.365	44	0.4037	0.0012
L34	53.04 - 45.9567	2.103	44	0.3765	0.0011
L35	45.9567 - 40.9567	1.567	44	0.3421	0.0010
L36	40.9567 - 35.9567	1.231	44	0.2990	0.0008
L37	35.9567 - 32.25	0.940	44	0.2571	0.0007
L38	32.25 - 32	0.753	44	0.2267	0.0006
L39	32 - 31.75	0.741	44	0.2252	0.0006
L40	31.75 - 26.75	0.729	44	0.2233	0.0006
L41	26.75 - 21.75	0.515	44	0.1865	0.0005
L42	21.75 - 16.75	0.338	44	0.1505	0.0004
L43	16.75 - 11.75	0.199	44	0.1148	0.0003
L44	11.75 - 6.75	0.097	44	0.0800	0.0002

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L45	6.75 - 1.75	0.032	44	0.0453	0.0001
L46	1.75 - 0	0.002	44	0.0115	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
176.00	Lighting Rod 5/8" x 5'	39	32.092	1.9069	0.0242	15422
174.00	800MHZ RRH	39	31.294	1.9036	0.0238	15422
167.00	OPA65R-BU6D w/ Mount Pipe	39	28.519	1.8772	0.0225	9022
155.00	AIR 6419 B41_TMO_CCIV2 w/ Mount Pipe	39	23.946	1.7455	0.0169	3771
145.00	BXA-70063-6CF-EDIN-X w/ Mount Pipe	39	20.459	1.5916	0.0125	4740
50.00	KS24019-L112A	44	1.866	0.3610	0.0011	10125
10.00	OG-860/1920/GPS-A	44	0.070	0.0678	0.0002	8344

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	176 - 171	139.852	2	8.3220	0.1030
L2	171 - 166	131.186	2	8.2752	0.0991
L3	166 - 161	122.603	2	8.1625	0.0940
L4	161 - 156	114.181	2	7.9606	0.0830
L5	156 - 151	106.012	2	7.6786	0.0737
L6	151 - 144.25	98.169	2	7.3307	0.0627
L7	147.75 - 142.75	93.280	2	7.0687	0.0559
L8	142.75 - 137.75	85.990	2	6.8587	0.0509
L9	137.75 - 132.75	78.990	2	6.5347	0.0441
L10	132.75 - 127.75	72.343	2	6.1832	0.0381
L11	127.75 - 127.5	66.071	2	5.8136	0.0329
L12	127.5 - 122.5	65.768	2	5.7948	0.0327
L13	122.5 - 120.75	59.908	2	5.4135	0.0281
L14	120.75 - 120.5	57.951	2	5.2812	0.0267
L15	120.5 - 117.25	57.675	2	5.2619	0.0264
L16	117.25 - 117	54.184	2	5.0096	0.0239
L17	117 - 112	53.922	2	4.9981	0.0238
L18	112 - 107	48.819	2	4.7611	0.0216
L19	107 - 102	43.962	2	4.5249	0.0197
L20	102 - 94.5833	39.354	2	4.2849	0.0179
L21	99.4167 - 94.4167	37.071	2	4.1620	0.0170
L22	94.4167 - 89.4167	32.788	2	4.0170	0.0161
L23	89.4167 - 87.25	28.758	2	3.6861	0.0141
L24	87.25 - 87	27.119	2	3.5445	0.0133
L25	87 - 82	26.934	2	3.5283	0.0132
L26	82 - 77	23.410	2	3.2067	0.0115
L27	77 - 72	20.219	2	2.8918	0.0099
L28	72 - 67	17.353	2	2.5839	0.0085
L29	67 - 62	14.806	2	2.2831	0.0072
L30	62 - 61.5	12.570	2	1.9893	0.0060
L31	61.5 - 61.25	12.364	2	1.9604	0.0059

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L32	61.25 - 56.25	12.261	2	1.9511	0.0059
L33	56.25 - 46.9567	10.318	12	1.7621	0.0051
L34	53.04 - 45.9567	9.173	12	1.6433	0.0047
L35	45.9567 - 40.9567	6.835	12	1.4930	0.0042
L36	40.9567 - 35.9567	5.371	12	1.3049	0.0036
L37	35.9567 - 32.25	4.101	12	1.1216	0.0030
L38	32.25 - 32	3.282	12	0.9888	0.0026
L39	32 - 31.75	3.230	12	0.9823	0.0026
L40	31.75 - 26.75	3.179	12	0.9742	0.0025
L41	26.75 - 21.75	2.243	12	0.8132	0.0021
L42	21.75 - 16.75	1.474	12	0.6564	0.0016
L43	16.75 - 11.75	0.869	12	0.5006	0.0012
L44	11.75 - 6.75	0.424	12	0.3487	0.0008
L45	6.75 - 1.75	0.139	12	0.1975	0.0005
L46	1.75 - 0	0.009	12	0.0502	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
176.00	Lighting Rod 5/8" x 5'	2	139.852	8.3220	0.1030	3692
174.00	800MHZ RRH	2	136.380	8.3075	0.1014	3692
167.00	OPA65R-BU6D w/ Mount Pipe	2	124.309	8.1919	0.0955	2152
155.00	AIR 6419 B41_TMO_CCIV2 w/ Mount Pipe	2	104.414	7.6164	0.0717	893
145.00	BXA-70063-6CF-EDIN-X w/ Mount Pipe	2	89.237	6.9439	0.0529	1120
50.00	KS24019-L112A	12	8.138	1.5758	0.0045	2321
10.00	OG-860/1920/GPS-A	12	0.307	0.2957	0.0007	1914

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L1	176 - 171 (1)	TP17.626x16.5x0.1875	5.00	0.00	0.0	10.3781	-3.02	607.12	0.005
L2	171 - 166 (2)	TP18.752x17.626x0.1875	5.00	0.00	0.0	11.0482	-6.87	646.32	0.011
L3	166 - 161 (3)	TP19.878x18.752x0.1875	5.00	0.00	0.0	11.7183	-7.16	685.52	0.010
L4	161 - 156 (4)	TP21.0039x19.878x0.1875	5.00	0.00	0.0	12.3884	-7.49	724.72	0.010
L5	156 - 151 (5)	TP22.1299x21.0039x0.1875	5.00	0.00	0.0	13.0585	-11.19	763.92	0.015
L6	151 - 144.25 (6)	TP23.65x22.1299x0.1875	6.75	0.00	0.0	13.4940	-11.48	789.40	0.015
L7	144.25 - 142.75 (7)	TP23.6006x22.4868x0.3125	5.00	0.00	0.0	23.0989	-15.90	1351.28	0.012
L8	142.75 - 137.75 (8)	TP24.7144x23.6006x0.3125	5.00	0.00	0.0	24.2036	-16.60	1415.91	0.012
L9	137.75 - 132.75 (9)	TP25.8281x24.7144x0.3125	5.00	0.00	0.0	25.3083	-17.32	1480.54	0.012
L10	132.75 -	TP26.9419x25.8281x0.3125	5.00	0.00	0.0	26.4131	-18.16	1545.16	0.012

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L11	127.75 (10) 127.75 - 127.5 (11)	TP26.9976x26.9419x0.3125	0.25	0.00	0.0	26.4683	-18.22	1548.40	0.012
L12	127.5 - 122.5 (12)	TP28.1114x26.9976x0.3125	5.00	0.00	0.0	27.5730	-19.27	1613.02	0.012
L13	122.5 - 120.75 (13)	TP28.5012x28.1114x0.3125	1.75	0.00	0.0	27.9597	-19.64	1635.64	0.012
L14	120.75 - 120.5 (14)	TP28.5569x28.5012x0.3125	0.25	0.00	0.0	28.0149	-19.71	1638.87	0.012
L15	120.5 - 117.25 (15)	TP29.2809x28.5569x0.3125	3.25	0.00	0.0	28.7330	-20.45	1680.88	0.012
L16	117.25 - 117 (16)	TP29.3366x29.2809x0.5375	0.25	0.00	0.0	49.1319	-20.54	2874.22	0.007
L17	117 - 112 (17)	TP30.4503x29.3366x0.525	5.00	0.00	0.0	49.8661	-22.05	2917.17	0.008
L18	112 - 107 (18)	TP31.5641x30.4503x0.525	5.00	0.00	0.0	51.7220	-23.60	3025.74	0.008
L19	107 - 102 (19)	TP32.6779x31.5641x0.5125	5.00	0.00	0.0	52.3226	-25.16	3060.87	0.008
L20	102 - 94.5833 (20)	TP34.33x32.6779x0.5125	7.42	0.00	0.0	53.2587	-25.98	3115.64	0.008
L21	94.5833 - 94.4167 (21)	TP33.7408x32.6283x0.375	5.00	0.00	0.0	39.7136	-28.34	2323.25	0.012
L22	94.4167 - 89.4167 (22)	TP34.8532x33.7408x0.375	5.00	0.00	0.0	41.0377	-29.40	2400.71	0.012
L23	89.4167 - 87.25 (23)	TP35.3353x34.8532x0.375	2.17	0.00	0.0	41.6115	-30.01	2434.27	0.012
L24	87.25 - 87 (24)	TP35.3909x35.3353x0.375	0.25	0.00	0.0	41.6777	-30.10	2438.14	0.012
L25	87 - 82 (25)	TP36.5033x35.3909x0.375	5.00	0.00	0.0	43.0017	-31.56	2515.60	0.013
L26	82 - 77 (26)	TP37.6158x36.5033x0.375	5.00	0.00	0.0	44.3258	-33.06	2593.06	0.013
L27	77 - 72 (27)	TP38.7282x37.6158x0.375	5.00	0.00	0.0	45.6499	-34.59	2670.52	0.013
L28	72 - 67 (28)	TP39.8406x38.7282x0.375	5.00	0.00	0.0	46.9740	-36.15	2747.98	0.013
L29	67 - 62 (29)	TP40.9531x39.8406x0.375	5.00	0.00	0.0	48.2980	-37.58	2825.44	0.013
L30	62 - 61.5 (30)	TP41.0643x40.9531x0.375	0.50	0.00	0.0	48.4304	-37.71	2833.18	0.013
L31	61.5 - 61.25 (31)	TP41.1199x41.0643x0.5875	0.25	0.00	0.0	75.5818	-37.79	4421.54	0.009
L32	61.25 - 56.25 (32)	TP42.2324x41.1199x0.575	5.00	0.00	0.0	76.0268	-39.49	4447.57	0.009
L33	56.25 - 46.9567 (33)	TP44.3x42.2324x0.575	9.29	0.00	0.0	77.3302	-40.60	4523.82	0.009
L34	46.9567 - 45.9567 (34)	TP43.7729x42.1965x0.575	7.08	0.00	0.0	78.4321	-44.66	4588.28	0.010
L35	45.9567 - 40.9567 (35)	TP44.8856x43.7729x0.5625	5.00	0.00	0.0	77.1467	-45.01	4513.08	0.010
L36	40.9567 - 35.9567 (36)	TP45.9982x44.8856x0.5625	5.00	0.00	0.0	79.1333	-46.78	4629.30	0.010
L37	35.9567 - 32.25 (37)	TP46.8231x45.9982x0.5625	3.71	0.00	0.0	81.1198	-48.59	4745.51	0.010
L38	32.25 - 32 (38)	TP46.8788x46.8231x0.775	0.25	0.00	0.0	113.271	-49.93	6626.38	0.008
L39	32 - 31.75 (39)	TP46.9344x46.8788x0.6125	0.25	0.00	0.0	89.9451	-50.06	5261.79	0.010
L40	31.75 - 26.75 (40)	TP48.0471x46.9344x0.6125	5.00	0.00	0.0	90.0532	-50.16	5268.11	0.010
L41	26.75 - 21.75 (41)	TP49.1598x48.0471x0.6125	5.00	0.00	0.0	92.2164	-52.17	5394.66	0.010
L42	21.75 - 16.75 (42)	TP50.2725x49.1598x0.6	5.00	0.00	0.0	92.4772	-54.21	5409.92	0.010
L43	16.75 - 11.75 (43)	TP51.3852x50.2725x0.6	5.00	0.00	0.0	94.5963	-56.28	5533.88	0.010
L44	11.75 - 6.75 (44)	TP52.4979x51.3852x0.5875	5.00	0.00	0.0	94.7237	-58.37	5541.34	0.011
L45	6.75 - 1.75 (45)	TP53.6106x52.4979x0.5875	5.00	0.00	0.0	96.7986	-60.58	5662.72	0.011
L46	1.75 - 0 (46)	TP54x53.6106x0.5875	1.75	0.00	0.0	98.8734	-62.62	5784.10	0.011

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	176 - 171 (1)	TP17.626x16.5x0.1875	23.11	275.70	0.084	0.00	275.70	0.000
L2	171 - 166 (2)	TP18.752x17.626x0.1875	51.17	309.56	0.165	0.00	309.56	0.000
L3	166 - 161 (3)	TP19.878x18.752x0.1875	99.58	343.14	0.290	0.00	343.14	0.000
L4	161 - 156 (4)	TP21.0039x19.878x0.1875	149.37	377.78	0.395	0.00	377.78	0.000
L5	156 - 151 (5)	TP22.1299x21.0039x0.1875	214.29	413.36	0.518	0.00	413.36	0.000
L6	151 - 144.25 (6)	TP23.65x22.1299x0.1875	259.44	436.94	0.594	0.00	436.94	0.000
L7	144.25 - 142.75 (7)	TP23.6006x22.4868x0.3125	340.87	817.31	0.417	0.00	817.31	0.000
L8	142.75 - 137.75 (8)	TP24.7144x23.6006x0.3125	434.32	897.90	0.484	0.00	897.90	0.000
L9	137.75 - 132.75 (9)	TP25.8281x24.7144x0.3125	529.13	982.28	0.539	0.00	982.28	0.000
L10	132.75 - 127.75 (10)	TP26.9419x25.8281x0.3125	625.50	1070.45	0.584	0.00	1070.45	0.000
L11	127.75 - 127.5 (11)	TP26.9976x26.9419x0.3125	630.36	1074.96	0.586	0.00	1074.96	0.000
L12	127.5 - 122.5 (12)	TP28.1114x26.9976x0.3125	728.25	1167.10	0.624	0.00	1167.10	0.000
L13	122.5 - 120.75 (13)	TP28.5012x28.1114x0.3125	762.87	1200.25	0.636	0.00	1200.25	0.000
L14	120.75 - 120.5 (14)	TP28.5569x28.5012x0.3125	767.83	1205.03	0.637	0.00	1205.03	0.000
L15	120.5 - 117.25 (15)	TP29.2809x28.5569x0.3125	832.65	1267.93	0.657	0.00	1267.93	0.000
L16	117.25 - 117 (16)	TP29.3366x29.2809x0.5375	838.05	2138.77	0.392	0.00	2138.77	0.000
L17	117 - 112 (17)	TP30.4503x29.3366x0.525	939.31	2258.10	0.416	0.00	2258.10	0.000
L18	112 - 107 (18)	TP31.5641x30.4503x0.525	1042.48	2430.82	0.429	0.00	2430.82	0.000
L19	107 - 102 (19)	TP32.6779x31.5641x0.5125	1147.57	2550.73	0.450	0.00	2550.73	0.000
L20	102 - 94.5833 (20)	TP34.33x32.6779x0.5125	1202.60	2643.55	0.455	0.00	2643.55	0.000
L21	94.5833 - 94.4167 (21)	TP33.7408x32.6283x0.375	1310.47	2017.62	0.650	0.00	2017.62	0.000
L22	94.4167 - 89.4167 (22)	TP34.8532x33.7408x0.375	1420.53	2155.18	0.659	0.00	2155.18	0.000
L23	89.4167 - 87.25 (23)	TP35.3353x34.8532x0.375	1468.66	2216.18	0.663	0.00	2216.18	0.000
L24	87.25 - 87 (24)	TP35.3909x35.3353x0.375	1474.22	2223.28	0.663	0.00	2223.28	0.000
L25	87 - 82 (25)	TP36.5033x35.3909x0.375	1586.42	2359.96	0.672	0.00	2359.96	0.000
L26	82 - 77 (26)	TP37.6158x36.5033x0.375	1700.07	2489.58	0.683	0.00	2489.58	0.000
L27	77 - 72 (27)	TP38.7282x37.6158x0.375	1815.12	2621.44	0.692	0.00	2621.44	0.000
L28	72 - 67 (28)	TP39.8406x38.7282x0.375	1931.58	2755.44	0.701	0.00	2755.44	0.000
L29	67 - 62 (29)	TP40.9531x39.8406x0.375	2049.37	2891.47	0.709	0.00	2891.47	0.000
L30	62 - 61.5 (30)	TP41.0643x40.9531x0.375	2061.22	2905.19	0.709	0.00	2905.19	0.000
L31	61.5 - 61.25 (31)	TP41.1199x41.0643x0.5875	2067.41	4649.68	0.445	0.00	4649.68	0.000
L32	61.25 - 56.25 (32)	TP42.2324x41.1199x0.575	2186.86	4810.12	0.455	0.00	4810.12	0.000
L33	56.25 - 46.9567 (33)	TP44.3x42.2324x0.575	2264.19	4977.62	0.455	0.00	4977.62	0.000
L34	46.9567 - 45.9567 (34)	TP43.7729x42.1965x0.575	2414.05	5121.45	0.471	0.00	5121.45	0.000
L35	45.9567 - 40.9567 (35)	TP44.8856x43.7729x0.5625	2438.91	5066.88	0.481	0.00	5066.88	0.000
L36	40.9567 - 35.9567 (36)	TP45.9982x44.8856x0.5625	2563.84	5332.91	0.481	0.00	5332.91	0.000
L37	35.9567 -	TP46.8231x45.9982x0.5625	2690.41	5605.74	0.480	0.00	5605.74	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	32.25 (37)							
L38	32.25 - 32 (38)	TP46.8788x46.8231x0.775	2785.14	7898.34	0.353	0.00	7898.34	0.000
L39	32 - 31.75 (39)	TP46.9344x46.8788x0.6125	2791.57	6323.86	0.441	0.00	6323.86	0.000
L40	31.75 - 26.75 (40)	TP48.0471x46.9344x0.6125	2797.98	6339.17	0.441	0.00	6339.17	0.000
L41	26.75 - 21.75 (41)	TP49.1598x48.0471x0.6125	2927.18	6649.42	0.440	0.00	6649.42	0.000
L42	21.75 - 16.75 (42)	TP50.2725x49.1598x0.6	3057.69	6830.15	0.448	0.00	6830.15	0.000
L43	16.75 - 11.75 (43)	TP51.3852x50.2725x0.6	3189.54	7148.71	0.446	0.00	7148.71	0.000
L44	11.75 - 6.75 (44)	TP52.4979x51.3852x0.5875	3322.74	7324.20	0.454	0.00	7324.20	0.000
L45	6.75 - 1.75 (45)	TP53.6106x52.4979x0.5875	3457.14	7650.46	0.452	0.00	7650.46	0.000
L46	1.75 - 0 (46)	TP54x53.6106x0.5875	3593.20	7983.83	0.450	0.00	7983.83	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	176 - 171 (1)	TP17.626x16.5x0.1875	4.55	182.13	0.025	0.70	278.15	0.003
L2	171 - 166 (2)	TP18.752x17.626x0.1875	9.55	193.90	0.049	3.14	315.23	0.010
L3	166 - 161 (3)	TP19.878x18.752x0.1875	9.82	205.66	0.048	3.13	354.63	0.009
L4	161 - 156 (4)	TP21.0039x19.878x0.1875	10.09	217.42	0.046	2.88	396.35	0.007
L5	156 - 151 (5)	TP22.1299x21.0039x0.1875	13.81	229.18	0.060	4.49	440.39	0.010
L6	151 - 144.25 (6)	TP23.65x22.1299x0.1875	13.97	236.82	0.059	4.48	470.25	0.010
L7	144.25 - 142.75 (7)	TP23.6006x22.4868x0.3125	18.57	405.38	0.046	5.43	826.76	0.007
L8	142.75 - 137.75 (8)	TP24.7144x23.6006x0.3125	18.85	424.77	0.044	5.43	907.73	0.006
L9	137.75 - 132.75 (9)	TP25.8281x24.7144x0.3125	19.15	444.16	0.043	6.35	992.49	0.006
L10	132.75 - 127.75 (10)	TP26.9419x25.8281x0.3125	19.44	463.55	0.042	6.34	1081.03	0.006
L11	127.75 - 127.5 (11)	TP26.9976x26.9419x0.3125	19.45	464.52	0.042	6.34	1085.56	0.006
L12	127.5 - 122.5 (12)	TP28.1114x26.9976x0.3125	19.75	483.91	0.041	6.34	1178.07	0.005
L13	122.5 - 120.75 (13)	TP28.5012x28.1114x0.3125	19.87	490.69	0.040	6.33	1211.33	0.005
L14	120.75 - 120.5 (14)	TP28.5569x28.5012x0.3125	19.87	491.66	0.040	6.33	1216.12	0.005
L15	120.5 - 117.25 (15)	TP29.2809x28.5569x0.3125	20.07	504.26	0.040	6.33	1279.27	0.005
L16	117.25 - 117 (16)	TP29.3366x29.2809x0.5375	20.07	862.26	0.023	0.53	2174.70	0.000
L17	117 - 112 (17)	TP30.4503x29.3366x0.525	20.46	875.15	0.023	0.53	2293.52	0.000
L18	112 - 107 (18)	TP31.5641x30.4503x0.525	20.85	907.72	0.023	0.53	2467.42	0.000
L19	107 - 102 (19)	TP32.6779x31.5641x0.5125	21.23	918.26	0.023	0.53	2586.64	0.000
L20	102 - 94.5833 (20)	TP34.33x32.6779x0.5125	21.43	934.69	0.023	0.53	2680.02	0.000
L21	94.5833 - 94.4167 (21)	TP33.7408x32.6283x0.375	21.91	696.97	0.031	6.31	2036.57	0.003
L22	94.4167 - 89.4167 (22)	TP34.8532x33.7408x0.375	22.18	720.21	0.031	6.31	2174.62	0.003
L23	89.4167 -	TP35.3353x34.8532x0.375	22.31	730.28	0.031	6.31	2235.86	0.003

Section No.	Elevation ft	Size	Actual	ϕV_n	Ratio	Actual	ϕT_n	Ratio
			V_u K	K	V_u ϕV_n	T_u kip-ft	T_u ϕT_n	
L24	87.25 (23)	TP35.3909x35.3353x0.375	22.32	731.44	0.031	6.31	2242.98	0.003
L25	87 - 82 (25)	TP36.5033x35.3909x0.375	22.61	754.68	0.030	6.30	2387.76	0.003
L26	82 - 77 (26)	TP37.6158x36.5033x0.375	22.90	777.92	0.029	6.30	2537.07	0.002
L27	77 - 72 (27)	TP38.7282x37.6158x0.375	23.18	801.15	0.029	6.30	2690.91	0.002
L28	72 - 67 (28)	TP39.8406x38.7282x0.375	23.46	824.39	0.028	6.29	2849.27	0.002
L29	67 - 62 (29)	TP40.9531x39.8406x0.375	23.72	847.63	0.028	6.29	3012.16	0.002
L30	62 - 61.5 (30)	TP41.0643x40.9531x0.375	23.74	849.95	0.028	6.29	3028.70	0.002
L31	61.5 - 61.25 (31)	TP41.1199x41.0643x0.5875	23.75	1326.46	0.018	0.53	4708.44	0.000
L32	61.25 - 56.25 (32)	TP42.2324x41.1199x0.575	24.08	1334.27	0.018	0.53	4867.61	0.000
L33	56.25 - 46.9567 (33)	TP44.3x42.2324x0.575	24.29	1357.14	0.018	6.29	5035.94	0.001
L34	46.9567 - 45.9567 (34)	TP43.7729x42.1965x0.575	24.92	1383.61	0.018	0.53	5180.48	0.000
L35	45.9567 - 40.9567 (35)	TP44.8856x43.7729x0.5625	24.97	1360.90	0.018	0.53	5123.45	0.000
L36	40.9567 - 35.9567 (36)	TP45.9982x44.8856x0.5625	25.26	1395.76	0.018	6.38	5390.71	0.001
L37	35.9567 - 32.25 (37)	TP46.8231x45.9982x0.5625	25.55	1432.27	0.018	6.38	5664.77	0.001
L38	32.25 - 32 (38)	TP46.8788x46.8231x0.775	25.68	1990.32	0.013	6.38	8016.59	0.001
L39	32 - 31.75 (39)	TP46.9344x46.8788x0.6125	25.69	1580.43	0.016	6.38	6395.86	0.001
L40	31.75 - 26.75 (40)	TP48.0471x46.9344x0.6125	25.76	1588.03	0.016	6.38	6411.25	0.001
L41	26.75 - 21.75 (41)	TP49.1598x48.0471x0.6125	26.02	1625.99	0.016	6.38	6722.96	0.001
L42	21.75 - 16.75 (42)	TP50.2725x49.1598x0.6	26.29	1630.41	0.016	6.38	6901.90	0.001
L43	16.75 - 11.75 (43)	TP51.3852x50.2725x0.6	26.56	1667.60	0.016	6.38	7221.83	0.001
L44	11.75 - 6.75 (44)	TP52.4979x51.3852x0.5875	26.83	1669.68	0.016	6.38	7395.37	0.001
L45	6.75 - 1.75 (45)	TP53.6106x52.4979x0.5875	27.14	1706.10	0.016	6.49	7722.89	0.001
L46	1.75 - 0 (46)	TP54x53.6106x0.5875	27.47	1747.97	0.016	6.49	8057.53	0.001

Pole Interaction Design Data

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u ϕP_n	M_{ux} ϕM_{nx}	M_{uy} ϕM_{ny}	V_u ϕV_n	T_u ϕT_n			
L1	176 - 171 (1)	0.005	0.084	0.000	0.025	0.003	0.090	1.050	
L2	171 - 166 (2)	0.011	0.165	0.000	0.049	0.010	0.179	1.050	
L3	166 - 161 (3)	0.010	0.290	0.000	0.048	0.009	0.304	1.050	
L4	161 - 156 (4)	0.010	0.395	0.000	0.046	0.007	0.409	1.050	
L5	156 - 151 (5)	0.015	0.518	0.000	0.060	0.010	0.538	1.050	
L6	151 - 144.25 (6)	0.015	0.594	0.000	0.059	0.010	0.613	1.050	
L7	144.25 - 142.75 (7)	0.012	0.417	0.000	0.046	0.007	0.432	1.050	
L8	142.75 - 137.75 (8)	0.012	0.484	0.000	0.044	0.006	0.498	1.050	
L9	137.75 - 132.75 (9)	0.012	0.539	0.000	0.043	0.006	0.553	1.050	
L10	132.75 - 127.75 (10)	0.012	0.584	0.000	0.042	0.006	0.598	1.050	

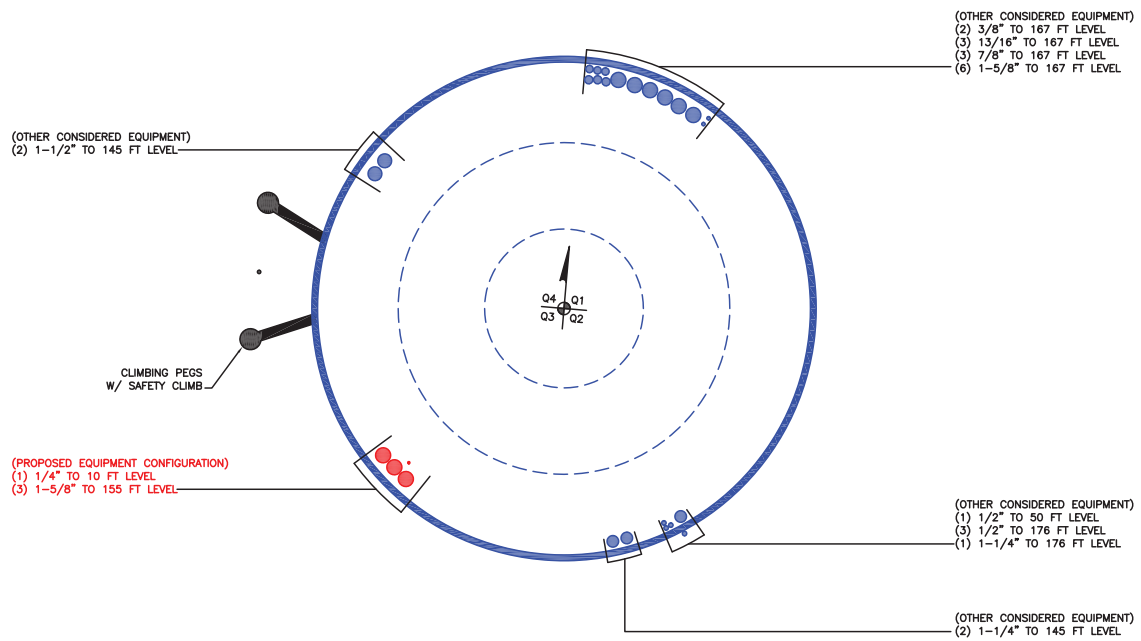
Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L11	127.75 - 127.5 (11)	0.012	0.586	0.000	0.042	0.006	0.600	1.050	
L12	127.5 - 122.5 (12)	0.012	0.624	0.000	0.041	0.005	0.638	1.050	
L13	122.5 - 120.75 (13)	0.012	0.636	0.000	0.040	0.005	0.650	1.050	
L14	120.75 - 120.5 (14)	0.012	0.637	0.000	0.040	0.005	0.651	1.050	
L15	120.5 - 117.25 (15)	0.012	0.657	0.000	0.040	0.005	0.671	1.050	
L16	117.25 - 117 (16)	0.007	0.392	0.000	0.023	0.000	0.400	1.050	
L17	117 - 112 (17)	0.008	0.416	0.000	0.023	0.000	0.424	1.050	
L18	112 - 107 (18)	0.008	0.429	0.000	0.023	0.000	0.437	1.050	
L19	107 - 102 (19)	0.008	0.450	0.000	0.023	0.000	0.459	1.050	
L20	102 - 94.5833 (20)	0.008	0.455	0.000	0.023	0.000	0.464	1.050	
L21	94.5833 - 94.4167 (21)	0.012	0.650	0.000	0.031	0.003	0.663	1.050	
L22	94.4167 - 89.4167 (22)	0.012	0.659	0.000	0.031	0.003	0.673	1.050	
L23	89.4167 - 87.25 (23)	0.012	0.663	0.000	0.031	0.003	0.676	1.050	
L24	87.25 - 87 (24)	0.012	0.663	0.000	0.031	0.003	0.677	1.050	
L25	87 - 82 (25)	0.013	0.672	0.000	0.030	0.003	0.686	1.050	
L26	82 - 77 (26)	0.013	0.683	0.000	0.029	0.002	0.697	1.050	
L27	77 - 72 (27)	0.013	0.692	0.000	0.029	0.002	0.706	1.050	
L28	72 - 67 (28)	0.013	0.701	0.000	0.028	0.002	0.715	1.050	
L29	67 - 62 (29)	0.013	0.709	0.000	0.028	0.002	0.723	1.050	
L30	62 - 61.5 (30)	0.013	0.709	0.000	0.028	0.002	0.724	1.050	
L31	61.5 - 61.25 (31)	0.009	0.445	0.000	0.018	0.000	0.454	1.050	
L32	61.25 - 56.25 (32)	0.009	0.455	0.000	0.018	0.000	0.464	1.050	
L33	56.25 - 46.9567 (33)	0.009	0.455	0.000	0.018	0.001	0.464	1.050	
L34	46.9567 - 45.9567 (34)	0.010	0.471	0.000	0.018	0.000	0.481	1.050	
L35	45.9567 - 40.9567 (35)	0.010	0.481	0.000	0.018	0.000	0.492	1.050	
L36	40.9567 - 35.9567 (36)	0.010	0.481	0.000	0.018	0.001	0.491	1.050	
L37	35.9567 - 32.25 (37)	0.010	0.480	0.000	0.018	0.001	0.491	1.050	
L38	32.25 - 32 (38)	0.008	0.353	0.000	0.013	0.001	0.360	1.050	
L39	32 - 31.75 (39)	0.010	0.441	0.000	0.016	0.001	0.451	1.050	
L40	31.75 - 26.75 (40)	0.010	0.441	0.000	0.016	0.001	0.451	1.050	
L41	26.75 - 21.75 (41)	0.010	0.440	0.000	0.016	0.001	0.450	1.050	
L42	21.75 - 16.75 (42)	0.010	0.448	0.000	0.016	0.001	0.458	1.050	
L43	16.75 - 11.75 (43)	0.010	0.446	0.000	0.016	0.001	0.457	1.050	
L44	11.75 - 6.75 (44)	0.011	0.454	0.000	0.016	0.001	0.464	1.050	
L45	6.75 - 1.75 (45)	0.011	0.452	0.000	0.016	0.001	0.463	1.050	
L46	1.75 - 0 (46)	0.011	0.450	0.000	0.016	0.001	0.461	1.050	

