



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

February 23, 2022

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

RE: **Notice of Exempt Modification for ATT
Crown#803843; ATT Site ID CTL05194
200 Stanley Street, New Britain, CT 06053
Latitude: 41° 39' 16.40" / Longitude: -72° 46' 4.59"**

Dear Ms. Bachman:

ATT currently maintains nine (9) antennas at the 195-foot mount on the existing 195-foot monopole tower located at 200 Stanley Street, New Britain, CT. The property is owned by Downes Investments LLC and the tower is owned by Crown Castle. ATT now intends to add three (3) new antennas and replace six (6) antennas and ancillary equipment at the 195ft 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) Quintel – QD8616-7 Antenna
- (6) Ericsson - AIR6449 N77D + AIR 6419 N77G Stacked Antennas
- (3) Raycap – DC9-48-60-24-8C-EV Pendants
- (1) Commscope-FB-L98B-034 Fiber Cable
- (3) Smast Pipes

Remove:

- (3) CCI-OPA-65R-LCUU-H8 Antennas
- (1) DC6-48-60-0-8C-EC Pendants
- (8) WR-VG86ST-BRD- DC Trunks
- (2) FB-I98B-034-XXXXXX Fiber Trunks

Ground:

Install New:

- (1) 6673 FHG
- (1.) FLX-16 Cabinet
- (2) 19" Distribution Shelves
- (4.) Rectifiers in Existing Power Plant
- (1) Outdoor DC12-45-60 -RM

Remove:

- (1) XMU
- (1.) 5216
- (1.) RXAIT Cabinet

The facility was approved by the City of New Britain Planning and Zoning Commission on October 12, 2001. .

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 The Honorable Erin Stewart - Mayor, City of New Britain and Stephen P. Schiller - City Planner, AICP, City of New Britain. Downes Investment LLC – Property Owner. Crown Castle is the tower owner.


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

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

Melanie A. Bachman

Page 3

Sincerely,



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

Attachments

cc:

The Honorable Erin Stewart - Mayor
City of New Britain
27 West Main Street
New Britain, CT 06051
(860) 826-3300

Stephen P. Schiller - City Planner, AICP
City of New Britain
27 West Main Street
New Britain, CT 06051
(860) 826-3430

Downes Investment LLC – Property Owner
200 Stanley Street
New Britain, CT 06051
(860) 229-3755

Crown Castle, Tower Owner

CT New Britain 803843

Date: 10/12/01

A request has been made for a Certificate of Occupancy :

Project Location: 200 STAMLEY STREET (TOWER/PLATFORM)

The final inspection by the Building Department is scheduled on 10/17/01 at 10:00. Please adjust your inspections accordingly.

Any comments regarding corrections please forward directly to the applicant.

Applicant: CROWN CASTLE INTERNATIONAL, LLC **Tel:** 1 860 558-3178

Applicant address: 703 HEBRON AVENUE, GLASTONBURY, CT

Prompt return of this form with your recommendation is greatly appreciated. Thank you for your attention and consideration in this matter.

Recommended

CO, TCO Denied

- | | | | | | |
|-------------------------------------|-----------------------|--|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | James Dell'donna | Acting Fire Marshal | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | Joseph F. Carilli | Director of Public Works (PW) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | Kenneth A. Malinowski | Director of Department of Municipal Development (SS) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | Hudson Hilder, Jr. | Director of Health Department | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

hps

TO: Frank M. Wiatr, Director, LP&I

FROM: Clarence Corbin, City Engineer

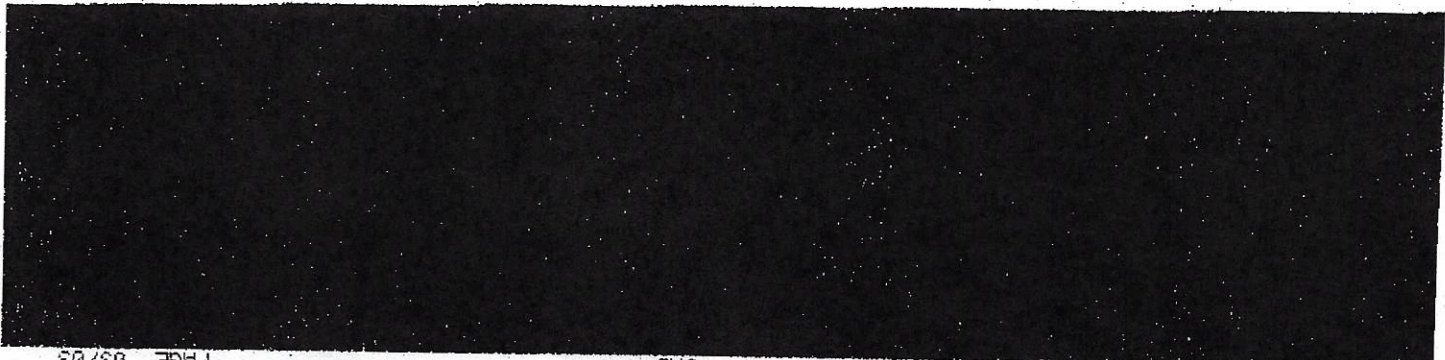
DATE: 7 Jun 01

RE: Site Plan Review - 200 Stanley Street - Tower

Clarence Corbin

This site plan is approved as submitted.

cc: S. Schiller



200 STANLEY ST

Location 200 STANLEY ST

Mblu B10B/ 11/ / /

Acct# 81300200

Owner DOWNES INVESTMENTS LLC

Assessment \$556,500

Appraisal \$795,000

PID 1486

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$626,600	\$168,400	\$795,000
Assessment			
Valuation Year	Improvements	Land	Total
2017	\$438,620	\$117,880	\$556,500

Owner of Record

Owner DOWNES INVESTMENTS LLC
Co-Owner
Address 200 STANLEY ST
 NEW BRITAIN, CT 06051

Sale Price \$327,818
Certificate 1
Book & Page 1827/0193
Sale Date 10/17/2011
Instrument 19

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
DOWNES INVESTMENTS LLC	\$327,818	1	1827/0193	19	10/17/2011
DOWNES INVESTMENTS LLC	\$0		1386/0135		10/16/2001
DOWNES INVESTMENTS LLC	\$0		1351/0908		11/03/2000
JOHN E DOWNES TRUSTEE	\$0		1104/0267		07/03/1991
DOWNES JOHN E	\$0		1105/0413		06/24/1991
	\$0		1096/0023		02/20/1991
FRANK E DOWNES	\$0		0363/0493		01/13/1953
LANDERS FRARY + CLARK	\$0		0168/0438		01/01/1900

Building Information

Building 1 - Section 1

Building 1: Section 1

Year Built: 1954
Living Area: 11,913
Replacement Cost: \$1,230,847
Building Percent Good: 44
Replacement Cost Less Depreciation: \$541,600

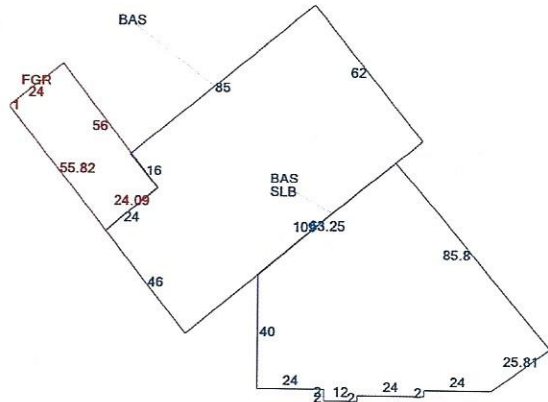
Building Photo



(<http://images.vgsi.com/photos/NewBritainCTPhotos/A00\02\11\63.JPG>)

Building Attributes	
Field	Description
Style:	Office
Model	Comm/Ind
Grade	C
Stories:	1
Occupancy	1.00
Exterior Wall 1	Block/Concrete
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	T&G/Rubber
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Central Heat	Yes
AC Type	Central
Struct Class	
Bldg Use	Office Bld MDL-94
Apt Units	
Total Bedrms	00
Total Baths	0
Comm Units	1
Ind Units	
1st Floor Use:	3400
Heat/AC	Heat/AC Pkgs
Frame Type	Masonry
Baths/Plumbing	Average
Ceiling/Wall	Sus-Ceil & WL
Rooms/Prtns	Average
Wall Height	12.00
% Comn Wall	

Building Layout



(ParcelSketch.ashx?pid=1486&bid=2038)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	11,913	11,913
FGR	Garage	1,371	0
SLB	Slab	5,539	0
		18,823	11,913

Extra Features

Extra Features	Legend

No Data for Extra Features

Land

Land Use

Use Code 3400
 Description Office Bld MDL-94
 Zone I2
 Neighborhood 107H
 Alt Land Appr No
 Category

Land Line Valuation

Size (Acres) 2.18
 Depth
 Assessed Value \$117,880
 Appraised Value \$168,400

Outbuildings

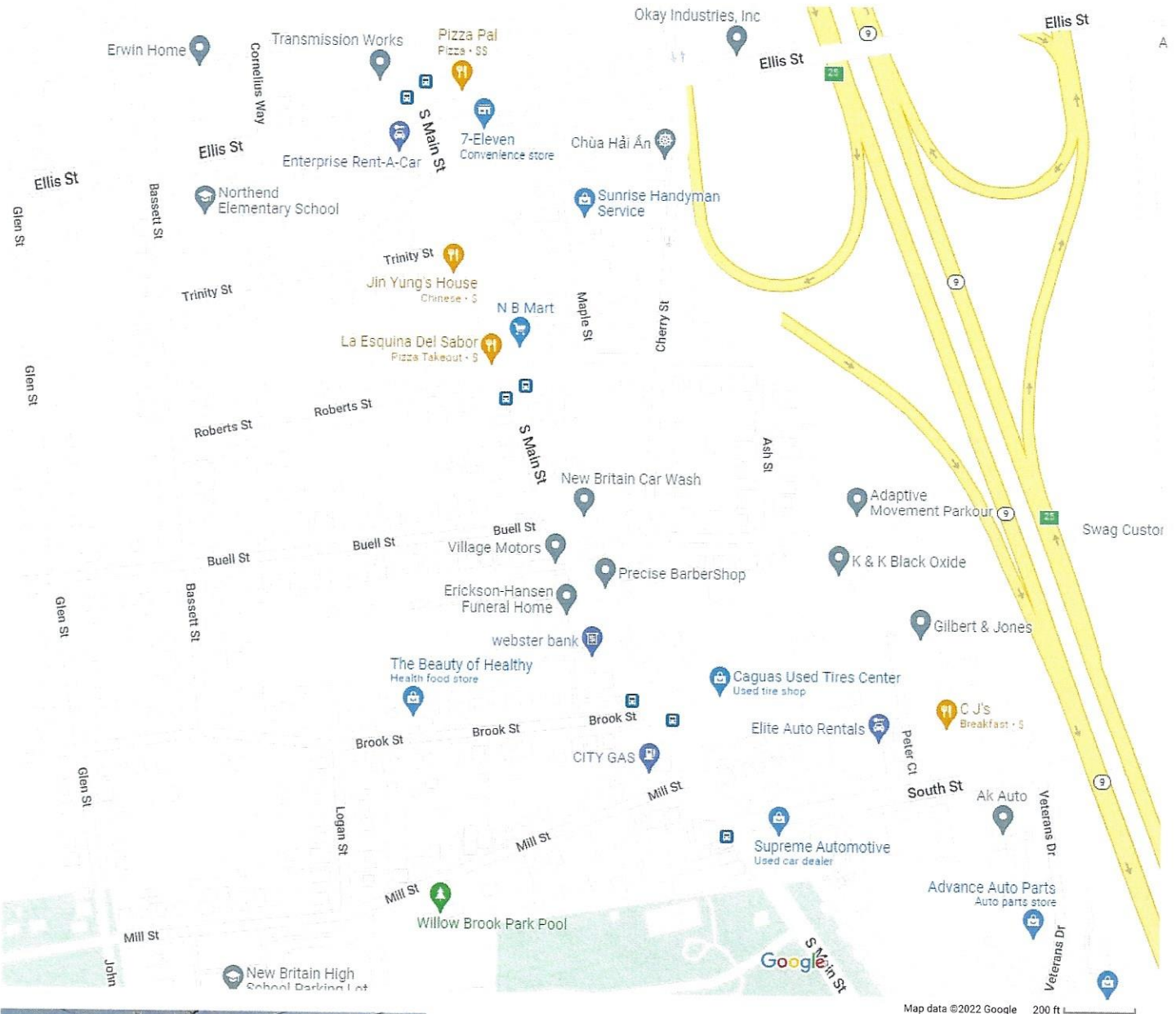
Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN1	Fence - Chain			2520.00 L.F.	\$18,000	1
PAV1	Paving Asphalt			10000.00 S.F.	\$9,600	1
CB3	PreCastConcCel			240.00 S.F.	\$55,400	1
FN4	Fence-8' Chain			168.00 L.F.	\$2,100	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$626,600	\$168,400	\$795,000
2019	\$626,600	\$168,400	\$795,000
2018	\$626,600	\$168,400	\$795,000

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$438,620	\$117,880	\$556,500
2019	\$438,620	\$117,880	\$556,500
2018	\$438,620	\$117,880	\$556,500

200 Stanley St



200 Stanley St

New Britain, CT 06051
Building



Directions



Save



Nearby



Send to your
phone



Share

Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, February 24, 2022 11:21 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776121442105: Your package has been delivered

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



Hi. Your package was
delivered Thu, 02/24/2022 at
11:19am.



Delivered to 27 W MAIN ST, NEW BRITAIN, CT 06051
Received by R.ESPANDA

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [776121442105](#)

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

TO City of New Britain
Erin Stewart - Mayor
27 West Main Street
NEW BRITAIN, CT, US, 06051

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Wed 2/23/2022 06:03 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Pak

ORIGIN WESTBOROUGH, MA, US, 01581

DESTINATION NEW BRITAIN, CT, US, 06051

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



Get the FedEx[®] Mobile app

Create shipments, receive tracking alerts, redirect packages to a FedEx retail location for pickup, and more from the palm of your hand
- **Download now.**



Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, February 24, 2022 11:23 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776121483973: Your package has been delivered

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



Hi. Your package was
delivered Thu, 02/24/2022 at
11:21am.



Delivered to 27 W MAIN ST, NEW BRITAIN, CT 06051
Received by W.WILLIAMS

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [776121483973](#)

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

TO City of New Britain
Stephen P. Schiller - City Planner
27 West Main Street
NEW BRITAIN, CT, US, 06051

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Wed 2/23/2022 06:03 PM

DELIVERED TO Receptionist/Front Desk

PACKAGING TYPE FedEx Pak

ORIGIN WESTBOROUGH, MA, US, 01581

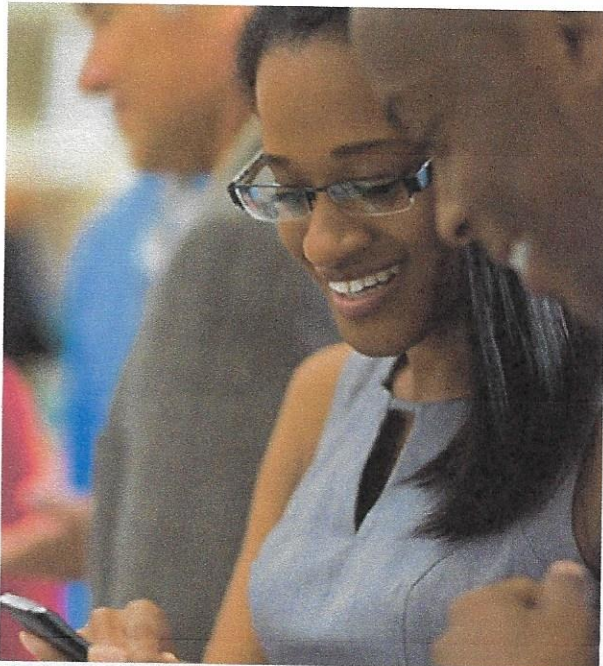
DESTINATION NEW BRITAIN, CT, US, 06051

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



Get the FedEx[®] Mobile app

Create shipments, receive tracking alerts, redirect packages to a FedEx retail location for pickup, and more from the palm of your hand
- **Download now.**



Barbadora, Jeff

From: TrackingUpdates@fedex.com
Sent: Thursday, February 24, 2022 10:36 AM
To: Barbadora, Jeff
Subject: FedEx Shipment 776121525675: Your package has been delivered

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



Hi. Your package was
delivered Thu, 02/24/2022 at
10:33am.



Delivered to 200 STANLEY ST, NEW BRITAIN, CT 06051

OBTAIN PROOF OF DELIVERY

TRACKING NUMBER [776121525675](#)

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

TO Property Owner
Downes Investment LLC
200 Stanley Street
NEW BRITAIN, CT, US, 06051

REFERENCE 799001.7680

SHIPPER REFERENCE 799001.7680

SHIP DATE Wed 2/23/2022 06:03 PM

PACKAGING TYPE FedEx Pak

ORIGIN WESTBOROUGH, MA, US, 01581

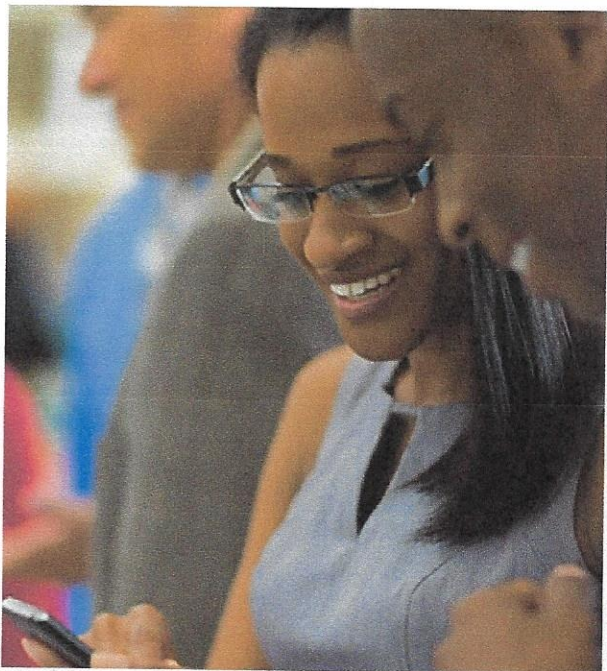
DESTINATION NEW BRITAIN, CT, US, 06051

SPECIAL HANDLING Deliver Weekday

NUMBER OF PIECES 1

TOTAL SHIPMENT WEIGHT 1.00 LB

SERVICE TYPE FedEx Priority Overnight



Get the FedEx[®] Mobile app

Create shipments, receive tracking alerts, redirect packages to a FedEx retail location for pickup, and more from the palm of your hand
- **Download now.**



FOLLOW FEDEX



Date: **September 10, 2021**

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

Subject: **Structural Analysis Report**

Carrier Designation: **AT&T Mobility Co-Locate**
Site Number: CTL05194
Site Name: CT New Britain 4 CAC 803843
FA Number: 10091780

Crown Castle Designation: **BU Number:** 803843
Site Name: CT New Britain 4 CAC 803843
JDE Job Number: 649378
Work Order Number: 2018629
Order Number: 556526 Rev. 0

Engineering Firm Designation: **B+T Group Project Number:** 127879.013.01

Site Data: **200 Stanley Street, New Britain, Hartford County, CT**
Latitude 41° 39' 16.4", Longitude -72° 46' 9.59"
192 Foot - Monopole Tower

B+T Group is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above-mentioned tower.

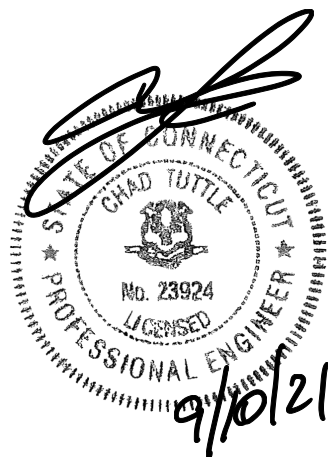
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity – 39.8%**

This analysis utilizes an ultimate 3-second gust wind speed of 118 mph as required by the 2015 International Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Carlon Bethell II

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



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Other Considered Equipment

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 – Tower Component Stresses vs. Capacity

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 192 ft. Monopole tower designed by Summit.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	118 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 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)
195.0	195.0	1	CCI Antennas	DMP65R-BU6D	6 3 6 3	1-5/8 1-1/8 13/16 3/8
		2	CCI Antennas	DMP65R-BU8D		
		3	Ericsson	AIR 6419 B77G		
		3	Ericsson	AIR 6449 N77		
		3	Ericsson	RRUS 32 B30		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 4478 B14		
		3	Ericsson	RRUS 8843 B2/B66A		
		3	Quintel Tech.	QD8616-7		
		3	Raycap	DC9-48-60-24-8C-EV		
		1	Site Pro 1	RMQP-HK Platform Mount		

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)
185.0	186.0	3	RFS Celwave	APXV18-206517S-C	6	1-5/8
	185.0	1	--	Platform Mount [LP 1201-1]		
175.0	175.0	1	Dragonwave	Horizon Compact	3 3 7 1	1-5/8 1/2 5/16 5/8
		1	Andrew	VHLP2-23		
		3	Argus Tech.	LLPX310R-V4		
		3	Commscope	NNVV-65B-R4		
		1	Motorola	TIMING 2000		
		3	Nokia	AHCC		
		3	Nokia	AHFIB_CCIV2		
		1	Site Pro 1	RMQP-384 Platform Mount		
	1	Site Pro 1	HRK12 Support Rail Kit			
172.0	3	Samsung Telecom.	RRH-2WB			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
161.0	164.0	1	Sigfox	CXL 900-3LW	1	1/2
	161.0	1	Sigfox	Cavity Filter		
		1	Sigfox	LNA		
		1	--	Side Arm Mount [SO 302-1]		
155.0	155.0	3	Fujitsu	TA08025-B604	1	1-3/4
		3	Fujitsu	TA08025-B605		
		3	JMA Wireless	MX08FRO665-21		
		1	Raycap	RDIDC-9181-PF-48		
		1	--	Commscope MC-PK8-DSH (1)		
103.0	105.0	3	Samsung Telecom.	MT6407-77A	8	1-5/8
	104.0	2	Raycap	RRFDC-3315-PF-48		
		3	Samsung Telecom.	RFV01U-D1A		
		3	Samsung Telecom.	RFV01U-D2A		
	103.0	6	Andrew	SBNHH-1D65B		
		1	--	Platform Mount [LP 303-1_KCKR-HR-1]		
	101.0	3	Samsung Telecom.	CBRS		
	100.0	2	Antel	BXA-80080/4CF		
		1	Antel	BXA-80090/4CF		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
Tower Manufacturer Drawing	925033	CCI Sites
Mount Analysis Report	9967208	CCI Sites
Foundation Drawing	1118798	CCI Sites
Geotech Report	2384583	CCI Sites
Crown CAD Package	Date: 09/07/2021	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.

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	192 - 151.25	Pole	TP39.245x26x0.313	1	-16.336	2272.987	21.0	Pass
L2	151.25 - 111.25	Pole	TP51.621x36.995x0.438	2	-31.215	4185.562	23.0	Pass
L3	111.25 - 72.75	Pole	TP63.259x48.633x0.5	3	-51.847	5864.376	24.6	Pass
L4	72.75 - 35.75	Pole	TP74.285x59.659x0.563	4	-73.939	7755.195	24.4	Pass
L5	35.75 - 0	Pole	TP84.78x70.154x0.563	5	-106.605	9235.852	27.3	Pass
							Summary	
						Pole (L5)	27.3	Pass
						Rating =	27.3	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,3	Anchor Rods	Base	36.8	Pass
1,3	Base Plate	Base	30.1	Pass
1,2,3	Base Foundation (Structure)	Base	20.3	Pass
1,2,3	Base Foundation (Soil Interaction)	Base	39.8	Pass

Structure Rating (max from all components) =	39.8%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) It is unknown whether the foundation is a drilled shaft or pier and pad. Both designs were analyzed and determined to be sufficient.
- 3) Rating per TIA-222-H Section 15.5.

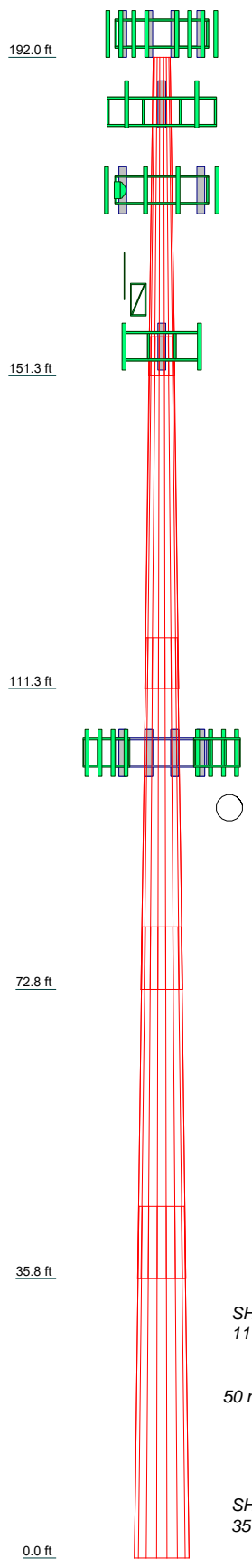
4.1) Recommendations

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

APPENDIX A

TNXTOWER OUTPUT

Section	1	2	3	4	5	66.4
Length (ft)	40.750	45.000	45.000	45.000	45.000	
Number of Sides	18	18	18	18	18	
Thickness (in)	0.313	0.438	0.500	0.563	0.563	
Socket Length (ft)	5.000	6.500	8.000	9.250	70.154	
Top Dia (in)	26.000	36.985	48.633	59.659	84.780	
Bot Dia (in)	39.245	51.621	63.259	74.285		
Grade			A607-65			
Weight (K)	4.4	9.3	13.5	18.2	21.0	



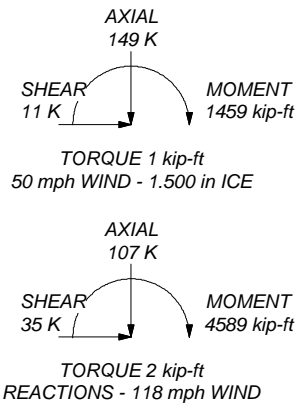
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 118 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 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: 27.3%

ALL REACTIONS ARE FACTORED



B+T Group
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

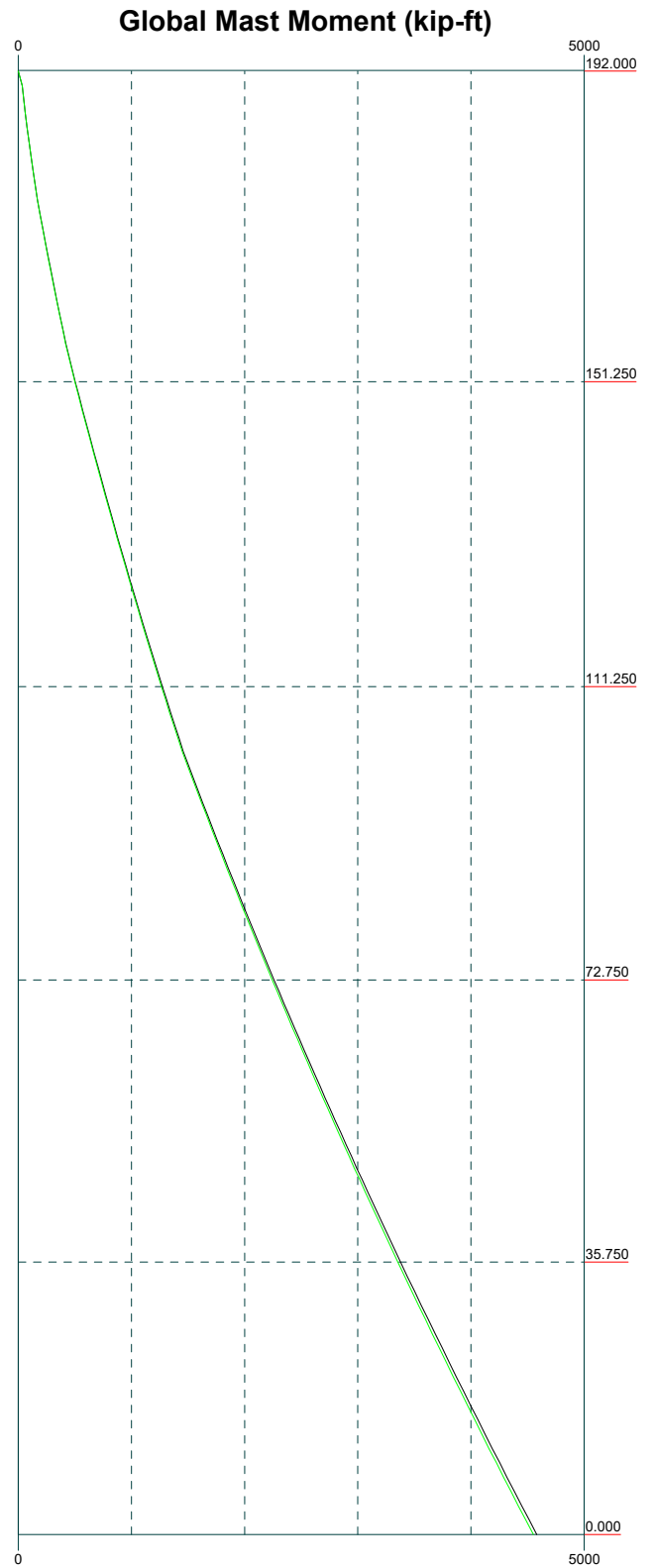
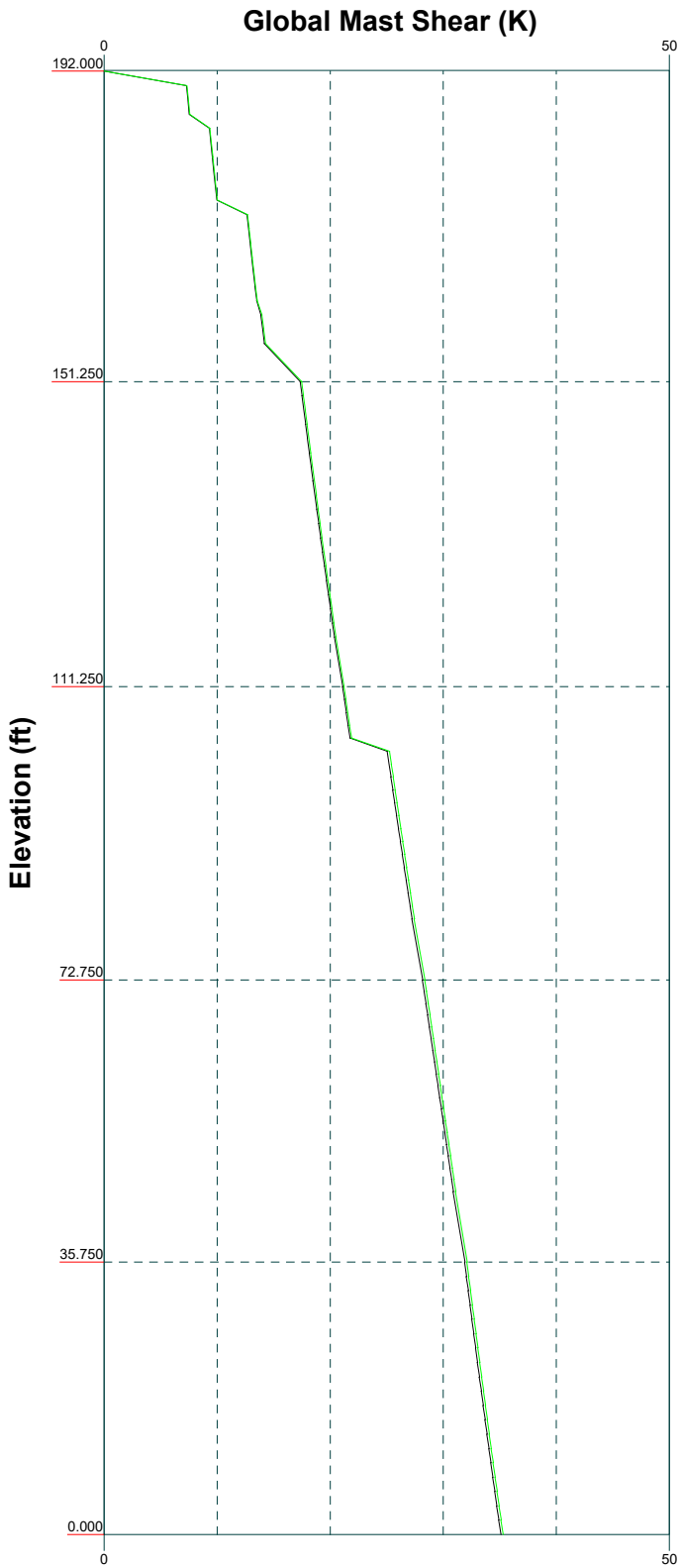
Job: 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 80384)		
Project:		
Client: Crown Castle	Drawn by: Regan	App'd:
Code: TIA-222-H	Date: 09/10/21	Scale: NTS
Path:		Dwg No. E-1

Vx

Vz

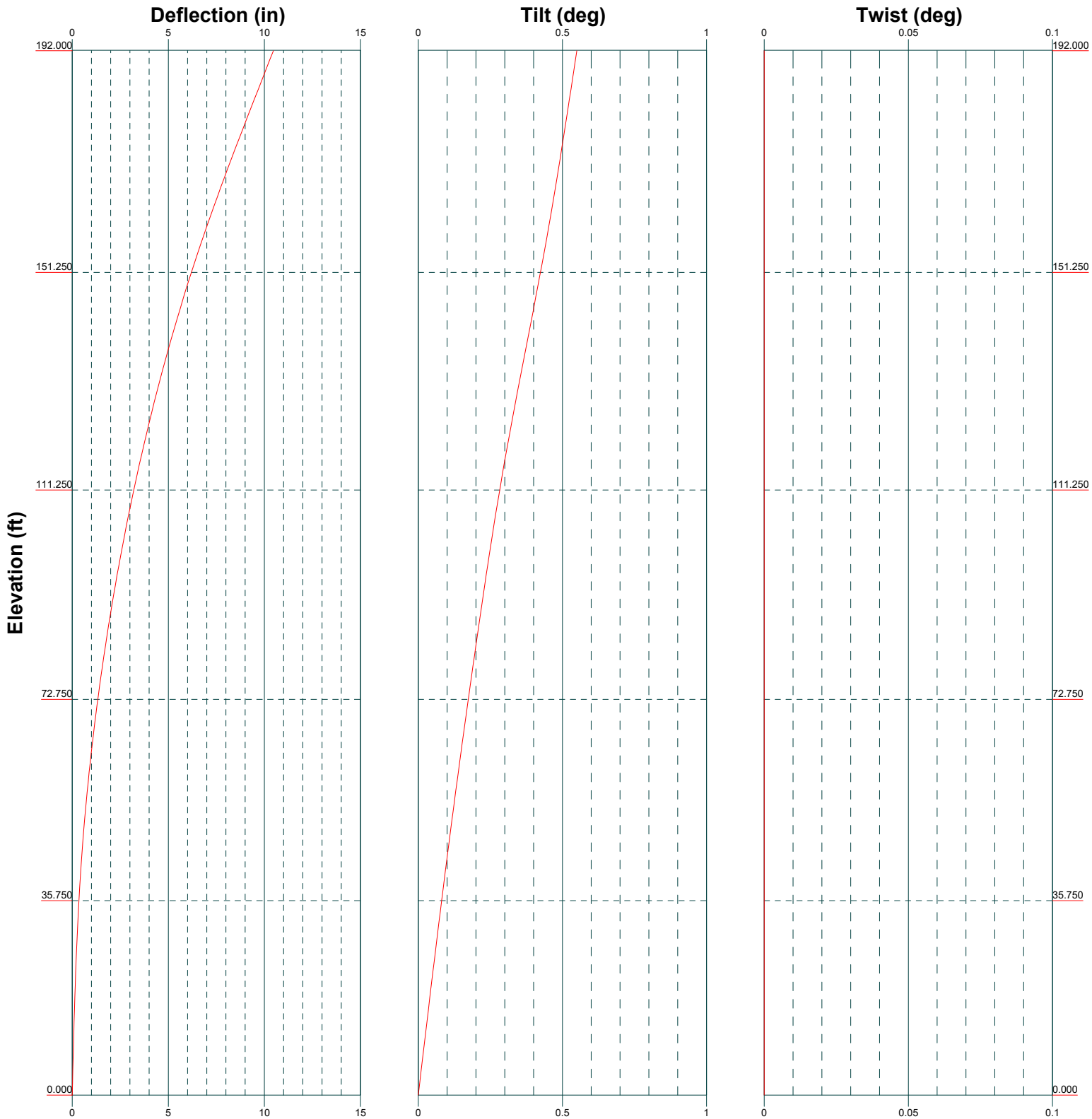
Mx

Mz



B+T Group
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

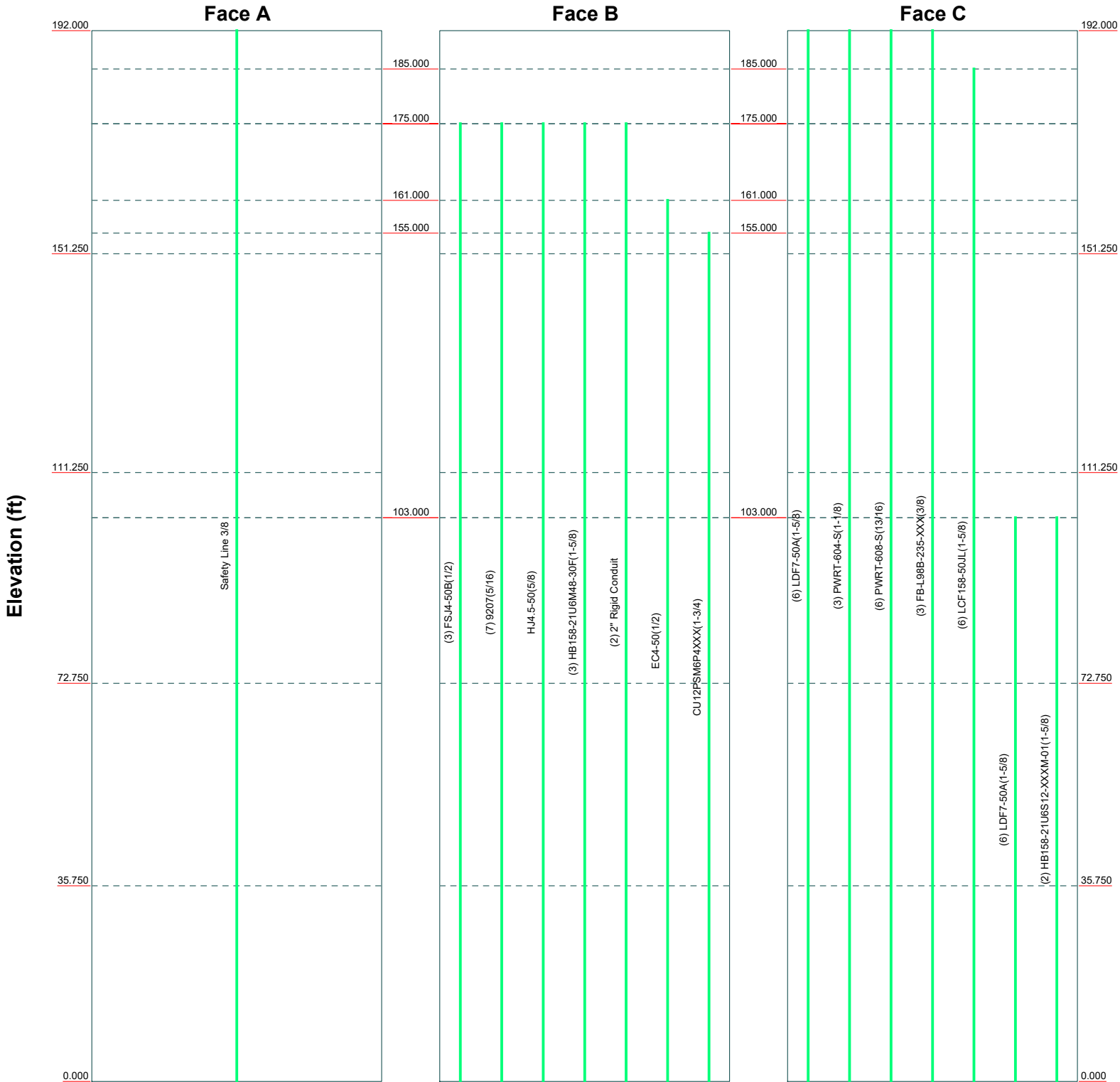
Job: 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 80384)		
Project:		
Client: Crown Castle	Drawn by: Regan	App'd:
Code: TIA-222-H	Date: 09/10/21	Scale: NTS
Path:	Dwg No. E-4	




Feed Line Distribution Chart

0' - 192'

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




B+T Group
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119
 Phone: (918) 587-4630
 FAX: (918) 295-0265

Job: 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 80384)		
Project:		
Client: Crown Castle	Drawn by: Regan	App'd:
Code: TIA-222-H	Date: 09/10/21	Scale: NTS
Path:	Dwg No. E-7	

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 1 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Tower Input Data

The tower is a monopole.

