

June 17, 2022

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

RE: Notice of Exempt Modification for T-Mobile: CTNH506A
Crown Site ID# 876323
85 Plainfield Ave, West Haven, CT 06516
Latitude: 41° 18' 4.59" / Longitude: -72° 58' 35.20"

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 146-foot mount on the existing 149-foot monopole tower located at 85 Plainfield, CT. The property is owned by Sprint/T-Mobile, C/O Crown Castle and the tower is owned by Crown Castle. T-Mobile now intends to replace three (3) antennas and ancillary equipment at the 146ft level. This modification/proposal includes hardware that is both 4G (LTE) and 5G capable through remote software configuration and either or both services may be turned on or off at various times.

Panned Modification:

Tower:

Installed New:

- (3) Ericsson – Air6419 B41 Antenna
- (3) Ericsson-Radio 4449 B71+ B85 RRU
- (1) RFS/Cellwave-HB158-21U6S24-XXM_TMO (1-5/8")

Remove:

- (3) RFS – APX16DW-S-E-A20LNX-6515DS-A1M Antennas
- (6) 1-5/8" Coaxial Cables

Ground:

Install New:

- (1) RP6651 IN Cabinet
- (1.) 6160 AC V1SSC
- (1^) B160 Battery Cabinet
- (1) RBS 6601
- (2) BB 6648
- (2.) PSU 4813 VR2A
- (1^) CSR IXRe V2

Removal:

- (2) BBS 6201 Cabinet
- (6) Diplexers
- (3) RUS01 B2
- (1) XMU
- (1) BB 5261
- (1) RBS 6102 MU AC Cabinet

The facility was approved by the Connecticut Siting Council on February 19, 2009, Petition Number 878.

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 Nancy R. Rossi - Mayor, City of West Haven, CT, Christopher Soto – Director of Planning & Development, City of West Haven, CT. Sprint/T-Mobile, C/O Crown Castle – Property and tower owner.

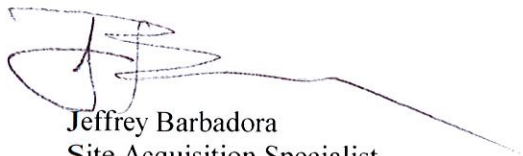
1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed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

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

Sincerely,

Melanie A. Bachman

Page 3



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

Attachments

cc:

Nancy R. Rossi - Mayor
City of West Haven-Mayors Office
355 Main Street, 3rd Floor
West Haven, CT 06516
(203) 937-3510

Christopher Soto – Director of Planning & Development
City of West Haven
355 Main Street, 1st Floor
West Haven, CT 06516
(203) 937-3580

Crown Castle - Tower & Property Owner

Petition No. 878
Pocket Communications
85 Plainfield Avenue, West Haven
February 19, 2009
Staff Report

On December 15, 2008, the Connecticut Siting Council (Council) received a Petition (Petition) from Youghioghenny Communications-Northeast, LLC d/b/a Pocket Communications (Pocket) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed modifications to an existing telecommunications facility located at 85 Plainfield Avenue, West Haven. Specifically, Pocket seeks to extend the 138-foot Crown Castle-owned monopole to 148 feet tall. Pocket would install three flush mounted panel antennas at the 146-foot level of the extended tower.

The total height with appurtenances would be approximately 151 feet tall. A Professional Engineer duly licensed in the State of Connecticut has certified that the tower is structurally adequate to support the proposed loading. The maximum worst case power density would be 32.1 percent of the applicable limit.

Pocket would also install a Nortel CDMA Micro BTS equipment cabinet on an H-frame to be located inside the existing fenced compound.

The site is in a wooded area. To the east is Plainfield Avenue and undeveloped land across the street. To the north and west is open (wooded) space. To the south is a parking lot, Maltby Avenue and a residential neighborhood. There are no wetlands at the site.

The tower is currently visible on portions of Plainfield Avenue, Maltby Street, and Timberland Drive. The tower extension is expected to be visible from these areas as well. On January 9, 2009, Pocket submitted a notice to abutting property owners with a deadline for reply of January 23, 2009. To date, Pocket has received two inquiries about the project, but neither were opposed. No abutters have contacted the Council's office with any replies. No comments have been received by the City of West Haven either.

This Petition was field reviewed by Dr. Barbara Bell and Mike Perrone of the Council staff on January 12, 2009. Attorney Carrie Larson from Pullman and Comley, LLC (representing Pocket) and [Eric Dahl, site acquisition specialist](#) also attended the field review.



Property Information

| | |
|-------------------|-------------------------------------------------|
| Property Location | 85 PLAINFIELD AV |
| Owner | SPRINT |
| Co-Owner | |
| Mailing Address | PMB 331 4017 WASHINGTON RD MCMURRAY PA 15317 |
| Land Use | 431V TEL REL TW MDL-00 |
| Land Class | I |
| Zoning Code | |
| Census Tract | |

| | |
|------------------|---|
| Street Index | |
| Acreage | 0 |
| Utilities | |
| Lot Setting/Desc | |
| Additional Info | |

Photo



Sketch



Primary Construction Details

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

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

(*Industrial / Commercial Details)

| | |
|------------------|------------|
| Building Desc. | TEL REL TW |
| Building Grade | NA |
| Heat / AC | NA |
| Frame Type | NA |
| Baths / Plumbing | NA |
| Ceiling / Wall | NA |
| Rooms / Prtns | NA |
| Wall Height | NA |
| First Floor Use | NA |



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

| Item | Appraised | Assessed |
|--------------|---------------|---------------|
| Buildings | 0 | 0 |
| Extras | 0 | 0 |
| Improvements | | |
| Outbuildings | 453600 | 317520 |
| Land | 0 | 0 |
| Total | 453600 | 317520 |

Sub Areas

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

Outbuilding and Extra Features

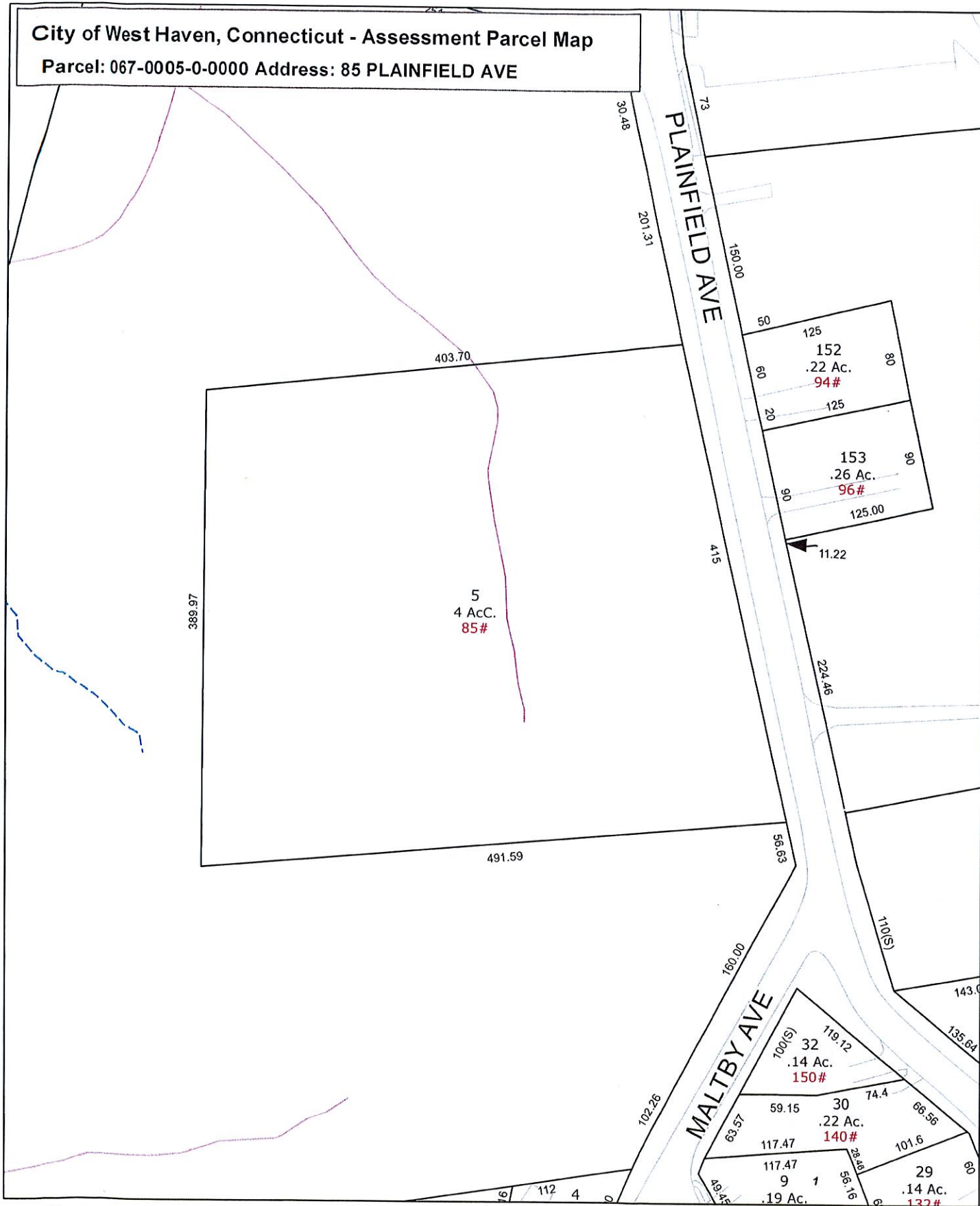
| Type | Description |
|----------------|-------------|
| TOWER | 2 SITES |
| CELL SHED | 360 S.F. |
| FENCE-8' CHAIN | 400 L.F. |
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Sales History

| Owner of Record | Book/ Page | Sale Date | Sale Price |
|-----------------|------------|------------|------------|
| SPRINT | 0000/0000 | 2010-10-01 | 0 |
| SPRINT | 0000/0000 | 2010-10-01 | 0 |

City of West Haven, Connecticut - Assessment Parcel Map

Parcel: 067-0005-0-0000 Address: 85 PLAINFIELD AVE



Approximate Scale: 1 inch = 100 feet



Map Produced: January 2015

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

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Tuesday, June 21, 2022 9:47 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 777162678494: 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 Tue, 06/21/2022 at
9:42am.



Delivered to 355 MAIN ST, WEST HAVEN, CT 06516
Received by G.GONZALEZ

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777162678494](#)

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

TO City of West Haven- Mayors Office
Nancy R. Rossi - Mayor
355 Main Street
3rd Floor
WEST HAVEN, CT, US, 06516

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Fri 6/17/2022 05:38 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Envelope

ORIGIN WESTBOROUGH, MA, US, 01581

DESTINATION WEST HAVEN, CT, US, 06516

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight

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OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [777162703786](#)

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

TO City of West Haven- Planning & Dev
Christopher Soto - Director of Plan
355 Main Street
1st Floor
WEST HAVEN, CT, US, 06516

REFERENCE 799001.7680

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NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight

Date: **May 09, 2022**



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

Subject: **Structural Analysis Report**

Carrier Designation: **Metro PCS Co-Locate**
Site Number: CTNH506A

Crown Castle Designation: **BU Number:** 876323
Site Name: HILLSIDE
JDE Job Number: 712774
Work Order Number: 2107686
Order Number: 612571 Rev. 0

Engineering Firm Designation: **B+T Group Project Number:** 82071.011.01

Site Data: **85 Plainfield Ave, West Haven, New Haven County, CT**
Latitude 41° 18' 4.59", Longitude -72° 58' 35.2"
148 Foot - Monopole Tower

B+T Group 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:

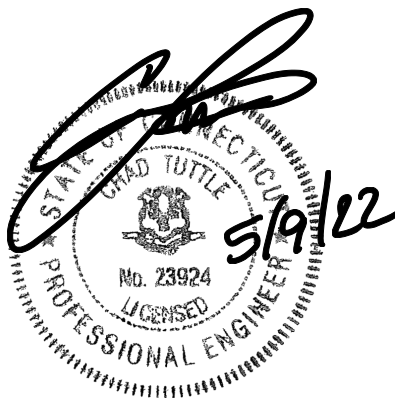
LC7: Proposed Equipment Configuration

Sufficient Capacity – 65.6%

This analysis utilizes an ultimate 3-second gust wind speed of 120 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Rose Denny

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



Chad E. Tuttle, P.E.

tnxTower Report - version 8.1.1.0

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1) INTRODUCTION

This is a 138 ft Monopole tower designed by Summit.

The tower has been modified per reinforcement drawings prepared by PSG Engineering in February of 2009. Reinforcement consists of a 10-ft tower extension, bringing the total tower height to 148 ft. The tower was later reinforced per reinforcement drawings prepared by PJF in October of 2015. Reinforcement consists of shaft modifications between elevations 46'-0" to 76'-0".

2) ANALYSIS CRITERIA

| | |
|-----------------------------|-----------|
| TIA-222 Revision: | TIA-222-H |
| Risk Category: | II |
| Wind Speed: | 120 mph |
| Exposure Category: | B |
| Topographic Factor: | 1 |
| Ice Thickness: | 1 in |
| Wind Speed with Ice: | 50 mph |
| Service Wind Speed: | 60 mph |

Table 1 - Proposed Equipment Configuration

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Number of Feed Lines | Feed Line Size (in) |
|---------------------|----------------------------|--------------------|----------------------|-------------------------------------|----------------------|---------------------|
| 146.0 | 146.0 | 3 | Ericsson | AIR -32 B2A/B66AA | 1 2 | 1-5/8 1-3/8 |
| | | 3 | Ericsson | AIR 6419 B41_TMO | | |
| | | 3 | Ericsson | RADIO 4449 B71 B85A_T-MOBILE | | |
| | | 3 | Ericsson | RADIO 4460 B2/B25 B66_TMO | | |
| | | 3 | RFS Celwave | APXVAARR24_43-U-NA20 | | |
| | | 1 | -- | Platform Mount [LP 303-1_KCKR-HR-1] | | |

Table 2 - Other Considered Equipment

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Number of Feed Lines | Feed Line Size (in) |
|---------------------|----------------------------|--------------------|--------------------------------|---------------------------|----------------------|-----------------------------|
| 138.0 | 140.0 | 1 | Andrew | VHLP2-11 | 4 3 6 | 1-1/4 Elliptical 5/16 |
| | | 3 | Alcatel Lucent | TD-RRH8X20-25 | | |
| | | 3 | Argus Tech. | LLPX310R-V1 | | |
| | | 3 | Commscope | DT465B-2XR | | |
| | | 6 | Powerwave Technologies | P40-16-XLPP-RR-A | | |
| | | 3 | Samsung Telecomm. | FDD_R6_RRH | | |
| | 1 | -- | Platform Mount [LP 303-1_HR-1] | | | |
| | 138.0 | 2 | Andrew | VHLP2-11 | | |
| 136.0 | 136.0 | 6 | Alcatel Lucent | 1900MHZ RRH (65MHZ) | -- | -- |
| | | 3 | Alcatel Lucent | 800 EXTERNAL NOTCH FILTER | | |
| | | 3 | Alcatel Lucent | RRH2X50-800 | | |

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Number of Feed Lines | Feed Line Size (in) |
|---------------------|----------------------------|--------------------|----------------------|----------------------------|----------------------|---------------------|
| | | 9 | RFS Celwave | ACU-A20-N | | |
| | | 1 | -- | Pipe Mount [PM 602-3] | | |
| | | 1 | -- | Side Arm Mount [SO 102-3] | | |
| 120.0 | 124.0 | 1 | GPS | GPS_A | 8 1 | 1-5/8 1/2 |
| | 120.0 | 2 | Antel | BXA-80063/4CF | | |
| | | 1 | Antel | BXA-80063/6CF | | |
| | | 3 | Commscope | CBC78T-DS-43-2X | | |
| | | 6 | Commscope | JAHH-65B-R3B | | |
| | | 1 | Raycap | RVZDC-6627-PF-48 | | |
| | | 3 | Samsung Telecomm. | RFV01U-D1A | | |
| | | 3 | Samsung Telecomm. | RFV01U-D2A | | |
| | | 3 | VZW | Sub6 Antenna - VZS01 | | |
| | | 3 | -- | BSAMNT-SBS-2-2 | | |
| | | 1 | -- | Platform Mount [LP 1201-1] | | |
| 90.0 | 90.0 | 1 | Lucent | KS24019-L112A | 1 | 1/2 |
| | | 1 | -- | Side Arm Mount [SO 701-1] | | |

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

| Document | Reference | Source |
|------------------------------|------------------|-----------|
| Tower Manufacturer Drawing | 1615021 | CCI Sites |
| Tower Extension Drawing | 2384593 | CCI Sites |
| Tower Modification Drawing | 5957618 | CCI Sites |
| Post Modification Inspection | 6254609 | CCI Sites |
| Foundation Drawing | 1614608 | CCI Sites |
| Geotech Report | 2134228 | CCI Sites |
| Crown CAD Package | Date: 04/26/2022 | CCI Sites |

3.1) Analysis Method

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

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

3.2) Assumptions

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

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

| Section No. | Elevation (ft) | Component Type | Size | Critical Element | P (K) | SF*P_allow (K) | % Capacity | Pass / Fail |
|-------------|----------------|----------------|------------------------|------------------|---------|----------------|------------|-------------|
| L1 | 148 - 143 | Pole | TP24x24x0.25 | 1 | -4.716 | -- | 3.4 | Pass |
| L2 | 143 - 138 | Pole | TP24x24x0.25 | 2 | -5.131 | -- | 8.4 | Pass |
| L3 | 138 - 133 | Pole | TP23.05x22x0.25 | 3 | -9.677 | -- | 15.4 | Pass |
| L4 | 133 - 128 | Pole | TP24.1x23.05x0.25 | 4 | -10.162 | -- | 21.8 | Pass |
| L5 | 128 - 123 | Pole | TP25.15x24.1x0.25 | 5 | -10.678 | -- | 27.4 | Pass |
| L6 | 123 - 118 | Pole | TP26.201x25.15x0.25 | 6 | -15.487 | -- | 33.9 | Pass |
| L7 | 118 - 113 | Pole | TP27.251x26.201x0.25 | 7 | -16.133 | -- | 40.5 | Pass |
| L8 | 113 - 108 | Pole | TP28.301x27.251x0.25 | 8 | -16.804 | -- | 46.4 | Pass |
| L9 | 108 - 103 | Pole | TP29.351x28.301x0.25 | 9 | -17.501 | -- | 51.6 | Pass |
| L10 | 103 - 98 | Pole | TP30.401x29.351x0.25 | 10 | -18.221 | -- | 56.4 | Pass |
| L11 | 98 - 94.75 | Pole | TP31.924x30.401x0.25 | 11 | -18.700 | -- | 59.2 | Pass |
| L12 | 94.75 - 89.75 | Pole | TP31.634x30.584x0.3125 | 12 | -20.020 | -- | 49.2 | Pass |
| L13 | 89.75 - 84.75 | Pole | TP32.684x31.634x0.3125 | 13 | -20.906 | -- | 51.9 | Pass |
| L14 | 84.75 - 79.75 | Pole | TP33.735x32.684x0.3125 | 14 | -21.817 | -- | 54.4 | Pass |
| L15 | 79.75 - 74.75 | Pole | TP34.785x33.735x0.3125 | 15 | -22.752 | -- | 56.7 | Pass |
| L16 | 74.75 - 74.5 | Pole | TP34.837x34.785x0.3125 | 16 | -22.806 | -- | 56.8 | Pass |
| L17 | 74.5 - 74.25 | Pole | TP34.89x34.837x0.3125 | 17 | -22.853 | -- | 56.9 | Pass |
| L18 | 74.25 - 69.25 | Pole | TP35.94x34.89x0.3125 | 18 | -23.810 | -- | 58.9 | Pass |
| L19 | 69.25 - 64.25 | Pole | TP36.99x35.94x0.3125 | 19 | -24.796 | -- | 60.8 | Pass |
| L20 | 64.25 - 59.25 | Pole | TP38.04x36.99x0.3125 | 20 | -25.806 | -- | 62.6 | Pass |
| L21 | 59.25 - 54.25 | Pole | TP39.091x38.04x0.3125 | 21 | -26.840 | -- | 64.2 | Pass |
| L22 | 54.25 - 50 | Pole | TP41.086x39.091x0.3125 | 22 | -27.736 | -- | 65.6 | Pass |
| L23 | 50 - 43.75 | Pole | TP40.671x39.358x0.375 | 23 | -30.077 | -- | 54.8 | Pass |
| L24 | 43.75 - 38.75 | Pole | TP41.721x40.671x0.375 | 24 | -31.323 | -- | 55.8 | Pass |
| L25 | 38.75 - 33.75 | Pole | TP42.771x41.721x0.375 | 25 | -32.597 | -- | 56.7 | Pass |
| L26 | 33.75 - 28.75 | Pole | TP43.822x42.771x0.375 | 26 | -33.897 | -- | 57.5 | Pass |
| L27 | 28.75 - 23.75 | Pole | TP44.872x43.822x0.375 | 27 | -35.224 | -- | 58.3 | Pass |
| L28 | 23.75 - 18.75 | Pole | TP45.922x44.872x0.375 | 28 | -36.577 | -- | 59.0 | Pass |
| L29 | 18.75 - 13.75 | Pole | TP46.972x45.922x0.375 | 29 | -37.956 | -- | 59.7 | Pass |
| L30 | 13.75 - 8.75 | Pole | TP48.022x46.972x0.375 | 30 | -39.362 | -- | 60.4 | Pass |
| L31 | 8.75 - 3.75 | Pole | TP49.072x48.022x0.375 | 31 | -40.794 | -- | 61.0 | Pass |
| L32 | 3.75 - 0 | Pole | TP49.86x49.072x0.375 | 32 | -41.883 | -- | 61.4 | Pass |
| | | | | | | | Summary | |
| | | | | | | Pole (L22) | 65.6 | Pass |

| Section No. | Elevation (ft) | Component Type | Size | Critical Element | P (K) | SF*P_allow (K) | % Capacity | Pass / Fail |
|-------------|----------------|----------------|------|------------------|-------|----------------|------------|-------------|
| | | | | | | Reinforcement | 0.0 | Pass |
| | | | | | | Rating = | 65.6 | Pass |

Table 5 - Tower Component Stresses vs. Capacity – LC7

| Notes | Component | Elevation (ft) | % Capacity | Pass / Fail |
|-------|------------------------------------|----------------|------------|-------------|
| 1,2 | Flange Connection | 138.0 | 27.4 | Pass |
| 1,2 | Anchor Rods | Base | 64.1 | Pass |
| 1,2 | Base Plate | Base | 49.8 | Pass |
| 1,2 | Base Foundation (Structure) | Base | 52.5 | Pass |
| 1,2 | Base Foundation (Soil Interaction) | Base | 42.9 | Pass |

| | |
|-----------------------------------------------------|--------------|
| Structure Rating (max from all components) = | 65.6% |
|-----------------------------------------------------|--------------|

Notes:

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

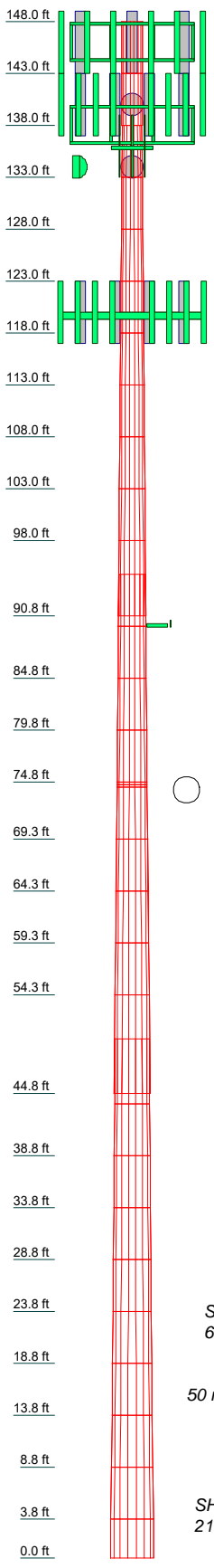
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

| Section | Length (ft) | Number of Sides | Thickness (in) | Socket Length (ft) | Top Dia (in) | Bot Dia (in) | Grade | Weight (K) |
|---------|-------------|-----------------|----------------|--------------------|--------------|--------------|---------|------------|
| 1 | 5.000 | 0 | 0.250 | | | | A500-50 | 0.3 |
| 2 | 5.000 | 0 | 0.250 | | | | A500-50 | 0.3 |
| 3 | 5.000 | 18 | 0.250 | | | | A500-50 | 0.3 |
| 4 | 5.000 | 18 | 0.250 | | | | A500-50 | 0.3 |
| 5 | 5.000 | 18 | 0.250 | | | | A500-50 | 0.3 |
| 6 | 5.000 | 18 | 0.250 | | | | A500-50 | 0.3 |
| 7 | 5.000 | 18 | 0.250 | | | | A500-50 | 0.4 |
| 8 | 5.000 | 18 | 0.250 | | | | A500-50 | 0.4 |
| 9 | 5.000 | 18 | 0.250 | | | | A500-50 | 0.4 |
| 10 | 5.000 | 18 | 0.250 | | | | A500-50 | 0.4 |
| 11 | 5.000 | 18 | 0.250 | | | | A500-50 | 0.4 |
| 12 | 5.000 | 18 | 0.250 | | | | A500-50 | 0.6 |
| 13 | 5.000 | 18 | 0.313 | | | | A500-50 | 0.5 |
| 14 | 5.000 | 18 | 0.313 | | | | A500-50 | 0.6 |
| 15 | 5.000 | 18 | 0.313 | | | | A500-50 | 0.6 |
| 16 | 5.000 | 18 | 0.313 | | | | A500-50 | 0.6 |
| 17 | 5.000 | 18 | 0.313 | | | | A500-50 | 0.6 |
| 18 | 5.000 | 18 | 0.313 | | | | A500-50 | 0.6 |
| 19 | 5.000 | 18 | 0.313 | | | | A607-60 | 0.6 |
| 20 | 5.000 | 18 | 0.313 | | | | A607-60 | 0.6 |
| 21 | 5.000 | 18 | 0.313 | | | | A607-60 | 0.6 |
| 22 | 6.250 | 18 | 0.313 | | | | A607-60 | 1.3 |
| 23 | 5.000 | 18 | 0.375 | | | | A607-60 | 1.0 |
| 24 | 5.000 | 18 | 0.375 | | | | A607-60 | 0.8 |
| 25 | 5.000 | 18 | 0.375 | | | | A607-60 | 0.9 |
| 26 | 5.000 | 18 | 0.375 | | | | A607-60 | 0.9 |
| 27 | 5.000 | 18 | 0.375 | | | | A607-60 | 0.9 |
| 28 | 5.000 | 18 | 0.375 | | | | A607-60 | 0.9 |
| 29 | 5.000 | 18 | 0.375 | | | | A607-60 | 0.9 |
| 30 | 5.000 | 18 | 0.375 | | | | A607-60 | 1.0 |
| 31 | 5.000 | 18 | 0.375 | | | | A607-60 | 1.0 |
| 32 | 3.750 | 18 | 0.375 | | | | A607-60 | 0.7 |

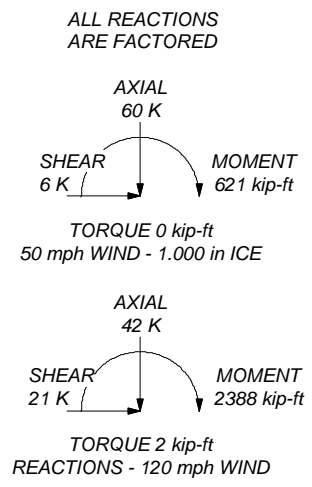



MATERIAL STRENGTH

| GRADE | Fy | Fu | GRADE | Fy | Fu |
|---------|--------|--------|---------|--------|--------|
| A500-50 | 50 ksi | 62 ksi | A607-60 | 60 ksi | 75 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 120 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 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 65.6%



| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
|  B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job: 82071.011.01 - HILLSIDE, CT (BU# 876323) |
| | Project: |
| | Client: Crown Castle |
| | Code: TIA-222-H |
| | Path: |
| Drawn by: Suhas Poojary | App'd: |
| Date: 05/05/22 | Scale: NTS |
| | Dwg No. E-1 |

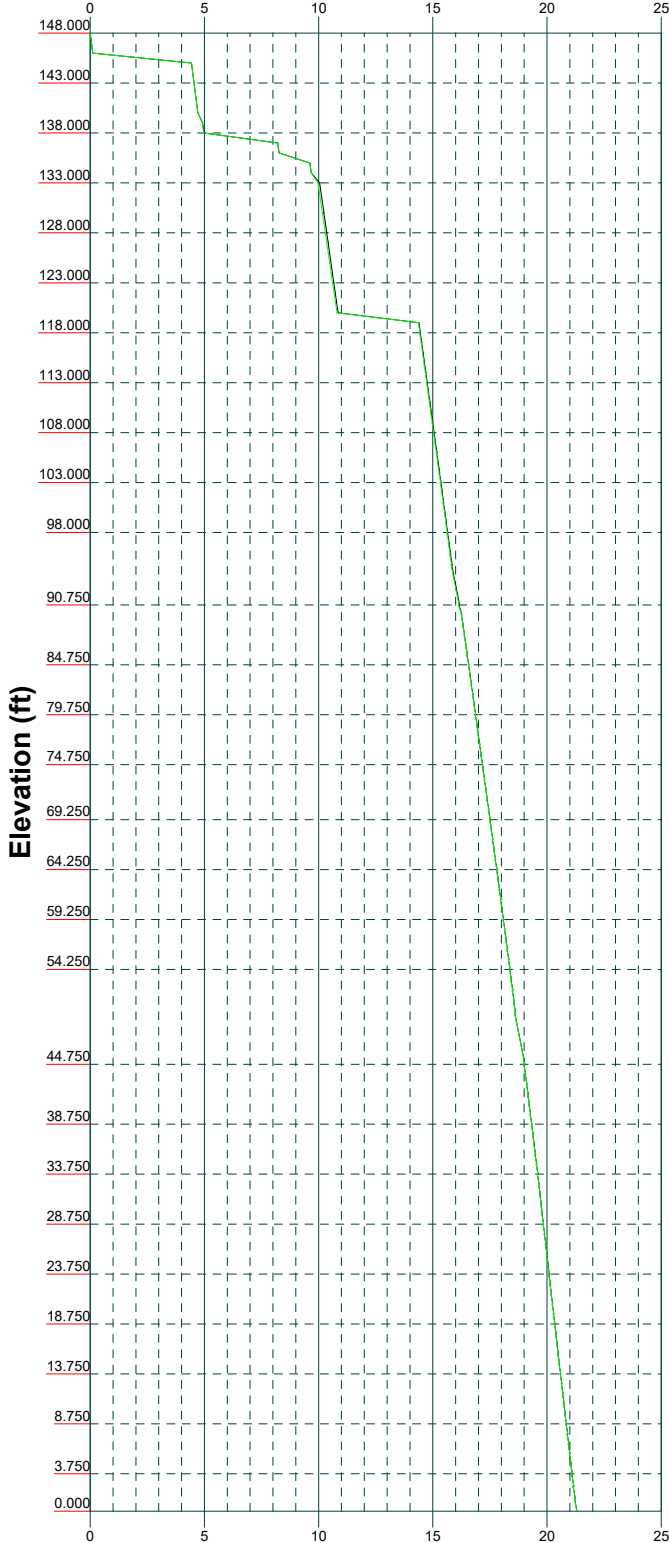
Vx

Vz

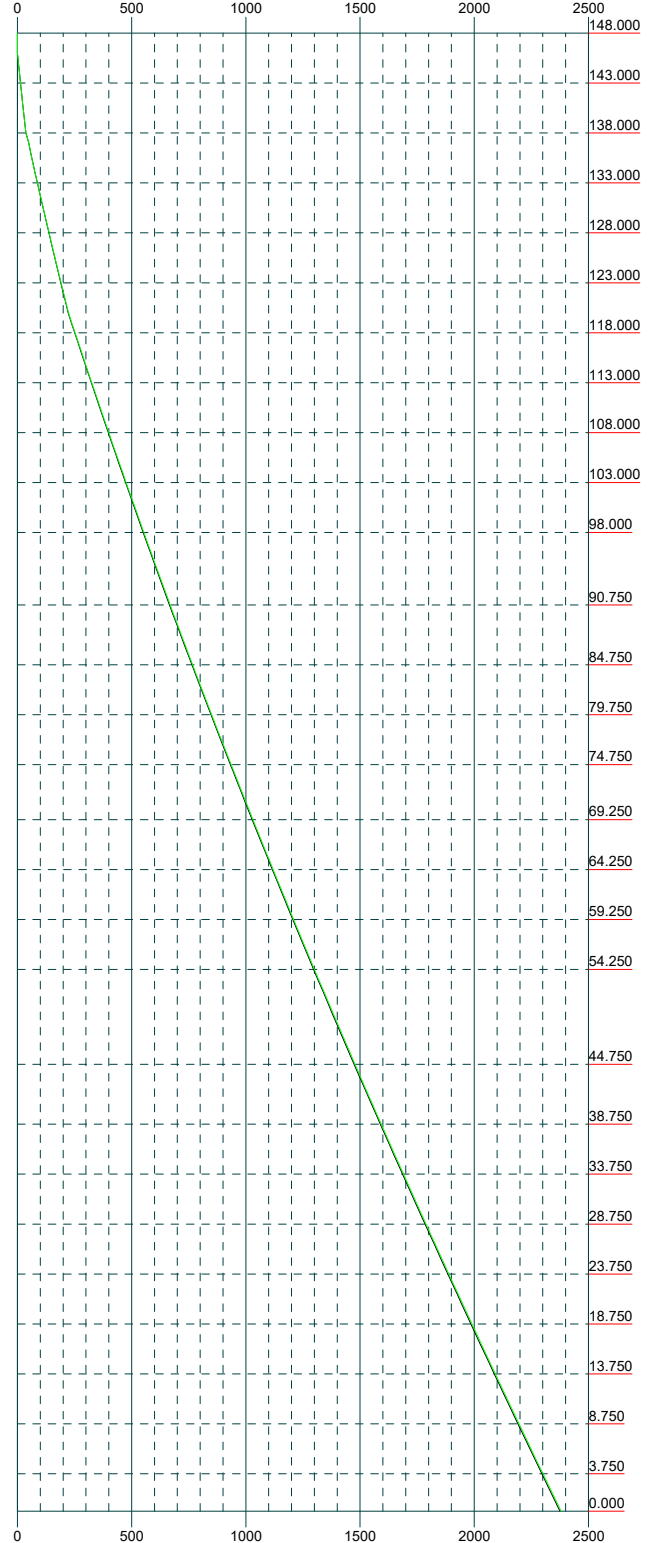
Mx

Mz

Global Mast Shear (K)

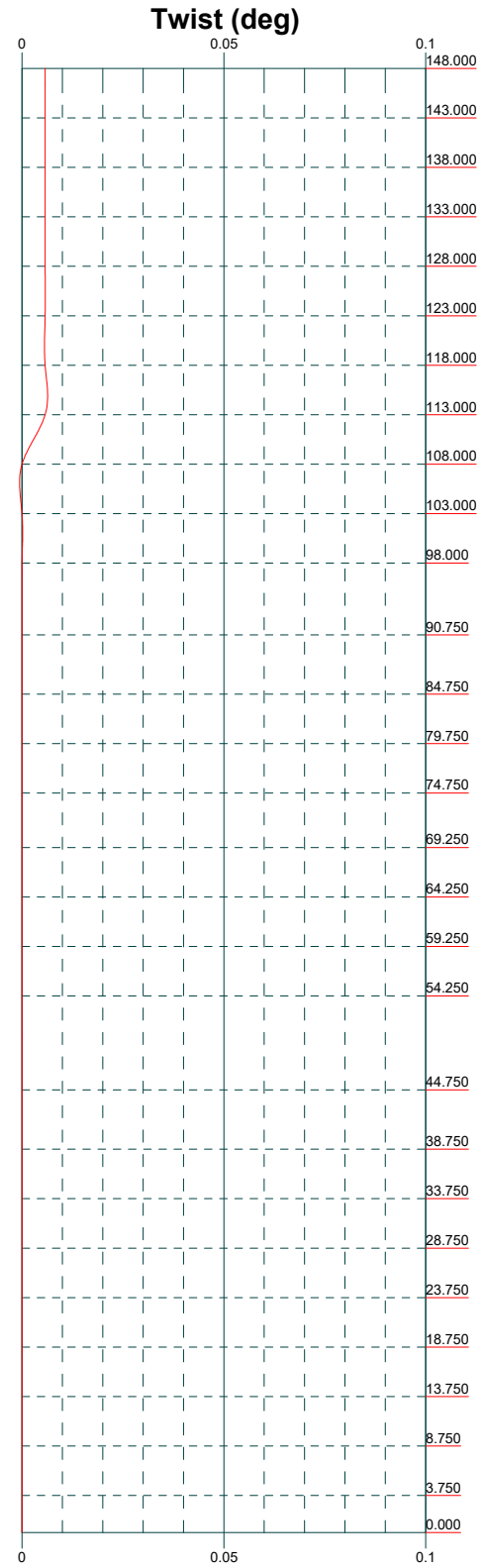
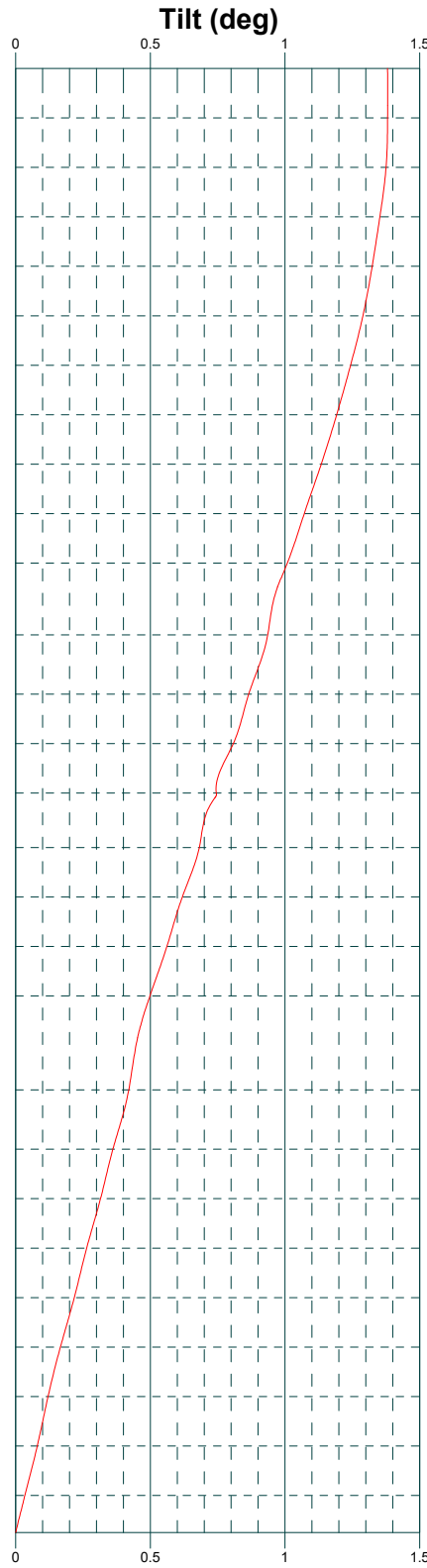
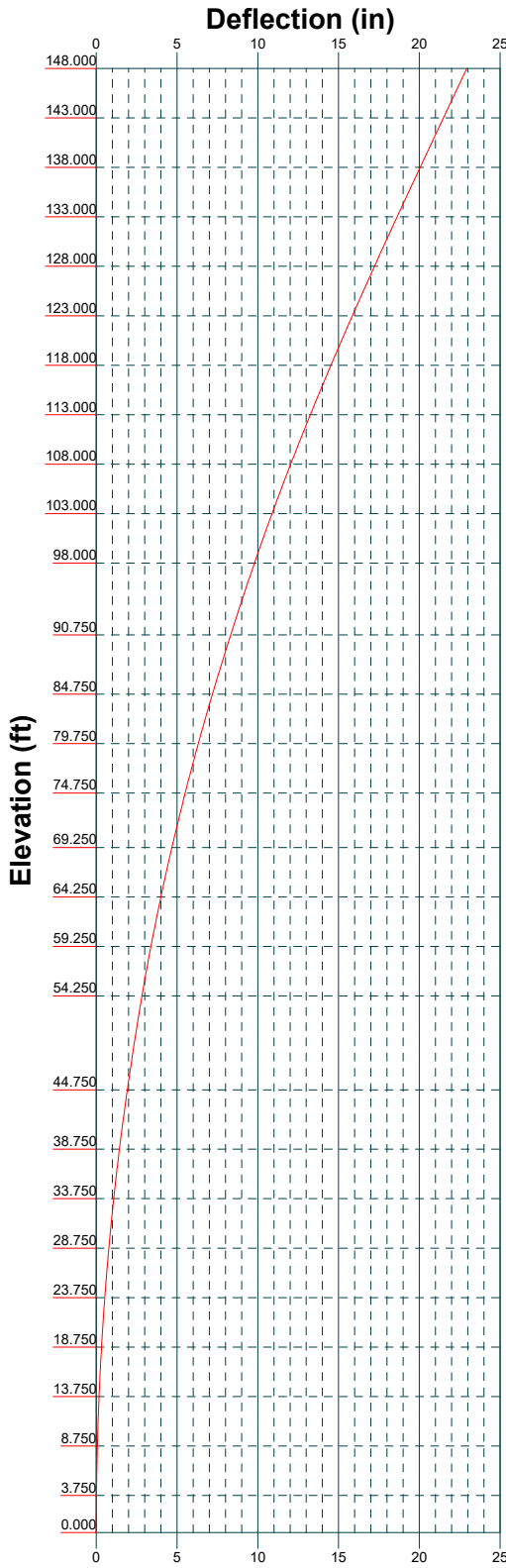


Global Mast Moment (kip-ft)



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| | | |
|------------------------------------------------------|-------------------------|-------------|
| Job: 82071.011.01 - HILLSIDE, CT (BU# 876323) | | |
| Project: | | |
| Client: Crown Castle | Drawn by: Suhas Poojary | App'd: |
| Code: TIA-222-H | Date: 05/05/22 | Scale: NTS |
| Path: | | Dwg No. E-4 |



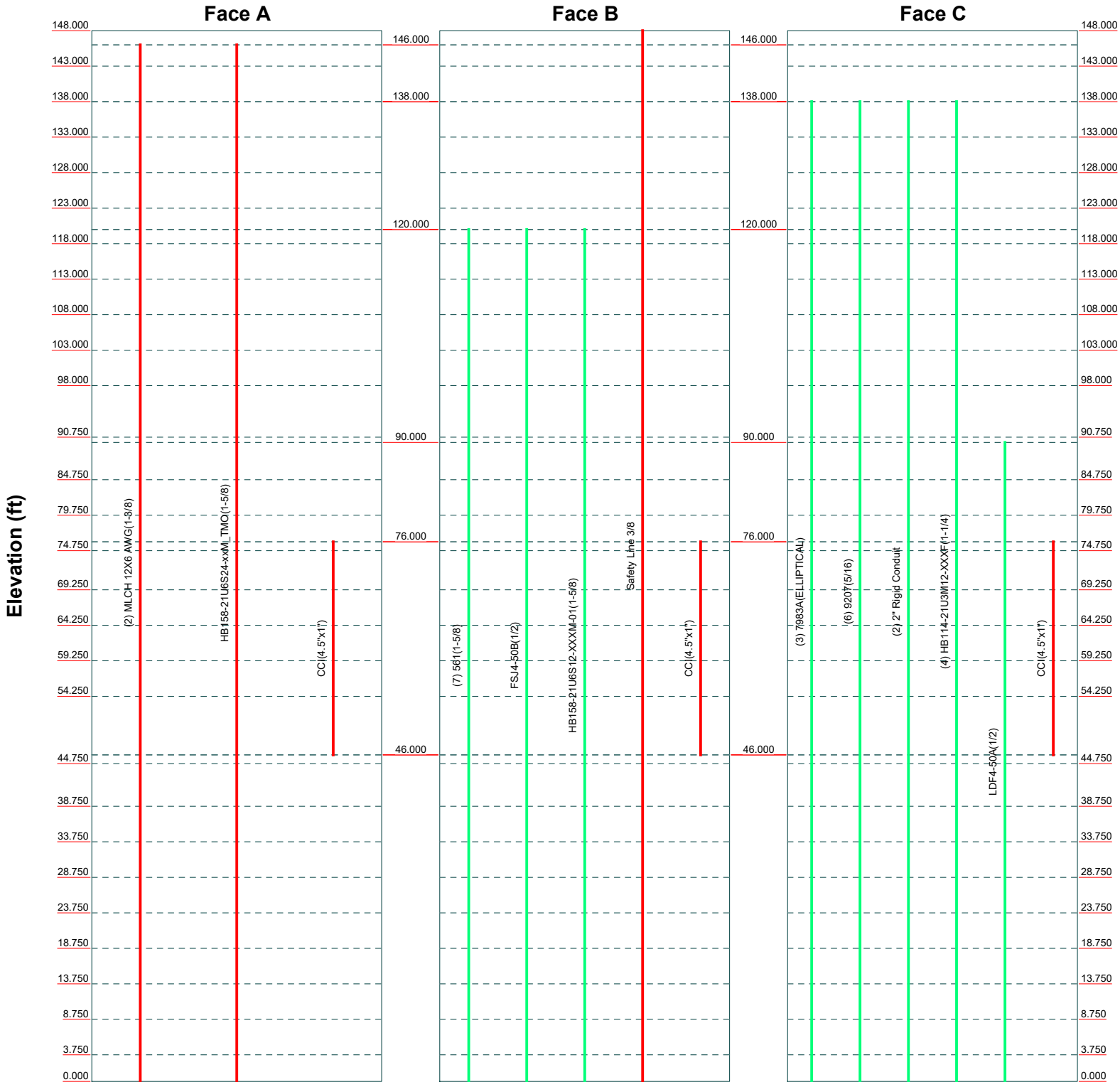
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| | | |
|------------------------------------------------------|-------------------------|-------------|
| Job: 82071.011.01 - HILLSIDE, CT (BU# 876323) | | |
| Project: | | |
| Client: Crown Castle | Drawn by: Suhas Poojary | App'd: |
| Code: TIA-222-H | Date: 05/05/22 | Scale: NTS |
| Path: | | Dwg No. E-5 |

Feed Line Distribution Chart

0' - 148'

— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



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| | | |
|-----------------------------------------------------|-------------------------|-------------|
| Job: 82071.011.01 - HILLSIDE, CT (BU# 87632) | | |
| Project: | | |
| Client: Crown Castle | Drawn by: Suhas Poojary | App'd: |
| Code: TIA-222-H | Date: 05/05/22 | Scale: NTS |
| Path: | | Dwg No. E-7 |

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------|
| <p>tnxTower</p> <p>B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p> | <p>Job</p> <p>82071.011.01 - HILLSIDE, CT (BU# 876323)</p> | <p>Page</p> <p>1 of 35</p> |
| | <p>Project</p> | <p>Date</p> <p>17:48:20 05/05/22</p> |
| | <p>Client</p> <p>Crown Castle</p> | <p>Designed by</p> <p>Suhas Poojary</p> |

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: 157.000 ft.

Basic wind speed of 120 mph.

Risk Category II.

Exposure Category B.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.000 ft.

Nominal ice thickness of 1.000 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 60 mph.

TIA-222-H Annex S.

TOWER RATING: 65.6%.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Tower analysis based on target reliabilities in accordance with Annex S.

Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.