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L1	176 - 171	Pole	TP17.626x16.5x0.1875	1	-3.02	637.47	8.5	Pass	
L2	171 - 166	Pole	TP18.752x17.626x0.1875	2	-6.87	678.63	17.1	Pass	
L3	166 - 161	Pole	TP19.878x18.752x0.1875	3	-7.16	719.79	28.9	Pass	
L4	161 - 156	Pole	TP21.0039x19.878x0.1875	4	-7.49	760.96	38.9	Pass	
L5	156 - 151	Pole	TP22.1299x21.0039x0.1875	5	-11.19	802.12	51.2	Pass	
L6	151 - 144.25	Pole	TP23.65x22.1299x0.1875	6	-11.48	828.87	58.4	Pass	
L7	144.25 - 142.75	Pole	TP23.6006x22.4868x0.3125	7	-15.90	1418.84	41.1	Pass	
L8	142.75 - 137.75	Pole	TP24.7144x23.6006x0.3125	8	-16.60	1486.71	47.4	Pass	
L9	137.75 - 132.75	Pole	TP25.8281x24.7144x0.3125	9	-17.32	1554.57	52.7	Pass	
L10	132.75 - 127.75	Pole	TP26.9419x25.8281x0.3125	10	-18.16	1622.42	57.0	Pass	
L11	127.75 - 127.5	Pole	TP26.9976x26.9419x0.3125	11	-18.22	1625.82	57.2	Pass	
L12	127.5 - 122.5	Pole	TP28.1114x26.9976x0.3125	12	-19.27	1693.67	60.8	Pass	
L13	122.5 - 120.75	Pole	TP28.5012x28.1114x0.3125	13	-19.64	1717.42	61.9	Pass	
L14	120.75 - 120.5	Pole	TP28.5569x28.5012x0.3125	14	-19.71	1720.81	62.0	Pass	
L15	120.5 - 117.25	Pole	TP29.2809x28.5569x0.3125	15	-20.45	1764.92	63.9	Pass	
L16	117.25 - 117	Pole	TP29.3366x29.2809x0.5375	16	-20.54	3017.93	38.1	Pass	
L17	117 - 112	Pole	TP30.4503x29.3366x0.525	17	-22.05	3063.03	40.4	Pass	
L18	112 - 107	Pole	TP31.5641x30.4503x0.525	18	-23.60	3177.03	41.6	Pass	
L19	107 - 102	Pole	TP32.6779x31.5641x0.5125	19	-25.16	3213.91	43.7	Pass	
L20	102 - 94.5833	Pole	TP34.33x32.6779x0.5125	20	-25.98	3271.42	44.2	Pass	
L21	94.5833 - 94.4167	Pole	TP33.7408x32.6283x0.375	21	-28.34	2439.41	63.1	Pass	
L22	94.4167 - 89.4167	Pole	TP34.8532x33.7408x0.375	22	-29.40	2520.75	64.0	Pass	
L23	89.4167 - 87.25	Pole	TP35.3353x34.8532x0.375	23	-30.01	2555.98	64.4	Pass	
L24	87.25 - 87	Pole	TP35.3909x35.3353x0.375	24	-30.10	2560.05	64.4	Pass	
L25	87 - 82	Pole	TP36.5033x35.3909x0.375	25	-31.56	2641.38	65.3	Pass	
L26	82 - 77	Pole	TP37.6158x36.5033x0.375	26	-33.06	2722.71	66.3	Pass	
L27	77 - 72	Pole	TP38.7282x37.6158x0.375	27	-34.59	2804.05	67.3	Pass	
L28	72 - 67	Pole	TP39.8406x38.7282x0.375	28	-36.15	2885.38	68.1	Pass	
L29	67 - 62	Pole	TP40.9531x39.8406x0.375	29	-37.58	2966.71	68.9	Pass	
L30	62 - 61.5	Pole	TP41.0643x40.9531x0.375	30	-37.71	2974.84	68.9	Pass	
L31	61.5 - 61.25	Pole	TP41.1199x41.0643x0.5875	31	-37.79	4642.62	43.2	Pass	
L32	61.25 - 56.25	Pole	TP42.2324x41.1199x0.575	32	-39.49	4669.95	44.2	Pass	
L33	56.25 - 46.9567	Pole	TP44.3x42.2324x0.575	33	-40.60	4750.01	44.2	Pass	
L34	46.9567 - 45.9567	Pole	TP43.7729x42.1965x0.575	34	-44.66	4817.69	45.8	Pass	
L35	45.9567 - 40.9567	Pole	TP44.8856x43.7729x0.5625	35	-45.01	4738.73	46.8	Pass	
L36	40.9567 - 35.9567	Pole	TP45.9982x44.8856x0.5625	36	-46.78	4860.77	46.8	Pass	
L37	35.9567 - 32.25	Pole	TP46.8231x45.9982x0.5625	37	-48.59	4982.79	46.7	Pass	
L38	32.25 - 32	Pole	TP46.8788x46.8231x0.775	38	-49.93	6957.70	34.3	Pass	
L39	32 - 31.75	Pole	TP46.9344x46.8788x0.6125	39	-50.06	5524.88	43.0	Pass	
L40	31.75 - 26.75	Pole	TP48.0471x46.9344x0.6125	40	-50.16	5531.52	43.0	Pass	
L41	26.75 - 21.75	Pole	TP49.1598x48.0471x0.6125	41	-52.17	5664.39	42.9	Pass	
L42	21.75 - 16.75	Pole	TP50.2725x49.1598x0.6	42	-54.21	5680.42	43.6	Pass	
L43	16.75 - 11.75	Pole	TP51.3852x50.2725x0.6	43	-56.28	5810.57	43.5	Pass	
L44	11.75 - 6.75	Pole	TP52.4979x51.3852x0.5875	44	-58.37	5818.41	44.2	Pass	
L45	6.75 - 1.75	Pole	TP53.6106x52.4979x0.5875	45	-60.58	5945.86	44.1	Pass	
L46	1.75 - 0	Pole	TP54x53.6106x0.5875	46	-62.62	6073.30	43.9	Pass	
							Summary		
							Pole (L30)	68.9	Pass
							RATING =	68.9	Pass

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

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

Site BU: 876381
Work Order: 2281092



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Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	176	31.75	3.5	18	16.5	23.65	0.1875	Auto	A572-65
2	147.75	53.16667	4.83333	18	22.49	34.33	0.3125	Auto	A572-65
3	99.41666	52.46	6.08334	18	32.63	44.3	0.375	Auto	A572-65
4	53.04	53.04	0	18	42.20	54	0.375	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	32.25	plate	CCI-WSFP-065125	4		M1				M1					M1					M1		
2	32	61.5	plate	CCI-SFP-065125	3	M1						M1										M1	
3	61.5	87.25	plate	CCI-SFP-060100	3	M1																	M1
4	87.25	117.25	plate	CCI-SFP-060100	3	M1																	M1
5	120.75	127.75	plate	CCI-SFP-045100	3	M2																	M2
6																							
7																							
8																							
9																							
10																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in ²)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in ²)	Bolt Hole Size (in)	Reinforcement Material
1	6.5	1.25	8.125	0.625	Welded	n/a	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
2	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	33	PC 8.8 - M20 (100)	33.000	19.000	6.563	1.1875	A572-65
3	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
4	6	1	6	0.5	PC 8.8 - M20 (100)	24	PC 8.8 - M20 (100)	24.000	16.000	4.750	1.1875	A572-65
5	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5 [Export to TNX](#)

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	176 - 171	5		18	16.500	17.626	0.1875	A572-65	1.000
2	171 - 166	5		18	17.626	18.752	0.1875	A572-65	1.000
3	166 - 161	5		18	18.752	19.878	0.1875	A572-65	1.000
4	161 - 156	5		18	19.878	21.004	0.1875	A572-65	1.000
5	156 - 151	5		18	21.004	22.130	0.1875	A572-65	1.000
6	151 - 147.75	6.75	3.5	18	22.130	23.650	0.1875	A572-65	1.000
7	147.75 - 142.75	5		18	22.487	23.601	0.3125	A572-65	1.000
8	142.75 - 137.75	5		18	23.601	24.714	0.3125	A572-65	1.000
9	137.75 - 132.75	5		18	24.714	25.828	0.3125	A572-65	1.000
10	132.75 - 127.75	5		18	25.828	26.942	0.3125	A572-65	1.000
11	127.75 - 127.5	0.25		18	26.942	26.998	0.3125	A572-65	1.000
12	127.5 - 122.5	5		18	26.998	28.111	0.3125	A572-65	1.000
13	122.5 - 120.75	1.75		18	28.111	28.501	0.3125	A572-65	1.000
14	120.75 - 120.5	0.25		18	28.501	28.557	0.3125	A572-65	1.000
15	120.5 - 117.25	3.25		18	28.557	29.281	0.3125	A572-65	1.000
16	117.25 - 117	0.25		18	29.281	29.337	0.5375	A572-65	0.952
17	117 - 112	5		18	29.337	30.450	0.525	A572-65	0.960
18	112 - 107	5		18	30.450	31.564	0.525	A572-65	0.947
19	107 - 102	5		18	31.564	32.678	0.5125	A572-65	0.958
20	102 - 99.41666	7.41667	4.83333	18	32.678	34.330	0.5125	A572-65	0.951
21	99.41666 - 94.41666	5		18	32.628	33.741	0.375	A572-65	1.000
22	94.41666 - 89.41666	5		18	33.741	34.853	0.375	A572-65	1.000
23	89.41666 - 87.25	2.16666		18	34.853	35.335	0.375	A572-65	1.000
24	87.25 - 87	0.25		18	35.335	35.391	0.375	A572-65	1.000
25	87 - 82	5		18	35.391	36.503	0.375	A572-65	1.000
26	82 - 77	5		18	36.503	37.616	0.375	A572-65	1.000
27	77 - 72	5		18	37.616	38.728	0.375	A572-65	1.000
28	72 - 67	5		18	38.728	39.841	0.375	A572-65	1.000
29	67 - 62	5		18	39.841	40.953	0.375	A572-65	1.000
30	62 - 61.5	0.5		18	40.953	41.064	0.375	A572-65	1.000
31	61.5 - 61.25	0.25		18	41.064	41.120	0.5875	A572-65	0.964
32	61.25 - 56.25	5		18	41.120	42.232	0.575	A572-65	0.976
33	56.25 - 53.04	9.29334	6.08334	18	42.232	44.300	0.575	A572-65	0.970
34	53.04 - 45.95666	7.08334		18	42.197	43.773	0.575	A572-65	0.964
35	45.95666 - 40.95666	5		18	43.773	44.886	0.5625	A572-65	0.978
36	40.95666 - 35.95666	5		18	44.886	45.998	0.5625	A572-65	0.970
37	35.95666 - 32.25	3.70666		18	45.998	46.823	0.5625	A572-65	0.965
38	32.25 - 32	0.25		18	46.823	46.879	0.775	A572-65	0.990
39	32 - 31.75	0.25		18	46.879	46.934	0.6125	A572-65	0.976
40	31.75 - 26.75	5		18	46.934	48.047	0.6125	A572-65	0.968
41	26.75 - 21.75	5		18	48.047	49.160	0.6125	A572-65	0.960
42	21.75 - 16.75	5		18	49.160	50.272	0.6	A572-65	0.971
43	16.75 - 11.75	5		18	50.272	51.385	0.6	A572-65	0.964
44	11.75 - 6.75	5		18	51.385	52.498	0.5875	A572-65	0.977
45	6.75 - 1.75	5		18	52.498	53.611	0.5875	A572-65	0.970
46	1.75 - 0	1.75		18	53.611	54.000	0.5875	A572-65	0.967

TNX Section Forces

Increment (ft):		TNX Output		
	5	P _u	M _{ux} (kip-ft)	V _u
	Section Height (ft)	(K)		(K)
1	176 - 171	3.02	23.12	4.55
2	171 - 166	6.87	51.19	9.56
3	166 - 161	7.16	99.63	9.82
4	161 - 156	7.49	149.40	10.09
5	156 - 151	11.19	214.36	13.81
6	151 - 147.75	11.47	259.51	13.98
7	147.75 - 142.75	15.90	341.01	18.60
8	142.75 - 137.75	16.59	434.59	18.87
9	137.75 - 132.75	17.32	529.55	19.15
10	132.75 - 127.75	18.16	625.91	19.44
11	127.75 - 127.5	18.22	630.76	19.44
12	127.5 - 122.5	19.27	728.65	19.75
13	122.5 - 120.75	19.64	763.26	19.86
14	120.75 - 120.5	19.71	768.22	19.86
15	120.5 - 117.25	20.45	833.04	20.07
16	117.25 - 117	20.54	838.05	20.07
17	117 - 112	22.05	939.31	20.47
18	112 - 107	23.60	1042.49	20.85
19	107 - 102	25.17	1147.57	21.23
20	102 - 99.4167	25.98	1202.60	21.43
21	99.4167 - 94.4167	28.34	1310.80	21.89
22	94.4167 - 89.4167	29.40	1420.85	22.18
23	89.4167 - 87.25	30.01	1468.98	22.31
24	87.25 - 87	30.10	1474.55	22.31
25	87 - 82	31.56	1586.73	22.61
26	82 - 77	33.06	1700.36	22.90
27	77 - 72	34.59	1815.41	23.18
28	72 - 67	36.15	1931.85	23.46
29	67 - 62	37.58	2049.63	23.72
30	62 - 61.5	37.71	2061.48	23.74
31	61.5 - 61.25	37.79	2067.41	23.75
32	61.25 - 56.25	39.49	2186.86	24.08
33	56.25 - 53.04	40.60	2264.40	24.29
34	53.04 - 45.9567	44.99	2438.91	24.92
35	45.9567 - 40.9567	46.77	2564.03	25.20
36	40.9567 - 35.9567	48.57	2690.55	25.47
37	35.9567 - 32.25	49.92	2785.21	25.67
38	32.25 - 32	50.06	2791.62	25.67
39	32 - 31.75	50.16	2798.04	25.69
40	31.75 - 26.75	52.16	2927.17	25.97
41	26.75 - 21.75	54.20	3057.69	26.24
42	21.75 - 16.75	56.26	3189.54	26.50
43	16.75 - 11.75	58.36	3322.74	26.77
44	11.75 - 6.75	60.57	3457.14	27.09
45	6.75 - 1.75	62.60	3593.20	27.36
46	1.75 - 0	63.30	3641.14	27.47

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
176 - 171	Pole	TP17.626x16.5x0.1875	Pole	8.5%	Pass
171 - 166	Pole	TP18.752x17.626x0.1875	Pole	17.0%	Pass
166 - 161	Pole	TP19.878x18.752x0.1875	Pole	28.9%	Pass
161 - 156	Pole	TP21.004x19.878x0.1875	Pole	38.9%	Pass
156 - 151	Pole	TP22.13x21.004x0.1875	Pole	51.1%	Pass
151 - 147.75	Pole	TP23.65x22.13x0.1875	Pole	58.3%	Pass
147.75 - 142.75	Pole	TP23.601x22.487x0.3125	Pole	41.0%	Pass
142.75 - 137.75	Pole	TP24.714x23.601x0.3125	Pole	47.4%	Pass
137.75 - 132.75	Pole	TP25.828x24.714x0.3125	Pole	52.6%	Pass
132.75 - 127.75	Pole	TP26.942x25.828x0.3125	Pole	56.9%	Pass
127.75 - 127.5	Pole	TP26.998x26.942x0.3125	Pole	57.1%	Pass
127.5 - 122.5	Pole	TP28.111x26.998x0.3125	Pole	60.7%	Pass
122.5 - 120.75	Pole	TP28.501x28.111x0.3125	Pole	61.8%	Pass
120.75 - 120.5	Pole	TP28.557x28.501x0.3125	Pole	62.0%	Pass
120.5 - 117.25	Pole	TP29.281x28.557x0.3125	Pole	63.8%	Pass
117.25 - 117	Pole + Reinf.	TP29.337x29.281x0.5375	Reinf. 4 Tension Rupture	60.1%	Pass
117 - 112	Pole + Reinf.	TP30.45x29.337x0.525	Reinf. 4 Tension Rupture	63.4%	Pass
112 - 107	Pole + Reinf.	TP31.564x30.45x0.525	Reinf. 4 Tension Rupture	66.3%	Pass
107 - 102	Pole + Reinf.	TP32.678x31.564x0.5125	Reinf. 4 Tension Rupture	69.0%	Pass
102 - 99.42	Pole + Reinf.	TP34.33x32.678x0.5125	Reinf. 4 Tension Rupture	70.3%	Pass
99.42 - 94.42	Pole	TP33.741x32.628x0.375	Pole	63.1%	Pass
94.42 - 89.42	Pole	TP34.853x33.741x0.375	Pole	64.0%	Pass
89.42 - 87.25	Pole	TP35.335x34.853x0.375	Pole	64.4%	Pass
87.25 - 87	Pole	TP35.391x35.335x0.375	Pole	64.4%	Pass
87 - 82	Pole	TP36.503x35.391x0.375	Pole	65.3%	Pass
82 - 77	Pole	TP37.616x36.503x0.375	Pole	66.3%	Pass
77 - 72	Pole	TP38.728x37.616x0.375	Pole	67.3%	Pass
72 - 67	Pole	TP39.841x38.728x0.375	Pole	68.1%	Pass
67 - 62	Pole	TP40.953x39.841x0.375	Pole	68.9%	Pass
62 - 61.5	Pole	TP41.064x40.953x0.375	Pole	68.9%	Pass
61.5 - 61.25	Pole + Reinf.	TP41.12x41.064x0.5875	Reinf. 2 Tension Rupture	66.8%	Pass
61.25 - 56.25	Pole + Reinf.	TP42.232x41.12x0.575	Reinf. 2 Tension Rupture	67.6%	Pass
56.25 - 53.04	Pole + Reinf.	TP44.3x42.232x0.575	Reinf. 2 Tension Rupture	68.0%	Pass
53.04 - 45.96	Pole + Reinf.	TP43.773x42.197x0.575	Reinf. 2 Tension Rupture	71.0%	Pass
45.96 - 40.96	Pole + Reinf.	TP44.886x43.773x0.5625	Reinf. 2 Tension Rupture	71.6%	Pass
40.96 - 35.96	Pole + Reinf.	TP45.998x44.886x0.5625	Reinf. 2 Tension Rupture	72.0%	Pass
35.96 - 32.25	Pole + Reinf.	TP46.823x45.998x0.5625	Reinf. 2 Tension Rupture	72.4%	Pass
32.25 - 32	Pole + Reinf.	TP46.879x46.823x0.775	Reinf. 2 Tension Rupture	52.3%	Pass
32 - 31.75	Pole + Reinf.	TP46.934x46.879x0.6125	Reinf. 1 Tension Rupture	65.2%	Pass
31.75 - 26.75	Pole + Reinf.	TP48.047x46.934x0.6125	Reinf. 1 Tension Rupture	65.7%	Pass
26.75 - 21.75	Pole + Reinf.	TP49.16x48.047x0.6125	Reinf. 1 Tension Rupture	66.1%	Pass
21.75 - 16.75	Pole + Reinf.	TP50.272x49.16x0.6	Reinf. 1 Tension Rupture	66.5%	Pass
16.75 - 11.75	Pole + Reinf.	TP51.385x50.272x0.6	Reinf. 1 Tension Rupture	66.8%	Pass
11.75 - 6.75	Pole + Reinf.	TP52.498x51.385x0.5875	Reinf. 1 Tension Rupture	67.1%	Pass
6.75 - 1.75	Pole + Reinf.	TP53.611x52.498x0.5875	Reinf. 1 Tension Rupture	67.4%	Pass
1.75 - 0	Pole + Reinf.	TP54x53.611x0.5875	Reinf. 1 Tension Rupture	67.4%	Pass
				Summary	
			Pole	68.9%	Pass
			Reinforcement	72.4%	Pass
			Overall	72.4%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in ⁴)			Area (in ²)			% Capacity*					
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5
176 - 171	399	n/a	399	10.38	n/a	10.38	8.5%					
171 - 166	481	n/a	481	11.05	n/a	11.05	17.0%					
166 - 161	574	n/a	574	11.72	n/a	11.72	28.9%					
161 - 156	678	n/a	678	12.39	n/a	12.39	38.9%					
156 - 151	794	n/a	794	13.06	n/a	13.06	51.1%					
151 - 147.75	876	n/a	876	13.49	n/a	13.49	58.3%					
147.75 - 142.75	1582	n/a	1582	23.10	n/a	23.10	41.0%					
142.75 - 137.75	1820	n/a	1820	24.20	n/a	24.20	47.4%					
137.75 - 132.75	2081	n/a	2081	25.31	n/a	25.31	52.6%					
132.75 - 127.75	2366	n/a	2366	26.41	n/a	26.41	56.9%					
127.75 - 127.5	2380	n/a	2380	26.47	n/a	26.47	57.1%					
127.5 - 122.5	2691	n/a	2691	27.57	n/a	27.57	60.7%					
122.5 - 120.75	2806	n/a	2806	27.96	n/a	27.96	61.8%					
120.75 - 120.5	2823	n/a	2823	28.01	n/a	28.01	62.0%					
120.5 - 117.25	3045	n/a	3045	28.73	n/a	28.73	63.8%					
117.25 - 117	3063	2098	5161	28.79	18.00	46.79	37.4%				60.1%	
117 - 112	3429	2253	5682	29.89	18.00	47.89	39.7%				63.4%	
112 - 107	3823	2414	6237	31.00	18.00	49.00	42.0%				66.3%	
107 - 102	4247	2580	6827	32.10	18.00	50.10	44.1%				69.0%	
102 - 99.42	4478	2668	7145	32.67	18.00	50.67	45.1%				70.3%	
99.42 - 94.42	5584	n/a	5584	39.71	n/a	39.71	63.1%					
94.42 - 89.42	6161	n/a	6161	41.04	n/a	41.04	64.0%					
89.42 - 87.25	6423	n/a	6423	41.61	n/a	41.61	64.4%					
87.25 - 87	6454	n/a	6454	41.68	n/a	41.68	64.4%					
87 - 82	7089	n/a	7089	43.00	n/a	43.00	65.3%					
82 - 77	7764	n/a	7764	44.32	n/a	44.32	66.3%					
77 - 72	8481	n/a	8481	45.65	n/a	45.65	67.3%					
72 - 67	9240	n/a	9240	46.97	n/a	46.97	68.1%					
67 - 62	10044	n/a	10044	48.30	n/a	48.30	68.9%					
62 - 61.5	10127	n/a	10127	48.43	n/a	48.43	68.9%					
61.5 - 61.25	10168	5514	15682	48.49	24.38	72.87	44.1%		66.8%			
61.25 - 56.25	11024	5805	16829	49.82	24.38	74.19	45.0%		67.6%			
56.25 - 53.04	11598	5996	17594	50.67	24.38	75.04	45.5%		68.0%			
53.04 - 45.96	12286	6221	18507	51.65	24.38	76.03	47.9%		71.0%			
45.96 - 40.96	13256	6530	19786	52.98	24.38	77.35	48.6%		71.6%			
40.96 - 35.96	14275	6846	21121	54.30	24.38	78.68	49.4%		72.0%			
35.96 - 32.25	15063	7086	22149	55.28	24.38	79.66	49.9%		72.4%			
32.25 - 32	15118	15528	30645	55.35	56.88	112.22	36.6%	50.6%	52.3%			
32 - 31.75	15172	9209	24381	55.42	32.50	87.92	46.4%	65.2%				
31.75 - 26.75	16286	9932	26218	56.74	32.50	89.24	46.4%	65.7%				
26.75 - 21.75	17453	10383	27836	58.06	32.50	90.56	47.1%	66.1%				
21.75 - 16.75	18675	10844	29518	59.39	32.50	91.89	47.8%	66.5%				
16.75 - 11.75	19952	11314	31266	60.71	32.50	93.21	48.5%	66.8%				
11.75 - 6.75	21286	11795	33082	62.04	32.50	94.54	49.1%	67.1%				
6.75 - 1.75	22679	12286	34965	63.36	32.50	95.86	49.7%	67.4%				
1.75 - 0	23180	12460	35641	63.82	32.50	96.32	50.0%	67.4%				

Note: Section capacity checked using 5 degree increments.

Rating per TIA-222-H Section 15.5.

Monopole Base Plate Connection

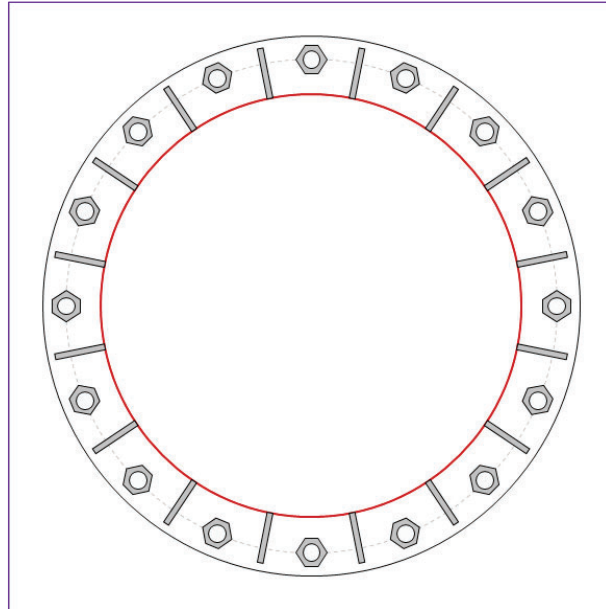


Site Info	
BU #	876381
Site Name	Ward
Order #	661716 REV. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
I_{ar} (in)	1

Applied Loads	
Moment (kip-ft)	3641.14
Axial Force (kips)	63.30
Shear Force (kips)	27.47

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data
 (16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 63" BC

Base Plate Data
 69" OD x 2" Plate (A572-60; $F_y=60$ ksi, $F_u=75$ ksi)

Stiffener Data
 (16) 15"H x 6.5"W x 0.75"T, Notch: 0.75"
 plate: $F_y=65$ ksi ; weld: $F_y=80$ ksi
 horiz. weld: 0.375" groove, 45° dbl bevel, 0.3125" fillet
 vert. weld: 0.3125" fillet

Pole Data
 54" x 0.375" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

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

$Pu_t = 169.34$	$\phi Pn_t = 243.75$	Stress Rating
$Vu = 1.72$	$\phi Vn = 149.1$	66.2%
$Mu = n/a$	$\phi Mn = n/a$	Pass

Base Plate Summary

Max Stress (ksi):	29.06	(Roark's Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	51.3%	Pass

Stiffener Summary

Horizontal Weld:	45.7%	Pass
Vertical Weld:	54.0%	Pass
Plate Flexure+Shear:	17.2%	Pass
Plate Tension+Shear:	44.9%	Pass
Plate Compression:	53.9%	Pass

Pole Summary

Punching Shear:	16.6%	Pass
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Drilled Pier Foundation

BU # :	876381
Site Name:	Ward
Order Number:	661716 REV. 0
TIA-222 Revision:	H
Tower Type:	Monopole



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

Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	3641.13	
Axial Force (kips)	63.31	
Shear Force (kips)	27.44	

Analysis Results		
Soil Lateral Check		
	Compression	Uplift
D _{top} (ft from TOC)	7.05	-
Soil Safety Factor	4.39	-
Max Moment (kip-ft)	3806.09	-
Rating*	28.9%	-

Material Properties		
Concrete Strength, f _c :	4	ksi
Rebar Strength, F _y :	60	ksi
Tie Yield Strength, F _y :	40	ksi

Rebar 2, F _y Override (ksi)	Rebar 4, F _y Override (ksi)

Soil Vertical Check		
	Compression	Uplift
Skin Friction (kips)	841.16	-
End Bearing (kips)	650.06	-
Weight of Concrete (kips)	150.15	-
Total Capacity (kips)	1491.22	-
Axial (kips)	213.46	-
Rating*	13.6%	-

Pier Design Data	
Depth	29 ft
Ext. Above Grade	1 ft
Pier Section 1	
From 1' above grade to 29' below grade	
Pier Diameter	7 ft
Rebar Quantity	24
Rebar Size	11
Rebar Cage Diameter	73 in
Tie Size	5
Tie Spacing	12 in

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

Reinforced Concrete Flexure		
	Compression	Uplift
Critical Depth (ft from TOC)	7.01	-
Critical Moment (kip-ft)	3806.07	-
Critical Moment Capacity	6035.06	-
Rating*	60.1%	-

Reinforced Concrete Shear		
	Compression	Uplift
Critical Depth (ft from TOC)	21.03	-
Critical Shear (kip)	344.51	-
Critical Shear Capacity	625.85	-
Rating*	52.4%	-

Structural Foundation Rating*	60.1%
Soil Interaction Rating*	28.9%

*Rating per TIA-222-H Section 15.5

Soil Profile												
Groundwater Depth	9		# of Layers	3								

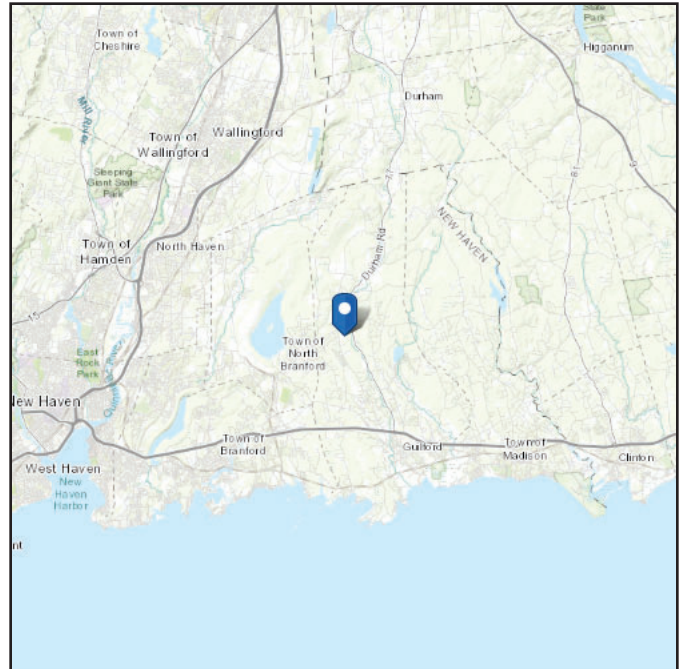
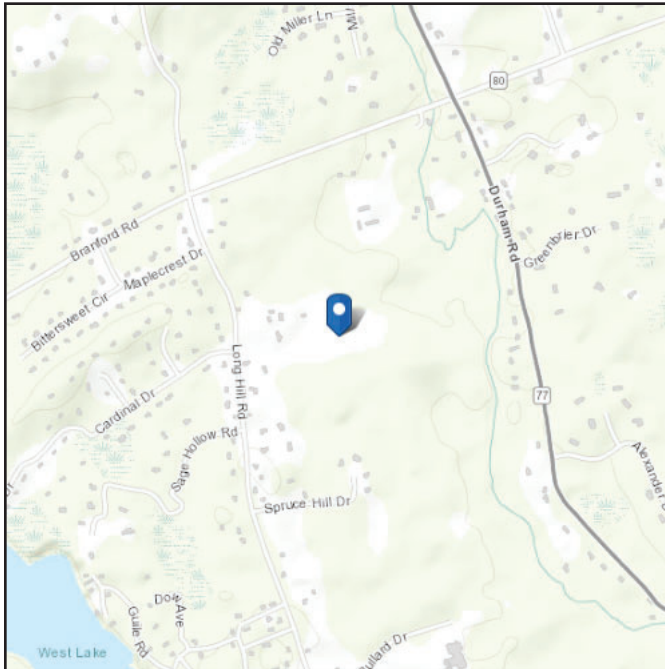
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ _{soil} (pcf)	γ _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Net Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.5	3.5	130	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.5	9	5.5	130	150	0	35	0.000	0.000	2.00	2.00			Cohesionless
3	9	29	20	67.6	87.6	0	35	0.000	0.000	2.00	2.00	20		Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Latitude: 41.346483
Longitude: -72.723097
Elevation: 181.21 ft (NAVD 88)



Wind

Results:

Wind Speed	121 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	93 Vmph
100-year MRI	99 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Tue Nov 29 2022

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

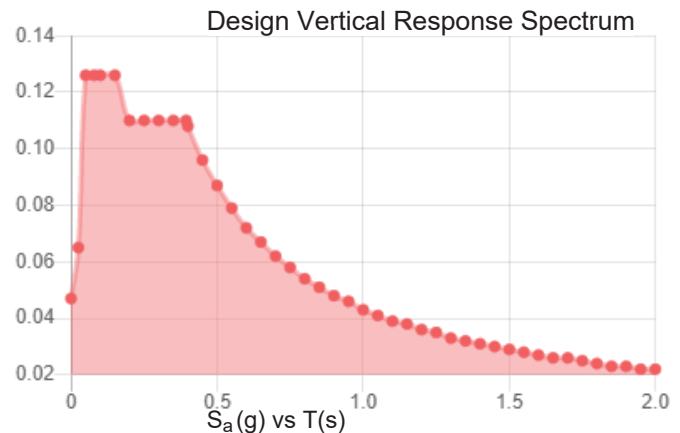
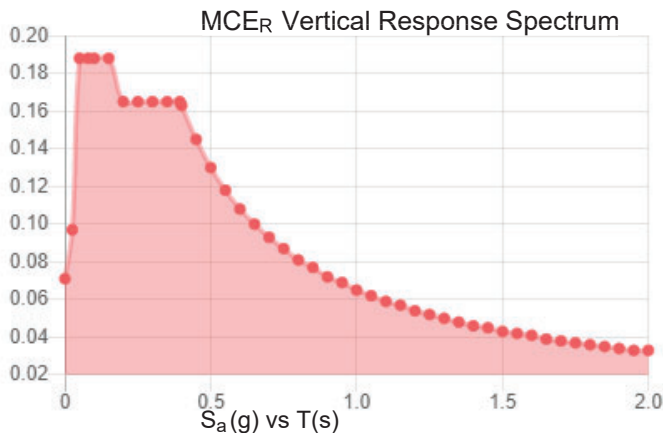
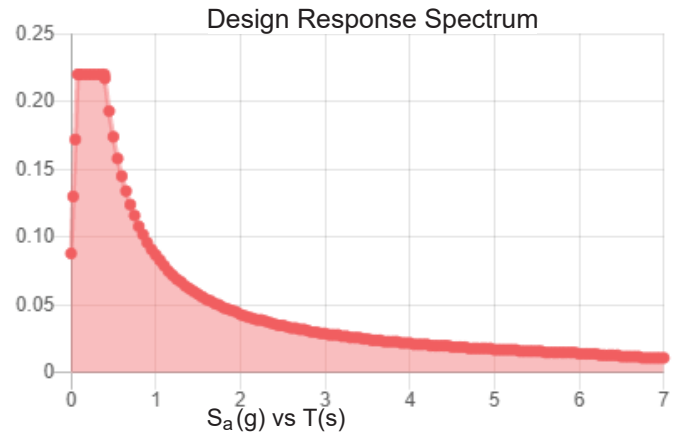
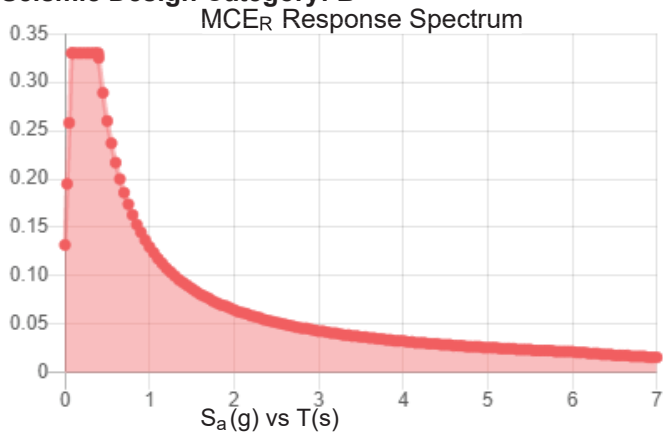
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class:

Results:

S_s :	0.206	S_{D1} :	0.087
S_1 :	0.054	T_L :	6
F_a :	1.6	PGA :	0.116
F_v :	2.4	PGA _M :	0.181
S_{MS} :	0.33	F_{PGA} :	1.569
S_{M1} :	0.13	I_e :	1
S_{DS} :	0.22	C_v :	0.713

Seismic Design Category: B



Data Accessed:

Tue Nov 29 2022

Date Source:

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

Ice

Results:

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

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

Date Accessed: Tue Nov 29 2022

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

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

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

T-Mobile Existing Facility

Site ID: CT11393B

CT393/Global Guilford_MP2
2381 Long Hill Road
Guilford, Connecticut 06437

April 17, 2024

EBI Project Number: 013698-PR

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	37.09%

April 17, 2024

T-Mobile

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

Emissions Analysis for Site: CT11393B - CT393/Global Guilford_MP2

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **2381 Long Hill Road** in **Guilford, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 2381 Long Hill Road in Guilford, Connecticut using the equipment information listed below. Modeling of the antennas and associated equipment was completed using RoofMaster™ software, which is a widely-used predictive modeling program that has been developed to predict RF power density values for rooftop and tower telecommunications sites produced by vertical collinear antennas that are typically used in the cellular, PCS, paging and other communications services. Using the computational methods set forth in Federal Communications (FCC) Office of Engineering & Technology (OET) Bulletin 65, “Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields” (OET-65), RoofMaster™ calculates predicted power density in a scalable grid based on the contributions of all RF sources characterized in the study scenario. At each grid location, the cumulative power density is expressed as a percentage of the FCC limits. Manufacturer antenna pattern data is utilized in these calculations. RoofMaster™ models consist of the Far Field model as specified in OET-65 and an implementation of the OET-65 Cylindrical Model (Sula9). The models utilize several operational specifications for different types of antennas to produce a plot of spatially-averaged power densities that can be expressed as a percentage of the applicable exposure limit.

Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer’s supplied specifications was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 or similar SON antenna has been considered. Due to the beamforming nature of these antennas, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

For all calculations, telecommunications equipment was modeled using the following assumptions:

- 1) 1 LTE channel (600 MHz Band) was considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 4) 1 GSM channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 10 Watts per Channel.
- 5) 1 LTE channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 160 Watts per Channel.
- 6) 1 NR channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 160 Watts per Channel.
- 7) 1 LTE channel (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 160 Watts per Channel.
- 8) 2 NR Traffic channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 9) 2 NR Broadcast channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 10) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 11) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- I2) The antennas used in this modeling are the RFS APXVLLI9P_43-C-A20 02DT 1900 for the 1900 MHz / 1900 MHz / 1900 MHz / 1900 MHz channel(s), the RFS APXVAARR24 43-U-NA20 00DT 600 for the 600 MHz / 600 MHz / 700 MHz channel(s), the ERICSSON SON_AIR6419 B4I NR TB 02.09.21 2500 TMO for the 2500 MHz / 2500 MHz channel(s) in Sector A, the RFS APXVLLI9P_43-C-A20 02DT 1900 for the 1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24 43-U-NA20 00DT 600 for the 600 MHz / 600 MHz / 700 MHz channel(s), the ERICSSON SON_AIR6419 B4I NR TB 02.09.21 2500 TMO for the 2500 MHz / 2500 MHz channel(s) in Sector B, the RFS APXVLLI9P_43-C-A20 02DT 1900 for the 1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24 43-U-NA20 00DT 600 for the 600 MHz / 600 MHz / 700 MHz channel(s), the ERICSSON SON_AIR6419 B4I NR TB 02.09.21 2500 TMO for the 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- I3) The antenna mounting height centerline of the proposed antennas is 155 feet above ground level (AGL).
- I4) Emissions values for additional carriers were taken from the Connecticut Siting Council active database or documents available on the Connecticut Siting Council website (<https://portal.ct.gov/CSC>). Values in the database are provided by the individual carriers themselves.
- I5) All calculations were done in Far Field mode with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVLL19P_43-C-A20 02DT 1900	Make / Model:	RFS APXVLL19P_43-C-A20 02DT 1900	Make / Model:	RFS APXVLL19P_43-C-A20 02DT 1900
Frequency Bands:	1900 MHz / 1900 MHz / 1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz
Gain:	16.24 dBd / 16.24 dBd / 16.24 dBd / 17.33 dBd	Gain:	16.24 dBd / 16.24 dBd / 16.24 dBd / 17.33 dBd	Gain:	16.24 dBd / 16.24 dBd / 16.24 dBd / 17.33 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	490.00 Watts	Total TX Power (W):	490.00 Watts	Total TX Power (W):	490.00 Watts
ERP (W):	19,537.89	ERP (W):	19,537.89	ERP (W):	19,537.89
Antenna A1 MPE %:	3.16%	Antenna B1 MPE %:	3.16%	Antenna C1 MPE %:	3.16%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24 43-U- NA20 00DT 600	Make / Model:	RFS APXVAARR24 43-U- NA20 00DT 600	Make / Model:	RFS APXVAARR24 43-U-NA20 00DT 600
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	13.09 dBd / 13.09 dBd / 13.17 dBd	Gain:	13.09 dBd / 13.09 dBd / 13.17 dBd	Gain:	13.09 dBd / 13.09 dBd / 13.17 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 feet
Channel Count:	3	Channel Count:	3	Channel Count:	3
Total TX Power (W):	160.00 Watts	Total TX Power (W):	160.00 Watts	Total TX Power (W):	160.00 Watts
ERP (W):	2,861.76	ERP (W):	2,861.76	ERP (W):	2,861.76
Antenna A2 MPE %:	1.12%	Antenna B2 MPE %:	1.12%	Antenna C2 MPE %:	1.12%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	ERICSSON SON_AIR6419 B41 NR TB 02.09.21 2500 TMO	Make / Model:	ERICSSON SON_AIR6419 B41 NR TB 02.09.21 2500 TMO	Make / Model:	ERICSSON SON_AIR6419 B41 NR TB 02.09.21 2500 TMO
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	320.00 Watts	Total TX Power (W):	320.00 Watts	Total TX Power (W):	320.00 Watts
ERP (W):	41,349.26	ERP (W):	41,349.26	ERP (W):	41,349.26
Antenna A3 MPE %:	6.70%	Antenna B3 MPE %:	6.70%	Antenna C3 MPE %:	6.70%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Combined Sectors):	10.98%
Sprint	1.8%
AT&T	4.1%
Verizon	20.21%
Site Total MPE % :	37.09%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	10.98%
T-Mobile Sector B Total:	10.98%
T-Mobile Sector C Total:	10.98%
T-Mobile Total MPE % :	10.98%

T-Mobile Maximum MPE Power Values (Sector A)							
T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 1900 MHz GSM	1	364.7539469	155	0.590668764	1900 MHz GSM	1000.0	0.06%
T-Mobile 1900 MHz LTE	1	5836.063151	155	9.450700218	1900 MHz LTE	1000.0	0.95%
T-Mobile 1900 MHz NR	1	5836.063151	155	9.450700218	1900 MHz NR	1000.0	0.95%
T-Mobile 2100 MHz LTE	1	7501.014114	155	12.14685892	2100 MHz LTE	1000.0	1.21%
T-Mobile 600 MHz LTE	1	712.1311635	155	1.153198307	600 MHz LTE	400.0	0.29%
T-Mobile 600 MHz NR	1	1424.262327	155	2.306396613	600 MHz NR	400.0	0.58%
T-Mobile 700 MHz LTE	1	725.3706703	155	1.174637864	700 MHz LTE	467.0	0.25%
T-Mobile 2500 MHz NR	2	19238.94469	155	62.30964061	2500 MHz NR	1000.0	6.23%
T-Mobile 2500 MHz NR	2	1435.687739	155	4.649796986	2500 MHz NR	1000.0	0.46%
						T-Mobile Total:	10.98%

- NOTE: Total T-Mobile MPE values reflect all T-Mobile antennas as reported by RoofMaster™ combined modeling.
- NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	10.98%
Sector B:	10.98%
Sector C:	10.98%
T-Mobile Maximum MPE % (Sector A):	10.98%
T-Mobile Combined Sectors MPE %:	10.98%
Site Total:	37.09%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **37.09%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions or documents available on the Connecticut Siting Council website.

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

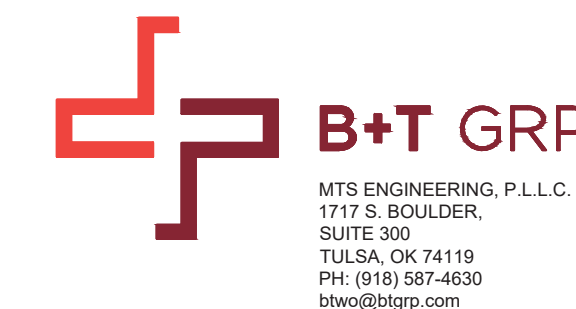
THE COMPOUND AUDIT WAS COMPLETED ON 02/08/2024. THE CONSTRUCTION DRAWING REFLECTS CONDITIONS AT TIME OF AUDIT.

T Mobile

APPROVED
By Bill Blake at 9:49 am, Apr 01, 2024

APPROVED
By Ryan Monte de Ramos at 7:34 am, Apr 09, 2024

APPROVED
By Jessica Penney at 10:13 am, Apr 09, 2024



T-MOBILE SITE NUMBER: CT11393B
T-MOBILE SITE NAME: CT393/GLOBAL GUILFORD_MP2
T-MOBILE PROJECT: ANCHOR

BUSINESS UNIT #: 876381
SITE ADDRESS: 2381 LONG HILL RD
GUILFORD, CT 06437

COUNTY: NEW HAVEN
SITE TYPE: MONOPOLE
TOWER HEIGHT: 176'-0"

SITE INFORMATION

CROWN CASTLE USA INC.
SITE NAME: WARD
BU NUMBER: 876381

TOWER OWNER: CROWN CASTLE
2000 CORPORATE DRIVE
CANONSBURG, PA 15317

CARRIER/APPLICANT: T-MOBILE
100 FILLEY ST
BLOOMFIELD, CT 06002

SITE ADDRESS: 2381 LONG HILL RD
GUILFORD, CT 06437
NEW HAVEN

COUNTY: NEW HAVEN

LATITUDE: 41° 20' 47.44" / 41.3465°
LONGITUDE: -72° 43' 22.94" / -72.723°
LAT/LONG TYPE: NAD83
GROUND ELEVATION: 183' +/- AMSL

AREA OF CONSTRUCTION: EXISTING
CURRENT ZONING: R-5
MAP/PARCEL #: 101023B

OCCUPANCY CLASSIFICATION: U
TYPE OF CONSTRUCTION: IIB
A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION

PROPERTY OWNER: WARD JAMES J FAMILY & JANICE M FAMILY
2365 LONG HILL RD
GUILFORD, CT 06437

JURISDICTION: CONNECTICUT SITING COUNCIL
TEN FRANKLIN SQUARE
NEW BRITAIN, CT 06051

ELECTRIC PROVIDER: CONNECTICUT LIGHT & POWER CO
(800) 286-2000

TELCO PROVIDER: LIGHTOWER
(888) 583-4237

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	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

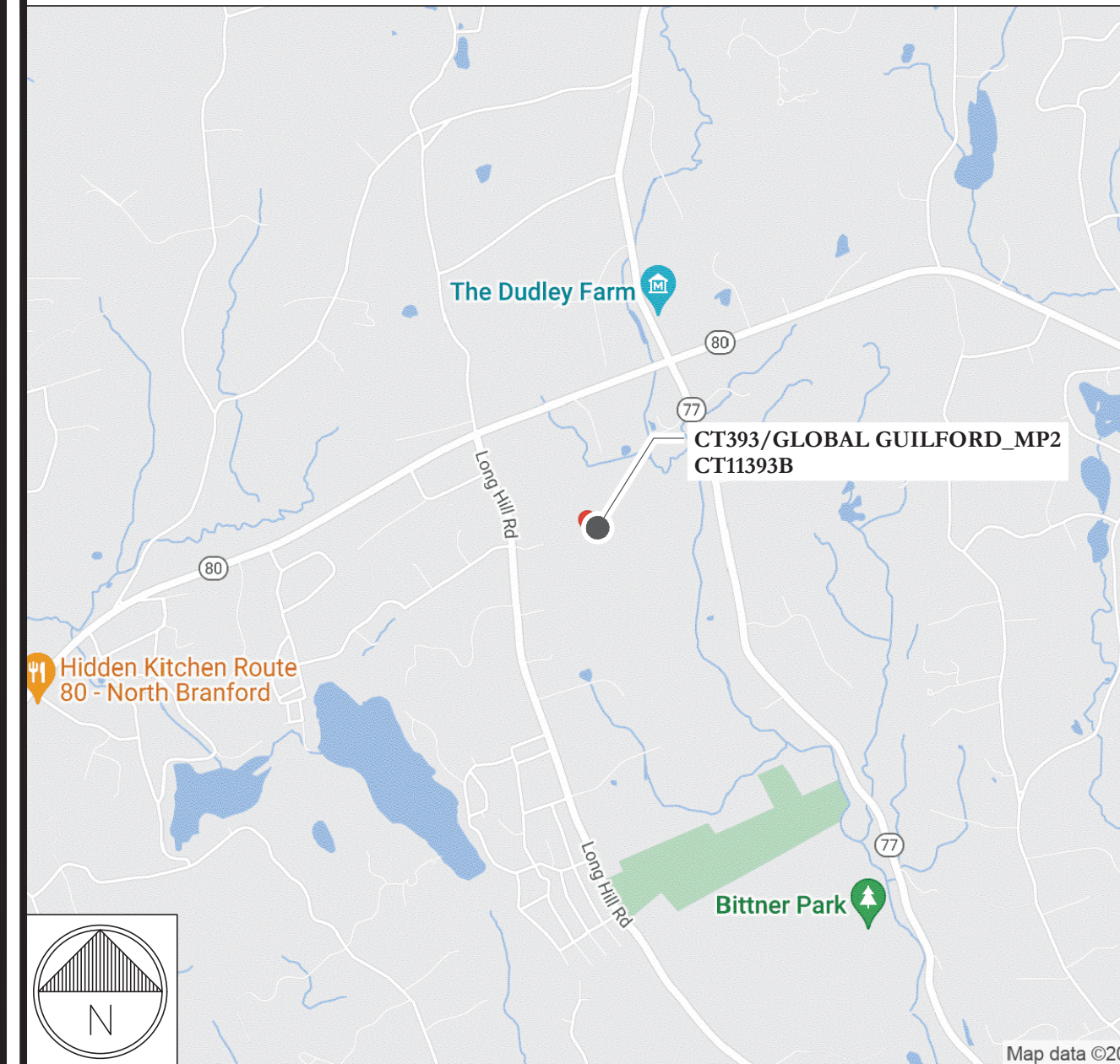
PROJECT DESCRIPTION

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

- TOWER SCOPE OF WORK:**
- REMOVE (3) ERICSSON - AIR21 KRC118023-1_B2A_B4P (QUAD) ANTENNAS
 - REMOVE (3) ERICSSON - AIR21 B4A/B12P (QUAD) ANTENNAS
 - REMOVE (3) GENERIC - TWIN STYLE 1B AWS TMAs
 - REMOVE (9) 1-5/8" COAX CABLES
 - REMOVE (3) 6X12 HCS
 - REMOVE (1) 9X18 HCS
 - INSTALL (3) RFS/CELWAVE - APXVLL19P_43-C-A20 (QUAD) ANTENNAS
 - INSTALL (3) ERICSSON - AIR 6419 B41 (ACTIVE ANTENNA - MASSIVE MIMO) ANTENNAS
 - INSTALL (3) ERICSSON - RADIO 4460 B25+B66 RADIOS
 - INSTALL (3) 6/24 4AWG HYBRID CABLES

- GROUND SCOPE OF WORK:**
- REMOVE (1) RBS 6131 ENCLOSURE
 - REMOVE (1) S12000 OUTDOOR ENCLOSURE
 - REMOVE (6) RU22 RADIOS
 - REMOVE (1) DUW30
 - RELOCATE (2) BB 6630
 - RELOCATE (1) DUG20
 - INSTALL (1) 6160_V2 AC ENCLOSURE
 - INSTALL (1) RBS 6601 ENCLOSURE
 - INSTALL (1) B160 ENCLOSURE
 - INSTALL (1) RP 6651
 - INSTALL (1) CSR IXRE V2 (GEN2)
 - INSTALL (1) NEMA 3R SLACK BOX ON (N) H-FRAME
 - INSTALL (1) WORK LIGHT W/ 30-60 MIN TIMER SWITCH

LOCATION MAP



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	2022 CONNECTICUT SBC/ 2021 IBC
MECHANICAL	2022 CONNECTICUT SBC/ 2021 IMC
ELECTRICAL	2022 CONNECTICUT SBC/ 2020 NEC

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	CROWN CASTLE
DATED:	2/13/24
MOUNT ANALYSIS:	ENGINEERED TOWER SOLUTIONS, PLLC
DATED:	2/8/24
RFDS REVISION:	6
DATED:	12/20/23
ORDER ID:	661716
REVISION:	0

PROJECT TEAM

A&E FIRM: B+T GROUP
1717 S. BOULDER AVE.
TULSA, OK 74119
WALTER SMITH
WSMITH@BTGRP.COM

CROWN CASTLE USA INC. DISTRICT CONTACTS:
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

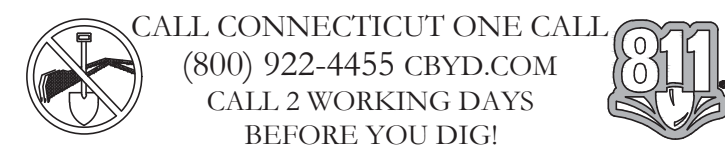
TRICIA PELON - PROJECT MANAGER
TRICIA.PELON@CROWNCastle.COM

JASON D'AMICO - CONSTRUCTION MANAGER
JASON.DAMICO@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.

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR FULL SIZE. 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.



EXISTING T-MOBILE ELECTRIC SERVICE:
METER AND DISCONNECT: 200A 120/240V~3PH
PPC: NORTHERN TECHNOLOGIES, INC 200A 120/240V~1PH, FAULT CURRENT RATING 65kA, 200A GENERATOR PLUG, 125A MAXIMUM BRANCH CIRCUIT SIZE & 24 AC BREAKER POSITIONS.

T-MOBILE SITE NUMBER:
CT11393B

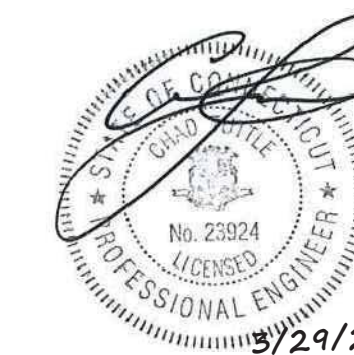
BU #: **876381**
CROWN CASTLE SITE
NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/24

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

SHEET NUMBER:

T-1

REVISION:

0

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

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

GREENFIELD GROUNDING NOTES:

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

GENERAL NOTES:

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

ELECTRICAL INSTALLATION NOTES:

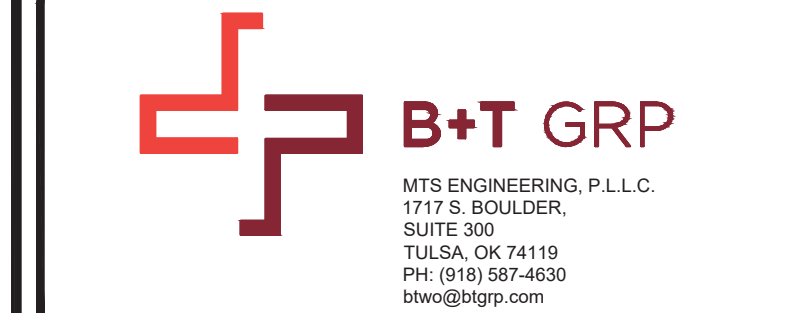
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
-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

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

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

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
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
REB	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 SITE NUMBER:
CT11393B

BU #: 876381

CROWN CASTLE SITE

NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG



MTS ENGINEERING P.L.L.C.
BER:2386985
Expires 3/31/24

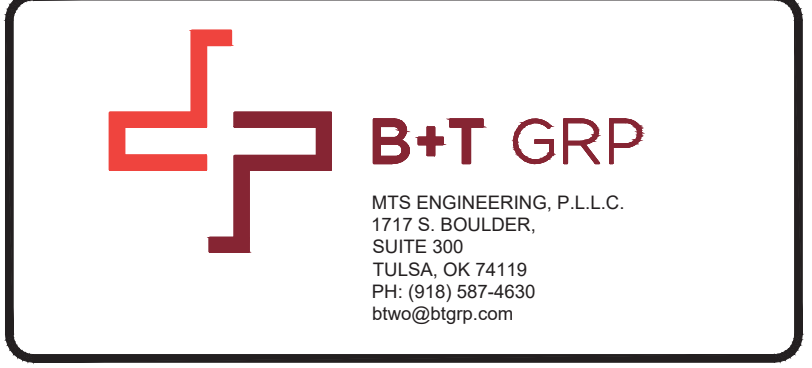
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:
T-2

REVISION:
0

EQUIPMENT LEGEND:

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



T-MOBILE SITE NUMBER:
CT11393B

BU #: 876381
CROWN CASTLE SITE NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

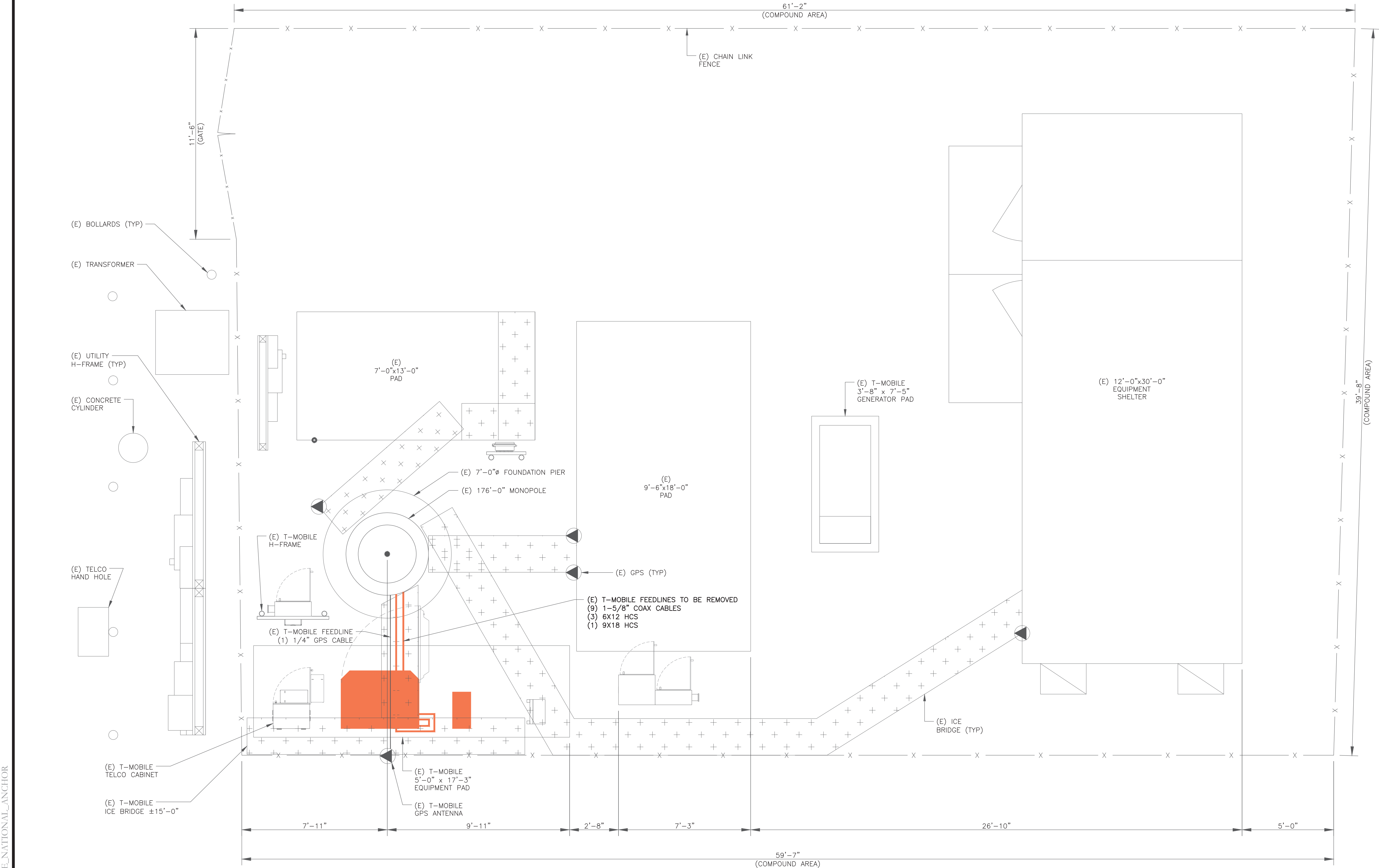
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG

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TO ALTER THIS DOCUMENT.

SHEET NUMBER:
C-1.1

REVISION:
0



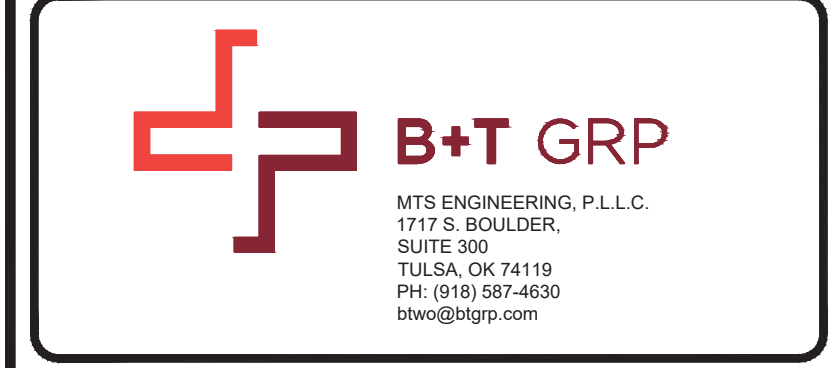
1 COMPOUND PLAN
SCALE: 3/8"=1'-0" (FULL SIZE)
3/16"=1'-0" (11x17)



T-MOBILE NATIONAL ANCHOR

EQUIPMENT LEGEND:

	EXISTING
	TO BE RELOCATED/REMOVED
	NEW/RELOCATED



T-MOBILE SITE NUMBER:
CT11393B

BU #: **876381**
CROWN CASTLE SITE
NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

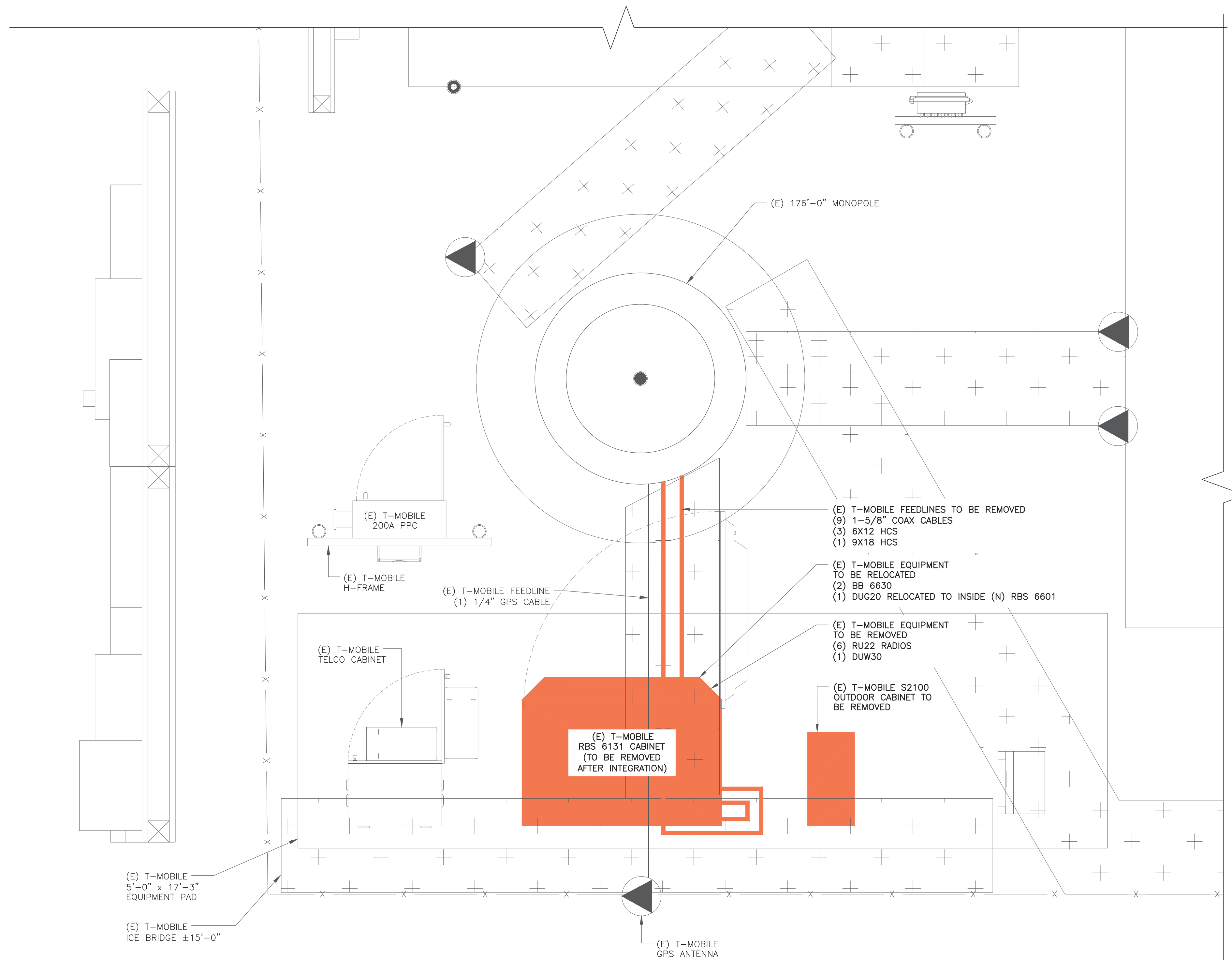
EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG

MTS ENGINEERING P.L.L.C.
BER:2386985
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1 EXISTING EQUIPMENT PLAN
SCALE: 3/4"=1'-0" (FULL SIZE)
3/8"=1'-0" (11x17)



SHEET NUMBER:
C-1.2

REVISION:
0

T-MOBILE NATIONAL ANCHOR

EQUIPMENT LEGEND:

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



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 PH: (918) 587-4630
 btw@btgrp.com

T-MOBILE SITE NUMBER:
CT11393B

BU #: **876381**
 CROWN CASTLE SITE
 NAME:
WARD

2381 LONG HILL RD
 GUILFORD, CT 06437

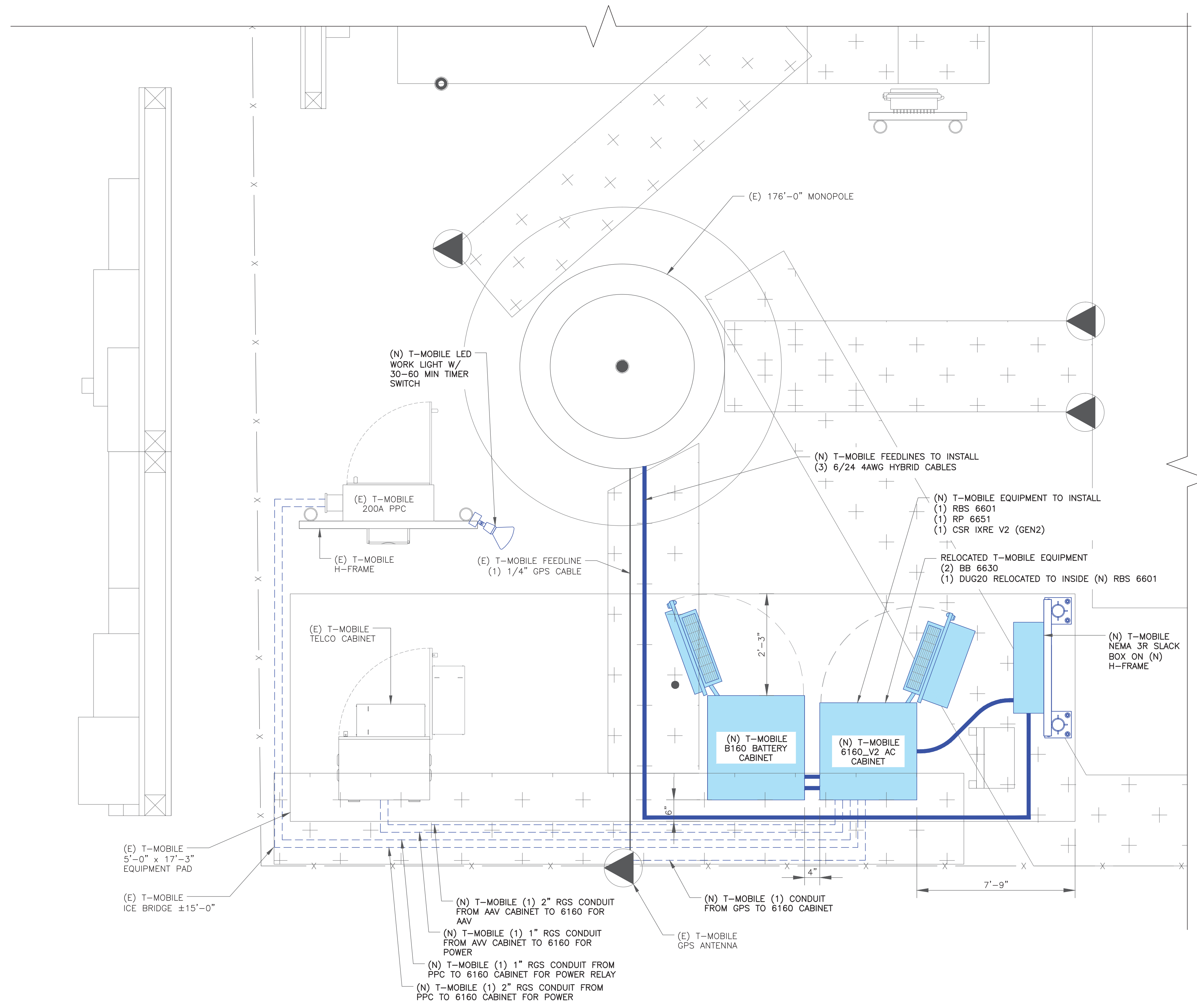
EXISTING 176'-0"
 MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG

MTS ENGINEERING P.L.L.C.
 BER:2386985
 Expires 3/31/24

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

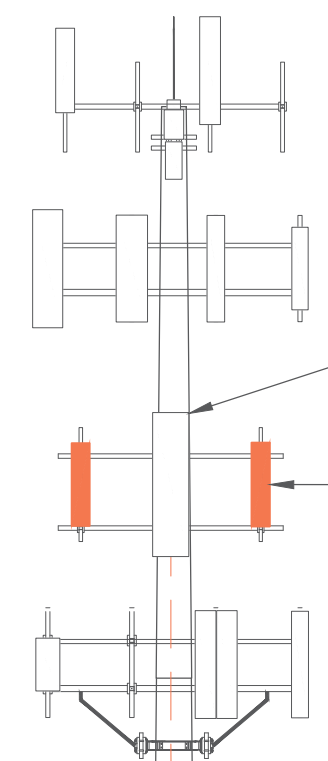


SHEET NUMBER: **C-1.3** REVISION: **0**

T-MOBILE NATIONAL ANCHOR

T-MOBILE NATIONAL ANCHOR

- ◆ TOP OF STRUCTURE WITH APPURTENANCE
ELEV. = 181'-0"
- ◆ EXISTING EQUIPMENT BY OTHERS
MCL = 176'-0"
- ◆ TOP OF TOWER
ELEV. = 176'-0"
- ◆ EXISTING EQUIPMENT BY OTHERS
MCL = 174'-0"
- ◆ EXISTING EQUIPMENT BY OTHERS
MCL = 167'-0"
- ◆ T-MOBILE MOUNT CENTERLINE
ELEV. = 155'-0"
- ◆ T-MOBILE ANTENNA CENTERLINE
ELEV. = 155'-0"
- ◆ EXISTING EQUIPMENT BY OTHERS
MCL = 145'-0"



- (E) T-MOBILE EQUIPMENT TO REMAIN
(3) RFS/CELWAVE - APXVAARR24_43-U-NA20 ANTENNAS
(3) ERICSSON - RADIO 4449 B71+B85 RADIOS
- (E) T-MOBILE EQUIPMENT TO BE REMOVED
(3) ERICSSON - AIR21 KRC118023-1_B2A_B4P ANTENNAS
(3) ERICSSON - AIR21 B4A/B12P ANTENNAS
(3) GENERIC - TWIN STYLE 1B AWS TMAS