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

The following design criteria apply:

- Tower is located in Hartford County, Connecticut.
- Tower base elevation above sea level: 112.000 ft.
- Basic wind speed of 118 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 1.500 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.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 2 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

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	192.000-151.250	40.750	5.000	18	26.000	39.245	0.313	1.250	A607-65 (65 ksi)
L2	151.250-111.250	45.000	6.500	18	36.995	51.621	0.438	1.750	A607-65 (65 ksi)
L3	111.250-72.750	45.000	8.000	18	48.633	63.259	0.500	2.000	A607-65 (65 ksi)
L4	72.750-35.750	45.000	9.250	18	59.659	74.285	0.563	2.250	A607-65 (65 ksi)
L5	35.750-0.000	45.000		18	70.154	84.780	0.563	2.250	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	26.353	25.479	2124.026	9.119	13.208	160.814	4250.848	12.742	4.026	12.883
L2	39.802	38.616	7394.882	13.821	19.936	370.923	14799.495	19.312	6.357	20.343
L3	51.452	76.388	22358.990	17.087	24.706	905.012	44747.401	38.201	7.679	15.359
L4	63.133	105.509	46553.204	20.979	30.307	1536.069	93167.665	52.765	9.510	16.907
L5	74.202	124.246	76019.762	24.705	35.638	2133.110	152139.553	62.135	11.357	20.19
	86.001	150.360	134732.986	29.897	43.068	3128.361	269643.257	75.194	13.931	24.767

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 192.000-151.250				1	1	1			
L2 151.250-111.250				1	1	1			
L3 111.250-72.750				1	1	1			
L4 72.750-35.750				1	1	1			
L5 35.750-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 4 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight klf
CU12PSM6P4XXX(1-3/4)	B	No	No	Inside Pole	155.000 - 0.000	1	No Ice	0.000	0.003
							1/2" Ice	0.000	0.003
							1" Ice	0.000	0.003
							2" Ice	0.000	0.003
*									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	103.000 - 0.000	6	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
HB158-21U6S12-XXM-01(1-5/8)	C	No	No	Inside Pole	103.000 - 0.000	2	No Ice	0.000	0.002
							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
							2" Ice	0.000	0.002
*									
Safety Line 3/8	A	No	No	CaAa (Out Of Face)	192.000 - 0.000	1	No Ice	0.037	0.000
							1/2" Ice	0.137	0.001
							1" Ice	0.238	0.001
							2" Ice	0.437	0.002
*									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	192.000-151.250	A	0.000	0.000	0.000	1.528	0.009
		B	0.000	0.000	0.000	0.000	0.434
		C	0.000	0.000	0.000	0.000	0.537
L2	151.250-111.250	A	0.000	0.000	0.000	1.500	0.009
		B	0.000	0.000	0.000	0.000	0.827
		C	0.000	0.000	0.000	0.000	0.548
L3	111.250-72.750	A	0.000	0.000	0.000	1.444	0.008
		B	0.000	0.000	0.000	0.000	0.796
		C	0.000	0.000	0.000	0.000	0.792
L4	72.750-35.750	A	0.000	0.000	0.000	1.388	0.008
		B	0.000	0.000	0.000	0.000	0.765
		C	0.000	0.000	0.000	0.000	0.830
L5	35.750-0.000	A	0.000	0.000	0.000	1.341	0.008
		B	0.000	0.000	0.000	0.000	0.739
		C	0.000	0.000	0.000	0.000	0.802

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	192.000-151.250	A	1.502	0.000	0.000	0.000	13.773	0.074
		B		0.000	0.000	0.000	0.000	0.434
		C		0.000	0.000	0.000	0.000	0.537
L2	151.250-111.250	A	1.463	0.000	0.000	0.000	13.520	0.073
		B		0.000	0.000	0.000	0.000	0.827

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 5 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L3	111.250-72.750	C	1.412	0.000	0.000	0.000	0.000	0.548
		A		0.000	0.000	0.000	12.708	0.068
		B		0.000	0.000	0.000	0.000	0.796
L4	72.750-35.750	C	1.340	0.000	0.000	0.000	0.000	0.792
		A		0.000	0.000	0.000	11.836	0.064
		B		0.000	0.000	0.000	0.000	0.765
L5	35.750-0.000	C	1.196	0.000	0.000	0.000	0.000	0.830
		A		0.000	0.000	0.000	10.920	0.059
		B		0.000	0.000	0.000	0.000	0.739
		C		0.000	0.000	0.000	0.000	0.802

Feed Line Center of Pressure

Section	Elevation ft	CP _X in	CP _Z in	CP _X Ice in	CP _Z Ice in
L1	192.000-151.250	0.000	-0.345	0.000	-1.512
L2	151.250-111.250	0.000	-0.347	0.000	-1.589
L3	111.250-72.750	0.000	-0.348	0.000	-1.598
L4	72.750-35.750	0.000	-0.349	0.000	-1.580
L5	35.750-0.000	0.000	-0.349	0.000	-1.533

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

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
DMP65R-BU8D w/ Mount Pipe	A	From Leg	4.000	0.000	195.000	No Ice	15.890	7.890	0.139
			0.000			1/2" Ice	16.810	8.740	0.252
			0.000			1" Ice	17.760	9.600	0.380
						2" Ice	19.700	11.370	0.679
DMP65R-BU8D w/ Mount Pipe	B	From Leg	4.000	0.000	195.000	No Ice	15.890	7.890	0.139
			0.000			1/2" Ice	16.810	8.740	0.252
			0.000			1" Ice	17.760	9.600	0.380
						2" Ice	19.700	11.370	0.679
DMP65R-BU6D w/ Mount Pipe	C	From Leg	4.000	0.000	195.000	No Ice	11.960	5.970	0.115
			0.000			1/2" Ice	12.700	6.630	0.201
			0.000			1" Ice	13.460	7.300	0.298
						2" Ice	15.020	8.690	0.529
RRUS 32 B30	A	From Leg	4.000	0.000	195.000	No Ice	2.692	1.573	0.060
			0.000			1/2" Ice	2.912	1.756	0.080
			0.000			1" Ice	3.138	1.945	0.104
						2" Ice	3.614	2.346	0.161
RRUS 32 B30	B	From Leg	4.000	0.000	195.000	No Ice	2.692	1.573	0.060
			0.000			1/2" Ice	2.912	1.756	0.080

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 6 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			0.000						
RRUS 32 B30	C	From Leg	4.000	0.000	195.000	1" Ice	3.138	1.945	0.104
			0.000			2" Ice	3.614	2.346	0.161
			0.000			No Ice	2.692	1.573	0.060
			0.000			1/2" Ice	2.912	1.756	0.080
RRUS 8843 B2/B66A	A	From Leg	4.000	0.000	195.000	1" Ice	3.138	1.945	0.104
			0.000			2" Ice	3.614	2.346	0.161
			0.000			No Ice	1.639	1.353	0.072
			0.000			1/2" Ice	1.799	1.500	0.090
RRUS 8843 B2/B66A	B	From Leg	4.000	0.000	195.000	1" Ice	1.966	1.655	0.110
			0.000			2" Ice	2.323	1.986	0.159
			0.000			No Ice	1.639	1.353	0.072
			0.000			1/2" Ice	1.799	1.500	0.090
RRUS 8843 B2/B66A	C	From Leg	4.000	0.000	195.000	1" Ice	1.966	1.655	0.110
			0.000			2" Ice	2.323	1.986	0.159
			0.000			No Ice	1.639	1.353	0.072
			0.000			1/2" Ice	1.799	1.500	0.090
RRUS 4478 B14	A	From Leg	4.000	0.000	195.000	1" Ice	2.190	1.342	0.094
			0.000			2" Ice	2.566	1.656	0.140
			0.000			No Ice	1.843	1.059	0.060
			0.000			1/2" Ice	2.012	1.197	0.076
RRUS 4478 B14	B	From Leg	4.000	0.000	195.000	1" Ice	2.190	1.342	0.094
			0.000			2" Ice	2.566	1.656	0.140
			0.000			No Ice	1.843	1.059	0.060
			0.000			1/2" Ice	2.012	1.197	0.076
RRUS 4478 B14	C	From Leg	4.000	0.000	195.000	1" Ice	2.190	1.342	0.094
			0.000			2" Ice	2.566	1.656	0.140
			0.000			No Ice	1.843	1.059	0.060
			0.000			1/2" Ice	2.012	1.197	0.076
RRUS 4449 B5/B12	A	From Leg	4.000	0.000	195.000	1" Ice	2.328	1.727	0.111
			0.000			2" Ice	2.718	2.075	0.163
			0.000			No Ice	1.968	1.408	0.071
			0.000			1/2" Ice	2.144	1.564	0.090
RRUS 4449 B5/B12	B	From Leg	4.000	0.000	195.000	1" Ice	2.328	1.727	0.111
			0.000			2" Ice	2.718	2.075	0.163
			0.000			No Ice	1.968	1.408	0.071
			0.000			1/2" Ice	2.144	1.564	0.090
RRUS 4449 B5/B12	C	From Leg	4.000	0.000	195.000	1" Ice	2.328	1.727	0.111
			0.000			2" Ice	2.718	2.075	0.163
			0.000			No Ice	1.968	1.408	0.071
			0.000			1/2" Ice	2.144	1.564	0.090
AIR 6419 B77G	A	From Leg	4.000	0.000	195.000	1" Ice	4.169	2.039	0.120
			0.000			2" Ice	4.699	2.453	0.189
			0.000			No Ice	3.668	1.653	0.066
			0.000			1/2" Ice	3.915	1.843	0.092
AIR 6419 B77G	B	From Leg	4.000	0.000	195.000	1" Ice	4.169	2.039	0.120
			0.000			2" Ice	4.699	2.453	0.189
			0.000			No Ice	3.668	1.653	0.066
			0.000			1/2" Ice	3.915	1.843	0.092
AIR 6419 B77G	C	From Leg	4.000	0.000	195.000	1" Ice	4.169	2.039	0.120
			0.000			2" Ice	4.699	2.453	0.189
			0.000			No Ice	3.668	1.653	0.066
			0.000			1/2" Ice	3.915	1.843	0.092
AIR 6449 N77 w/ Mount Pipe	A	From Leg	4.000	0.000	195.000	1" Ice	4.699	2.453	0.189
			0.000			No Ice	4.257	3.467	0.097
			0.000			1/2" Ice	4.581	3.910	0.140
			0.000			1" Ice	4.915	4.369	0.188

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 7 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						Vert
AIR 6449 N77 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	195.000	No Ice	5.612	5.336	0.302
			0.000				No Ice	4.257	3.467	0.097
			0.000				1/2" Ice	4.581	3.910	0.140
							1" Ice	4.915	4.369	0.188
AIR 6449 N77 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	195.000	2" Ice	5.612	5.336	0.302
			0.000				No Ice	4.257	3.467	0.097
			0.000				1/2" Ice	4.581	3.910	0.140
							1" Ice	4.915	4.369	0.188
QD8616-7 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	195.000	2" Ice	5.612	5.336	0.302
			0.000				No Ice	19.052	11.738	0.183
			0.000				1/2" Ice	19.793	13.269	0.316
							1" Ice	20.543	14.825	0.460
QD8616-7 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	195.000	2" Ice	21.978	17.190	0.784
			0.000				No Ice	19.052	11.738	0.183
			0.000				1/2" Ice	19.793	13.269	0.316
							1" Ice	20.543	14.825	0.460
QD8616-7 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	195.000	2" Ice	21.978	17.190	0.784
			0.000				No Ice	19.052	11.738	0.183
			0.000				1/2" Ice	19.793	13.269	0.316
							1" Ice	20.543	14.825	0.460
DC9-48-60-24-8C-EV	A	From Leg	4.000	0.000	0.000	195.000	2" Ice	21.978	17.190	0.784
			0.000				No Ice	2.737	4.785	0.026
			0.000				1/2" Ice	2.963	5.065	0.063
							1" Ice	3.196	5.352	0.104
DC9-48-60-24-8C-EV	B	From Leg	4.000	0.000	0.000	195.000	2" Ice	3.684	5.948	0.200
			0.000				No Ice	2.737	4.785	0.026
			0.000				1/2" Ice	2.963	5.065	0.063
							1" Ice	3.196	5.352	0.104
DC9-48-60-24-8C-EV	C	From Leg	4.000	0.000	0.000	195.000	2" Ice	3.684	5.948	0.200
			0.000				No Ice	2.737	4.785	0.026
			0.000				1/2" Ice	2.963	5.065	0.063
							1" Ice	3.196	5.352	0.104
10.5"x2.375" Pipe Mount	A	From Leg	4.000	0.000	0.000	195.000	2" Ice	3.684	5.948	0.200
			0.000				No Ice	2.494	2.494	0.036
			0.000				1/2" Ice	3.572	3.572	0.055
							1" Ice	4.667	4.667	0.080
10.5"x2.375" Pipe Mount	B	From Leg	4.000	0.000	0.000	195.000	2" Ice	6.317	6.317	0.152
			0.000				No Ice	2.494	2.494	0.036
			0.000				1/2" Ice	3.572	3.572	0.055
							1" Ice	4.667	4.667	0.080
10.5"x2.375" Pipe Mount	C	From Leg	4.000	0.000	0.000	195.000	2" Ice	6.317	6.317	0.152
			0.000				No Ice	2.494	2.494	0.036
			0.000				1/2" Ice	3.572	3.572	0.055
							1" Ice	4.667	4.667	0.080
Platform Mount [LP 303-1_KCKR-HR-1]	C	None		0.000	0.000	195.000	2" Ice	6.317	6.317	0.152
							No Ice	28.310	28.310	1.770
							1/2" Ice	35.690	35.690	2.297
							1" Ice	43.110	43.110	2.943
						2" Ice	58.210	58.210	4.603	
*										
APXV18-206517S-C w/ Mount Pipe	A	From Leg	4.000	0.000	1.000	185.000	No Ice	3.790	3.160	0.053
			0.000				1/2" Ice	4.380	3.750	0.094
			1.000				1" Ice	4.990	4.350	0.145
							2" Ice	6.250	5.590	0.281
APXV18-206517S-C w/ Mount Pipe	B	From Leg	4.000	0.000	1.000	185.000	No Ice	3.790	3.160	0.053
			0.000				1/2" Ice	4.380	3.750	0.094
			1.000				1" Ice	4.990	4.350	0.145
							2" Ice	6.250	5.590	0.281

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job		127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)		Page		8 of 21	
	Project				Date		15:30:59 09/10/21	
	Client		Crown Castle		Designed by		Regan	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight	
			Horz	Lateral			Front	Side		
			ft	ft	°	ft	ft ²	ft ²	K	
APXV18-206517S-C w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	185.000	2" Ice	6.250	5.590	0.281
			0.000				No Ice	3.790	3.160	0.053
			1.000				1/2" Ice	4.380	3.750	0.094
							1" Ice	4.990	4.350	0.145
(3) 6' x 2" Mount Pipe	A	From Leg	4.000	0.000	0.000	185.000	2" Ice	6.250	5.590	0.281
			0.000				No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
							1" Ice	2.294	2.294	0.048
(3) 6' x 2" Mount Pipe	B	From Leg	4.000	0.000	0.000	185.000	2" Ice	3.060	3.060	0.090
			0.000				No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
							1" Ice	2.294	2.294	0.048
(3) 6' x 2" Mount Pipe	C	From Leg	4.000	0.000	0.000	185.000	2" Ice	3.060	3.060	0.090
			0.000				No Ice	1.425	1.425	0.022
			0.000				1/2" Ice	1.925	1.925	0.033
							1" Ice	2.294	2.294	0.048
Platform Mount [LP 1201-1]	C	None			0.000	185.000	2" Ice	3.060	3.060	0.090
							No Ice	18.380	18.380	2.100
							1/2" Ice	22.110	22.110	2.652
							1" Ice	25.870	25.870	3.263
* LLPX310R-V4 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	175.000	2" Ice	33.470	33.470	4.662
			0.000				No Ice	3.880	2.360	0.057
			0.000				1/2" Ice	4.290	2.730	0.091
							1" Ice	4.720	3.120	0.133
LLPX310R-V4 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	175.000	2" Ice	5.610	3.940	0.238
			0.000				No Ice	3.880	2.360	0.057
			0.000				1/2" Ice	4.290	2.730	0.091
							1" Ice	4.720	3.120	0.133
LLPX310R-V4 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	175.000	2" Ice	5.610	3.940	0.238
			0.000				No Ice	3.880	2.360	0.057
			0.000				1/2" Ice	4.290	2.730	0.091
							1" Ice	4.720	3.120	0.133
TIMING 2000	B	From Leg	4.000	0.000	0.000	175.000	2" Ice	5.610	3.940	0.238
			0.000				No Ice	0.108	0.108	0.001
			0.000				1/2" Ice	0.152	0.152	0.002
							1" Ice	0.203	0.203	0.005
HORIZON COMPACT	A	From Leg	4.000	0.000	0.000	175.000	2" Ice	0.328	0.328	0.014
			0.000				No Ice	0.721	0.368	0.012
			4.000				1/2" Ice	0.828	0.450	0.018
							1" Ice	0.942	0.539	0.026
RRH-2WB	A	From Leg	4.000	0.000	-3.000	175.000	2" Ice	1.193	0.740	0.048
			0.000				No Ice	2.305	0.783	0.044
							1/2" Ice	2.496	0.917	0.059
							1" Ice	2.695	1.058	0.077
RRH-2WB	B	From Leg	4.000	0.000	-3.000	175.000	2" Ice	3.115	1.361	0.121
			0.000				No Ice	2.305	0.783	0.044
							1/2" Ice	2.496	0.917	0.059
							1" Ice	2.695	1.058	0.077
RRH-2WB	C	From Leg	4.000	0.000	-3.000	175.000	2" Ice	3.115	1.361	0.121
			0.000				No Ice	2.305	0.783	0.044
							1/2" Ice	2.496	0.917	0.059
							1" Ice	2.695	1.058	0.077
NNVV-65B-R4 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	175.000	2" Ice	3.115	1.361	0.121
			0.000				No Ice	7.550	4.230	0.110
			0.000				1/2" Ice	8.040	4.670	0.197
							1" Ice	8.530	5.120	0.296

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 9 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						
			ft	ft	°	ft	ft ²	ft ²	K	
NNVV-65B-R4 w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	175.000	2" Ice	9.560	6.050	0.529
			0.000	0.000			No Ice	7.550	4.230	0.110
			0.000	0.000			1/2" Ice	8.040	4.670	0.197
			0.000	0.000			1" Ice	8.530	5.120	0.296
NNVV-65B-R4 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	175.000	2" Ice	9.560	6.050	0.529
			0.000	0.000			No Ice	7.550	4.230	0.110
			0.000	0.000			1/2" Ice	8.040	4.670	0.197
			0.000	0.000			1" Ice	8.530	5.120	0.296
AHCC	A	From Leg	4.000	0.000	0.000	175.000	2" Ice	9.560	6.050	0.529
			0.000	0.000			No Ice	1.628	1.139	0.045
			0.000	0.000			1/2" Ice	1.790	1.281	0.060
			0.000	0.000			1" Ice	1.959	1.431	0.078
AHCC	B	From Leg	4.000	0.000	0.000	175.000	2" Ice	2.320	1.753	0.121
			0.000	0.000			No Ice	1.628	1.139	0.045
			0.000	0.000			1/2" Ice	1.790	1.281	0.060
			0.000	0.000			1" Ice	1.959	1.431	0.078
AHCC	C	From Leg	4.000	0.000	0.000	175.000	2" Ice	2.320	1.753	0.121
			0.000	0.000			No Ice	1.628	1.139	0.045
			0.000	0.000			1/2" Ice	1.790	1.281	0.060
			0.000	0.000			1" Ice	1.959	1.431	0.078
AHFIB_CCIV2	B	From Leg	4.000	0.000	0.000	175.000	2" Ice	2.320	1.753	0.121
			0.000	0.000			No Ice	2.793	1.526	0.066
			0.000	0.000			1/2" Ice	3.014	1.707	0.087
			0.000	0.000			1" Ice	3.243	1.895	0.111
(2) AHFIB_CCIV2	C	From Leg	4.000	0.000	0.000	175.000	2" Ice	3.723	2.293	0.168
			0.000	0.000			No Ice	2.793	1.526	0.066
			0.000	0.000			1/2" Ice	3.014	1.707	0.087
			0.000	0.000			1" Ice	3.243	1.895	0.111
7' x 2" Mount Pipe	A	From Leg	4.000	0.000	0.000	175.000	2" Ice	3.723	2.293	0.168
			0.000	0.000			No Ice	1.663	1.663	0.019
			0.000	0.000			1/2" Ice	2.391	2.391	0.032
			0.000	0.000			1" Ice	2.825	2.825	0.049
7' x 2" Mount Pipe	B	From Leg	4.000	0.000	0.000	175.000	2" Ice	3.706	3.706	0.098
			0.000	0.000			No Ice	1.663	1.663	0.019
			0.000	0.000			1/2" Ice	2.391	2.391	0.032
			0.000	0.000			1" Ice	2.825	2.825	0.049
7' x 2" Mount Pipe	C	From Leg	4.000	0.000	0.000	175.000	2" Ice	3.706	3.706	0.098
			0.000	0.000			No Ice	1.663	1.663	0.019
			0.000	0.000			1/2" Ice	2.391	2.391	0.032
			0.000	0.000			1" Ice	2.825	2.825	0.049
Platform Mount [LP 303-1_HR-1]	C	None			0.000	175.000	2" Ice	3.706	3.706	0.098
							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
*	C	From Leg	4.000	0.000	0.000	161.000	2" Ice	33.960	33.960	3.518
			0.000	0.000			No Ice	0.145	0.145	0.001
			3.000	0.000			1/2" Ice	0.334	0.334	0.003
				0.000			1" Ice	0.483	0.483	0.006
LNA	C	From Leg	4.000	0.000	0.000	161.000	2" Ice	0.808	0.808	0.018
			0.000	0.000			No Ice	0.142	0.054	0.002
			0.000	0.000			1/2" Ice	0.192	0.090	0.003
			0.000	0.000			1" Ice	0.250	0.133	0.005
CAVITY FILTER	C	From Leg	4.000	0.000	0.000	161.000	2" Ice	0.386	0.244	0.012
			0.000	0.000			No Ice	0.195	0.084	0.002
			0.000	0.000			1/2" Ice	0.253	0.124	0.004
			0.000	0.000			1" Ice	0.319	0.171	0.007

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 11 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

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	
(2) 8' x 2" Mount Pipe	C	From Leg	4.000	0.000	0.000	155.000	2" Ice	4.396	4.396	0.119
			0.000	0.000			No Ice	1.900	1.900	0.029
			0.000	0.000			1/2" Ice	2.728	2.728	0.044
							1" Ice	3.401	3.401	0.063
Commscope MC-PK8-DSH	C	None			0.000	155.000	2" Ice	4.396	4.396	0.119
							No Ice	34.240	34.240	1.749
							1/2" Ice	62.950	62.950	2.099
							1" Ice	91.660	91.660	2.450
						2" Ice	149.080	149.080	3.151	
* BXA-80080/4CF w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	103.000	No Ice	5.037	4.033	0.033
			0.000	0.000			1/2" Ice	5.421	4.655	0.077
			-3.000				1" Ice	5.813	5.281	0.127
							2" Ice	6.624	6.561	0.248
BXA-80080/4CF w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	103.000	No Ice	5.037	4.033	0.033
			0.000	0.000			1/2" Ice	5.421	4.655	0.077
			-3.000				1" Ice	5.813	5.281	0.127
							2" Ice	6.624	6.561	0.248
BXA-80090/4CF w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	103.000	No Ice	3.834	3.885	0.030
			0.000	0.000			1/2" Ice	4.198	4.489	0.068
			-3.000				1" Ice	4.570	5.109	0.111
							2" Ice	5.341	6.370	0.218
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	103.000	No Ice	4.090	3.300	0.066
			0.000	0.000			1/2" Ice	4.490	3.680	0.130
			0.000				1" Ice	4.890	4.070	0.204
							2" Ice	5.720	4.870	0.386
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	103.000	No Ice	4.090	3.300	0.066
			0.000	0.000			1/2" Ice	4.490	3.680	0.130
			0.000				1" Ice	4.890	4.070	0.204
							2" Ice	5.720	4.870	0.386
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	103.000	No Ice	4.090	3.300	0.066
			0.000	0.000			1/2" Ice	4.490	3.680	0.130
			0.000				1" Ice	4.890	4.070	0.204
							2" Ice	5.720	4.870	0.386
RFV01U-D1A	A	From Leg	4.000	0.000	0.000	103.000	No Ice	1.875	1.250	0.084
			0.000	0.000			1/2" Ice	2.045	1.393	0.103
			1.000				1" Ice	2.223	1.543	0.124
							2" Ice	2.601	1.865	0.175
RFV01U-D1A	B	From Leg	4.000	0.000	0.000	103.000	No Ice	1.875	1.250	0.084
			0.000	0.000			1/2" Ice	2.045	1.393	0.103
			1.000				1" Ice	2.223	1.543	0.124
							2" Ice	2.601	1.865	0.175
RFV01U-D1A	C	From Leg	4.000	0.000	0.000	103.000	No Ice	1.875	1.250	0.084
			0.000	0.000			1/2" Ice	2.045	1.393	0.103
			1.000				1" Ice	2.223	1.543	0.124
							2" Ice	2.601	1.865	0.175
RFV01U-D2A	A	From Leg	4.000	0.000	0.000	103.000	No Ice	1.875	1.013	0.070
			0.000	0.000			1/2" Ice	2.045	1.145	0.087
			1.000				1" Ice	2.223	1.284	0.106
							2" Ice	2.601	1.585	0.153
RFV01U-D2A	B	From Leg	4.000	0.000	0.000	103.000	No Ice	1.875	1.013	0.070
			0.000	0.000			1/2" Ice	2.045	1.145	0.087
			1.000				1" Ice	2.223	1.284	0.106
							2" Ice	2.601	1.585	0.153
RFV01U-D2A	C	From Leg	4.000	0.000	0.000	103.000	No Ice	1.875	1.013	0.070
			0.000	0.000			1/2" Ice	2.045	1.145	0.087
			1.000				1" Ice	2.223	1.284	0.106
							2" Ice	2.601	1.585	0.153

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 12 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						
			ft	ft	°	ft	ft ²	ft ²	K	
RRFDC-3315-PF-48	A	From Leg	4.000	0.000	0.000	103.000	2" Ice	2.601	1.585	0.153
			0.000				No Ice	3.364	2.192	0.021
			1.000				1/2" Ice	3.597	2.395	0.050
							1" Ice	3.838	2.606	0.082
CBRS	A	From Leg	4.000	0.000	0.000	103.000	2" Ice	4.343	3.049	0.158
			0.000				No Ice	1.540	0.610	0.023
			-2.000				1/2" Ice	1.790	0.800	0.035
							1" Ice	2.060	1.020	0.049
CBRS	B	From Leg	4.000	0.000	0.000	103.000	2" Ice	2.670	1.510	0.086
			0.000				No Ice	1.540	0.610	0.023
			-2.000				1/2" Ice	1.790	0.800	0.035
							1" Ice	2.060	1.020	0.049
CBRS	C	From Leg	4.000	0.000	0.000	103.000	2" Ice	2.670	1.510	0.086
			0.000				No Ice	1.540	0.610	0.023
			-2.000				1/2" Ice	1.790	0.800	0.035
							1" Ice	2.060	1.020	0.049
MT6407-77A w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	103.000	2" Ice	2.670	1.510	0.086
			0.000				No Ice	4.907	2.682	0.096
			2.000				1/2" Ice	5.256	3.145	0.136
							1" Ice	5.615	3.624	0.180
MT6407-77A w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	103.000	2" Ice	6.362	4.631	0.288
			0.000				No Ice	4.907	2.682	0.096
			2.000				1/2" Ice	5.256	3.145	0.136
							1" Ice	5.615	3.624	0.180
MT6407-77A w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	103.000	2" Ice	6.362	4.631	0.288
			0.000				No Ice	4.907	2.682	0.096
			2.000				1/2" Ice	5.256	3.145	0.136
							1" Ice	5.615	3.624	0.180
RRFDC-3315-PF-48	A	From Leg	4.000	0.000	0.000	103.000	2" Ice	6.362	4.631	0.288
			0.000				No Ice	3.364	2.192	0.021
			1.000				1/2" Ice	3.597	2.395	0.050
							1" Ice	3.838	2.606	0.082
8' x 2" Mount Pipe	A	From Leg	4.000	0.000	0.000	103.000	2" Ice	4.343	3.049	0.158
			0.000				No Ice	1.900	1.900	0.029
			0.000				1/2" Ice	2.728	2.728	0.044
							1" Ice	3.401	3.401	0.063
8' x 2" Mount Pipe	B	From Leg	4.000	0.000	0.000	103.000	2" Ice	4.396	4.396	0.119
			0.000				No Ice	1.900	1.900	0.029
			0.000				1/2" Ice	2.728	2.728	0.044
							1" Ice	3.401	3.401	0.063
8' x 2" Mount Pipe	C	From Leg	4.000	0.000	0.000	103.000	2" Ice	4.396	4.396	0.119
			0.000				No Ice	1.900	1.900	0.029
			0.000				1/2" Ice	2.728	2.728	0.044
							1" Ice	3.401	3.401	0.063
Side Arm Mount [SO 102-3]	C	None		0.000	0.000	103.000	2" Ice	4.396	4.396	0.119
							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 303-1_KCKR-HR-1]	C	None		0.000	0.000	103.000	2" Ice	5.900	5.900	0.195
							No Ice	28.310	28.310	1.770
							1/2" Ice	35.690	35.690	2.297
							1" Ice	43.110	43.110	2.943
						2" Ice	58.210	58.210	4.603	

*

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 13 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K	
Andrew VHLP2-23	C	Paraboloid w/Shroud (HP)	From Leg	4.000 0.000 0.000	90.000		175.000	2.175	No Ice 1/2" Ice 1" Ice 2" Ice	3.715 4.006 4.296 4.876	0.031 0.052 0.072 0.113
*											

Load Combinations

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

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 14 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Comb. No.	Description
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	192 - 151.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-32.320	1.306	-1.317
			Max. Mx	20	-16.345	418.073	1.804
			Max. My	14	-16.338	-1.888	-420.420
			Max. Vy	8	14.178	-416.954	-3.872
			Max. Vx	14	14.277	-1.888	-420.420
			Max. Torque	12			-1.468
L2	151.25 - 111.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-53.545	1.306	-0.692
			Max. Mx	20	-31.223	1130.708	6.681
			Max. My	14	-31.217	-6.624	-1138.029
			Max. Vy	8	20.388	-1129.909	-9.886
			Max. Vx	14	20.514	-6.624	-1138.029
			Max. Torque	12			-1.355
L3	111.25 - 72.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-83.393	1.185	1.010
			Max. Mx	20	-51.854	2023.402	11.808
			Max. My	14	-51.848	-11.458	-2037.209
			Max. Vy	8	27.249	-2022.955	-15.735
			Max. Vx	14	27.456	-11.458	-2037.209
			Max. Torque	17			-1.444
L4	72.75 - 35.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-110.320	1.185	1.184
			Max. Mx	20	-73.943	3064.167	16.663
			Max. My	14	-73.940	-16.313	-3085.644
			Max. Vy	8	30.904	-3064.025	-21.872
			Max. Vx	14	31.110	-16.313	-3085.644
			Max. Torque	17			-1.500
L5	35.75 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-149.215	1.185	1.428
			Max. Mx	8	-106.605	-4550.641	-29.480
			Max. My	14	-106.605	-22.345	-4581.420
			Max. Vy	8	35.108	-4550.641	-29.480
			Max. Vx	14	35.310	-22.345	-4581.420
			Max. Torque	17			-1.568

Maximum Reactions

<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 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)</p>	<p>Page 15 of 21</p>
	<p>Project</p>	<p>Date 15:30:59 09/10/21</p>
	<p>Client Crown Castle</p>	<p>Designed by Regan</p>

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	149.215	0.000	0.000
	Max. H _x	20	106.611	35.082	0.131
	Max. H _z	2	106.611	0.121	35.255
	Max. M _x	2	4574.336	0.121	35.255
	Max. M _z	8	4550.641	-35.091	-0.168
	Max. Torsion	5	1.416	-17.427	30.502
	Min. Vert	7	79.958	-30.324	17.558
	Min. H _x	8	106.611	-35.091	-0.168
	Min. H _z	14	106.611	-0.132	-35.293
	Min. M _x	14	-4581.420	-0.132	-35.293
	Min. M _z	20	-4550.398	35.082	0.131
	Min. Torsion	17	-1.568	17.400	-30.528