Maximum demand-capacity ratio is: 1.05.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page 2 of 35 |
| | Project | Date 17:48:20 05/05/22 |
| | Client Crown Castle | Designed by Suhas Poojary |

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 | 148.000-143.000 | 5.000 | 0.000 | Round | 24.000 | 24.000 | 0.250 | | A500-50 (50 ksi) |
| L2 | 143.000-138.000 | 5.000 | 0.000 | Round | 24.000 | 24.000 | 0.250 | | A500-50 (50 ksi) |
| L3 | 138.000-133.000 | 5.000 | 0.000 | 18 | 22.000 | 23.050 | 0.250 | 1.000 | A607-60 (60 ksi) |
| L4 | 133.000-128.000 | 5.000 | 0.000 | 18 | 23.050 | 24.100 | 0.250 | 1.000 | A607-60 (60 ksi) |
| L5 | 128.000-123.000 | 5.000 | 0.000 | 18 | 24.100 | 25.150 | 0.250 | 1.000 | A607-60 (60 ksi) |
| L6 | 123.000-118.000 | 5.000 | 0.000 | 18 | 25.150 | 26.201 | 0.250 | 1.000 | A607-60 (60 ksi) |
| L7 | 118.000-113.000 | 5.000 | 0.000 | 18 | 26.201 | 27.251 | 0.250 | 1.000 | A607-60 (60 ksi) |
| L8 | 113.000-108.000 | 5.000 | 0.000 | 18 | 27.251 | 28.301 | 0.250 | 1.000 | A607-60 (60 ksi) |
| L9 | 108.000-103.000 | 5.000 | 0.000 | 18 | 28.301 | 29.351 | 0.250 | 1.000 | A607-60 (60 ksi) |
| L10 | 103.000-98.000 | 5.000 | 0.000 | 18 | 29.351 | 30.401 | 0.250 | 1.000 | A607-60 (60 ksi) |
| L11 | 98.000-90.750 | 7.250 | 4.000 | 18 | 30.401 | 31.924 | 0.250 | 1.000 | A607-60 (60 ksi) |
| L12 | 90.750-89.750 | 5.000 | 0.000 | 18 | 30.584 | 31.634 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L13 | 89.750-84.750 | 5.000 | 0.000 | 18 | 31.634 | 32.684 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L14 | 84.750-79.750 | 5.000 | 0.000 | 18 | 32.684 | 33.735 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L15 | 79.750-74.750 | 5.000 | 0.000 | 18 | 33.735 | 34.785 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L16 | 74.750-74.500 | 0.250 | 0.000 | 18 | 34.785 | 34.837 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L17 | 74.500-74.250 | 0.250 | 0.000 | 18 | 34.837 | 34.890 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L18 | 74.250-69.250 | 5.000 | 0.000 | 18 | 34.890 | 35.940 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L19 | 69.250-64.250 | 5.000 | 0.000 | 18 | 35.940 | 36.990 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L20 | 64.250-59.250 | 5.000 | 0.000 | 18 | 36.990 | 38.040 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L21 | 59.250-54.250 | 5.000 | 0.000 | 18 | 38.040 | 39.091 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L22 | 54.250-44.750 | 9.500 | 5.250 | 18 | 39.091 | 41.086 | 0.313 | 1.250 | A607-60 (60 ksi) |
| L23 | 44.750-43.750 | 6.250 | 0.000 | 18 | 39.358 | 40.671 | 0.375 | 1.500 | A607-60 (60 ksi) |
| L24 | 43.750-38.750 | 5.000 | 0.000 | 18 | 40.671 | 41.721 | 0.375 | 1.500 | A607-60 (60 ksi) |
| L25 | 38.750-33.750 | 5.000 | 0.000 | 18 | 41.721 | 42.771 | 0.375 | 1.500 | A607-60 (60 ksi) |
| L26 | 33.750-28.750 | 5.000 | 0.000 | 18 | 42.771 | 43.822 | 0.375 | 1.500 | A607-60 (60 ksi) |
| L27 | 28.750-23.750 | 5.000 | 0.000 | 18 | 43.822 | 44.872 | 0.375 | 1.500 | A607-60 (60 ksi) |
| L28 | 23.750-18.750 | 5.000 | 0.000 | 18 | 44.872 | 45.922 | 0.375 | 1.500 | A607-60 (60 ksi) |

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------|
| <p>tnxTower</p> <p>B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p> | <p>Job</p> <p>82071.011.01 - HILLSIDE, CT (BU# 876323)</p> | <p>Page</p> <p>3 of 35</p> |
| | <p>Project</p> | <p>Date</p> <p>17:48:20 05/05/22</p> |
| | <p>Client</p> <p>Crown Castle</p> | <p>Designed by</p> <p>Suhas Poojary</p> |

| 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 |
|---------|-----------------|-------------------------|------------------------|-----------------------|-----------------------|--------------------------|-------------------------|----------------------|---------------------|
| L29 | 18.750-13.750 | 5.000 | 0.000 | 18 | 45.922 | 46.972 | 0.375 | 1.500 | A607-60 (60 ksi) |
| L30 | 13.750-8.750 | 5.000 | 0.000 | 18 | 46.972 | 48.022 | 0.375 | 1.500 | A607-60 (60 ksi) |
| L31 | 8.750-3.750 | 5.000 | 0.000 | 18 | 48.022 | 49.072 | 0.375 | 1.500 | A607-60 (60 ksi) |
| L32 | 3.750-0.000 | 3.750 | | 18 | 49.072 | 49.860 | 0.375 | 1.500 | A607-60 (60 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 | 24.000 | 18.653 | 1315.343 | 8.397 | 12.000 | 109.612 | 2630.685 | 9.321 | 0.000 | 0 |
| | 24.000 | 18.653 | 1315.343 | 8.397 | 12.000 | 109.612 | 2630.685 | 9.321 | 0.000 | 0 |
| L2 | 24.000 | 18.653 | 1315.343 | 8.397 | 12.000 | 109.612 | 2630.685 | 9.321 | 0.000 | 0 |
| | 24.000 | 18.653 | 1315.343 | 8.397 | 12.000 | 109.612 | 2630.685 | 9.321 | 0.000 | 0 |
| L3 | 22.301 | 17.259 | 1031.483 | 7.721 | 11.176 | 92.294 | 2064.324 | 8.631 | 3.432 | 13.728 |
| | 23.367 | 18.092 | 1188.223 | 8.094 | 11.709 | 101.475 | 2378.010 | 9.048 | 3.617 | 14.467 |
| L4 | 23.367 | 18.092 | 1188.223 | 8.094 | 11.709 | 101.475 | 2378.010 | 9.048 | 3.617 | 14.467 |
| | 24.434 | 18.925 | 1360.088 | 8.467 | 12.243 | 111.091 | 2721.965 | 9.464 | 3.802 | 15.207 |
| L5 | 24.434 | 18.925 | 1360.088 | 8.467 | 12.243 | 111.091 | 2721.965 | 9.464 | 3.802 | 15.207 |
| | 25.500 | 19.759 | 1547.773 | 8.840 | 12.776 | 121.143 | 3097.583 | 9.881 | 3.986 | 15.946 |
| L6 | 25.500 | 19.759 | 1547.773 | 8.840 | 12.776 | 121.143 | 3097.583 | 9.881 | 3.986 | 15.946 |
| | 26.566 | 20.592 | 1751.977 | 9.212 | 13.310 | 131.629 | 3506.259 | 10.298 | 4.171 | 16.685 |
| L7 | 26.566 | 20.592 | 1751.977 | 9.212 | 13.310 | 131.629 | 3506.259 | 10.298 | 4.171 | 16.685 |
| | 27.633 | 21.425 | 1973.395 | 9.585 | 13.843 | 142.551 | 3949.386 | 10.715 | 4.356 | 17.425 |
| L8 | 27.633 | 21.425 | 1973.395 | 9.585 | 13.843 | 142.551 | 3949.386 | 10.715 | 4.356 | 17.425 |
| | 28.699 | 22.258 | 2212.724 | 9.958 | 14.377 | 153.908 | 4428.359 | 11.131 | 4.541 | 18.164 |
| L9 | 28.699 | 22.258 | 2212.724 | 9.958 | 14.377 | 153.908 | 4428.359 | 11.131 | 4.541 | 18.164 |
| | 29.765 | 23.092 | 2470.661 | 10.331 | 14.910 | 165.701 | 4944.572 | 11.548 | 4.726 | 18.903 |
| L10 | 29.765 | 23.092 | 2470.661 | 10.331 | 14.910 | 165.701 | 4944.572 | 11.548 | 4.726 | 18.903 |
| | 30.832 | 23.925 | 2747.902 | 10.704 | 15.444 | 177.929 | 5499.419 | 11.965 | 4.911 | 19.642 |
| L11 | 30.832 | 23.925 | 2747.902 | 10.704 | 15.444 | 177.929 | 5499.419 | 11.965 | 4.911 | 19.642 |
| | 32.378 | 25.133 | 3185.614 | 11.244 | 16.217 | 196.432 | 6375.419 | 12.569 | 5.179 | 20.714 |
| L12 | 31.861 | 30.025 | 3476.088 | 10.746 | 15.537 | 223.735 | 6956.750 | 15.016 | 4.833 | 15.465 |
| | 32.074 | 31.067 | 3850.575 | 11.119 | 16.070 | 239.611 | 7706.217 | 15.537 | 5.018 | 16.056 |
| L13 | 32.074 | 31.067 | 3850.575 | 11.119 | 16.070 | 239.611 | 7706.217 | 15.537 | 5.018 | 16.056 |
| | 33.140 | 32.109 | 4251.037 | 11.492 | 16.604 | 256.031 | 8507.667 | 16.057 | 5.202 | 16.648 |
| L14 | 33.140 | 32.109 | 4251.037 | 11.492 | 16.604 | 256.031 | 8507.667 | 16.057 | 5.202 | 16.648 |
| | 34.207 | 33.150 | 4678.344 | 11.865 | 17.137 | 272.995 | 9362.843 | 16.578 | 5.387 | 17.239 |
| L15 | 34.207 | 33.150 | 4678.344 | 11.865 | 17.137 | 272.995 | 9362.843 | 16.578 | 5.387 | 17.239 |
| | 35.273 | 34.192 | 5133.367 | 12.238 | 17.671 | 290.503 | 10273.488 | 17.099 | 5.572 | 17.831 |
| L16 | 35.273 | 34.192 | 5133.367 | 12.238 | 17.671 | 290.503 | 10273.488 | 17.099 | 5.572 | 17.831 |
| | 35.326 | 34.244 | 5156.861 | 12.256 | 17.697 | 291.392 | 10320.508 | 17.125 | 5.581 | 17.86 |
| L17 | 35.326 | 34.244 | 5156.861 | 12.256 | 17.697 | 291.392 | 10320.508 | 17.125 | 5.581 | 17.86 |
| | 35.380 | 34.296 | 5180.427 | 12.275 | 17.724 | 292.283 | 10367.671 | 17.151 | 5.591 | 17.89 |
| L18 | 35.380 | 34.296 | 5180.427 | 12.275 | 17.724 | 292.283 | 10367.671 | 17.151 | 5.591 | 17.89 |
| | 36.446 | 35.338 | 5666.944 | 12.648 | 18.257 | 310.390 | 11341.344 | 17.672 | 5.775 | 18.481 |
| L19 | 36.446 | 35.338 | 5666.944 | 12.648 | 18.257 | 310.390 | 11341.344 | 17.672 | 5.775 | 18.481 |
| | 37.513 | 36.380 | 6183.005 | 13.021 | 18.791 | 329.041 | 12374.147 | 18.193 | 5.960 | 19.073 |
| L20 | 37.513 | 36.380 | 6183.005 | 13.021 | 18.791 | 329.041 | 12374.147 | 18.193 | 5.960 | 19.073 |
| | 38.579 | 37.421 | 6729.483 | 13.393 | 19.325 | 348.236 | 13467.821 | 18.714 | 6.145 | 19.664 |
| L21 | 38.579 | 37.421 | 6729.483 | 13.393 | 19.325 | 348.236 | 13467.821 | 18.714 | 6.145 | 19.664 |
| | 39.645 | 38.463 | 7307.248 | 13.766 | 19.858 | 367.975 | 14624.111 | 19.235 | 6.330 | 20.256 |
| L22 | 39.645 | 38.463 | 7307.248 | 13.766 | 19.858 | 367.975 | 14624.111 | 19.235 | 6.330 | 20.256 |

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|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page 6 of 35 |
| | Project | Date 17:48:20 05/05/22 |
| | Client Crown Castle | Designed by Suhas Poojary |

| 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 klf |
|--------------|--------|---------------------------------|-------------------|-----------------|--------------|----------------|--------------------|-------------------------|-----------------|---------------|
| CCI(4.5"x1") | A | No | Surface Af (CaAa) | 76.000 - 46.000 | 1 | 1 | 0.000 0.050 | 4.500 | 11.000 | 0.000 |
| CCI(4.5"x1") | B | No | Surface Af (CaAa) | 76.000 - 46.000 | 1 | 1 | 0.000 0.050 | 4.500 | 11.000 | 0.000 |
| CCI(4.5"x1") | C | No | Surface Af (CaAa) | 76.000 - 46.000 | 1 | 1 | 0.000 0.050 | 4.500 | 11.000 | 0.000 |
| * | | | | | | | | | | |

Feed Line/Linear Appurtenances - Entered As Area

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Total Number | | C _{AA} ft ² /ft | Weight klf |
|-----------------------------|-------------|--------------|---------------------------------|----------------|-----------------|--------------|------------------------------|----------------------------------------|-------------------------|
| * | | | | | | | | | |
| 7983A(ELLIPTICAL) | C | No | No | Inside Pole | 138.000 - 0.000 | 3 | No Ice 1/2" Ice 1" Ice | 0.000 0.000 0.000 | 0.000 0.000 0.000 |
| 9207(5/16) | C | No | No | Inside Pole | 138.000 - 0.000 | 6 | No Ice 1/2" Ice 1" Ice | 0.000 0.000 0.000 | 0.001 0.001 0.001 |
| 2" Rigid Conduit | C | No | No | Inside Pole | 138.000 - 0.000 | 2 | No Ice 1/2" Ice 1" Ice | 0.000 0.000 0.000 | 0.003 0.003 0.003 |
| HB114-21U3M12-XXF(1-1/4) | C | No | No | Inside Pole | 138.000 - 0.000 | 4 | No Ice 1/2" Ice 1" Ice | 0.000 0.000 0.000 | 0.001 0.001 0.001 |
| * | | | | | | | | | |
| 561(1-5/8) | B | No | No | Inside Pole | 120.000 - 0.000 | 7 | No Ice 1/2" Ice 1" Ice | 0.000 0.000 0.000 | 0.001 0.001 0.001 |
| FSJ4-50B(1/2) | B | No | No | Inside Pole | 120.000 - 0.000 | 1 | No Ice 1/2" Ice 1" Ice | 0.000 0.000 0.000 | 0.000 0.000 0.000 |
| HB158-21U6S12-XXM-01(1-5/8) | B | No | No | Inside Pole | 120.000 - 0.000 | 1 | No Ice 1/2" Ice 1" Ice | 0.000 0.000 0.000 | 0.002 0.002 0.002 |
| * | | | | | | | | | |
| LDF4-50A(1/2) | C | No | No | Inside Pole | 90.000 - 0.000 | 1 | No Ice 1/2" Ice 1" Ice | 0.000 0.000 0.000 | 0.000 0.000 0.000 |
| * | | | | | | | | | |

Feed Line/Linear Appurtenances Section Areas

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|------|-----------------------------------|-----------------------------------|-----------------------------------------------|------------------------------------------------|-------------|
| L1 | 148.000-143.000 | A | 0.000 | 0.000 | 1.028 | 0.000 | 0.018 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.001 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|------|-----------------------------------|-----------------------------------|-----------------------------------------------|------------------------------------------------|-------------|
| L2 | 143.000-138.000 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.001 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L3 | 138.000-133.000 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.001 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L4 | 133.000-128.000 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.001 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L5 | 128.000-123.000 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.001 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L6 | 123.000-118.000 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.024 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L7 | 118.000-113.000 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L8 | 113.000-108.000 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L9 | 108.000-103.000 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L10 | 103.000-98.000 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L11 | 98.000-90.750 | A | 0.000 | 0.000 | 2.484 | 0.000 | 0.043 |
| | | B | 0.000 | 0.000 | 0.272 | 0.000 | 0.085 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.104 |
| L12 | 90.750-89.750 | A | 0.000 | 0.000 | 0.343 | 0.000 | 0.006 |
| | | B | 0.000 | 0.000 | 0.037 | 0.000 | 0.012 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.014 |
| L13 | 89.750-84.750 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L14 | 84.750-79.750 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L15 | 79.750-74.750 | A | 0.000 | 0.000 | 2.651 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 1.125 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.938 | 0.000 | 0.072 |
| L16 | 74.750-74.500 | A | 0.000 | 0.000 | 0.273 | 0.000 | 0.001 |
| | | B | 0.000 | 0.000 | 0.197 | 0.000 | 0.003 |
| | | C | 0.000 | 0.000 | 0.188 | 0.000 | 0.004 |
| L17 | 74.500-74.250 | A | 0.000 | 0.000 | 0.273 | 0.000 | 0.001 |
| | | B | 0.000 | 0.000 | 0.197 | 0.000 | 0.003 |
| | | C | 0.000 | 0.000 | 0.188 | 0.000 | 0.004 |
| L18 | 74.250-69.250 | A | 0.000 | 0.000 | 5.463 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 3.938 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 3.750 | 0.000 | 0.072 |
| L19 | 69.250-64.250 | A | 0.000 | 0.000 | 5.463 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 3.938 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 3.750 | 0.000 | 0.072 |
| L20 | 64.250-59.250 | A | 0.000 | 0.000 | 5.463 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 3.938 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 3.750 | 0.000 | 0.072 |
| L21 | 59.250-54.250 | A | 0.000 | 0.000 | 5.463 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 3.938 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 3.750 | 0.000 | 0.072 |
| L22 | 54.250-44.750 | A | 0.000 | 0.000 | 9.442 | 0.000 | 0.056 |

| | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|-------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | Page | |
| | | 82071.011.01 - HILLSIDE, CT (BU# 876323) | 8 of 35 |
| | Project | | Date |
| | | 17:48:20 05/05/22 | |
| | Client | Designed by | |
| | Crown Castle | Suhas Poojary | |

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|------|-----------------------------------|-----------------------------------|-----------------------------------------------|------------------------------------------------|-------------|
| | | B | 0.000 | 0.000 | 6.544 | 0.000 | 0.111 |
| | | C | 0.000 | 0.000 | 6.188 | 0.000 | 0.138 |
| L23 | 44.750-43.750 | A | 0.000 | 0.000 | 0.343 | 0.000 | 0.006 |
| | | B | 0.000 | 0.000 | 0.037 | 0.000 | 0.012 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.014 |
| L24 | 43.750-38.750 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L25 | 38.750-33.750 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L26 | 33.750-28.750 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L27 | 28.750-23.750 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L28 | 23.750-18.750 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L29 | 18.750-13.750 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L30 | 13.750-8.750 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L31 | 8.750-3.750 | A | 0.000 | 0.000 | 1.713 | 0.000 | 0.030 |
| | | B | 0.000 | 0.000 | 0.188 | 0.000 | 0.059 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L32 | 3.750-0.000 | A | 0.000 | 0.000 | 1.285 | 0.000 | 0.022 |
| | | B | 0.000 | 0.000 | 0.141 | 0.000 | 0.044 |
| | | C | 0.000 | 0.000 | 0.000 | 0.000 | 0.054 |

Feed Line/Linear Appurtenances Section Areas - With Ice

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|-------------------|------------------------|-----------------------------------|-----------------------------------|-----------------------------------------------|------------------------------------------------|-------------|
| L1 | 148.000-143.000 | A | 0.986 | 0.000 | 0.000 | 2.211 | 0.000 | 0.046 |
| | | B | | 0.000 | 0.000 | 1.173 | 0.000 | 0.009 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L2 | 143.000-138.000 | A | 0.983 | 0.000 | 0.000 | 3.678 | 0.000 | 0.077 |
| | | B | | 0.000 | 0.000 | 1.170 | 0.000 | 0.009 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| L3 | 138.000-133.000 | A | 0.979 | 0.000 | 0.000 | 3.671 | 0.000 | 0.076 |
| | | B | | 0.000 | 0.000 | 1.166 | 0.000 | 0.009 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L4 | 133.000-128.000 | A | 0.975 | 0.000 | 0.000 | 3.664 | 0.000 | 0.076 |
| | | B | | 0.000 | 0.000 | 1.163 | 0.000 | 0.009 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L5 | 128.000-123.000 | A | 0.971 | 0.000 | 0.000 | 3.656 | 0.000 | 0.076 |
| | | B | | 0.000 | 0.000 | 1.159 | 0.000 | 0.009 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L6 | 123.000-118.000 | A | 0.968 | 0.000 | 0.000 | 3.648 | 0.000 | 0.076 |
| | | B | | 0.000 | 0.000 | 1.155 | 0.000 | 0.032 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L7 | 118.000-113.000 | A | 0.963 | 0.000 | 0.000 | 3.640 | 0.000 | 0.075 |
| | | B | | 0.000 | 0.000 | 1.151 | 0.000 | 0.066 |

| | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|-------------|--------------------|
| <p>tnxTower</p> <p>B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p> | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 9 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | | Designed by |

| 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 |
|---------------|--------------------|-------------|------------------|--------------------------------|--------------------------------|-----------------------------------------|------------------------------------------|----------|
| L8 | 113.000-108.000 | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| | | A | 0.959 | 0.000 | 0.000 | 3.631 | 0.000 | 0.075 |
| | | B | | 0.000 | 0.000 | 1.147 | 0.000 | 0.066 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L9 | 108.000-103.000 | A | 0.955 | 0.000 | 0.000 | 3.622 | 0.000 | 0.075 |
| | | B | | 0.000 | 0.000 | 1.142 | 0.000 | 0.066 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L10 | 103.000-98.000 | A | 0.950 | 0.000 | 0.000 | 3.613 | 0.000 | 0.074 |
| | | B | | 0.000 | 0.000 | 1.138 | 0.000 | 0.066 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L11 | 98.000-90.750 | A | 0.944 | 0.000 | 0.000 | 5.222 | 0.000 | 0.107 |
| | | B | | 0.000 | 0.000 | 1.641 | 0.000 | 0.096 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.104 |
| L12 | 90.750-89.750 | A | 0.940 | 0.000 | 0.000 | 0.720 | 0.000 | 0.015 |
| | | B | | 0.000 | 0.000 | 0.226 | 0.000 | 0.013 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.014 |
| L13 | 89.750-84.750 | A | 0.937 | 0.000 | 0.000 | 3.587 | 0.000 | 0.074 |
| | | B | | 0.000 | 0.000 | 1.124 | 0.000 | 0.066 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L14 | 84.750-79.750 | A | 0.931 | 0.000 | 0.000 | 3.576 | 0.000 | 0.073 |
| | | B | | 0.000 | 0.000 | 1.119 | 0.000 | 0.066 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L15 | 79.750-74.750 | A | 0.925 | 0.000 | 0.000 | 4.733 | 0.000 | 0.079 |
| | | B | | 0.000 | 0.000 | 2.282 | 0.000 | 0.072 |
| | | C | | 0.000 | 0.000 | 1.169 | 0.000 | 0.079 |
| L16 | 74.750-74.500 | A | 0.922 | 0.000 | 0.000 | 0.411 | 0.000 | 0.005 |
| | | B | | 0.000 | 0.000 | 0.289 | 0.000 | 0.005 |
| | | C | | 0.000 | 0.000 | 0.234 | 0.000 | 0.005 |
| L17 | 74.500-74.250 | A | 0.922 | 0.000 | 0.000 | 0.411 | 0.000 | 0.005 |
| | | B | | 0.000 | 0.000 | 0.289 | 0.000 | 0.005 |
| | | C | | 0.000 | 0.000 | 0.234 | 0.000 | 0.005 |
| L18 | 74.250-69.250 | A | 0.919 | 0.000 | 0.000 | 8.219 | 0.000 | 0.098 |
| | | B | | 0.000 | 0.000 | 5.775 | 0.000 | 0.092 |
| | | C | | 0.000 | 0.000 | 4.669 | 0.000 | 0.098 |
| L19 | 69.250-64.250 | A | 0.912 | 0.000 | 0.000 | 8.199 | 0.000 | 0.098 |
| | | B | | 0.000 | 0.000 | 5.762 | 0.000 | 0.091 |
| | | C | | 0.000 | 0.000 | 4.662 | 0.000 | 0.098 |
| L20 | 64.250-59.250 | A | 0.905 | 0.000 | 0.000 | 8.178 | 0.000 | 0.097 |
| | | B | | 0.000 | 0.000 | 5.747 | 0.000 | 0.091 |
| | | C | | 0.000 | 0.000 | 4.655 | 0.000 | 0.098 |
| L21 | 59.250-54.250 | A | 0.897 | 0.000 | 0.000 | 8.155 | 0.000 | 0.096 |
| | | B | | 0.000 | 0.000 | 5.732 | 0.000 | 0.091 |
| | | C | | 0.000 | 0.000 | 4.647 | 0.000 | 0.098 |
| L22 | 54.250-44.750 | A | 0.885 | 0.000 | 0.000 | 14.266 | 0.000 | 0.174 |
| | | B | | 0.000 | 0.000 | 9.686 | 0.000 | 0.165 |
| | | C | | 0.000 | 0.000 | 7.648 | 0.000 | 0.178 |
| L23 | 44.750-43.750 | A | 0.875 | 0.000 | 0.000 | 0.697 | 0.000 | 0.014 |
| | | B | | 0.000 | 0.000 | 0.215 | 0.000 | 0.013 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.014 |
| L24 | 43.750-38.750 | A | 0.869 | 0.000 | 0.000 | 3.451 | 0.000 | 0.069 |
| | | B | | 0.000 | 0.000 | 1.057 | 0.000 | 0.065 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L25 | 38.750-33.750 | A | 0.858 | 0.000 | 0.000 | 3.429 | 0.000 | 0.069 |
| | | B | | 0.000 | 0.000 | 1.045 | 0.000 | 0.065 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L26 | 33.750-28.750 | A | 0.845 | 0.000 | 0.000 | 3.404 | 0.000 | 0.068 |
| | | B | | 0.000 | 0.000 | 1.033 | 0.000 | 0.065 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L27 | 28.750-23.750 | A | 0.831 | 0.000 | 0.000 | 3.374 | 0.000 | 0.067 |
| | | B | | 0.000 | 0.000 | 1.018 | 0.000 | 0.065 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |

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| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page 10 of 35 |
| | Project | Date 17:48:20 05/05/22 |
| | Client Crown Castle | Designed by Suhas Poojary |

| 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 |
|---------------|-----------------------|-------------|---------------------|-----------------------------------|-----------------------------------|-----------------------------------------------|------------------------------------------------|-------------|
| L28 | 23.750-18.750 | A | 0.813 | 0.000 | 0.000 | 3.340 | 0.000 | 0.066 |
| | | B | | 0.000 | 0.000 | 1.001 | 0.000 | 0.064 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L29 | 18.750-13.750 | A | 0.792 | 0.000 | 0.000 | 3.297 | 0.000 | 0.065 |
| | | B | | 0.000 | 0.000 | 0.979 | 0.000 | 0.064 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L30 | 13.750-8.750 | A | 0.763 | 0.000 | 0.000 | 3.239 | 0.000 | 0.063 |
| | | B | | 0.000 | 0.000 | 0.951 | 0.000 | 0.064 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L31 | 8.750-3.750 | A | 0.720 | 0.000 | 0.000 | 3.152 | 0.000 | 0.061 |
| | | B | | 0.000 | 0.000 | 0.907 | 0.000 | 0.063 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 |
| L32 | 3.750-0.000 | A | 0.638 | 0.000 | 0.000 | 2.242 | 0.000 | 0.042 |
| | | B | | 0.000 | 0.000 | 0.619 | 0.000 | 0.047 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.000 | 0.054 |

Feed Line Center of Pressure

| Section | Elevation ft | CP _x in | CP _z in | CP _x Ice in | CP _z Ice in |
|---------|-----------------|-----------------------|-----------------------|------------------------------|------------------------------|
| L1 | 148.000-143.000 | -1.776 | 0.140 | -1.671 | -0.409 |
| L2 | 143.000-138.000 | -2.629 | 0.394 | -2.558 | -0.090 |
| L3 | 138.000-133.000 | -2.186 | 0.329 | -2.494 | -0.082 |
| L4 | 133.000-128.000 | -2.223 | 0.334 | -2.518 | -0.086 |
| L5 | 128.000-123.000 | -2.259 | 0.338 | -2.541 | -0.088 |
| L6 | 123.000-118.000 | -2.293 | 0.342 | -2.561 | -0.091 |
| L7 | 118.000-113.000 | -2.326 | 0.346 | -2.580 | -0.093 |
| L8 | 113.000-108.000 | -2.335 | 0.346 | -2.598 | -0.095 |
| L9 | 108.000-103.000 | -2.344 | 0.347 | -2.614 | -0.097 |
| L10 | 103.000-98.000 | -2.352 | 0.347 | -2.628 | -0.098 |
| L11 | 98.000-90.750 | -2.362 | 0.348 | -2.644 | -0.100 |
| L12 | 90.750-89.750 | -2.365 | 0.348 | -2.651 | -0.101 |
| L13 | 89.750-84.750 | -2.369 | 0.348 | -2.654 | -0.100 |
| L14 | 84.750-79.750 | -2.376 | 0.348 | -2.664 | -0.101 |
| L15 | 79.750-74.750 | -1.944 | 0.285 | -2.319 | -0.088 |
| L16 | 74.750-74.500 | -1.262 | 0.185 | -1.670 | -0.063 |
| L17 | 74.500-74.250 | -1.263 | 0.185 | -1.671 | -0.063 |
| L18 | 74.250-69.250 | -1.273 | 0.186 | -1.681 | -0.064 |
| L19 | 69.250-64.250 | -1.291 | 0.188 | -1.699 | -0.064 |
| L20 | 64.250-59.250 | -1.308 | 0.191 | -1.716 | -0.065 |
| L21 | 59.250-54.250 | -1.325 | 0.193 | -1.732 | -0.065 |
| L22 | 54.250-44.750 | -1.433 | 0.208 | -1.838 | -0.068 |
| L23 | 44.750-43.750 | -2.416 | 0.351 | -2.706 | -0.100 |
| L24 | 43.750-38.750 | -2.419 | 0.351 | -2.693 | -0.096 |
| L25 | 38.750-33.750 | -2.424 | 0.351 | -2.691 | -0.094 |
| L26 | 33.750-28.750 | -2.428 | 0.351 | -2.685 | -0.091 |
| L27 | 28.750-23.750 | -2.432 | 0.351 | -2.677 | -0.087 |
| L28 | 23.750-18.750 | -2.436 | 0.352 | -2.664 | -0.083 |
| L29 | 18.750-13.750 | -2.440 | 0.352 | -2.646 | -0.077 |
| L30 | 13.750-8.750 | -2.444 | 0.352 | -2.618 | -0.068 |
| L31 | 8.750-3.750 | -2.447 | 0.352 | -2.570 | -0.054 |
| L32 | 3.750-0.000 | -2.450 | 0.352 | -2.470 | -0.026 |

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

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page 11 of 35 |
| | Project | Date 17:48:20 05/05/22 |
| | Client Crown Castle | Designed by Suhas Poojary |

Shielding Factor Ka

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K_a No Ice | K_a Ice |
|---------------|----------------------|----------------------------------|-------------------------|-----------------|--------------|
| L1 | 3 | MLCH 12X6 AWG(1-3/8) | 143.00 - 146.00 | 1.0000 | 1.0000 |
| L1 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 143.00 - 146.00 | 1.0000 | 1.0000 |
| L1 | 17 | Safety Line 3/8 | 143.00 - 148.00 | 1.0000 | 1.0000 |
| L2 | 3 | MLCH 12X6 AWG(1-3/8) | 138.00 - 143.00 | 1.0000 | 1.0000 |
| L2 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 138.00 - 143.00 | 1.0000 | 1.0000 |
| L2 | 17 | Safety Line 3/8 | 138.00 - 143.00 | 1.0000 | 1.0000 |
| L3 | 3 | MLCH 12X6 AWG(1-3/8) | 133.00 - 138.00 | 1.0000 | 1.0000 |
| L3 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 133.00 - 138.00 | 1.0000 | 1.0000 |
| L3 | 17 | Safety Line 3/8 | 133.00 - 138.00 | 1.0000 | 1.0000 |
| L4 | 3 | MLCH 12X6 AWG(1-3/8) | 128.00 - 133.00 | 1.0000 | 1.0000 |
| L4 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 128.00 - 133.00 | 1.0000 | 1.0000 |
| L4 | 17 | Safety Line 3/8 | 128.00 - 133.00 | 1.0000 | 1.0000 |
| L5 | 3 | MLCH 12X6 AWG(1-3/8) | 123.00 - 128.00 | 1.0000 | 1.0000 |
| L5 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 123.00 - 128.00 | 1.0000 | 1.0000 |
| L5 | 17 | Safety Line 3/8 | 123.00 - 128.00 | 1.0000 | 1.0000 |
| L6 | 3 | MLCH 12X6 AWG(1-3/8) | 118.00 - 123.00 | 1.0000 | 1.0000 |
| L6 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 118.00 - 123.00 | 1.0000 | 1.0000 |
| L6 | 17 | Safety Line 3/8 | 118.00 - 123.00 | 1.0000 | 1.0000 |
| L7 | 3 | MLCH 12X6 AWG(1-3/8) | 113.00 - 118.00 | 1.0000 | 1.0000 |
| L7 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 113.00 - 118.00 | 1.0000 | 1.0000 |
| L7 | 17 | Safety Line 3/8 | 113.00 - 118.00 | 1.0000 | 1.0000 |
| L8 | 3 | MLCH 12X6 AWG(1-3/8) | 108.00 - 113.00 | 1.0000 | 1.0000 |
| L8 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 108.00 - 113.00 | 1.0000 | 1.0000 |
| L8 | 17 | Safety Line 3/8 | 108.00 - 113.00 | 1.0000 | 1.0000 |
| L9 | 3 | MLCH 12X6 AWG(1-3/8) | 103.00 - 108.00 | 1.0000 | 1.0000 |
| L9 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 103.00 - 108.00 | 1.0000 | 1.0000 |
| L9 | 17 | Safety Line 3/8 | 103.00 - 108.00 | 1.0000 | 1.0000 |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|----------------------------------|-------------------------|-----------------------|--------------------|
| L10 | 3 | MLCH 12X6 AWG(1-3/8) | 98.00 - 103.00 | 1.0000 | 1.0000 |
| L10 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 98.00 - 103.00 | 1.0000 | 1.0000 |
| L10 | 17 | Safety Line 3/8 | 98.00 - 103.00 | 1.0000 | 1.0000 |
| L11 | 3 | MLCH 12X6 AWG(1-3/8) | 90.75 - 98.00 | 1.0000 | 1.0000 |
| L11 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 90.75 - 98.00 | 1.0000 | 1.0000 |
| L11 | 17 | Safety Line 3/8 | 90.75 - 98.00 | 1.0000 | 1.0000 |
| L12 | 3 | MLCH 12X6 AWG(1-3/8) | 89.75 - 90.75 | 1.0000 | 1.0000 |
| L12 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 89.75 - 90.75 | 1.0000 | 1.0000 |
| L12 | 17 | Safety Line 3/8 | 89.75 - 90.75 | 1.0000 | 1.0000 |
| L13 | 3 | MLCH 12X6 AWG(1-3/8) | 84.75 - 89.75 | 1.0000 | 1.0000 |
| L13 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 84.75 - 89.75 | 1.0000 | 1.0000 |
| L13 | 17 | Safety Line 3/8 | 84.75 - 89.75 | 1.0000 | 1.0000 |
| L14 | 3 | MLCH 12X6 AWG(1-3/8) | 79.75 - 84.75 | 1.0000 | 1.0000 |
| L14 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 79.75 - 84.75 | 1.0000 | 1.0000 |
| L14 | 17 | Safety Line 3/8 | 79.75 - 84.75 | 1.0000 | 1.0000 |
| L15 | 3 | MLCH 12X6 AWG(1-3/8) | 74.75 - 79.75 | 1.0000 | 1.0000 |
| L15 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 74.75 - 79.75 | 1.0000 | 1.0000 |
| L15 | 17 | Safety Line 3/8 | 74.75 - 79.75 | 1.0000 | 1.0000 |
| L15 | 19 | CCI(4.5"x1") | 74.75 - 76.00 | 1.0000 | 1.0000 |
| L15 | 20 | CCI(4.5"x1") | 74.75 - 76.00 | 1.0000 | 1.0000 |
| L15 | 21 | CCI(4.5"x1") | 74.75 - 76.00 | 1.0000 | 1.0000 |
| L16 | 3 | MLCH 12X6 AWG(1-3/8) | 74.50 - 74.75 | 1.0000 | 1.0000 |
| L16 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 74.50 - 74.75 | 1.0000 | 1.0000 |
| L16 | 17 | Safety Line 3/8 | 74.50 - 74.75 | 1.0000 | 1.0000 |
| L16 | 19 | CCI(4.5"x1") | 74.50 - 74.75 | 1.0000 | 1.0000 |
| L16 | 20 | CCI(4.5"x1") | 74.50 - 74.75 | 1.0000 | 1.0000 |
| L16 | 21 | CCI(4.5"x1") | 74.50 - 74.75 | 1.0000 | 1.0000 |
| L17 | 3 | MLCH 12X6 AWG(1-3/8) | 74.25 - 74.50 | 1.0000 | 1.0000 |
| L17 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 74.25 - 74.50 | 1.0000 | 1.0000 |
| L17 | 17 | Safety Line 3/8 | 74.25 - 74.50 | 1.0000 | 1.0000 |
| L17 | 19 | CCI(4.5"x1") | 74.25 - 74.50 | 1.0000 | 1.0000 |
| L17 | 20 | CCI(4.5"x1") | 74.25 - 74.50 | 1.0000 | 1.0000 |
| L17 | 21 | CCI(4.5"x1") | 74.25 - 74.50 | 1.0000 | 1.0000 |
| L18 | 3 | MLCH 12X6 AWG(1-3/8) | 69.25 - 74.25 | 1.0000 | 1.0000 |
| L18 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 69.25 - 74.25 | 1.0000 | 1.0000 |
| L18 | 17 | Safety Line 3/8 | 69.25 - 74.25 | 1.0000 | 1.0000 |
| L18 | 19 | CCI(4.5"x1") | 69.25 - 74.25 | 1.0000 | 1.0000 |
| L18 | 20 | CCI(4.5"x1") | 69.25 - 74.25 | 1.0000 | 1.0000 |
| L18 | 21 | CCI(4.5"x1") | 69.25 - 74.25 | 1.0000 | 1.0000 |
| L19 | 3 | MLCH 12X6 AWG(1-3/8) | 64.25 - 69.25 | 1.0000 | 1.0000 |
| L19 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 64.25 - 69.25 | 1.0000 | 1.0000 |
| L19 | 17 | Safety Line 3/8 | 64.25 - 69.25 | 1.0000 | 1.0000 |
| L19 | 19 | CCI(4.5"x1") | 64.25 - 69.25 | 1.0000 | 1.0000 |
| L19 | 20 | CCI(4.5"x1") | 64.25 - 69.25 | 1.0000 | 1.0000 |
| L19 | 21 | CCI(4.5"x1") | 64.25 - 69.25 | 1.0000 | 1.0000 |
| L20 | 3 | MLCH 12X6 AWG(1-3/8) | 59.25 - 64.25 | 1.0000 | 1.0000 |
| L20 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 59.25 - 64.25 | 1.0000 | 1.0000 |
| L20 | 17 | Safety Line 3/8 | 59.25 - 64.25 | 1.0000 | 1.0000 |
| L20 | 19 | CCI(4.5"x1") | 59.25 - 64.25 | 1.0000 | 1.0000 |
| L20 | 20 | CCI(4.5"x1") | 59.25 - 64.25 | 1.0000 | 1.0000 |
| L20 | 21 | CCI(4.5"x1") | 59.25 - 64.25 | 1.0000 | 1.0000 |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K_a No Ice | K_a Ice |
|---------------|----------------------|----------------------------------|-------------------------|--------------|-----------|
| L21 | 3 | MLCH 12X6 AWG(1-3/8) | 54.25 - 59.25 | 1.0000 | 1.0000 |
| L21 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 54.25 - 59.25 | 1.0000 | 1.0000 |
| L21 | 17 | Safety Line 3/8 | 54.25 - 59.25 | 1.0000 | 1.0000 |
| L21 | 19 | CCI(4.5"x1") | 54.25 - 59.25 | 1.0000 | 1.0000 |
| L21 | 20 | CCI(4.5"x1") | 54.25 - 59.25 | 1.0000 | 1.0000 |
| L21 | 21 | CCI(4.5"x1") | 54.25 - 59.25 | 1.0000 | 1.0000 |
| L22 | 3 | MLCH 12X6 AWG(1-3/8) | 44.75 - 54.25 | 1.0000 | 1.0000 |
| L22 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 44.75 - 54.25 | 1.0000 | 1.0000 |
| L22 | 17 | Safety Line 3/8 | 44.75 - 54.25 | 1.0000 | 1.0000 |
| L22 | 19 | CCI(4.5"x1") | 46.00 - 54.25 | 1.0000 | 1.0000 |
| L22 | 20 | CCI(4.5"x1") | 46.00 - 54.25 | 1.0000 | 1.0000 |
| L22 | 21 | CCI(4.5"x1") | 46.00 - 54.25 | 1.0000 | 1.0000 |
| L23 | 3 | MLCH 12X6 AWG(1-3/8) | 43.75 - 44.75 | 1.0000 | 1.0000 |
| L23 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 43.75 - 44.75 | 1.0000 | 1.0000 |
| L23 | 17 | Safety Line 3/8 | 43.75 - 44.75 | 1.0000 | 1.0000 |
| L24 | 3 | MLCH 12X6 AWG(1-3/8) | 38.75 - 43.75 | 1.0000 | 1.0000 |
| L24 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 38.75 - 43.75 | 1.0000 | 1.0000 |
| L24 | 17 | Safety Line 3/8 | 38.75 - 43.75 | 1.0000 | 1.0000 |
| L25 | 3 | MLCH 12X6 AWG(1-3/8) | 33.75 - 38.75 | 1.0000 | 1.0000 |
| L25 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 33.75 - 38.75 | 1.0000 | 1.0000 |
| L25 | 17 | Safety Line 3/8 | 33.75 - 38.75 | 1.0000 | 1.0000 |
| L26 | 3 | MLCH 12X6 AWG(1-3/8) | 28.75 - 33.75 | 1.0000 | 1.0000 |
| L26 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 28.75 - 33.75 | 1.0000 | 1.0000 |
| L26 | 17 | Safety Line 3/8 | 28.75 - 33.75 | 1.0000 | 1.0000 |
| L27 | 3 | MLCH 12X6 AWG(1-3/8) | 23.75 - 28.75 | 1.0000 | 1.0000 |
| L27 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 23.75 - 28.75 | 1.0000 | 1.0000 |
| L27 | 17 | Safety Line 3/8 | 23.75 - 28.75 | 1.0000 | 1.0000 |
| L28 | 3 | MLCH 12X6 AWG(1-3/8) | 18.75 - 23.75 | 1.0000 | 1.0000 |
| L28 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 18.75 - 23.75 | 1.0000 | 1.0000 |
| L28 | 17 | Safety Line 3/8 | 18.75 - 23.75 | 1.0000 | 1.0000 |
| L29 | 3 | MLCH 12X6 AWG(1-3/8) | 13.75 - 18.75 | 1.0000 | 1.0000 |
| L29 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 13.75 - 18.75 | 1.0000 | 1.0000 |
| L29 | 17 | Safety Line 3/8 | 13.75 - 18.75 | 1.0000 | 1.0000 |
| L30 | 3 | MLCH 12X6 AWG(1-3/8) | 8.75 - 13.75 | 1.0000 | 1.0000 |
| L30 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 8.75 - 13.75 | 1.0000 | 1.0000 |
| L30 | 17 | Safety Line 3/8 | 8.75 - 13.75 | 1.0000 | 1.0000 |
| L31 | 3 | MLCH 12X6 AWG(1-3/8) | 3.75 - 8.75 | 1.0000 | 1.0000 |
| L31 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 3.75 - 8.75 | 1.0000 | 1.0000 |
| L31 | 17 | Safety Line 3/8 | 3.75 - 8.75 | 1.0000 | 1.0000 |
| L32 | 3 | MLCH 12X6 AWG(1-3/8) | 0.00 - 3.75 | 1.0000 | 1.0000 |
| L32 | 4 | HB158-21U6S24-xxM_TMO (1-5/8) | 0.00 - 3.75 | 1.0000 | 1.0000 |
| L32 | 17 | Safety Line 3/8 | 0.00 - 3.75 | 1.0000 | 1.0000 |

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| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page 14 of 35 |
| | Project | Date 17:48:20 05/05/22 |
| | Client Crown Castle | Designed by Suhas Poojary |

Effective Width of Flat Linear Attachments / Feed Lines

| Tower Section | Attachment Record No. | Description | Attachment Segment Elev. | Ratio Calculation Method | Effective Width Ratio |
|---------------|-----------------------|--------------|--------------------------|--------------------------|-----------------------|
| L15 | 19 | CCI(4.5"x1") | 74.75 - 76.00 | Auto | 0.0000 |
| L15 | 20 | CCI(4.5"x1") | 74.75 - 76.00 | Auto | 0.0000 |
| L15 | 21 | CCI(4.5"x1") | 74.75 - 76.00 | Auto | 0.0000 |
| L16 | 19 | CCI(4.5"x1") | 74.50 - 74.75 | Auto | 0.0000 |
| L16 | 20 | CCI(4.5"x1") | 74.50 - 74.75 | Auto | 0.0000 |
| L16 | 21 | CCI(4.5"x1") | 74.50 - 74.75 | Auto | 0.0000 |
| L17 | 19 | CCI(4.5"x1") | 74.25 - 74.50 | Auto | 0.0000 |
| L17 | 20 | CCI(4.5"x1") | 74.25 - 74.50 | Auto | 0.0000 |
| L17 | 21 | CCI(4.5"x1") | 74.25 - 74.50 | Auto | 0.0000 |
| L18 | 19 | CCI(4.5"x1") | 69.25 - 74.25 | Auto | 0.0000 |
| L18 | 20 | CCI(4.5"x1") | 69.25 - 74.25 | Auto | 0.0000 |
| L18 | 21 | CCI(4.5"x1") | 69.25 - 74.25 | Auto | 0.0000 |
| L19 | 19 | CCI(4.5"x1") | 64.25 - 69.25 | Auto | 0.0000 |
| L19 | 20 | CCI(4.5"x1") | 64.25 - 69.25 | Auto | 0.0000 |
| L19 | 21 | CCI(4.5"x1") | 64.25 - 69.25 | Auto | 0.0000 |
| L20 | 19 | CCI(4.5"x1") | 59.25 - 64.25 | Auto | 0.0000 |
| L20 | 20 | CCI(4.5"x1") | 59.25 - 64.25 | Auto | 0.0000 |
| L20 | 21 | CCI(4.5"x1") | 59.25 - 64.25 | Auto | 0.0000 |
| L21 | 19 | CCI(4.5"x1") | 54.25 - 59.25 | Auto | 0.0000 |
| L21 | 20 | CCI(4.5"x1") | 54.25 - 59.25 | Auto | 0.0000 |
| L21 | 21 | CCI(4.5"x1") | 54.25 - 59.25 | Auto | 0.0000 |
| L22 | 19 | CCI(4.5"x1") | 46.00 - 54.25 | Auto | 0.0000 |
| L22 | 20 | CCI(4.5"x1") | 46.00 - 54.25 | Auto | 0.0000 |
| L22 | 21 | CCI(4.5"x1") | 46.00 - 54.25 | Auto | 0.0000 |

Discrete Tower Loads

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} Front | C _{AA} Side | Weight | |
|------------------------------------|-------------|-------------|----------|--------------|--------------------|-----------|-----------------------|----------------------|--------|-------|
| | | | Horz | Lateral Vert | | | | | | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K | |
| AIR -32 B2A/B66AA w/ Mount Pipe | A | From Leg | 4.000 | 0.000 | 0.000 | 146.000 | No Ice | 3.760 | 3.150 | 0.194 |
| | | | 0.000 | 0.000 | | | 1/2" Ice | 4.120 | 3.490 | 0.252 |
| | | | 0.000 | 0.000 | | | 1" Ice | 4.480 | 3.840 | 0.320 |
| AIR -32 B2A/B66AA w/ Mount Pipe | B | From Leg | 4.000 | 0.000 | 0.000 | 146.000 | No Ice | 3.760 | 3.150 | 0.194 |
| | | | 0.000 | 0.000 | | | 1/2" Ice | 4.120 | 3.490 | 0.252 |
| | | | 0.000 | 0.000 | | | 1" Ice | 4.480 | 3.840 | 0.320 |
| AIR -32 B2A/B66AA w/ Mount Pipe | C | From Leg | 4.000 | 0.000 | 0.000 | 146.000 | No Ice | 3.760 | 3.150 | 0.194 |
| | | | 0.000 | 0.000 | | | 1/2" Ice | 4.120 | 3.490 | 0.252 |
| | | | 0.000 | 0.000 | | | 1" Ice | 4.480 | 3.840 | 0.320 |
| APXVAARR24_43-U-NA20 w/ Mount Pipe | A | From Leg | 4.000 | 0.000 | 0.000 | 146.000 | No Ice | 14.690 | 6.870 | 0.186 |
| | | | 0.000 | 0.000 | | | 1/2" Ice | 15.460 | 7.550 | 0.315 |
| | | | 0.000 | 0.000 | | | 1" Ice | 16.230 | 8.250 | 0.458 |
| APXVAARR24_43-U-NA20 w/ Mount Pipe | B | From Leg | 4.000 | 0.000 | 0.000 | 146.000 | No Ice | 14.690 | 6.870 | 0.186 |
| | | | 0.000 | 0.000 | | | 1/2" Ice | 15.460 | 7.550 | 0.315 |
| | | | 0.000 | 0.000 | | | 1" Ice | 16.230 | 8.250 | 0.458 |
| APXVAARR24_43-U-NA20 w/ Mount Pipe | C | From Leg | 4.000 | 0.000 | 0.000 | 146.000 | No Ice | 14.690 | 6.870 | 0.186 |
| | | | 0.000 | 0.000 | | | 1/2" Ice | 15.460 | 7.550 | 0.315 |

| | | | | |
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| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 15 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | | Designed by |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} Front | C _{AA} Side | Weight | | | | | |
|-------------------------------------|-------------|-------------|----------|---------|--------------------|-----------|-----------------------|----------------------|--------|-------|----------|-----------------|-----------------|-------|
| | | | Horz | Lateral | | | | | | ° | ft | ft ² | ft ² | K |
| AIR 6419 B41_TMO w/ Mount Pipe | A | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 16.230 | 8.250 | 0.458 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 6.580 | 3.500 | 0.111 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 7.060 | 3.900 | 0.162 |
| AIR 6419 B41_TMO w/ Mount Pipe | B | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 7.570 | 4.320 | 0.220 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 6.580 | 3.500 | 0.111 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 7.060 | 3.900 | 0.162 |
| AIR 6419 B41_TMO w/ Mount Pipe | C | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 7.570 | 4.320 | 0.220 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 6.580 | 3.500 | 0.111 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 7.060 | 3.900 | 0.162 |
| RADIO 4449 B71 B85A_T-MOBILE | A | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 7.570 | 4.320 | 0.220 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 1.970 | 1.587 | 0.073 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 2.147 | 1.749 | 0.093 |
| RADIO 4449 B71 B85A_T-MOBILE | B | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 2.331 | 1.918 | 0.116 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 1.970 | 1.587 | 0.073 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 2.147 | 1.749 | 0.093 |
| RADIO 4449 B71 B85A_T-MOBILE | C | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 2.331 | 1.918 | 0.116 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 1.970 | 1.587 | 0.073 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 2.147 | 1.749 | 0.093 |
| RADIO 4460 B2/B25 B66_TMO | A | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 2.331 | 1.918 | 0.116 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 2.139 | 1.686 | 0.109 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 2.321 | 1.850 | 0.131 |
| RADIO 4460 B2/B25 B66_TMO | B | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 2.511 | 2.022 | 0.156 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 2.139 | 1.686 | 0.109 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 2.321 | 1.850 | 0.131 |
| RADIO 4460 B2/B25 B66_TMO | C | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 2.511 | 2.022 | 0.156 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 2.139 | 1.686 | 0.109 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 2.321 | 1.850 | 0.131 |
| 4' x 2" Pipe Mount | A | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 2.511 | 2.022 | 0.156 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 0.785 | 0.785 | 0.029 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 1.028 | 1.028 | 0.035 |
| 4' x 2" Pipe Mount | B | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 1.281 | 1.281 | 0.044 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 0.785 | 0.785 | 0.029 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 1.028 | 1.028 | 0.035 |
| 4' x 2" Pipe Mount | C | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 1.281 | 1.281 | 0.044 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 0.785 | 0.785 | 0.029 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 1.028 | 1.028 | 0.035 |
| 8' x 2" Pipe Mount | A | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 1.281 | 1.281 | 0.044 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 1.900 | 1.900 | 0.029 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 2.728 | 2.728 | 0.044 |
| 8' x 2" Pipe Mount | B | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 3.401 | 3.401 | 0.063 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 1.900 | 1.900 | 0.029 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 2.728 | 2.728 | 0.044 |
| 8' x 2" Pipe Mount | C | From Leg | 0.000 | | 0.000 | 146.000 | 1" Ice | 3.401 | 3.401 | 0.063 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 1.900 | 1.900 | 0.029 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 2.728 | 2.728 | 0.044 |
| Platform Mount [LP 303-1_KCKR-HR-1] | C | None | 0.000 | | 0.000 | 146.000 | 1" Ice | 3.401 | 3.401 | 0.063 | | | | |
| | | | 0.000 | | | | | | | | No Ice | 28.310 | 28.310 | 1.770 |
| | | | 0.000 | | | | | | | | 1/2" Ice | 35.690 | 35.690 | 2.297 |
| * | | | | | | | | | | | | | | |
| DT465B-2XR w/ Mount Pipe | A | From Leg | 0.000 | | 0.000 | 138.000 | 1" Ice | 6.450 | 5.300 | 0.248 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 5.500 | 4.380 | 0.091 |
| | | | 2.000 | | | | | | | | 1/2" Ice | 5.970 | 4.840 | 0.164 |
| DT465B-2XR w/ Mount Pipe | B | From Leg | 0.000 | | 0.000 | 138.000 | 1" Ice | 6.450 | 5.300 | 0.248 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 5.500 | 4.380 | 0.091 |
| | | | 2.000 | | | | | | | | 1/2" Ice | 5.970 | 4.840 | 0.164 |
| DT465B-2XR w/ Mount Pipe | C | From Leg | 0.000 | | 0.000 | 138.000 | 1" Ice | 6.450 | 5.300 | 0.248 | | | | |
| | | | 4.000 | | | | | | | | No Ice | 5.500 | 4.380 | 0.091 |

| | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|------------------------------------------|--|--------------------|--|-------------------|--|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | | 82071.011.01 - HILLSIDE, CT (BU# 876323) | | Page | | 16 of 35 | |
| | Project | | | | Date | | 17:48:20 05/05/22 | |
| | Client | | Crown Castle | | Designed by | | Suhas Poojary | |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} Front | C _{AA} Side | Weight |
|------------------------------------|-------------|-------------|----------|-------|--------------------|-----------|-----------------------|----------------------|--------|
| | | | Horz | Vert | | | | | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K |
| | | | 0.000 | | | | | | |
| | | | 2.000 | | | 1/2" Ice | 5.970 | 4.840 | 0.164 |
| | | | 2.000 | | | 1" Ice | 6.450 | 5.300 | 0.248 |
| (2) P40-16-XLPP-RR-A w/ Mount Pipe | A | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 7.240 | 3.310 | 0.084 |
| | | | 0.000 | | | 1/2" Ice | 7.730 | 3.730 | 0.147 |
| | | | 2.000 | | | 1" Ice | 8.240 | 4.160 | 0.219 |
| (2) P40-16-XLPP-RR-A w/ Mount Pipe | B | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 7.240 | 3.310 | 0.084 |
| | | | 0.000 | | | 1/2" Ice | 7.730 | 3.730 | 0.147 |
| | | | 2.000 | | | 1" Ice | 8.240 | 4.160 | 0.219 |
| (2) P40-16-XLPP-RR-A w/ Mount Pipe | C | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 7.240 | 3.310 | 0.084 |
| | | | 0.000 | | | 1/2" Ice | 7.730 | 3.730 | 0.147 |
| | | | 2.000 | | | 1" Ice | 8.240 | 4.160 | 0.219 |
| TD-RRH8X20-25 | A | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 3.704 | 1.294 | 0.066 |
| | | | 0.000 | | | 1/2" Ice | 3.946 | 1.465 | 0.090 |
| | | | 2.000 | | | 1" Ice | 4.196 | 1.642 | 0.117 |
| TD-RRH8X20-25 | B | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 3.704 | 1.294 | 0.066 |
| | | | 0.000 | | | 1/2" Ice | 3.946 | 1.465 | 0.090 |
| | | | 2.000 | | | 1" Ice | 4.196 | 1.642 | 0.117 |
| TD-RRH8X20-25 | C | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 3.704 | 1.294 | 0.066 |
| | | | 0.000 | | | 1/2" Ice | 3.946 | 1.465 | 0.090 |
| | | | 2.000 | | | 1" Ice | 4.196 | 1.642 | 0.117 |
| *CLEARWIRE* | | | | | | | | | |
| LLPX310R-V1 w/ Mount Pipe | A | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 3.880 | 2.360 | 0.057 |
| | | | 0.000 | | | 1/2" Ice | 4.290 | 2.730 | 0.091 |
| | | | 2.000 | | | 1" Ice | 4.720 | 3.120 | 0.133 |
| LLPX310R-V1 w/ Mount Pipe | B | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 3.880 | 2.360 | 0.057 |
| | | | 0.000 | | | 1/2" Ice | 4.290 | 2.730 | 0.091 |
| | | | 2.000 | | | 1" Ice | 4.720 | 3.120 | 0.133 |
| LLPX310R-V1 w/ Mount Pipe | C | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 3.880 | 2.360 | 0.057 |
| | | | 0.000 | | | 1/2" Ice | 4.290 | 2.730 | 0.091 |
| | | | 2.000 | | | 1" Ice | 4.720 | 3.120 | 0.133 |
| FDD_R6_RRH | A | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 1.533 | 0.684 | 0.033 |
| | | | 0.000 | | | 1/2" Ice | 1.690 | 0.800 | 0.045 |
| | | | 2.000 | | | 1" Ice | 1.854 | 0.923 | 0.058 |
| FDD_R6_RRH | B | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 1.533 | 0.684 | 0.033 |
| | | | 0.000 | | | 1/2" Ice | 1.690 | 0.800 | 0.045 |
| | | | 2.000 | | | 1" Ice | 1.854 | 0.923 | 0.058 |
| FDD_R6_RRH | C | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 1.533 | 0.684 | 0.033 |
| | | | 0.000 | | | 1/2" Ice | 1.690 | 0.800 | 0.045 |
| | | | 2.000 | | | 1" Ice | 1.854 | 0.923 | 0.058 |
| 8' x 2" Mount Pipe | A | From Leg | 4.000 | 0.000 | 138.000 | No Ice | 1.900 | 1.900 | 0.029 |
| | | | 0.000 | | | 1/2" Ice | 2.728 | 2.728 | 0.044 |
| | | | 0.000 | | | 1" Ice | 3.401 | 3.401 | 0.063 |
| Platform Mount [LP 303-1_HR-1] | C | None | | 0.000 | 138.000 | No Ice | 17.090 | 17.090 | 1.495 |
| | | | | | | 1/2" Ice | 21.470 | 21.470 | 1.881 |
| | | | | | | 1" Ice | 25.720 | 25.720 | 2.346 |
| * | | | | | | | | | |
| (3) ACU-A20-N | A | From Leg | 1.000 | 0.000 | 136.000 | No Ice | 0.067 | 0.117 | 0.001 |
| | | | 0.000 | | | 1/2" Ice | 0.104 | 0.162 | 0.002 |
| | | | 0.000 | | | 1" Ice | 0.148 | 0.215 | 0.004 |
| (3) ACU-A20-N | B | From Leg | 1.000 | 0.000 | 136.000 | No Ice | 0.067 | 0.117 | 0.001 |
| | | | 0.000 | | | 1/2" Ice | 0.104 | 0.162 | 0.002 |
| | | | 0.000 | | | 1" Ice | 0.148 | 0.215 | 0.004 |
| (3) ACU-A20-N | C | From Leg | 1.000 | 0.000 | 136.000 | No Ice | 0.067 | 0.117 | 0.001 |
| | | | 0.000 | | | 1/2" Ice | 0.104 | 0.162 | 0.002 |
| | | | 0.000 | | | 1" Ice | 0.148 | 0.215 | 0.004 |
| 800 EXTERNAL NOTCH FILTER | A | From Leg | 1.000 | 0.000 | 136.000 | No Ice | 0.660 | 0.289 | 0.011 |
| | | | 0.000 | | | 1/2" Ice | 0.763 | 0.364 | 0.017 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|-------------|--------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 17 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | | Designed by |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} Front | C _{AA} Side | Weight | |
|-------------------------------------|-------------------|----------------|-----------------|------|-----------------------|-----------|--------------------------|-------------------------|--------|-------|
| | | | Horz Lateral | Vert | | | | | | ° |
| 800 EXTERNAL NOTCH FILTER | B | From Leg | 0.000 | | 0.000 | 136.000 | 1" Ice | 0.873 | 0.446 | 0.024 |
| | | | 1.000 | | | | No Ice | 0.660 | 0.289 | 0.011 |
| | | | 0.000 | | | | 1/2" Ice | 0.763 | 0.364 | 0.017 |
| | | | 0.000 | | | | 1" Ice | 0.873 | 0.446 | 0.024 |
| 800 EXTERNAL NOTCH FILTER | C | From Leg | 1.000 | | 0.000 | 136.000 | No Ice | 0.660 | 0.289 | 0.011 |
| | | | 0.000 | | | | 1/2" Ice | 0.763 | 0.364 | 0.017 |
| | | | 0.000 | | | | 1" Ice | 0.873 | 0.446 | 0.024 |
| | | | 0.000 | | | | 1" Ice | 0.873 | 0.446 | 0.024 |
| (2) 1900MHZ RRH (65MHZ) | A | From Leg | 1.000 | | 0.000 | 136.000 | No Ice | 2.322 | 2.385 | 0.060 |
| | | | 0.000 | | | | 1/2" Ice | 2.527 | 2.591 | 0.084 |
| | | | 0.000 | | | | 1" Ice | 2.739 | 2.805 | 0.111 |
| | | | 0.000 | | | | 1" Ice | 2.739 | 2.805 | 0.111 |
| (2) 1900MHZ RRH (65MHZ) | B | From Leg | 1.000 | | 0.000 | 136.000 | No Ice | 2.322 | 2.385 | 0.060 |
| | | | 0.000 | | | | 1/2" Ice | 2.527 | 2.591 | 0.084 |
| | | | 0.000 | | | | 1" Ice | 2.739 | 2.805 | 0.111 |
| | | | 0.000 | | | | 1" Ice | 2.739 | 2.805 | 0.111 |
| (2) 1900MHZ RRH (65MHZ) | C | From Leg | 1.000 | | 0.000 | 136.000 | No Ice | 2.322 | 2.385 | 0.060 |
| | | | 0.000 | | | | 1/2" Ice | 2.527 | 2.591 | 0.084 |
| | | | 0.000 | | | | 1" Ice | 2.739 | 2.805 | 0.111 |
| | | | 0.000 | | | | 1" Ice | 2.739 | 2.805 | 0.111 |
| RRH2X50-800 | A | From Leg | 1.000 | | 0.000 | 136.000 | No Ice | 1.701 | 1.282 | 0.053 |
| | | | 0.000 | | | | 1/2" Ice | 1.864 | 1.428 | 0.070 |
| | | | 0.000 | | | | 1" Ice | 2.035 | 1.580 | 0.090 |
| | | | 0.000 | | | | 1" Ice | 2.035 | 1.580 | 0.090 |
| RRH2X50-800 | B | From Leg | 1.000 | | 0.000 | 136.000 | No Ice | 1.701 | 1.282 | 0.053 |
| | | | 0.000 | | | | 1/2" Ice | 1.864 | 1.428 | 0.070 |
| | | | 0.000 | | | | 1" Ice | 2.035 | 1.580 | 0.090 |
| | | | 0.000 | | | | 1" Ice | 2.035 | 1.580 | 0.090 |
| RRH2X50-800 | C | From Leg | 1.000 | | 0.000 | 136.000 | No Ice | 1.701 | 1.282 | 0.053 |
| | | | 0.000 | | | | 1/2" Ice | 1.864 | 1.428 | 0.070 |
| | | | 0.000 | | | | 1" Ice | 2.035 | 1.580 | 0.090 |
| | | | 0.000 | | | | 1" Ice | 2.035 | 1.580 | 0.090 |
| 5' x 2" Pipe Mount | A | From Leg | 0.500 | | 0.000 | 136.000 | No Ice | 1.188 | 1.188 | 0.018 |
| | | | 0.000 | | | | 1/2" Ice | 1.496 | 1.496 | 0.027 |
| | | | 0.000 | | | | 1" Ice | 1.807 | 1.807 | 0.040 |
| | | | 0.000 | | | | 1" Ice | 1.807 | 1.807 | 0.040 |
| 5' x 2" Pipe Mount | B | From Leg | 0.500 | | 0.000 | 136.000 | No Ice | 1.188 | 1.188 | 0.018 |
| | | | 0.000 | | | | 1/2" Ice | 1.496 | 1.496 | 0.027 |
| | | | 0.000 | | | | 1" Ice | 1.807 | 1.807 | 0.040 |
| | | | 0.000 | | | | 1" Ice | 1.807 | 1.807 | 0.040 |
| 5' x 2" Pipe Mount | C | From Leg | 0.500 | | 0.000 | 136.000 | No Ice | 1.188 | 1.188 | 0.018 |
| | | | 0.000 | | | | 1/2" Ice | 1.496 | 1.496 | 0.027 |
| | | | 0.000 | | | | 1" Ice | 1.807 | 1.807 | 0.040 |
| | | | 0.000 | | | | 1" Ice | 1.807 | 1.807 | 0.040 |
| Pipe Mount [PM 602-3] | C | None | | | 0.000 | 136.000 | No Ice | 6.670 | 6.670 | 0.279 |
| | | | | | | | 1/2" Ice | 7.700 | 7.700 | 0.344 |
| | | | | | | | 1" Ice | 8.740 | 8.740 | 0.423 |
| | | | | | | | 1" Ice | 8.740 | 8.740 | 0.423 |
| Side Arm Mount [SO 102-3] | C | None | | | 0.000 | 136.000 | No Ice | 3.600 | 3.600 | 0.075 |
| | | | | | | | 1/2" Ice | 4.180 | 4.180 | 0.105 |
| | | | | | | | 1" Ice | 4.750 | 4.750 | 0.135 |
| | | | | | | | 1" Ice | 4.750 | 4.750 | 0.135 |
| * BXA-80063/4CF w/ Mount Pipe | A | From Leg | 4.000 | | 0.000 | 120.000 | No Ice | 4.830 | 3.650 | 0.028 |
| | | | 0.000 | | | | 1/2" Ice | 5.350 | 4.140 | 0.065 |
| | | | 0.000 | | | | 1" Ice | 5.880 | 4.640 | 0.109 |
| | | | 0.000 | | | | 1" Ice | 5.880 | 4.640 | 0.109 |
| BXA-80063/4CF w/ Mount Pipe | B | From Leg | 4.000 | | 0.000 | 120.000 | No Ice | 4.830 | 3.650 | 0.028 |
| | | | 0.000 | | | | 1/2" Ice | 5.350 | 4.140 | 0.065 |
| | | | 0.000 | | | | 1" Ice | 5.880 | 4.640 | 0.109 |
| | | | 0.000 | | | | 1" Ice | 5.880 | 4.640 | 0.109 |
| BXA-80063/6CF w/ Mount Pipe | C | From Leg | 4.000 | | 0.000 | 120.000 | No Ice | 7.340 | 5.510 | 0.058 |
| | | | 0.000 | | | | 1/2" Ice | 8.080 | 6.220 | 0.115 |
| | | | 0.000 | | | | 1" Ice | 8.830 | 6.940 | 0.183 |
| | | | 0.000 | | | | 1" Ice | 8.830 | 6.940 | 0.183 |
| GPS_A | B | From Leg | 4.000 | | 0.000 | 120.000 | No Ice | 0.255 | 0.255 | 0.001 |
| | | | 0.000 | | | | 1/2" Ice | 0.320 | 0.320 | 0.005 |
| | | | 4.000 | | | | 1" Ice | 0.393 | 0.393 | 0.010 |
| | | | 0.000 | | | | 1" Ice | 0.393 | 0.393 | 0.010 |
| (2) JAHH-65B-R3B w/ Mount Pipe | A | From Leg | 4.000 | | 0.000 | 120.000 | No Ice | 5.500 | 4.380 | 0.096 |
| | | | 0.000 | | | | 1/2" Ice | 5.970 | 4.840 | 0.169 |
| | | | 0.000 | | | | 1" Ice | 6.450 | 5.300 | 0.254 |
| | | | 0.000 | | | | 1" Ice | 6.450 | 5.300 | 0.254 |
| (2) JAHH-65B-R3B w/ | B | From Leg | 4.000 | | 0.000 | 120.000 | No Ice | 5.500 | 4.380 | 0.096 |
| | | | | | | | | | | |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|-------------|--------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 18 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | | Designed by |