- (E) T-MOBILE FEEDLINES TO BE REMOVED
(9) 1-5/8" COAX CABLES
(3) 6X12 HCS CABLE
(1) 9X18 HCS CABLE

(E) 176'-0" MONOPOLE

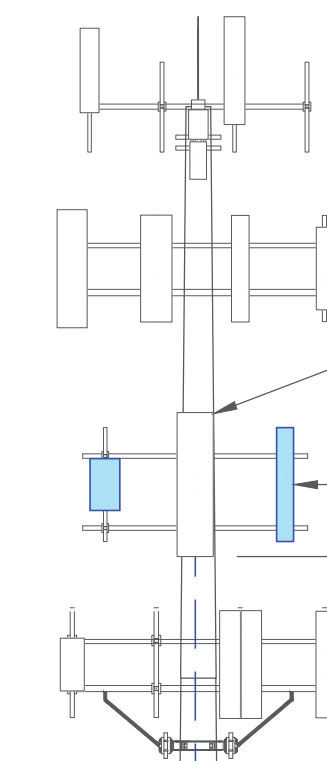
- ◆ EXISTING EQUIPMENT BY OTHERS
MCL = 50'-0"

- ◆ T-MOBILE ANTENNA CENTERLINE
ELEV. = 12'-0"
- ◆ T-MOBILE MOUNT CENTERLINE
ELEV. = 10'-0"
- ◆ BOTTOM OF TOWER
ELEV. = 0"

- (E) T-MOBILE FEEDLINE
(1) 1/4" GPS CABLE

1 EXISTING TOWER ELEVATION
SCALE: 3/32"=1'-0" (FULL SIZE)
3/64"=1'-0" (11x17)

- ◆ TOP OF STRUCTURE WITH APPURTENANCE
ELEV. = 181'-0"
- ◆ EXISTING EQUIPMENT BY OTHERS
MCL = 176'-0"
- ◆ TOP OF TOWER
ELEV. = 176'-0"
- ◆ EXISTING EQUIPMENT BY OTHERS
MCL = 174'-0"
- ◆ EXISTING EQUIPMENT BY OTHERS
MCL = 167'-0"
- ◆ T-MOBILE MOUNT CENTERLINE
ELEV. = 155'-0"
- ◆ T-MOBILE ANTENNA CENTERLINE
ELEV. = 155'-0"
- ◆ EXISTING EQUIPMENT BY OTHERS
MCL = 145'-0"



- (E) T-MOBILE EQUIPMENT
(3) RFS/CELWAVE - APXVAARR24_43-U-NA20 ANTENNAS
(3) ERICSSON - RADIO 4449 B71+B85 RADIOS
- (N) T-MOBILE EQUIPMENT TO INSTALL
(3) RFS/CELWAVE - APXVLL19P_43-C-A20 ANTENNAS
(3) ERICSSON - AIR 6419 B41 ANTENNAS
(3) ERICSSON - RADIO 4460 B25+B66 RADIOS

- (N) T-MOBILE FEEDLINES TO INSTALL
(3) 6/24 4AWG HYBRID CABLES
(ROUTED PER STRUCTURAL ANALYSIS)

(E) 176'-0" MONOPOLE

- ◆ EXISTING EQUIPMENT BY OTHERS
MCL = 50'-0"

- ◆ T-MOBILE ANTENNA CENTERLINE
ELEV. = 12'-0"
- ◆ T-MOBILE MOUNT CENTERLINE
ELEV. = 10'-0"
- ◆ BOTTOM OF TOWER
ELEV. = 0"

- (E) T-MOBILE FEEDLINE
(1) 1/4" GPS CABLE

2 FINAL TOWER ELEVATION
SCALE: 3/32"=1'-0" (FULL SIZE)
3/64"=1'-0" (11x17)

EQUIPMENT LEGEND:

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



B+T GRP
MTS ENGINEERING, P.L.L.C.
 1717 S BOULDER,
 SUITE 300
 TULSA, OK 74119
 PH: (918) 587-4630
 btw@btgrp.com

T-MOBILE SITE NUMBER:
CT11393B

BU #: **876381**
 CROWN CASTLE SITE
 NAME:
WARD

2381 LONG HILL RD
 GUILFORD, CT 06437

EXISTING 176'-0"
 MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG

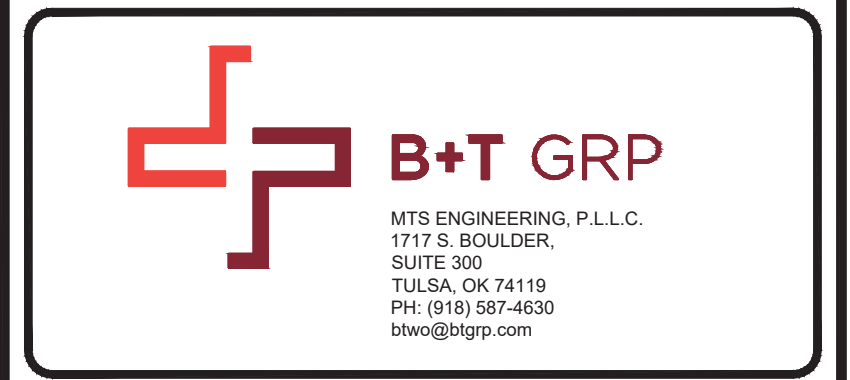
MTS ENGINEERING P.L.L.C.
 BER:2386985
 Expires 3/31/24

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

EQUIPMENT LEGEND:

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



T-MOBILE SITE NUMBER:
CT11393B

BU #: **876381**
CROWN CASTLE SITE
NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

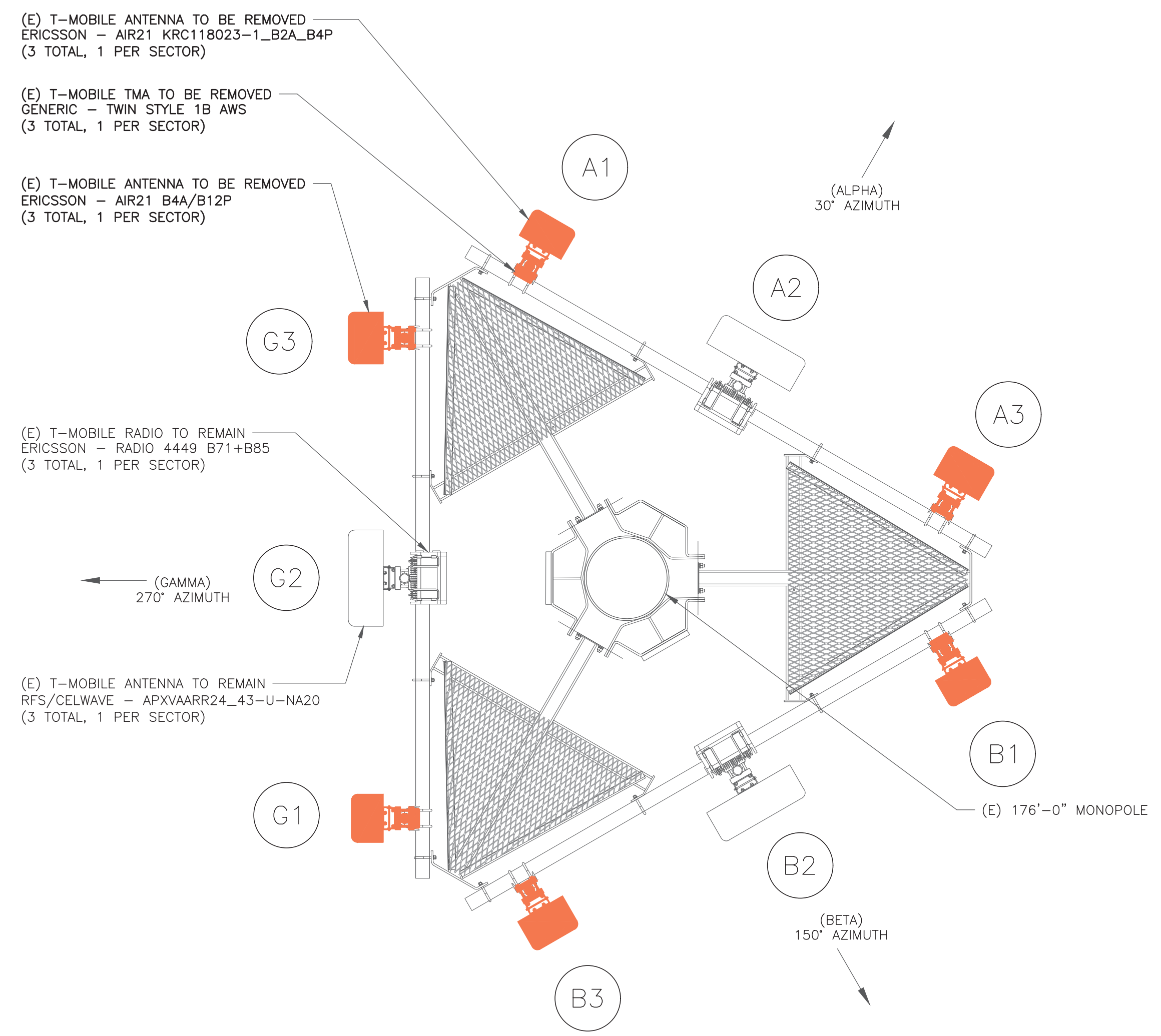
ISSUED FOR:

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A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG

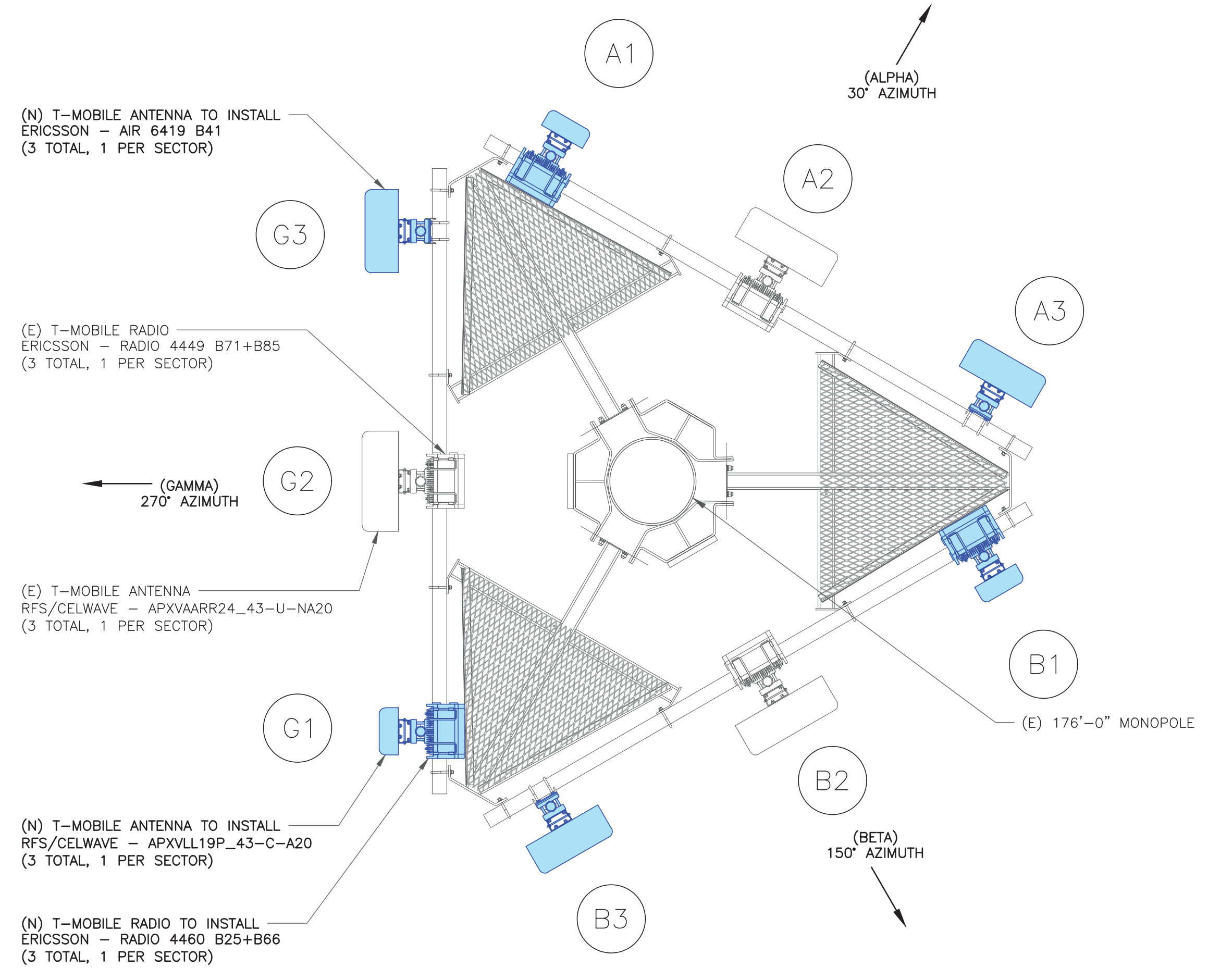
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BER:2386985
Expires 3/31/24

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

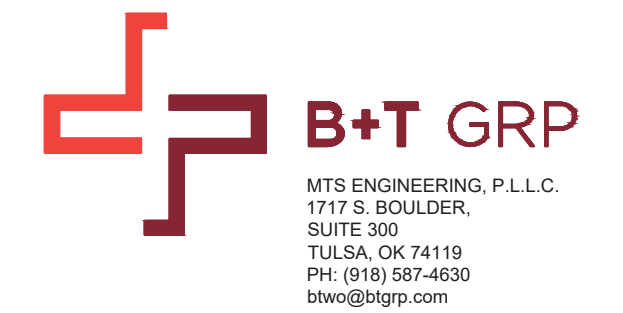


1 EXISTING ANTENNA PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



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

T-MOBILE NATIONAL ANCHOR



T-MOBILE SITE NUMBER:
CT11393B

BU #: **876381**
CROWN CASTLE SITE
NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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0	3/29/24	TDG	CONSTRUCTION	TDG



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SHEET NUMBER:

C-4

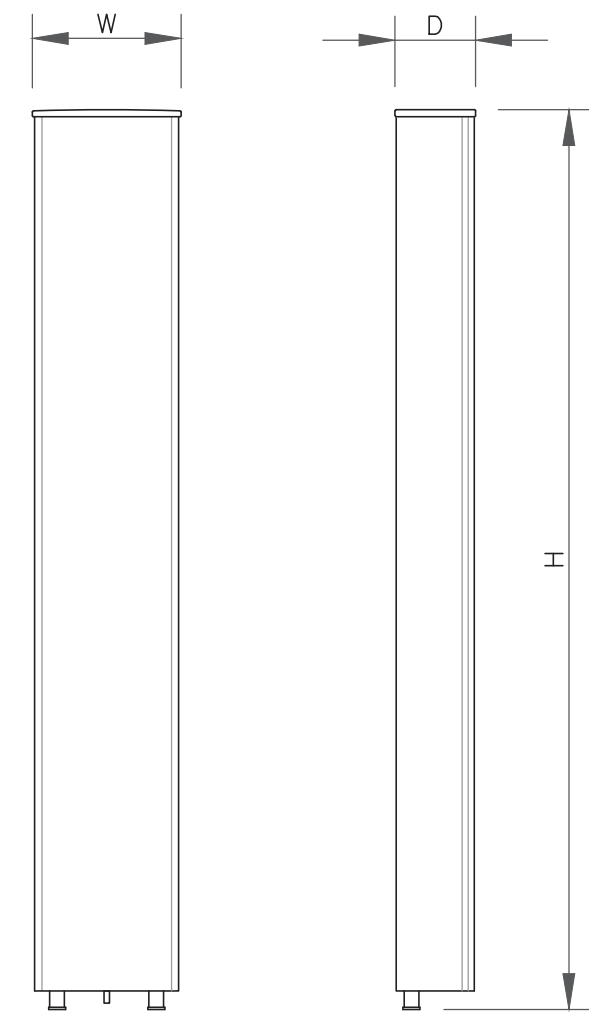
REVISION:

0

FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

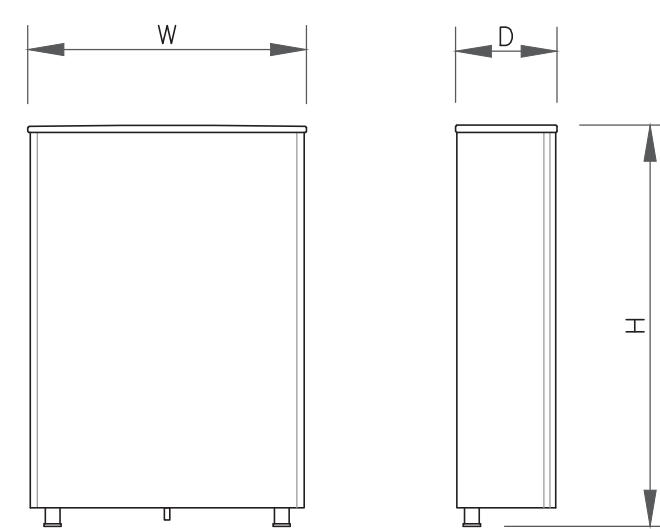
POSITION	ANTENNA				RADIO			DIPLEXER			TMA		SURGE PROTECTION		CABLES			
	TECH	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
A1	L1900 L2100 G1900 N1900	(N) RFS/CELWAVE - APXVLL19P_43-C-A20	30°	155'-0"	1	(N) ERICSSON - RADIO 4460 B25+B66	TOWER	-	-	-	-	-	-	-	1	(N) 6/24 4AWG HYBRID	1-5/8"	205'-0"
A2	L600 N600 L700	(E) RFS/CELWAVE - APXVAARR24_43-U-NA20	30°	155'-0"	1	(E) ERICSSON - RADIO 4449 B71+B85	TOWER	-	-	-	-	-	-	-	-	-	-	-
A3	N2500	(N) ERICSSON - AIR 6419 B41	30°	155'-0"	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B1	L1900 L2100 G1900 N1900	(N) RFS/CELWAVE - APXVLL19P_43-C-A20	150°	155'-0"	1	(N) ERICSSON - RADIO 4460 B25+B66	TOWER	-	-	-	-	-	-	-	1	(N) 6/24 4AWG HYBRID	1-5/8"	205'-0"
B2	L600 N600 L700	(E) RFS/CELWAVE - APXVAARR24_43-U-NA20	150°	155'-0"	1	(E) ERICSSON - RADIO 4449 B71+B85	TOWER	-	-	-	-	-	-	-	-	-	-	-
B3	N2500	(N) ERICSSON - AIR 6419 B41	150°	155'-0"	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G1	L1900 L2100 G1900 N1900	(N) RFS/CELWAVE - APXVLL19P_43-C-A20	270°	155'-0"	1	(N) ERICSSON - RADIO 4460 B25+B66	TOWER	-	-	-	-	-	-	-	1	(N) 6/24 4AWG HYBRID	1-5/8"	205'-0"
G2	L600 N600 L700	(E) RFS/CELWAVE - APXVAARR24_43-U-NA20	270°	155'-0"	1	(E) ERICSSON - RADIO 4449 B71+B85	TOWER	-	-	-	-	-	-	-	-	-	-	-
G3	N2500	(N) ERICSSON - AIR 6419 B41	270°	155'-0"	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1 FINAL EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE



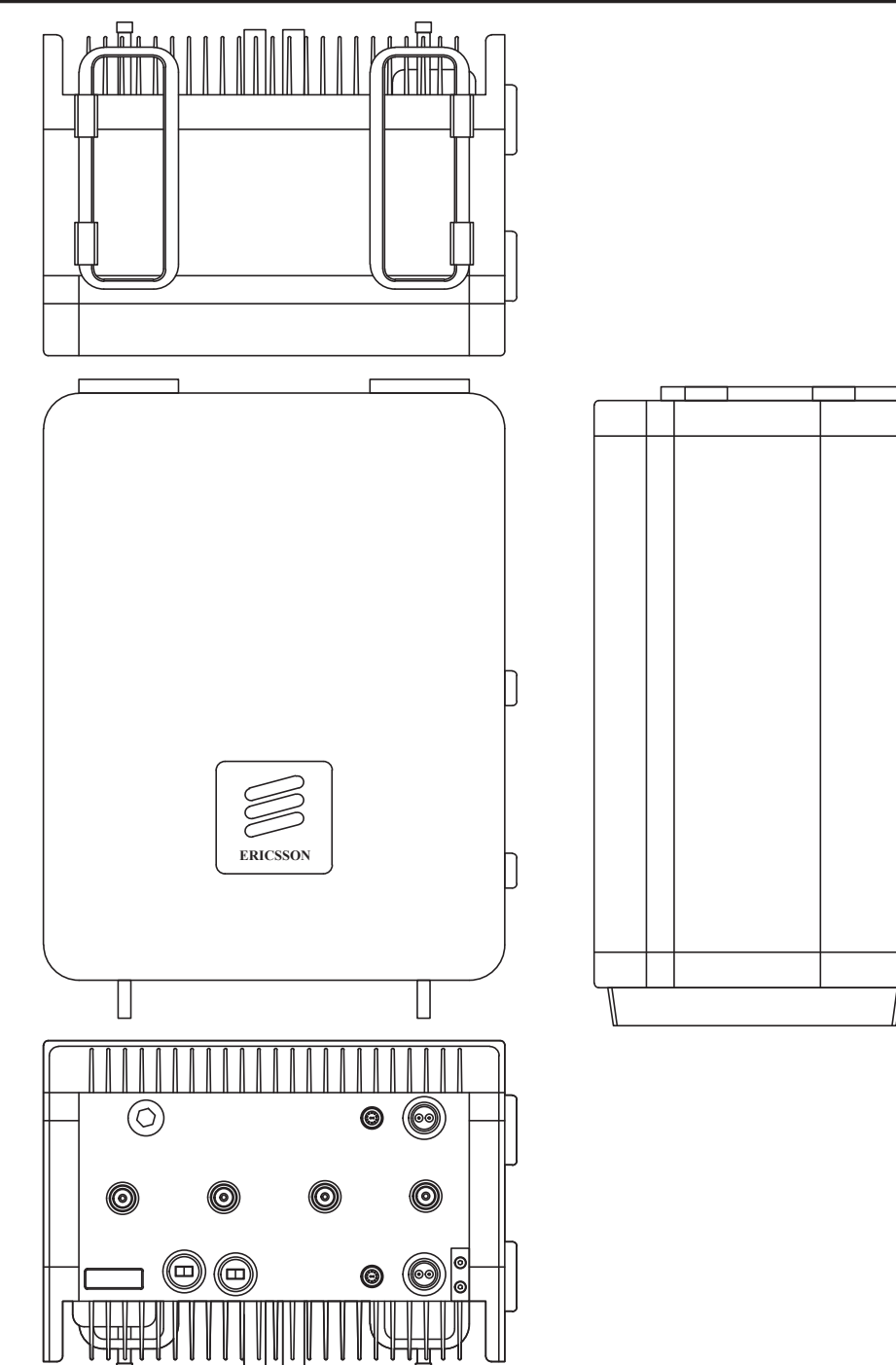
ANTENNA SPECS	
MANUFACTURER	RFS/CELWAVE
MODEL #	APXVLL19P_43-C-A20
WIDTH	11.30"
DEPTH	4.60"
HEIGHT	75.80"
WEIGHT	48.39 LBS

1 ANTENNA SPECS
SCALE: NOT TO SCALE



ANTENNA SPECS	
MANUFACTURER	ERICSSON
MODEL #	AIR 6419 B41
WIDTH	19.92"
DEPTH	7.99"
HEIGHT	34.49"
WEIGHT	81.84 LBS

2 ANTENNA SPECS
SCALE: NOT TO SCALE



RRU SPECS	
MANUFACTURER	ERICSSON
MODEL #	4460 B25+B66
WIDTH	15.10"
DEPTH	11.90"
HEIGHT	17.0"
WEIGHT	109 LBS

3 RRU SPECS
SCALE: NOT TO SCALE

T-Mobile

CROWN CASTLE

B+T GRP
MTS ENGINEERING, P.L.L.C.
 1717 S. BOULDER,
 SUITE 300
 TULSA, OK 74119
 PH: (918) 587-4630
 btw@btgrp.com

T-MOBILE SITE NUMBER:
CT11393B

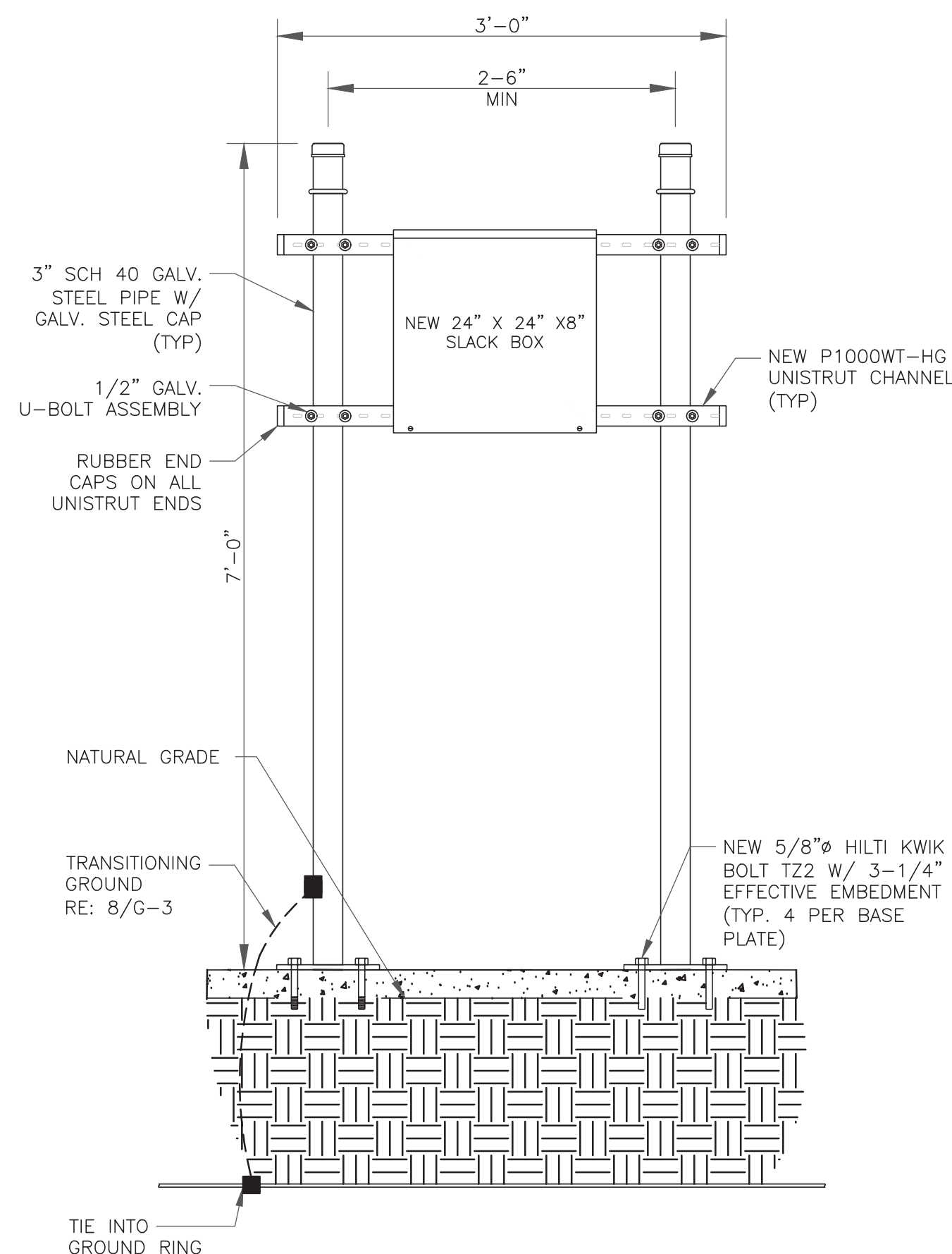
BU #: **876381**
 CROWN CASTLE SITE
 NAME:
WARD

2381 LONG HILL RD
 GUILFORD, CT 06437

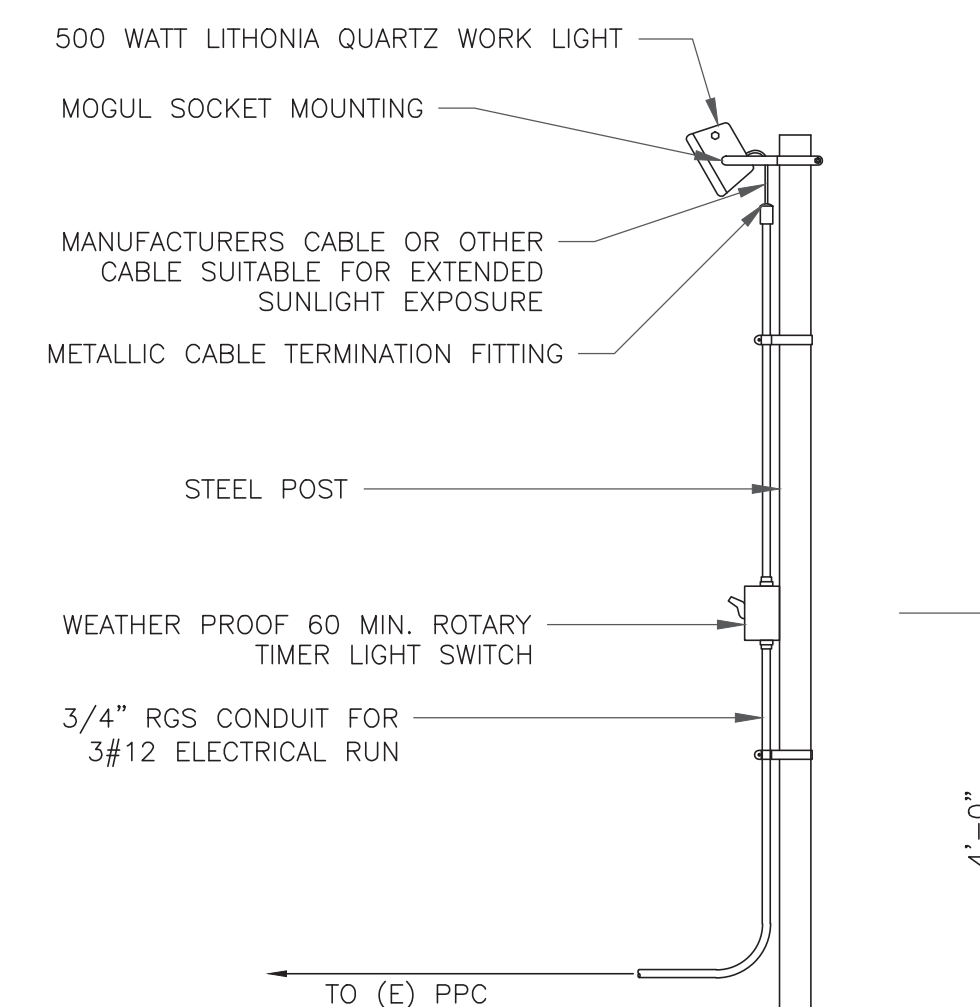
EXISTING 176'-0"
 MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG



5 H-FRAME DETAILS
SCALE: NOT TO SCALE



6 WORK LIGHT W/ TIMER SWITCH DETAIL
SCALE: NOT TO SCALE



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SHEET NUMBER:

C-5

REVISION:

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4 NOT USED
SCALE: NOT TO SCALE

T-Mobile

CROWN CASTLE

B+T GRP

MTS ENGINEERING, P.L.L.C.
1717 S. BOULDER,
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
btwo@btgrp.com

T-MOBILE SITE NUMBER:
CT11393B

BU #: **876381**
CROWN CASTLE SITE
NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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0	3/29/24	TDG	CONSTRUCTION	TDG

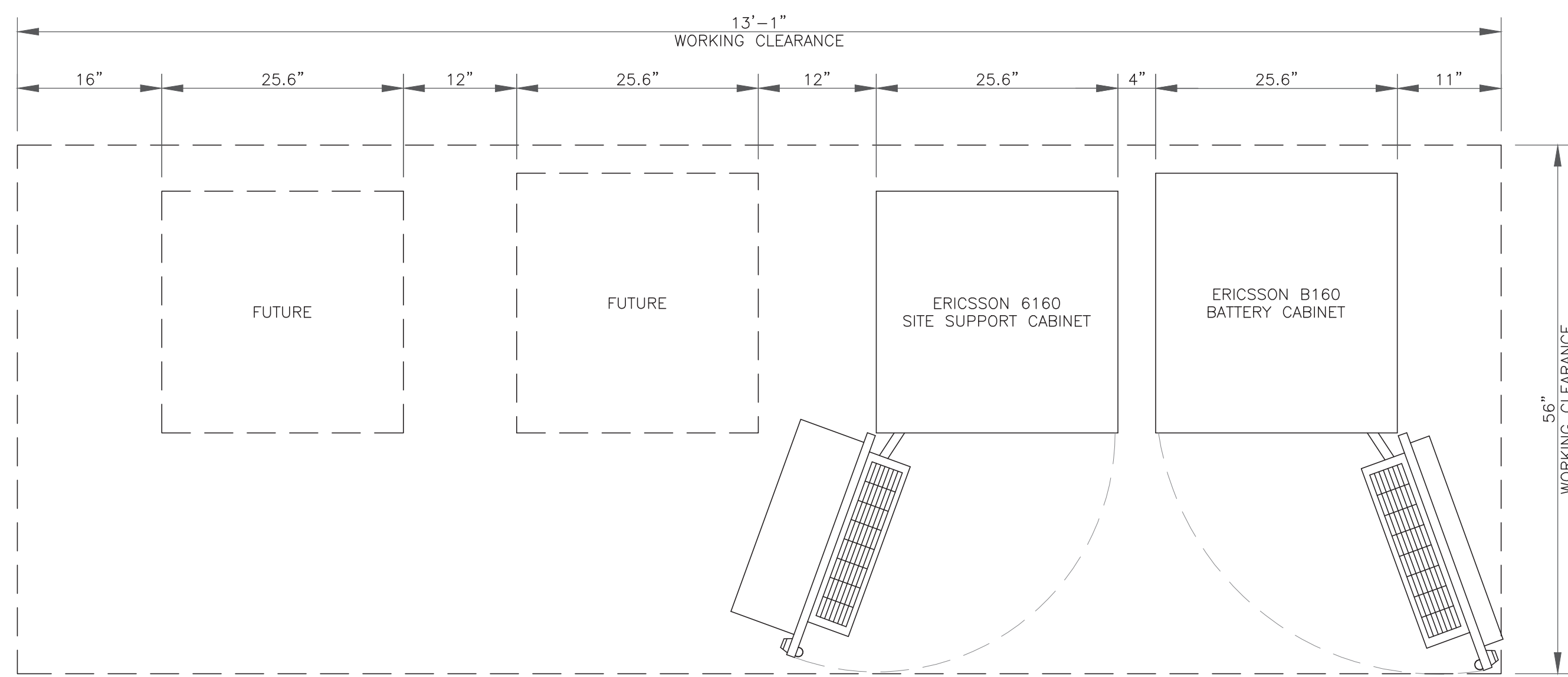


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BER:2386985
Expires 3/31/24

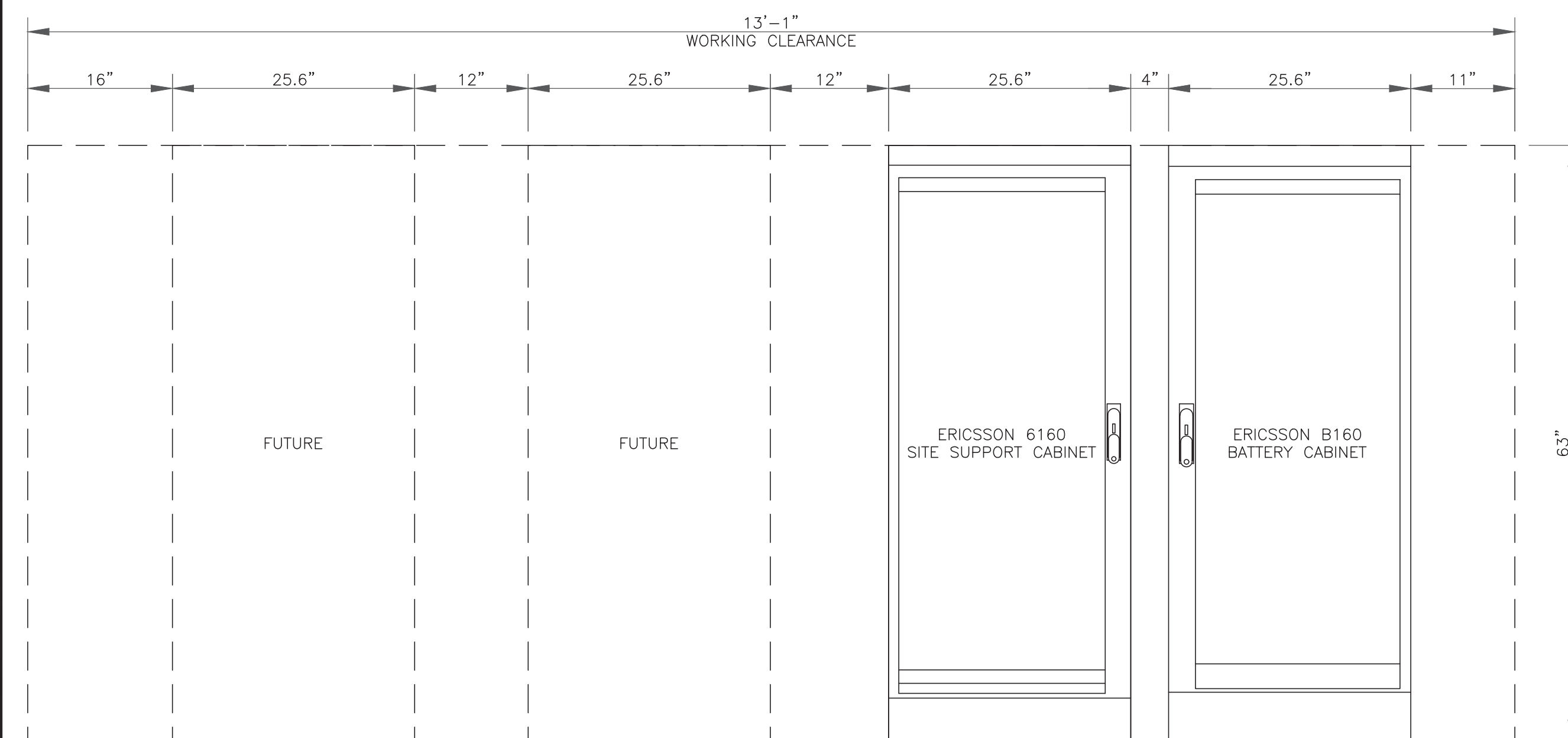
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SHEET NUMBER:
C-6.1