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	88.843	0.000	0.000	0.104	0.513	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	106.611	-0.121	-35.255	-4574.336	21.554	-1.087
0.9 Dead+1.0 Wind 0 deg - No Ice	79.958	-0.121	-35.255	-4546.324	21.244	-1.085
1.2 Dead+1.0 Wind 30 deg - No Ice	106.611	17.427	-30.502	-3956.584	-2254.452	-1.416
0.9 Dead+1.0 Wind 30 deg - No Ice	79.958	17.427	-30.502	-3932.363	-2240.802	-1.416
1.2 Dead+1.0 Wind 60 deg - No Ice	106.611	30.324	-17.558	-2275.312	-3929.478	-1.226
0.9 Dead+1.0 Wind 60 deg - No Ice	79.958	30.324	-17.558	-2261.406	-3905.549	-1.228
1.2 Dead+1.0 Wind 90 deg - No Ice	106.611	35.091	0.168	29.480	-4550.641	-0.343
0.9 Dead+1.0 Wind 90 deg - No Ice	79.958	35.091	0.168	29.241	-4522.894	-0.346
1.2 Dead+1.0 Wind 120 deg - No Ice	106.611	30.444	17.761	2310.690	-3950.255	0.183
0.9 Dead+1.0 Wind 120 deg - No Ice	79.958	30.444	17.761	2296.467	-3926.184	0.179
1.2 Dead+1.0 Wind 150 deg - No Ice	106.611	17.643	30.613	3975.907	-2291.815	0.720
0.9 Dead+1.0 Wind 150 deg - No Ice	79.958	17.643	30.613	3951.480	-2277.911	0.717
1.2 Dead+1.0 Wind 180 deg - No Ice	106.611	0.132	35.293	4581.420	-22.345	1.254
0.9 Dead+1.0 Wind 180 deg - No Ice	79.958	0.132	35.293	4553.284	-22.356	1.252
1.2 Dead+1.0 Wind 210 deg - No Ice	106.611	-17.400	30.528	3961.451	2250.880	1.568
0.9 Dead+1.0 Wind 210 deg - No Ice	79.958	-17.400	30.528	3937.120	2236.929	1.568
1.2 Dead+1.0 Wind 240 deg - No Ice	106.611	-30.340	17.529	2270.426	3933.756	1.048
0.9 Dead+1.0 Wind 240 deg - No Ice	79.958	-30.340	17.529	2256.477	3909.471	1.050
1.2 Dead+1.0 Wind 270 deg - No Ice	106.611	-35.082	-0.131	-22.696	4550.398	0.567

<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 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)</p>	<p>Page 16 of 21</p>
	<p>Project</p>	<p>Date 15:30:59 09/10/21</p>
	<p>Client Crown Castle</p>	<p>Designed by Regan</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
0.9 Dead+1.0 Wind 270 deg - No Ice	79.958	-35.082	-0.131	-22.579	4522.326	0.570
1.2 Dead+1.0 Wind 300 deg - No Ice	106.611	-30.417	-17.732	-2305.206	3946.698	0.060
0.9 Dead+1.0 Wind 300 deg - No Ice	79.958	-30.417	-17.732	-2291.096	3922.326	0.063
1.2 Dead+1.0 Wind 330 deg - No Ice	106.611	-17.624	-30.580	-3969.809	2289.748	-0.521
0.9 Dead+1.0 Wind 330 deg - No Ice	79.958	-17.624	-30.580	-3945.499	2275.532	-0.517
1.2 Dead+1.0 Ice+1.0 Temp	149.215	0.000	0.000	-1.428	1.185	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	149.215	-0.036	-11.305	-1455.904	7.495	-0.366
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	149.215	5.596	-9.779	-1259.205	-716.599	-0.743
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	149.215	9.732	-5.629	-724.744	-1249.072	-0.890
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	149.215	11.260	0.046	6.645	-1446.332	-0.717
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	149.215	9.768	5.690	732.306	-1255.241	-0.452
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	149.215	5.659	9.813	1262.062	-727.594	-0.053
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	149.215	0.038	11.313	1454.523	-5.370	0.403
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	149.215	-5.590	9.785	1257.322	718.094	0.776
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	149.215	-9.736	5.623	720.655	1252.343	0.850
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	149.215	-11.258	-0.038	-8.093	1448.580	0.767
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	149.215	-9.762	-5.683	-734.049	1256.740	0.506
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	149.215	-5.655	-9.806	-1263.666	729.429	0.097
Dead+Wind 0 deg - Service	88.843	-0.029	-8.585	-1109.397	5.604	-0.265
Dead+Wind 30 deg - Service	88.843	4.244	-7.427	-959.564	-546.427	-0.345
Dead+Wind 60 deg - Service	88.843	7.384	-4.275	-551.782	-952.692	-0.299
Dead+Wind 90 deg - Service	88.843	8.545	0.041	7.229	-1103.351	-0.084
Dead+Wind 120 deg - Service	88.843	7.413	4.325	560.524	-957.732	0.044
Dead+Wind 150 deg - Service	88.843	4.296	7.454	964.415	-555.487	0.175
Dead+Wind 180 deg - Service	88.843	0.032	8.594	1111.278	-5.039	0.305
Dead+Wind 210 deg - Service	88.843	-4.237	7.434	960.907	546.318	0.382
Dead+Wind 240 deg - Service	88.843	-7.388	4.268	550.761	954.486	0.256
Dead+Wind 270 deg - Service	88.843	-8.543	-0.032	-5.421	1104.048	0.139
Dead+Wind 300 deg - Service	88.843	-7.407	-4.318	-559.031	957.626	0.015
Dead+Wind 330 deg - Service	88.843	-4.292	-7.446	-962.773	555.742	-0.127

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	-88.843	0.000	0.000	88.843	0.000	0.000%
2	-0.121	-106.611	-35.255	0.121	106.611	35.255	0.000%
3	-0.121	-79.958	-35.255	0.121	79.958	35.255	0.000%
4	17.427	-106.611	-30.502	-17.427	106.611	30.502	0.000%
5	17.427	-79.958	-30.502	-17.427	79.958	30.502	0.000%

<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 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)</p>	<p>Page 17 of 21</p>
	<p>Project</p>	<p>Date 15:30:59 09/10/21</p>
	<p>Client Crown Castle</p>	<p>Designed by Regan</p>

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
6	30.324	-106.611	-17.558	-30.324	106.611	17.558	0.000%
7	30.324	-79.958	-17.558	-30.324	79.958	17.558	0.000%
8	35.091	-106.611	0.168	-35.091	106.611	-0.168	0.000%
9	35.091	-79.958	0.168	-35.091	79.958	-0.168	0.000%
10	30.444	-106.611	17.761	-30.444	106.611	-17.761	0.000%
11	30.444	-79.958	17.761	-30.444	79.958	-17.761	0.000%
12	17.643	-106.611	30.613	-17.643	106.611	-30.613	0.000%
13	17.643	-79.958	30.613	-17.643	79.958	-30.613	0.000%
14	0.132	-106.611	35.293	-0.132	106.611	-35.293	0.000%
15	0.132	-79.958	35.293	-0.132	79.958	-35.293	0.000%
16	-17.400	-106.611	30.528	17.400	106.611	-30.528	0.000%
17	-17.400	-79.958	30.528	17.400	79.958	-30.528	0.000%
18	-30.340	-106.611	17.529	30.340	106.611	-17.529	0.000%
19	-30.340	-79.958	17.529	30.340	79.958	-17.529	0.000%
20	-35.082	-106.611	-0.131	35.082	106.611	0.131	0.000%
21	-35.082	-79.958	-0.131	35.082	79.958	0.131	0.000%
22	-30.417	-106.611	-17.732	30.417	106.611	17.732	0.000%
23	-30.417	-79.958	-17.732	30.417	79.958	17.732	0.000%
24	-17.624	-106.611	-30.580	17.624	106.611	30.580	0.000%
25	-17.624	-79.958	-30.580	17.624	79.958	30.580	0.000%
26	0.000	-149.215	0.000	0.000	149.215	0.000	0.000%
27	-0.036	-149.215	-11.305	0.036	149.215	11.305	0.000%
28	5.596	-149.215	-9.779	-5.596	149.215	9.779	0.000%
29	9.732	-149.215	-5.629	-9.732	149.215	5.629	0.000%
30	11.260	-149.215	0.046	-11.260	149.215	-0.046	0.000%
31	9.768	-149.215	5.690	-9.768	149.215	-5.690	0.000%
32	5.659	-149.215	9.813	-5.659	149.215	-9.813	0.000%
33	0.038	-149.215	11.313	-0.038	149.215	-11.313	0.000%
34	-5.590	-149.215	9.785	5.590	149.215	-9.785	0.000%
35	-9.736	-149.215	5.623	9.736	149.215	-5.623	0.000%
36	-11.258	-149.215	-0.038	11.258	149.215	0.038	0.000%
37	-9.762	-149.215	-5.683	9.762	149.215	5.683	0.000%
38	-5.655	-149.215	-9.806	5.655	149.215	9.806	0.000%
39	-0.029	-88.843	-8.585	0.029	88.843	8.585	0.000%
40	4.244	-88.843	-7.427	-4.244	88.843	7.427	0.000%
41	7.384	-88.843	-4.275	-7.384	88.843	4.275	0.000%
42	8.545	-88.843	0.041	-8.545	88.843	-0.041	0.000%
43	7.413	-88.843	4.325	-7.413	88.843	-4.325	0.000%
44	4.296	-88.843	7.454	-4.296	88.843	-7.454	0.000%
45	0.032	-88.843	8.594	-0.032	88.843	-8.594	0.000%
46	-4.237	-88.843	7.434	4.237	88.843	-7.434	0.000%
47	-7.388	-88.843	4.268	7.388	88.843	-4.268	0.000%
48	-8.543	-88.843	-0.032	8.543	88.843	0.032	0.000%
49	-7.407	-88.843	-4.318	7.407	88.843	4.318	0.000%
50	-4.292	-88.843	-7.446	4.292	88.843	7.446	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00011503
3	Yes	4	0.00000001	0.00006904
4	Yes	4	0.00000001	0.00081756
5	Yes	4	0.00000001	0.00055952
6	Yes	4	0.00000001	0.00086381

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 18 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

7	Yes	4	0.0000001	0.00059311
8	Yes	4	0.0000001	0.00009814
9	Yes	4	0.0000001	0.00005460
10	Yes	4	0.0000001	0.00088998
11	Yes	4	0.0000001	0.00061044
12	Yes	4	0.0000001	0.00084614
13	Yes	4	0.0000001	0.00057879
14	Yes	4	0.0000001	0.00010922
15	Yes	4	0.0000001	0.00006422
16	Yes	4	0.0000001	0.00088152
17	Yes	4	0.0000001	0.00060538
18	Yes	4	0.0000001	0.00083331
19	Yes	4	0.0000001	0.00057058
20	Yes	4	0.0000001	0.00009390
21	Yes	4	0.0000001	0.00005085
22	Yes	4	0.0000001	0.00085579
23	Yes	4	0.0000001	0.00058601
24	Yes	4	0.0000001	0.00088962
25	Yes	4	0.0000001	0.00061018
26	Yes	4	0.0000001	0.00000001
27	Yes	5	0.0000001	0.00007131
28	Yes	5	0.0000001	0.00007279
29	Yes	5	0.0000001	0.00007261
30	Yes	5	0.0000001	0.00007080
31	Yes	5	0.0000001	0.00007322
32	Yes	5	0.0000001	0.00007344
33	Yes	5	0.0000001	0.00007138
34	Yes	5	0.0000001	0.00007304
35	Yes	5	0.0000001	0.00007287
36	Yes	5	0.0000001	0.00007113
37	Yes	5	0.0000001	0.00007345
38	Yes	5	0.0000001	0.00007357
39	Yes	4	0.0000001	0.00001760
40	Yes	4	0.0000001	0.00002396
41	Yes	4	0.0000001	0.00002498
42	Yes	4	0.0000001	0.00001725
43	Yes	4	0.0000001	0.00002549
44	Yes	4	0.0000001	0.00002447
45	Yes	4	0.0000001	0.00001771
46	Yes	4	0.0000001	0.00002566
47	Yes	4	0.0000001	0.00002428
48	Yes	4	0.0000001	0.00001725
49	Yes	4	0.0000001	0.00002464
50	Yes	4	0.0000001	0.00002556

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	192 - 151.25	10.471	44	0.551	0.001
L2	156.25 - 111.25	6.667	44	0.443	0.001
L3	117.75 - 72.75	3.611	44	0.306	0.000
L4	80.75 - 35.75	1.649	44	0.193	0.000
L5	45 - 0	0.517	44	0.103	0.000

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 19 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
195.000	DMP65R-BU8D w/ Mount Pipe	44	10.471	0.551	0.001	93581
185.000	APXV18-206517S-C w/ Mount Pipe	44	9.689	0.531	0.001	66843
175.000	Andrew VHLP2-23	44	8.590	0.502	0.001	27523
161.000	CXL 900-3LW	44	7.130	0.458	0.001	15093
155.000	MX08FRO665-21 w/ Mount Pipe	44	6.548	0.439	0.001	13366
103.000	BXA-80080/4CF w/ Mount Pipe	44	2.727	0.258	0.000	19099

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	192 - 151.25	43.211	12	2.274	0.003
L2	156.25 - 111.25	27.516	12	1.828	0.002
L3	117.75 - 72.75	14.902	12	1.265	0.001
L4	80.75 - 35.75	6.802	12	0.796	0.000
L5	45 - 0	2.131	12	0.423	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
195.000	DMP65R-BU8D w/ Mount Pipe	12	43.211	2.274	0.003	22774
185.000	APXV18-206517S-C w/ Mount Pipe	12	39.987	2.191	0.003	16267
175.000	Andrew VHLP2-23	12	35.452	2.071	0.003	6697
161.000	CXL 900-3LW	12	29.428	1.892	0.002	3672
155.000	MX08FRO665-21 w/ Mount Pipe	12	27.026	1.811	0.002	3250
103.000	BXA-80080/4CF w/ Mount Pipe	12	11.253	1.065	0.001	4627

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 P _u / φP _n
L1	192 - 151.25 (1)	TP39.245x26x0.313	40.750	0.000	0.0	37.004	-16.336	2164.750	0.008
L2	151.25 - 111.25 (2)	TP51.621x36.995x0.438	45.000	0.000	0.0	68.141	-31.215	3986.250	0.008
L3	111.25 - 72.75 (3)	TP63.259x48.633x0.5	45.000	0.000	0.0	95.472	-51.847	5585.120	0.009

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 20 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L4	72.75 - 35.75 (4)	TP74.285x59.659x0.563	45.000	0.000	0.0	126.255	-73.939	7385.900	0.010
L5	35.75 - 0 (5)	TP84.78x70.154x0.563	45.000	0.000	0.0	150.360	-106.605	8796.050	0.012

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	192 - 151.25 (1)	TP39.245x26x0.313	421.177	1979.458	0.213	0.000	1979.458	0.000
L2	151.25 - 111.25 (2)	TP51.621x36.995x0.438	1140.758	4884.225	0.234	0.000	4884.225	0.000
L3	111.25 - 72.75 (3)	TP63.259x48.633x0.5	2041.625	8215.233	0.249	0.000	8215.233	0.000
L4	72.75 - 35.75 (4)	TP74.285x59.659x0.563	3091.542	12590.333	0.246	0.000	12590.333	0.000
L5	35.75 - 0 (5)	TP84.78x70.154x0.563	4589.142	16713.833	0.275	0.000	16713.833	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	192 - 151.25 (1)	TP39.245x26x0.313	14.335	649.424	0.022	1.466	2121.792	0.001
L2	151.25 - 111.25 (2)	TP51.621x36.995x0.438	20.566	1195.870	0.017	1.313	5139.125	0.000
L3	111.25 - 72.75 (3)	TP63.259x48.633x0.5	27.499	1675.540	0.016	0.847	8827.417	0.000
L4	72.75 - 35.75 (4)	TP74.285x59.659x0.563	31.151	2215.770	0.014	0.791	13722.167	0.000
L5	35.75 - 0 (5)	TP84.78x70.154x0.563	35.350	2638.810	0.013	0.723	19462.167	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	Ratio $\frac{M_{uy}}{\phi M_{uy}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	192 - 151.25 (1)	0.008	0.213	0.000	0.022	0.001	0.221	1.050	4.8.2 ✓
L2	151.25 - 111.25 (2)	0.008	0.234	0.000	0.017	0.000	0.242	1.050	4.8.2 ✓
L3	111.25 - 72.75 (3)	0.009	0.249	0.000	0.016	0.000	0.258	1.050	4.8.2 ✓

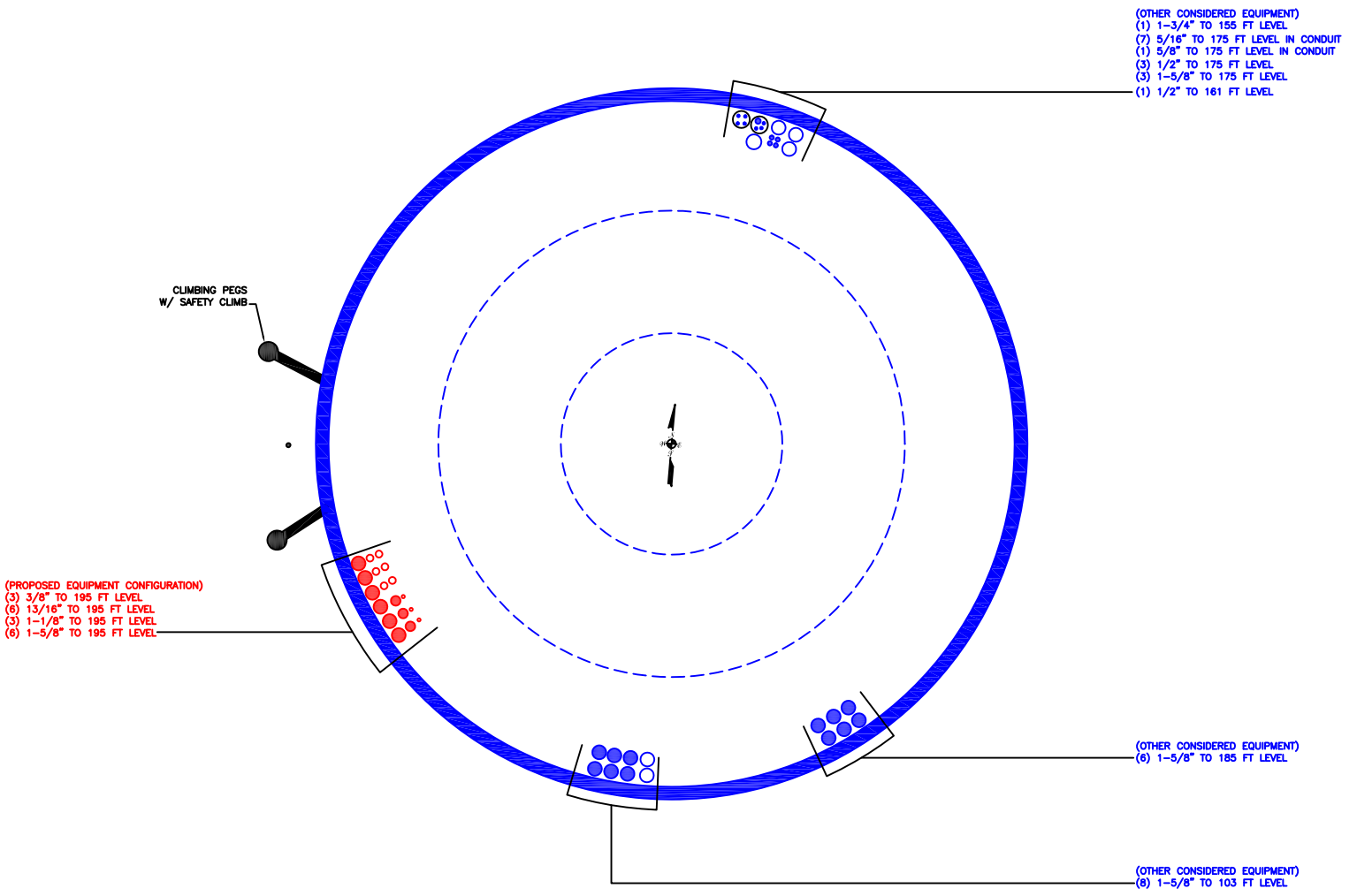
tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 127879.013.01 - CT NEW BRITAIN 4 CAC 803843, (BU# 803843)	Page 21 of 21
	Project	Date 15:30:59 09/10/21
	Client Crown Castle	Designed by Regan

Section No.	Elevation ft	Ratio P_u	Ratio M_{ux}	Ratio M_{uy}	Ratio V_u	Ratio T_u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L4	72.75 - 35.75 (4)	0.010	0.246	0.000	0.014	0.000	0.256	1.050	4.8.2 ✓
L5	35.75 - 0 (5)	0.012	0.275	0.000	0.013	0.000	0.287	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	192 - 151.25	Pole	TP39.245x26x0.313	1	-16.336	2272.987	21.0	Pass	
L2	151.25 - 111.25	Pole	TP51.621x36.995x0.438	2	-31.215	4185.562	23.0	Pass	
L3	111.25 - 72.75	Pole	TP63.259x48.633x0.5	3	-51.847	5864.376	24.6	Pass	
L4	72.75 - 35.75	Pole	TP74.285x59.659x0.563	4	-73.939	7755.195	24.4	Pass	
L5	35.75 - 0	Pole	TP84.78x70.154x0.563	5	-106.605	9235.852	27.3	Pass	
							Summary		
							Pole (L5)	27.3	Pass
							RATING =	27.3	Pass

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT: 803843

APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

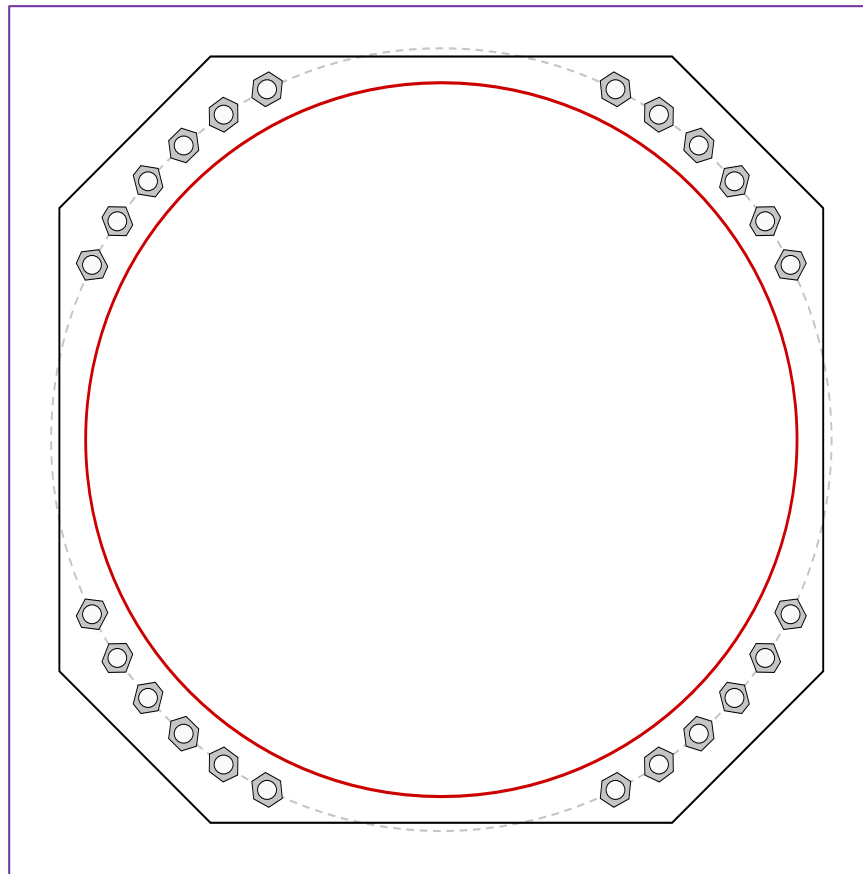


Site Info	
BU #	803843
Site Name	W BRITAIN 4 CAC 8038
Order #	556526, Rev.0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.875

Applied Loads	
Moment (kip-ft)	4589.15
Axial Force (kips)	106.61
Shear Force (kips)	35.35

*TIA-222-H Section 15.5 Applied



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

Anchor Rod Data
(24) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 93" BC <i>Anchor Spacing: 6 in</i>
Base Plate Data
91" W x 3.25" Plate (A572-55; $F_y=55$ ksi, $F_u=70$ ksi); Clip: 18 in
Stiffener Data
N/A
Pole Data
84.78" x 0.5625" 18-sided pole (A607-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary (units of kips, kip-in)		
$P_{u,t} = 94.23$	$\phi P_{n,t} = 243.75$	Stress Rating
$V_u = 1.47$	$\phi V_n = 149.1$	36.8%
$M_u = n/a$	$\phi M_n = n/a$	Pass
Base Plate Summary		
Max Stress (ksi):	15.67	(Flexural)
Allowable Stress (ksi):	49.5	
Stress Rating:	30.1%	Pass

Drilled Pier Foundation

BU # :	803843
Site Name:	CT NEW BRITAIN 4 CAC 8
Order Number:	556526, Rev.0
TIA-222 Revision:	H
Tower Type:	Monopole



Applied Loads		
	Comp.	Uplift
Moment (kip-ft)	4589.15	
Axial Force (kips)	106.61	
Shear Force (kips)	35.33	

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

Pier Design Data		
Depth	28.5	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
<i>From 0.5' above grade to 28.5' below grade</i>		
Pier Diameter	10	ft
Rebar Quantity	40	
Rebar Size	11	
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)	7.71	-
Soil Safety Factor	3.88	-
Max Moment (kip-ft)	4829.64	-
Rating*	32.7%	-

Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	553.71	-
End Bearing (kips)	1413.72	-
Weight of Concrete (kips)	318.82	-
Total Capacity (kips)	1967.42	-
Axial (kips)	425.43	-
Rating*	20.6%	-

Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	7.40	-
Critical Moment (kip-ft)	4828.70	-
Critical Moment Capacity	14658.02	-
Rating*	31.4%	-

Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	20.47	-
Critical Shear (kip)	460.31	-
Critical Shear Capacity	1152.62	-
Rating*	38.0%	-

Structural Foundation Rating*	38.0%
Soil Interaction Rating*	32.7%

*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	13	# of Layers	5	

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	5	5	115	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	5	13	8	115	150	0	30	0.000	0.000	1.00	1.00			Cohesionless
3	13	15	2	52.6	87.6	0	30	0.000	0.000	1.00	1.00			Cohesionless
4	15	23	8	70	87.6	0	34	0.000	0.000	1.00	1.00			Cohesionless
5	23	28.5	5.5	70	87.6	0	34	0.000	0.000	1.00	1.00	24		Cohesionless

Pier and Pad Foundation



BU #: 803843
Site Name: CT NEW BRITAIN
App. Number: 556526, Rev.0

TIA-222 Revision: H
Tower Type: Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp} :	106.61	kips
Base Shear, Vu_{comp} :	35.33	kips
Moment, M_u :	4589.15	ft-kips
Tower Height, H :	192	ft
BP Dist. Above Fdn, bp_{dist} :	4	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
<i>Lateral (Sliding) (kips)</i>	500.53	35.33	6.7%	Pass
<i>Bearing Pressure (ksf)</i>	4.50	1.88	39.8%	Pass
<i>Overturning (kip*ft)</i>	12957.90	4865.90	37.6%	Pass
<i>Pier Flexure (Comp.) (kip*ft)</i>	22139.23	4712.81	20.3%	Pass
<i>Pier Compression (kip)</i>	37491.77	156.09	0.4%	Pass
<i>Pad Flexure (kip*ft)</i>	16873.89	1580.60	8.9%	Pass
<i>Pad Shear - 1-way (kips)</i>	1374.11	190.58	13.2%	Pass
<i>Pad Shear - 2-way (Comp) (ksi)</i>	0.164	0.021	12.3%	Pass
<i>Flexural 2-way (Comp) (kip*ft)</i>	22895.15	2827.68	11.8%	Pass

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, $dpier$:	10	ft
Ext. Above Grade, E :	0.5	ft
Pier Rebar Size, Sc :	11	
Pier Rebar Quantity, mc :	64	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	10	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

*Rating per TIA-222-H Section 15.5

Structural Rating*:	20.3%
Soil Rating*:	39.8%

Pad Properties		
Depth, D :	7	ft
Pad Width, W_1 :	32.5	ft
Pad Thickness, T :	4	ft
Pad Rebar Size (Bottom dir. 2), Sp_2 :	11	
Pad Rebar Quantity (Bottom dir. 2), mp_2 :	60	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, F_y :	60	ksi
Concrete Compressive Strength, F'_c :	3	ksi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	125	pcf
Ultimate Gross Bearing, Q_{ult} :	6.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	32	degrees
SPT Blow Count, N_{blows} :	13	
Base Friction, μ :	0.5	
Neglected Depth, N :	5.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	N/A	ft

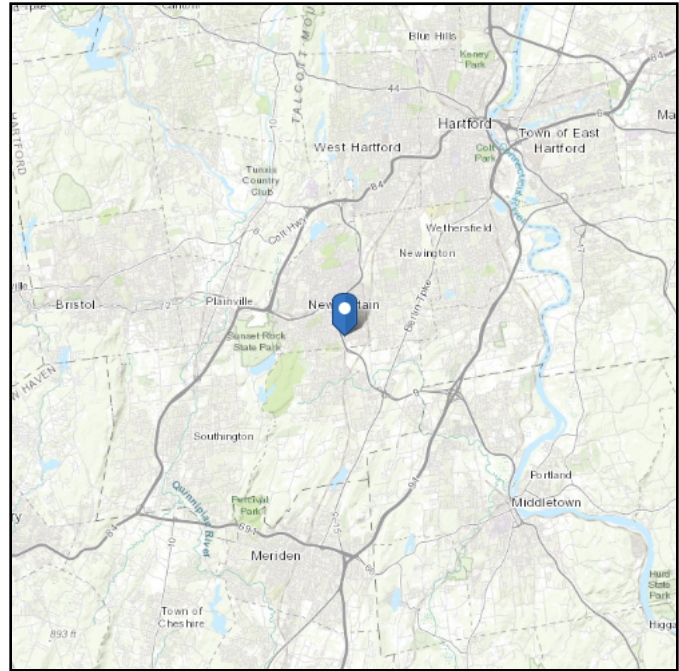
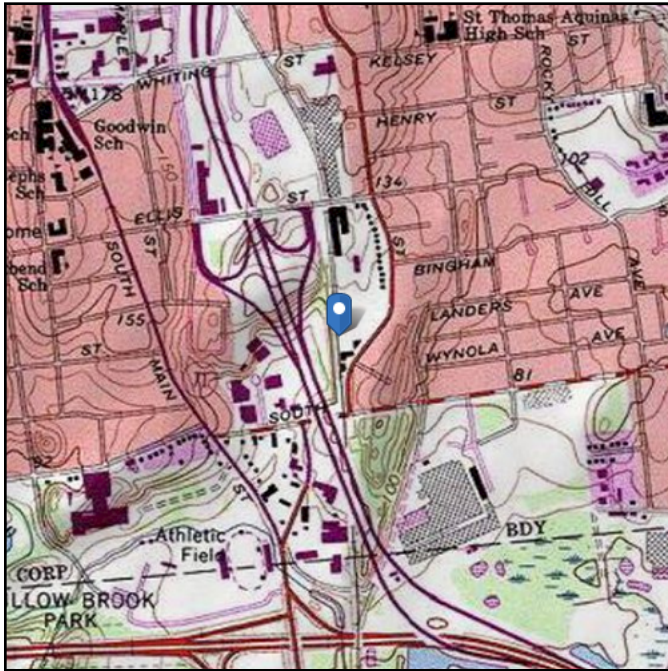
<--Toggle between Gross and Net

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: 111.66 ft (NAVD 88)
Latitude: 41.654556
Longitude: -72.769331



Wind

Results:

Wind Speed:	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 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 Sep 09 2021

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

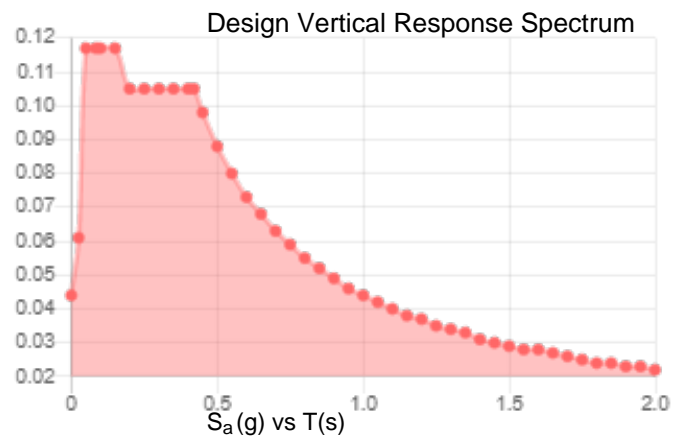
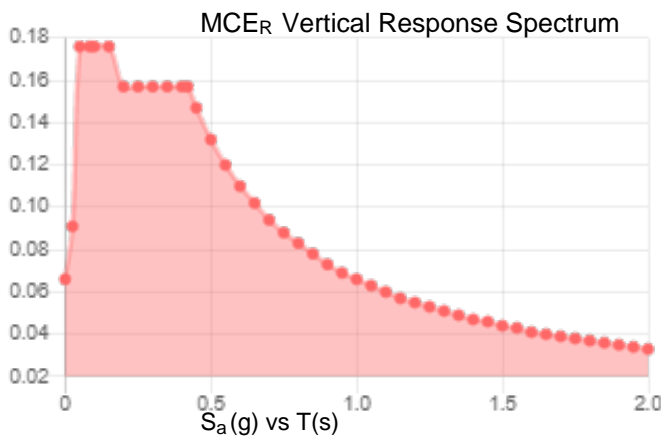
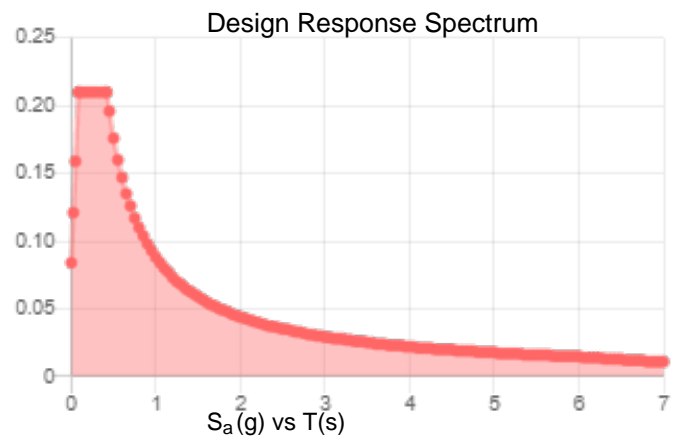
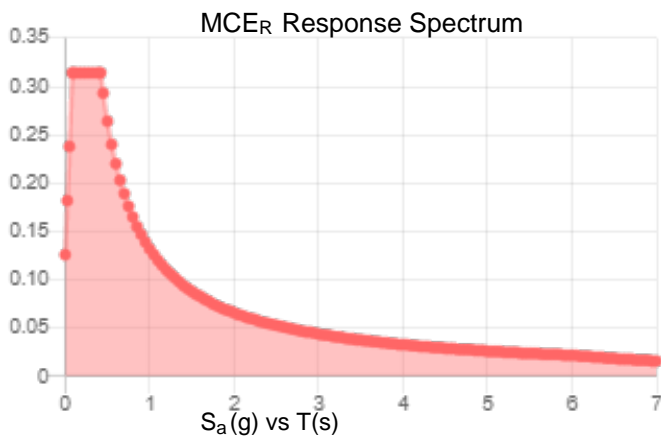
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.196	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.107
F_v :	2.4	PGA _M :	0.17
S_{MS} :	0.314	F_{PGA} :	1.585
S_{M1} :	0.132	I_e :	1
S_{DS} :	0.21	C_v :	0.7

Seismic Design Category B



Data Accessed:

Thu Sep 09 2021

Date Source:

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

Ice

Results:

Ice Thickness: 1.50 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 Sep 09 2021

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

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

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.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.



Date: September 8, 2021

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

Subject: Mount Analysis Report

Carrier Designation: AT&T Mobility Equipment Change-Out
Carrier Site Number: CTL05194
Carrier Site Name: CT New Britain 4 CAC 803843
Carrier FA Number: 10091780

Crown Castle Designation: BU Number: 803843
Site Name: CT New Britain 4 CAC 803843
JDE Job Number: 649378
Order Number: 556526, Rev.0

Engineering Firm Designation: B+T Group Report Designation: 127879.012.01

Site Data: 200 Stanley Street, New Britain, CT, Hartford, 06053.
Latitude 41° 39' 16.40" Longitude -72° 46' 9.59"

Structure Information: Tower Height & Type: 192 ft. Monopole
Mount Elevation: 195 ft.
Mount Type: 12.5 ft. Platform Mount

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

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

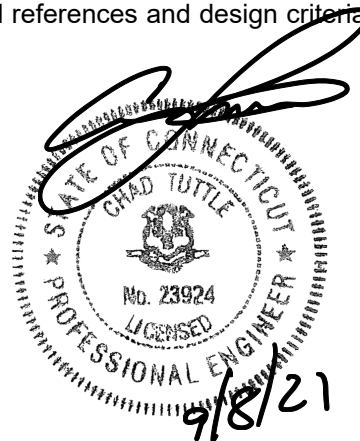
Platform Mount

Sufficient

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 118 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Krista Loyd, E.I.T.