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral Vert ft ft ft | Azimuth Adjustment ° | Placement ft | C _{AA} Front ft ² | C _{AA} Side ft ² | Weight K |
|---------------------------------------|-------------------|----------------|-------------------------------------------------------|----------------------------|-----------------|---------------------------------------------|--------------------------------------------|-------------|
| Mount Pipe | | | 0.000 | | | 1/2" Ice 5.970 | 4.840 | 0.169 |
| | | | 0.000 | | | 1" Ice 6.450 | 5.300 | 0.254 |
| (2) JAHH-65B-R3B w/ Mount Pipe | C | From Leg | 4.000 | 0.000 | 120.000 | No Ice 5.500 | 4.380 | 0.096 |
| | | | 0.000 | | | 1/2" Ice 5.970 | 4.840 | 0.169 |
| | | | 0.000 | | | 1" Ice 6.450 | 5.300 | 0.254 |
| Sub6 Antenna - VZS01 w/ Mount Pipe | A | From Leg | 4.000 | 0.000 | 120.000 | No Ice 4.915 | 2.687 | 0.101 |
| | | | 0.000 | | | 1/2" Ice 5.264 | 3.151 | 0.141 |
| | | | 0.000 | | | 1" Ice 5.623 | 3.631 | 0.186 |
| Sub6 Antenna - VZS01 w/ Mount Pipe | B | From Leg | 4.000 | 0.000 | 120.000 | No Ice 4.915 | 2.687 | 0.101 |
| | | | 0.000 | | | 1/2" Ice 5.264 | 3.151 | 0.141 |
| | | | 0.000 | | | 1" Ice 5.623 | 3.631 | 0.186 |
| Sub6 Antenna - VZS01 w/ Mount Pipe | C | From Leg | 4.000 | 0.000 | 120.000 | No Ice 4.915 | 2.687 | 0.101 |
| | | | 0.000 | | | 1/2" Ice 5.264 | 3.151 | 0.141 |
| | | | 0.000 | | | 1" Ice 5.623 | 3.631 | 0.186 |
| CBC78T-DS-43-2X | A | From Leg | 4.000 | 0.000 | 120.000 | No Ice 0.368 | 0.512 | 0.021 |
| | | | 0.000 | | | 1/2" Ice 0.446 | 0.605 | 0.027 |
| | | | 0.000 | | | 1" Ice 0.531 | 0.705 | 0.035 |
| CBC78T-DS-43-2X | B | From Leg | 4.000 | 0.000 | 120.000 | No Ice 0.368 | 0.512 | 0.021 |
| | | | 0.000 | | | 1/2" Ice 0.446 | 0.605 | 0.027 |
| | | | 0.000 | | | 1" Ice 0.531 | 0.705 | 0.035 |
| CBC78T-DS-43-2X | C | From Leg | 4.000 | 0.000 | 120.000 | No Ice 0.368 | 0.512 | 0.021 |
| | | | 0.000 | | | 1/2" Ice 0.446 | 0.605 | 0.027 |
| | | | 0.000 | | | 1" Ice 0.531 | 0.705 | 0.035 |
| RVZDC-6627-PF-48 | A | From Leg | 4.000 | 0.000 | 120.000 | No Ice 3.792 | 2.514 | 0.032 |
| | | | 0.000 | | | 1/2" Ice 4.044 | 2.727 | 0.063 |
| | | | 0.000 | | | 1" Ice 4.303 | 2.947 | 0.099 |
| RFV01U-D1A | A | From Leg | 4.000 | 0.000 | 120.000 | No Ice 1.875 | 1.250 | 0.084 |
| | | | 0.000 | | | 1/2" Ice 2.045 | 1.393 | 0.103 |
| | | | 0.000 | | | 1" Ice 2.223 | 1.543 | 0.124 |
| RFV01U-D1A | B | From Leg | 4.000 | 0.000 | 120.000 | No Ice 1.875 | 1.250 | 0.084 |
| | | | 0.000 | | | 1/2" Ice 2.045 | 1.393 | 0.103 |
| | | | 0.000 | | | 1" Ice 2.223 | 1.543 | 0.124 |
| RFV01U-D1A | C | From Leg | 4.000 | 0.000 | 120.000 | No Ice 1.875 | 1.250 | 0.084 |
| | | | 0.000 | | | 1/2" Ice 2.045 | 1.393 | 0.103 |
| | | | 0.000 | | | 1" Ice 2.223 | 1.543 | 0.124 |
| RFV01U-D2A | A | From Leg | 4.000 | 0.000 | 120.000 | No Ice 1.875 | 1.013 | 0.070 |
| | | | 0.000 | | | 1/2" Ice 2.045 | 1.145 | 0.087 |
| | | | 0.000 | | | 1" Ice 2.223 | 1.284 | 0.106 |
| RFV01U-D2A | B | From Leg | 4.000 | 0.000 | 120.000 | No Ice 1.875 | 1.013 | 0.070 |
| | | | 0.000 | | | 1/2" Ice 2.045 | 1.145 | 0.087 |
| | | | 0.000 | | | 1" Ice 2.223 | 1.284 | 0.106 |
| RFV01U-D2A | C | From Leg | 4.000 | 0.000 | 120.000 | No Ice 1.875 | 1.013 | 0.070 |
| | | | 0.000 | | | 1/2" Ice 2.045 | 1.145 | 0.087 |
| | | | 0.000 | | | 1" Ice 2.223 | 1.284 | 0.106 |
| 6' x 2" Mount Pipe | A | From Leg | 4.000 | 0.000 | 120.000 | No Ice 1.425 | 1.425 | 0.022 |
| | | | 0.000 | | | 1/2" Ice 1.925 | 1.925 | 0.033 |
| | | | 0.000 | | | 1" Ice 2.294 | 2.294 | 0.048 |
| 6' x 2" Mount Pipe | B | From Leg | 4.000 | 0.000 | 120.000 | No Ice 1.425 | 1.425 | 0.022 |
| | | | 0.000 | | | 1/2" Ice 1.925 | 1.925 | 0.033 |
| | | | 0.000 | | | 1" Ice 2.294 | 2.294 | 0.048 |
| 6' x 2" Mount Pipe | C | From Leg | 4.000 | 0.000 | 120.000 | No Ice 1.425 | 1.425 | 0.022 |
| | | | 0.000 | | | 1/2" Ice 1.925 | 1.925 | 0.033 |
| | | | 0.000 | | | 1" Ice 2.294 | 2.294 | 0.048 |
| Side Arm Mount [SO 102-3] | C | None | | 0.000 | 120.000 | No Ice 3.600 | 3.600 | 0.075 |
| | | | | | | 1/2" Ice 4.180 | 4.180 | 0.105 |
| | | | | | | 1" Ice 4.750 | 4.750 | 0.135 |
| Platform Mount [LP 1201-1] | C | None | | 0.000 | 120.000 | No Ice 18.380 | 18.380 | 2.100 |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page 19 of 35 |
| | Project | Date 17:48:20 05/05/22 |
| | Client Crown Castle | Designed by Suhas Poojary |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} Front | C _{AA} Side | Weight | |
|---------------------------|-------------------|----------------|-------------------------|-------|-----------------------|-----------|--------------------------|-------------------------|--------|-------|
| | | | Horz Lateral Vert | | | | | | | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K | |
| | | | | | | | 1/2" Ice | 22.110 | 22.110 | 2.652 |
| | | | | | | | 1" Ice | 25.870 | 25.870 | 3.263 |
| * | | | | | | | | | | |
| KS24019-L112A | B | From Leg | 3.000 | 0.000 | 90.000 | No Ice | 0.141 | 0.141 | 0.005 | |
| | | | | | | | 1/2" Ice | 0.198 | 0.198 | 0.007 |
| | | | | | | | 1" Ice | 0.262 | 0.262 | 0.009 |
| Side Arm Mount [SO 701-1] | B | From Leg | 1.500 | 0.000 | 90.000 | No Ice | 0.850 | 1.670 | 0.065 | |
| | | | | | | | 1/2" Ice | 1.140 | 2.340 | 0.079 |
| | | | | | | | 1" Ice | 1.430 | 3.010 | 0.093 |
| * | | | | | | | | | | |

Dishes

| Description | Face or Leg | Dish Type | Offset Type | Offsets: | | Azimuth Adjustment | 3 dB Beam Width | Elevation | Outside Diameter | Aperture Area | Weight |
|-------------|-------------------|-----------------------------|----------------|-------------------------|-------|-----------------------|-----------------------|-----------|---------------------|------------------|--------|
| | | | | Horz Lateral Vert | | | | | | | |
| | | | ft | ft | ° | ° | ft | ft | ft ² | K | |
| VHLP2-11 | A | Paraboloid w/Shroud (HP) | From Leg | 4.000 | 0.000 | 50.000 | | 138.000 | 2.175 | No Ice | 3.715 |
| | | | | | | | 1/2" Ice | | | 4.006 | 0.048 |
| | | | | | | | 1" Ice | | | 4.296 | 0.068 |
| VHLP2-11 | A | Paraboloid w/Shroud (HP) | From Leg | 4.000 | 0.000 | 50.000 | | 138.000 | 2.175 | No Ice | 3.715 |
| | | | | | | | 1/2" Ice | | | 4.006 | 0.048 |
| | | | | | | | 1" Ice | | | 4.296 | 0.068 |
| VHLP2-11 | C | Paraboloid w/Shroud (HP) | From Leg | 4.000 | 0.000 | 40.000 | | 138.000 | 2.175 | No Ice | 3.715 |
| | | | | | | | 1/2" Ice | | | 4.006 | 0.048 |
| | | | | | | | 1" Ice | | | 4.296 | 0.068 |
| * | | | | | | | | | | | |

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 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|--------------------|-------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 20 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | Designed by | Suhas Poojary |

| <i>Comb. No.</i> | <i>Description</i> |
|------------------|--------------------------------------------|
| 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

| <i>Section No.</i> | <i>Elevation ft</i> | <i>Component Type</i> | <i>Condition</i> | <i>Gov. Load Comb.</i> | <i>Axial K</i> | <i>Major Axis Moment kip-ft</i> | <i>Minor Axis Moment kip-ft</i> |
|--------------------|---------------------|-----------------------|------------------|------------------------|----------------|---------------------------------|---------------------------------|
| L1 | 148 - 143 | Pole | Max Tension | 30 | 0.000 | 0.001 | -0.000 |
| | | | Max. Compression | 26 | -8.411 | 0.045 | 0.041 |
| | | | Max. Mx | 20 | -4.716 | 13.515 | 0.002 |
| | | | Max. My | 2 | -4.718 | 0.012 | 13.502 |
| | | | Max. Vy | 20 | -4.545 | 13.515 | 0.002 |
| | | | Max. Vx | 14 | 4.543 | 0.043 | -13.477 |
| | | | Max. Torque | 19 | | | 0.000 |
| L2 | 143 - 138 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -9.106 | 0.126 | 0.468 |
| | | | Max. Mx | 20 | -5.126 | 37.284 | -0.069 |
| | | | Max. My | 2 | -5.131 | -0.134 | 37.353 |
| | | | Max. Vy | 20 | -4.982 | 37.284 | -0.069 |
| | | | Max. Vx | 14 | 4.969 | 0.256 | -37.006 |
| | | | Max. Torque | 20 | | | -0.781 |
| L3 | 138 - 133 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -17.729 | 0.522 | 1.062 |
| | | | Max. Mx | 20 | -9.677 | 87.354 | -0.349 |
| | | | Max. My | 2 | -9.692 | -0.439 | 87.300 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|--------------------|-------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 21 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | Designed by | Suhas Poojary |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|---------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| L4 | 133 - 128 | Pole | Max. Vy | 20 | -10.048 | 87.354 | -0.349 |
| | | | Max. Vx | 14 | 9.975 | 0.944 | -86.526 |
| | | | Max. Torque | 16 | | | -1.509 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -18.432 | 0.611 | 1.136 |
| | | | Max. Mx | 20 | -10.168 | 138.390 | -1.083 |
| | | | Max. My | 2 | -10.182 | -0.932 | 137.801 |
| | | | Max. Vy | 20 | -10.358 | 138.390 | -1.083 |
| L5 | 128 - 123 | Pole | Max. Vx | 14 | 10.296 | 1.866 | -137.170 |
| | | | Max. Torque | 16 | | | -1.509 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -19.157 | 0.702 | 1.212 |
| | | | Max. Mx | 20 | -10.684 | 190.978 | -1.820 |
| | | | Max. My | 2 | -10.697 | -1.426 | 189.900 |
| | | | Max. Vy | 20 | -10.670 | 190.978 | -1.820 |
| | | | Max. Vx | 14 | 10.615 | 2.788 | -189.409 |
| L6 | 123 - 118 | Pole | Max. Torque | 16 | | | -1.508 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -27.506 | 1.099 | 1.592 |
| | | | Max. Mx | 20 | -15.496 | 252.262 | -2.501 |
| | | | Max. My | 2 | -15.507 | -1.812 | 250.727 |
| | | | Max. Vy | 20 | -14.458 | 252.262 | -2.501 |
| | | | Max. Vx | 14 | 14.434 | 3.872 | -250.173 |
| | | | Max. Torque | 16 | | | -1.820 |
| L7 | 118 - 113 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -28.345 | 1.201 | 1.677 |
| | | | Max. Mx | 20 | -16.142 | 325.317 | -3.299 |
| | | | Max. My | 2 | -16.152 | -2.360 | 323.465 |
| | | | Max. Vy | 20 | -14.762 | 325.317 | -3.299 |
| | | | Max. Vx | 14 | 14.738 | 4.867 | -323.051 |
| | | | Max. Torque | 16 | | | -1.820 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| L8 | 113 - 108 | Pole | Max. Compression | 26 | -29.206 | 1.304 | 1.762 |
| | | | Max. Mx | 20 | -16.813 | 399.882 | -4.099 |
| | | | Max. My | 2 | -16.823 | -2.909 | 397.712 |
| | | | Max. Vy | 20 | -15.063 | 399.882 | -4.099 |
| | | | Max. Vx | 14 | 15.040 | 5.862 | -397.437 |
| | | | Max. Torque | 16 | | | -1.819 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -30.089 | 1.408 | 1.847 |
| L9 | 108 - 103 | Pole | Max. Mx | 20 | -17.509 | 475.944 | -4.897 |
| | | | Max. My | 2 | -17.518 | -3.457 | 473.456 |
| | | | Max. Vy | 20 | -15.362 | 475.944 | -4.897 |
| | | | Max. Vx | 14 | 15.339 | 6.854 | -473.320 |
| | | | Max. Torque | 16 | | | -1.818 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -30.994 | 1.513 | 1.932 |
| | | | Max. Mx | 20 | -18.228 | 553.490 | -5.695 |
| L10 | 103 - 98 | Pole | Max. My | 14 | -18.233 | 7.843 | -550.686 |
| | | | Max. Vy | 20 | -15.658 | 553.490 | -5.695 |
| | | | Max. Vx | 14 | 15.635 | 7.843 | -550.686 |
| | | | Max. Torque | 16 | | | -1.817 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -31.595 | 1.582 | 1.987 |
| | | | Max. Mx | 20 | -18.708 | 604.684 | -6.212 |
| | | | Max. My | 14 | -18.712 | 8.484 | -601.763 |
| L11 | 98 - 90.75 | Pole | Max. Vy | 20 | -15.849 | 604.684 | -6.212 |
| | | | Max. Vx | 14 | 15.826 | 8.484 | -601.763 |
| | | | Max. Torque | 16 | | | -1.816 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -33.320 | 1.398 | 1.903 |
| | | | Max. Mx | 20 | -18.708 | 604.684 | -6.212 |
| | | | Max. My | 14 | -18.712 | 8.484 | -601.763 |
| | | | Max. Vy | 20 | -15.849 | 604.684 | -6.212 |
| L12 | 90.75 - 89.75 | Pole | Max. Vx | 14 | 15.826 | 8.484 | -601.763 |
| | | | Max. Torque | 16 | | | -1.816 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|--------------------|-------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 22 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | Designed by | Suhas Poojary |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|---------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| L13 | 89.75 - 84.75 | Pole | Max. Mx | 20 | -20.028 | 684.689 | -7.128 |
| | | | Max. My | 14 | -20.031 | 9.274 | -681.924 |
| | | | Max. Vy | 20 | -16.270 | 684.689 | -7.128 |
| | | | Max. Vx | 14 | 16.261 | 9.274 | -681.924 |
| | | | Max. Torque | 16 | | | -1.815 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -34.400 | 1.506 | 1.988 |
| | | | Max. Mx | 20 | -20.914 | 766.802 | -7.986 |
| | | | Max. My | 14 | -20.917 | 10.323 | -763.926 |
| | | | Max. Vy | 20 | -16.577 | 766.802 | -7.986 |
| L14 | 84.75 - 79.75 | Pole | Max. Vx | 14 | 16.569 | 10.323 | -763.926 |
| | | | Max. Torque | 18 | | | -1.644 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -35.506 | 1.615 | 2.073 |
| | | | Max. Mx | 20 | -21.824 | 850.447 | -8.842 |
| | | | Max. My | 14 | -21.827 | 11.370 | -847.459 |
| | | | Max. Vy | 20 | -16.883 | 850.447 | -8.842 |
| | | | Max. Vx | 14 | 16.875 | 11.370 | -847.459 |
| | | | Max. Torque | 18 | | | -1.644 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| L15 | 79.75 - 74.75 | Pole | Max. Compression | 26 | -36.658 | 1.725 | 2.159 |
| | | | Max. Mx | 20 | -22.759 | 935.613 | -9.695 |
| | | | Max. My | 14 | -22.762 | 12.414 | -932.512 |
| | | | Max. Vy | 20 | -17.186 | 935.613 | -9.695 |
| | | | Max. Vx | 14 | 17.178 | 12.414 | -932.512 |
| | | | Max. Torque | 18 | | | -1.643 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -36.719 | 1.733 | 2.165 |
| | | | Max. Mx | 20 | -22.812 | 939.911 | -9.737 |
| | | | Max. My | 14 | -22.815 | 12.466 | -936.805 |
| L16 | 74.75 - 74.5 | Pole | Max. Vy | 20 | -17.194 | 939.911 | -9.737 |
| | | | Max. Vx | 14 | 17.186 | 12.466 | -936.805 |
| | | | Max. Torque | 18 | | | -1.642 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -36.780 | 1.738 | 2.170 |
| | | | Max. Mx | 20 | -22.860 | 944.213 | -9.780 |
| | | | Max. My | 14 | -22.863 | 12.519 | -941.101 |
| | | | Max. Vy | 20 | -17.209 | 944.213 | -9.780 |
| | | | Max. Vx | 14 | 17.201 | 12.519 | -941.101 |
| | | | Max. Torque | 18 | | | -1.642 |
| L17 | 74.5 - 74.25 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -38.017 | 1.848 | 2.253 |
| | | | Max. Mx | 20 | -23.816 | 1031.035 | -10.630 |
| | | | Max. My | 14 | -23.818 | 13.559 | -1027.809 |
| | | | Max. Vy | 20 | -17.516 | 1031.035 | -10.630 |
| | | | Max. Vx | 14 | 17.508 | 13.559 | -1027.809 |
| | | | Max. Torque | 18 | | | -1.642 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -39.279 | 1.961 | 2.339 |
| | | | Max. Mx | 20 | -24.802 | 1119.345 | -11.476 |
| L18 | 74.25 - 69.25 | Pole | Max. My | 14 | -24.804 | 14.597 | -1116.003 |
| | | | Max. Vy | 20 | -17.811 | 1119.345 | -11.476 |
| | | | Max. Vx | 14 | 17.804 | 14.597 | -1116.003 |
| | | | Max. Torque | 18 | | | -1.641 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -40.565 | 2.070 | 2.419 |
| | | | Max. Mx | 20 | -25.811 | 1209.120 | -12.318 |
| | | | Max. My | 14 | -25.813 | 15.630 | -1205.662 |
| | | | Max. Vy | 20 | -18.102 | 1209.120 | -12.318 |
| | | | Max. Vx | 14 | 18.095 | 15.630 | -1205.662 |
| L19 | 69.25 - 64.25 | Pole | Max. Torque | 18 | | | -1.641 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -40.565 | 2.070 | 2.419 |
| | | | Max. Mx | 20 | -25.811 | 1209.120 | -12.318 |
| | | | Max. My | 14 | -25.813 | 15.630 | -1205.662 |
| | | | Max. Vy | 20 | -18.102 | 1209.120 | -12.318 |
| L20 | 64.25 - 59.25 | Pole | Max. Vx | 14 | 18.095 | 15.630 | -1205.662 |
| | | | Max. Torque | 18 | | | -1.641 |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|---------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| L21 | 59.25 - 54.25 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -41.874 | 2.173 | 2.492 |
| | | | Max. Mx | 20 | -26.844 | 1300.336 | -13.156 |
| | | | Max. My | 14 | -26.846 | 16.660 | -1296.760 |
| | | | Max. Vy | 20 | -18.388 | 1300.336 | -13.156 |
| | | | Max. Vx | 14 | 18.381 | 16.660 | -1296.760 |
| | | | Max. Torque | 18 | | | -1.640 |
| L22 | 54.25 - 44.75 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -42.999 | 2.262 | 2.555 |
| | | | Max. Mx | 20 | -27.741 | 1378.970 | -13.865 |
| | | | Max. My | 14 | -27.742 | 17.532 | -1375.293 |
| | | | Max. Vy | 20 | -18.621 | 1378.970 | -13.865 |
| | | | Max. Vx | 14 | 18.614 | 17.532 | -1375.293 |
| | | | Max. Torque | 18 | | | -1.639 |
| L23 | 44.75 - 43.75 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -45.941 | 2.394 | 2.648 |
| | | | Max. Mx | 20 | -30.081 | 1496.787 | -14.903 |
| | | | Max. My | 14 | -30.083 | 18.812 | -1492.961 |
| | | | Max. Vy | 20 | -19.067 | 1496.787 | -14.903 |
| | | | Max. Vx | 14 | 19.060 | 18.812 | -1492.961 |
| | | | Max. Torque | 18 | | | -1.639 |
| L24 | 43.75 - 38.75 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -47.397 | 2.501 | 2.724 |
| | | | Max. Mx | 20 | -31.327 | 1592.803 | -15.732 |
| | | | Max. My | 14 | -31.328 | 19.833 | -1588.856 |
| | | | Max. Vy | 20 | -19.341 | 1592.803 | -15.732 |
| | | | Max. Vx | 14 | 19.335 | 19.833 | -1588.856 |
| | | | Max. Torque | 18 | | | -1.639 |
| L25 | 38.75 - 33.75 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -48.881 | 2.609 | 2.800 |
| | | | Max. Mx | 20 | -32.600 | 1690.162 | -16.556 |
| | | | Max. My | 14 | -32.601 | 20.850 | -1686.094 |
| | | | Max. Vy | 20 | -19.604 | 1690.162 | -16.556 |
| | | | Max. Vx | 14 | 19.598 | 20.850 | -1686.094 |
| | | | Max. Torque | 18 | | | -1.638 |
| L26 | 33.75 - 28.75 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -50.392 | 2.719 | 2.877 |
| | | | Max. Mx | 20 | -33.900 | 1788.806 | -17.375 |
| | | | Max. My | 14 | -33.901 | 21.862 | -1784.615 |
| | | | Max. Vy | 20 | -19.855 | 1788.806 | -17.375 |
| | | | Max. Vx | 14 | 19.849 | 21.862 | -1784.615 |
| | | | Max. Torque | 18 | | | -1.638 |
| L27 | 28.75 - 23.75 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -51.928 | 2.830 | 2.955 |
| | | | Max. Mx | 20 | -35.226 | 1888.694 | -18.188 |
| | | | Max. My | 14 | -35.227 | 22.869 | -1884.380 |
| | | | Max. Vy | 20 | -20.103 | 1888.694 | -18.188 |
| | | | Max. Vx | 14 | 20.097 | 22.869 | -1884.380 |
| | | | Max. Torque | 18 | | | -1.637 |
| L28 | 23.75 - 18.75 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -53.489 | 2.943 | 3.034 |
| | | | Max. Mx | 20 | -36.579 | 1989.826 | -18.996 |
| | | | Max. My | 14 | -36.579 | 23.871 | -1985.388 |
| | | | Max. Vy | 20 | -20.352 | 1989.826 | -18.996 |
| | | | Max. Vx | 14 | 20.346 | 23.871 | -1985.388 |
| | | | Max. Torque | 18 | | | -1.637 |
| L29 | 18.75 - 13.75 | Pole | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -55.073 | 3.056 | 3.113 |
| | | | Max. Mx | 20 | -37.958 | 2092.209 | -19.798 |
| | | | Max. My | 14 | -37.958 | 24.867 | -2087.645 |
| | | | Max. Vy | 20 | -20.603 | 2092.209 | -19.798 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|--------------------|-------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 24 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | Designed by | Suhas Poojary |

| Section No. | Elevation ft | Component Type | Condition | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|--------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
| L30 | 13.75 - 8.75 | Pole | Max. Vx | 14 | 20.598 | 24.867 | -2087.645 |
| | | | Max. Torque | 18 | | | -1.637 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -56.677 | 3.169 | 3.191 |
| | | | Max. Mx | 20 | -39.363 | 2195.851 | -20.595 |
| | | | Max. My | 14 | -39.363 | 25.857 | -2191.161 |
| | | | Max. Vy | 20 | -20.856 | 2195.851 | -20.595 |
| L31 | 8.75 - 3.75 | Pole | Max. Vx | 14 | 20.851 | 25.857 | -2191.161 |
| | | | Max. Torque | 18 | | | -1.637 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -58.295 | 3.280 | 3.268 |
| | | | Max. Mx | 20 | -40.794 | 2300.761 | -21.384 |
| | | | Max. My | 14 | -40.794 | 26.841 | -2295.944 |
| | | | Max. Vy | 20 | -21.110 | 2300.761 | -21.384 |
| L32 | 3.75 - 0 | Pole | Max. Vx | 14 | 21.105 | 26.841 | -2295.944 |
| | | | Max. Torque | 18 | | | -1.637 |
| | | | Max Tension | 1 | 0.000 | 0.000 | 0.000 |
| | | | Max. Compression | 26 | -59.505 | 3.360 | 3.322 |
| | | | Max. Mx | 20 | -41.883 | 2380.280 | -21.972 |
| | | | Max. My | 14 | -41.883 | 27.574 | -2375.367 |
| | | | Max. Vy | 20 | -21.305 | 2380.280 | -21.972 |
| | | | | | | | |
| | | | Max. Vx | 14 | 21.300 | 27.574 | -2375.367 |
| | | | Max. Torque | 18 | | | -1.637 |

Maximum Reactions

| Location | Condition | Gov. Load Comb. | Vertical K | Horizontal, X K | Horizontal, Z K |
|----------|---------------------|-----------------|------------|-----------------|-----------------|
| Pole | Max. Vert | 36 | 59.505 | 5.542 | -0.034 |
| | Max. H _x | 21 | 31.419 | 21.288 | -0.164 |
| | Max. H _z | 3 | 31.419 | -0.121 | 21.247 |
| | Max. M _x | 2 | 2372.756 | -0.121 | 21.247 |
| | Max. M _z | 8 | 2373.921 | -21.266 | 0.127 |
| | Max. Torsion | 6 | 1.265 | -18.465 | 10.632 |
| | Min. Vert | 23 | 31.419 | 18.405 | 10.445 |
| | Min. H _x | 9 | 31.419 | -21.266 | 0.127 |
| | Min. H _z | 14 | 41.892 | 0.182 | -21.283 |
| | Min. M _x | 14 | -2375.367 | 0.182 | -21.283 |
| | Min. M _z | 20 | -2380.280 | 21.288 | -0.164 |
| | Min. Torsion | 18 | -1.637 | 18.491 | -10.680 |

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 | 34.910 | 0.000 | 0.000 | -1.055 | 1.220 | 0.000 |
| 1.2 Dead+1.0 Wind 0 deg - No Ice | 41.892 | 0.121 | -21.247 | -2372.756 | -15.478 | -1.202 |
| 0.9 Dead+1.0 Wind 0 deg - No Ice | 31.419 | 0.121 | -21.247 | -2333.560 | -15.581 | -1.195 |
| 1.2 Dead+1.0 Wind 30 deg - No Ice | 41.892 | 10.732 | -18.355 | -2048.317 | -1199.900 | -1.177 |

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <p style="text-align: center;">tnxTower</p> <p style="text-align: center;">B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p> | <p style="text-align: center;">Job</p> <p style="text-align: center;">82071.011.01 - HILLSIDE, CT (BU# 876323)</p> | <p style="text-align: center;">Page</p> <p style="text-align: center;">25 of 35</p> |
| | <p style="text-align: center;">Project</p> | <p style="text-align: center;">Date</p> <p style="text-align: center;">17:48:20 05/05/22</p> |
| | <p style="text-align: center;">Client</p> <p style="text-align: center;">Crown Castle</p> | <p style="text-align: center;">Designed by</p> <p style="text-align: center;">Suhas Poojary</p> |

| 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 |
|--------------------------------------------|---------------|-------------------------|-------------------------|-------------------------------------------------|-------------------------------------------------|------------------|
| Ice | | | | | | |
| 0.9 Dead+1.0 Wind 30 deg - No Ice | 31.419 | 10.732 | -18.355 | -2014.449 | -1180.606 | -1.164 |
| 1.2 Dead+1.0 Wind 60 deg - No Ice | 41.892 | 18.465 | -10.632 | -1187.754 | -2062.159 | -1.265 |
| 0.9 Dead+1.0 Wind 60 deg - No Ice | 31.419 | 18.465 | -10.632 | -1167.972 | -2028.748 | -1.249 |
| 1.2 Dead+1.0 Wind 90 deg - No Ice | 41.892 | 21.266 | -0.127 | -19.209 | -2373.921 | -1.230 |
| 0.9 Dead+1.0 Wind 90 deg - No Ice | 31.419 | 21.266 | -0.127 | -18.536 | -2335.408 | -1.217 |
| 1.2 Dead+1.0 Wind 120 deg - No Ice | 41.892 | 18.425 | 10.493 | 1166.054 | -2057.138 | -0.872 |
| 0.9 Dead+1.0 Wind 120 deg - No Ice | 31.419 | 18.425 | 10.493 | 1147.318 | -2023.809 | -0.864 |
| 1.2 Dead+1.0 Wind 150 deg - No Ice | 41.892 | 10.700 | 18.505 | 2063.208 | -1193.567 | 0.203 |
| 0.9 Dead+1.0 Wind 150 deg - No Ice | 31.419 | 10.700 | 18.505 | 2029.786 | -1174.406 | 0.204 |
| 1.2 Dead+1.0 Wind 180 deg - No Ice | 41.892 | -0.182 | 21.283 | 2375.367 | 27.574 | 1.473 |
| 0.9 Dead+1.0 Wind 180 deg - No Ice | 31.419 | -0.182 | 21.283 | 2336.800 | 26.707 | 1.466 |
| 1.2 Dead+1.0 Wind 210 deg - No Ice | 41.892 | -10.771 | 18.425 | 2055.741 | 1208.785 | 1.625 |
| 0.9 Dead+1.0 Wind 210 deg - No Ice | 31.419 | -10.771 | 18.425 | 2022.410 | 1188.575 | 1.612 |
| 1.2 Dead+1.0 Wind 240 deg - No Ice | 41.892 | -18.491 | 10.680 | 1192.155 | 2069.200 | 1.637 |
| 0.9 Dead+1.0 Wind 240 deg - No Ice | 31.419 | -18.491 | 10.680 | 1172.959 | 2034.904 | 1.622 |
| 1.2 Dead+1.0 Wind 270 deg - No Ice | 41.892 | -21.288 | 0.164 | 21.973 | 2380.280 | 1.588 |
| 0.9 Dead+1.0 Wind 270 deg - No Ice | 31.419 | -21.288 | 0.164 | 21.914 | 2340.888 | 1.574 |
| 1.2 Dead+1.0 Wind 300 deg - No Ice | 41.892 | -18.405 | -10.445 | -1161.722 | 2057.538 | 1.032 |
| 0.9 Dead+1.0 Wind 300 deg - No Ice | 31.419 | -18.405 | -10.445 | -1142.396 | 2023.433 | 1.024 |
| 1.2 Dead+1.0 Wind 330 deg - No Ice | 41.892 | -10.656 | -18.518 | -2067.843 | 1190.219 | -0.176 |
| 0.9 Dead+1.0 Wind 330 deg - No Ice | 31.419 | -10.656 | -18.518 | -2033.663 | 1170.356 | -0.176 |
| 1.2 Dead+1.0 Ice+1.0 Temp | 59.505 | -0.000 | -0.000 | -3.322 | 3.360 | 0.000 |
| 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp | 59.505 | 0.025 | -5.526 | -618.283 | -0.228 | -0.237 |
| 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp | 59.505 | 2.790 | -4.785 | -535.756 | -308.009 | -0.253 |
| 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp | 59.505 | 4.806 | -2.770 | -311.797 | -532.290 | -0.288 |
| 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp | 59.505 | 5.538 | -0.027 | -7.282 | -613.529 | -0.291 |
| 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp | 59.505 | 4.797 | 2.740 | 300.764 | -531.115 | -0.215 |
| 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp | 59.505 | 2.760 | 4.777 | 527.863 | -303.813 | 0.016 |
| 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp | 59.505 | -0.038 | 5.533 | 612.560 | 9.031 | 0.294 |
| 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp | 59.505 | -2.798 | 4.799 | 531.043 | 316.142 | 0.345 |
| 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp | 59.505 | -4.811 | 2.780 | 306.443 | 540.036 | 0.364 |

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|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|-------------|--------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 26 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | | Designed by |

| 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 |
|-----------------------------|---------------|-------------------------|-------------------------|-------------------------------------------------|-------------------------------------------------|------------------|
| deg+1.0 Ice+1.0 Temp | | | | | | |
| 1.2 Dead+1.0 Wind 270 | 59.505 | -5.542 | 0.034 | 1.582 | 621.127 | 0.362 |
| deg+1.0 Ice+1.0 Temp | | | | | | |
| 1.2 Dead+1.0 Wind 300 | 59.505 | -4.793 | -2.731 | -306.132 | 537.458 | 0.247 |
| deg+1.0 Ice+1.0 Temp | | | | | | |
| 1.2 Dead+1.0 Wind 330 | 59.505 | -2.751 | -4.780 | -535.111 | 309.374 | -0.010 |
| deg+1.0 Ice+1.0 Temp | | | | | | |
| Dead+Wind 0 deg - Service | 34.910 | 0.028 | -5.003 | -554.150 | -2.684 | -0.285 |
| Dead+Wind 30 deg - Service | 34.910 | 2.527 | -4.322 | -478.492 | -278.903 | -0.278 |
| Dead+Wind 60 deg - Service | 34.910 | 4.348 | -2.503 | -277.803 | -479.997 | -0.299 |
| Dead+Wind 90 deg - Service | 34.910 | 5.007 | -0.030 | -5.281 | -552.702 | -0.292 |
| Dead+Wind 120 deg - Service | 34.910 | 4.338 | 2.471 | 271.133 | -478.819 | -0.207 |
| Dead+Wind 150 deg - Service | 34.910 | 2.519 | 4.357 | 480.369 | -277.435 | 0.048 |
| Dead+Wind 180 deg - Service | 34.910 | -0.043 | 5.011 | 553.160 | 7.350 | 0.351 |
| Dead+Wind 210 deg - Service | 34.910 | -2.536 | 4.338 | 478.624 | 282.824 | 0.386 |
| Dead+Wind 240 deg - Service | 34.910 | -4.354 | 2.515 | 277.223 | 483.486 | 0.388 |
| Dead+Wind 270 deg - Service | 34.910 | -5.012 | 0.039 | 4.315 | 556.027 | 0.376 |
| Dead+Wind 300 deg - Service | 34.910 | -4.334 | -2.459 | -271.729 | 480.746 | 0.244 |
| Dead+Wind 330 deg - Service | 34.910 | -2.509 | -4.360 | -483.050 | 278.495 | -0.042 |

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 | 0.000 | -34.910 | 0.000 | 0.000 | 34.910 | 0.000 | 0.000% |
| 2 | 0.121 | -41.892 | -21.247 | -0.121 | 41.892 | 21.247 | 0.000% |
| 3 | 0.121 | -31.419 | -21.247 | -0.121 | 31.419 | 21.247 | 0.000% |
| 4 | 10.732 | -41.892 | -18.355 | -10.732 | 41.892 | 18.355 | 0.000% |
| 5 | 10.732 | -31.419 | -18.355 | -10.732 | 31.419 | 18.355 | 0.000% |
| 6 | 18.465 | -41.892 | -10.632 | -18.465 | 41.892 | 10.632 | 0.000% |
| 7 | 18.465 | -31.419 | -10.632 | -18.465 | 31.419 | 10.632 | 0.000% |
| 8 | 21.266 | -41.892 | -0.127 | -21.266 | 41.892 | 0.127 | 0.000% |
| 9 | 21.266 | -31.419 | -0.127 | -21.266 | 31.419 | 0.127 | 0.000% |
| 10 | 18.425 | -41.892 | 10.493 | -18.425 | 41.892 | -10.493 | 0.000% |
| 11 | 18.425 | -31.419 | 10.493 | -18.425 | 31.419 | -10.493 | 0.000% |
| 12 | 10.700 | -41.892 | 18.505 | -10.700 | 41.892 | -18.505 | 0.000% |
| 13 | 10.700 | -31.419 | 18.505 | -10.700 | 31.419 | -18.505 | 0.000% |
| 14 | -0.182 | -41.892 | 21.283 | 0.182 | 41.892 | -21.283 | 0.000% |
| 15 | -0.182 | -31.419 | 21.283 | 0.182 | 31.419 | -21.283 | 0.000% |
| 16 | -10.771 | -41.892 | 18.425 | 10.771 | 41.892 | -18.425 | 0.000% |
| 17 | -10.771 | -31.419 | 18.425 | 10.771 | 31.419 | -18.425 | 0.000% |
| 18 | -18.491 | -41.892 | 10.680 | 18.491 | 41.892 | -10.680 | 0.000% |
| 19 | -18.491 | -31.419 | 10.680 | 18.491 | 31.419 | -10.680 | 0.000% |
| 20 | -21.288 | -41.892 | 0.164 | 21.288 | 41.892 | -0.164 | 0.000% |
| 21 | -21.288 | -31.419 | 0.164 | 21.288 | 31.419 | -0.164 | 0.000% |
| 22 | -18.405 | -41.892 | -10.445 | 18.405 | 41.892 | 10.445 | 0.000% |
| 23 | -18.405 | -31.419 | -10.445 | 18.405 | 31.419 | 10.445 | 0.000% |
| 24 | -10.656 | -41.892 | -18.518 | 10.656 | 41.892 | 18.518 | 0.000% |
| 25 | -10.656 | -31.419 | -18.518 | 10.656 | 31.419 | 18.518 | 0.000% |
| 26 | 0.000 | -59.505 | 0.000 | 0.000 | 59.505 | 0.000 | 0.000% |
| 27 | 0.025 | -59.505 | -5.526 | -0.025 | 59.505 | 5.526 | 0.000% |
| 28 | 2.790 | -59.505 | -4.785 | -2.790 | 59.505 | 4.785 | 0.000% |
| 29 | 4.806 | -59.505 | -2.770 | -4.806 | 59.505 | 2.770 | 0.000% |
| 30 | 5.538 | -59.505 | -0.027 | -5.538 | 59.505 | 0.027 | 0.000% |
| 31 | 4.797 | -59.505 | 2.740 | -4.797 | 59.505 | -2.740 | 0.000% |
| 32 | 2.760 | -59.505 | 4.777 | -2.760 | 59.505 | -4.777 | 0.000% |
| 33 | -0.038 | -59.505 | 5.533 | 0.038 | 59.505 | -5.533 | 0.000% |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|-------------|--------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 27 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | | Designed by |

| Load Comb. | Sum of Applied Forces | | | Sum of Reactions | | | % Error |
|------------|-----------------------|---------|--------|------------------|--------|--------|---------|
| | PX K | PY K | PZ K | PX K | PY K | PZ K | |
| 34 | -2.798 | -59.505 | 4.799 | 2.798 | 59.505 | -4.799 | 0.000% |
| 35 | -4.811 | -59.505 | 2.780 | 4.811 | 59.505 | -2.780 | 0.000% |
| 36 | -5.542 | -59.505 | 0.034 | 5.542 | 59.505 | -0.034 | 0.000% |
| 37 | -4.793 | -59.505 | -2.731 | 4.793 | 59.505 | 2.731 | 0.000% |
| 38 | -2.751 | -59.505 | -4.780 | 2.751 | 59.505 | 4.780 | 0.000% |
| 39 | 0.028 | -34.910 | -5.003 | -0.028 | 34.910 | 5.003 | 0.000% |
| 40 | 2.527 | -34.910 | -4.322 | -2.527 | 34.910 | 4.322 | 0.000% |
| 41 | 4.348 | -34.910 | -2.503 | -4.348 | 34.910 | 2.503 | 0.000% |
| 42 | 5.007 | -34.910 | -0.030 | -5.007 | 34.910 | 0.030 | 0.000% |
| 43 | 4.338 | -34.910 | 2.471 | -4.338 | 34.910 | -2.471 | 0.000% |
| 44 | 2.519 | -34.910 | 4.357 | -2.519 | 34.910 | -4.357 | 0.000% |
| 45 | -0.043 | -34.910 | 5.011 | 0.043 | 34.910 | -5.011 | 0.000% |
| 46 | -2.536 | -34.910 | 4.338 | 2.536 | 34.910 | -4.338 | 0.000% |
| 47 | -4.354 | -34.910 | 2.515 | 4.354 | 34.910 | -2.515 | 0.000% |
| 48 | -5.012 | -34.910 | 0.039 | 5.012 | 34.910 | -0.039 | 0.000% |
| 49 | -4.334 | -34.910 | -2.459 | 4.334 | 34.910 | 2.459 | 0.000% |
| 50 | -2.509 | -34.910 | -4.360 | 2.509 | 34.910 | 4.360 | 0.000% |

Non-Linear Convergence Results

| Load Combination | Converged? | Number of Cycles | Displacement Tolerance | Force Tolerance |
|------------------|------------|------------------|------------------------|-----------------|
| 1 | Yes | 4 | 0.0000001 | 0.0000001 |
| 2 | Yes | 6 | 0.0000001 | 0.00008116 |
| 3 | Yes | 5 | 0.0000001 | 0.00048324 |
| 4 | Yes | 7 | 0.0000001 | 0.00017244 |
| 5 | Yes | 6 | 0.0000001 | 0.00075719 |
| 6 | Yes | 7 | 0.0000001 | 0.00018189 |
| 7 | Yes | 6 | 0.0000001 | 0.00079998 |
| 8 | Yes | 6 | 0.0000001 | 0.00016321 |
| 9 | Yes | 5 | 0.0000001 | 0.00098285 |
| 10 | Yes | 7 | 0.0000001 | 0.00016950 |
| 11 | Yes | 6 | 0.0000001 | 0.00074506 |
| 12 | Yes | 7 | 0.0000001 | 0.00017614 |
| 13 | Yes | 6 | 0.0000001 | 0.00077393 |
| 14 | Yes | 6 | 0.0000001 | 0.00020481 |
| 15 | Yes | 6 | 0.0000001 | 0.00007359 |
| 16 | Yes | 7 | 0.0000001 | 0.00018545 |
| 17 | Yes | 6 | 0.0000001 | 0.00081588 |
| 18 | Yes | 7 | 0.0000001 | 0.00017173 |
| 19 | Yes | 6 | 0.0000001 | 0.00075331 |
| 20 | Yes | 6 | 0.0000001 | 0.00009862 |
| 21 | Yes | 5 | 0.0000001 | 0.00059734 |
| 22 | Yes | 7 | 0.0000001 | 0.00017697 |
| 23 | Yes | 6 | 0.0000001 | 0.00077852 |
| 24 | Yes | 7 | 0.0000001 | 0.00017793 |
| 25 | Yes | 6 | 0.0000001 | 0.00078118 |
| 26 | Yes | 4 | 0.0000001 | 0.00052556 |
| 27 | Yes | 6 | 0.0000001 | 0.00082655 |
| 28 | Yes | 7 | 0.0000001 | 0.00013845 |
| 29 | Yes | 7 | 0.0000001 | 0.00013955 |
| 30 | Yes | 6 | 0.0000001 | 0.00081785 |
| 31 | Yes | 6 | 0.0000001 | 0.00098463 |
| 32 | Yes | 6 | 0.0000001 | 0.00098637 |
| 33 | Yes | 6 | 0.0000001 | 0.00081495 |
| 34 | Yes | 7 | 0.0000001 | 0.00014009 |

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| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 28 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | | Designed by |

| | | | | |
|----|-----|---|------------|------------|
| 35 | Yes | 7 | 0.00000001 | 0.00013862 |
| 36 | Yes | 6 | 0.00000001 | 0.00083060 |
| 37 | Yes | 7 | 0.00000001 | 0.00013965 |
| 38 | Yes | 7 | 0.00000001 | 0.00013938 |
| 39 | Yes | 5 | 0.00000001 | 0.00010764 |
| 40 | Yes | 5 | 0.00000001 | 0.00039442 |
| 41 | Yes | 5 | 0.00000001 | 0.00045199 |
| 42 | Yes | 5 | 0.00000001 | 0.00011620 |
| 43 | Yes | 5 | 0.00000001 | 0.00038423 |
| 44 | Yes | 5 | 0.00000001 | 0.00040988 |
| 45 | Yes | 5 | 0.00000001 | 0.00012868 |
| 46 | Yes | 5 | 0.00000001 | 0.00046894 |
| 47 | Yes | 5 | 0.00000001 | 0.00039029 |
| 48 | Yes | 5 | 0.00000001 | 0.00012092 |
| 49 | Yes | 5 | 0.00000001 | 0.00043601 |
| 50 | Yes | 5 | 0.00000001 | 0.00042613 |