REVISION:
0

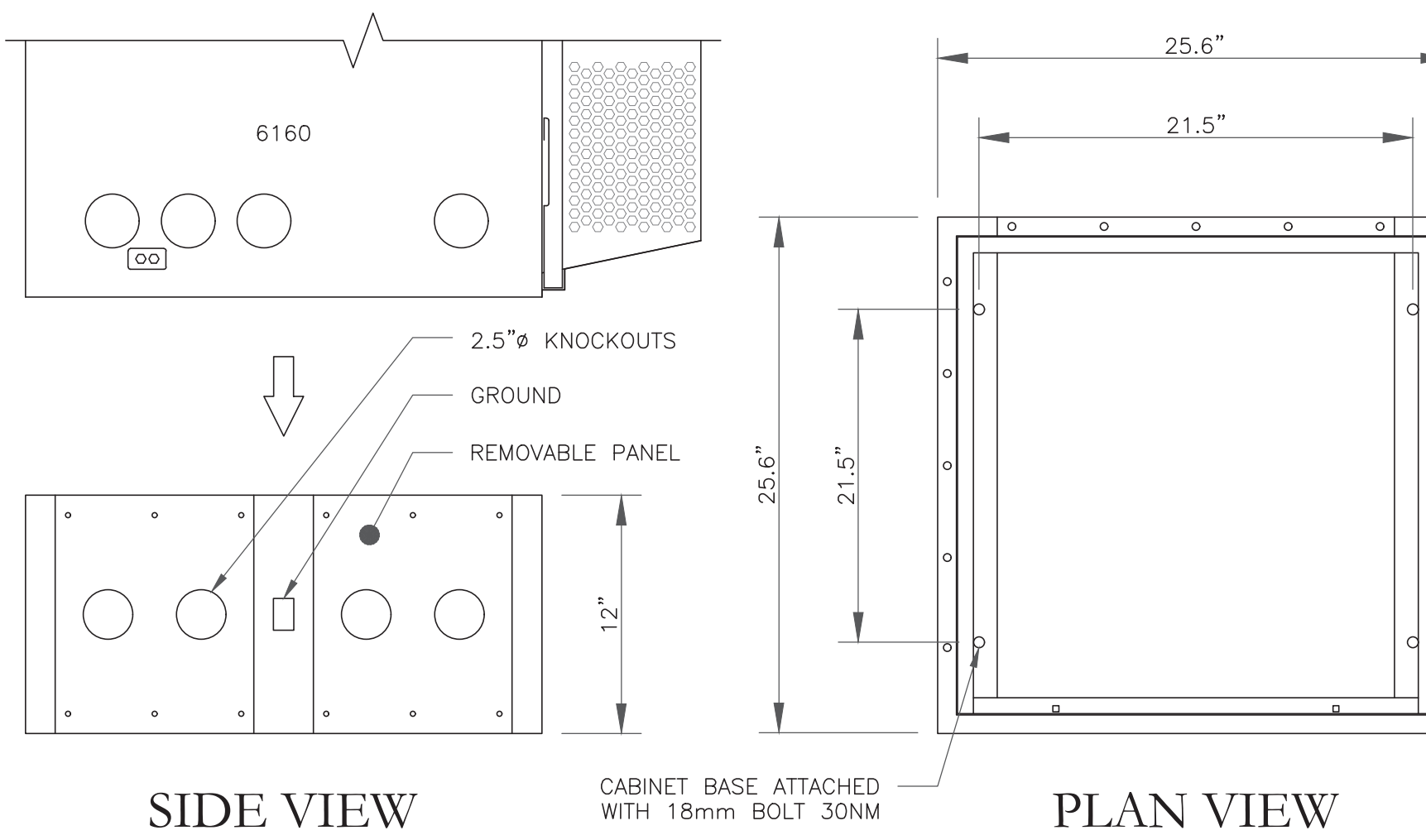


1 PLAN VIEW WORKING CLEARANCE 6160 & B160 LAYOUT
SCALE: NOT TO SCALE



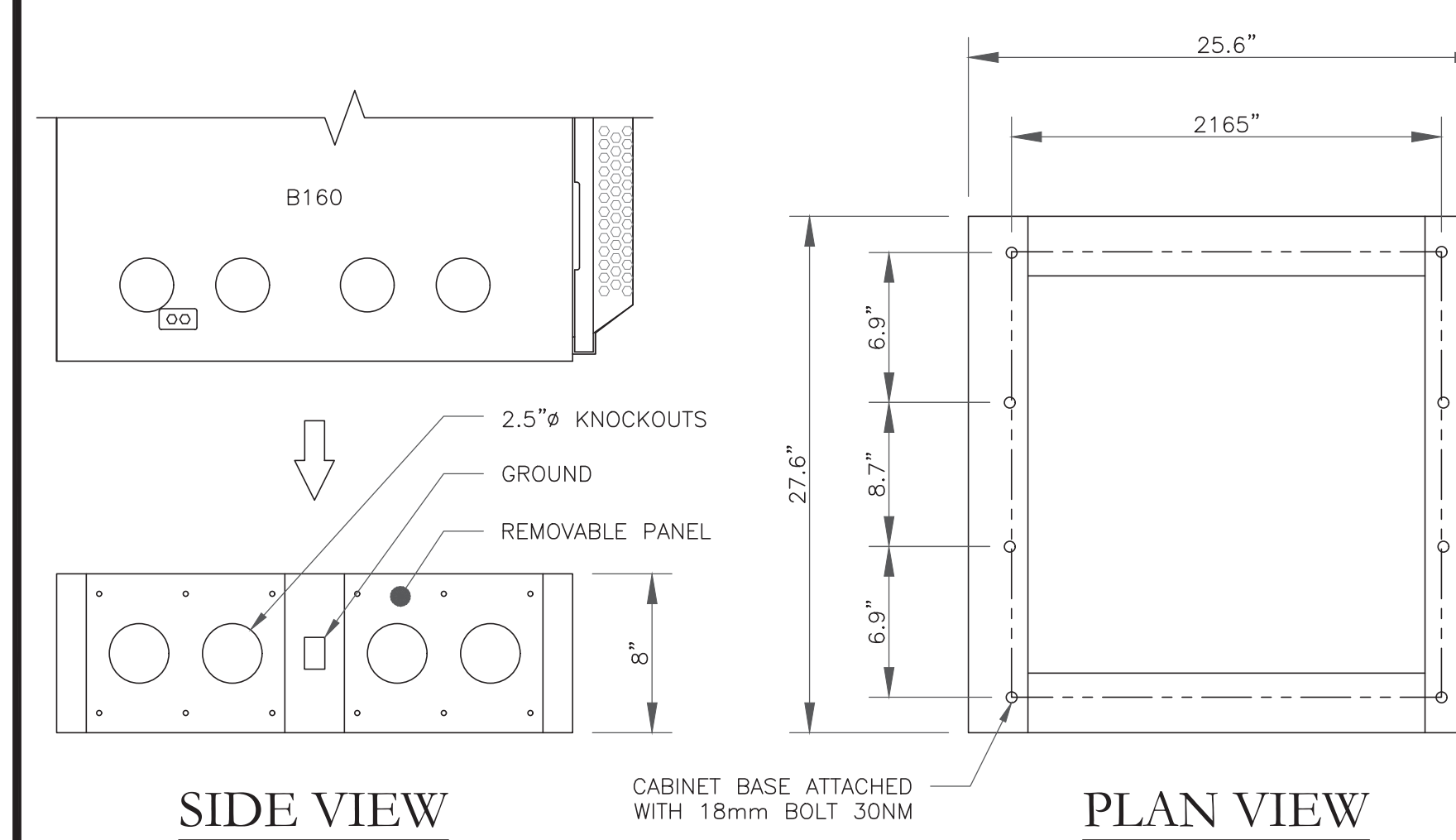
2 ELEVATION VIEW WORKING CLEARANCE 6160 & B160 LAYOUT
SCALE: NOT TO SCALE

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

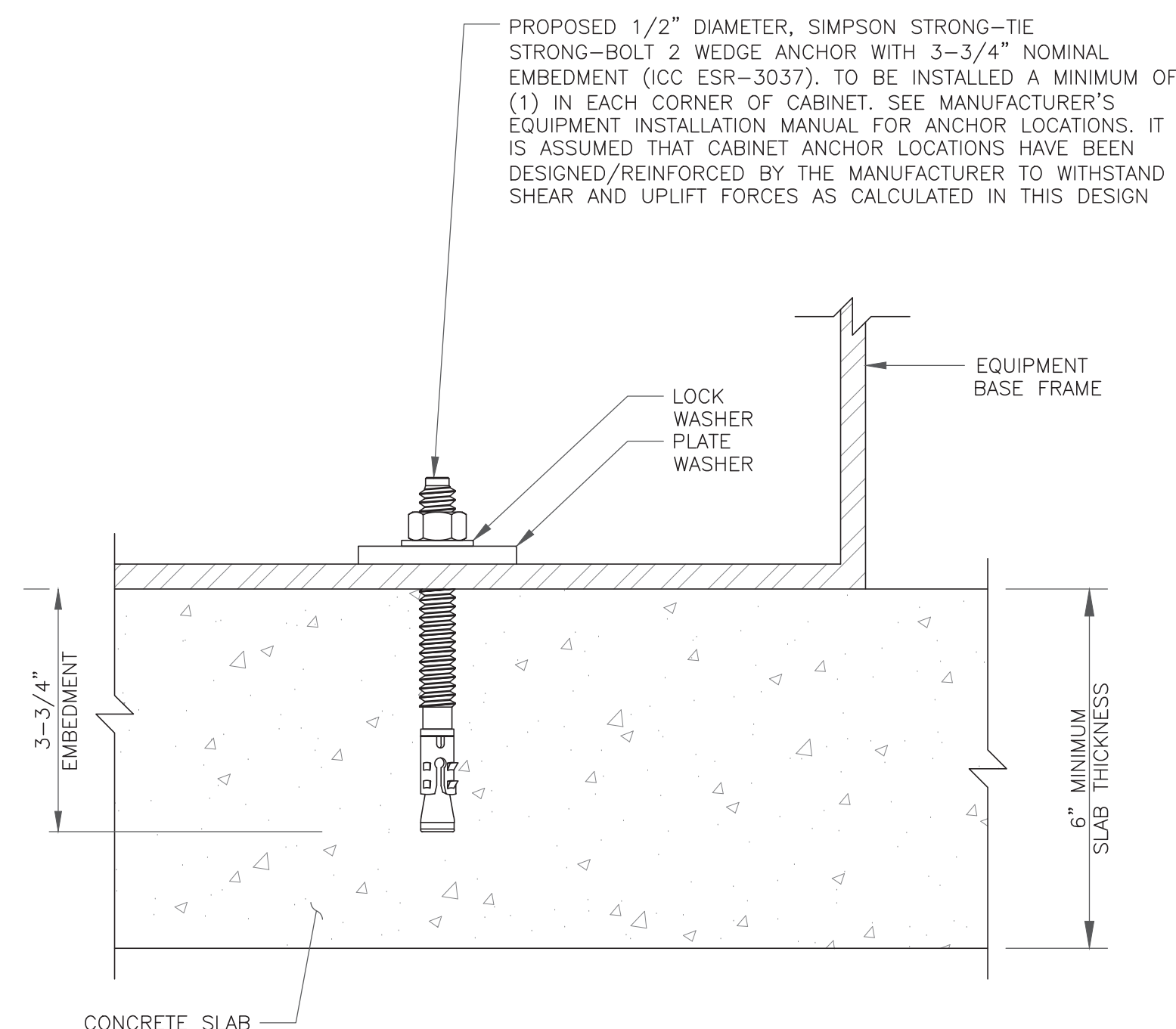


4 ERICSSON 6160 PLINTH DETAIL
SCALE: NOT TO SCALE

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

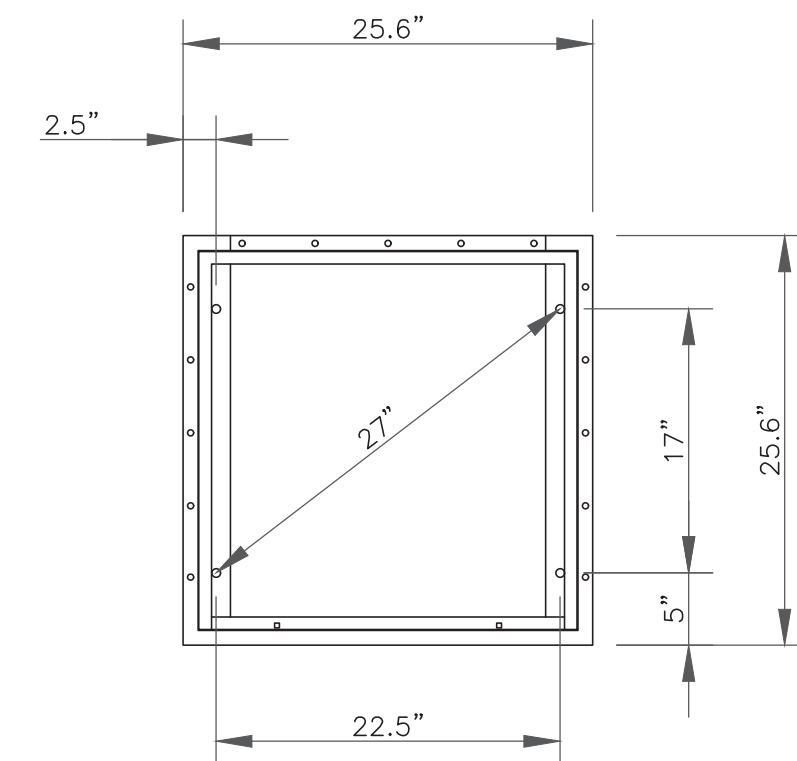


3 TYPICAL ANCHOR BOLT DETAIL
SCALE: NOT TO SCALE

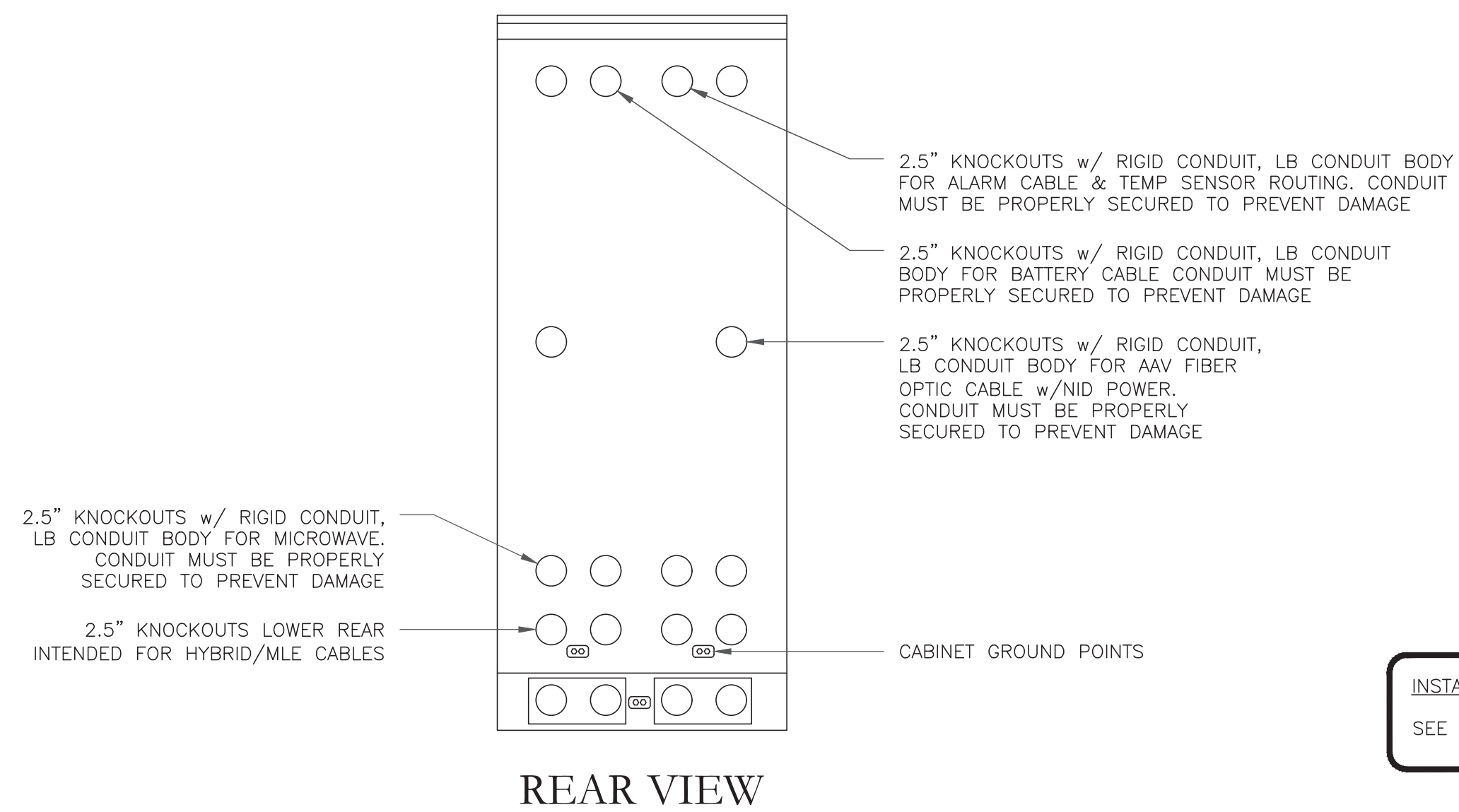
T-MOBILE NATIONAL ANCHOR

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.

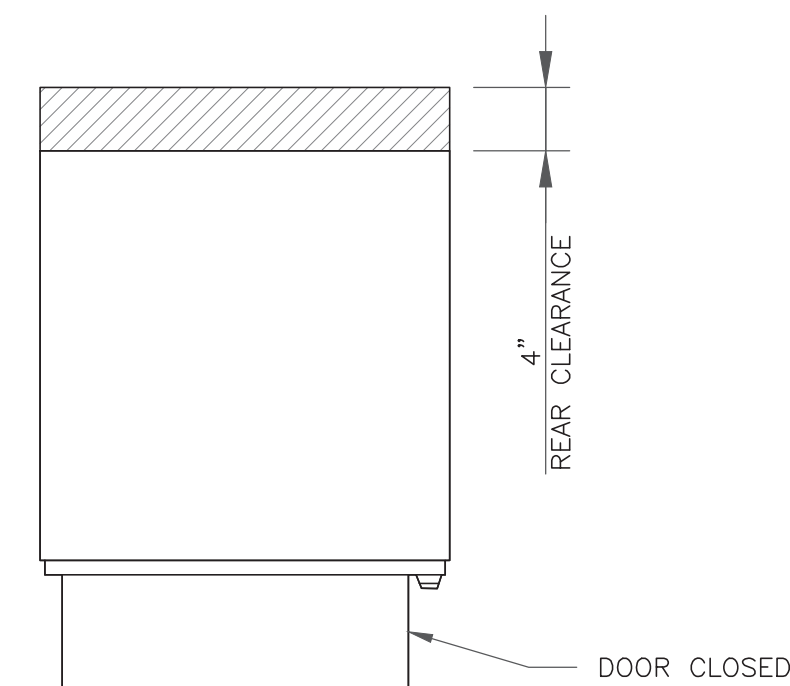


BOLT DOWN PATTERN

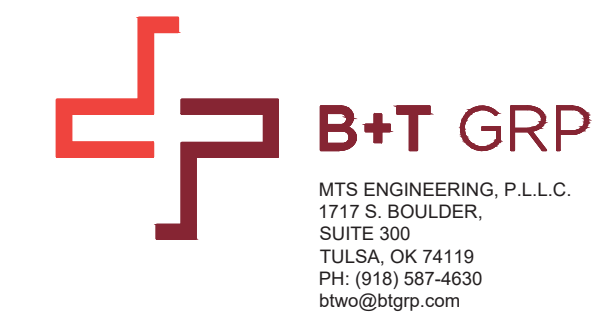


REAR VIEW

INSTALLER NOTE:
SEE PLINTH ON SHEET C-6.1.



PLAN VIEW



T-MOBILE SITE NUMBER:
CT11393B

BU #: 876381
CROWN CASTLE SITE NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG



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BER:2386985
Expires 3/31/24

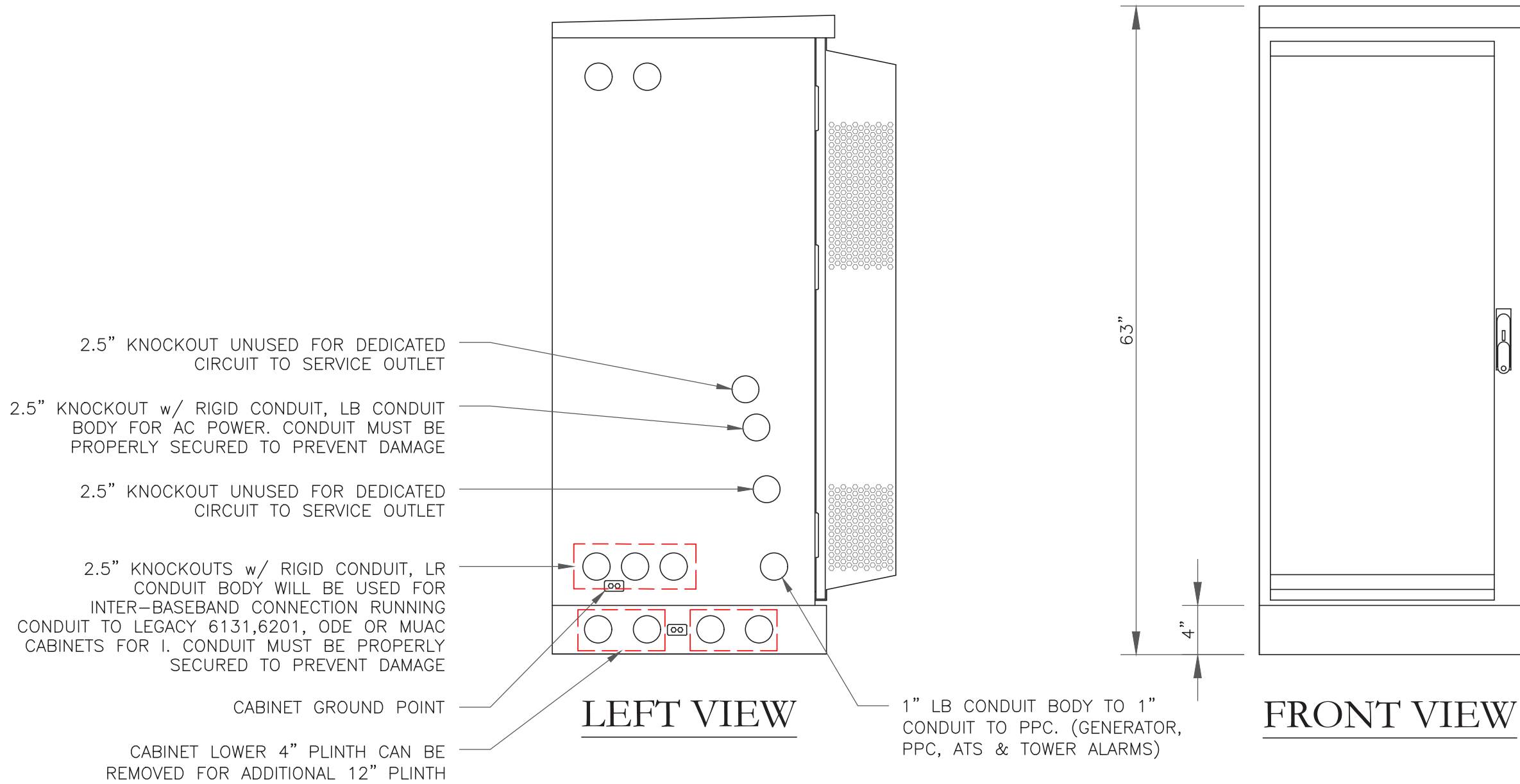
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SHEET NUMBER:

C-6.2

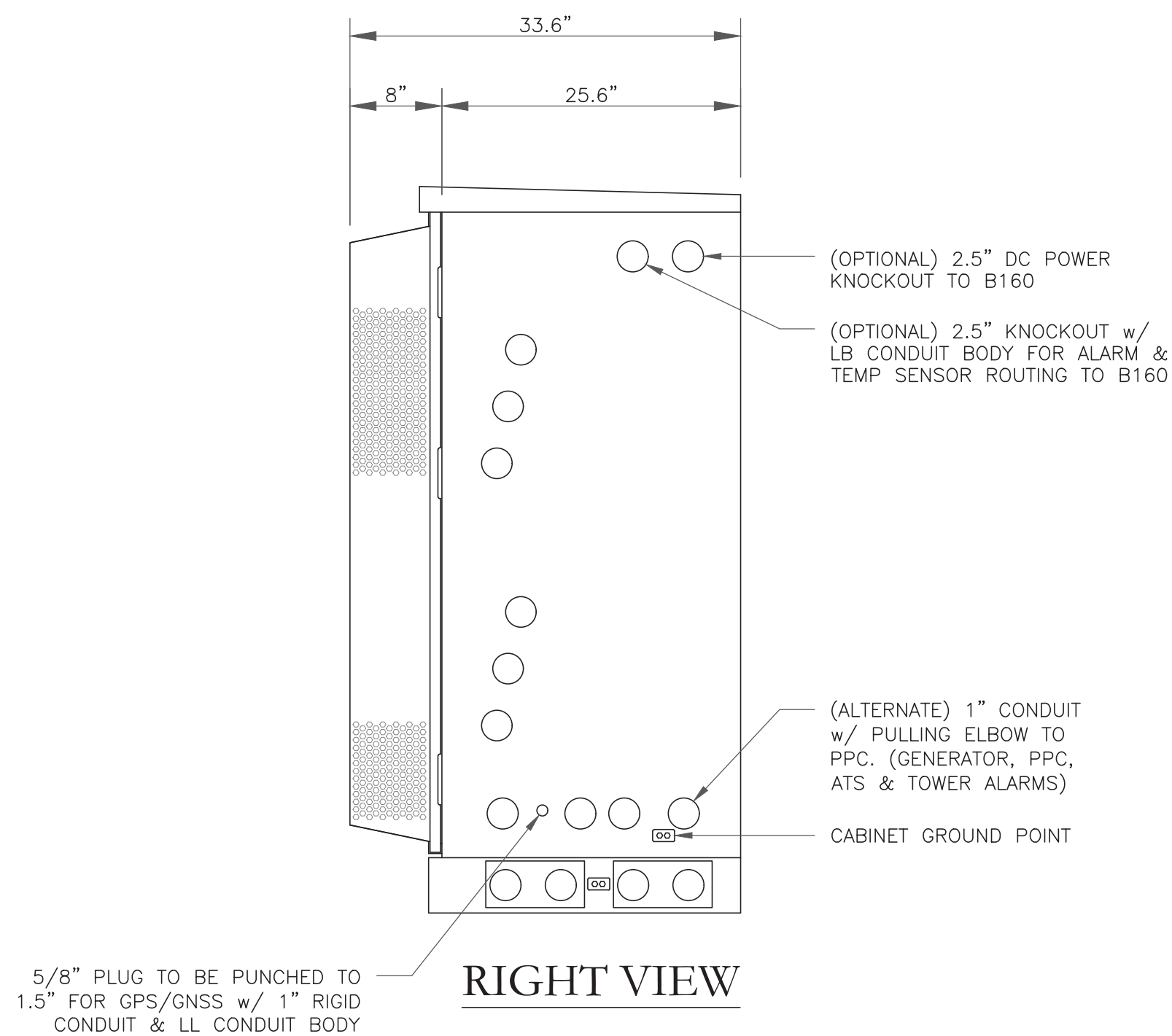
REVISION:

0

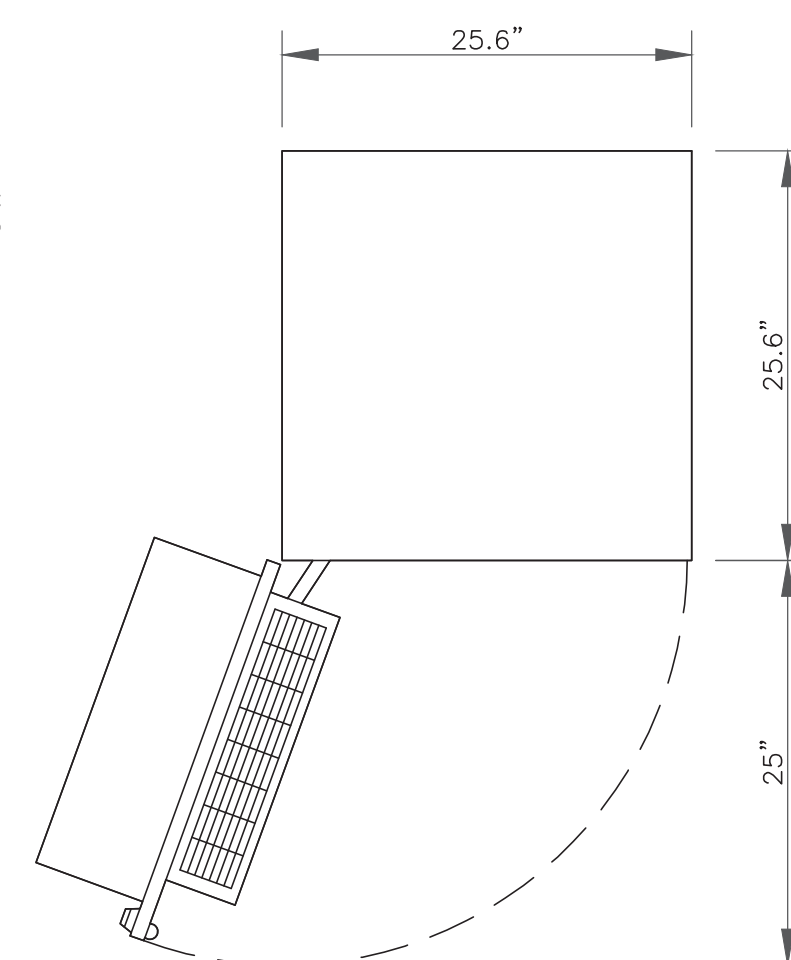


LEFT VIEW

FRONT VIEW



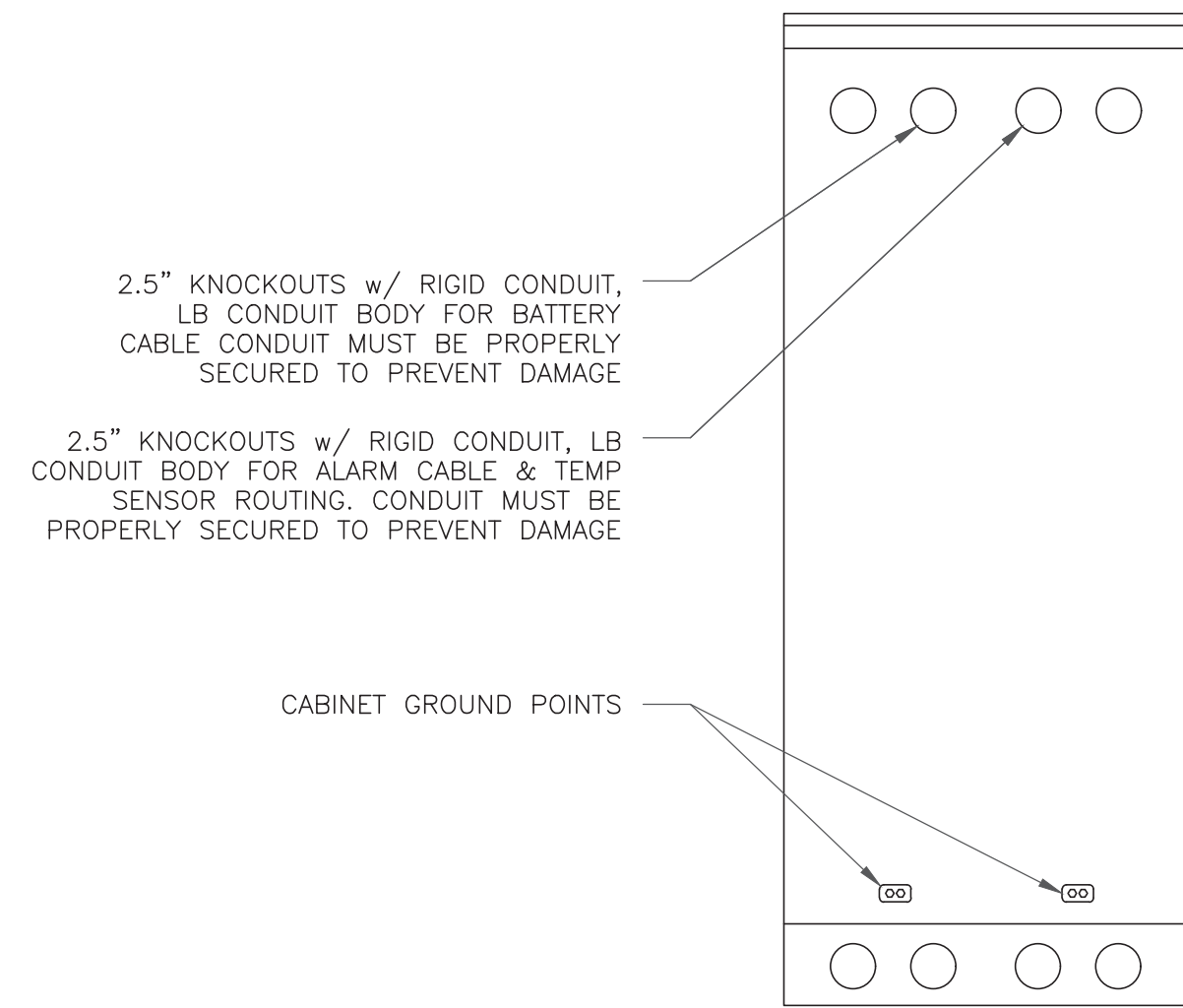
RIGHT VIEW



DOOR SWING

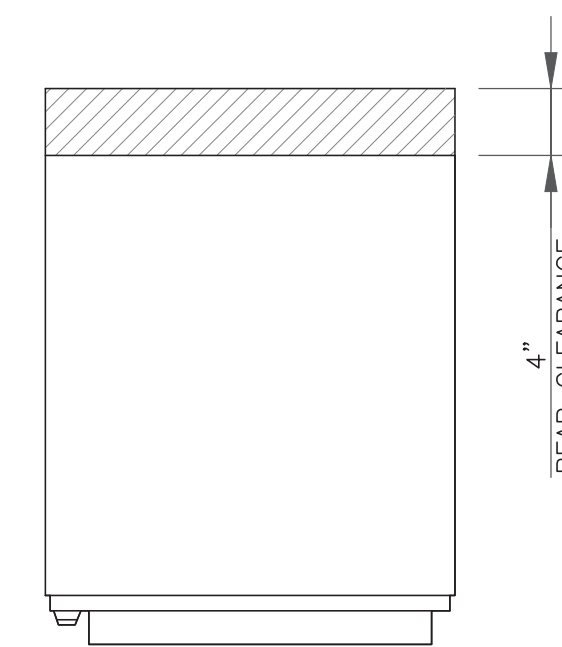
MANUFACTURER:	ERICSSON
MODEL:	B160 BATTERY CABINET
DIMENSIONS (HxWxD):	63"x25.6"x29.5"
WEIGHT:	295 LBS
SKU #:	T.B.D.