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



Chad E. Tuttle, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Documents Provided

3) ANALYSIS PROCEDURE

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

4.1) Recommendations

5) APPENDIX A

Wire Frame and Rendered Models

6) APPENDIX B

Software Input Calculations

7) APPENDIX C

Software Analysis Output

8) APPENDIX D

Additional Calculations

1) INTRODUCTION

This is an existing 3 - Sector 12.5' Platform Mount, designed by SitePro1 (Part# RMQP-HK).

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	118 mph
Exposure Category:	B
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic S _s :	0.196
Seismic S ₁ :	0.055
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Qty.	Manufacturer	Model / Type	Mount / Modification Details
195	195	1	CCI Antennas	DMP65R-BU6D	12.5 ft. Platform Mount
		2	CCI Antennas	DMP65R-BU8D	
		3	Ericsson	AIR 6419 B77G	
		3	Ericsson	AIR 6449 N77	
		3	Quintel	QD8616-7	
		3	Ericsson	RRUS 32 B30	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Ericsson	RRUS 4478 B14	
		3	Ericsson	RRUS 8843 B2/ B66A	
		3	Raycap	DC9-48-60-24-8C-EV	

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing and Proposed Equipment's	Date: 09/02/2021	Crown Castle
RFDS		Date: 08/02/2021	
Previous MRA	B+T Group	Date: 10/13/2020	On File

3) ANALYSIS PROCEDURE

3.1) Analysis Method

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

A tool internally developed by B+T Group, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B “Software Input Calculations”.

This analysis was performed in accordance with Crown Castle’s ENG-SOW-10208 *Tower Mount Analysis* (Revision D). In addition, this analysis is in accordance with AT&T’s *Mount Technical Directive – R15*.

Manufacturers drawing were used to create the model.

3.2) Assumptions

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

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

Component	Section	Length	Note
Mount Pipe	2" Std. Pipe	8'-0"	In Position 1
Mount Pipe	2" Std. Pipe	10'-6"	In Position 3,5

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

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

4) ANALYSIS RESULTS

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

Notes	Component	Centerline (ft)	Critical Member	% Capacity	Pass / Fail
1,2	Main Horizontals	195	2	25.3	Pass
	Support Rails	195	81	93.6	Pass
	Support Tubes	195	24	24.4	Pass
	Mount Pipes	195	71	92.4	Pass
	Connection Plates	195	38	24.4	Pass
	Support Angles	195	34	24.9	Pass
	Connection Angles	195	88	65.6	Pass
	Kicker Angles	195	83	16.5	Pass
3	Connection Bolts	195	-	50.7	Pass

Structure Rating (max from all components) =	93.6%
---	--------------

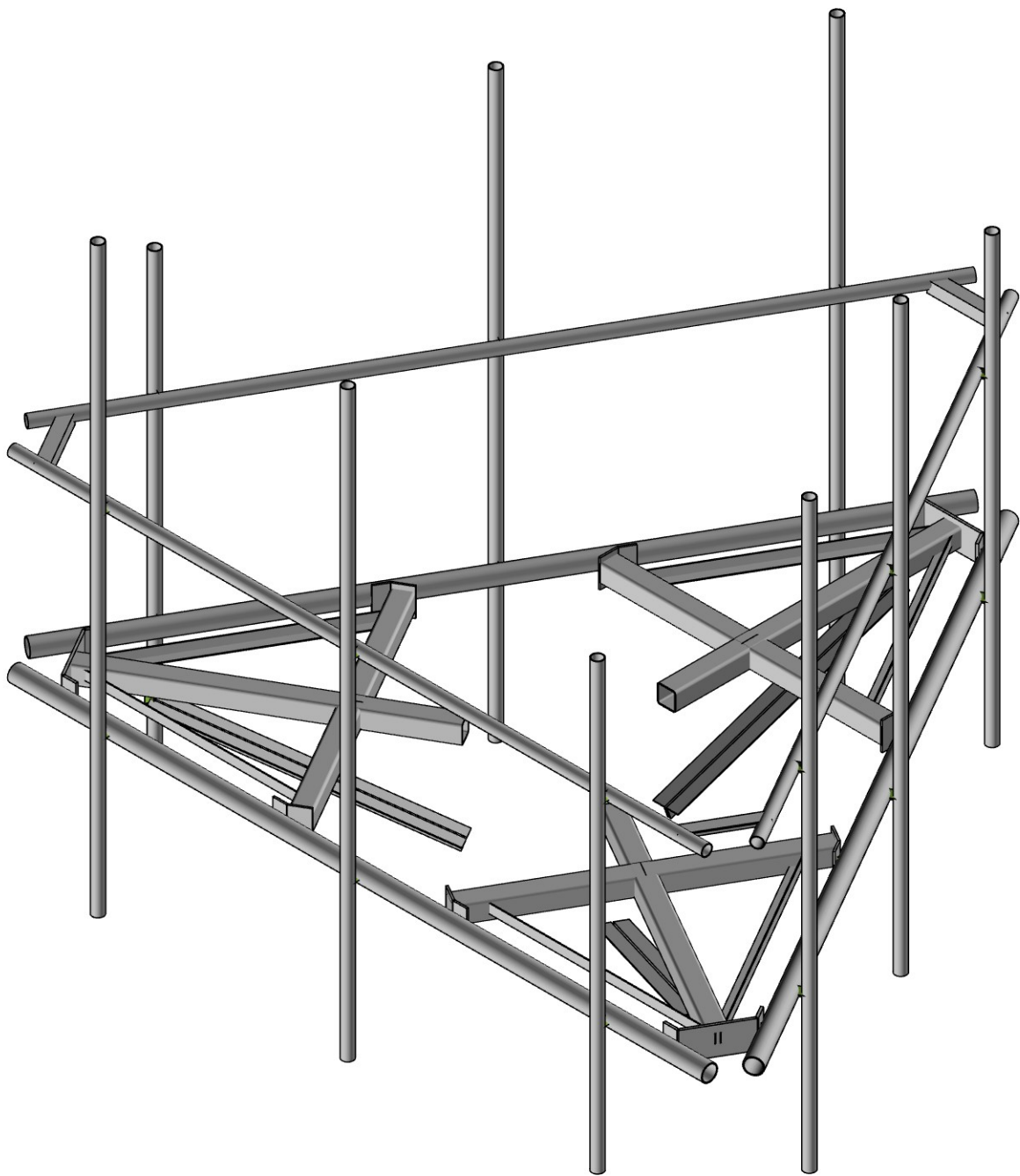
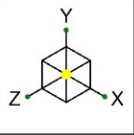
Notes:

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

4.1) Recommendations

The SitePro1 (Part# RMQP-HK) mount has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

B+T Group

AS

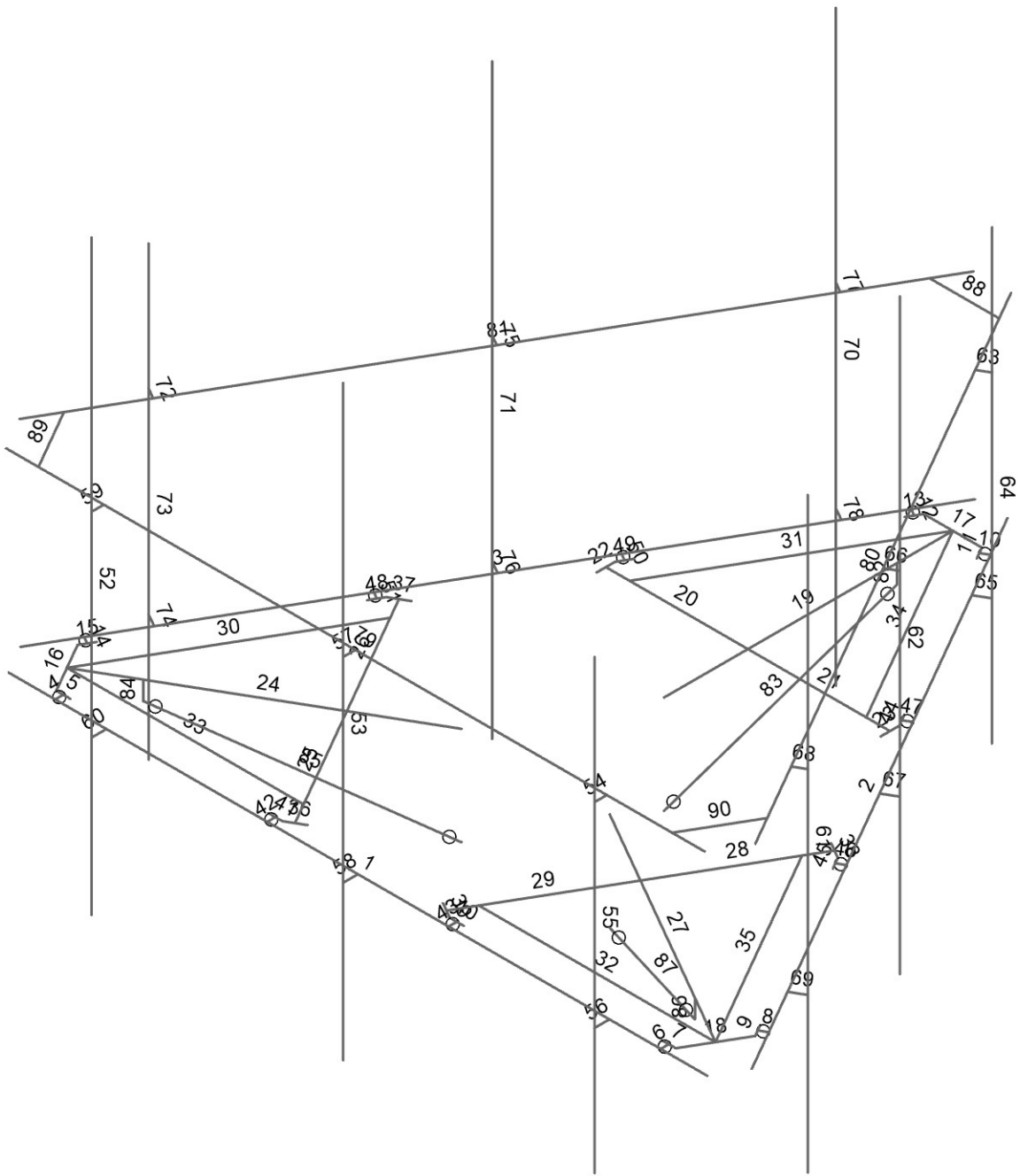
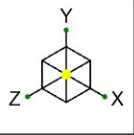
127879.012.01

803843 - CT New Britain 4 CAC 803843

SK-1

Sep 06, 2021

127879_012_01_CT New Britain 4...



Envelope Only Solution

B+T Group

AS

127879.012.01

803843 - CT New Britain 4 CAC 803843

SK-2

Sep 06, 2021

127879_012_01_CT New Britain 4...

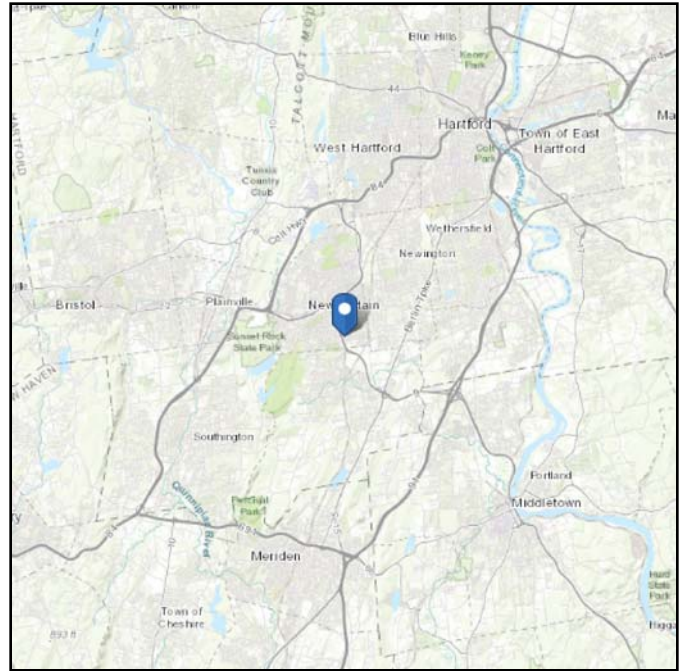
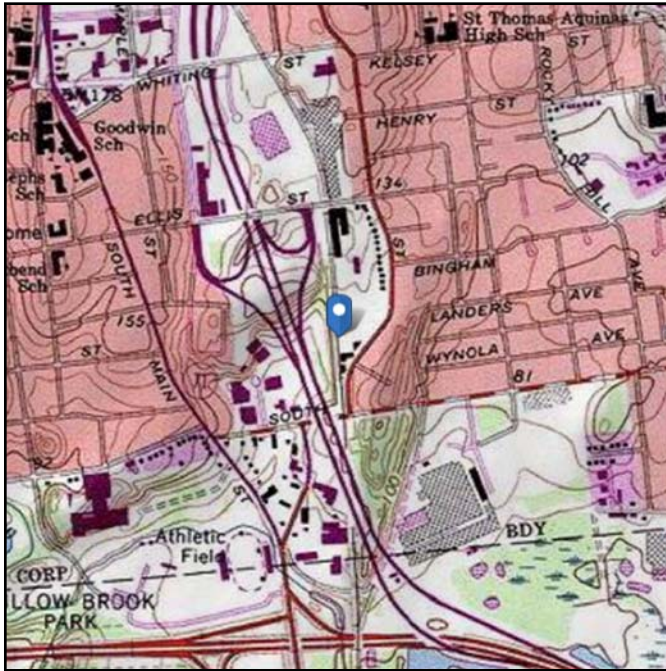
APPENDIX B
SOFTWARE INPUT CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 111.66 ft (NAVD 88)
Latitude: 41.654556
Longitude: -72.769331



Wind

Results:

Wind Speed:	118 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 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: Sat Sep 04 2021

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

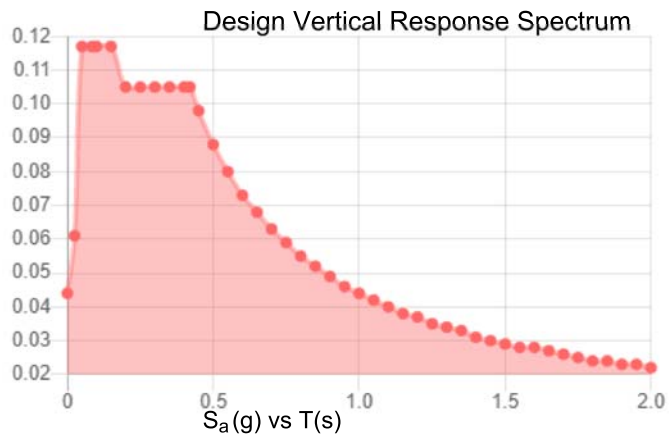
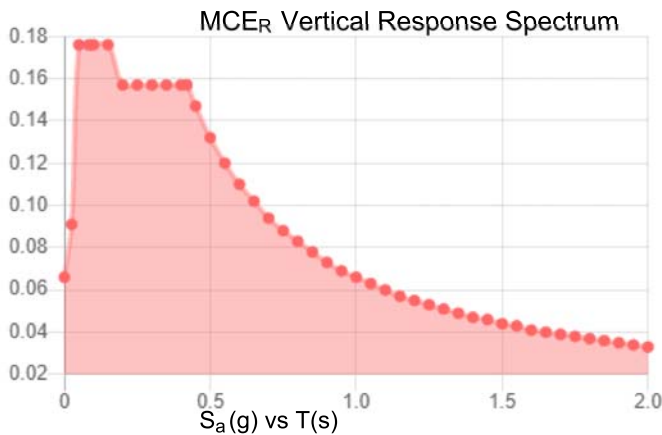
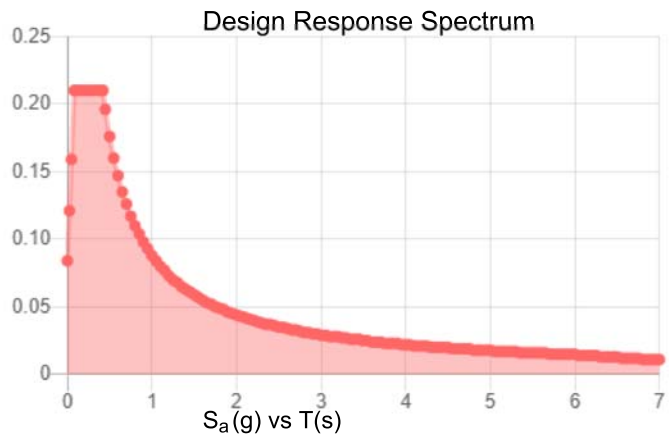
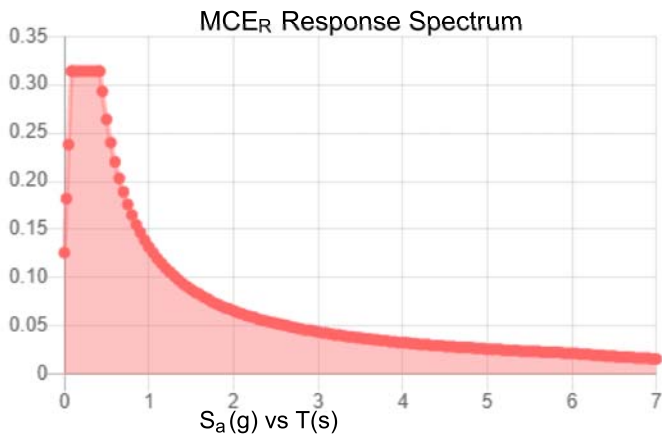
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

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

Results:

S_s :	0.196	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.107
F_v :	2.4	PGA _M :	0.17
S_{MS} :	0.314	F_{PGA} :	1.585
S_{M1} :	0.132	I_e :	1
S_{DS} :	0.21	C_v :	0.7

Seismic Design Category B



Data Accessed: Sat Sep 04 2021
Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.50 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

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

Date Accessed: Sat Sep 04 2021

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

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

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.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

PROJECT	127879.012.01 - CT NEW BRI		KSC
SUBJECT	Platform Mount Analysis		
DATE	09/06/21	PAGE	OF



Tower Type	:	Monopole	
Ground Elevation	z_s :	112 ft	[ASCE7 Hazard Tool]
Tower Height	:	192.00 ft	
Mount Elevation	:	195.00 ft	
Antenna Elevation	:	195.00 ft	
Crest Height	:	0 ft	
Risk Category	:	II	[Table 2-1]
Exposure Category	:	B	[Sec. 2.6.5.1.2]
Topography Category	:	1.00	[Sec. 2.6.6.2]
Wind Velocity	V :	118 mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i :	50 mph	[ASCE7 Hazard Tool]
Service Velocity	V_s :	30 mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i :	1.50 in	[ASCE7 Hazard Tool]
Seismic Design Cat.	:	B	[ASCE7 Hazard Tool]
	S_s :	0.20	
	S_1 :	0.06	
	S_{DS} :	0.21	
	S_{D1} :	0.09	
Gust Factor	G_h :	1.00	[Sec. 16.6]
Pressure Coefficient	K_z :	1.20	[Sec. 2.6.5.2]
Topography Factor	K_{zt} :	1.00	[Sec. 2.6.6]
Elevation Factor	K_e :	1.00	[Sec. 2.6.8]
Directionality Factor	K_d :	0.95	[Sec. 16.6]
Shielding Factor	K_a :	0.90	[Sec. 16.6]
Design Ice Thickness	t_{iz} :	1.79 in	[Sec. 2.6.10]
Importance Factor	I_e :	1	[Table 2-3]
Response Coefficient	C_s :	0.105	[Sec. 2.7.7.1]
Amplification	A_s :	3	[Sec. 16.7]
	q_z :	40.34 psf	

PROJECT	127879.012.01 - CT NEW BRI		KSC
SUBJECT	Platform Mount Analysis		
DATE	09/06/21	PAGE	OF



Manufacturer	Model	Qty	Aspect Ratio	C _a flat/round	EPA _N (ft ²)	EPA _T (ft ²)	EPA _{N-ice} (ft ²)	EPA _{T-ice} (ft ²)	F _{A No Ice (N)}	F _{A No Ice (T)}	F _{A Ice (N)}	F _{A Ice (T)}
QUINTEL TECHNOLOG	QD8616-7	0.5	4.36	1.28	7.33	3.20	8.85	4.56	0.34	0.15	0.06	0.03
QUINTEL TECHNOLOG	QD8616-7	0.5	4.36	1.28	7.33	3.20	8.85	4.56	0.34	0.15	0.06	0.03
ERICSSON	TME-RRUS 4478 B14	1	2.14	1.20	0.88	1.54	1.57	2.37	0.04	0.07	0.01	0.01
ERICSSON	RRUS 8843 B2/B66A	1	1.37	1.20	1.13	1.37	1.86	2.15	0.05	0.06	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.31	1.68	0.07	0.05	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.31	1.68	0.07	0.05	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.12	1.12	0.07	0.03	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.12	1.12	0.07	0.03	0.01	0.01
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	7.93	2.97	9.37	4.26	0.32	0.12	0.07	0.03
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	7.93	2.97	9.37	4.26	0.32	0.12	0.07	0.03
ERICSSON	TME-RRUS 32 B30	1	3.89	1.26	1.32	2.29	2.26	3.35	0.06	0.10	0.01	0.02
ERICSSON	RRUS 4449 B5/B12	1	1.90	1.20	1.17	1.64	1.94	2.50	0.05	0.07	0.01	0.01
QUINTEL TECHNOLOG	QD8616-7	0.5	4.36	1.28	7.33	3.20	8.85	4.56	0.34	0.15	0.06	0.03
QUINTEL TECHNOLOG	QD8616-7	0.5	4.36	1.28	7.33	3.20	8.85	4.56	0.34	0.15	0.06	0.03
ERICSSON	TME-RRUS 4478 B14	1	2.14	1.20	0.88	1.54	1.57	2.37	0.04	0.07	0.01	0.01
ERICSSON	RRUS 8843 B2/B66A	1	1.37	1.20	1.13	1.37	1.86	2.15	0.05	0.06	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.31	1.68	0.07	0.05	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.31	1.68	0.07	0.05	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.12	1.12	0.07	0.03	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.12	1.12	0.07	0.03	0.01	0.01
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	7.93	2.97	9.37	4.26	0.32	0.12	0.07	0.03
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	7.93	2.97	9.37	4.26	0.32	0.12	0.07	0.03
ERICSSON	TME-RRUS 32 B30	1	3.89	1.26	1.32	2.29	2.26	3.35	0.06	0.10	0.01	0.02
ERICSSON	RRUS 4449 B5/B12	1	1.90	1.20	1.17	1.64	1.94	2.50	0.05	0.07	0.01	0.01

PROJECT	127879.012.01 - CT NEW BRI		KSC
SUBJECT	Platform Mount Analysis		
DATE	09/06/21	PAGE	3 OF



Manufacturer	Model	Qty	Aspect Ratio	C _a flat/round	EPA _N (ft ²)	EPA _T (ft ²)	EPA _{N-ice} (ft ²)	EPA _{T-ice} (ft ²)	F _{A No Ice (N)}	F _{A No Ice (T)}	F _{A Ice (N)}	F _{A Ice (T)}
QUINTEL TECHNOLOG	QD8616-7	0.5	4.36	1.28	7.33	3.20	8.85	4.56	0.34	0.15	0.06	0.03
QUINTEL TECHNOLOG	QD8616-7	0.5	4.36	1.28	7.33	3.20	8.85	4.56	0.34	0.15	0.06	0.03
ERICSSON	TME-RRUS 4478 B14	1	2.14	1.20	0.88	1.54	1.57	2.37	0.04	0.07	0.01	0.01
ERICSSON	RRUS 8843 B2/B66A	1	1.37	1.20	1.13	1.37	1.86	2.15	0.05	0.06	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.31	1.68	0.07	0.05	0.01	0.01
ERICSSON	AIR 6449 N77	0.5	1.93	1.20	1.69	1.12	2.31	1.68	0.07	0.05	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.12	1.12	0.07	0.03	0.01	0.01
ERICSSON	AIR 6419 B77G	0.5	1.77	1.20	1.53	0.65	2.12	1.12	0.07	0.03	0.01	0.01
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	7.12	3.24	0.24	0.09	0.05	0.02
CCI ANTENNAS	DMP65R-BU6D	0.5	3.44	1.24	5.97	2.24	7.12	3.24	0.24	0.09	0.05	0.02
ERICSSON	TME-RRUS 32 B30	1	3.89	1.26	1.32	2.29	2.26	3.35	0.06	0.10	0.01	0.02
ERICSSON	RRUS 4449 B5/B12	1	1.90	1.20	1.17	1.64	1.94	2.50	0.05	0.07	0.01	0.01
RAYCAP	TME-DC9-48-60-24-8C-EV	1	1.72	1.20	3.99	2.23	5.31	3.36	0.17	0.10	0.03	0.02
RAYCAP	TME-DC9-48-60-24-8C-EV	1	1.72	1.20	3.99	2.23	5.31	3.36	0.17	0.10	0.03	0.02
RAYCAP	TME-DC9-48-60-24-8C-EV	1	1.72	1.20	3.99	2.23	5.31	3.36	0.17	0.10	0.03	0.02

APPENDIX C
SOFTWARE ANALYSIS OUTPUT

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	-6.24964	0	3.945	
2	2	6.25036	0	3.945	
3	3	6.54129	0	3.439847	
4	4	0.29129	0	-7.38547	
5	5	-0.29165	0	-7.384847	
6	6	-6.54165	0	3.44047	
7	7	-5.41664	0	3.945	
8	8	-5.41664	0	3.79917	
9	9	-5.29164	0	3.79917	
10	10	-5.54164	0	3.79917	
11	11	5.41664	0	3.945	
12	12	5.41664	0	3.79917	
13	13	5.29164	0	3.79917	
14	14	5.54164	0	3.79917	
15	15	6.12479	0	2.718448	
16	16	5.998498	0	2.791363	
17	17	5.935998	0	2.68311	
18	18	6.060998	0	2.899616	
19	19	0.70815	0	-6.663448	
20	20	0.581858	0	-6.590533	
21	21	0.644358	0	-6.48228	
22	22	0.519358	0	-6.698786	
23	23	-0.70815	0	-6.663448	
24	24	-0.581858	0	-6.590533	
25	25	-0.644358	0	-6.48228	
26	26	-0.519358	0	-6.698786	
27	27	-6.12479	0	2.718448	
28	28	-5.998498	0	2.791363	
29	29	-5.935998	0	2.68311	
30	30	-6.060998	0	2.899616	
31	31	0	0	-6.698786	
32	32	0	0	-1.532086	
33	33	0	0	-3.032086	
34	34	-2.54129	0	-3.032086	
35	35	2.54129	0	-3.032086	
36	36	-2.54129	0	-2.865386	
37	37	2.54129	0	-2.865386	
38	38	-5.801319	0	3.349393	
39	39	-1.326826	0	0.766043	
40	40	-2.625864	0	1.516043	
41	41	-1.355219	0	3.716865	
42	42	-3.896509	0	-0.684779	
43	43	5.801319	0	3.349393	
44	44	1.326826	0	0.766043	
45	45	2.625864	0	1.516043	
46	46	3.896509	0	-0.684779	
47	47	1.355219	0	3.716865	
48	48	-2.11697	0	-3.032086	
49	49	-3.684349	0	-0.317307	
50	50	-1.567379	0	3.349393	
51	51	1.567379	0	3.349393	
52	52	3.684349	0	-0.317307	
53	53	2.11697	0	-3.032086	
54	54	2.54129	0	-3.196696	
55	55	-2.54129	0	-3.196696	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	-1.210852	0	3.633515	
57	57	-3.752143	0	-0.768129	
58	58	-4.039065	0	-0.602474	
59	59	-1.497775	0	3.79917	
60	60	3.752143	0	-0.768129	
61	61	1.210852	0	3.633515	
62	62	1.497775	0	3.79917	
63	63	4.039065	0	-0.602474	
64	64	1.747775	0	3.79917	
65	65	-1.747775	0	3.79917	
66	66	1.622775	0	3.79917	
67	67	-1.622775	0	3.79917	
68	68	1.622775	0	3.945	
69	69	-1.622775	0	3.945	
70	70	2.41629	0	-3.413202	
71	71	4.164065	0	-0.385968	
72	72	2.47879	0	-3.304949	
73	73	4.101565	0	-0.494221	
74	74	2.605083	0	-3.377864	
75	75	4.227858	0	-0.567136	
76	76	-4.164065	0	-0.385968	
77	77	-2.41629	0	-3.413202	
78	78	-4.101565	0	-0.494221	
79	79	-2.47879	0	-3.304949	
80	80	-4.227858	0	-0.567136	
81	81	-2.605083	0	-3.377864	
82	82	0	0	0	
83	84	-4.5	7.75	4.210833	
84	85	-4.5	-2.75	4.210833	
85	86	0.00036	7.75	4.210833	
86	87	0.00036	-2.75	4.210833	
87	88	4.5	3.5	4.210833	
88	89	4.5	3.5	3.99167	
89	90	4.5	5.75	4.210833	
90	91	4.5	-2.25	4.210833	
91	92	4.5	0	3.945	
92	93	4.5	0	4.210833	
93	94	0.00036	3.5	4.210833	
94	95	0.00036	3.5	3.99167	
95	96	0.00036	0	3.945	
96	97	0.00036	0	4.210833	
97	98	-4.5	3.5	4.210833	
98	99	-4.5	3.5	3.99167	
99	100	-4.5	0	3.945	
100	101	-4.5	0	4.210833	
101	102	5.896688	7.75	1.791698	
102	103	5.896688	-2.75	1.791698	
103	104	3.646508	7.75	-2.105728	
104	105	3.646508	-2.75	-2.105728	
105	106	1.396688	3.5	-6.002531	
106	107	1.206888	3.5	-5.892949	
107	108	1.396688	5.75	-6.002531	
108	109	1.396688	-2.25	-6.002531	
109	110	1.16647	0	-5.869614	
110	111	1.396688	0	-6.002531	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
111	112	3.646508	3.5	-2.105728	
112	113	3.456708	3.5	-1.996147	
113	114	3.41629	0	-1.972812	
114	115	3.646508	0	-2.105728	
115	116	5.896688	3.5	1.791698	
116	117	5.706888	3.5	1.901279	
117	118	5.66647	0	1.924614	
118	119	5.896688	0	1.791698	
119	120	-1.396688	7.75	-6.002531	
120	121	-1.396688	-2.75	-6.002531	
121	122	-3.646868	7.75	-2.105105	
122	123	-3.646868	-2.75	-2.105105	
123	124	-5.896688	3.5	1.791698	
124	125	-5.706888	3.5	1.901279	
125	126	-5.896688	5.75	1.791698	
126	127	-5.896688	-2.25	1.791698	
127	128	-5.66647	0	1.924614	
128	129	-5.896688	0	1.791698	
129	130	-3.646868	3.5	-2.105105	
130	131	-3.457068	3.5	-1.995523	
131	132	-3.41665	0	-1.972188	
132	133	-3.646868	0	-2.105105	
133	134	-1.396688	3.5	-6.002531	
134	135	-1.206888	3.5	-5.892949	
135	136	-1.16647	0	-5.869614	
136	137	-1.396688	0	-6.002531	
137	138	6.25	3.5	3.99167	
138	139	-6.25	3.5	3.99167	
139	140	0.331888	3.5	-7.408494	
140	141	6.581888	3.5	3.416824	
141	142	-6.581888	3.5	3.416824	
142	143	-0.331888	3.5	-7.408494	
143	144	0	0	-5.69879	
144	145	0	-0.333	-5.69879	
145	146	0	-1.757559	-1.53209	
146	147	-4.935297	0	2.849395	
147	148	-4.935297	-0.333	2.849395	
148	149	-1.326829	-1.757559	0.766045	
149	150	4.935297	0	2.849395	
150	151	4.935297	-0.333	2.849395	
151	152	1.326829	-1.757559	0.766045	
152	153	-0.6225	3.5	-6.905138	
153	154	0.6225	3.5	-6.905138	
154	155	-5.668775	3.5	3.99167	
155	156	-6.291275	3.5	2.913468	
156	157	6.291275	3.5	2.913468	
157	158	5.668775	3.5	3.99167	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	44	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	39	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	32	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	149	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	152	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Node Boundary Conditions (Continued)

Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
6 146	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1 MF-H1	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2 MF-H2	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
3 SF-H1	HSS4X4X4	Beam	Tube	A53 Gr.B	Typical	3.37	7.8	7.8	12.8
4 MF-P1	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
5 MF-CP1	PL3/8"x6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
6 MF-CP2	PL1/2"x6	Beam	RECT	A36 Gr.36	Typical	3	0.063	9	0.237
7 SF-H2	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	0.722	0.271	0.271	0.009
8 SF-H3	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	0.692	0.692	0.026
9 Kickers	LL2.5x2.5x3x3	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical	1.8	2.46	1.07	0.023