Maximum Tower Deflections - Service Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|------------------------|-----------------|-----------|------------|
| L1 | 148 - 143 | 22.936 | 50 | 1.380 | 0.005 |
| L2 | 143 - 138 | 21.492 | 50 | 1.379 | 0.005 |
| L3 | 138 - 133 | 20.052 | 47 | 1.373 | 0.005 |
| L4 | 133 - 128 | 18.624 | 47 | 1.354 | 0.005 |
| L5 | 128 - 123 | 17.222 | 47 | 1.324 | 0.004 |
| L6 | 123 - 118 | 15.855 | 47 | 1.287 | 0.004 |
| L7 | 118 - 113 | 14.530 | 47 | 1.243 | 0.003 |
| L8 | 113 - 108 | 13.255 | 47 | 1.191 | 0.003 |
| L9 | 108 - 103 | 12.037 | 47 | 1.134 | 0.002 |
| L10 | 103 - 98 | 10.882 | 47 | 1.072 | 0.002 |
| L11 | 98 - 90.75 | 9.793 | 47 | 1.007 | 0.002 |
| L12 | 94.75 - 89.75 | 9.123 | 47 | 0.963 | 0.002 |
| L13 | 89.75 - 84.75 | 8.132 | 47 | 0.926 | 0.002 |
| L14 | 84.75 - 79.75 | 7.193 | 50 | 0.867 | 0.001 |
| L15 | 79.75 - 74.75 | 6.317 | 50 | 0.807 | 0.001 |
| L16 | 74.75 - 74.5 | 5.504 | 50 | 0.746 | 0.001 |
| L17 | 74.5 - 74.25 | 5.465 | 50 | 0.743 | 0.001 |
| L18 | 74.25 - 69.25 | 5.427 | 50 | 0.740 | 0.001 |
| L19 | 69.25 - 64.25 | 4.683 | 50 | 0.680 | 0.001 |
| L20 | 64.25 - 59.25 | 4.003 | 50 | 0.620 | 0.001 |
| L21 | 59.25 - 54.25 | 3.386 | 50 | 0.560 | 0.001 |
| L22 | 54.25 - 44.75 | 2.830 | 50 | 0.500 | 0.001 |
| L23 | 50 - 43.75 | 2.407 | 50 | 0.451 | 0.001 |
| L24 | 43.75 - 38.75 | 1.840 | 50 | 0.412 | 0.000 |
| L25 | 38.75 - 33.75 | 1.435 | 50 | 0.362 | 0.000 |
| L26 | 33.75 - 28.75 | 1.082 | 50 | 0.312 | 0.000 |
| L27 | 28.75 - 23.75 | 0.781 | 50 | 0.264 | 0.000 |
| L28 | 23.75 - 18.75 | 0.529 | 50 | 0.216 | 0.000 |
| L29 | 18.75 - 13.75 | 0.328 | 50 | 0.169 | 0.000 |
| L30 | 13.75 - 8.75 | 0.175 | 50 | 0.123 | 0.000 |
| L31 | 8.75 - 3.75 | 0.071 | 50 | 0.077 | 0.000 |
| L32 | 3.75 - 0 | 0.013 | 50 | 0.033 | 0.000 |

Critical Deflections and Radius of Curvature - Service Wind

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page 29 of 35 |
| | Project | Date 17:48:20 05/05/22 |
| | Client Crown Castle | Designed by Suhas Poojary |

| Elevation | Appurtenance | Gov. Load Comb. | Deflection | Tilt | Twist | Radius of Curvature |
|-----------|---------------------------------|-----------------|------------|-------|-------|---------------------|
| ft | | | in | ° | ° | ft |
| 146.000 | AIR -32 B2A/B66AA w/ Mount Pipe | 50 | 22.358 | 1.380 | 0.005 | 81808 |
| 140.000 | VHLP2-11 | 47 | 20.627 | 1.376 | 0.005 | 35256 |
| 138.000 | DT465B-2XR w/ Mount Pipe | 47 | 20.052 | 1.373 | 0.005 | 23255 |
| 136.000 | (3) ACU-A20-N | 47 | 19.478 | 1.366 | 0.005 | 16718 |
| 134.000 | VHLP2-11 | 47 | 18.908 | 1.358 | 0.005 | 12981 |
| 120.000 | BXA-80063/4CF w/ Mount Pipe | 47 | 15.054 | 1.261 | 0.003 | 6383 |
| 90.000 | KS24019-L112A | 47 | 8.180 | 0.928 | 0.002 | 5746 |

Maximum Tower Deflections - Design Wind

| Section No. | Elevation | Horz. Deflection | Gov. Load Comb. | Tilt | Twist |
|-------------|---------------|------------------|-----------------|-------|-------|
| | ft | in | | ° | ° |
| L1 | 148 - 143 | 98.418 | 18 | 5.933 | 0.022 |
| L2 | 143 - 138 | 92.226 | 18 | 5.928 | 0.022 |
| L3 | 138 - 133 | 86.049 | 18 | 5.901 | 0.021 |
| L4 | 133 - 128 | 79.926 | 18 | 5.820 | 0.020 |
| L5 | 128 - 123 | 73.911 | 18 | 5.695 | 0.017 |
| L6 | 123 - 118 | 68.046 | 18 | 5.534 | 0.016 |
| L7 | 118 - 113 | 62.362 | 18 | 5.344 | 0.014 |
| L8 | 113 - 108 | 56.892 | 18 | 5.124 | 0.012 |
| L9 | 108 - 103 | 51.666 | 18 | 4.877 | 0.010 |
| L10 | 103 - 98 | 46.707 | 18 | 4.610 | 0.009 |
| L11 | 98 - 90.75 | 42.034 | 18 | 4.329 | 0.008 |
| L12 | 94.75 - 89.75 | 39.156 | 18 | 4.140 | 0.007 |
| L13 | 89.75 - 84.75 | 34.900 | 18 | 3.980 | 0.007 |
| L14 | 84.75 - 79.75 | 30.871 | 18 | 3.725 | 0.006 |
| L15 | 79.75 - 74.75 | 27.110 | 18 | 3.466 | 0.005 |
| L16 | 74.75 - 74.5 | 23.620 | 18 | 3.206 | 0.005 |
| L17 | 74.5 - 74.25 | 23.452 | 18 | 3.193 | 0.005 |
| L18 | 74.25 - 69.25 | 23.285 | 18 | 3.180 | 0.005 |
| L19 | 69.25 - 64.25 | 20.094 | 18 | 2.920 | 0.004 |
| L20 | 64.25 - 59.25 | 17.173 | 18 | 2.661 | 0.003 |
| L21 | 59.25 - 54.25 | 14.523 | 18 | 2.404 | 0.003 |
| L22 | 54.25 - 44.75 | 12.140 | 18 | 2.149 | 0.003 |
| L23 | 50 - 43.75 | 10.324 | 18 | 1.934 | 0.002 |
| L24 | 43.75 - 38.75 | 7.891 | 18 | 1.768 | 0.002 |
| L25 | 38.75 - 33.75 | 6.153 | 18 | 1.552 | 0.002 |
| L26 | 33.75 - 28.75 | 4.639 | 18 | 1.340 | 0.001 |
| L27 | 28.75 - 23.75 | 3.346 | 18 | 1.131 | 0.001 |
| L28 | 23.75 - 18.75 | 2.269 | 18 | 0.926 | 0.001 |
| L29 | 18.75 - 13.75 | 1.406 | 18 | 0.724 | 0.001 |
| L30 | 13.75 - 8.75 | 0.751 | 18 | 0.526 | 0.000 |
| L31 | 8.75 - 3.75 | 0.302 | 18 | 0.332 | 0.000 |
| L32 | 3.75 - 0 | 0.055 | 18 | 0.141 | 0.000 |

Critical Deflections and Radius of Curvature - Design Wind

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|-------------|--------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 30 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | | Designed by |

| Elevation | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------|---------------------------------|-----------------|---------------|--------|---------|------------------------|
| 146.000 | AIR -32 B2A/B66AA w/ Mount Pipe | 18 | 95.941 | 5.932 | 0.022 | 19476 |
| 140.000 | VHLP2-11 | 18 | 88.516 | 5.917 | 0.022 | 8455 |
| 138.000 | DT465B-2XR w/ Mount Pipe | 18 | 86.049 | 5.901 | 0.021 | 5587 |
| 136.000 | (3) ACU-A20-N | 18 | 83.591 | 5.875 | 0.021 | 4016 |
| 134.000 | VHLP2-11 | 18 | 81.144 | 5.841 | 0.020 | 3117 |
| 120.000 | BXA-80063/4CF w/ Mount Pipe | 18 | 64.612 | 5.424 | 0.014 | 1513 |
| 90.000 | KS24019-L112A | 18 | 35.108 | 3.989 | 0.007 | 1348 |

Compression Checks

Pole Design Data

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|--------------------|-----------------------|-------|-------------------|------|-------------------|------------------|-------------------|------------------------------|
| L1 | 148 - 143 (1) | TP24x24x0.25 | 5.000 | 0.000 | 0.0 | 18.653 | -4.716 | 753.823 | 0.006 |
| L2 | 143 - 138 (2) | TP24x24x0.25 | 5.000 | 0.000 | 0.0 | 18.653 | -5.131 | 753.823 | 0.007 |
| L3 | 138 - 133 (3) | TP23.05x22x0.25 | 5.000 | 0.000 | 0.0 | 18.092 | -9.677 | 976.964 | 0.010 |
| L4 | 133 - 128 (4) | TP24.1x23.05x0.25 | 5.000 | 0.000 | 0.0 | 18.925 | -10.162 | 1021.960 | 0.010 |
| L5 | 128 - 123 (5) | TP25.15x24.1x0.25 | 5.000 | 0.000 | 0.0 | 19.758 | -10.678 | 1066.960 | 0.010 |
| L6 | 123 - 118 (6) | TP26.201x25.15x0.25 | 5.000 | 0.000 | 0.0 | 20.592 | -15.487 | 1111.960 | 0.014 |
| L7 | 118 - 113 (7) | TP27.251x26.201x0.25 | 5.000 | 0.000 | 0.0 | 21.425 | -16.133 | 1156.960 | 0.014 |
| L8 | 113 - 108 (8) | TP28.301x27.251x0.25 | 5.000 | 0.000 | 0.0 | 22.258 | -16.804 | 1201.960 | 0.014 |
| L9 | 108 - 103 (9) | TP29.351x28.301x0.25 | 5.000 | 0.000 | 0.0 | 23.092 | -17.501 | 1246.950 | 0.014 |
| L10 | 103 - 98 (10) | TP30.401x29.351x0.25 | 5.000 | 0.000 | 0.0 | 23.925 | -18.221 | 1291.950 | 0.014 |
| L11 | 98 - 90.75 (11) | TP31.924x30.401x0.25 | 7.250 | 0.000 | 0.0 | 24.467 | -18.700 | 1321.200 | 0.014 |
| L12 | 90.75 - 89.75 (12) | TP31.634x30.584x0.313 | 5.000 | 0.000 | 0.0 | 31.067 | -20.020 | 1677.620 | 0.012 |
| L13 | 89.75 - 84.75 (13) | TP32.684x31.634x0.313 | 5.000 | 0.000 | 0.0 | 32.109 | -20.906 | 1733.870 | 0.012 |
| L14 | 84.75 - 79.75 (14) | TP33.735x32.684x0.313 | 5.000 | 0.000 | 0.0 | 33.151 | -21.817 | 1790.120 | 0.012 |
| L15 | 79.75 - 74.75 (15) | TP34.785x33.735x0.313 | 5.000 | 0.000 | 0.0 | 34.192 | -22.752 | 1846.380 | 0.012 |
| L16 | 74.75 - 74.5 (16) | TP34.837x34.785x0.313 | 0.250 | 0.000 | 0.0 | 34.244 | -22.806 | 1849.190 | 0.012 |
| L17 | 74.5 - 74.25 (17) | TP34.89x34.837x0.313 | 0.250 | 0.000 | 0.0 | 34.296 | -22.853 | 1852.000 | 0.012 |
| L18 | 74.25 - 69.25 (18) | TP35.94x34.89x0.313 | 5.000 | 0.000 | 0.0 | 35.338 | -23.810 | 1908.250 | 0.012 |
| L19 | 69.25 - 64.25 (19) | TP36.99x35.94x0.313 | 5.000 | 0.000 | 0.0 | 36.380 | -24.796 | 1964.500 | 0.013 |
| L20 | 64.25 - 59.25 (20) | TP38.04x36.99x0.313 | 5.000 | 0.000 | 0.0 | 37.421 | -25.806 | 2020.750 | 0.013 |
| L21 | 59.25 - 54.25 (21) | TP39.091x38.04x0.313 | 5.000 | 0.000 | 0.0 | 38.463 | -26.840 | 2077.000 | 0.013 |
| L22 | 54.25 - 44.75 (22) | TP41.086x39.091x0.313 | 9.500 | 0.000 | 0.0 | 39.348 | -27.736 | 2124.820 | 0.013 |
| L23 | 44.75 - 43.75 (23) | TP40.671x39.358x0.375 | 6.250 | 0.000 | 0.0 | 47.962 | -30.077 | 2589.960 | 0.012 |
| L24 | 43.75 - 38.75 (24) | TP41.721x40.671x0.375 | 5.000 | 0.000 | 0.0 | 49.212 | -31.323 | 2657.460 | 0.012 |
| L25 | 38.75 - 33.75 | TP42.771x41.721x0.375 | 5.000 | 0.000 | 0.0 | 50.462 | -32.597 | 2724.960 | 0.012 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|-------------|--------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 31 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | | Designed by |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|--------------------------|-----------------------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| L26 | (25) 33.75 - 28.75 | TP43.822x42.771x0.375 | 5.000 | 0.000 | 0.0 | 51.712 | -33.897 | 2792.460 | 0.012 |
| L27 | (26) 28.75 - 23.75 | TP44.872x43.822x0.375 | 5.000 | 0.000 | 0.0 | 52.962 | -35.224 | 2859.960 | 0.012 |
| L28 | (27) 23.75 - 18.75 | TP45.922x44.872x0.375 | 5.000 | 0.000 | 0.0 | 54.212 | -36.577 | 2927.460 | 0.012 |
| L29 | (28) 18.75 - 13.75 | TP46.972x45.922x0.375 | 5.000 | 0.000 | 0.0 | 55.462 | -37.956 | 2994.950 | 0.013 |
| L30 | (29) 13.75 - 8.75 | TP48.022x46.972x0.375 | 5.000 | 0.000 | 0.0 | 56.712 | -39.362 | 3062.450 | 0.013 |
| L31 | (30) 8.75 - 3.75 (31) | TP49.072x48.022x0.375 | 5.000 | 0.000 | 0.0 | 57.962 | -40.794 | 3129.950 | 0.013 |
| L32 | 3.75 - 0 (32) | TP49.86x49.072x0.375 | 3.750 | 0.000 | 0.0 | 58.900 | -41.883 | 3180.570 | 0.013 |

Pole Bending Design Data

| Section No. | Elevation ft | Size | M _{ux} kip-ft | φM _{ux} kip-ft | Ratio $\frac{M_{ux}}{\phi M_{ux}}$ | M _{uy} kip-ft | φM _{uy} kip-ft | Ratio $\frac{M_{uy}}{\phi M_{uy}}$ |
|-------------|--------------------|-----------------------|---------------------------|----------------------------|---------------------------------------|---------------------------|----------------------------|---------------------------------------|
| L1 | 148 - 143 (1) | TP24x24x0.25 | 13.516 | 462.451 | 0.029 | 0.000 | 462.451 | 0.000 |
| L2 | 143 - 138 (2) | TP24x24x0.25 | 37.353 | 462.451 | 0.081 | 0.000 | 462.451 | 0.000 |
| L3 | 138 - 133 (3) | TP23.05x22x0.25 | 87.355 | 579.932 | 0.151 | 0.000 | 579.932 | 0.000 |
| L4 | 133 - 128 (4) | TP24.1x23.05x0.25 | 138.544 | 634.888 | 0.218 | 0.000 | 634.888 | 0.000 |
| L5 | 128 - 123 (5) | TP25.15x24.1x0.25 | 191.316 | 690.960 | 0.277 | 0.000 | 690.960 | 0.000 |
| L6 | 123 - 118 (6) | TP26.201x25.15x0.25 | 252.745 | 743.160 | 0.340 | 0.000 | 743.160 | 0.000 |
| L7 | 118 - 113 (7) | TP27.251x26.201x0.25 | 326.063 | 796.578 | 0.409 | 0.000 | 796.578 | 0.000 |
| L8 | 113 - 108 (8) | TP28.301x27.251x0.25 | 400.891 | 851.142 | 0.471 | 0.000 | 851.142 | 0.000 |
| L9 | 108 - 103 (9) | TP29.351x28.301x0.25 | 477.214 | 906.775 | 0.526 | 0.000 | 906.775 | 0.000 |
| L10 | 103 - 98 (10) | TP30.401x29.351x0.25 | 555.022 | 963.392 | 0.576 | 0.000 | 963.392 | 0.000 |
| L11 | 98 - 90.75 (11) | TP31.924x30.401x0.25 | 606.385 | 1000.700 | 0.606 | 0.000 | 1000.700 | 0.000 |
| L12 | 90.75 - 89.75 (12) | TP31.634x30.584x0.313 | 686.743 | 1364.600 | 0.503 | 0.000 | 1364.600 | 0.000 |
| L13 | 89.75 - 84.75 (13) | TP32.684x31.634x0.313 | 769.188 | 1446.258 | 0.532 | 0.000 | 1446.258 | 0.000 |
| L14 | 84.75 - 79.75 (14) | TP33.735x32.684x0.313 | 853.167 | 1529.458 | 0.558 | 0.000 | 1529.458 | 0.000 |
| L15 | 79.75 - 74.75 (15) | TP34.785x33.735x0.313 | 938.658 | 1614.100 | 0.582 | 0.000 | 1614.100 | 0.000 |
| L16 | 74.75 - 74.5 (16) | TP34.837x34.785x0.313 | 942.975 | 1618.367 | 0.583 | 0.000 | 1618.367 | 0.000 |
| L17 | 74.5 - 74.25 (17) | TP34.89x34.837x0.313 | 947.292 | 1622.642 | 0.584 | 0.000 | 1622.642 | 0.000 |
| L18 | 74.25 - 69.25 (18) | TP35.94x34.89x0.313 | 1034.442 | 1708.800 | 0.605 | 0.000 | 1708.800 | 0.000 |
| L19 | 69.25 - 64.25 (19) | TP36.99x35.94x0.313 | 1123.083 | 1796.258 | 0.625 | 0.000 | 1796.258 | 0.000 |
| L20 | 64.25 - 59.25 (20) | TP38.04x36.99x0.313 | 1213.183 | 1884.925 | 0.644 | 0.000 | 1884.925 | 0.000 |
| L21 | 59.25 - 54.25 (21) | TP39.091x38.04x0.313 | 1304.717 | 1974.742 | 0.661 | 0.000 | 1974.742 | 0.000 |
| L22 | 54.25 - 44.75 (22) | TP41.086x39.091x0.313 | 1383.625 | 2051.933 | 0.674 | 0.000 | 2051.933 | 0.000 |
| L23 | 44.75 - 43.75 (23) | TP40.671x39.358x0.375 | 1501.842 | 2664.742 | 0.564 | 0.000 | 2664.742 | 0.000 |
| L24 | 43.75 - 38.75 (24) | TP41.721x40.671x0.375 | 1598.183 | 2786.767 | 0.573 | 0.000 | 2786.767 | 0.000 |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------|
| <p>tnxTower</p> <p>B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265</p> | <p>Job</p> <p>82071.011.01 - HILLSIDE, CT (BU# 876323)</p> | <p>Page</p> <p>32 of 35</p> |
| | <p>Project</p> | <p>Date</p> <p>17:48:20 05/05/22</p> |
| | <p>Client</p> <p>Crown Castle</p> | <p>Designed by</p> <p>Suhas Poojary</p> |

| Section No. | Elevation ft | Size | M_{ux} kip-ft | ϕM_{ux} kip-ft | Ratio $\frac{M_{ux}}{\phi M_{ux}}$ | M_{uy} kip-ft | ϕM_{uy} kip-ft | Ratio $\frac{M_{uy}}{\phi M_{uy}}$ |
|-------------|--------------------|-----------------------|--------------------|-------------------------|---------------------------------------|--------------------|-------------------------|---------------------------------------|
| L25 | 38.75 - 33.75 (25) | TP42.771x41.721x0.375 | 1695.858 | 2910.450 | 0.583 | 0.000 | 2910.450 | 0.000 |
| L26 | 33.75 - 28.75 (26) | TP43.822x42.771x0.375 | 1794.817 | 3035.708 | 0.591 | 0.000 | 3035.708 | 0.000 |
| L27 | 28.75 - 23.75 (27) | TP44.872x43.822x0.375 | 1895.017 | 3162.467 | 0.599 | 0.000 | 3162.467 | 0.000 |
| L28 | 23.75 - 18.75 (28) | TP45.922x44.872x0.375 | 1996.458 | 3290.658 | 0.607 | 0.000 | 3290.658 | 0.000 |
| L29 | 18.75 - 13.75 (29) | TP46.972x45.922x0.375 | 2099.150 | 3420.200 | 0.614 | 0.000 | 3420.200 | 0.000 |
| L30 | 13.75 - 8.75 (30) | TP48.022x46.972x0.375 | 2203.100 | 3551.025 | 0.620 | 0.000 | 3551.025 | 0.000 |
| L31 | 8.75 - 3.75 (31) | TP49.072x48.022x0.375 | 2308.317 | 3683.050 | 0.627 | 0.000 | 3683.050 | 0.000 |
| L32 | 3.75 - 0 (32) | TP49.86x49.072x0.375 | 2388.058 | 3782.808 | 0.631 | 0.000 | 3782.808 | 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 | 148 - 143 (1) | TP24x24x0.25 | 4.545 | 201.861 | 0.023 | 0.000 | 324.229 | 0.000 |
| L2 | 143 - 138 (2) | TP24x24x0.25 | 4.949 | 201.861 | 0.025 | 0.305 | 324.229 | 0.001 |
| L3 | 138 - 133 (3) | TP23.05x22x0.25 | 10.050 | 293.089 | 0.034 | 1.460 | 585.218 | 0.002 |
| L4 | 133 - 128 (4) | TP24.1x23.05x0.25 | 10.398 | 306.589 | 0.034 | 1.494 | 640.369 | 0.002 |
| L5 | 128 - 123 (5) | TP25.15x24.1x0.25 | 10.710 | 320.088 | 0.033 | 1.494 | 698.003 | 0.002 |
| L6 | 123 - 118 (6) | TP26.201x25.15x0.25 | 14.514 | 333.588 | 0.044 | 1.808 | 758.120 | 0.002 |
| L7 | 118 - 113 (7) | TP27.251x26.201x0.25 | 14.818 | 347.087 | 0.043 | 1.807 | 820.720 | 0.002 |
| L8 | 113 - 108 (8) | TP28.301x27.251x0.25 | 15.119 | 360.587 | 0.042 | 1.806 | 885.800 | 0.002 |
| L9 | 108 - 103 (9) | TP29.351x28.301x0.25 | 15.418 | 374.086 | 0.041 | 1.805 | 953.367 | 0.002 |
| L10 | 103 - 98 (10) | TP30.401x29.351x0.25 | 15.714 | 387.586 | 0.041 | 1.804 | 1023.417 | 0.002 |
| L11 | 98 - 90.75 (11) | TP31.924x30.401x0.25 | 15.905 | 396.360 | 0.040 | 1.803 | 1070.283 | 0.002 |
| L12 | 90.75 - 89.75 (12) | TP31.634x30.584x0.313 | 16.340 | 503.287 | 0.032 | 1.803 | 1380.508 | 0.001 |
| L13 | 89.75 - 84.75 (13) | TP32.684x31.634x0.313 | 16.648 | 520.162 | 0.032 | 1.644 | 1474.642 | 0.001 |
| L14 | 84.75 - 79.75 (14) | TP33.735x32.684x0.313 | 16.953 | 537.037 | 0.032 | 1.643 | 1571.875 | 0.001 |
| L15 | 79.75 - 74.75 (15) | TP34.785x33.735x0.313 | 17.256 | 553.913 | 0.031 | 1.642 | 1672.208 | 0.001 |
| L16 | 74.75 - 74.5 (16) | TP34.837x34.785x0.313 | 17.266 | 554.756 | 0.031 | 1.642 | 1677.308 | 0.001 |
| L17 | 74.5 - 74.25 (17) | TP34.89x34.837x0.313 | 17.281 | 555.600 | 0.031 | 1.642 | 1682.417 | 0.001 |
| L18 | 74.25 - 69.25 (18) | TP35.94x34.89x0.313 | 17.586 | 572.475 | 0.031 | 1.641 | 1786.167 | 0.001 |
| L19 | 69.25 - 64.25 (19) | TP36.99x35.94x0.313 | 17.881 | 589.351 | 0.030 | 1.641 | 1893.025 | 0.001 |
| L20 | 64.25 - 59.25 (20) | TP38.04x36.99x0.313 | 18.172 | 606.226 | 0.030 | 1.640 | 2002.983 | 0.001 |
| L21 | 59.25 - 54.25 (21) | TP39.091x38.04x0.313 | 18.457 | 623.101 | 0.030 | 1.639 | 2116.042 | 0.001 |
| L22 | 54.25 - 44.75 (22) | TP41.086x39.091x0.313 | 18.690 | 637.445 | 0.029 | 1.639 | 2214.592 | 0.001 |
| L23 | 44.75 - 43.75 (23) | TP40.671x39.358x0.375 | 19.136 | 776.989 | 0.025 | 1.639 | 2741.933 | 0.001 |
| L24 | 43.75 - 38.75 | TP41.721x40.671x0.375 | 19.410 | 797.239 | 0.024 | 1.638 | 2886.717 | 0.001 |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page 33 of 35 |
| | Project | Date 17:48:20 05/05/22 |
| | Client Crown Castle | Designed by Suhas Poojary |

| 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 $\frac{T_u}{\phi T_n}$ |
|-------------|-----------------------|-----------------------|----------------------|-----------------|---------------------------------|---------------------------|----------------------|---------------------------------|
| L25 | 38.75 - 33.75 (24) | TP42.771x41.721x0.375 | 19.673 | 817.488 | 0.024 | 1.638 | 3035.217 | 0.001 |
| L26 | 33.75 - 28.75 (25) | TP43.822x42.771x0.375 | 19.923 | 837.738 | 0.024 | 1.638 | 3187.450 | 0.001 |
| L27 | 28.75 - 23.75 (26) | TP44.872x43.822x0.375 | 20.170 | 857.987 | 0.024 | 1.637 | 3343.400 | 0.000 |
| L28 | 23.75 - 18.75 (27) | TP45.922x44.872x0.375 | 20.419 | 878.237 | 0.023 | 1.637 | 3503.083 | 0.000 |
| L29 | 18.75 - 13.75 (28) | TP46.972x45.922x0.375 | 20.670 | 898.486 | 0.023 | 1.637 | 3666.483 | 0.000 |
| L30 | 13.75 - 8.75 (29) | TP48.022x46.972x0.375 | 20.922 | 918.736 | 0.023 | 1.637 | 3833.608 | 0.000 |
| L31 | 8.75 - 3.75 (31) | TP49.072x48.022x0.375 | 21.176 | 938.985 | 0.023 | 1.637 | 4004.467 | 0.000 |
| L32 | 3.75 - 0 (32) | TP49.86x49.072x0.375 | 21.371 | 954.172 | 0.022 | 1.637 | 4135.050 | 0.000 |

Pole Interaction Design Data

| Section No. | Elevation ft | Ratio P_u ϕP_n | Ratio M_{ux} ϕM_{nx} | Ratio M_{uy} ϕM_{ny} | Ratio V_u ϕV_n | Ratio T_u ϕT_n | Comb. Stress Ratio | Allow. Stress Ratio | Criteria |
|-------------|-----------------------|------------------------------|------------------------------------|------------------------------------|------------------------------|------------------------------|--------------------------|---------------------------|----------|
| L1 | 148 - 143 (1) | 0.006 | 0.029 | 0.000 | 0.023 | 0.000 | 0.036 | 1.050 | 4.8.2 ✓ |
| L2 | 143 - 138 (2) | 0.007 | 0.081 | 0.000 | 0.025 | 0.001 | 0.088 | 1.050 | 4.8.2 ✓ |
| L3 | 138 - 133 (3) | 0.010 | 0.151 | 0.000 | 0.034 | 0.002 | 0.162 | 1.050 | 4.8.2 ✓ |
| L4 | 133 - 128 (4) | 0.010 | 0.218 | 0.000 | 0.034 | 0.002 | 0.229 | 1.050 | 4.8.2 ✓ |
| L5 | 128 - 123 (5) | 0.010 | 0.277 | 0.000 | 0.033 | 0.002 | 0.288 | 1.050 | 4.8.2 ✓ |
| L6 | 123 - 118 (6) | 0.014 | 0.340 | 0.000 | 0.044 | 0.002 | 0.356 | 1.050 | 4.8.2 ✓ |
| L7 | 118 - 113 (7) | 0.014 | 0.409 | 0.000 | 0.043 | 0.002 | 0.425 | 1.050 | 4.8.2 ✓ |
| L8 | 113 - 108 (8) | 0.014 | 0.471 | 0.000 | 0.042 | 0.002 | 0.487 | 1.050 | 4.8.2 ✓ |
| L9 | 108 - 103 (9) | 0.014 | 0.526 | 0.000 | 0.041 | 0.002 | 0.542 | 1.050 | 4.8.2 ✓ |
| L10 | 103 - 98 (10) | 0.014 | 0.576 | 0.000 | 0.041 | 0.002 | 0.592 | 1.050 | 4.8.2 ✓ |
| L11 | 98 - 90.75 (11) | 0.014 | 0.606 | 0.000 | 0.040 | 0.002 | 0.622 | 1.050 | 4.8.2 ✓ |
| L12 | 90.75 - 89.75 (12) | 0.012 | 0.503 | 0.000 | 0.032 | 0.001 | 0.516 | 1.050 | 4.8.2 ✓ |
| L13 | 89.75 - 84.75 (13) | 0.012 | 0.532 | 0.000 | 0.032 | 0.001 | 0.545 | 1.050 | 4.8.2 ✓ |
| L14 | 84.75 - 79.75 (14) | 0.012 | 0.558 | 0.000 | 0.032 | 0.001 | 0.571 | 1.050 | 4.8.2 ✓ |
| L15 | 79.75 - 74.75 (15) | 0.012 | 0.582 | 0.000 | 0.031 | 0.001 | 0.595 | 1.050 | 4.8.2 ✓ |

| | | |
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| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page 34 of 35 |
| | Project | Date 17:48:20 05/05/22 |
| | Client Crown Castle | Designed by Suhas Poojary |

| 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 | | | |
| L16 | 74.75 - 74.5 (16) | 0.012 | 0.583 | 0.000 | 0.031 | 0.001 | 0.596 | 1.050 | 4.8.2 ✓ |
| L17 | 74.5 - 74.25 (17) | 0.012 | 0.584 | 0.000 | 0.031 | 0.001 | 0.597 | 1.050 | 4.8.2 ✓ |
| L18 | 74.25 - 69.25 (18) | 0.012 | 0.605 | 0.000 | 0.031 | 0.001 | 0.619 | 1.050 | 4.8.2 ✓ |
| L19 | 69.25 - 64.25 (19) | 0.013 | 0.625 | 0.000 | 0.030 | 0.001 | 0.639 | 1.050 | 4.8.2 ✓ |
| L20 | 64.25 - 59.25 (20) | 0.013 | 0.644 | 0.000 | 0.030 | 0.001 | 0.657 | 1.050 | 4.8.2 ✓ |
| L21 | 59.25 - 54.25 (21) | 0.013 | 0.661 | 0.000 | 0.030 | 0.001 | 0.675 | 1.050 | 4.8.2 ✓ |
| L22 | 54.25 - 44.75 (22) | 0.013 | 0.674 | 0.000 | 0.029 | 0.001 | 0.688 | 1.050 | 4.8.2 ✓ |
| L23 | 44.75 - 43.75 (23) | 0.012 | 0.564 | 0.000 | 0.025 | 0.001 | 0.576 | 1.050 | 4.8.2 ✓ |
| L24 | 43.75 - 38.75 (24) | 0.012 | 0.573 | 0.000 | 0.024 | 0.001 | 0.586 | 1.050 | 4.8.2 ✓ |
| L25 | 38.75 - 33.75 (25) | 0.012 | 0.583 | 0.000 | 0.024 | 0.001 | 0.595 | 1.050 | 4.8.2 ✓ |
| L26 | 33.75 - 28.75 (26) | 0.012 | 0.591 | 0.000 | 0.024 | 0.001 | 0.604 | 1.050 | 4.8.2 ✓ |
| L27 | 28.75 - 23.75 (27) | 0.012 | 0.599 | 0.000 | 0.024 | 0.000 | 0.612 | 1.050 | 4.8.2 ✓ |
| L28 | 23.75 - 18.75 (28) | 0.012 | 0.607 | 0.000 | 0.023 | 0.000 | 0.620 | 1.050 | 4.8.2 ✓ |
| L29 | 18.75 - 13.75 (29) | 0.013 | 0.614 | 0.000 | 0.023 | 0.000 | 0.627 | 1.050 | 4.8.2 ✓ |
| L30 | 13.75 - 8.75 (30) | 0.013 | 0.620 | 0.000 | 0.023 | 0.000 | 0.634 | 1.050 | 4.8.2 ✓ |
| L31 | 8.75 - 3.75 (31) | 0.013 | 0.627 | 0.000 | 0.023 | 0.000 | 0.640 | 1.050 | 4.8.2 ✓ |
| L32 | 3.75 - 0 (32) | 0.013 | 0.631 | 0.000 | 0.022 | 0.000 | 0.645 | 1.050 | 4.8.2 ✓ |

Section Capacity Table

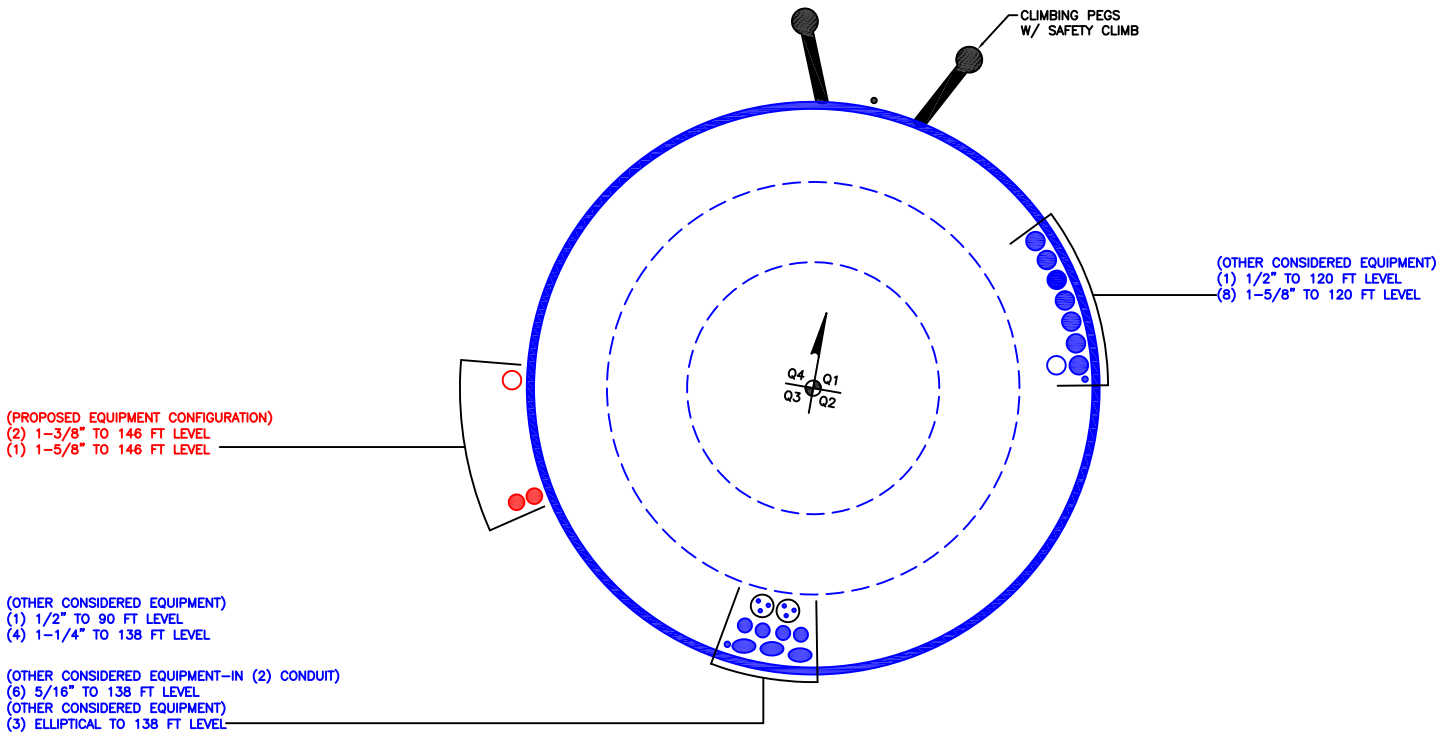
| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | ϕP_{allow} K | % Capacity | Pass Fail |
|-------------|-----------------|-------------------|----------------------|---------------------|---------|-----------------------|---------------|--------------|
| L1 | 148 - 143 | Pole | TP24x24x0.25 | 1 | -4.716 | 791.514 | ** | ** |
| L2 | 143 - 138 | Pole | TP24x24x0.25 | 2 | -5.131 | 791.514 | ** | ** |
| L3 | 138 - 133 | Pole | TP23.05x22x0.25 | 3 | -9.677 | 1025.812 | ** | ** |
| L4 | 133 - 128 | Pole | TP24.1x23.05x0.25 | 4 | -10.162 | 1073.058 | ** | ** |
| L5 | 128 - 123 | Pole | TP25.15x24.1x0.25 | 5 | -10.678 | 1120.308 | ** | ** |
| L6 | 123 - 118 | Pole | TP26.201x25.15x0.25 | 6 | -15.487 | 1167.558 | ** | ** |
| L7 | 118 - 113 | Pole | TP27.251x26.201x0.25 | 7 | -16.133 | 1214.808 | ** | ** |
| L8 | 113 - 108 | Pole | TP28.301x27.251x0.25 | 8 | -16.804 | 1262.058 | ** | ** |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------|-------------|--------------------|
| tnxTower B+T Group 1717 S, Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265 | Job | 82071.011.01 - HILLSIDE, CT (BU# 876323) | Page | 35 of 35 |
| | Project | | Date | 17:48:20 05/05/22 |
| | Client | Crown Castle | | Designed by |

| Section No. | Elevation ft | Component Type | Size | Critical Element | P K | ϕP_{allow} K | % Capacity | Pass Fail |
|-------------|---------------|----------------|-----------------------|------------------|---------|--------------------|------------|-----------|
| L9 | 108 - 103 | Pole | TP29.351x28.301x0.25 | 9 | -17.501 | 1309.297 | ** | ** |
| L10 | 103 - 98 | Pole | TP30.401x29.351x0.25 | 10 | -18.221 | 1356.547 | ** | ** |
| L11 | 98 - 90.75 | Pole | TP31.924x30.401x0.25 | 11 | -18.700 | 1387.260 | ** | ** |
| L12 | 90.75 - 89.75 | Pole | TP31.634x30.584x0.313 | 12 | -20.020 | 1761.501 | ** | ** |
| L13 | 89.75 - 84.75 | Pole | TP32.684x31.634x0.313 | 13 | -20.906 | 1820.563 | ** | ** |
| L14 | 84.75 - 79.75 | Pole | TP33.735x32.684x0.313 | 14 | -21.817 | 1879.626 | ** | ** |
| L15 | 79.75 - 74.75 | Pole | TP34.785x33.735x0.313 | 15 | -22.752 | 1938.699 | ** | ** |
| L16 | 74.75 - 74.5 | Pole | TP34.837x34.785x0.313 | 16 | -22.806 | 1941.649 | ** | ** |
| L17 | 74.5 - 74.25 | Pole | TP34.89x34.837x0.313 | 17 | -22.853 | 1944.600 | ** | ** |
| L18 | 74.25 - 69.25 | Pole | TP35.94x34.89x0.313 | 18 | -23.810 | 2003.662 | ** | ** |
| L19 | 69.25 - 64.25 | Pole | TP36.99x35.94x0.313 | 19 | -24.796 | 2062.725 | ** | ** |
| L20 | 64.25 - 59.25 | Pole | TP38.04x36.99x0.313 | 20 | -25.806 | 2121.787 | ** | ** |
| L21 | 59.25 - 54.25 | Pole | TP39.091x38.04x0.313 | 21 | -26.840 | 2180.850 | ** | ** |
| L22 | 54.25 - 44.75 | Pole | TP41.086x39.091x0.313 | 22 | -27.736 | 2231.061 | ** | ** |
| L23 | 44.75 - 43.75 | Pole | TP40.671x39.358x0.375 | 23 | -30.077 | 2719.458 | ** | ** |
| L24 | 43.75 - 38.75 | Pole | TP41.721x40.671x0.375 | 24 | -31.323 | 2790.333 | ** | ** |
| L25 | 38.75 - 33.75 | Pole | TP42.771x41.721x0.375 | 25 | -32.597 | 2861.208 | ** | ** |
| L26 | 33.75 - 28.75 | Pole | TP43.822x42.771x0.375 | 26 | -33.897 | 2932.083 | ** | ** |
| L27 | 28.75 - 23.75 | Pole | TP44.872x43.822x0.375 | 27 | -35.224 | 3002.958 | ** | ** |
| L28 | 23.75 - 18.75 | Pole | TP45.922x44.872x0.375 | 28 | -36.577 | 3073.833 | ** | ** |
| L29 | 18.75 - 13.75 | Pole | TP46.972x45.922x0.375 | 29 | -37.956 | 3144.697 | ** | ** |
| L30 | 13.75 - 8.75 | Pole | TP48.022x46.972x0.375 | 30 | -39.362 | 3215.572 | ** | ** |
| L31 | 8.75 - 3.75 | Pole | TP49.072x48.022x0.375 | 31 | -40.794 | 3286.447 | ** | ** |
| L32 | 3.75 - 0 | Pole | TP49.86x49.072x0.375 | 32 | -41.883 | 3339.598 | ** | ** |
| | | | | | | Summary | | |
| | | | | | | Pole (L22) | ** | ** |
| | | | | | | RATING = | ** | ** |

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

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT: 876323

APPENDIX C
ADDITIONAL CALCULATIONS

TNX Geometry Input

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

| | Section Height (ft) | Section Length (ft) | Lap Splice Length (ft) | Number of Sides | Top Diameter (in) | Bottom Diameter (in) | Wall Thickness (in) | Tapered Pole Grade | Weight Multiplier |
|----|---------------------|---------------------|------------------------|-----------------|-------------------|----------------------|---------------------|--------------------|-------------------|
| 1 | 148 - 143 | 5 | | 0 | 24.000 | 24.000 | 0.25 | A500-50 | 1.000 |
| 2 | 143 - 138 | 5 | 0 | 0 | 24.000 | 24.000 | 0.25 | A500-50 | 1.000 |
| 3 | 138 - 133 | 5 | | 18 | 22.000 | 23.050 | 0.25 | A607-60 | 1.000 |
| 4 | 133 - 128 | 5 | | 18 | 23.050 | 24.100 | 0.25 | A607-60 | 1.000 |
| 5 | 128 - 123 | 5 | | 18 | 24.100 | 25.150 | 0.25 | A607-60 | 1.000 |
| 6 | 123 - 118 | 5 | | 18 | 25.150 | 26.201 | 0.25 | A607-60 | 1.000 |
| 7 | 118 - 113 | 5 | | 18 | 26.201 | 27.251 | 0.25 | A607-60 | 1.000 |
| 8 | 113 - 108 | 5 | | 18 | 27.251 | 28.301 | 0.25 | A607-60 | 1.000 |
| 9 | 108 - 103 | 5 | | 18 | 28.301 | 29.351 | 0.25 | A607-60 | 1.000 |
| 10 | 103 - 98 | 5 | | 18 | 29.351 | 30.401 | 0.25 | A607-60 | 1.000 |
| 11 | 98 - 94.75 | 7.25 | 4 | 18 | 30.401 | 31.924 | 0.25 | A607-60 | 1.000 |
| 12 | 94.75 - 89.75 | 5 | | 18 | 30.584 | 31.634 | 0.3125 | A607-60 | 1.000 |
| 13 | 89.75 - 84.75 | 5 | | 18 | 31.634 | 32.684 | 0.3125 | A607-60 | 1.000 |
| 14 | 84.75 - 79.75 | 5 | | 18 | 32.684 | 33.735 | 0.3125 | A607-60 | 1.000 |
| 15 | 79.75 - 74.75 | 5 | | 18 | 33.735 | 34.785 | 0.3125 | A607-60 | 1.000 |
| 16 | 74.75 - 74.5 | 0.25 | | 18 | 34.785 | 34.837 | 0.3125 | A607-60 | 1.000 |
| 17 | 74.5 - 74.25 | 0.25 | | 18 | 34.837 | 34.890 | 0.3125 | A607-60 | 1.000 |
| 18 | 74.25 - 69.25 | 5 | | 18 | 34.890 | 35.940 | 0.3125 | A607-60 | 1.000 |
| 19 | 69.25 - 64.25 | 5 | | 18 | 35.940 | 36.990 | 0.3125 | A607-60 | 1.000 |
| 20 | 64.25 - 59.25 | 5 | | 18 | 36.990 | 38.040 | 0.3125 | A607-60 | 1.000 |
| 21 | 59.25 - 54.25 | 5 | | 18 | 38.040 | 39.091 | 0.3125 | A607-60 | 1.000 |
| 22 | 54.25 - 50 | 9.5 | 5.25 | 18 | 39.091 | 41.086 | 0.3125 | A607-60 | 1.000 |
| 23 | 50 - 43.75 | 6.25 | | 18 | 39.358 | 40.671 | 0.375 | A607-60 | 1.000 |
| 24 | 43.75 - 38.75 | 5 | | 18 | 40.671 | 41.721 | 0.375 | A607-60 | 1.000 |
| 25 | 38.75 - 33.75 | 5 | | 18 | 41.721 | 42.771 | 0.375 | A607-60 | 1.000 |
| 26 | 33.75 - 28.75 | 5 | | 18 | 42.771 | 43.822 | 0.375 | A607-60 | 1.000 |
| 27 | 28.75 - 23.75 | 5 | | 18 | 43.822 | 44.872 | 0.375 | A607-60 | 1.000 |
| 28 | 23.75 - 18.75 | 5 | | 18 | 44.872 | 45.922 | 0.375 | A607-60 | 1.000 |
| 29 | 18.75 - 13.75 | 5 | | 18 | 45.922 | 46.972 | 0.375 | A607-60 | 1.000 |
| 30 | 13.75 - 8.75 | 5 | | 18 | 46.972 | 48.022 | 0.375 | A607-60 | 1.000 |
| 31 | 8.75 - 3.75 | 5 | | 18 | 48.022 | 49.072 | 0.375 | A607-60 | 1.000 |
| 32 | 3.75 - 0 | 3.75 | | 18 | 49.072 | 49.860 | 0.375 | A607-60 | 1.000 |

TNX Section Forces

| Increment (ft): | | TNX Output | | | |
|-----------------|---------------|---------------------|--------------------|--------------------------|--------------------|
| | 5 | Section Height (ft) | P _u (K) | M _{ux} (kip-ft) | V _u (K) |
| 1 | 148 - 143 | 4.72 | 13.52 | 4.55 | |
| 2 | 143 - 138 | 5.13 | 37.36 | 4.94 | |
| 3 | 138 - 133 | 9.69 | 87.38 | 9.95 | |
| 4 | 133 - 128 | 10.16 | 138.54 | 10.40 | |
| 5 | 128 - 123 | 10.68 | 191.32 | 10.71 | |
| 6 | 123 - 118 | 15.49 | 252.74 | 14.51 | |
| 7 | 118 - 113 | 16.13 | 326.06 | 14.82 | |
| 8 | 113 - 108 | 16.80 | 400.89 | 15.12 | |
| 9 | 108 - 103 | 17.50 | 477.21 | 15.42 | |
| 10 | 103 - 98 | 18.22 | 555.02 | 15.71 | |
| 11 | 98 - 94.75 | 18.70 | 606.39 | 15.90 | |
| 12 | 94.75 - 89.75 | 20.02 | 686.74 | 16.34 | |
| 13 | 89.75 - 84.75 | 20.91 | 769.19 | 16.65 | |
| 14 | 84.75 - 79.75 | 21.82 | 853.16 | 16.95 | |
| 15 | 79.75 - 74.75 | 22.75 | 938.66 | 17.26 | |
| 16 | 74.75 - 74.5 | 22.81 | 942.97 | 17.27 | |
| 17 | 74.5 - 74.25 | 22.85 | 947.29 | 17.28 | |
| 18 | 74.25 - 69.25 | 23.81 | 1034.44 | 17.59 | |
| 19 | 69.25 - 64.25 | 24.80 | 1123.08 | 17.88 | |
| 20 | 64.25 - 59.25 | 25.81 | 1213.18 | 18.17 | |
| 21 | 59.25 - 54.25 | 26.84 | 1304.72 | 18.46 | |
| 22 | 54.25 - 50 | 27.74 | 1383.63 | 18.69 | |
| 23 | 50 - 43.75 | 30.08 | 1501.84 | 19.14 | |
| 24 | 43.75 - 38.75 | 31.32 | 1598.18 | 19.41 | |
| 25 | 38.75 - 33.75 | 32.60 | 1695.86 | 19.67 | |
| 26 | 33.75 - 28.75 | 33.90 | 1794.82 | 19.92 | |
| 27 | 28.75 - 23.75 | 35.22 | 1895.02 | 20.17 | |
| 28 | 23.75 - 18.75 | 36.58 | 1996.46 | 20.42 | |
| 29 | 18.75 - 13.75 | 37.96 | 2099.15 | 20.67 | |
| 30 | 13.75 - 8.75 | 39.36 | 2203.10 | 20.92 | |
| 31 | 8.75 - 3.75 | 40.79 | 2308.31 | 21.18 | |
| 32 | 3.75 - 0 | 41.88 | 2388.06 | 21.37 | |

Analysis Results

| Elevation (ft) | Component Type | Size | Critical Element | % Capacity | Pass / Fail |
|----------------|----------------|------------------------|------------------|------------|-------------|
| 148 - 143 | Pole | TP24x24x0.25 | Pole | 3.4% | Pass |
| 143 - 138 | Pole | TP24x24x0.25 | Pole | 8.4% | Pass |
| 138 - 133 | Pole | TP23.05x22x0.25 | Pole | 15.4% | Pass |
| 133 - 128 | Pole | TP24.1x23.05x0.25 | Pole | 21.8% | Pass |
| 128 - 123 | Pole | TP25.15x24.1x0.25 | Pole | 27.4% | Pass |
| 123 - 118 | Pole | TP26.201x25.15x0.25 | Pole | 33.9% | Pass |
| 118 - 113 | Pole | TP27.251x26.201x0.25 | Pole | 40.5% | Pass |
| 113 - 108 | Pole | TP28.301x27.251x0.25 | Pole | 46.4% | Pass |
| 108 - 103 | Pole | TP29.351x28.301x0.25 | Pole | 51.6% | Pass |
| 103 - 98 | Pole | TP30.401x29.351x0.25 | Pole | 56.4% | Pass |
| 98 - 94.75 | Pole | TP31.924x30.401x0.25 | Pole | 59.2% | Pass |
| 94.75 - 89.75 | Pole | TP31.634x30.584x0.3125 | Pole | 49.2% | Pass |
| 89.75 - 84.75 | Pole | TP32.684x31.634x0.3125 | Pole | 51.9% | Pass |
| 84.75 - 79.75 | Pole | TP33.735x32.684x0.3125 | Pole | 54.4% | Pass |
| 79.75 - 74.75 | Pole | TP34.785x33.735x0.3125 | Pole | 56.7% | Pass |
| 74.75 - 74.5 | Pole | TP34.837x34.785x0.3125 | Pole | 56.8% | Pass |
| 74.5 - 74.25 | Pole | TP34.89x34.837x0.3125 | Pole | 56.9% | Pass |
| 74.25 - 69.25 | Pole | TP35.94x34.89x0.3125 | Pole | 58.9% | Pass |
| 69.25 - 64.25 | Pole | TP36.99x35.94x0.3125 | Pole | 60.8% | Pass |
| 64.25 - 59.25 | Pole | TP38.04x36.99x0.3125 | Pole | 62.6% | Pass |
| 59.25 - 54.25 | Pole | TP39.091x38.04x0.3125 | Pole | 64.2% | Pass |
| 54.25 - 50 | Pole | TP41.086x39.091x0.3125 | Pole | 65.6% | Pass |
| 50 - 43.75 | Pole | TP40.671x39.358x0.375 | Pole | 54.8% | Pass |
| 43.75 - 38.75 | Pole | TP41.721x40.671x0.375 | Pole | 55.8% | Pass |
| 38.75 - 33.75 | Pole | TP42.771x41.721x0.375 | Pole | 56.7% | Pass |
| 33.75 - 28.75 | Pole | TP43.822x42.771x0.375 | Pole | 57.5% | Pass |
| 28.75 - 23.75 | Pole | TP44.872x43.822x0.375 | Pole | 58.3% | Pass |
| 23.75 - 18.75 | Pole | TP45.922x44.872x0.375 | Pole | 59.0% | Pass |
| 18.75 - 13.75 | Pole | TP46.972x45.922x0.375 | Pole | 59.7% | Pass |
| 13.75 - 8.75 | Pole | TP48.022x46.972x0.375 | Pole | 60.4% | Pass |
| 8.75 - 3.75 | Pole | TP49.072x48.022x0.375 | Pole | 61.0% | Pass |
| 3.75 - 0 | Pole | TP49.86x49.072x0.375 | Pole | 61.4% | Pass |
| | | | | Summary | |
| | | | Pole | 65.6% | Pass |
| | | | Reinforcement | 0.0% | Pass |
| | | | Overall | 65.6% | Pass |

Additional Calculations

| Section Elevation (ft) | Moment of Inertia (in ⁴) | | | Area (in ²) | | | % Capacity* (100% Max. Allowable) | |
|---------------------------|--------------------------------------|--------|-------|-------------------------|--------|-------|--------------------------------------|----|
| | Pole | Reinf. | Total | Pole | Reinf. | Total | Pole | R1 |
| 148 - 143 | 1315 | n/a | 1315 | 18.65 | n/a | 18.65 | 3.4% | |
| 143 - 138 | 1315 | n/a | 1315 | 18.65 | n/a | 18.65 | 8.4% | |
| 138 - 133 | 1188 | n/a | 1188 | 18.09 | n/a | 18.09 | 15.4% | |
| 133 - 128 | 1360 | n/a | 1360 | 18.92 | n/a | 18.92 | 21.8% | |
| 128 - 123 | 1547 | n/a | 1547 | 19.76 | n/a | 19.76 | 27.4% | |
| 123 - 118 | 1751 | n/a | 1751 | 20.59 | n/a | 20.59 | 33.9% | |
| 118 - 113 | 1973 | n/a | 1973 | 21.42 | n/a | 21.42 | 40.5% | |
| 113 - 108 | 2212 | n/a | 2212 | 22.26 | n/a | 22.26 | 46.4% | |
| 108 - 103 | 2470 | n/a | 2470 | 23.09 | n/a | 23.09 | 51.6% | |
| 103 - 98 | 2747 | n/a | 2747 | 23.92 | n/a | 23.92 | 56.4% | |
| 98 - 94.75 | 2938 | n/a | 2938 | 24.47 | n/a | 24.47 | 59.2% | |
| 94.75 - 89.75 | 3849 | n/a | 3849 | 31.07 | n/a | 31.07 | 49.2% | |
| 89.75 - 84.75 | 4250 | n/a | 4250 | 32.11 | n/a | 32.11 | 51.9% | |
| 84.75 - 79.75 | 4677 | n/a | 4677 | 33.15 | n/a | 33.15 | 54.4% | |
| 79.75 - 74.75 | 5132 | n/a | 5132 | 34.19 | n/a | 34.19 | 56.7% | |
| 74.75 - 74.5 | 5155 | n/a | 5155 | 34.24 | n/a | 34.24 | 56.8% | |
| 74.5 - 74.25 | 5179 | n/a | 5179 | 34.30 | n/a | 34.30 | 56.9% | |
| 74.25 - 69.25 | 5665 | n/a | 5665 | 35.34 | n/a | 35.34 | 58.9% | |
| 69.25 - 64.25 | 6181 | n/a | 6181 | 36.38 | n/a | 36.38 | 60.8% | |
| 64.25 - 59.25 | 6727 | n/a | 6727 | 37.42 | n/a | 37.42 | 62.6% | |
| 59.25 - 54.25 | 7305 | n/a | 7305 | 38.46 | n/a | 38.46 | 64.2% | |
| 54.25 - 50 | 7821 | n/a | 7821 | 39.35 | n/a | 39.35 | 65.6% | |
| 50 - 43.75 | 9836 | n/a | 9836 | 47.96 | n/a | 47.96 | 54.8% | |
| 43.75 - 38.75 | 10625 | n/a | 10625 | 49.21 | n/a | 49.21 | 55.8% | |
| 38.75 - 33.75 | 11455 | n/a | 11455 | 50.46 | n/a | 50.46 | 56.7% | |
| 33.75 - 28.75 | 12328 | n/a | 12328 | 51.71 | n/a | 51.71 | 57.5% | |
| 28.75 - 23.75 | 13244 | n/a | 13244 | 52.96 | n/a | 52.96 | 58.3% | |
| 23.75 - 18.75 | 14203 | n/a | 14203 | 54.21 | n/a | 54.21 | 59.0% | |
| 18.75 - 13.75 | 15209 | n/a | 15209 | 55.46 | n/a | 55.46 | 59.7% | |
| 13.75 - 8.75 | 16260 | n/a | 16260 | 56.71 | n/a | 56.71 | 60.4% | |
| 8.75 - 3.75 | 17359 | n/a | 17359 | 57.96 | n/a | 57.96 | 61.0% | |
| 3.75 - 0 | 18215 | n/a | 18215 | 58.90 | n/a | 58.90 | 61.4% | |

Note: Section capacity checked using 5 degree increments.