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.

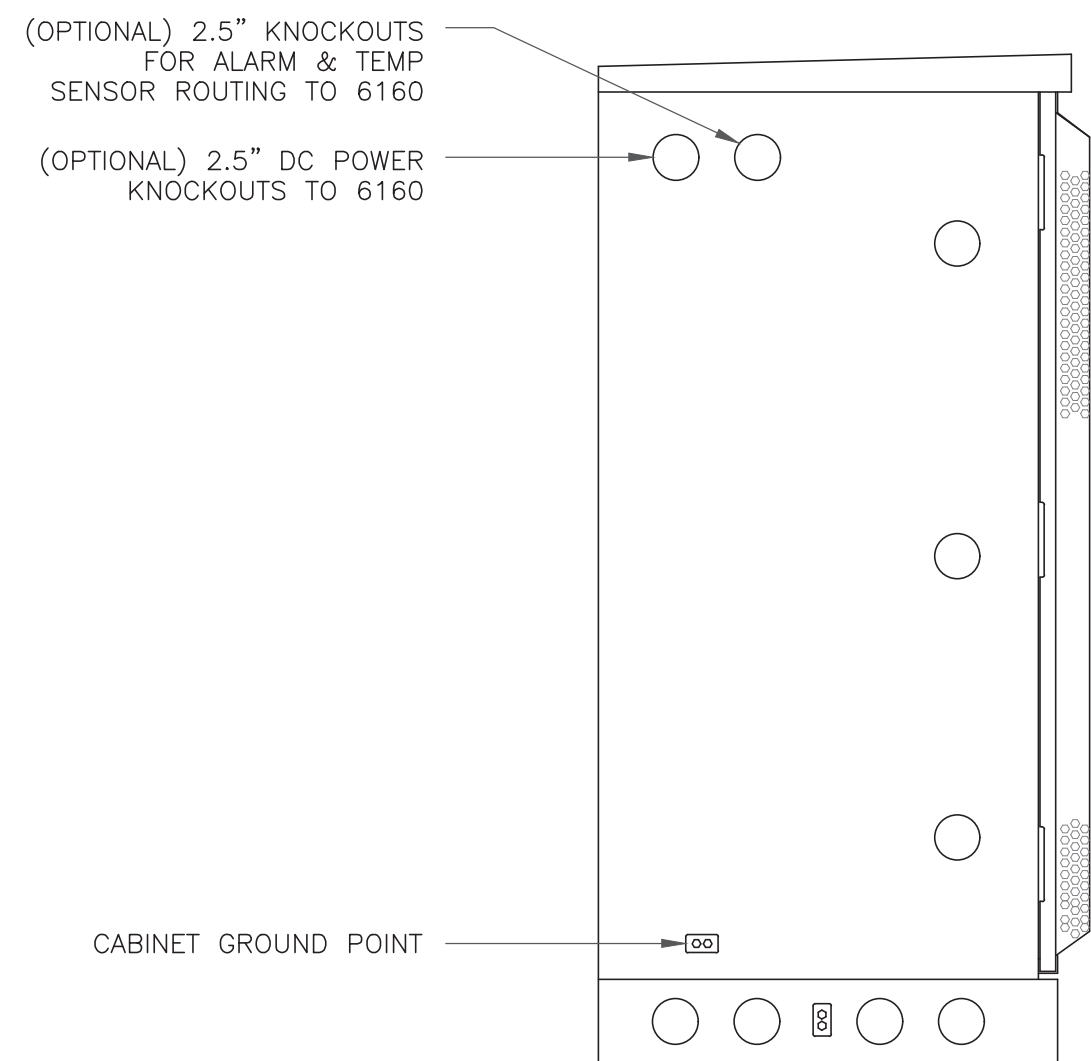


REAR VIEW

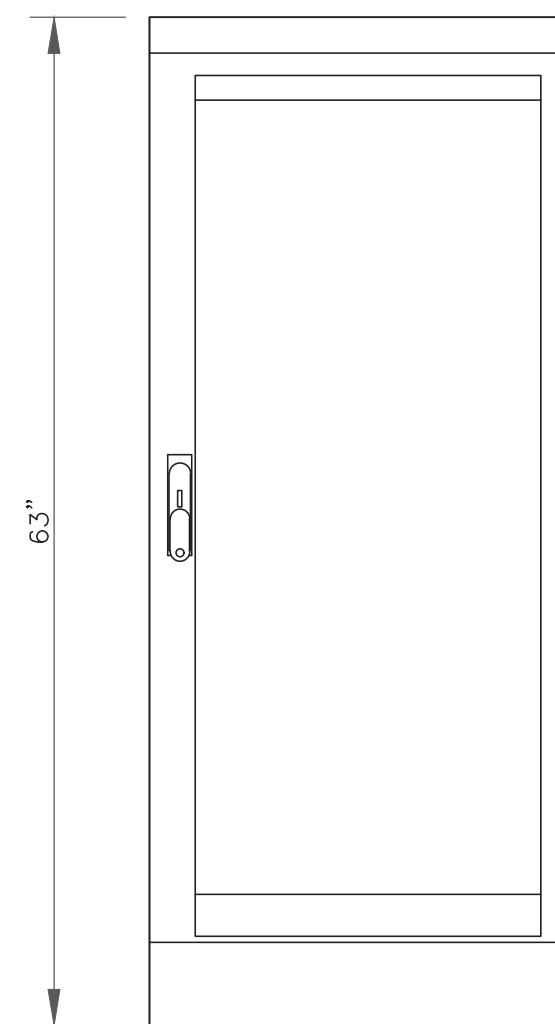
INSTALLER NOTE:
 SEE PLINTH ON SHEET C-6.1.



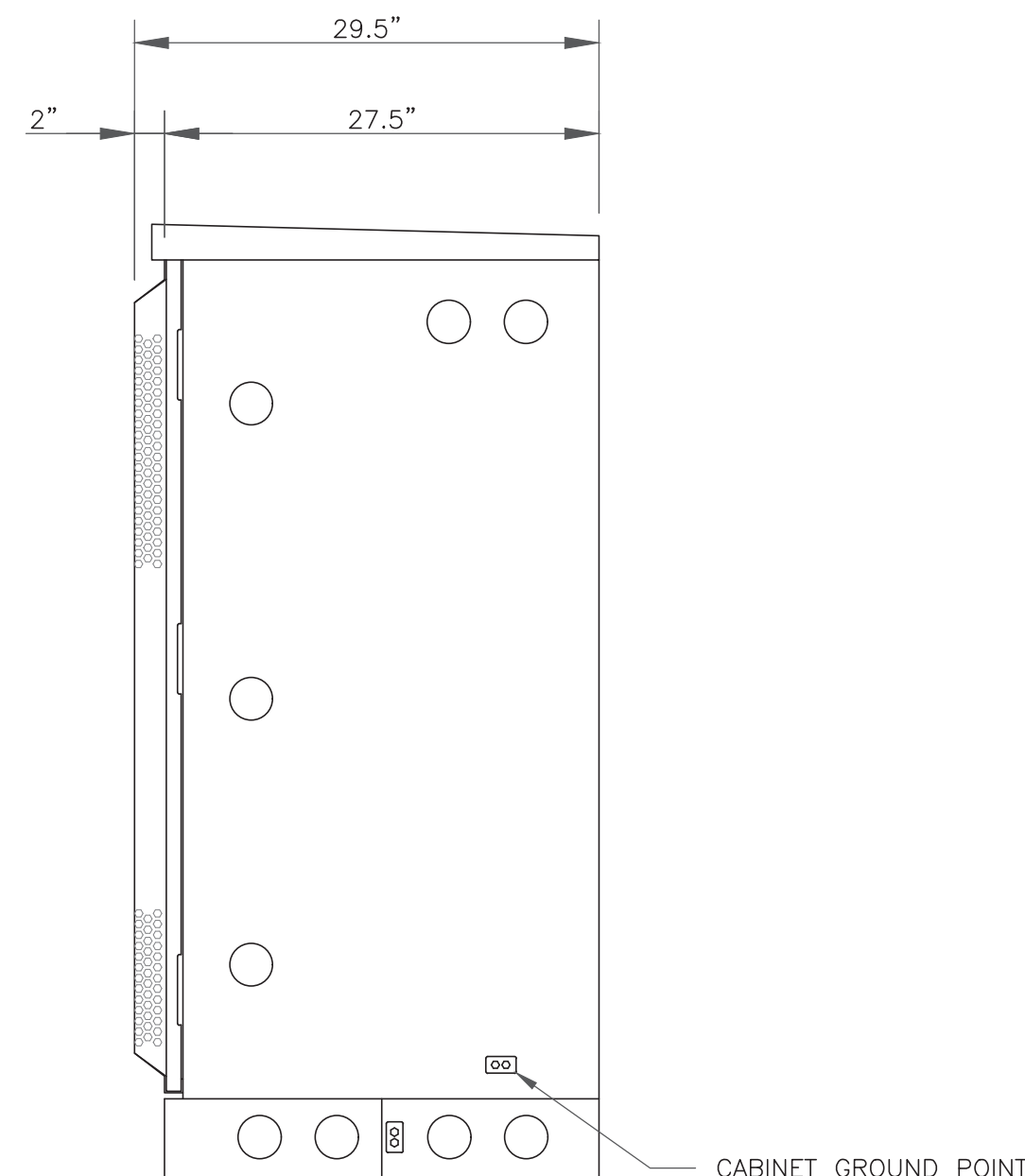
PLAN VIEW



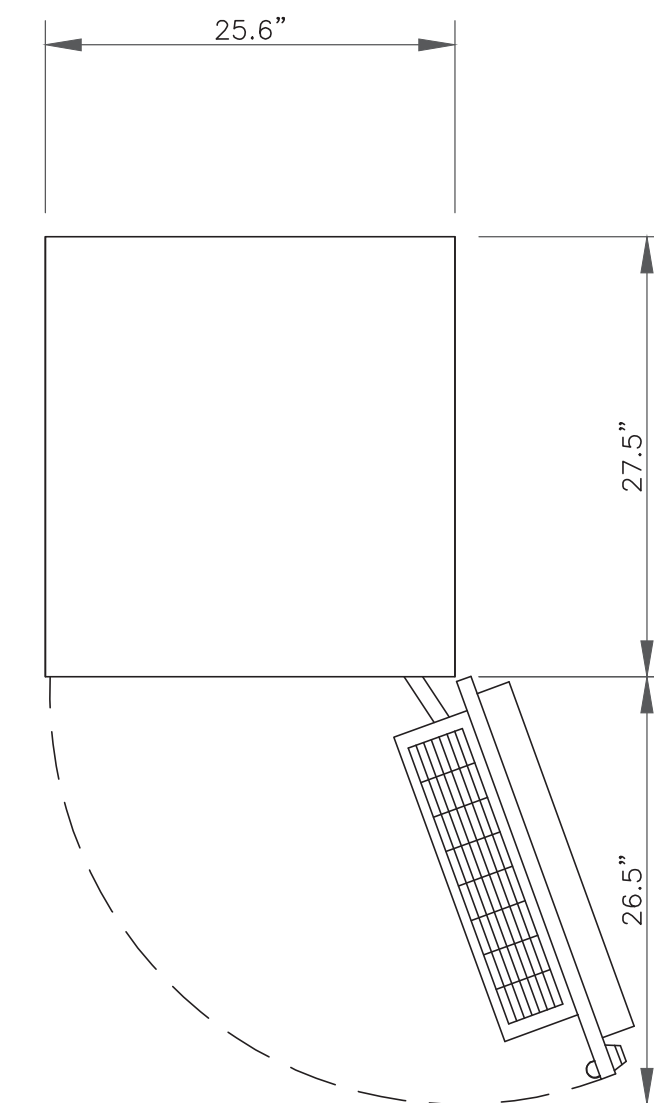
LEFT VIEW



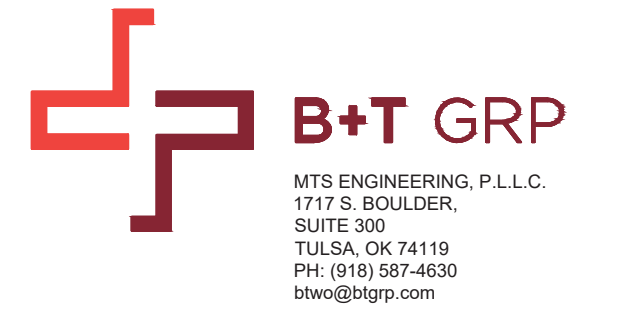
FRONT VIEW



RIGHT VIEW



DOOR SWING



T-MOBILE SITE NUMBER:
CT11393B

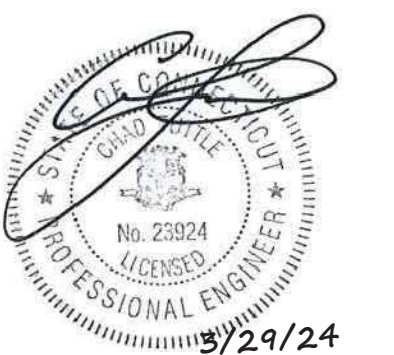
BU #: **876381**
 CROWN CASTLE SITE
 NAME:
WARD

2381 LONG HILL RD
 GUILFORD, CT 06437

EXISTING 176'-0"
 MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG



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SHEET NUMBER:
C-6.3

REVISION:
0

T-MOBILE SITE NUMBER:
CT11393B

BU #: **876381**
CROWN CASTLE SITE
NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

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0	3/29/24	TDG	CONSTRUCTION	TDG



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BER:2386985
Expires 3/31/24

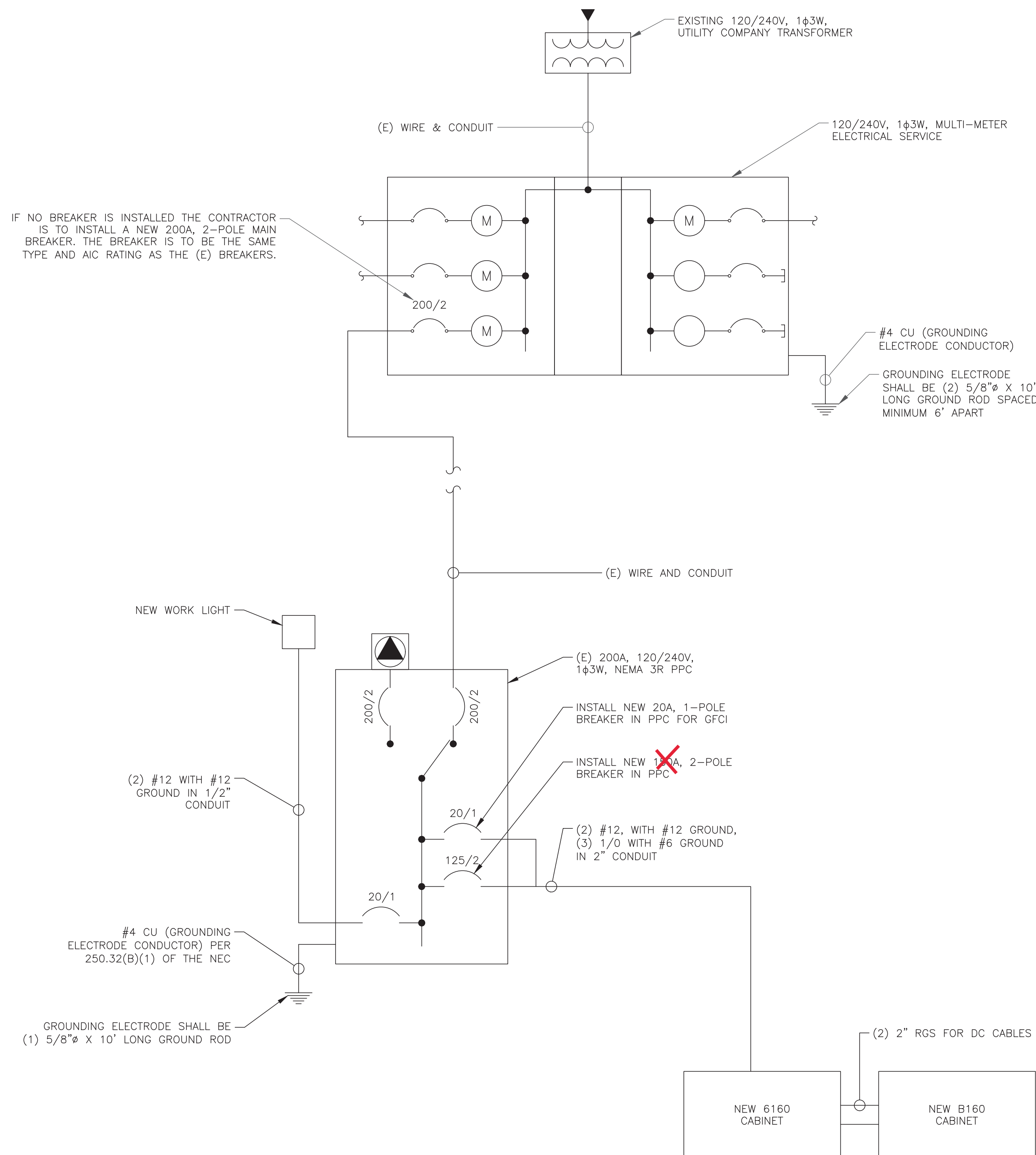
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SHEET NUMBER:

E-1

REVISION:

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1 ONE-LINE DIAGRAM
SCALE: NOT TO SCALE

LOAD	POLES	AMPS	BUS		AMPS	POLES	LOAD
			L1	L2			
SURGE PRO	2	60A	1	2	20A	1	GFI
GEN GFCI	1	20A	3	4	125A	2	RBS 6131
			5	6			
			7	8			
			9	10			
			11	12			
			13	14			
			15	16			
			17	18			
			19	20			
			21	22			
(UNLABELED)	1	15A	23	24			

RATED VOLTAGE: <input checked="" type="checkbox"/> 120/240 <input type="checkbox"/> _____ 1 PHASE, 3 WIRE	BRANCH POLES: <input type="checkbox"/> 12 <input checked="" type="checkbox"/> 24 <input type="checkbox"/> 30 <input type="checkbox"/> 42	APPROVED MF'RS
RATED AMPS: <input type="checkbox"/> 100 <input checked="" type="checkbox"/> 200 <input type="checkbox"/> 400 <input type="checkbox"/> _____	CABINET: <input checked="" type="checkbox"/> SURFACE <input type="checkbox"/> FLUSH	NEMA <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 3R <input type="checkbox"/> 4X
<input type="checkbox"/> MAIN LUGS ONLY MAIN 200 AMPS <input checked="" type="checkbox"/> BREAKER <input type="checkbox"/> FUSED SWITCH	<input checked="" type="checkbox"/> HINGED DOOR	<input checked="" type="checkbox"/> KEYPED DOOR LATCH
<input type="checkbox"/> FUSED <input checked="" type="checkbox"/> CIRCUIT BREAKER BRANCH DEVICES	<input type="checkbox"/> _____ TO BE GFCI BREAKERS	FULL NEUTRAL BUS <input type="checkbox"/> GROUND BAR

ALL BREAKERS MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF 10,000 AMPS SYMMETRICAL

2 EXISTING PANEL SCHEDULE
SCALE: NOT TO SCALE

LOAD	POLES	AMPS	BUS		AMPS	POLES	LOAD
			L1	L2			
SURGE PRO	2	60A	1	2	20A	1	GFCI
GEN GFCI	1	20A	3	4	125A	2	6160
			5	6			
			7	8			
			9	10			
			11	12			
			13	14			
			15	16			
			17	18			
			19	20			
			21	22			
(UNLABELED)	1	15A	23	24			

RATED VOLTAGE: <input checked="" type="checkbox"/> 120/240 <input type="checkbox"/> _____ 1 PHASE, 3 WIRE	BRANCH POLES: <input type="checkbox"/> 12 <input checked="" type="checkbox"/> 24 <input type="checkbox"/> 30 <input type="checkbox"/> 42	APPROVED MF'RS
RATED AMPS: <input type="checkbox"/> 100 <input checked="" type="checkbox"/> 200 <input type="checkbox"/> 400 <input type="checkbox"/> _____	CABINET: <input checked="" type="checkbox"/> SURFACE <input type="checkbox"/> FLUSH	NEMA <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 3R <input type="checkbox"/> 4X
<input type="checkbox"/> MAIN LUGS ONLY MAIN 200 AMPS <input checked="" type="checkbox"/> BREAKER <input type="checkbox"/> FUSED SWITCH	<input checked="" type="checkbox"/> HINGED DOOR	<input checked="" type="checkbox"/> KEYPED DOOR LATCH
<input type="checkbox"/> FUSED <input checked="" type="checkbox"/> CIRCUIT BREAKER BRANCH DEVICES	<input type="checkbox"/> _____ TO BE GFCI BREAKERS	FULL NEUTRAL BUS <input type="checkbox"/> GROUND BAR

ALL BREAKERS MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF 10,000 AMPS SYMMETRICAL

REPLACE EXISTING 1P 20A BREAKER WITH NEW 1P 20A BREAKER IN POSITION 2
 REPLACE EXISTING 2P 125A BREAKER WITH NEW 2P 150A BREAKER IN POSITIONS 4 AND 6
 IF 150A BREAKER WILL NOT PROPERLY FIT IN EXISTING PANEL, REPLACE (E) PANEL WITH SQUARE D PANEL Q0130M150PRB (OR APPROVED EQUAL).
 UPGRADE FEEDER WIRES TO MEET AMPACITY IF NEW PANEL IS REQUIRED.
 FINAL PANEL DESIGN AND CALCULATIONS FOR WIRE SIZE WERE BASED OFF OF EXISTING PHOTOS

3 FINAL PANEL SCHEDULE
SCALE: NOT TO SCALE

T-MOBILE SITE NUMBER:
CT11393B

BU #: **876381**
CROWN CASTLE SITE
NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG



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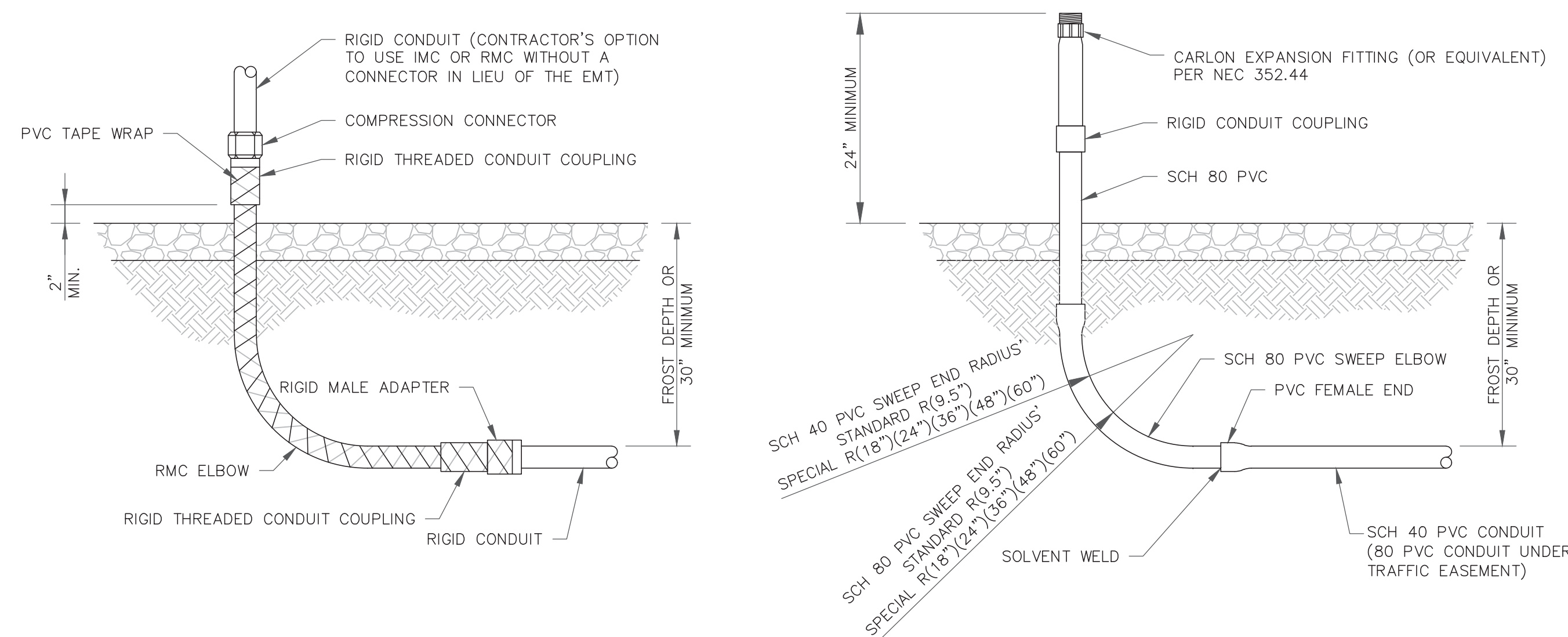
E-2

REVISION:

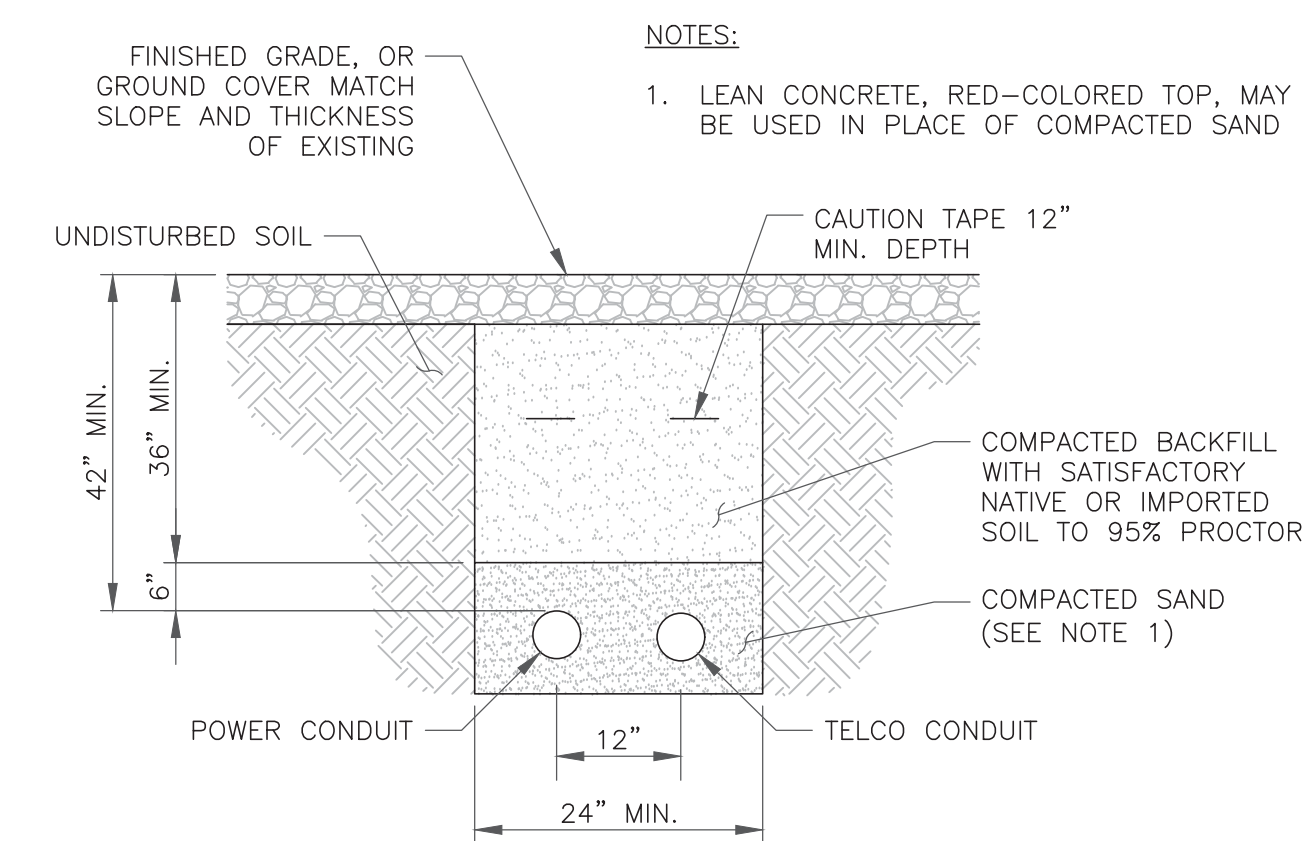
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1 NOT USED
SCALE: NOT TO SCALE

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.