Member Primary Data

Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1 1	2	1		MF-H1	Beam	Pipe	A53 Gr.B	Typical
2 2	4	3		MF-H1	Beam	Pipe	A53 Gr.B	Typical
3 3	6	5		MF-H1	Beam	Pipe	A53 Gr.B	Typical
4 4	7	8		RIGID	None	None	RIGID	Typical
5 5	9	10		MF-CP2	Beam	RECT	A36 Gr.36	Typical
6 6	11	12		RIGID	None	None	RIGID	Typical
7 7	13	14		MF-CP2	Beam	RECT	A36 Gr.36	Typical
8 8	15	16		RIGID	None	None	RIGID	Typical
9 9	17	18		MF-CP2	Beam	RECT	A36 Gr.36	Typical
10 10	19	20		RIGID	None	None	RIGID	Typical
11 11	21	22		MF-CP2	Beam	RECT	A36 Gr.36	Typical
12 12	23	24		RIGID	None	None	RIGID	Typical
13 13	25	26		MF-CP2	Beam	RECT	A36 Gr.36	Typical
14 14	27	28		RIGID	None	None	RIGID	Typical
15 15	29	30		MF-CP2	Beam	RECT	A36 Gr.36	Typical
16 16	10	30		MF-CP2	Beam	RECT	A36 Gr.36	Typical
17 17	26	22		MF-CP2	Beam	RECT	A36 Gr.36	Typical
18 18	18	14		MF-CP2	Beam	RECT	A36 Gr.36	Typical
19 19	32	31		SF-H1	Beam	Tube	A53 Gr.B	Typical
20 20	34	33		SF-H1	Beam	Tube	A53 Gr.B	Typical
21 21	33	35		SF-H1	Beam	Tube	A53 Gr.B	Typical
22 22	36	55		MF-CP1	Beam	RECT	A36 Gr.36	Typical
23 23	37	54		MF-CP1	Beam	RECT	A36 Gr.36	Typical
24 24	39	38		SF-H1	Beam	Tube	A53 Gr.B	Typical
25 25	41	40		SF-H1	Beam	Tube	A53 Gr.B	Typical
26 26	40	42		SF-H1	Beam	Tube	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
27	27	44	43		SF-H1	Beam	Tube	A53 Gr.B	Typical
28	28	46	45		SF-H1	Beam	Tube	A53 Gr.B	Typical
29	29	45	47		SF-H1	Beam	Tube	A53 Gr.B	Typical
30	30	38	49		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
31	31	48	31		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
32	32	43	51		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
33	33	50	38		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
34	34	31	53		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
35	35	52	43		SF-H2	Beam	Single Angle	A36 Gr.36	Typical
36	36	56	59		MF-CP1	Beam	RECT	A36 Gr.36	Typical
37	37	57	58		MF-CP1	Beam	RECT	A36 Gr.36	Typical
38	38	60	63		MF-CP1	Beam	RECT	A36 Gr.36	Typical
39	39	61	62		MF-CP1	Beam	RECT	A36 Gr.36	Typical
40	40	62	64		MF-CP1	Beam	RECT	A36 Gr.36	Typical
41	41	59	65		MF-CP1	Beam	RECT	A36 Gr.36	Typical
42	42	67	69		RIGID	None	None	RIGID	Typical
43	43	66	68		RIGID	None	None	RIGID	Typical
44	44	54	70		MF-CP1	Beam	RECT	A36 Gr.36	Typical
45	45	63	71		MF-CP1	Beam	RECT	A36 Gr.36	Typical
46	46	73	75		RIGID	None	None	RIGID	Typical
47	47	72	74		RIGID	None	None	RIGID	Typical
48	48	58	76		MF-CP1	Beam	RECT	A36 Gr.36	Typical
49	49	55	77		MF-CP1	Beam	RECT	A36 Gr.36	Typical
50	50	79	81		RIGID	None	None	RIGID	Typical
51	51	78	80		RIGID	None	None	RIGID	Typical
52	52	84	85		MF-P1	Column	Pipe	A53 Gr.B	Typical
53	53	86	87		MF-P1	Column	Pipe	A53 Gr.B	Typical
54	54	88	89		RIGID	None	None	RIGID	Typical
55	55	90	91		MF-P1	Column	Pipe	A53 Gr.B	Typical
56	56	92	93		RIGID	None	None	RIGID	Typical
57	57	94	95		RIGID	None	None	RIGID	Typical
58	58	96	97		RIGID	None	None	RIGID	Typical
59	59	98	99		RIGID	None	None	RIGID	Typical
60	60	100	101		RIGID	None	None	RIGID	Typical
61	61	102	103		MF-P1	Column	Pipe	A53 Gr.B	Typical
62	62	104	105		MF-P1	Column	Pipe	A53 Gr.B	Typical
63	63	106	107		RIGID	None	None	RIGID	Typical
64	64	108	109		MF-P1	Column	Pipe	A53 Gr.B	Typical
65	65	110	111		RIGID	None	None	RIGID	Typical
66	66	112	113		RIGID	None	None	RIGID	Typical
67	67	114	115		RIGID	None	None	RIGID	Typical
68	68	116	117		RIGID	None	None	RIGID	Typical
69	69	118	119		RIGID	None	None	RIGID	Typical
70	70	120	121		MF-P1	Column	Pipe	A53 Gr.B	Typical
71	71	122	123		MF-P1	Column	Pipe	A53 Gr.B	Typical
72	72	124	125		RIGID	None	None	RIGID	Typical
73	73	126	127		MF-P1	Column	Pipe	A53 Gr.B	Typical
74	74	128	129		RIGID	None	None	RIGID	Typical
75	75	130	131		RIGID	None	None	RIGID	Typical
76	76	132	133		RIGID	None	None	RIGID	Typical
77	77	134	135		RIGID	None	None	RIGID	Typical
78	78	136	137		RIGID	None	None	RIGID	Typical
79	79	138	139		MF-H2	Beam	Pipe	A53 Gr.B	Typical
80	80	140	141		MF-H2	Beam	Pipe	A53 Gr.B	Typical
81	81	142	143		MF-H2	Beam	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
82	82	145	144		RIGID	None	None	RIGID	Typical
83	83	145	146		Kickers	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical
84	84	148	147		RIGID	None	None	RIGID	Typical
85	85	148	149		Kickers	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical
86	86	151	150		RIGID	None	None	RIGID	Typical
87	87	151	152		Kickers	VBrace	Double Angle (3/8 Gap)	A36 Gr.36	Typical
88	88	153	154	180	SF-H3	Beam	Single Angle	A36 Gr.36	Typical
89	89	155	156	180	SF-H3	Beam	Single Angle	A36 Gr.36	Typical
90	90	157	158	180	SF-H3	Beam	Single Angle	A36 Gr.36	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
1	1			Yes	N/A	None
2	2			Yes	N/A	None
3	3			Yes	N/A	None
4	4	OOOOOX		Yes	** NA **	None
5	5			Yes	N/A	None
6	6	OOOOOX		Yes	** NA **	None
7	7			Yes	N/A	None
8	8	OOOOOX		Yes	** NA **	None
9	9			Yes	N/A	None
10	10	OOOOOX		Yes	** NA **	None
11	11			Yes	N/A	None
12	12	OOOOOX		Yes	** NA **	None
13	13			Yes	N/A	None
14	14	OOOOOX		Yes	** NA **	None
15	15			Yes	N/A	None
16	16			Yes	N/A	None
17	17			Yes	N/A	None
18	18			Yes	N/A	None
19	19			Yes	N/A	None
20	20			Yes	N/A	None
21	21			Yes	N/A	None
22	22			Yes	Default	None
23	23			Yes	Default	None
24	24			Yes	N/A	None
25	25			Yes	N/A	None
26	26			Yes	N/A	None
27	27			Yes	N/A	None
28	28			Yes	N/A	None
29	29			Yes	N/A	None
30	30			Yes	N/A	None
31	31			Yes	N/A	None
32	32			Yes	N/A	None
33	33			Yes	N/A	None
34	34			Yes	N/A	None
35	35			Yes	N/A	None
36	36			Yes	Default	None
37	37			Yes	Default	None
38	38			Yes	Default	None
39	39			Yes	Default	None
40	40			Yes	N/A	None
41	41			Yes	N/A	None
42	42		OOOOOX	Yes	** NA **	None
43	43		OOOOOX	Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
44	44			Yes	N/A	None
45	45			Yes	N/A	None
46	46		O O O O O X	Yes	** NA **	None
47	47		O O O O O X	Yes	** NA **	None
48	48			Yes	N/A	None
49	49			Yes	N/A	None
50	50		O O O O O X	Yes	** NA **	None
51	51		O O O O O X	Yes	** NA **	None
52	52			Yes	** NA **	None
53	53			Yes	** NA **	None
54	54			Yes	** NA **	None
55	55			Yes	** NA **	None
56	56			Yes	** NA **	None
57	57			Yes	** NA **	None
58	58			Yes	** NA **	None
59	59			Yes	** NA **	None
60	60			Yes	** NA **	None
61	61			Yes	** NA **	None
62	62			Yes	** NA **	None
63	63			Yes	** NA **	None
64	64			Yes	** NA **	None
65	65			Yes	** NA **	None
66	66			Yes	** NA **	None
67	67			Yes	** NA **	None
68	68			Yes	** NA **	None
69	69			Yes	** NA **	None
70	70			Yes	** NA **	None
71	71			Yes	** NA **	None
72	72			Yes	** NA **	None
73	73			Yes	** NA **	None
74	74			Yes	** NA **	None
75	75			Yes	** NA **	None
76	76			Yes	** NA **	None
77	77			Yes	** NA **	None
78	78			Yes	** NA **	None
79	79			Yes	N/A	None
80	80			Yes	N/A	None
81	81			Yes	N/A	None
82	82			Yes	** NA **	None
83	83	BenPIN	BenPIN	Yes	** NA **	None
84	84			Yes	** NA **	None
85	85	BenPIN	BenPIN	Yes	** NA **	None
86	86			Yes	** NA **	None
87	87	BenPIN	BenPIN	Yes	** NA **	None
88	88			Yes	N/A	None
89	89			Yes	N/A	None
90	90			Yes	N/A	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
1	1	MF-H1	12.5	Lbyy	Lateral
2	2	MF-H1	12.5	Lbyy	Lateral
3	3	MF-H1	12.5	Lbyy	Lateral
4	5	MF-CP2	0.25	Lbyy	Lateral
5	7	MF-CP2	0.25	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Function
6	9	MF-CP2	0.25	Lbyy	Lateral
7	11	MF-CP2	0.25	Lbyy	Lateral
8	13	MF-CP2	0.25	Lbyy	Lateral
9	15	MF-CP2	0.25	Lbyy	Lateral
10	16	MF-CP2	1.039	Lbyy	Lateral
11	17	MF-CP2	1.039	Lbyy	Lateral
12	18	MF-CP2	1.039	Lbyy	Lateral
13	19	SF-H1	5.167	Lbyy	Lateral
14	20	SF-H1	2.541	Lbyy	Lateral
15	21	SF-H1	2.541	Lbyy	Lateral
16	22	MF-CP1	0.331	Lbyy	Lateral
17	23	MF-CP1	0.331	Lbyy	Lateral
18	24	SF-H1	5.167	Lbyy	Lateral
19	25	SF-H1	2.541	Lbyy	Lateral
20	26	SF-H1	2.541	Lbyy	Lateral
21	27	SF-H1	5.167	Lbyy	Lateral
22	28	SF-H1	2.541	Lbyy	Lateral
23	29	SF-H1	2.541	Lbyy	Lateral
24	30	SF-H2	4.234	Lbyy	Lateral
25	31	SF-H2	4.234	Lbyy	Lateral
26	32	SF-H2	4.234	Lbyy	Lateral
27	33	SF-H2	4.234	Lbyy	Lateral
28	34	SF-H2	4.234	Lbyy	Lateral
29	35	SF-H2	4.234	Lbyy	Lateral
30	36	MF-CP1	0.331	Lbyy	Lateral
31	37	MF-CP1	0.331	Lbyy	Lateral
32	38	MF-CP1	0.331	Lbyy	Lateral
33	39	MF-CP1	0.331	Lbyy	Lateral
34	40	MF-CP1	0.25	Lbyy	Lateral
35	41	MF-CP1	0.25	Lbyy	Lateral
36	44	MF-CP1	0.25	Lbyy	Lateral
37	45	MF-CP1	0.25	Lbyy	Lateral
38	48	MF-CP1	0.25	Lbyy	Lateral
39	49	MF-CP1	0.25	Lbyy	Lateral
40	52	MF-P1	10.5	Lbyy	Lateral
41	53	MF-P1	10.5	Lbyy	Lateral
42	55	MF-P1	8	Lbyy	Lateral
43	61	MF-P1	10.5	Lbyy	Lateral
44	62	MF-P1	10.5	Lbyy	Lateral
45	64	MF-P1	8	Lbyy	Lateral
46	70	MF-P1	10.5	Lbyy	Lateral
47	71	MF-P1	10.5	Lbyy	Lateral
48	73	MF-P1	8	Lbyy	Lateral
49	79	MF-H2	12.5	Lbyy	Lateral
50	80	MF-H2	12.5	Lbyy	Lateral
51	81	MF-H2	12.5	Lbyy	Lateral
52	83	Kickers	4.403	Lbyy	Lateral
53	85	Kickers	4.403	Lbyy	Lateral
54	87	Kickers	4.403	Lbyy	Lateral
55	88	SF-H3	1.245	Lbyy	Lateral
56	89	SF-H3	1.245	Lbyy	Lateral
57	90	SF-H3	1.245	Lbyy	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	55	Y	-0.075	%5
2	55	Y	-0.075	%95
3	55	Y	-0.06	%15
4	55	Y	-0.072	%15
5	55	Y	0	0
6	53	Y	-0.042	%75
7	53	Y	-0.042	%95
8	53	Y	-0.033	%5
9	53	Y	-0.033	%25
10	53	Y	0	0
11	52	Y	-0.053	%30
12	52	Y	-0.053	%65
13	52	Y	-0.053	%45
14	52	Y	-0.071	%45
15	52	Y	0	0
16	73	Y	-0.075	%5
17	73	Y	-0.075	%95
18	73	Y	-0.06	%15
19	73	Y	-0.072	%15
20	73	Y	0	0
21	71	Y	-0.042	%75
22	71	Y	-0.042	%95
23	71	Y	-0.033	%5
24	71	Y	-0.033	%25
25	71	Y	0	0
26	70	Y	-0.053	%30
27	70	Y	-0.053	%65
28	70	Y	-0.053	%45
29	70	Y	-0.071	%45
30	70	Y	0	0
31	64	Y	-0.075	%5
32	64	Y	-0.075	%95
33	64	Y	-0.06	%15
34	64	Y	-0.072	%15
35	64	Y	0	0
36	62	Y	-0.042	%75
37	62	Y	-0.042	%95
38	62	Y	-0.033	%5
39	62	Y	-0.033	%25
40	62	Y	0	0
41	61	Y	-0.045	%30
42	61	Y	-0.045	%60
43	61	Y	-0.053	%45
44	61	Y	-0.071	%45
45	61	Y	0	0
46	24	Y	-0.026	%15
47	24	Y	0	0
48	24	Y	0	0
49	24	Y	0	0
50	24	Y	0	0
51	19	Y	-0.026	%15
52	19	Y	0	0
53	19	Y	0	0
54	19	Y	0	0
55	19	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
56	27	Y	-0.026	%15
57	27	Y	0	0
58	27	Y	0	0
59	27	Y	0	0
60	27	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	55	Z	-0.342	%5
2	55	Z	-0.342	%95
3	55	Z	-0.038	%15
4	55	Z	-0.049	%15
5	55	Z	0	0
6	53	Z	-0.074	%75
7	53	Z	-0.074	%95
8	53	Z	-0.067	%5
9	53	Z	-0.067	%25
10	53	Z	0	0
11	52	Z	-0.32	%30
12	52	Z	-0.32	%65
13	52	Z	-0.061	%45
14	52	Z	-0.051	%45
15	52	Z	0	0
16	73	Z	-0.342	%5
17	73	Z	-0.342	%95
18	73	Z	-0.038	%15
19	73	Z	-0.049	%15
20	73	Z	0	0
21	71	Z	-0.074	%75
22	71	Z	-0.074	%95
23	71	Z	-0.067	%5
24	71	Z	-0.067	%25
25	71	Z	0	0
26	70	Z	-0.32	%30
27	70	Z	-0.32	%65
28	70	Z	-0.061	%45
29	70	Z	-0.051	%45
30	70	Z	0	0
31	64	Z	-0.342	%5
32	64	Z	-0.342	%95
33	64	Z	-0.038	%15
34	64	Z	-0.049	%15
35	64	Z	0	0
36	62	Z	-0.074	%75
37	62	Z	-0.074	%95
38	62	Z	-0.067	%5
39	62	Z	-0.067	%25
40	62	Z	0	0
41	61	Z	-0.241	%30
42	61	Z	-0.241	%60
43	61	Z	-0.061	%45
44	61	Z	-0.051	%45
45	61	Z	0	0
46	24	Z	-0.174	%15
47	24	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
48	24	Z	0	0
49	24	Z	0	0
50	24	Z	0	0
51	19	Z	-0.174	%15
52	19	Z	0	0
53	19	Z	0	0
54	19	Z	0	0
55	19	Z	0	0
56	27	Z	-0.174	%15
57	27	Z	0	0
58	27	Z	0	0
59	27	Z	0	0
60	27	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	55	X	-0.149	%5
2	55	X	-0.149	%95
3	55	X	-0.067	%15
4	55	X	-0.06	%15
5	55	X	0	0
6	53	X	-0.049	%75
7	53	X	-0.049	%95
8	53	X	-0.028	%5
9	53	X	-0.028	%25
10	53	X	0	0
11	52	X	-0.12	%30
12	52	X	-0.12	%65
13	52	X	-0.105	%45
14	52	X	-0.071	%45
15	52	X	0	0
16	73	X	-0.149	%5
17	73	X	-0.149	%95
18	73	X	-0.067	%15
19	73	X	-0.06	%15
20	73	X	0	0
21	71	X	-0.049	%75
22	71	X	-0.049	%95
23	71	X	-0.028	%5
24	71	X	-0.028	%25
25	71	X	0	0
26	70	X	-0.12	%30
27	70	X	-0.12	%65
28	70	X	-0.105	%45
29	70	X	-0.071	%45
30	70	X	0	0
31	64	X	-0.149	%5
32	64	X	-0.149	%95
33	64	X	-0.067	%15
34	64	X	-0.06	%15
35	64	X	0	0
36	62	X	-0.049	%75
37	62	X	-0.049	%95
38	62	X	-0.028	%5
39	62	X	-0.028	%25

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
40	62	X	0	0
41	61	X	-0.09	%30
42	61	X	-0.09	%60
43	61	X	-0.105	%45
44	61	X	-0.071	%45
45	61	X	0	0
46	24	X	-0.097	%15
47	24	X	0	0
48	24	X	0	0
49	24	X	0	0
50	24	X	0	0
51	19	X	-0.097	%15
52	19	X	0	0
53	19	X	0	0
54	19	X	0	0
55	19	X	0	0
56	27	X	-0.097	%15
57	27	X	0	0
58	27	X	0	0
59	27	X	0	0
60	27	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	55	Z	-0.061	%5
2	55	Z	-0.061	%95
3	55	Z	-0.007	%15
4	55	Z	-0.009	%15
5	55	Z	0	0
6	53	Z	-0.013	%75
7	53	Z	-0.013	%95
8	53	Z	-0.012	%5
9	53	Z	-0.012	%25
10	53	Z	0	0
11	52	Z	-0.068	%30
12	52	Z	-0.068	%65
13	52	Z	-0.011	%45
14	52	Z	-0.009	%45
15	52	Z	0	0
16	73	Z	-0.061	%5
17	73	Z	-0.061	%95
18	73	Z	-0.007	%15
19	73	Z	-0.009	%15
20	73	Z	0	0
21	71	Z	-0.013	%75
22	71	Z	-0.013	%95
23	71	Z	-0.012	%5
24	71	Z	-0.012	%25
25	71	Z	0	0
26	70	Z	-0.068	%30
27	70	Z	-0.068	%65
28	70	Z	-0.011	%45
29	70	Z	-0.009	%45
30	70	Z	0	0
31	64	Z	-0.061	%5

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
32	64	Z	-0.061	%95
33	64	Z	-0.007	%15
34	64	Z	-0.009	%15
35	64	Z	0	0
36	62	Z	-0.013	%75
37	62	Z	-0.013	%95
38	62	Z	-0.012	%5
39	62	Z	-0.012	%25
40	62	Z	0	0
41	61	Z	-0.052	%30
42	61	Z	-0.052	%60
43	61	Z	-0.011	%45
44	61	Z	-0.009	%45
45	61	Z	0	0
46	24	Z	-0.031	%15
47	24	Z	0	0
48	24	Z	0	0
49	24	Z	0	0
50	24	Z	0	0
51	19	Z	-0.031	%15
52	19	Z	0	0
53	19	Z	0	0
54	19	Z	0	0
55	19	Z	0	0
56	27	Z	-0.031	%15
57	27	Z	0	0
58	27	Z	0	0
59	27	Z	0	0
60	27	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	55	X	-0.027	%5
2	55	X	-0.027	%95
3	55	X	-0.012	%15
4	55	X	-0.011	%15
5	55	X	0	0
6	53	X	-0.009	%75
7	53	X	-0.009	%95
8	53	X	-0.005	%5
9	53	X	-0.005	%25
10	53	X	0	0
11	52	X	-0.031	%30
12	52	X	-0.031	%65
13	52	X	-0.019	%45
14	52	X	-0.013	%45
15	52	X	0	0
16	73	X	-0.027	%5
17	73	X	-0.027	%95
18	73	X	-0.012	%15
19	73	X	-0.011	%15
20	73	X	0	0
21	71	X	-0.009	%75
22	71	X	-0.009	%95
23	71	X	-0.005	%5

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
24	71	X	-0.005	%25
25	71	X	0	0
26	70	X	-0.031	%30
27	70	X	-0.031	%65
28	70	X	-0.019	%45
29	70	X	-0.013	%45
30	70	X	0	0
31	64	X	-0.027	%5
32	64	X	-0.027	%95
33	64	X	-0.012	%15
34	64	X	-0.011	%15
35	64	X	0	0
36	62	X	-0.009	%75
37	62	X	-0.009	%95
38	62	X	-0.005	%5
39	62	X	-0.005	%25
40	62	X	0	0
41	61	X	-0.023	%30
42	61	X	-0.023	%60
43	61	X	-0.019	%45
44	61	X	-0.013	%45
45	61	X	0	0
46	24	X	-0.018	%15
47	24	X	0	0
48	24	X	0	0
49	24	X	0	0
50	24	X	0	0
51	19	X	-0.018	%15
52	19	X	0	0
53	19	X	0	0
54	19	X	0	0
55	19	X	0	0
56	27	X	-0.018	%15
57	27	X	0	0
58	27	X	0	0
59	27	X	0	0
60	27	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	55	Z	-0.022	%5
2	55	Z	-0.022	%95
3	55	Z	-0.003	%15
4	55	Z	-0.003	%15
5	55	Z	0	0
6	53	Z	-0.005	%75
7	53	Z	-0.005	%95
8	53	Z	-0.004	%5
9	53	Z	-0.004	%25
10	53	Z	0	0
11	52	Z	-0.021	%30
12	52	Z	-0.021	%65
13	52	Z	-0.004	%45
14	52	Z	-0.003	%45
15	52	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
16	73	Z	-0.022	%5
17	73	Z	-0.022	%95
18	73	Z	-0.003	%15
19	73	Z	-0.003	%15
20	73	Z	0	0
21	71	Z	-0.005	%75
22	71	Z	-0.005	%95
23	71	Z	-0.004	%5
24	71	Z	-0.004	%25
25	71	Z	0	0
26	70	Z	-0.021	%30
27	70	Z	-0.021	%65
28	70	Z	-0.004	%45
29	70	Z	-0.003	%45
30	70	Z	0	0
31	64	Z	-0.022	%5
32	64	Z	-0.022	%95
33	64	Z	-0.003	%15
34	64	Z	-0.003	%15
35	64	Z	0	0
36	62	Z	-0.005	%75
37	62	Z	-0.005	%95
38	62	Z	-0.004	%5
39	62	Z	-0.004	%25
40	62	Z	0	0
41	61	Z	-0.016	%30
42	61	Z	-0.016	%60
43	61	Z	-0.004	%45
44	61	Z	-0.003	%45
45	61	Z	0	0
46	24	Z	-0.011	%15
47	24	Z	0	0
48	24	Z	0	0
49	24	Z	0	0
50	24	Z	0	0
51	19	Z	-0.011	%15
52	19	Z	0	0
53	19	Z	0	0
54	19	Z	0	0
55	19	Z	0	0
56	27	Z	-0.011	%15
57	27	Z	0	0
58	27	Z	0	0
59	27	Z	0	0
60	27	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	55	X	-0.01	%5
2	55	X	-0.01	%95
3	55	X	-0.004	%15
4	55	X	-0.004	%15
5	55	X	0	0
6	53	X	-0.003	%75
7	53	X	-0.003	%95

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
8	53	X	-0.002	%5
9	53	X	-0.002	%25
10	53	X	0	0
11	52	X	-0.008	%30
12	52	X	-0.008	%65
13	52	X	-0.007	%45
14	52	X	-0.005	%45
15	52	X	0	0
16	73	X	-0.01	%5
17	73	X	-0.01	%95
18	73	X	-0.004	%15
19	73	X	-0.004	%15
20	73	X	0	0
21	71	X	-0.003	%75
22	71	X	-0.003	%95
23	71	X	-0.002	%5
24	71	X	-0.002	%25
25	71	X	0	0
26	70	X	-0.008	%30
27	70	X	-0.008	%65
28	70	X	-0.007	%45
29	70	X	-0.005	%45
30	70	X	0	0
31	64	X	-0.01	%5
32	64	X	-0.01	%95
33	64	X	-0.004	%15
34	64	X	-0.004	%15
35	64	X	0	0
36	62	X	-0.003	%75
37	62	X	-0.003	%95
38	62	X	-0.002	%5
39	62	X	-0.002	%25
40	62	X	0	0
41	61	X	-0.006	%30
42	61	X	-0.006	%60
43	61	X	-0.007	%45
44	61	X	-0.005	%45
45	61	X	0	0
46	24	X	-0.006	%15
47	24	X	0	0
48	24	X	0	0
49	24	X	0	0
50	24	X	0	0
51	19	X	-0.006	%15
52	19	X	0	0
53	19	X	0	0
54	19	X	0	0
55	19	X	0	0
56	27	X	-0.006	%15
57	27	X	0	0
58	27	X	0	0
59	27	X	0	0
60	27	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	55	Y	-0.226	%5
2	55	Y	-0.226	%95
3	55	Y	-0.052	%15
4	55	Y	-0.051	%15
5	55	Y	0	0
6	53	Y	-0.058	%75
7	53	Y	-0.058	%95
8	53	Y	-0.048	%5
9	53	Y	-0.048	%25
10	53	Y	0	0
11	52	Y	-0.214	%30
12	52	Y	-0.214	%65
13	52	Y	-0.078	%45
14	52	Y	-0.059	%45
15	52	Y	0	0
16	73	Y	-0.226	%5
17	73	Y	-0.226	%95
18	73	Y	-0.052	%15
19	73	Y	-0.051	%15
20	73	Y	0	0
21	71	Y	-0.058	%75
22	71	Y	-0.058	%95
23	71	Y	-0.048	%5
24	71	Y	-0.048	%25
25	71	Y	0	0
26	70	Y	-0.214	%30
27	70	Y	-0.214	%65
28	70	Y	-0.078	%45
29	70	Y	-0.059	%45
30	70	Y	0	0
31	64	Y	-0.226	%5
32	64	Y	-0.226	%95
33	64	Y	-0.052	%15
34	64	Y	-0.051	%15
35	64	Y	0	0
36	62	Y	-0.058	%75
37	62	Y	-0.058	%95
38	62	Y	-0.048	%5
39	62	Y	-0.048	%25
40	62	Y	0	0
41	61	Y	-0.167	%30
42	61	Y	-0.167	%60
43	61	Y	-0.078	%45
44	61	Y	-0.059	%45
45	61	Y	0	0
46	24	Y	-0.13	%15
47	24	Y	0	0
48	24	Y	0	0
49	24	Y	0	0
50	24	Y	0	0
51	19	Y	-0.13	%15
52	19	Y	0	0
53	19	Y	0	0
54	19	Y	0	0
55	19	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
56	27	Y	-0.13	%15
57	27	Y	0	0
58	27	Y	0	0
59	27	Y	0	0
60	27	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	55	Z	-0.047	%5
2	55	Z	-0.047	%95
3	55	Z	-0.019	%15
4	55	Z	-0.023	%15
5	55	Z	0	0
6	53	Z	-0.026	%75
7	53	Z	-0.026	%95
8	53	Z	-0.021	%5
9	53	Z	-0.021	%25
10	53	Z	0	0
11	52	Z	-0.033	%30
12	52	Z	-0.033	%65
13	52	Z	-0.017	%45
14	52	Z	-0.022	%45
15	52	Z	0	0
16	73	Z	-0.047	%5
17	73	Z	-0.047	%95
18	73	Z	-0.019	%15
19	73	Z	-0.023	%15
20	73	Z	0	0
21	71	Z	-0.026	%75
22	71	Z	-0.026	%95
23	71	Z	-0.021	%5
24	71	Z	-0.021	%25
25	71	Z	0	0
26	70	Z	-0.033	%30
27	70	Z	-0.033	%65
28	70	Z	-0.017	%45
29	70	Z	-0.022	%45
30	70	Z	0	0
31	64	Z	-0.047	%5
32	64	Z	-0.047	%95
33	64	Z	-0.019	%15
34	64	Z	-0.023	%15
35	64	Z	0	0
36	62	Z	-0.026	%75
37	62	Z	-0.026	%95
38	62	Z	-0.021	%5
39	62	Z	-0.021	%25
40	62	Z	0	0
41	61	Z	-0.028	%30
42	61	Z	-0.028	%60
43	61	Z	-0.017	%45
44	61	Z	-0.022	%45
45	61	Z	0	0
46	24	Z	-0.008	%15
47	24	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
48	24	Z	0	0
49	24	Z	0	0
50	24	Z	0	0
51	19	Z	-0.008	%15
52	19	Z	0	0
53	19	Z	0	0
54	19	Z	0	0
55	19	Z	0	0
56	27	Z	-0.008	%15
57	27	Z	0	0
58	27	Z	0	0
59	27	Z	0	0
60	27	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	55	X	-0.047	%5
2	55	X	-0.047	%95
3	55	X	-0.019	%15
4	55	X	-0.023	%15
5	55	X	0	0
6	53	X	-0.026	%75
7	53	X	-0.026	%95
8	53	X	-0.021	%5
9	53	X	-0.021	%25
10	53	X	0	0
11	52	X	-0.033	%30
12	52	X	-0.033	%65
13	52	X	-0.017	%45
14	52	X	-0.022	%45
15	52	X	0	0
16	73	X	-0.047	%5
17	73	X	-0.047	%95
18	73	X	-0.019	%15
19	73	X	-0.023	%15
20	73	X	0	0
21	71	X	-0.026	%75
22	71	X	-0.026	%95
23	71	X	-0.021	%5
24	71	X	-0.021	%25
25	71	X	0	0
26	70	X	-0.033	%30
27	70	X	-0.033	%65
28	70	X	-0.017	%45
29	70	X	-0.022	%45
30	70	X	0	0
31	64	X	-0.047	%5
32	64	X	-0.047	%95
33	64	X	-0.019	%15
34	64	X	-0.023	%15
35	64	X	0	0
36	62	X	-0.026	%75
37	62	X	-0.026	%95
38	62	X	-0.021	%5
39	62	X	-0.021	%25

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
40	62	X	0	0
41	61	X	-0.028	%30
42	61	X	-0.028	%60
43	61	X	-0.017	%45
44	61	X	-0.022	%45
45	61	X	0	0
46	24	X	-0.008	%15
47	24	X	0	0
48	24	X	0	0
49	24	X	0	0
50	24	X	0	0
51	19	X	-0.008	%15
52	19	X	0	0
53	19	X	0	0
54	19	X	0	0
55	19	X	0	0
56	27	X	-0.008	%15
57	27	X	0	0
58	27	X	0	0
59	27	X	0	0
60	27	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	79	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

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

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	2	Y	-0.25	%5

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	81	Y	-0.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	3	Y	-0.25	%5

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	79	Y	-0.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

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

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	2	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	81	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	3	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	24	Y	-0.25	%95

Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	27	Y	-0.25	%95

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	19	Y	-0.25	%95

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.013	-0.013	0	%100
2	2	Z	-0.013	-0.013	0	%100
3	3	Z	-0.013	-0.013	0	%100
4	5	Z	-0.022	-0.022	0	%100
5	7	Z	-0.022	-0.022	0	%100
6	9	Z	-0.022	-0.022	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
7	11	Z	-0.022	-0.022	0	%100
8	13	Z	-0.022	-0.022	0	%100
9	15	Z	-0.022	-0.022	0	%100
10	16	Z	-0.022	-0.022	0	%100
11	17	Z	-0.022	-0.022	0	%100
12	18	Z	-0.022	-0.022	0	%100
13	19	Z	-0.02	-0.02	0	%100
14	20	Z	-0.017	-0.017	0	%100
15	21	Z	-0.017	-0.017	0	%100
16	22	Z	-0.022	-0.022	0	%100
17	23	Z	-0.022	-0.022	0	%100
18	24	Z	-0.02	-0.02	0	%100
19	25	Z	-0.017	-0.017	0	%100
20	26	Z	-0.017	-0.017	0	%100
21	27	Z	-0.02	-0.02	0	%100
22	28	Z	-0.017	-0.017	0	%100
23	29	Z	-0.017	-0.017	0	%100
24	30	Z	-0.012	-0.012	0	%100
25	31	Z	-0.012	-0.012	0	%100
26	32	Z	-0.012	-0.012	0	%100
27	33	Z	-0.012	-0.012	0	%100
28	34	Z	-0.012	-0.012	0	%100
29	35	Z	-0.012	-0.012	0	%100
30	36	Z	-0.022	-0.022	0	%100
31	37	Z	-0.022	-0.022	0	%100
32	38	Z	-0.022	-0.022	0	%100
33	39	Z	-0.022	-0.022	0	%100
34	40	Z	-0.022	-0.022	0	%100
35	41	Z	-0.022	-0.022	0	%100
36	44	Z	-0.022	-0.022	0	%100
37	45	Z	-0.022	-0.022	0	%100
38	48	Z	-0.022	-0.022	0	%100
39	49	Z	-0.022	-0.022	0	%100
40	52	Z	-0.009	-0.009	0	%100
41	53	Z	-0.009	-0.009	0	%100
42	55	Z	-0.009	-0.009	0	%100
43	61	Z	-0.009	-0.009	0	%100
44	62	Z	-0.009	-0.009	0	%100
45	64	Z	-0.009	-0.009	0	%100
46	70	Z	-0.009	-0.009	0	%100
47	71	Z	-0.009	-0.009	0	%100
48	73	Z	-0.009	-0.009	0	%100
49	79	Z	-0.009	-0.009	0	%100
50	80	Z	-0.009	-0.009	0	%100
51	81	Z	-0.009	-0.009	0	%100
52	83	Z	-0.023	-0.023	0	%100
53	85	Z	-0.023	-0.023	0	%100
54	87	Z	-0.023	-0.023	0	%100
55	88	Z	-0.01	-0.01	0	%100
56	89	Z	-0.01	-0.01	0	%100
57	90	Z	-0.01	-0.01	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.013	-0.013	0	%100
2	2	X	-0.013	-0.013	0	%100
3	3	X	-0.013	-0.013	0	%100
4	5	X	-0.022	-0.022	0	%100
5	7	X	-0.022	-0.022	0	%100
6	9	X	-0.022	-0.022	0	%100
7	11	X	-0.022	-0.022	0	%100
8	13	X	-0.022	-0.022	0	%100
9	15	X	-0.022	-0.022	0	%100
10	16	X	-0.022	-0.022	0	%100
11	17	X	-0.022	-0.022	0	%100
12	18	X	-0.022	-0.022	0	%100
13	19	X	-0.02	-0.02	0	%100
14	20	X	-0.017	-0.017	0	%100
15	21	X	-0.017	-0.017	0	%100
16	22	X	-0.022	-0.022	0	%100
17	23	X	-0.022	-0.022	0	%100
18	24	X	-0.02	-0.02	0	%100
19	25	X	-0.017	-0.017	0	%100
20	26	X	-0.017	-0.017	0	%100
21	27	X	-0.02	-0.02	0	%100
22	28	X	-0.017	-0.017	0	%100
23	29	X	-0.017	-0.017	0	%100
24	30	X	-0.012	-0.012	0	%100
25	31	X	-0.012	-0.012	0	%100
26	32	X	-0.012	-0.012	0	%100
27	33	X	-0.012	-0.012	0	%100
28	34	X	-0.012	-0.012	0	%100
29	35	X	-0.012	-0.012	0	%100
30	36	X	-0.022	-0.022	0	%100
31	37	X	-0.022	-0.022	0	%100
32	38	X	-0.022	-0.022	0	%100
33	39	X	-0.022	-0.022	0	%100
34	40	X	-0.022	-0.022	0	%100
35	41	X	-0.022	-0.022	0	%100
36	44	X	-0.022	-0.022	0	%100
37	45	X	-0.022	-0.022	0	%100
38	48	X	-0.022	-0.022	0	%100
39	49	X	-0.022	-0.022	0	%100
40	52	X	-0.009	-0.009	0	%100
41	53	X	-0.009	-0.009	0	%100
42	55	X	-0.009	-0.009	0	%100
43	61	X	-0.009	-0.009	0	%100
44	62	X	-0.009	-0.009	0	%100
45	64	X	-0.009	-0.009	0	%100
46	70	X	-0.009	-0.009	0	%100
47	71	X	-0.009	-0.009	0	%100
48	73	X	-0.009	-0.009	0	%100
49	79	X	-0.009	-0.009	0	%100
50	80	X	-0.009	-0.009	0	%100
51	81	X	-0.009	-0.009	0	%100
52	83	X	-0.023	-0.023	0	%100
53	85	X	-0.023	-0.023	0	%100
54	87	X	-0.023	-0.023	0	%100
55	88	X	-0.01	-0.01	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
56	89	X	-0.01	-0.01	0	%100
57	90	X	-0.01	-0.01	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.002	-0.002	0	%100
2	2	Z	-0.002	-0.002	0	%100
3	3	Z	-0.002	-0.002	0	%100
4	5	Z	-0.014	-0.014	0	%100
5	7	Z	-0.014	-0.014	0	%100
6	9	Z	-0.014	-0.014	0	%100
7	11	Z	-0.014	-0.014	0	%100
8	13	Z	-0.014	-0.014	0	%100
9	15	Z	-0.014	-0.014	0	%100
10	16	Z	-0.008	-0.008	0	%100
11	17	Z	-0.008	-0.008	0	%100
12	18	Z	-0.008	-0.008	0	%100
13	19	Z	-0.007	-0.007	0	%100
14	20	Z	-0.006	-0.006	0	%100
15	21	Z	-0.006	-0.006	0	%100
16	22	Z	-0.012	-0.012	0	%100
17	23	Z	-0.012	-0.012	0	%100
18	24	Z	-0.007	-0.007	0	%100
19	25	Z	-0.006	-0.006	0	%100
20	26	Z	-0.006	-0.006	0	%100
21	27	Z	-0.007	-0.007	0	%100
22	28	Z	-0.006	-0.006	0	%100
23	29	Z	-0.006	-0.006	0	%100
24	30	Z	-0.007	-0.007	0	%100
25	31	Z	-0.007	-0.007	0	%100
26	32	Z	-0.007	-0.007	0	%100
27	33	Z	-0.007	-0.007	0	%100
28	34	Z	-0.007	-0.007	0	%100
29	35	Z	-0.007	-0.007	0	%100
30	36	Z	-0.012	-0.012	0	%100
31	37	Z	-0.012	-0.012	0	%100
32	38	Z	-0.012	-0.012	0	%100
33	39	Z	-0.012	-0.012	0	%100
34	40	Z	-0.014	-0.014	0	%100
35	41	Z	-0.014	-0.014	0	%100
36	44	Z	-0.014	-0.014	0	%100
37	45	Z	-0.014	-0.014	0	%100
38	48	Z	-0.014	-0.014	0	%100
39	49	Z	-0.014	-0.014	0	%100
40	52	Z	-0.002	-0.002	0	%100
41	53	Z	-0.002	-0.002	0	%100
42	55	Z	-0.002	-0.002	0	%100
43	61	Z	-0.002	-0.002	0	%100
44	62	Z	-0.002	-0.002	0	%100
45	64	Z	-0.002	-0.002	0	%100
46	70	Z	-0.002	-0.002	0	%100
47	71	Z	-0.002	-0.002	0	%100
48	73	Z	-0.002	-0.002	0	%100
49	79	Z	-0.002	-0.002	0	%100
50	80	Z	-0.002	-0.002	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
51	81	Z	-0.002	-0.002	0	%100
52	83	Z	-0.007	-0.007	0	%100
53	85	Z	-0.007	-0.007	0	%100
54	87	Z	-0.007	-0.007	0	%100
55	88	Z	-0.005	-0.005	0	%100
56	89	Z	-0.005	-0.005	0	%100
57	90	Z	-0.005	-0.005	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.002	-0.002	0	%100
2	2	X	-0.002	-0.002	0	%100
3	3	X	-0.002	-0.002	0	%100
4	5	X	-0.014	-0.014	0	%100
5	7	X	-0.014	-0.014	0	%100
6	9	X	-0.014	-0.014	0	%100
7	11	X	-0.014	-0.014	0	%100
8	13	X	-0.014	-0.014	0	%100
9	15	X	-0.014	-0.014	0	%100
10	16	X	-0.008	-0.008	0	%100
11	17	X	-0.008	-0.008	0	%100
12	18	X	-0.008	-0.008	0	%100
13	19	X	-0.007	-0.007	0	%100
14	20	X	-0.006	-0.006	0	%100
15	21	X	-0.006	-0.006	0	%100
16	22	X	-0.012	-0.012	0	%100
17	23	X	-0.012	-0.012	0	%100
18	24	X	-0.007	-0.007	0	%100
19	25	X	-0.006	-0.006	0	%100
20	26	X	-0.006	-0.006	0	%100
21	27	X	-0.007	-0.007	0	%100
22	28	X	-0.006	-0.006	0	%100
23	29	X	-0.006	-0.006	0	%100
24	30	X	-0.007	-0.007	0	%100
25	31	X	-0.007	-0.007	0	%100
26	32	X	-0.007	-0.007	0	%100
27	33	X	-0.007	-0.007	0	%100
28	34	X	-0.007	-0.007	0	%100
29	35	X	-0.007	-0.007	0	%100
30	36	X	-0.012	-0.012	0	%100
31	37	X	-0.012	-0.012	0	%100
32	38	X	-0.012	-0.012	0	%100
33	39	X	-0.012	-0.012	0	%100
34	40	X	-0.014	-0.014	0	%100
35	41	X	-0.014	-0.014	0	%100
36	44	X	-0.014	-0.014	0	%100
37	45	X	-0.014	-0.014	0	%100
38	48	X	-0.014	-0.014	0	%100
39	49	X	-0.014	-0.014	0	%100
40	52	X	-0.002	-0.002	0	%100
41	53	X	-0.002	-0.002	0	%100
42	55	X	-0.002	-0.002	0	%100
43	61	X	-0.002	-0.002	0	%100
44	62	X	-0.002	-0.002	0	%100
45	64	X	-0.002	-0.002	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
46	70	X	-0.002	-0.002	0	%100
47	71	X	-0.002	-0.002	0	%100
48	73	X	-0.002	-0.002	0	%100
49	79	X	-0.002	-0.002	0	%100
50	80	X	-0.002	-0.002	0	%100
51	81	X	-0.002	-0.002	0	%100
52	83	X	-0.007	-0.007	0	%100
53	85	X	-0.007	-0.007	0	%100
54	87	X	-0.007	-0.007	0	%100
55	88	X	-0.005	-0.005	0	%100
56	89	X	-0.005	-0.005	0	%100
57	90	X	-0.005	-0.005	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.0004	-0.0004	0	%100
2	2	Z	-0.0004	-0.0004	0	%100
3	3	Z	-0.0004	-0.0004	0	%100
4	5	Z	-0.001	-0.001	0	%100
5	7	Z	-0.001	-0.001	0	%100
6	9	Z	-0.001	-0.001	0	%100
7	11	Z	-0.001	-0.001	0	%100
8	13	Z	-0.001	-0.001	0	%100
9	15	Z	-0.001	-0.001	0	%100
10	16	Z	-0.001	-0.001	0	%100
11	17	Z	-0.001	-0.001	0	%100
12	18	Z	-0.001	-0.001	0	%100
13	19	Z	-0.001	-0.001	0	%100
14	20	Z	-0.001	-0.001	0	%100
15	21	Z	-0.001	-0.001	0	%100
16	22	Z	-0.001	-0.001	0	%100
17	23	Z	-0.001	-0.001	0	%100
18	24	Z	-0.001	-0.001	0	%100
19	25	Z	-0.001	-0.001	0	%100
20	26	Z	-0.001	-0.001	0	%100
21	27	Z	-0.001	-0.001	0	%100
22	28	Z	-0.001	-0.001	0	%100
23	29	Z	-0.001	-0.001	0	%100
24	30	Z	-0.0008	-0.0008	0	%100
25	31	Z	-0.0008	-0.0008	0	%100
26	32	Z	-0.0008	-0.0008	0	%100
27	33	Z	-0.0008	-0.0008	0	%100
28	34	Z	-0.0008	-0.0008	0	%100
29	35	Z	-0.0008	-0.0008	0	%100
30	36	Z	-0.001	-0.001	0	%100
31	37	Z	-0.001	-0.001	0	%100
32	38	Z	-0.001	-0.001	0	%100
33	39	Z	-0.001	-0.001	0	%100
34	40	Z	-0.001	-0.001	0	%100
35	41	Z	-0.001	-0.001	0	%100
36	44	Z	-0.001	-0.001	0	%100
37	45	Z	-0.001	-0.001	0	%100
38	48	Z	-0.001	-0.001	0	%100
39	49	Z	-0.001	-0.001	0	%100
40	52	Z	-0.0003	-0.0003	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
41	53	Z	-0.0003	-0.0003	0	%100
42	55	Z	-0.0003	-0.0003	0	%100
43	61	Z	-0.0003	-0.0003	0	%100
44	62	Z	-0.0003	-0.0003	0	%100
45	64	Z	-0.0003	-0.0003	0	%100
46	70	Z	-0.0003	-0.0003	0	%100
47	71	Z	-0.0003	-0.0003	0	%100
48	73	Z	-0.0003	-0.0003	0	%100
49	79	Z	-0.0003	-0.0003	0	%100
50	80	Z	-0.0003	-0.0003	0	%100
51	81	Z	-0.0003	-0.0003	0	%100
52	83	Z	-0.002	-0.002	0	%100
53	85	Z	-0.002	-0.002	0	%100
54	87	Z	-0.002	-0.002	0	%100
55	88	Z	-0.0006	-0.0006	0	%100
56	89	Z	-0.0006	-0.0006	0	%100
57	90	Z	-0.0006	-0.0006	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.0004	-0.0004	0	%100
2	2	X	-0.0004	-0.0004	0	%100
3	3	X	-0.0004	-0.0004	0	%100
4	5	X	-0.001	-0.001	0	%100
5	7	X	-0.001	-0.001	0	%100
6	9	X	-0.001	-0.001	0	%100
7	11	X	-0.001	-0.001	0	%100
8	13	X	-0.001	-0.001	0	%100
9	15	X	-0.001	-0.001	0	%100
10	16	X	-0.001	-0.001	0	%100
11	17	X	-0.001	-0.001	0	%100
12	18	X	-0.001	-0.001	0	%100
13	19	X	-0.001	-0.001	0	%100
14	20	X	-0.001	-0.001	0	%100
15	21	X	-0.001	-0.001	0	%100
16	22	X	-0.001	-0.001	0	%100
17	23	X	-0.001	-0.001	0	%100
18	24	X	-0.001	-0.001	0	%100
19	25	X	-0.001	-0.001	0	%100
20	26	X	-0.001	-0.001	0	%100
21	27	X	-0.001	-0.001	0	%100
22	28	X	-0.001	-0.001	0	%100
23	29	X	-0.001	-0.001	0	%100
24	30	X	-0.0008	-0.0008	0	%100
25	31	X	-0.0008	-0.0008	0	%100
26	32	X	-0.0008	-0.0008	0	%100
27	33	X	-0.0008	-0.0008	0	%100
28	34	X	-0.0008	-0.0008	0	%100
29	35	X	-0.0008	-0.0008	0	%100
30	36	X	-0.001	-0.001	0	%100
31	37	X	-0.001	-0.001	0	%100
32	38	X	-0.001	-0.001	0	%100
33	39	X	-0.001	-0.001	0	%100
34	40	X	-0.001	-0.001	0	%100
35	41	X	-0.001	-0.001	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
36	44	X	-0.001	-0.001	0	%100
37	45	X	-0.001	-0.001	0	%100
38	48	X	-0.001	-0.001	0	%100
39	49	X	-0.001	-0.001	0	%100
40	52	X	-0.0003	-0.0003	0	%100
41	53	X	-0.0003	-0.0003	0	%100
42	55	X	-0.0003	-0.0003	0	%100
43	61	X	-0.0003	-0.0003	0	%100
44	62	X	-0.0003	-0.0003	0	%100
45	64	X	-0.0003	-0.0003	0	%100
46	70	X	-0.0003	-0.0003	0	%100
47	71	X	-0.0003	-0.0003	0	%100
48	73	X	-0.0003	-0.0003	0	%100
49	79	X	-0.0003	-0.0003	0	%100
50	80	X	-0.0003	-0.0003	0	%100
51	81	X	-0.0003	-0.0003	0	%100
52	83	X	-0.002	-0.002	0	%100
53	85	X	-0.002	-0.002	0	%100
54	87	X	-0.002	-0.002	0	%100
55	88	X	-0.0006	-0.0006	0	%100
56	89	X	-0.0006	-0.0006	0	%100
57	90	X	-0.0006	-0.0006	0	%100

Member Distributed Loads (BLC 8 : Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.012	-0.012	0	%100
2	2	Y	-0.012	-0.012	0	%100
3	3	Y	-0.012	-0.012	0	%100
4	5	Y	-0.018	-0.018	0	%100
5	7	Y	-0.018	-0.018	0	%100
6	9	Y	-0.018	-0.018	0	%100
7	11	Y	-0.018	-0.018	0	%100
8	13	Y	-0.018	-0.018	0	%100
9	15	Y	-0.018	-0.018	0	%100
10	16	Y	-0.018	-0.018	0	%100
11	17	Y	-0.018	-0.018	0	%100
12	18	Y	-0.018	-0.018	0	%100
13	19	Y	-0.016	-0.016	0	%100
14	20	Y	-0.016	-0.016	0	%100
15	21	Y	-0.016	-0.016	0	%100
16	22	Y	-0.017	-0.017	0	%100
17	23	Y	-0.017	-0.017	0	%100
18	24	Y	-0.016	-0.016	0	%100
19	25	Y	-0.016	-0.016	0	%100
20	26	Y	-0.016	-0.016	0	%100
21	27	Y	-0.016	-0.016	0	%100
22	28	Y	-0.016	-0.016	0	%100
23	29	Y	-0.016	-0.016	0	%100
24	30	Y	-0.01	-0.01	0	%100
25	31	Y	-0.01	-0.01	0	%100
26	32	Y	-0.01	-0.01	0	%100
27	33	Y	-0.01	-0.01	0	%100
28	34	Y	-0.01	-0.01	0	%100
29	35	Y	-0.01	-0.01	0	%100
30	36	Y	-0.017	-0.017	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
31	37	Y	-0.017	-0.017	0	%100
32	38	Y	-0.017	-0.017	0	%100
33	39	Y	-0.017	-0.017	0	%100
34	40	Y	-0.017	-0.017	0	%100
35	41	Y	-0.017	-0.017	0	%100
36	44	Y	-0.017	-0.017	0	%100
37	45	Y	-0.017	-0.017	0	%100
38	48	Y	-0.017	-0.017	0	%100
39	49	Y	-0.017	-0.017	0	%100
40	52	Y	-0.009	-0.009	0	%100
41	53	Y	-0.009	-0.009	0	%100
42	55	Y	-0.009	-0.009	0	%100
43	61	Y	-0.009	-0.009	0	%100
44	62	Y	-0.009	-0.009	0	%100
45	64	Y	-0.009	-0.009	0	%100
46	70	Y	-0.009	-0.009	0	%100
47	71	Y	-0.009	-0.009	0	%100
48	73	Y	-0.009	-0.009	0	%100
49	79	Y	-0.009	-0.009	0	%100
50	80	Y	-0.009	-0.009	0	%100
51	81	Y	-0.009	-0.009	0	%100
52	83	Y	-0.017	-0.017	0	%100
53	85	Y	-0.017	-0.017	0	%100
54	87	Y	-0.017	-0.017	0	%100
55	88	Y	-0.012	-0.012	0	%100
56	89	Y	-0.012	-0.012	0	%100
57	90	Y	-0.012	-0.012	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.002	-0.002	0	%100
2	2	Z	-0.002	-0.002	0	%100
3	3	Z	-0.002	-0.002	0	%100
4	5	Z	-0.003	-0.003	0	%100
5	7	Z	-0.003	-0.003	0	%100
6	9	Z	-0.003	-0.003	0	%100
7	11	Z	-0.003	-0.003	0	%100
8	13	Z	-0.003	-0.003	0	%100
9	15	Z	-0.003	-0.003	0	%100
10	16	Z	-0.003	-0.003	0	%100
11	17	Z	-0.003	-0.003	0	%100
12	18	Z	-0.003	-0.003	0	%100
13	19	Z	-0.004	-0.004	0	%100
14	20	Z	-0.004	-0.004	0	%100
15	21	Z	-0.004	-0.004	0	%100
16	22	Z	-0.002	-0.002	0	%100
17	23	Z	-0.002	-0.002	0	%100
18	24	Z	-0.004	-0.004	0	%100
19	25	Z	-0.004	-0.004	0	%100
20	26	Z	-0.004	-0.004	0	%100
21	27	Z	-0.004	-0.004	0	%100
22	28	Z	-0.004	-0.004	0	%100
23	29	Z	-0.004	-0.004	0	%100
24	30	Z	-0.0008	-0.0008	0	%100
25	31	Z	-0.0008	-0.0008	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
26	32	Z	-0.0008	-0.0008	0	%100
27	33	Z	-0.0008	-0.0008	0	%100
28	34	Z	-0.0008	-0.0008	0	%100
29	35	Z	-0.0008	-0.0008	0	%100
30	36	Z	-0.002	-0.002	0	%100
31	37	Z	-0.002	-0.002	0	%100
32	38	Z	-0.002	-0.002	0	%100
33	39	Z	-0.002	-0.002	0	%100
34	40	Z	-0.002	-0.002	0	%100
35	41	Z	-0.002	-0.002	0	%100
36	44	Z	-0.002	-0.002	0	%100
37	45	Z	-0.002	-0.002	0	%100
38	48	Z	-0.002	-0.002	0	%100
39	49	Z	-0.002	-0.002	0	%100
40	52	Z	-0.001	-0.001	0	%100
41	53	Z	-0.001	-0.001	0	%100
42	55	Z	-0.001	-0.001	0	%100
43	61	Z	-0.001	-0.001	0	%100
44	62	Z	-0.001	-0.001	0	%100
45	64	Z	-0.001	-0.001	0	%100
46	70	Z	-0.001	-0.001	0	%100
47	71	Z	-0.001	-0.001	0	%100
48	73	Z	-0.001	-0.001	0	%100
49	79	Z	-0.001	-0.001	0	%100
50	80	Z	-0.001	-0.001	0	%100
51	81	Z	-0.001	-0.001	0	%100
52	83	Z	-0.002	-0.002	0	%100
53	85	Z	-0.002	-0.002	0	%100
54	87	Z	-0.002	-0.002	0	%100
55	88	Z	-0.001	-0.001	0	%100
56	89	Z	-0.001	-0.001	0	%100
57	90	Z	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.002	-0.002	0	%100
2	2	X	-0.002	-0.002	0	%100
3	3	X	-0.002	-0.002	0	%100
4	5	X	-0.003	-0.003	0	%100
5	7	X	-0.003	-0.003	0	%100
6	9	X	-0.003	-0.003	0	%100
7	11	X	-0.003	-0.003	0	%100
8	13	X	-0.003	-0.003	0	%100
9	15	X	-0.003	-0.003	0	%100
10	16	X	-0.003	-0.003	0	%100
11	17	X	-0.003	-0.003	0	%100
12	18	X	-0.003	-0.003	0	%100
13	19	X	-0.004	-0.004	0	%100
14	20	X	-0.004	-0.004	0	%100
15	21	X	-0.004	-0.004	0	%100
16	22	X	-0.002	-0.002	0	%100
17	23	X	-0.002	-0.002	0	%100
18	24	X	-0.004	-0.004	0	%100
19	25	X	-0.004	-0.004	0	%100
20	26	X	-0.004	-0.004	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
21	27	X	-0.004	-0.004	0	%100
22	28	X	-0.004	-0.004	0	%100
23	29	X	-0.004	-0.004	0	%100
24	30	X	-0.0008	-0.0008	0	%100
25	31	X	-0.0008	-0.0008	0	%100
26	32	X	-0.0008	-0.0008	0	%100
27	33	X	-0.0008	-0.0008	0	%100
28	34	X	-0.0008	-0.0008	0	%100
29	35	X	-0.0008	-0.0008	0	%100
30	36	X	-0.002	-0.002	0	%100
31	37	X	-0.002	-0.002	0	%100
32	38	X	-0.002	-0.002	0	%100
33	39	X	-0.002	-0.002	0	%100
34	40	X	-0.002	-0.002	0	%100
35	41	X	-0.002	-0.002	0	%100
36	44	X	-0.002	-0.002	0	%100
37	45	X	-0.002	-0.002	0	%100
38	48	X	-0.002	-0.002	0	%100
39	49	X	-0.002	-0.002	0	%100
40	52	X	-0.001	-0.001	0	%100
41	53	X	-0.001	-0.001	0	%100
42	55	X	-0.001	-0.001	0	%100
43	61	X	-0.001	-0.001	0	%100
44	62	X	-0.001	-0.001	0	%100
45	64	X	-0.001	-0.001	0	%100
46	70	X	-0.001	-0.001	0	%100
47	71	X	-0.001	-0.001	0	%100
48	73	X	-0.001	-0.001	0	%100
49	79	X	-0.001	-0.001	0	%100
50	80	X	-0.001	-0.001	0	%100
51	81	X	-0.001	-0.001	0	%100
52	83	X	-0.002	-0.002	0	%100
53	85	X	-0.002	-0.002	0	%100
54	87	X	-0.002	-0.002	0	%100
55	88	X	-0.001	-0.001	0	%100
56	89	X	-0.001	-0.001	0	%100
57	90	X	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	19	Y	-0.011	-0.011	2.424	4.115
2	20	Y	-0.009	-0.009	1.573	2.541
3	21	Y	-0.009	-0.009	0	0.969
4	31	Y	-0.009	-0.005	0	2.117
5	31	Y	-0.005	-0.001	2.117	4.234
6	34	Y	-0.001	-0.005	0	2.117
7	34	Y	-0.005	-0.008	2.117	4.234
8	24	Y	-0.011	-0.011	2.424	4.115
9	25	Y	-0.009	-0.009	1.573	2.541
10	26	Y	-0.009	-0.009	0	0.968
11	30	Y	-0.001	-0.005	0	2.117
12	30	Y	-0.005	-0.009	2.117	4.234
13	33	Y	-0.008	-0.005	0	2.117
14	33	Y	-0.005	-0.001	2.117	4.234
15	27	Y	-0.011	-0.011	2.424	4.115

Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
16	28	Y	-0.009	-0.009	1.573	2.541
17	29	Y	-0.009	-0.009	0	0.968
18	32	Y	-0.001	-0.005	0	2.117
19	32	Y	-0.005	-0.009	2.117	4.234
20	35	Y	-0.008	-0.005	0	2.117
21	35	Y	-0.005	-0.001	2.117	4.234

Member Distributed Loads (BLC 31 : BLC 8 Transient Area Loads)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	24	Y	-0.01	-0.01	2.426	4.111
2	25	Y	-0.007	-0.007	1.573	2.541
3	26	Y	-0.007	-0.007	0	0.969
4	30	Y	-0.001	-0.004	0	2.117
5	30	Y	-0.004	-0.007	2.117	4.234
6	33	Y	-0.007	-0.004	0	2.117
7	33	Y	-0.004	-0.001	2.117	4.234
8	27	Y	-0.01	-0.01	2.426	4.111
9	28	Y	-0.008	-0.008	1.573	2.541
10	29	Y	-0.008	-0.008	0	0.969
11	32	Y	-0.001	-0.004	0	2.117
12	32	Y	-0.004	-0.008	2.117	4.234
13	35	Y	-0.008	-0.004	0	2.117
14	35	Y	-0.004	-0.001	2.117	4.234
15	19	Y	-0.01	-0.01	2.426	4.111
16	20	Y	-0.008	-0.008	1.573	2.541
17	21	Y	-0.008	-0.008	0	0.969
18	31	Y	-0.008	-0.004	0	2.117
19	31	Y	-0.004	-0.001	2.117	4.234
20	34	Y	-0.001	-0.004	0	2.117
21	34	Y	-0.004	-0.008	2.117	4.234

Member Area Loads (BLC 1 : Dead)

Member	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	38	50	49	38	Y	Two Way	-0.01
2	43	52	51	43	Y	Two Way	-0.01
3	31	53	48	31	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

Member	Node A	Node B	Node C	Direction	Load Direction	Magnitude [ksf]
1	38	50	49	Y	Two Way	-0.009
2	43	52	51	Y	Two Way	-0.009
3	31	53	48	Y	Two Way	-0.009

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

Node	Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	100	L	Y	-0.5
2	118	L	Y	-0.5
3	136	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	96	L	Y	-0.5
2	114	L	Y	-0.5
3	132	L	Y	-0.5

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

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	92	L	Y	-0.5
2	110	L	Y	-0.5
3	128	L	Y	-0.5

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		60		3
2	0 Wind - No Ice	WLZ			60	57	
3	90 Wind - No Ice	WLX			60	57	
4	0 Wind - Ice	WLZ			60	57	
5	90 Wind - Ice	WLX			60	57	
6	0 Wind - Service	WLZ			60	57	
7	90 Wind - Service	WLX			60	57	
8	Ice	OL1			60	57	3
9	0 Seismic	ELZ			60	57	
10	90 Seismic	ELX			60	57	
11	Live Load a	LL		3			
12	Live Load b	LL		3			
13	Live Load c	LL		3			
14	Live Load d	LL					
15	Maint LL 1	LL			1		
16	Maint LL 2	LL			1		
17	Maint LL 3	LL			1		
18	Maint LL 4	LL			1		
19	Maint LL 5	LL			1		
20	Maint LL 6	LL			1		
21	Maint LL 7	LL			1		
22	Maint LL 8	LL			1		
23	Maint LL 9	LL			1		
24	Maint LL 10	LL			1		
25	Maint LL 11	LL			1		
26	Maint LL 12	LL			1		
27	Maint LL 13	LL			1		
28	Maint LL 14	LL			1		
29	Maint LL 15	LL			1		
30	BLC 1 Transient Area Loads	None				21	
31	BLC 8 Transient Area Loads	None				21	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					15	1.5
87	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					16	1.5
88	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					17	1.5
89	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					18	1.5
90	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					19	1.5
91	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					20	1.5
92	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					21	1.5
93	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					22	1.5
94	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					23	1.5
95	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					24	1.5
96	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					25	1.5
97	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					26	1.5
98	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					27	1.5
99	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					28	1.5
100	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					29	1.5

Envelope Node Reactions

	Node Label		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	44	max	3.692	4	1.752	22	2.755	3	0.085	2	1.166	7	1.944	23
2		min	-6.904	10	0.435	4	-4.612	9	-1.253	20	-1.17	13	0.344	5
3	39	max	6.846	6	1.798	19	2.766	13	0.09	2	1.467	3	-0.319	12
4		min	-3.555	12	0.369	13	-4.673	7	-1.224	20	-1.466	9	-2.034	18
5	32	max	1.1	5	1.788	14	10.003	2	2.357	14	1.039	11	0.333	12
6		min	-1.099	11	0.325	8	-6.225	8	0.203	8	-1.039	5	-0.311	6
7	149	max	0.553	12	2.356	18	3.367	18	0	3	0	9	0	9
8		min	-5.831	18	-0.219	12	-0.319	12	0	9	0	3	0	3
9	152	max	5.617	22	2.272	22	3.243	22	0	13	0	13	0	13
10		min	-0.659	4	-0.261	4	-0.38	4	0	7	0	7	0	7
11	146	max	0.049	5	2.415	14	1.668	8	0	100	0	41	0	71
12		min	-0.049	11	-0.572	8	-6.907	14	0	1	0	71	0	41

Envelope Node Reactions (Continued)

Node Label	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
13 Totals: max	6.148	5	11.502	20	8.701	2						
14 min	-6.148	11	4.273	2	-8.701	8						

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

Member	Shape	Code Check	Loc [ft]	LC	Shear Check	Loc [ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn	
1	1	PIPE 3.0	0.199	10.677	10	0.133	6.25	3	28.251	65.205	5.749	5.749	2.153	H1-1b	
2	2	PIPE 3.0	0.253	10.677	2	0.137	6.25	8	28.251	65.205	5.749	5.749	2.03	H1-1b	
3	3	PIPE 3.0	0.207	10.677	7	0.093	6.25	8	28.251	65.205	5.749	5.749	1.639	H1-1b	
4	5	PL1/2"x6	0.083	0.25	12	0.214	0.25	y	19	95.014	97.2	1.012	12.15	1.493	H1-1b
5	7	PL1/2"x6	0.079	0.25	4	0.212	0.25	y	21	95.014	97.2	1.012	12.15	1.634	H1-1b
6	9	PL1/2"x6	0.09	0.25	3	0.192	0.25	y	22	95.014	97.2	1.012	12.15	1.373	H1-1b
7	11	PL1/2"x6	0.11	0.25	8	0.214	0.25	y	14	95.014	97.2	1.012	12.15	2.522	H1-1b
8	13	PL1/2"x6	0.105	0.25	8	0.227	0.25	y	2	95.014	97.2	1.012	12.15	1.526	H1-1b
9	15	PL1/2"x6	0.091	0.25	13	0.207	0.25	y	17	95.014	97.2	1.012	12.15	1.444	H1-1b
10	16	PL1/2"x6	0.165	0.519	7	0.147	0.519	y	20	65.639	97.2	1.012	12.15	1.293	H1-1b
11	17	PL1/2"x6	0.21	0.519	2	0.149	0.519	y	25	65.639	97.2	1.012	12.15	1.232	H1-1b
12	18	PL1/2"x6	0.162	0.519	9	0.142	0.519	y	25	65.639	97.2	1.012	12.15	1.276	H1-1b
13	19	HSS4X4X4	0.234	0	25	0.077	4.198	y	3	97.504	106.155	12.311	12.311	2.952	H1-1b
14	20	HSS4X4X4	0.17	2.541	15	0.059	0.424	z	8	103.994	106.155	12.311	12.311	1.674	H1-1b
15	21	HSS4X4X4	0.17	0	25	0.059	2.118	z	13	103.994	106.155	12.311	12.311	1.678	H1-1b
16	22	PL3/8"x6	0.145	0.169	7	0.205	0.169	y	60	67.903	72.9	0.57	9.113	2.409	H1-1b
17	23	PL3/8"x6	0.123	0.169	9	0.191	0.169	y	53	67.903	72.9	0.57	9.113	2.411	H1-1b
18	24	HSS4X4X4	0.244	0	20	0.09	0	z	3	97.504	106.155	12.311	12.311	2.931	H1-1b
19	25	HSS4X4X4	0.172	2.541	19	0.053	0.424	z	7	103.994	106.155	12.311	12.311	1.675	H1-1b
20	26	HSS4X4X4	0.169	0	18	0.048	0	y	16	103.994	106.155	12.311	12.311	1.671	H1-1b
21	27	HSS4X4X4	0.23	0	20	0.091	0	z	7	97.504	106.155	12.311	12.311	2.941	H1-1b
22	28	HSS4X4X4	0.164	2.541	23	0.046	0.424	z	4	103.994	106.155	12.311	12.311	1.671	H1-1b
23	29	HSS4X4X4	0.168	0	21	0.057	2.118	z	9	103.994	106.155	12.311	12.311	1.682	H1-1b
24	30	L2x2x3	0.191	0	6	0.012	0	y	20	9.529	23.393	0.558	1.136	1.5	H2-1
25	31	L2x2x3	0.234	0	3	0.012	4.234	y	24	9.529	23.393	0.558	1.136	1.5	H2-1
26	32	L2x2x3	0.222	4.234	9	0.012	0	y	23	9.529	23.393	0.558	1.136	1.5	H2-1
27	33	L2x2x3	0.215	0	7	0.012	4.234	y	15	9.529	23.393	0.558	1.136	1.5	H2-1
28	34	L2x2x3	0.249	0	2	0.012	0	y	15	9.529	23.393	0.558	1.136	1.5	H2-1
29	35	L2x2x3	0.179	4.234	10	0.012	4.234	y	20	9.529	23.393	0.558	1.136	1.5	H2-1
30	36	PL3/8"x6	0.126	0.169	10	0.207	0.169	y	52	67.903	72.9	0.57	9.113	2.43	H1-1b
31	37	PL3/8"x6	0.168	0.169	2	0.211	0.169	y	8	67.903	72.9	0.57	9.113	2.37	H1-1b
32	38	PL3/8"x6	0.149	0.169	2	0.244	0.169	y	8	67.903	72.9	0.57	9.113	2.404	H1-1b
33	39	PL3/8"x6	0.117	0.169	6	0.193	0.169	y	61	67.903	72.9	0.57	9.113	2.413	H1-1b
34	40	PL3/8"x6	0.109	0.125	7	0.233	0	y	21	70.011	72.9	0.57	9.113	1.51	H1-1b
35	41	PL3/8"x6	0.127	0.125	3	0.24	0	y	20	70.011	72.9	0.57	9.113	1.337	H1-1b
36	44	PL3/8"x6	0.104	0.125	10	0.238	0	y	14	70.011	72.9	0.57	9.113	1.503	H1-1b
37	45	PL3/8"x6	0.13	0.125	2	0.228	0	y	24	70.011	72.9	0.57	9.113	1.483	H1-1b
38	48	PL3/8"x6	0.159	0.125	2	0.239	0	y	18	70.011	72.9	0.57	9.113	1.426	H1-1b
39	49	PL3/8"x6	0.118	0.125	6	0.235	0	y	15	70.011	72.9	0.57	9.113	1.518	H1-1b
40	52	PIPE 2.0	0.666	7.656	5	0.355	4.266	8	8.922	32.13	1.872	1.872	3	H1-1b	
41	53	PIPE 2.0	0.679	7.656	5	0.13	7.656	5	8.922	32.13	1.872	1.872	2.868	H1-1b	
42	55	PIPE 2.0	0.694	2.25	7	0.358	2.25	8	14.916	32.13	1.872	1.872	2.966	H3-6	
43	61	PIPE 2.0	0.885	7.656	9	0.299	7.656	13	8.922	32.13	1.872	1.872	2.745	H1-1b	
44	62	PIPE 2.0	0.92	7.656	9	0.179	7.656	9	8.922	32.13	1.872	1.872	2.627	H1-1b	
45	64	PIPE 2.0	0.867	5.75	3	0.26	2.25	12	14.916	32.13	1.872	1.872	3	H1-1b	
46	70	PIPE 2.0	0.907	7.656	13	0.28	7.656	3	8.922	32.13	1.872	1.872	3	H1-1b	
47	71	PIPE 2.0	0.924	7.656	13	0.18	7.656	13	8.922	32.13	1.872	1.872	2.897	H1-1b	
48	73	PIPE 2.0	0.898	5.75	7	0.299	5.75	3	14.916	32.13	1.872	1.872	2.529	H1-1b	
49	79	PIPE 2.0	0.906	1.693	7	0.379	0.651	13	6.295	32.13	1.872	1.872	2.187	H3-6	
50	80	PIPE 2.0	0.7	10.807	13	0.267	11.849	7	6.295	32.13	1.872	1.872	2.136	H1-1b	



Company : B+T Group
 Designer : AS
 Job Number : 127879.012.01
 Model Name : 803843 - CT New Britain 4 CAC ...

9/6/2021
 5:01:55 PM
 Checked By : _____

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

Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
51	81	PIPE 2.0	0.936	1.693	3	0.371	0.651	9	6.295	32.13	1.872	1.872	1.767	H3-6
52	83	LL2.5x2.5x3x3	0.165	4.403	14	0.004	4.403	z 11	44.472	58.32	3.954	2.55	1	H1-1b*
53	85	LL2.5x2.5x3x3	0.16	4.403	18	0.005	4.403	z 3	44.472	58.32	3.954	2.55	1	H1-1b*
54	87	LL2.5x2.5x3x3	0.155	4.403	22	0.005	4.403	z 7	44.472	58.32	3.954	2.55	1	H1-1b*
55	88	L2.5x2.5x4	0.656	1.245	3	0.238	1.245	z 5	36.654	38.556	1.114	2.537	1.421	H2-1
56	89	L2.5x2.5x4	0.629	1.245	7	0.339	0.947	z 9	36.654	38.556	1.114	2.537	1.5	H2-1
57	90	L2.5x2.5x4	0.634	0	9	0.333	1.245	z 7	36.654	38.556	1.114	2.537	1.5	H2-1

APPENDIX D
ADDITIONAL CALCUATIONS

PROJECT	127879.012.01 - CT NEW BRITAIN 4 C KSC			
SUBJECT	Platform Mount Analysis			
DATE	09/08/21	PAGE	1	OF 1



[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	10.003	k
Vertical Shear	:	1.788	k
Horizontal Shear	:	1.1	k
Torsion	:	0.333	k.ft
Moment from Horizontal Forces	:	1.039	k.ft
Moment from Vertical Forces	:	2.357	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in ²
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1	in
Bolt edge distance, plate width	:	1	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	2.10	k
Force from Horz. Moment	:	1.88	k
Force from Vert. Moment	:	4.27	k
Shear Load / Bolt	:	0.52	k
Tension Load / Bolt	:	2.50	k
Resultant from Moments / Bolt	:	2.33	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	23.33%		OKAY
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	27.38%		OKAY
Unity Check, Combined	:	50.70%		OKAY
Available Bearing Strength, ΦR_n	:	18.35	k/bolt	
Unity Check, Bolt Bearing	:	2.86%		OKAY

PROJECT	127879.012.01 - CT NEW BRITAIN 4 C KSC			
SUBJECT	Platform Mount Analysis			
DATE	09/08/21	PAGE	1	OF 1



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

[REF: AISC 360-05]

Connecting Member Parameters

Plate Yield Strength, F_y	:	36.00	ksi	[AISC Table 2-5]
Plate Tensile Strength, F_u	:	58.00	ksi	[AISC Table 2-5]
Plate Height	:	9.00	in	
Plate Width	:	9.00	in	
Plate Thickness	:	0.50	in	
Edge Distance	:	0.56	in	
Gross Tension Area, A_{gt}	:	4.50	in ²	
Gross Shear Area, A_{gv}	:	0.5	in ²	
Net Area for tension, A_{nt}	:	4.16	in ²	
Net Area for shear, A_{nt}	:	3.00	in ²	

Plate Check

Available Tensile Yield	:	145.80	k	[Eq. J4-1]
Available Tensile Rupture	:	180.80	k	[Eq. J4-2]
Unity Check, Plate Tension	:	3.32%		OKAY
Available Shear Yield	:	10.80	k	[Eq. J4-3]
Available Shear Rupture	:	104.40	k	[Eq. J4-4]
Unity Check, Plate Shear	:	19.44%		OKAY
Available Block Shear, ΦR_n	:	73.35	k	[Eq. J4-5]
Unity Check, Block Shear	:	2.86%		OKAY

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

AT&T Existing Facility

Site ID: CTL05194

803843

200 Stanley Street
New Britain, Connecticut 06051

February 21, 2022

EBI Project Number: 6222000320

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	38.53%

February 21, 2022

AT&T

Emissions Analysis for Site: CTL05194 - 803843

EBI Consulting was directed to analyze the proposed AT&T facility located at **200 Stanley Street** in **New Britain, Connecticut** for the purpose of determining whether the emissions from the Proposed AT&T 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 AT&T Wireless antenna facility located at 200 Stanley Street in New Britain, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

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

- 1) 4 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 2) 2 LTE DE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 3) 4 LTE FN channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 4) 4 5G channels (850 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 5) 4 LTE / 5G channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 6) 4 LTE / 5G channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

- 7) 4 LTE channels (WCS Band – 2300 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 25 Watts per Channel.
- 8) 2 C-Band Channels (3700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 144.58 Watts per Channel.
- 9) 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.
- 10) 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.
- 11) The antennas used in this modeling are the Quintel QD8616-7 for the 700 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the CCI DMP65R-BU8DA for the 700 MHz / 850 MHz / 2100 MHz channel(s) in Sector A, the Quintel QD8616-7 for the 700 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the CCI DMP65R-BU8DA for the 700 MHz / 850 MHz / 2100 MHz channel(s) in Sector B, the Quintel QD8616-7 for the 700 MHz / 700 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 3700 MHz channel(s), the Ericsson AIR 6449 for the 3700 MHz channel(s), the CCI DMP65R-BU6DA for the 700 MHz / 850 MHz / 2100 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 12) The antenna mounting height centerline of the proposed antennas is 195 feet above ground level (AGL).

- 13) 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.
- 14) All calculations were done with respect to uncontrolled / general population threshold limits.