*Rating per TIA-222-H Section 15.5.

Monopole Flange Plate Connection

Elevation = 138 ft.



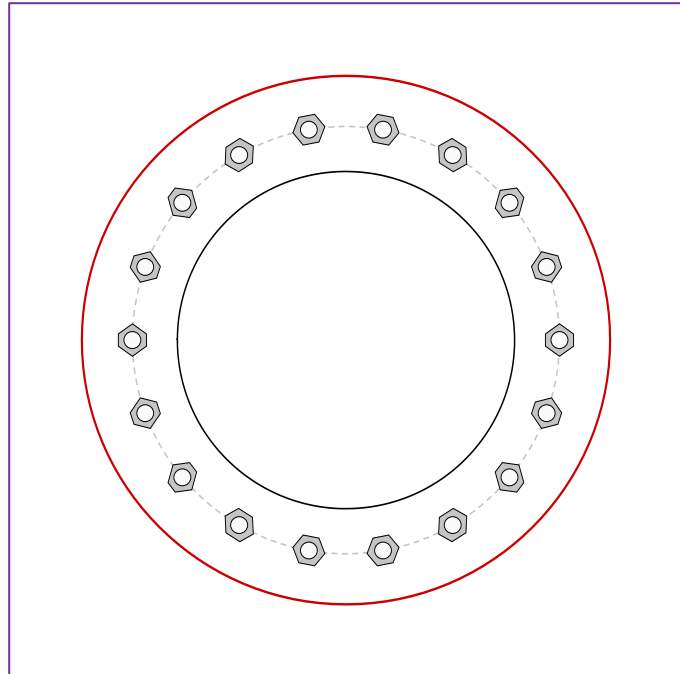
| | |
|-----------|----------------|
| BU # | 876323 |
| Site Name | Hillside, CT |
| Order # | 612571, Rev# 0 |

| | |
|------------------|---|
| TIA-222 Revision | H |
|------------------|---|

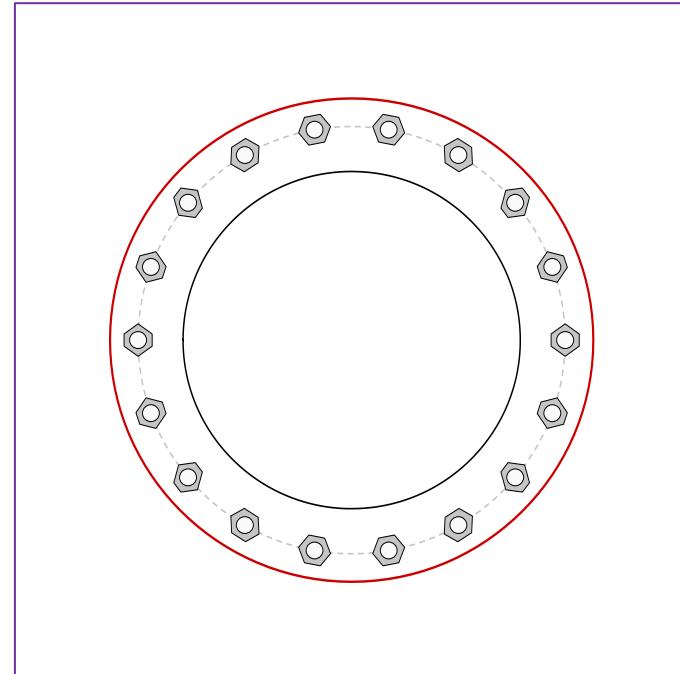
| Applied Loads | |
|--------------------|-------|
| Moment (kip-ft) | 37.36 |
| Axial Force (kips) | 5.13 |
| Shear Force (kips) | 4.94 |

*TIA-222-H Section 15.5 Applied

Top Plate - Internal



Bottom Plate - Internal



Connection Properties

Bolt Data

(18) 3/4" ϕ bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 19" BC

Top Plate Data

15" ID x 1" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Top Stiffener Data

N/A

Top Pole Data

24" x 0.25" round pole (A500-50; Fy=50 ksi, Fu=62 ksi)

Bottom Plate Data

15" ID x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

22" x 0.25" 18-sided pole (A607-60; Fy=60 ksi, Fu=75 ksi)

Analysis Results

Bolt Capacity

| | |
|------------------|-------------------|
| Max Load (kips) | 4.96 |
| Allowable (kips) | 30.06 |
| Stress Rating: | 15.7% Pass |

Top Plate Capacity

| | | |
|-----------------------------|--------------|------------|
| Max Stress (ksi): | 12.13 | (Flexural) |
| Allowable Stress (ksi): | 45.00 | |
| Stress Rating: | 25.7% | Pass |
| Tension Side Stress Rating: | 8.2% | Pass |

Bottom Plate Capacity

| | | |
|-----------------------------|--------------|------------|
| Max Stress (ksi): | 12.96 | (Flexural) |
| Allowable Stress (ksi): | 45.00 | |
| Stress Rating: | 27.4% | Pass |
| Tension Side Stress Rating: | 7.5% | Pass |

Monopole Flange Plate Connection

Elevation = 138 ft.



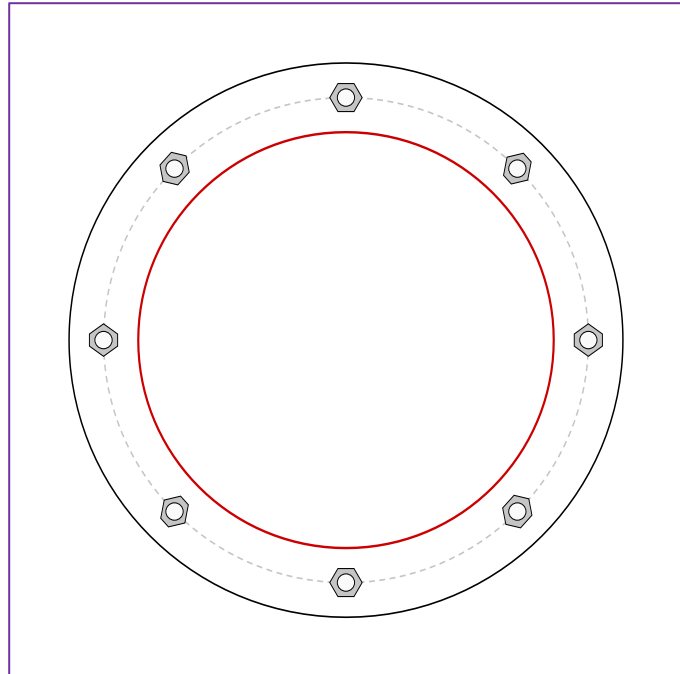
| | |
|-----------|----------------|
| BU # | 876323 |
| Site Name | Hillside, CT |
| Order # | 612571, Rev# 0 |

| Applied Loads | |
|--------------------|-------|
| Moment (kip-ft) | 37.36 |
| Axial Force (kips) | 5.13 |
| Shear Force (kips) | 4.94 |

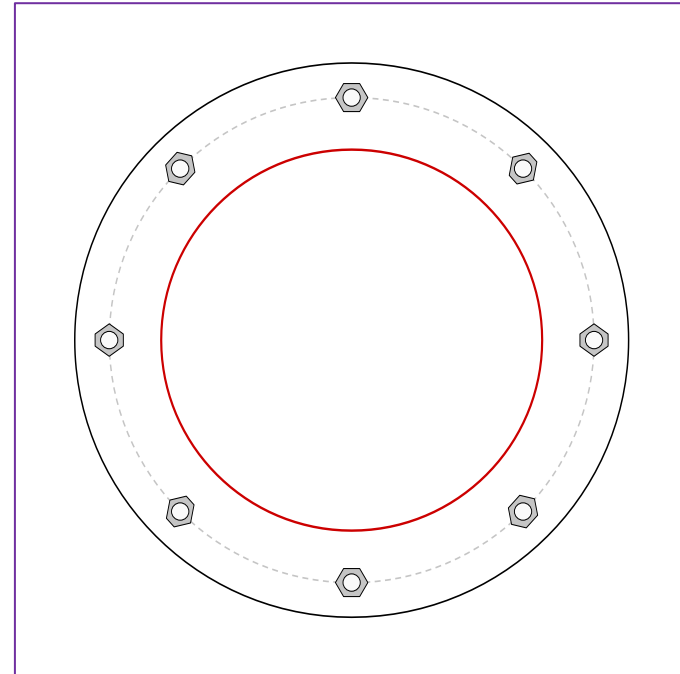
| | |
|------------------|---|
| TIA-222 Revision | H |
|------------------|---|

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(8) 1" ϕ bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 28" BC

Top Plate Data

32" OD x 0.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Top Stiffener Data

N/A

Top Pole Data

24" x 0.25" round pole (A500-50; Fy=50 ksi, Fu=62 ksi)

Bottom Plate Data

32" OD x 1" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

22" x 0.25" 18-sided pole (A607-60; Fy=60 ksi, Fu=75 ksi)

Analysis Results

Bolt Capacity

| | |
|------------------|-------------------|
| Max Load (kips) | 7.36 |
| Allowable (kips) | 54.53 |
| Stress Rating: | 12.9% Pass |

Top Plate Capacity

| | | |
|-----------------------------|--------------|------------|
| Max Stress (ksi): | 8.52 | (Flexural) |
| Allowable Stress (ksi): | 45.00 | |
| Stress Rating: | 18.0% | Pass |
| Tension Side Stress Rating: | 7.5% | Pass |

Bottom Plate Capacity

| | | |
|-----------------------------|--------------|------------|
| Max Stress (ksi): | 7.18 | (Flexural) |
| Allowable Stress (ksi): | 45.00 | |
| Stress Rating: | 15.2% | Pass |
| Tension Side Stress Rating: | 7.4% | Pass |

Monopole Base Plate Connection

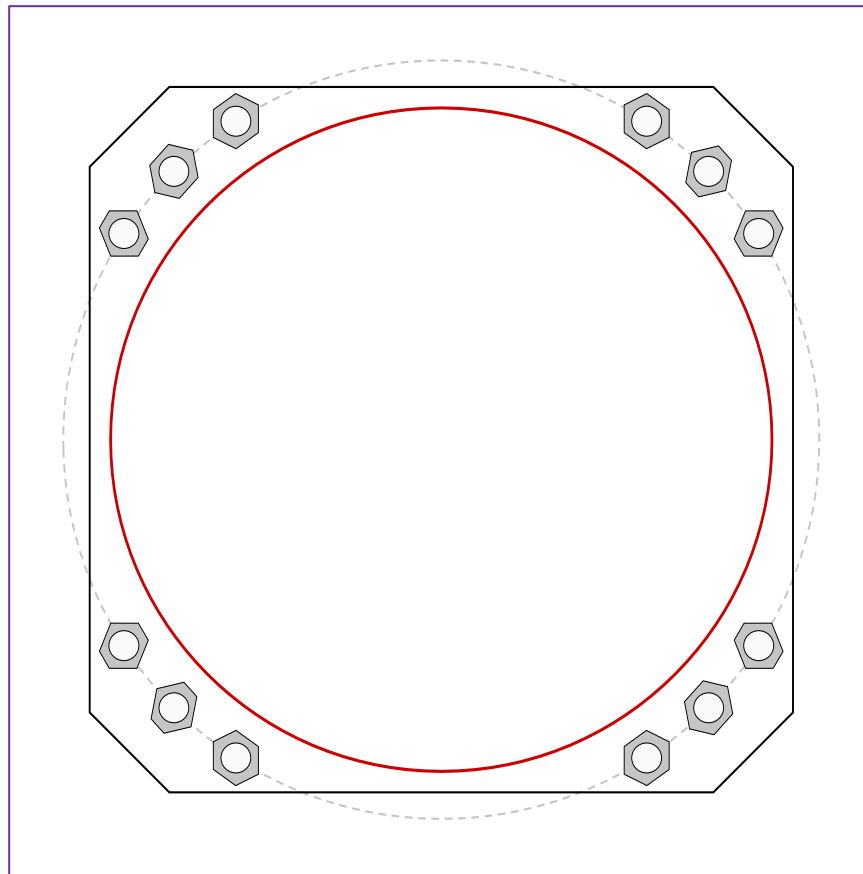


| Site Info | |
|-----------|----------------|
| BU # | 876323 |
| Site Name | Hillside, CT |
| Order # | 612571, Rev# 0 |

| Analysis Considerations | |
|-------------------------|------|
| TIA-222 Revision | H |
| Grout Considered: | No |
| l_{ar} (in) | 2.25 |

| Applied Loads | |
|--------------------|---------|
| Moment (kip-ft) | 2388.06 |
| Axial Force (kips) | 41.88 |
| Shear Force (kips) | 21.37 |

*TIA-222-H Section 15.5 Applied



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

| Anchor Rod Data |
|------------------------------------------------------------------------------------------------------------|
| (12) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 57" BC <i>Anchor Spacing: 6 in</i> |
| Base Plate Data |
| 53" W x 3" Plate (A572-60; $F_y=60$ ksi, $F_u=75$ ksi); Clip: 6 in |
| Stiffener Data |
| N/A |
| Pole Data |
| 49.86" x 0.375" 18-sided pole (A607-60; $F_y=60$ ksi, $F_u=75$ ksi) |

| Anchor Rod Summary | | | <i>(units of kips, kip-in)</i> |
|-------------------------|-------------------------|----------------------|--------------------------------|
| $P_{u,t} = 163.99$ | $\phi P_{n,t} = 243.75$ | Stress Rating | |
| $V_u = 1.78$ | $\phi V_n = 149.1$ | 64.1% | |
| $M_u = n/a$ | $\phi M_n = n/a$ | Pass | |
| Base Plate Summary | | | |
| Max Stress (ksi): | 28.22 | (Flexural) | |
| Allowable Stress (ksi): | 54 | | |
| Stress Rating: | 49.8% | Pass | |

Drilled Pier Foundation

| | |
|-------------------|----------------|
| BU # : | 876323 |
| Site Name: | Hillside, CT |
| Order Number: | 612571, Rev# 0 |
| TIA-222 Revision: | H |
| Tower Type: | Monopole |



| Applied Loads | | |
|--------------------|---------|--------|
| | Comp. | Uplift |
| Moment (kip-ft) | 2388.06 | |
| Axial Force (kips) | 41.88 | |
| Shear Force (kips) | 21.37 | |

| Material Properties | | | Rebar 2, Fy Override (ksi) |
|--------------------------|----|-----|----------------------------------|
| Concrete Strength, f'c: | 3 | ksi | |
| Rebar Strength, Fy: | 60 | ksi | |
| Tie Yield Strength, Fyt: | 40 | ksi | |

| Pier Design Data | | |
|---------------------------------------------------|------|----|
| Depth | 21.5 | ft |
| Ext. Above Grade | 0.5 | ft |
| Pier Section 1 | | |
| <i>From 0.5' above grade to 21.5' below grade</i> | | |
| Pier Diameter | 7 | ft |
| Rebar Quantity | 38 | |
| Rebar Size | 9 | |
| Clear Cover to Ties | 4 | in |
| Tie Size | 5 | |
| Tie Spacing | 18 | in |

Rebar & Pier Options
Embedded Pole Inputs
Belled Pier Inputs

| Analysis Results | | |
|--------------------------------|-------------|--------|
| Soil Lateral Check | | |
| | Compression | Uplift |
| D _{v=0} (ft from TOC) | 5.79 | - |
| Soil Safety Factor | 2.96 | - |
| Max Moment (kip-ft) | 2497.65 | - |
| Rating* | 42.9% | - |
| Soil Vertical Check | | |
| | Compression | Uplift |
| Skin Friction (kips) | 310.49 | - |
| End Bearing (kips) | 337.70 | - |
| Weight of Concrete (kips) | 104.85 | - |
| Total Capacity (kips) | 648.19 | - |
| Axial (kips) | 146.73 | - |
| Rating* | 21.6% | - |
| Reinforced Concrete Flexure | | |
| | Compression | Uplift |
| Critical Depth (ft from TOC) | 5.79 | - |
| Critical Moment (kip-ft) | 2497.65 | - |
| Critical Moment Capacity | 5930.49 | - |
| Rating* | 40.1% | - |
| Reinforced Concrete Shear | | |
| | Compression | Uplift |
| Critical Depth (ft from TOC) | 15.81 | - |
| Critical Shear (kip) | 322.26 | - |
| Critical Shear Capacity | 584.37 | - |
| Rating* | 52.5% | - |

| | |
|-------------------------------|-------|
| Structural Foundation Rating* | 52.5% |
| Soil Interaction Rating* | 42.9% |

*Rating per TIA-222-H Section 15.5

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

[Go to Soil Calculations](#)

| Soil Profile | | | | | |
|-------------------|---|-------------|---|--|--|
| Groundwater Depth | 5 | # of Layers | 6 | | |

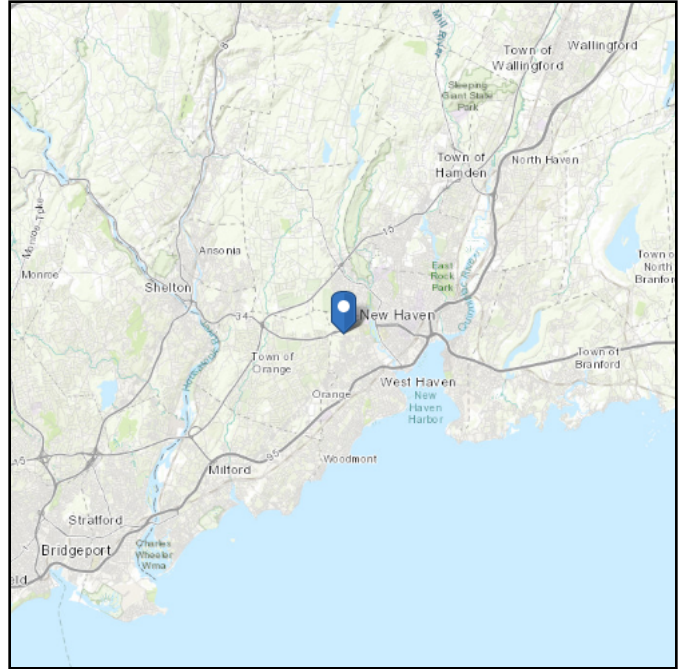
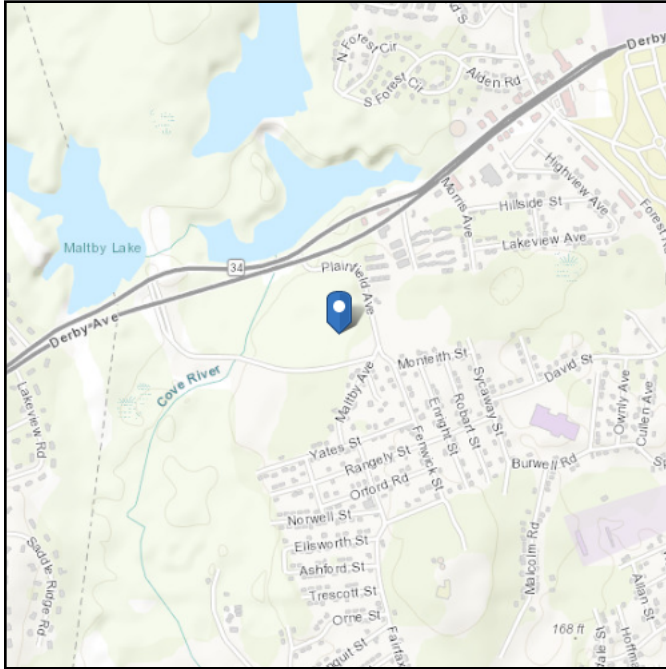
| Layer | Top (ft) | Bottom (ft) | Thickness (ft) | γ _{soil} (pcf) | γ _{concrete} (pcf) | Cohesion (ksf) | Angle of Friction (degrees) | Calculated Ultimate Skin Friction Comp (ksf) | Calculated Ultimate Skin Friction Uplift (ksf) | Ultimate Skin Friction Comp Override (ksf) | Ultimate Skin Friction Uplift Override (ksf) | Ult. Gross Bearing Capacity (ksf) | SPT Blow Count | Soil Type |
|-------|----------|-------------|----------------|-------------------------|-----------------------------|----------------|-----------------------------|----------------------------------------------|------------------------------------------------|--------------------------------------------|----------------------------------------------|-----------------------------------|----------------|--------------|
| 1 | 0 | 3.5 | 3.5 | 115 | 150 | 0 | 0 | 0.000 | 0.000 | 0.00 | 0.00 | | | Cohesionless |
| 2 | 3.5 | 5 | 1.5 | 115 | 150 | 0 | 31 | 0.000 | 0.000 | 0.00 | 0.00 | | | Cohesionless |
| 3 | 5 | 8 | 3 | 68 | 87.6 | 0 | 40 | 0.000 | 0.000 | 0.81 | 0.81 | | | Cohesionless |
| 4 | 8 | 15 | 7 | 68 | 87.6 | 0 | 42 | 0.000 | 0.000 | 1.07 | 1.07 | | | Cohesionless |
| 5 | 15 | 20 | 5 | 68 | 87.6 | 0 | 42 | 0.000 | 0.000 | 1.34 | 1.34 | | | Cohesionless |
| 6 | 20 | 21.5 | 1.5 | 68 | 87.6 | 0 | 42 | 0.000 | 0.000 | 1.47 | 1.47 | 11.7 | | 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)

Elevation: 157.22 ft (NAVD 88)
Latitude: 41.301275
Longitude: -72.976444



Wind

Results:

| | |
|--------------|----------|
| Wind Speed | 120 Vmph |
| 10-year MRI | 75 Vmph |
| 25-year MRI | 85 Vmph |
| 50-year MRI | 91 Vmph |
| 100-year MRI | 98 Vmph |

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu May 05 2022

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

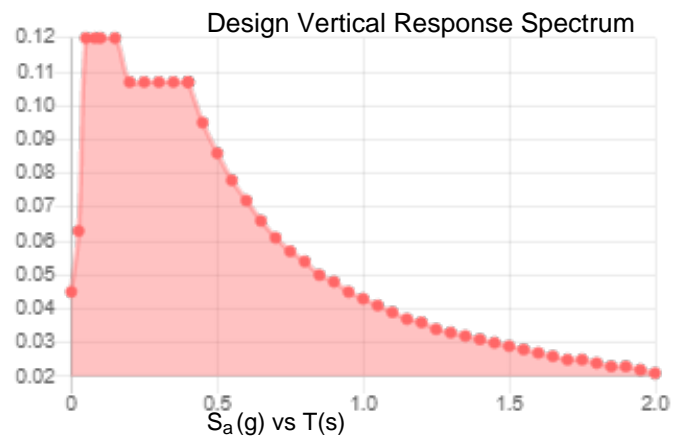
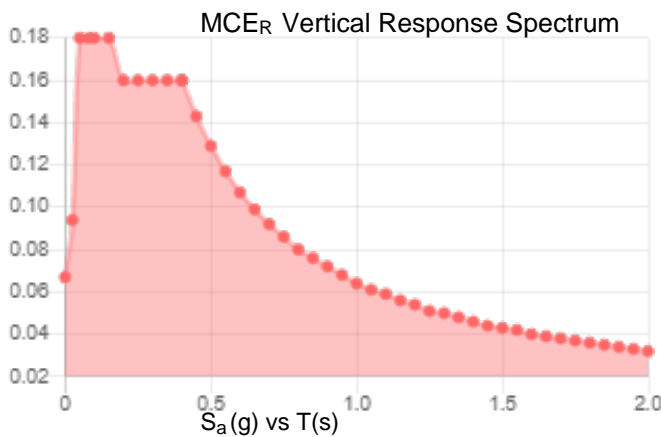
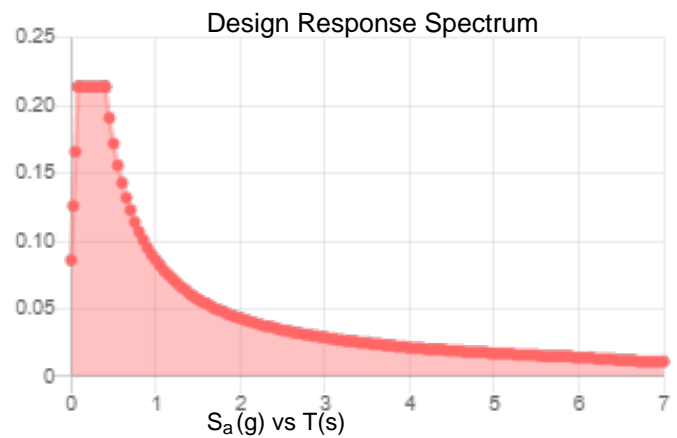
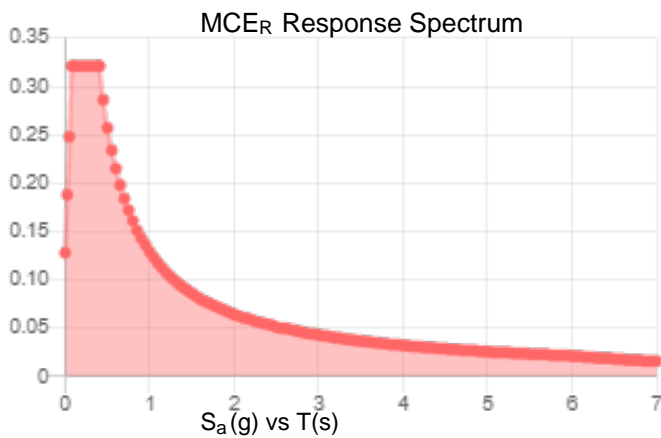
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

| | | | |
|------------|-------|--------------------|-------|
| S_s : | 0.201 | S_{D1} : | 0.086 |
| S_1 : | 0.054 | T_L : | 6 |
| F_a : | 1.6 | PGA : | 0.112 |
| F_v : | 2.4 | PGA _M : | 0.177 |
| S_{MS} : | 0.321 | F_{PGA} : | 1.575 |
| S_{M1} : | 0.129 | I_e : | 1 |
| S_{DS} : | 0.214 | C_v : | 0.701 |

Seismic Design Category B



Data Accessed: Thu May 05 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: Thu May 05 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.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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Date: **May 2, 2022**

INFINIGY

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

Subject: **Mount Analysis Report**

Carrier Designation: **T-Mobile Anchor**
Carrier Site Number: CTNH506A
Carrier Site Name: Crown West Haven Monopole

Crown Castle Designation: **Crown Castle BU Number:** 876323
Crown Castle Site Name: HILLSIDE
Crown Castle JDE Job Number: 712774
Crown Castle Order Number: 612571 Rev. 0

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

Site Data: **85 Plainfield Ave, West Haven, New Haven County, CT, 06516**
Latitude 41°18'4.59" Longitude -72°58'35.20"

Structure Information: **Tower Height & Type:** **148.0 ft Monopole**
Mount Elevation: **146.0 ft**
Mount Type: **12.5 ft Platform**

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

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

Platform

Sufficient

This analysis utilizes an ultimate 3-second gust wind speed of 120 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Abram Tadrus

Respectfully Submitted by:
Luis Mendoza, P.E.
(518) 690-0790
structural@infinigy.com
CT PE License No. 35574

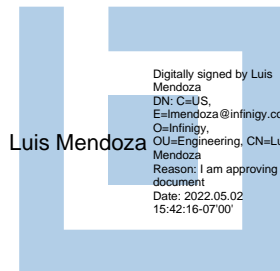
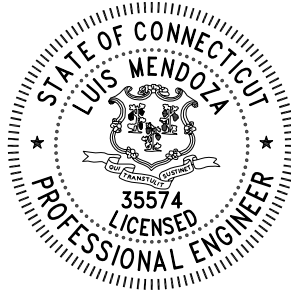


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Additional Calculations

1) INTRODUCTION

This is an existing 3 sector 12.5 ft Platform Mount designed by Site Pro 1.

2) ANALYSIS CRITERIA

Building Code: 2015 IBC / 2018 Connecticut State Building Code
TIA-222 Revision: TIA-222-H
Risk Category: II
Ultimate Wind Speed: 125 mph
Exposure Category: B
Topographic Factor at Base: 1.0
Topographic Factor at Mount: 1.0
Ice Thickness: 1.5 in
Wind Speed with Ice: 50 mph
Seismic S_s: 0.189
Seismic S₁: 0.063
Live Loading Wind Speed: 30 mph
Man Live Load at Mid/End-Points: 250 lb
Man Live Load at Mount Pipes: 500 lb

Table 1 - Proposed Equipment Configuration

| Mount Centerline (ft) | Antenna Centerline (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Mount / Modification Details |
|-----------------------|-------------------------|--------------------|----------------------|------------------------------|------------------------------|
| 146.0 | 146.0 | 3 | ERICSSON | AIR -32 B2A/B66AA | 12.5 ft Platform |
| | | 3 | ERICSSON | AIR 6419 B41_TMO | |
| | | 3 | RFS/CELWAVE | APXVAARR24_43-U-NA20 | |
| | | 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 |
|-----------------------------|----------------------|----------------------|-----------|
| Crown Application | T-Mobile Application | 612571 Rev.0 | CCI Sites |
| Mount Manufacturer Drawings | Site Pro 1 | Part No. RMQP-496-HK | Infinigy |
| Loading Documents | T-Mobile | RFDS Version: 6 | TSA |

3.1) Analysis Method

RISA-3D (Version 17.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

Infinigy Mount Analysis Tool V2.1.7, a tool internally developed by Infinigy, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B "Software Input Calculations".

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

3.2) Assumptions

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

| | |
|------------------------------------|-----------------|
| Channel, Solid Round, Angle, Plate | Q345 (GR 36) |
| HSS (Rectangular) | Q325-GB (GR 35) |
| Pipe | Q325-GB (GR 35) |
| Connection Bolts | ASTM A325 |

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

4) ANALYSIS RESULTS

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

| Notes | Component | Critical Member | Centerline (ft) | % Capacity | Pass / Fail |
|-------|---------------------|-----------------|-----------------|------------|-------------|
| 1,2,3 | Mount Pipe(s) | MP3 | 146.0 | 50.9 | Pass |
| | Horizontal(s) | M53 | | 12.7 | Pass |
| | Standoff(s) | M29 | | 12.8 | Pass |
| | Handrail(s) | M75 | | 29.8 | Pass |
| | Angle Bracing(s) | M42 | | 27.0 | Pass |
| | Corner Plate(s) | M25 | | 28.8 | Pass |
| | Support Rail(s) | M62 | | 38.0 | Pass |
| | Kicker(s) | M7 | | 16.9 | Pass |
| | Mount Connection(s) | -- | | 14.7 | Pass |

| | |
|-----------------------------------------------------|--------------|
| Structure Rating (max from all components) = | 50.9% |
|-----------------------------------------------------|--------------|

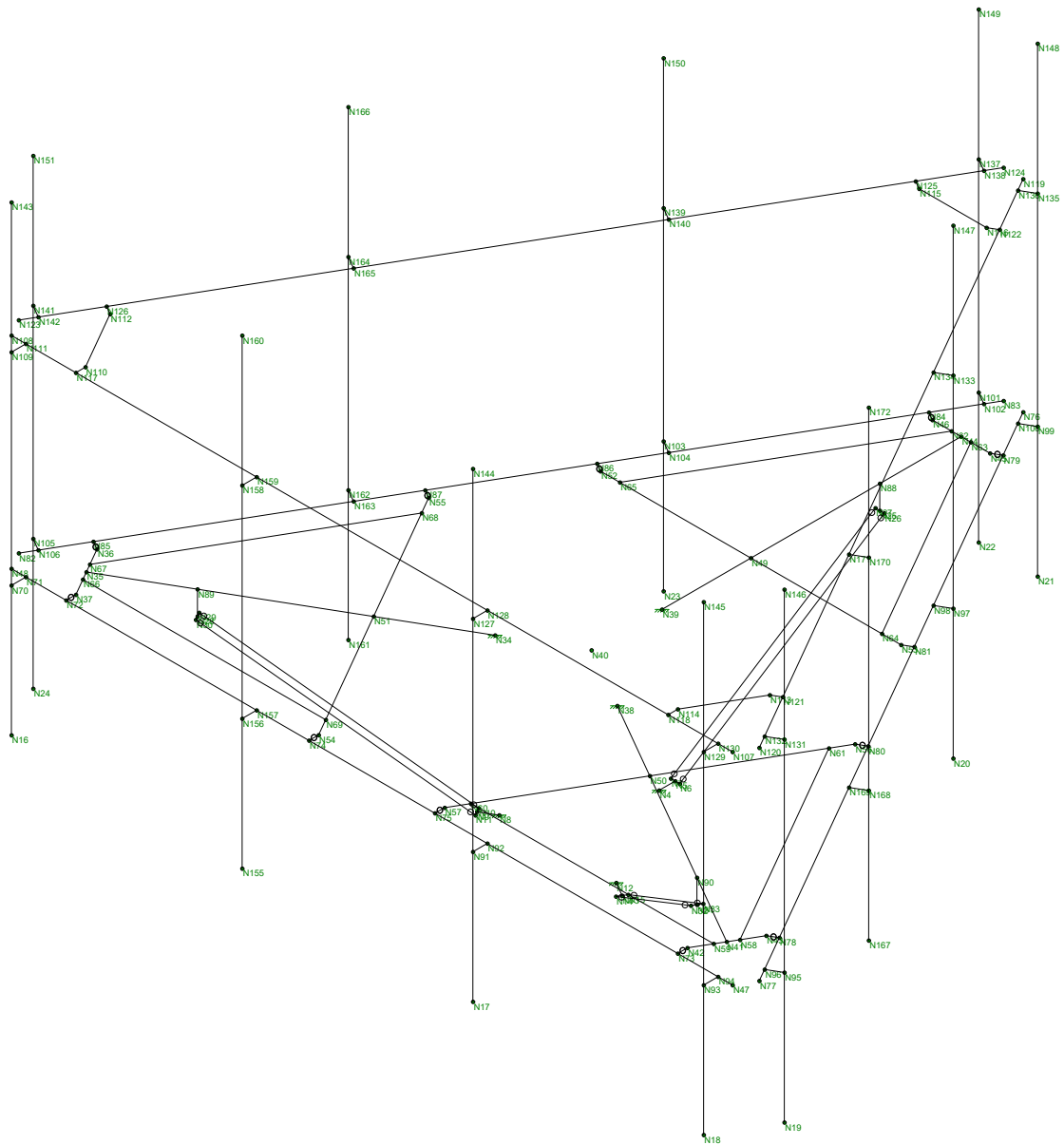
Notes:

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

4.1) Recommendations

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

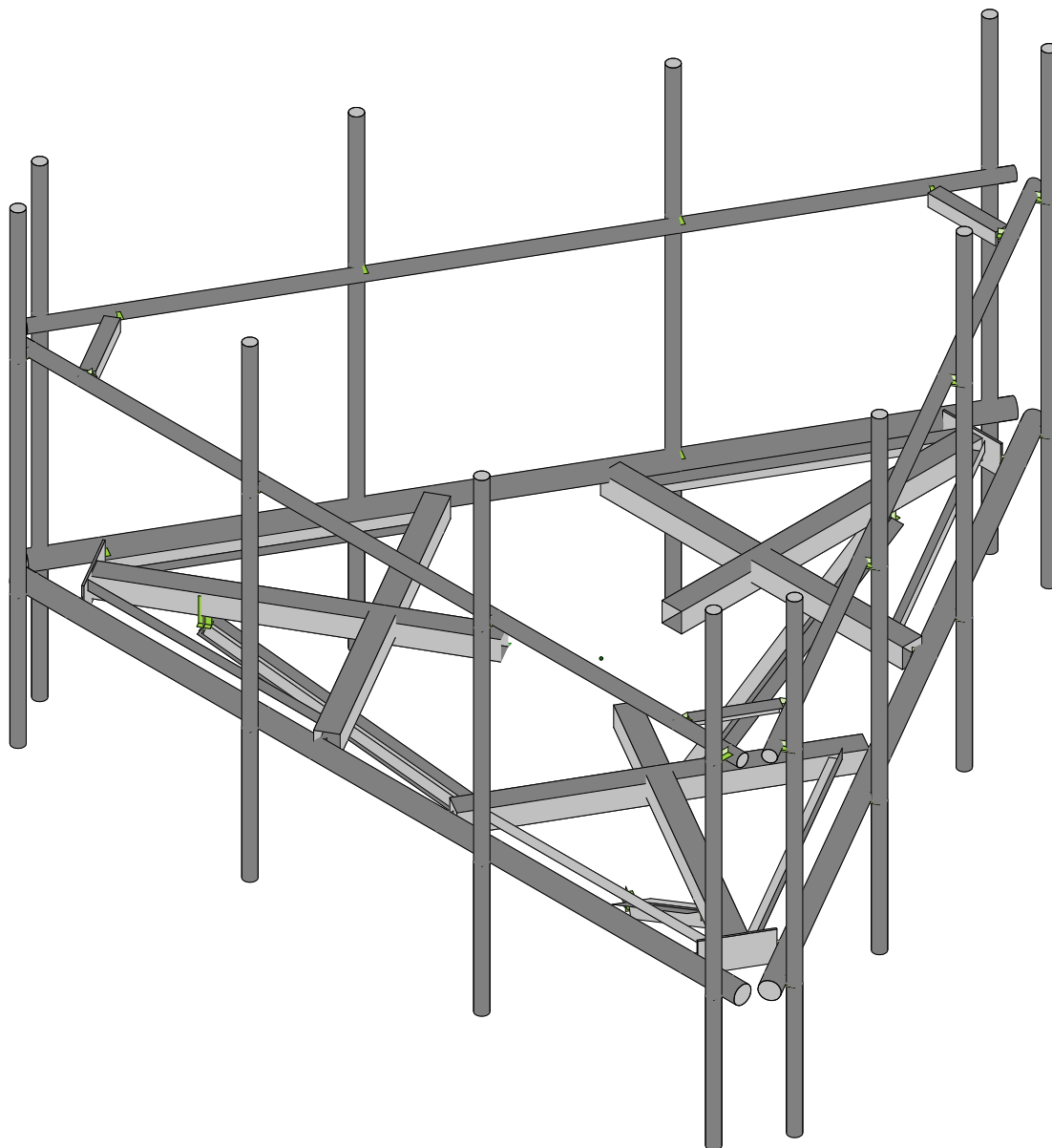
APPENDIX A
WIRE FRAME AND RENDERED MODELS



Infinigy Engineering
AT
1039-Z0001-B

876323

Wire Frame
May 2, 2022 at 3:25 PM
876323_loaded.r3d



Infinigy Engineering

AT

1039-Z0001-B

876323

Rendered

May 2, 2022 at 3:26 PM

876323_loaded.r3d

APPENDIX B
SOFTWARE INPUT CALCULATIONS

Program Inputs

| PROJECT INFORMATION | | |
|---------------------|---------------|--|
| Site Name: | HILLSIDE | |
| Carrier: | T-Mobile | |
| Engineer: | Abram Tadrous | |

| SITE INFORMATION | | |
|------------------------|--------------------------|-----------|
| Risk Category: | II | |
| Exposure Category: | B | |
| Topo Factor Procedure: | Method 1, Category 1 | |
| Site Class: | D - Stiff Soil (Assumed) | |
| Ground Elevation: | 157.22 | ft *Rev H |

| MOUNT INFORMATION | | |
|-------------------|----------|----|
| Mount Type: | Platform | |
| Num Sectors: | 3 | |
| Centerline AGL: | 146.00 | ft |
| Tower Height AGL: | 148.00 | ft |

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

| FACTORS | | |
|----------------------------------|-------|--------------|
| Directionality Fact. (K_d): | 0.950 | |
| Ground Ele. Factor (K_e): | 0.994 | *Rev H Only |
| Rooftop Speed-Up (K_s): | 1.000 | *Rev H Only |
| Topographic Factor (K_{zt}): | 1.000 | |
| Height Esc. Fact. (K_{iz}): | 1.160 | |
| Gust Effect Factor (G_f): | 1.000 | |
| Shielding Factor (K_s): | 0.900 | |
| Velocity Pressure Co. (K_z): | 1.101 | (Mount Elev) |

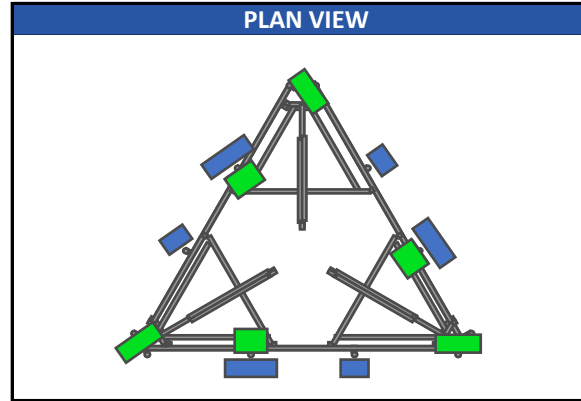
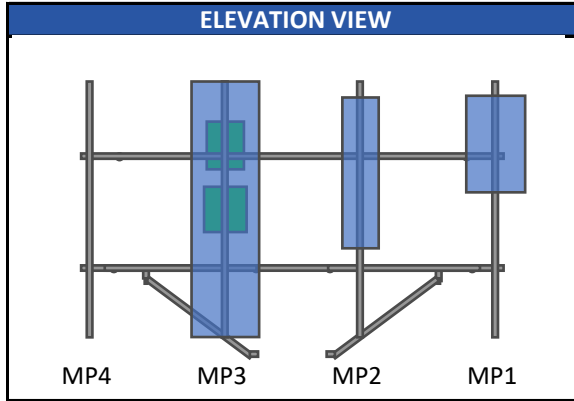
| CODE STANDARDS | | |
|----------------|-----------|--|
| Building Code: | 2018 IBC | |
| TIA Standard: | TIA-222-H | |
| ASCE Standard: | ASCE 7-10 | |

| WIND AND ICE DATA | | |
|------------------------------------|--------|-----|
| Ultimate Wind (V_{ult}): | 125 | mph |
| Design Wind (V): | N/A | mph |
| Ice Wind (V_{ice}): | 50 | mph |
| Base Ice Thickness (t_i): | 1.5 | in |
| Radial Ice Thickness (t_{iz}): | 1.741 | in |
| Flat Pressure: | 83.207 | psf |
| Round Pressure: | 49.924 | psf |
| Ice Wind Pressure: | 7.988 | psf |

| SEISMIC DATA | | |
|-----------------------------------|---------|------|
| Short-Period Accel. (S_s): | 0.189 | g |
| 1-Second Accel. (S_1): | 0.063 | g |
| Short-Period Design (S_{DS}): | 0.202 | |
| 1-Second Design (S_{D1}): | 0.101 | |
| Short-Period Coeff. (F_a): | 1.600 | |
| 1-Second Coeff. (F_v): | 2.400 | |
| Amplification Factor (A_s): | 3.000 | |
| Response Mod. Coeff. (R): | 2.000 | |
| Seismic Importance (I_e): | 1.000 | |
| Seismic Response Co. (C_s): | 0.101 | |
| Total App. Weight: | 578.710 | lb |
| Total Shear Force (V_s): | 58.334 | lb |
| Hor. Seismic Load (E_h): | 58.334 | lb |
| Vert. Seismic Load (E_v): | 23.334 | lb * |

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

Program Inputs



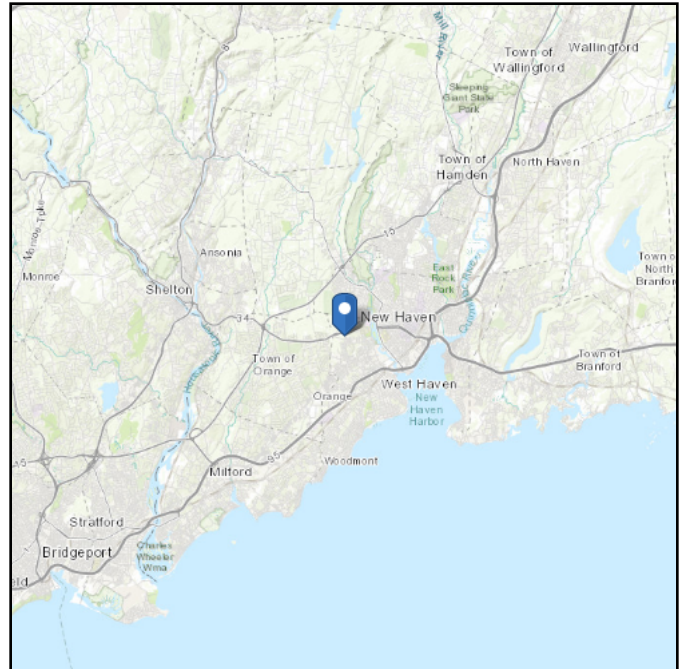
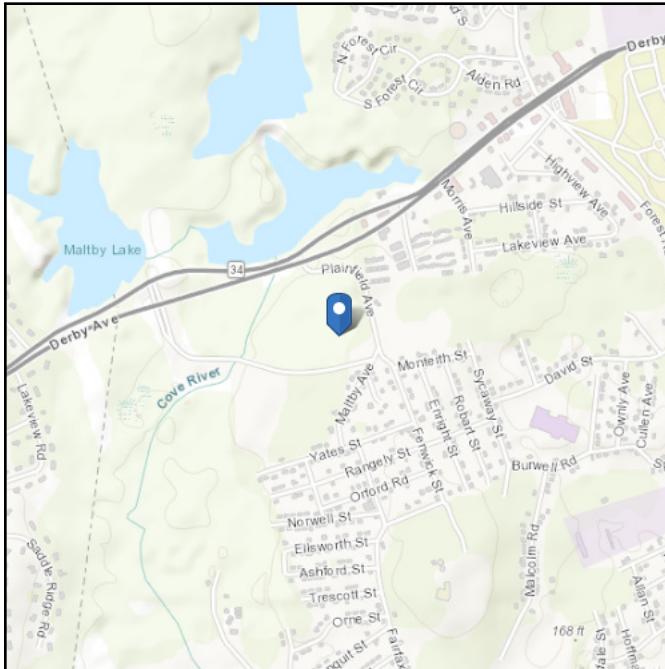
| APPURTENANCE INFORMATION | | | | | | | | | | |
|-------------------------------------|-----------|------|-------------|------------|------------|--------------|----------------------------|----------------------------|--------|--------------------|
| Appurtenance Name | Elevation | Qty. | Height (in) | Width (in) | Depth (in) | Weight (lbs) | EPA_N (ft ²) | EPA_T (ft ²) | Member | (α sector) |
| ERICSSON AIR -32 B2A/B66AA | 146.0 | 3 | 56.60 | 12.90 | 8.70 | 172.00 | 3.86 | 2.51 | MP2 | |
| ERICSSON AIR 6419 B41_TMO | 146.0 | 3 | 36.25 | 20.91 | 9.02 | 96.50 | 7.00 | 2.83 | MP1 | |
| ERICSSON RADIO 4449 B71 B85A_T-MOBI | 146.0 | 3 | 17.91 | 13.20 | 10.63 | 73.21 | 1.97 | 1.59 | MP3 | |
| ERICSSON RADIO 4460 B2/B25 B66_TMC | 146.0 | 3 | 17.00 | 15.10 | 11.90 | 109.00 | 2.14 | 1.69 | MP3 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 157.22 ft (NAVD 88)
Latitude: 41.301275
Longitude: -72.976444



Wind

Results:

| | |
|--------------|----------|
| Wind Speed | 125 Vmph |
| 10-year MRI | 77 Vmph |
| 25-year MRI | 87 Vmph |
| 50-year MRI | 94 Vmph |
| 100-year MRI | 101 Vmph |

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

Date Accessed: Mon May 02 2022

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

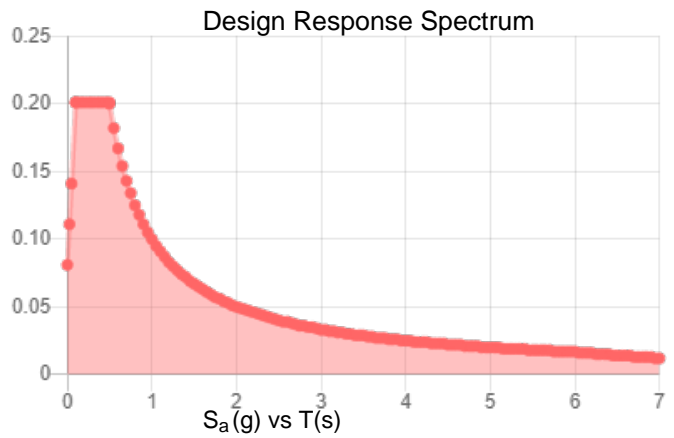
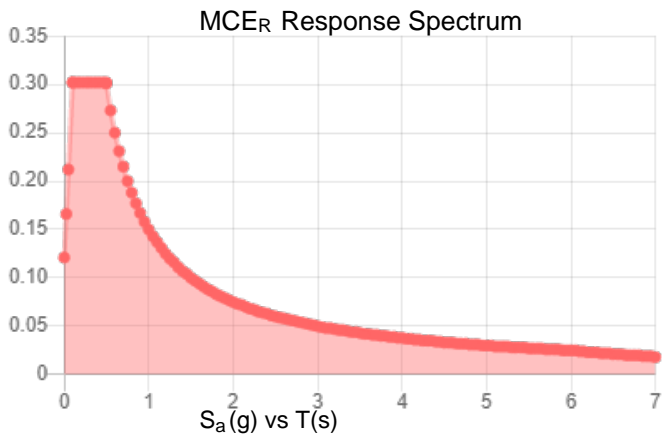
Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Stiff Soil

Results:

| | | | |
|------------|-------|-------------|-------|
| S_s : | 0.189 | S_{DS} : | 0.201 |
| S_1 : | 0.063 | S_{D1} : | 0.1 |
| F_a : | 1.6 | T_L : | 6 |
| F_v : | 2.4 | PGA : | 0.099 |
| S_{MS} : | 0.302 | PGA_M : | 0.159 |
| S_{M1} : | 0.15 | F_{PGA} : | 1.6 |
| | | I_e : | 1 |

Seismic Design Category B



Data Accessed: Mon May 02 2022

Date Source:

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

Ice

Results:

Ice Thickness: 0.75 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

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

Date Accessed: Mon May 02 2022

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

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

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Company : Infinigy Engineering
 Designer : AT
 Job Number : 1039-Z0001-B
 Model Name : 876323