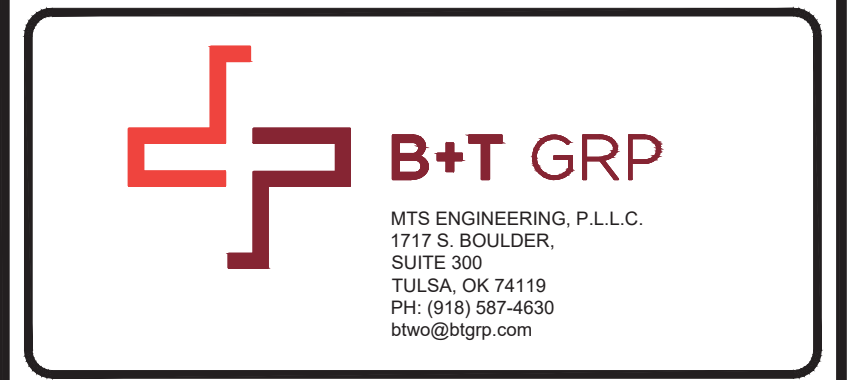
2 CONDUIT STUB UP DETAILS
SCALE: NOT TO SCALE



3 TRENCH DETAIL
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 SITE NUMBER:
CT11393B

BU #: 876381
CROWN CASTLE SITE NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

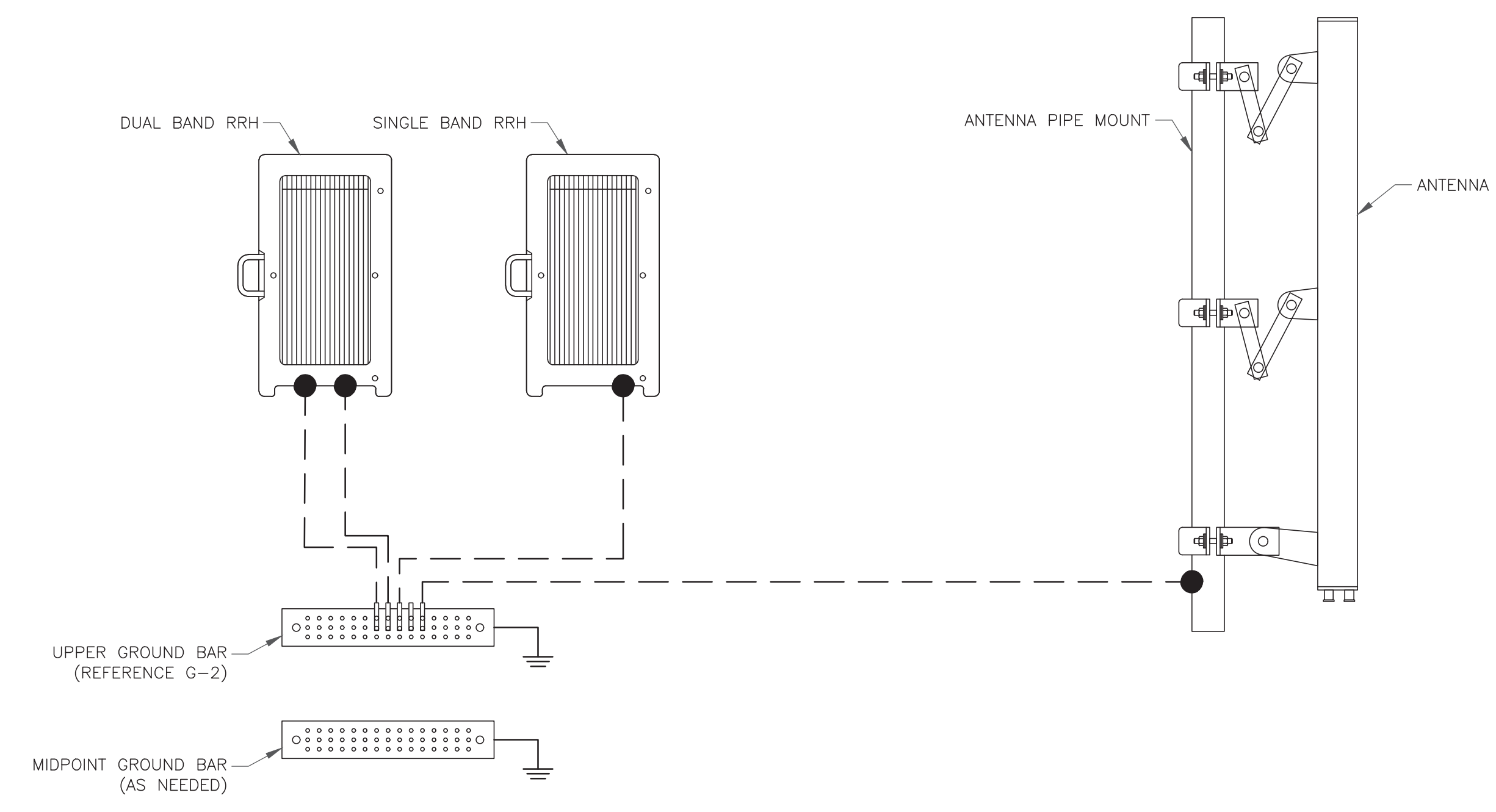
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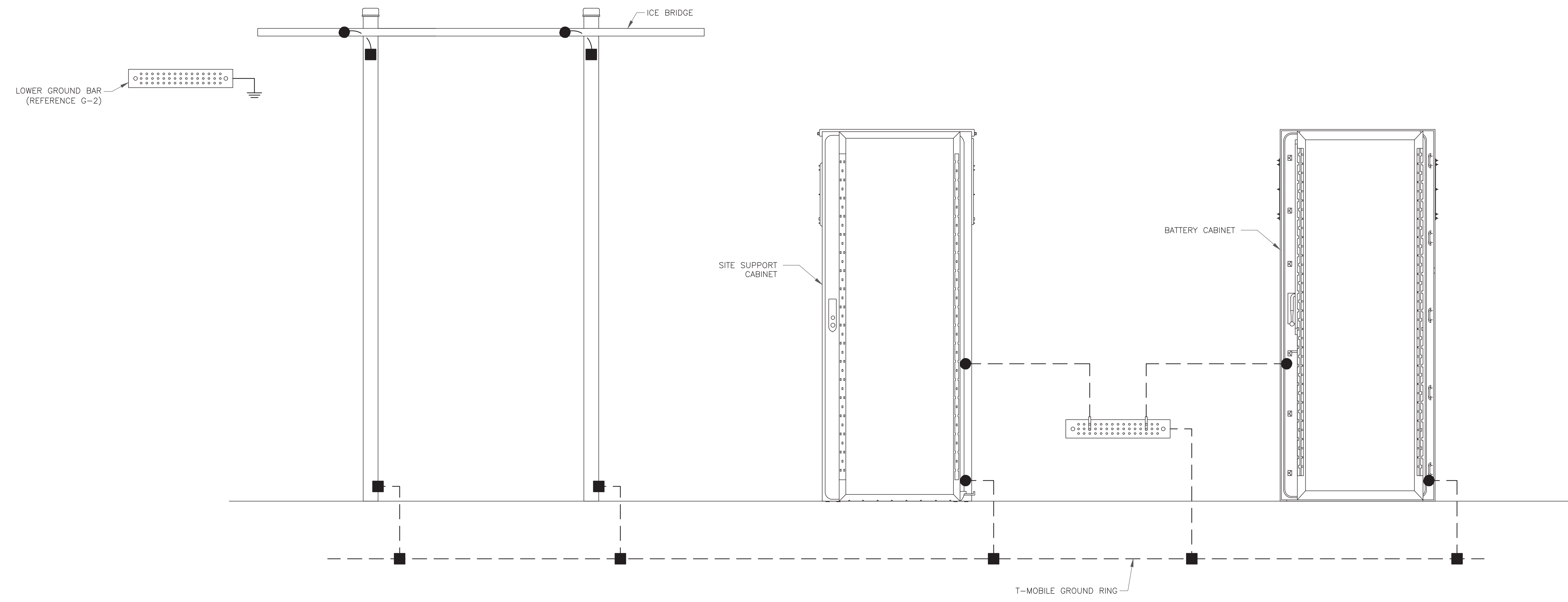
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REVISION:
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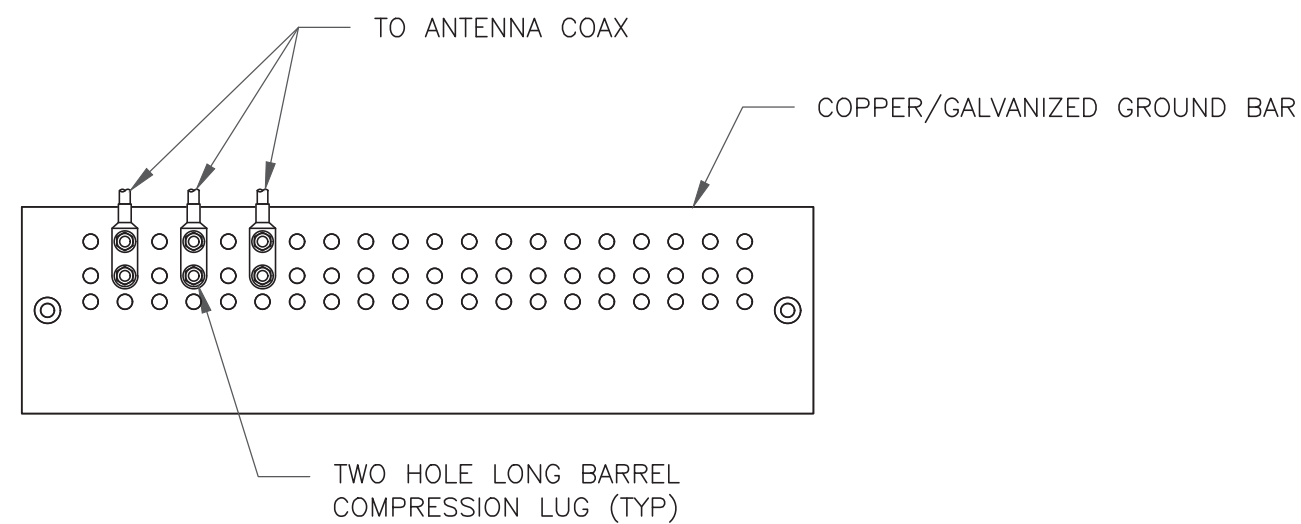


ANTENNA LEVEL
GROUND LEVEL



1 TYPICAL FINAL GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

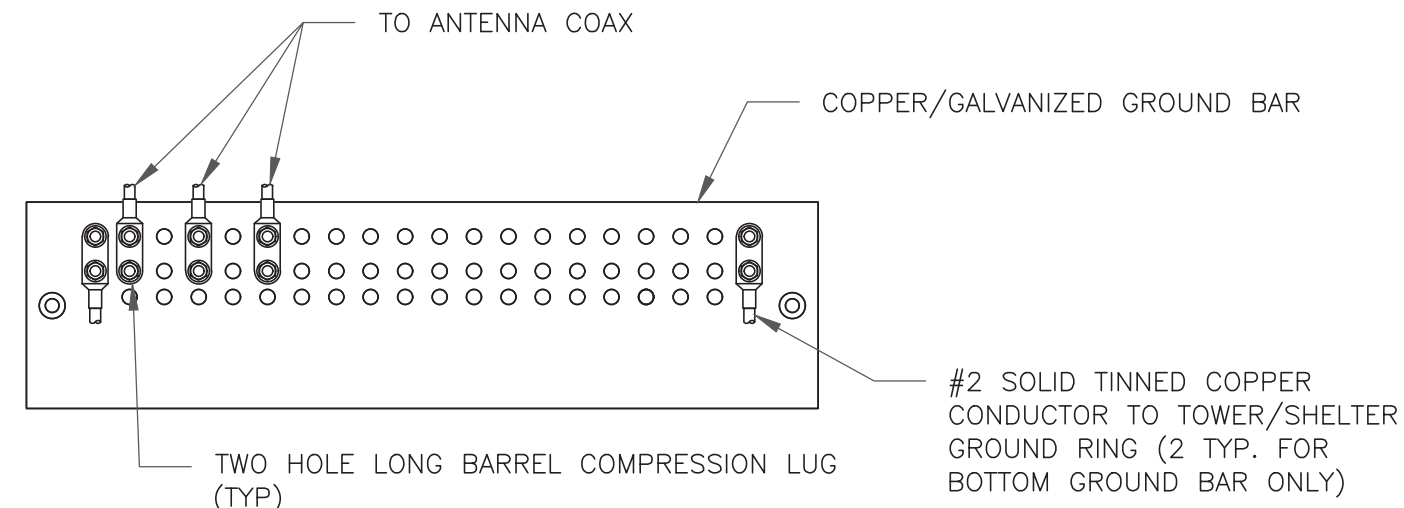
T-MOBILE NATIONAL ANCHOR



NOTES:

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

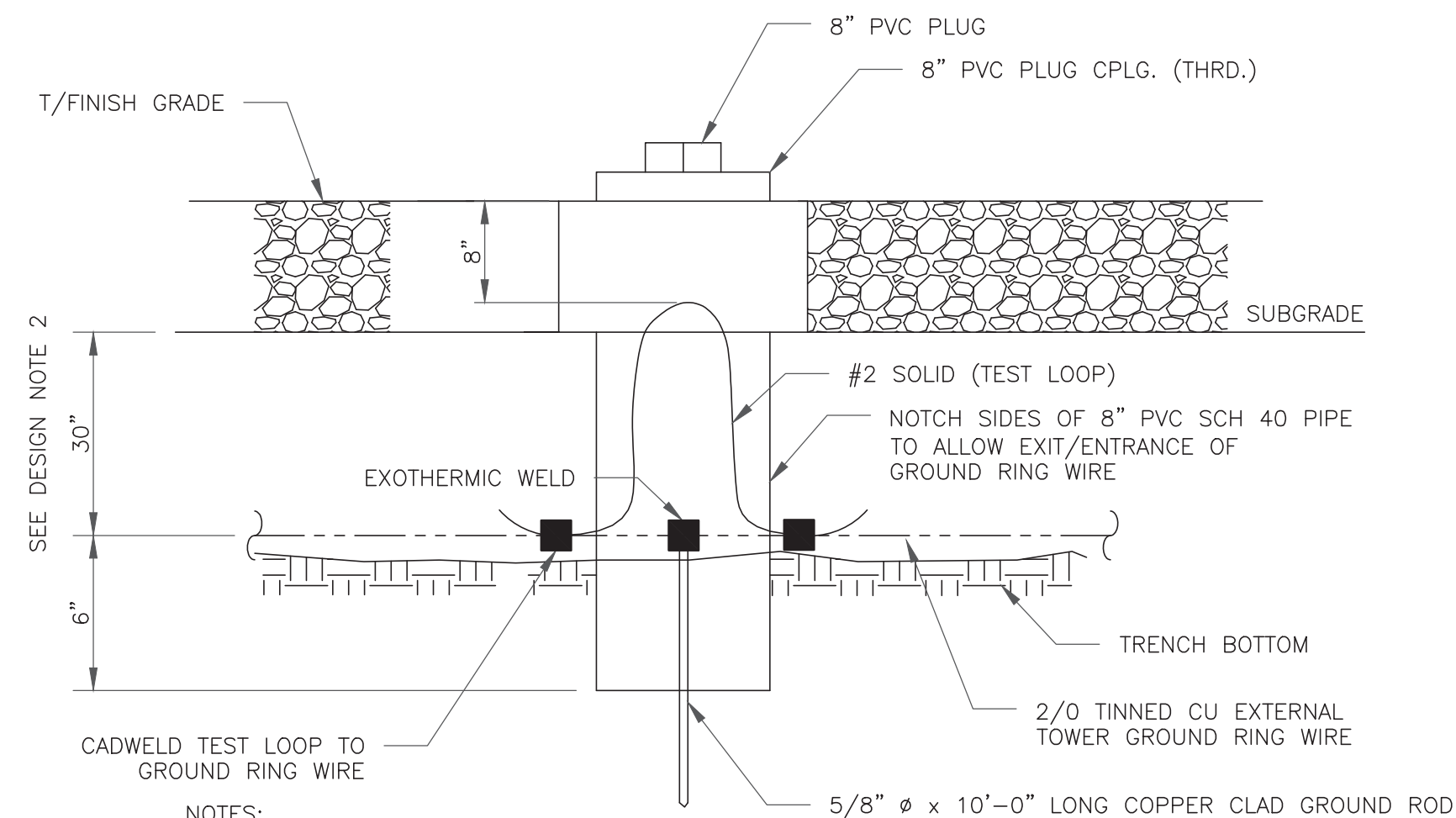
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

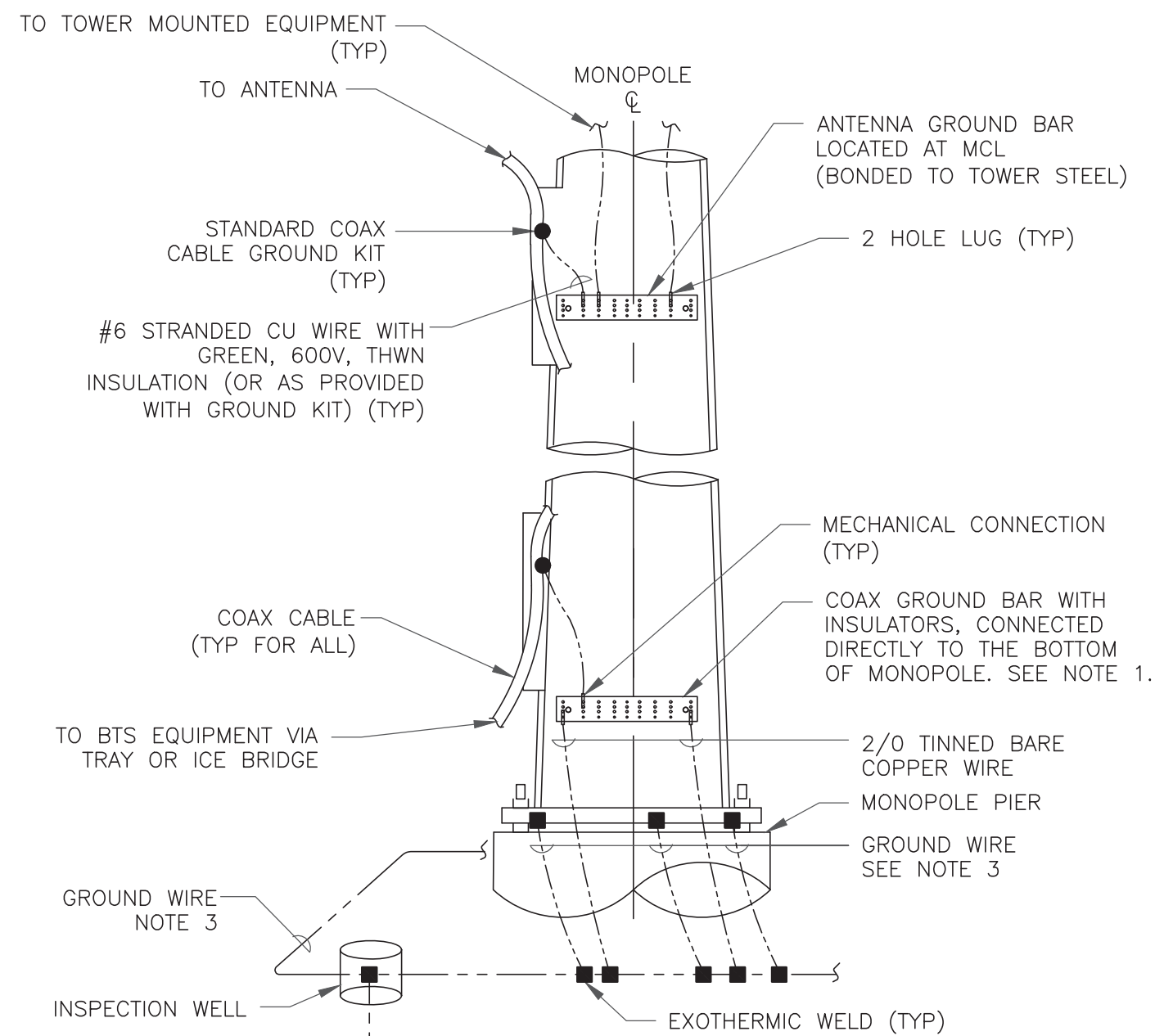
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

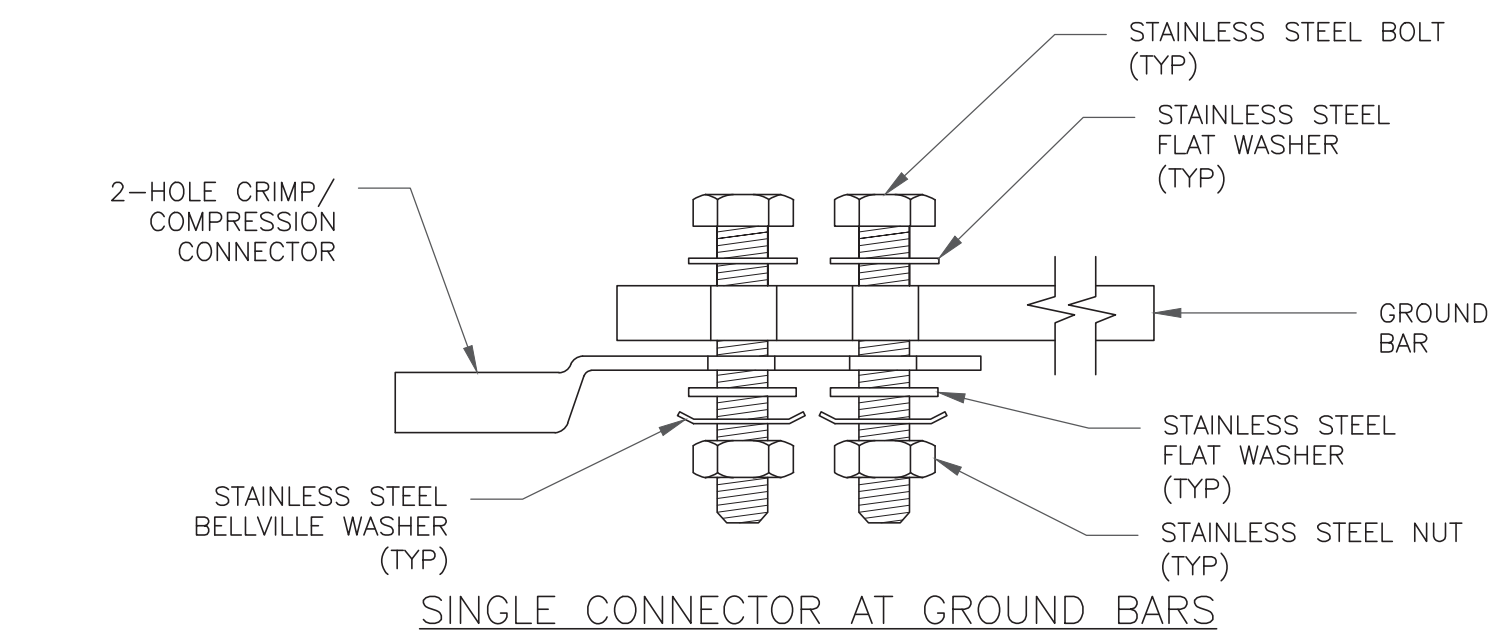
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



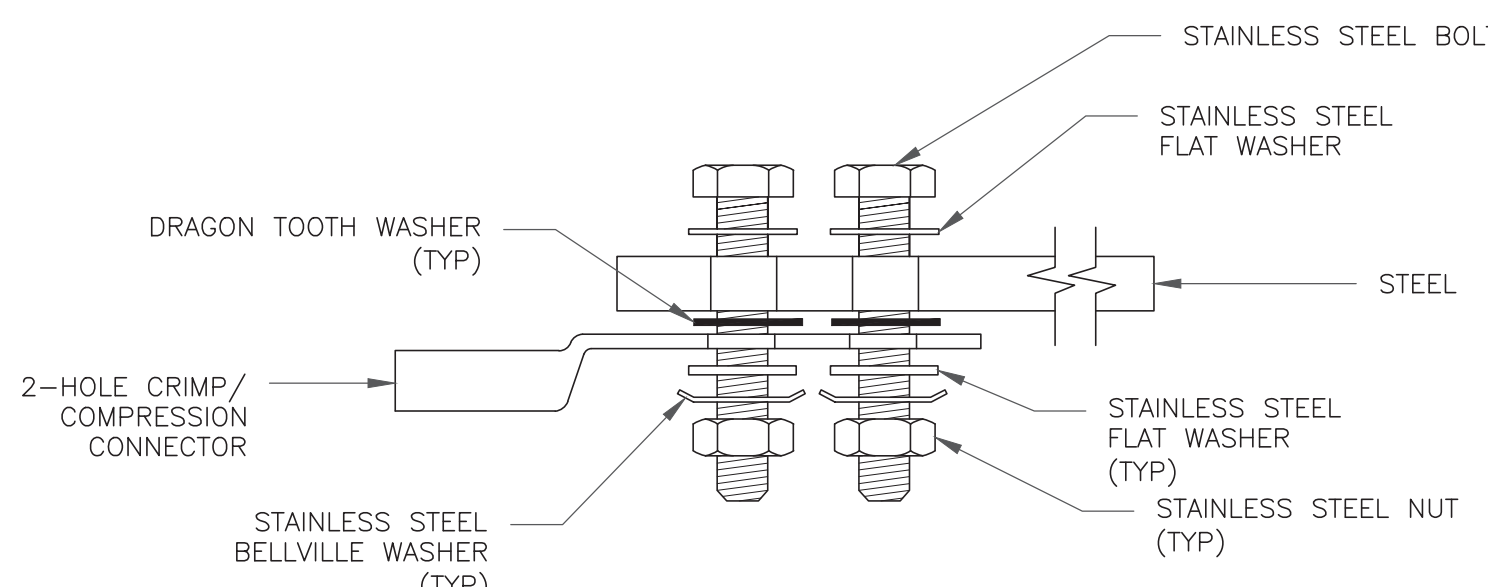
NOTES:

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

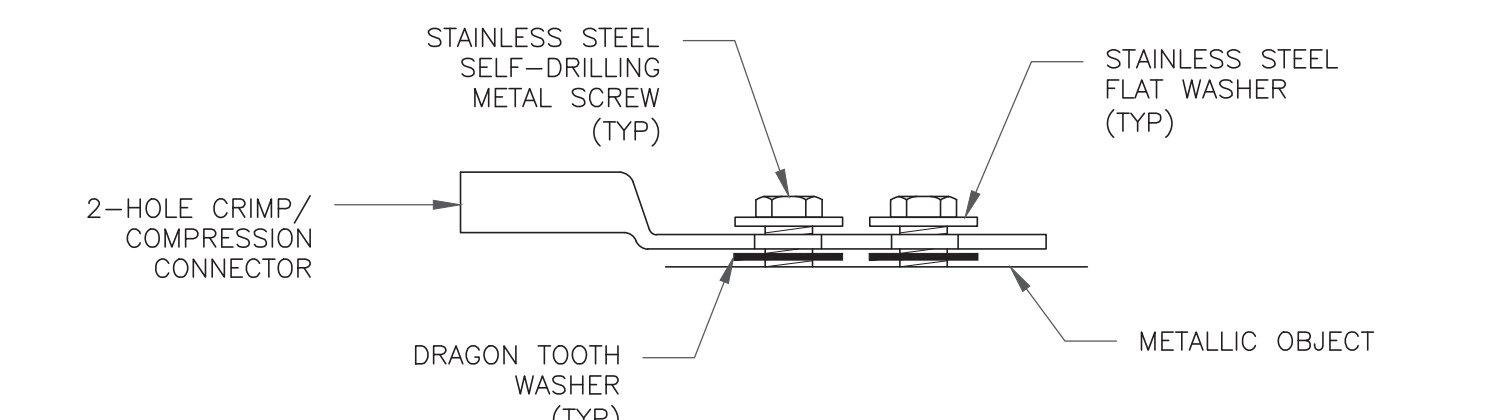
4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

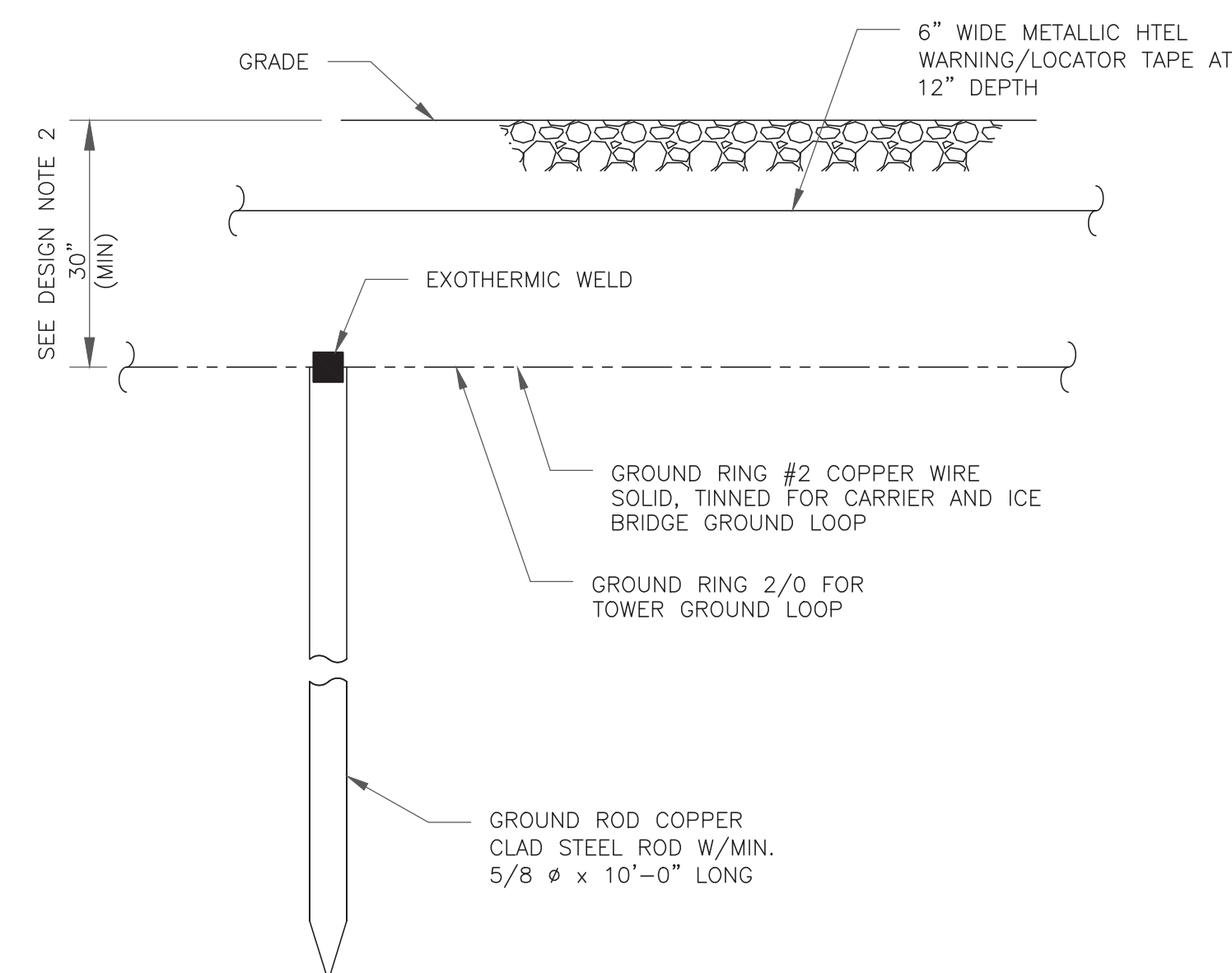


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

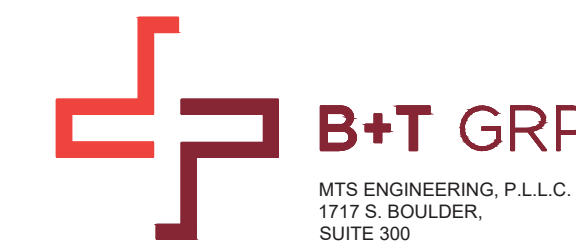
5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE



MTS ENGINEERING, P.L.L.C.
1717 S BOULDER,
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
btwo@btgrp.com

T-MOBILE SITE NUMBER:
CT11393B

BU #: **876381**
CROWN CASTLE SITE
NAME:
WARD

2381 LONG HILL RD
GUILFORD, CT 06437

EXISTING 176'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	2/27/24	YX	PRELIMINARY	LR
0	3/29/24	TDG	CONSTRUCTION	TDG



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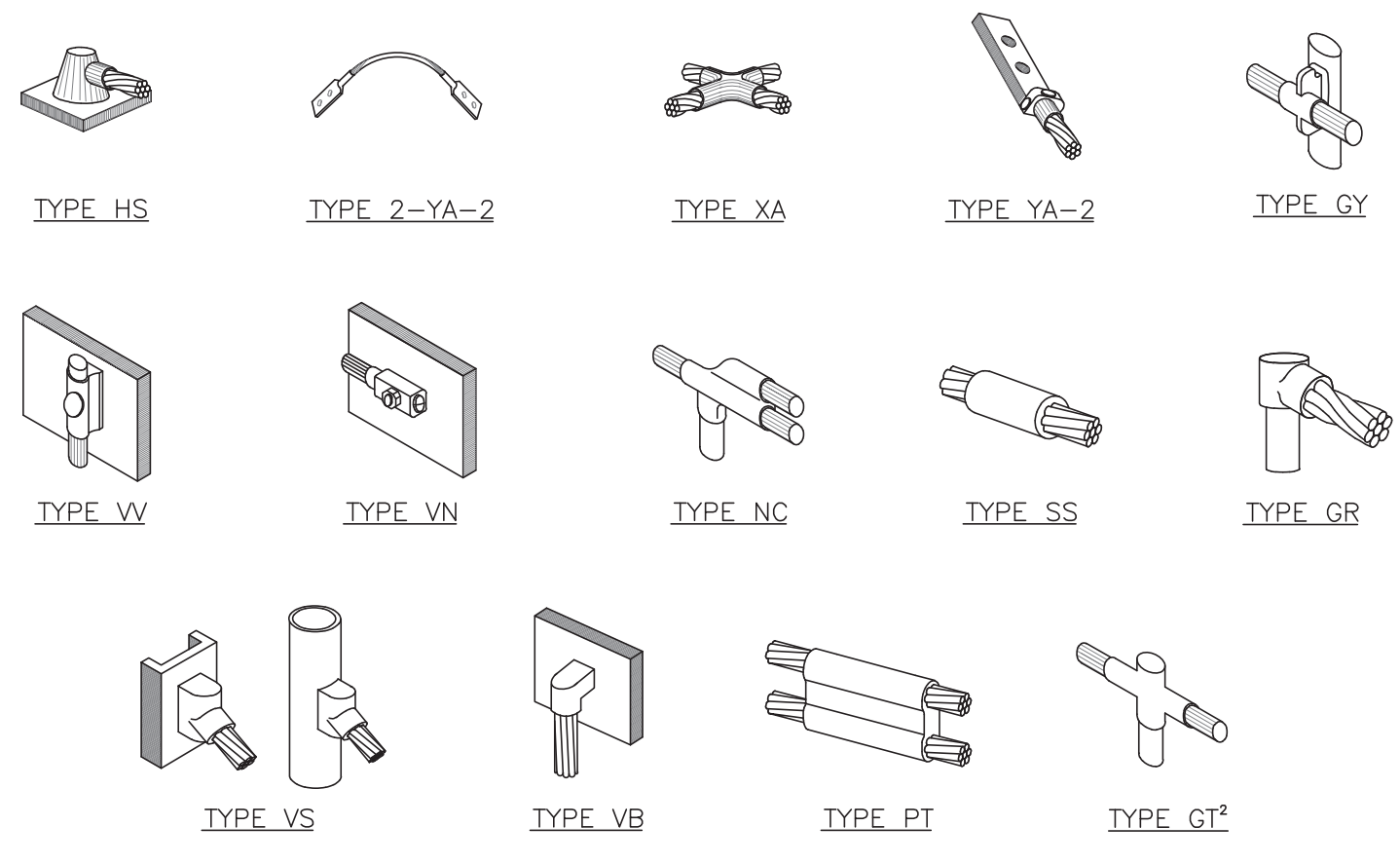
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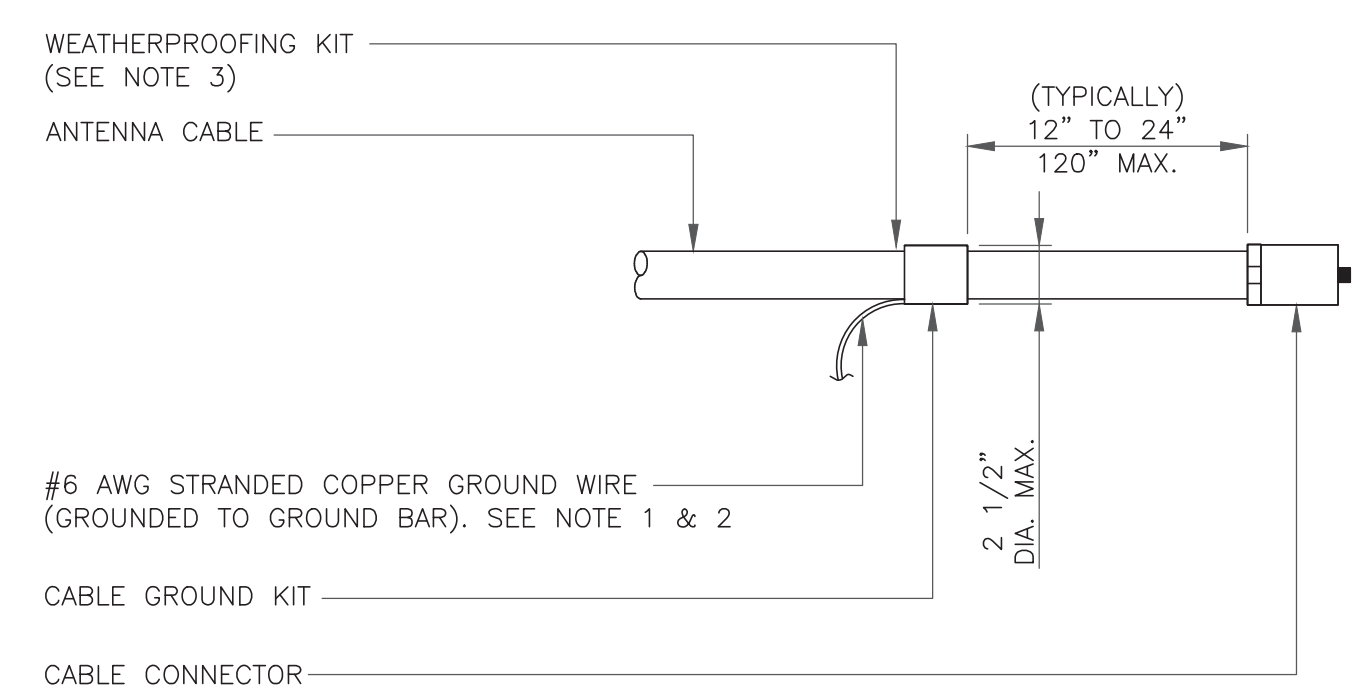
REVISION:

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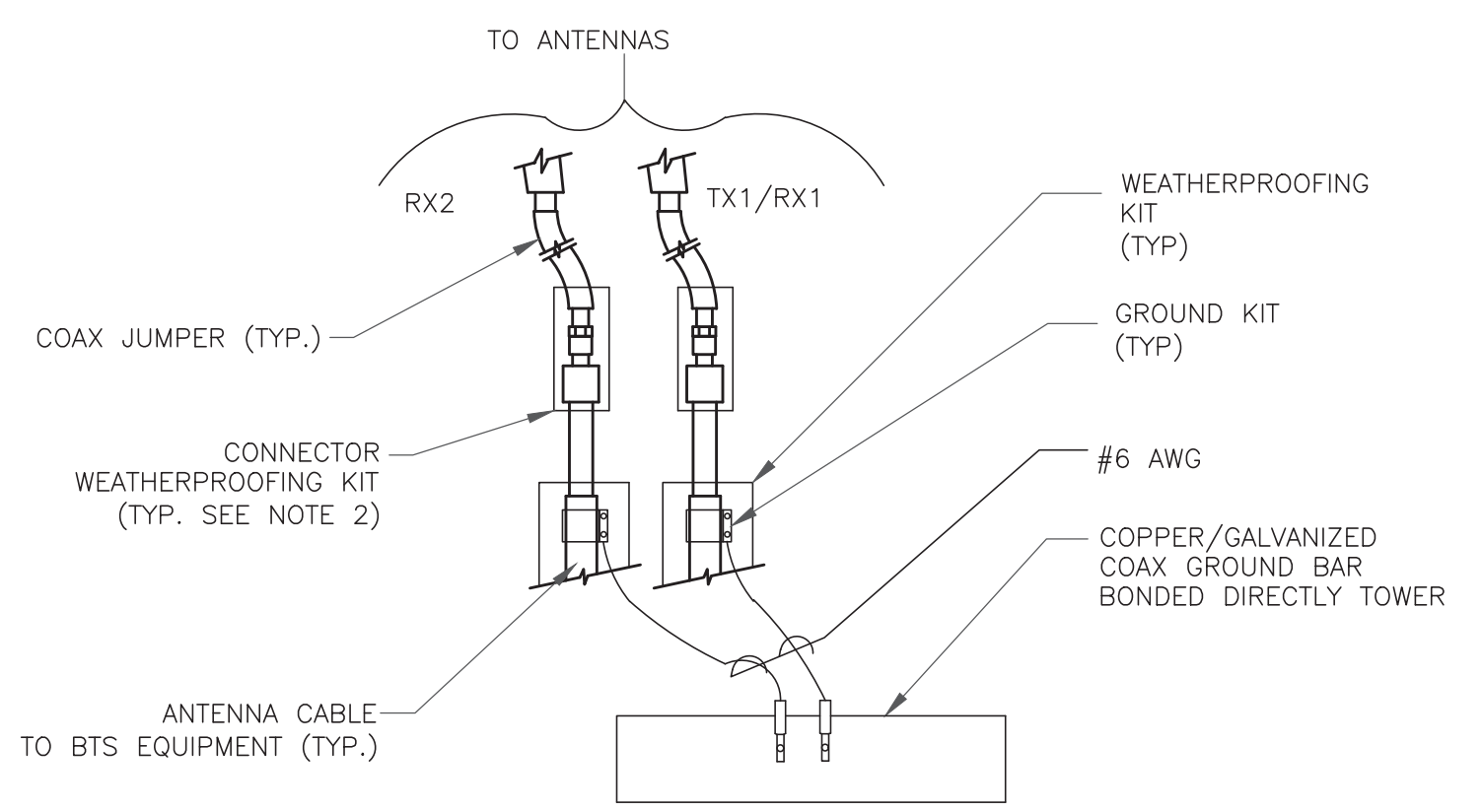
NOTE:
 1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
 2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

1 CADWELD GROUNDING CONNECTIONS
 SCALE: NOT TO SCALE



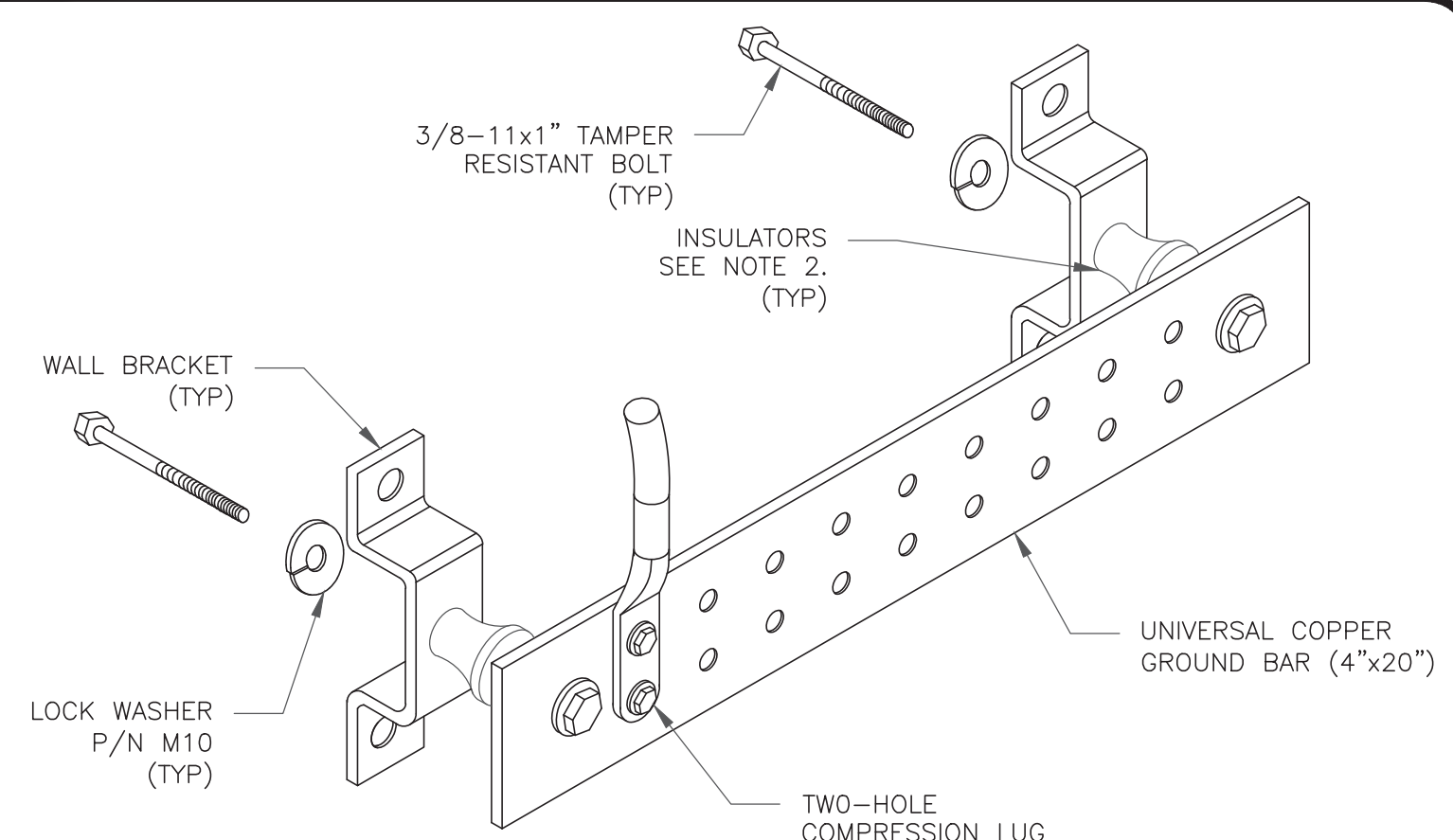
NOTES:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
 3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

3 CABLE GROUND KIT CONNECTION
 SCALE: NOT TO SCALE



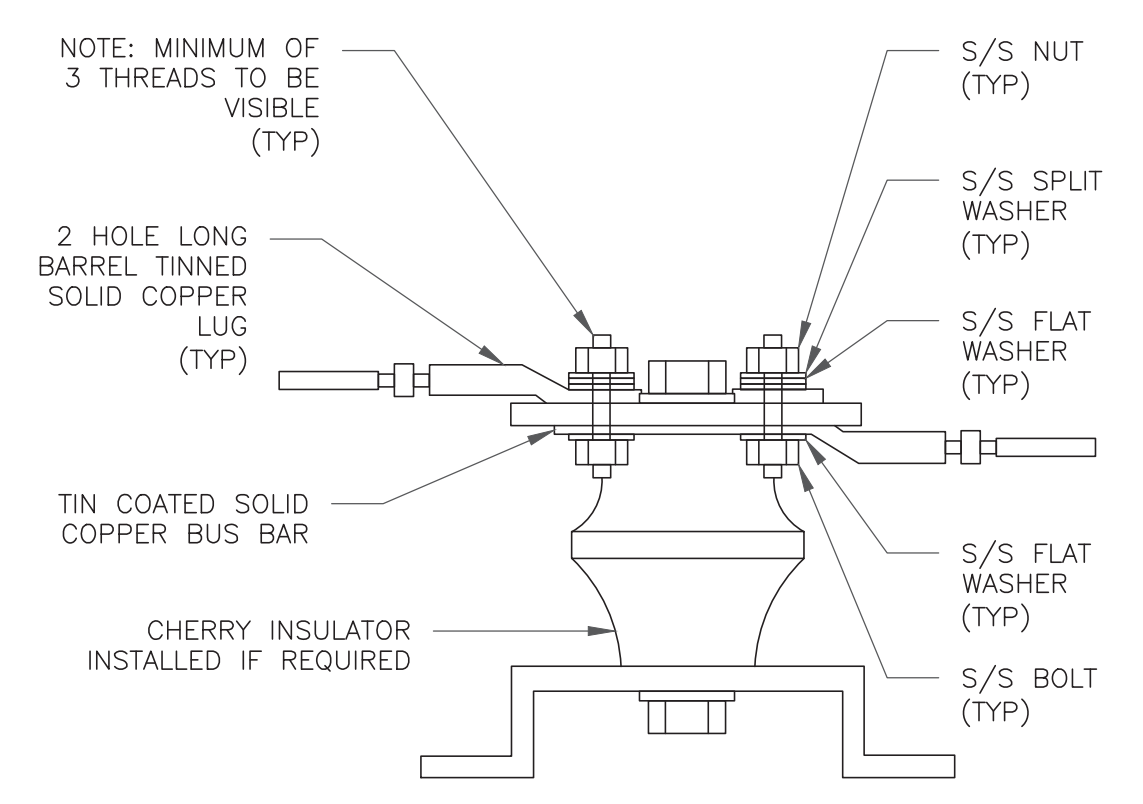
NOTES:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
 2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

4 GROUND CABLE CONNECTION
 SCALE: NOT TO SCALE



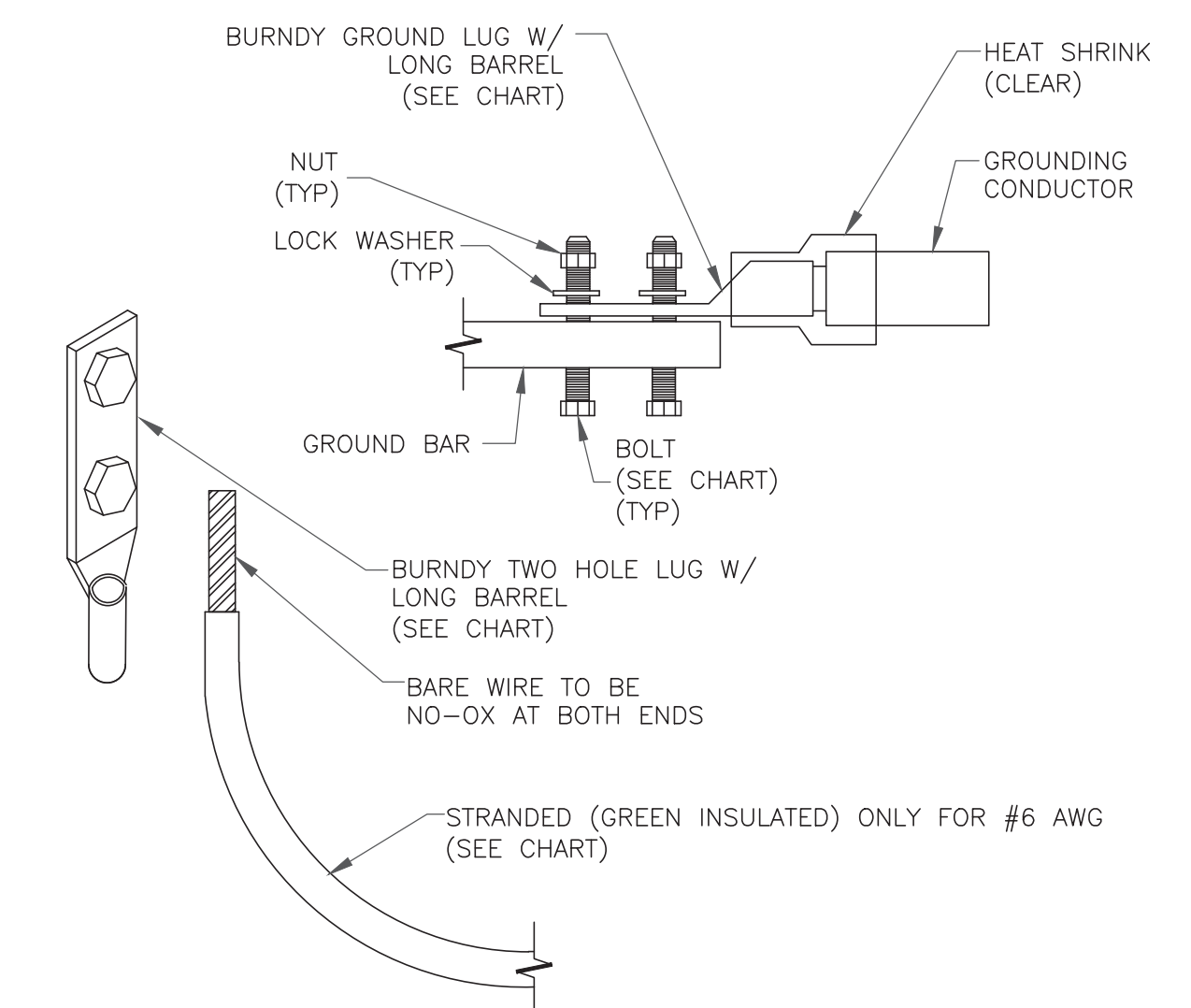
NOTES:
 1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER. PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
 2. OMIT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



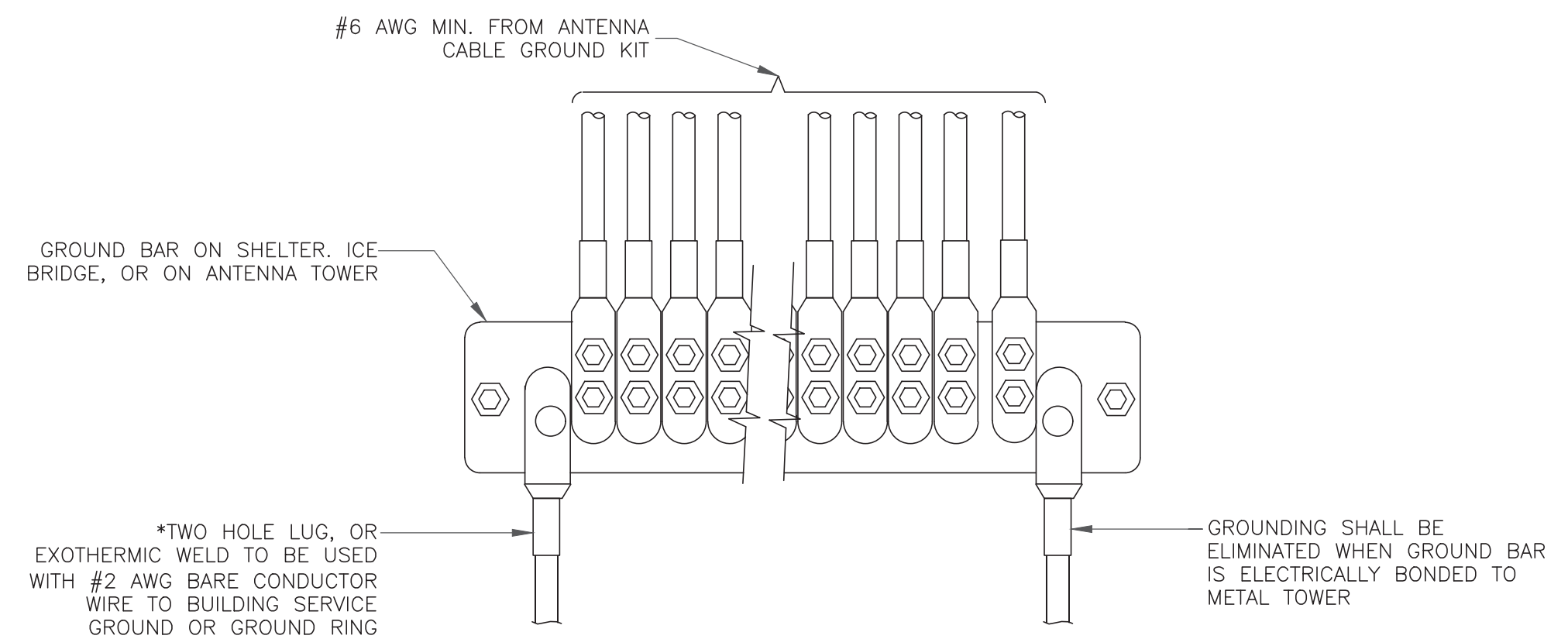
7 LUG DETAIL
 SCALE: NOT TO SCALE

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

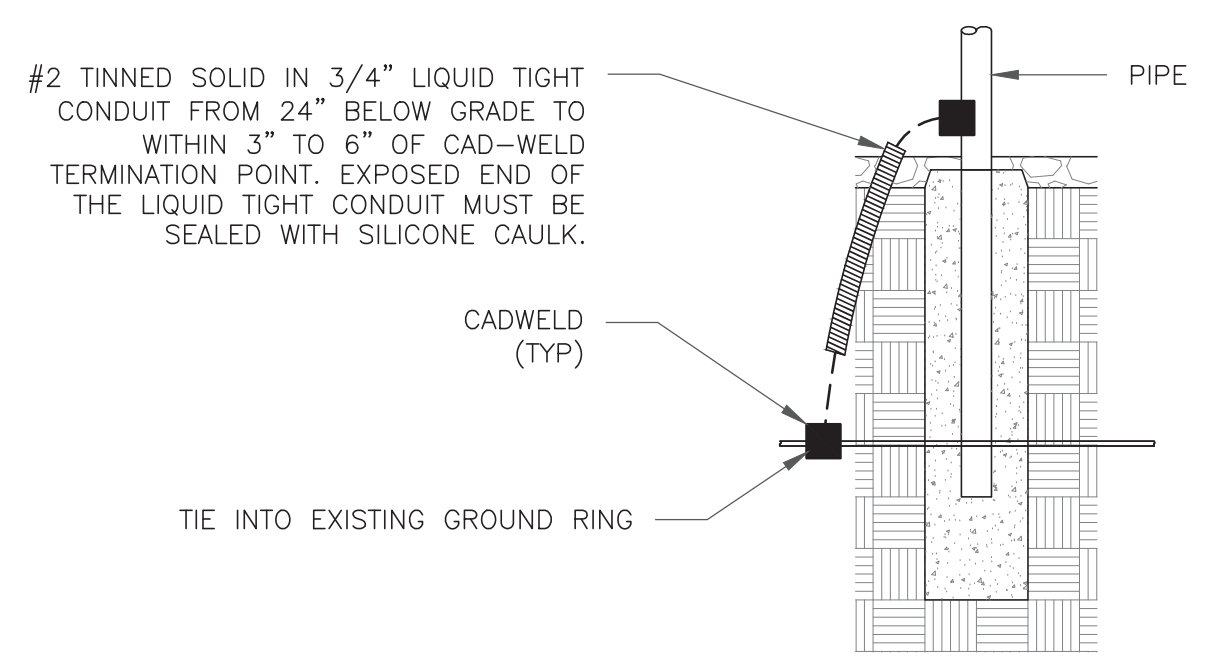


NOTES:
 1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.
 STRANDED (GREEN INSULATED) ONLY FOR #6 AWG (SEE CHART)

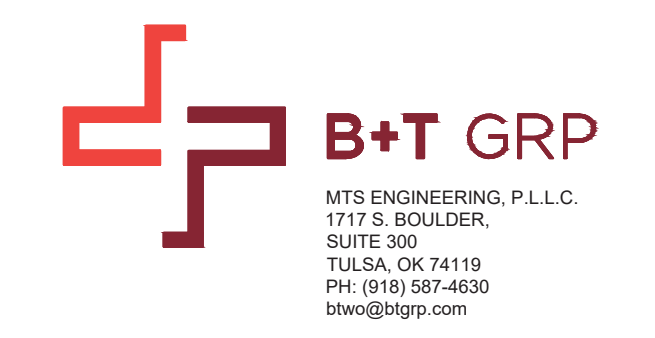
2 MECHANICAL LUG CONNECTION
 SCALE: NOT TO SCALE



5 GROUNDWIRE INSTALLATION
 SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
 SCALE: NOT TO SCALE



T-MOBILE SITE NUMBER:
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BU #: **876381**
 CROWN CASTLE SITE NAME:
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 GUILFORD, CT 06437

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0	3/29/24	TDG	CONSTRUCTION	TDG



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SHEET NUMBER:
G-3

REVISION:
0

T-MOBILE NATIONAL ANCHOR

RAN Template: 67D5D998E 6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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CT11393B_Anchor_6_draft

Print Name: Standard
PORs: Anchor_Phase 3

Section 1 - Site Information

Site ID: CT11393B	Site Name: CT393/Global Guilford_MP2	Latitude: 41.3465117
Status: Draft	Site Class: Monopole	Longitude: -72.7230397
Version: 6	Site Type: Structure Non Building	Address: 2381 Long Hill Road
Project Type: Anchor	Plan Year: 2023	City, State: Guilford, CT
Approved: Not approved	Market: CONNECTICUT CT	Region: NORTHEAST
Approved By: Not approved	Vendor: Ericsson	
Last Modified: 12/20/2023 1:30:21 PM	Landlord: Crown Castle	
Last Modified By: Ryan.MonteDeRamos@T-Mobile.com		

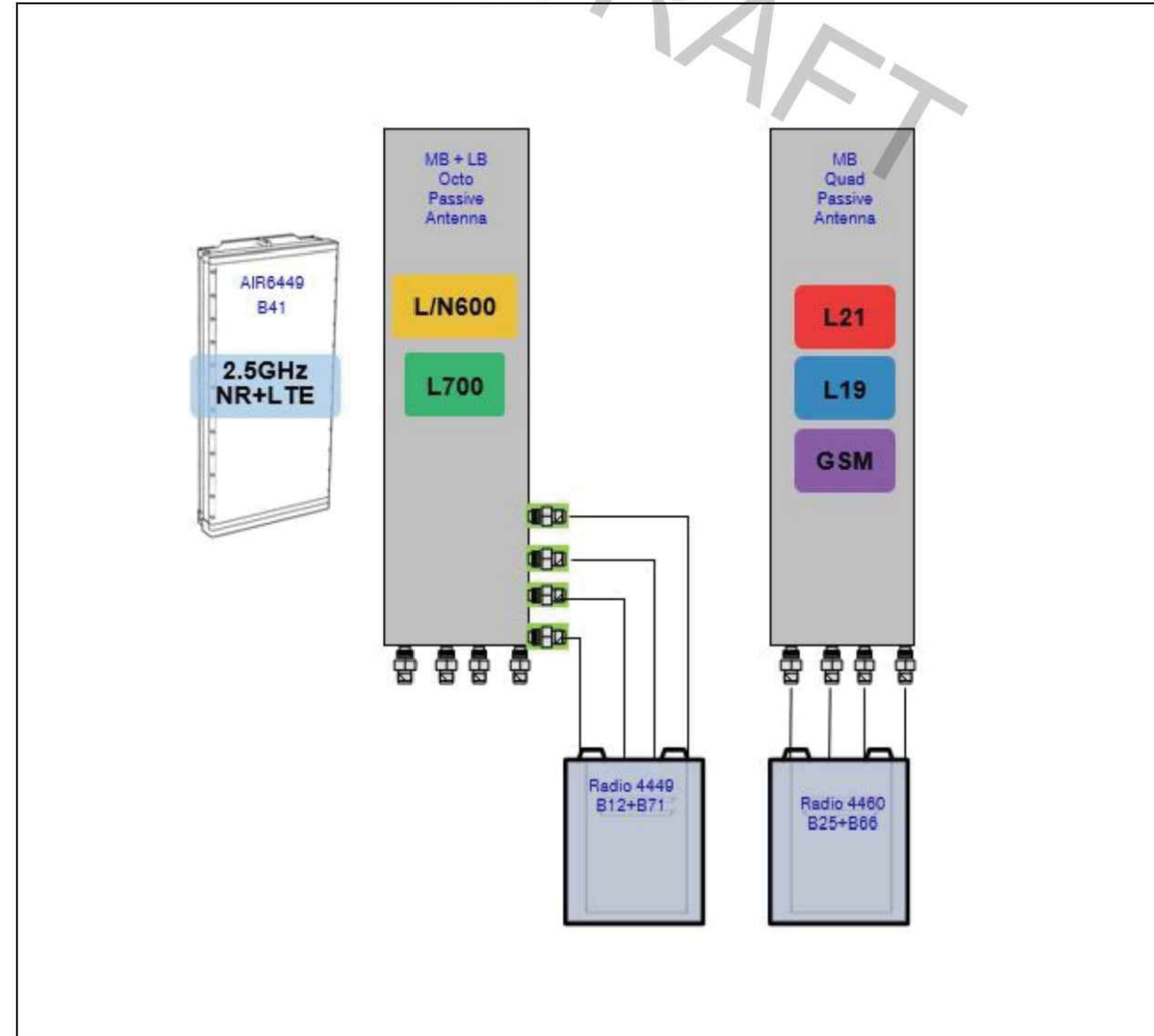
RAN Template: 67D5D998E 6160	AL Template: 67D5998E_1xAIR+1OP+1QP			
Sector Count: 3	Antenna Count: 9	Coax Line Count: 0	TMA Count: 0	RRU Count: 6

Section 2 - Existing Template Images

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Section 3 - Proposed Template Images

67D5998E_1xAIR+1OP+1QP.JPG



Notes:

Section 4 - Siteplan Images

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

DRAFT

RAN Template: 67D5D998E 6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Section 5 - RAN Equipment

Existing RAN Equipment		
Template: 67D92C Outdoor		
Enclosure	1	2
Enclosure Type	RBS 6131	S12000 Outdoor
Radio	RU22 (x6) U2100 (DECOMMISSIONED)	
Baseband	BB 6630 L1900 L2100	BB 6630 N600 L600 L700
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG* (x3) Ericsson 9x18 HCS *Select Length*	DUG20 DUW30 G1900 U2100 (DECOMMISSIONED)

Proposed RAN Equipment			
Template: 67D5D998E 6160			
Enclosure	1	2	3
Enclosure Type	Enclosure 6160_v2 AC	RBS 6601	B160
Baseband	BB 6630 N1900 L1900 L2100	BB 6630 N600 L600 L700	RP 6651 N2500
Transport System	CSR IXRe V2 (Gen2)	DUG20 G1900	
Hybrid Cable System	Hybrid Trunk 6/24 4AWG (Other Length >130m) (x3)		
RAN Scope of Work:			

RAN Template: 67D5D998E 6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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CT11393B_Anchor_6_draft

Print Name: Standard
PORs: Anchor_Phase 3

Section 6 - A&L Equipment

Existing Template: 67D92C_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_B2A_B4P (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			Ericsson - AIR21 B4A/B12P 4ft (Quad)		
Azimuth	30		30			30		
M. Tilt	0		0			0		
Height (ft)	155		155			155		
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech	L1900 G1900		L700 L600 N600	L700 L600 N600			L2100	
Dark Tech								
Restricted Tech								
Decomm. Tech	U1900	U2100						
E. Tilt	2	2	2	2			2	2
Cables	Fiber Jumper - 15 ft.	1-5/8" Coax - 170 ft.	Coax Jumper Fiber Jumper - 15 ft.	Coax Jumper			Fiber Jumper - 15 ft.	
TMA's		Generic Twin Style 1B - AWS (At Antenna)						
Diplexer / Combiners								
Radio			Radio 4449 B71+B85 (At Antenna)	Radio 4449 B71+B85 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Cable: 1-5/8" Coax - 170 ft. Cable: Fiber Jumper - 15 ft.

Scope of Work:

Remove RRUS11 B12 from Position 3.
Add (1) LB/MB Octo to Position 2.
Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.

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

RAN Template: 67D5D998E 6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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CT11393B_Anchor_6_draft

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 - APXVAARR24_43-U-NA20 (Octo)			AIR 6419 B41 (Active Antenna - Massive MIMO)		
Azimuth	30		30			30		
M. Tilt	0		0			0		
Height (ft)	155		155			155		
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech	L1900 L2100 G1900 N1900	L1900 L2100 G1900 N1900	L600 L600 N600 L700	L600 N600 L700			N2500	N2500
Dark Tech								
Restricted Tech								
Decomm. Tech								
E. Tilt								
Cables	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper			Fiber Jumper (x2)	Fiber Jumper (x2)
TMA's								
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:

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

RAN Template: 67D5D998E 6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Sector 2 (Existing) view from behind										
Coverage Type	A - Outdoor Macro									
Antenna	1		2			3				
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			Ericsson - AIR21 B4A/B12P 4ft (Quad)				
Azimuth	150		150			150				
M. Tilt										
Height (ft)	155		155			155				
Ports	P1		P2		P3	P4	P5	P6	P7	P8
Active Tech	L1900 G1900				L700 L600 N600	L700 L600 N600			L2100	
Dark Tech										
Restricted Tech										
Decomm. Tech	U1900		U2100							
E. Tilt	2		2		2	2			2	2
Cables	Fiber Jumper - 15 ft.		1-5/8" Coax - 170 ft.		Coax Jumper Fiber Jumper - 15 ft.	Coax Jumper			Fiber Jumper - 15 ft.	
TMA			Generic Twin Style 1B - AWS (At Antenna)							
Diplexer / Combiners										
Radio					Radio 4449 B71+B 85 (At Antenna)	Radio 4449 B71+B 85 (At Antenna)				
Sector Equipment										

Unconnected Equipment:

Cable: 1-5/8" Coax - 170 ft. Cable: Fiber Jumper - 15 ft.

Scope of Work:

Remove RRUS11 B12 from Position 3.
Add (1) LB/MB Octo to Position 2.
Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.

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

RAN Template: 67D5D998E 6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Sector 2 (Proposed) view from behind										
Coverage Type	A - Outdoor Macro									
Antenna	1		2			3				
Antenna Model	RFS_APXVLL19P_43-C-A20 (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			AIR 6419 B41 (Active Antenna - Massive MIMO)				
Azimuth	150		150			150				
M. Tilt	0		0			0				
Height (ft)	155		155			155				
Ports	P1		P2		P3	P4	P5	P6	P7	P8
Active Tech	L2100 G1900 L1900 N1900		L2100 G1900 L1900 N1900		L700 L600 N600	L700 L600 N600			N2500	N2500
Dark Tech										
Restricted Tech										
Decomm. Tech										
E. Tilt										
Cables	Coax Jumper (x2) Fiber Jumper		Coax Jumper (x2) Fiber Jumper		Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper			Fiber Jumper (x2)	Fiber Jumper (x2)
TMA										
Diplexer / Combiners										
Radio	Radio 4460 B25+B66 (At Antenna)		Radio 4460 B25+B66 (At Antenna)		Radio 4449 B71+B 85 (At Antenna)	Radio 4449 B71+B 85 (At Antenna)				
Sector Equipment										

Unconnected Equipment:

Scope of Work:

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

RAN Template: 67D5D998E 6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Sector 3 (Existing) view from behind									
Coverage Type	A - Outdoor Macro								
Antenna	1		2			3			
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			Ericsson - AIR21 B4A/B12P 4ft (Quad)			
Azimuth	270		270			270			
M. Tilt									
Height (ft)	155		155			155			
Ports	P1		P2		P3	P4	P5	P6	P7
Active Tech	G1900 L1900				L700 L600 N600	L700 L600 N600			L2100
Dark Tech									
Restricted Tech									
Decomm. Tech	U1900		U2100						
E. Tilt	2		2		2	2			2
Cables	Fiber Jumper - 15 ft.		1-5/8" Coax - 170 ft.		Coax Jumper Fiber Jumper - 15 ft.	Coax Jumper			Fiber Jumper - 15 ft.
TMA			Generic Twin Style 1B - AWS (At Antenna)						
Diplexer / Combiners									
Radio					Radio 4449 B71+B 85 (At Antenna)	Radio 4449 B71+B 85 (At Antenna)			
Sector Equipment									
Unconnected Equipment:									
Cable: 1-5/8" Coax - 170 ft. Cable: Fiber Jumper - 15 ft.									
Scope of Work:									
Remove RRUS11 B12 from Position 3. Add (1) LB/MB Octo to Position 2. Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.									
*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.									

RAN Template: 67D5D998E 6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Sector 3 (Proposed) view from behind									
Coverage Type	A - Outdoor Macro								
Antenna	1		2			3			
Antenna Model	RFS_APXVLL19P_43-C-A20 (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			AIR 6419 B41 (Active Antenna - Massive MIMO)			
Azimuth	270		270			270			
M. Tilt	0		0			0			
Height (ft)	155		155			155			
Ports	P1		P2		P3	P4	P5	P6	P7
Active Tech	G1900 N1900 L1900 L2100		G1900 N1900 L1900 L2100		L700 N600 L600	L700 N600 L600			N2500 N2500
Dark Tech									
Restricted Tech									
Decomm. Tech									
E. Tilt									
Cables	Coax Jumper (x2) Fiber Jumper		Coax Jumper (x2) Fiber Jumper		Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper			Fiber Jumper (x2) Fiber Jumper (x2)
TMA									
Diplexer / Combiners									
Radio	Radio 4460 B25+B66 (At Antenna)		Radio 4460 B25+B66 (At Antenna)		Radio 4449 B71+B 85 (At Antenna)	Radio 4449 B71+B 85 (At Antenna)			
Sector Equipment									
Unconnected Equipment:									
Scope of Work:									
*A dashed border indicates shared connected equipment. Any shared equipment, besides the first, is denoted with the SHARED keyword.									

CROWN CASTLE USA INC.
2000 CORPORATE DRIVE
CANONSBURG PA 15317
724-416-2000

JPMorgan Chase Bank, N.A.
DALLAS TX
32-61/1110

2957325

SIX HUNDRED TWENTY FIVE AND 00/100*****

DATE 04/24/24

\$*****625.00

Pay To Connecticut Siting Council
The Ten Franklin Square
Order Of New Britain CT 06051

2695915

Robert A. Galle VP and Controller
[Signature] Asset Manager

VOID AFTER 180 DAYS

⑈ 2957325⑈ ⑆ 111000614⑆ 103410453⑈

Check No 2957325

Check Date 04/24/24

Stub 1 of 1

CKRQ 661716 ZP APP FEE	04/23/24	Invoice Summ	625.00	625.00
			<u>625.00</u>	<u>625.00</u>