AT&T Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Quintel QD8616-7	Make / Model:	Quintel QD8616-7	Make / Model:	Quintel QD8616-7
Frequency Bands:	700 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 700 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 700 MHz / 1900 MHz / 2100 MHz
Gain:	12.994 dBd / 12.994 dBd / 15.0806 dBd / 15.1672 dBd	Gain:	12.994 dBd / 12.994 dBd / 15.0806 dBd / 15.1672 dBd	Gain:	12.994 dBd / 12.994 dBd / 15.0806 dBd / 15.1672 dBd
Height (AGL):	195 feet	Height (AGL):	195 feet	Height (AGL):	195 feet
Channel Count:	14	Channel Count:	14	Channel Count:	14
Total TX Power (W):	560.00 Watts	Total TX Power (W):	560.00 Watts	Total TX Power (W):	560.00 Watts
ERP (W):	15,194.68	ERP (W):	15,194.68	ERP (W):	15,194.68
Antenna A1 MPE %:	2.08%	Antenna B1 MPE %:	2.08%	Antenna C1 MPE %:	2.08%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz
Gain:	23.45 dBd	Gain:	23.45 dBd	Gain:	23.45 dBd
Height (AGL):	195 feet	Height (AGL):	195 feet	Height (AGL):	195 feet
Channel Count:	1	Channel Count:	1	Channel Count:	1
Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 Watts
ERP (W):	31,996.92	ERP (W):	31,996.92	ERP (W):	31,996.92
Antenna A2 MPE %:	3.22%	Antenna B2 MPE %:	3.22%	Antenna C2 MPE %:	3.22%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz	Frequency Bands:	3700 MHz
Gain:	23.45 dBd	Gain:	23.45 dBd	Gain:	23.45 dBd
Height (AGL):	195 feet	Height (AGL):	195 feet	Height (AGL):	195 feet
Channel Count:	1	Channel Count:	1	Channel Count:	1
Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 Watts	Total TX Power (W):	144.58 Watts
ERP (W):	31,996.92	ERP (W):	31,996.92	ERP (W):	31,996.92
Antenna A3 MPE %:	3.22%	Antenna B3 MPE %:	3.22%	Antenna C3 MPE %:	3.22%
Antenna #:	4	Antenna #:	4	Antenna #:	4
Make / Model:	CCI DMP65R-BU8DA	Make / Model:	CCI DMP65R-BU8DA	Make / Model:	CCI DMP65R-BU6DA
Frequency Bands:	700 MHz / 850 MHz / 2100 MHz	Frequency Bands:	700 MHz / 850 MHz / 2100 MHz	Frequency Bands:	700 MHz / 850 MHz / 2100 MHz
Gain:	11.85 dBd / 12.45 dBd / 16.05 dBd	Gain:	11.85 dBd / 12.45 dBd / 16.05 dBd	Gain:	11.85 dBd / 12.45 dBd / 15.95 dBd
Height (AGL):	195 feet	Height (AGL):	195 feet	Height (AGL):	195 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	420.00 Watts	Total TX Power (W):	420.00 Watts	Total TX Power (W):	420.00 Watts
ERP (W):	9,289.59	ERP (W):	9,289.59	ERP (W):	9,197.92
Antenna A4 MPE %:	1.43%	Antenna B4 MPE %:	1.43%	Antenna C4 MPE %:	1.42%

- An adjusted power reduction factor of 0.32 was applied to the AIR 6449 antennas per guidance from AT&T.

- Specifications were not available for the Ericsson AIR 6419 antenna. Per AT&T, specifications for the AIR 6449 antenna were used to model the 6419 due to its similarity.

Site Composite MPE %	
Carrier	MPE %
AT&T (Max at Sector A):	9.95%
Dish	7.47%
Sigfox	0.05%
AT&T (Existing)	2.69%
Clearwire	0.07%
Metro PCS	0.38%
Verizon	17.92%
Site Total MPE % :	38.53%

AT&T MPE % Per Sector	
AT&T Sector A Total:	9.95%
AT&T Sector B Total:	9.95%
AT&T Sector C Total:	9.94%
Site Total MPE % :	38.53%

AT&T Maximum MPE Power Values (Sector A)							
AT&T 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
AT&T 700 MHz LTE FN	4	797.00	195.0	3.21	700 MHz LTE FN	467	0.69%
AT&T 700 MHz LTE DE	2	797.00	195.0	1.60	700 MHz LTE DE	467	0.34%
AT&T 1900 MHz LTE/5G	4	1288.61	195.0	5.19	1900 MHz LTE/5G	1000	0.52%
AT&T 2100 MHz LTE/5G	4	1314.56	195.0	5.29	2100 MHz LTE/5G	1000	0.53%
AT&T 3700 MHz C-Band	1	31996.92	195.0	32.20	3700 MHz C-Band	1000	3.22%
AT&T 3700 MHz C-Band	1	31996.92	195.0	32.20	3700 MHz C-Band	1000	3.22%
AT&T 700 MHz LTE	4	612.43	195.0	2.47	700 MHz LTE	467	0.53%
AT&T 850 MHz 5G	4	703.17	195.0	2.83	850 MHz 5G	567	0.50%
AT&T 2100 MHz LTE	4	1006.79	195.0	4.05	2100 MHz LTE	1000	0.41%
						Total:	9.95%

• 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 AT&T 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:

AT&T Sector	Power Density Value (%)
Sector A:	9.95%
Sector B:	9.95%
Sector C:	9.94%
AT&T Maximum MPE % (Sector A):	9.95%
Site Total:	38.53%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **38.53%** 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.



AT&T SITE NUMBER: CTL05194
AT&T SITE NAME: CT NEW BRITAIN 4 CAC 803843
AT&T FA CODE: 10091780
AT&T PACE NUMBER: MRCTB051598, MRCTB051713
AT&T PROJECT: BBU RECONFIGURATION WITH NEW IDS, 5G NR 1SR
CBAND

BUSINESS UNIT #: 803843
SITE ADDRESS: 200 STANLEY STREET
 NEW BRITAIN, CT 06053
COUNTY: HARTFORD
SITE TYPE: MONOPOLE
TOWER HEIGHT: 192'-0"



AT&T SITE NUMBER:
CTL05194

BU #: 803843
CT NEW BRITAIN 4
CAC803843

 200 STANLEY STREET
 NEW BRITAIN, CT 06053

EXISTING
192'-0" MONOPOLE

ISSUED FOR:

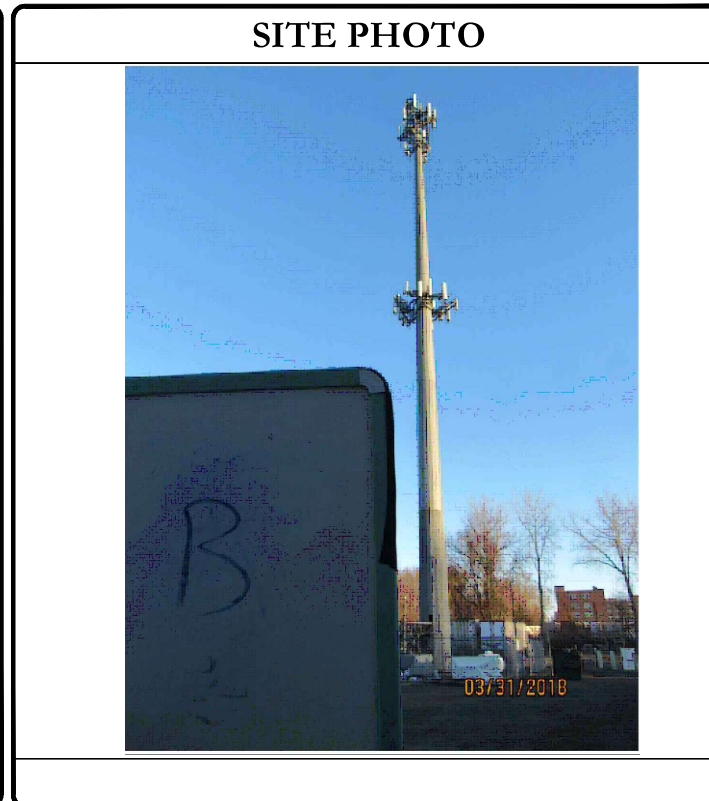
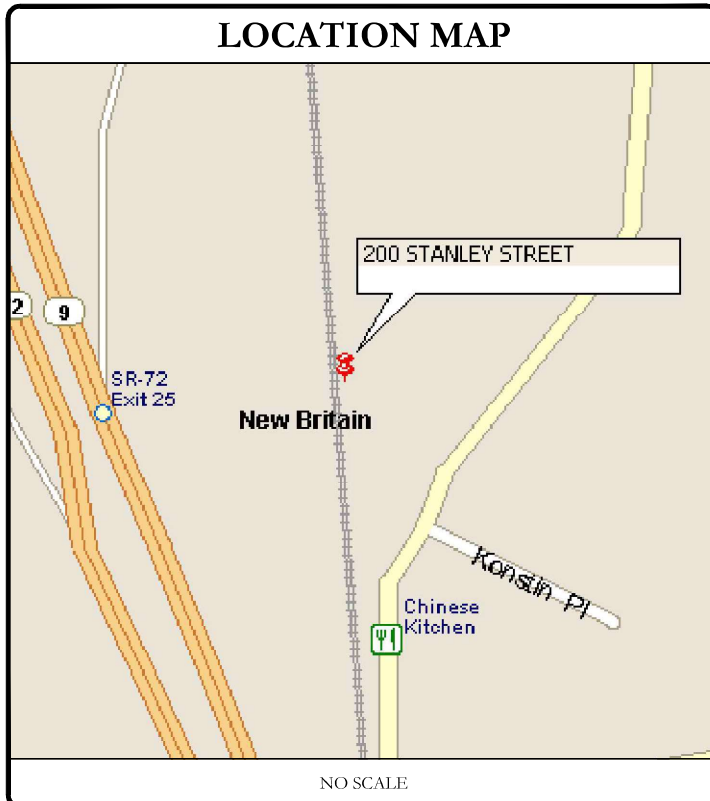
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/5/21	HN	PRELIMINARY REVIEW	JTS
0	12/10/21	JTS	CONSTRUCTION	JTS

SITE INFORMATION	
CROWN CASTLE USA INC.	CT NEW BRITAIN 4 CAC803843
SITE NAME:	
SITE ADDRESS:	200 STANLEY STREET NEW BRITAIN, CT 06053
COUNTY:	HARTFORD
MAP/PARCEL #:	B10B 11
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 39' 16.3" N
LONGITUDE:	-72° 46' 9.5" W
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	111'
CURRENT ZONING:	I2
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:	DOWNES INVESTMENTS LLC 200 STANLEY ST NEW BRITAIN, CT 06051
TOWER OWNER:	CROWN CASTLE USA INC 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	AT&T TOWER ASSET GROUP 575 MOROSGO DRIVE ATLANTA, GA 30324-3300
ELECTRIC PROVIDER:	CONNECTICUT LIGHT & POWER
TELCO PROVIDER:	T.B.D.

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	EXISTING & FINAL EQUIPMENT PLANS
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	FINAL EQUIPMENT SCHEDULE
C-4	EQUIPMENT MOUNTING DETAILS
C-5	EQUIPMENT SPECS
G-1	GROUNDING SCHEMATIC
G-2	GROUNDING DETAILS
ATTACHED	PLUMBING DIAGRAM

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.

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



PROJECT TEAM	
A&E FIRM:	B+T GROUP 1717 S BOULDER AVE, SUITE 300 TULSA, OK 74119 MARVIN PHILLIPS Marvin.Phillips@btgrp.com
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3530 TURINGDON WAY, SUITE 300 CHARLOTTE, NC 28277 PAUL PEDICONE - PROJECT MANAGER POULE.PEDICONE@CROWNCastle.COM JASON D'AMICO - CONSTRUCTION MANAGER JASON.D'AMICO@CROWNCastle.COM

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

PROJECT DESCRIPTION
THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY. TOWER SCOPE OF WORK: <ul style="list-style-type: none"> REMOVE (3) CCI - OPA-65R-LCUU-H8 ANTENNAS REMOVE (1) DC6-48-60-0-8C-EC PENDANTS REMOVE (8) WR-VG86ST-BRD DC TRUNKS REMOVE (2) FB-L98B-034-XXXXXX FIBER TRUNKS RELOCATE (3) ERICSSON-RRUS-32 B30 RELOCATE (3) ERICSSON-4478 B14 RELOCATE (3) ERICSSON-8843 B2/B66A INSTALL (3) QUNTEL - QD8616-7 ANTENNAS INSTALL (3) ERICSSON - AIR649 N77D+ AIR649 N77G STACKED ANTENNAS INSTALL (3) RAYCAP - DC9-48-60-24-8C-EV PENDANTS INSTALL (1) COMMScope - FB-L98B-034 FIBER CABLE INSTALL (3) SMAST PIPES GROUND SCOPE OF WORK: <ul style="list-style-type: none"> REMOVE (1) XMU REMOVE (1) 5216 REMOVE (1) RXAIT CABINET INSTALL (1) 6673 FHG INSTALL (1) FLX-16 CABINET INSTALL (33) VERTIV UP-CONVERTERS IN NEW FLX-16 INSTALL (2) 19" DISTRIBUTION SHELVES INSTALL (4) RECTIFIERS IN EXISTING POWER PLANT INSTALL (1) OUTDOOR DC12-45-60-RM

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

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:	<table border="0"> <tr> <td>CODE TYPE</td> <td>CODE</td> </tr> <tr> <td>BUILDING</td> <td>2015 IBC</td> </tr> <tr> <td>MECHANICAL</td> <td>2015 IMC</td> </tr> <tr> <td>ELECTRICAL</td> <td>2017 NEC</td> </tr> </table>	CODE TYPE	CODE	BUILDING	2015 IBC	MECHANICAL	2015 IMC	ELECTRICAL	2017 NEC												
CODE TYPE	CODE																				
BUILDING	2015 IBC																				
MECHANICAL	2015 IMC																				
ELECTRICAL	2017 NEC																				
REFERENCE DOCUMENTS:	<table border="0"> <tr> <td>STRUCTURAL ANALYSIS:</td> <td>B+T GROUP</td> </tr> <tr> <td>DATED:</td> <td>9/10/21</td> </tr> <tr> <td>MOUNT ANALYSIS:</td> <td>B+T GROUP</td> </tr> <tr> <td>DATED:</td> <td>9/8/21</td> </tr> <tr> <td>AC ELECTRICAL POWER DESIGN:</td> <td>N/A</td> </tr> <tr> <td>DATED:</td> <td></td> </tr> <tr> <td>RFDS REVISION:</td> <td>PRELIMINARY</td> </tr> <tr> <td>DATED:</td> <td>8/2/21</td> </tr> <tr> <td>ORDER ID:</td> <td>556526</td> </tr> <tr> <td>REVISION:</td> <td>0</td> </tr> </table>	STRUCTURAL ANALYSIS:	B+T GROUP	DATED:	9/10/21	MOUNT ANALYSIS:	B+T GROUP	DATED:	9/8/21	AC ELECTRICAL POWER DESIGN:	N/A	DATED:		RFDS REVISION:	PRELIMINARY	DATED:	8/2/21	ORDER ID:	556526	REVISION:	0
STRUCTURAL ANALYSIS:	B+T GROUP																				
DATED:	9/10/21																				
MOUNT ANALYSIS:	B+T GROUP																				
DATED:	9/8/21																				
AC ELECTRICAL POWER DESIGN:	N/A																				
DATED:																					
RFDS REVISION:	PRELIMINARY																				
DATED:	8/2/21																				
ORDER ID:	556526																				
REVISION:	0																				

B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/10/22

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

SHEET NUMBER:	REVISION:
T-1	0

127879.014.01_CT_BRITAIN_4_803843.dwg - Sheet: T-1 - User: jstiles - Dec 10, 2021 - 2:27pm

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

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

GREENFIELD GROUNDING NOTES:

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

GENERAL NOTES:

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

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

ELECTRICAL INSTALLATION NOTES:

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

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

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

ABBREVIATIONS:

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

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



AT&T SITE NUMBER:
CTL05194

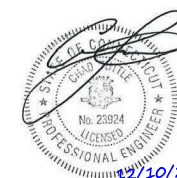
BU #: **803843**
CT NEW BRITAIN 4
CAC803843

200 STANLEY STREET
NEW BRITAIN, CT 06053

EXISTING
192'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/5/21	HN	PRELIMINARY REVIEW	JTS
0	12/10/21	JTS	CONSTRUCTION	JTS



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

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

SHEET NUMBER: REVISION:

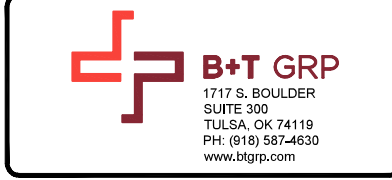
T-2 **0**



575 MOROSGO DRIVE
ATLANTA, GA 30324-3300



3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277



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

AT&T SITE NUMBER:
CTL05194

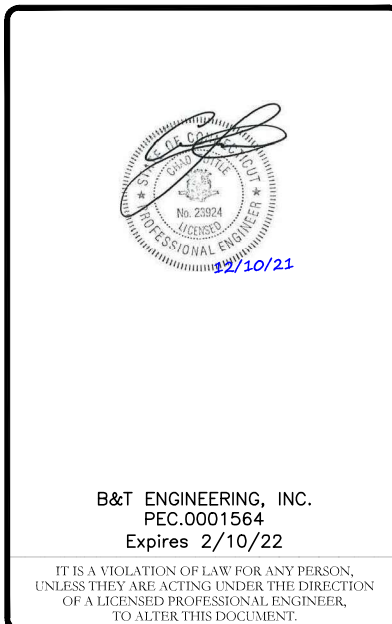
BU #: 803843
CT NEW BRITAIN 4
CAC803843

200 STANLEY STREET
NEW BRITAIN, CT 06053

EXISTING
192'-0" MONOPOLE

ISSUED FOR:

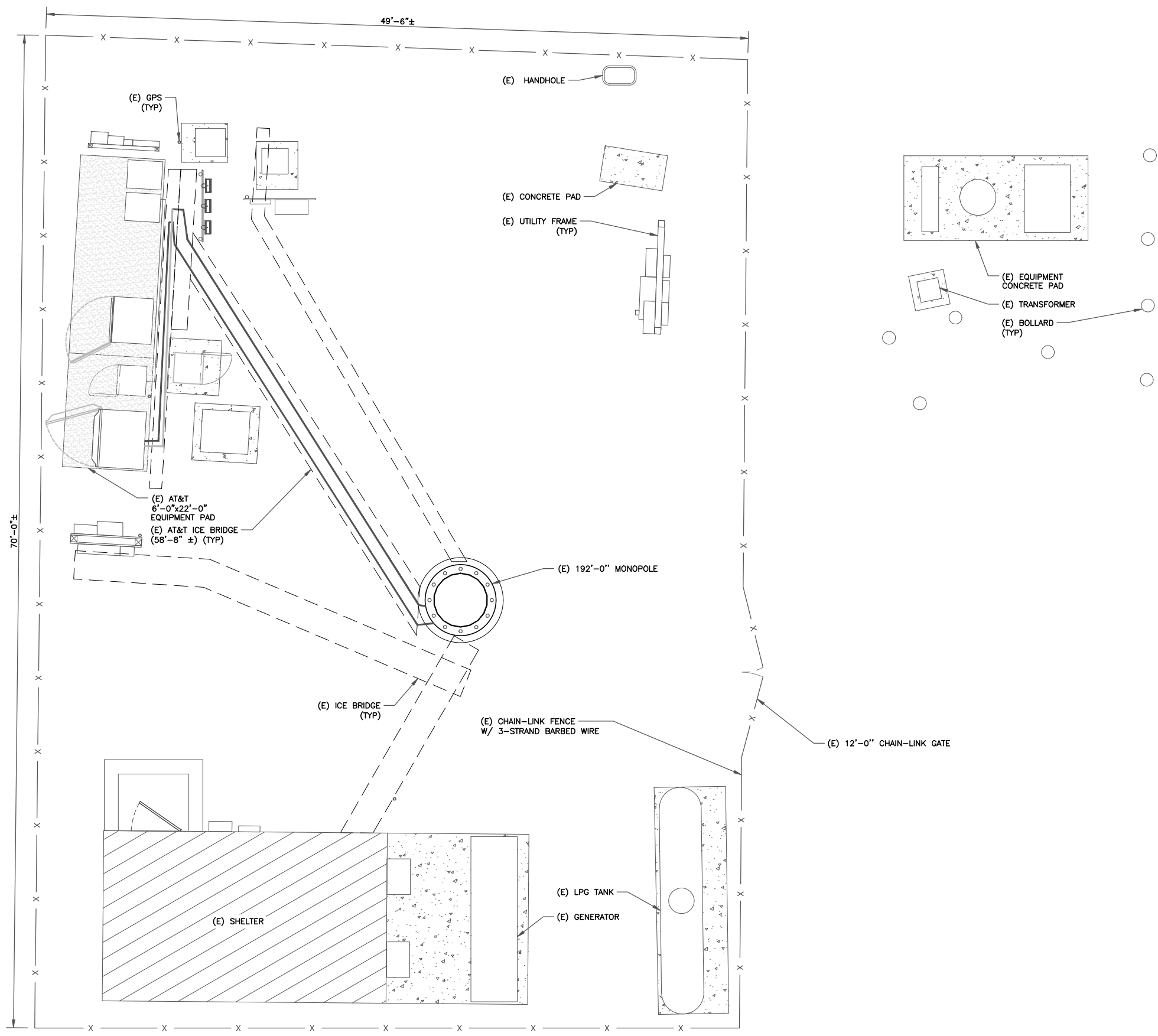
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/5/21	HN	PRELIMINARY REVIEW	JTS
0	12/10/21	JTS	CONSTRUCTION	JTS



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

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

SHEET NUMBER: **C-1.1** REVISION: **0**



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



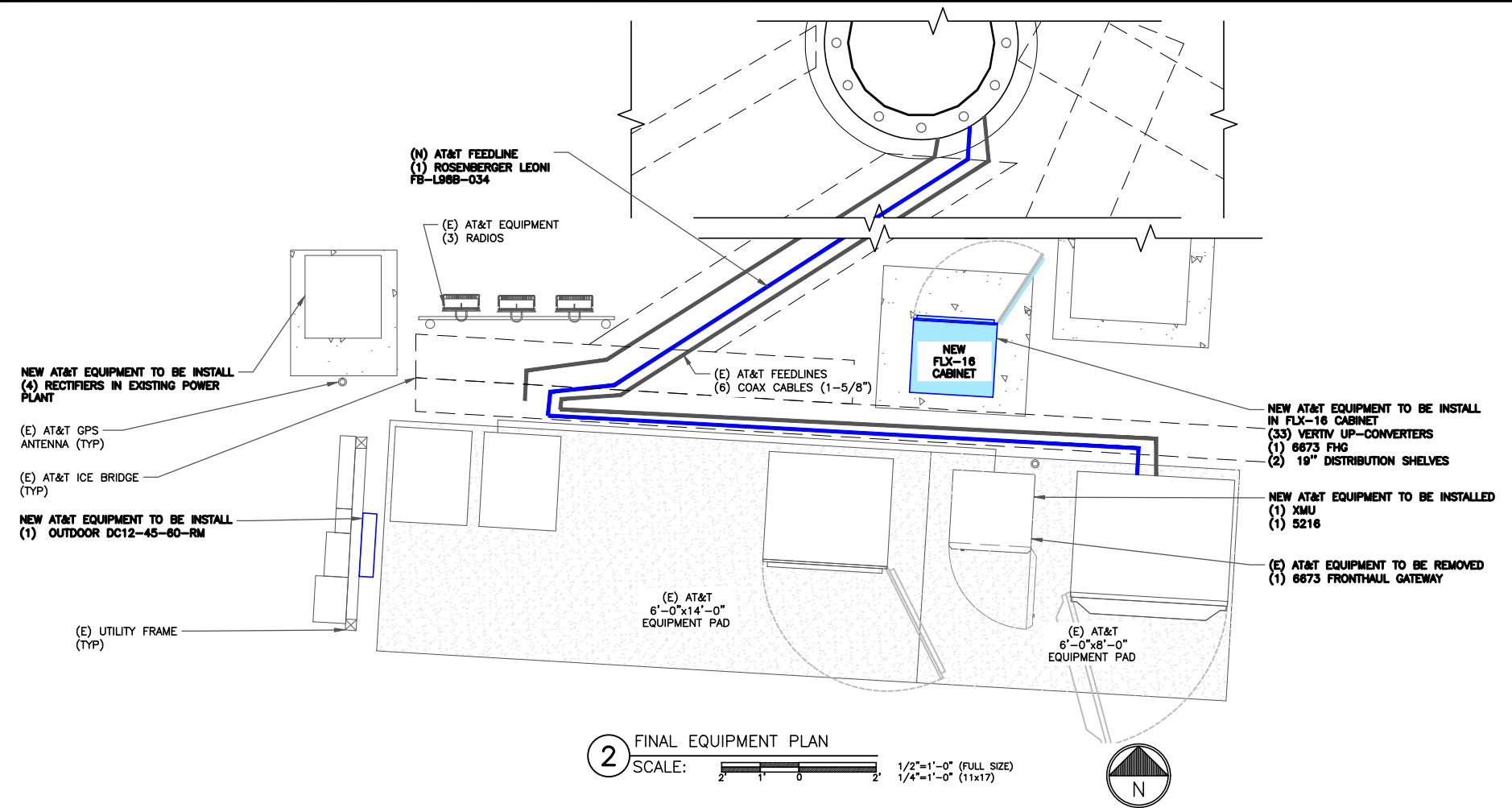
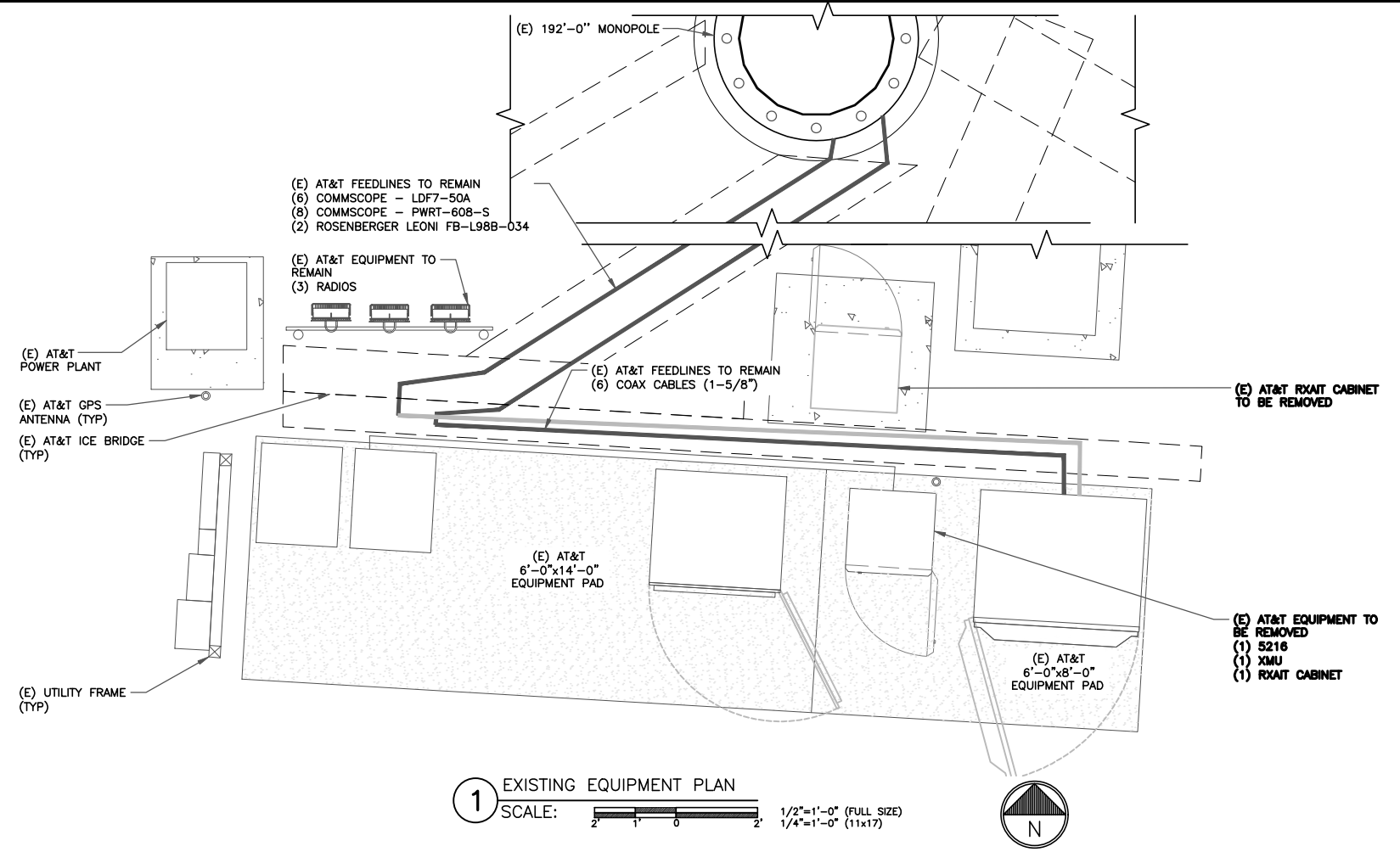
127B79.014.01_CT_BRITAIN_4_803843.dwg - Sheet:C-1.1 - User: jsikes - Dec 10, 2021 - 2:27pm

AT&T SITE NUMBER:
CTL05194

BU #: 803843
CT NEW BRITAIN 4
CAC803843

200 STANLEY STREET
NEW BRITAIN, CT 06053

EXISTING
192'-0" MONOPOLE



- GROUND SCOPE OF WORK:**
- REMOVE (1) 5216
 - REMOVE (1) XMU
 - REMOVE (1) RXAIT CABINET
 - INSTALL (1) 6673 FHG
 - INSTALL (1) FLX-16 CABINET
 - INSTALL (33) VERTIV UP-CONVERTERS IN NEW FLX-16
 - INASTALL (2) 19" DISTRIBUTION SHELVES
 - INSTALL (4) RECTIFIERS IN EXISTING POWER PLANT
 - INSTALL (1) OUTDOOR DC12-45-60-RM

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

ISSUED FOR:

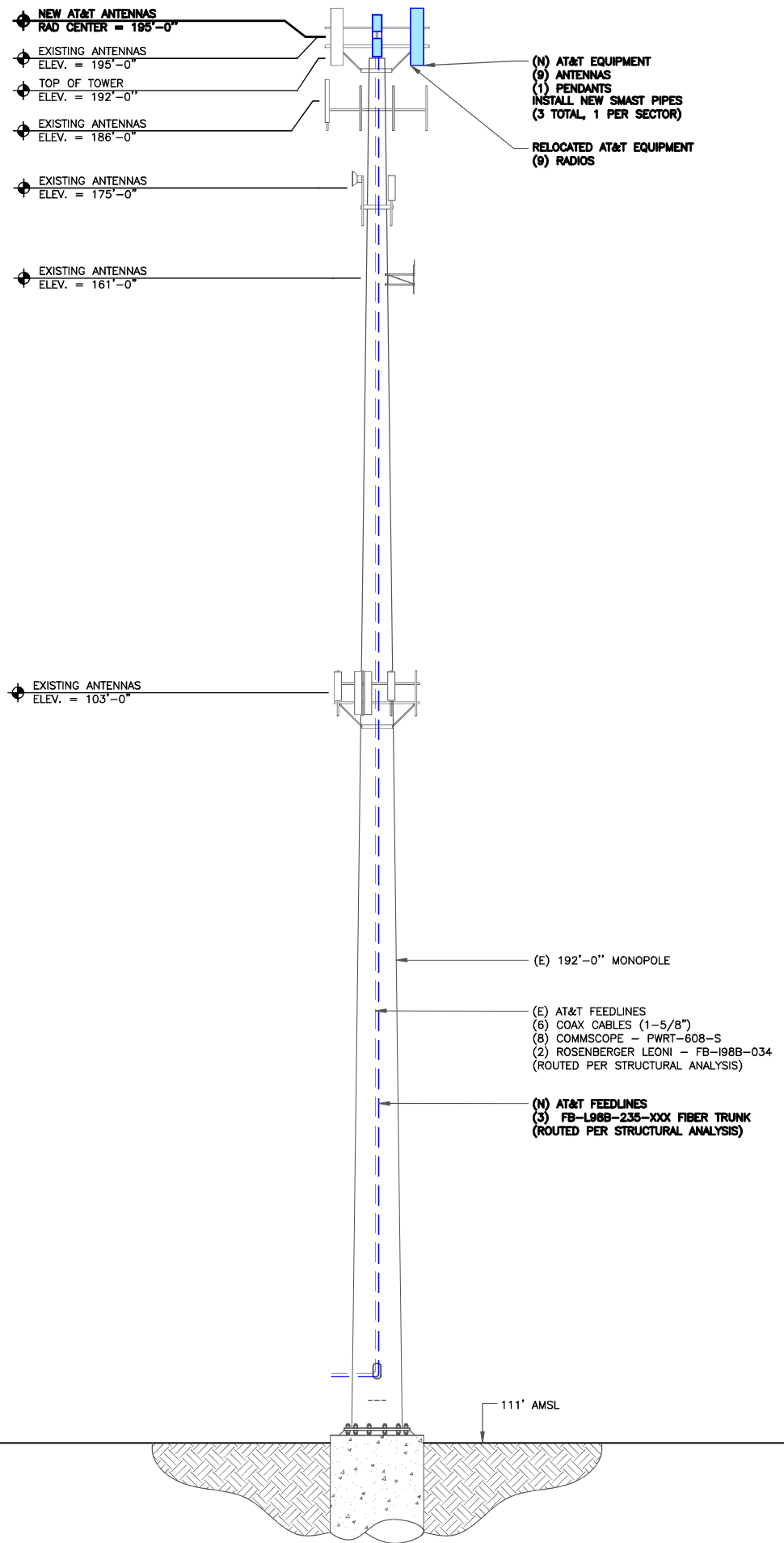
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/5/21	HN	PRELIMINARY REVIEW	JTS
0	12/10/21	JTS	CONSTRUCTION	JTS



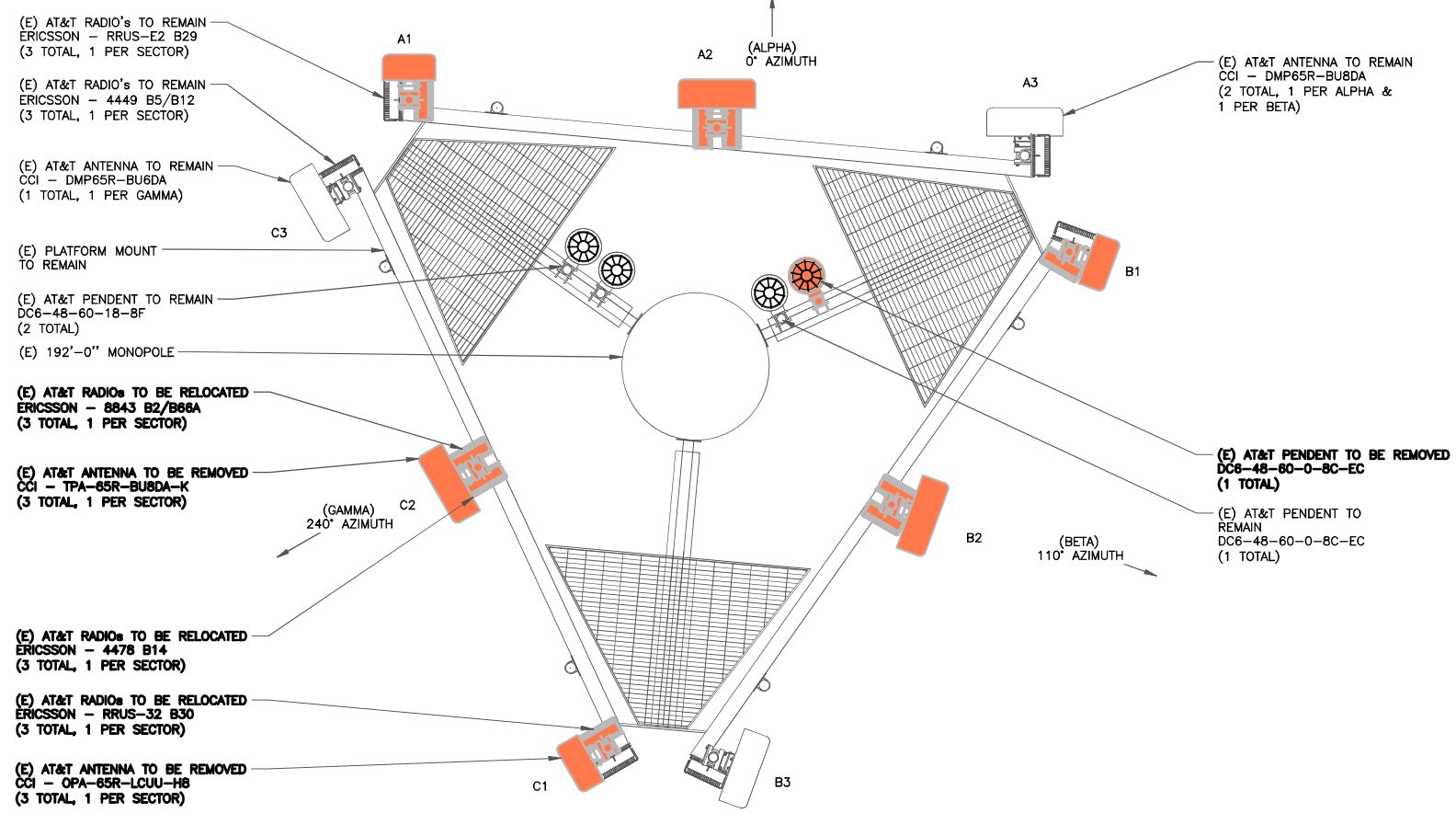
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

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

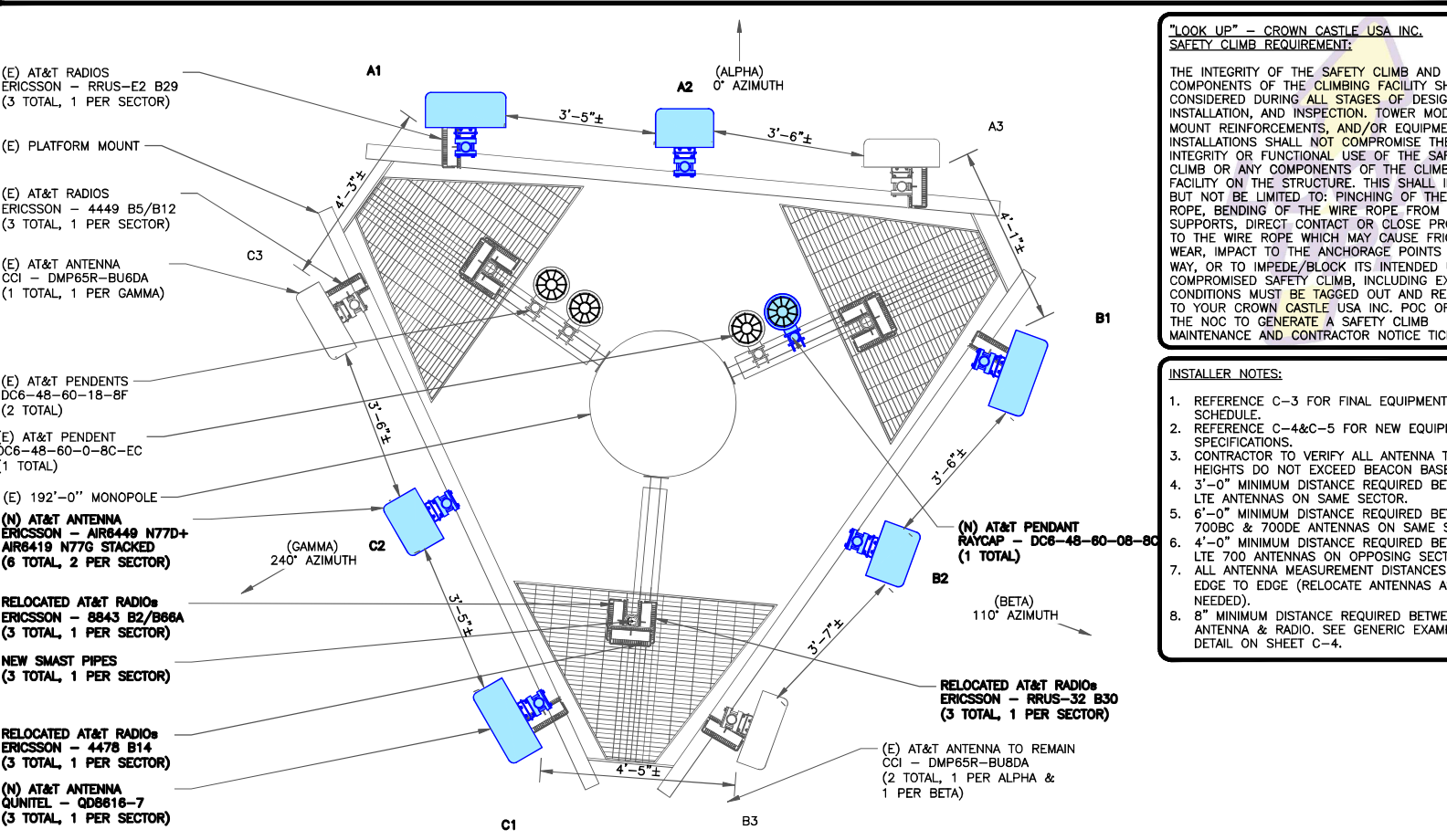
SHEET NUMBER: **C-1.2** REVISION: **0**



1 FINAL ELEVATION
SCALE: NOT TO SCALE



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



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

"LOOK UP" - CROWN CASTLE USA INC.
SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

- INSTALLER NOTES:
1. REFERENCE C-3 FOR FINAL EQUIPMENT SCHEDULE.
 2. REFERENCE C-4&C-5 FOR NEW EQUIPMENT SPECIFICATIONS.
 3. CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.
 4. 3'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE ANTENNAS ON SAME SECTOR.
 5. 6'-0" MINIMUM DISTANCE REQUIRED BETWEEN 700BC & 700DE ANTENNAS ON SAME SECTOR.
 6. 4'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE 700 ANTENNAS ON OPPOSING SECTORS.
 7. ALL ANTENNA MEASUREMENT DISTANCES MUST BE EDGE TO EDGE (RELOCATE ANTENNAS AS NEEDED).
 8. 8" MINIMUM DISTANCE REQUIRED BETWEEN ANTENNA & RADIO. SEE GENERIC EXAMPLE DETAIL ON SHEET C-4.