May 2, 2022
 5:28 PM
 Checked By: _____

Member Primary Data

| | Label | I Joint | J Joint | K Joint | Rotate(deg) | Section/Shape | Type | Design List | Material | Design Rules |
|----|-------|---------|---------|---------|-------------|-------------------|------|-------------|----------|--------------|
| 1 | M1 | N4 | N5 | | | RIGID | None | None | RIGID | Typical |
| 2 | M2 | N7 | N6 | | | RIGID | None | None | RIGID | Typical |
| 3 | M3 | N8 | N9 | | | RIGID | None | None | RIGID | Typical |
| 4 | M4 | N11 | N10 | | | RIGID | None | None | RIGID | Typical |
| 5 | M5 | N12 | N13 | | | RIGID | None | None | RIGID | Typical |
| 6 | M6 | N15 | N14 | | | RIGID | None | None | RIGID | Typical |
| 7 | M7 | N26 | N6 | | 180 | Kicker Angle | None | None | Q345 | Typical |
| 8 | M8 | N27 | N26 | | | RIGID | None | None | RIGID | Typical |
| 9 | M9 | N27 | N7 | | 90 | Kicker Angle | None | None | Q345 | Typical |
| 10 | M10 | N29 | N10 | | 180 | Kicker Angle | None | None | Q345 | Typical |
| 11 | M11 | N30 | N29 | | | RIGID | None | None | RIGID | Typical |
| 12 | M12 | N30 | N11 | | 90 | Kicker Angle | None | None | Q345 | Typical |
| 13 | M13 | N32 | N14 | | 180 | Kicker Angle | None | None | Q345 | Typical |
| 14 | M14 | N33 | N32 | | | RIGID | None | None | RIGID | Typical |
| 15 | M15 | N33 | N15 | | 90 | Kicker Angle | None | None | Q345 | Typical |
| 16 | M16 | N34 | N35 | | | Stand Off HSS | None | None | Q235-GB | Typical |
| 17 | M17 | N36 | N37 | | | Corner Plate | None | None | Q345 | Typical |
| 18 | M18 | N36 | N85 | | | RIGID | None | None | RIGID | Typical |
| 19 | M19 | N37 | N72 | | | RIGID | None | None | RIGID | Typical |
| 20 | M20 | N38 | N41 | | | Stand Off HSS | None | None | Q235-GB | Typical |
| 21 | M21 | N39 | N44 | | | Stand Off HSS | None | None | Q235-GB | Typical |
| 22 | M22 | N42 | N43 | | | Corner Plate | None | None | Q345 | Typical |
| 23 | M23 | N42 | N73 | | | RIGID | None | None | RIGID | Typical |
| 24 | M24 | N43 | N78 | | | RIGID | None | None | RIGID | Typical |
| 25 | M25 | N45 | N46 | | | Corner Plate | None | None | Q345 | Typical |
| 26 | M26 | N45 | N79 | | | RIGID | None | None | RIGID | Typical |
| 27 | M27 | N46 | N84 | | | RIGID | None | None | RIGID | Typical |
| 28 | M28 | N48 | N47 | | | Face Horizontal | None | None | Q235-GB | Typical |
| 29 | M29 | N52 | N53 | | | Stand Off HSS | None | None | Q235-GB | Typical |
| 30 | M30 | N52 | N86 | | | RIGID | None | None | RIGID | Typical |
| 31 | M31 | N53 | N81 | | | RIGID | None | None | RIGID | Typical |
| 32 | M32 | N54 | N55 | | | Stand Off HSS | None | None | Q235-GB | Typical |
| 33 | M33 | N54 | N74 | | | RIGID | None | None | RIGID | Typical |
| 34 | M34 | N55 | N87 | | | RIGID | None | None | RIGID | Typical |
| 35 | M35 | N56 | N57 | | | Stand Off HSS | None | None | Q235-GB | Typical |
| 36 | M36 | N56 | N80 | | | RIGID | None | None | RIGID | Typical |
| 37 | M37 | N57 | N75 | | | RIGID | None | None | RIGID | Typical |
| 38 | M38 | N58 | N61 | | 270 | Grating Suppo... | None | None | Q345 | Typical |
| 39 | M39 | N59 | N60 | | | Grating Suppo... | None | None | Q345 | Typical |
| 40 | M40 | N62 | N65 | | 270 | Grating Suppo... | None | None | Q345 | Typical |
| 41 | M41 | N63 | N64 | | | Grating Suppo... | None | None | Q345 | Typical |
| 42 | M42 | N66 | N69 | | 270 | Grating Suppo... | None | None | Q345 | Typical |
| 43 | M43 | N67 | N68 | | | Grating Suppo... | None | None | Q345 | Typical |
| 44 | M47 | N71 | N70 | | | RIGID | None | None | RIGID | Typical |
| 45 | M48 | N77 | N76 | | | Face Horizontal | None | None | Q235-GB | Typical |
| 46 | M53 | N83 | N82 | | | Face Horizontal | None | None | Q235-GB | Typical |
| 47 | M58 | N88 | N25 | | | RIGID | None | None | RIGID | Typical |
| 48 | M59 | N89 | N28 | | 240 | RIGID | None | None | RIGID | Typical |
| 49 | M60 | N90 | N31 | | 120 | RIGID | None | None | RIGID | Typical |
| 50 | M61 | N108 | N107 | | | Support Rail | None | None | Q235-GB | Typical |
| 51 | M62 | N110 | N112 | | 180 | Support Rail C... | None | None | Q345 | Typical |
| 52 | M63 | N110 | N117 | | | RIGID | None | None | RIGID | Typical |
| 53 | M67 | N111 | N109 | | | RIGID | None | None | RIGID | Typical |
| 54 | M68 | N112 | N126 | | | RIGID | None | None | RIGID | Typical |
| 55 | M69 | N113 | N114 | | 180 | Support Rail C... | None | None | Q345 | Typical |
| 56 | M70 | N113 | N121 | | | RIGID | None | None | RIGID | Typical |

Member Primary Data (Continued)

| | Label | I Joint | J Joint | K Joint | Rotate(deg) | Section/Shape | Type | Design List | Material | Design Rules |
|----|-------|---------|---------|---------|-------------|-------------------|------|-------------|----------|--------------|
| 57 | M71 | N114 | N118 | | | RIGID | None | None | RIGID | Typical |
| 58 | M72 | N115 | N116 | | 180 | Support Rail C... | None | None | Q345 | Typical |
| 59 | M73 | N115 | N125 | | | RIGID | None | None | RIGID | Typical |
| 60 | M74 | N116 | N122 | | | RIGID | None | None | RIGID | Typical |
| 61 | M75 | N120 | N119 | | | Support Rail | None | None | Q235-GB | Typical |
| 62 | M80 | N124 | N123 | | | Support Rail | None | None | Q235-GB | Typical |
| 63 | MP4 | N143 | N16 | | | Mount Pipe | None | None | Q235-GB | Typical |
| 64 | M64 | N92 | N91 | | | RIGID | None | None | RIGID | Typical |
| 65 | M65 | N128 | N127 | | | RIGID | None | None | RIGID | Typical |
| 66 | MP2 | N144 | N17 | | | Mount Pipe | None | None | Q235-GB | Typical |
| 67 | M67A | N94 | N93 | | | RIGID | None | None | RIGID | Typical |
| 68 | M68A | N130 | N129 | | | RIGID | None | None | RIGID | Typical |
| 69 | MP1 | N145 | N18 | | | Mount Pipe | None | None | Q235-GB | Typical |
| 70 | M70A | N96 | N95 | | | RIGID | None | None | RIGID | Typical |
| 71 | M71A | N132 | N131 | | | RIGID | None | None | RIGID | Typical |
| 72 | MP12 | N146 | N19 | | | Mount Pipe | None | None | Q235-GB | Typical |
| 73 | M73A | N98 | N97 | | | RIGID | None | None | RIGID | Typical |
| 74 | M74A | N134 | N133 | | | RIGID | None | None | RIGID | Typical |
| 75 | MP10 | N147 | N20 | | | Mount Pipe | None | None | Q235-GB | Typical |
| 76 | M76 | N100 | N99 | | | RIGID | None | None | RIGID | Typical |
| 77 | M77 | N136 | N135 | | | RIGID | None | None | RIGID | Typical |
| 78 | MP9 | N148 | N21 | | | Mount Pipe | None | None | Q235-GB | Typical |
| 79 | M79 | N102 | N101 | | | RIGID | None | None | RIGID | Typical |
| 80 | M80A | N138 | N137 | | | RIGID | None | None | RIGID | Typical |
| 81 | MP8 | N149 | N22 | | 30 | Mount Pipe | None | None | Q235-GB | Typical |
| 82 | M82 | N104 | N103 | | | RIGID | None | None | RIGID | Typical |
| 83 | M83 | N140 | N139 | | | RIGID | None | None | RIGID | Typical |
| 84 | MP7 | N150 | N23 | | 30 | Mount Pipe | None | None | Q235-GB | Typical |
| 85 | M85 | N106 | N105 | | | RIGID | None | None | RIGID | Typical |
| 86 | M86 | N142 | N141 | | | RIGID | None | None | RIGID | Typical |
| 87 | MP5 | N151 | N24 | | 30 | Mount Pipe | None | None | Q235-GB | Typical |
| 88 | M88 | N157 | N156 | | | RIGID | None | None | RIGID | Typical |
| 89 | M89 | N159 | N158 | | | RIGID | None | None | RIGID | Typical |
| 90 | MP3 | N160 | N155 | | | Mount Pipe | None | None | Q235-GB | Typical |
| 91 | M91 | N163 | N162 | | | RIGID | None | None | RIGID | Typical |
| 92 | M92 | N165 | N164 | | | RIGID | None | None | RIGID | Typical |
| 93 | MP6 | N166 | N161 | | 30 | Mount Pipe | None | None | Q235-GB | Typical |
| 94 | M94 | N169 | N168 | | | RIGID | None | None | RIGID | Typical |
| 95 | M95 | N171 | N170 | | | RIGID | None | None | RIGID | Typical |
| 96 | MP11 | N172 | N167 | | | Mount Pipe | None | None | Q235-GB | Typical |

Material Takeoff

| | Material | Size | Pieces | Length[in] | Weight[K] |
|----|------------------|----------------|--------|------------|-----------|
| 1 | General | | | | |
| 2 | RIGID | | 54 | 144 | 0 |
| 3 | Total General | | 54 | 144 | 0 |
| 4 | | | | | |
| 5 | Hot Rolled Steel | | | | |
| 6 | Q235-GB | HSS4X4X8 | 6 | 374.3 | .639 |
| 7 | Q235-GB | PIPE 3.0 | 3 | 450 | .264 |
| 8 | Q235-GB | PIPE 2.0 | 15 | 1602 | .463 |
| 9 | Q345 | 6"x0.37" Plate | 3 | 36 | .023 |
| 10 | Q345 | L2.5x2.5x3 | 9 | 345.8 | .088 |
| 11 | Q345 | L2x2x2 | 6 | 303.1 | .042 |
| 12 | Total HR Steel | | 42 | 3111.2 | 1.52 |



Basic Load Cases

| | BLC Description | Category | X Gravity | Y Gravity | Z Gravity | Joint | Point | Distributed Area(Me...) | Surface(P... |
|----|-------------------------|----------|-----------|-----------|-----------|-------|-------|-------------------------|--------------|
| 1 | Self Weight | DL | | -1 | | | 24 | | 3 |
| 2 | Wind Load AZI 0 | WLZ | | | | | 48 | | |
| 3 | Wind Load AZI 30 | None | | | | | 48 | | |
| 4 | Wind Load AZI 60 | None | | | | | 48 | | |
| 5 | Wind Load AZI 90 | WLX | | | | | 48 | | |
| 6 | Wind Load AZI 120 | None | | | | | 48 | | |
| 7 | Wind Load AZI 150 | None | | | | | 48 | | |
| 8 | Wind Load AZI 180 | None | | | | | 48 | | |
| 9 | Wind Load AZI 210 | None | | | | | 48 | | |
| 10 | Wind Load AZI 240 | None | | | | | 48 | | |
| 11 | Wind Load AZI 270 | None | | | | | 48 | | |
| 12 | Wind Load AZI 300 | None | | | | | 48 | | |
| 13 | Wind Load AZI 330 | None | | | | | 48 | | |
| 14 | Distr. Wind Load Z | WLZ | | | | | | 96 | |
| 15 | Distr. Wind Load X | WLX | | | | | | 96 | |
| 16 | Ice Weight | OL1 | | | | | 24 | 96 | 3 |
| 17 | Ice Wind Load AZI 0 | OL2 | | | | | 48 | | |
| 18 | Ice Wind Load AZI 30 | None | | | | | 48 | | |
| 19 | Ice Wind Load AZI 60 | None | | | | | 48 | | |
| 20 | Ice Wind Load AZI 90 | OL3 | | | | | 48 | | |
| 21 | Ice Wind Load AZI 120 | None | | | | | 48 | | |
| 22 | Ice Wind Load AZI 150 | None | | | | | 48 | | |
| 23 | Ice Wind Load AZI 180 | None | | | | | 48 | | |
| 24 | Ice Wind Load AZI 210 | None | | | | | 48 | | |
| 25 | Ice Wind Load AZI 240 | None | | | | | 48 | | |
| 26 | Ice Wind Load AZI 270 | None | | | | | 48 | | |
| 27 | Ice Wind Load AZI 300 | None | | | | | 48 | | |
| 28 | Ice Wind Load AZI 330 | None | | | | | 48 | | |
| 29 | Distr. Ice Wind Load Z | OL2 | | | | | | 96 | |
| 30 | Distr. Ice Wind Load X | OL3 | | | | | | 96 | |
| 31 | Seismic Load Z | ELZ | | | - .302 | | 24 | | |
| 32 | Seismic Load X | ELX | - .302 | | | | 24 | | |
| 33 | Service Live Loads | LL | | | | 1 | | | |
| 34 | Maintenance Load Lm1 | LL | | | | 1 | | | |
| 35 | Maintenance Load Lm2 | LL | | | | 1 | | | |
| 36 | Maintenance Load Lm3 | LL | | | | 1 | | | |
| 37 | Maintenance Load Lm4 | LL | | | | 1 | | | |
| 38 | Maintenance Load Lm5 | LL | | | | 1 | | | |
| 39 | Maintenance Load Lm6 | LL | | | | 1 | | | |
| 40 | Maintenance Load Lm7 | LL | | | | 1 | | | |
| 41 | Maintenance Load Lm8 | LL | | | | 1 | | | |
| 42 | Maintenance Load Lm9 | LL | | | | 1 | | | |
| 43 | Maintenance Load L... | LL | | | | 1 | | | |
| 44 | Maintenance Load L... | LL | | | | 1 | | | |
| 45 | Maintenance Load L... | LL | | | | 1 | | | |
| 46 | BLC 1 Transient Area... | None | | | | | | 60 | |
| 47 | BLC 16 Transient Are... | None | | | | | | 60 | |

Load Combinations

| | Description | Sol. | PD... | SR... | BLC Fact... | BLC Fact... | BLC Fact... | BLC Fact... | BLC Fact... | BLC Fact... | BLC Fact... | BLC Fact... | BLC Fact... |
|---|--------------|------|-------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1 | 1.4DL | Yes | Y | | 1 | 1.4 | | | | | | | |
| 2 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 2 | 1 | 14 | 1 | 15 | | |
| 3 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 3 | 1 | 14 | .866 | 15 | .5 | |
| 4 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 4 | 1 | 14 | .5 | 15 | .866 | |



Company : Infinigy Engineering
 Designer : AT
 Job Number : 1039-Z0001-B
 Model Name : 876323

May 2, 2022
 5:28 PM
 Checked By: _____

Load Combinations (Continued)

| | Description | Sol. | PD | SR | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. |
|----|----------------|------|----|----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 5 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 5 | 1 | 14 | | 15 | 1 | | |
| 6 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 6 | 1 | 14 | -.5 | 15 | .866 | | |
| 7 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 7 | 1 | 14 | -.866 | 15 | .5 | | |
| 8 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 8 | 1 | 14 | -1 | 15 | | | |
| 9 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 9 | 1 | 14 | -.866 | 15 | -.5 | | |
| 10 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 10 | 1 | 14 | -.5 | 15 | -.866 | | |
| 11 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 11 | 1 | 14 | | 15 | -1 | | |
| 12 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 12 | 1 | 14 | .5 | 15 | -.866 | | |
| 13 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 13 | 1 | 14 | .866 | 15 | -.5 | | |
| 14 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 2 | 1 | 14 | 1 | 15 | | | |
| 15 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 3 | 1 | 14 | .866 | 15 | .5 | | |
| 16 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 4 | 1 | 14 | .5 | 15 | .866 | | |
| 17 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 5 | 1 | 14 | | 15 | 1 | | |
| 18 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 6 | 1 | 14 | -.5 | 15 | .866 | | |
| 19 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 7 | 1 | 14 | -.866 | 15 | .5 | | |
| 20 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 8 | 1 | 14 | -1 | 15 | | | |
| 21 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 9 | 1 | 14 | -.866 | 15 | -.5 | | |
| 22 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 10 | 1 | 14 | -.5 | 15 | -.866 | | |
| 23 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 11 | 1 | 14 | | 15 | -1 | | |
| 24 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 12 | 1 | 14 | .5 | 15 | -.866 | | |
| 25 | 0.9DL + 1... | Yes | Y | | 1 | .9 | 13 | 1 | 14 | .866 | 15 | -.5 | | |
| 26 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | | | | | | |
| 27 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 17 | 1 | 29 | 1 | 30 | |
| 28 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 18 | 1 | 29 | .866 | 30 | .5 |
| 29 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 19 | 1 | 29 | .5 | 30 | .866 |
| 30 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 20 | 1 | 29 | | 30 | 1 |
| 31 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 21 | 1 | 29 | -.5 | 30 | .866 |
| 32 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 22 | 1 | 29 | -.866 | 30 | .5 |
| 33 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 23 | 1 | 29 | -1 | 30 | |
| 34 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 24 | 1 | 29 | -.866 | 30 | -.5 |
| 35 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 25 | 1 | 29 | -.5 | 30 | -.866 |
| 36 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 26 | 1 | 29 | | 30 | -1 |
| 37 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 27 | 1 | 29 | .5 | 30 | -.866 |
| 38 | 1.2D + 1.0... | Yes | Y | | 1 | 1.2 | 16 | 1 | 28 | 1 | 29 | .866 | 30 | -.5 |
| 39 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | 1 | 32 | | | | | |
| 40 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | .866 | 32 | .5 | | | | |
| 41 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | .5 | 32 | .866 | | | | |
| 42 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | | 32 | 1 | | | | |
| 43 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | -.5 | 32 | .866 | | | | |
| 44 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | -.866 | 32 | .5 | | | | |
| 45 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | -1 | 32 | | | | | |
| 46 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | -.866 | 32 | -.5 | | | | |
| 47 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | -.5 | 32 | -.866 | | | | |
| 48 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | | 32 | -1 | | | | |
| 49 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | .5 | 32 | -.866 | | | | |
| 50 | (1.2 + 0.2... | Yes | Y | | 1 | 1.24 | 31 | .866 | 32 | -.5 | | | | |
| 51 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | 1 | 32 | | | | | |
| 52 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | .866 | 32 | .5 | | | | |
| 53 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | .5 | 32 | .866 | | | | |
| 54 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | | 32 | 1 | | | | |
| 55 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | -.5 | 32 | .866 | | | | |
| 56 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | -.866 | 32 | .5 | | | | |
| 57 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | -1 | 32 | | | | | |
| 58 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | -.866 | 32 | -.5 | | | | |
| 59 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | -.5 | 32 | -.866 | | | | |
| 60 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | | 32 | -1 | | | | |
| 61 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | .5 | 32 | -.866 | | | | |



Company : Infinigy Engineering
 Designer : AT
 Job Number : 1039-Z0001-B
 Model Name : 876323

May 2, 2022
 5:28 PM
 Checked By: _____

Load Combinations (Continued)

| | Description | Sol. | PD | SR | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. |
|-----|----------------|------|----|----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 62 | (0.9 - 0.2S... | Yes | Y | | 1 | .86 | 31 | .866 | 32 | -.5 | | | | | |
| 63 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 2 | .23 | 14 | .23 | 15 | | 33 | 1.5 | |
| 64 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 3 | .23 | 14 | .2 | 15 | .115 | 33 | 1.5 | |
| 65 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 4 | .23 | 14 | .115 | 15 | .2 | 33 | 1.5 | |
| 66 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 5 | .23 | 14 | | 15 | .23 | 33 | 1.5 | |
| 67 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 6 | .23 | 14 | -.115 | 15 | .2 | 33 | 1.5 | |
| 68 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 7 | .23 | 14 | -.2 | 15 | .115 | 33 | 1.5 | |
| 69 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 8 | .23 | 14 | -.23 | 15 | | 33 | 1.5 | |
| 70 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 9 | .23 | 14 | -.2 | 15 | -.115 | 33 | 1.5 | |
| 71 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 10 | .23 | 14 | -.115 | 15 | -.2 | 33 | 1.5 | |
| 72 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 11 | .23 | 14 | | 15 | -.23 | 33 | 1.5 | |
| 73 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 12 | .23 | 14 | .115 | 15 | -.2 | 33 | 1.5 | |
| 74 | 1.0DL + 1... | Yes | Y | | 1 | 1 | 13 | .23 | 14 | .2 | 15 | -.115 | 33 | 1.5 | |
| 75 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 33 | 1.5 | | | | | | | |
| 76 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 2 | .058 | 14 | .058 | 15 | | |
| 77 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 | |
| 78 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 | |
| 79 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 5 | .058 | 14 | | 15 | .058 | |
| 80 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 | |
| 81 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 | |
| 82 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 8 | .058 | 14 | -.058 | 15 | | |
| 83 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 | |
| 84 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 | |
| 85 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 11 | .058 | 14 | | 15 | -.058 | |
| 86 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 | |
| 87 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 34 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 | |
| 88 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 2 | .058 | 14 | .058 | 15 | | |
| 89 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 | |
| 90 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 | |
| 91 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 5 | .058 | 14 | | 15 | .058 | |
| 92 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 | |
| 93 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 | |
| 94 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 8 | .058 | 14 | -.058 | 15 | | |
| 95 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 | |
| 96 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 | |
| 97 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 11 | .058 | 14 | | 15 | -.058 | |
| 98 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 | |
| 99 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 35 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 | |
| 100 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 2 | .058 | 14 | .058 | 15 | | |
| 101 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 | |
| 102 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 | |
| 103 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 5 | .058 | 14 | | 15 | .058 | |
| 104 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 | |
| 105 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 | |
| 106 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 8 | .058 | 14 | -.058 | 15 | | |
| 107 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 | |
| 108 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 | |
| 109 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 11 | .058 | 14 | | 15 | -.058 | |
| 110 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 | |
| 111 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 36 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 | |
| 112 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 2 | .058 | 14 | .058 | 15 | | |
| 113 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 | |
| 114 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 | |
| 115 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 5 | .058 | 14 | | 15 | .058 | |
| 116 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 | |
| 117 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 | |
| 118 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 8 | .058 | 14 | -.058 | 15 | | |



Company : Infinigy Engineering
 Designer : AT
 Job Number : 1039-Z0001-B
 Model Name : 876323

May 2, 2022
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 Checked By: _____

Load Combinations (Continued)

| | Description | Sol. | PD | SR | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | |
|-----|--------------|------|----|----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------|
| 119 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 |
| 120 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 |
| 121 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 11 | .058 | 14 | | 15 | -.058 |
| 122 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 |
| 123 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 37 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 |
| 124 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 2 | .058 | 14 | .058 | 15 | |
| 125 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 |
| 126 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 |
| 127 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 5 | .058 | 14 | | 15 | .058 |
| 128 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 |
| 129 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 |
| 130 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 8 | .058 | 14 | -.058 | 15 | |
| 131 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 |
| 132 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 |
| 133 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 11 | .058 | 14 | | 15 | -.058 |
| 134 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 |
| 135 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 38 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 |
| 136 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 2 | .058 | 14 | .058 | 15 | |
| 137 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 |
| 138 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 |
| 139 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 5 | .058 | 14 | | 15 | .058 |
| 140 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 |
| 141 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 |
| 142 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 8 | .058 | 14 | -.058 | 15 | |
| 143 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 |
| 144 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 |
| 145 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 11 | .058 | 14 | | 15 | -.058 |
| 146 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 |
| 147 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 39 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 |
| 148 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 2 | .058 | 14 | .058 | 15 | |
| 149 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 |
| 150 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 |
| 151 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 5 | .058 | 14 | | 15 | .058 |
| 152 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 |
| 153 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 |
| 154 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 8 | .058 | 14 | -.058 | 15 | |
| 155 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 |
| 156 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 |
| 157 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 11 | .058 | 14 | | 15 | -.058 |
| 158 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 |
| 159 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 40 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 |
| 160 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 2 | .058 | 14 | .058 | 15 | |
| 161 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 |
| 162 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 |
| 163 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 5 | .058 | 14 | | 15 | .058 |
| 164 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 |
| 165 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 |
| 166 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 8 | .058 | 14 | -.058 | 15 | |
| 167 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 |
| 168 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 |
| 169 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 11 | .058 | 14 | | 15 | -.058 |
| 170 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 |
| 171 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 41 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 |
| 172 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 2 | .058 | 14 | .058 | 15 | |
| 173 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 |
| 174 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 |
| 175 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 5 | .058 | 14 | | 15 | .058 |



Company : Infinigy Engineering
 Designer : AT
 Job Number : 1039-Z0001-B
 Model Name : 876323

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 5:28 PM
 Checked By: _____

Load Combinations (Continued)

| | Description | Sol. | PD | SR | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. | BLC Fact. |
|-----|--------------|------|----|----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 176 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 |
| 177 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 |
| 178 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 8 | .058 | 14 | -.058 | 15 | |
| 179 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 |
| 180 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 |
| 181 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 11 | .058 | 14 | | 15 | -.058 |
| 182 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 |
| 183 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 42 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 |
| 184 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 2 | .058 | 14 | .058 | 15 | |
| 185 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 |
| 186 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 |
| 187 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 5 | .058 | 14 | | 15 | .058 |
| 188 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 |
| 189 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 |
| 190 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 8 | .058 | 14 | -.058 | 15 | |
| 191 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 |
| 192 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 |
| 193 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 11 | .058 | 14 | | 15 | -.058 |
| 194 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 |
| 195 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 43 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 |
| 196 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 2 | .058 | 14 | .058 | 15 | |
| 197 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 |
| 198 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 |
| 199 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 5 | .058 | 14 | | 15 | .058 |
| 200 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 |
| 201 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 |
| 202 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 8 | .058 | 14 | -.058 | 15 | |
| 203 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 |
| 204 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 |
| 205 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 11 | .058 | 14 | | 15 | -.058 |
| 206 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 |
| 207 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 44 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 |
| 208 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 2 | .058 | 14 | .058 | 15 | |
| 209 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 3 | .058 | 14 | .05 | 15 | .029 |
| 210 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 4 | .058 | 14 | .029 | 15 | .05 |
| 211 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 5 | .058 | 14 | | 15 | .058 |
| 212 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 6 | .058 | 14 | -.029 | 15 | .05 |
| 213 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 7 | .058 | 14 | -.05 | 15 | .029 |
| 214 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 8 | .058 | 14 | -.058 | 15 | |
| 215 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 9 | .058 | 14 | -.05 | 15 | -.029 |
| 216 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 10 | .058 | 14 | -.029 | 15 | -.05 |
| 217 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 11 | .058 | 14 | | 15 | -.058 |
| 218 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 12 | .058 | 14 | .029 | 15 | -.05 |
| 219 | 1.2DL + 1... | Yes | Y | | 1 | 1.2 | 45 | 1.5 | 13 | .058 | 14 | .05 | 15 | -.029 |

Envelope Joint Reactions

| | Joint | | X [lb] | LC | Y [lb] | LC | Z [lb] | LC | MX [lb-ft] | LC | MY [lb-ft] | LC | MZ [lb-ft] | LC |
|---|-------|-----|-----------|----|----------|----|-----------|----|------------|----|------------|----|------------|----|
| 1 | N39 | max | 1419.943 | 17 | 1282.311 | 32 | 5059.565 | 2 | 1357.58 | 33 | 1757.871 | 23 | 771.98 | 23 |
| 2 | | min | -1425.601 | 11 | 254.975 | 25 | -3049.188 | 20 | 377.486 | 25 | -1758.614 | 17 | -893.036 | 5 |
| 3 | N38 | max | 2230.287 | 16 | 1278.982 | 28 | 1393.524 | 15 | 622.09 | 25 | 1420.299 | 19 | 1372.85 | 38 |
| 4 | | min | -3968.023 | 10 | 275.041 | 21 | -2401.396 | 9 | -1023.221 | 7 | -1423.709 | 13 | -80.609 | 19 |
| 5 | N34 | max | 3854.477 | 6 | 1280.884 | 37 | 1906.384 | 25 | 581.74 | 15 | 1851.468 | 15 | 120.15 | 21 |
| 6 | | min | -2113.861 | 24 | 289.404 | 17 | -2910.551 | 7 | -1170.121 | 9 | -1856.411 | 9 | -1146.289 | 28 |
| 7 | N4 | max | 72.793 | 17 | 2274.998 | 27 | 625.084 | 20 | 639.697 | 27 | 79.863 | 23 | 38.705 | 23 |
| 8 | | min | -72.804 | 23 | -416.699 | 20 | -3424.013 | 27 | -117.197 | 20 | -81.816 | 5 | -40.007 | 5 |



Company : Infinigy Engineering
 Designer : AT
 Job Number : 1039-Z0001-B
 Model Name : 876323

May 2, 2022
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 Checked By: _____

Envelope Joint Reactions (Continued)

| Joint | X [lb] | LC | Y [lb] | LC | Z [lb] | LC | MX [lb-ft] | LC | MY [lb-ft] | LC | MZ [lb-ft] | LC | | |
|-------|---------|-----|-----------|----|----------|----|------------|----|------------|----|------------|----|----------|----|
| 9 | N8 | max | 338.927 | 24 | 2263.95 | 31 | 1699.395 | 31 | 47.712 | 25 | 88.532 | 15 | 67.64 | 24 |
| 10 | | min | -2945.213 | 31 | -286.206 | 24 | -189.469 | 24 | -322.349 | 32 | -89.981 | 9 | -548.984 | 31 |
| 11 | N12 | max | 2945.549 | 35 | 2264.192 | 35 | 1699.564 | 35 | 45.985 | 15 | 74.774 | 19 | 552.71 | 35 |
| 12 | | min | -356.438 | 16 | -299.257 | 16 | -199.644 | 16 | -315.994 | 35 | -76.568 | 13 | -72.639 | 16 |
| 13 | Totals: | max | 5023.803 | 5 | 10000.35 | 29 | 5723.85 | 2 | | | | | | |
| 14 | | min | -5023.802 | 23 | 2839.079 | 59 | -5723.847 | 20 | | | | | | |

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

| Member | Shape | Code Check | Loc[jin] | LC | Shear Check | Loc[.Dir] | LC | phi*Pnc. | phi*Pnt. | phi*Mn | phi*Mn | Cb | Eqn | |
|--------|-------|---------------|----------|--------|-------------|-----------|---------|----------|-----------|-----------|-----------|-----------|------------|------------|
| 1 | MP3 | PIPE 2.0 | .509 | 69 | 2 | .091 | 27 | 8 | 14916... | 32130 | 1871.6... | 1871.6... | 2... H1-1b | |
| 2 | MP7 | PIPE 2.0 | .499 | 69 | 9 | .101 | 27 | 3 | 14916... | 32130 | 1871.6... | 1871.6... | 1... H1-1b | |
| 3 | MP11 | PIPE 2.0 | .478 | 69 | 6 | .094 | 27 | 12 | 14916... | 32130 | 1871.6... | 1871.6... | 1... H1-1b | |
| 4 | MP6 | PIPE 2.0 | .456 | 69 | 8 | .092 | 69 | 3 | 14916... | 32130 | 1871.6... | 1871.6... | 2... H1-1b | |
| 5 | MP2 | PIPE 2.0 | .412 | 69 | 13 | .098 | 69 | 8 | 14916... | 32130 | 1871.6... | 1871.6... | 3... H1-1b | |
| 6 | MP10 | PIPE 2.0 | .387 | 69 | 5 | .094 | 69 | 12 | 14916... | 32130 | 1871.6... | 1871.6... | 2... H1-1b | |
| 7 | M62 | L2.5x2.5x3 | .380 | 0 | 8 | .086 | 14 | y | 3 | 27513... | 29192.4 | 872.574 | 1971.83 | 2... H2-1 |
| 8 | M69 | L2.5x2.5x3 | .347 | 14 | 2 | .082 | 14 | y | 7 | 27513... | 29192.4 | 872.574 | 1971.83 | 2... H2-1 |
| 9 | M72 | L2.5x2.5x3 | .342 | 0 | 4 | .073 | 14 | y | 11 | 27513... | 29192.4 | 872.574 | 1971.83 | 2... H2-1 |
| 10 | M75 | PIPE 2.0 | .298 | 50 | 12 | .246 | 14.0... | 12 | 6295.4... | 32130 | 1871.6... | 1871.6... | 4... H3-6 | |
| 11 | M61 | PIPE 2.0 | .295 | 50 | 8 | .252 | 14.0... | 8 | 6295.4... | 32130 | 1871.6... | 1871.6... | 3... H3-6 | |
| 12 | M25 | 6"x0.37" P... | .288 | 6 | 3 | .251 | 4 | y | 12 | 37008... | 71928 | 554.445 | 8991 | 1... H1-1b |
| 13 | M17 | 6"x0.37" P... | .279 | 6 | 7 | .247 | 4 | y | 4 | 37008... | 71928 | 554.445 | 8991 | 1... H1-1b |
| 14 | M80 | PIPE 2.0 | .278 | 51.562 | 8 | .233 | 14.0... | 4 | 6295.4... | 32130 | 1871.6... | 1871.6... | 2... H1-1b | |
| 15 | M42 | L2x2x2 | .270 | 50.52 | 7 | .015 | 50.52 | y | 2 | 10626... | 15908.4 | 402.563 | 761.336 | 1... H2-1 |
| 16 | M22 | 6"x0.37" P... | .259 | 6 | 9 | .267 | 4 | y | 8 | 37008... | 71928 | 554.445 | 8991 | 1... H1-1b |
| 17 | M40 | L2x2x2 | .253 | 50.52 | 3 | .012 | 50.52 | y | 10 | 10626... | 15908.4 | 402.563 | 772.542 | 1... H2-1 |
| 18 | M39 | L2x2x2 | .251 | 50.52 | 21 | .014 | 50.52 | z | 2 | 10626... | 15908.4 | 402.563 | 760.351 | 1... H2-1 |
| 19 | MP8 | PIPE 2.0 | .247 | 69 | 13 | .087 | 69 | 10 | 14916... | 32130 | 1871.6... | 1871.6... | 3... H1-1b | |
| 20 | M38 | L2x2x2 | .242 | 50.52 | 23 | .012 | 50.52 | y | 6 | 10626... | 15908.4 | 402.563 | 760.868 | 1... H2-1 |
| 21 | MP5 | PIPE 2.0 | .239 | 69 | 8 | .070 | 69 | 9 | 14916... | 32130 | 1871.6... | 1871.6... | 2... H1-1b | |
| 22 | M43 | L2x2x2 | .236 | 50.52 | 17 | .012 | 50.52 | z | 10 | 10626... | 15908.4 | 402.563 | 761.759 | 1... H2-1 |
| 23 | MP12 | PIPE 2.0 | .236 | 69 | 9 | .096 | 69 | 7 | 14916... | 32130 | 1871.6... | 1871.6... | 3... H1-1b | |
| 24 | MP9 | PIPE 2.0 | .223 | 69 | 9 | .063 | 69 | 4 | 14916... | 32130 | 1871.6... | 1871.6... | 3... H1-1b | |
| 25 | MP4 | PIPE 2.0 | .211 | 69 | 4 | .099 | 69 | 3 | 14916... | 32130 | 1871.6... | 1871.6... | 3... H1-1b | |
| 26 | M41 | L2x2x2 | .209 | 0 | 13 | .011 | 50.52 | z | 6 | 10626... | 15908.4 | 402.563 | 769.203 | 1... H2-1 |
| 27 | MP1 | PIPE 2.0 | .193 | 69 | 12 | .067 | 69 | 13 | 14916... | 32130 | 1871.6... | 1871.6... | 2... H1-1b | |
| 28 | M12 | L2.5x2.5x3 | .169 | 25.317 | 32 | .006 | 50.6... | y | 9 | 16329... | 29192.4 | 872.574 | 1691.1... | 1... H2-1 |
| 29 | M9 | L2.5x2.5x3 | .167 | 25.317 | 28 | .007 | 50.6... | y | 5 | 16329... | 29192.4 | 872.574 | 1691.1... | 1... H2-1 |
| 30 | M15 | L2.5x2.5x3 | .165 | 25.844 | 36 | .007 | 0 | y | 13 | 16329... | 29192.4 | 872.574 | 1691.1... | 1... H2-1 |
| 31 | M7 | L2.5x2.5x3 | .164 | 25.317 | 38 | .007 | 50.6... | z | 5 | 16329... | 29192.4 | 872.574 | 1691.1... | 1... H2-1 |
| 32 | M13 | L2.5x2.5x3 | .164 | 25.317 | 34 | .007 | 0 | z | 13 | 16329... | 29192.4 | 872.574 | 1691.1... | 1... H2-1 |
| 33 | M10 | L2.5x2.5x3 | .160 | 25.844 | 30 | .006 | 0 | z | 9 | 16329... | 29192.4 | 872.574 | 1691.1... | 1... H2-1 |
| 34 | M29 | HSS4X4X8 | .128 | 31.26 | 28 | .039 | 58.6... | z | 13 | 186016... | 189630 | 20212.5 | 20212.5 | 1 H1-1b |
| 35 | M53 | PIPE 3.0 | .127 | 51.562 | 32 | .181 | 89.0... | 3 | 59302... | 65205 | 5748.75 | 5748.75 | 1 H1-1b | |
| 36 | M28 | PIPE 3.0 | .127 | 51.563 | 193 | .181 | 89.0... | 8 | 59302... | 65205 | 5748.75 | 5748.75 | 1 H1-1b | |
| 37 | M32 | HSS4X4X8 | .126 | 31.26 | 32 | .037 | 58.6... | z | 4 | 186016... | 189630 | 20212.5 | 20212.5 | 1 H1-1b |
| 38 | M48 | PIPE 3.0 | .126 | 51.562 | 28 | .175 | 89.0... | 12 | 59302... | 65205 | 5748.75 | 5748.75 | 1 H1-1b | |
| 39 | M16 | HSS4X4X8 | .124 | 0 | 9 | .089 | 0 | z | 9 | 184744... | 189630 | 20212.5 | 20212.5 | 1 H1-1b |
| 40 | M35 | HSS4X4X8 | .124 | 30.609 | 36 | .039 | 58.6... | z | 9 | 186016... | 189630 | 20212.5 | 20212.5 | 1 H1-1b |
| 41 | M21 | HSS4X4X8 | .118 | 0 | 11 | .080 | 0 | z | 5 | 184744... | 189630 | 20212.5 | 20212.5 | 1 H1-1b |
| 42 | M20 | HSS4X4X8 | .103 | 0 | 13 | .084 | 0 | z | 13 | 184744... | 189630 | 20212.5 | 20212.5 | 1 H1-1b |

APPENDIX D
ADDITIONAL CALCUATIONS

INFINIGY⁸

Bolt Calculation Tool, V1.6.1

| PROJECT DATA | |
|-------------------------|----------------|
| Site Name: | HILLSIDE |
| Site Number: | 876323 |
| Connection Description: | Mount to Tower |

| MAXIMUM BOLT LOADS | | |
|--------------------|---------|-----|
| Bolt Tension: | 2995.98 | lbs |
| Bolt Shear: | 554.71 | lbs |

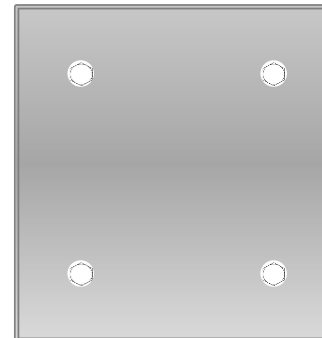
| WORST CASE BOLT LOADS ¹ | | |
|------------------------------------|---------|-----|
| Bolt Tension: | 2995.98 | lbs |
| Bolt Shear: | 443.18 | lbs |

| BOLT PROPERTIES | | |
|-------------------|-------|----|
| Bolt Type: | Bolt | - |
| Bolt Diameter: | 0.625 | in |
| Bolt Grade: | A325 | - |
| # of Bolts: | 4 | - |
| Threads Excluded? | No | - |

¹ Worst case bolt loads correspond to Load combination #8 on member M16 in RISA-3D, which causes the maximum demand on the bolts.

| Member Information |
|---------------------------|
| I nodes of M16, M20, M21, |

| BOLT CHECK | | |
|--------------------------------|----------|-------|
| Tensile Strength | 20340.15 | |
| Shear Strength | 13805.83 | |
| Max Tensile Usage | 14.7% | |
| Max Shear Usage | 4.0% | |
| Interaction Check (Worst Case) | 0.02 | ≤1.05 |
| Result | Pass | |



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

T-Mobile Existing Facility

Site ID: CTNH506A

Crown West Haven Monopole
85 Plainfield Avenue
West Haven, Connecticut 06516

June 16, 2022

EBI Project Number: 6222003965

| Site Compliance Summary | |
|---------------------------------------------------------------------|------------------|
| Compliance Status: | COMPLIANT |
| Site total MPE% of FCC general population allowable limit: | 26.17% |

June 16, 2022

T-Mobile

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

Emissions Analysis for Site: CTNH506A - Crown West Haven Monopole

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **85 Plainfield Avenue** in **West Haven, 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 85 Plainfield Avenue in West Haven, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 1 LTE channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 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. This Channel has a transmit power of 40 Watts per Channel.
- 4) 1 UMTS channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. This Channel has 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. This Channel has a transmit power of 120 Watts per Channel.
- 6) 1 LTE channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. This Channel has 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. This Channel has a transmit power of 120Watts per Channel.
- 8) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.
- 9) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.
- 10) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 11) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 12) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 13) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 14) The antennas used in this modeling are the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz channel(s) in Sector A, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz channel(s) in Sector B, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power

levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 15) The antenna mounting height centerline of the proposed antennas is 146 feet above ground level (AGL).
- 16) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 17) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

| | | | | | |
|---------------------|-----------------------------------------------------------|---------------------|-----------------------------------------------------------|---------------------|-----------------------------------------------------------|
| Sector: | A | Sector: | B | Sector: | C |
| Antenna #: | 1 | Antenna #: | 1 | Antenna #: | 1 |
| Make / Model: | Ericsson AIR 6419 | Make / Model: | Ericsson AIR 6419 | Make / Model: | Ericsson AIR 6419 |
| Frequency Bands: | 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz | Frequency Bands: | 2500 MHz / 2500 MHz / 2500 MHz | Frequency Bands: | 2500 MHz / 2500 MHz / 2500 MHz |
| Gain: | 22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd | Gain: | 22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd | Gain: | 22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd |
| Height (AGL): | 146 feet | Height (AGL): | 146 feet | Height (AGL): | 146 feet |
| Channel Count: | 4 | Channel Count: | 4 | Channel Count: | 4 |
| Total TX Power (W): | 240.00 Watts | Total TX Power (W): | 240.00 Watts | Total TX Power (W): | 240.00 Watts |
| ERP (W): | 31,011.95 | ERP (W): | 31,011.95 | ERP (W): | 31,011.95 |
| Antenna A1 MPE %: | 5.69% | Antenna B1 MPE %: | 5.69% | Antenna C1 MPE %: | 5.69% |
| Antenna #: | 2 | Antenna #: | 2 | Antenna #: | 2 |
| Make / Model: | Ericsson AIR 32 | Make / Model: | Ericsson AIR 32 | Make / Model: | Ericsson AIR 32 |
| Frequency Bands: | 1900 MHz / 2100 MHz | Frequency Bands: | 1900 MHz / 2100 MHz | Frequency Bands: | 1900 MHz / 2100 MHz |
| Gain: | 15.35 dBd / 15.85 dBd | Gain: | 15.35 dBd / 15.85 dBd | Gain: | 15.35 dBd / 15.85 dBd |
| Height (AGL): | 146 feet | Height (AGL): | 146 feet | Height (AGL): | 146 feet |
| Channel Count: | 2 | Channel Count: | 2 | Channel Count: | 2 |
| Total TX Power (W): | 240.00 Watts | Total TX Power (W): | 240.00 Watts | Total TX Power (W): | 240.00 Watts |
| ERP (W): | 8,728.31 | ERP (W): | 8,728.31 | ERP (W): | 8,728.31 |
| Antenna A2 MPE %: | 1.60% | Antenna B2 MPE %: | 1.60% | Antenna C2 MPE %: | 1.60% |
| Antenna #: | 3 | Antenna #: | 3 | Antenna #: | 3 |
| Make / Model: | RFS APXVAARR24_43-U-NA20 | Make / Model: | RFS APXVAARR24_43-U-NA20 | Make / Model: | RFS APXVAARR24_43-U-NA20 |
| Frequency Bands: | 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz | Frequency Bands: | 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz | Frequency Bands: | 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz |
| Gain: | 12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd | Gain: | 12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd | Gain: | 12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd |
| Height (AGL): | 146 feet | Height (AGL): | 146 feet | Height (AGL): | 146 feet |
| Channel Count: | 5 | Channel Count: | 5 | Channel Count: | 5 |
| Total TX Power (W): | 330.00 Watts | Total TX Power (W): | 330.00 Watts | Total TX Power (W): | 330.00 Watts |
| ERP (W): | 9,475.79 | ERP (W): | 9,475.79 | ERP (W): | 9,475.79 |
| Antenna A3 MPE %: | 2.57% | Antenna B3 MPE %: | 2.57% | Antenna C3 MPE %: | 2.57% |

| Site Composite MPE % | |
|-----------------------------|---------------|
| Carrier | MPE % |
| T-Mobile (Max at Sector A): | 9.86% |
| Verizon | 13.29% |
| Clearwire | 0.11% |
| Sprint | 2.91% |
| Site Total MPE % : | 26.17% |

| T-Mobile MPE % Per Sector | |
|---------------------------|--------|
| T-Mobile Sector A Total: | 9.86% |
| T-Mobile Sector B Total: | 9.86% |
| T-Mobile Sector C Total: | 9.86% |
| | |
| Site Total MPE % : | 26.17% |

| 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 2500 MHz LTE IC & 2C Traffic | 1 | 9619.47 | 146.0 | 17.64 | 2500 MHz LTE IC & 2C Traffic | 1000 | 1.76% |
| T-Mobile 2500 MHz LTE IC & 2C Broadcast | 1 | 717.84 | 146.0 | 1.32 | 2500 MHz LTE IC & 2C Broadcast | 1000 | 0.13% |
| T-Mobile 2500 MHz NR Traffic | 1 | 19238.94 | 146.0 | 35.29 | 2500 MHz NR Traffic | 1000 | 3.53% |
| T-Mobile 2500 MHz NR Broadcast | 1 | 1435.69 | 146.0 | 2.63 | 2500 MHz NR Broadcast | 1000 | 0.26% |
| T-Mobile 1900 MHz LTE | 1 | 4113.21 | 146.0 | 7.54 | 1900 MHz LTE | 1000 | 0.75% |
| T-Mobile 2100 MHz LTE | 1 | 4615.10 | 146.0 | 8.47 | 2100 MHz LTE | 1000 | 0.85% |
| T-Mobile 600 MHz LTE | 1 | 788.97 | 146.0 | 1.45 | 600 MHz LTE | 400 | 0.36% |
| T-Mobile 600 MHz NR | 1 | 1577.94 | 146.0 | 2.89 | 600 MHz NR | 400 | 0.72% |
| T-Mobile 700 MHz LTE | 1 | 865.09 | 146.0 | 1.59 | 700 MHz LTE | 467 | 0.34% |
| T-Mobile 1900 MHz UMTS | 1 | 367.28 | 146.0 | 0.67 | 1900 MHz UMTS | 1000 | 0.07% |
| T-Mobile 1900 MHz LTE | 1 | 5876.52 | 146.0 | 10.78 | 1900 MHz LTE | 1000 | 1.08% |
| | | | | | | Total: | 9.86% |

• 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: | 9.86% |
| Sector B: | 9.86% |
| Sector C: | 9.86% |
| T-Mobile Maximum MPE % (Sector A): | 9.86% |
| | |
| Site Total: | 26.17% |
| | |
| Site Compliance Status: | COMPLIANT |

The anticipated composite MPE value for this site assuming all carriers present is **26.17%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

T-Mobile

T-MOBILE SITE NUMBER: CTNH506A
T-MOBILE SITE NAME: CROWN WEST HAVEN MONOPOLE
SITE TYPE: MONOPOLE
TOWER HEIGHT: 149'-6"

BUSINESS UNIT #: 876323
SITE ADDRESS: 85 PLAINFIELD AVE
 WEST HAVEN, CT 06516
COUNTY: NEW HAVEN
JURISDICTION: CONNECTICUT SITING COUNCIL

T-MOBILE ANCHOR SITE CONFIGURATION: 67D5A997DB MUAC

T-Mobile

4 SYLVAN WAY
 PARSIPPANY, NJ 07054

CROWN CASTLE

3530 TORINGDON WAY, SUITE 300
 CHARLOTTE, NC 28277

B+T GRP

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

T-MOBILE SITE NUMBER:
CTNH506A

BU #: 876323
HILLSIDE

85 PLAINFIELD AVE
 WEST HAVEN, CT 06516

EXISTING
 149'-6" MONOPOLE

ISSUED FOR:

| REV | DATE | DRWN | DESCRIPTION | DES./QA |
|-----|---------|------|--------------------|---------|
| A | 5/16/22 | YX | PRELIMINARY REVIEW | CV |
| 0 | 5/27/22 | LR | PRELIMINARY REVIEW | LR |

SITE INFORMATION

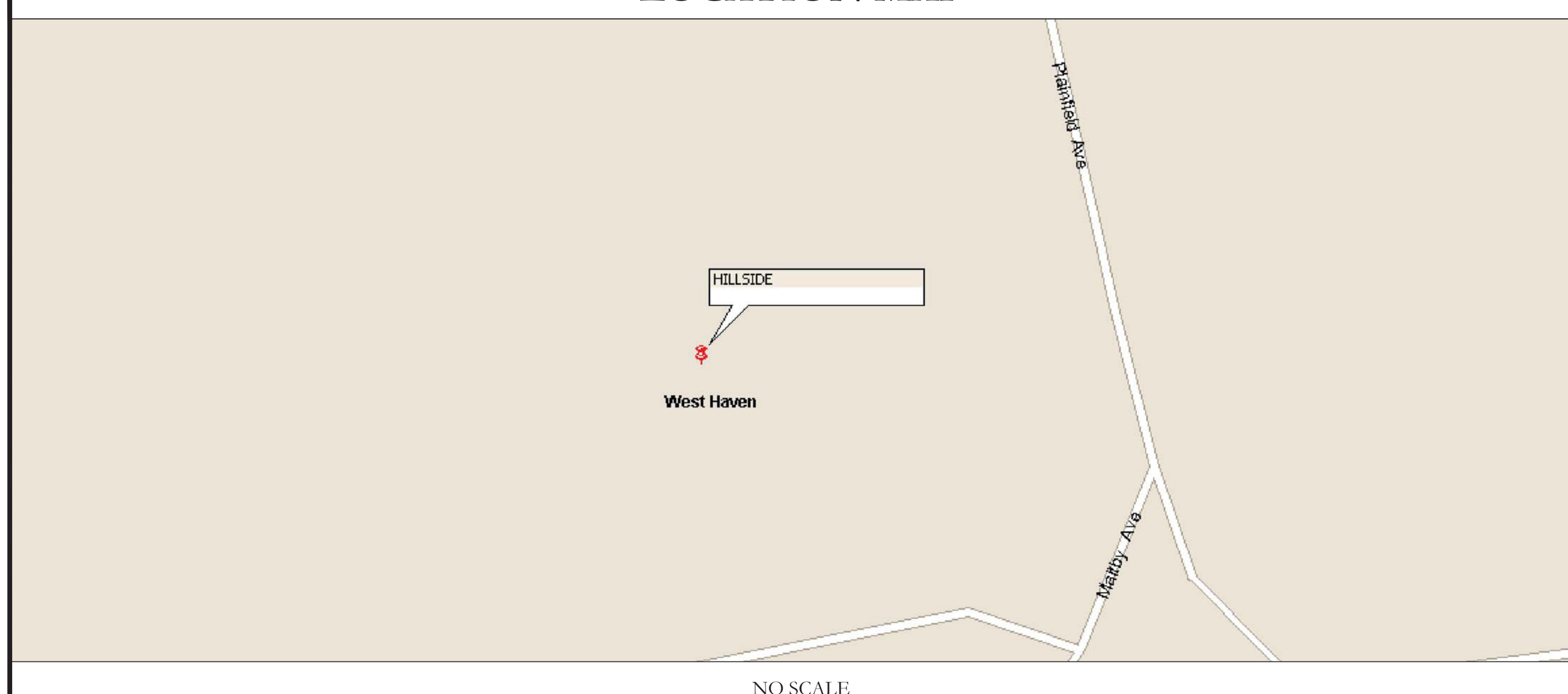
CROWN CASTLE USA INC. HILLSIDE
 SITE NAME:
 SITE ADDRESS: 85 PLAINFIELD AVE
 WEST HAVEN, CT 06516
 COUNTY: NEW HAVEN
 MAP/PARCEL #: 067-0005-0-0000
 AREA OF CONSTRUCTION: EXISTING
 LATITUDE: 41.301275°
 LONGITUDE: -72.976444°
 LAT/LONG TYPE: NAD83
 GROUND ELEVATION: 152'-0"
 CURRENT ZONING: IPD
 JURISDICTION: CONNECTICUT SITING COUNCIL
 OCCUPANCY CLASSIFICATION: U
 TYPE OF CONSTRUCTION: IIB
 A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR
 HUMAN HABITATION
 PROPERTY OWNER: YALE-NEW HAVEN HEALTH SERVICES
 20 YORK ST
 NEW HAVEN, CT 06511
 TOWER OWNER: CROWN CASTLE
 2000 CORPORATE DRIVE
 CANONSBURG, PA 15317
 CARRIER/APPLICANT: T-MOBILE
 12920 SE 38TH STREET
 BELLEVUE, WA 98006
 ELECTRIC PROVIDER: UNITED ILLUMINATING CO
 (800) 722-5584
 TELCO PROVIDER: LIGHT TOWER
 (855) 91-FIBER

DRAWING INDEX

| SHEET # | SHEET DESCRIPTION |
|---------|---------------------------------------|
| T-1 | TITLE SHEET |
| T-2 | GENERAL NOTES |
| C-1.1 | OVERALL SITE PLAN |
| C-1.2 | SITE PLAN & ENLARGED SITE PLAN |
| C-2 | FINAL ELEVATION & ANTENNA PLANS |
| C-3 | ANTENNA & CABLE SCHEDULE |
| C-4 | PLUMBING DIAGRAM |
| C-5 | EQUIPMENT SPECS |
| E-1 | AC PANEL SCHEDULES & ONE LINE DIAGRAM |
| G-1 | ANTENNA GROUNDING DIAGRAM |
| G-2 | GROUNDING DETAILS |
| G-3 | GROUNDING DETAILS |

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 24X36. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

LOCATION MAP



APPLICABLE CODES/REFERENCE DOCUMENTS

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

| CODE TYPE | CODE |
|------------|---------------------------|
| BUILDING | 2018 CONNECTICUT/2015 IBC |
| MECHANICAL | 2018 CONNECTICUT/2015 IMC |
| ELECTRICAL | 2018 CONNECTICUT/2017 NEC |

REFERENCE DOCUMENTS:

| | |
|----------------------|-----------|
| STRUCTURAL ANALYSIS: | B+T GROUP |
| DATED: | 5/9/22 |
| MOUNT ANALYSIS: | INFINIGY |
| DATED: | 5/2/22 |
| RFDS REVISION: | 6 |
| DATED: | 2/4/22 |
| ORDER ID: | 612571 |
| REVISION: | 0 |

APPROVALS

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

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

PROJECT DESCRIPTION

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

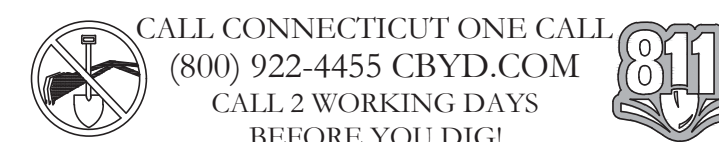
TOWER SCOPE OF WORK:

- REMOVE (3) ANTENNAS
- REMOVE (6) 1-5/8" COAX
- INSTALL (3) ANTENNAS
- INSTALL (3) RADIOS
- INSTALL (1) HYBRID TRUNK 6/24 4AWG

GROUND SCOPE OF WORK:

- REMOVE (2) RBS 6201 CABINET
- REMOVE (1) RBS 6102 MU AC CABINET
- REMOVE (1) BB 5216
- REMOVE (1) XMU
- REMOVE (3) RUS01 B2
- REMOVE (6) DIPLEXERS
- RELOCATE (1) DUW30
- RELOCATE (1) BB6630
- INSTALL (1) 6160 AC V1 SSC
- INSTALL (1) B160 BATTERY CABINET
- INSTALL (1) RBS 6601
- INSTALL (2) BB 6648
- INSTALL (1) PSU 4813 vR2A (Kit)
- INSTALL (1) CSR IXRe V2 (Gen2)

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



PROJECT TEAM

A&E FIRM: B+T GROUP
 1717 S. BOULDER AVE.
 TULSA, OK 74119
 MARVIN PHILLIPS
 MARVIN.PHILLIPS@BTGRP.COM
 CROWN CASTLE USA INC. DISTRICT CONTACTS:
 3530 TORINGDON WAY, SUITE 300
 CHARLOTTE, NC 28277
 TRICIA PELON - PROJECT MANAGER
 TRICIA.PELON@CROWNCastle.COM
 JASON D'AMICO - CONSTRUCTION MANAGER
 JASON.DAMICO@CROWNCastle.COM



B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/10/23

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:

- 1. NOTICE TO PROCEED- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT: THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR...
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GREENFIELD GROUNDING NOTES:

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

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

ELECTRICAL INSTALLATION NOTES:

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

CONDUCTOR COLOR CODE table with columns: SYSTEM, CONDUCTOR, COLOR. Rows include 120/240V, 10; 120/208V, 30; 277/480V, 30; DC VOLTAGE.

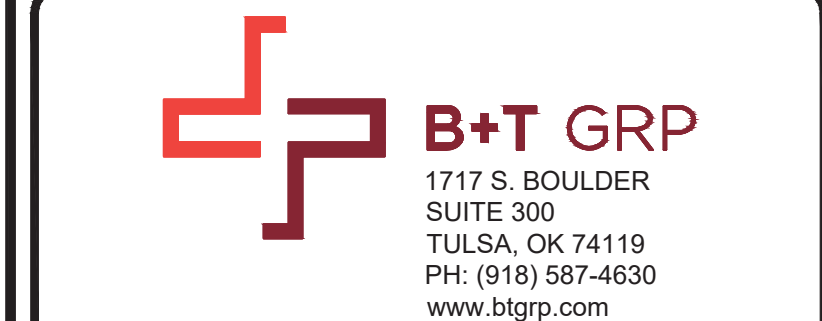
* SEE NEC 210.5(C)(1) AND (2) ** POLARITY MARKED AT TERMINATION

APWA UNIFORM COLOR CODE:

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

ABBREVIATIONS:

- ANT ANTENNA
(E) EXISTING
FIF FACILITY INTERFACE FRAME
GEN GENERATOR
GPS GLOBAL POSITIONING SYSTEM
GSM GLOBAL SYSTEM FOR MOBILE
LTE LONG TERM EVOLUTION
MGB MASTER GROUND BAR
MW MICROWAVE
(N) NEW
NEC NATIONAL ELECTRIC CODE
(P) PROPOSED
PP POWER PLAN
QTY QUANTITY
RECT RECTIFIER
RBS RADIO BASE STATION
RETS 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: CTNH506A BU #: 876323 HILLSIDE

85 PLAINFIELD AVE WEST HAVEN, CT 06516

EXISTING 149'-6" MONOPOLE

ISSUED FOR: table with columns: REV, DATE, DRWN, DESCRIPTION, DES./QA. Rows include A 5/16/22 YX PRELIMINARY REVIEW CV and 0 5/27/22 LR PRELIMINARY REVIEW LR.



B&T ENGINEERING, INC. PEC.0001564 Expires 2/10/23 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

SITE PLAN DISCLAIMER:
 PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM PREVIOUS PLAN SETS. CROWN CASTLE USA INC. HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET.



APN: 067-0006-0-0000
 ZONING: IPD

APN: 067-0005-0-0000
 ZONING: IPD

APN: 067-0007-0-0000
 ZONING: IPD

- (E) T-MOBILE EQUIPMENT PAD
- (E) 149'-6" MONOPOLE
- (E) COMPOUND
- (E) 12'-0" ACCESS EASEMENT
- (E) SITE LOCATION (REFERENCE C-1.2 FOR DETAILS)
- (E) ACCESS ROAD

T-Mobile
 4 SYLVAN WAY
 PARSIPPANY, NJ 07054

CROWN CASTLE
 3530 TORINGDON WAY, SUITE 300
 CHARLOTTE, NC 28277

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

T-MOBILE SITE NUMBER:
CTNH506A

BU #: 876323
HILLSIDE

85 PLAINFIELD AVE
 WEST HAVEN, CT 06516

EXISTING
 149'-6" MONOPOLE

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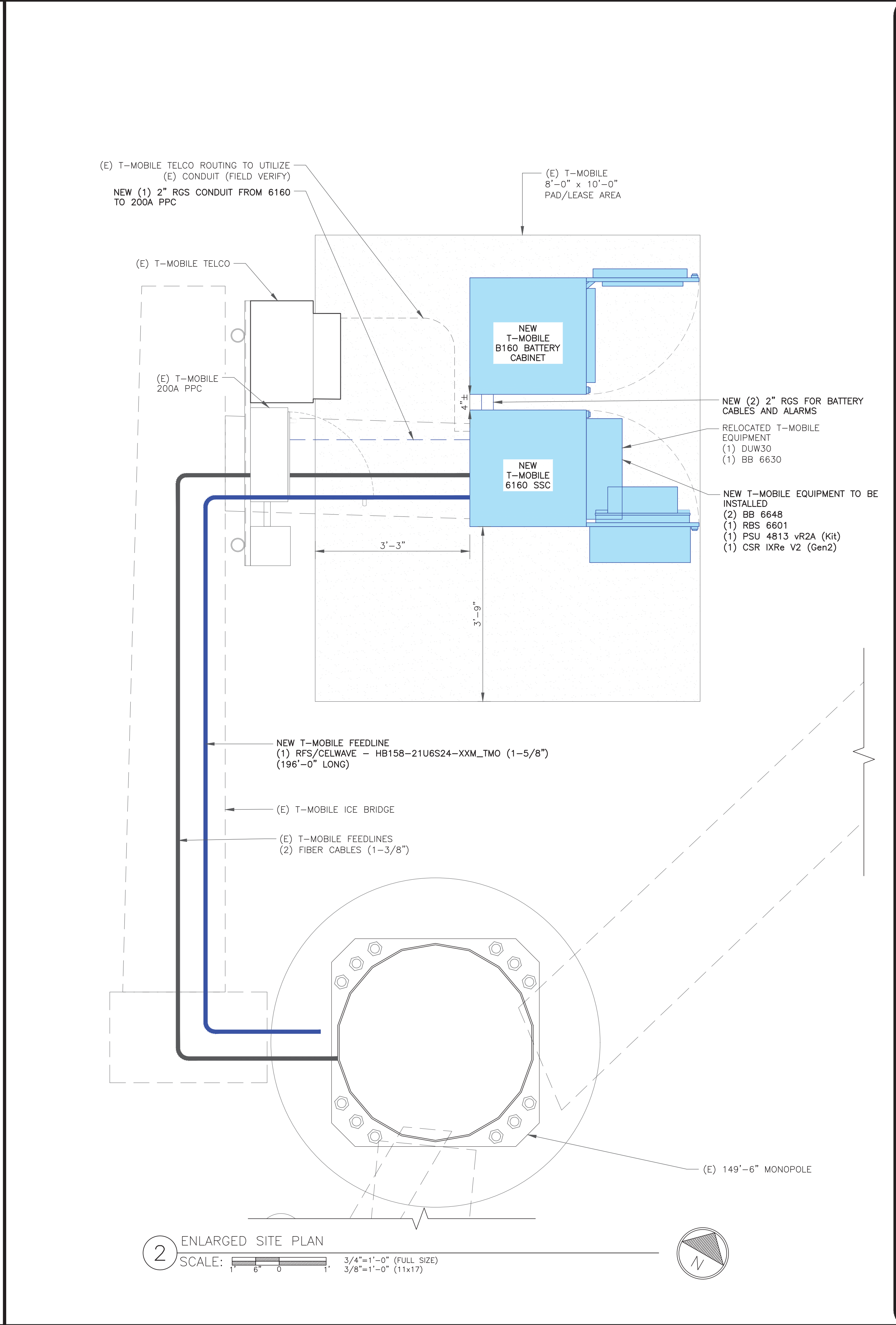
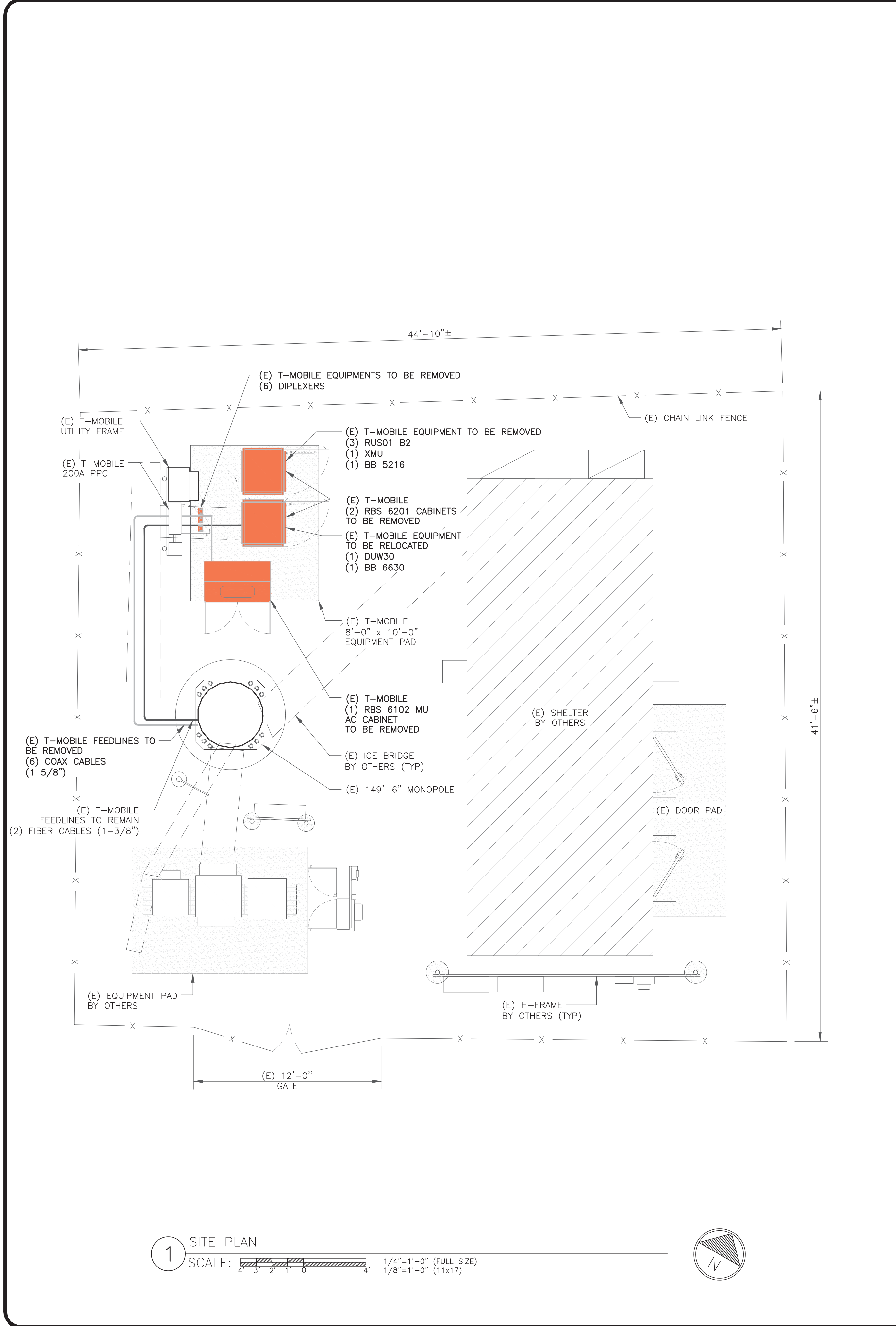
1 OVERALL SITE PLAN

SCALE:

1" = 60'-0" (FULL SIZE)
 1" = 120'-0" (11x17)

SHEET NUMBER:
C-1.1

REVISION:
0



T-Mobile
 4 SYLVAN WAY
 PARSIPPANY, NJ 07054

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85 PLAINFIELD AVE
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EXISTING
 149'-6" MONOPOLE

ISSUED FOR:

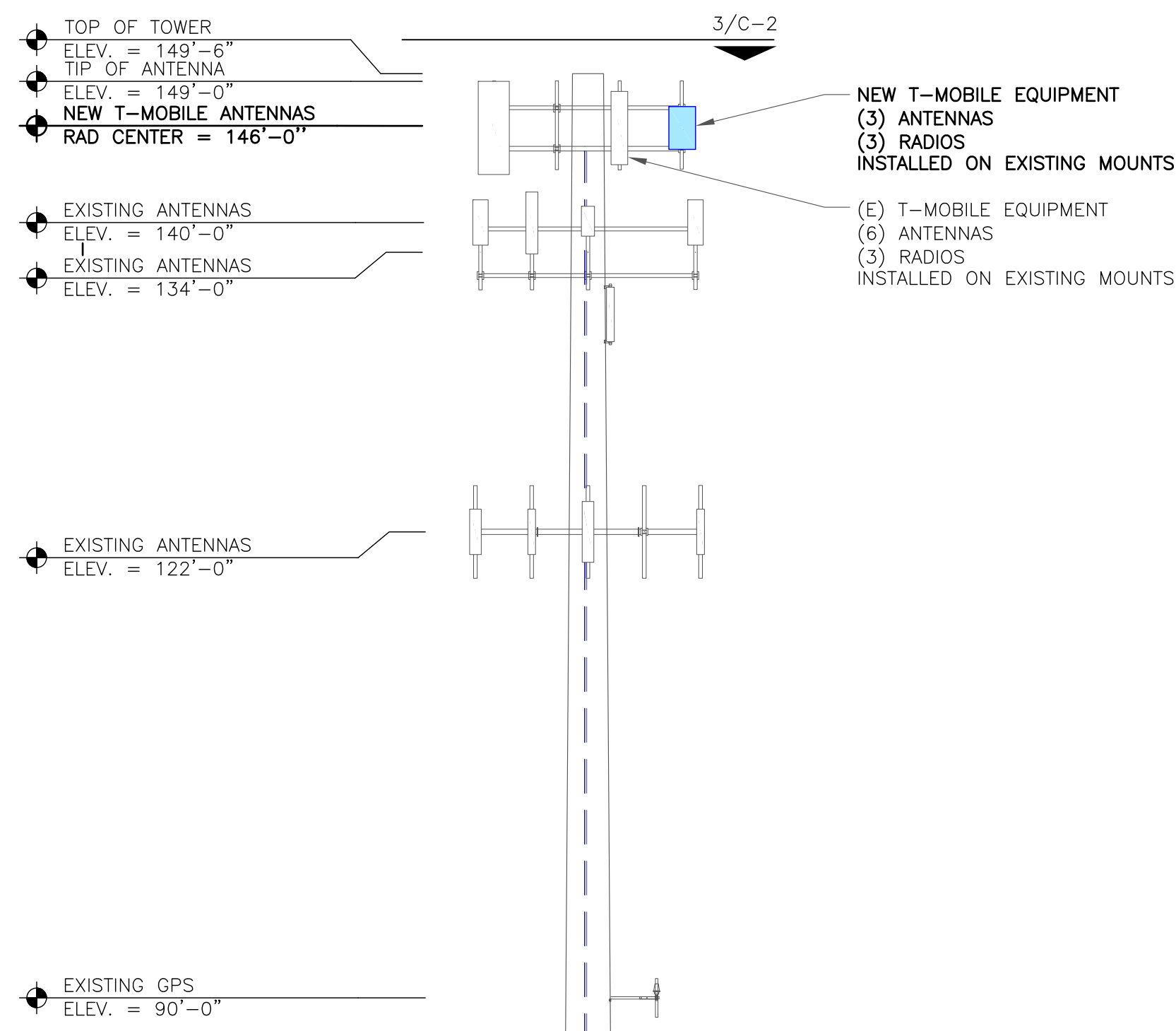
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|-----|---------|------|--------------------|---------|
| A | 5/16/22 | YX | PRELIMINARY REVIEW | CV |
| 0 | 5/27/22 | LR | PRELIMINARY REVIEW | LR |

B&T ENGINEERING, INC.
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 Expires 2/10/23

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SHEET NUMBER:
C-1.2

REVISION:
0

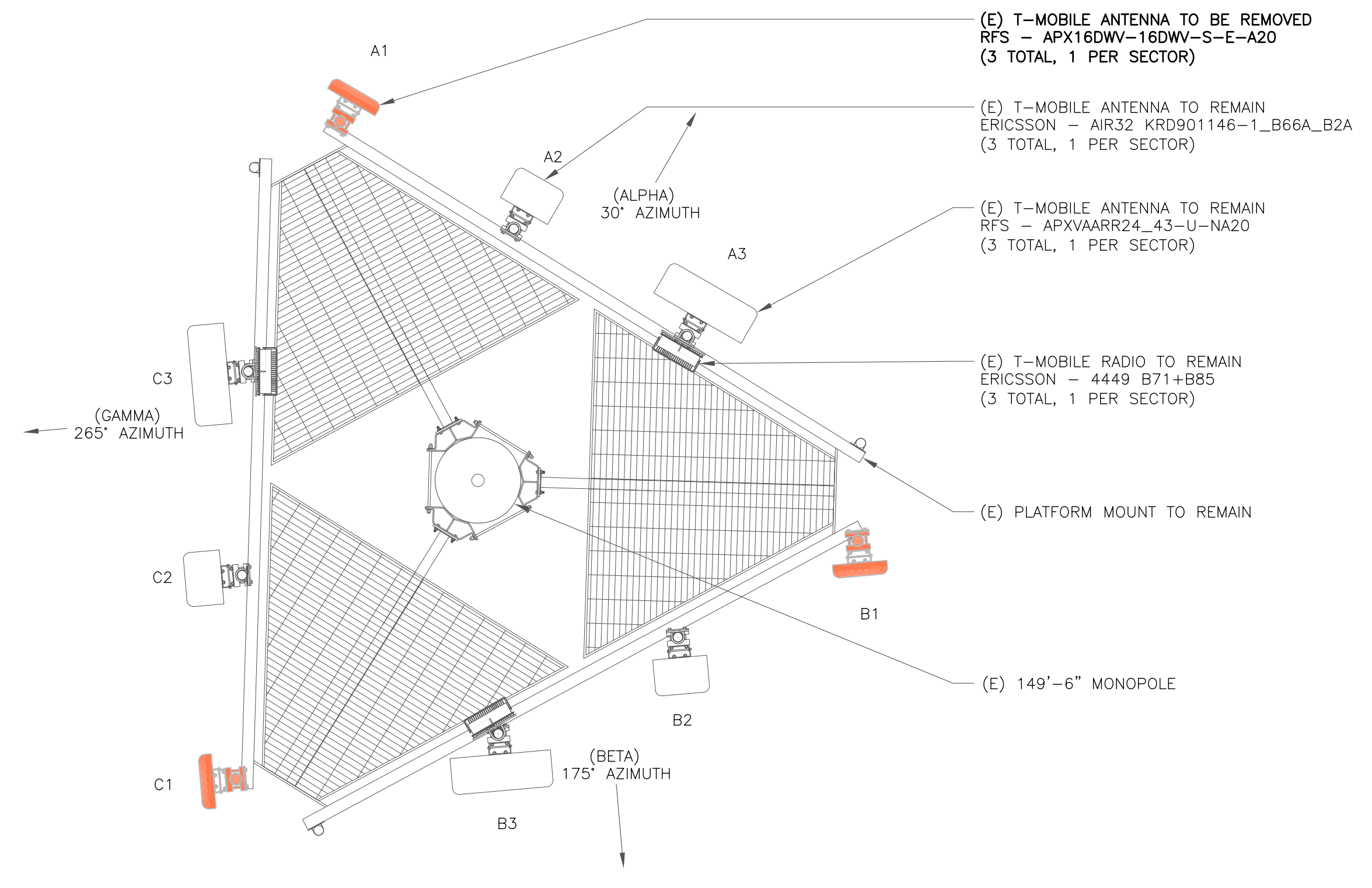


T-MOBILE EQUIPMENT
 ANTENNA CL: 146'-0", 144'-0"
 MOUNT CL: 146'-0"

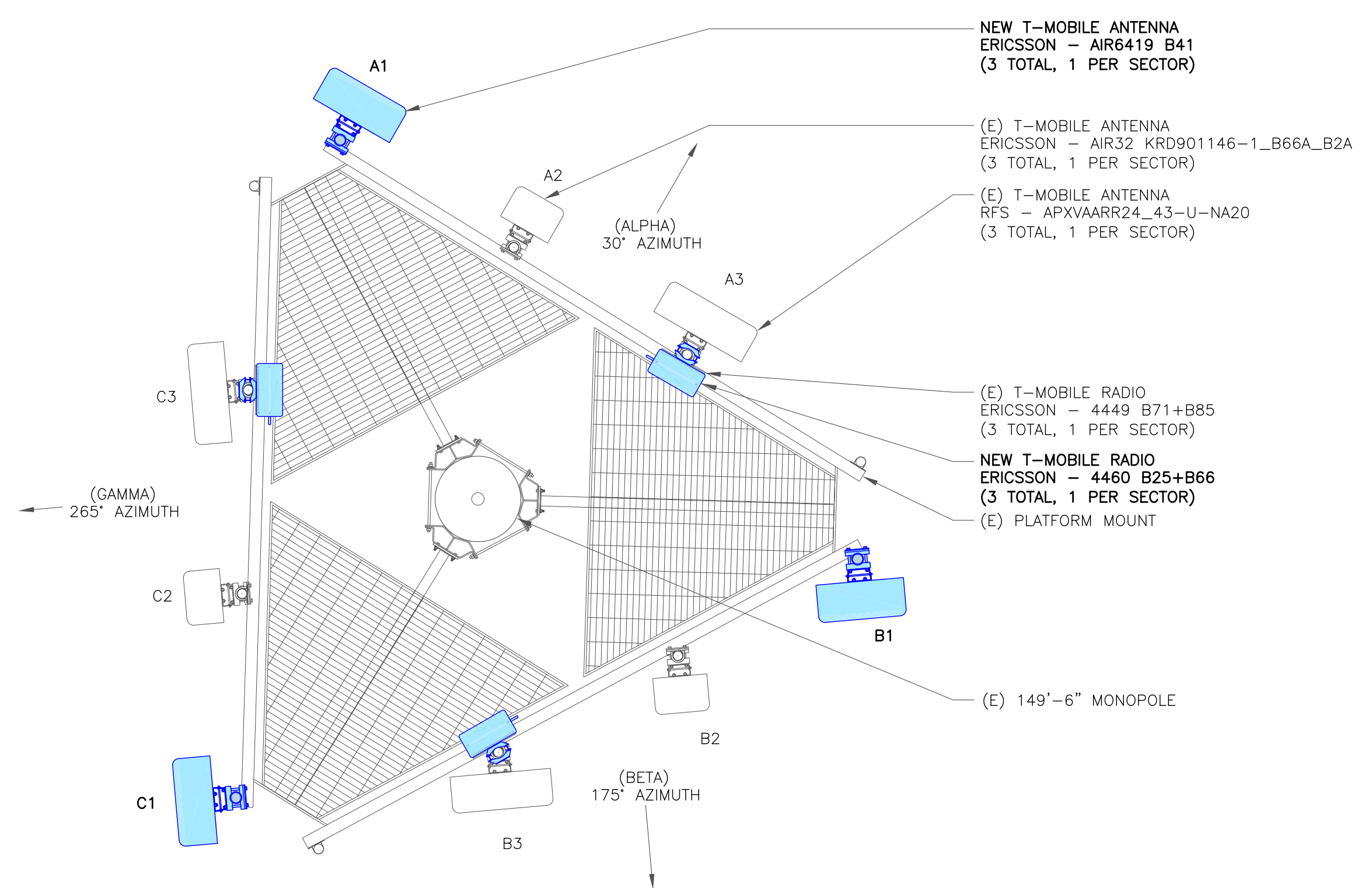
ANY AND ALL TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE W/ EXISTING SAFETY CLIMB

NEW T-MOBILE FEEDLINE
 (1) RFS/CELWAVE - HB158-21U6S24-XXM_TMO (1-5/8")
 (196'-0" LONG)
 (E) 149'-6" MONOPOLE
 (E) T-MOBILE FEEDLINES
 (2) FIBER CABLES (1-3/8")

1 FINAL ELEVATION
 SCALE: NOT TO SCALE



2 EXISTING ANTENNA PLAN
 SCALE: NOT TO SCALE



3 FINAL ANTENNA PLAN
 SCALE: NOT TO SCALE

T-Mobile
 4 SYLVAN WAY
 PARSIPPANY, NJ 07054

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 CHARLOTTE, NC 28277

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T-MOBILE SITE NUMBER:
CTNH506A
BU #: 876323
HILLSIDE
 85 PLAINFIELD AVE
 WEST HAVEN, CT 06516
 EXISTING
 149'-6" MONOPOLE

ISSUED FOR:

| REV | DATE | DRWN | DESCRIPTION | DES./QA |
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| A | 5/16/22 | YX | PRELIMINARY REVIEW | CV |
| 0 | 5/27/22 | LR | PRELIMINARY REVIEW | LR |

B&T ENGINEERING, INC.
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SHEET NUMBER: C-2
REVISION: 0

82071.010.01_876323_HILLSIDE.dwg - Sheet: C-2 - User: lisa_rider - May 27, 2022 - 6:17pm

| RF SYSTEM SCHEDULE | | | | | | | | | | | | |
|--------------------|---------|--------------------------------|--------------|-------------------------------|---------|--------|-------------|------------|--------------------------------------|------------|----------------------------|--------------|
| SECTOR | ANTENNA | TECH | MANUFACTURER | ANTENNA MODEL | AZIMUTH | M-TILT | E-TILT | RAD CENTER | TMA/RRU | CABLE TYPE | CABLE DIAMETER | CABLE LENGTH |
| ALPHA | A-1 | L2500/N2500 | ERICSSON | AIR6419 B41 | 30° | 0° | 2°/2° | 146'-0" | - | | | |
| | A-2 | L2100/L1900 | ERICSSON | AIR32 KRD901146-1_B66A_B2A | 30° | 0° | 2°/2°/2°/2° | 146'-0" | - | | | |
| | A-3 | L700/L600/N600/ L1900/U1900 | RFS | APXVAARR24_43-NA20 | 30° | 0° | 2°/2° | 144'-0" | (1) 4449 B71+B85 (1) 4460 B25+B66 | HYBRID | (1) 6X12 HCS | 196'-0" |
| BETA | B-1 | L2500/N2500 | ERICSSON | AIR6419 B41 | 175° | 0° | 2°/2° | 146'-0" | - | | | |
| | B-2 | L2100/L1900 | ERICSSON | AIR32 KRD901146-1_B66A_B2A | 175° | 0° | 2°/2°/2°/2° | 146'-0" | - | | | |
| | B-3 | L700/L600/N600/ L1900/U1900 | RFS | APXVAARR24_43-NA20 | 175° | 0° | 2°/2° | 144'-0" | (1) 4449 B71+B85 (1) 4460 B25+B66 | HYBRID | (1) 6X12 HCS 6AWG | 196'-0" |
| GAMMA | C-1 | L2500/N2500 | ERICSSON | AIR6419 B41 | 265° | 0° | 2°/2° | 146'-0" | - | | | |
| | C-2 | L2100/L1900 | ERICSSON | AIR32 KRD901146-1_B66A_B2A | 265° | 0° | 2°/2°/2°/2° | 146'-0" | - | | | |
| | C-3 | L700/L600/N600/ L1900/U1900 | RFS | APXVAARR24_43-NA20 | 265° | 0° | 2°/2° | 144'-0" | (1) 4449 B71+B85 (1) 4460 B25+B66 | HYBRID | (1) 6/24 4AWG | 196'-0" |

1 ANTENNA & FEEDLINE SCHEDULE
SCALE: NOT TO SCALE

T-MOBILE SITE NUMBER:
CTNH506A

BU #: **876323**
HILLSIDE

85 PLAINFIELD AVE
WEST HAVEN, CT 06516

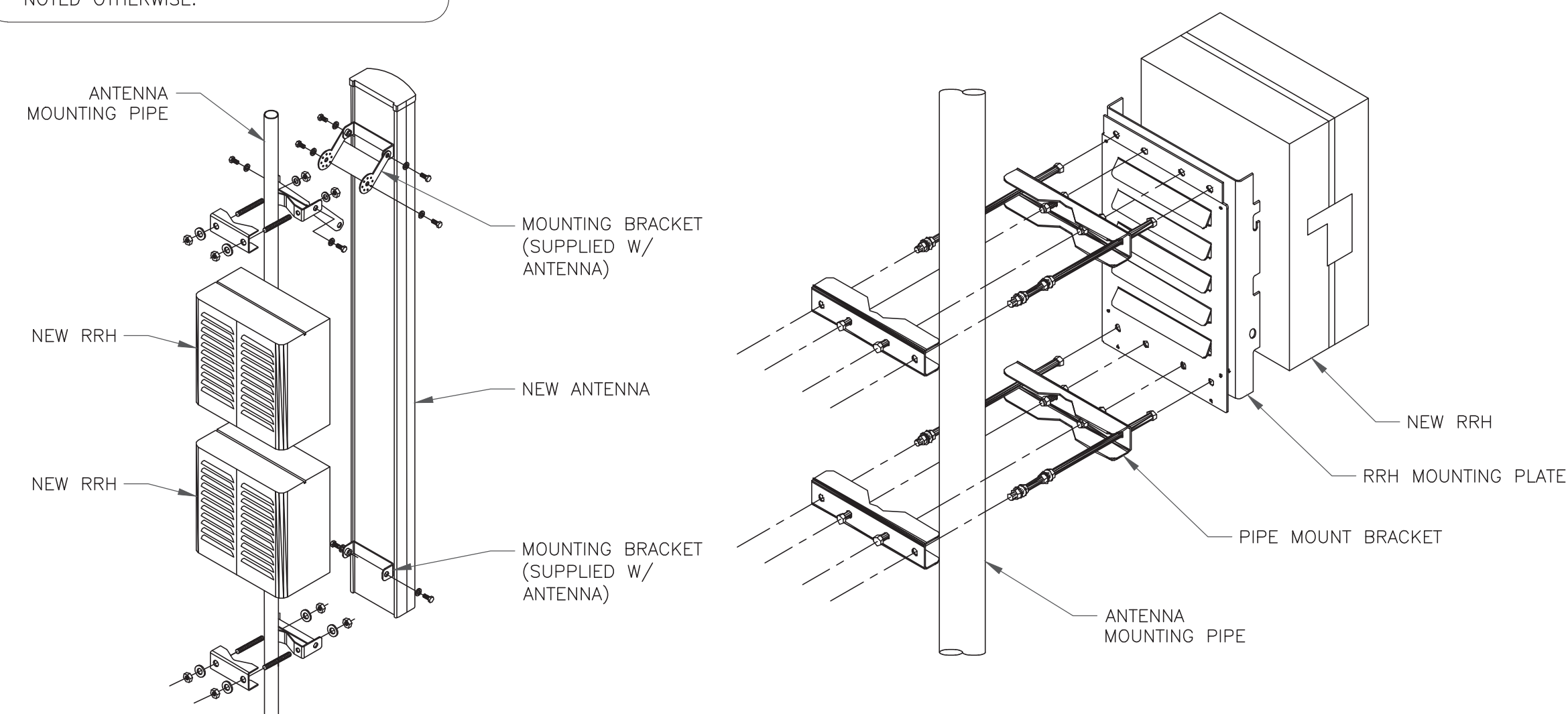
EXISTING
149'-6" MONOPOLE

ISSUED FOR:

| REV | DATE | DRWN | DESCRIPTION | DES./QA |
|-----|---------|------|--------------------|---------|
| A | 5/16/22 | YX | PRELIMINARY REVIEW | CV |
| 0 | 5/27/22 | LR | PRELIMINARY REVIEW | LR |
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| | | | | |

INSTALLER NOTES:

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



2 ANTENNA WITH RRHs MOUNTING DETAIL
SCALE: NOT TO SCALE



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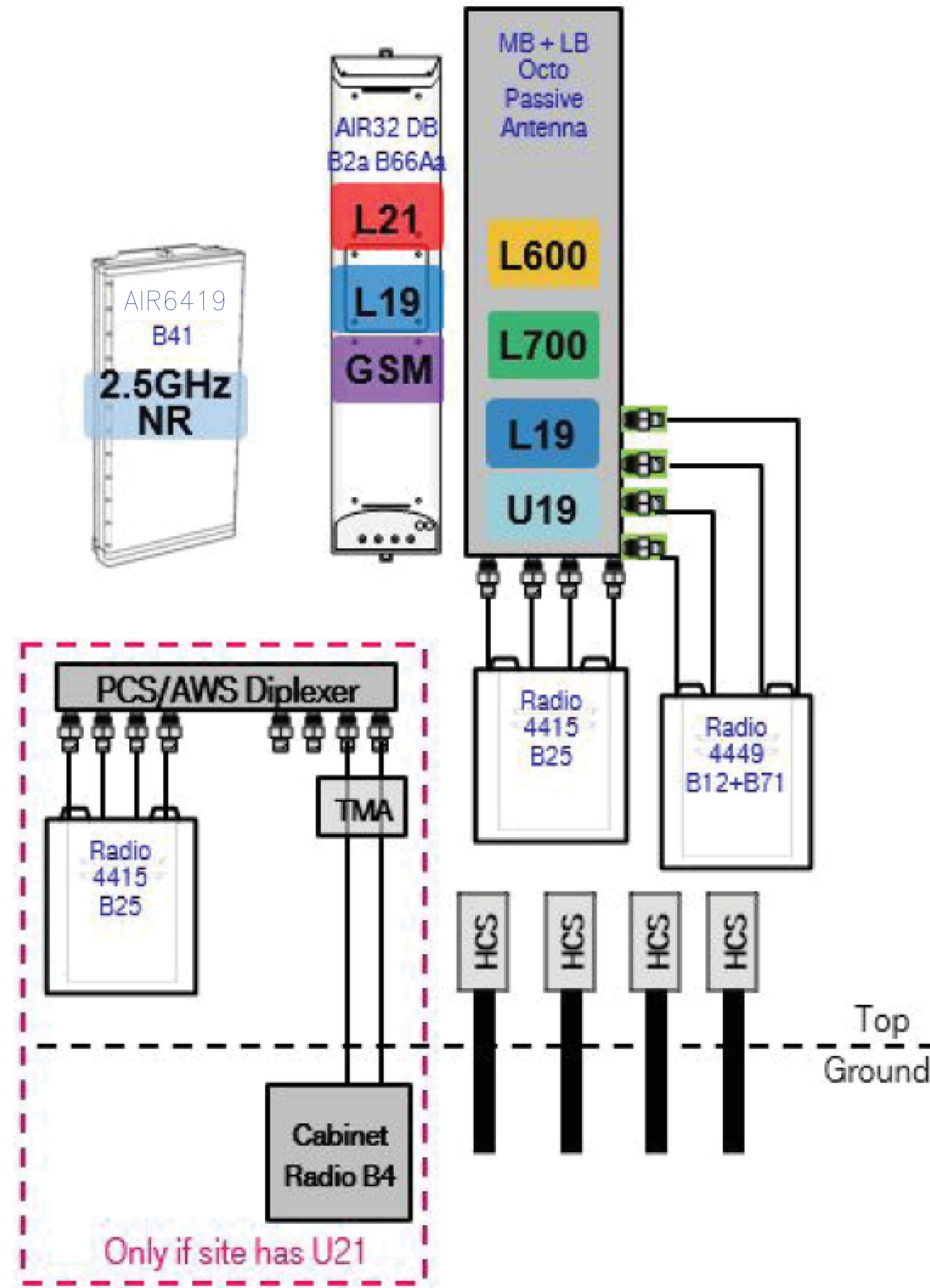
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SHEET NUMBER:

C-3

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Notes:

1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE

T-Mobile

4 SYLVAN WAY
PARSIPPANY, NJ 07054

CROWN CASTLE

3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

B+T GRP

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

T-MOBILE SITE NUMBER:
CTNH506A

BU #: 876323
HILLSIDE

85 PLAINFIELD AVE
WEST HAVEN, CT 06516

EXISTING
149'-6" MONOPOLE

ISSUED FOR:

| REV | DATE | DRWN | DESCRIPTION | DES./QA |
|-----|---------|------|--------------------|---------|
| A | 5/16/22 | YX | PRELIMINARY REVIEW | CV |
| 0 | 5/27/22 | LR | PRELIMINARY REVIEW | LR |
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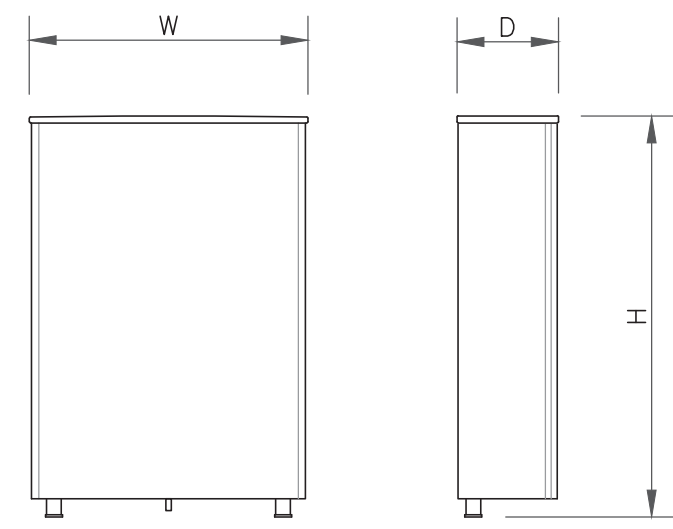
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SHEET NUMBER:

C-4

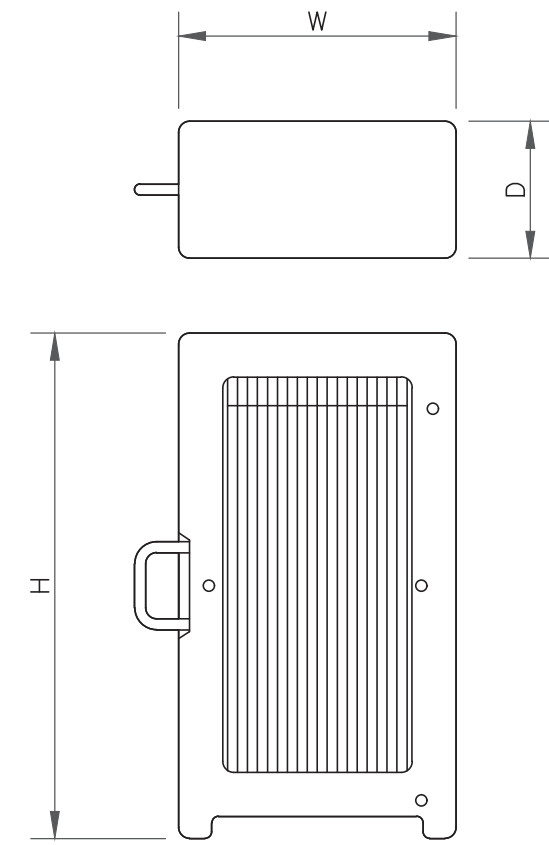
REVISION:

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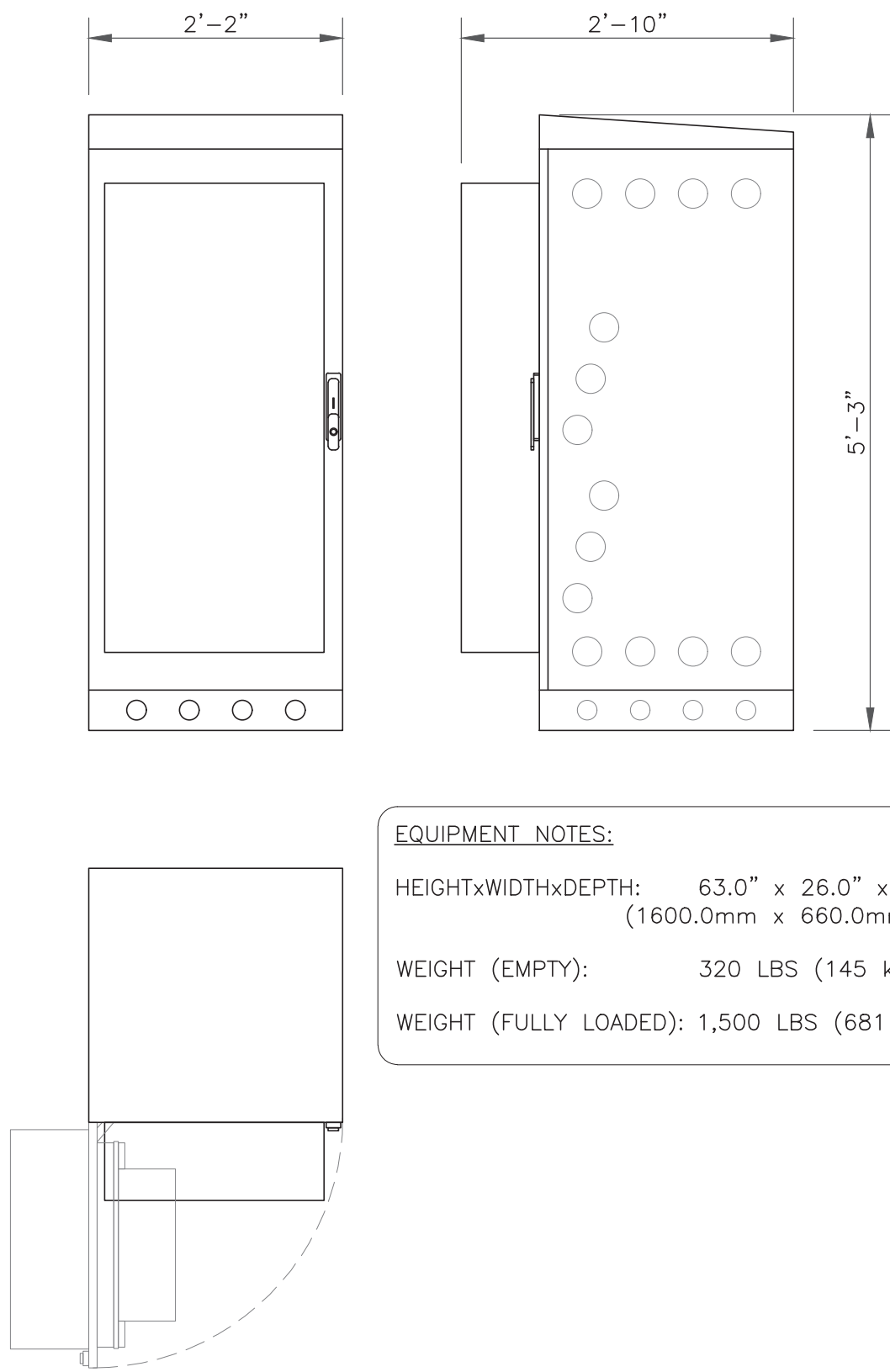
| ANTENNA SPECS | |
|---------------|-------------|
| MANUFACTURER | ERICSSON |
| MODEL # | AIR6419 B41 |
| WIDTH | 20.91" |
| DEPTH | 9.02" |
| HEIGHT | 36.25" |
| WEIGHT | 96.50 LBS |

1 ANTENNA SPECS
SCALE: NOT TO SCALE



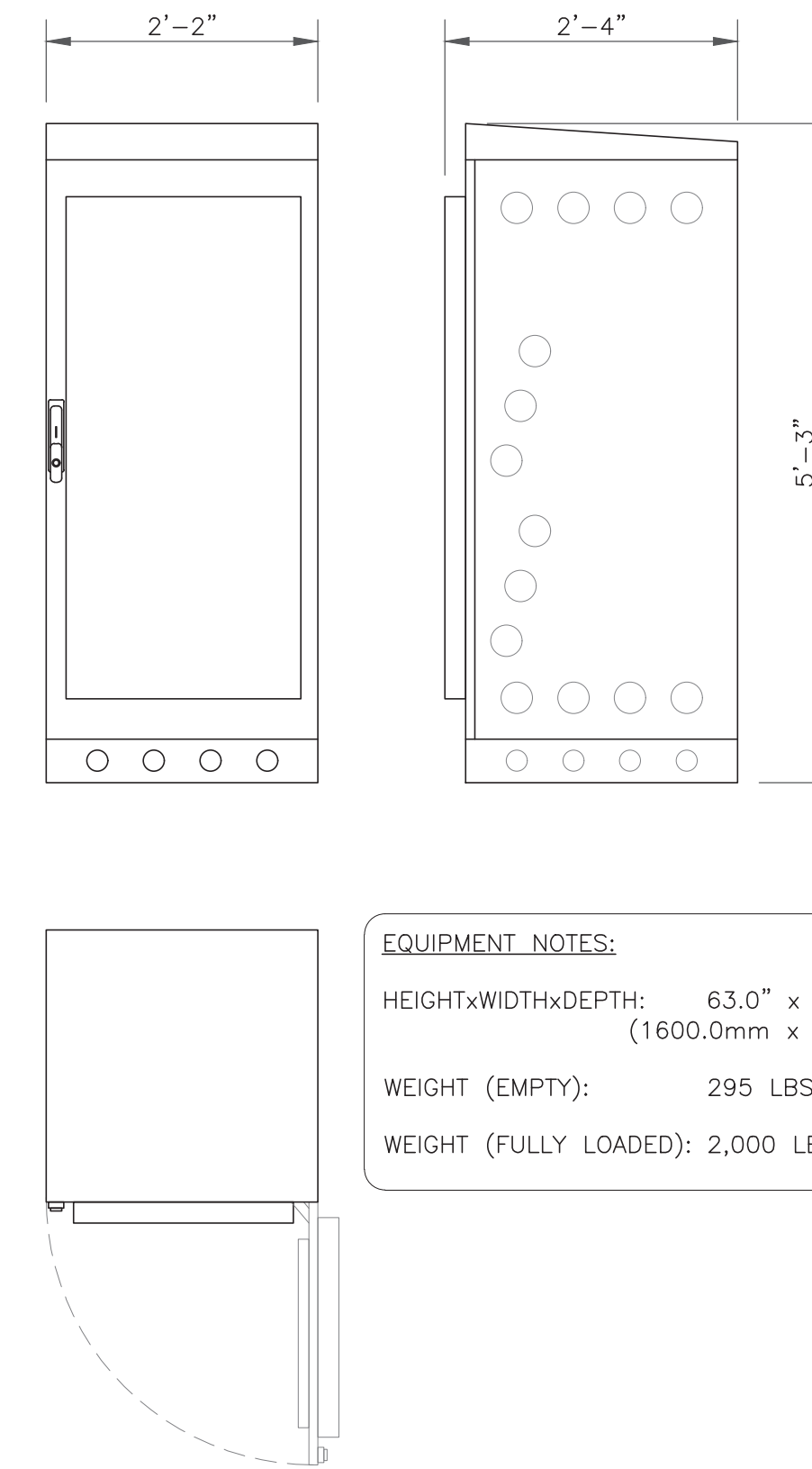
| RRU SPECIFICATIONS | |
|--------------------|--------------|
| MANUFACTURER | ERICSSON |
| MODEL # | 4460 B25+B66 |
| WIDTH | 15.10" |
| DEPTH | 11.90" |
| HEIGHT | 17.00" |
| WEIGHT | 109.00 LBS |

2 RRU SPECS
SCALE: NOT TO SCALE



EQUIPMENT NOTES:
 HEIGHTxWIDTHxDEPTH: 63.0" x 26.0" x 34.0"
 (1600.0mm x 660.0mm x 864.0mm)
 WEIGHT (EMPTY): 320 LBS (145 kg)
 WEIGHT (FULLY LOADED): 1,500 LBS (681 kg)

3 ERICSSON - 6160
SCALE: NOT TO SCALE



EQUIPMENT NOTES:
 HEIGHTxWIDTHxDEPTH: 63.0" x 26.0" x 28.0"
 (1600.0mm x 660.0mm x 711.0mm)
 WEIGHT (EMPTY): 295 LBS (134 kg)
 WEIGHT (FULLY LOADED): 2,000 LBS (908 kg)

4 ERICSSON - B160
SCALE: NOT TO SCALE

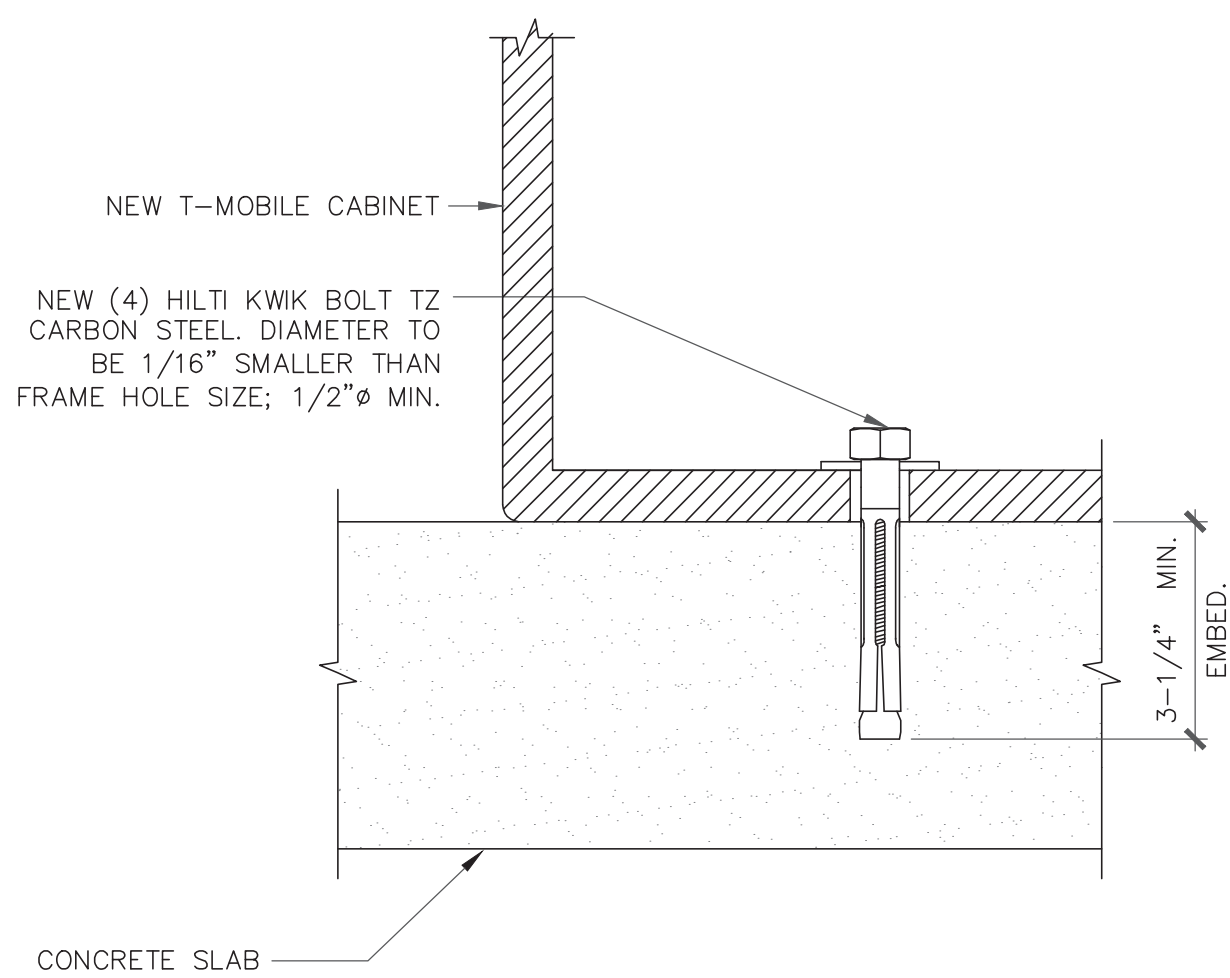
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| | | | | |
| | | | | |



5 CABINET ANCHOR DETAIL
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

7 NOT USED
SCALE: NOT TO SCALE

8 NOT USED
SCALE: NOT TO SCALE



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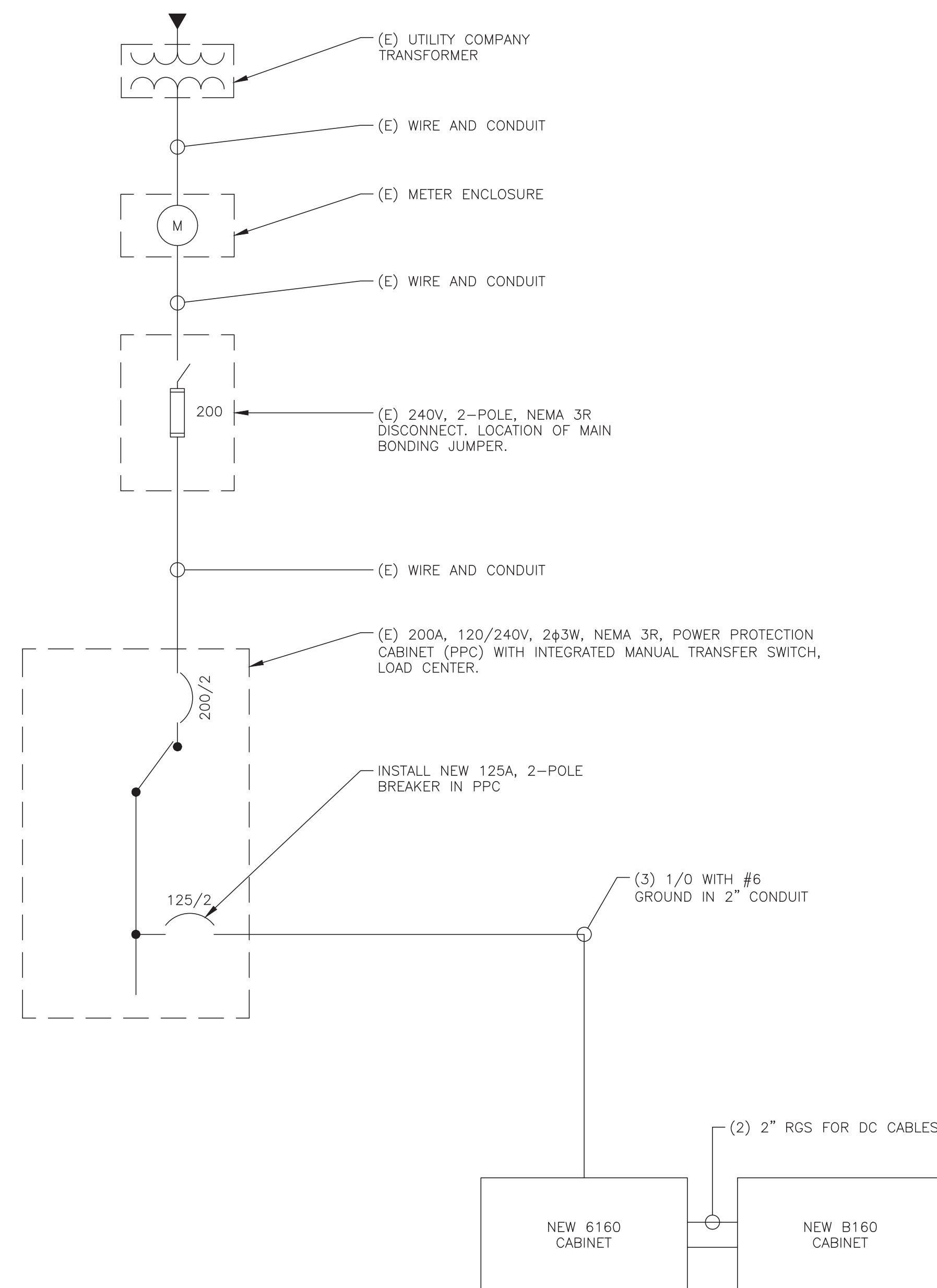
| FINAL PANEL SCHEDULE | | | | | | | | |
|----------------------|-------|------|-----|----|----|------|-------|----------|
| LOAD | POLES | AMPS | BUS | | | AMPS | POLES | LOAD |
| | | | L1 | L2 | L3 | | | |
| TVSS | 2 | 30A | 1 | | 2 | 100A | 2 | RBS 6201 |
| EQUIPMENT | 2 | 80A | 3 | | 4 | 20A | 1 | FIBER |
| | | | 5 | | 6 | | | |
| | | | 7 | | 8 | 125A | 2 | 6160 |
| | | | 9 | | 10 | | | |
| | | | 11 | | 12 | | 1 | |
| | | | 13 | | 14 | | 1 | |
| | | | 15 | | 16 | | 1 | |
| | | | 17 | | 18 | | 1 | |
| | | | 19 | | 20 | | 1 | |
| | | | 21 | | 22 | | 1 | |
| | | | 23 | | 24 | | 1 | |

| | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| RATED VOLTAGE: <input 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 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"/> KEYED DOOR LATCH |
| <input type="checkbox"/> FUSED <input checked="" type="checkbox"/> CIRCUIT BREAKER <input type="checkbox"/> BRANCH DEVICES | | <input type="checkbox"/> _____ TO BE GFCI BREAKERS | <input type="checkbox"/> 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 BREAKERS IN POSITION 8 AND 10 WITH A NEW 2P 125A BREAKER
 REPLACE EXISTING WIRES FOR NEW 6160 CABINET WITH (3) 3/0 AWG THWN (COPPER) AND (1) #6 AWG GROUND. MINIMUM CONDUIT SIZE TO BE 2".
 INSTALL NEW WIRES FOR GFI WITH (2) 14 AWG (COPPER) AND (1) 14 AWG GROUND. MINIMUM CONDUIT SIZE TO BE 1".
 IF 200A BREAKER WILL NOT PROPERLY FIT IN EXISTING PANEL, REPLACE (E) PANEL WITH SQUARE D PANEL Q012040M200RB (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

NOTES:

1. ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THHW, THWN, THWN-2, XHHW, OR XHHW-2 UNLESS NOTED OTHERWISE.
2. CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
3. ALL GROUNDING AND BONDING PER THE NEC 250.
4. GENERAL CONTRACTOR SHALL PROVIDE LABELING ACCORDING TO NEC 110.21.