575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

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

AT&T SITE NUMBER:
CTL05194

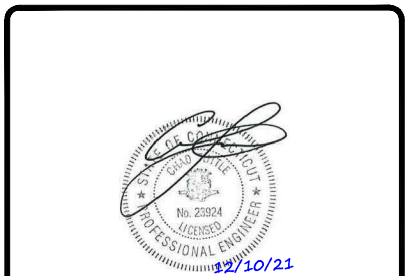
BU #: 803843
CT NEW BRITAIN 4
CAC803843

200 STANLEY STREET
NEW BRITAIN, CT 06053

EXISTING
192'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/5/21	HN	PRELIMINARY REVIEW	JTS
0	12/10/21	JTS	CONSTRUCTION	JTS



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

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

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

127879.014.01.ct_britain_4_803843.dwg - Sheet: C-2 - User: jsikas - Dec 10, 2021 - 2:27pm



AT&T SITE NUMBER:
CTL05194

BU #: **803843**
CT NEW BRITAIN 4
CAC803843

200 STANLEY STREET
NEW BRITAIN, CT 06053

EXISTING
192'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/5/21	HN	PRELIMINARY REVIEW	JTS
0	12/10/21	JTS	CONSTRUCTION	JTS



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

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

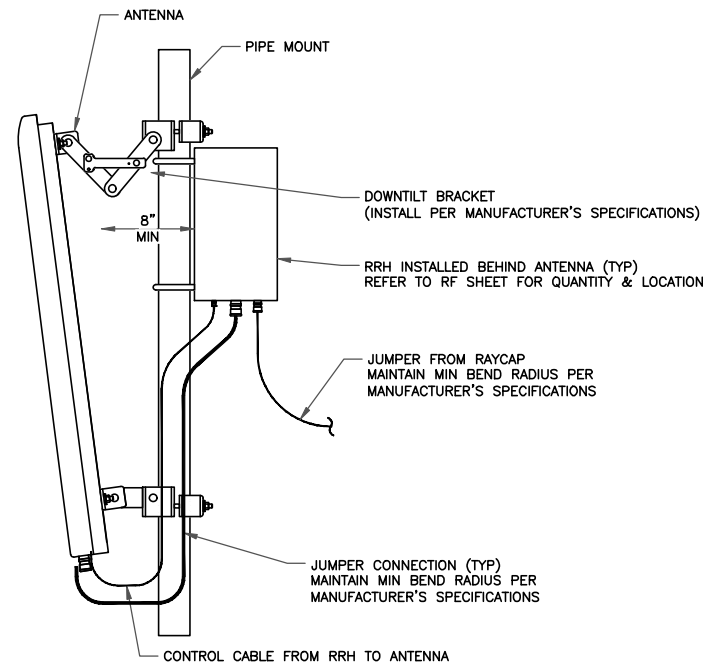
SHEET NUMBER: **C-3** REVISION: **0**

FINAL ANTENNA AND FEEDLINE SCHEDULE

POS.	TECH	STATUS	AZIMUTH	ANTENNA TYPE	ANTENNA RAD CENTER	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	MAIN COAX SIZE	MAIN COAX LENGTH	COAX QTY	TMA QTY AND MODEL	SURGE PROTECTION	DC/FIBER CABLES	RRHS QTY & MODEL ON TOWER	LOCATION	DIPLEXER ON TOWER	DIPLEXER ON GROUND	RET CABLE
ALPHA SECTOR																		
A1	LTE 700/LTE 1900/LTE AWS/5G 1900/5G AWS	NEW	0°	QUNITEL – QD8616-7	195°-0"	0°	3°/9°/6°/6°/6°/6°/6°	1-5/8"	245'-0"	2	-		(3) FB-L98B-235-XXX FIBER TRUNK (8) PWRT-608-S DC TRUNK (2) FB-L98B-034 (1) FB-L98B-034	(1) ERICSSON – RRUS-E2 B29 (1) ERICSSON – 4478 B14 (1) ERICSSON – 8843 B2/B66A	TOWER	N	N	N
A2	5G CBAND	NEW	0°	ERICSSON – AIR6449 N77D+AIR6419 N77G STACKED	195°-0"	-	-	-	-	-	-	(3) DC6-48-60-18-8F (1) DC6-48-60-0-8C	-	-	-	-	-	-
A3	LTE 700/LTE WCS/5G 850	EXISTING	0°	CCI – DMP65R-BU8DA	195°-0"	0°	9°/1°/9°	-	-	-	-		(1) ERICSSON – 4449 B5/B12 (1) ERICSSON – RRUS-32 B30	TOWER	N	N	N	
BETA SECTOR																		
B1	LTE 700/LTE 1900/LTE AWS/5G 1900/5G AWS	NEW	110°	QUNITEL – QD8616-7	195°-0"	0°	3°/4°/0°/0°/0°/2°/0°/0°	1-5/8"	245'-0"	2	-		(1) ERICSSON – RRUS-E2 B29 (1) ERICSSON – 4478 B14 (1) ERICSSON – 8843 B2/B66A	TOWER	N	N	N	
B1	5G CBAND	NEW	110°	ERICSSON – AIR6449 N77D+AIR6419 N77G STACKED	195°-0"	-	-	-	-	-	-		-	-	-	-	-	-
B3	LTE 700/LTE WCS/5G 850	EXISTING	110°	CCI – DMP65R-BU8DA	195°-0"	0°	4°/1°/4°	-	-	-	-		(1) ERICSSON – 4449 B5/B12 (1) ERICSSON – RRUS-32 B30	TOWER	N	N	N	
GAMMA SECTOR																		
C1	LTE 700/LTE 1900/LTE AWS/5G 1900/5G AWS	NEW	240°	QUNITEL – QD8616-7	195°-0"	0°	3°/4°/3°/3°/3°/4°/3°/3°	1-5/8"	245'-0"	2	-		(1) ERICSSON – RRUS-E2 B29 (1) ERICSSON – 4478 B14 (1) ERICSSON – 8843 B2/B66A	TOWER	N	N	N	
C1	5G CBAND	NEW	240°	ERICSSON – AIR6449 N77D+AIR6419 N77G STACKED	195°-0"	0°	-	-	-	-	-		-	-	-	-	-	-
C3	LTE 700/LTE WCS/5G 850	EXISTING	240°	CCI – DMP65R-BU6DA	195°-0"	0°	4°/1°/4°	-	-	-	-		(1) ERICSSON – 4449 B5/B12 (1) ERICSSON – RRUS-32 B30	TOWER	N	N	N	

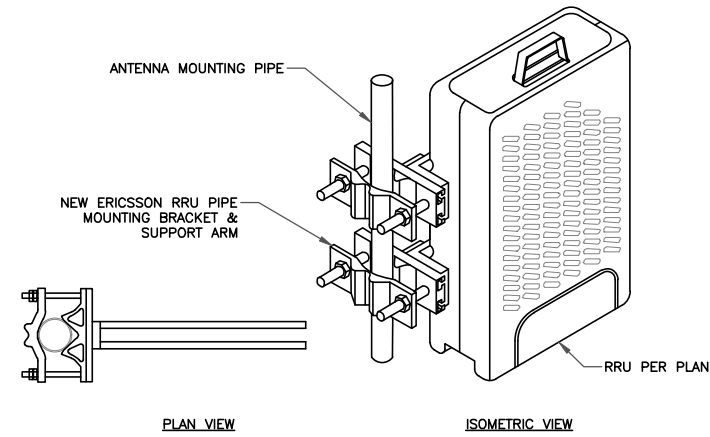
NOTE: BOLD DENOTES NEW EQUIPMENT

1 FINAL ANTENNA AND FEEDLINE SCHEDULE
SCALE: NOT TO SCALE

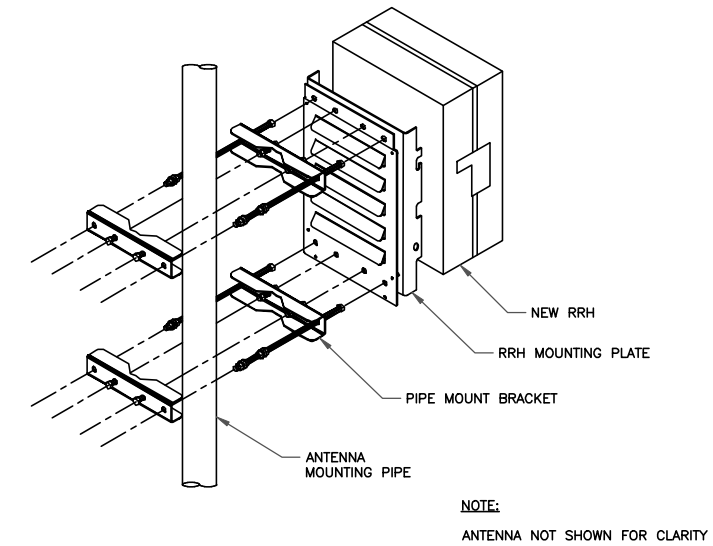


1 GENERIC ANTENNA MOUNTING ELEVATION
SCALE: NOT TO SCALE

ERICSSON_RRU_MOUNTING_KIT:
 SXK 107 2839/1: SINGLE RRU SUPPORT KIT (PART # 5335) (OR ENGINEER APPROVED EQUIVALENT)
 SXK 107 2839/2: EXPANSION KIT (PART # 5336) (OR ENGINEER APPROVED EQUIVALENT)
MOUNTING NOTES:
 REFER TO PRODUCT SPECS FOR BOLT SIZE & PIPE DIAMETER TOLERANCES. THE PART NO. SXK107-2839/2 IS REQUIRED FOR (2) RRUS.



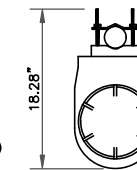
2 ERICSSON - SXK 107 2839
SCALE: NOT TO SCALE



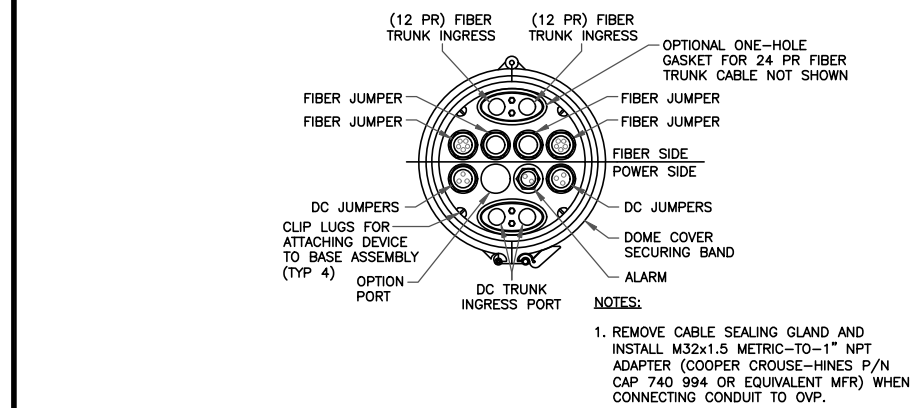
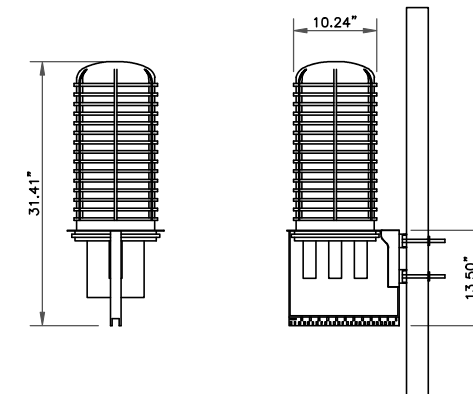
3 SINGLE RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

RAYCAP
 DC6-48-60-0-8C

RAYCAP - DC6-48-60-0-8C
 SIZE: 10.24x31.40 IN.
 WEIGHT: 26.2 LBS
 NOMINAL OPERATING VOLTAGE: 48 VDC
 VOLTAGE PROTECTION RATING: 330 V
 WIND LOADING: 150 MPH SUSTAINED (105.7 LBS)
 WIND LOADING: 195 MPH GUST (213.6 LBS)

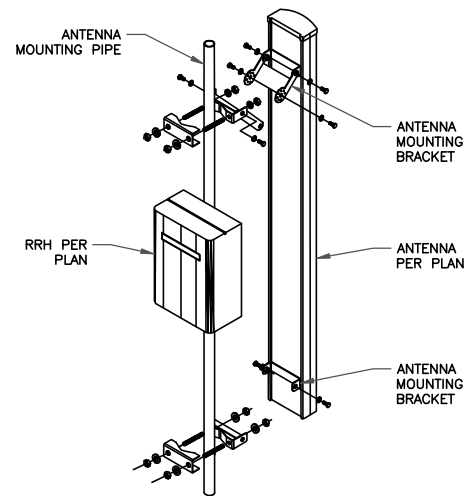


CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS DURING INSTALLATION



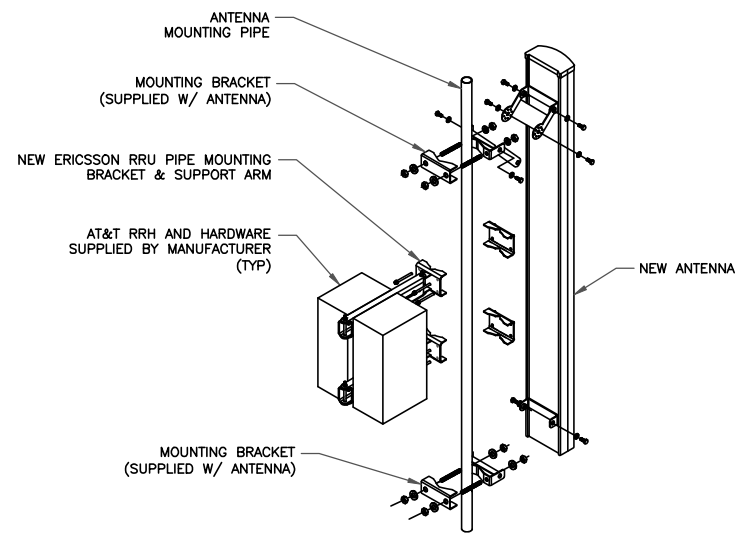
6 SQUID MOUNTING DETAIL
SCALE: NOT TO SCALE

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



4 ANTENNA WITH RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

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



5 ANTENNA WITH DUAL RRH MOUNTING DETAIL
SCALE: NOT TO SCALE

575 MOROSGO DRIVE
 ATLANTA, GA 30324-3300

3530 TORINGDON WAY, SUITE 300
 CHARLOTTE, NC 28277

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

AT&T SITE NUMBER:
CTL05194

BU #: 803843
 CT NEW BRITAIN 4
 CAC803843

200 STANLEY STREET
 NEW BRITAIN, CT 06053

EXISTING
 192'-0" MONOPOLE

ISSUED FOR:

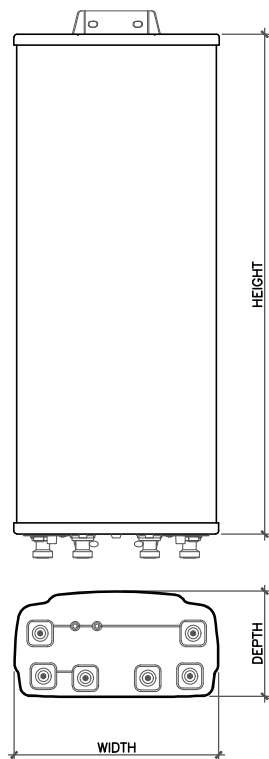
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/5/21	HN	PRELIMINARY REVIEW	JTS
0	12/10/21	JTS	CONSTRUCTION	JTS

B&T ENGINEERING, INC.
 PEC.0001564
 Expires 2/10/22

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

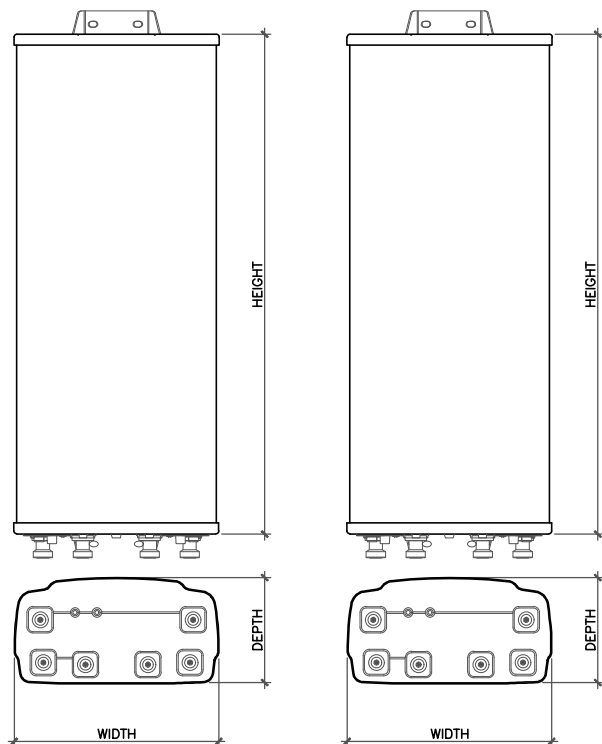
SHEET NUMBER: **C-4** REVISION: **0**

127879.014.01_CT_BRITAIN_4_803843.dwg - Sheet: C-4 - User: jsikes - Dec 10, 2021 - 2:27pm



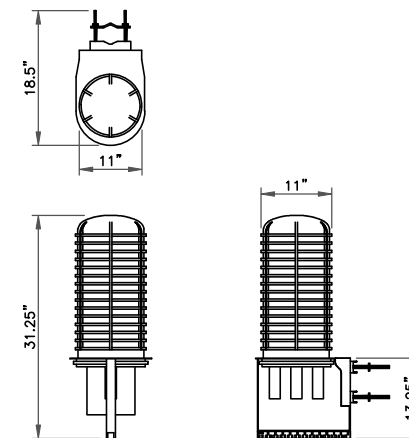
ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
QD8616-7	96"	22"	9.6"	150 lbs

1 ANTENNA DETAIL
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
ERICSSON/AIR 6419 B77G	27.95"	15.75"	6.68"	66.20lbs
ERICSSON/AIR 6449 N77	30.63"	15.87"	10.55"	83.78lbs

2 ANTENNA DETAIL
SCALE: NOT TO SCALE



RAYCAP - DC6-48-60-0-8C
WEIGHT (WITHOUT MOUNTING HARDWARE): 20.0 LBS
SIZE (HxWxD): 31.25x11.0x11.0 IN.

3 RAYCAP - DC6-48-60-0-8C
SCALE: NOT TO SCALE

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

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

AT&T SITE NUMBER:
CTL05194

BU #: **803843**
CT NEW BRITAIN 4
CAC803843

200 STANLEY STREET
NEW BRITAIN, CT 06053

EXISTING
192'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/5/21	HN	PRELIMINARY REVIEW	JTS
0	12/10/21	JTS	CONSTRUCTION	JTS



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

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

SHEET NUMBER:

C-5

REVISION:

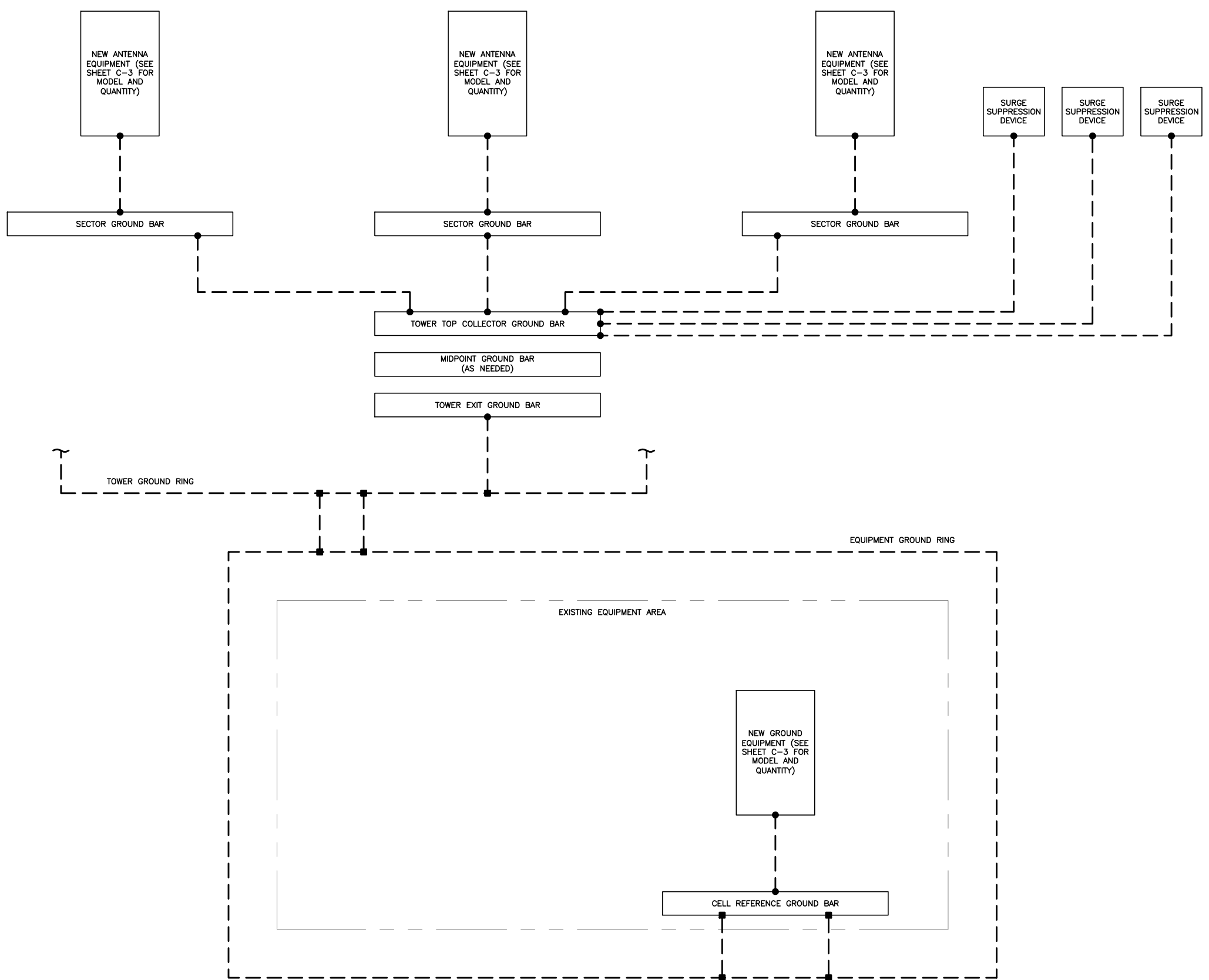
0

4 NOT USED
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

127879.014.01_CT_BRITAIN_4_803843.dwg - Sheet:G-1 - User: jsikes - Dec 10, 2021 - 2:27pm



GROUNDING PLAN LEGEND:

- GROUND WIRE
- EXOTHERMIC WELD
- MECHANICAL CONNECTION
- ⊗ COPPER GROUND ROD
- ⊗ GROUND ROD W/ TEST WELL

CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUITS (ATT-TP-76416 7.6.7).

HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CELL SITE REFERENCE GROUND BAR MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS.

EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE (ATT-TP-76416 7.6.7.2).

DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICES CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR PER TP76300 SECTION H 6 AND TP76416 FIGURE 7-11 REQUIREMENTS.

575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

3530 TORINGDON WAY, SUITE 300
CHARLOTTE, NC 28277

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

AT&T SITE NUMBER:
CTL05194

BU #: 803843
CT NEW BRITAIN 4
CAC803843

200 STANLEY STREET
NEW BRITAIN, CT 06053

EXISTING
192'-0" MONOPOLE

ISSUED FOR:

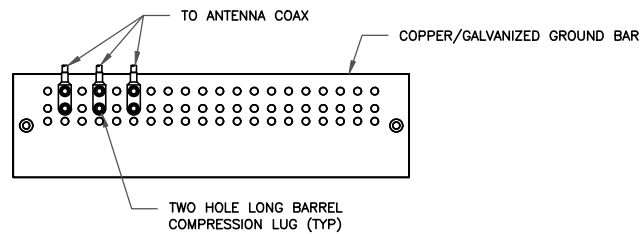
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/5/21	HN	PRELIMINARY REVIEW	JTS
0	12/10/21	JTS	CONSTRUCTION	JTS

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

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

1 GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

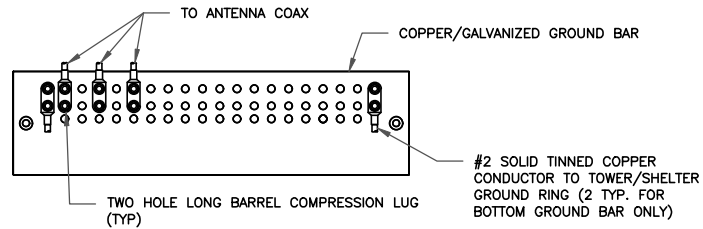
SHEET NUMBER: G-1
REVISION: 0



NOTES:

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

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE

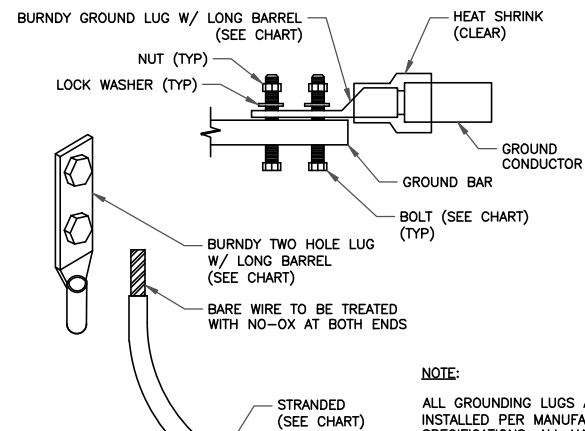


NOTES:

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

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

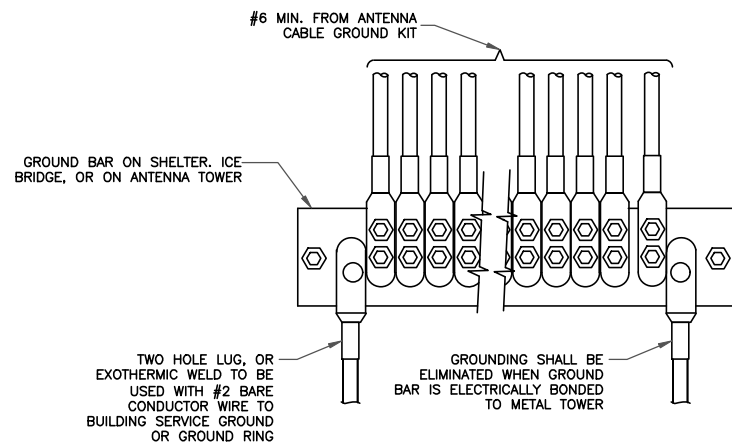
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



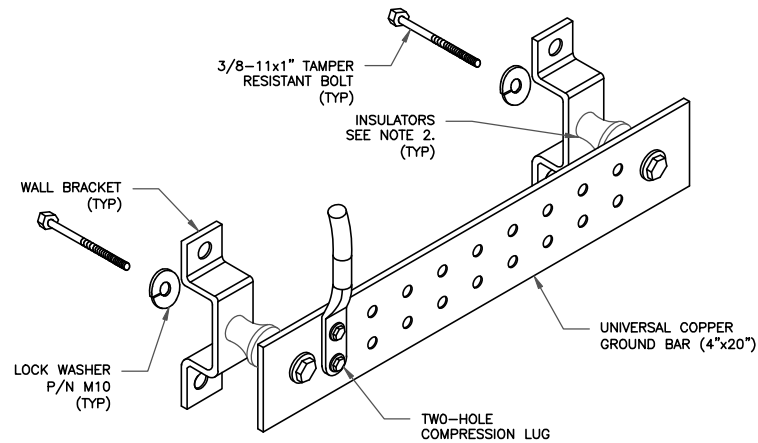
NOTE:

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.

3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



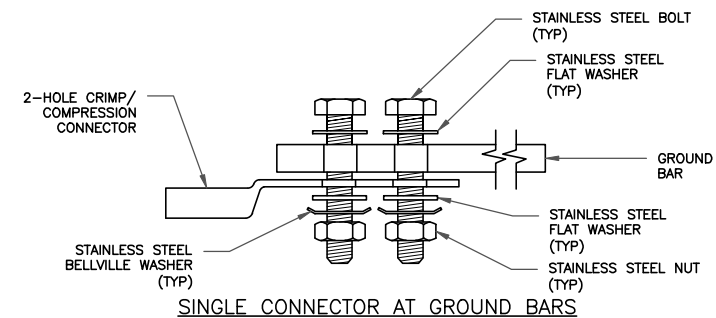
4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



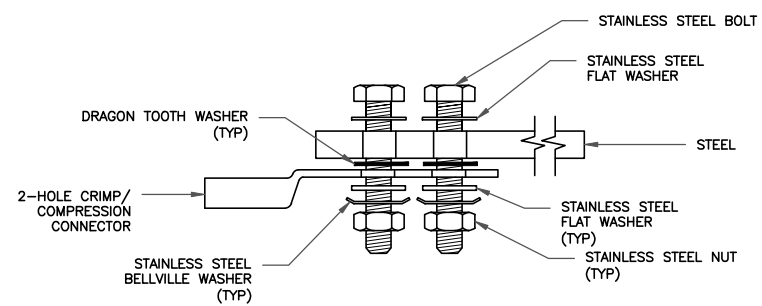
NOTES:

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

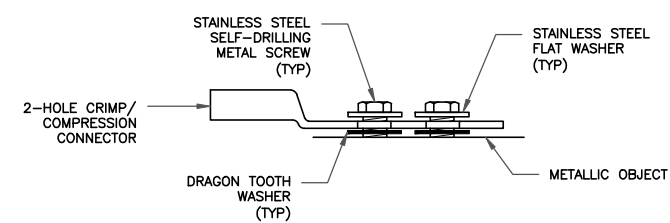
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

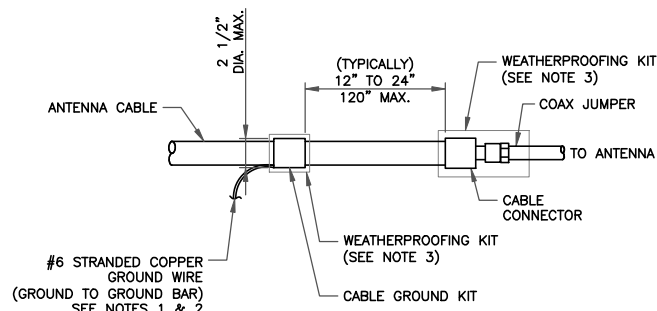


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

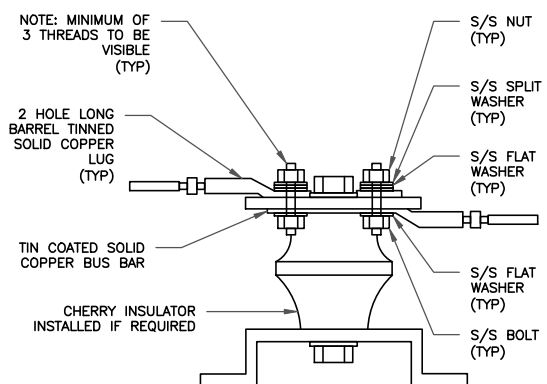
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



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.

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



AT&T SITE NUMBER:
CTL05194

BU #: 803843
CT NEW BRITAIN 4
CAC803843

200 STANLEY STREET
NEW BRITAIN, CT 06053

EXISTING
192'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/5/21	HN	PRELIMINARY REVIEW	JTS
0	12/10/21	JTS	CONSTRUCTION	JTS



B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

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

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

127879.014.01_CT_BRITAIN 4 803843.dwg - Sheet:G-2 - User: jstikas - Dec 10, 2021 - 2:27pm