1 FINAL T-MOBILE PANEL DETAIL
 SCALE: NOT TO SCALE

2 ONE LINE DIAGRAM
 SCALE: NOT TO SCALE

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BU #: **876323**
HILLSIDE

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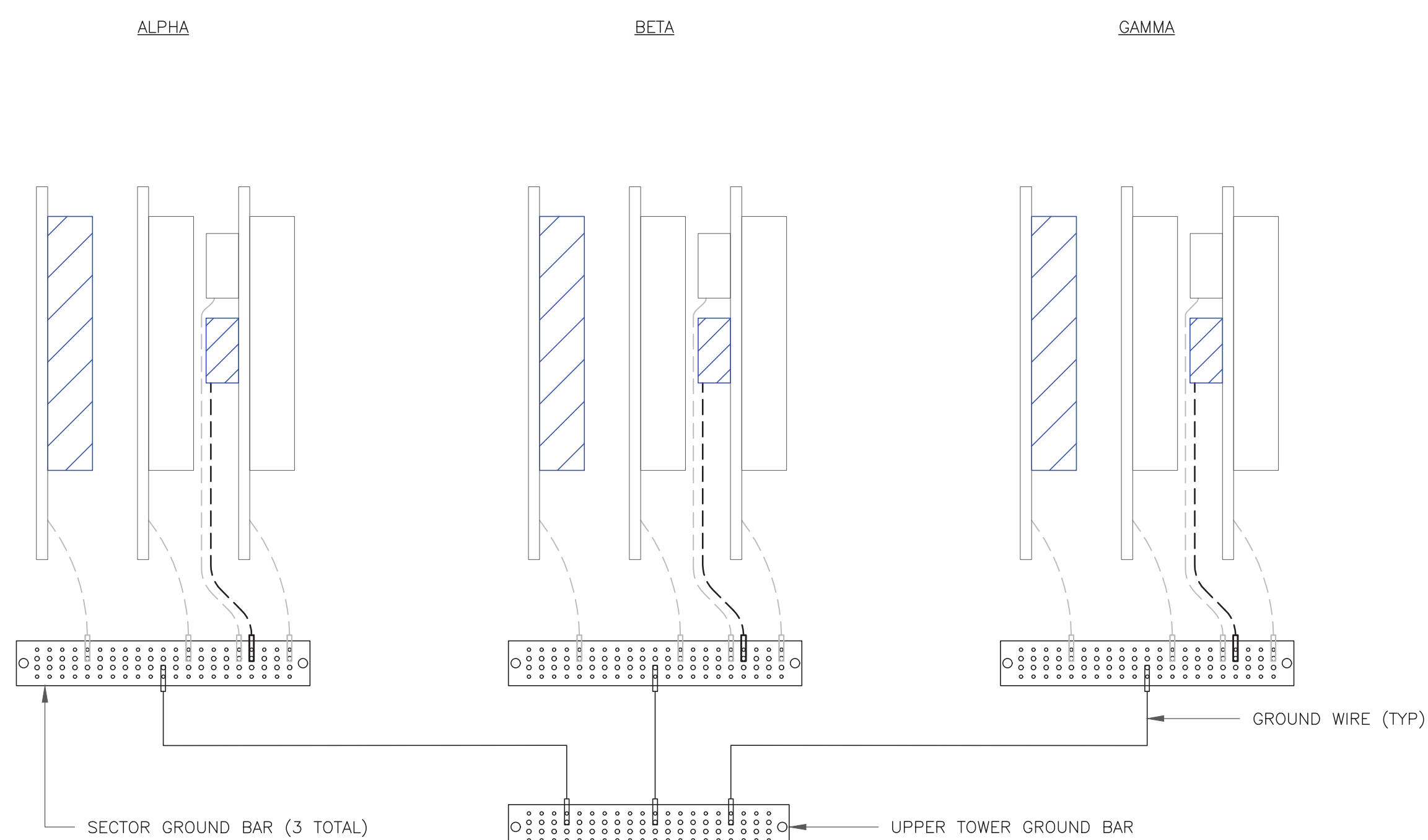
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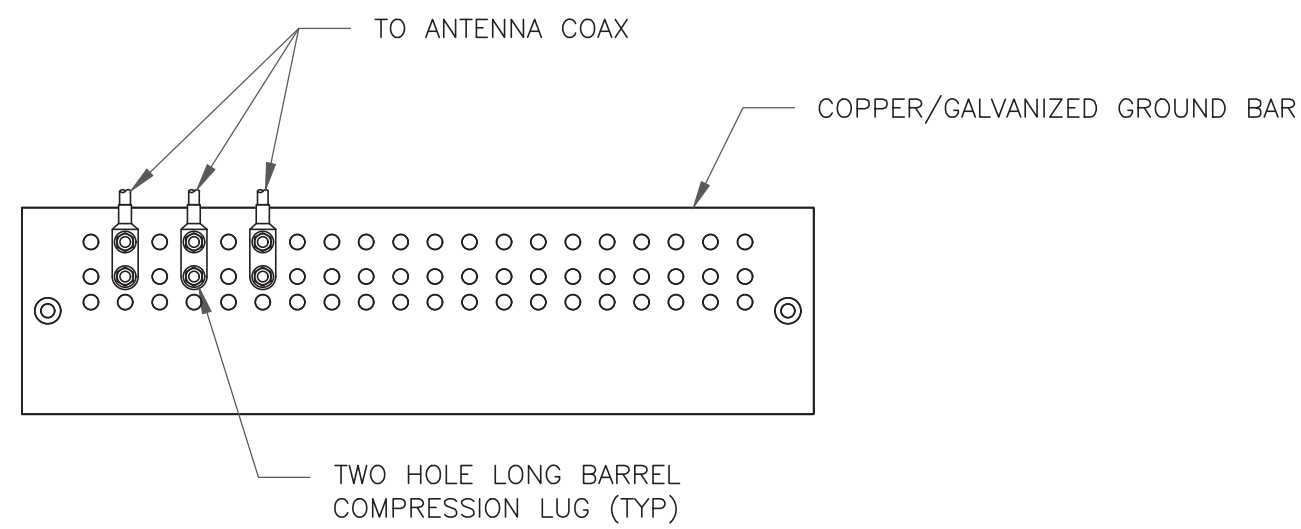
G-1

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

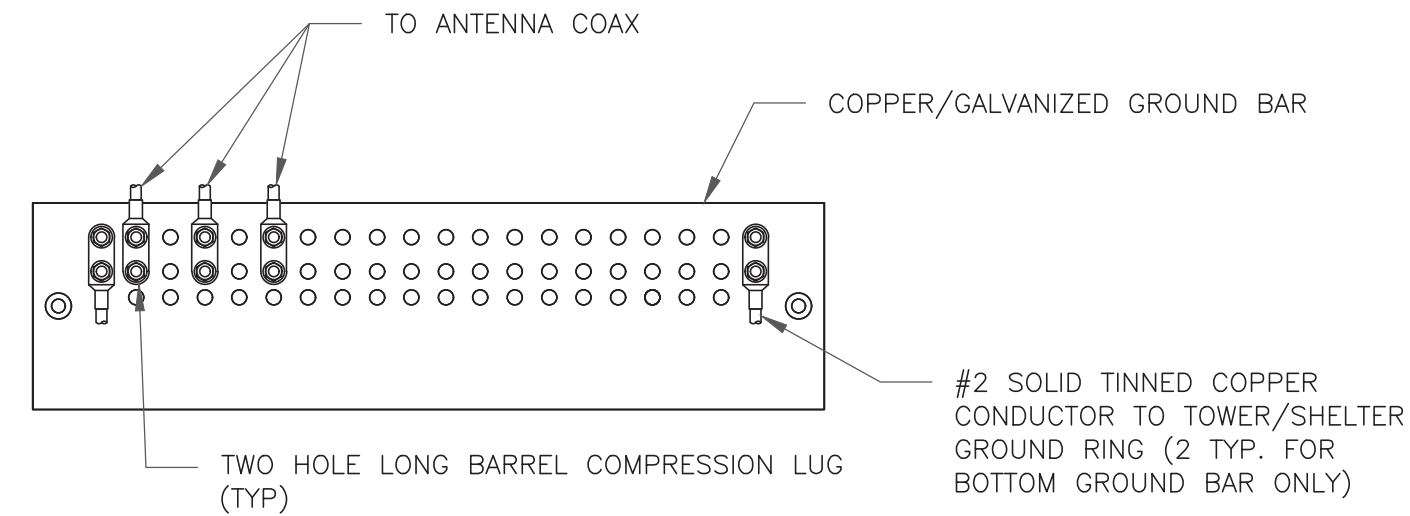
1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



NOTES:

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

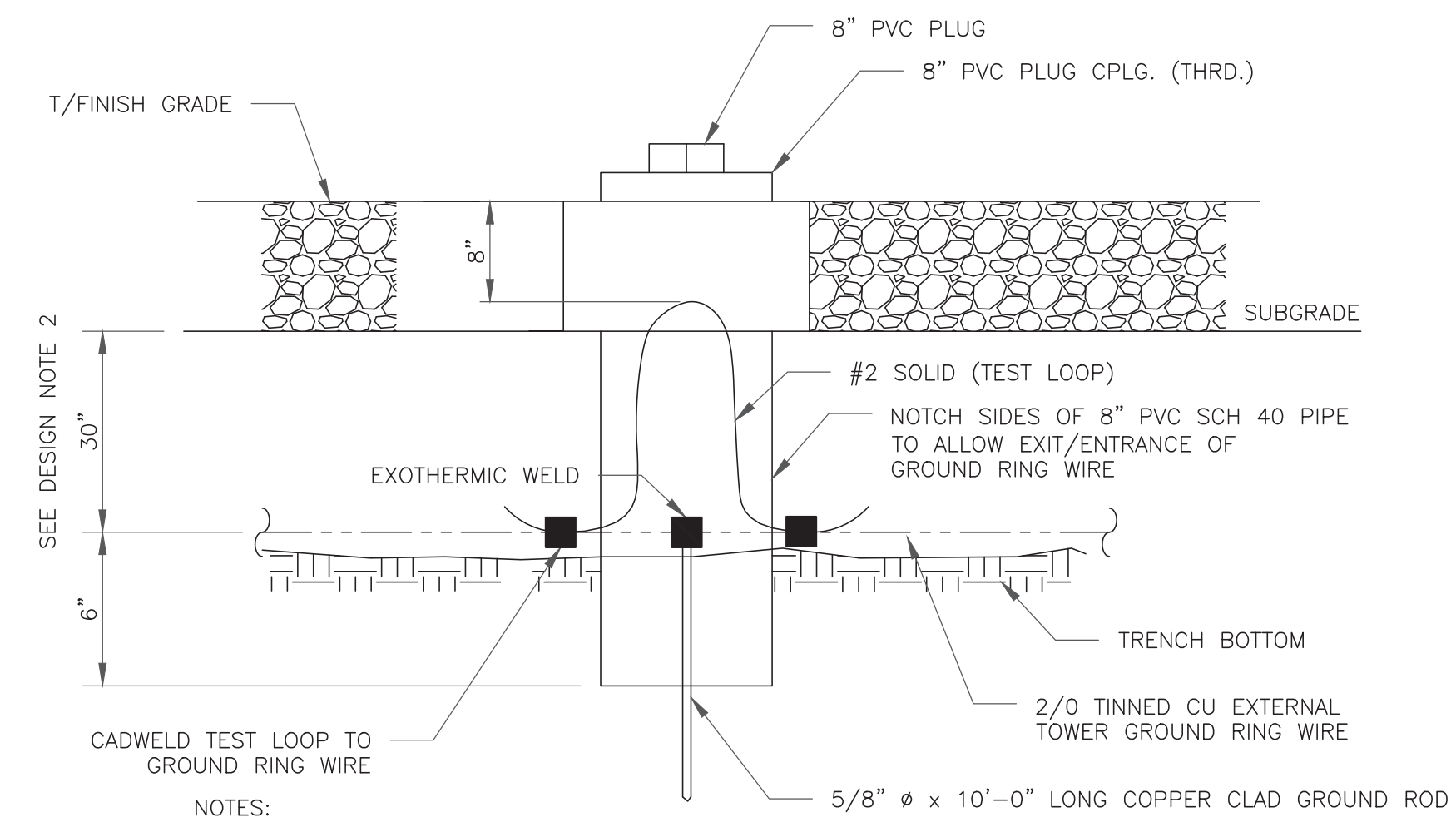
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

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

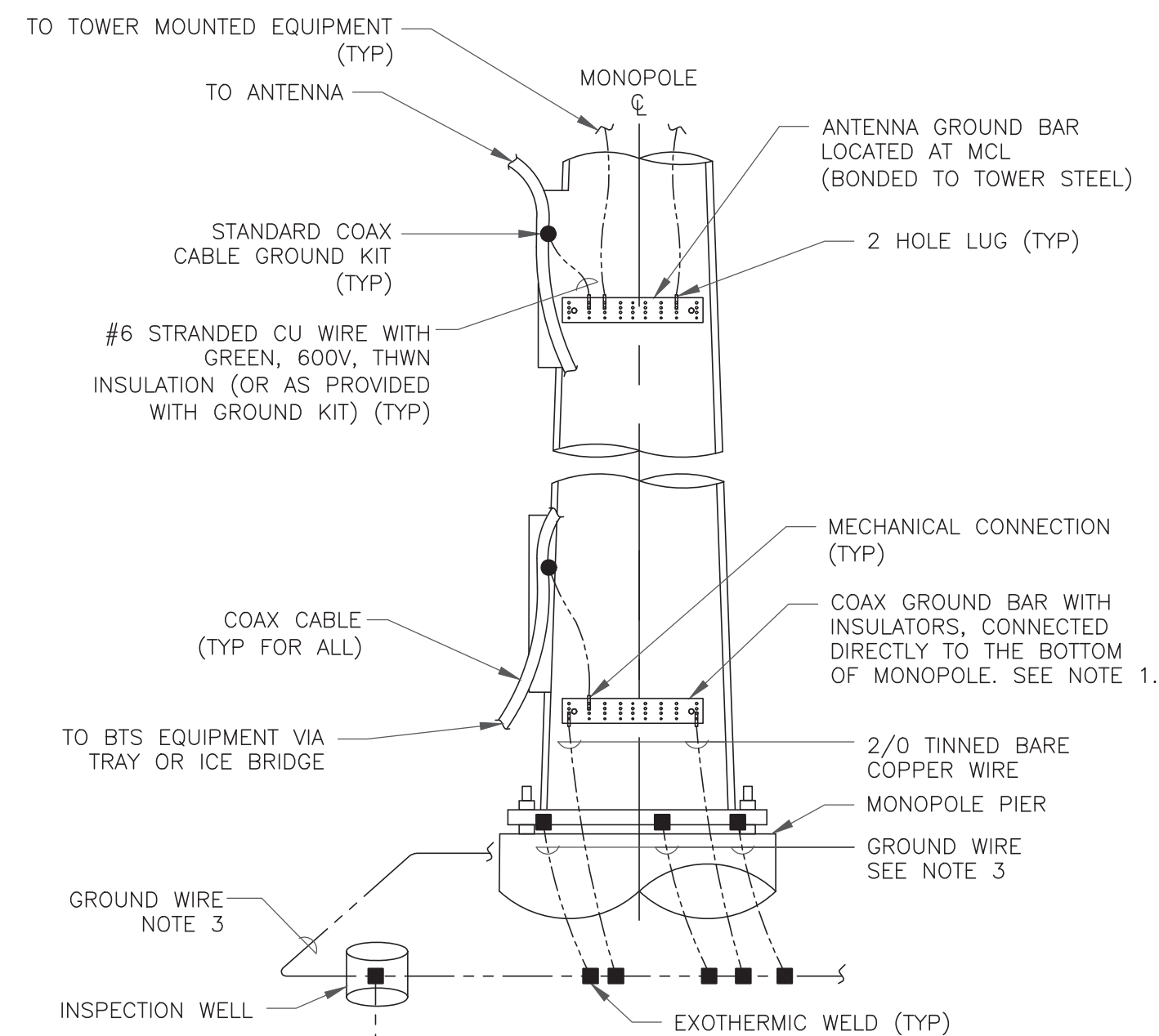
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
- 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)

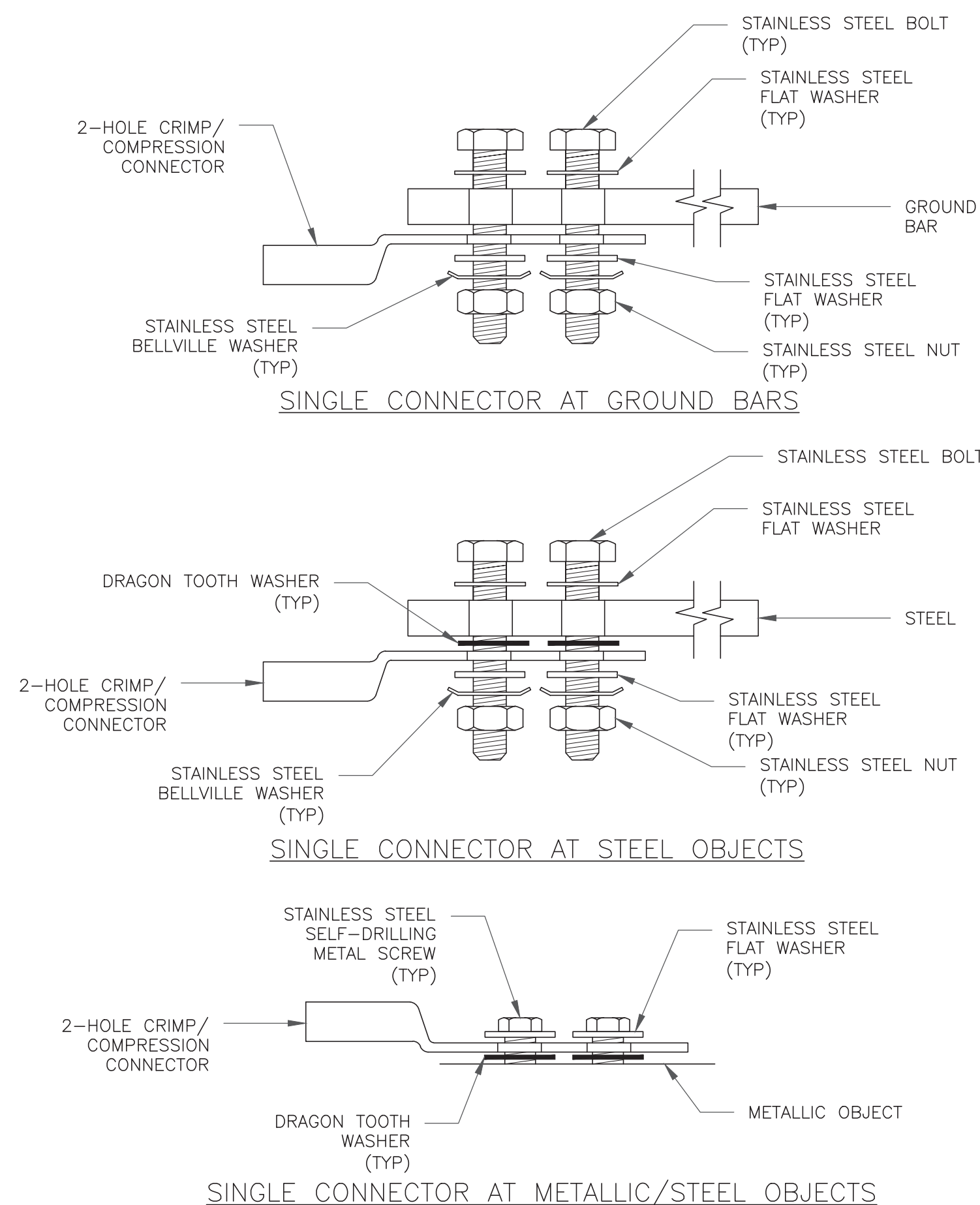
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



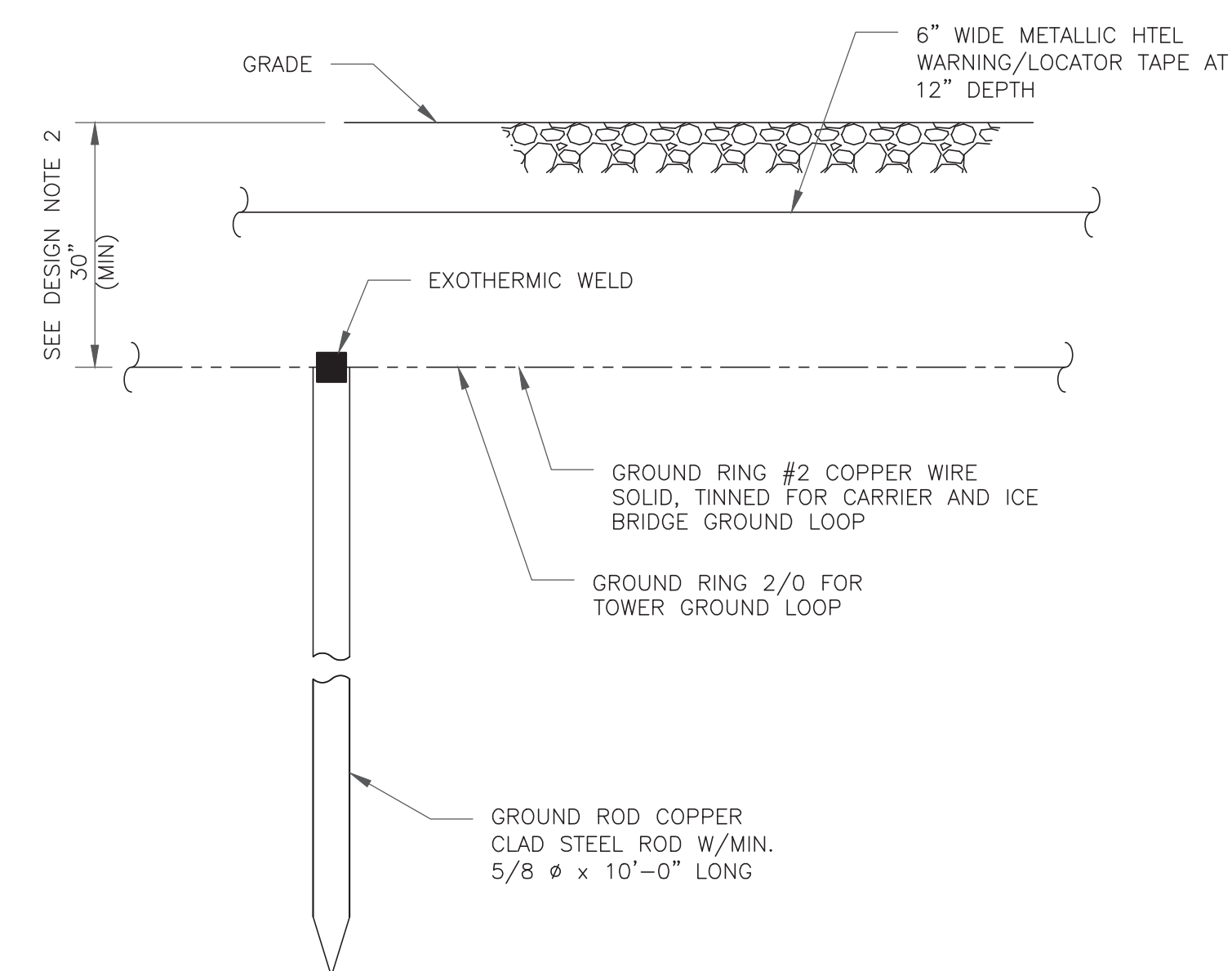
NOTES:

- 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.
- 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.
- ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
- 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

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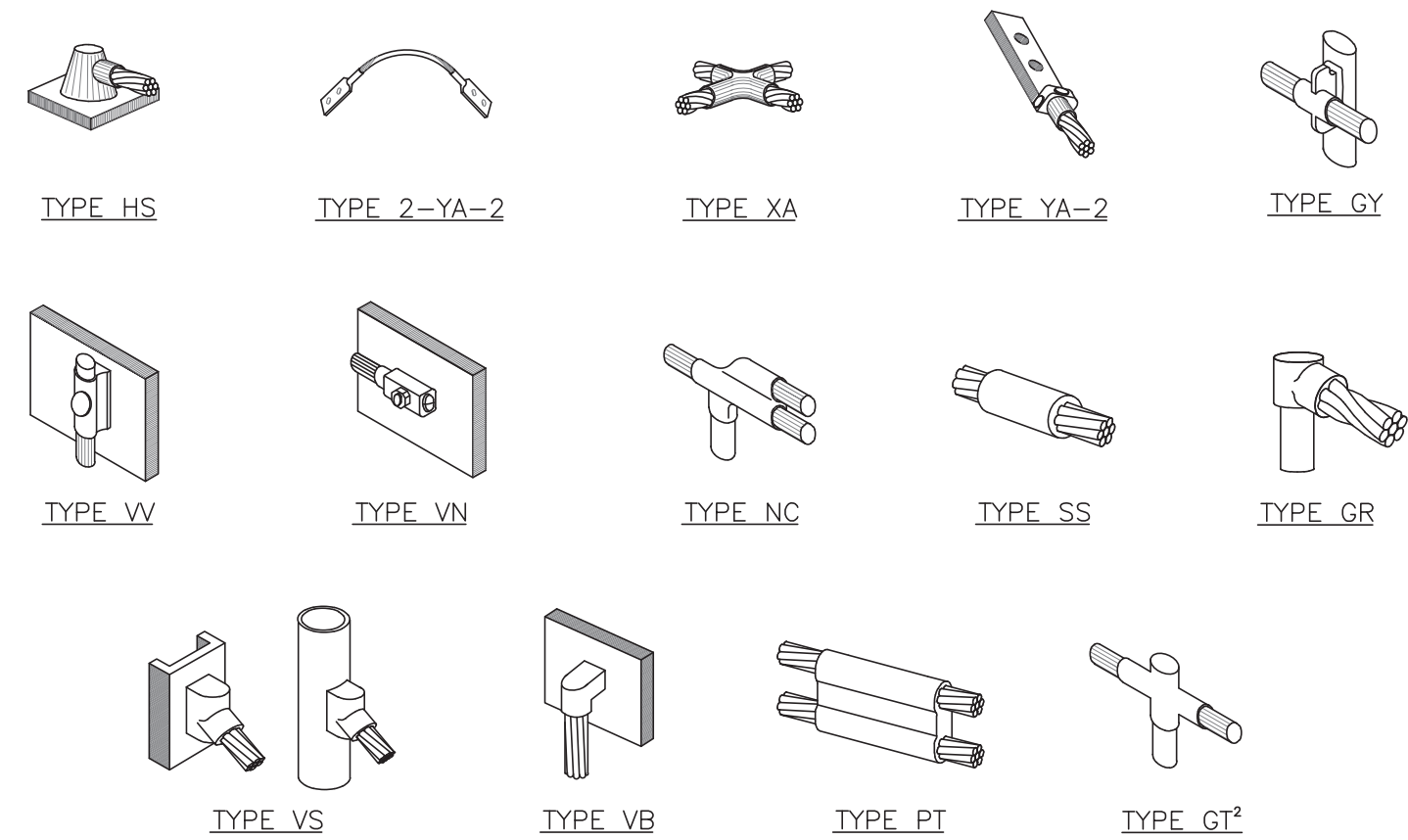
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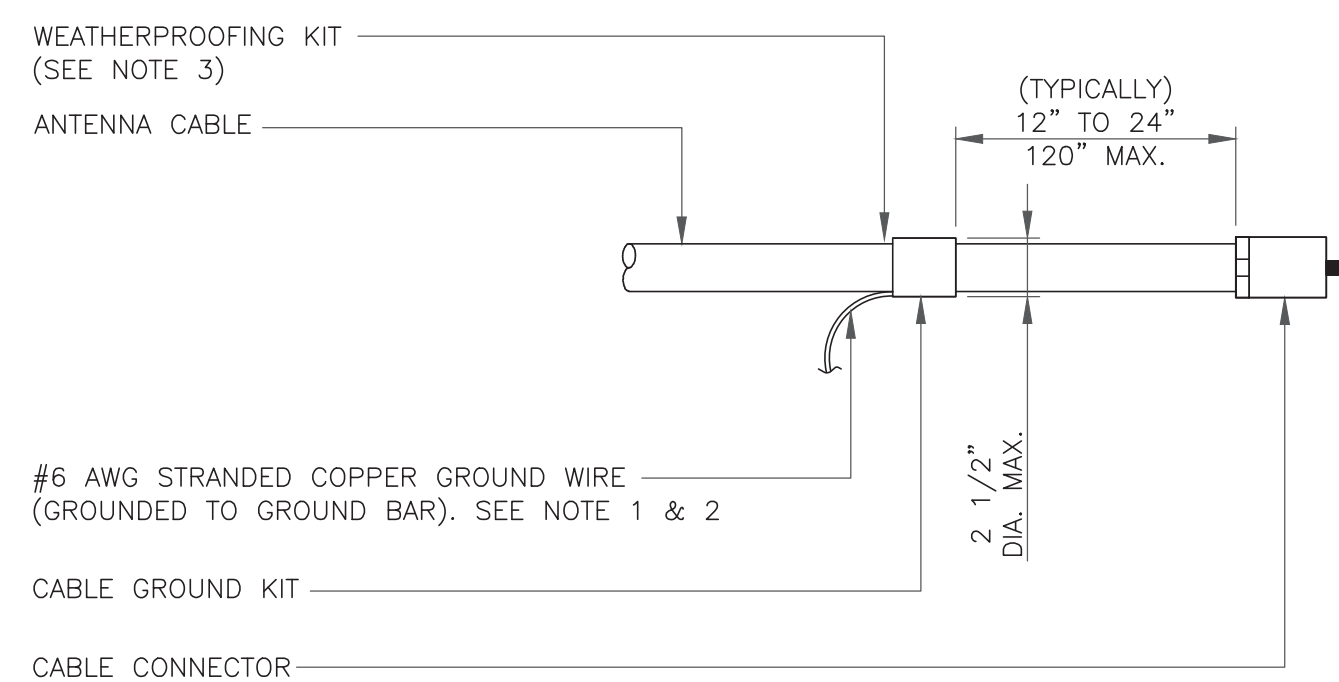
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NOTE:

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.

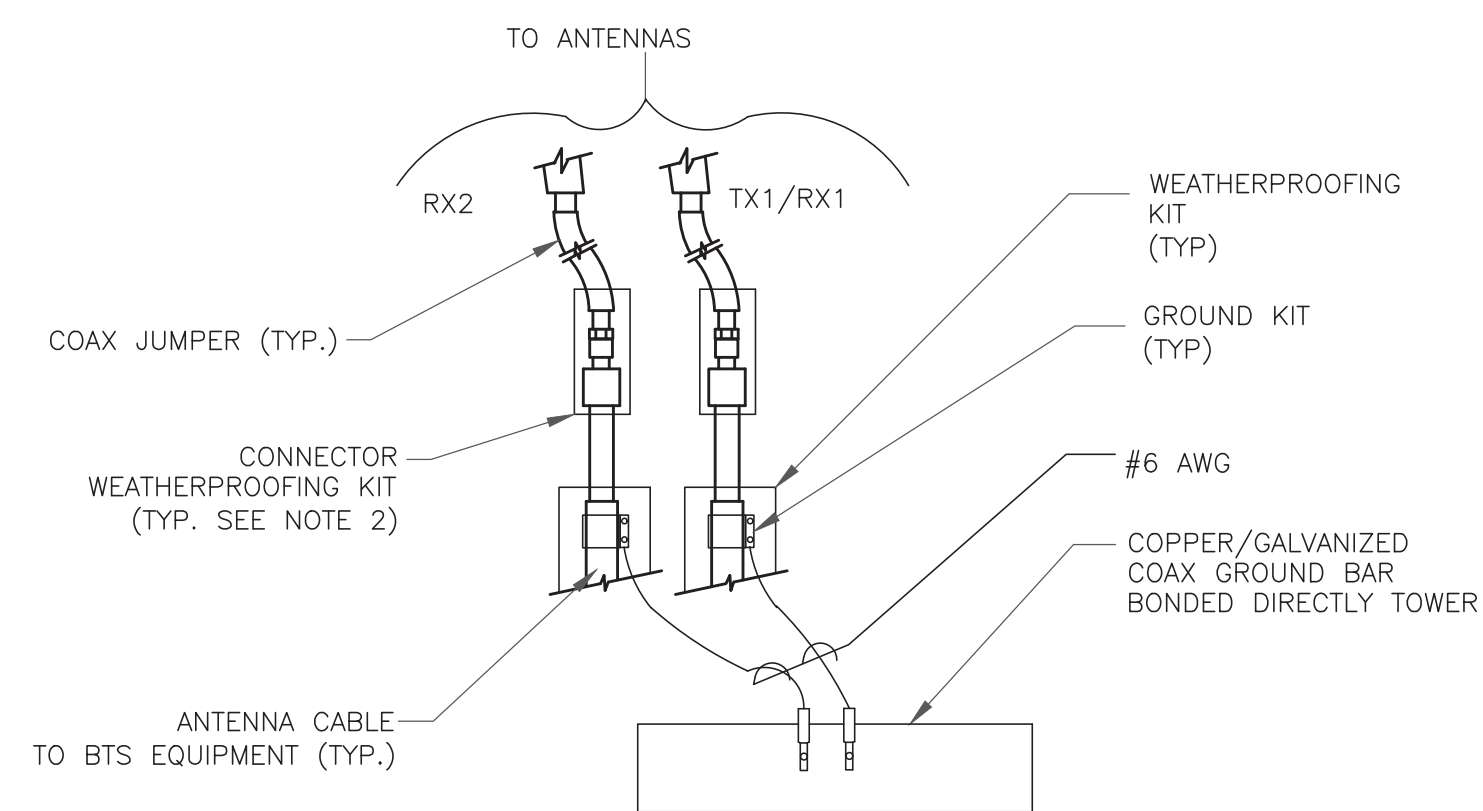
1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE



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.

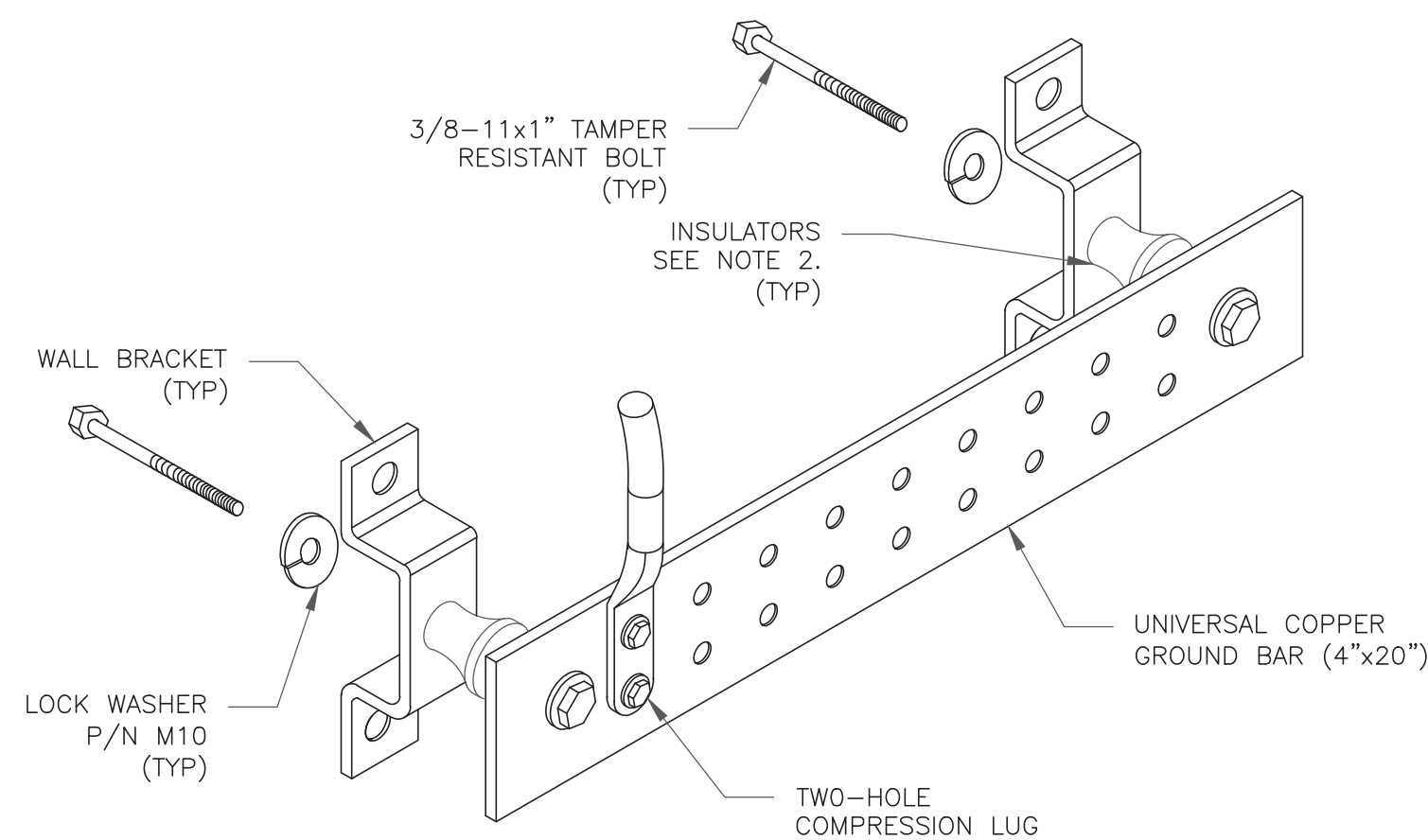
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



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.

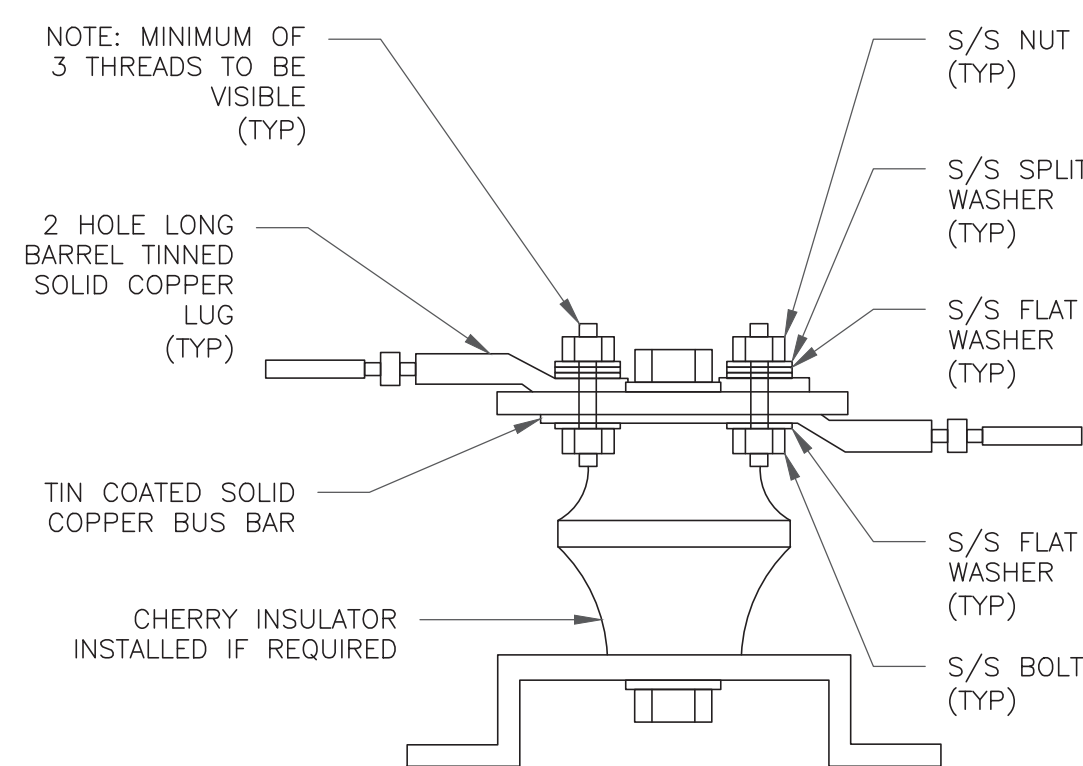
4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



NOTES:

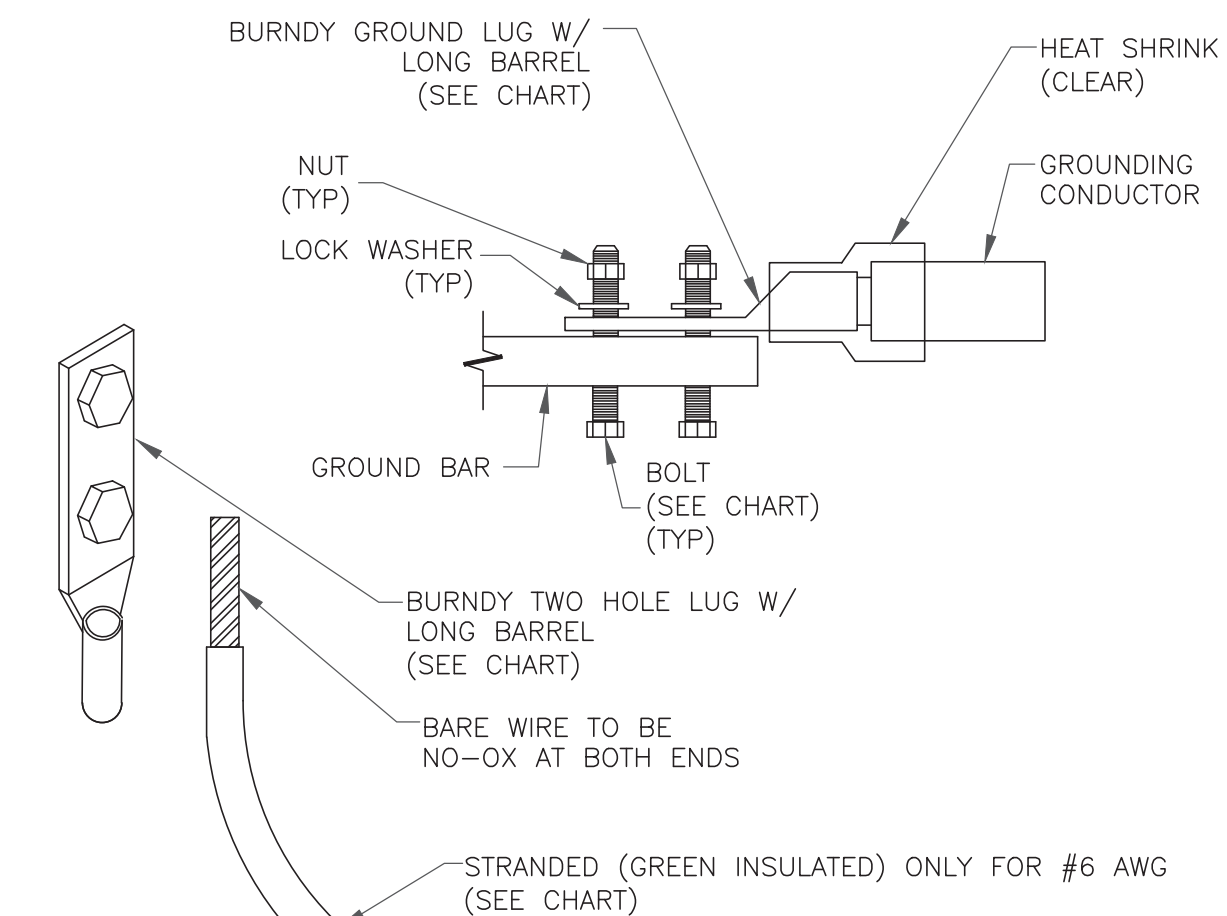
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION. CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR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

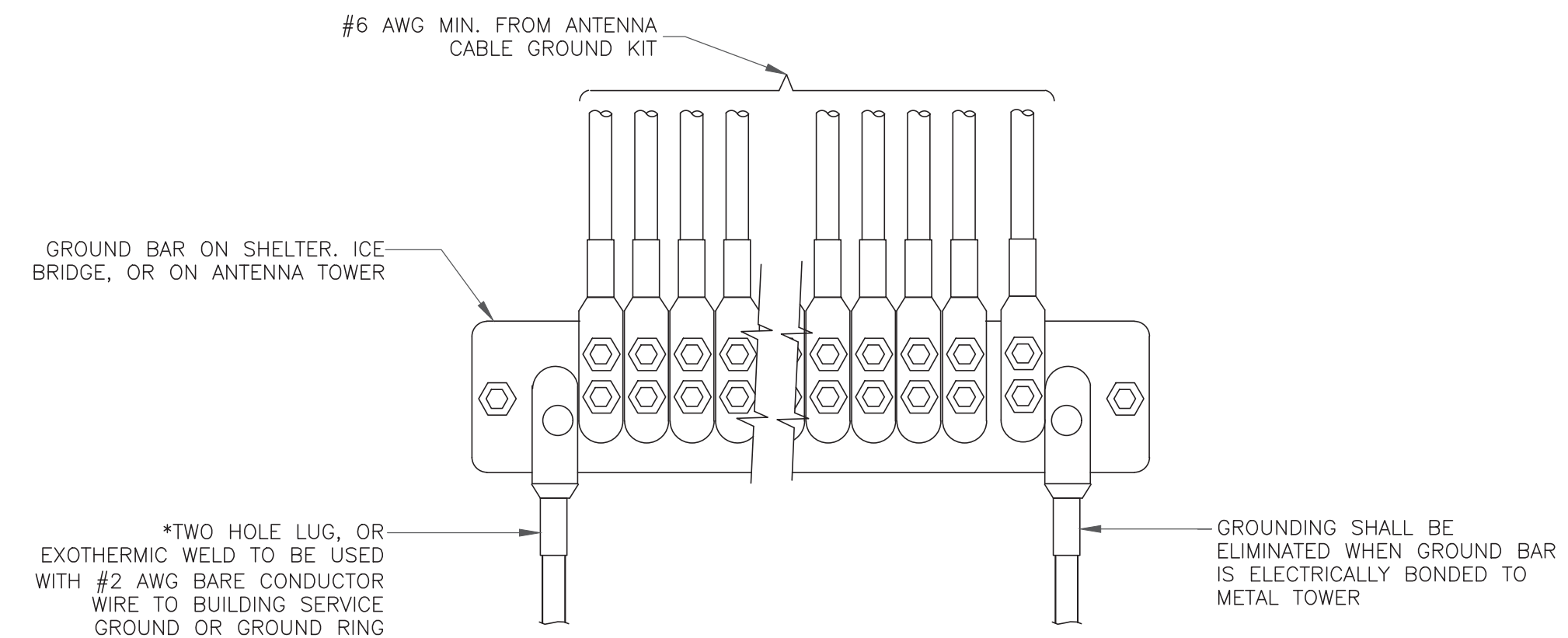
| WIRE SIZE | BURNDY LUG | BOLT SIZE |
|------------------------|------------|-----------------------|
| #6 AWG GREEN INSULATED | YA6C-2TC38 | 3/8" - 16 NC S 2 BOLT |
| #2 AWG SOLID TINNED | YA3C-2TC38 | 3/8" - 16 NC S 2 BOLT |
| #2 AWG STRANDED | YA2C-2TC38 | 3/8" - 16 NC S 2 BOLT |
| #2/0 AWG STRANDED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



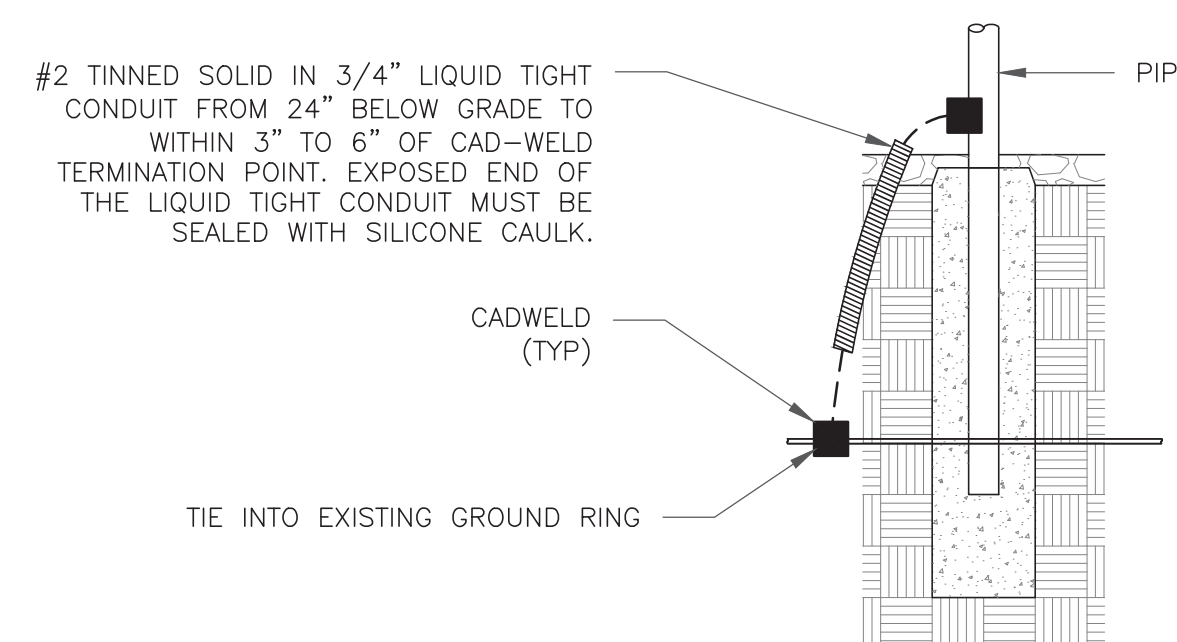
NOTES:

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.

2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

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